

YA22
ASIA
2022/2023



CUTTING TOOLS



HOLEMAKING

钻削工具



THREADING

螺纹工具



MILLING

铣削工具



TOOLING SYSTEM

刀具系统

www.yg1.kr

YG YG-1 CO., LTD.

YG

CUTTING TOOLS



Guide Line to Icons

标记的说明



YG YG-1 CO., LTD.

GUIDE LINE TO ICONS 标记的说明

Tool Material 工具材质

- CBN** Cubic Boron Nitride
立方氮化硼
- CARBIDE** Carbide 硬质合金
- HSS PM** YG-1 Premium Powder Metallurgy HSS
YG-1超细粉末高速钢
- PM 60** Powder Metallurgy HSS
粉末高速钢
- HSS Co8** 8% Cobalt HSS
含钴8%的高速钢
- HSS-E** 5% Cobalt HSS
含钴5%高速钢
- HSS** High Speed Steel 高速钢

Standard of Tools 道具标准

- YG STD** YG-1 Standard YG-1标准号
- DIN 327** **DIN 844** **DIN 1889** Number of DIN Standard
DIN标准号
- JIS** **JIS II** **JIS III** Number of JIS Standard
JIS标准号

No. of Flute 钻顶角

- 2
- 3
- 3&4
- 4-6

Point Angle 钻顶角

- 120°
- 135°
- 140°
- 180°

Cutting Condition 切削条件

- End mills 铣刀
- Drills 钻头
- Taps 丝锥
- Reamers 绞刀
- Countersinks 深孔

Helix Angle 螺旋角

- 30° 30° End mills 铣刀
- 30° 20~30° Drills 钻头
- R40 R45 Taps 丝锥
- LH7° LH45° Reamers 绞刀

The Type of Shank 柄形

- PLAIN** **DIN 6535HA** Plain shank 直柄
(with DIN Standard)
- FLAT** **DIN 6535HB** Flat shank 槽柄
(with DIN Standard)
- 1~5** Range of Morse Taper Shank
削平柄

Tolerance of Radius 半径公差

- R** **R** Tolerance of Ball Radius
±0.005, ±0.01 mm
球头半径公差
- R** **R** Tolerance of Corner Radius
±0.010, ±0.015 mm
圆角公差

Tolerance of Dimension 尺寸公差

- m7** **h8** Tolerance of Outside Diameter 外径公差
- h7** **h8** Tolerance of Shank Diameter 柄部公差

Chamfer Angle 倒角

- 15° 45° Reamers 绞刀

O.D. Tolerance of Reamer 绞刀的外径公差

- H7** DIN 1420 for H7 Reamed Hole

GUIDE LINE TO ICONS

Surface Treatment 表面处理

BLUE	YG-1 Blue-Coating 蓝色涂层
X-Coating	YG-1 X-Coating YG-1 X-涂层
Z-Coating	YG-1 Z-Coating YG-1 Z-涂层
Y-Coating	YG-1 Y-Coating YG-1 Y-涂层
Diamond	Diamond Coating 金刚石涂层
AlTiN	Aluminum Titanium Nitride Coating 铝氮化钛涂层
TiAlN	Titanium Aluminum Nitride Coating 氮化铝钛涂层
DLC	Diamond-Like Carbon Coating 类金刚石涂层
Uncoated	Non coated 无涂层
Hardslick	TiAlN + WC/C Coating TiAlN + WC/C涂层
TiN	Titanium Nitride Coating 氮化钛涂层
TiCN	Titanium Carbon Nitride Coating 氮碳化钛涂层
Homo	Steam Tempered 氧化处理 (Black Oxide finish)
Bright	Bright Finish 白色

Chamfer Lead Acc. 倒角长度遵循

2.0P/4.0P	1.5P/5.0P/9.0P	Set of Hand Taps 成套手动丝锥	
2.5P	4.0P	5.0P	Chamfer Lead 倒角长度

Class of Thread 螺纹等级

YH	GH	ANSI	ANSI G
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Thread Angle 螺纹角

60°	55°
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The Type of Periphery 外缘类型

NR	Roughing - Coarse 粗加工用, 粗齿
WR	Roughing - Aluminium 粗加工铝用
NF	Roughing & Finishing 粗&精加工用
HR	Roughing - Fine 粗加工用, 细齿





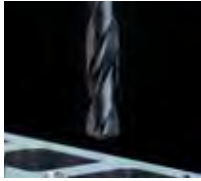

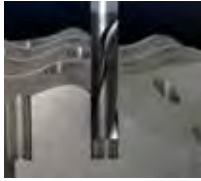


Coolant Supply Pressure 冷却压力

45 bar	Internal Coolant Supply at 45 bar average pressure 内冷压力平均45Bar
20 bar	Internal Coolant Supply at 20 bar average pressure 内冷压力平均20Bar

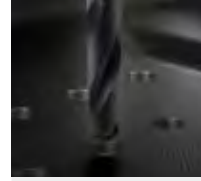



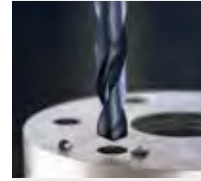


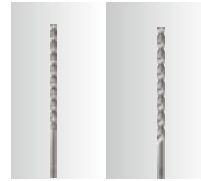

Working Material 切削工件

GS	Steels with good machinability Rm<850N/mm ² 易加工钢
VG	Heat treated and heat-resistant steels 850N/mm ² ≤ Rm ≤ 1,200N/mm ² 热处理和不导热钢
HR	High alloyed steels Rm>1,200N/mm ² 高合金钢
VA	Stainless steels 不锈钢
NW	Carbon steels with low contents of alloys Rm<700N/mm ² 低合金钢
Ti	Titanium alloys 钛合金
Ni	Nickel alloys 镍合金
GV	Any material with at least 8~10% elongation 具有8-10%延展性材料
AI	Aluminum & Aluminum alloys 铝及铝合金
GG	Grey Cast Iron 灰铸铁
Ms	Brass 黄铜
MU	Multi-Purpose 多功能

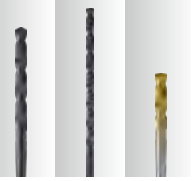




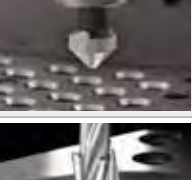

HOLEMAKING TOOLS

PRODUCTS 产品	DESCRIPTION 规格	PAGE 页
 i-ONE DRILLS, CARBIDE INSERTS & HOLDERS i-One钻, 硬质合金刀片&刀柄	High Performance Exchangeable for General Steels and Cast Iron 钢 铸铁用高性能可换 钻头	A21
 i-DREAM DRILLS, CARBIDE INSERTS & HOLDERS i-梦幻钻, 硬质合金刀片&刀柄	For General Steels and Stainless Steels 适用于普通钢和不锈钢	A39
 SOLID CARBIDE DREAM DRILLS - PRO 硬质合金, 梦幻钻头 - PRO	- For General Purpose (HRC30 to HRC50) - Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology - 普通用途通常是HRC30 到 HRC50 - 采用YG-1特殊的Z涂层技术, 具有超高的硬度和耐热性	A61
 SOLID CARBIDE DREAM DRILLS - GENERAL (with & without Coolant Holes) 整体硬质合金梦幻钻头 - 普通	For General Purpose (HRC30 to HRC50) 普通用途通常是HRC30 ~ HRC50	A77
 SOLID CARBIDE DREAM DRILLS - SOFT 硬质合金, 梦幻钻头 - 软材质用	For Steels, up to Medium Hardness 用于中等硬度钢	A101
 SOLID CARBIDE DREAM DRILLS - HIGH FEED (with Coolant holes) 硬质合金, 梦幻钻头 - 高进给 (带油孔)	1.5 to 2 Times Faster Feeding Speed than 2-Flute Drill for Carbon Steels, Alloy Steels(up to HRC35) and Cast Iron 比2刃钻头进给量1.5到2倍 用于碳钢, 合金钢(硬度35以下)和铸铁	A111
 SOLID CARBIDE DREAM DRILLS - FLAT BOTTOM (with & without Coolant Holes) 硬质合金梦幻钻头 - 平底钻	For Holes on Various Angled Surfaces 用于倾斜孔加工	A119
 SOLID CARBIDE DREAM DRILLS - INOX (with Coolant Holes) 硬质合金, 梦幻钻头 - INOX (带油孔)	For Tough Materials like Stainless Steels 镍合金和钛等硬质材料	A131
 SOLID CARBIDE DREAM DRILLS - ALU (with Coolant Holes) 硬质合金, 梦幻钻头 - ALU (带油孔)	For Aluminum and Aluminum Alloys 铝和铝合金加工用	A143










HOLEMAKING TOOLS

PRODUCTS 产品	DESCRIPTION 规格	PAGE 页
 SOLID CARBIDE DREAM DRILLS - CFRP (without Coolant Holes) 硬质合金, 梦幻钻头 - CFRP (带油孔)	For Composite Materials including CFRP and GFRP 用于复合材料, 含CFRP与GFRP	A155
 SOLID CARBIDE DREAM DRILLS - MQL TYPE (with Coolant Holes) 油孔硬质合金 梦幻钻头 - MQL类型 (带油孔)	Minimum Quantity Lubrication Drilling Deep Holes (10×D ~ 40×D) MQL (用少量的润滑油) 钻深孔 (10D到40D)	A159
 SOLID CARBIDE DREAM DRILLS for HIGH HARDENED STEELS (without Coolant Holes) 高硬度钢 (HRC50~HRC70) 用硬质合金钻头	For High Hardened Steels (HRC50 to HRC70) 用于硬质合金 (硬度50到70)	A169
 GENERAL SOLID CARBIDE DRILLS (JOBBER & STUB LENGTH) 硬质合金钻头	For General Purpose 普通用途	A173
 HSS-PM MULTI-1 DRILLS 粉末高速钢 MULTI-1 钻头	For Wide Range of Applications Particularly Stainless Steels and Titanium 广泛用途特别是不锈钢和钛	A179
 HSS & HSSCo8 GOLD-P DRILLS 高速钢GOLD-P钻头	Same Performance as Full TiN-coated Drills 与整个TiN涂层钻头相同的性能	A189
 SUPER HSS SUPER-GP DRILLS 高级高速钢, SUPER-GP钻头	All Applications Regardless of Machining Conditions; Good or Poor 广泛使用无论加工条件: 好或差	A203
 HSS-E WORM PATTERN DRILLS 深孔用直柄麻花钻头	DH100 For Deep hole drilling in general steels DH100-为了在普通钢上深孔	A209
 HSS & HSSCo8 STRAIGHT SHANK DRILLS 高速钢直柄钻头	For General Purpose (Soft & Tough Materials) 一般用途 (软&硬材料)	A215







HOLEMAKING TOOLS

PRODUCTS 产品	DESCRIPTION 规格	PAGE 页
 HSS, HSS-E & HSSCo8 MORSE TAPER SHANK DRILLS 莫氏锥柄麻花钻头	Morse Taper Shank Drills for Wide Applications 莫氏锥柄麻花钻头	A231
 HSSCo8 NC-SPOTTING DRILLS 定心钻头	For Centering and Chamfering of Holes 定中心和倒角	A247
 HSS-E CENTER DRILLS 中心钻	General Purpose 普通用途	A253
 SPADE DRILLS, INSERTS & HOLDERS 硬质合金&粉末高速钢铲钻	For General Machines and Drilling Large Diameters Longer Tool Life and High Productivity 普通机械和钻头用直径, 工具寿命延长及高生产率	A259
 CARBIDE, HSS & HSS-E REAMERS 硬质合金机用铰刀	Carbide NC Machine Reamers, HSS Hand Reamers, HSS-E Chucking Reamers 硬质合金机用铰刀 HSS手用铰刀, HSS-E机夹铰刀	A373
 HSS & HSSCo8 COUNTERSINKS 高速钢沉孔刀	For Deburring, Chamfering and Countersinking 去毛刺, 倒角和深孔	A401
 HSS-E COUNTERBORES HSS-E 镗刀	For Machining Screw Head Seats 用于加工螺钉头座	A411



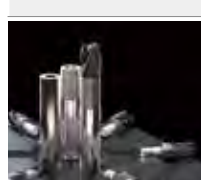

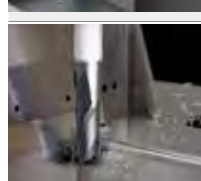





THREADING TOOLS

PRODUCTS 产品	DESCRIPTION 规格	PAGE 页
 SOLID CARBIDE THREAD MILLS (with & without Coolant Holes) 整体硬质合金螺纹铣刀 (带&不带内冷孔)	Threading Large Diameter in High Quality Available with Chamfer 大直径高质量螺纹加工 倒角功能可选	B17
 HSS-PM SYNCHRO TAPS 粉末高速钢同步丝锥	For High Speed Tapping on Rigid CNC Machine 刚性数控机床高速攻丝	B39
 HSS-E COMBO TAP HSS-E Combo 丝锥	For Multi Purpose Tapping 多用途丝锥	B45
 HSS & HSS-E YG TAP GENERAL YG 普通用途HSS&HSS-E丝锥	Suitable for Tapping Blind / Through Holes due to Flute Geometry and Excellent Chip Evacuation 独特的槽形设计和排屑能力, 适合通, 盲孔加工	B61
 HSS-E YG STEEL YG 钢用HSS-E丝锥	For Steel Materials but also other Long Chip Forming Materials 适合钢及其它长屑材料	B131
 HSS-PM YG TAP HARDENED YG 高硬度钢用粉末高速钢丝锥	For Hardened Steels Applications to Control the Continuous and Red-glowing Chip 淬硬钢用丝锥	B137
 HSS-E YG TAP INOX YG 不锈钢用HSS-E丝锥	For Stainless Steels with Lamellar, Irregular Chip Formation where the Cutting Forces are Higher 不锈钢专用丝锥	B141
 SOLID CARBIDE & HSS-E YG TAP CAST IRON YG 铸铁用硬质合金&HSS-E丝锥	For Cast Iron or Similar Work Materials 对于铸铁或类似材料	B155
 SOLID CARBIDE & HSS-E YG TAP ALU (with Coolant Holes) YG 铝用硬质合金&HSS-E丝锥 (带内冷孔)	For long-chipping Aluminum Wrought Alloys with Large Chip Gullets to Avoid Clogging in the Threading Operations 采用大排屑槽设计, 适合长屑铝合金攻丝, 避免缠屑	B163


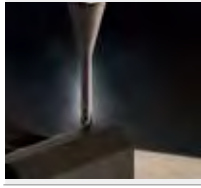







THREADING TOOLS

PRODUCTS 产品	DESCRIPTION 规格	PAGE 页
 HSS-PM YG TAP Ti Ni YG钛镍用粉末高速钢丝锥	For Heat Resistant Super Alloys and Titanium Alloys Applied with Cutting Edge Rake Angles and Thread Relief 耐热超合金和钛合金用丝锥	B177
 HSS-E YG TAP FORMING YG HSS-E 挤压丝锥	Tapping by Forming Soft Materials 软材料挤压成形攻丝	B181
 HSS-E & HSS SCREW THREAD INSERT TAPS HSS-E&HSS 嵌套丝锥	Tapping STI Threads of Soft Materials 软材料加工嵌套螺纹	B193
 HSS-E & HSS PIPE TAPS HSS-E&HSS 管用丝锥	Tapping Whitworth Pipe threads 惠氏管用螺纹加工	B199
 SKS21 HAND TAPS SKS21手用丝锥	To Achieve High Strength. Easy Assembling. 实现高强度加工, 易装配	B211
 SKS21 PIPE TAPS SKS21管用丝锥	To Achieve High Strength. Easy Assembling. 实现高强度加工, 易装配	B221

MILLING TOOLS

PRODUCTS 产品	DESCRIPTION 规格	PAGE 页
 CBN END MILLS CBN 铣刀	CBN(Cubic Boron Nitride) Machining High Hardened Steels up to HRc70 Mirror Finish 适用于加工高硬钢(~HRc70), 镜面处理的CBN(立方氮化硼)铣刀	C23
 i-Xmills, CARBIDE INSERT END MILLS i-Xmill, 硬质合金刀片铣刀	Various Applications Type of Inserts Available for General Steels, Pre-Hardened Steels, High Hardened Steels, Stainless Steels and Graphite 多样类型刀片可用在加工普通钢, 预硬钢, 高硬钢, 不锈钢, 石墨	C29
 i-SMART, CARBIDE MODULAR HEAD END MILLS i-Smart, 硬质合金模块铣刀	For General Steels, Hardened Steels and Cast Iron 适用于普通钢, 高硬钢和铸铁	C55
 X5070 NANO SOLID CARBIDE END MILLS X5070 纳米硬质合金铣刀	For High Hardened Steels (HRc45 to HRc70) High Speed Machining and Dry Cutting 用于加工高硬钢 (HRc45 to HRc70), 高速切削和干切	C75
 4G Mill SOLID CARBIDE END MILLS 4G 硬质合金铣刀	High Speed Cutting for Pre-Hardened Steels up to HRc55 适用于HRc55的预硬钢高速加工	C135
 X-POWER PRO SOLID CARBIDE END MILLS X-POWER PRO 硬质合金铣刀	For Pre-Hardened Steels up to HRc55 适用于硬度低于HRc55的预硬钢	C321
 TitaNox-POWER SOLID CARBIDE END MILLS TitaNox 硬质合金铣刀	High Speed Machining for Exotic Materials: Titanium and Stainless Steels 实现难切材料的高速加工 钛合金和不锈钢	C349
 SUS-CUT SOLID CARBIDE END MILLS SUS-CUT 硬质合金铣刀	For Exotic materials like Stainless Steels, Nickel Alloys and Titanium 加工不锈钢, 镍合金和钛合金	C365
 V7 PLUS SOLID CARBIDE END MILLS V7 PLUS 硬质合金铣刀	High Performance Carbide End Mills for Steels, Cast Iron and Stainless Steels 高性能 硬质合金 立铣刀 适用于钢件, 铸铁和不锈钢	C381
 ALU-POWER HPC SOLID CARBIDE END MILLS ALU-POWER HPC 硬质合金铣刀	For Aluminium, Aluminum Die Cast, Non-ferrous Alloys and Plastics 适用于加工铝, 铝合金, 非铁金属和塑料	C399

MILLING TOOLS

PRODUCTS 产品	DESCRIPTION 规格	PAGE 页
 ALU-CUT SOLID CARBIDE END MILLS ALU-CUT 硬质合金铣刀	For Aluminium Alloys and Silent Cutting 适用于加工铝合金而无声切削	C413
 G-CUT SOLID CARBIDE END MILLS G-CUT 硬质合金铣刀	High performance on graphite 高性能加工石墨	C429
 CRX S SOLID CARBIDE END MILLS CRX 硬质合金铣刀	DLC Coated End Mills for Copper 加工铜的DLC涂层铣刀	C447
 K-2 Plus SOLID CARBIDE END MILLS K-2 Plus 硬质合金铣刀	General Purpose Conventional or High Speed Milling Wet & Dry Cutting 适用于普通加工 / 普通或高速铣削 / 湿切&干切削	C459
 GENERAL CARBIDE END MILLS 普通硬质合金铣刀	General Purposes, Non-coated, Any Coating Available 适用于普通加工, 非涂层及任何涂层都可以提供	C505
 ONLY ONE COATED PM60 END MILLS ONLY ONE 粉末高速钢铣刀	Perfect Solution of Carbide Chipping under Vibrations 在振动工况硬质合金崩刃的完美解决方案	C505
 TANK-POWER HSS-PM END MILLS TANK-POWER 粉末高速钢铣刀	High Toughness for Stainless Steels, Carbon steels and Alloy Steels for General Application, Roughing & Finishing 适用于不锈钢, 碳钢, 合金钢 可用于普通加工, 粗&精加工的高韧性铣刀	C545
 GENERAL HSS END MILLS 普通高速钢铣刀	General Purpose Coating Available 普通加工 / 可以提供涂层	C579
 HSS MILLING CUTTERS 高速钢铣刀	General Works. Available Dovetail, Woodruff Keyseat, T-slot, Side Milling Cutters and HSS(8% Cobalt) Corner Rounding, Shell End Mills 普通加工, 可提供燕尾槽铣刀, 月牙键槽铣刀, T型铣刀, 三面刃铣刀, 含钴8%的圆角铣刀和圆筒形端铣刀	C621

PRODUCT FEATURES

产品优点

i-ONE DRILLS

Reference page : A21 - A38

Micro Grain Carbide Inserts and Premium Tool Steel Holder with Coolant Holes
微晶硬质合金刀片和带冷却孔的优质工具钢刀体

COST EFFICIENT HIGH PERFORMANCE 性价比高性能
EXCHANGEABLE DRILLING TOOLS 比机夹式钻头



Secure & Quick clamping system

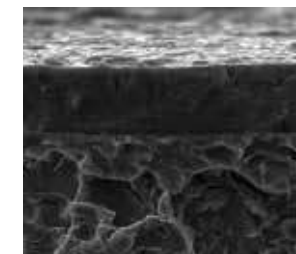
- 安全&快速夹持系统

Multi layered 'H'-coating

- “H”复合涂层

reduces the cracking and provides higher shear strength while achieving excellent oxidation resistance and hot hardness

降低断裂, 提高的剪切强度, 同时获得优异的抗氧化性和热硬性



Optimized point geometry

of i-ONE Drills ensures centering ability and smoother cutting

- 最佳的i-ONE钻尖形状确保定心能力和平顺切削

Self Centering and Chip Breaking

by Radius Thinning

- 自定心, R型横刃修磨保证断屑

Ground Negative land

on cutting edge for Reliable Tool Life

- 切削刃研磨负倒棱, 保证刀具寿命

Cylindrical shank with a parallel flat

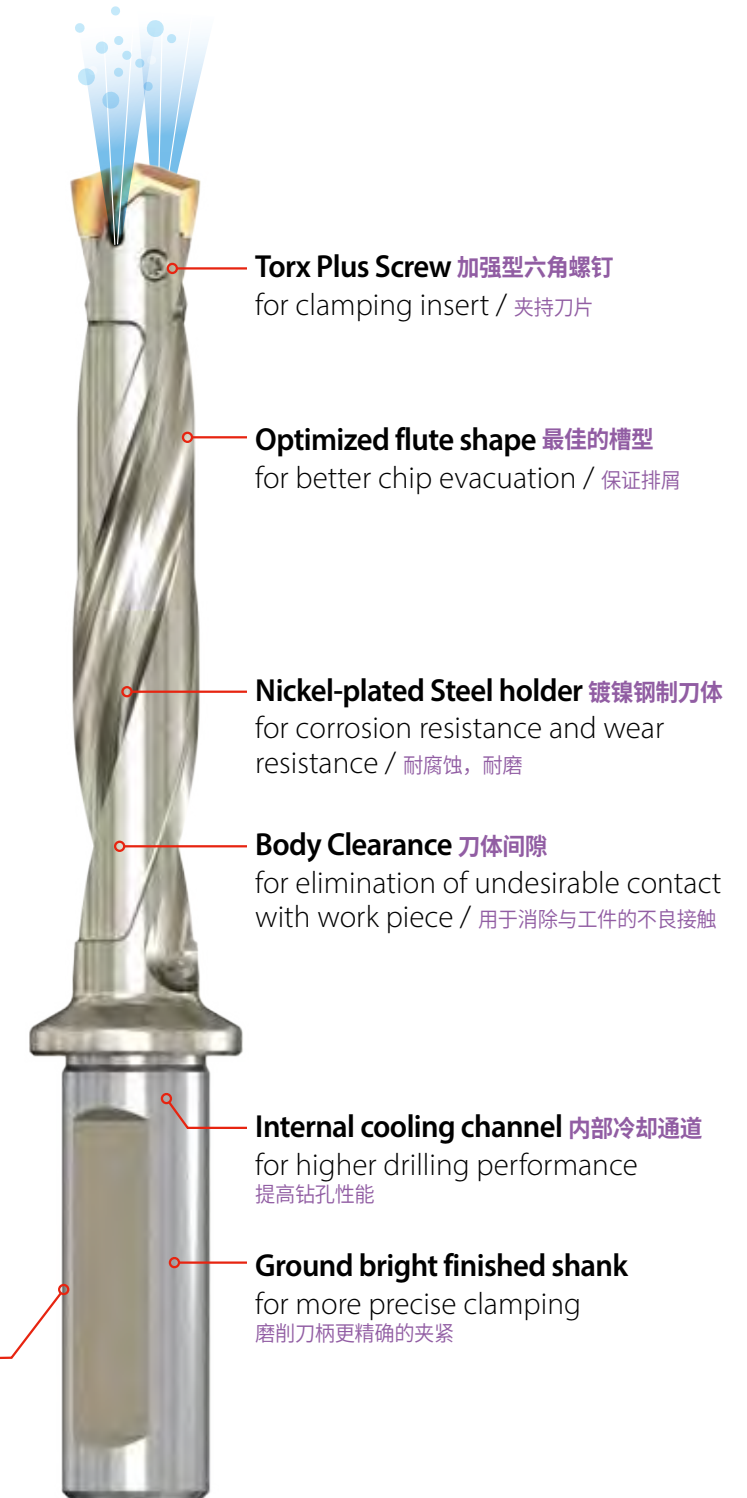
可根据客户要求提供

according to ISO9766 Plain shank

and Whistle notch shank are available

on request

符合ISO9766标准的圆柱柄和平头柄



Torx Plus Screw 加强型六角螺钉
for clamping insert / 夹持刀片

Optimized flute shape 最佳的槽型
for better chip evacuation / 保证排屑

Nickel-plated Steel holder 镀镍钢制刀体
for corrosion resistance and wear resistance / 耐腐蚀, 耐磨

Body Clearance 刀体间隙
for elimination of undesirable contact with work piece / 用于消除与工件的不良接触

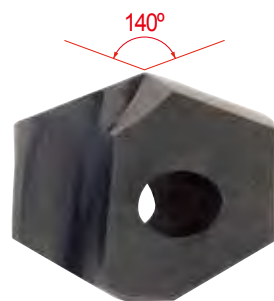
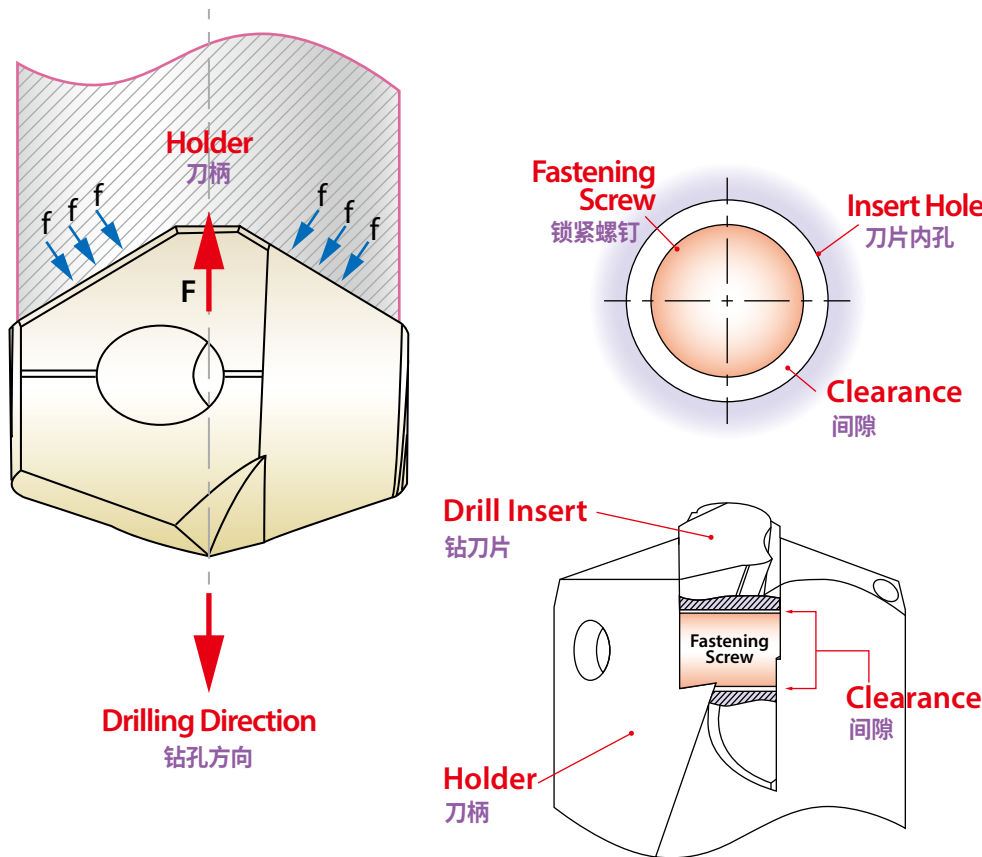
Internal cooling channel 内部冷却通道
for higher drilling performance
提高钻孔性能

Ground bright finished shank 磨削刀柄更精确的夹紧
for more precise clamping



Stable Insert locking System

- V type locking system allowed for stabilized drilling
- V型锁定系统保证稳定钻孔加工
- Design that fastening screw doesn't touch insert to protect the insert locking system from the vibration during the drilling cycle
- 采用紧固螺钉不接触刀片的设计，以保护刀片锁紧系统免受钻削周期性的振动



Self-Centering 140° Point & Helical Thinning

140°P自定心顶角&螺旋横刃修磨

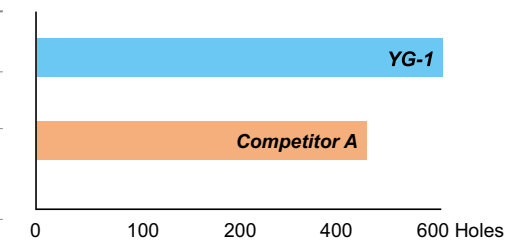
- Excellent Centering
- 优秀的自定心
- Minimized cutting resistance
- 减少切削阻力
- Design for maximum toughness, hardness and chip evacuation
- 采用最大的韧性，硬度和切屑排出设计
- High penetration rate. - Reduced heat from cutting edge processing to allow long tool life - Lower required torque and horsepower
- 高进给率-减少切削刃加工产生的热量，延长刀具寿命-降低所需的扭矩和马力

TEST I GENERAL

Cutting Condition 加工条件

HOLDER 刀杆	ZH14505020
INSERT / 刀片	YB1A1450 / Ø14.5
Work Material 工件	ASTM : A36 DIN : St37-2 JIS : SS400
Cutting Speed 切削速度	80 m/min
Feed / 进给	0.24 mm/rev.
Feedrate 进给速度	421 mm/min.
RPM / 转速	1,756 rev./min.
Drilling Depth 钻孔深度	48.0 mm
Coolant / 冷却	Internal / 内部
Machine type 机器类型	Vertical Machining Center 立式加工中心

RESULT 结果



► YG-1 (Total Drilling 600 Holes)

YG-1 (总钻孔600孔)



► Competitor A (Total Drilling 470 Holes)

竞争社 (总钻孔470孔)

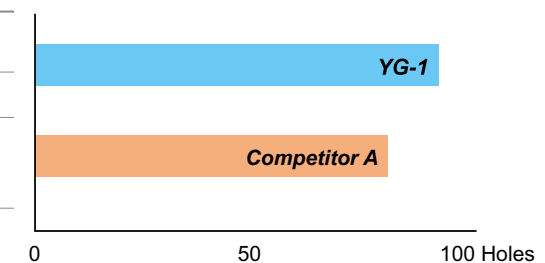


TEST II INOX

Cutting Condition 加工条件

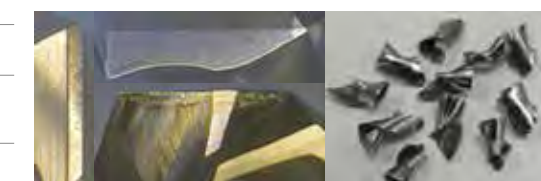
HOLDER 刀杆	ZH14005020
INSERT / 刀片	YB2C1400 / Ø14.0
Work Material 工件	AISI : 304 DIN : X5CrNi189 JIS : SUS304
Cutting Speed 切削速度	55 m/min
Feed / 进给	0.15 mm/rev.
Feedrate 进给速度	188 mm/min.
RPM / 转速	1,250 rev./min.
Drilling Depth 钻孔深度	50.0 mm
Coolant / 冷却	Internal / 内部
Machine type 机器类型	Vertical Machining Center 立式加工中心

RESULT 结果



► YG-1 (Total Drilling 100 Holes)

YG-1 (总钻孔100孔)



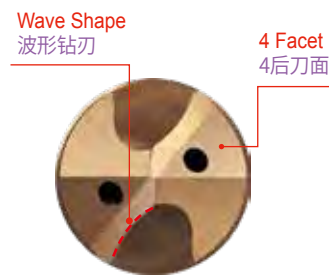
► Competitor A (Total Drilling 80 Holes)

竞争社 (总钻孔80孔)



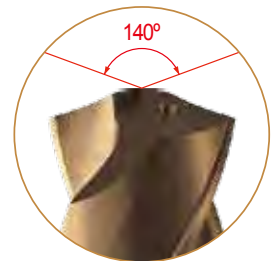
DREAM DRILLS PRO

Reference page : A61 - A76



Wave Shape Cutting Edge 波形钻刃

- Improve chip formation 改善切屑形状
- Low Cutting Force 降低切削力



140 Degree Point Angle 140°钻顶角

- Provides edge strength and Exceptional tool life 高刃口强度和特殊的刀具寿命
- Good Self Centering 良好的自定心
- Low Torque 低扭矩

Micro-grained Carbide 微晶颗粒硬质合金

- Achieving Excellent Wear Resistance 优异的耐磨性
- Maximum Tool Life and High Performance 最大的刀具寿命和性能

Optimized wide flute design 最佳的槽型设计

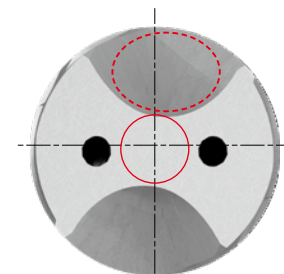
The unique flute structure provides good surface finish, longer tool life and requires less cutting force

独特的槽型设计保证良好的加工表面光洁度，刀具寿命长，切削力小



Helical Thinning 螺旋型横刃修磨

- Low Thrust 低止推力
- Stable Torque 稳定的扭矩
- Good Chip Breakage 良好的断屑效果

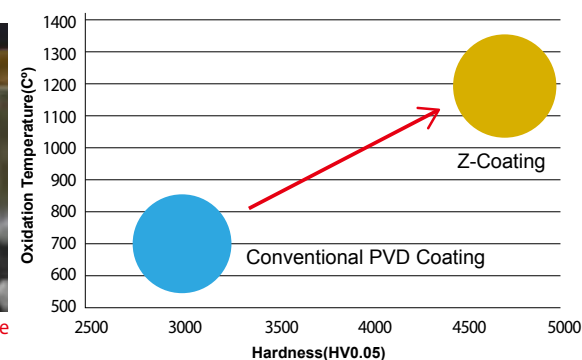


Higher & Improved cutting conditions due to 采用YG-1 独特的Z涂层技术

YG-1 Special Z-Coating Technology 可以获得更高的切削速度

(YG-1's Unique Silicon Based Coating: Nano-Layer Coating YG-1独特的硅基涂层:纳米涂层)

- Extremely High Hardness and Heat Resistance 极高的硬度和耐热性



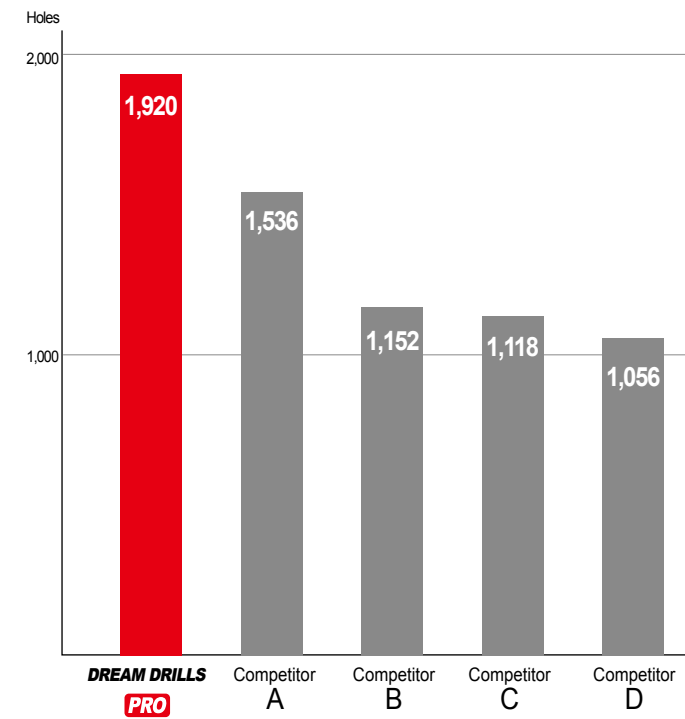
Performance Upgrade with Faster Cutting Speed
更高的切削速度，性能提升

DREAM DRILLS PRO

Reference page : A61 - A76

SOLID CARBIDE DREAM DRILLS - PRO with Coolant Holes

硬质合金梦幻钻头-PRO带内冷



Cutting Condition 加工条件

Work Material 工件材质	DIN: 42CrMo4 ANSI: 4140 JIS: SCM440 Hardness: HRc30 (HB286)
O.D Size / 刃径	Ø10.0 (.3937 inch)
RPM 转速	14,856 rev./min.
Cutting Speed 切削速度	140 m/min
Feed / 进给	0.30 mm/rev
Drilling Depth 钻孔深度	45.0 mm
Coolant / 冷却	Internal Cooling (20 bar) 内冷 (20帕) Water Soluble (9% Emulsion) 水溶性 (9%乳化液)
Machine / 设备	Machining Center 加工中心

DREAM DRILLS PRO

Total Drilling 1,920 Holes



Competitor A

Total Drilling 1,536 Holes



Competitor B

Total Drilling 1,152 Holes



Competitor C

Total Drilling 1,118 Holes



Competitor D

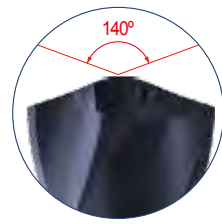
Total Drilling 1,056 Holes



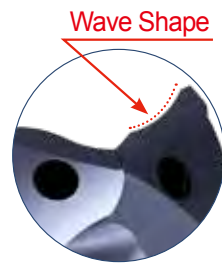
DREAM DRILLS - GENERAL

Reference page : A77 - A100

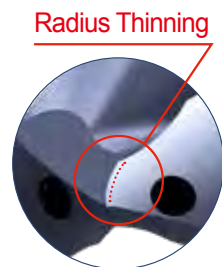
Micro-grained carbide for wear resistance and longer tool life
微晶颗粒的硬质合金，耐磨，延长刀具使用寿命



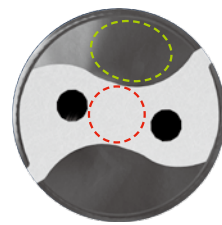
140 Degree Point Angle 140°钻顶角
for good centering and low thrust 定心和低止推力



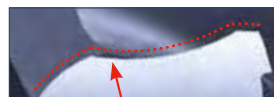
Wave shape Cutting Edge 波形切削刃
will allow low thrust, stable torque and long tool life
止推力小，扭矩稳定，使用寿命长



Radius Thinning 圆弧横刃修磨
for Self Centering and Chip Breaking 自定心和断屑

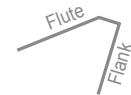


Optimized flute shape 最佳的槽型
for strength of drill and smooth chip evacuation
钻头强度高，排屑顺畅



Negative land on the cutting edge 切削刃负倒棱
for Reliable Tool Life 刀具寿命稳定

Negative Land (Honing)

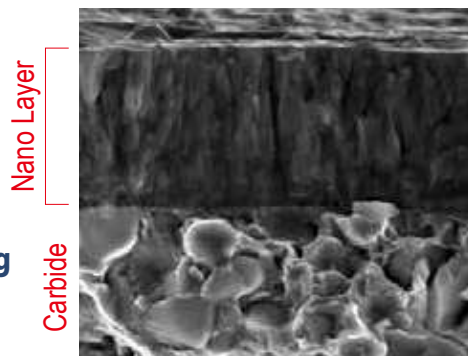


TiAlN Coating (Upgraded Titanium Aluminum Nitride : nano-Layer coating)

- TiAlN涂层 (升级后的氮铝钛化涂层:纳米涂层)
- Higher wear resistance and Lower friction
更高的耐磨性和更低的摩擦
- Higher Cutting Speed and Feed
更高的切削速度和进给量
- Improved drill Hole Quality
提高钻孔质量

Special surface treatment after coating

涂层后特殊表面处理
to reduce friction and better chip flow.
以减少摩擦和更好的切屑流动。



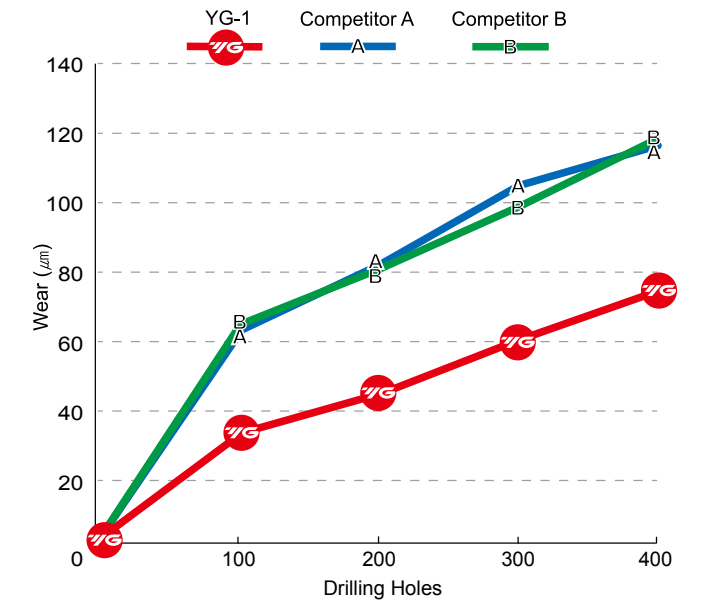
DREAM DRILLS - GENERAL

Reference page : A77 - A100

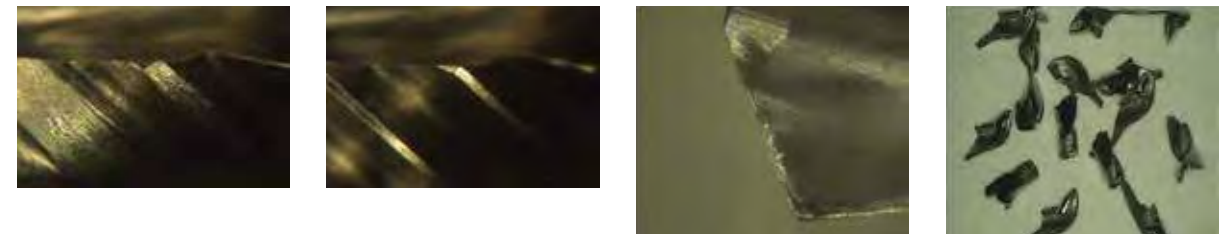
► SOLID CARBIDE DREAM DRILLS - GENERAL with Coolant Holes
硬质合金梦幻钻头-通用性带内冷

Cutting Condition 加工条件

Tool / 刀具	DH408015 (Dream Drill with Coolant Holes)
Size / 尺寸	Ø1.5 × 3 × 15 × 55
Work Material 工件材质	DIN : X40GrMoV51 WR : 1.2344 JIS : SKD61 (HRc30)
RPM / 转速	14,856 rev./min.
Feed / 进给	0.05 mm/rev.
Drilling Depth 钻孔深度	7.5 mm
Coolant / 冷却	Wet Cut



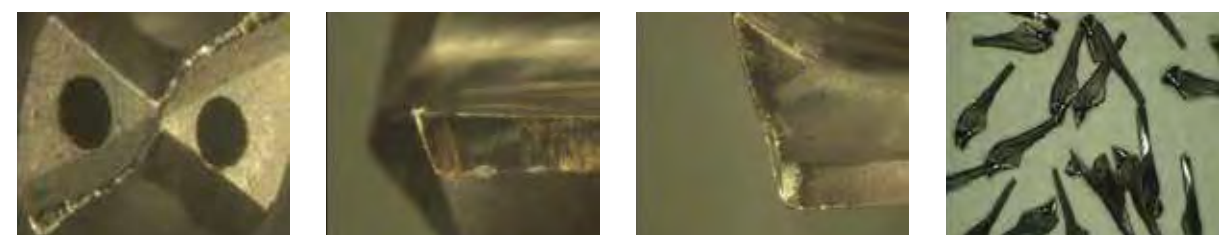
► YG-1 (Total Drilling 400 Holes) YG-1 (总钻孔400孔)



► Competitor A (Total Drilling 400 Holes) 竞争社 A (总钻孔400孔)




► Competitor B (Total Drilling 400 Holes) 竞争社 B (总钻孔400孔)



DREAM DRILLS - HIGH FEED

Reference page : A111 - A118



3-Internal Coolant

3-Cutting Edges & Margins will allow high penetration rate, accurate hole location and good surface finish
3-刃&韧带 确保高进给率

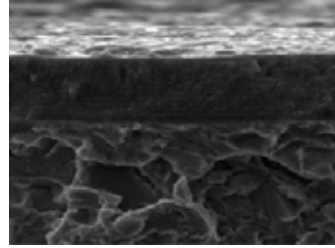
Radius Thinning for Self Centering and Chip Breaking
圆弧横刃修磨 自定心和断屑

Ground Negative land on cutting edge for Reliable Tool Life
切削刃负倒棱 刀具寿命稳定

3-Slots on end of shank for smooth and consistent coolant supply
末端3槽保证稳定平顺的冷却液供应

H - Coating
(Upgraded AlCrN-Based : **Multi-Layer coating**)
H-涂层(升级AlCrN基涂层:复合涂层)

- Higher worn-out resistance and Lower friction
较高的耐磨性和较低的摩擦
- Higher Cutting Speed and Feed
更高的切削速度和进给量
- Improved drill Hole Quality
提高钻孔质量



Multi Layers
Carbide

Productivity (Carbon Steel)
生产效率 (碳钢)

Ø 6.0 5XD

1.4 times UP
1.4 倍提升

3-Flute 3刃 1,592 mm/min.
2-Flutes 2刃 1,114 mm/min.

Ø 10.0 5XD

1.6 times UP
1.6 倍提升

3-Flute 3刃 1,600 mm/min.
2-Flutes 2刃 1,003 mm/min.

DREAM DRILLS - HIGH FEED

Reference page : A111 - A118

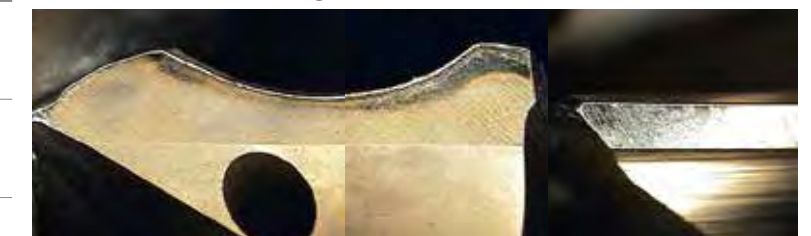
Dream Drills-High Feed offers 1.5 to 2 times higher feeding speed compared to conventional 2-flute drills. The unique flute design and exceptional surface finish promise extraordinary chip evacuation.
相比传统的两刃钻头，梦幻钻头高进给系列可以提供1.5到2倍的进给速度。独特的槽型设计和非凡的表面光洁度保证出色的排屑能力

► SOLID CARBIDE DREAM DRILLS - HIGH FEED with Coolant Holes
硬质合金梦幻钻头_高进给，带内冷

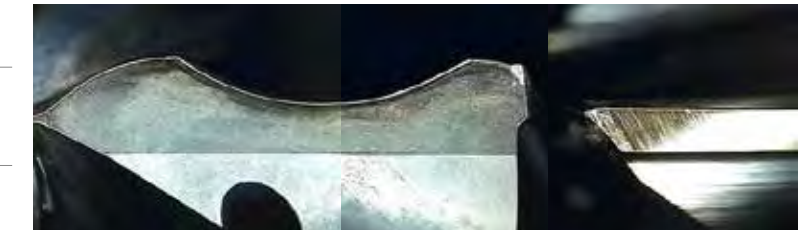
Cutting Condition 加工条件

Tool / 刀具	DGR495100 (Dream Drills High Feed)
Size / 尺寸	Ø10 × Ø10 × 61 × 103
Work Material 工件材质	DIN : C45 AISI : 1045 JIS : S45C (HRC20)
RPM / 转速	3,200 rev./min.
Feed / 进给	0.5 mm/rev.
Drilling Depth 钻孔深度	50 mm (5xD)
Drilling Method 盲孔	Blind Hole
Coolant / 冷却	Wet Cut
Machine / 设备	Machining Center 加工中心

► YG-1 (Total Drilling 330 Holes) YG-1 (钻孔后330孔)



► Competitor A (Total Drilling 330 Holes) 竞争社 A (总钻孔330孔)



► Competitor B (Total Drilling 330 Holes) 竞争社 B (总钻孔330孔)



DREAM DRILLS - FLAT BOTTOM

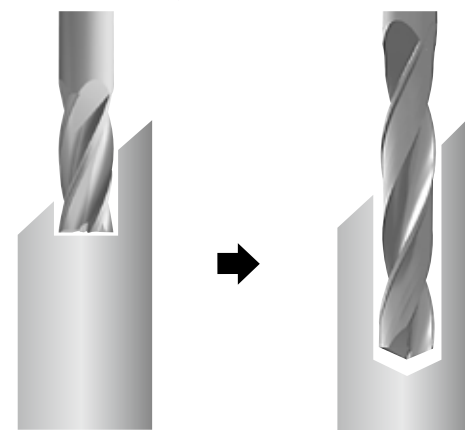
Reference page : A119 - A130

No Chamfer 无倒角
X-Coating X-涂层
Point Angle 180 Degree 钻顶角 180°
Wider chip space for smooth evacuation 更宽的容屑空间 便于排屑
Coating TiAlN nano Layer 涂层 TiAlN纳米涂层
Honing 倒钝
Double Margin (2xD Single Margin) 双刃带
Internal Cooling Holes (2xD - No coolant Holes) 内冷孔
Chamfer (Below data) 倒角 (数据如下)

O.D(mm)		5xD Corner Chamfer
Above	Up to	Legnth(mm)
Ø3	Ø6	0.06
Ø6	Ø10	0.12
Ø10	Ø14	0.18
Ø14	Ø20	0.26

Only One Operation for Angled Surface
一步操作，完成有角度面孔加工

For angled surfaces, two operations are required to drill in a conventional Process
对于有角度的表面，常规工艺钻孔需要两步



1st operation(End mill)
第一步 (立铣刀)
Counter boring to make flat surface and guide hole
铰孔,加工平面和导向孔

2nd operation(Drill)
第二步 (钻头)
Drilling to required depth of hole
钻到要求的孔深

For angled surfaces, only one operation can complete the drilling with Dream Drill Flat Bottom
对于有角度的表面，只需一次操作就可以用梦幻钻头_平底钻完成钻孔



One operation(Dream Drill Flat Bottom)
一步完成 (梦幻钻头 平底钻)
一把钻头完成所有工作
不用同时使用立铣刀和钻头

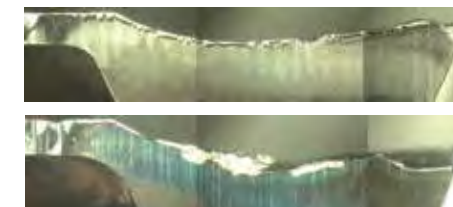
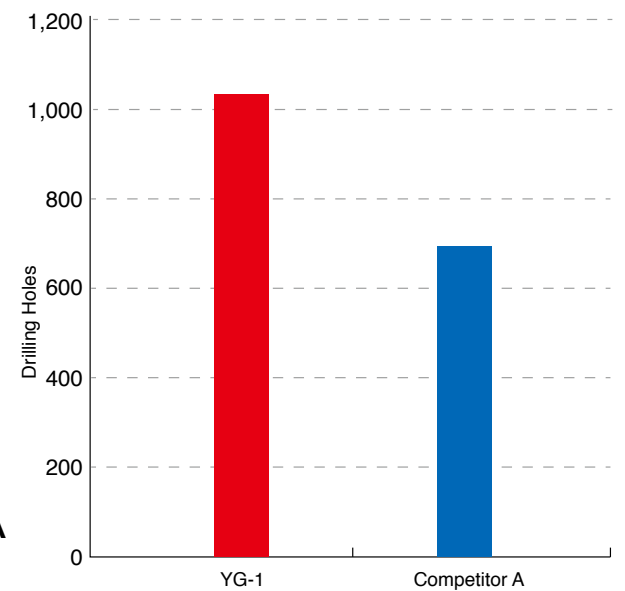
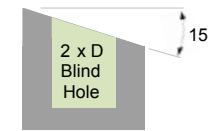
DREAM DRILLS - FLAT BOTTOM

Reference page : A119 - A130

TEST I ► SOLID CARBIDE DREAM DRILLS - FLAT BOTTOM without Coolant Holes
硬质合金梦幻钻头_平底钻无内冷

Cutting Condition 加工条件

Drill Diameter (mm) 钻头直径	Ø6.0
Work Material 工件材质	DIN : C45 AISI : 1045 JIS : S45C (HRC20)
Cutting Speed 切削速度	75.4 m/min
RPM (rev./min) 转速	4,000 rev/min
Feed(mm/min) 进给	0.1 mm/rev
Drilling Depth 钻孔深度	12.0 mm (2XD) Blind Hole / without Peckings
Coolant / 冷却	External Cooling / 外冷 Water Soluble (9% Emulsion) 水溶性 (9%乳化液)
Machine / 设备	Machining Center/ 加工中心

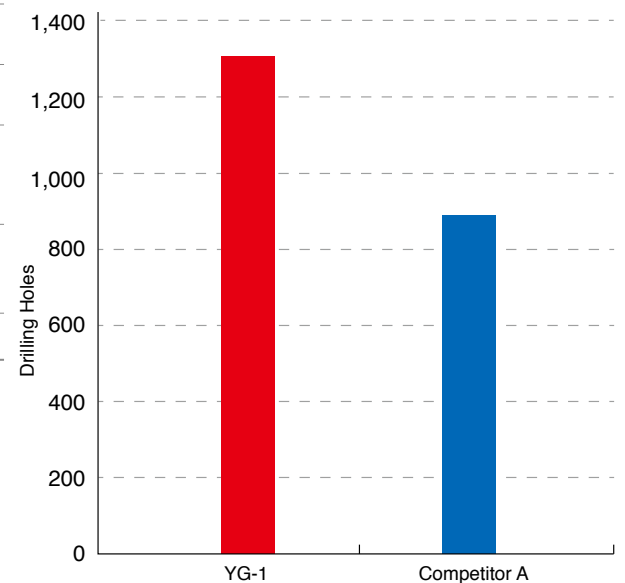
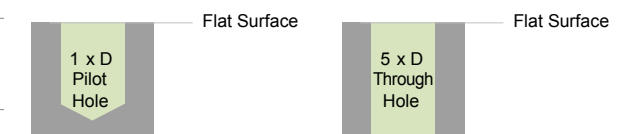


◀ **YG-1**
Small Chipping 小崩刃
◀ **Competitor A**
Big Chipping 大崩刃

TEST II ► SOLID CARBIDE DREAM DRILLS - FLAT BOTTOM with Coolant Holes
硬质合金梦幻钻头_平底钻带内冷

Cutting Condition 加工条件

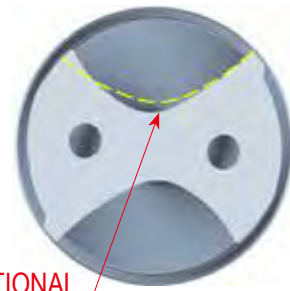
Drill Diameter (mm) 钻头直径	Ø6.0
Work Material 工件材质	DIN : 42CrMo4 AISI : 4140 JIS : SCM440 (HRC30)
Cutting Speed 切削速度	100.0 m/min
RPM (rev./min) 转速	5,300 rev/min
Feed(mm/min) 进给	0.12 mm/rev
Drilling Depth 钻孔深度	Pilot Drill / 预加工 - 6.0 mm (1XD) Total depth / 总深度 - 30.0 mm (5XD) Through Hole/without Pecking / 通孔/无啄钻
Coolant / 冷却	Internal cooling / 内冷 Water Soluble (9% Emulsion) 水溶性 (9%乳化液)
Machine / 设备	Machining Center/ 加工中心



◀ **YG-1**
Small Chipping 小崩刃
◀ **Competitor A**
Big Chipping 大崩刃

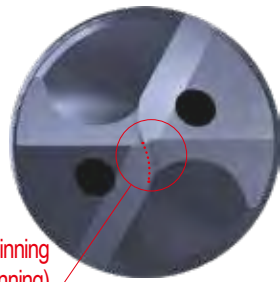
DREAM DRILLS - INOX

Reference page : A131 - A142



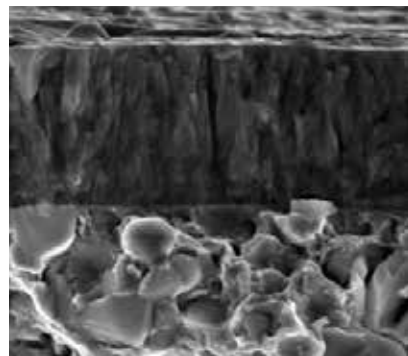
CONVENTIONAL

- Special Flute geometry and Chip pocket to help Chip evacuation and proper Chip Curl.
特殊的槽型设计和容屑槽帮助排屑和切屑卷曲
- strong rigidity from **Cutting Edge**
高刚性的切削刃
- high Performance on Stainless Steel and pre hardend Steel
高性能不锈钢和预硬钢用钻头



R-Thinning
(Radius Thinning)
圆弧横刃修磨

- Positive Axial **Rake Angle** and cutting force, with **R-Thinning** enhance centering and Chip Breaking.
采用圆弧横刃修磨，具有轴向正前角和切削力，提高定心和断屑能力



Nano Layer
Carbide

TiAlN Coating (Upgraded Titanium Aluminum Nitride : nano-Layer coating)

- Higher wear resistance and Lower friction
更高的耐磨性和更低的摩擦
- Higher Cutting Speed and Feed
更高的切削速度和进给量
- Improved drill Hole Quality
提高钻孔质量

Special surface treatment after coating

涂层后特殊表面处理
to reduce friction and better chip flow.
以减少摩擦和更好的切屑流动。

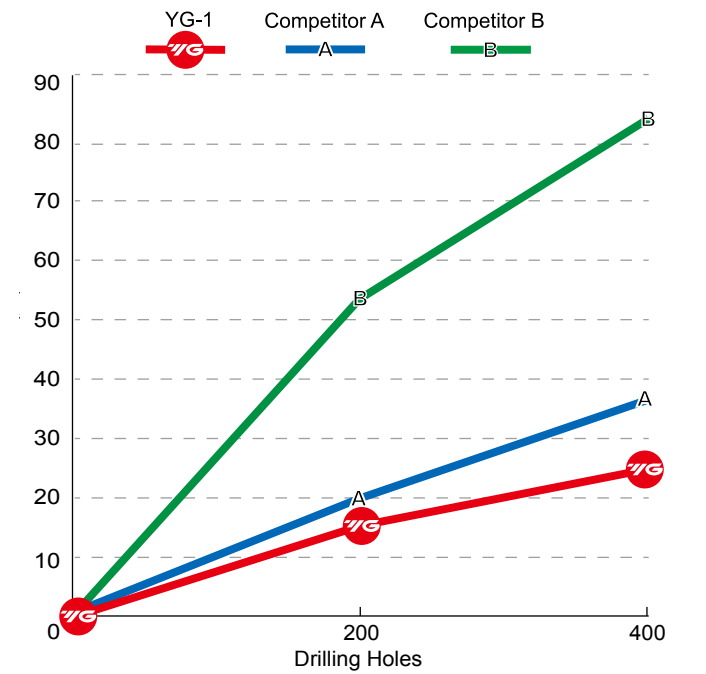
DREAM DRILLS - INOX

Reference page : A131 - A142

► SOLID CARBIDE DREAM DRILLS - INOX with Coolant Holes
硬质合金梦幻钻头-INOX 带内冷

Cutting Condition 加工条件

Tool / 刀具	DH452060 (DREAM DRILL-INOX)
Size / 尺寸	Ø6 × Ø6 × 44 × 82
Work Material 工件材质	DIN : X5CrNi1810 (X4CrNi18-10) WR : 1.4301 JIS : SUS304
RPM (rev./min) 转速	3,700 rev./min.
Feed(mm/min) 进给	0.07 mm/rev.
Drilling Depth 钻孔深度	24 mm
Coolant / 冷却	Wet Cut / 湿切



► YG-1 (Total Drilling 400 Holes) YG-1 (总钻孔400孔)



► Competitor A (Total Drilling 400 Holes) 竞争社 A (总钻孔400孔)



► Competitor B (Total Drilling 400 Holes) 竞争社 B (总钻孔400孔)



DREAM DRILLS - ALU

Reference page : A143 - A154



Design that optimized flute shape and geometry suitable for Aluminum, Aluminum alloy.

采用最佳的适用于铝、铝合金的槽型和设计

Optimized point thinning to prevent any chip-clogging from chip welding.

最佳的钻尖横刃修磨，防止切屑堵塞和粘结。



Polished flutes improve chip control and evacuation.

槽内抛光改善切屑形状和排出

The Drilling of High Speed is possible while maintaining the excellent surface roughness of workpiece.

保持孔表面圆度的同时，实现高速加工

Ø6.0 & Ø10.0 TEST, Aluminum(6061)

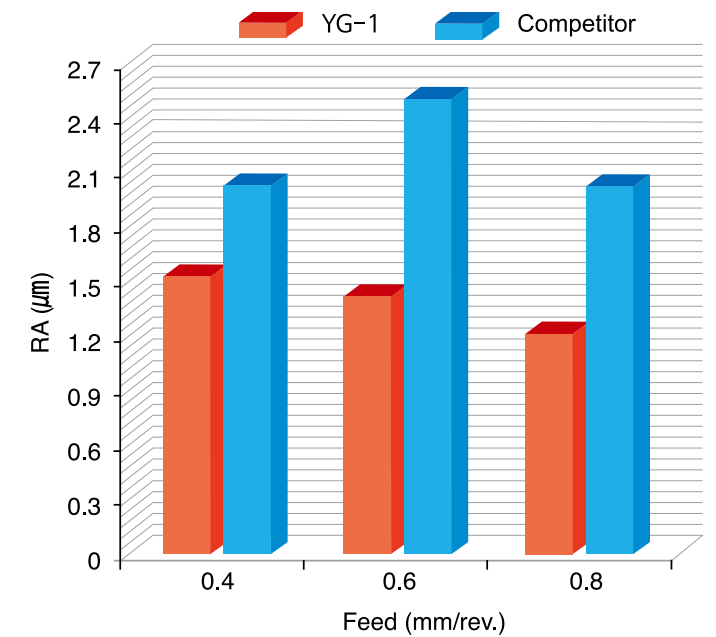
CUTTING CONDITION 加工条件	DREAM DRILL-ALU 梦幻钻头_铝用		COMPETITOR A 竞争社A	
	Roundness 圆度	Straightness 直线度	Roundness 圆度	Straightness 直线度
SIZE 尺寸 Ø 6.0				
Drilling Holes 钻孔数 1200 Holes				
SIZE 尺寸 Ø10.0				
Drilling Holes 钻孔数 820 Holes				

SOLID CARBIDE DREAM DRILLS - ALU with Coolant Holes

硬质合金梦幻钻头 铝用-带内冷孔

Cutting Condition 加工条件

Tool / 刀具	D5433100 (DREAM DRILLS-ALU)
Size / 尺寸	Ø10.0xØ10x61x103
Work Material 工件材质	DIN : AlMgSiCu AISI : 6061 JIS : A6061
RPM (rev./min) 转速	6,367 rev./min.
Feed(mm/min) 进给	0.4 ~ 0.8 mm/rev.
Drilling Depth 钻孔深度	45 mm
Coolant / 冷却	Wet Cut / 湿切

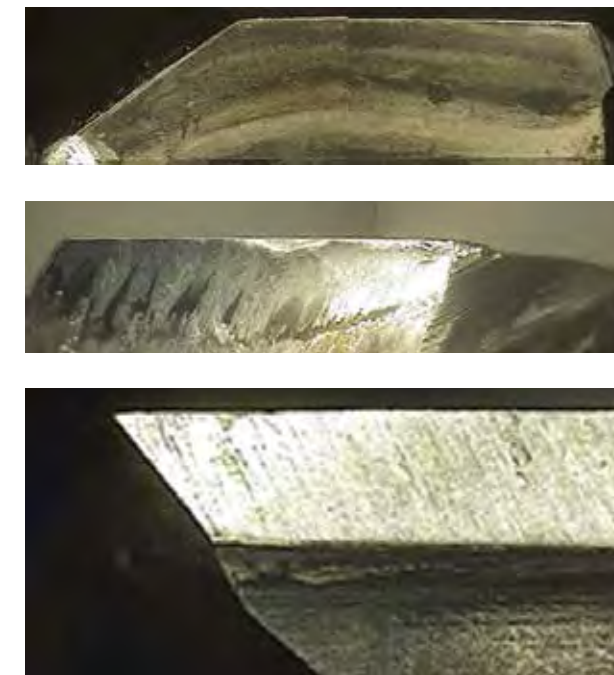


Surface Roughness of Work Piece

被加工材料的表面粗糙度

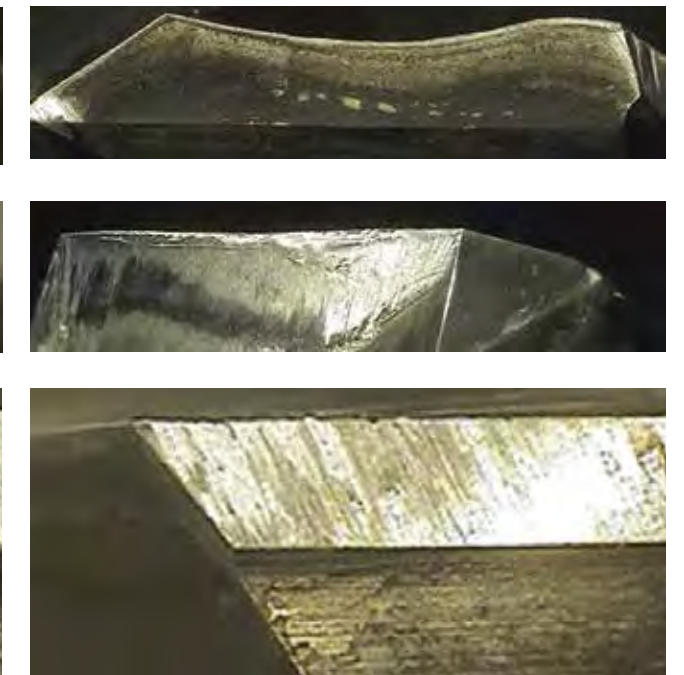
YG-1 (Total Drilling 820 Holes)

YG-1 (总钻孔820孔)



Competitor A (Total Drilling 820 Holes)

竞争社A (总钻孔820孔)



DREAM DRILLS - MQL TYPE

Reference page : A159 - A168

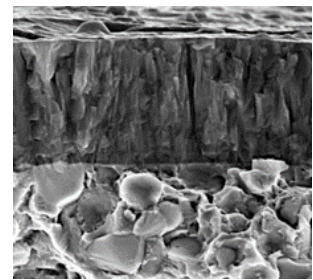


4-Facet point for good centering capability
4面钻尖, 良好的定心能力



Polished flute for enhanced chip evacuation
槽内抛光, 增强排屑

Optimized special flutes are ideal for removing chips and for productive drilling 最佳的槽型是排屑和钻孔加工的理想选择



Upgraded TiAlN nano Layer Full Coating
升级的TiAlN纳米全涂层

Compatible with the MQL (Minimum Quantity Lubrication) system. (微小润滑)系统。

- Reduction of Cooling Cost 降低冷却成本
- Reduce generation of dioxin for human [Eco-Friendly] 为人类减少二恶英的产生[生态友好]

Compare with Gun drills 与枪钻比较

- Used on conventional machining center (MQL Drills) 用于传统加工中心(MQL钻头)
- Higher productivity than conventional HSS deep hole drills and Gun drills 比传统的高速钢深孔钻和枪钻生产率更高



- Size Range 尺寸范围 : Ø2~Ø25
- Drilling Depth 钻孔深度 : 25xD ~ over 100xD
* Need Gun drilling machine 需要枪钻设备

- Size Range 尺寸范围 : Ø3~Ø14
- Drilling Depth 钻孔深度 : 10xD ~ 40xD
* Need enough machine stroke on machining center 加工中心需要足够的行程

DREAM DRILLS - MQL TYPE

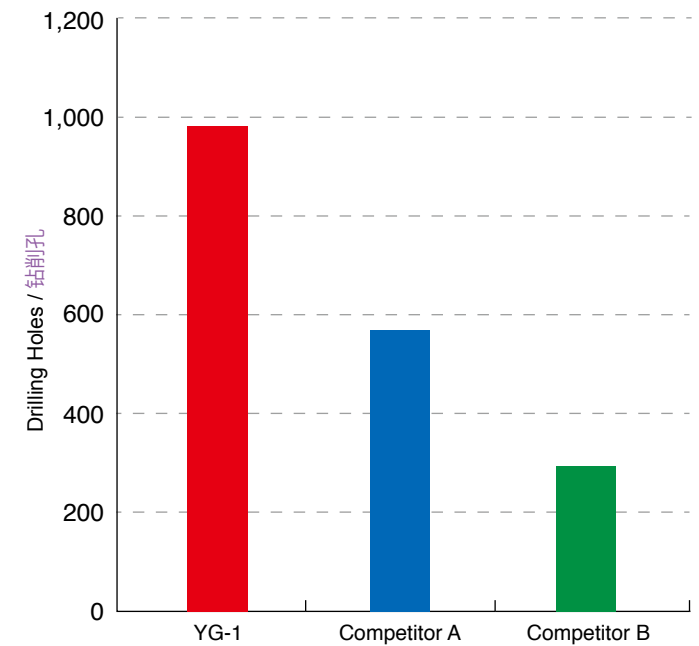
Reference page : A159 - A168

- Flute Shape and Point Shape allowing better chip evacuation in deep hole drilling
- Excellent Coating and Surface Treatment for better performance and chip evacuation
- 槽型和钻尖形状,在深孔钻削中保证更好的排屑
- 出色的涂层和表面处理, 保证更佳的性能和排屑

SOLID CARBIDE DREAM DRILLS - MQL Type with Coolant Holes
硬质合金梦幻钻头_MQL 带内冷孔

Cutting Condition 加工条件

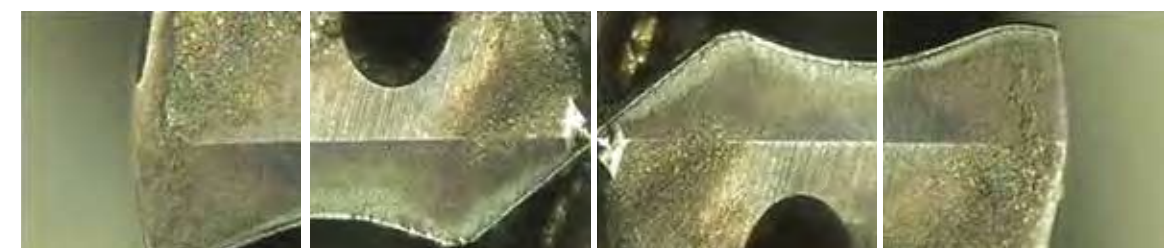
Tool / 刀具	DH520060 (DREAM DRILL- MQL TYPE, 20xD)
Size / 尺寸	Ø6xØ6x138x193
Work Material 工件材质	DIN : C45 WR : 1.0503 JIS : S45C(HRc25)
RPM (rev./min) 转速	3,528 rev./min.
Feed(mm/min) 进给	0.19 mm/rev.
Drilling Depth 钻孔深度	80 mm
Coolant / 冷却	Oil Mist (MQL Techniques)



YG-1 (After Drilling 1,000 Holes) YG-1 (钻孔后1,000孔)



Competitor A (After Drilling 546 Holes) 竞争社 A (钻孔后546孔)



DREAM DRILLS - CFRP

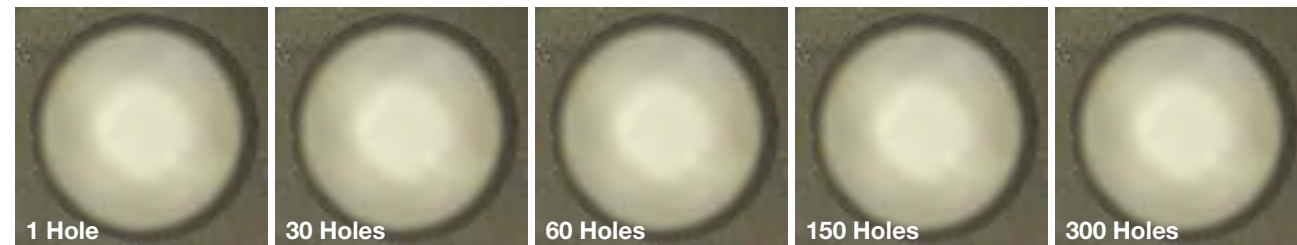
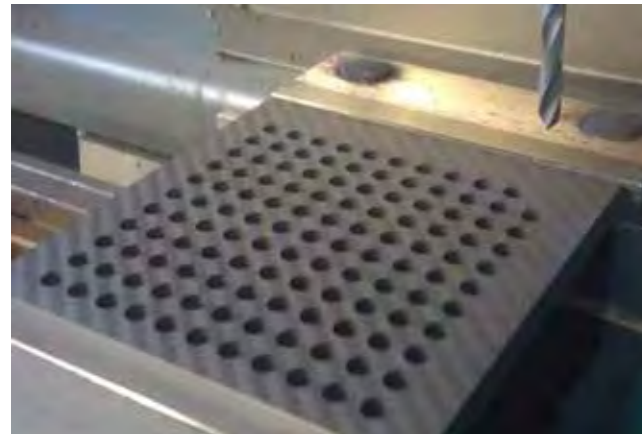
Reference page : A155 - A158

► **SOLID CARBIDE DREAM DRILLS - CFRP without Coolant Holes**

硬质合金梦幻钻头-CRRP 系列, 无内冷孔

Cutting Condition 加工条件

Tool / 刀具	DI473060 (DREAM DRILLS - CFRP)
Size / 尺寸	Ø6×Ø6×44×82
Work Material 工件材质	CFRP
RPM (rev./min) 转速	6,366 rev./min.
Feed(mm/min) 进给	254.64 mm/min.
Drilling Depth 钻孔深度	6 mm, Through Hole
Coolant / 冷却	Dry Cut



DREAM DRILLS for HIGH HARDENED STEEL

Reference page : A169 - A172

- Low Helix Angle to maximize tools' rigidity
- Special Point Thinning to improve chip evacuation
- Excellent Coating and Surface Treatment for improved surface and better chip evacuation
- 采用低螺旋角,最大限度地提高钻头刚性。
- 特殊横刃修磨,提高排屑能力。
- 出色的涂层和表面处理,改善表面提升排屑。

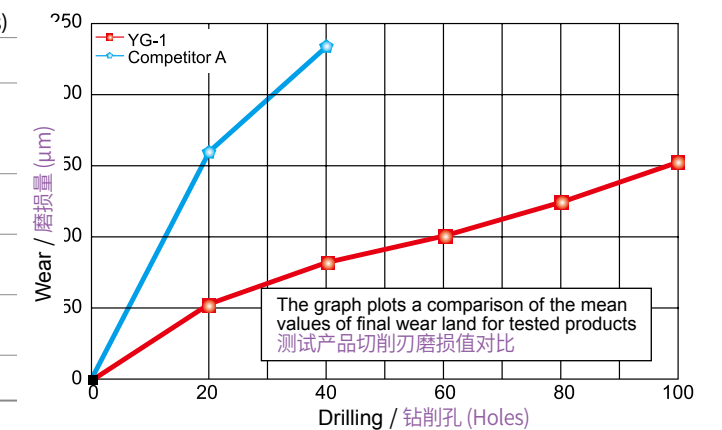
► **SOLID CARBIDE DREAM DRILLS for HIGH HARDENED STEELS (HRc50-70)**

梦幻钻头-高硬钢 (HRc50~70)

Cutting Condition 加工条件

Tool / 刀具	DH500100 (Dream Drills for High Hardened Steels)
Size / 尺寸	Ø10×Ø10×63×111
Work Material 工件材质	DIN : X155CrV-Mo12-1 WR : 1.2379 JIS : SKD11(HRc60)
RPM (rev./min) 转速	380 rev./min..
Feed(mm/min) 进给	0.04 mm/rev.
Drilling Depth 钻孔深度	25 mm(2.5xD)
Coolant / 冷却	Wet Cut / 湿切

TEST REPORT 测试报告



► **YG-1 (After Drilling 100 Holes) YG-1 (钻孔后100孔)**



► **Competitor A (After Drilling 40 Holes) 竞争社 A (钻孔后40孔)**



MULTI-1 DRILLS

Reference page : A179 - A188



Wide range of work materials;
广泛的工件材质;

Carbon Steels, Alloy Steels, Structural Steels, Hardened Steels(up to HRC45), Cast Iron, Stainless Steels, Aluminum and Titanium
碳钢, 合金钢, 结构钢, 淬火钢(HRC45以下), 铸铁, 不锈钢, 铝合金和钛合金



Point Shape to Mazimize Self-centering

钻顶形状最大化自定心

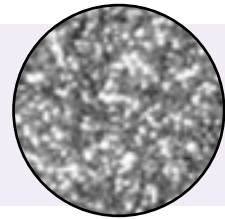
- ▶ Excellent positioning - bush is not necessary
- ▶ 出色的定心-不需要定位套



Flute Design for the Best Chip Evacuation

槽型设计确保最佳的排屑效果

- ▶ Prevent chip clogging and reduce axial thrust
- ▶ 防止切屑堵塞, 减少轴向推力



Premium Powder Material with Excellent Toughness

高级粉末高速钢出色的韧性

- ▶ Improve cutting edge strength with higher stability and rigidity
- ▶ 提高刃口强度, 提高稳定性和刚度

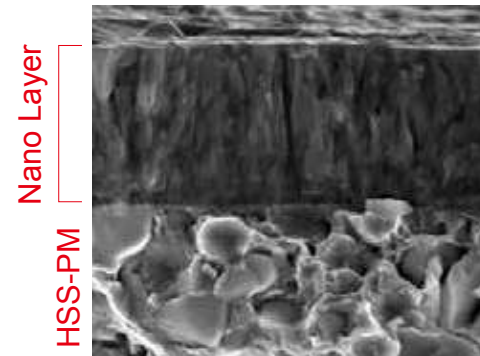
TiAlN Coating TIALN 涂层
(Upgraded Titanium Aluminum Nitride: nano-Layer coating)

(升级后的氮铝化钛涂层纳米涂层)

- Higher wear resistance and Lower friction
- Higher Cutting Speed and Feed
- Improved drill Hole Quality

Special surface treatment after coating

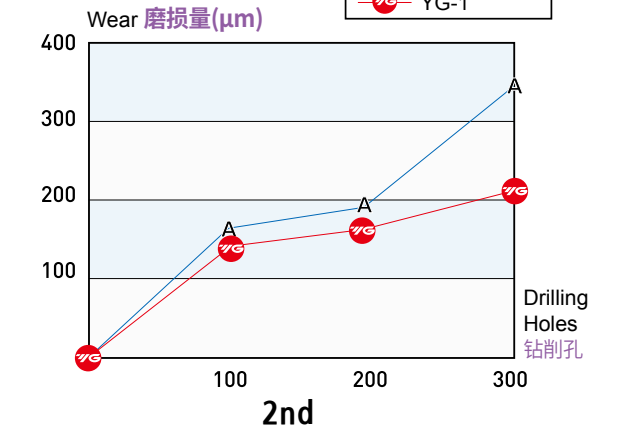
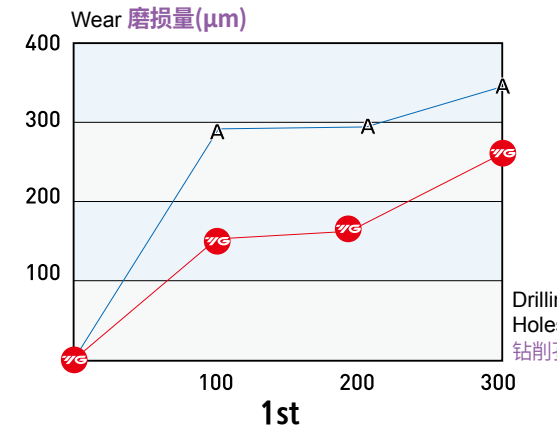
涂装后特殊表面处理 to reduce friction and better chip flow.
以减少摩擦和更好的切屑流动。



MULTI-1 DRILLS

Reference page : A179 - A188

TEST I Comparison of edge wear 切削刃磨损对比

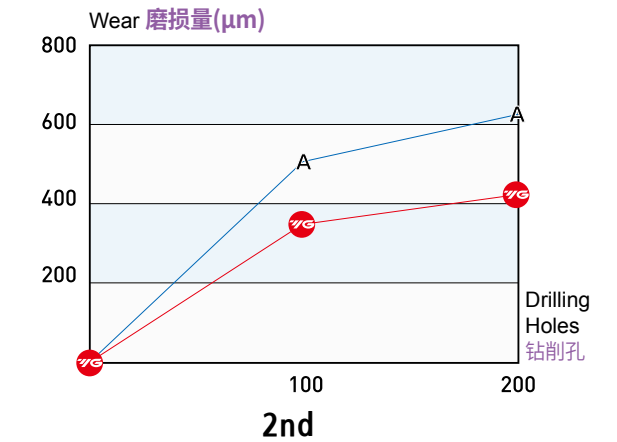
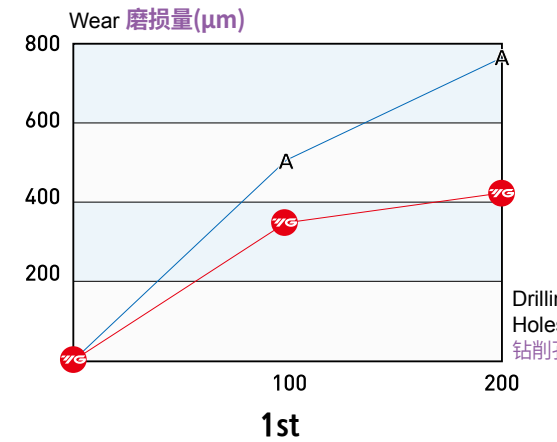


Cutting Condition 加工条件

Work Material 工件材质	JIS : SUS316 DIN : X3CrNiMo17-13-3 WR : 1.4436
--------------------	--

Drilling Depth / 钻孔深度	24mm
Total Drilling (hole) 总钻孔(孔)	300 Holes
RPM (rev./min) / 转速	600 rev./min.
Feed(mm/min) / 进给	110 mm/min.

TEST II Comparison of edge wear 切削刃磨损对比



Cutting Condition 加工条件

Work Material 工件材质	JIS : SKD11 DIN : X155CrVMo12-1 WR : 1.4436
--------------------	---

Drilling Depth / 钻孔深度	24mm
Total Drilling (hole) 总钻孔(孔)	200 Holes
RPM (rev./min) / 转速	600 rev./min.
Feed(mm/min) / 进给	110 mm/min.

▶ YG-1



▶ Competitor A



SPADE DRILLS (Standard, SM-Point, SV-Point)

Reference page : A259 - A372

SM-Point SM 钻尖



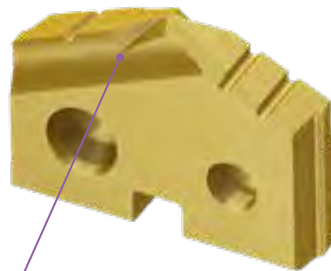
Multiple Web Thinning for and Radius Back Face for Increased Cutting Speed and Feed / 复合横刃修磨, 圆弧后刀面 增加切削速度和进给
Wide Chip Space / 容屑空间大
Good Self-Centering / 自定心强
Less Tool Lead-off / 减少脱落
Reduction in bell mouting / 减少喇叭孔

Standard-Point 标准钻尖

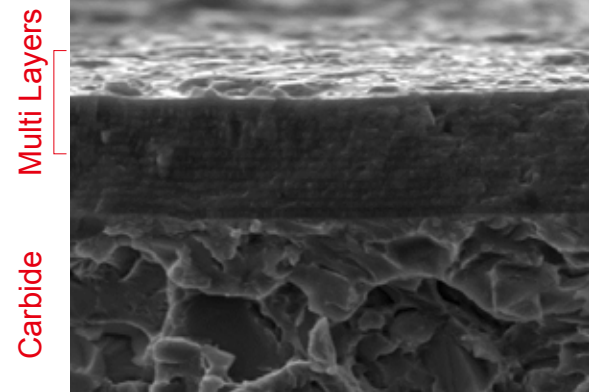


Standard Point and Neutral Rake Angle for 标准钻尖和正常前角
Stable Cutting 平稳加工
Self Centering 自定心
Chip Breaking 断屑
Rigidity on Center 中心刚性

New Series SV-Point SV 钻尖



Sinusoidal Thinning Edge and Positive Rake Angle for Improved stability and hole straightness
 正弦横刃修磨正前角提高稳定性和孔直线度平稳加工
Smoother Cutting 断屑
Chip Breaking Less thrust
 优秀的自定心更稳定的扭矩
Excellent Self Centering 优秀的自动定心
More Stable torque and long tool life
 更稳定的扭矩使用寿命长



Multi layered 'H'-coating 复合涂层 “H”
Micro Grain Carbide Insert 微晶硬质合金刀片

Outstanding Productivity & Reliability
 卓越的生产力和可靠性

H - Coating H 涂层
 (Upgraded AlCrN-Based : Multi-Layer coating)
 (升级AlCrN基涂层:复合涂层)

- Higher worn-out resistance and Lower friction
 • 较高的耐磨性和较低的摩擦
- Higher Cutting Speed and Feed
 • 更高的切削速度和进给量
- Improved drill Hole Quality
 • 提高钻孔质量

SUPER-GP DRILLS

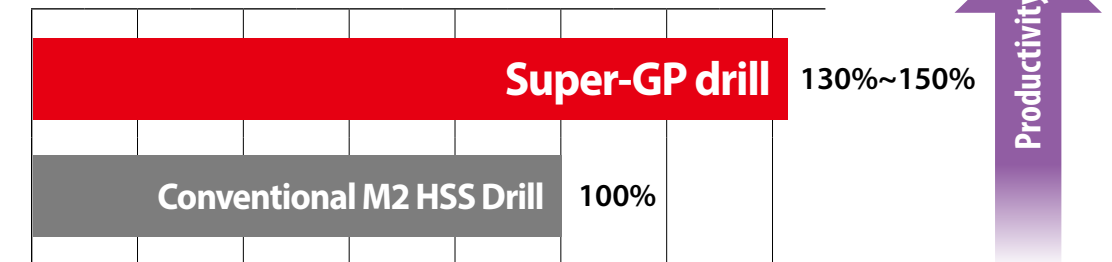
Reference page : A203 - A208



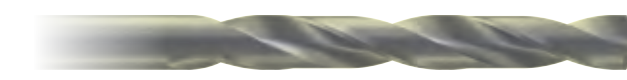
Super-GP drill was designed to improve the performance of the Conventional HSS M2 drill.
 Super-GP钻头是为了提高传统高速钢(M2)钻头的性能而设计的。

- Super HSS will Improve Toughness and Wear Resistance.
 • 采用超级高速钢将提高韧性和耐磨性。
- Rigid structure allows excellent performance for poor machining condition.
 • 刚性结构在不良加工条件也表现出出色的性能。
- Minimized interference will reduce drilling force and friction .
 • 尽可能减少干扰, 减少钻孔阻力和摩擦力。
- Uniform helix angle will help chip formation and evacuation.
 • 均匀螺旋角有利于切屑形成和排屑。

Increase Tool Life at same cutting conditions
 在相同切削条件下提高刀具寿命



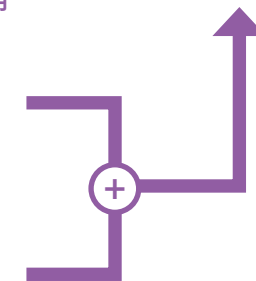
Just One-type of drill for all Applications
Regardless of Machining Conditions; Good or Poor
 只用一种类型的钻头适用于所有应用
 无论加工条件如何;好还是差



Rigid Machining Condition
 稳定加工工况



Unstable Machining Condition
 不稳定加工工况

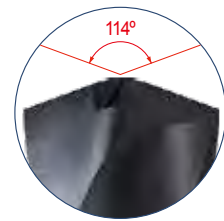


Dream Drills Soft

Reference page : A101 - A110

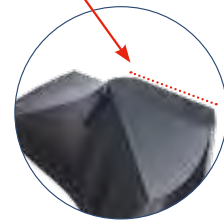


Micro-grained carbide for wear resistance and longer tool life



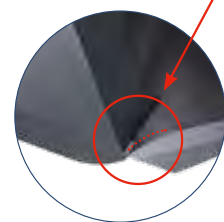
140 Degree Point Angle
for good centering and low thrust
140°钻顶角
良好的定心和低止推力

Lip Straight shape
直线型切削刃

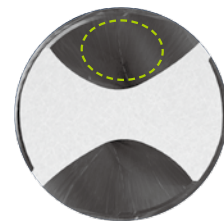


Lip Straight shape Cutting Edge
will allow low thrust, strong rigidity and stable torque
直线型切削刃
低止推力，高刚性和稳定的扭矩

Radius Thinning
圆弧横刃修磨



Unique radius Thinning
for Self Centering and Chip Breaking
独特的圆弧横刃修磨
自定心和断屑



Optimized flute shape
smooth chip evacuation
最佳的槽型
排屑顺畅



Negative Land (Honing)
负倒棱 (倒钝)

Negative land on the cutting edge
for Reliable Tool Life 切削刃负倒棱 可靠的刀具寿命

X-Coating X-涂层 (AlCrN-Based Mono-Layer coating_Bright Grey)

- Higher worn-out resistance and Lower Adhesion
• 较高的耐磨性能和较低的附着力
- Higher Cutting Speed and Feed
• 更高的切削速度和进给量
- Improved heat resistance and high-temperature oxidation resistance
• 提高了耐热性和耐高温氧化性

Special surface treatment after coating

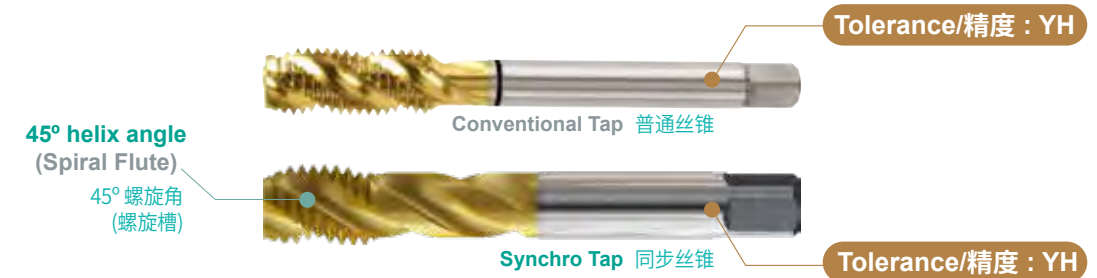
涂装后特殊表面处理
to reduce friction and better chip flow.
减少摩擦和更好的切屑流动。

SYNCHRO TAP

Reference page : B39 - B44

FEATURES OF GEOMETRY / 设计特点

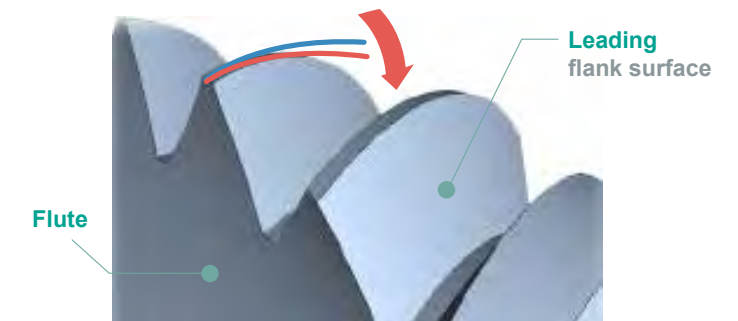
- ▶ **Shorter thread length** will reduce chip problems at higher speed tapping conditions
短螺纹设计: 减少高速攻丝中排屑问题



- ▶ **Shank Tolerance 'YH'** for precision clamping and rigid tapping
柄部公差 'YH': 保证精密夹紧和稳定攻丝

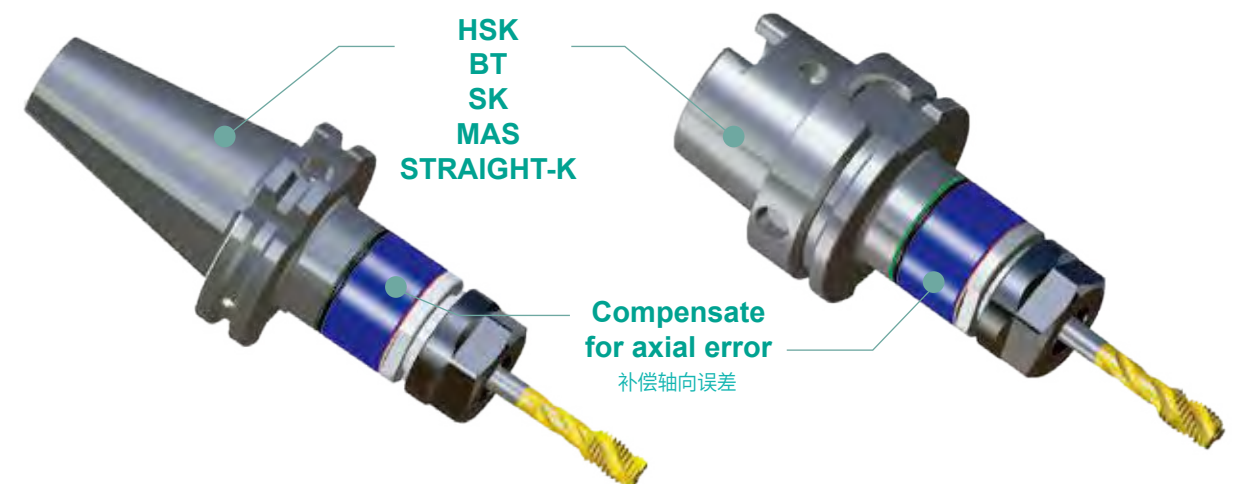
- ▶ **More thread relief**
allows high speed cutting
采用大后角: 实现高速攻丝

- ▶ **HSS-PM (Powder Metallurgy)**
for more reliable performance and wear resistance
HSS-PM(粉末高速钢):
实现性能稳定性和卓越耐磨性



SYNCHRO TAPPING CHUCK (ER TYPE) / 同步攻丝刀柄 (ER型)

- ▶ When using Synchro taps, YG-1 strongly recommends SYNCHRO Tapping Chuck for the best thread quality and superior tool life
用同步丝锥时, YG-1推荐用同步攻丝刀柄, 从而提高丝锥寿命和攻丝质量



SYNCHRO TAP

Reference page : B39 - B44

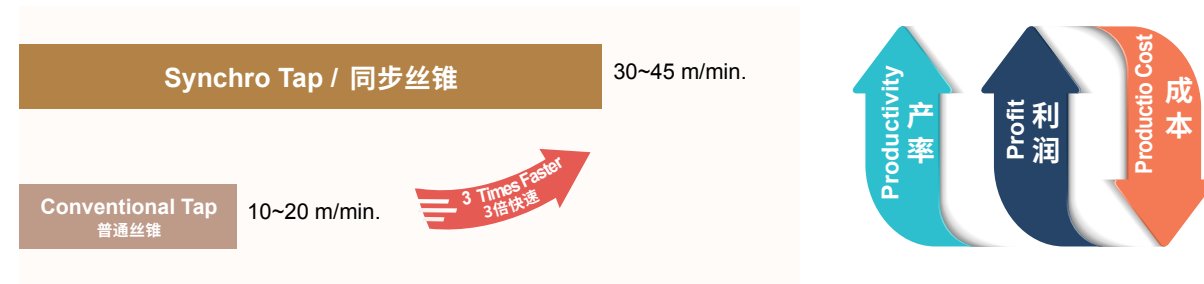
Reference page : B39 - B44

ADVANTAGES / 优点

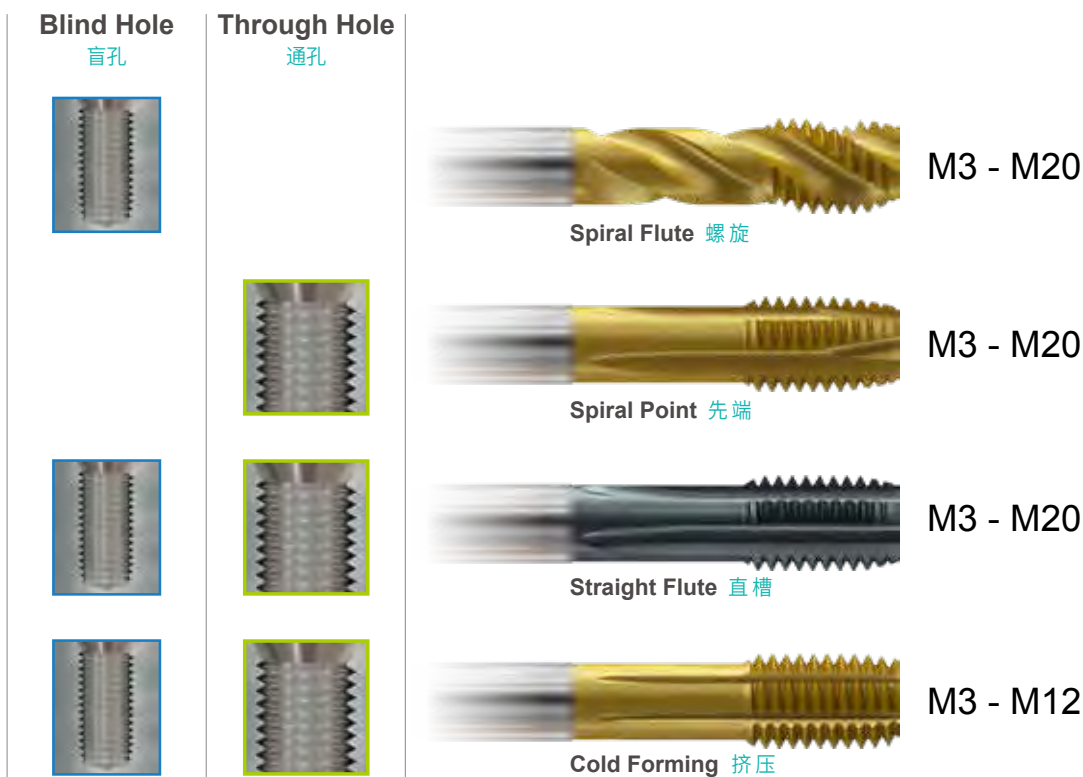
▶ PRODUCTIVITY 产率

Up to 3 times Faster in tapping compared to conventional taps (General Steel)

增加到3倍快速 比较普通丝锥 (普通钢)



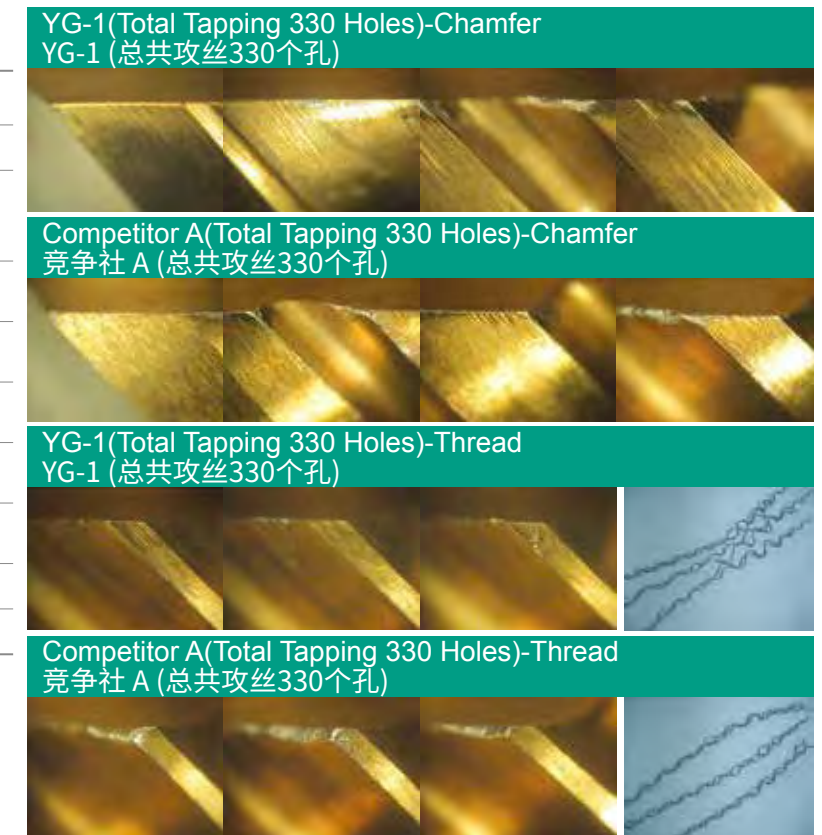
▶ 4 kinds of taps are available 具有4种类型的丝锥



TEST I - SPIRAL FLUTE 螺旋

Cutting Condition 加工条件

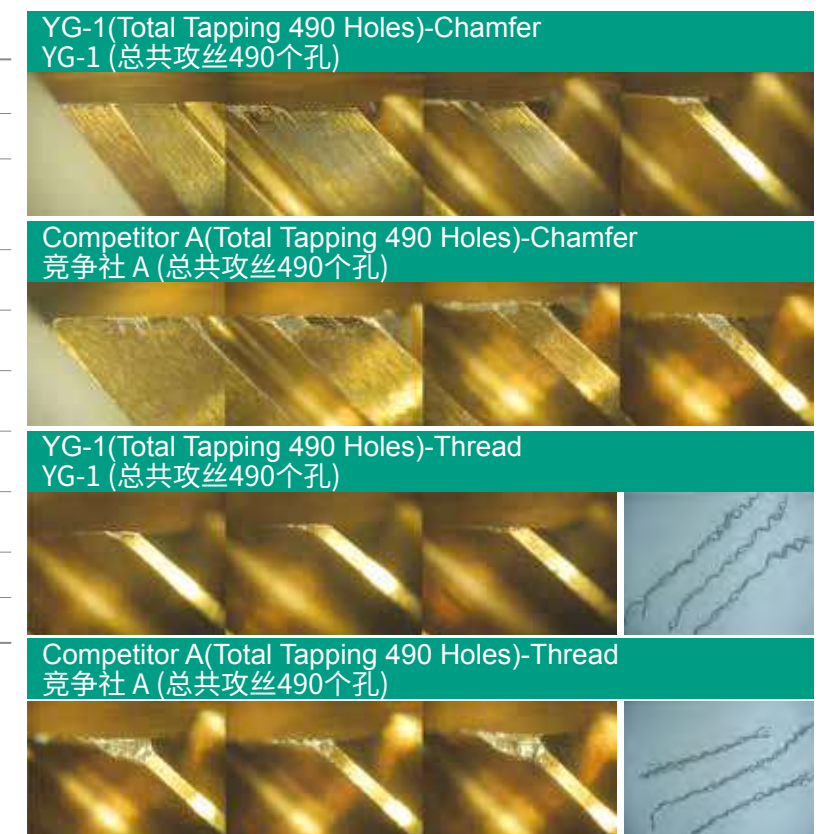
Tool / 刀具	HSS-PM Synchro Spiral Flute Tap
Size / 尺寸	M10x1.5
Work Material 工件材质	JIS : S45C(HRc35) DIN : C45 WR : 1.0503
Cutting Speed 切削速度	30 m/min.
RPM (rev./min) 转速	955 rev./min.
Feed(mm/min) 进给	1.5 mm/rev.
Tapping Depth 钻孔深度	25 mm
Tapping Method 攻丝方法	Blind Hole Tapping
Coolant / 冷却	Wet Cut
Machine / 机器	Machining Center



TEST II - SPIRAL FLUTE 螺旋

Cutting Condition 加工条件

Tool / 工具	HSS-PM Synchro Spiral Flute Tap
Size / 规格	M6x1.0
Work Material 工件材质	JIS : S45C(HRc35) DIN : C45 WR : 1.0503
Cutting Speed 切削速度	30 m/min.
RPM (rev./min) 转速	1,592 rev./min.
Feed(mm/min) 进给	1.0 mm/rev.
Tapping Depth 钻孔深度	25 mm
Tapping Method 钻孔	Blind Hole Tapping
Coolant / 冷却	Wet Cut
Machine / 机器	Machining Center



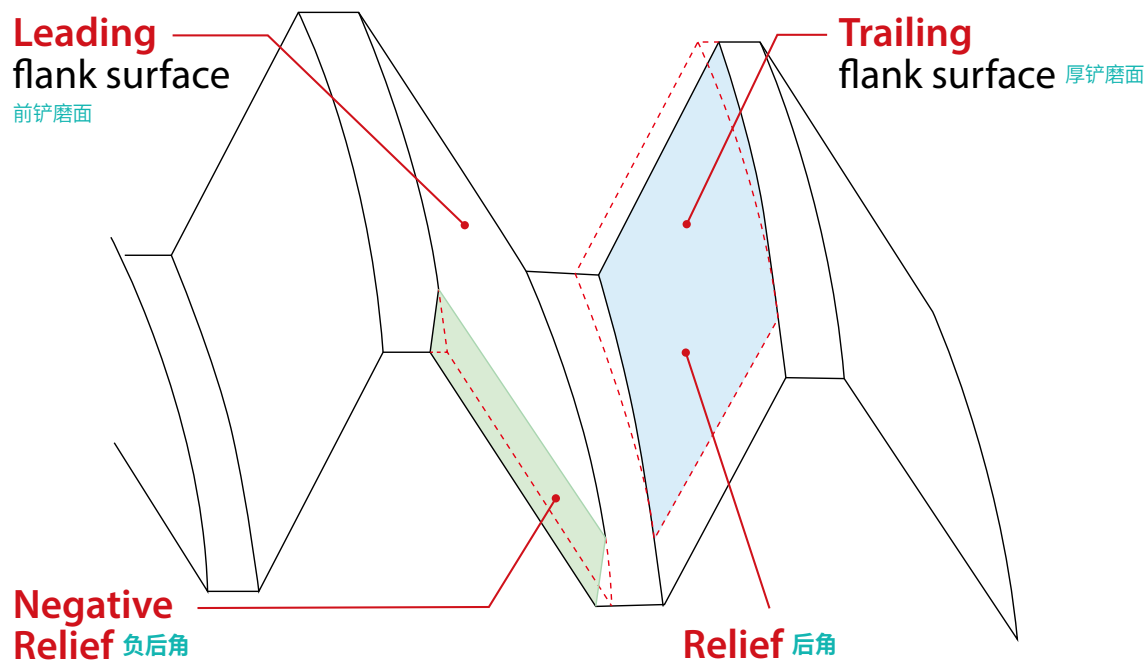
Combo Tap

Reference page : B45 - B60

General Use for Various Materials 满足各种材质的一般应用

Combo Tap's geometry provides enough flute space resulting in smooth chip evacuation and therefore a continuous production process. Guarantee a high level of process reliability even under unfavorable conditions. Combo 丝锥的设计提供了足够的排屑空间，从而保证了平顺的排屑和稳定的加工过程。即使在各种加工条件下也能保证稳定的加工水平。

- ▶ For Steels, Stainless Steels, Cast Iron and Non-Ferrous Materials 适合钢件，不锈钢，铸铁和有色金属加工
- ▶ Prevents over & under feeding by its optimized flank geometry 最佳的铲背设计避免过攻丝或攻丝不足
- ▶ Constant threading quality preventing oversized threading 螺纹质量稳定防止中径过大



- **Optimized flank geometry to prevent over & under feeding**
 - 最佳的铲背形状，以防止过和攻丝不足
- **Enables smoother tapping** with better chip evacuation
 - 攻丝更平稳，排屑更顺畅
- **Compensation of cutting force**, which reduces tap wear and extends tool life.
 - 补偿切削力，减少丝锥磨损，延长刀具寿命。

Combo Tap

Reference page : B45 - B60

TEST I - SPIRAL FLUTE 螺旋

Cutting Condition 切削条件

Tool / 工具	Combo Spiral Flute Tap
Size / 规格	M8x1.25
Work Material 工件材质	JIS : S45C(HRc35) DIN : C45 WR : 1.0503
Tapping Depth 钻孔深度	20mm
Coolant / 冷却	Water Soluble Oil
Vc (Tapping Speed) 螺纹速度	10.0m/min

YG-1 (Total Tapping 204 Holes)
YG-1 (总共攻丝204个孔)



Competitor A (Total Tapping 159 Holes)
竞争社 A (总共攻丝159个孔)



Competitor B (Total Tapping 204 Holes)
竞争社 B (总共攻丝204个孔)

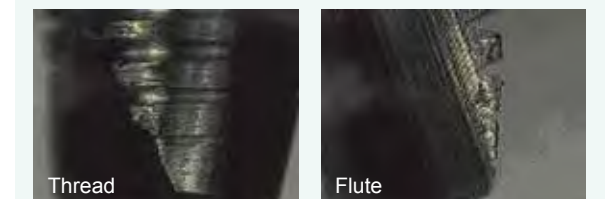


TEST II - SPIRAL POINT 先端丝锥

Cutting Condition 切削条件

Tool / 工具	Combo Spiral Point Tap
Size / 规格	M2x0.4
Work Material 工件材质	JIS : S45C(HRc35) DIN : C45 WR : 1.0503
Tapping Depth 钻孔深度	6mm
Coolant / 冷却	Tapping Oil
Machine / 机器	Machining Center

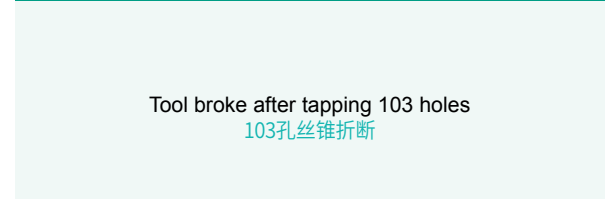
YG-1 (Total Tapping 450 Holes)
YG-1 (总共攻丝450个孔)



Competitor A (Total Tapping 318 Holes)
竞争社 A (总共攻丝318个孔)



Competitor B (Total Tapping 103 Holes)
竞争社 B (总共攻丝103个孔)



Combo Tap

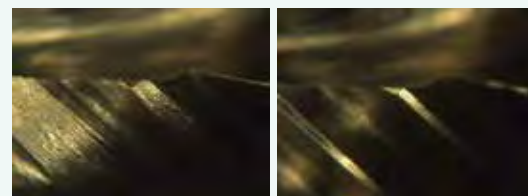
Reference page : B45 - B60

TEST I - SPIRAL FLUTE / 螺旋

Cutting Condition 切削条件

Tool / 工具	Combo tap for Stainless Steels (TQ744246)
Size / 规格	M4x0.7
Work Material 工件材质	JIS : SUS304 DIN : X5CrNi18 10(X 4 CrNi18-10) WR : 1.4303
Tapping Depth 钻孔深度	10mm
Coolant / 冷却	Wet Cut
Vc (Tapping Speed) 螺纹速度	8m/min.

YG-1 (Total Tapping 170 Holes)
YG-1 (总共攻丝170个孔)



Competitor A (Total Tapping 170 Holes)
竞争社 A (总共攻丝170个孔)



Competitor B 竞争社 B

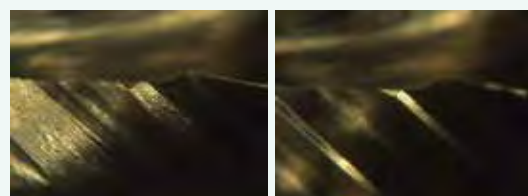
Tool broke after tapping 83 holes

TEST II - SPIRAL FLUTE 螺旋

Cutting Condition 切削条件

Tool / 工具	Combo tap for Stainless Steels (TQ744316)
Size / 规格	M6x1.0
Work Material 工件材质	JIS : SUS304 DIN : X5CrNi18 10(X 4 CrNi18-10) WR : 1.4303
Tapping Depth 钻孔深度	15mm
Coolant / 冷却	Wet Cut
Vc (Tapping Speed) 螺纹速度	8m/min.

YG-1 (Total Tapping 230 Holes)
YG-1 (总共攻丝230个孔)



Competitor A / 竞争社 A

Tool broke after tapping 92 holes

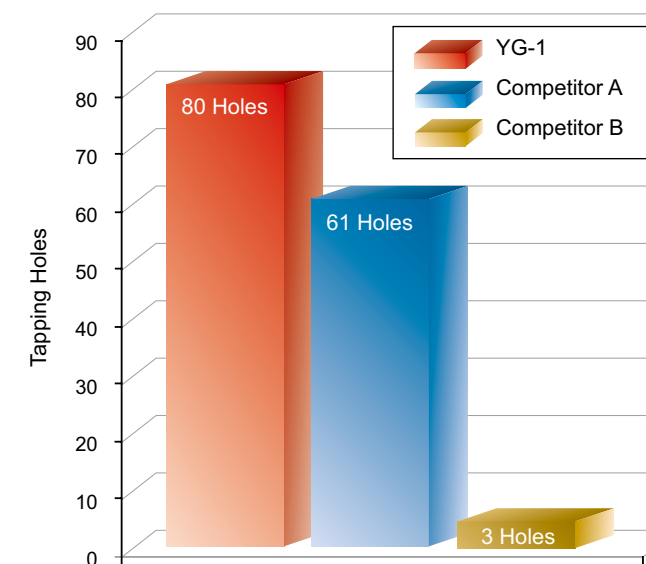
Competitor B / 竞争社 B

Tool broke after tapping 98 holes

Combo Tap

Reference page : B45 - B60

TEST I - STRAIGHT FLUTE TAPS 直槽



YG-1 (Total Tapping 80 Holes)
YG-1 (总共攻丝80个孔)



Competitor A (Total Tapping 61 Holes)
竞争社 A (总共攻丝61个孔)

Tool broke after tapping 61 holes

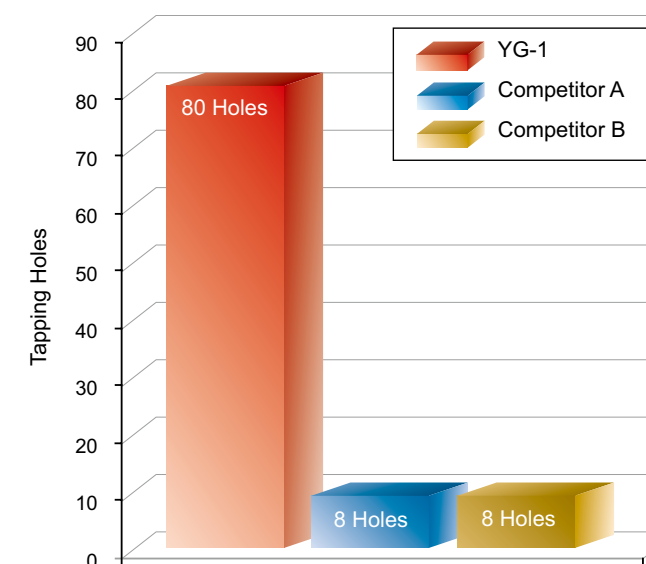
Competitor B (Total Tapping 3 Holes)
竞争社 B (总共攻丝3个孔)

Tool broke after tapping 3 holes

Cutting Condition / 切削条件

Tool / 工具	Straight flute tap
Size / 规格	M6x1.0
Work Material 工件材质	JIS : SKD61 (HRC50) DIN : X40GrMoV51(1.2344) AISI : H13
R.P.M. / 转速	120 rev./min.
Feed / 进给	1.0 mm/rev.
Tapping Depth 钻孔深度	9mm (1.5xD)
Coolant / 冷却	Wet Cut

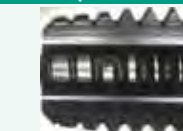
TEST II - STRAIGHT FLUTE TAPS 直槽



YG-1 (Total Tapping 80 Holes)
YG-1 (总共攻丝80个孔)



Competitor A (Total Tapping 8 Holes)
竞争社 A (总共攻丝8个孔)



Competitor B (Total Tapping 8 Holes)
竞争社 B (总共攻丝8个孔)

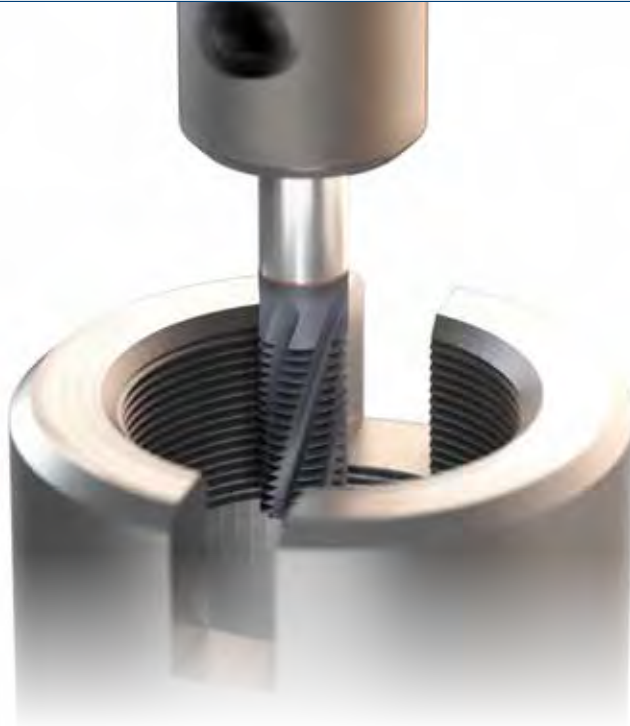
Tool broke after tapping 8 holes

Cutting Condition 切削条件

Tool / 工具	Straight flute tap
Size / 规格	M6x1.0
Work Material 工件材质	JIS : SKD61 (HRC50) DIN : X40GrMoV51(1.2344) AISI : H13
R.P.M. / 转速	120 rev./min.
Feed / 进给	1.0 mm/rev.
Tapping Depth 钻孔深度	9mm (1.5xD)
Coolant / 冷却	Wet Cut

Thread Mills

Reference page : B17 - B38



A Thread mill can produce various thread diameters with the same pitch.

螺纹铣刀可以加工具有相同螺距的不同直径的螺纹

Disadvantage of tapping is that a different size tap is required for each size hole

攻丝的缺点是每个尺寸的孔都需要不同尺寸的丝锥

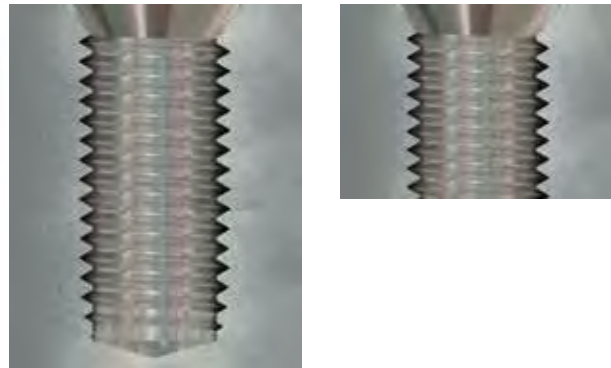
One Thread mill for blind-holes and through-holes.

螺纹铣刀可以同时加工盲孔和通孔

Thanks to short chips, No chip problems with tapping No problems removing broken tools from the workpiece.

由于切屑短，攻丝过程没有切屑苦恼

也没有从工件去除断刀的苦恼

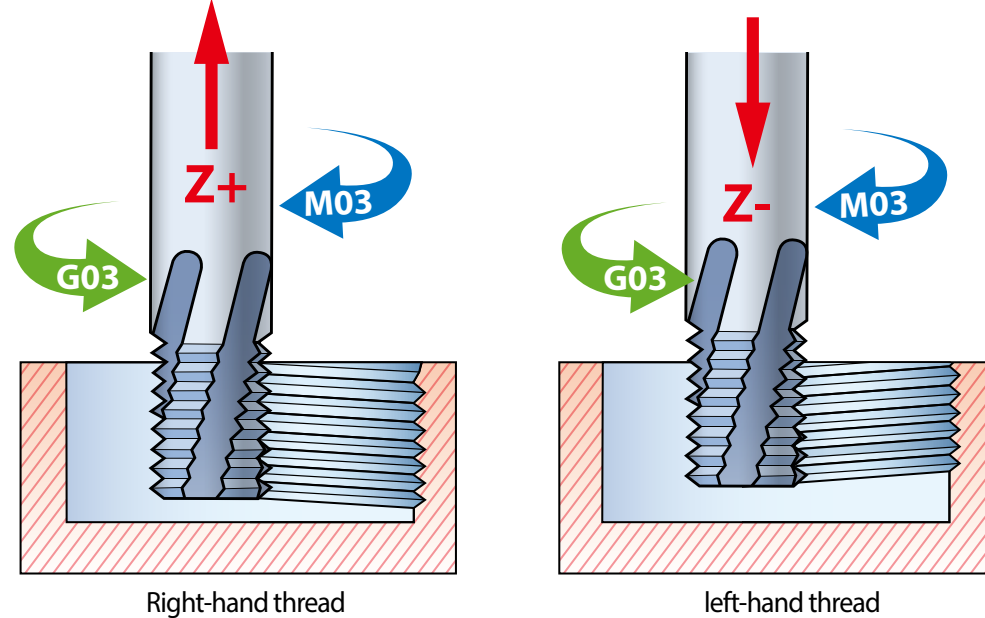


One Thread mill for right- and left-hand threads.

一把螺纹铣刀同时加工正手和反手螺纹

Right-hand and left-hand threads can be produce with the same tooling just by adjusting CNC commands.

仅仅通过修改加工程序，一把螺纹铣刀可以加工正手和反手螺纹



Higher Cutting Speed than tapping. 加工速度比攻丝更高

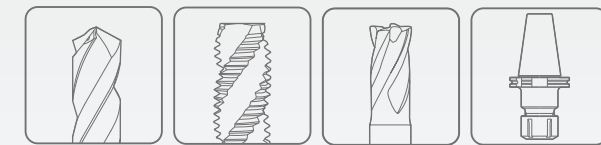
Higher Reliable Process than tapping, because of short chips.

因为切屑短，比攻丝更可靠

Thread Milling takes much less torque than tapping 螺纹铣削比攻丝需要更少的扭矩



Global Cutting Tool Leader **YG-1**



CBN End mills

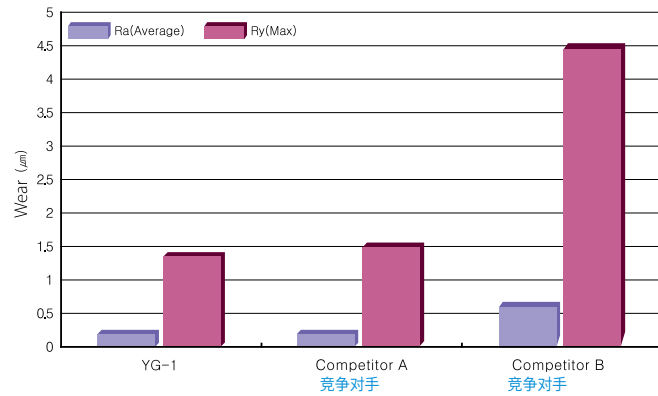
Reference page : p.C23 ~ C28

i-Xmill End mills

Reference page : p.C29 ~ C54

TEST I Total Milling Length (铣削长度) : 240mm

Surface Roughness of Work Piece 工件表面粗糙度



Cutting Condition (加工参数) (Ø1 x R0.5)

Tool 刀具	2Flute, CBN Ball Nose End mill
Size 尺寸	Ø1xØ4x0.6x50
Work Material 工件材料	JIS : SKD11(HRc60) DIN : X155CrV-Mo12-1 WR : 1.2379
Vc (m/min) 切削速度	94.25
RPM (rev./min) 转速	30,000
Feed (mm/min) 进给量	1,500
Milling Depth (mm) 铣削深度	0.01
Coolant 冷却	Oil Mist 油雾
Machine 设备	Machining Center 加工中心

Maximum Wear 最大磨损 (μm)

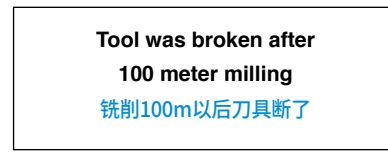
YG CBN (19.611 μm)



Competitor (竞争对手) A (32.249 μm)



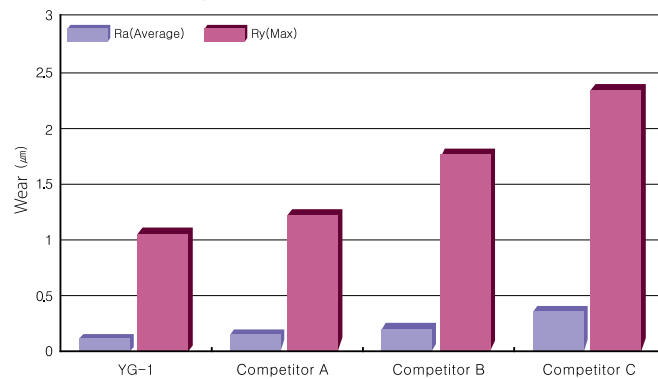
Competitor (竞争对手) B



Tool was broken after 100 meter milling
铣削100m以后刀具断了

TEST II Total Milling Length (铣削长度) : 750mm

Surface Roughness of Work Piece 工件表面粗糙度



Cutting Condition (加工参数) (Ø2 x R1.0)

Tool 刀具	2Flute, CBN Ball Nose End mill
Size 尺寸	Ø2xØ4x1.8x50
Work Material 工件材料	JIS : SKD11(HRc60) DIN : X155CrV-Mo12-1 WR : 1.2379
Vc (m/min) 切削速度	188.50
RPM (rev./min) 转速	30,000
Feed (mm/min) 进给量	2,000
Milling Depth (mm) 铣削深度	0.01
Coolant 冷却	Oil Mist 油雾
Machine 设备	Machining Center 加工中心

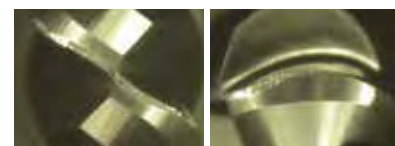
Maximum Wear (最大磨损) (μm)



YG CBN
57.630 μm



Competitor A (竞争对手)
100.314 μm

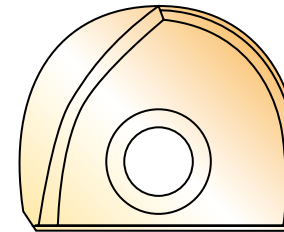


Competitor B (竞争对手)
71.471 μm



Competitor C (竞争对手)
170.200 μm

i-Xmill BALL INSERT 球头刀片



1. Helical end gash ("S" gash) geometry 螺旋月牙槽 (S型月牙槽)几何形状

- Low milling torque 减少加工扭矩
- Prevents chattering 防止振动
- Improves chip ejection 有利排屑
- Prolong tool life 延长刀具寿命

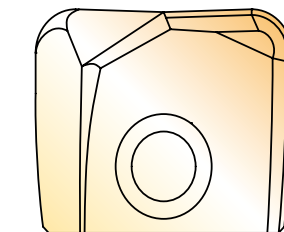
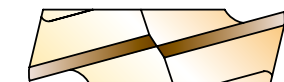
2. Polished cutting edges 刃线抛光

- Better wear resistance and tool life 提高耐磨性和刀具寿命
- Improves repeatability in performance 提高稳定性
- Improves surface roughness on work-piece 提高工件表面粗糙度
- Improves coating 优化涂层

3. Special coating 特殊涂层

- Combine high hardness with high thermal stability against oxidation 高硬度和高耐热性, 提高抗氧化性能
- Superior wear resistance 优秀耐磨性
- Faster feeds and speeds 高进给和速度

i-Xmill CORNER RADIUS INSERT 圆鼻刀片



1. The optimized tool geometry achieves better reliability and reduces vibration and cutting load. 最佳的几何设计, 实现切削稳定性, 减少加工震动和负载

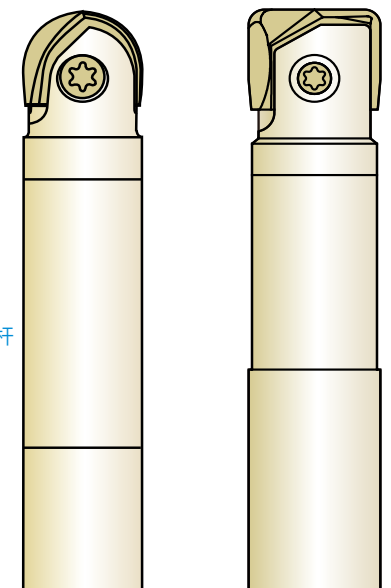
2. Corner radius insert can be used with the ball holder, but for a better precision in cutting. It is recommended to use the corner radius holder. 圆鼻刀片可以跟球头刀杆通用, 可是为了更高精度, 推荐使用圆鼻刀片专用刀杆

3. The various and wide cutting range allows machining in both roughing and finishing. 具有多种规格, 粗加工、精加工都可以

4. Special coating makes high hardness with high thermal stability against oxidation. 独特涂层具有高硬度, 高耐热性和抗氧化性能

i-Xmill CARBIDE HOLDER 硬质合金刀杆

- As rigid as a solid carbide end mill for stable machining with reduced vibration and enhanced finish 具有与整体合金一样的刚性, 从而减小加工震动和提高加工质量
- Allows a high quality of finishing even when machining the deeper part of a mold 即使在加工模具较深部分时也可实现卓越的精加工
- Longer tool life than a steel holder 比钢制刀杆更长的刀具寿命
- Shrink Fit Holding system can be applied 可以适用于热缩夹持系统
- Upon request, the broken holder is able to be regenerated 按需求, 破损刀杆可以修磨
- Your carbide holder can be regenerated as YG-1 type upon request 可提供订制硬质合金刀杆



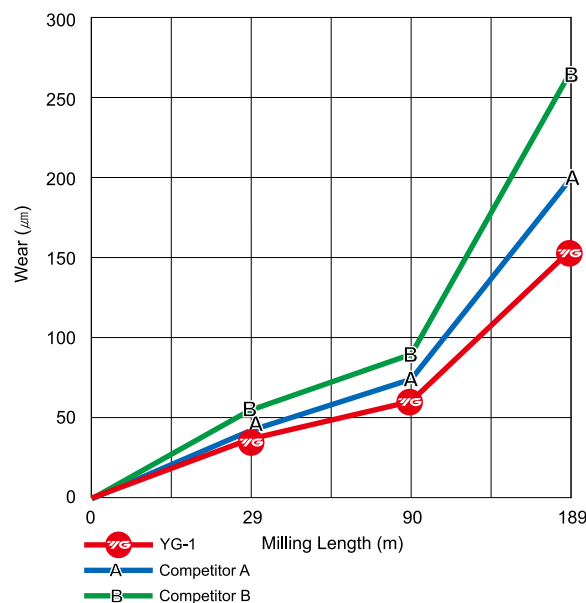
i-Xmill STEEL HOLDER 钢制刀杆

- Premium alloy steel with excellent strength 高强度的高级合金钢材质
- Precise shank tolerance (h6) 高精度的柄径精度 (h6)
- Nickel plated, to prevent corrosion and improve lubricity 防止腐蚀并提高润滑性的镀镍

i-Xmill End mills

Reference page : p.C29 ~ C54

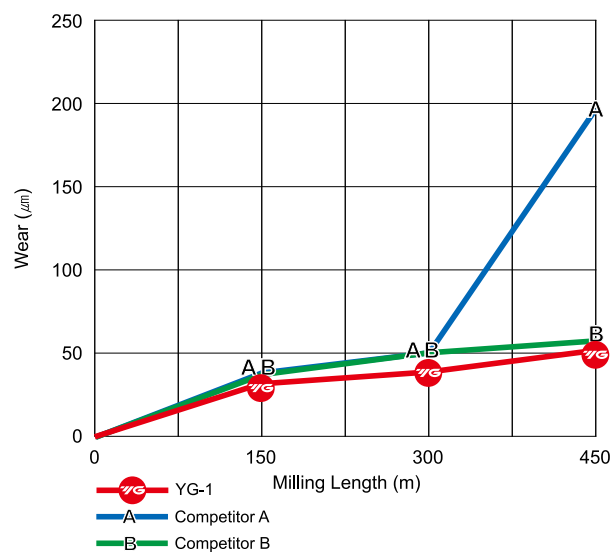
TEST I i-Xmill Ball Nose 球头



Cutting Condition (Side Cutting) 加工参数 (侧铣削)

Tool 刀具	i-Xmill Ball (XMB120C160)	Vc(m/min) 切削速度	80.42	Milling Depth(mm) 铣削深度	Axial 轴向 : 0.8 mm Radial 径向 : 1.6 mm
Size 尺寸	Ø16xR8.0	RPM (rev./min) 转速	1,600	Coolant 冷却	Oil Mist 油雾
Work Material 工件材料	JIS :SKD61 (HRC50), DIN :X40GrMoV51(1.2344) AISI:H13	Feed(mm/min) 进给量	390	Overhang 悬伸	YG-1,Competitor B:48 / Competitor A:56
		Feed per tooth (mm/tooth) 每齿进给量	0.12	Machine 设备	Machining Center 加工中心

TEST II i-Xmill Corner Radius 圆鼻



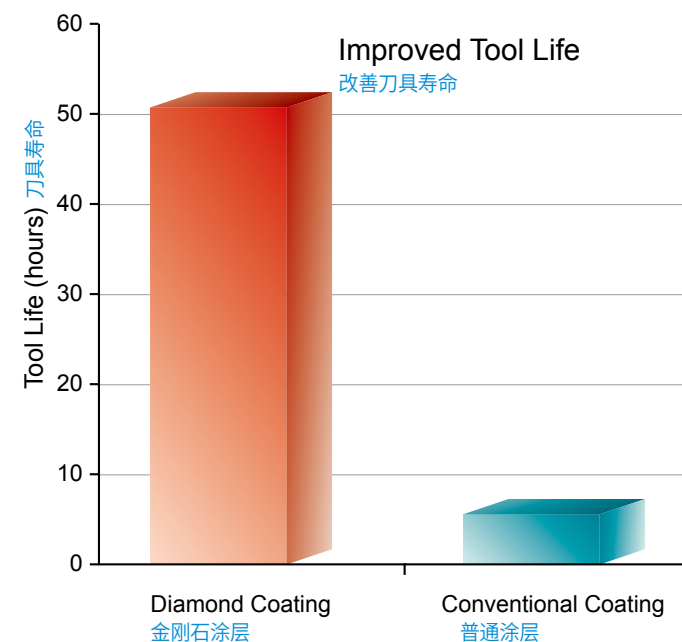
Cutting Condition (Side Cutting) 加工参数 (侧铣削)

Tool 刀具	i-Xmill CornerRadius (XMR110A16020)	Vc(m/min) 切削速度	280	Milling Depth(mm) 铣削深度	Axial 轴向 : 3.0 Radial 径向 : 0.2
Size 尺寸	Ø16xR2.0	RPM (rev./min) 转速	5,570	Coolant 冷却	Oil Mist 油雾
Work Material 工件材料	KS : KP4M (Mold steels HRC35) DIN : 40CrMnNiMo8-6-4(1.2738) AISI : P20+Ni	Feed(mm/min) 进给量	2,230	Overhang 悬伸	70
		Feed per tooth (mm/tooth) 每齿进给量	0.2	Machine 设备	Machining Center 加工中心

i-Xmill End mills

Reference page : p.C29 ~ C54

TEST III i-Xmill with Diamond Coating 金刚石涂层



Cutting Condition (加工参数)

Tool 刀具	i-Xmill Corner Radius (XMR110D17010)
Size 尺寸	Ø17 x R1.0
Work Material 工件材料	Graphite 石墨
Vc (m/min) 切削速度	320
RPM (rev./min) 转速	6,000
Feed (mm/min) 进给量	2,800
Feed per tooth (mm/tooth) 每齿进给量	0.23
Milling Depth (mm) 铣削深度	Axial 轴向 : 0.2
Coolant 冷却	Air 气冷

Coating properties 涂层性能

This coating generation features a good crystalline structure. It protects tools perfectly against abrasive wear and is unsurpassed in graphite cutting.

这种涂层产生具有良好的晶体结构。可以完美保护工具免受磨损，并且在石墨切削中无与伦比。

Feature 特点

1. High Abrasive wear resistance.
 2. Good Coefficient of friction.(against Al)
 3. High Precision.
1. 高耐磨性
2. 优秀摩擦系数
3. 高精度

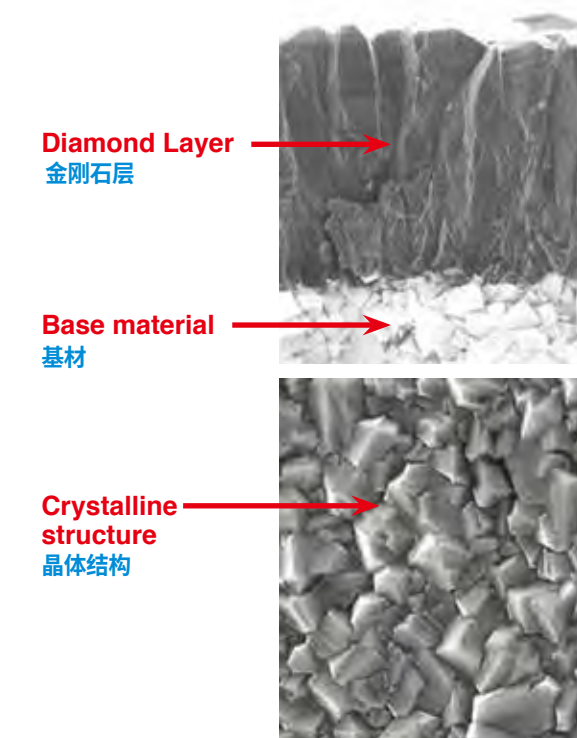
Advantages 优点

Diamond coated i-Xmill possible to cut graphite workpieces with substantially greater speeds and in significantly better quality.

金刚石涂层i-Xmill可以加工高速度和更好的质量切削石墨工件。

Applications 工况

1. Precision-structured graphite electrodes.
 2. Micro-Electromechanical Systems. (MEMS)
 3. Printed Circuit Boards. (PCBs)
 4. Ceramics (greens, sintered) Dental, machinery.
- 1.精密结构的石墨电极
2.机电系统 (MEMS)
3.印刷电路板 (PCB)
4.陶瓷 (生坯, 烧结) 牙科, 机械。



i-SMART Modular Type End mills

Reference page : p.C55 ~ C74

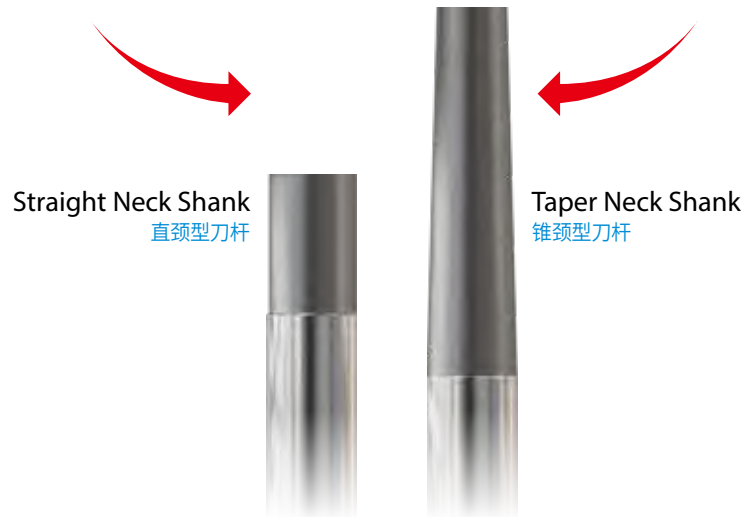


Modular Type, Y-Coated Exchangeable Carbide Heads for Pre-Hardened Steels with both Carbide & Steel Holders

模块式刀头可装配于合金刀杆或钢制刀杆，Y涂层可换式合金刀头适合加工预硬钢件。

- Reduces 1/10 of the time spent to change tools than conventional solid tools
相对于传统合金铣刀，降低到1/10的换刀时间
- Outstanding cutting abilities and wear resistance made from advanced coating and geometry
杰出的切削性能和耐磨性，得益于先进的涂层和槽型结构
- Multiple helix applied to minimize vibration when cutting
应用多螺旋角结构，降低切削过程的振动。

Seven different selections of modular heads fit in two different shanks.
7种可选的不同模块式刀头适合于两种不同形式的刀杆。



You can just change the modular head spending one tenth of which you spent before on conventional solid tools.
您只需要更换模块化的刀头，花费的时间是之前在更换传统整体铣刀的十分之一。

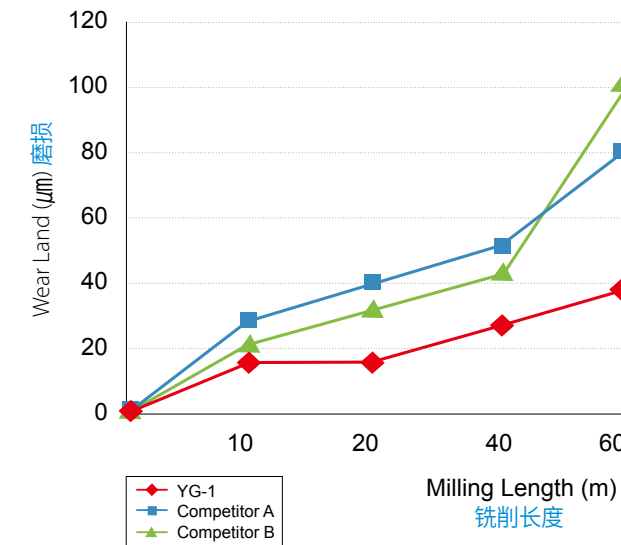


※Tool changing time may change depending on workers.

i-SMART Modular Type End mills

Reference page : p.C55 ~ C74

TEST Total Milling Length 铣削长度 : 60m



Cutting Condition (Down & Side Cutting)
加工参数(坡走&侧铣削)

Tool 刀具	4Flute Corner Radius
Size 尺寸	Ø16 x R1.0
Work Material 工件材料	KP4M (HRC35) AISI P20+Ni DIN 1.2738 Improved
Vc (m/min) 切削速度	155.82
RPM (rev./min) 转速	3,100
Feed (mm/min) 进给量	280
Feed per tooth (mm/tooth) 每齿进给量	0.02
Milling Depth (mm) 铣削深度	Axial 轴向: 12 Radial 径向: 0.8
Overhang (mm) 悬伸	77
Coolant 冷却	Wet Cut 湿切
Machine 设备	Machining Center 加工中心

i-SMART



Competitor (竞争对手) A



Competitor (竞争对手) B



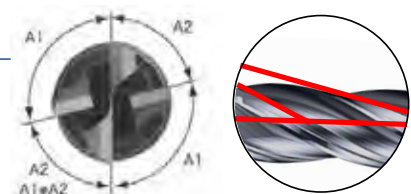
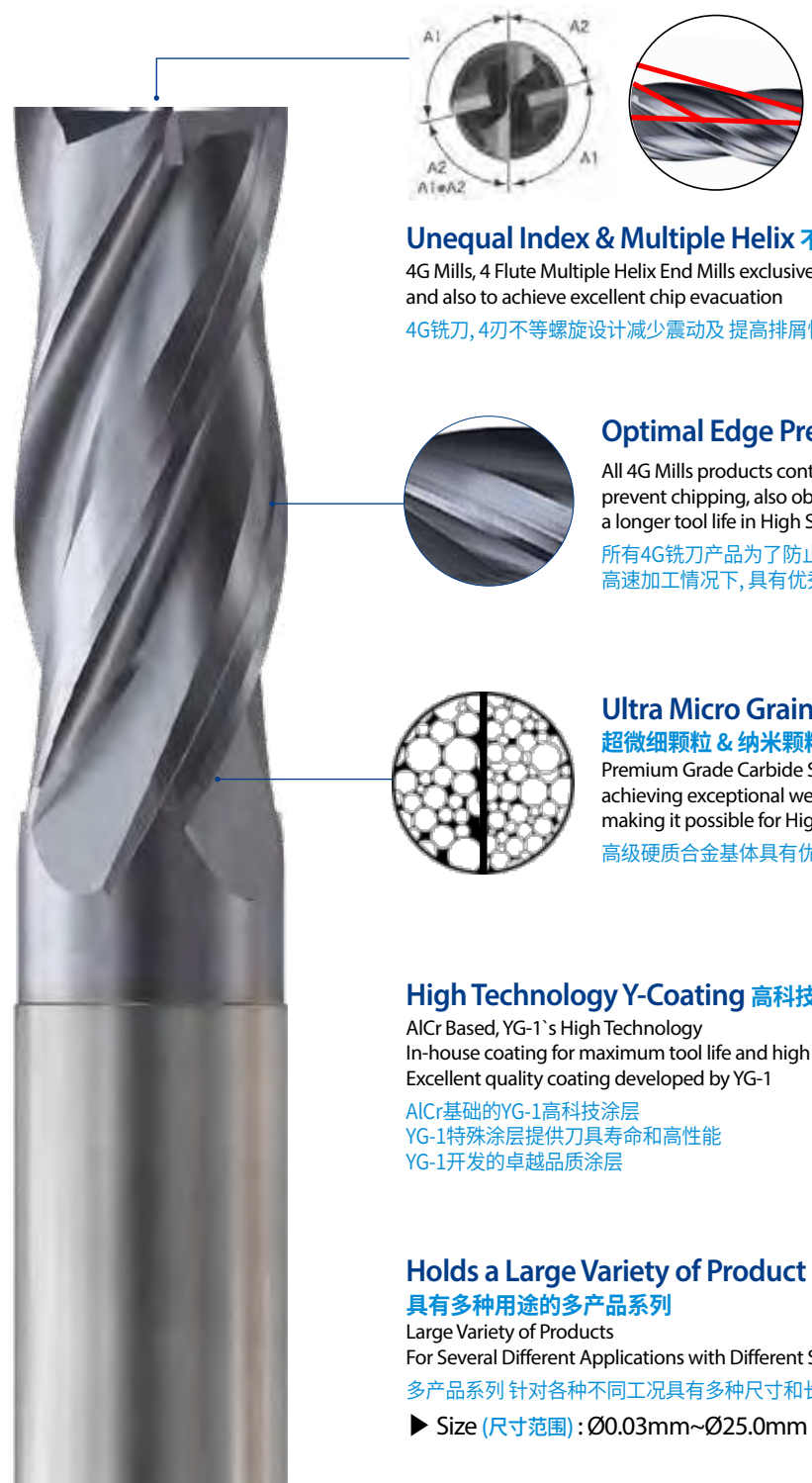
4G Mills End mills

Reference page : p.C135 ~ C320

High Speed Cutting for Pre-Hardened Steels up to HRC55
高速加工预硬钢 (HRC55以下)

Suitable for wide range of work material, specifically for increasing tool life when machining pre-hardened materials, low hardness materials and cast iron, etc. High speed cutting, dry and wet cut recommended together.

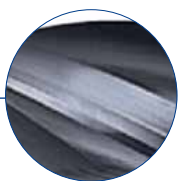
适合多种工件材料,尤其是加工预硬钢,低硬钢及铸铁等时候增加刀具寿命
高速加工,干切和湿切都推荐



Unequal Index & Multiple Helix 不等分度 & 不等螺旋

4G Mills, 4 Flute Multiple Helix End Mills exclusively designed to reduce vibration and also to achieve excellent chip evacuation

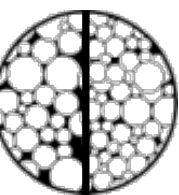
4G铣刀,4刃不等螺旋设计减少震动及提高排屑性能



Optimal Edge Preparation 最佳刀尖保护

All 4G Mills products contain an Optimal Edge Preparation to prevent chipping, also obtaining an excellent surface finish with a longer tool life in High Speed Cutting

所有4G铣刀产品为了防止崩裂,采用最佳刀尖保护
高速加工情况下,具有优秀的刀具寿命和卓越的工件表面粗糙度



Ultra Micro Grain & Nano Grain Carbide 超微细颗粒 & 纳米颗粒

Premium Grade Carbide Substrate Materials achieving exceptional wear resistance making it possible for High Precision Machining

高级硬质合金基体具有优秀的耐磨性,实现高精密切削

High Technology Y-Coating 高科技Y涂层

AICr Based, YG-1's High Technology In-house coating for maximum tool life and high performance Excellent quality coating developed by YG-1

AICr基础的YG-1高科技涂层
YG-1特殊涂层提供刀具寿命和高性能
YG-1开发的卓越品质涂层

Holds a Large Variety of Product Range for Multiple Use

具有多种用途的多产品系列

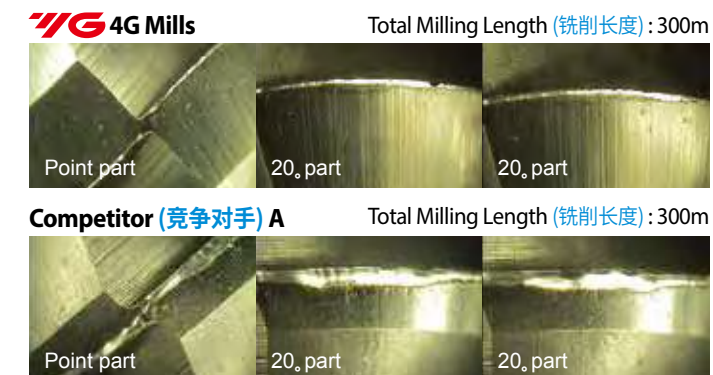
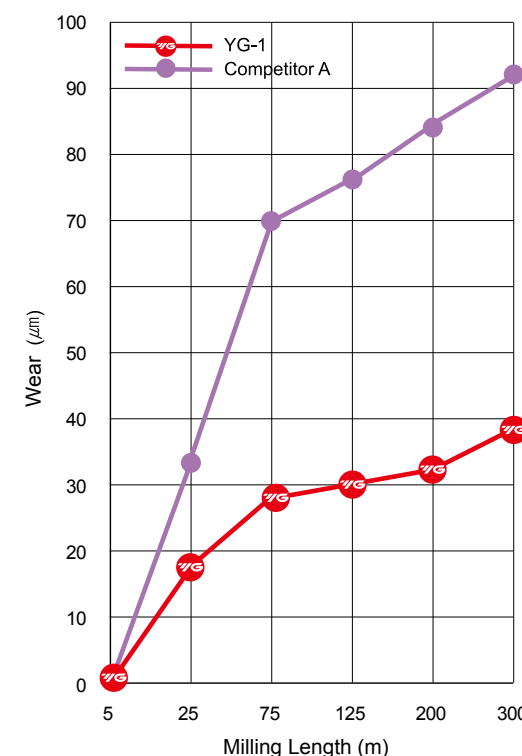
Large Variety of Products For Several Different Applications with Different Size and Lengths
多产品系列 针对各种不同工况具有多种尺寸和长度

► Size (尺寸范围) : Ø0.03mm~Ø25.0mm

4G Mills End mills

Reference page : p.C135 ~ C320

TEST I - Ball Nose 球头

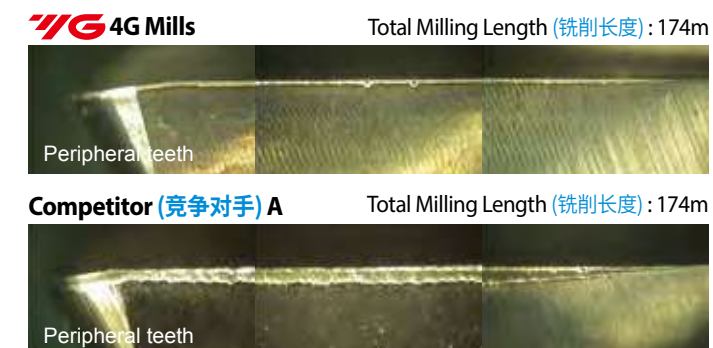
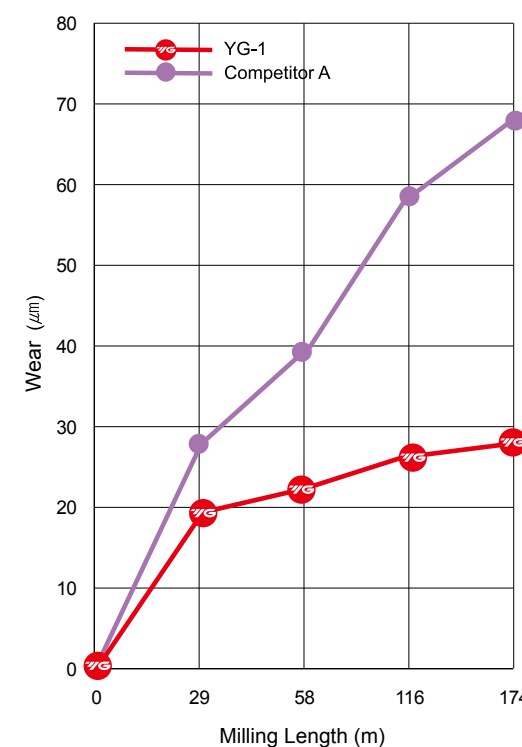


Cutting Condition (Profile Cutting)

加工参数(仿形铣削)

Tool 刀具	2Flute, SEMD98060E
Size 尺寸	Ø6×6×12×90
Work Material 工件材料	KP4M (HRC35 / DIN 1.2738 Improved)
Vc (m/min) 切削速度	130.061
RPM (rev./min) 转速	6,900
Feed (mm/min) 进给量	830
Feed per tooth (mm/tooth) 每齿进给量	0.060
Milling Depth (mm) 铣削深度	Axial 轴向: 0.2 / Radial 径向: 1.2
Coolant 冷却	Oil Mist 油雾
Overhang (mm) 悬伸	26
Machine 设备	Machining Center 加工中心

TEST II - Corner Radius 圆鼻



Cutting Condition (Down & Side Cutting)

加工参数(坡走&侧铣削)

Tool 刀具	4Flute, SEME0110005E
Size 尺寸	Ø10(R0.5)×10×25×100
Work Material 工件材料	KP4M (HRC35 / DIN 1.2738 Improved)
Vc (m/min) 切削速度	51.522
RPM (rev./min) 转速	1,640
Feed (mm/min) 进给量	180
Feed per tooth (mm/tooth) 每齿进给量	0.027
Milling Depth (mm) 铣削深度	Axial 轴向: 25 / Radial 径向: 0.5
Coolant 冷却	Oil Mist 油雾
Overhang (mm) 悬伸	41
Machine 设备	Machining Center 加工中心

X-SPEED ROUGHER End mills

Reference page : p.C135 ~ C320

Characteristics 特点

- Unique flute design for excellent chip evacuation and vibration reduction. 特殊沟槽设计提高排屑性能和减少振动
- Optimal roughing tooth profile to reduce cutting forces. 最佳粗加工用牙设计减少切削阻力
- Special tool geometry for high feed rate and heavy cutting. 特殊刀具设计可适用于高进给和重切削
- Strong end tooth design for plunge and pocket milling. 刚性底刃设计可用坡走铣削
- Custom engineered coating to allow long tool life and excellent chip evacuation. 最佳涂层提高刀具寿命和提高排屑性能

► 4 FLUTE (刃)

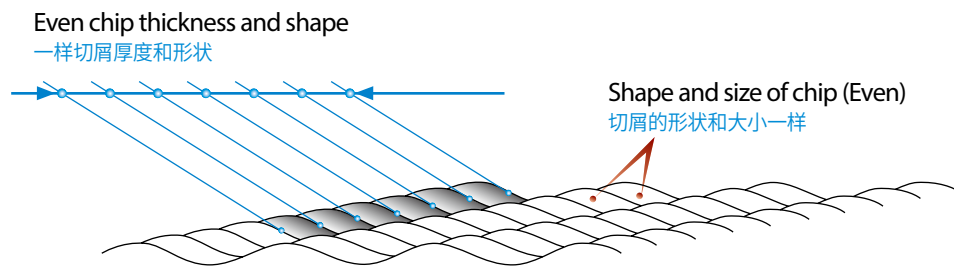


► 5 FLUTE (刃)

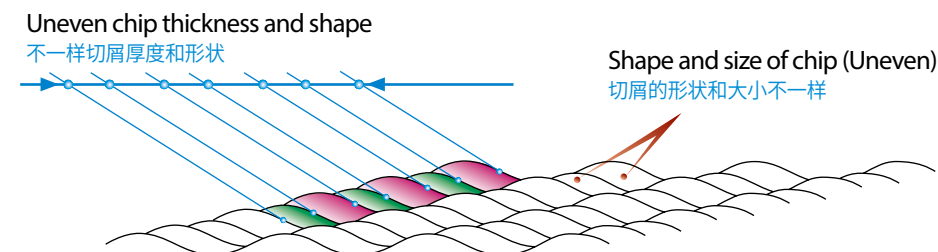


Chip Thickness and Shape 切屑厚度和形状

► Conventional Roughing End Mills 普通粗加工用铣刀



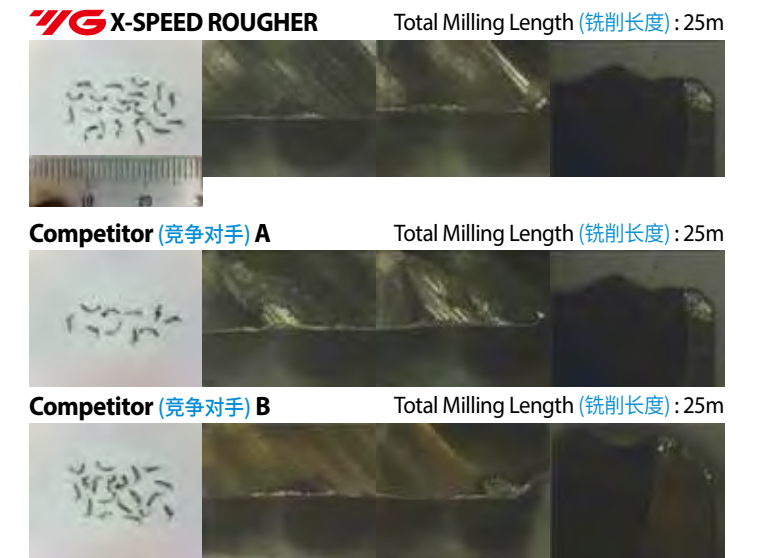
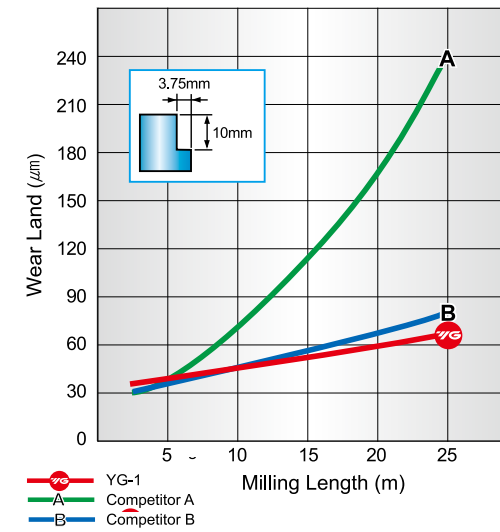
► X-SPEED Rougher



X-SPEED ROUGHER End mills

Reference page : p.C135 ~ C320

TEST I 4 Flute Multiple Helix 4刃 不等螺旋

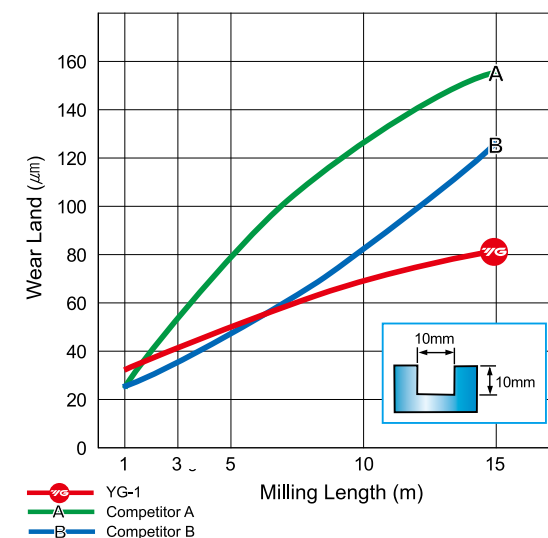


Cutting Condition (Down & Side Cutting) 加工参数(坡走&侧铣削)

Size 尺寸	X-SPEED ROUGHER	Ø10×10×15×72
	Competitor A 竞争对手 A	Ø10×10×20×72
	Competitor B 竞争对手 B	Ø10×10×15×80
Work Material 工件材料	DIN : X40CrMoV51(1.2344) JIS : SKD61 (HRC30) AISI : H13	

RPM (rev./min) 转速	5,000 (157.08 m/min)
Feed (mm/min) 进给量	1,300
Coolant 冷却	Wet Cut 湿切
Overhang (mm) 悬伸	32
Machine 设备	Machining Center 加工中心

TEST II 4 Flute Multiple Helix 4刃 不等螺旋



Cutting Condition (Down & Side Cutting) 加工参数(坡走&侧铣削)

Size 尺寸	X-SPEED ROUGHER	Ø10×10×15×72
	Competitor A 竞争对手 A	Ø10×10×20×72
	Competitor B 竞争对手 B	Ø10×10×15×80
Work Material 工件材料	DIN : X40CrMoV51(1.2344) JIS : SKD61 (HRC30) AISI : H13	

RPM (rev./min) 转速	4,000 (125.66 m/min)
Feed (mm/min) 进给量	1,000
Coolant 冷却	Wet Cut 湿切
Overhang (mm) 悬伸	32
Machine 设备	Machining Center 加工中心

X-POWER PRO End mills

Reference page : p.C321 ~ C348



Performance Upgrade 升级性能

- Achieved from several tests to apply the most optimal technology
- New coating, raw material, honing technology
- 通过多测试,实现最优化技术
- 新的涂层,材质,钝化处理

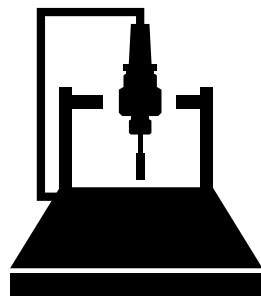
Work Material 加工材料

- Pre-Hardened Steels up to HRc 55, and Cast Iron
- 预硬钢(HRc 55), 铸铁



For Mold & Die Industries 用于模具产业

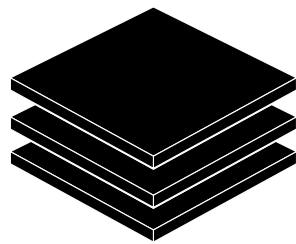
- Plastic injection, die casting, military parts, automotive parts, electronic parts, etc.
- 注塑, 压铸, 军用部件, 汽车部件, 电子部件等



Honing 钝化处理

Advanced honing technology system made from YG-1

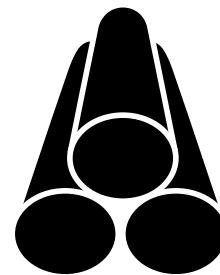
YG-1独特的最佳钝化处理技术



Coating 涂层

The optimal coating applied, chosen by several tests of different coating technologies

经过多涂层,多测试的最佳涂层技术



Raw Material 材质

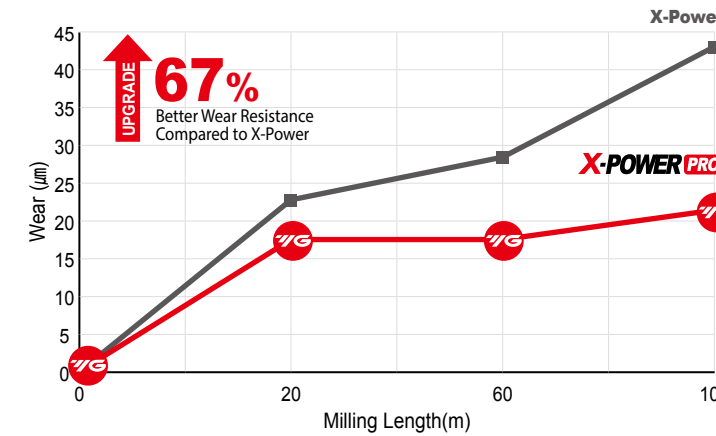
Made from high performance raw material with better quality

高性能材质实现卓越品质

X-POWER PRO End mills

Reference page : p.C321 ~ C348

TEST I 2 Flute Square End mills 2刃平头铣刀



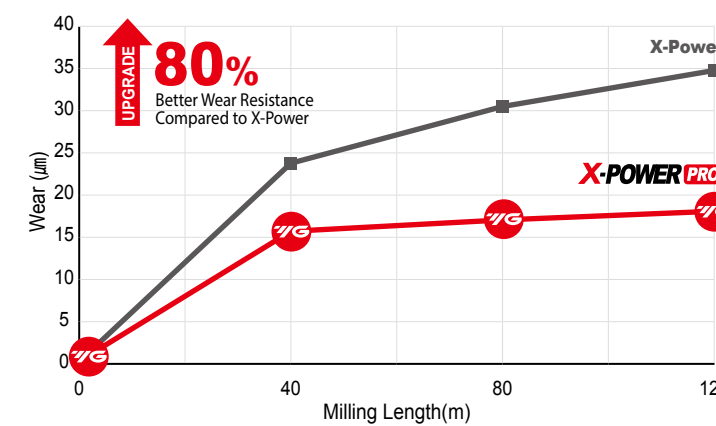
X-POWER PRO Milling Length (铣削长度) : 100m



Cutting Condition (Down & Side Cutting) 加工参数(坡走&侧铣削)

Tool 刀具	X-POWER PRO	X-Power
Milling Length (m) 铣削长度		100
Size 尺寸		Ø10.0xØ10.0x22x70
Work Material 工件材料		KP4M(HRc35)/DIN 1.2311, ANSI P20+Ni
Vc (m/min) 切削速度		63
Feed (mm/min) 进给量		300
Milling Depth (mm) 铣削深度		Ap: 10, Ae: 0.5
Coolant 冷却		Oil Mist 油雾

TEST II 2 Flute Ball End mills 2刃球头铣刀



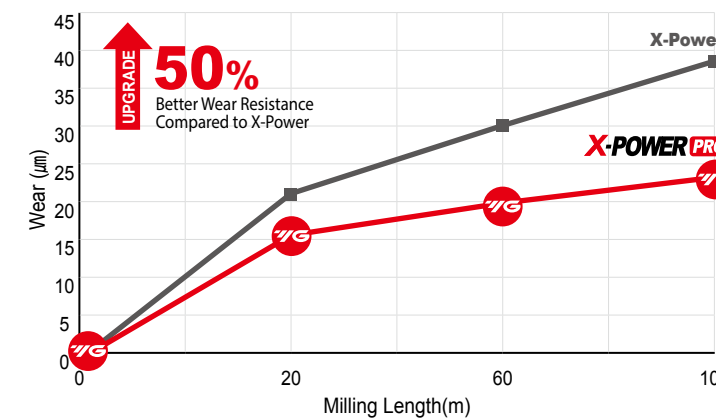
X-POWER PRO Milling Length (铣削长度) : 120m



Cutting Condition (Profile Cutting) 加工参数(仿形铣削)

Tool 刀具	X-POWER PRO	X-Power
Milling Length (m) 铣削长度		120
Size 尺寸		Ø6.0xØ6.0x12x90
Work Material 工件材料		KP4M(HRc35)/DIN 1.2311, ANSI P20+Ni
Vc (m/min) 切削速度		130
Feed (mm/min) 进给量		830
Milling Depth (mm) 铣削深度		Ap: 0.2, Ae: 1.2
Coolant 冷却		Oil Mist 油雾

TEST III 4 Flute Corner Radius End mills 4刃圆鼻铣刀



X-POWER PRO Milling Length (铣削长度) : 100m



Cutting Condition (Down & Side Cutting) 加工参数(坡走&侧铣削)

Tool 刀具	X-POWER PRO	X-Power
Milling Length (m) 铣削长度		100
Size 尺寸		Ø10.0(R0.5)xØ10.0x30x90
Work Material 工件材料		KP4M(HRc35)/DIN 1.2311, ANSI P20+Ni
Vc (m/min) 切削速度		52
Feed (mm/min) 进给量		180
Milling Depth (mm) 铣削深度		Ap: 25, Ae: 0.5
Coolant 冷却		Oil Mist 油雾

TitaNox-POWER End mills

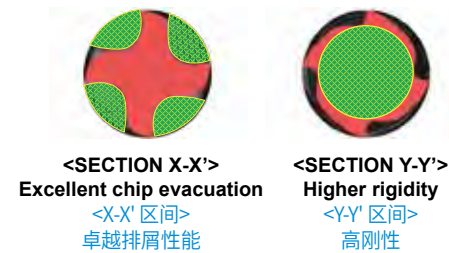
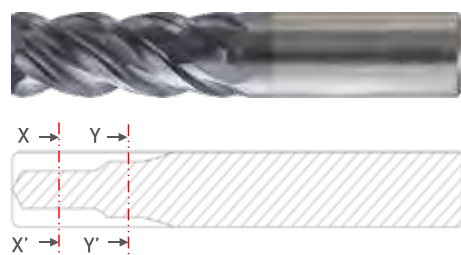
Reference page : p.C349 ~ C364

High Speed Machining for Exotic Materials: Titanium and Stainless Steels
实现难切材料的高速加工 钛, 铬镍铁合金和不锈钢

- Excellent tools for Aerospace Industries, Energy & Power generations. 对于航空航天行业及发电行业优秀刀具
- For Roughing and Semi-finishing of universal use, also for Finishing difficult-to-machine materials. 适用于通用的粗加工和半精加工,也用于精加工难切材料。
- YG-1's advanced coating technology makes it possible to maintain an excellent Wear resistance, Oxidation resistance and better Thermal stability. G-1独特涂层技术实现卓越耐磨性, 抗氧化性及耐热性。

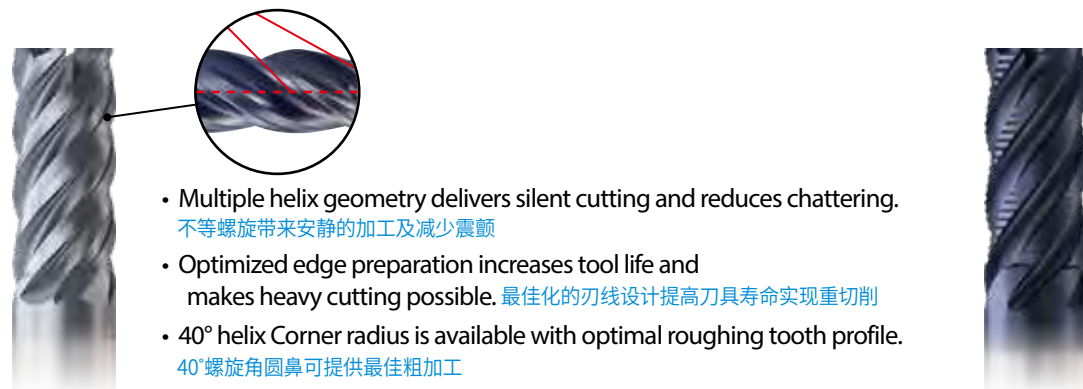
Offers a high performance metal removal rate with secured and chatter free machining in semi-finishing and finishing.
具有安全和无震颤的加工在半精加工和精加工, 提供高产率的加工

I Y-Coated Solid Carbide 4 Flute End Mills with Double Core
Y涂层 整体硬质合金 4刃 双芯厚 立铣刀



- Double core geometry reduces tool deflection and improves dimensional stability. 双芯厚形状实现减少刀具偏斜及提高尺寸稳定性
- Optimized edge preparation protects chipping problems in high speed machining. 最佳化的刃线设计在高速加工情况下, 保护崩刃问题
- Variable flute design brings out perfect performance in both slotting and side milling operations. 可变沟槽设计实现完美性能在槽铣削

II Y-Coated Solid Carbide 5 Flute End Mills with Multiple helix & TiAlN Coated Solid Carbide Roughing
Y涂层 整体硬质合金 5刃 不等螺旋 & TiAlN涂层 整体硬质合金 粗加工用 铣刀



- Multiple helix geometry delivers silent cutting and reduces chattering. 不等螺旋带来安静的加工及减少震颤
- Optimized edge preparation increases tool life and makes heavy cutting possible. 最佳化的刃线设计提高刀具寿命实现重切削
- 40° helix Corner radius is available with optimal roughing tooth profile. 40°螺旋角圆鼻可提供最佳粗加工

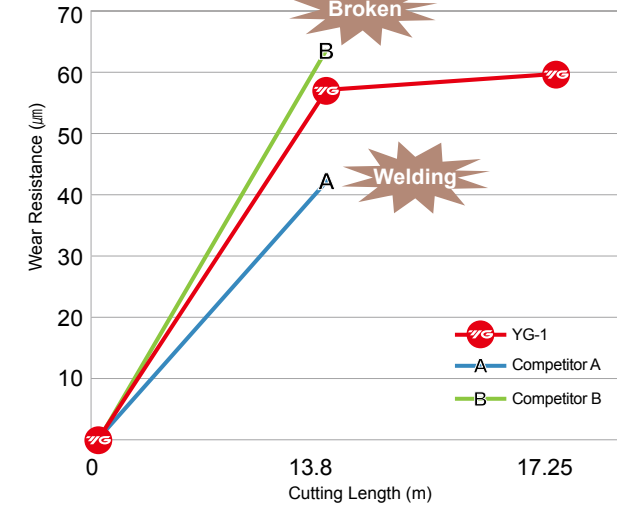
Y-Coated / 5 Flutes

TiAlN Coated / Roughing

TitaNox-POWER End mills

Reference page : p.C349 ~ C364

TEST I Y-Coated Solid Carbide 4 Flutes with Double Core End mills
Y涂层 硬质合金 4刃 双芯厚 铣刀

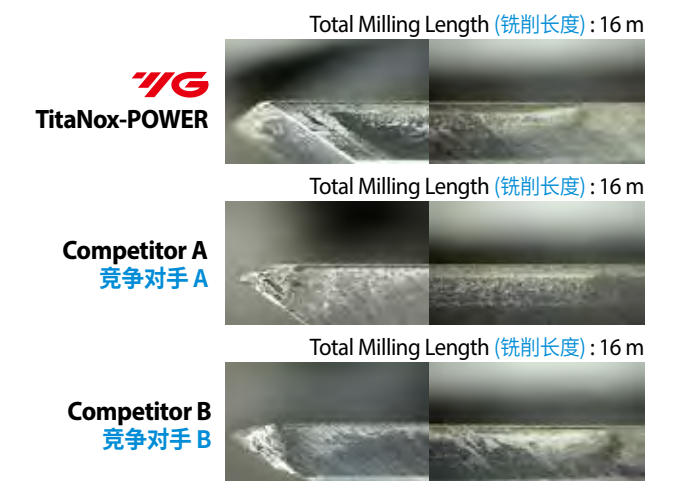
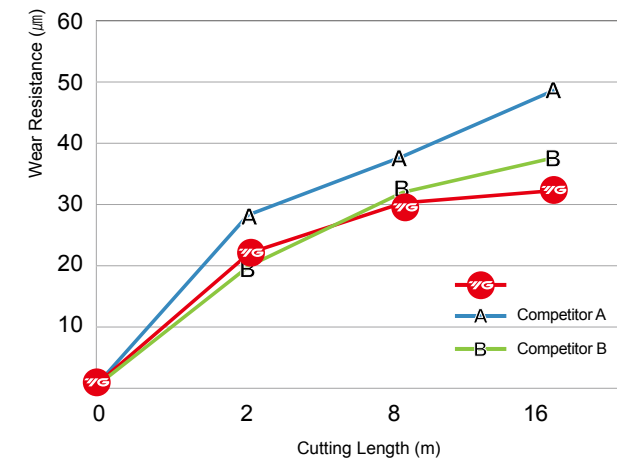


Cutting Condition (Slotting) 加工参数(槽铣削)

Tool 刀具	4Flute, with Double Core
Size 尺寸	Ø12(R1) x Ø12 x 26 x 80
Work Material 工件材料	DIN : TiAV6V4 (Titanium)
Cutting Depth (mm) 切削深度	12 (Axial Depth)
RPM (rev./min) 转速	1,591

Feed (mm/min) 进给量	254
Feed per tooth (mm/tooth) 每齿进给量	0.027
Coolant 冷却	Wet Cut 湿切
Overhang (mm) 悬伸	36
Machine 设备	Machining Center 加工中心

TEST II Y-Coated Solid Carbide 5 Flutes End Mills
Y涂层 硬质合金 5刃 铣刀



Cutting Condition (Down & Side Cutting) 加工参数(坡走&侧铣削)

Tool 刀具	5Flute
Size 尺寸	Ø12 x Ø12 x 26 x 83
Work Material 工件材料	DIN : TiAV6V4 (Titanium)
RPM (rev./min) 转速	1,591

Feed (mm/min) 进给量	398
Milling Depth (mm) 铣削深度	Axial 轴向 : 18 / Radial 径向 : 3.6
Coolant 冷却	Wet Cut 湿切
Machine 设备	Machining Center 加工中心

V7 PLUS End mills

Reference page : p.C381 ~ C398



- Chatter and Harmonics Reduced for Improved Stability and Better Finishing
由于改善稳定性和卓越表面处理,减少振动和加工噪音
- Special Design of Flute Geometry for Optimal Chip Formation and Chip Evacuation
为了最佳排屑及断屑处理,采用特殊沟槽几何形状设计
- Engineered Coating Technology to Reduced Wear and Increase Heat Resistance
先进涂层技术减少磨损而提高耐热性
- Enhanced Corner Geometry for Longer Tool Life
增强刀尖几何形状提高刀具寿命



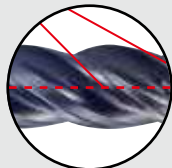
Unequal Index 不等分度

Exclusively Designed Unique Geometry applied to Reduce Vibration and also to achieve Excellent Chip Evacuation with Better Surface Finish
独占的不等分度设计减少振动而且提高排屑性能和工件表面粗糙度



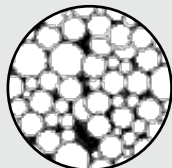
Corner Geometries 刀尖设计

YG-1's High Performance Corner Geometries Including Corner Radius, applied for Longer Tool Life with Higher Cutting Speed and Heavy Cutting
YG-1的高性能刀尖设计(包括圆鼻设计)在高切削速度和重切削工况上发挥高寿命



Multiple Helix 不等螺旋

Multiple Helix Designed for Optimal Chip Formation and Chip Evacuation Concluding Faster and Heavier Cutting making Higher Productivity
不等螺旋设计使最佳断屑和排屑性能快速和重切削上实现高生产率



Ultra Micro grain Carbide 超微细颗粒硬质合金

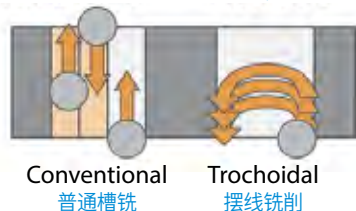
Premium Carbide Substrate Achieving Exceptional Wear Resistance
高级硬质合金基体具有优秀的耐磨性

V7 PLUS 6 FLUTE END MILLS V7 Plus 6刃 铣刀

The Best Chatter Free Tool For High Speed 在高速加工上最好的抗振刀具

- Unique geometry of the variable pitch provides the best chatter free tool for high speed and also trochoidal milling
独特的可变速距设计在高速和摆线铣削工况上,提供最好的抗振刀具
- Several slot widths can be used with the same tool diameter in an efficient way
在不同槽宽工况上,可以用相同直径的刀具
- Provides longer tool life and higher productivity on most materials
在大部分的工件材料上,提供长寿命和高生产率
- Trochoidal milling is a programming technique applying a small radial width of cut with also higher cutting speed and feed per tooth
摆线铣削是一种编程技术,用较小的直径切削大宽度,同时可用更高切削速度和更高每齿进给量

Trochoidal Milling performs better than conventional ways because it has...
摆线铣削比普通方式高效率,因为...



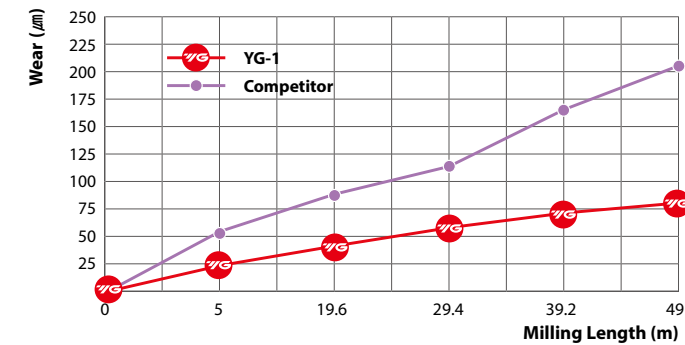
- Lower Cutting Force from smaller arc engagement
低切削阻力 更小的圆弧工作
- Longer Tool Life from more flutes, and deeper cutting depth
长寿命 更多刃数和更大切深
- Higher Stability, Lower Vibration and Excellent Chip Evacuation
高稳定性,低振动和卓越排屑性能



V7 PLUS End mills

Reference page : p.C381 ~ C398

TEST I 4 Flute 4刃



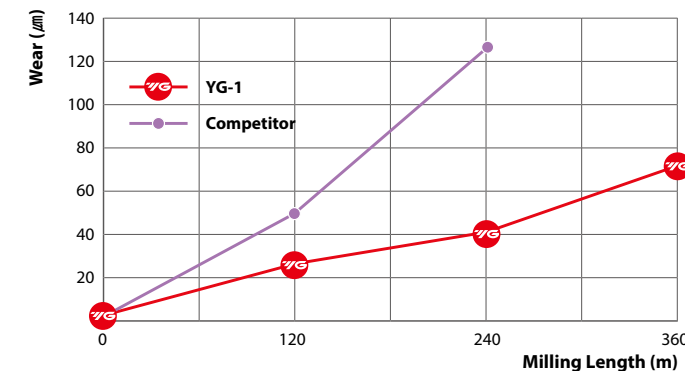
YG V7 PLUS Total Milling Length (铣削长度) : 49m



Competitor (竞争对手) Total Milling Length (铣削长度) : 49m



TEST II 6 Flute 6刃



YG V7 PLUS Total Milling Length (铣削长度) : 360m



Competitor (竞争对手) Total Milling Length (铣削长度) : 300m



Cutting Condition (Side Cutting)

加工参数(侧铣削)

Tool 刀具	V7 Plus	4Flute
Size 尺寸	Ø10 x Ø10 x 22 x 72	
Work Material 工件材料	- JIS : S45C(HRc30) - DIN : C45 - WR : 1.0503	
Vc (m/min) 切削速度	230.09	
RPM (rev./min) 转速	7,324	
Feed (mm/min) 进给量	1,464	
Feed per tooth (mm/tooth) 每齿进给量	0.05	
Milling Depth (mm) 铣削深度	Axial 轴向: 10 / Radial 径向: 3	
Coolant 冷却	Wet Cut 湿切	
Overhang (mm) 悬伸	34	
Machine 设备	Machining Center 加工中心	

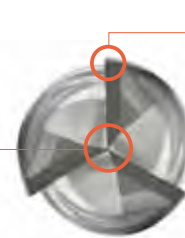
Cutting Condition (Trochoidal Cutting)

加工参数(摆线铣削)

Tool 刀具	V7 Plus	6Flute
Size 尺寸	Ø12(R1) x Ø12 x 26 x 83	
Work Material 工件材料	JIS : S45C(HRc30) DIN : C45 WR : 1.0503	
Vc (m/min) 切削速度	278.67	
RPM (rev./min) 转速	7,392	
Feed (mm/min) 进给量	7,495	
Feed per tooth (mm/tooth) 每齿进给量	0.17	
Milling Depth (mm) 铣削深度	Axial 轴向: 24(2D) Radial 径向: 0.6(0.05D)	
Coolant 冷却	Wet Cut 湿切	
Overhang (mm) 悬伸	36	
Machine 设备	Machining Center 加工中心	

ALU-POWER HPC End mills

Reference page : p.C399 ~ C412



Available in a Wide Variety of Sizes and Corner Radii Ideal Symmetrical Shape
可供多种尺寸和刀尖圆角的理想对称形状

- 3-flute design "to the center" (all 3 flutes come to center)
3刃过中心设计 (3刃都过中心)
- Designed with high spindle speeds in mind
设计时考虑高主轴转速
- Highly effective in vertical ramping up to 20 degrees and step-over plunging applications
高度有效的垂直上升20°跨越式插铣应用

Specialized Design of Corner Gash 刀尖槽的特殊设计

- Unique flute design and superior corner protection enhance both tool life and protection against catastrophic failure in high feed applications
独特的槽型设计和优越的刀尖保护, 既提高了刀具寿命, 也防止了高进给应用中的灾难性故障
- Polished flutes for excellent chip flow
抛光容屑槽, 使排屑顺畅。



Cylindrical Land 圆柱刃带

- Increased performance in a variety of cutting conditions
提高了在各种切削条件下的性能
- Helps reduce vibration and chatter
有助于减少振动和颤振



Engineered Flute Design 排屑槽设计

- Effective chip evacuation at high feed rates
在高进给率也可以有效排屑
- with lower cutting forces than competitive products
相比竞争对手有低的切削力



DLC Diamond-Like Carbon 类金刚石涂层

- Excels in hard aluminum and high speeds
优点是应用在硬铝和高速
- Provides edge strength and unsurpassed tool life
提供刃口强度和无与伦比的刀具寿命

From Side Cuts to Rough Cuts to Aggressive Ramping,
No One Withstands Extreme Radial Forces Better-or Longer.
从侧铣到粗铣再到斜坡铣, 没有对手能 承受更高的径向力或更长寿命。



▲ Rough Cutting 粗铣

Ultra-micrograin carbide supplies the rigidity to keep the chips flying. Highly polished 3-flute design ensures they'll keep flying – cut after cut.
超微细颗粒刚性碳化物提供了保持排屑顺畅。高度抛光的3槽设计, 确保刀具排屑流畅并持续切削。



▲ Ramping 斜坡铣

In steep, aggressive ramping conditions, the ALU-POWER HPC holds its own to resist the torsional stress from extreme helical output.
在陡峭、陡峭的斜坡条件下, ALU-POWER HPC有自己的螺旋输出能力来抵抗极端的扭转应力



▲ Side cutting 侧铣

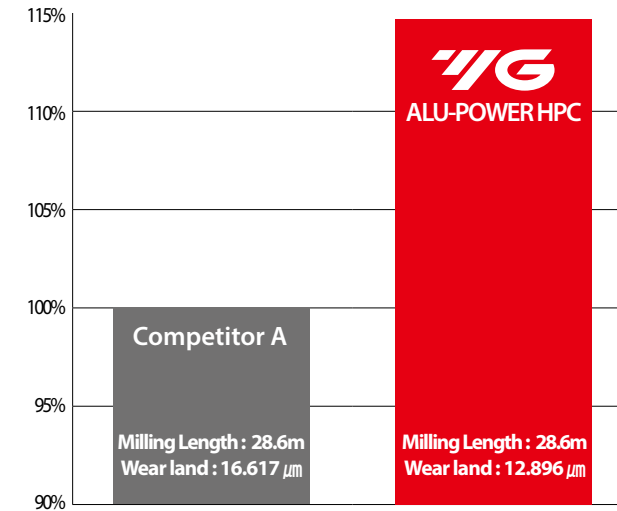
No one offers a cooler-running super high-speed End mill. While others melt down the materials they're cutting, ALU-POWER HPC keeps machining cool in aluminum and soft alloys, to boot.
没有对手可以提供冷运行的超高速立铣刀。当其它公司熔化切削材料时, ALU-POWER HPC保持铝和软合金的冷加工。

ALU-POWER HPC End mills

Reference page : p.C399 ~ C412

TEST I Slotting Application 槽铣工况

Ø1/2(R.090) 3 Flute Corner radius End Mill, Alu-Power HPC
Ø1/2(R.090) 3刃 圆鼻 铣刀, Alu-Power HPC



Cutting Condition (Slotting) 加工参数(槽铣)

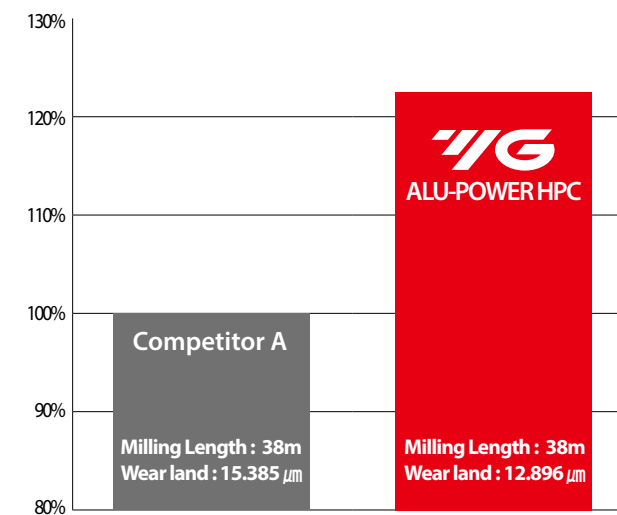
Tool 刀具	Ø1/2(R.090) x Ø1/2 x 1-1/4 x 3-1/2
Work Material 工件材料	AL7075
R.P.M (rev./min.) 转速	12,224
Feed (mm/min.) 进给量	5,588
Cutting Depth (mm) 切削深度	Axial 轴向: 12.7
Coolant 冷却	Wet Cut 湿切(9% emulsion)
Overhang (mm) 悬伸	48
Milling Method 铣削方式	Slotting 槽铣
Machine 设备	Machining Center 加工中心

Total Milling Length (铣削长度) : 38m



TEST II Pocketing Application 型腔铣工况

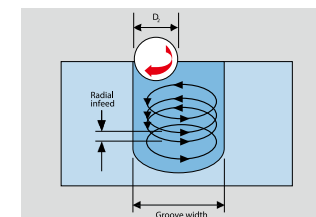
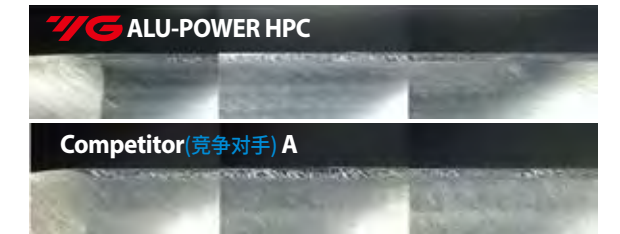
Ø1/2(R.090) 3 Flute Corner radius End Mill, Alu-Power HPC
Ø1/2(R.090) 3刃 圆鼻 铣刀, Alu-Power HPC



Cutting Condition (Pocketing) 加工参数(型腔铣)

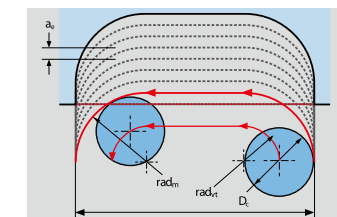
Tool 刀具	Ø1/2(R.090) x Ø1/2 x 1-1/4 x 3-1/2
Work Material 工件材料	AL7075
R.P.M (rev./min.) 转速	12,224
Feed (mm/min.) 进给量	5,588
Cutting Depth (mm) 切削深度	Axial 轴向: 12.7 Radial 径向: 12.2
Coolant 冷却	Wet Cut 湿切(9% emulsion)
Overhang (mm) 悬伸	48
Milling Method 铣削方式	Pocketing 型腔铣
Machine 设备	Machining Center 加工中心

Total Milling Length (铣削长度) : 38m



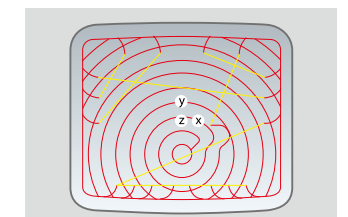
In trochoidal milling applications, the cutter follows a spiral path by moving radially as it rotates providing faster machining times, lower tooling costs and reduced loads on machine components.

在摆线铣削应用中, 刀具在旋转时会沿径向移动, 从而沿着螺旋路径运动, 从而缩短加工时间, 降低成本, 并减轻了机器部件的负荷。



Peel milling applications benefit from ALU-POWER HPC's super sharp high-speed milling ability.

剥皮铣削应用 得益于ALU-POWER HPC的超锋利高速切削性能



Outstanding chip evacuation through deep gullet design coupled with high speed milling leaves a well-defined clean cutter path.

通过深齿沟设计与高速铣削实现出色的排屑效果, 为切削机定义了明确的路径

ONLY ONE Coated PM60 End Mills

Reference page : p.C523 ~ p.C544

ONLY ONE Coated PM60 End Mills

Reference page : p.C523 ~ C544

ADVANTAGES OF CARBIDE 合金的优点

**Exceptional
良好的耐磨性 Wear Resistance**

The ONLY ONE holds an Exceptional Wear Resistance Which is an advantage of the micro-grain carbide tools.

ONLY ONE 具有不一般的耐磨性，这是微晶粒硬质合金工具的优势。

The ONLY ONE performs better without Causing chipping than Normal coated carbide End mills under the same carbide cutting conditions.

在相同的切削条件下，ONLY ONE 相比普通涂层整硬铣刀不会造成崩屑，性能更好。

ADVANTAGES OF HSS 高速钢的优点

High Toughness 高韧性

ONLY ONE is based on Powder Metallurgy that ensures High Toughness which is one of the advantages of Cobalt HSS

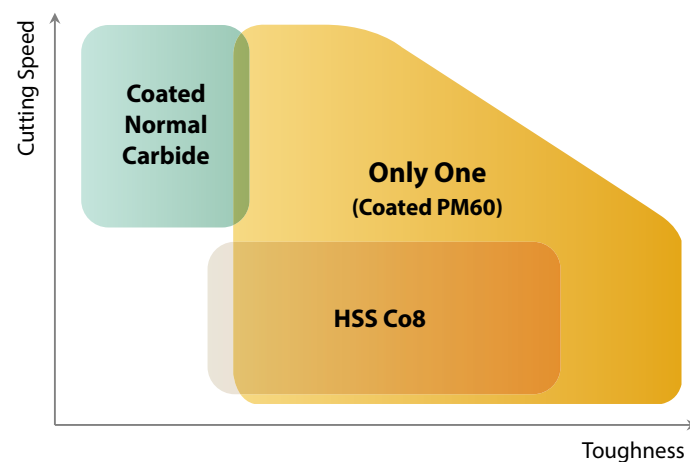
ONLY ONE基于粉末冶金，具有高韧性是含钴高速钢的优点之一。

The ONLY ONE holds a very Strong Toughness which can bring out Higher performances also on Machines with unstable conditions such as Vibration and irregular composition of materials

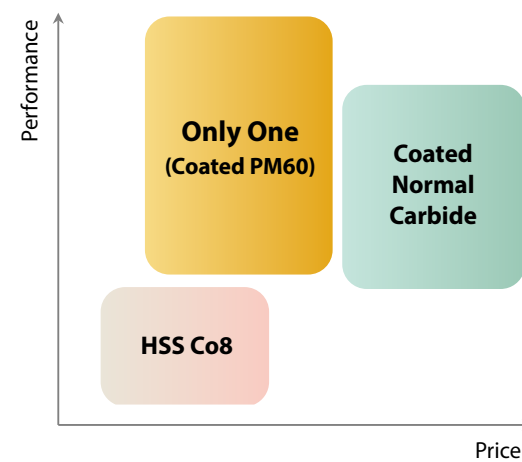
ONLY ONE具有较强的韧性，在振动和材料成分不规则等不稳定条件下也能具有较高的性能

**Both Advantages of Solid Carbide & HSS
兼具硬质合金和高速钢的优点**

To protect chipping problems under the unstable machining conditions with vibration
在不稳定的且振动的加工条件下切削

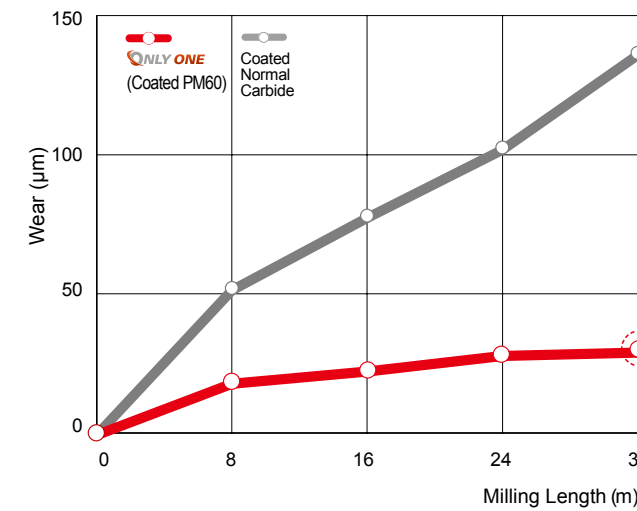


Higher Toughness than HSS Co8, Cutting Speed (Vc) is as high as Coated Normal Carbide.
韧性高于HSS Co8高速钢，切削速度高于普通涂层硬质合金



Better performance than HSS Co8, Better price than Coated Normal Carbide.
性能好于HSS Co8高速钢，价格低于普通涂层硬质合金。

TEST I 4 Flute Square End mill
4刃 平头 铣刀



ONLY ONE Coated PM60



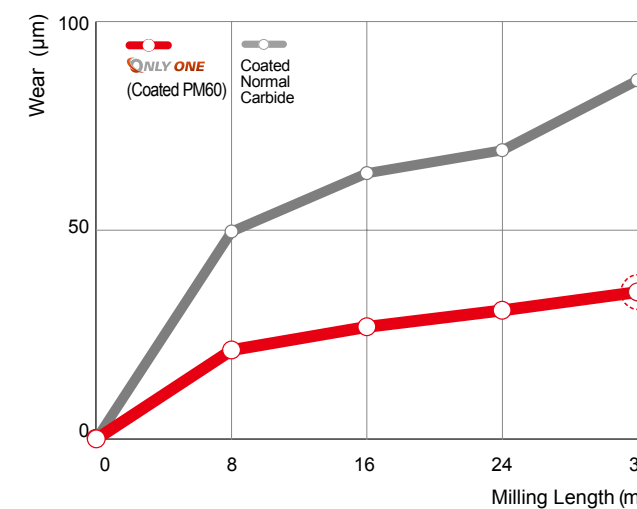
Cutting Condition (Down & Side Cutting)
加工参数(坡走&侧铣削)

Tool 刀具	Only One Coated PM60	Coated Normal Carbide
Size 尺寸	Ø10xØ10x22x72/Ø10xØ10x22x70	
Work Material 工件材料	JIS :S45C KS :SM45C DIN :C45 AISI :1045	
RPM (rev./min) 转速	2,750	
Feed (mm/min) 进给量	520	
Milling Method (mm) 铣削方式	Axial 轴向 : 3 / Radial 径向 : 1	
Coolant 冷却	Wet Cut 湿切	
Machine 设备	Machining Center 加工中心	

Coated Normal Carbide 普通涂层硬质合金产品



TEST II 4 Flute Square End mill
4刃 平头 铣刀



ONLY ONE Coated PM60



Cutting Condition (Down & Side Cutting)
加工参数(坡走&侧铣削)

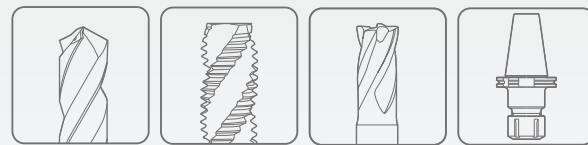
Tool 刀具	Only One Coated PM60	Coated Normal Carbide
Size 尺寸	Ø10xØ10x22x72/Ø10xØ10x22x70	
Work Material 工件材料	JIS :S45C KS :SM45C DIN :C45 AISI :1045	
RPM (rev./min) 转速	2,750	
Feed (mm/min) 进给量	520	
Milling Method (mm) 铣削方式	Axial 轴向 : 10 / Radial 径向 : 1	
Coolant 冷却	Wet Cut 湿切	
Machine 设备	Machining Center 加工中心	

Coated Normal Carbide 普通涂层硬质合金产品





Global Cutting Tool Leader **YG-1**



ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理	HB	HRC	Examples 例子
P	1	Non-alloyed steel 非合金钢	About 0.15% C (含碳 0.15% 左右) Annealed (热处理)	125		S15C, C15, 1015
	2		About 0.45% C (含碳 0.45% 左右) Annealed (热处理)	190	13	S45C, C45, 1045
	3		About 0.45% C (含碳 0.45% 左右) Quenched & Tempered (淬火 & 回火)	250	25	
	4		About 0.75% C (含碳 0.75% 左右) Annealed (热处理)	270	28	SK5, Ck75, 1080
	5		About 0.75% C (含碳 0.75% 左右) Quenched & Tempered (淬火 & 回火)	300	32	
	6	Low-alloyed Steel 低合金钢	Annealed (热处理)	180	10	SCM440, 42CrMo4, 410
	7		Quenched & Tempered (淬火 & 回火)	275	29	
	8		Quenched & Tempered (淬火 & 回火)	300	32	
	9		Quenched & Tempered (淬火 & 回火)	350	38	
	10	High-alloyed steel, and tool steel 高合金钢, 工具钢	Annealed (热处理)	200	15	SKD, D2
	11		Quenched & Tempered (淬火 & 回火)	325	35	SKH, SUH, M42
M	12	Stainless Steel 不锈钢	Ferritic / Martensitic (珠光体 / 铁素体) Annealed (热处理)	200	15	SUS 420, X40Cr13, 420
	13		Martensitic (马氏体) Quenched & Tempered (淬火 & 回火)	240	23	
	14		Austenitic (奥氏体)	180	10	SUS 316, 316, X5CrNiMo 17 12 2
K	15	Grey cast iron 灰铸铁	Pearlitic / Ferritic (珠光体 / 铁素体)	180	10	FC, GG, EN-GJL-250
	16		Pearlitic (Martensitic) (珠光体 (马氏体))	260	26	
	17	Nodular cast iron 球墨铸铁	Ferritic (珠光体)	160	3	FCD, GGG, EN-GJS-500-7
	18		Pearlitic (珠光体)	250	25	
	19	Malleable cast iron 可锻铸铁	Ferritic (珠光体)	130		FCMW, FCMP, GTS, GJMB350-10
20	Pearlitic (珠光体)		230	21		
N	21	Aluminum-wrought alloy 铝-加工用合金	Not Curable (非硬化性)	60		SAE 1000, AlMg 1, 3.3315
	22		Curable (硬化性) Hardened (硬化)	100		SAE 7050, AlCuMg 1, 3.1325
	23	Aluminum-cast, alloyed 铝-铸造合金	≤ 12% Si, Not Curable (≤ 12% Si, 非硬化性)	75		ADC12, G-AlSi12, 3.2581
	24		≤ 12% Si, Curable (≤ 12% Si, 硬化性) Hardened (硬化)	90		C4BS, G-AlSi10Mg, 3.2381
	25		> 12% Si, Not Curable (> 12% Si, 非硬化性)	130		
	26		Copper and copper alloys (Bronze / Brass) 铜和铜合金 (青铜/黄铜)	Cutting Alloys, PB>1% (切削合金, PB>1%)	110	
	27		CuZn, CuSnZn (Brass 黄铜)	90		CuZn 15, 2.0240
	28		CuSn, lead-free copper and electrolytic copper (CuSn, 无铅铜及电解铜)	100		G-CuZn40Fe, 2.0590
	29	Non-metallic materials 非铁金属	Duroplastic, Fiber Reinforced Plastic (硬质塑料, 纤维增强塑料)			CFRP
	30		Rubber, Wood, etc. (橡胶, 木材, 等.)			
S	31	Heat resistant super alloys 超耐热合金	Fe Based (基于 Fe) Annealed (热处理)	200	15	X12 NiCrSi 36-16, 1.4864
	32		Aged (时效)	280	30	
	33		Annealed (热处理)	250	25	Inconel 718, NiCr20TiAl, 2.4631
	34		Ni or Co Based (基于 Ni或Co) Aged (时效)	350	38	NiCu30Al, 2.4375
	35		Cast (铸造)	320	34	G-X120Mn12, 1.3401
	36	Titanium alloys 钛合金	Pure Titanium (纯钛)	400 Rm		
37	Alpha + Beta Alloys (A+β合金) Hardened (硬化)		1050Rm		TiAl6V4, 3.7165	
H	38	Hardened steel 硬化钢	Hardened (硬化)	550	55	SK3
	39		Hardened (硬化)	630	60	
	40	Chilled cast iron 冷硬铸铁	Cast (铸造)	400	42	
	41		Hardened cast iron 硬化铸铁	550	55	

MATERIAL GROUPS

工件材料组

MATERIAL GROUPS

工件材料组

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理					HB 125	HRc
							SS	UNI	UNE / IHA	UNS	GOST		
1.0037	STKM 12 C	St 37-2	-	4360 40 B	S235JR	E24-2	1311	Fe 360 B				16D	
1.0038	STKM 12 A	St 37-3	A570.36	4360 40 C	S275J2G3	E28-3	1312	Fe 360 D FF				ST14KP	
1.0045	SM 490 YA	S 355 JR	-	-	S 1207	E36-2	-	Fe 510 BFN					
1.0050	S5 50	St 50-2	A570 Gr. 50	4360 50 B	E 295	A50-2	2172	Fe 490				ST5PS	
1.0060	SM 58	St 60-2	A572 Gr. 65	4360 55 E	-	A60-2	1650	Fe 60-2				ST6PS	
1.0114		S 235 J0	-	En 40C	S 235 J0	E24-3		Fe 360 CFN					
1.0143		S 275 J0	-	-	S 275 J0	E28-3	1414	Fe 430 C					
1.0144	SM41C, SM400	St 44-3 N	A573 Gr. 81	4360 43C	S 275 J2 G3	E28-3	1412	Fe 430 D FF				ST14KP	
1.0149		Ro St 44-2	-	43C	S 275 J0 H	-	1412	Fe430C					
1.0301	S10C	C10	1010	045M10	C10	34C10, XC10		C10	F1511	G10100	10		
1.0330	SPCC	St 12	-	DC 01	Fe P01	DC 01/Fe P01	1142	Fe P01			15KP		
1.0335	SPHE	DD 13 (SW 24)	A622(1008)	H S 3	DD 13	3C		FeP13			08KP		
1.0338	SPCE	St 4	A620(1008)	14491CR	Fe P04	Fe 14	1147	DC04/FeP04			08JU		
1.0345	SPV 50	P235 GH	A516 Gr. 65	P 235 GH	P 235 GH	A 37 CP	1330	Fe E 235			K02503		
1.0401	S15C	C15	1015	080M15	-	C18RR, XC18	1350	C15, C16	F1110	G10170	15	15	
1.0402	S20C	C22	1020	050 A 20	1 C 22	C20	1450	C 20	F1120	G10200	20	20	
1.0425	SPV315	P265GH/HII				A42CP	1430	Fe4101KW			K02801	16K	
1.0443	SC 450	GS-45	A2765-35	A1		E23-45M	1305						
1.0539		S355NH				TSE355-4	2134	Fe510B					
1.0545		S355N		4360-50E		E355R	2334	FeE355KG					
1.0546		S355NL		4360-50EE		E355FP	2135	FeE355KT					
1.0547		S355J0H		4360-50C		TSE355-3	2172	Fe510C					
1.0549		S355NLH					2135	Fe510D					
1.0553	SM 520 M	S152-3U	A14880-40	4360-50C		320-560M	1606	Fe510C					
1.0562	SM490A	St E 355	A633 Gr. C	P 355 N		FeE355KGN	2132	Fe E 355 KG			K12000	15GF	
1.0565		W St E 355		P 355 NH		P 355 NH	2106	Fe E 355 KW			K01600		
1.0566	SLA 37	T St E 355		P 355 NL1		P 355 NL1	2107	Fe E 355 KT					
1.0570	SM 50 YA	St 52-3	1	4360-50 C	S355JR	E36-3	2172	Fe 510 B			17G15		
1.0715	SUM22	95Mn28	1213	230M07		S250	1912	CF95Mn28	F2111	G12130		Y15	
1.0718	SUM22L	95Mn28	12L13			S250Pb	1914	CF95Mn28	F2112	G12134			
1.0721		10S20	1108	10S20		10S20		CF10S20	F2121	G11080			
1.0722		10SPb20	11L08			10PbF2		CF10SPb20		G11084			
1.0736	SUM25	95Mn36	1215			S300		CF95Mn36	F2113	G12150		Y13	
1.0737		95Mn36	12L14			S300Pb	1926	CF95Mn36	F2114	G12144			
1.0972		S315MC		1501-40F30		E315D							
1.0976		S355MC		1501-43F35		E355D	2642	FeE355TM					
1.0982		S460MC		1501-50F45									
1.0984		S500MC				E490D	2662	FeE490TM					
1.0986		S500MC		1501-60F55		E560D		FeE560TM					
1.1121	S10C	Ck10	1010	040A10		XC10	1265	C10	F1510	G10100	10		
1.1141	S15	Ck15	1015	040A15	32C	XC15	1370	C15	F1110	G10150	15	15	
1.1151	S20C	C22E	1020	055M15		2C22	1450	C20	F1120	G10230	20		
1.8900	S25C	SE380	A572-60	436055E			2145	FeE390KG					
		S44-2	A36	436043A		NFA35-501E28	1411						
		StE320-3Z		1501160			1421						

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理					HB 190	HRc 13
							SS	UNI	UNE / IHA	UNS	GOST		
1.0501	S35C	C35	1035	080A32		1C35	1572	C35	F113	G10350	35	35	
1.0503	S45C	C45	1045	060A47		XC42H1TS	1672	C45	F114	G10450	45	45	
1.0511	S40C	C40	1040	080M40		1C40		C40	F114A	G10400	40		
1.0540	S50 C	C50					1674	C50		G10500			
1.0551		GS-52	A2770-36	A2		280-480M	1505						
1.0553	SM 520 M	S152-3U	A14880-40	4360-50C		320-560M	1606	Fe510C					
1.0577		S 355 J 2 G 4	A738	Fe 510 D 2 FF		A52FP	2107						
1.0726		35S20	1140	212M36	8M	35MF6	1957			G11400	40		
1.0727		45S20	1146			45MF4	1973			G11460			
1.1157		40Mn4	1039	150M36	15	40M5				G10390	40G	40Mn	
1.1158	S25C	C25E	1025	070M25		XC25		C25	F1120	G10250	25		
1.1166	SMn433H	34Mn5	1536						TOB	G15360			
1.1167	SMn438(H)	36Mn5	1335	150M36		40M5	2120	36Mn6	F1203	G13350	35G2	35Mn2	
1.1170	SCMn1	28Mn6	1330	150M28	14A	20M5		C28Mn	28Mn6	G13300	30G	30Mn	
1.1178	S30 C	C30E		080M30		XC32		C30	2C30	G10300			
1.1180		C35R	1035	080A35		3C35	1572		F1135	G10350			
1.1181	S35C	C35E	1035	080A35		XC38	1572	C36	F1130	G10340	35		
1.1191	S45C	Ck45	1045	080A46		XC45	1672	C45	F1140		45		
1.1206	S50 C	C50E	1050	080M50		2C50	1674	C50		G10500	50		
1.1213	S50C	CF53	1050	070M55		XC48HTS	1674	C53		G10500	50		

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理					HB 250	HRc 25
							SS	UNI	UNE / IHA	UNS	GOST		
1.0481	SG365	17 Mn 4/P 295 GH	A516 Gr. 70	224-460B	P 295 GH	A 48 CP	2102	Fe E 295	A47RCI	K03501	14G2		
1.0501	S35C	C35	1035	080A32		1C35	1572	C35	F1130	G10350	35		
1.0503	S45C	C45	1045	060A47		XC42H1TS	1672	C45	F1140	G10450	45		
1.0614		C76D	1074			XC75				G10750			
1.0616		C86D	1086			XC80		C85		G10860			
1.0618		C92D	1095			XC90				G10950			
1.0726		35S20	1140	212M36	8M	35MF6	1957			G11400	40		
1.1157		40Mn4	1039	150M36	15	40M5				G10390	40G	40Mn	
1.1165	SMn433H	30Mn5	1036	120M36		35M5		30Mn5	F8211	K13300	30G2		
1.1167	SMn438(H)	36Mn5	1335	150M36		40M5	2120	36Mn6	F1203	G13350	35G2	35Mn2	
1.1186	S40C	C40E	1040	060A40		2C40		C40		G10400			
1.1191	S45C	Ck45	1045	080M46		2C45	1672	C45	F1140		45		
1.1201	S50C	C45R	1049	080M46		3C45	1660	C45	F1145		38HM		
1.1213	S50C	CF53	1050	070M55		XC48HTS	1674	C53		G10500	50		
1.7242	SCM 418 H	18CrMo4											
1.7337		16CrMo4-4	A387 Gr.12					A18CrMo45KW		K11564	15C M		
1.7362	SCM 6	12CrMo195		3606-625		Z10CD5-05		16CrMo205		K41545			
		17MnV6	A572-60	436055E		NFA35-501E36	2142						

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands	P	VDI 3323 4	Material Description 工件材料 Non-alloyed steel 非合金钢	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理 About 0.75% C, Annealed 含碳 0.75% 左右, 热处理	HB 270	HRc 28
1.0601	S58C	C60	1060	060A62	43D	1C60		C60		G10600	60(G)	60							
1.06303	S70C-CSP	C67	107	080A67		XC65		C67		G10700									
1.0605		C75	1075	144980HS				C75		G10740	75								
1.1203	S55C	Ck55	1055	060A57		2C55	1655	C55	F1150	G10550	55	55							
1.1209		C55R	1055	070M55		3C55		C55	F1155	G10550									
1.1221	S58C	Ck60	1060	060A62	43D	2C60	1678	C60	F1150	G10640	60	60Mn							
1.1231	S70C-CSP	C67E	1070	060A67		XC68	1770	C70	F5103	G10700	65GA								
1.1248	C75	C75E	1074	060A78		XC75	1774	C75	F5107	G10800	75(A)								
1.1269	SK5-CSP	C85E	1086			XC90		C90		G10900	85(A)								
1.1274	SUP4	Ck101	1095	060A96	C100S	XC100	1870	C100	F5117	G10950									
1.1545	SK3	C105W1	W1	BW2	C105U	Y1105	1880	C100KU	F5118		U10A	90							
1.1663	SK2	C125W	W112			Y2120					U13	T12A							

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands	P	VDI 3323 6	Material Description 工件材料 Low-alloyed Steel 低合金钢	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理 Annealed 热处理	HB 180	HRc 10
1.0904	SKH1, SKT4	55Si7	9255	250A53	45	55S7	2085	55Si8	56Si7	G92550	55S2								
1.0961	SUP7	60SiCr7	9262			60SC6		60SiCr8	60SiCr8	G92620									
1.2067		100Cr6	L3	BL3		Y100C6			100Cr6			Gr15,45Gr							
1.2108		90CrSi5	L1				2092	105WCr5											
1.2210		115CrV3	L2			100C3		107CrV3KU	F.520L		11KHF								
1.2241		51CrV4																	
1.2330	SCM435TK	35CrMo4	4135	708A37		34CD4	2234	35CrMo4			35KHM								
1.2419	SKS31	105WCr6		105WC13		105WC13	2140	10WCr6			CWG	CrWMo							
1.2510	SKS3	100MnCrW4	O1	BO1		90MWCV5	2140	95MnWCr5KU	F.5220		9KHVG								
1.2542		45WCrV7	S1	BS1			2710	45WCrV8KU			5CW25F	5CrNiMo							
1.2550		60WCrV7	S1			55WC20	2710	58WCr9KU			5KHV25F								
1.2713	SKT4	55NiCrMoV6	L6			55NCDV7			F.520S		5C NM	5CrNiMo							
1.2721		50NiCr13	L6			55NVCV6	2550		F.528										
1.2842		90MnCrV8	O2	BO2		90MV8				T31502	9G2F								
1.3501		100Cr2	E50100																
1.3505	SUJ2	100Cr6	52100	25135	31	100C6	2258	100Cr6	F.1310		SCC15	Gr15,45Gr							
1.5024		46Si7				45S7		46Si7	F.1451										
1.5025		51Si7	9259H		50Si7	51S7	2090	50Si7	F.1450										
1.5026		55Si7			56Si7	55S7	2085	55Si7	F.1440	G92550	55S2								
1.5027		60Si7	9260	251A60	60Si7	60S7		60Si7	F.1441	G92600	60S2								
1.5028	SUP7	65Si7	9260H																
1.5415	STFA12	15Mo3	A204GrA	1503-243B		15D3	2912	16Mo3(KG)	F.2601	K11820									
1.5419	SCPH11	20Mo4	4419	1503-243-430			2512	G20Mo5		G44190									
1.5423	SB450M	16Mo5	4520	1503-245-420				16Mo5(KG)	F.2602	K11522									
1.5622		14Ni6	A350-LF5			16N6		14Ni6(KG)	F.2641										
1.5732	SNC415(H)	14NiCr10	3415			14NC11		16NiCr11											
1.5752	SNC815(H)	14NiCr14	3310	655M13	36A	12NC15					20X2H4A								
1.6511	SUP10	36CrNiMo4	9840	816M40	110	40NCD3		36NiCrMo4(KB)			40CN2MA								
1.6523	SNCM220(H)	21NiCrMo2	8620	805M20	362	20NCD2	2506	20NiCrMo2			20CGNM								
1.6546	SNCM240	40NiCrMo2-2	8740	311-Tyre7				40NiCrMo2(KB)			38CGNM								
1.6566		17NiCrMo6-4																	
1.6587		17CrNiMo6		820A16		18NCD6		14NiCrMo13											
1.6657		10NiCrMo13-4						14NiCrMo131											
1.7015	SCr415(H)	10Cr3	5015	523M15		12C3				G50150	15C	15Cr							
1.7033	SCr430(H)	34Cr4	5132	530A32	18B	32C4		34Cr4(KB)		G51300	35C	35Cr							
1.7035	SCr440(H)	41Cr4	5140	530M40	18	42C4	2245	41Cr4		G51400	40H	40Cr							
1.7131	SCR415	16MnCr5	5115	527M17		16MC5	2511	16MnCr5		G51150	12KH2								
1.7139		16MnCr5S					2127				18HG								
1.7176	SUP9(A)	55Cr3	5155	527A60	48	55C3	2253	55Cr3			50CGA	20CrMn							
1.7218	SCM420	25CrMo4	4130	CDS110		25CD4	2225	25CrMo4(KB)			20CM								
1.7220	SCM432	34CrMo4	4135	708A37		35CD4	2234	34CrMo4			35CM	35CrMo							
1.7223	SNB22-1	41CrMo4	4142					41CrMo4			40CFA	40CrMoA							
1.7225	SCM440(H)	42CrMo4	4140	708M40	42CrMo4	42CD4	2244	42CrMo4	F.1252		38HM	42CrMo, 42CrMnMo							
1.7228		55NiCrMoV6G		823M30	33		2512	653M31											
1.7262	SCM415(H)	15CrMo5				12CD4	2216	12CrMo4											
1.7321		20mOcr4					2625												
1.7335	SCM415(H)	13CrMo4-4	A182-F11	1501-620		15CD4-5	2216	14CrMo45			12CM								

P

VDI 3323
6

Material Description
工件材料
Low-alloyed Steel
低合金钢

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Annealed
热处理

HB
180

HRC
10

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
1.7361		32CrMo12		722M24	40B	30CD12	2240	30CrMo12	F.124A				
1.7380		10CrMo9-10	A182F22	1501-622		12CD9-10	2218	12CrMo9			12KH8		
1.7715		14MoV6-3		1503-660-440				13MoCrV6					
1.8159	SUP 10	50CrV4	6150	735A50	47	50CrV4	2230	50CrV4		G61500	50C GFA		
1.8161		58CrV4											
1.8509	SACM 645	41CrAlMo7	A355A	905M39	41B	40CAD6-12	2940	41CrAlMo7					
1.8523		39CrMoV13-9		897M39	40C			36CrMoV12					

P

VDI 3323
7

Material Description
工件材料
Low-alloyed Steel
低合金钢

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Quenched & Tempered
淬火 & 回火

HB
275

HRC
29

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
1.5415	STFA 12	15Mo3	A204GrA	1503-243B		15D3	2912	16Mo3(KG)	F.2601	K11820			
1.5423	SB450M	16Mo5	4520	1503-245-420				16Mo5(KG)	F.2602	K11522			
1.5622		14Ni6	A350-LF5			16N6		14Ni6(KG)	F.2641				
1.5732	SNC415(H)	14NiCr10	3415			14NC11		16NiCr11					
1.5752	SNC815(H)	14NiCr14	3310	655M13	36A	12NC15					20X2H4A		
1.5755	SNC236	31NiCr14		653M31		18NC13	2534		F.1270				
1.6565	SNCM447	40NiCrMo6	4340	817M40	24	35NCD6	2541	35NiCrMo6(KB)			38C 2N2MA		
1.6587		17CrNiMo6		820A16		18NCD6		14NiCrMo13					
1.6657		10NiCrMo13-4						14NiCrMo131					
1.6957		26NiCrMoV14-5											
1.7218	SCM420	25CrMo4	4130	CDS110		25CD4	2225	25CrMo4(KB)	55Cr3		20C M	30CrMn	
1.7015	SCr415(H)	10Cr3	5015	523M15		12C3				G50150	15C		
1.7262	SCM415(H)	15CrMo5				12CD4	2216	12CrMo4					
1.7335	SCM415(H)	13CrMo4-4	A182-F11	1501-620		15CD4-5	2216	14CrMo45			12C M		
1.7380		10CrMo9-10	A182F22	1501-622		12CD9-10	2218	12CrMo9			12KH8		
1.7715		14MoV6-3		1503-660-440				13MoCrV6					
1.7733		24CrMoV55				20CDV6		21CrMoV511					
1.7755		GS-45CrMoV10-4											
1.8070		21CrMoV511						35NiCr9					

P

VDI 3323
8

Material Description
工件材料
Low-alloyed Steel
低合金钢

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Quenched & Tempered
淬火 & 回火

HB
300

HRC
32

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
1.1730		C45W3	C45W			XC48							
1.2332	SCM(440)	47CrMo4	4142	708M40	19A	42CD4	2244	42CrMo4					
1.5736	SNC 631 (H)	36NiCr10	3435			30NC11							
1.6523	SNCM220(H)	21NiCrMo2	8620	805M20	362	20NCD2	2506	20NiCrMo2			20C GNM		
1.7033	SCr430(H)	34Cr4	5132	530A32	18B	32C4		34Cr4(KB)		G51300	35C		
1.7218	SCM420	25CrMo4	4130	CDS110		25CD4	2225	25CrMo4(KB)			20C M		
1.8159	SUP 10	50CrV4	6150	735A50	47	50CrV4	2230	50CrV4	51CrV4	G61500	50C GFA	50CrVA	
1.8515		32CrMo12		722M24	40B	30CD12	2240	32CrMo12	F.124A				

P

VDI 3323
9

Material Description
工件材料
Low-alloyed Steel
低合金钢

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Quenched & Tempered
淬火 & 回火

HB
350

HRC
38

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
1.0904	SKH 1, SKT 4	55Si7	9255	250A53	45	55S7	2085	55Si8		G92550	55S2		
1.0961	SUP 7	60SiCr7	9262			60SC6		60SiCr8		G92620			
1.2067		100Cr6	L3	BL3		Y100C6		100Cr6				CrV, 9SiCr	
1.2419	SKS31	105WCr6		105WC13		105WC13	2140	10WCr6			CWG	CrWMo	
1.2542		45WCrV7	S1	BS1			2710	45WCrV8KU			5CW25F	5CrNiMo	
1.2713	SKT4	55NiCrMoV6	L6			55NCDV7			F.5205		5C NM	5CrNiMo	
1.4882		X50CrMnNiNbN219				Z50CMNnb21-09							
1.5120		38MnSi4											
1.5710	SNC236	36NiCr6	3135	640A35	111A	35NC6							
1.5755	SNC236	31NiCr14		830m31		18NC13	2534		F.1270				
1.6511	SUP10	36CrNiMo4	9840	816M40	110	40NCD3		36NiCrMo4(KB)			40C N2MA		
1.6546	SNCM240	40NiCrMo2-2	8740	311-Tyre7				40NiCrMo2(KB)			38C GNM		
1.7035	SCr440(H)	41Cr4	5140	530M40	18	42C4	2245	41Cr4		G51400	40H	40Cr	
1.7176	SUP9(A)	55Cr3	5155	527A60	48	55C3	2253	55Cr3			50C GA	20CrMn	
1.7220	SCM432	34CrMo4	4135	708Aa37		35CD4	2234	34CrMo4			35C M	35CrMo	
1.7223	SNB22-1	41CrMo4	4142					41CrMo4			40C FA	40CrMoA	
1.7225	SCM 440 (H)	42CrMo4	4140	708 M 40	42 CrMo 4	42 CD 4	2244	42 CrMo 4	F.1252		38HM	42CrMo, 42CrMnMo	
1.7361		32CrMo12		722M24	40B	30CD12	2240	30CrMo12	F.124A				
1.8159	SUP 10	50CrV4	6150	735A50	47	50CrV4	2230	50CrV4	51CrV4	G61500	50C GFA	50CrVA	
1.8161		58CrV4											
1.8509	SACM 645	41CrAlMo7	A355A	905M39	41B	40CAD6-12	2940	41CrAlMo7					
1.8523		39CrMoV13-9		897M39	40C			36CrMoV12					

P

VDI 3323
10

Material Description
工件材料
High-alloyed steel, and tool steel
高合金钢, 及刀具钢

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Annealed
热处理

HB
200

HRC
15

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
1.0347	SPCD	RR St 3	A619	CR 3	Fe P03	F 13		DC03/FeP03			08JU		
1.0723	SUM32	15S22		210A15			1922		F.210F				
1.2080	SKD1	X210Cr12	D3	BD3	X210Cr12	Z200C12		X205Cr12KU		T30403	KH12	Cr12	
1.2162	SCR 420 H	21MnCr5				20MC5							
1.2311		40CrMnMo7				40CMD8		35CrMnO8KU					
1.2312		40CrMnMoS8.6	P20+S			40CMD8S							
1.2316		X36CrMo17			X38CrMo16								
1.2343	SKD 6	X38CrMoV5-1	H11	BH11		Z38CDV5		X37CrMoV51KU		T20811	4C 5MFS		
1.2344	SKD61	X40CrMoV5-1	H13	BH13		Z40CDV5	2242	X40CrMoV511KU	F.5318	T20813	4C 5MFS15	4Cr5MoVSi	
1.2363	SKD12	X100CrMoV5-1	A2	BA2		Z100CDV5	2260	X100CrMoV51KU	F.5227		9KH5VF	Cr6WV	
1.2379	SKD11	X155CrVMo121	D2	BD2		Z160CDV12	2310	X165CrMoV12KU		T30402	KH12MF		KRUPP2379
1.2436	SKD 2	X210CrW12	D4(D6)	BD6		Z200CD12	2312	X215CrW121KU	F.5213		KH12	Cr12W	

NEXT PAGE ▶

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands	Material Description 工件材料		Composition / Structure / Heat Treatment 成分 / 结构 / 热处理		HB	HRC
														High-alloyed steel, and tool steel 高合金钢, 及刀具钢		Annealed 热处理		200	15
1.2510	SKS3	100MnCrW4	O1	BO1		90MWC5	2140	95MnCr5KU	F5220		9KHVG								
1.2581	SKD5	X30WCrV9-3	H21	BH21		Z30WC9		X30WCrV93KU	F526	T20821	3C2W8F	3Cr2W8V							
1.2601		X165CrMoV12					2310	X160CrMoV12			KH12MF	Cr12MoV							
1.2606	SKD 62	X37CrMoW51	H12	BH12		Z35CWDV5		X35CrMoW05KU	F537	T20812	5C NM								
1.2764		X19NiCrMo4																	
1.2767		X45NiCrMo4				45NCD16		40NiCrMoV8KU											
1.2842		90MnCrV8	O2	BO2		90MV8		90MnCrV8KU		T31502	9G2F								
1.3243	SKH55	S6-5-2-5	T15			KCV06-05-05-04-02	2723	HS6-5-2-5			R6M5K5	W6Mo5Cr4V2Co5							
1.3249	SKH 3	S18-1-2-5	T4	BT4		Z80WKVC18-05-04					R18K5F2	W18Cr4VCo5							
1.3343	SKH51, SKH9	S6-5-2	M2	BM2		Z85WDCV	2722	HS652	F5604		R6M5	W6Mo5Cr4V2							
1.3348	SKH 58	S2-9-2	M7			Z100DCWV09-04-02	2782	HS292	F5607		R18	W18Cr4V							
1.3355	SKH 2	S18-0-1	T1	BT1		Z80WC18-4-01													
1.4718	SUH1	X45CrSi9-3	HNV3	401545	52	Z45CS9		X45CrSi8	F322		40C 9S2	4Cr9Si2							
1.5662	SL9N60(53)	X8Ni9	ASMA353	502-650		9Ni		X10Ni9	F2645										
1.5680		12Ni19	2515	12Ni19		Z18N5													

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands	Material Description 工件材料		Composition / Structure / Heat Treatment 成分 / 结构 / 热处理		HB	HRC
														High-alloyed steel, and tool steel 高合金钢, 及刀具钢		Quenched & Tempered 淬火 & 回火		325	35
1.2080	SKD1	X210Cr12	D3	BD3	X210Cr12	Z200C12		X205Cr12KU		T30403	KH12	Cr12							
1.2344	SKD61	X40CrMoV5-1	H13	BH13		Z40CDV5	2242	X40CrMoV511KU	F5318	T20813	4C5MF15	4Cr5MoVSi							
1.2363	SKD12	X100CrMoV5-1	A2	BA2		Z100CDV5	2260	X100CrMoV51KU	F5227		9KH5VF	Cr6WV							
1.2436	SKD 2	X210CrW12	D4(D6)	BD6		Z200CD12	2312	X215CrW121KU	F5213		KH12	Cr12W							
1.2581	SKD5	X30WCrV9-3	H21	BH21		Z30WC9		X30WCrV93KU	F526	T20821	3C2W8F	3Cr2W8V							
1.2601		X165CrMoV12					2310	X160CrMoV12			KH12MF	Cr12MoV							
1.2714	SKT 4	55NiCrMoV7	6F3/L6								F5205	5KHNV							
1.3202		S12-1-4-5		BT15				HS12-1-5-5											
1.3207		S10-4-3-10		BT42		Z130WKCDV													
1.3243	SKH55	S6-5-2-5	T15			KCV06-05-05-04-02	2723	HS6-5-2-5			R6M5K5	W6Mo5Cr4V2Co5							
1.3246		S7-4-2-5	M35			Z110WKCDV07-05-04		HS7-4-2-5											
1.3247	SKH 51	S2-10-1-8	M42	BM42		Z110DKWV09-08-04		HS2-9-1-8			R2AM9K5								
1.3255	SKH 3	S18-1-2-5	T4	BT4		Z80WKVC18-05-04					R18K5F2	W18Cr4VCo5							
1.3343	SKH51, SKH9	S6-5-2	M2	BM2		Z85WDCV	2722	HS652	F5604		R6M5	W6Mo5Cr4V2							
1.3348	SKH 58	S2-9-2	M7			Z100DCWV09-04-02	2782	HS292	F5607										
1.3355	SKH 2	S18-0-1	T1	BT1		Z80WC18-4-01					R18	W18Cr4V							
1.4718	SUH1	X45CrSi9-3	HNV3	401545	52	Z45CS9		X45CrSi8	F322		40C 9S2	4Cr9Si2							
1.4935	SUH 616	X20CrMoW121	422							S42200									
1.5680		12Ni19	2515	12Ni19		Z18N5													

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands	Material Description 工件材料		Composition / Structure / Heat Treatment 成分 / 结构 / 热处理		HB	HRC
														Stainless steel 不锈钢		Ferritic / Martensitic, Annealed 铁素体 / 马氏体, 热处理		200	15
1.4000	SUS403	X6Cr13	403	403S17		Z6C13	2301	X6Cr13	F3110	S40300	08C 13	0Cr13;Cr12	ATI410S						
1.4001		X7Cr14	410S	403S7		Z8C13	2301		F8401		08C 13								
1.4002	SUS 405	X6CrAl13	405	405S17		Z6CA13	2302	X6CrAl13		S40500									
1.4005	SUS416	X12CrS13	416	416S21		Z11CF13	2380	X12CrS13	F3411	S41600			ATI416						
1.4006	SUS410	X12Cr13	410	410S21	56A	Z10C13	2302	X12Cr13	F3401	S41000	12C 13		ATI410						
1.4016	SUS430	X6Cr17	430	430S15	X8Cr17	Z8C17	2320	X8Cr17	F3113	S43000	12C 17	1Cr17	ATI430						
1.4027	SCS 2	GX20Cr14		420C29		Z20C13M					20C 13L								
1.4028	SUS420J2	X30Cr13	420	420S45		Z30C13	2304			S42020	20C 13								
1.4034	SUS420J2	X46Cr13		420S45		Z40C14		X40Cr14	F3405			4Cr13							
1.4057	SUS431	X19CrNi17-2	431	431S29	57	Z15CN16-02	2321	X16CrNi16	F3427	S43100	20C 17N2		431 (HT)						
1.4086		GX120Cr29		452C11															
1.4104	SUS430F	X12CrMoS17	430F	420S37		Z10CF17	2383	X10CrS17	F3117	S43020		Y1Cr17							
1.4112	SUS 440 B	X90CrMoV18	440B							S44003	95KH18								
1.4113	SUS434	X6CrMo17	434	434S17		Z8CD17-01	2325	X8CrMo17		S43400			AL 434						
1.4313	SCS5	X3CrNi13-4	CA6-NM	425C11		Z4CND13-04M	2385	(G)X6CrNi304		J91540									
1.4340		GX40CrNi274								J92615									
1.4417		X2CrNiMo5195	S31500				2376			S39215									
1.4418		X4CrNiMo165				Z6CND16-04-01	2387						APX4						
1.4510	SUS430LX	X6CrTi17	XM8			Z4CT17		X6CrTi17	F3115	S43035	08C 17T		430Ti						
1.4511	SUS430LK	X6CrNb17				Z4CNb17		X6CrNb17	F3122				AXC525						
1.4512	SUH409	X6CrTi12	409	LW19		Z3CT12		X6CrTi12		S40900									
1.4720		X20CrMo13																	
1.4724	SUS 405	X10CrA113	405	403S17		Z10C13		X10CrA112	F311		10C 13SJU	0Cr13Al							
1.4742	SUS430	X10CrA118	430	439S15	60	Z10CAS18		X8Cr17	F3113	S43000	15C 13SJU	Cr17							
1.4747	SUH4	X80CrNiSi20	HNV6	443S65	59	Z80CSN20-02		X80CrNiSi20	F320B	S65006		8Cr20Si2Ni							
1.4749		X18CrN28	446								15KH28								
1.4762	SUH446	X10CrA124	446			Z10CAS24	2322	X16Cr26		S44600		2Cr25N							
1.4871	SUH35,SUH36	X53CrMnNiN21-9	EV8	349S54		Z52CMN21-09		X53CrMnNiN219		S63008	55C 20G9AN4	5Cr2Mn9Ni4N							
		X10CrNi15	429																
		X12CrNi18-9	302	302S31		Z10CN18-09	2330												

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands	Material Description 工件材料		Composition / Structure / Heat Treatment 成分 / 结构 / 热处理		HB	HRC
														Stainless steel 不锈钢		Martensitic, Quenched & Tempered 马氏体, 淬火 & 回火		240	23
1.4021	SUS 420J1	X20Cr13	420	420S37		Z20C13	2303	14210	F5261	S42000	20C 13	2Cr13	ATI 420						
1.4027	SCS 2	GX20Cr14		420C29		Z20C13M					20C 13L								
1.4031	SUS 420 J2	X40Cr13	420			Z40C14	-2304		F3404	S42080	40C 13								
1.4034	SUS420J2	X46Cr13		420S45		Z40C14		X40Cr14	F3405			4Cr13							
1.4057	SUS431	X19CrNi17-2	431	431S29	57	Z15CN16-02	2321	X16CrNi16	F3427	S43100	20C 17N2	1Cr17Ni2							

M

VDI 3323
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Material Description
工件材料
Stainless steel
不锈钢

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Austenitic
奥氏体

HB
180

HRC
10

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
1.4301	SUS 304	X5CrNi18-10	304	304S15		Z5CN18-09	2332		F3551	S30409	08C18N10		
1.4305	SUS303	X10CrNiS18-10	303	303S21	58M	Z8CNF18-09	2346	X10CrNiS18.09	F3508	S30300	30C18N11	1Cr18Ni9Mo2r	ATI 303
1.4306	SCS19	X2CrNi1911	304L	304C12	X3CrNi1810KD	Z2CN18-09	2352	GX2CrNi1910	F3503	S30403	03KH18N11	0Cr19Ni10	ATI 304L
1.4308	SUS304L	GX6CrNi18-9	CF-8	304C15	58E	Z6CN18-10M	2333						CF-8
1.4310	SUS 301	X10CrNi18-8	301	301S21		Z12CN17-07	2331	X2CrNi1807	F3517	S30100	07KH16N6	Cr17Ni7	ATI 301
1.4311	SUS304LN	X2CrNiN1810	304LN	304S62		Z2CN18-10	2371	X2CrNiN1810	F3541	S30453	03KH18N11		
1.4312	SCS12	GX10CrNi188	305	302C25		Z10CN18-9M					10C18N9L		ATI 305
1.4350	SUS304	X5CrNi18-9	304	304S15	58E	Z6CN18-09	2332	X5CrNi1810	F3551	S30400		0Cr18Ni9	ATI 304
1.4362		X2CrNiN234	S32304			Z2CN23-04AZ	2327			S32304			ATI 2304TM
1.4371		X3CrMnNiN18887	202	284S16		Z8CMN18-08-05							
1.4401	SUS316	X5CrNiMo17-12-2	316	316S13		Z3CND17-11-01	2347	X5CrNiMo17122	F3534	S31600	08KH17H13M2T		ATI 316
1.4404	SUS316L	X2CrNiMo17-13-2	316L	316S11		Z2CND17-12	2348	X2CrNiMo1712	F3533	S31603			ATI 316L
1.4406	SUS316LN	X2CrNiMoN17122	316LN	316S61		Z2CND17-12AZ		X2CrNiMoN1712	F3542	S31653	07C18N		ATI 316LN
1.4408	SCS14	GX6CrNiMo18-10	CF-8M	316C16			2343	X7CrNiMo2010	F8414	J92900	10G2S2MSL		
1.4410	SCS14A	GX10CrNiMo18-9				Z5CND20-12M	2328			S32750			
1.4429	SUS316LN	X2CrNiMoN17-13-3	316LN	316S62		Z2CND17-13AZ	2375	X2CrNiMoN17133	F3543		03KH16N15M3	00Cr17Ni13Mo2	
1.4435	SUS316L	X2CrNiMo18143	316L	316S11		Z3CND17-12-03	2375	X2CrNiMo17132	F3533	S31603	03C17N14M3	0Cr27Ni12Mo3	
1.4436	SUS316	X3CrNiMo17-13-3	316	316S19		Z6CND18-12-03	2343	X5CrNiMo17122	F3543	S31600			
1.4438	SUS317L	X2CrNiMo18164	317L	317S12		Z2CND19-15-04	2367	X2CrNiMo18164	F3539	S31703			ATI 317L
1.4439		X2CrNiMoN17135	(s31726)			Z3CND18-14-06AZ							
1.4440		X2CrNiMo18-16											
1.4449	SUS317	X5CrNiMo17133	317	317S16				X5CrNiMo1815		S31700			ATI 317
1.4460	SUS 329 J1	X8CrNiMo275	329				2324			S32900			10RE51
1.4462	SUS329J3L	X2CrNiMoN2253		318S13		Z3CND22-05Az	2377			S31803			ATI 2205TM
1.4500		X7NiCrMoCuNb2520				Z3NCDU25-20M				J95150			
1.4521	SUS444	X2CrMoTi18-2	443444				2326	X2CrMoTiNb182	F3123				
1.4539		X1NiCrMoCuN25205				Z2NCDU25-20	2562			N08904			ATI 904L
1.4541	SUS321	X14CrNiTi18-10	321	321S31		Z6CNT18-10	2337	X6CrNiTi1811	F3523	S32100	06C18N10T		ATI 321
1.4542	SUS630	X5CrNiCuNb174	630			Z7CNU15-05							UGIMA 4542
1.4545		Z7CNU15.05	15-5PH							S15500			ATI 15-5
1.4547		X1CrNiMoN20187	S31254				2378			S31254			Uranus B256Mo
1.4550	SUS347	X6CrNiNb18-10	347	347S17	58F	Z6CNNb18-10	2338	X6CrNiNb1811	F3552	S34700	08C18N12B	1Cr18Ni11Nb	ATI 347
1.4552	SCS 21	GX7CrNiNb18-9				Z4CNNb19-10M				J92710			
1.4568	SUS 631	X7CrNiAl177		316S111		Z9CAN17-7	2388	Z8CNA17-07		S17700	09C17NJU1		17-7PH
1.4571	SUS 316Ti	X6CrNiMoTi17-12-2	316Ti	320S31	58J	Z6NDT17-12	2350	X6CrNiMoTi1712	F3535		10C17N13M2T	Cr18Ni12Mo2Ti	ATI 316Ti
1.4581	SCS 22	GX5CrNiMoNb18		318C17		Z4CNDNb18-12M							
1.4583		X6CrNiMoNb18-12	318	303S21		Z15CNS20-12		X15CrNiSi212				Cr17Ni12Mo3Nb	
1.4585		GX7CrNiMoCuNb1818						X6CrNiMoTi1712		J94651			
1.4821		X20CrNiSi254				Z20CNS25-04				S44635			
1.4823		GX40CrNiSi274								J92605			
1.4828	SCS17	X15CrNiSi20-12	309	309S24	58C	Z15CNS20-12			F8414	S30900	20C20N14S2	1Cr23Ni13	ATI 309
1.4833	SUS 309S	X6CrNi2213	309S	309S13		Z15CN24-13				J93400			
1.4845	SUH310	X12CrNi25-21	310S	310S24		Z12CN25-20	2361	X6CrNi2520	F331	S31008	20C23N18	0Cr25Ni20	ATI 310S
1.4878	SUS321	X12CrNiTi18-9	321	321S20	58B	Z6CNT18-12(B)	2337	X6CrNiTi1811	F3553	S32100		1Cr18Ni9Ti	ACX315
1.4891		X5CrNiNb18-10	Ss30415				2372						
1.4893		X8CrNiNb11	S30815				2368						
1.4948		X6CrNi1811	304H	304S51		Z5CN18-09	2333			S30480			
1.4980		X5NiCrTi2515	660				2570			S66286			Incoloy A 286
		X5NiCrNi3525											
		X2CrNiMoN18134	S31753										
		X2CrNiMoN25227											

K

VDI 3323
15

Material Description
工件材料
Grey cast iron
灰铸铁

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Pearlitic / Ferritic
珠光体 / 铁素体

HB
180

HRC
10

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
0.6010	FC100	GG10	A48 20 B	Grade 100	GJL-100	Ft 10 D	0100	G10	FG10		Sc 10		
0.6015	FC150	GG15	A48 25 B	Grade 150	GJL-150	Ft 15 D	0115	G15	FG15		Sc 15	HT150	
0.6020	FC200	GG20	A48 30 B	Grade 200	GJL-200	Ft 20 D	0120	G20	FG20	W06020	Sc 20	HT200	
0.6025	FC250	GG25	A48 40 B	Grade 260	GJL-250	Ft 25 D	0125	G25	FG25		Sc 25		
0.6660		GGL-NiCr 202	1050/700/7	Grade F2	GJLA-XNiCr 20-2	L-NC202	0523	-		F41002			Ni-Resist 2
1.4449	SUS317	X5CrNiMo17133	317	317S16				X5CrNiMo1815		S31700			ATI 317

K

VDI 3323
16

Material Description
工件材料
Grey cast iron
灰铸铁

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Pearlitic (Martensitic)
珠光体 (马氏体)

HB
260

HRC
26

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
0.6025	FC250	GG25	A48 40 B	Grade 260	GJL-250	Ft 25 D	0125	G25	FG25		Sc 25	HT250	
0.6030	FC300	GG30	A48 45 B	Grade 300	GJL-300	Ft 30 D	0130	G30	FG30		Sc 30	HT300	
0.6035	FC350	GG35	A48 50 B	Grade 350	GJL-350	Ft 35 D	0135	G35	FG35		Sc 35	HT350	
0.6040	FC400	GG40	A48 60 B	Grade 400	GJL-400	Ft 40 D	0140	G40	FC40		Sc 40		

K

VDI 3323
17

Material Description
工件材料
Nodular cast iron
球墨铸铁

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Ferritic
铁素体

HB
160

HRC
3

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
0.7033	FCD350-22L	GGG35.3	-	350/22L40	GJS-350-22-LT	FGS 370-17	0717-15	-					
0.7040	FCD400	GGG40	60-40-18	SNG 420-12	GJS-400-15	FCS 400-12	0717-02	GS 400-12	FG E38-17	F32800	Vc 42-12	QT400-18	
0.7043	FCD 370	GGG40.3	60-40-18	SNG 370-17	GJS-400-18-LT	FGS 370-17	0717-12	GSO 42-17			Vc 42-12		
0.6040	FC400	GG40	A48 60 B	Grade 400	GJL-400	Ft 40 D	0140	G40	FC40		Sc 40	QT500-7	

K

VDI 3323
18

Material Description
工件材料
Nodular cast iron
球墨铸铁

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Pearlitic
珠光体

HB
250

HRC
25

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
0.7050	FCD500	GGG50	80-55-06	SNG 500-7	GJS-500-7	FGS 500-7	0727-02	GS 500-7	FG E50-7	F33100	Vc 50-2		
0.7060	FCD600	GGG60	80-55-06	SNG 600-3	GJS-600-3	FGS 600-3	0732-03	GS 600-3	FG E60-2		Vc 60-2	QT600-3	
0.7070	FCD700	GGG70	100-70-03	SNG 700-2	GJS-700-2	FGS 700-2	0737-01	GS 700-2	FG S70-2	F34800	Vc 70-2	QT700-2	
0.7652	FCDA-NiMn 137	GGG NiMn 13-7	-	Grade S6	GJSA-XNiMn 13-7	FGS Ni13 Mn7	0772	-					Nodumag
0.7660		GGG NiCr 20-2	A436 D2	Grade S2	GJSA-XNiCr 20-2	FGS Ni20 Cr2	0776	-					Ni-Resist D-2

K	VDI 3323 19	Material Description 工件材料				Composition / Structure / Heat Treatment 成分 / 结构 / 热处理						HB	HRC
		Malleable cast iron 可锻铸铁				Ferritic 铁素体						130	
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
0.8135	FCMw330	GTS-35	32510	B 340-12	GJMB350-10	MN 35-10	0815	GMN 35	GTS35		Kc 35-10		

K	VDI 3323 20	Material Description 工件材料				Composition / Structure / Heat Treatment 成分 / 结构 / 热处理						HB	HRC
		Malleable cast iron 可锻铸铁				Pearlitic 珠光体						230	21
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
0.8145	FCMw370	GTS-45	A220-40010	P 440-7	GJMB450-6	MN 450	0852	GMN 45					
0.8155	FCMP490	GTS-55	50005	P 510-4	GJMB-550-4	MP 50-5	0854	GMN 55			Kc 60-3		
0.8165	FCMP590	GTS-65	70003	P 570-3	GJMB-650-2	MN 650-3	0856	GMN 65					
0.8170	FCMP690	GTS-70	90001	P 690-2	GJMB-700-2	MN 700-2	0862	GMN 70			Kc 70-2		

N	VDI 3323 21	Material Description 工件材料				Composition / Structure / Heat Treatment 成分 / 结构 / 热处理						HB	HRC
		Aluminum-wrought alloy 铝-加工用合金				Not Curable 非硬化性						60	
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
3.0205		Al99	Al99										
3.0255	(A1050)	Al99.5	1000	L31		A59050C					D1		
3.3315		AlMg1											

N	VDI 3323 22	Material Description 工件材料				Composition / Structure / Heat Treatment 成分 / 结构 / 热处理						HB	HRC
		Aluminum-wrought alloy 铝-加工用合金				Curable, Hardened 硬化性, 硬化						100	
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
3.1325		AlCuMg1										AD35	
3.1655	A2011	AlCuSiPb											
3.2315		AlMgSi1										AK9	
3.4345		AlZnMgCu0.5	7050	L86		AZ4GU/9051		811-04					
3.4365	7075	AlZnMgCu1.5	7075	7075		7075		AlZn5.8MgCuCr				B95	

N	VDI 3323 23	Material Description 工件材料				Composition / Structure / Heat Treatment 成分 / 结构 / 热处理						HB	HRC
		Aluminum-cast, alloyed 铝-铸造合金				≤ 12% Si, Not Curable ≤ 12% Si, 非硬化性						75	
Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
3.2163		G-AlSi9Cu3										VAL8	
3.2382		GD-AlSi10Mg											
3.2383		G-AlSi0Mg(Cu)	A360.2	LM9			4253						
3.2581		G-AlSi12											
3.3561		G-AlMg5											
3.5101		G-MgZn4sE1Zr1	ZE41	MAG5									
3.5103		MgSE3Zn27r1	EZ33	MAG6		G-TR3Z2							
3.5812		G-MgAl8Zn1	AZ81	NMAG1									
3.5912		G-MgAl9Zn1	AZ91	MAG7									
			A356-72	2789		NFA32-201							
	A5052		356.1	LM25			4244					AK7	
		G-AlSi12	A413.2	LM6			4261						
	ADC12	G-AlSi12(Cu)	A413.1	LM20			4260					AK12	
	A6061	GD-AlSi12	A413.0				4247						
	A7075	GD-AlSi8Cu3	A380.1	LM24			4250						

N

VDI 3323
24

Material Description
工件材料
Aluminum-cast, alloyed
铝-铸造合金

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
≤ 12% Si, Curable, Hardened
≤ 12% Si, 硬化性, 硬化

HB
90
HRc

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
2.1871		G-AlCu4TiMg											
3.1754		G-AlCu5Ni1.5											
3.2371		G-AlSi7Mg	4218B								AK8		
3.2373	C4BS	G-AlSi9MgWA	SC64D			A-57G	4251				AK9		
3.2381		G-AlSi10Mg									AK12		
3.5106		G-MgAg3SE2Zr1	QE22	mag12									
		G-ALMG5	GD-AISI12	LMS		A-SU12	4252						

N

VDI 3323
26

Material Description
工件材料
Copper and Copper Alloys
(Bronze / Brass)
铜和铜合金 (青铜/黄铜)

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Cutting alloys, PB>1%
切削合金, PB>1%

HB
110
HRc

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
2.0375		CuZn36Pb3									LS60-2		
2.1090		G-CuSn75pb	C93200					U-E7Z5pb4					
2.1096		G-CuSn5ZnPb	c83600	LG2									
2.1098		G-CuSn2Znpb	C83600										
2.1182		G-CuPb15Sn	C23000	LB1				U-pb15E8					

N

VDI 3323
27

Material Description
工件材料
Copper and Copper Alloys
(Bronze / Brass)
铜和铜合金 (青铜/黄铜)

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
CuZn, CuSnZn (Brass 黄铜)

HB
90
HRc

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
2.0240	C2300	CuZn15									L90		
2.0321		CuZn37	C27200	c2108				CuZn36,CuZn37		C2700	L63		
2.0590		G-CuZn40Fe											
2.0592		G-CuZn35Al1	C86500	U-Z36N3				HTB1					
2.0596		G-CuZn34Al2	C86200	HTB1				U-Z36N3			LTs23AD		
2.1293		CuCrZr	C18200	CC102				U-Cr0-8Zr					

N

VDI 3323
28

Material Description
工件材料
Copper and Copper Alloys
(Bronze / Brass)
铜和铜合金 (青铜/黄铜)

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
CuSn, lead-free copper and electrolytic copper
CuSn, 无铅铜及电解铜

HB
100
HRc

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
2.0060		E-Cu57											
2.0966		CuAl10Ni5Fe4	C63000	Ca104				U-A10N			BrAD		
2.0975		G-CuAl10Ni	B-148-52										
2.1050		G-CuSn10	c90700	CT1									
2.1052		G-CuSn12	C90800	pb2				UE12P					
2.1292		G-CuCr35	C81500	CC1-FF									

S

VDI 3323
31

Material Description
工件材料
Heat resistant super alloys
超耐热合金

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Fe Based, Annealed
基于 Fe, 热处理

HB
200
HRc
15

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
1.4558	NCF 800TB	X2NiCrAlTi3220	N08800	NA15									
1.4562		X1NiCrMoCu32287	N08031										
1.4563		X1NiCrMoCuN31274	N08028				Z1NCDU31-27-03	2584			EK77		
1.4864	SUH330	X12NiCrSi36-16	330	NA17			Z12NCS37-18			N08330		Cr15Ni36W3Ti	
1.4865	SCH15	GX40NiCrSi38-18		330C40				XG50NiCr3919		J94605			
1.4958		X5NiCrAlTi3120											

S

VDI 3323
32

Material Description
工件材料
Heat resistant super alloys
超耐热合金

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Fe Based, Aged
基于 Fe, 时效

HB
280
HRc
30

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
1.4977		X40CoCrNi2020									Z42CNKDOWNb		

S

VDI 3323
33

Material Description
工件材料
Heat resistant super alloys
超耐热合金

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Ni or Co Based, Annealed
基于 Ni或Co, 热处理

HB
250
HRc
25

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
2.4360		NiCu30Fe		NA13				NU30		N04400			Monel400
2.4603		NiCr 30 FeMo	5390A					NC22FeD					Hastelloy G-30
2.4610		NiMo16Cr16Ti								N26455			HastelloyC-4
2.4630		NiCr20Ti		HR5,203-4				NC20T		N06075			Nimonic75
2.4631	NCF 80A	NiCr20TiAl		HR40				NC20TA		N07080		KHN77TYuR	Nimonic 80A
2.4642	NCF 690	NiCr29Fe						Nnc30Fe		N06690			Inconel 690
2.4856		NiCr22Mo9Nb		NA21				NC22FeDNb		N06625			Inconel 625
2.4858		NiCr21Mo		NA16				NC21FeDU		N08825		KHN38VT	Incoloy 825

S

VDI 3323
34

Material Description
工件材料
Heat resistant super alloys
超耐热合金

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Ni or Co Based, Aged
基于 Ni或Co, 时效

HB
350
HRc
38

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
2.4375		NiCu30Al	4676	NA18				NU30AT		N05500			MonelK500
2.4662		NiFe35Cr14MoTi	5660					ZSNCDT42		N09901			Incoloy 901
2.4668		NiCr19Fe19NbMo	5383	HR8				NC19eNB		N07718			Inconel 718
2.4670		S-NiCr13Al16MoNb	5391	Mar-46				NC12AD					Nimocast 713
2.4694		NiCr16Fe7TiAl								N07751			Inconel 751
2.4955		NiFe25Cr20NbTi											
2.4964		CoCr20W15Ni	5772					KC20WN					Haynes 25
		CoCr22W14Ni	AMS 5772					KC22WN					

S

VDI 3323
35

Material Description
工件材料
Heat resistant super alloys
超耐热合金

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Ni or Co Based, Cast
基于 Ni或Co, 铸造

HB
320

HRc
34

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
2.4669		NiCr15Fe7TiAl								NC15TNbA			Inconel X750
2.4685		G-NiMo28								N10665			Hastelloy B
2.4810		G-NiMo30											Hastelloy C
2.4973		NiCr19Co11MoTi	AMS 5399							NC19KDT		VT5-1	
3.7115		TiAl5Sn2								R54520	VT1-00		ATI Grade 6

S

VDI 3323
36

Material Description
工件材料
Titanium alloys
钛合金

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Pure Titanium
纯钛

HB
400 Rm

HRc

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
2.4674		NiCo15Cr10MoAlTi	AMS 5397							N13100			IN 100
3.7025		Ti1	R50250	2TA1						R50250			ATI 30 CP-Gr.1
3.7225		Ti1pd	R52250	TP1						R52250			

S

VDI 3323
37

Material Description
工件材料
Titanium alloys
钛合金

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Alpha + Beta Alloys, Hardened
A+β合金, 硬化

HB
1050 Rm

HRc

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
3.7124		TiCu2								2TA21-24			
3.7145		TiAl6Sn2Zr4Mo2Si	R54620							R54620			
3.7165		TiAl6V4	AMS R56400	TA10-13		T-A6V					VT6		
3.7185		TiAl4Mo4Sn2								TA45-51			
3.7195		TiAl3V2.5								R56320			ATI 3-2.5
		TiAl4Mo4Sn4Si0.5											
		TiAl5Sn2.5	AMS R54520	TA14/17		T-A5E							
		Ti6Al4VELI	AMS R56401	TA11									

H

VDI 3323
38

Material Description
工件材料
Hardened steel
硬化钢

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Hardened
硬化

HB
550

HRc
55

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
1.1231	S70 C-CSP	Ck 67	1070	060 A 67	C 67S	XC 68	1770	C 70	F5103		70		
1.1248	C 75	Ck 75	1078, 1080	060 A 78	C 75S	XC 75	1774	C 75	F5107		75		
1.1274	SUP 4	Ck 101	1095	060 A 96	C 100S	XC100	1870	C100	F5117				
1.1545	SK 3	C 105 W1	W1	BW 2	C 105U	Y1 105	1880	C100 KU	F5118		U10A	90	
1.2762		75CrMoNiW67	-	-	-	-	-	-	-				
1.3401	SCMnH1	GX120Mn12	A128(A)				Z120M12	2183	GX120Mn12	F8251	110G13L		
1.4021	SUS 420 J1	X 20 Cr 13	420	420 S 37	X 20 Cr 13	Z 20 C 13	2303	X 20 Cr 13	F5261		20KH13		ATI 420
1.4109	SUS 440 A	X 65 CrMo 14	440 A	-	X 70 CrMo 15	Z 70 D 14	-	-	-				ATI 440A
1.4112	SUS 440 B	X 90 CrMoV 18	440 B	409 S 19	X 90 CrMoV 18	Z 2 CND 18 05	2327	X CrTi 12					
1.4125	SUS 440 C	X 105 CrMo 17	440 C	-	X 105 CrMo 17	Z 100 CD 17	-	X 105 CrMo 17			95KH18		ATI 440C
1.6746		32NiCrMo14-5	-	832M31	32ncRmO145	35NCD14	-	-					
1.7176	SUP9(A)	55Cr3	5155	527A60	48	55C3	2253	55Cr3					
1.7225	SCM 440 (H)	42CrMo4	4140	708 M 40	42 CrMo 4	42 CD 4	2244	42 CrMo 4	F.1252		38HM	42CrMo42CrMnMo	

H

VDI 3323
40

Material Description
工件材料
Chilled cast iron
冷硬铸铁

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Cast
铸造

HB
400

HRc
42

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
0.9620		GX260NiCr42	A532 IB	Grade 2 A	GJN-HV520	FB Ni4 Cr2 BC	0512	-		F45001			Ni-Hard2
0.9625		GX330NiCr42	A532 IA	Grade 2 B	GJN-HV550	FB Ni4 Cr2 HC	0513	-		F45000			Ni-Hard1
0.9630		GX300CrNiSi9.5.2	A532 ID	Grade 2 C	GJN-HV600	FB Cr9 Ni5	0457	-		F45003			Ni-Hard 4
0.9640		GX300CrMoNi1521	-	-	-	-	-	-		F45005			
0.9650		GX260Cr27	-	Grade 3 D			0466	-					
0.9655		GX300CrNiMo271	-	Grade 3 E			-	-			20C 25N2052		
1.4841	SUH 310	X15CrNiSi25-20	310	314531	X 15 CrNiSi 25 20	Z15CNS25-20	-	-		S31400			Cronifer 2520

H

VDI 3323
41

Material Description
工件材料
Hardened cast iron
硬化铸铁

Composition / Structure / Heat Treatment
成分 / 结构 / 热处理
Hardened
硬化

HB
550

HRc
55

Mat'l No.	JIS	DIN	AISI/ASTM/SAE	BS	EN	AFNOR	SS	UNI	UNE / IHA	UNS	GOST	GB	Brands
0.9635		GX300CrMo 15.3	-	-	-	-	-	-					
0.9645		GX260 CrMoNi 20.21	-	-	-	-	-	-		F45007			

COMPARISON CHART SCALE FOR HARDNESS

硬度对照图

Rockwell Hardness C Scale 150kg Brale (HRC)	Diamond Pyramid Hardness Number, Vickers (HV)	Brinell Hardness Standard 10mm Ball 29.42kN (HB)	Rockwell Hardness A Scale 60kg Brale (HRA)	Shore Scleroscope Hardness Number (HS)	Approx. Tensile Strength N/mm ²
68	940	-	85.6	97	-
67	900	-	85.5	95	-
66	865	-	84.5	92	-
65	832	-	83.9	91	-
64	800	-	83.4	88	-
63	772	-	82.8	87	-
62	746	-	82.3	85	-
61	720	-	81.8	83	-
60	697	-	81.2	81	-
59	674	-	80.7	80	-
58	653	-	80.1	78	-
57	633	-	79.6	76	-
56	613	-	79.0	75	-
55	595	-	78.5	74	2079
54	577	-	78.0	72	2010
53	560	-	77.4	71	1952
52	544	500	76.8	69	1883
51	528	487	76.3	68	1824
50	513	475	75.9	67	1755
49	498	464	75.2	66	1687
48	484	451	74.7	64	1639
47	471	442	74.1	63	1578
46	458	432	73.6	62	1530
45	446	421	73.1	60	1481
44	434	409	72.5	58	1432
43	423	400	72.0	57	1383
42	412	390	71.5	56	1334
41	402	381	70.9	55	1294
40	392	371	70.4	54	1245
39	382	362	69.9	52	1216
38	372	353	69.4	51	1177
37	363	344	68.9	50	1157
36	354	336	68.4	49	1118
35	345	327	67.9	48	1079
34	336	319	67.4	47	1059
33	327	311	66.8	46	1030
32	318	301	66.3	44	1000
31	310	294	65.8	43	981
30	302	286	65.3	42	952
29	294	279	64.7	41	932
28	285	271	64.3	41	912
27	279	264	63.8	40	883
26	272	258	63.3	38	863
25	266	253	62.8	38	843
24	260	247	62.4	37	824
23	254	243	62.0	36	804
22	248	237	61.5	35	785
21	243	231	61.0	35	775
20	238	226	60.5	34	755
(18)	230	219	-	33	736
(16)	222	212	-	32	706
(14)	213	203	-	31	677
(12)	204	194	-	29	647
(10)	196	187	-	28	618
(8)	188	179	-	27	598
(6)	180	171	-	26	579
(4)	173	165	-	25	549
(2)	166	158	-	24	530
(0)	160	152	-	24	520

HOLEMAKING TOOLS

i-One钻, 硬质合金刀片&刀柄
i-梦幻钻, 硬质合金刀片&刀柄
硬质合金, 梦幻钻头-PRO
整体硬质合金梦幻钻头-普通
硬质合金, 梦幻钻头 - 软材质用
硬质合金, 梦幻钻头 - 高进给
硬质合金, 梦幻钻头-平底钻
硬质合金, 梦幻钻头 - INOX
硬质合金, 梦幻钻头 - ALU
硬质合金, 梦幻钻头 - CFRP
油孔硬质合金 梦幻钻头 -MQL类型
高硬度钢 (HRc50~HRc70) 用硬质合金钻头
硬质合金钻头
粉末高速钢 MULTI-1 钻头
高速钢GOLD-P钻头
高级高速钢, SUPER-GP钻头
深孔用直柄麻花钻头
高速钢直柄钻头
莫氏锥柄麻花钻头
定心钻头
中心钻
硬质合金&粉末高速钢铲钻
硬质合金机用铰刀
高速钢沉孔刀
HSS-E 铰刀
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i-ONE DRILLS, CARBIDE INSERTS & HOLDERS
i-DREAM DRILLS, CARBIDE INSERTS & HOLDERS
SOLID CARBIDE DREAM DRILLS - PRO
SOLID CARBIDE DREAM DRILLS - GENERAL
SOLID CARBIDE DREAM DRILLS - SOFT
SOLID CARBIDE DREAM DRILLS - HIGH FEED
SOLID CARBIDE DREAM DRILLS - FLAT BOTTOM
SOLID CARBIDE DREAM DRILLS - INOX
SOLID CARBIDE DREAM DRILLS - ALU
SOLID CARBIDE DREAM DRILLS - CFRP
SOLID CARBIDE DREAM DRILLS - MQL TYPE
SOLID CARBIDE DREAM DRILLS for HIGH HARDENED STEELS
SOLID CARBIDE GENERAL CARBIDE DRILLS
HSS-PM MULTI-1 DRILLS
HSS & HSSCo8 GOLD-P DRILLS
SUPER HSS SUPER-GP DRILLS
HSS-E WORM PATTERN DRILLS
HSS & HSSCo8 STRAIGHT SHANK DRILLS
HSS, HSS-E & HSSCo8 MORSE TAPER SHANK DRILLS
HSSCo8 NC-SPOTTING DRILLS
HSS-E CENTER DRILLS
SPADE DRILLS, INSERTS & HOLDERS
CARBIDE, HSS & HSS-E REAMERS
HSS & HSSCo8 COUNTERSINKS
HSS-E COUNTERBORES
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整体硬质合金钻头 SOLID CARBIDE DRILLS

高速钢钻头 HSS DRILLS

硬质合金&粉末高速钢铲钻 CARBIDE & HSS-PM SPADE DRILLS

铰刀 REAMERS

沉孔刀 COUNTERSINKS

镗刀 COUNTERBORES

技术参数 TECHNICAL DATA

i-One钻, 硬质合金刀片&刀柄 钢 铸铁用高性能可换 钻头	i-ONE DRILLS, CARBIDE INSERTS & HOLDERS High Performance Exchangeable for General Steels and Cast Iron	i-ONE DRILLS
i-梦幻钻, 硬质合金刀片&刀柄 适用于普通钢和不锈钢	i-DREAM DRILLS, CARBIDE INSERTS & HOLDERS For General Steels and Stainless Steels	i-DREAM DRILLS
硬质合金, 梦幻钻头-PRO 普通用途通常是HRC30 到 HRC50 采用YG-1特殊的 Z 涂层技术, 具有超高的硬度和耐热性	SOLID CARBIDE DREAM DRILLS - PRO For General Purpose (HRC30 to HRC50) Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology	DREAM DRILLS -PRO
整体硬质合金梦幻钻头 - 普通 普通用途通常是HRC30 ~ HRC50	SOLID CARBIDE DREAM DRILLS - GENERAL For General Purpose (HRC30 to HRC50)	DREAM DRILLS -GENERAL
硬质合金, 梦幻钻头 - 软材质用 用于中等硬度钢	SOLID CARBIDE DREAM DRILLS - SOFT For Steels, up to Medium Hardness	DREAM DRILLS -SOFT
硬质合金, 梦幻钻头 - 高进给 (带油孔) 比2刃钻头进给量1.5到2倍 用于碳钢, 合金钢(硬度35以下)和铸铁	SOLID CARBIDE DREAM DRILLS - HIGH FEED (with Coolant holes) 1.5 to 2 Times Faster Feeding Speed than 2-Flute Drill for Carbon Steels, Alloy Steels(up to HRC35) and Cast Iron	DREAM DRILLS -HIGH FEED
硬质合金, 梦幻钻头-平底钻 用于倾斜孔加工	SOLID CARBIDE DREAM DRILLS - FLAT BOTTOM For Holes on Various Angled Surfaces	DREAM DRILLS -FLAT BOTTOM
硬质合金, 梦幻钻头 - INOX (带油孔) 镍合金和钛等硬质材料	SOLID CARBIDE - INOX (with Coolant Holes) For Tough Materials like Stainless Steels	DREAM DRILLS -INOX
硬质合金, 梦幻钻头 - ALU (带油孔) 铝和铝合金用带喷水孔硬质合金梦幻钻头	SOLID CARBIDE DREAM DRILLS - ALU (with Coolant Holes) For Aluminum and Aluminum Alloys	DREAM DRILLS -ALU
硬质合金, 梦幻钻头 - CFRP (带油孔) 用于复合材料, 含CFRP与GFRP	SOLID CARBIDE DREAM DRILLS - CFRP (without Coolant Holes) For Composite Materials including CFRP and GFRP	DREAM DRILLS -CFRP
油孔硬质合金 梦幻钻头 - MQL类型 (带油孔) MQL (用少量的润滑油) 钻深孔 (10D到40D)	SOLID CARBIDE DREAM DRILLS - MQL TYPE (with Coolant Holes) Minimum Quantity Lubrication Drilling Deep Holes (10xD ~ 40xD)	DREAM DRILLS -MQL
高硬度钢 (HRC50~HRC70) 用硬质合金钻头 用于硬质合金 (硬度50到70)	SOLID CARBIDE DREAM DRILLS for HIGH HARDENED STEELS (HRC50~HRC70) For High Hardened Steels (HRC50 to HRC70)	DREAM DRILLS for HIGH HARDENED STEELS
硬质合金钻头 普通用途	GENERAL SOLID CARBIDE DRILLS For General Purpose	GENERAL CARBIDE DRILLS
粉末高速钢 MULTI-1 钻头 广泛用途特别是不锈钢和钛	HSS-PM MULTI-1 DRILLS For Wide Range of Applications Particularly Stainless Steels and Titanium	MULTI-1 DRILLS
高速钢 GOLD-P 钻头 与整个TiN涂层钻头相同的性能	HSS & HSSCo8 GOLD-P DRILLS Same Performance as Full TiN-coated Drills	GOLD-P DRILLS
高级高速钢, SUPER-GP钻头 广泛使用无论加工条件: 好或差	SUPER HSS SUPER-GP DRILLS All Applications Regardless of Machining Conditions; Good or Poor	SUPER-GP DRILLS
深孔用直柄麻花钻头 DH100-为了在普通钢上深孔	HSS-E WORM PATTERN DRILLS DH100-For Deep hole drilling in general steels	WORM PATTERN DRILLS
高速钢直柄钻头 一般用途 (软&硬材料)	HSS & HSSCo8 STRAIGHT SHANK DRILLS For General Purpose (Soft & Tough Materials)	STRAIGHT SHANK DRILLS
莫氏锥柄麻花钻头 普通用途 (HSS & HSS-E & 含钴8%)	HSS, HSS-E & HSSCo8 MORSE TAPER SHANK DRILLS Morse Taper Shank Drills for Wide Applications	TAPER SHANK DRILLS
定心钻头 定中心和倒角	HSSCo8 NC-SPOTTING DRILLS For Centering and Chamfering of Holes	NC-SPOTTING DRILLS
中心钻 普通用途	HSS-E CENTER DRILLS General Purpose	CENTER DRILLS
硬质合金&粉末高速钢铲钻 普通机械和钻头用直径, 工具寿命延长及高生产率	SPADE DRILLS, INSERTS & HOLDERS For General Machines and Drilling Large Diameters Longer Tool Life and High Productivity	SPADE DRILLS
硬质合金机用铰刀 硬质合金机用铰刀 HSS手用铰刀, HSS-E机夹铰刀	CARBIDE, HSS & HSS-E REAMERS Carbide NC Machine Reamers HSS Hand Reamers, HSS-E Chucking Reamers	REAMERS
高速钢沉孔刀 去毛刺, 倒角和深孔	HSS & HSSCo8 COUNTERSINKS For Deburring, Chamfering and Countersinking	COUNTER SINKS
HSS-E 镗刀 用于加工螺钉头座	HSS-E COUNTERBORES For Machining Screw Head Seats	COUNTER BORES
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CARBIDE
HSS
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i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
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DREAM DRILLS -ALU
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SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPERSHANK DRILLS
NC-SPOTTING DRILLS
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i-ONE DRILLS INSERTS						
Y101H	Y121H	Y141H	Y161H	Y181H	Y201H	
10.00	12.00	14.00	16.00	18.00	20.00	
11.91	13.90	15.90	17.90	19.90	21.90	
A24	A25	A26	A27	A28	A29	

H-Coating



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◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRC 硬度	Y101H	Y121H	Y141H	Y161H	Y181H	Y201H
P	1	Non-alloy steel	125	13	◎	◎	◎	◎	◎	◎
	2		190	13	◎	◎	◎	◎	◎	◎
	3		250	25	◎	◎	◎	◎	◎	◎
	4		270	28	◎	◎	◎	◎	◎	◎
	5		300	32	◎	◎	◎	◎	◎	◎
	6	Low alloy steel	180	10	◎	◎	◎	◎	◎	◎
	7		275	29	◎	◎	◎	◎	◎	◎
	8		300	32	◎	◎	◎	◎	◎	◎
	9		350	38	◎	◎	◎	◎	◎	◎
	10		High alloyed steel, and tool steel	200	15	◎	◎	◎	◎	◎
	11	325		35	◎	◎	◎	◎	◎	◎
12	Stainless steel	200		15						
13		240		23						
14		180		10						
K	15	Grey cast iron	180	10	◎	◎	◎	◎	◎	◎
	16		260	26	◎	◎	◎	◎	◎	◎
	17	Nodular cast iron	160	3	◎	◎	◎	◎	◎	◎
	18		250	25	◎	◎	◎	◎	◎	◎
	19		130	21	◎	◎	◎	◎	◎	◎
20	Malleable cast iron	230	21	◎	◎	◎	◎	◎	◎	
N	21	Aluminum-wrought alloy	60							
	22		100							
	23		75							
	24	Aluminum-cast, alloyed	90							
	25		130							
	26	Copper and Copper Alloys (Bronze / Brass)	110							
	27		90							
	28		100							
	29	Non Metallic Materials								
	30									
S	31	Heat Resistant Super Alloys	200	15						
	32		280	30						
	33		250	25						
	34		350	38						
	35		320	34						
	36	Titanium Alloys	400 Rm							
	37		1050 Rm							
H	38	Hardened steel	550	55						
	39		630	60						
	40	Chilled Cast Iron	400	42						
	41	Hardened Cast Iron	550	55						

i-ONE DRILLS INSERTS						i-ONE DRILLS HOLDERS					
Y221H	Y241H	Y261H	Y281H	Y301H	Y321H	ZD*3	ZD*5	ZD*8			
22.00	24.00	26.00	28.00	30.00	32.00						
23.90	25.90	27.78	29.77	31.75	33.73						
A30	A31	A32	A32	A33	A33						

H-Coating



ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRC 硬度	Y221H	Y241H	Y261H	Y281H	Y301H	Y321H	ZD*3	ZD*5	ZD*8
P	1	Non-alloy steel	125	13	◎	◎	◎	◎	◎	◎			
	2		190	13	◎	◎	◎	◎	◎	◎			
	3		250	25	◎	◎	◎	◎	◎	◎			
	4		270	28	◎	◎	◎	◎	◎	◎			
	5		300	32	◎	◎	◎	◎	◎	◎			
	6	Low alloy steel	180	10	◎	◎	◎	◎	◎	◎			
	7		275	29	◎	◎	◎	◎	◎	◎			
	8		300	32	◎	◎	◎	◎	◎	◎			
	9		350	38	◎	◎	◎	◎	◎	◎			
	10		High alloyed steel, and tool steel	200	15	◎	◎	◎	◎	◎	◎		
	11	325		35	◎	◎	◎	◎	◎	◎			
12	Stainless steel	200		15									
13		240		23									
14		180		10									
K	15	Grey cast iron	180	10	◎	◎	◎	◎	◎	◎			
	16		260	26	◎	◎	◎	◎	◎	◎			
	17	Nodular cast iron	160	3	◎	◎	◎	◎	◎	◎			
	18		250	25	◎	◎	◎	◎	◎	◎			
	19		130	21	◎	◎	◎	◎	◎	◎			
20	Malleable cast iron	230	21	◎	◎	◎	◎	◎	◎				
N	21	Aluminum-wrought alloy	60										
	22		100										
	23		75										
	24	Aluminum-cast, alloyed	90										
	25		130										
	26	Copper and Copper Alloys (Bronze / Brass)	110										
	27		90										
	28		100										
	29	Non Metallic Materials											
	30												
S	31	Heat Resistant Super Alloys	200	15									
	32		280	30									
	33		250	25									
	34		350	38									
	35		320	34									
	36	Titanium Alloys	400 Rm										
	37		1050 Rm										
H	38	Hardened steel	550	55									
	39		630	60									
	40	Chilled Cast Iron	400	42									
	41	Hardened Cast Iron	550	55									

CARBIDE
HSS
i-ONE DRILLS
i-DREAM DRILLS
DREAM DRILLS -PRO
DREAM DRILLS -GENERAL
DREAM DRILLS -SOFT
DREAM DRILLS -HIGH FEED
DREAM DRILLS -FLAT BOTTOM
DREAM DRILLS -INOX
DREAM DRILLS -ALU
DREAM DRILLS -CFRP
DREAM DRILLS -MQL
DREAM DRILLS for HIGH HARDENED STEELS
GENERAL CARBIDE DRILLS
MULTI-1 DRILLS
GOLD-P DRILLS
SUPER-GP DRILLS
WORM PATTERN DRILLS
STRAIGHT SHANK DRILLS
TAPERSHANK DRILLS
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LENGTH 长度

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

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DREAM DRILLS PRO				DREAM DRILLS GENERAL	
DGN523	DGN526	DGN506	DGN508	DH404	DH423
3XD	5XD	3XD	5XD	3XD	3XD
SHORT 短	LONG 长	SHORT 短	LONG 长	STUB 超短	SHORT 短
D3.0	D1.0	D3.0	D1.0	D3.0	D3.0
D20.0	D20.0	D20.0	D20.0	D20.0	D20.0
A63	A66	A69	A72	A80	A82
X-Coating				TiAlN	

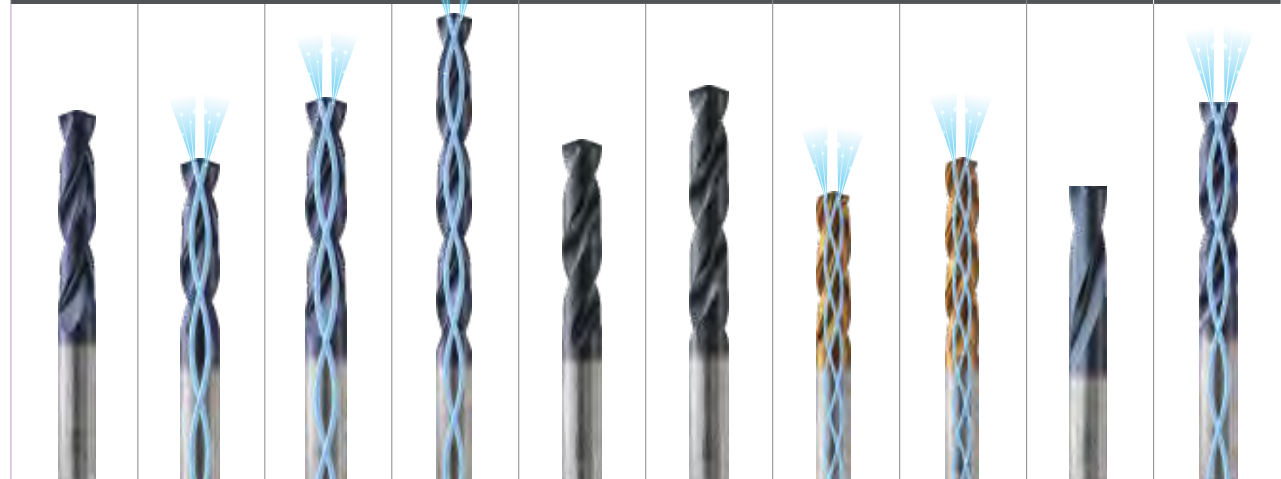


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◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRC 硬度	DGN523	DGN526	DGN506	DGN508	DH404	DH423
P	1	Non-alloy steel	125							
	2		190	13	◎	◎	◎	◎	◎	◎
	3		250	25	◎	◎	◎	◎	◎	◎
	4		270	28	◎	◎	◎	◎	◎	◎
	5	300	32	○	○	○	○	○	○	
	6	180	Low alloy steel	10	◎	◎	◎	◎	◎	◎
	7	275		29	◎	◎	◎	◎	◎	◎
	8	300		32	○	○	○	○	○	○
	9	350		38	○	○	○	○	○	○
	10	200		15	◎	◎	◎	◎	◎	◎
	11	325	35	○	○	○	○	○	○	○
M	12	Stainless steel	200	15	○	○	○	○	○	○
	13		240	23	○	○	○	○	○	○
	14		180	10						
K	15	Grey cast iron	180	10	◎	◎	◎	◎	◎	◎
	16		260	26	○	○	○	○	○	○
	17	Nodular cast iron	160	3	◎	◎	◎	◎	◎	◎
	18		250	25	○	○	○	○	○	○
	19	Malleable cast iron	130		◎	◎	◎	◎	◎	◎
20		230	21	○	○	○	○	○	○	
N	21	Aluminum-wrought alloy	60							
	22		100							
	23	Aluminum-cast, alloyed	75							
	24		90							
	25		130							
	26	Copper and Copper Alloys (Bronze / Brass)	110							
	27		90							
	28		100							
	29	Non Metallic Materials								
30										
S	31	Heat Resistant Super Alloys	200	15						
	32		280	30						
	33		250	25						
	34		350	38						
	35		320	34						
	36		400 Rm							
37	1050 Rm									
H	38	Hardened steel	550	55	○	○	○	○	○	○
	39	Chilled Cast Iron	630	60						
	40		400	42						
	41	Hardened Cast Iron	550	55						

DREAM DRILLS GENERAL				DREAM DRILLS SOFT		DREAM DRILLS HIGH FEED		DREAM DRILLS FLAT BOTTOM	
DH424	DH406	DH408	DH421	DPPA01	DPPA02	DGR493	DGR495	DPP447	DH450
5XD	3XD	5XD	8XD	-	-	3XD	5XD	2XD	5XD
LONG 长	SHORT 短	LONG 长	EXTRA LONG 超长	REGULAR 常规	LONG 长	SHORT 短	LONG 长	SHORT 短	LONG 长
D1.0	D3.0	D1.0	D3.0	D1.0	D3.0	D5.0	D5.0	D3.0	D3.0
D20.0	D20.0	D20.0	D14.0	D20.0	D20.0	D20.0	D20.0	D20.0	D20.0
A85	A88	A91	A94	A103	A106	A113	A115	A122	A125
TiAlN				X-Coating		H-Coating		X-Coating	TiAlN



◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	1
◎	◎	◎	◎	○	○	◎	◎	◎	◎	2
◎	◎	◎	◎			◎	◎	◎	◎	3
○	○	○	○			○	○	○	○	4
○	○	○	○			○	○	○	○	5
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	6 P
◎	◎	◎	◎	○	○	◎	◎	○	○	7
○	○	○	○			○	○	○	○	8
◎	◎	◎	◎			◎	◎			9
○	○	○	○			○	○			10
○	○	○	○			○	○			11
○	○	○	○					○	○	12
○	○	○	○							13 M
○	○	○	○							14
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	15
○	○	○	○	○	○	○	○	○	○	16
◎	◎	◎	◎	◎	◎	◎	◎			17 K
○	○	○	○	○	○	○	○			18
◎	◎	◎	◎	◎	◎	◎	◎			19
○	○	○	○	○	○	○	○			20
										21
								○	○	22
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										31
										32
										33
										34 S
										35
										36
										37
○	○	○	○							38 H
										39
										40
										41

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HOLEMAKING TOOLS

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DRILLING DEPTH 钻削深度

LENGTH 长度

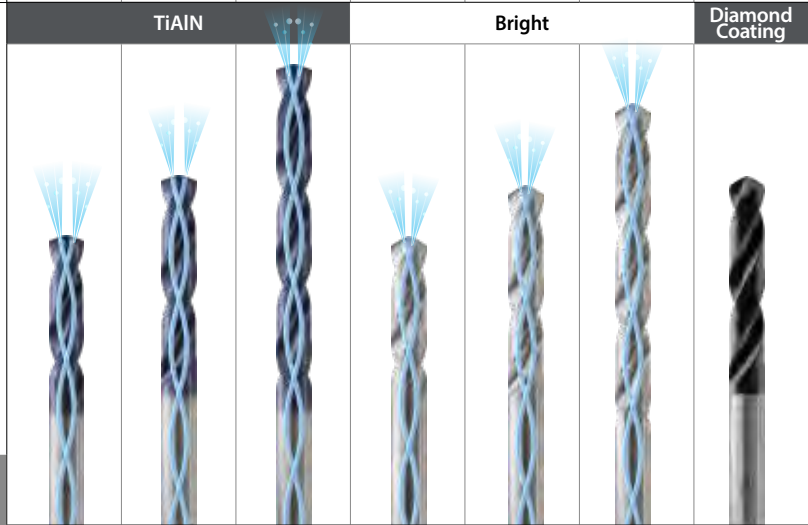
SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

SURFACE TREATMENT 表面处理

DREAM DRILLS INOX			DREAM DRILLS ALU			DREAM DRILLS CFRP
DH451	DH452	DH453	D5432	D5433	D5434	DI473
3XD	5XD	8XD	3XD	5XD	8XD	5XD
SHORT 短	LONG 长	EXTRA LONG 超长	SHORT 短	LONG 长	EXTRA LONG 超长	LONG 长
D3.0	D1.0	D3.0	D3.0	D3.0	D3.0	D2.5
D20.0	D20.0	D14.0	D20.0	D20.0	D14.0	D12.0
A133	A136	A139	A145	A148	A151	A157



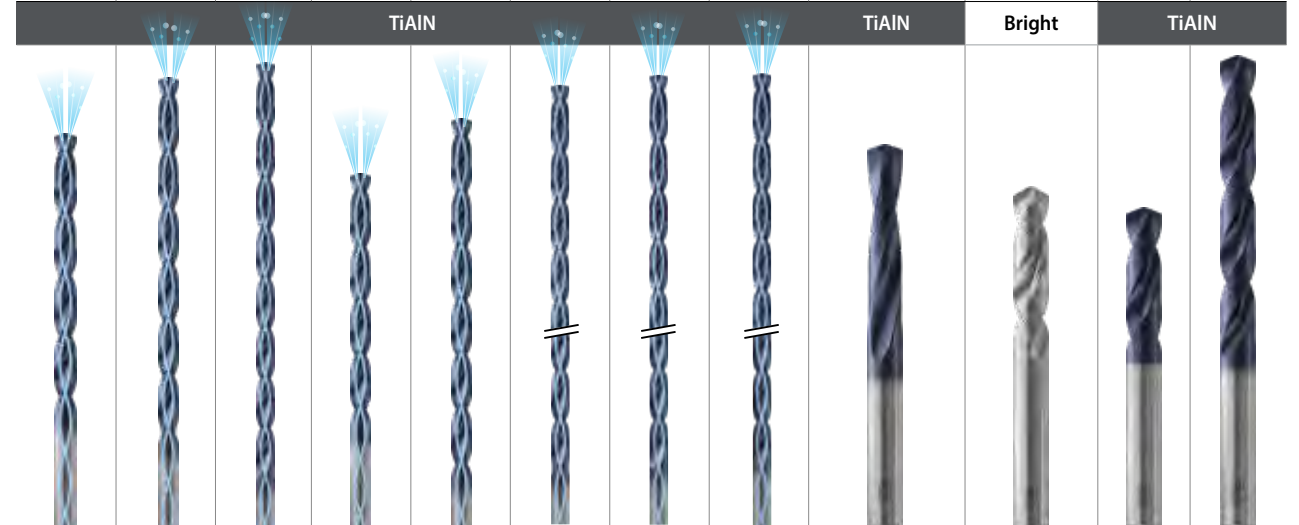
Please visit 请访问 globaly1.com/mat for material search 查看产品材料

◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度										
P	1	Non-alloy steel	125											
	2		190	13	◎	◎	◎							
	3		250	25	○	○	○							
	4		270	28										
	5		300	32										
	6	180	Low alloy steel	10	◎	◎	◎							
	7	275		29	○	○	○							
	8	300		32										
	9	350		38										
	10	200		High alloyed steel, and tool steel	15									
	11	325			35									
M	12	Stainless steel	200	15	◎	◎	◎							
	13		240	23	◎	◎	◎							
	14		180	10	◎	◎	◎							
K	15	Grey cast iron	180	10										
	16		260	26										
	17	Nodular cast iron	160	3										
	18		250	25										
	19		130											
20	Malleable cast iron	230	21											
N	21	Aluminum-wrought alloy	60		◎	◎	◎	◎	◎	◎				
	22		100		◎	◎	◎	◎	◎	◎				
	23	Aluminum-cast, alloyed	75		○	○	○	◎	◎	◎				
	24		90		○	○	○	◎	◎	◎				
	25		130		○	○	○							
	26		110											
	27	Copper and Copper Alloys (Bronze / Brass)	90											
	28		100											
	29													
	30	Non Metallic Materials										◎		
S	31	Heat Resistant Super Alloys	200	15										
	32		280	30										
	33		250	25										
	34		350	38										
	35		320	34										
	36		400 Rm											
	37		1050 Rm			○	○	○						
H	38	Hardened steel	550	55										
	39		630	60										
	40		400	42										
	41		550	55										

DREAM DRILLS - MQL TYPE

DREAM DRILLS - MQL TYPE								DREAM DRILLS for HIGH HARDENED STEELS	GENERAL CARBIDE DRILLS	MULTI-1 DRILLS	
DH510	DH515	DH520	DHM10	DHM15	DHM20	DHM25	DHM30	DH500	D5401	CDRA03	CDRA04
10XD	15XD	20XD	10XD	15XD	20XD	25XD	30XD	3XD	-	HSS-PM	
EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	SHORT 短	REGULAR 常规	STUB 超短	JOBBER 细长
D3.0	D3.0	D3.0	D3.0	D3.0	D3.0	D3.0	D3.0	D2.6	D1.0	D1.0	D2.0
D14.0	D12.0	D12.0	D14.0	D12.0	D12.0	D10.0	D8.0	D14.0	D13.0	D13.0	D13.0
A162	A163	A163	A164	A164	A164	A165	A165	A171	A175	A181	A185



◎	◎	◎	◎	◎	◎	◎	◎		◎	◎	◎	1
◎	◎	◎	◎	◎	◎	◎	◎		○	◎	◎	2
○	○	○	○	○	○	○	○			○	○	3
												4
												5
◎	◎	◎	◎	◎	◎	◎	◎		○	◎	◎	6 P
○	○	○	○	○	○	○	○			○	○	7
○	○	○	○	○	○	○	○					8
												9
○	○	○	○	○	○	○	○					10
○	○	○	○	○	○	○	○					11
									○	○	○	12
												13 M
										◎	◎	14
◎	◎	◎	◎	◎	◎	◎	◎		○	○	○	15
○	○	○	○	○	○	○	○					16
◎	◎	◎	◎	◎	◎	◎	◎					17 K
○	○	○	○	○	○	○	○					18
◎	◎	◎	◎	◎	◎	◎	◎					19
○	○	○	○	○	○	○	○					20
												21
									◎	◎	◎	22
									◎	○	○	23
									◎	○	○	24
												25
												26 N
												27
												28
												29
												30
												31
												32
												33
												34 S
												35
												36
									○	○	○	37
												38
									◎			39
									◎			40 H
												41

SELECTION GUIDE 选用指南



SERIES 系列
STANDARD 标准
LENGTH 长度
SIZE MIN 最小尺寸
SIZE MAX 最大尺寸
PAGE 页数

MORSE TAPER SHANK DRILLS				
D2203	D2202	D2204	D2208	DN221
KS	KS	KS	KS	-
LONG 长	LONG 长	LONG 长	LONG 长	SHORT 短
D16.0	D18.0	D20.0	D20.0	D13.0
D22.0	D30.0	D20.0	D30.0	D32.0
A242	A242	A242	A242	A243

SURFACE TREATMENT 表面处理

Steam Tempered

TiN



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for material search 查看产品材料

◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度					
P	1	Non-alloy steel	125		◎	◎	◎	◎	◎
	2		190	13	◎	◎	◎	◎	◎
	3		250	25	◎	◎	◎	◎	◎
	4		270	28	○	○	○	○	○
	5		300	32					
	6	Low alloy steel	180	10	◎	◎	◎	◎	◎
	7		275	29	○	○	○	○	○
	8		300	32	○	○	○	○	○
	9		350	38					
	10		High alloyed steel, and tool steel	200	15	○	○	○	○
	11	325		35					
M	12	Stainless steel	200	15	◎	◎	◎	◎	◎
	13		240	23	○	○	○	○	○
	14		180	10					
K	15	Grey cast iron	180	10	○	○	○	○	○
	16		260	26	○	○	○	○	○
	17	Nodular cast iron	160	3	○	○	○	○	○
	18		250	25	○	○	○	○	○
	19	Malleable cast iron	130		○	○	○	○	○
	20		230	21	○	○	○	○	○
N	21	Aluminum-wrought alloy	60		○	○	○	○	○
	22		100		○	○	○	○	○
	23	Aluminum-cast, alloyed	75		○	○	○	○	○
	24		90						
	25		130						
	26		110						
	27	Copper and Copper Alloys (Bronze / Brass)	90						
	28		100						
	29		Non Metallic Materials			○	○	○	○
	30								
S	31	Heat Resistant Super Alloys	200	15					
	32		280	30					
	33		250	25					
	34		350	38					
	35		320	34					
	36	Titanium Alloys	400 Rm		○	○	○	○	○
	37		1050 Rm						
H	38	Hardened steel	550	55					
	39		630	60					
	40	Chilled Cast Iron	400	42					
	41		550	55					

SELECTION GUIDE 选用指南



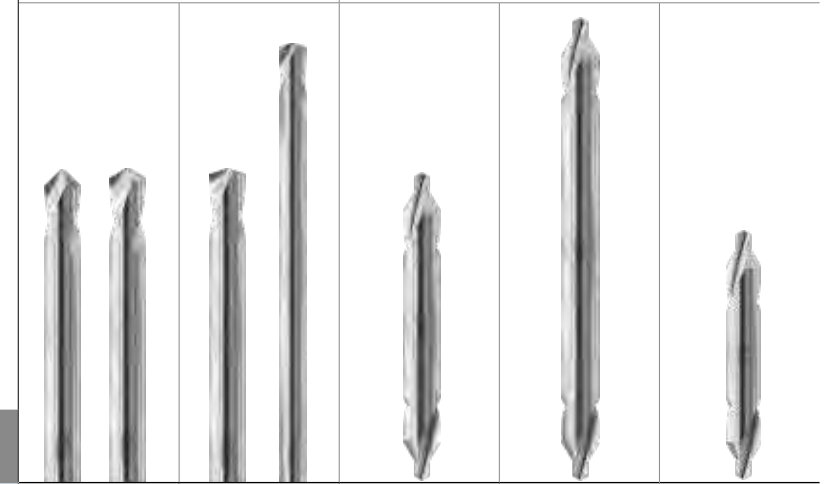
SERIES 系列
DRILLING DEPTH 钻销深度
LENGTH 长度
SIZE MIN 最小尺寸
SIZE MAX 最大尺寸
PAGE 页数

NC-SPOTTING DRILLS		CENTER DRILLS		
D2306 D2307	D2320 D2323	DV304	DV305	DV301
-	-	-	-	-
90°/120°	142°	EXTRA LONG 超长	EXTRA LONG 超长	-
D3.0	D3.0 / D6.0	D1.0	D1.5	D1.0
D20.0	D20.0 / D12.0	D5.0	D5.0	D6.0
A249	A250	A255	A255	A256

SURFACE TREATMENT 表面处理

Bright

Bright



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for material search 查看产品材料

◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度					
P	1	Non-alloy steel	125		◎	◎	◎	◎	◎
	2		190	13	◎	◎	◎	◎	◎
	3		250	25	◎	◎	◎	◎	◎
	4		270	28					
	5		300	32					
	6	Low alloy steel	180	10	◎	◎	◎	◎	◎
	7		275	29	○	○	○	○	○
	8		300	32					
	9		350	38					
	10		High alloyed steel, and tool steel	200	15				
	11	325		35					
M	12	Stainless steel	200	15	○	○	◎	◎	◎
	13		240	23					
	14		180	10					
K	15	Grey cast iron	180	10	◎	◎	○	○	○
	16		260	26	○	○	○	○	○
	17	Nodular cast iron	160	3	○	○	○	○	○
	18		250	25					
	19	Malleable cast iron	130		○	○	○	○	○
	20		230	21					
N	21	Aluminum-wrought alloy	60		○	○	○	○	○
	22		100		○	○	○	○	○
	23	Aluminum-cast, alloyed	75		○	○	○	○	○
	24		90						
	25		130						
	26		110						
	27	Copper and Copper Alloys (Bronze / Brass)	90						
	28		100						
	29		Non Metallic Materials						
	30								
S	31	Heat Resistant Super Alloys	200	15					
	32		280	30					
	33		250	25					
	34		350	38					
	35		320	34					
	36	Titanium Alloys	400 Rm						
	37		1050 Rm						
H	38	Hardened steel	550	55					
	39		630	60					
	40	Chilled Cast Iron	400	42					
	41		550	55					

SELECTION GUIDE

选用指南



HOLEMAKING TOOLS

SERIES 系列

HOLETYPE 孔类型

FLUTE TYPE 槽型

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

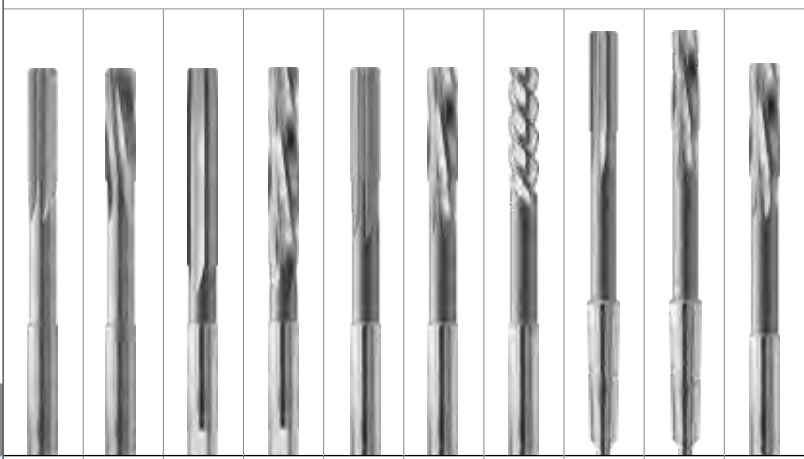
PAGE 页数

SURFACE TREATMENT 表面处理

REAMERS

	K4101	K4111	K1143	K1153	K2101	K2111	K2121	K2102	K2112	K21B1
HOLETYPE 孔类型										
FLUTE TYPE 槽型	Straight	LH Spiral	Straight	LH Spiral	Straight	LH Spiral	LH Spiral (Quick Spiral)	Straight	LH Spiral	LH Spiral
SIZE MIN 最小尺寸	D2.0	D2.0	D2.0	D2.0	D2.0	D2.0	D4.0	D10.0	D10.0	D2.0
SIZE MAX 最大尺寸	D20.0	D20.0	D60.0	D60.0	D20.0	D20.0	D20.0	D50.0	D50.0	D20.0
PAGE 页数	A376	A377	A378	A380	A382	A384	A386	A387	A389	A391

Bright



Please visit 请访问 globalyg1.com/mat for material search 查看产品材料

◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度									
P	1	Non-alloy steel	125	13	◎	◎	○	○	◎	◎	○	◎	◎
	2		190	25	◎	◎	○	○	◎	◎	○	◎	◎
	3		250	28	○	○			○	○		○	○
	4		270	32	○	○							
	5		300	10	◎	◎	○	○	◎	◎	○	◎	◎
	6	Low alloy steel	180	29	◎	◎			○	○		○	○
	7		275	32	○	○							
	8		300	38									
	9		350	15	○	○			○	○		○	○
	10		High alloyed steel, and tool steel	200	35	○	○			○	○		○
	11		325										
M	12	Stainless steel	200	23	○	○			○	○		○	○
	13		240	10	○	○			○	○		○	○
	14		180						○	○		○	○
K	15	Grey cast iron	180	26	◎	◎			○	○		○	○
	16		260	3	◎	◎			○	○		○	○
	17	Nodular cast iron	160	25	○	○			○	○		○	○
	18		250					○	○		○	○	
	19	Malleable cast iron	130					○	○		○	○	
	20		230					○	○		○	○	
N	21	Aluminum-wrought alloy	60		○	○	○	○	○	◎	○	○	○
	22		100					○	○		○	○	
	23	Aluminum-cast, alloyed	75		○	○	○	○	○	◎	○	○	○
	24		90					○	○		○	○	
	25		130					○	○		○	○	
	26	Copper and Copper Alloys (Bronze / Brass)	110		○	○	○	○	○	◎	○	○	○
	27		90					○	○		○	○	
	28		100					○	○		○	○	
	29							○	○		○	○	
	30	Non Metallic Materials											
S	31	Heat Resistant Super Alloys	200	15									
	32		280	30									
	33		250	25									
	34		350	38									
	35		320	34									
	36	Titanium Alloys	400 Rm										
	37		1050 Rm										
H	38	Hardened steel	550	55									
	39		630	60									
	40	Chilled Cast Iron	400	42									
	41		550	55									

SELECTION GUIDE

选用指南



HOLEMAKING TOOLS

SERIES 系列

STANDARD 标准

POINT ANGLE 钻尖角度

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

SURFACE TREATMENT 表面处理

COUNTERSINKS

	C1109 C3109	C1119 C3119	C1136 C3136	C1139 C3139	C1132 C3132
STANDARD 标准	YG STD	YG STD	DIN334C	DIN335C	YG STD
POINT ANGLE 钻尖角度	90°	90°	60°	90°	120°
SIZE MIN 最小尺寸	D10.0	D10.0	D6.3	D4.3	D8.0
SIZE MAX 最大尺寸	D50.0	D50.0	D25.0	D31.0	D25.0
PAGE 页数	A404	A405	A406	A407	A408

Bright



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◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度						
P	1	Non-alloy steel	125	13	○	○	◎	◎	◎	
	2		190	25	○	○	◎	◎	◎	
	3		250	28	○	○			○	○
	4		270	32	○	○				
	5		300	10	○	○			○	○
	6	Low alloy steel	180	29						
	7		275	32						
	8		300	38						
	9		350	15						
	10		High alloyed steel, and tool steel	200	35					
	11		325							
M	12	Stainless steel	200	23	○	○			○	○
	13		240	10	○	○			○	○
	14		180						○	○
K	15	Grey cast iron	180	26	○	○			◎	◎
	16		260	3	○	○			○	○
	17	Nodular cast iron	160	25	○	○			○	○
	18		250					○	○	
	19	Malleable cast iron	130					○	○	
	20		230					○	○	
N	21	Aluminum-wrought alloy	60		○	○	◎	◎	◎	
	22		100					○	○	
	23	Aluminum-cast, alloyed	75		○	○	○	○	◎	○
	24		90					○	○	
	25		130					○	○	
	26	Copper and Copper Alloys (Bronze / Brass)	110		○	○	○	○	◎	○
	27		90					○	○	
	28		100					○	○	
	29							○	○	
	30	Non Metallic Materials								
S	31	Heat Resistant Super Alloys	200	15						
	32		280	30						
	33		250	25						
	34		350	38						
	35		320	34						
	36	Titanium Alloys	400 Rm							
	37		1050 Rm							
H	38	Hardened steel	550	55						
	39		630	60						
	40	Chilled Cast Iron	400	42						
	41		550	55						

SELECTION GUIDE
选用指南



HOLEMAKING TOOLS

SERIES 系列

TYPE 类型

PILOT DIA. 导柱直径

CUTTER DIA. 刃部直径

PAGE 页数

SURFACE TREATMENT 表面处理

COUNTERBORES

EL950

MEDIUM	FINE	BEFORE THREADING
3.4~14.0	3.2~13.0	2.5~10.2
6.0~20.0		
A413		
Bright		



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◎ : Excellent
○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRC 硬度	
P	1	Non-alloy steel	125		◎
	2		190	13	◎
	3		250	25	◎
	4		270	28	◎
	5		300	32	◎
	6	Low alloy steel	180	10	◎
	7		275	29	◎
	8		300	32	◎
	9		350	38	○
	10		High alloyed steel, and tool steel	200	15
	11	325		35	○
M	12	Stainless steel	200	15	
	13		240	23	
	14		180	10	
K	15	Grey cast iron	180	10	
	16		260	26	
	17	Nodular cast iron	160	3	
	18		250	25	
	19		130		
20	Malleable cast iron	230	21		
N	21	Aluminum-wrought alloy	60		○
	22		100		○
	23		75		○
	24	Aluminum-cast, alloyed	90		○
	25		130		
	26		110		
	27	Copper and Copper Alloys (Bronze / Brass)	90		
	28		100		
	29	Non Metallic Materials			
30					
S	31	Heat Resistant Super Alloys	200	15	
	32		280	30	
	33		250	25	
	34		350	38	
	35		320	34	
	36	Titanium Alloys	400 Rm		
	37		1050 Rm		
H	38	Hardened steel	550	55	
	39		630	60	
	40	Chilled Cast Iron	400	42	
41	Hardened Cast Iron	550	55		



Leading Through Innovation

CARBIDE INSERTS & HOLDERS



i - ONE DRILLS

- High Performance Exchangeable for General Steels and Cast Iron
- 钢 铸铁用高性能可换 钻头

SELECTION GUIDE

选用指南



SERIES 系列

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

SURFACE TREATMENT 表面处理

Y101H	Y121H	Y141H	Y161H
10.00	12.00	14.00	16.00
11.91	13.90	15.90	17.90
A24	A25	A26	A27

CARBIDE INSERTS & HOLDERS

i-ONE DRILLS

High Performance Exchangeable for General Steels and Cast Iron 钢 铸铁用高性能可换 钻头



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◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A34

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度	Y101H	Y121H	Y141H	Y161H	
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	◎	
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎	
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎	
	4		About 0.75% C Annealed	270	28	◎	◎	◎	◎	
	5		About 0.75% C Quenched & Tempered	300	32	◎	◎	◎	◎	
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎	
	7		Quenched & Tempered	275	29	◎	◎	◎	◎	
	8		Quenched & Tempered	300	32	◎	◎	◎	◎	
	9		Quenched & Tempered	350	38	◎	◎	◎	◎	
	10		High alloyed steel, and tool steel	Annealed	200	15	◎	◎	◎	◎
	11	Quenched & Tempered		325	35	◎	◎	◎	◎	
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15					
	13		Martensitic Quenched & Tempered	240	23					
	14		Austenitic10	180	10					
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎	◎	
	16		Pearlitic (Martensitic)	260	26	◎	◎	◎	◎	
	17	Nodular cast iron	Ferritic	160	3	◎	◎	◎	◎	
	18		Pearlitic	250	25	◎	◎	◎	◎	
	19		Ferritic	130		◎	◎	◎	◎	
20	Malleable cast iron	Pearlitic	230	21	◎	◎	◎	◎		
N	21	Aluminum-wrought alloy	Not Curable	60						
	22		Curable Hardened	100						
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75						
	24		≤ 12% Si, Curable Hardened	90						
	25		> 12% Si, Not Curable	130						
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110						
	27		CuZn, CuSnZn (Brass)	90						
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100						
	29		Duroplastic, Fiber Reinforced Plastic							
	30	Rubber, Wood, etc.								
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15					
	32		Cured	280	30					
	33		Annealed	250	25					
	34		Ni or Co Based Cured	350	38					
	35		Cast	320	34					
H	36	Titanium Alloys	Pure Titanium	400 Rm						
	37		Alpha + Beta Alloys Hardened	1050 Rm						
H	38	Hardened steel	Hardened	550	55					
	39		Hardened	630	60					
	40		Chilled Cast Iron	Cast	400	42				
	41		Hardened Cast Iron	Hardened	550	55				

Y181H	Y201H	Y221H	Y241H	Y261H	Y281H	Y301H	Y321H	ZD*3	ZD*5	ZD*8
18.00	20.00	22.00	24.00	26.00	28.00	30.00	32.00			
19.90	21.90	23.90	25.90	27.78	29.77	31.75	33.73			
A28	A29	A30	A31	A32	A32	A33	A33			



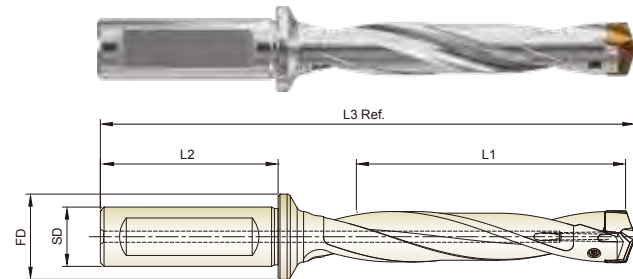
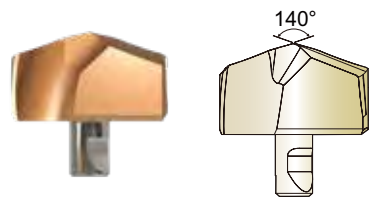
ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度	Y181H	Y201H	Y221H	Y241H	Y261H	Y281H	Y301H	Y321H	ZD*3	ZD*5	ZD*8		
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	◎	◎	◎	◎	◎					
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎	◎	◎	◎	◎	◎				
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎				
	4		About 0.75% C Annealed	270	28	◎	◎	◎	◎	◎	◎	◎	◎	◎				
	5		About 0.75% C Quenched & Tempered	300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎				
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎				
	7		Quenched & Tempered	275	29	◎	◎	◎	◎	◎	◎	◎	◎	◎				
	8		Quenched & Tempered	300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎				
	9		Quenched & Tempered	350	38	◎	◎	◎	◎	◎	◎	◎	◎	◎				
	10		High alloyed steel, and tool steel	Annealed	200	15	◎	◎	◎	◎	◎	◎	◎	◎	◎			
	11	Quenched & Tempered		325	35	◎	◎	◎	◎	◎	◎	◎	◎	◎				
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15													
	13		Martensitic Quenched & Tempered	240	23													
	14		Austenitic10	180	10													
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎	◎	◎	◎	◎	◎					
	16		Pearlitic (Martensitic)	260	26	◎	◎	◎	◎	◎	◎	◎	◎					
	17	Nodular cast iron	Ferritic	160	3	◎	◎	◎	◎	◎	◎	◎	◎					
	18		Pearlitic	250	25	◎	◎	◎	◎	◎	◎	◎	◎					
	19		Ferritic	130		◎	◎	◎	◎	◎	◎	◎	◎					
20	Malleable cast iron	Pearlitic	230	21	◎	◎	◎	◎	◎	◎	◎	◎						
N	21	Aluminum-wrought alloy	Not Curable	60														
	22		Curable Hardened	100														
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75														
	24		≤ 12% Si, Curable Hardened	90														
	25		> 12% Si, Not Curable	130														
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110														
	27		CuZn, CuSnZn (Brass)	90														
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100														
	29		Duroplastic, Fiber Reinforced Plastic															
	30	Rubber, Wood, etc.																
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15													
	32		Cured	280	30													
	33		Annealed	250	25													
	34		Ni or Co Based Cured	350	38													
	35		Cast	320	34													
H	36	Titanium Alloys	Pure Titanium	400 Rm														
	37		Alpha + Beta Alloys Hardened	1050 Rm														
H	38	Hardened steel	Hardened	550	55													
	39		Hardened	630	60													
	40		Chilled Cast Iron	Cast	400	42												
	41		Hardened Cast Iron	Hardened	550	55												

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Series Range (mm)	Insert EDP No. H-Coating	Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth L1	Overall Length L3 Ref.	Screw No.				
		h7													
		dec.	frac.	mm											
S10 Ø10.00 to Ø11.99	Y101H1000	0.3937	-	10.00	ZD10003016	16	48	23	3D	31.5	103.0				
	Y101H1010	0.3976	-	10.10					5D	52.5	123.0				
	Y101H1020	0.4016	-	10.20					8D	84.0	153.0				
	Y101H1030	0.4055	-	10.30					ZD10503016	16	48	23	3D	33.0	104.0
	Y101H1032	0.4063	13/32	10.32									5D	55.0	125.0
	Y101H1040	0.4094	-	10.40	8D	88.0	156.5								
	Y101H1050	0.4134	-	10.50	ZD11003016	16	48	23					3D	34.5	105.0
	Y101H1060	0.4173	-	10.60									5D	57.5	127.0
	Y101H1070	0.4213	-	10.70					8D	92.0	160.0				
	Y101H1072	0.4219	27/64	10.72					ZD11503016	16	48	23	3D	36.0	106.0
	Y101H1080	0.4252	-	10.80									5D	60.0	129.0
	Y101H1090	0.4291	-	10.90	8D	96.0	163.5								
	Y101H1100	0.4331	-	11.00	ZD11508016	16	48	23					3D	36.0	106.0
	Y101H1110	0.4370	-	11.10									5D	60.0	129.0
	Y101H1111	0.4375	7/16	11.11					8D	96.0	163.5				
	Y101H1120	0.4409	-	11.20					ZD11508016	16	48	23	3D	36.0	106.0
	Y101H1120	0.4409	-	11.20									5D	60.0	129.0
	Y101H1130	0.4449	-	11.30	8D	96.0	163.5								
	Y101H1140	0.4488	-	11.40	ZD11508016	16	48	23					3D	36.0	106.0
	Y101H1150	0.4528	-	11.50									5D	60.0	129.0
Y101H1151	0.4531	29/64	11.51	8D					96.0	163.5					
Y101H1160	0.4567	-	11.60	ZD11508016					16	48	23	3D	36.0	106.0	
Y101H1170	0.4606	-	11.70									5D	60.0	129.0	
Y101H1180	0.4646	-	11.80		8D	96.0	163.5								
Y101H1190	0.4685	-	11.90		ZD11508016	16	48	23				3D	36.0	106.0	
Y101H1190	0.4685	-	11.90									5D	60.0	129.0	
Y101H1191	0.4688	15/32	11.91	8D					96.0	163.5					

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M					K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel		Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	10	26	3	25	21	180	260	160	250	130
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230	230	230	230	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

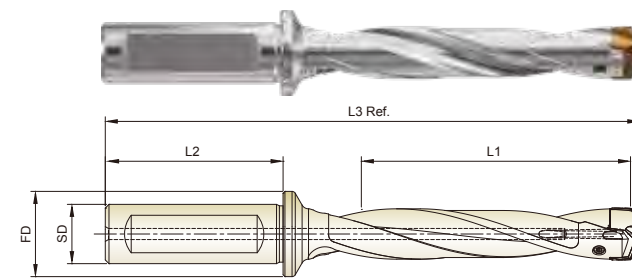
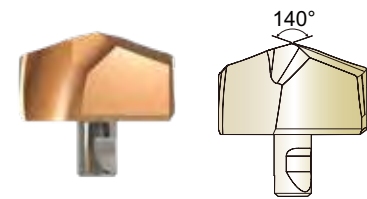
ISO Material Description	N										S					H									
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	60	42	55	42	55	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	400	550	550	550	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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Series Range (mm)	Insert EDP No. H-Coating	Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth L1	Overall Length L3 Ref.	Screw No.				
		h7													
		dec.	frac.	mm											
S12 Ø12.00 to Ø13.99	Y121H1200	0.4724	-	12.00	ZD12003016	16	48	23	3D	37.5	109.8				
	Y121H1210	0.4764	-	12.10					5D	62.5	133.8				
	Y121H1220	0.4803	-	12.20					8D	100.0	169.8				
	Y121H1230	0.4844	31/64	12.30					ZD12503016	16	48	23	3D	39.0	110.8
	Y121H1240	0.4882	-	12.40									5D	65.0	135.8
	Y121H1250	0.4921	-	12.50	8D	104.0	173.3								
	Y121H1260	0.4961	-	12.60	ZD13003016	16	48	23					3D	40.5	112.8
	Y121H1270	0.5000	1/2	12.70									5D	67.5	138.8
	Y121H1280	0.5039	-	12.80					8D	108.0	177.8				
	Y121H1290	0.5079	-	12.90					ZD13503016	16	48	23	3D	42.0	113.8
	Y121H1300	0.5118	-	13.00									5D	70.0	140.8
	Y121H1310	0.5156	33/64	13.10	8D	112.0	181.3								
	Y121H1320	0.5197	-	13.20	ZD13508016	16	48	23					3D	42.0	113.8
	Y121H1330	0.5236	-	13.30									5D	70.0	140.8
	Y121H1340	0.5276	-	13.40					8D	112.0	181.3				
	Y121H1349	0.5313	17/32	13.49					ZD13508016	16	48	23	3D	42.0	113.8
	Y121H1350	0.5315	-	13.50									5D	70.0	140.8
	Y121H1360	0.5354	-	13.60	8D	112.0	181.3								
	Y121H1370	0.5394	-	13.70	ZD13508016	16	48	23					3D	42.0	113.8
	Y121H1380	0.5433	-	13.80									5D	70.0	140.8
Y121H1389	0.5469	35/64	13.89	8D					112.0	181.3					
Y121H1390	0.5472	-	13.90	ZD13508016					16	48	23	3D	42.0	113.8	
Y121H1390	0.5472	-	13.90									5D	70.0	140.8	
Y121H1390	0.5472	-	13.90		8D	112.0	181.3								

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ISO Material Description	P										M					K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel		Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	10	26	3	25	21	180	260	160	250	130
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230	230	230	230	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

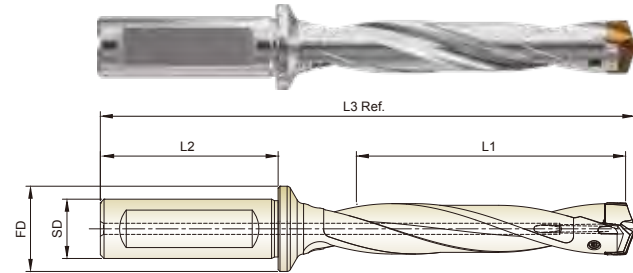
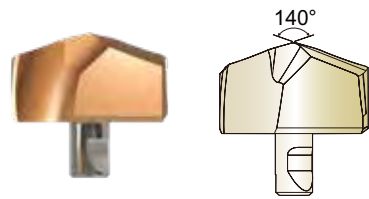
ISO Material Description	N										S					H									
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	60	42	55	42	55	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	400	550	550	550	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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Series Range (mm)	Insert EDP No. H-Coating	Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth L1	Overall Length L3 Ref.	Screw No.	
		h7										
		dec.	frac.	mm								
S14 Ø14.00 to Ø15.99	Y141H1400	0.5512	-	14.00	ZD14003016	16	48	23	3D	43.5	116.3	TX1415P7
	Y141H1410	0.5551	-	14.10					5D	72.5	144.3	
	Y141H1420	0.5591	-	14.20					8D	116.0	186.3	
	Y141H1429	0.5625	9/16	14.29								
	Y141H1430	0.5630	-	14.30								
	Y141H1440	0.5669	-	14.40								
	Y141H1450	0.5709	-	14.50	ZD14503016	16	48	23	3D	45.0	118.3	
	Y141H1460	0.5748	-	14.60					5D	75.0	147.3	
	Y141H1468	0.5781	37/64	14.68					8D	120.0	190.8	
	Y141H1470	0.5787	-	14.70								
	Y141H1480	0.5827	-	14.80								
	Y141H1490	0.5866	-	14.90								
	Y141H1500	0.5906	-	15.00	ZD15003016	16	48	23	3D	46.5	120.3	
	Y141H1508	0.5938	19/32	15.08					5D	77.5	150.3	
	Y141H1510	0.5945	-	15.10					8D	124.0	195.3	
	Y141H1520	0.5984	-	15.20								
	Y141H1530	0.6024	-	15.30								
	Y141H1540	0.6063	-	15.40								
	Y141H1548	0.6094	39/64	15.48								
Y141H1550	0.6102	-	15.50	ZD15503016	16	48	23	3D	48.0	121.3		
Y141H1560	0.6142	-	15.60					5D	80.0	152.3		
Y141H1570	0.6181	-	15.70					8D	128.0	198.8		
Y141H1580	0.6220	-	15.80									
Y141H1588	0.6250	5/8	15.88									
Y141H1590	0.6260	-	15.90									

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ISO Material Description	P									M						K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel		Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

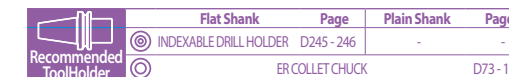
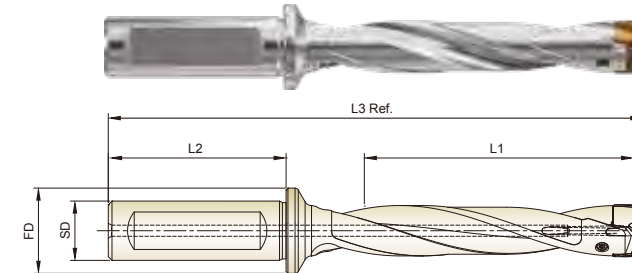
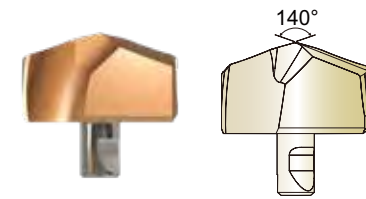
ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

i-ONE DRILL INSERTS & HOLDERS

i-ONE 钻头刀片 & 刀柄

- Applications
 - ▶ For carbon steels, alloy steels and cast iron.
 - ▶ Holder length: 3xD, 5xD, 8xD
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 - ▶ Secure and quick clamping system.
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Series Range (mm)	Insert EDP No. H-Coating	Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth L1	Overall Length L3 Ref.	Screw No.
		h7									
		dec.	frac.	mm							
S16 Ø16.00 to Ø17.99	Y161H1600	0.6299	-	16.00	ZD16003020	20	50	25			
	Y161H1609	0.6335	-	16.09					3D	51.0	127.0
	Y161H1610	0.6339	-	16.10							
	Y161H1620	0.6378	-	16.20							
	Y161H1627	0.6406	41/64	16.27							
	Y161H1630	0.6417	-	16.30							
	Y161H1640	0.6457	-	16.40							
	Y161H1650	0.6496	-	16.50							
	Y161H1660	0.6535	-	16.60							
	Y161H1667	0.6563	21/32	16.67							
	Y161H1670	0.6575	-	16.70							
	Y161H1680	0.6614	-	16.80							
	Y161H1690	0.6654	-	16.90							
	Y161H1700	0.6693	-	17.00	ZD17003020	20	50	25			
	Y161H1707	0.6719	43/64	17.07					3D	54.0	130.0
	Y161H1710	0.6732	-	17.10							
	Y161H1720	0.6772	-	17.20							
	Y161H1730	0.6811	-	17.30							
	Y161H1740	0.6850	-	17.40							
	Y161H1746	0.6875	11/16	17.46							
Y161H1750	0.6890	-	17.50								
Y161H1760	0.6929	-	17.60								
Y161H1770	0.6969	-	17.70								
Y161H1780	0.7008	-	17.80								
Y161H1786	0.7031	45/64	17.86								
Y161H1790	0.7047	-	17.90								

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P									M						K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel		Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

i-ONE DRILLS

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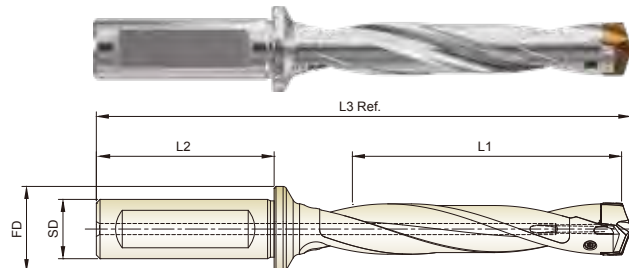
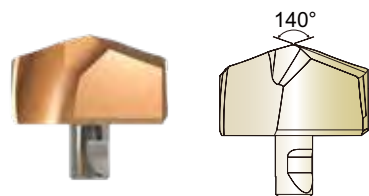
i-ONE DRILLS

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Series Range (mm)	Insert EDP No. H-Coating	Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth L1	Overall Length L3 Ref.	Screw No.						
		h7															
		dec.	frac.	mm													
S18 Ø18.00 to Ø19.99	Y181H1800	0.7087	-	18.00	ZD18003025				3D 57.0	141.3							
	Y181H1810	0.7126	-	18.10													
	Y181H1820	0.7165	-	18.20													
	Y181H1826	0.7188	23/32	18.26													
	Y181H1830	0.7205	-	18.30													
	Y181H1840	0.7244	-	18.40													
	Y181H1850	0.7283	-	18.50													
	Y181H1860	0.7323	-	18.60													
	Y181H1865	0.7344	47/64	18.65													
	Y181H1870	0.7362	-	18.70	ZD19003025				3D 60.0	145.3							
	Y181H1880	0.7402	-	18.80													
	Y181H1890	0.7441	-	18.90													
	Y181H1900	0.7480	-	19.00													
	Y181H1905	0.7500	3/4	19.05													
	Y181H1910	0.7520	-	19.10													
	Y181H1920	0.7559	-	19.20													
	Y181H1927	0.7587	-	19.27													
	Y181H1930	0.7598	-	19.30													
	Y181H1940	0.7638	-	19.40	ZD19005025	25	56	32	5D 100.0	184.3	TX1920P9						
Y181H1945	0.7656	49/64	19.45														
Y181H1950	0.7677	-	19.50														
Y181H1960	0.7717	-	19.60														
Y181H1970	0.7756	-	19.70														
Y181H1980	0.7795	-	19.80														
Y181H1984	0.7813	25/32	19.84														
Y181H1990	0.7835	-	19.90	ZD19008025											8D 160.0	242.8	

▶ Other diameters of insert and shank types of holder are available upon request. ◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M					K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel		Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	180	26	3	25	21	230	130	21	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230	130	21	21	21
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

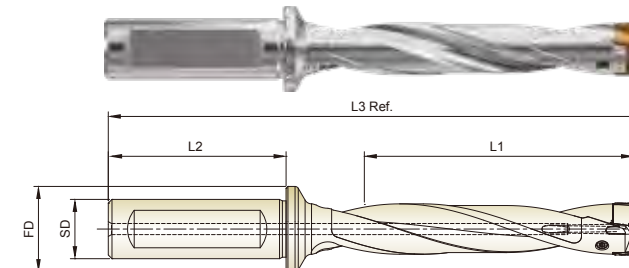
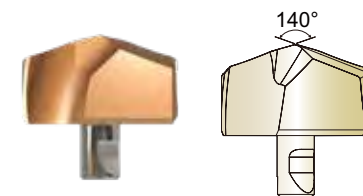
ISO Material Description	N										S					H									
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	550	630	400	450	550	550	550	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	450	550	550	550	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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Series Range (mm)	Insert EDP No. H-Coating	Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth L1	Overall Length L3 Ref.	Screw No.						
		h7															
		dec.	frac.	mm													
S20 Ø20.00 to Ø21.99	Y201H2000	0.7874	-	20.00	ZD20003025				3D 63.0	147.5							
	Y201H2010	0.7913	-	20.10													
	Y201H2020	0.7953	-	20.20													
	Y201H2024	0.7969	51/64	20.24													
	Y201H2030	0.7992	-	20.30													
	Y201H2040	0.8031	-	20.40													
	Y201H2050	0.8071	-	20.50													
	Y201H2060	0.8110	-	20.60													
	Y201H2064	0.8125	13/16	20.64													
	Y201H2070	0.8150	-	20.70													
	Y201H2080	0.8189	-	20.80	ZD21003025				3D 66.0	150.5							
	Y201H2090	0.8228	-	20.90													
	Y201H2100	0.8268	-	21.00													
	Y201H2103	0.8281	53/64	21.03													
	Y201H2110	0.8307	-	21.10													
	Y201H2120	0.8346	-	21.20													
	Y201H2130	0.8386	-	21.30													
	Y201H2140	0.8425	-	21.40													
	Y201H2143	0.8438	27/32	21.43													
	Y201H2150	0.8465	-	21.50													
Y201H2160	0.8504	-	21.60	ZD21005025	25	56	32	5D 110.0	193.5	TX2122P9							
Y201H2170	0.8543	-	21.70														
Y201H2180	0.8583	-	21.80														
Y201H2183	0.8594	55/64	21.83														
Y201H2190	0.8622	-	21.90								ZD21008025				8D 176.0	258.0	

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ISO Material Description	P										M					K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel		Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	180	26	3	25	21	230	130	21	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230	130	21	21	21
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S					H									
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	550	630	400	450	550	550	550	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	450	550	550	550	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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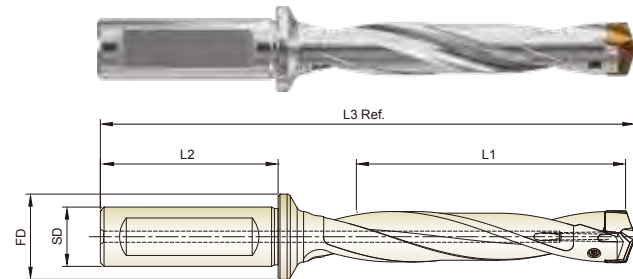
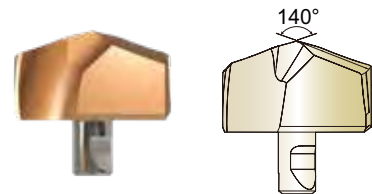
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Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245-246	-	-	-
ER COLLET CHUCK	D73-115	-	-

Series Range (mm)	Insert EDP No. H-Coating	Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth L1	Overall Length L3 Ref.	Screw No.
		h7									
		dec.	frac.	mm							
S22 Ø22.00 to Ø23.99	Y221H2200	0.8661	-	22.00	ZD22003025	25	56	32	3D	69.0	153.4
	Y221H2210	0.8701	-	22.10							
	Y221H2220	0.8740	-	22.20							
	Y221H2223	0.8750	7/8	22.23							
	Y221H2230	0.8780	-	22.30							
	Y221H2240	0.8819	-	22.40							
	Y221H2250	0.8858	-	22.50							
	Y221H2260	0.8898	-	22.60							
	Y221H2262	0.8906	57/64	22.62							
	Y221H2270	0.8937	-	22.70							
	Y221H2280	0.8976	-	22.80							
	Y221H2290	0.9016	-	22.90							
	Y221H2300	0.9055	-	23.00	ZD23003025	25	56	32	3D	72.0	157.4
	Y221H2302	0.9063	29/32	23.02							
	Y221H2310	0.9094	-	23.10							
	Y221H2320	0.9134	-	23.20							
	Y221H2330	0.9173	-	23.30							
	Y221H2340	0.9213	-	23.40							
	Y221H2342	0.9219	59/64	23.42							
	Y221H2350	0.9252	-	23.50							
Y221H2360	0.9291	-	23.60								
Y221H2370	0.9331	-	23.70								
Y221H2380	0.9370	-	23.80	ZD23008025	25	56	32	5D	120.0	204.4	
Y221H2381	0.9375	15/16	23.81								
Y221H2390	0.9409	-	23.90								

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	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron
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HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	10	26	3	25	20
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

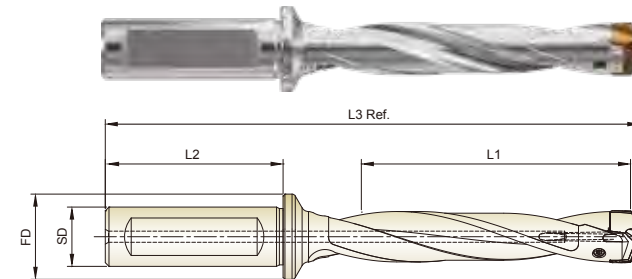
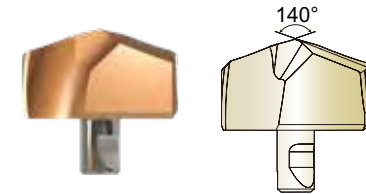
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	550	630	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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- 收益
 - ▶ 安全快速的夹紧系统。
 - ▶ 高性能，高性价比。
 - ▶ 多层涂层提供卓越的生产率和可靠性。



Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245-246	-	-	-
ER COLLET CHUCK	D73-115	-	-

Series Range (mm)	Insert EDP No. H-Coating	Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth L1	Overall Length L3 Ref.	Screw No.
		h7									
		dec.	frac.	mm							
S24 Ø24.00 to Ø25.99	Y241H2400	0.9449	-	24.00	ZD24003032	32	60	37	3D	75.0	165.8
	Y241H2410	0.9488	-	24.10							
	Y241H2420	0.9528	-	24.20							
	Y241H2421	0.9531	61/64	24.21							
	Y241H2430	0.9567	-	24.30							
	Y241H2440	0.9606	-	24.40							
	Y241H2450	0.9646	-	24.50							
	Y241H2460	0.9685	-	24.60							
	Y241H2461	0.9688	31/32	24.61							
	Y241H2470	0.9724	-	24.70							
	Y241H2480	0.9764	-	24.80							
	Y241H2490	0.9803	-	24.90							
	Y241H2500	0.9844	63/64	25.00	ZD25003032	32	60	37	3D	78.0	170.8
	Y241H2510	0.9882	-	25.10							
	Y241H2520	0.9921	-	25.20							
	Y241H2530	0.9961	-	25.30							
	Y241H2540	1.0000	1	25.40							
	Y241H2550	1.0039	-	25.50							
	Y241H2560	1.0079	-	25.60							
	Y241H2567	1.0106	-	25.67							
Y241H2570	1.0118	-	25.70								
Y241H2580	1.0156	1-1/64	25.80								
Y241H2590	1.0197	-	25.90								

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	10	26	3	25	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

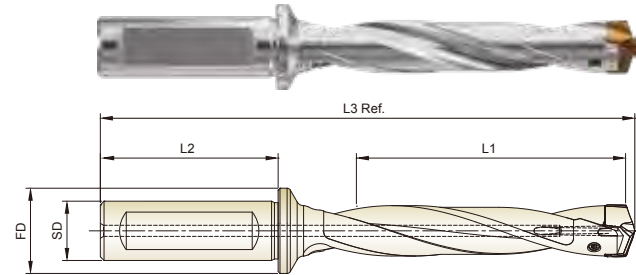
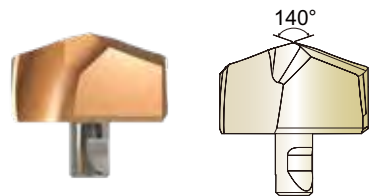
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	550	630	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

i-ONE DRILL INSERTS & HOLDERS

i-ONE 钻头刀片 & 刀柄

- Applications
 - ▶ For carbon steels, alloy steels and cast iron.
 - ▶ Holder length: 3xD, 5xD, 8xD
- Benefits
 - ▶ Secure and quick clamping system.
 - ▶ High performance with cost efficiency.
 - ▶ Multi-layered coating delivers outstanding productivity and reliability.

- 应用
 - ▶ 适合碳钢，合金钢和铸铁。
 - ▶ 刀柄长度：3xD, 5xD, 8xD
- 收益
 - ▶ 安全快速的夹紧系统。
 - ▶ 高性能，高性价比。
 - ▶ 多层涂层提供卓越的生产率和可靠性。



Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245-246	-	-	-
ER COLLET CHUCK	-	-	D73-115

Series Range (mm)	Insert EDP No. H-Coating	Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth		Overall Length L3 Ref.	Screw No.
		h7							L1	L3 Ref.		
		dec.	frac.	mm								
S26 Ø26.00 to Ø27.99	Y261H2600	1.0236	-	26.00	ZD26003032				3D	81.0	172.2	
	Y261H2619	1.0313	1-1/32	26.19	ZD26005032	32	60	37	5D	135.0	225.2	TX2627P10
	Y261H2650	1.0433	-	26.50					8D	216.0	304.	
	Y261H2659	1.0469	1-3/64	26.59	ZD26008032	32	60	37	3D	84.0	175.2	
	Y261H2699	1.0625	1-1/16	26.99					5D	140.0	230.2	TX2728P10
	Y261H2700	1.0630	-	27.00	ZD27003032	32	60	37	8D	224.0	312.7	
	Y261H2738	1.0781	1-5/64	27.38					3D	87.0	179.2	
	Y261H2750	1.0827	-	27.50	ZD28003032	32	60	37	5D	145.0	236.2	TX2829P10
	Y261H2778	1.0938	1-3/32	27.78					8D	232.0	321.7	
S28 Ø28.00 to Ø29.99	Y281H2800	1.1024	-	28.00	ZD28005032	32	60	37	3D	90.0	183.2	
	Y281H2818	1.1094	1-7/64	28.18					5D	150.0	242.2	TX2930P10
	Y281H2850	1.1220	-	28.50	ZD28008032	32	60	37	8D	240.0	330.7	
	Y281H2858	1.1250	1-1/8	28.58					3D	90.0	183.2	
	Y281H2897	1.1406	1-9/64	28.97	ZD29003032	32	60	37	5D	150.0	242.2	TX2930P10
	Y281H2900	1.1417	-	29.00					8D	240.0	330.7	
	Y281H2937	1.1563	1-5/32	29.37	ZD29005032	32	60	37	3D	90.0	183.2	
Y281H2950	1.1614	-	29.50	5D					150.0	242.2	TX2930P10	
Y281H2977	1.1719	1-11/64	29.77	ZD29008032				8D	240.0	330.7		

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Duplex	Grey cast iron	Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

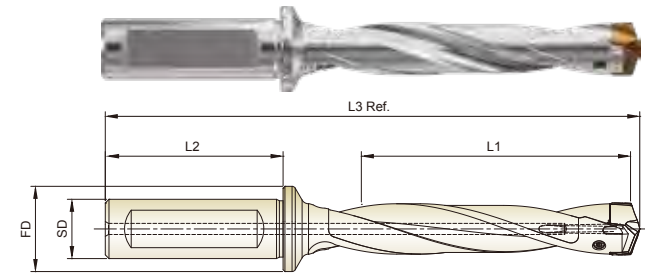
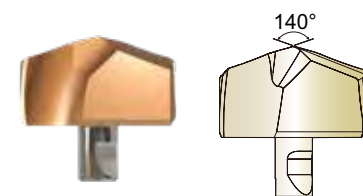
ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

i-ONE DRILL INSERTS & HOLDERS

i-ONE 钻头刀片 & 刀柄

- Applications
 - ▶ For carbon steels, alloy steels and cast iron.
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- Benefits
 - ▶ Secure and quick clamping system.
 - ▶ High performance with cost efficiency.
 - ▶ Multi-layered coating delivers outstanding productivity and reliability.

- 应用
 - ▶ 适合碳钢，合金钢和铸铁。
 - ▶ 刀柄长度：3xD, 5xD, 8xD
- 收益
 - ▶ 安全快速的夹紧系统。
 - ▶ 高性能，高性价比。
 - ▶ 多层涂层提供卓越的生产率和可靠性。



Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245-246	-	-	-
ER COLLET CHUCK	-	-	D73-115

Series Range (mm)	Insert EDP No. H-Coating	Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth		Overall Length L3 Ref.	Screw No.
		h7							L1	L3 Ref.		
		dec.	frac.	mm								
S30 Ø30.00 to Ø31.99	Y301H3000	1.1811	-	30.00	ZD30003032	32	60	37	3D	93.0	187.0	
	Y301H3016	1.1875	1-3/16	30.16					5D	155.0	248.0	TX3031P15
	Y301H3050	1.2008	-	30.50	ZD30005032	32	60	37	8D	248.0	339.5	
	Y301H3056	1.2031	1-13/64	30.56					3D	96.0	191.0	
	Y301H3096	1.2188	1-7/32	30.96	ZD31003032	32	60	37	5D	160.0	254.0	TX3132P15
	Y301H3100	1.2205	-	31.00					ZD31005032	32	60	37
	Y301H3135	1.2344	1-15/64	31.35	ZD32003032	32	60	37				
	Y301H3150	1.2402	-	31.50					5D	165.0	262.2	TX3233P15
	Y301H3175	1.2500	1-1/4	31.75	ZD32005032	32	60	37	8D	264.0	359.7	
Y321H3200	1.2598	-	32.00	ZD33003032					32	60	37	3D
Y321H3215	1.2656	1-17/64	32.15		ZD32008032	32	60	37				5D
Y321H3250	1.2795	-	32.50	ZD33005032					32	60	37	8D
Y321H3254	1.2813	1-9/32	32.54		ZD33008032	32	60	37				3D
Y321H3294	1.2969	1-19/64	32.94	ZD33005032					32	60	37	5D
Y321H3300	1.2992	-	33.00		ZD33008032	32	60	37				8D
Y321H3334	1.3125	1-5/16	33.34	ZD33005032					32	60	37	3D
Y321H3350	1.3189	-	33.50		ZD33008032	32	60	37				5D
Y321H3373	1.3281	1-21/64	33.73	ZD33008032					32	60	37	8D

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Duplex	Grey cast iron	Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

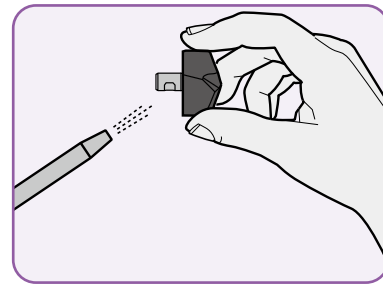
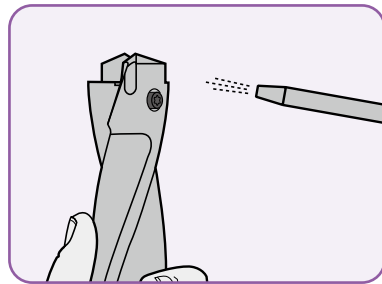
ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Feed(mm/rev)					
				Ø10.0-11.99	Ø12.09-14.99	Ø15.00-17.99	Ø18.00-21.99	Ø22.0-26.9	Ø27.0-33.99
P	1	Non-alloy steel	100-126	0.14-0.24	0.18-0.31	0.23-0.39	0.30-0.44	0.37-0.57	0.41-0.61
	2		84-110	0.12-0.21	0.15-0.26	0.23-0.39	0.30-0.44	0.37-0.57	0.41-0.61
	3		63-84	0.11-0.18	0.13-0.22	0.19-0.31	0.24-0.35	0.33-0.51	0.36-0.54
	4		58-74	0.09-0.14	0.11-0.18	0.17-0.28	0.23-0.33	0.28-0.42	0.32-0.47
	5		58-74	0.09-0.14	0.11-0.18	0.17-0.28	0.23-0.33	0.28-0.42	0.32-0.47
	6	Low alloy steel	74-95	0.11-0.18	0.13-0.22	0.19-0.31	0.24-0.35	0.33-0.51	0.37-0.55
	7		63-84	0.11-0.18	0.13-0.22	0.17-0.28	0.24-0.35	0.33-0.51	0.37-0.55
	8		58-74	0.09-0.14	0.11-0.18	0.14-0.23	0.23-0.33	0.28-0.42	0.32-0.47
	9		47-63	0.07-0.11	0.09-0.13	0.14-0.23	0.23-0.33	0.28-0.42	0.32-0.47
	10		High alloyed steel, and tool steel	53-68	0.09-0.14	0.11-0.18	0.14-0.23	0.20-0.29	0.22-0.34
	11	42-58		0.09-0.14	0.11-0.18	0.12-0.20	0.23-0.33	0.22-0.34	0.26-0.39
K	15	Grey cast iron	105-131	0.13-0.23	0.17-0.29	0.22-0.41	0.30-0.46	0.40-0.56	0.44-0.61
	16		79-100	0.10-0.18	0.12-0.22	0.18-0.32	0.22-0.33	0.28-0.39	0.32-0.44
	17	Nodular cast iron	100-126	0.11-0.20	0.14-0.24	0.19-0.34	0.23-0.35	0.31-0.44	0.35-0.48
	18		79-100	0.10-0.18	0.12-0.22	0.15-0.29	0.21-0.32	0.28-0.39	0.32-0.44
	19	Malleable cast iron	105-131	0.11-0.20	0.14-0.24	0.19-0.34	0.23-0.35	0.31-0.44	0.35-0.48
	20		79-100	0.10-0.15	0.12-0.20	0.15-0.29	0.21-0.32	0.28-0.39	0.32-0.44

- The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.
- Recommend you to reduce the feed rate to 85%, 70% when you use 5xD, 8xD holders.
- For use of 8xD holder, we recommend to use a pilot drill with equal to or larger than 140° point angle (0.5xD ~ 1.5xD).
The use of the centering pre-hole improves hole location, roundness and surface finish.
- 表中推荐的速度, 进给率和其它参数只可用参考
推荐降低速度和进给量(速度降低20%和进给降低10%)
- 建议在使用5xD, 8xD的刀柄时把进给率降低到85%, 70%
- 在使用8xD刀柄时, 建议用等于或大于140度顶尖的钻头钻一个直径2/3以上的定位中心孔
定位中心孔的使用提高孔的定位, 圆度和表面粗糙度

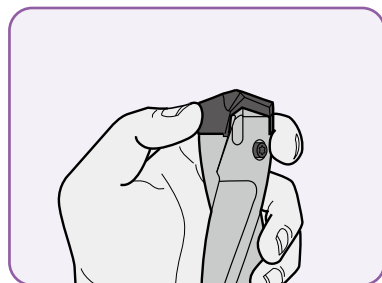
Comparison with Split Point Drill, Spade Drill & Dream Drill
普通钻, 铲钻&梦幻钻对比

The diagram compares four drill types: Normal Split Point Drill (普通钻), Dream Drill (梦幻钻), Spade Drill (铲钻), and i-One Drill (i-One钻). It shows the tool geometry and whether they are 'Solid Tool' or 'Insert Tool'. Arrows indicate that the Spade Drill and i-One Drill are more advanced versions of the Split Point and Dream Drills, respectively.

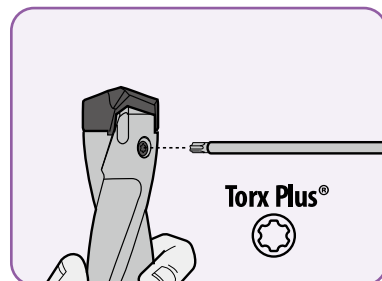
ASSEMBLY OF i-ONE DRILLS



Make sure to clean the insert and insert seat.
定刀片及刀架的清洁.



Slide the drill insert into the slot of the holder and press down the insert to touch the bottom of the slot.
将钻头刀片滑至夹具的夹缝中并按下刀片至夹缝底部.



After confirming the insert is pressed down to the bottom of the slot, tighten the screw using anti-seize compound.
确定刀片按压至夹缝底部后用抓具扣紧螺丝使其进一步融合.

WRENCH TYPE	PRODUCT NO.	SERIES (INSERT SIZE)	TORX PLUS®	TORQUE (N·m)
	TWFP05	S10~S12 (10.00 ~ 13.90)	5 IP	0.6
	TWDP07	S14~S16 (14.00 ~ 17.90)	7 IP	1.0
	TWDP09	S18~S22 (18.00 ~ 23.90)	9 IP	1.5
	TWDP10	S24~S28 (24.00 ~ 29.77)	10 IP	2.2
	TWDP15	S30~S32 (30.00 ~ 33.73)	15 IP	3.2

Use the Torx Plus wrench
用翼形或T形扳手

- ▶ Need to use appropriate wrenches and screws as indicated.
根据指示, 需要使用合适的扳手和螺钉.
- ▶ It's important to tighten up the screw properly.
适当的拧紧螺钉是很重要的.

CAUTION-NOT RECOMMENDABLE APPLICATION
注意-不推荐使用



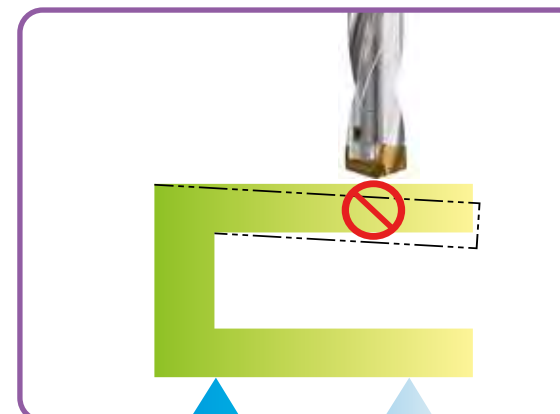
Intersecting cross hole is bigger than the drill insert's Margin Length.
交叉孔比钻头刀片的钻边长度大.



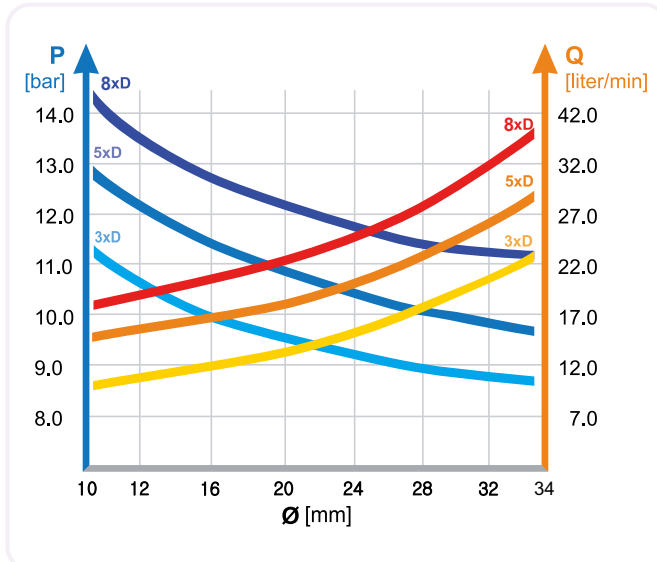
Material with slanting entrance and exit over 7 degrees.
(If drilling 7 degrees or under slanting surface, reduce the feed about 30-50%)
倾斜进入的材料和超过7度的出口。(如果钻7度的孔或者在倾斜面下钻孔, 可减少30~50%的进给)



For drilling stacked plates, minimize the space between the plates.
对于钻一堆整齐的薄板, 薄板之间的间隙减小到最低.
The space between stacked plates can cause insert breakage or poor chip control.
整齐的薄板间隔可导致刀片破损或铁屑不易排除.



The material needs to be fixtured securely before drilling.
在钻削前材料需要进行安全固定.

RECOMMENDED COOLANT PRESSURE AND FLOW RATE ON VERTICAL DRILLING
 在立式钻孔中, 推荐使用的油压和流速


- Recommended emulsion mix is 6 - 8%.
推荐使用6-8%的混合乳化液.
- For Drilling into Stainless and High Strength steels, a mix of 10% is recommended.
钻孔加工不锈钢和高强度钢时, 推荐使用10%的混合乳化液.
- For horizontal drilling, 30% reduction on the coolant pressure and flow rate is possible.
对于水平钻孔, 油压和流速降低30%是可能的.
- Dry drilling is possible for 1-2xD drilling. But not recommended.
干式钻孔可以用于1-2xD钻削, 但是不推荐使用.

TROUBLE SHOOTING
 问题解答


- 1) Heavy flank wear / Fast flank wear**
- Reduce cutting speed
 - Increase feed
- 巨大磨损/快速磨损
- 降低切削速度
 - 增加进给量



- 2) Chipping on cutting edge**
- Reduce feed
 - Check the rigidity of spindle and chuck
 - Rigid clamping of workpiece
- 切削刃崩刃
- 减少进给量
 - 检测主轴和刀夹刚性
 - 工作件的强性夹持



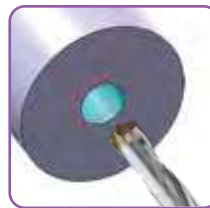
- 3) Build-up on cutting edge**
- Increase cutting speed
 - Use a coated insert
- 刃边积瘤
- 增加切削速度
 - 使用涂层刀片



- 4) Chipping or break down on outer corner**
- Reduce feed
 - Rigid clamping of workpiece
- 在转角处崩刃或破损
- 减少进给量
 - 增强工件夹持刚性



- 5) Wear of land margin**
- Rigid clamping of workpiece
 - Reduce cutting speed
 - Increase coolant flow
- 刀具刃带磨损
- 增强工件夹持刚性
 - 降低切削速度
 - 增加油流量



- 6) Unsatisfactory positioning of the hole**
- Rigid clamping of workpiece
 - Reduce feed during entrance or exit
- 孔位置度不良
- 增强工件夹持刚性
 - 在进入和退出时降低速度



- 7) Scratching on holder**
- Rigid clamping of workpiece
 - Reduce feed
 - Increase coolant flow
- 刀体损伤
- 增强工件夹持刚性
 - 减少进给量
 - 增加油流量



- 8) Unsatisfactory surface finish**
- Rigid clamping of workpiece
 - Increase coolant flow and pressure
- 令人不满意的表面粗糙度
- 增强工件夹持刚性
 - 增加油流量和油压力



Leading Through Innovation



CARBIDE INSERTS & HOLDERS

i - DREAM DRILLS

- For General Steels and Stainless Steels

- 适用于普通钢和不锈钢

SELECTION GUIDE 选用指南



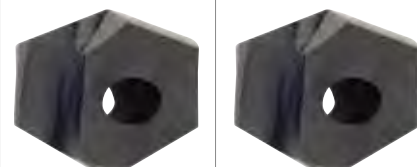
SERIES 系列	YA1A	YA2C	YB1A	YB2C
TYPE 类型	A		B	
SIZE MIN 最小尺寸	12.00		14.00	
SIZE MAX 最大尺寸	13.89		15.87	
PAGE 页数	A44		A45	
SURFACE TREATMENT 表面处理	TiAlN	TiCN	TiAlN	TiCN

CARBIDE INSERTS & HOLDERS

i-DREAM DRILLS

For General Steels and Stainless Steels 适用于普通钢和不锈钢

Please visit 请访问 globalygl.com/mat for material search 查看产品材料 Recommended cutting conditions (推荐加工条件) : p. A54, 56



ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度	YA1A	YA2C	YB1A	YB2C	
P	1	Non-alloy steel	About 0.15% C Annealed	125		⊙	○	⊙	○	
	2		About 0.45% C Annealed	190	13	⊙	○	⊙	○	
	3		About 0.45% C Quenched & Tempered	250	25	⊙	○	⊙	○	
	4		About 0.75% C Annealed	270	28	⊙	○	⊙	○	
	5		About 0.75% C Quenched & Tempered	300	32	⊙	○	⊙	○	
	6	Low alloy steel	Annealed	180	10	⊙	○	⊙	○	
	7		Quenched & Tempered	275	29	⊙	○	⊙	○	
	8		Quenched & Tempered	300	32	⊙	○	⊙	○	
	9		Quenched & Tempered	350	38	⊙	○	⊙	○	
	10		High alloyed steel, and tool steel	Annealed	200	15	⊙	○	⊙	○
	11	Quenched & Tempered	325	35	⊙	○	⊙	○		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15		⊙		⊙	
	13		Martensitic Quenched & Tempered	240	23		⊙		⊙	
	14		Austenitic	180	10		⊙		⊙	
K	15	Grey cast iron	Pearlitic / ferritic	180	10	⊙		⊙		
	16		Pearlitic (Martensitic)	260	26	⊙		⊙		
	17	Nodular cast iron	Ferritic	160	3	⊙		⊙		
	18		Pearlitic	250	25	⊙		⊙		
	19		Ferritic	130		⊙		⊙		
20	Malleable cast iron	Pearlitic	230	21	⊙		⊙			
N	21	Aluminum-wrought alloy	Not Curable	60			○		○	
	22		Curable Hardened	100			○		○	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75			○		○	
	24		≤ 12% Si, Curable Hardened	90			○		○	
	25		> 12% Si, Not Curable	130			○		○	
	26		Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90			○		○
	27	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100			○		○	
	28		Duroplastic, Fiber Reinforced Plastic							
	29		Rubber, Wood, etc.							
	S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15				
32		Cured		280	30					
33		Annealed		250	25					
34		Ni or Co Based Cured		350	38					
35		Cast	320	34						
36		Titanium Alloys	Pure Titanium	400 Rm						
37			Alpha + Beta Alloys Hardened	1050 Rm						
H	38	Hardened steel	Hardened	550	55					
	39		Hardened	630	60					
	40	Hardened Cast Iron	Cast	400	42					
	41		Hardened	550	55					

YC1A	YC2C	YD1A	YD2C	YE1A	YE2C	YF1A	YF2C	YG1A	YG2C
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16.00		18.00		20.00		22.00		24.00	
17.86		19.84		21.83		23.81		25.80	
A46		A47		A48		A49		A50	
TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN	TiAlN	TiCN



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HSS i-ONE DRILLS i-DREAM DRILLS DREAM DRILLS -PRO DREAM DRILLS -GENERAL DREAM DRILLS -SOFT DREAM DRILLS -HIGH FEED DREAM DRILLS -FLAT BOTTOM DREAM DRILLS -INOX DREAM DRILLS -ALU DREAM DRILLS -CFRP DREAM DRILLS -MQL DREAM DRILLS for HIGH HARDENED STEELS GENERAL CARBIDE DRILLS MULTI-1 DRILLS GOLD-P DRILLS SUPER-GP DRILLS WORM PATTERN DRILLS STRAIGHT SHANK DRILLS TAPERSHANK DRILLS NC-SPOTTING DRILLS CENTER DRILLS SPADE DRILLS REAMERS COUNTER SINKS COUNTER BORES TECHNICAL DATA

HSS i-ONE DRILLS i-DREAM DRILLS DREAM DRILLS -PRO DREAM DRILLS -GENERAL DREAM DRILLS -SOFT DREAM DRILLS -HIGH FEED DREAM DRILLS -FLAT BOTTOM DREAM DRILLS -INOX DREAM DRILLS -ALU DREAM DRILLS -CFRP DREAM DRILLS -MQL DREAM DRILLS for HIGH HARDENED STEELS GENERAL CARBIDE DRILLS MULTI-1 DRILLS GOLD-P DRILLS SUPER-GP DRILLS WORM PATTERN DRILLS STRAIGHT SHANK DRILLS TAPERSHANK DRILLS NC-SPOTTING DRILLS CENTER DRILLS SPADE DRILLS REAMERS COUNTER SINKS COUNTER BORES TECHNICAL DATA

SELECTION GUIDE
选用指南



SERIES 系列	YH1A	YH2C
TYPE 类型	H	
SIZE MIN 最小尺寸	26.00	
SIZE MAX 最大尺寸	27.78	
PAGE 页数	A51	
SURFACE TREATMENT 表面处理	TiAlN	TiCN

CARBIDE INSERTS & HOLDERS
i-DREAM DRILLS

For General Steels and Stainless Steels
适用于普通钢和不锈钢



◎: Excellent (优秀) ○: Good (良好)

Recommended cutting conditions (推荐加工条件): p. A54, 56



ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度	
P	1	Non-alloy steel	About 0.15% C Annealed	125		
	2		About 0.45% C Annealed	190	13	
	3		About 0.45% C Quenched & Tempered	250	25	
	4		About 0.75% C Annealed	270	28	
	5		About 0.75% C Quenched & Tempered	300	32	
	6	Low alloy steel	Annealed	180	10	
	7		Quenched & Tempered	275	29	
	8		Quenched & Tempered	300	32	
	9		Quenched & Tempered	350	38	
	10		High alloyed steel, and tool steel	Annealed	200	15
	11		Quenched & Tempered	325	35	
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	
	13		Martensitic Quenched & Tempered	240	23	
	14		Austenitic	180	10	
K	15	Grey cast iron	Pearlitic / ferritic	180	10	
	16		Pearlitic (Martensitic)	260	26	
	17	Nodular cast iron	Ferritic	160	3	
	18		Pearlitic	250	25	
	19		Ferritic	130		
	20	Malleable cast iron	Pearlitic	230	21	
N	21	Aluminum-wrought alloy	Not Curable	60		
	22		Curable Hardened	100		
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		
	24		≤ 12% Si, Curable Hardened	90		
	25		> 12% Si, Not Curable	130		
	26		Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90	
	27		CuSn, lead-free copper and electrolytic copper	100		
	28	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic			
	29		Rubber, Wood, etc.			
	30					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15	
	32		Cured	280	30	
	33		Annealed	250	25	
	34		Cured	350	38	
	35		Cast	320	34	
	36	Titanium Alloys	Pure Titanium	400 Rm		
	37		Alpha + Beta Alloys Hardened	1050 Rm		
H	38	Hardened steel	Hardened	550	55	
	39		Hardened	630	60	
	40		Chilled Cast Iron	Cast	400	42
	41		Hardened Cast Iron	Hardened	550	55

YI1A	YI2C	YJ1A	YJ2C	ZH*3	ZH*5	ZH*7
I		J		3XD	5XD	7XD
28.00		30.00				
29.77		31.75				
A52		A53				
TiAlN	TiCN	TiAlN	TiCN			



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i-DREAM DRILL INSERTS & HOLDERS

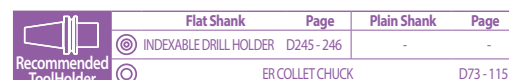
i-梦幻钻刀片 & 刀柄

- Features of i-Dream Drill Inserts-
- i-梦幻钻刀片 优点 -

- ▶ Secure and accurate seating resulting in accurate repeatability and concentricity.
牢固精确的底座可以使产品重复使用而不影响精度。
- i-Dream Drill General / 一般i-梦幻钻**
- ▶ For most steels materials / 适用于大多数钢材
- i-Dream Drill INOX / 不锈钢用的 i-梦幻钻**
- ▶ For tough, ductile materials and stainless steels
适用于比较坚韧的材质和不锈钢
- ▶ Light, sharp cutting edge / 具有轻而锋利的切削刃
- ▶ Soft cutting action / 有软切削作用
- ▶ Minimize cutting forces / 可以减少切削力
- ▶ Reduce built-up edge / 减少积屑瘤

- Features of i-Dream Drill Holders-
- i-梦幻钻刀柄 优点 -

- ▶ Special Alloy Steels maintain its hardness and toughness under high temperatures.
特殊的合金钢材质使产品在高温下仍能保持其硬度和韧性
- ▶ Innovative surface treatment improves wear resistance and reduces corrosion.
新开发的表面处理方式可以提高产品的耐磨性并减少腐蚀
- ▶ High Performance flute design allows maximum chip evacuation and minimum interference.
高性能的沟槽设计使排屑最大化和阻碍最小化



Unit(单位) : mm

Series Range	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.	
	General (TiAIN)	INOX (TiCN)	h7							L1	L3 Ref.			
(mm)			dec.	frac.	mm		SD	L2	FD					
A Ø12.00 to Ø13.99	YA1A1200	YA2C1200	.4724	-	12.00	ZH12003020				3D	36	112.4	TX1213T08	
	YA1A1210	YA2C1210	.4764	-	12.10	ZH12005020	20	50	25	5D	60	136.4		
	YA1A1220	YA2C1220	.4803	-	12.20	ZH12007020				7D	84	160.4		
	YA1A1230	YA2C1230	.4844	31/64	12.30									
	YA1A1250	YA2C1250	.4921	-	12.50	ZH12503020				3D	37.5	113.4		
	YA1A1260	YA2C1260	.4961	-	12.60									
	YA1A1270	YA2C1270	.5000	1/2	12.70	ZH12505020	20	50	25	5D	62.5	138.4	TX1314T08	
	YA1A1280	YA2C1280	.5039	-	12.80	ZH12507020				7D	87.5	163.4		
	YA1A1290	YA2C1290	.5079	-	12.90									
	YA1A1300	YA2C1300	.5118	-	13.00	ZH13003020				3D	39	115.4		
	YA1A1310	YA2C1310	.5156	33/64	13.10	ZH13005020	20	50	25	5D	65	141.4		
	YA1A1320	YA2C1320	.5197	-	13.20	ZH13007020				7D	91	167.4		
	YA1A1349	YA2C1349	.5312	17/32	13.49									
	YA1A1350	YA2C1350	.5315	-	13.50	ZH13503020				3D	40.5	116.4	TX1516T08	
	YA1A1360	YA2C1360	.5354	-	13.60									
	YA1A1370	YA2C1370	.5394	-	13.70	ZH13505020	20	50	25	5D	67.5	143.4		
	YA1A1380	YA2C1380	.5433	-	13.80									
	YA1A1389	YA2C1389	.5469	35/64	13.89	ZH13507020				7D	94.5	170.4		

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	3	25
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
YA1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YA2C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron								
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
YA1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YA2C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

i-DREAM DRILL INSERTS & HOLDERS

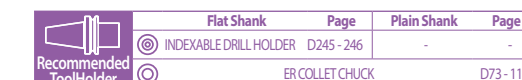
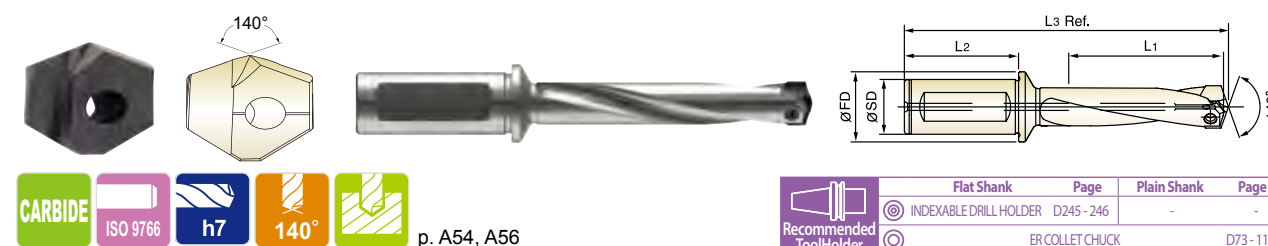
i-梦幻钻刀片 & 刀柄

- Features of i-Dream Drill Inserts-
- i-梦幻钻刀片 优点 -

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- ▶ For most steels materials / 适用于大多数钢材
- i-Dream Drill INOX / 不锈钢用的 i-梦幻钻**
- ▶ For tough, ductile materials and stainless steels
适用于比较坚韧的材质和不锈钢
- ▶ Light, sharp cutting edge / 具有轻而锋利的切削刃
- ▶ Soft cutting action / 有软切削作用
- ▶ Minimize cutting forces / 可以减少切削力
- ▶ Reduce built-up edge / 减少积屑瘤

- Features of i-Dream Drill Holders-
- i-梦幻钻刀柄 优点 -

- ▶ Special Alloy Steels maintain its hardness and toughness under high temperatures.
特殊的合金钢材质使产品在高温下仍能保持其硬度和韧性
- ▶ Innovative surface treatment improves wear resistance and reduces corrosion.
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- ▶ High Performance flute design allows maximum chip evacuation and minimum interference.
高性能的沟槽设计使排屑最大化和阻碍最小化



Unit(单位) : mm

Series Range	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.	
	General (TiAIN)	INOX (TiCN)	h7							L1	L3 Ref.			
(mm)			dec.	frac.	mm		SD	L2	FD					
B Ø14.00 to Ø15.99	YB1A1400	YB2C1400	.5512	-	14.00	ZH14003020				3D	42	118.9	TX1415T08	
	YB1A1410	YB2C1410	.5551	-	14.10									
	YB1A1420	YB2C1420	.5591	-	14.20	ZH14005020	20	50	25	5D	70	146.9		
	YB1A1429	YB2C1429	.5625	9/16	14.29									
	YB1A1430	YB2C1430	.5630	-	14.30	ZH14007020				7D	98	174.9		
	YB1A1440	YB2C1440	.5669	-	14.40									
	YB1A1450	YB2C1450	.5709	-	14.50	ZH14503020				3D	43.5	120.9	TX1516T08	
	YB1A1460	YB2C1460	.5748	-	14.60									
	YB1A1468	YB2C1468	.5781	37/64	14.68	ZH14505020	20	50	25	5D	72.5	149.9		
	YB1A1480	YB2C1480	.5827	-	14.80	ZH14507020				7D	101.5	178.9		
	YB1A1500	YB2C1500	.5906	-	15.00	ZH15003020				3D	45	122.9		
	YB1A1508	YB2C1508	.5938	19/32	15.08									
	YB1A1510	YB2C1510	.5945	-	15.10	ZH15005020	20	50	25	5D	75	152.9	TX1516T08	
	YB1A1520	YB2C1520	.5984	-	15.20									
	YB1A1530	YB2C1530	.6024	-	15.30	ZH15007020				7D	105	182.9		
	YB1A1548	YB2C1548	.6094	39/64	15.48									
	YB1A1550	YB2C1550	.6102	-	15.50	ZH15503020				3D	46.5	123.9		
	YB1A1560	YB2C1560	.6142	-	15.60									
YB1A1570	YB2C1570	.6181	-	15.70	ZH15505020	20	50	25	5D	77.5	154.9	TX1516T08		
YB1A1580	YB2C1580	.6220	-	15.80										
YB1A1587	YB2C1587	.6250	5/8	15.87	ZH15507020				7D	108.5	185.9			

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	3	25
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
YB1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YB2C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron								
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
YB1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YB2C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

i-DREAM DRILL INSERTS & HOLDERS

i-梦幻钻刀片 & 刀柄

- Features of i-Dream Drill Inserts-
- i-梦幻钻刀片 优点 -

- ▶ Secure and accurate seating resulting in accurate repeatability and concentricity.
牢固精确的底座可以使产品重复使用而不影响精度。
- i-Dream Drill General* / 一般 i-梦幻钻
 - ▶ For most steels materials / 适用于大多数钢材
- i-Dream Drill INOX* / 不锈钢用的 i-梦幻钻
 - ▶ For tough, ductile materials and stainless steels
适用于比较坚韧的材质和不锈钢
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- ▶ High Performance flute design allows maximum chip evacuation and minimum interference.
高性能的沟槽设计使排屑最大化和阻碍最小化



Unit(单位) : mm

Series Range (mm)	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth		Overall Length L3 Ref.	Screw No.	
	General (TiAlN)	INOX (TiCN)	h7							L1	L3 Ref.			
C Ø16.00 to Ø17.99	YC1A1600	YC2C1600	.6299	-	16.00	ZH16003020				3D	48	125.0	TX1617T08	
	YC1A1609	YC2C1609	.6335	-	16.09	ZH16005020	20	50	25	5D	80	157.0		
	YC1A1620	YC2C1620	.6378	-	16.20	ZH16007020				7D	112	189.0		
	YC1A1627	YC2C1627	.6406	41/64	16.27	ZH16503020				3D	49.5	127.0		
	YC1A1630	YC2C1630	.6417	-	16.30	ZH16505020	20	50	25	5D	82.5	160.0		
	YC1A1650	YC2C1650	.6496	-	16.50	ZH16507020				7D	115.5	193.0		
	YC1A1667	YC2C1667	.6562	21/32	16.67	ZH17003020				3D	51	128.0		
	YC1A1680	YC2C1680	.6614	-	16.80	ZH17005020	20	50	25	5D	85	162.0		
	YC1A1700	YC2C1700	.6693	-	17.00	ZH17007020				7D	119	196.0		
	YC1A1707	YC2C1707	.6719	43/64	17.07	ZH17503020				3D	52.5	130.0		
	YC1A1746	YC2C1746	.6875	11/16	17.46	ZH17505020	20	50	25	5D	87.5	165.0		
	YC1A1750	YC2C1750	.6890	-	17.50	ZH17507020				7D	122.5	200.0		
	YC1A1780	YC2C1780	.7008	-	17.80									
	YC1A1786	YC2C1786	.7031	45/64	17.86									

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◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel	Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
YC1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YC2C	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy	Aluminum-cast, alloyed	Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials	Heat Resistant Super Alloys	Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron												
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
YC1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YC2C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

i-DREAM DRILL INSERTS & HOLDERS

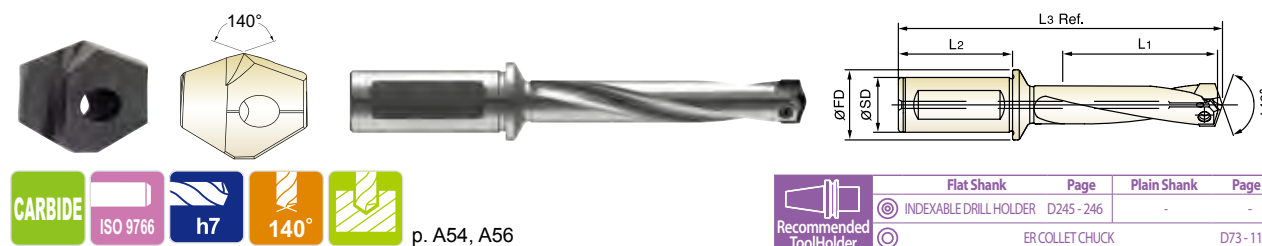
i-梦幻钻刀片 & 刀柄

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适用于比较坚韧的材质和不锈钢
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Unit(单位) : mm

Series Range (mm)	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth		Overall Length L3 Ref.	Screw No.
	General (TiAlN)	INOX (TiCN)	h7							L1	L3 Ref.		
D Ø18.00 to Ø19.99	YD1A1800	YD2C1800	.7087	-	18.00	ZH18003025				3D	54	140.3	TX1819T15
	YD1A1826	YD2C1826	.7188	23/32	18.26	ZH18005025	25	56	32	5D	90	176.3	
	YD1A1850	YD2C1850	.7283	-	18.50	ZH18007025				7D	126	212.3	
	YD1A1865	YD2C1865	.7344	47/64	18.65	ZH18503025				3D	55.5	141.3	
	YD1A1880	YD2C1880	.7402	-	18.80	ZH18505025	25	56	32	5D	92.5	178.3	
	YD1A1900	YD2C1900	.7480	-	19.00	ZH18507025				7D	129.5	215.3	
	YD1A1905	YD2C1905	.7500	3/4	19.05	ZH19003025				3D	57	144.3	
	YD1A1927	YD2C1927	.7587	-	19.27	ZH19005025	25	56	32	5D	95	182.3	
	YD1A1945	YD2C1945	.7656	49/64	19.45	ZH19007025				7D	133	220.3	
	YD1A1950	YD2C1950	.7677	-	19.50	ZH19503025				3D	58.5	145.3	
	YD1A1980	YD2C1980	.7795	-	19.80	ZH19505025	25	56	32	5D	97.5	184.3	
	YD1A1984	YD2C1984	.7812	25/32	19.84	ZH19507025				7D	136.5	223.3	

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ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel	Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
YD1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YD2C	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy	Aluminum-cast, alloyed	Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials	Heat Resistant Super Alloys	Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron												
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
YD1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YD2C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

i-DREAM DRILL INSERTS & HOLDERS

i-梦幻钻刀片 & 刀柄

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适用于比较坚韧的材质和不锈钢
- ▶ Light, sharp cutting edge / 具有轻而锋利的切削刃
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Unit(单位) : mm

Series Range (mm)	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth		Overall Length L3 Ref.	Screw No.		
	General (TiAIN)	INOX (TiCN)	h7							L1	L3 Ref.				
E Ø20.00 to Ø21.99	YE1A2000	YE2C2000	.7874	-	20.00	ZH20003025	25	56	32	3D	60	145.5	TX2021T20		
	YE1A2024	YE2C2024	.7969	51/64	20.24	ZH20005025				5D	100	185.5			
						ZH20007025				7D	140	225.5			
		YE1A2050	YE2C2050	.8071	-	20.50	ZH20503025	25	56	32	3D	61.5		147.5	
		YE1A2064	YE2C2064	.8125	13/16	20.64	ZH20505025				5D	102.5		188.5	
		YE1A2070	YE2C2070	.8150	-	20.70	ZH20507025				7D	143.5		229.5	
		YE1A2100	YE2C2100	.8268	-	21.00	ZH21003025	25	56	32	3D	63		149.5	
		YE1A2103	YE2C2103	.8281	53/64	21.03	ZH21005025				5D	105		191.5	
		YE1A2143	YE2C2143	.8438	27/32	21.43	ZH21007025				7D	147		233.5	
		YE1A2150	YE2C2150	.8465	-	21.50	ZH21503025	25	56	32	3D	64.5		150.5	TX2122T20
		YE1A2170	YE2C2170	.8543	-	21.70	ZH21505025				5D	107.5		193.5	
		YE1A2183	YE2C2183	.8594	55/64	21.83	ZH21507025				7D	150.5		236.5	

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HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
YE1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YE2C	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials	Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
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HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
YE1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YE2C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

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适用于比较坚韧的材质和不锈钢
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- ▶ Soft cutting action / 有软切削作用
- ▶ Minimize cutting forces / 可以减少切削力
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- ▶ High Performance flute design allows maximum chip evacuation and minimum interference.
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Unit(单位) : mm

Series Range (mm)	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth		Overall Length L3 Ref.	Screw No.		
	General (TiAIN)	INOX (TiCN)	h7							L1	L3 Ref.				
F Ø22.00 to Ø23.99	YF1A2200	YF2C2200	.8661	-	22.00	ZH22003025	25	56	32	3D	66	152.4	TX2223T20		
	YF1A2223	YF2C2223	.8750	7/8	22.23	ZH22005025				5D	110	196.4			
						ZH22007025				7D	154	240.4			
		YF1A2250	YF2C2250	.8858	-	22.50	ZH22503025	25	56	32	3D	67.5		153.4	
		YF1A2262	YF2C2262	.8906	57/64	22.62	ZH22505025				5D	112.5		198.4	
		YF1A2270	YF2C2270	.8937	-	22.70	ZH22507025				7D	157.5		243.4	
		YF1A2300	YF2C2300	.9055	-	23.00	ZH23003025	25	56	32	3D	69		155.4	TX2324T20
		YF1A2302	YF2C2302	.9062	29/32	23.02	ZH23005025				5D	115		201.4	
		YF1A2342	YF2C2342	.9219	59/64	23.42	ZH23007025				7D	161		247.4	
		YF1A2350	YF2C2350	.9252	-	23.50	ZH23503025	25	56	32	3D	70.5		157.4	
		YF1A2370	YF2C2370	.9331	-	23.70	ZH23505025				5D	117.5		204.4	
		YF1A2381	YF2C2381	.9375	15/16	23.81	ZH23507025				7D	164.5		251.4	

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel	Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
YF1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YF2C	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials	Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
YF1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YF2C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

i-DREAM DRILL INSERTS & HOLDERS

i-梦幻钻刀片 & 刀柄

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- i-Dream Drill INOX / 不锈钢用的 i-梦幻钻**
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Unit(单位) : mm

Series Range	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
	General (TiAlN)	INOX (TiCN)	h7							L1	L3 Ref.		
(mm)			dec.	frac.	mm		SD	L2	FD				
G Ø24.00 to Ø25.99	YG1A2400	YG2C2400	.9449	-	24.00	ZH24003032	32	60	37	3D	72	164.8	TX2425T20
	YG1A2421	YG2C2421	.9531	61/64	24.21	ZH24005032				5D	120	212.8	
	YG1A2450	YG2C2450	.9646	-	24.50	ZH24503032				7D	168	260.8	
	YG1A2461	YG2C2461	.9688	31/32	24.61	ZH24505032				3D	73.5	165.8	
	YG1A2470	YG2C2470	.9724	-	24.70	ZH24507032				5D	122.5	214.8	
	YG1A2500	YG2C2500	.9843	63/64	25.00	ZH25003032				7D	171.5	263.8	
	YG1A2540	YG2C2540	1.0000	1	25.40	ZH25005032				3D	75	167.8	
	YG1A2550	YG2C2550	1.0039	-	25.50	ZH25007032				5D	125	217.8	
	YG1A2567	YG2C2567	1.0106	-	25.67	ZH25503032				7D	175	267.8	
	YG1A2570	YG2C2570	1.0118	-	25.70	ZH25505032				3D	76.5	170.8	
YG1A2580	YG2C2580	1.0156	1-1/64	25.80	ZH25507032	5D	127.5	221.8					
							32	60	37	5D	127.5	221.8	
										7D	178.5	272.8	

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ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel	Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
YG1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YG2C	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎						

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
YG1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎											
YG2C	○	○	○	○	○	○	○	○	○	○											

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Unit(单位) : mm

Series Range	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
	General (TiAlN)	INOX (TiCN)	h7							L1	L3 Ref.		
(mm)			dec.	frac.	mm		SD	L2	FD				
H Ø26.00 to Ø27.99	YH1A2600	YH2C2600	1.0236	-	26.00	ZH26003032	32	60	37	3D	78	171.2	TX2627T25
	YH1A2619	YH2C2619	1.0312	1-1/32	26.19	ZH26005032				5D	130	223.2	
	YH1A2650	YH2C2650	1.0433	-	26.50	ZH26007032				7D	182	275.2	
	YH1A2659	YH2C2659	1.0469	1-3/64	26.59	ZH26503032				3D	79.5	172.2	
	YH1A2699	YH2C2699	1.0625	1-1/16	26.99	ZH26505032				5D	132.5	225.2	
	YH1A2700	YH2C2700	1.0630	-	27.00	ZH26507032				7D	185.5	278.2	
	YH1A2750	YH2C2750	1.0827	-	27.50	ZH27003032				3D	81	174.2	
	YH1A2778	YH2C2778	1.0938	1-3/32	27.78	ZH27005032				5D	135	228.2	
						ZH27007032				7D	189	282.2	
						ZH27503032				3D	82.5	175.2	
					ZH27505032	5D	137.5	230.2					
					ZH27507032	7D	192.5	285.2					

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ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel	Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
YH1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YH2C	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎						

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
YH1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎											
YH2C	○	○	○	○	○	○	○	○	○	○											

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- i-Dream Drill INOX* / 不锈钢用的 i-梦幻钻
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适用于比较坚韧的材质和不锈钢
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Unit(单位) : mm

Series Range (mm)	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth		Overall Length L3 Ref.	Screw No.	
	General (TiAlN)	INOX (TiCN)	dec.	h7 frac.	mm					L1	L3 Ref.			
I Ø28.00 to Ø29.99	YI1A2800	YI2C2800	1.1024	-	28.00	ZH28003032	32	60	37	3D	84	178.2	TX2829T25	
	YI1A2818	YI2C2818	1.1094	1-7/64	28.18	ZH28005032				5D	140	234.2		
	ZH28007032	7D	196	290.2										
	YI1A2850	YI2C2850	1.1220	-	28.50	ZH28503032	32	60	37	3D	85.5	179.2		
	YI1A2858	YI2C2858	1.1250	1-1/8	28.58	ZH28505032				5D	142.5	236.2		
	ZH28507032	7D	199.5	293.2										
	YI1A2900	YI2C2900	1.1417	-	29.00	ZH29003032	32	60	37	3D	87	182.2		TX2930T25
	YI1A2937	YI2C2937	1.1562	1-5/32	29.37	ZH29005032				5D	145	240.2		
	ZH29007032	7D	203	298.2										
	YI1A2950	YI2C2950	1.1614	-	29.50	ZH29503032	32	60	37	3D	88.5	183.2		
YI1A2977	YI2C2977	1.1719	1-11/64	29.77	ZH29505032	5D				147.5	242.2			
ZH29507032	7D	206.5	301.2											

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	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
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HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
YI1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YI2C	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

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	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
YI1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YI2C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

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Series Range (mm)	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth		Overall Length L3 Ref.	Screw No.	
	General (TiAlN)	INOX (TiCN)	dec.	h7 frac.	mm					L1	L3 Ref.			
J Ø30.00 to Ø31.99	YJ1A3000	YJ2C3000	1.1811	-	30.00	ZH30003032	32	60	37	3D	90	186.0	TX3031T25	
	YJ1A3016	YJ2C3016	1.1875	1-3/16	30.16	ZH30005032				5D	150	246.0		
	ZH30007032	7D	210	306.0										
	YJ1A3050	YJ2C3050	1.2008	-	30.50	ZH30503032	32	60	37	3D	91.5	187.0		
	YJ1A3056	YJ2C3056	1.2031	1-13/64	30.56	ZH30505032				5D	152.5	248.0		
	ZH30507032	7D	213.5	309.0										
	YJ1A3100	YJ2C3100	1.2205	-	31.00	ZH31003032	32	60	37	3D	93	188.0		TX3132T25
	YJ1A3096	YJ2C3096	1.2188	1-7/32	30.96	ZH31005032				5D	155	250.0		
	ZH31007032	7D	217	312.0										
	YJ1A3150	YJ2C3150	1.2402	-	31.50	ZH31503032	32	60	37	3D	94.5	191.0		
YJ1A3175	YJ2C3175	1.2500	1-1/4	31.75	ZH31505032	5D				157.5	254.0			
ZH31507032	7D	220.5	317.0											

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
YJ1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YJ2C	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
YJ1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
YJ2C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

YA1A, YB1A, YC1A, YD1A, YE1A, YF1A, YG1A, YH1A, YI1A, YJ1A SERIES

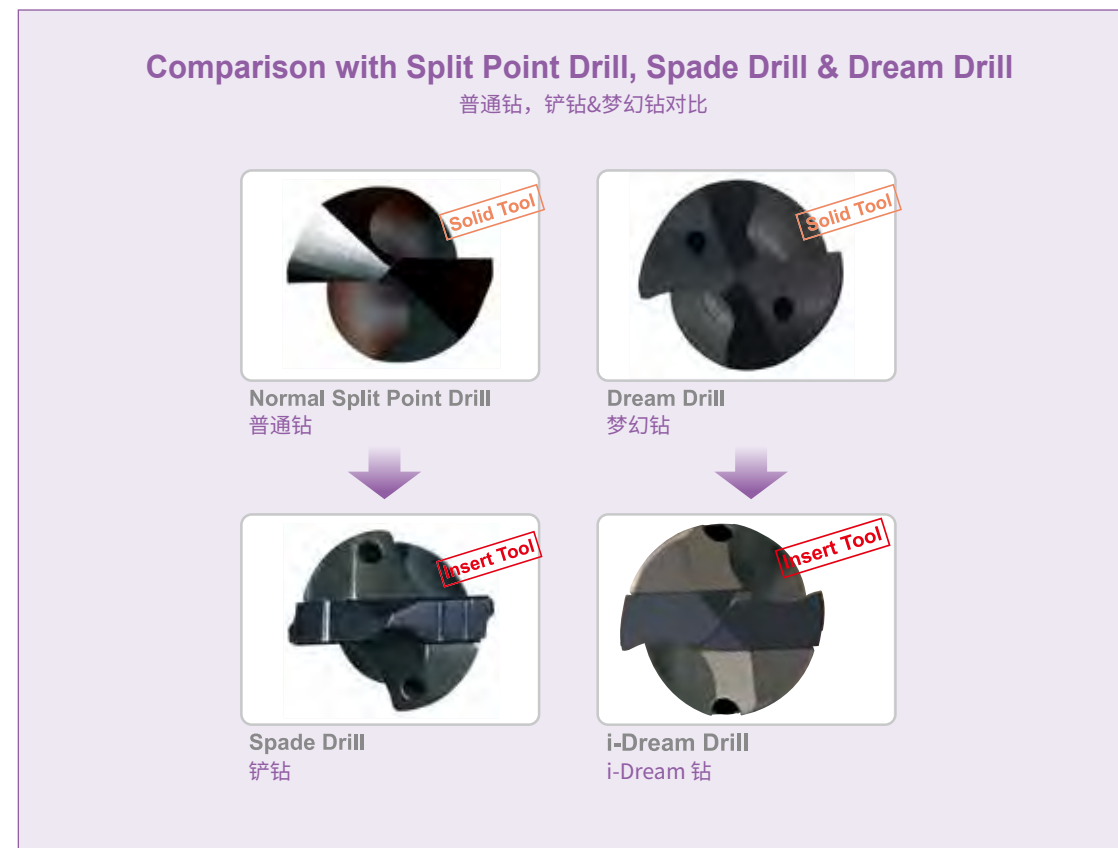
i-DREAM DRILLS - GENERAL
i-梦幻钻 - GENERAL

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Feed(mm/rev)				
				Ø12.00-14.99	Ø15.00-17.99	Ø18.00-21.99	Ø22.00-26.99	Ø27.00-31.99
P	1	Non-alloy steel	95-120	0.16-0.28	0.21-0.35	0.27-0.40	0.34-0.52	0.37-0.55
	2		80-105	0.14-0.24	0.21-0.35	0.27-0.40	0.34-0.52	0.37-0.55
	3		60-80	0.12-0.20	0.17-0.28	0.22-0.32	0.30-0.46	0.33-0.49
	4		55-70	0.10-0.16	0.15-0.25	0.21-0.30	0.25-0.38	0.29-0.43
	5	Low alloy steel	55-70	0.10-0.16	0.15-0.25	0.21-0.30	0.25-0.38	0.29-0.43
	6		70-90	0.12-0.20	0.17-0.28	0.22-0.32	0.30-0.46	0.34-0.50
	7		60-80	0.12-0.20	0.15-0.25	0.22-0.32	0.30-0.46	0.34-0.50
	8	High alloyed steel, and tool steel	55-70	0.10-0.16	0.13-0.21	0.21-0.30	0.25-0.38	0.29-0.43
	9		45-60	0.08-0.12	0.13-0.21	0.21-0.30	0.25-0.38	0.29-0.43
	10	Grey cast iron	50-65	0.10-0.16	0.13-0.21	0.18-0.26	0.20-0.31	0.24-0.35
	11		40-55	0.10-0.16	0.11-0.18	0.21-0.30	0.20-0.31	0.24-0.35
K	15	Nodular cast iron	100-125	0.15-0.26	0.20-0.37	0.27-0.42	0.36-0.51	0.40-0.55
	16		75-95	0.11-0.20	0.16-0.29	0.20-0.30	0.25-0.35	0.29-0.40
	17	Malleable cast iron	95-120	0.13-0.22	0.17-0.31	0.21-0.32	0.28-0.40	0.32-0.44
	18		75-95	0.11-0.20	0.14-0.26	0.19-0.29	0.25-0.35	0.29-0.40
	19		100-125	0.13-0.22	0.17-0.31	0.21-0.32	0.28-0.40	0.32-0.44
20	75-95		0.11-0.18	0.14-0.26	0.19-0.29	0.25-0.35	0.29-0.40	

- The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points. Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.
- Recommend you to reduce the feed rate to 85%, 70% when you use 5xD, 7xD holders.
- For use of 7xD holder, we recommend to use a pilot drill with equal to or larger than 140° point angle (0.5xD - 1.5xD). The use of the centering pre-hole improves hole location, roundness and surface finish.

- 表中推荐的速度, 进给率和其它参数只可用夹参考推荐降低速度和进给量(速度降低20%和进给降低10%)
- 建议在使用5xD, 7xD的刀柄时把进给率降低到85%, 70%
- 在使用7xD刀柄时, 建议用等于或大于140度顶尖的钻头钻一个直径2/3以上的定位中心孔 定位中心孔的使用提高孔的定位, 圆度和表面粗糙度



YA2C, YB2C, YC2C, YD2C, YE2C, YF2C, YG2C, YH2C, YI2C, YJ2C SERIES

i-DREAM DRILLS - INOX
i-梦幻钻 - INOX

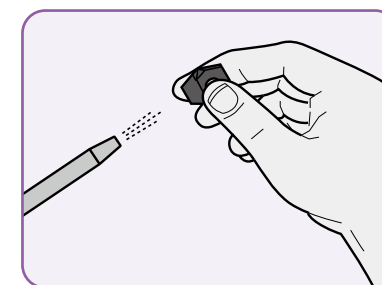
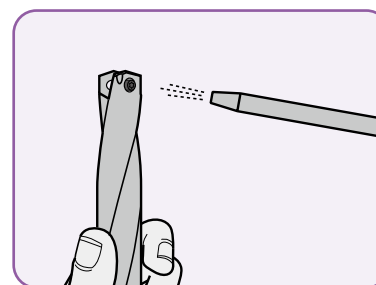
RPM (转速) = (rev/min)
FEED (进给) = (mm/rev)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 切削速度 (m/min)	Feed(mm/rev)					
				Ø12.00-14.99	Ø15.00-17.99	Ø18.00-21.90	Ø22.00-26.99	Ø27.00-31.99	
P	1	Non-alloy steel	95-120	0.16-0.28	0.21-0.35	0.27-0.40	0.34-0.52	0.37-0.55	
			80-105	0.14-0.24	0.21-0.35	0.27-0.40	0.34-0.52	0.37-0.55	
			60-80	0.12-0.20	0.17-0.28	0.22-0.32	0.30-0.46	0.33-0.49	
			55-70	0.10-0.16	0.15-0.25	0.21-0.30	0.25-0.38	0.29-0.43	
			70-90	0.12-0.20	0.17-0.28	0.22-0.32	0.30-0.46	0.34-0.50	
	6	Low alloy steel	60-80	0.12-0.20	0.15-0.25	0.22-0.32	0.30-0.46	0.34-0.50	
			60-80	0.12-0.20	0.15-0.25	0.22-0.32	0.30-0.46	0.34-0.50	
	10	High alloyed steel, and tool steel	50-65	0.10-0.16	0.13-0.21	0.18-0.26	0.20-0.31	0.24-0.35	
	M	12	Stainless steel	30-45	0.08-0.14	0.09-0.15	0.10-0.16	0.12-0.20	0.14-0.22
				30-45	0.08-0.14	0.09-0.15	0.10-0.16	0.12-0.20	0.14-0.22
14		Stainless steel	45-60	0.10-0.16	0.12-0.18	0.14-0.20	0.15-0.26	0.18-0.28	
			45-60	0.10-0.16	0.12-0.18	0.14-0.20	0.15-0.26	0.18-0.28	
N	21	Aluminum-wrought alloy	250-330	0.30-0.40	0.35-0.45	0.40-0.50	0.45-0.55	0.50-0.60	
			200-250	0.30-0.40	0.35-0.45	0.40-0.50	0.45-0.55	0.50-0.60	
	23	Aluminum-cast, alloyed	200-250	0.25-0.35	0.30-0.40	0.35-0.45	0.40-0.50	0.45-0.55	
			150-220	0.25-0.35	0.30-0.40	0.35-0.45	0.40-0.50	0.45-0.55	
			100-200	0.20-0.30	0.25-0.35	0.30-0.40	0.35-0.45	0.40-0.50	
	26	Copper and Copper Alloys (Bronze / Brass)	115-145	0.16-0.28	0.23-0.36	0.29-0.36	0.37-0.45	0.41-0.48	
			145-185	0.17-0.29	0.24-0.37	0.30-0.38	0.38-0.46	0.42-0.49	
			95-120	0.06-0.09	0.09-0.13	0.11-0.13	0.15-0.18	0.19-0.22	

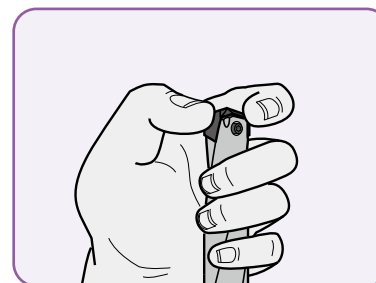
- The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points. Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.
- Recommend you to reduce the feed rate to 85%, 70% when you use 5xD, 7xD holders.
- For use of 7xD holder, we recommend to use a pilot drill with equal to or larger than 140° point angle (0.5xD - 1.5xD). The use of the centering pre-hole improves hole location, roundness and surface finish.

- 表中推荐的速度, 进给率和其它参数只可用参考
- 推荐降低速度和进给量(速度降低20%和进给降低10%)
- 建议在使用5xD, 7xD的刀柄时把进给率降低到85%, 70%
- 在使用7xD刀柄时, 建议用等于或大于140度顶尖的钻头钻一个直径2/3以上的定位中心孔
- 定位中心孔的使用提高孔的定位, 圆度和表面粗糙度

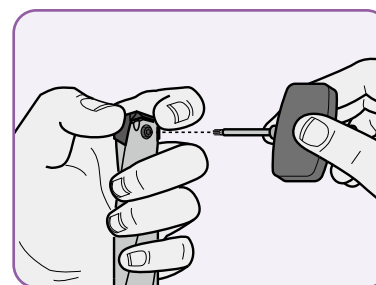
ASSEMBLY OF i-DREAM DRILLS
i-梦幻钻的装配



Make sure to clean the insert and insert seat.
确定刀片及刀架的清洁



Slide the drill insert into the slot of the holder and press down the insert to touch the bottom of the slot.
将钻头刀片滑至夹具的夹缝中并按下刀片至夹缝底部。



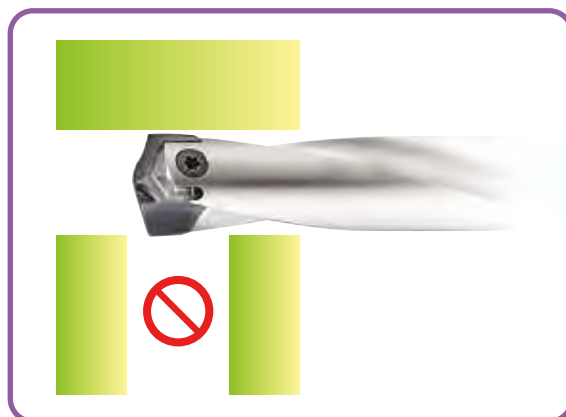
After confirming the insert is pressed down to the bottom of the slot, tighten the screw using anti-seize compound.
确定刀片按压至夹缝底部后用抓具扣紧螺丝使其进一步融合

WRENCH TYPE	PRODUCT NO.	T-HANDLE No.	SERIES (SIZE)
WING TYPE	TWWT08	—	A (Ø12.00-Ø13.99)
			B (Ø14.00-Ø15.99)
			C (Ø16.00-Ø17.99)
TORX BIT TYPE	TWBT15	TWH600	D (Ø18.00-Ø19.99)
			E, F, G (Ø20.00-Ø25.99)
			H, I, J (Ø26.00-Ø31.99)

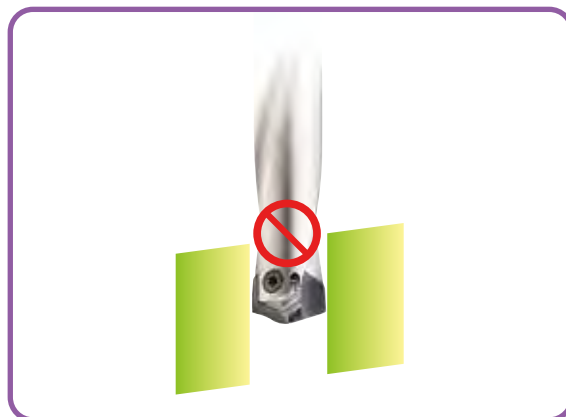
Use the wing type or T-type wrench.
用翼形或T形扳手

- Need to use appropriate wrenches and screws as indicated. 根据指示, 需要使用合适的扳手和螺钉
- It's important to tighten up the screw properly. 适当的拧紧螺钉是很重要的

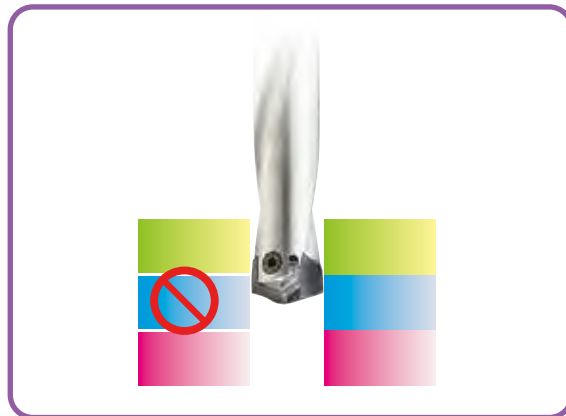
CAUTION-NOT RECOMMENDABLE APPLICATION
注意-不推荐使用



Intersecting cross hole is bigger than the drill insert's Margin Length.
交叉孔比钻头刀片的钻边长度大

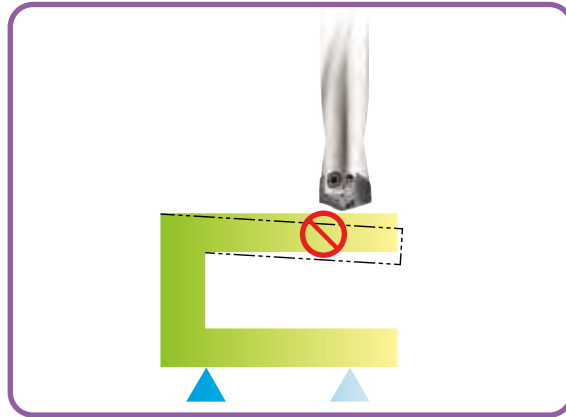


Material with slanting entrance and exit over 7 degrees. (If drilling 7 degrees or under slanting surface, reduce the feed about 30-50%)
倾斜进入的材料和超过7度的出口(如果钻7度的孔或者在倾斜面下钻孔,可减少30~50%的进给)



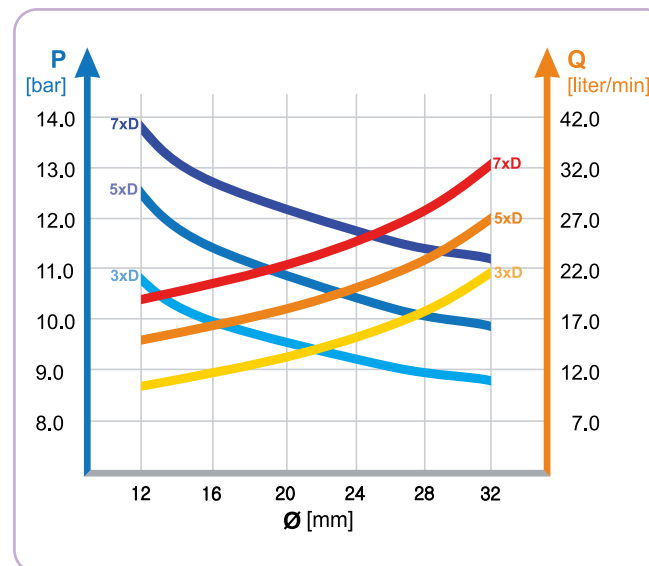
For drilling stacked plates, minimize the space between the plates.
对于钻一堆整齐的薄板,薄板之间的间隙减小到最低

The space between stacked plates can cause insert breakage or poor chip control.
整齐的薄板间隔可导致刀片破损或铁屑不易排除



The material needs to be fixtured securely before drilling.
在钻削前材料需要进行安全固定

RECOMMENDED COOLANT PRESSURE AND FLOW RATE ON VERTICAL DRILLING
在立式钻孔中,推荐使用的油压和流速



- Recommended emulsion mix is 6 - 8%.
推荐使用6-8%的混合乳化液
- For Drilling into Stainless and High Strength steels, a mix of 10% is recommended.
钻孔加工不锈钢和高强度钢时,推荐使用10%的混合乳化液
- For horizontal drilling, 30% reduction on the coolant pressure and flow rate is possible.
对于水平钻孔,油压和流速降低30%是可能的
- Dry drilling is possible for 1-2xD drilling. But not recommended.
干式钻孔可以用于1-2xD钻削,但是不推荐使用

TROUBLE SHOOTING
问题解答



- 1) Heavy flank wear / Fast flank wear**
- Reduce cutting speed
- Increase feed
巨大磨损/快速磨损
- 降低切削速度
- 增加进给量



- 2) Chipping on cutting edge**
- Reduce feed
- Check the rigidity of spindle and chuck
- Rigid clamping of workpiece
切削刃崩刃
- 减少进给量
- 检测主轴和刀夹刚性
- 工件的强性夹持



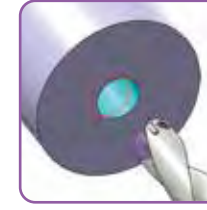
- 3) Build-up on cutting edge**
- Increase cutting speed
- Use a coated insert
刃边积瘤
- 增加切削速度
- 使用涂层刀片



- 4) Chipping or break down on outer corner**
- Reduce feed
- Rigid clamping of workpiece
在转角处崩刃或破损
- 减少进给量
- 增强工件夹持刚性



- 5) Wear of land margin**
- Rigid clamping of workpiece
- Reduce cutting speed
- Increase coolant flow
刀具刃带磨损
- 增强工件夹持刚性
- 降低切削速度
- 增加油流量



- 6) Unsatisfactory positioning of the hole**
- Rigid clamping of workpiece
- Reduce feed during entrance or exit
孔位置度不良
- 增强工件夹持刚性
- 在进入和退出时降低速度



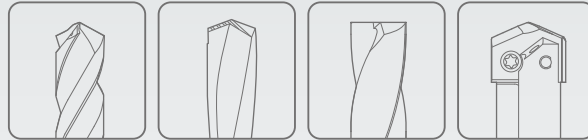
- 7) Scratching on holder**
- Rigid clamping of workpiece
- Reduce feed
- Increase coolant flow
刀体损伤
- 增强工件夹持刚性
- 减少进给量
- 增加油流量



- 8) Unsatisfactory surface finish**
- Rigid clamping of workpiece
- Increase coolant flow and pressure
令人不满意的表面粗糙度
- 增强工件夹持刚性
- 增加油流量和油压力



Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

SOLID CARBIDE

DREAM DRILLS - PRO

- For General Purpose (HRc30 to HRc50)
- Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology
- 普通用途通常是HRc30 到 HRc50
- 采用YG-1特殊的Z涂层技术，具有超高的硬度和耐热性

SELECTION GUIDE
选用指南



SERIES 系列	DGN523	DGN526	DGN506	DGN508
DRILLING DEPTH 钻削深度	3XD	5XD	3XD	5XD
LENGTH 长度	SHORT 短	LONG 长	SHORT 短	LONG 长
SIZE MIN 最小尺寸	D3.0	D1.0	D3.0	D1.0
SIZE MAX 最大尺寸	D20.0	D20.0	D20.0	D20.0
PAGE 页数	A63	A66	A69	A72
SURFACE TREATMENT 表面处理	Z-Coating			

SOLID CARBIDE
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Please visit 请访问 globalyg1.com/mat for material search 查看产品材料
©: Excellent (优秀) ○: Good (良好)
Recommended cutting conditions (推荐加工条件): p. A75

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度					
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	◎	
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎	
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎	
	4		About 0.75% C Annealed	270	28	◎	◎	◎	◎	
	5		About 0.75% C Quenched & Tempered	300	32	○	○	○	○	
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎	
	7		Quenched & Tempered	275	29	◎	◎	◎	◎	
	8		Quenched & Tempered	300	32	○	○	○	○	
	9		Quenched & Tempered	350	38	○	○	○	○	
	10		High alloyed steel, and tool steel	Annealed	200	15	◎	◎	◎	◎
	11			Quenched & Tempered	325	35	○	○	○	○
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○	○	○	
	13		Martensitic Quenched & Tempered	240	23	○	○	○	○	
	14		Austenitic	180	10					
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎	◎	
	16		Pearlitic (Martensitic)	260	26	○	○	○	○	
	17	Nodular cast iron	Ferritic	160	3	◎	◎	◎	◎	
	18		Pearlitic	250	25	○	○	○	○	
	19		Ferritic	130		◎	◎	◎	◎	
20	Malleable cast iron	Pearlitic	230	21	○	○	○	○		
N	21	Aluminum-wrought alloy	Not Curable	60						
	22		Curable Hardened	100						
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75						
	24		≤ 12% Si, Curable Hardened	90						
	25		> 12% Si, Not Curable	130						
	26		Cutting Alloys, PB>1%	110						
	27	Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90						
	28		CuSn, lead-free copper and electrolytic copper	100						
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic							
	30		Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15				
	32			Cured	280	30				
	33		Annealed	250	25					
	34		Cured	350	38					
	35	Cast	320	34						
	36	Titanium Alloys	Pure Titanium	400 Rm						
	37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel	Hardened	550	55	○	○	○	○	
	39		Hardened	630	60					
	40	Hardened Cast Iron	Cast	400	42					
	41		Hardened	550	55					



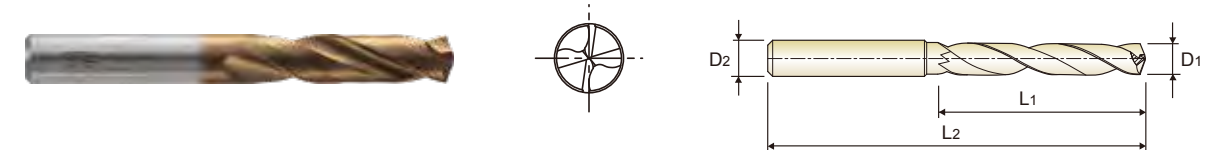
DGN523 SERIES

CARBIDE, DREAM DRILLS PRO
硬质合金, 梦幻钻头-PRO

SHORT 短

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRc30~50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- ▶ 适合加工碳钢, 合金钢 (HB225~325), 预硬钢 (HRc30~50), 铸铁
- ▶ 波形切削刃降低切削力, 改善切屑形状
- ▶ 螺旋横刃处理, 减小加工阻力, 切削稳定, 断屑良好
- ▶ 采用YG-1特殊的 Z 涂层技术, 具有超高的硬度和耐热性



DIN 6537 CARBIDE 30° h6 m7 140° p. A75

3 x D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN523030	3.0	6	20	62
DGN523031	3.1	6	20	62
DGN523032	3.2	6	20	62
DGN523033	3.3	6	20	62
DGN523034	3.4	6	20	62
DGN523035	3.5	6	20	62
DGN523036	3.6	6	20	62
DGN523037	3.7	6	20	62
DGN523038	3.8	6	24	66
DGN523039	3.9	6	24	66
DGN523040	4.0	6	24	66
DGN523041	4.1	6	24	66
DGN523042	4.2	6	24	66
DGN523043	4.3	6	24	66
DGN523044	4.4	6	24	66
DGN523045	4.5	6	24	66
DGN523046	4.6	6	24	66
DGN523047	4.7	6	24	66
DGN523048	4.8	6	28	66
DGN523049	4.9	6	28	66
DGN523050	5.0	6	28	66
DGN523051	5.1	6	28	66
DGN523052	5.2	6	28	66
DGN523053	5.3	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN523054	5.4	6	28	66
DGN523055	5.5	6	28	66
DGN523056	5.6	6	28	66
DGN523057	5.7	6	28	66
DGN523058	5.8	6	28	66
DGN523059	5.9	6	28	66
DGN523060	6.0	6	28	66
DGN523061	6.1	8	34	79
DGN523062	6.2	8	34	79
DGN523063	6.3	8	34	79
DGN523064	6.4	8	34	79
DGN523065	6.5	8	34	79
DGN523066	6.6	8	34	79
DGN523067	6.7	8	34	79
DGN523068	6.8	8	34	79
DGN523069	6.9	8	34	79
DGN523070	7.0	8	34	79
DGN523071	7.1	8	41	79
DGN523072	7.2	8	41	79
DGN523073	7.3	8	41	79
DGN523074	7.4	8	41	79
DGN523075	7.5	8	41	79
DGN523076	7.6	8	41	79
DGN523077	7.7	8	41	79

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供。

▶ NEXT PAGE 下页

◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323																				
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N									S						H					
	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323																					
HRc											15	30	25	38	34	40	55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		◎	◎	◎	◎

HSS

HSS



DGN523 SERIES



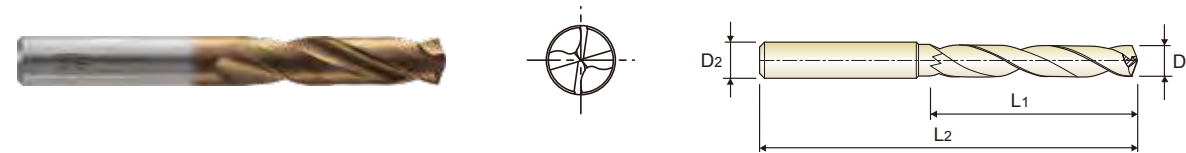
DGN523 SERIES

CARBIDE, DREAM DRILLS PRO
硬质合金, 梦幻钻头-PRO

SHORT
短

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- ▶ 螺旋横刃处理, 减小加工阻力, 切削稳定, 断屑良好
- ▶ 采用YG-1特殊的Z涂层技术, 具有超高的硬度和耐热性

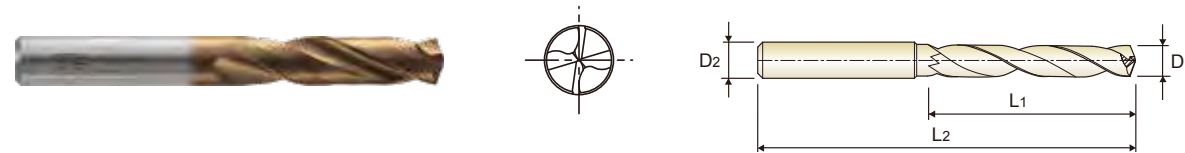


CARBIDE, DREAM DRILLS PRO
硬质合金, 梦幻钻头-PRO

SHORT
短

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30~50), Cast Iron
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3 × D



Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN523078	7.8	8	41	79
DGN523079	7.9	8	41	79
DGN523080	8.0	8	41	79
DGN523081	8.1	10	47	89
DGN523082	8.2	10	47	89
DGN523083	8.3	10	47	89
DGN523084	8.4	10	47	89
DGN523085	8.5	10	47	89
DGN523086	8.6	10	47	89
DGN523087	8.7	10	47	89
DGN523088	8.8	10	47	89
DGN523089	8.9	10	47	89
DGN523090	9.0	10	47	89
DGN523091	9.1	10	47	89
DGN523092	9.2	10	47	89
DGN523093	9.3	10	47	89
DGN523094	9.4	10	47	89
DGN523095	9.5	10	47	89
DGN523096	9.6	10	47	89
DGN523097	9.7	10	47	89
DGN523098	9.8	10	47	89
DGN523099	9.9	10	47	89
DGN523100	10.0	10	47	89
DGN523101	10.1	12	55	102

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN523102	10.2	12	55	102
DGN523103	10.3	12	55	102
DGN523104	10.4	12	55	102
DGN523105	10.5	12	55	102
DGN523106	10.6	12	55	102
DGN523107	10.7	12	55	102
DGN523108	10.8	12	55	102
DGN523109	10.9	12	55	102
DGN523110	11.0	12	55	102
DGN523111	11.1	12	55	102
DGN523112	11.2	12	55	102
DGN523113	11.3	12	55	102
DGN523114	11.4	12	55	102
DGN523115	11.5	12	55	102
DGN523116	11.6	12	55	102
DGN523117	11.7	12	55	102
DGN523118	11.8	12	55	102
DGN523119	11.9	12	55	102
DGN523120	12.0	12	55	102
DGN523123	12.3	14	60	107
DGN523125	12.5	14	60	107
DGN523128	12.8	14	60	107
DGN523130	13.0	14	60	107
DGN523135	13.5	14	60	107

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供。

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	◎	○	○	◎	○	○	○	○	◎	○	◎	○	◎	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		○			

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3 × D



Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN523138	13.8	14	60	107
DGN523140	14.0	14	60	107
DGN523145	14.5	16	65	115
DGN523148	14.8	16	65	115
DGN523150	15.0	16	65	115
DGN523155	15.5	16	65	115
DGN523158	15.8	16	65	115
DGN523160	16.0	16	65	115
DGN523165	16.5	18	73	123
DGN523168	16.8	18	73	123

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN523170	17.0	18	73	123
DGN523175	17.5	18	73	123
DGN523178	17.8	18	73	123
DGN523180	18.0	18	73	123
DGN523185	18.5	20	79	131
DGN523190	19.0	20	79	131
DGN523195	19.5	20	79	131
DGN523198	19.8	20	79	131
DGN523200	20.0	20	79	131

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	◎	○	○	◎	○	○	○	○	◎	○	◎	○	◎	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		○			

A65

HSS

HSS



DGN526 SERIES



DGN526 SERIES

CARBIDE, DREAM DRILLS PRO
硬质合金, 梦幻钻头-PRO

LONG
长

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30~50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- ▶ 适合加工碳钢, 合金钢 (HB225~325), 预硬钢 (HRC30~50), 铸铁
- ▶ 波形切削刃降低切削力, 改善切屑形状
- ▶ 螺旋横刃处理, 减小加工阻力, 切削稳定, 断屑良好
- ▶ 采用YG-1特殊的Z涂层技术, 具有超高的硬度和耐热性



5 × D

Plain Shank		Page
⊙ SHRINK FIT HOLDER		D47-72
⊙ HYDRAULIC CHUCK		D15-46
○ ER COLLET CHUCK		D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN526010	1.0	3	8	55
DGN526011	1.1	3	12	55
DGN526012	1.2	3	12	55
DGN526013	1.3	3	12	55
DGN526014	1.4	3	12	55
DGN526015	1.5	3	16	55
DGN526016	1.6	3	16	55
DGN526017	1.7	3	16	55
DGN526018	1.8	3	16	55
DGN526019	1.9	3	16	55
DGN526020	2.0	4	21	57
DGN526021	2.1	4	21	57
DGN526022	2.2	4	21	57
DGN526023	2.3	4	21	57
DGN526024	2.4	4	21	57
DGN526025	2.5	4	21	57
DGN526026	2.6	4	21	57
DGN526027	2.7	4	21	57
DGN526028	2.8	4	21	57
DGN526029	2.9	4	21	57
DGN526030	3.0	6	28	66
DGN526031	3.1	6	28	66
DGN526032	3.2	6	28	66
DGN526033	3.3	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN526034	3.4	6	28	66
DGN526035	3.5	6	28	66
DGN526036	3.6	6	28	66
DGN526037	3.7	6	28	66
DGN526038	3.8	6	36	74
DGN526039	3.9	6	36	74
DGN526040	4.0	6	36	74
DGN526041	4.1	6	36	74
DGN526042	4.2	6	36	74
DGN526043	4.3	6	36	74
DGN526044	4.4	6	36	74
DGN526045	4.5	6	36	74
DGN526046	4.6	6	36	74
DGN526047	4.7	6	36	74
DGN526048	4.8	6	44	82
DGN526049	4.9	6	44	82
DGN526050	5.0	6	44	82
DGN526051	5.1	6	44	82
DGN526052	5.2	6	44	82
DGN526053	5.3	6	44	82
DGN526054	5.4	6	44	82
DGN526055	5.5	6	44	82
DGN526056	5.6	6	44	82
DGN526057	5.7	6	44	82

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▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323																				
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323																					
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		◎	◎	◎	◎

A66

CARBIDE, DREAM DRILLS PRO
硬质合金, 梦幻钻头-PRO

LONG
长

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5 × D

Plain Shank		Page
⊙ SHRINK FIT HOLDER		D47-72
⊙ HYDRAULIC CHUCK		D15-46
○ ER COLLET CHUCK		D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN526058	5.8	6	44	82
DGN526059	5.9	6	44	82
DGN526060	6.0	6	44	82
DGN526061	6.1	8	53	91
DGN526062	6.2	8	53	91
DGN526063	6.3	8	53	91
DGN526064	6.4	8	53	91
DGN526065	6.5	8	53	91
DGN526066	6.6	8	53	91
DGN526067	6.7	8	53	91
DGN526068	6.8	8	53	91
DGN526069	6.9	8	53	91
DGN526070	7.0	8	53	91
DGN526071	7.1	8	53	91
DGN526072	7.2	8	53	91
DGN526073	7.3	8	53	91
DGN526074	7.4	8	53	91
DGN526075	7.5	8	53	91
DGN526076	7.6	8	53	91
DGN526077	7.7	8	53	91
DGN526078	7.8	8	53	91
DGN526079	7.9	8	53	91
DGN526080	8.0	8	53	91
DGN526081	8.1	10	61	103

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN526082	8.2	10	61	103
DGN526083	8.3	10	61	103
DGN526084	8.4	10	61	103
DGN526085	8.5	10	61	103
DGN526086	8.6	10	61	103
DGN526087	8.7	10	61	103
DGN526088	8.8	10	61	103
DGN526089	8.9	10	61	103
DGN526090	9.0	10	61	103
DGN526091	9.1	10	61	103
DGN526092	9.2	10	61	103
DGN526093	9.3	10	61	103
DGN526094	9.4	10	61	103
DGN526095	9.5	10	61	103
DGN526096	9.6	10	61	103
DGN526097	9.7	10	61	103
DGN526098	9.8	10	61	103
DGN526099	9.9	10	61	103
DGN526100	10.0	10	61	103
DGN526101	10.1	12	71	118
DGN526102	10.2	12	71	118
DGN526103	10.3	12	71	118
DGN526104	10.4	12	71	118
DGN526105	10.5	12	71	118

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323																				
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323																					
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		◎	◎	◎	◎

A67



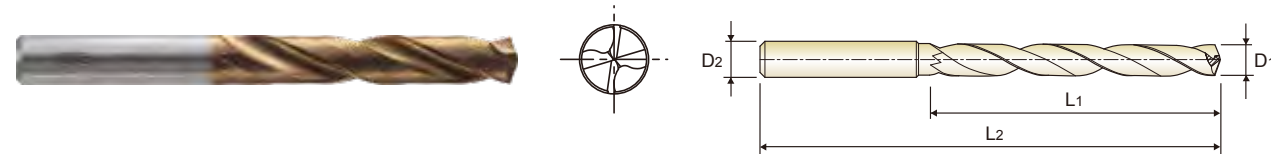
DGN526 SERIES

CARBIDE, DREAM DRILLS PRO
硬质合金, 梦幻钻头-PRO

LONG
长

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRc30~50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- ▶ 适合加工碳钢, 合金钢 (HB225~325), 预硬钢 (HRc30~50), 铸铁
- ▶ 波形切削刃降低切削力, 改善切屑形状
- ▶ 螺旋横刃处理, 减小加工阻力, 切削稳定, 断屑良好
- ▶ 采用YG-1特殊的Z涂层技术, 具有超高的硬度和耐热性



5 × D

Recommended ToolHolder	Plain Shank	Page
	SHRINK FIT HOLDER	D47-72
	HYDRAULIC CHUCK	D15-46
	ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN526106	10.6	12	71	118
DGN526107	10.7	12	71	118
DGN526108	10.8	12	71	118
DGN526109	10.9	12	71	118
DGN526110	11.0	12	71	118
DGN526111	11.1	12	71	118
DGN526112	11.2	12	71	118
DGN526113	11.3	12	71	118
DGN526114	11.4	12	71	118
DGN526115	11.5	12	71	118
DGN526116	11.6	12	71	118
DGN526117	11.7	12	71	118
DGN526118	11.8	12	71	118
DGN526119	11.9	12	71	118
DGN526120	12.0	12	71	118
DGN526122	12.2	14	77	124
DGN526125	12.5	14	77	124
DGN526128	12.8	14	77	124
DGN526130	13.0	14	77	124
DGN526135	13.5	14	77	124
DGN526138	13.8	14	77	124

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN526140	14.0	14	77	124
DGN526142	14.2	16	83	133
DGN526145	14.5	16	83	133
DGN526148	14.8	16	83	133
DGN526150	15.0	16	83	133
DGN526151	15.1	16	83	133
DGN526152	15.2	16	83	133
DGN526155	15.5	16	83	133
DGN526158	15.8	16	83	133
DGN526160	16.0	16	83	133
DGN526165	16.5	18	93	143
DGN526170	17.0	18	93	143
DGN526173	17.3	18	93	143
DGN526175	17.5	18	93	143
DGN526177	17.7	18	93	143
DGN526180	18.0	18	93	143
DGN526185	18.5	20	101	153
DGN526190	19.0	20	101	153
DGN526193	19.3	20	101	153
DGN526195	19.5	20	101	153
DGN526200	20.0	20	101	153

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	55	60	42	55		55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



DGN506 SERIES

CARBIDE, DREAM DRILLS PRO with COOLANT HOLES
硬质合金, 梦幻钻头-PRO 带内冷孔

SHORT
短

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRc30~50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- ▶ 适合加工碳钢, 合金钢 (HB225~325), 预硬钢 (HRc30~50), 铸铁
- ▶ 波形切削刃降低切削力, 改善切屑形状
- ▶ 螺旋横刃处理, 减小加工阻力, 切削稳定, 断屑良好
- ▶ 采用YG-1特殊的Z涂层技术, 具有超高的硬度和耐热性



3 × D

Recommended ToolHolder	Plain Shank	Page
	SHRINK FIT HOLDER	D47-72
	HYDRAULIC CHUCK	D15-46
	ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN506030	3.0	6	20	62
DGN506031	3.1	6	20	62
DGN506032	3.2	6	20	62
DGN506033	3.3	6	20	62
DGN506034	3.4	6	20	62
DGN506035	3.5	6	20	62
DGN506036	3.6	6	20	62
DGN506037	3.7	6	20	62
DGN506038	3.8	6	24	66
DGN506039	3.9	6	24	66
DGN506040	4.0	6	24	66
DGN506041	4.1	6	24	66
DGN506042	4.2	6	24	66
DGN506043	4.3	6	24	66
DGN506044	4.4	6	24	66
DGN506045	4.5	6	24	66
DGN506046	4.6	6	24	66
DGN506047	4.7	6	24	66
DGN506048	4.8	6	28	66
DGN506049	4.9	6	28	66
DGN506050	5.0	6	28	66
DGN506051	5.1	6	28	66
DGN506052	5.2	6	28	66
DGN506053	5.3	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN506054	5.4	6	28	66
DGN506055	5.5	6	28	66
DGN506056	5.6	6	28	66
DGN506057	5.7	6	28	66
DGN506058	5.8	6	28	66
DGN506059	5.9	6	28	66
DGN506060	6.0	6	28	66
DGN506061	6.1	8	34	79
DGN506062	6.2	8	34	79
DGN506063	6.3	8	34	79
DGN506064	6.4	8	34	79
DGN506065	6.5	8	34	79
DGN506066	6.6	8	34	79
DGN506067	6.7	8	34	79
DGN506068	6.8	8	34	79
DGN506069	6.9	8	34	79
DGN506070	7.0	8	34	79
DGN506071	7.1	8	41	79
DGN506072	7.2	8	41	79
DGN506073	7.3	8	41	79
DGN506074	7.4	8	41	79
DGN506075	7.5	8	41	79
DGN506076	7.6	8	41	79
DGN506077	7.7	8	41	79

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

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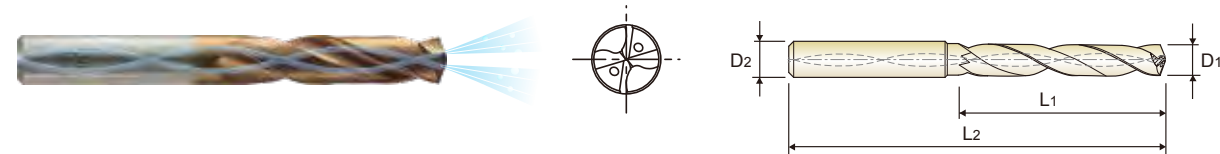
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	55	60	42	55		55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, DREAM DRILLS PRO with COOLANT HOLES SHORT 短
硬质合金, 梦幻钻头-PRO 带内冷孔

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30~50), Cast Iron
- ▶ 适合加工碳钢, 合金钢 (HB225~325), 预硬钢 (HRC30~50), 铸铁
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ 波形切削刃降低切削力, 改善切屑形状
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ 螺旋横刃处理, 减下加工阻力, 切削稳定, 断屑良好
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology
- ▶ 采用YG-1特殊的Z涂层技术, 具有超高的硬度和耐热性



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar 3 × D p. A76

Plain Shank Page
 SHRINK FIT HOLDER D47-72
 HYDRAULIC CHUCK D15-46
 ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN506078	7.8	8	41	79
DGN506079	7.9	8	41	79
DGN506080	8.0	8	41	79
DGN506081	8.1	10	47	89
DGN506082	8.2	10	47	89
DGN506083	8.3	10	47	89
DGN506084	8.4	10	47	89
DGN506085	8.5	10	47	89
DGN506086	8.6	10	47	89
DGN506087	8.7	10	47	89
DGN506088	8.8	10	47	89
DGN506089	8.9	10	47	89
DGN506090	9.0	10	47	89
DGN506091	9.1	10	47	89
DGN506092	9.2	10	47	89
DGN506093	9.3	10	47	89
DGN506094	9.4	10	47	89
DGN506095	9.5	10	47	89
DGN506096	9.6	10	47	89
DGN506097	9.7	10	47	89
DGN506098	9.8	10	47	89
DGN506099	9.9	10	47	89
DGN506100	10.0	10	47	89
DGN506101	10.1	12	55	102

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN506102	10.2	12	55	102
DGN506103	10.3	12	55	102
DGN506104	10.4	12	55	102
DGN506105	10.5	12	55	102
DGN506106	10.6	12	55	102
DGN506107	10.7	12	55	102
DGN506108	10.8	12	55	102
DGN506109	10.9	12	55	102
DGN506110	11.0	12	55	102
DGN506111	11.1	12	55	102
DGN506112	11.2	12	55	102
DGN506113	11.3	12	55	102
DGN506114	11.4	12	55	102
DGN506115	11.5	12	55	102
DGN506116	11.6	12	55	102
DGN506117	11.7	12	55	102
DGN506118	11.8	12	55	102
DGN506119	11.9	12	55	102
DGN506120	12.0	12	55	102
DGN506125	12.5	14	60	107
DGN506130	13.0	14	60	107
DGN506135	13.5	14	60	107
DGN506140	14.0	14	60	107
DGN506145	14.5	16	65	115

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供。 ▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	◎	○	○	○	○	○	○	○	◎	○	◎	○	◎	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		○			

CARBIDE, DREAM DRILLS PRO with COOLANT HOLES SHORT 短
硬质合金, 梦幻钻头-PRO 带内冷孔

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30~50), Cast Iron
- ▶ 适合加工碳钢, 合金钢 (HB225~325), 预硬钢 (HRC30~50), 铸铁
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ 波形切削刃降低切削力, 改善切屑形状
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ 螺旋横刃处理, 减下加工阻力, 切削稳定, 断屑良好
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology
- ▶ 采用YG-1特殊的Z涂层技术, 具有超高的硬度和耐热性



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar 3 × D p. A76

Plain Shank Page
 SHRINK FIT HOLDER D47-72
 HYDRAULIC CHUCK D15-46
 ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN506150	15.0	16	65	115
DGN506155	15.5	16	65	115
DGN506160	16.0	16	65	115
DGN506165	16.5	18	73	123
DGN506170	17.0	18	73	123
DGN506175	17.5	18	73	123

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN506180	18.0	18	73	123
DGN506185	18.5	20	79	131
DGN506190	19.0	20	79	131
DGN506195	19.5	20	79	131
DGN506200	20.0	20	79	131

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	◎	○	○	○	○	○	○	○	◎	○	◎	○	◎	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		○			

HSS

HSS



DGN508 SERIES



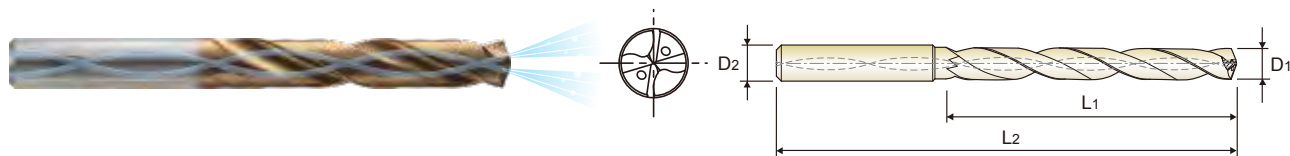
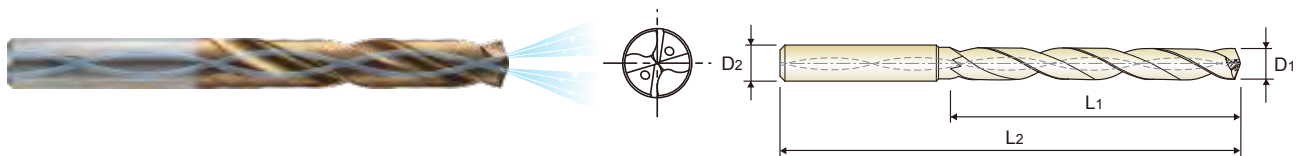
DGN508 SERIES

CARBIDE, DREAM DRILLS PRO with COOLANT HOLES LONG
硬质合金, 梦幻钻头-PRO 带内冷孔 长

CARBIDE, DREAM DRILLS PRO with COOLANT HOLES LONG
硬质合金, 梦幻钻头-PRO 带内冷孔 长

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRc30~50), Cast Iron
 - ▶ Wave shape cutting edge to improve chip formation for low cutting force
 - ▶ Helical thinning for low thrust, stable torque and good chip breakage
 - ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology
- ▶ 适合加工碳钢, 合金钢 (HB225~325), 预硬钢 (HRc30~50), 铸铁
 - ▶ 波形切削刃降低切削力, 改善切屑形状
 - ▶ 螺旋横刃处理, 减小加工阻力, 切削稳定, 断屑良好
 - ▶ 采用YG-1特殊的Z涂层技术, 具有超高的硬度和耐热性

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DIN 6537 CARBIDE 30° h6 m7 140° 20 bar 5 × D

Recommended ToolHolder: SHRINK FIT HOLDER (D47-72), HYDRAULIC CHUCK (D15-46), ER COLLET CHUCK (D73-115)

DIN 6537 CARBIDE 30° h6 m7 140° 20 bar 5 × D

Recommended ToolHolder: SHRINK FIT HOLDER (D47-72), HYDRAULIC CHUCK (D15-46), ER COLLET CHUCK (D73-115)

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2	Z-Coating	D1	D2	L1	L2
DGN508010	1.0	3	8	55	DGN508034	3.4	6	28	66
DGN508011	1.1	3	12	55	DGN508035	3.5	6	28	66
DGN508012	1.2	3	12	55	DGN508036	3.6	6	28	66
DGN508013	1.3	3	12	55	DGN508037	3.7	6	28	66
DGN508014	1.4	3	12	55	DGN508038	3.8	6	36	74
DGN508015	1.5	3	16	55	DGN508039	3.9	6	36	74
DGN508016	1.6	3	16	55	DGN508040	4.0	6	36	74
DGN508017	1.7	3	16	55	DGN508041	4.1	6	36	74
DGN508018	1.8	3	16	55	DGN508042	4.2	6	36	74
DGN508019	1.9	3	16	55	DGN508043	4.3	6	36	74
DGN508020	2.0	4	21	57	DGN508044	4.4	6	36	74
DGN508021	2.1	4	21	57	DGN508045	4.5	6	36	74
DGN508022	2.2	4	21	57	DGN508046	4.6	6	36	74
DGN508023	2.3	4	21	57	DGN508047	4.7	6	36	74
DGN508024	2.4	4	21	57	DGN508048	4.8	6	44	82
DGN508025	2.5	4	21	57	DGN508049	4.9	6	44	82
DGN508026	2.6	4	21	57	DGN508050	5.0	6	44	82
DGN508027	2.7	4	21	57	DGN508051	5.1	6	44	82
DGN508028	2.8	4	21	57	DGN508052	5.2	6	44	82
DGN508029	2.9	4	21	57	DGN508053	5.3	6	44	82
DGN508030	3.0	6	28	66	DGN508054	5.4	6	44	82
DGN508031	3.1	6	28	66	DGN508055	5.5	6	44	82
DGN508032	3.2	6	28	66	DGN508056	5.6	6	44	82
DGN508033	3.3	6	28	66	DGN508057	5.7	6	44	82

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2	Z-Coating	D1	D2	L1	L2
DGN508058	5.8	6	44	82	DGN508082	8.2	10	61	103
DGN508059	5.9	6	44	82	DGN508083	8.3	10	61	103
DGN508060	6.0	6	44	82	DGN508084	8.4	10	61	103
DGN508061	6.1	8	53	91	DGN508085	8.5	10	61	103
DGN508062	6.2	8	53	91	DGN508086	8.6	10	61	103
DGN508063	6.3	8	53	91	DGN508087	8.7	10	61	103
DGN508064	6.4	8	53	91	DGN508088	8.8	10	61	103
DGN508065	6.5	8	53	91	DGN508089	8.9	10	61	103
DGN508066	6.6	8	53	91	DGN508090	9.0	10	61	103
DGN508067	6.7	8	53	91	DGN508091	9.1	10	61	103
DGN508068	6.8	8	53	91	DGN508092	9.2	10	61	103
DGN508069	6.9	8	53	91	DGN508093	9.3	10	61	103
DGN508070	7.0	8	53	91	DGN508094	9.4	10	61	103
DGN508071	7.1	8	53	91	DGN508095	9.5	10	61	103
DGN508072	7.2	8	53	91	DGN508096	9.6	10	61	103
DGN508073	7.3	8	53	91	DGN508097	9.7	10	61	103
DGN508074	7.4	8	53	91	DGN508098	9.8	10	61	103
DGN508075	7.5	8	53	91	DGN508099	9.9	10	61	103
DGN508076	7.6	8	53	91	DGN508100	10.0	10	61	103
DGN508077	7.7	8	53	91	DGN508101	10.1	12	71	118
DGN508078	7.8	8	53	91	DGN508102	10.2	12	71	118
DGN508079	7.9	8	53	91	DGN508103	10.3	12	71	118
DGN508080	8.0	8	53	91	DGN508104	10.4	12	71	118
DGN508081	8.1	10	61	103	DGN508105	10.5	12	71	118

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供。 ▶ NEXT PAGE 下页

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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		◎	◎	◎	◎

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ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		◎	◎	◎	◎

CARBIDE, DREAM DRILLS PRO with COOLANT HOLES LONG 长
硬质合金, 梦幻钻头-PRO 带内冷孔

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30~50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
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- ▶ 波形切削刃降低切削力, 改善切屑形状
- ▶ 螺旋横刃处理, 减小加工阻力, 切削稳定, 断屑良好
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Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN508106	10.6	12	71	118
DGN508107	10.7	12	71	118
DGN508108	10.8	12	71	118
DGN508109	10.9	12	71	118
DGN508110	11.0	12	71	118
DGN508111	11.1	12	71	118
DGN508112	11.2	12	71	118
DGN508113	11.3	12	71	118
DGN508114	11.4	12	71	118
DGN508115	11.5	12	71	118
DGN508116	11.6	12	71	118
DGN508117	11.7	12	71	118
DGN508118	11.8	12	71	118
DGN508119	11.9	12	71	118
DGN508120	12.0	12	71	118
DGN508125	12.5	14	77	124

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Z-Coating	D1	D2	L1	L2
DGN508130	13.0	14	77	124
DGN508135	13.5	14	77	124
DGN508140	14.0	14	77	124
DGN508145	14.5	16	83	133
DGN508150	15.0	16	83	133
DGN508155	15.5	16	83	133
DGN508160	16.0	16	83	133
DGN508165	16.5	18	93	143
DGN508170	17.0	18	93	143
DGN508175	17.5	18	93	143
DGN508180	18.0	18	93	143
DGN508185	18.5	20	101	153
DGN508190	19.0	20	101	153
DGN508195	19.5	20	101	153
DGN508200	20.0	20	101	153

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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M					K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	125	190	250	270	300	180	275	320	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		

DGN523, DGN526 SERIES without COOLANT HOLES
不带内冷孔

RPM (转速) = (rev./min.)
 FEED (进给) = (mm/rev)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)		Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)			
					1.0	2.0			3.0	4.0	5.0	6.0
P	2	Non-alloy steel	85	RPM	27060	13530	120	RPM	12730	9550	7640	6370
				FEED	0.03-0.05	0.05-0.07		0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22	
			85	RPM	27060	13530	120	RPM	12730	9550	7640	6370
	FEED		0.03-0.05	0.05-0.07	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22				
	75		RPM	23870	11940	95	RPM	10080	7560	6050	5040	
	FEED		0.03-0.05	0.05-0.07	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18				
	6	Low alloy steel	85	RPM	27060	13530	120	RPM	12730	9550	7640	6370
				FEED	0.03-0.05	0.05-0.07		0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22	
			75	RPM	23870	11940	95	RPM	10080	7560	6050	5040
			FEED	0.03-0.05	0.05-0.07	0.06-0.12	0.08-0.14	0.10-0.20	0.12-0.24			
	7	Low alloy steel	75	RPM	23870	11940	95	RPM	10080	7560	6050	5040
FEED				0.02-0.04	0.03-0.05	0.04-0.10		0.07-0.13	0.10-0.16	0.12-0.18		
8	Low alloy steel	75	RPM	23870	11940	95	RPM	10080	7560	6050	5040	
			FEED	0.02-0.04	0.03-0.05		0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18		
9	Low alloy steel	36	RPM	11460	5730	50	RPM	5310	3980	3180	2650	
			FEED	0.02-0.04	0.03-0.05		0.03-0.08	0.05-0.11	0.08-0.14	0.10-0.16		
10	High alloyed steel, and tool steel	60	RPM	19100	9550	80	RPM	8490	6370	5090	4240	
			FEED	0.03-0.05	0.05-0.07		0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18		
11	High alloyed steel, and tool steel	35	RPM	11140	5570	45	RPM	4770	3580	2860	2390	
			FEED	0.02-0.04	0.03-0.05		0.03-0.08	0.05-0.11	0.08-0.14	0.10-0.16		
M	12	Stainless steel	60	RPM	19100	9550	85	RPM	9020	6760	5410	4510
				FEED	0.03-0.05	0.05-0.07		0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22	
13	Stainless steel	45	RPM	14320	7160	55	RPM	5840	4380	3500	2920	
			FEED	0.02-0.04	0.03-0.05		0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18		
K	15	Grey cast iron	85	RPM	27060	13530	120	RPM	12730	9550	7640	6370
				FEED	0.04-0.06	0.04-0.06		0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26	
	16	Grey cast iron	80	RPM	25460	12730	95	RPM	10080	7560	6050	5040
				FEED	0.04-0.06	0.04-0.06		0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22	
	17	Nodular cast iron	85	RPM	27060	13530	120	RPM	12730	9550	7640	6370
				FEED	0.04-0.06	0.04-0.06		0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26	
18	Nodular cast iron	60	RPM	19100	9550	85	RPM	9020	6760	5410	4510	
			FEED	0.04-0.06	0.04-0.06		0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22		
19	Malleable cast iron	75	RPM	23870	11940	95	RPM	10080	7560	6050	5040	
			FEED	0.04-0.06	0.04-0.06		0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26		
20	Malleable cast iron	60	RPM	19100	9550	85	RPM	9020	6760	5410	4510	
			FEED	0.03-0.05	0.05-0.07		0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22		
H	55	Hardened steel	25	RPM	7960	3980	30	RPM	3180	2390	1910	1590
				FEED	0.01-0.02	0.01-0.03		FEED	0.01-0.03	0.01-0.04	0.02-0.05	0.03-0.06

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)						
					8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	2	Non-alloy steel	120	RPM	4770	3820	3180	2730	2390	2120	1910
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
			120	RPM	4770	3820	3180	2730	2390	2120	1910
	FEED		0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40		
	4		120	RPM	4770	3820	3180	2730	2390	2120	1910
	FEED		0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32		
	5	Low alloy steel	95	RPM	3780	3020	2520	2160	1890	1680	1510
				FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	6	Low alloy steel	120	RPM	4770	3820	3180	2730	2390	2120	1910
				FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	7	Low alloy steel	95	RPM	3780	3020	2520	2160	1890	1680	1510
FEED				0.16-0.28	0.19-0.27	0.21-0.29	0.23-0.				



**DREAM DRILLS
-PRO**

RECOMMENDED CUTTING CONDITIONS

推荐加工条件

DGN506, DGN508 SERIES

with COOLANT HOLES

带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)		Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)			
					1.0	2.0			3.0	4.0	5.0	6.0
P	2	Non-alloy steel	95	RPM	30240	15120	130	RPM	13790	10350	8280	6900
			FEED	0.03-0.05	0.05-0.07	FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22		
			95	RPM	30240	15120	130	RPM	13790	10350	8280	6900
	FEED		0.03-0.05	0.05-0.07	FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22			
	95		RPM	30240	15120	130	RPM	13790	10350	8280	6900	
	FEED		0.03-0.05	0.05-0.07	FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18			
	85	RPM	27060	13530	110	RPM	11670	8750	7000	5840		
	FEED	0.03-0.05	0.05-0.07	FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18				
	95	RPM	30240	15120	130	RPM	13790	10350	8280	6900		
	FEED	0.03-0.05	0.05-0.07	FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22				
	6	Low alloy steel	85	RPM	27060	13530	110	RPM	11670	8750	7000	5840
FEED			0.03-0.05	0.05-0.07	FEED	0.06-0.12	0.08-0.14	0.10-0.20	0.12-0.24			
95			RPM	30240	15120	110	RPM	11670	8750	7000	5840	
FEED			0.02-0.04	0.03-0.05	FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18			
50	RPM		15920	7960	60	RPM	6370	4770	3820	3180		
FEED	0.02-0.04		0.03-0.05	FEED	0.03-0.08	0.05-0.11	0.08-0.14	0.10-0.16				
7	High alloyed steel, and tool steel	70	RPM	22280	11140	90	RPM	9550	7160	5730	4770	
		FEED	0.03-0.05	0.05-0.07	FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18			
45	Stainless steel	RPM	14320	7160	50	RPM	5310	3980	3180	2650		
		FEED	0.02-0.04	0.03-0.05	FEED	0.03-0.08	0.05-0.11	0.08-0.14	0.10-0.16			
75	Grey cast iron	RPM	23870	11940	95	RPM	10080	7560	6050	5040		
		FEED	0.03-0.05	0.05-0.07	FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22			
55	Nodular cast iron	RPM	17510	8750	65	RPM	6900	5170	4140	3450		
		FEED	0.02-0.04	0.03-0.05	FEED	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18			
95	Malleable cast iron	RPM	30240	15120	130	RPM	13790	10350	8280	6900		
		FEED	0.04-0.06	0.04-0.06	FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26			
115	Hardened steel	RPM	28650	14320	115	RPM	12200	9150	7320	6100		
		FEED	0.04-0.06	0.04-0.06	FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22			
145	Malleable cast iron	RPM	35010	17510	145	RPM	15380	11540	9230	7690		
		FEED	0.04-0.06	0.04-0.06	FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26			
95	Hardened steel	RPM	23870	11940	95	RPM	10080	7560	6050	5040		
		FEED	0.04-0.06	0.04-0.06	FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22			
75	Hardened steel	RPM	27060	13530	110	RPM	11670	8750	7000	5840		
		FEED	0.04-0.06	0.04-0.06	FEED	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26			
95	Hardened steel	RPM	23870	11940	95	RPM	10080	7560	6050	5040		
		FEED	0.03-0.05	0.05-0.07	FEED	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22			
30	Hardened steel	RPM	9550	4770	35	RPM	3710	2790	2230	1860		
		FEED	0.01-0.02	0.01-0.03	FEED	0.01-0.03	0.01-0.04	0.02-0.05	0.03-0.06			

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)						
					8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	2	Non-alloy steel	130	RPM	5170	4140	3450	2960	2590	2300	2070
			FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40	
			130	RPM	5170	4140	3450	2960	2590	2300	2070
	FEED		0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40		
	130		RPM	5170	4140	3450	2960	2590	2300	2070	
	FEED		0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32		
	110	RPM	4380	3500	2920	2500	2190	1950	1750		
	FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32			
	6	Low alloy steel	130	RPM	5170	4140	3450	2960	2590	2300	2070
			FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40	
			110	RPM	4380	3500	2920	2500	2190	1950	1750
FEED			0.16-0.28	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40		
110	RPM		4380	3500	2920	2500	2190	1950	1750		
FEED	0.14-0.20		0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32			
60	High alloyed steel, and tool steel	RPM	2390	1910	1590	1360	1190	1060	950		
		FEED	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28		
90	Stainless steel	RPM	3580	2860	2390	2050	1790	1590	1430		
		FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32		
50	Grey cast iron	RPM	1990	1590	1330	1140	990	880	800		
		FEED	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28		
95	Nodular cast iron	RPM	3780	3020	2520	2160	1890	1680	1510		
		FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40		
65	Malleable cast iron	RPM	2590	2070	1720	1480	1290	1150	1030		
		FEED	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32		
130	Hardened steel	RPM	5170	4140	3450	2960	2590	2300	2070		
		FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44		
115	Hardened steel	RPM	4580	3660	3050	2610	2290	2030	1830		
		FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40		
145	Hardened steel	RPM	5770	4620	3850	3300	2880	2560	2310		
		FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44		
95	Hardened steel	RPM	3780	3020	2520	2160	1890	1680	1510		
		FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40		
110	Hardened steel	RPM	4380	3500	2920	2500	2190	1950	1750		
		FEED	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44		
95	Hardened steel	RPM	3780	3020	2520	2160	1890	1680	1510		
		FEED	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40		
35	Hardened steel	RPM	1390	1110	930	800	700	620	560		
		FEED	0.03-0.06	0.04-0.07	0.04-0.08	0.05-0.09	0.05-0.09	0.05-0.10	0.05-0.10		

► Recommend to reduce the feed rate as following 推荐减少进给量如下

Feed 进给 100% : DGN506(3×D), DGN508(5×D)



Leading Through Innovation

SOLID CARBIDE

DREAM DRILLS -GENERAL

- For General Purpose (HRc30 to HRc50)
- 普通用途通常是HRc30 到 HRc50

SELECTION GUIDE
选用指南



SERIES 系列

DRILLING DEPTH 钻削深度

LENGTH 长度

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

SURFACE TREATMENT 表面处理

SOLID CARBIDE
DREAM DRILLS
GENERAL

For General Purpose (HRC30 to HRC50)
普通用途通常是HRC30 到 HRC50

Please visit 请访问
globalygl.com/mat
for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工条件) : p. A96

	DH404	DH423
SERIES 系列	DH404	DH423
DRILLING DEPTH 钻削深度	3XD	3XD
LENGTH 长度	STUB 超短	SHORT 短
SIZE MIN 最小尺寸	D3.0	D3.0
SIZE MAX 最大尺寸	D20.0	D20.0
PAGE 页数	A80	A82

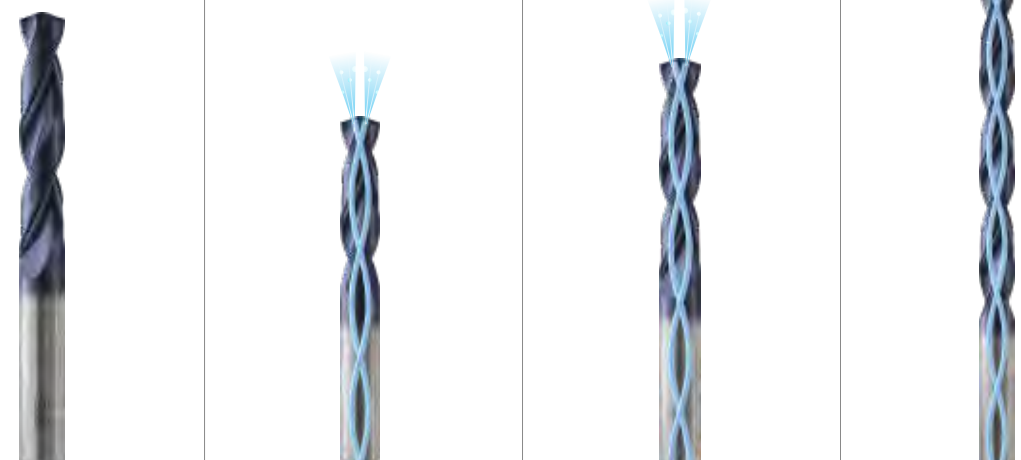
TiAIN



ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度	
P	1	Non-alloy steel	About 0.15% C Annealed	125		
	2		About 0.45% C Annealed	190	13	
	3		About 0.45% C Quenched & Tempered	250	25	
	4		About 0.75% C Annealed	270	28	
	5		About 0.75% C Quenched & Tempered	300	32	
	6	Low alloy steel	Annealed	180	10	
	7		Quenched & Tempered	275	29	
	8		Quenched & Tempered	300	32	
	9		Quenched & Tempered	350	38	
	10		High alloyed steel, and tool steel	Annealed	200	15
	11			Quenched & Tempered	325	35
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	
	13		Martensitic Quenched & Tempered	240	23	
	14		Austenitic	180	10	
K	15	Grey cast iron	Pearlitic / ferritic	180	10	
	16		Pearlitic (Martensitic)	260	26	
	17	Nodular cast iron	Ferritic	160	3	
	18		Pearlitic	250	25	
	19		Ferritic	130		
	20		Pearlitic	230	21	
N	21	Aluminum-wrought alloy	Not Curable	60		
	22		Curable Hardened	100		
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		
	24		≤ 12% Si, Curable Hardened	90		
	25		> 12% Si, Not Curable	130		
	26		Cutting Alloys, PB>1%	110		
	27	Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90		
	28		CuSn, lead-free copper and electrolytic copper	100		
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic			
	30		Rubber, Wood, etc.			
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15	
	32		Cured	280	30	
	33		Annealed	250	25	
	34		Ni or Co Based Cured	350	38	
	35		Cast	320	34	
	36	Titanium Alloys	Pure Titanium	400 Rm		
	37		Alpha + Beta Alloys Hardened	1050 Rm		
H	38	Hardened steel	Hardened	550	55	
	39		Hardened	630	60	
	40		Chilled Cast Iron	Cast	400	42
	41		Hardened Cast Iron	Hardened	550	55

	DH424	DH406	DH408	DH421
SERIES 系列	DH424	DH406	DH408	DH421
DRILLING DEPTH 钻削深度	5XD	3XD	5XD	8XD
LENGTH 长度	LONG 长	SHORT 短	LONG 长	EXTRA LONG 超长
SIZE MIN 最小尺寸	D1.0	D3.0	D1.0	D3.0
SIZE MAX 最大尺寸	D20.0	D20.0	D20.0	D14.0
PAGE 页数	A85	A88	A91	A94

TiAIN



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HSS

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

TECHNICAL DATA



DH404 SERIES

CARBIDE, DREAM DRILLS GENERAL

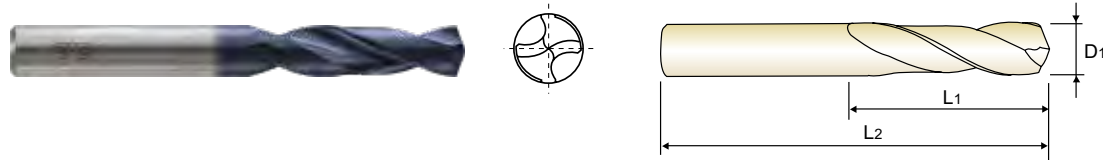
STUB

硬质合金 梦幻钻头

超短

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ 钻孔 钢件, 铸钢, 铸铁, 球墨铸铁
- ▶ 由于R型中心刃, 卓越自定心, 断屑
- ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



DIN 6539 CARBIDE 30° h6 h7 140° p. A96-A97

D₁=D₂
3 × D

Plain Shank Page
 ◎ SHRINK FIT HOLDER D47-72
 ○ HYDRAULIC CHUCK D15-46
 ○ ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长	型号	刃径	槽长	全长
TiAlN	D ₁	L ₁	L ₂	TiAlN	D ₁	L ₁	L ₂
DH404030	3.0	16	46	DH404054	5.4	28	66
DH404031	3.1	18	49	DH404055	5.5	28	66
DH404032	3.2	18	49	DH404056	5.6	28	66
DH404033	3.3	18	49	DH404057	5.7	28	66
DH404034	3.4	20	52	DH404058	5.8	28	66
DH404035	3.5	20	52	DH404059	5.9	28	66
DH404036	3.6	20	52	DH404060	6.0	28	66
DH404037	3.7	20	52	DH404061	6.1	31	70
DH404038	3.8	22	55	DH404062	6.2	31	70
DH404039	3.9	22	55	DH404063	6.3	31	70
DH404040	4.0	22	55	DH404064	6.4	31	70
DH404041	4.1	22	55	DH404065	6.5	31	70
DH404042	4.2	22	55	DH404066	6.6	31	70
DH404043	4.3	24	58	DH404067	6.7	31	70
DH404044	4.4	24	58	DH404068	6.8	34	74
DH404045	4.5	24	58	DH404069	6.9	34	74
DH404046	4.6	24	58	DH404070	7.0	34	74
DH404047	4.7	24	58	DH404071	7.1	34	74
DH404048	4.8	26	62	DH404072	7.2	34	74
DH404049	4.9	26	62	DH404073	7.3	34	74
DH404050	5.0	26	62	DH404074	7.4	34	74
DH404051	5.1	26	62	DH404075	7.5	34	74
DH404052	5.2	26	62	DH404076	7.6	37	79
DH404053	5.3	26	62	DH404077	7.7	37	79

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求。 ▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		○			



DH404 SERIES

CARBIDE, DREAM DRILLS GENERAL

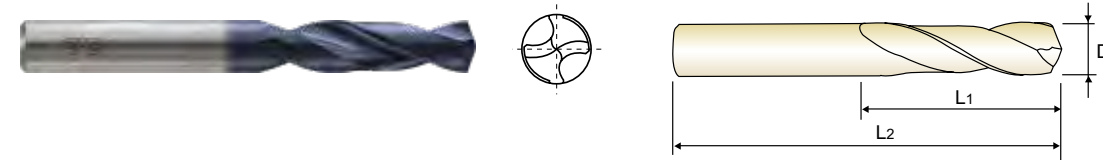
STUB

硬质合金 梦幻钻头

超短

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ 钻孔 钢件, 铸钢, 铸铁, 球墨铸铁
- ▶ 由于R型中心刃, 卓越自定心, 断屑
- ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



DIN 6539 CARBIDE 30° h6 h7 140° p. A96-A97

D₁=D₂
3 × D

Plain Shank Page
 ◎ SHRINK FIT HOLDER D47-72
 ○ HYDRAULIC CHUCK D15-46
 ○ ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长	型号	刃径	槽长	全长
TiAlN	D ₁	L ₁	L ₂	TiAlN	D ₁	L ₁	L ₂
DH404078	7.8	37	79	DH404100	10.0	43	89
DH404079	7.9	37	79	DH404102	10.2	43	89
DH404080	8.0	37	79	DH404105	10.5	43	89
DH404081	8.1	37	79	DH404110	11.0	47	95
DH404082	8.2	37	79	DH404115	11.5	47	95
DH404083	8.3	37	79	DH404120	12.0	51	102
DH404084	8.4	37	79	DH404130	13.0	51	102
DH404085	8.5	37	79	DH404135	13.5	54	107
DH404086	8.6	40	84	DH404140	14.0	54	107
DH404087	8.7	40	84	DH404145	14.5	56	111
DH404088	8.8	40	84	DH404150	15.0	56	111
DH404089	8.9	40	84	DH404155	15.5	58	115
DH404090	9.0	40	84	DH404160	16.0	58	115
DH404091	9.1	40	84	DH404165	16.5	60	119
DH404092	9.2	40	84	DH404170	17.0	60	119
DH404093	9.3	40	84	DH404175	17.5	62	123
DH404094	9.4	40	84	DH404180	18.0	62	123
DH404095	9.5	40	84	DH404185	18.5	64	127
DH404096	9.6	43	89	DH404190	19.0	64	127
DH404097	9.7	43	89	DH404195	19.5	66	131
DH404098	9.8	43	89	DH404200	20.0	66	131
DH404099	9.9	43	89				

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		○			

TIG DREAM DRILLS - GENERAL

DH423 SERIES

CARBIDE, DREAM DRILLS GENERAL

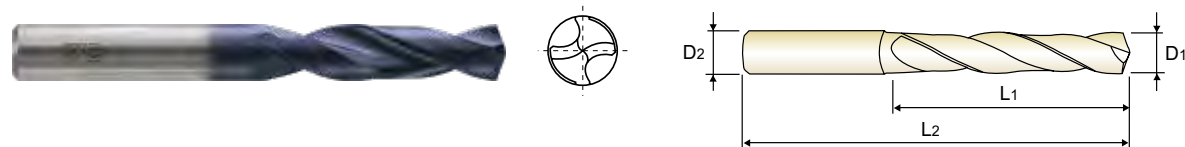
SHORT

硬质合金, 梦幻钻头

短

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
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- ▶ 由于R型中心刃, 卓越自定心, 断屑
- ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



DIN 6539 CARBIDE 30° h6 h7 140° p. A96-A97 3 × D

Recommended ToolHolder: Plain Shank, SHRINK FIT HOLDER (D47-72), HYDRAULIC CHUCK (D15-46), ER COLLET CHUCK (D73-115)

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH423030	3.0	6	20	62
DH423031	3.1	6	20	62
DH423032	3.2	6	20	62
DH423033	3.3	6	20	62
DH423034	3.4	6	20	62
DH423035	3.5	6	20	62
DH423036	3.6	6	20	62
DH423037	3.7	6	20	62
DH423038	3.8	6	24	66
DH423039	3.9	6	24	66
DH423040	4.0	6	24	66
DH423041	4.1	6	24	66
DH423042	4.2	6	24	66
DH423043	4.3	6	24	66
DH423044	4.4	6	24	66
DH423045	4.5	6	24	66
DH423046	4.6	6	24	66
DH423047	4.7	6	24	66
DH423048	4.8	6	28	66
DH423049	4.9	6	28	66
DH423050	5.0	6	28	66
DH423051	5.1	6	28	66
DH423052	5.2	6	28	66
DH423053	5.3	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH423054	5.4	6	28	66
DH423055	5.5	6	28	66
DH423056	5.6	6	28	66
DH423057	5.7	6	28	66
DH423058	5.8	6	28	66
DH423059	5.9	6	28	66
DH423060	6.0	6	28	66
DH423061	6.1	8	34	79
DH423062	6.2	8	34	79
DH423063	6.3	8	34	79
DH423064	6.4	8	34	79
DH423065	6.5	8	34	79
DH423066	6.6	8	34	79
DH423067	6.7	8	34	79
DH423068	6.8	8	34	79
DH423069	6.9	8	34	79
DH423070	7.0	8	34	79
DH423071	7.1	8	41	79
DH423072	7.2	8	41	79
DH423073	7.3	8	41	79
DH423074	7.4	8	41	79
DH423075	7.5	8	41	79
DH423076	7.6	8	41	79
DH423077	7.7	8	41	79

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求。 ▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																		◎			

TIG DREAM DRILLS - GENERAL

DH423 SERIES

CARBIDE, DREAM DRILLS GENERAL

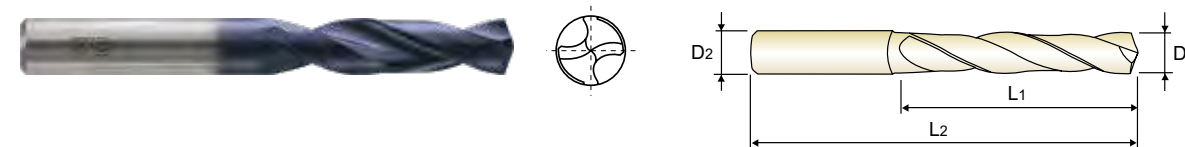
SHORT

硬质合金, 梦幻钻头

短

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
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- ▶ 由于R型中心刃, 卓越自定心, 断屑
- ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



DIN 6539 CARBIDE 30° h6 h7 140° p. A96-A97 3 × D

Recommended ToolHolder: Plain Shank, SHRINK FIT HOLDER (D47-72), HYDRAULIC CHUCK (D15-46), ER COLLET CHUCK (D73-115)

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH423078	7.8	8	41	79
DH423079	7.9	8	41	79
DH423080	8.0	8	41	79
DH423081	8.1	10	47	89
DH423082	8.2	10	47	89
DH423083	8.3	10	47	89
DH423084	8.4	10	47	89
DH423085	8.5	10	47	89
DH423086	8.6	10	47	89
DH423087	8.7	10	47	89
DH423088	8.8	10	47	89
DH423089	8.9	10	47	89
DH423090	9.0	10	47	89
DH423091	9.1	10	47	89
DH423092	9.2	10	47	89
DH423093	9.3	10	47	89
DH423094	9.4	10	47	89
DH423095	9.5	10	47	89
DH423096	9.6	10	47	89
DH423097	9.7	10	47	89
DH423098	9.8	10	47	89
DH423099	9.9	10	47	89
DH423100	10.0	10	47	89
DH423101	10.1	12	55	102

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH423102	10.2	12	55	102
DH423103	10.3	12	55	102
DH423104	10.4	12	55	102
DH423105	10.5	12	55	102
DH423106	10.6	12	55	102
DH423107	10.7	12	55	102
DH423108	10.8	12	55	102
DH423109	10.9	12	55	102
DH423110	11.0	12	55	102
DH423111	11.1	12	55	102
DH423112	11.2	12	55	102
DH423113	11.3	12	55	102
DH423114	11.4	12	55	102
DH423115	11.5	12	55	102
DH423116	11.6	12	55	102
DH423117	11.7	12	55	102
DH423118	11.8	12	55	102
DH423119	11.9	12	55	102
DH423120	12.0	12	55	102
DH423123	12.3	14	60	107
DH423125	12.5	14	60	107
DH423128	12.8	14	60	107
DH423130	13.0	14	60	107
DH423135	13.5	14	60	107

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求。 ▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																		◎			

TIG DREAM DRILLS - GENERAL

DH423 SERIES

CARBIDE, DREAM DRILLS GENERAL

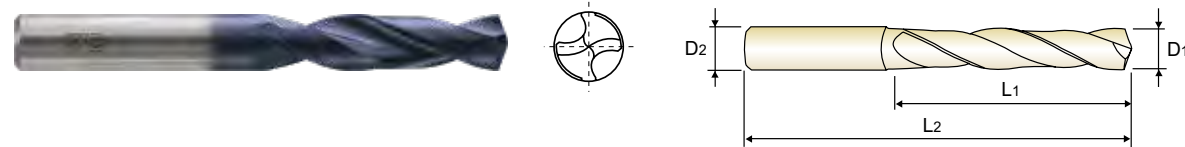
硬质合金, 梦幻钻头

SHORT

短

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
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- ▶ 由于R型中心刃, 卓越自定心, 断屑
- ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



DIN 6539 CARBIDE 30° h6 h7 140° p. A96-A97

3 × D

Plain Shank Page
 ◎ SHRINK FIT HOLDER D47 - 72
 ○ HYDRAULIC CHUCK D15 - 46
 ○ ER COLLET CHUCK D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH423138	13.8	14	60	107
DH423140	14.0	14	60	107
DH423145	14.5	16	65	115
DH423148	14.8	16	65	115
DH423150	15.0	16	65	115
DH423155	15.5	16	65	115
DH423158	15.8	16	65	115
DH423160	16.0	16	65	115
DH423165	16.5	18	73	123
DH423168	16.8	18	73	123

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH423170	17.0	18	73	123
DH423175	17.5	18	73	123
DH423178	17.8	18	73	123
DH423180	18.0	18	73	123
DH423185	18.5	20	79	131
DH423190	19.0	20	79	131
DH423195	19.5	20	79	131
DH423198	19.8	20	79	131
DH423200	20.0	20	79	131

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
HRc	13	25	28	32	38	10	29	32	38	45	15	35	38	45	10	26	3	25	25	21	15	30	35	40	
HB	125	190	250	270	300	180	275	300	350	200	200	325	200	240	180	180	260	160	250	130	230	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																		○			

TIG DREAM DRILLS - GENERAL

DH424 SERIES

CARBIDE, DREAM DRILLS GENERAL

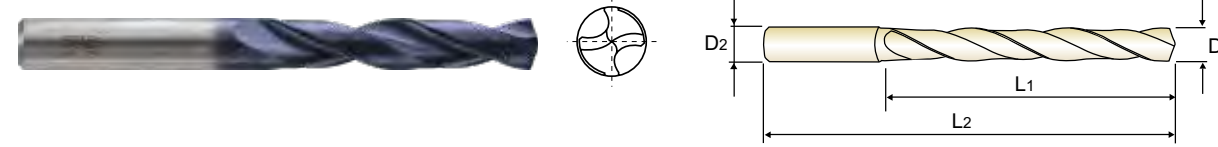
硬质合金, 梦幻钻头

LONG

长

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
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- ▶ 钻孔 钢件, 铸钢, 铸铁, 球墨铸铁
- ▶ 由于R型中心刃, 卓越自定心, 断屑
- ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



DIN 6539 CARBIDE 30° h6 h7 140° p. A96-A97

5 × D

Plain Shank Page
 ◎ SHRINK FIT HOLDER D47 - 72
 ○ HYDRAULIC CHUCK D15 - 46
 ○ ER COLLET CHUCK D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH424010	1.0	3	8	55
DH424011	1.1	3	12	55
DH424012	1.2	3	12	55
DH424013	1.3	3	12	55
DH424014	1.4	3	12	55
DH424015	1.5	3	16	55
DH424016	1.6	3	16	55
DH424017	1.7	3	16	55
DH424018	1.8	3	16	55
DH424019	1.9	3	16	55
DH424020	2.0	4	21	57
DH424021	2.1	4	21	57
DH424022	2.2	4	21	57
DH424023	2.3	4	21	57
DH424024	2.4	4	21	57
DH424025	2.5	4	21	57
DH424026	2.6	4	21	57
DH424027	2.7	4	21	57
DH424028	2.8	4	21	57
DH424029	2.9	4	21	57
DH424030	3.0	6	28	66
DH424031	3.1	6	28	66
DH424032	3.2	6	28	66
DH424033	3.3	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH424034	3.4	6	28	66
DH424035	3.5	6	28	66
DH424036	3.6	6	28	66
DH424037	3.7	6	28	66
DH424038	3.8	6	36	74
DH424039	3.9	6	36	74
DH424040	4.0	6	36	74
DH424041	4.1	6	36	74
DH424042	4.2	6	36	74
DH424043	4.3	6	36	74
DH424044	4.4	6	36	74
DH424045	4.5	6	36	74
DH424046	4.6	6	36	74
DH424047	4.7	6	36	74
DH424048	4.8	6	44	82
DH424049	4.9	6	44	82
DH424050	5.0	6	44	82
DH424051	5.1	6	44	82
DH424052	5.2	6	44	82
DH424053	5.3	6	44	82
DH424054	5.4	6	44	82
DH424055	5.5	6	44	82
DH424056	5.6	6	44	82
DH424057	5.7	6	44	82

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求。

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
HRc	13	25	28	32	38	10	29	32	38	45	15	35	38	45	10	26	3	25	25	21	15	30	35	40	
HB	125	190	250	270	300	180	275	300	350	200	200	325	200	240	180	180	260	160	250	130	230	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																		○			

YMG DREAM DRILLS - GENERAL

DH424 SERIES

CARBIDE, DREAM DRILLS GENERAL

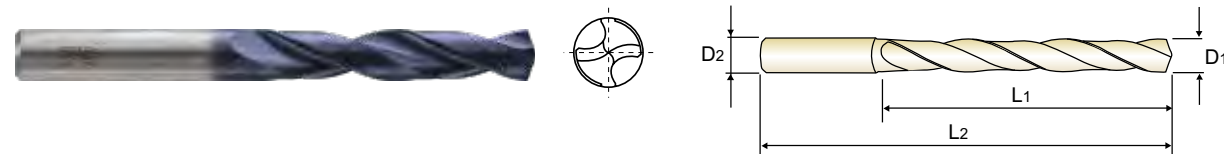
LONG

硬质合金, 梦幻钻头

长

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ 钻孔 钢件, 铸钢, 铸铁, 球墨铸铁
- ▶ 由于R型中心刃, 卓越自定心, 断屑
- ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



DIN 6539 CARBIDE 30° h6 h7 140° p. A96-A97 5 × D

Plain Shank Page
 ◎ SHRINK FIT HOLDER D47-72
 ○ HYDRAULIC CHUCK D15-46
 ○ ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH424058	5.8	6	44	82
DH424059	5.9	6	44	82
DH424060	6.0	6	44	82
DH424061	6.1	8	53	91
DH424062	6.2	8	53	91
DH424063	6.3	8	53	91
DH424064	6.4	8	53	91
DH424065	6.5	8	53	91
DH424066	6.6	8	53	91
DH424067	6.7	8	53	91
DH424068	6.8	8	53	91
DH424069	6.9	8	53	91
DH424070	7.0	8	53	91
DH424071	7.1	8	53	91
DH424072	7.2	8	53	91
DH424073	7.3	8	53	91
DH424074	7.4	8	53	91
DH424075	7.5	8	53	91
DH424076	7.6	8	53	91
DH424077	7.7	8	53	91
DH424078	7.8	8	53	91
DH424079	7.9	8	53	91
DH424080	8.0	8	53	91
DH424081	8.1	10	61	103

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH424082	8.2	10	61	103
DH424083	8.3	10	61	103
DH424084	8.4	10	61	103
DH424085	8.5	10	61	103
DH424086	8.6	10	61	103
DH424087	8.7	10	61	103
DH424088	8.8	10	61	103
DH424089	8.9	10	61	103
DH424090	9.0	10	61	103
DH424091	9.1	10	61	103
DH424092	9.2	10	61	103
DH424093	9.3	10	61	103
DH424094	9.4	10	61	103
DH424095	9.5	10	61	103
DH424096	9.6	10	61	103
DH424097	9.7	10	61	103
DH424098	9.8	10	61	103
DH424099	9.9	10	61	103
DH424100	10.0	10	61	103
DH424101	10.1	12	71	118
DH424102	10.2	12	71	118
DH424103	10.3	12	71	118
DH424104	10.4	12	71	118
DH424105	10.5	12	71	118

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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																		◎			

YMG DREAM DRILLS - GENERAL

DH424 SERIES

CARBIDE, DREAM DRILLS GENERAL

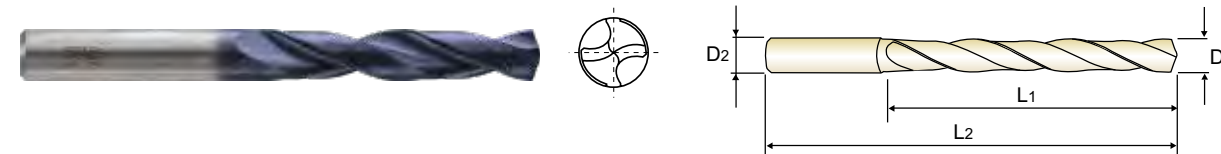
LONG

硬质合金, 梦幻钻头

长

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- ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



DIN 6539 CARBIDE 30° h6 h7 140° p. A96-A97 5 × D

Plain Shank Page
 ◎ SHRINK FIT HOLDER D47-72
 ○ HYDRAULIC CHUCK D15-46
 ○ ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH424106	10.6	12	71	118
DH424107	10.7	12	71	118
DH424108	10.8	12	71	118
DH424109	10.9	12	71	118
DH424110	11.0	12	71	118
DH424111	11.1	12	71	118
DH424112	11.2	12	71	118
DH424113	11.3	12	71	118
DH424114	11.4	12	71	118
DH424115	11.5	12	71	118
DH424116	11.6	12	71	118
DH424117	11.7	12	71	118
DH424118	11.8	12	71	118
DH424119	11.9	12	71	118
DH424120	12.0	12	71	118
DH424125	12.5	14	77	124

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH424130	13.0	14	77	124
DH424135	13.5	14	77	124
DH424140	14.0	14	77	124
DH424145	14.5	16	83	133
DH424150	15.0	16	83	133
DH424155	15.5	16	83	133
DH424160	16.0	16	83	133
DH424165	16.5	18	93	143
DH424170	17.0	18	93	143
DH424175	17.5	18	93	143
DH424180	18.0	18	93	143
DH424185	18.5	20	101	153
DH424190	19.0	20	101	153
DH424195	19.5	20	101	153
DH424200	20.0	20	101	153

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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																		◎			

TIG DREAM DRILLS - GENERAL

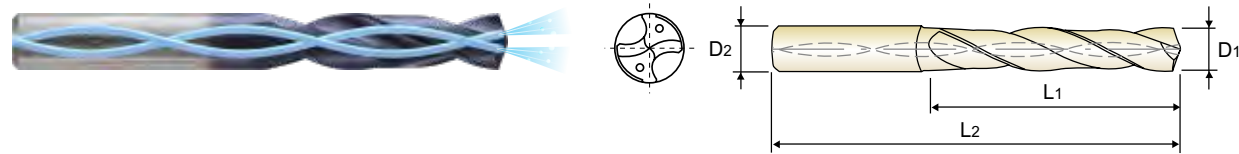
DH406 SERIES

CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES SHORT

硬质合金, 梦幻钻头 带内冷孔 短

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
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- ▶ 由于R型中心刃, 卓越自定心, 断屑
- ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH406030	3.0	6	20	62
DH406031	3.1	6	20	62
DH406032	3.2	6	20	62
DH406033	3.3	6	20	62
DH406034	3.4	6	20	62
DH406035	3.5	6	20	62
DH406036	3.6	6	20	62
DH406037	3.7	6	20	62
DH406038	3.8	6	24	66
DH406039	3.9	6	24	66
DH406040	4.0	6	24	66
DH406041	4.1	6	24	66
DH406042	4.2	6	24	66
DH406043	4.3	6	24	66
DH406044	4.4	6	24	66
DH406045	4.5	6	24	66
DH406046	4.6	6	24	66
DH406047	4.7	6	24	66
DH406048	4.8	6	28	66
DH406049	4.9	6	28	66
DH406050	5.0	6	28	66
DH406051	5.1	6	28	66
DH406052	5.2	6	28	66
DH406053	5.3	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH406054	5.4	6	28	66
DH406055	5.5	6	28	66
DH406056	5.6	6	28	66
DH406057	5.7	6	28	66
DH406058	5.8	6	28	66
DH406059	5.9	6	28	66
DH406060	6.0	6	28	66
DH406061	6.1	8	34	79
DH406062	6.2	8	34	79
DH406063	6.3	8	34	79
DH406064	6.4	8	34	79
DH406065	6.5	8	34	79
DH406066	6.6	8	34	79
DH406067	6.7	8	34	79
DH406068	6.8	8	34	79
DH406069	6.9	8	34	79
DH406070	7.0	8	34	79
DH406071	7.1	8	41	79
DH406072	7.2	8	41	79
DH406073	7.3	8	41	79
DH406074	7.4	8	41	79
DH406075	7.5	8	41	79
DH406076	7.6	8	41	79
DH406077	7.7	8	41	79

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ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100	15	30	25	38	34	55	60	42	55	55	60	42	55
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	400	550
Recommended																					

TIG DREAM DRILLS - GENERAL

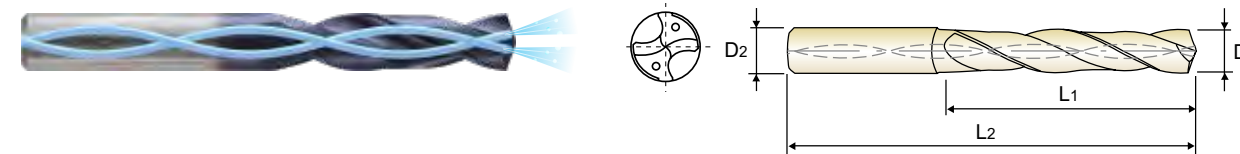
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Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH406078	7.8	8	41	79
DH406079	7.9	8	41	79
DH406080	8.0	8	41	79
DH406081	8.1	10	47	89
DH406082	8.2	10	47	89
DH406083	8.3	10	47	89
DH406084	8.4	10	47	89
DH406085	8.5	10	47	89
DH406086	8.6	10	47	89
DH406087	8.7	10	47	89
DH406088	8.8	10	47	89
DH406089	8.9	10	47	89
DH406090	9.0	10	47	89
DH406091	9.1	10	47	89
DH406092	9.2	10	47	89
DH406093	9.3	10	47	89
DH406094	9.4	10	47	89
DH406095	9.5	10	47	89
DH406096	9.6	10	47	89
DH406097	9.7	10	47	89
DH406098	9.8	10	47	89
DH406099	9.9	10	47	89
DH406100	10.0	10	47	89
DH406101	10.1	12	55	102

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH406102	10.2	12	55	102
DH406103	10.3	12	55	102
DH406104	10.4	12	55	102
DH406105	10.5	12	55	102
DH406106	10.6	12	55	102
DH406107	10.7	12	55	102
DH406108	10.8	12	55	102
DH406109	10.9	12	55	102
DH406110	11.0	12	55	102
DH406111	11.1	12	55	102
DH406112	11.2	12	55	102
DH406113	11.3	12	55	102
DH406114	11.4	12	55	102
DH406115	11.5	12	55	102
DH406116	11.6	12	55	102
DH406117	11.7	12	55	102
DH406118	11.8	12	55	102
DH406119	11.9	12	55	102
DH406120	12.0	12	55	102
DH406125	12.5	14	60	107
DH406130	13.0	14	60	107
DH406135	13.5	14	60	107
DH406140	14.0	14	60	107
DH406145	14.5	16	65	115

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求. ▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100	15	30	25	38	34	55	60	42	55	55	60	42	55
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	400	550
Recommended																					

TIG DREAM DRILLS - GENERAL

DH406 SERIES

CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES SHORT

硬质合金, 梦幻钻头 带内冷孔 短

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ 钻孔 钢件, 铸钢, 铸铁, 球墨铸铁
- ▶ Self centering and chip breaking by R-thinning
- ▶ 由于R型中心刃, 卓越自定心, 断屑
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



DIN 6537
CARBIDE
30°
h6
m7
140°
20 bar
p. A98-A99
3 × D
Recommended ToolHolder

Plain Shank		Page
SHRINK FIT HOLDER	◎	D47 - 72
HYDRAULIC CHUCK	◎	D15 - 46
ER COLLET CHUCK	○	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2	TiAlN	D1	D2	L1	L2
DH406150	15.0	16	65	115	DH406180	18.0	18	73	123
DH406155	15.5	16	65	115	DH406185	18.5	20	79	131
DH406160	16.0	16	65	115	DH406190	19.0	20	79	131
DH406165	16.5	18	73	123	DH406195	19.5	20	79	131
DH406170	17.0	18	73	123	DH406200	20.0	20	79	131
DH406175	17.5	18	73	123					

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials			Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

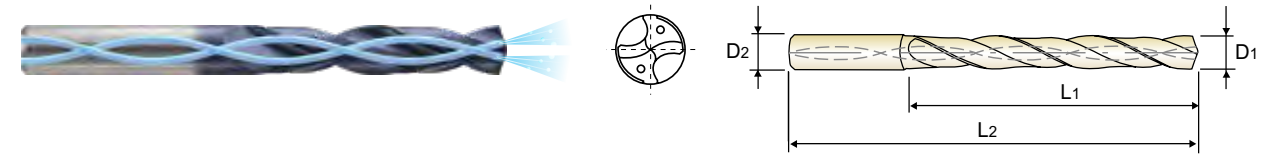
TIG DREAM DRILLS - GENERAL

DH408 SERIES

CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES LONG

硬质合金, 梦幻钻头 带内冷孔 长

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ 钻孔 钢件, 铸钢, 铸铁, 球墨铸铁
- ▶ Self centering and chip breaking by R-thinning
- ▶ 由于R型中心刃, 卓越自定心, 断屑
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



DIN 6537
CARBIDE
30°
h6
m7
140°
20 bar
p. A98-A99
5 × D
Recommended ToolHolder

Plain Shank		Page
SHRINK FIT HOLDER	◎	D47 - 72
HYDRAULIC CHUCK	◎	D15 - 46
ER COLLET CHUCK	○	D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2	TiAlN	D1	D2	L1	L2
DH408010	1.0	3	8	55	DH408034	3.4	6	28	66
DH408011	1.1	3	12	55	DH408035	3.5	6	28	66
DH408012	1.2	3	12	55	DH408036	3.6	6	28	66
DH408013	1.3	3	12	55	DH408037	3.7	6	28	66
DH408014	1.4	3	12	55	DH408038	3.8	6	36	74
DH408015	1.5	3	16	55	DH408039	3.9	6	36	74
DH408016	1.6	3	16	55	DH408040	4.0	6	36	74
DH408017	1.7	3	16	55	DH408041	4.1	6	36	74
DH408018	1.8	3	16	55	DH408042	4.2	6	36	74
DH408019	1.9	3	16	55	DH408043	4.3	6	36	74
DH408020	2.0	4	21	57	DH408044	4.4	6	36	74
DH408021	2.1	4	21	57	DH408045	4.5	6	36	74
DH408022	2.2	4	21	57	DH408046	4.6	6	36	74
DH408023	2.3	4	21	57	DH408047	4.7	6	36	74
DH408024	2.4	4	21	57	DH408048	4.8	6	44	82
DH408025	2.5	4	21	57	DH408049	4.9	6	44	82
DH408026	2.6	4	21	57	DH408050	5.0	6	44	82
DH408027	2.7	4	21	57	DH408051	5.1	6	44	82
DH408028	2.8	4	21	57	DH408052	5.2	6	44	82
DH408029	2.9	4	21	57	DH408053	5.3	6	44	82
DH408030	3.0	6	28	66	DH408054	5.4	6	44	82
DH408031	3.1	6	28	66	DH408055	5.5	6	44	82
DH408032	3.2	6	28	66	DH408056	5.6	6	44	82
DH408033	3.3	6	28	66	DH408057	5.7	6	44	82

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求.

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

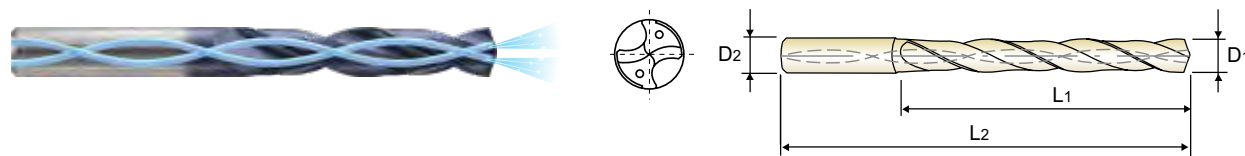
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials			Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

TIG DREAM DRILLS - GENERAL

DH408 SERIES

CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES LONG 长

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
 - ▶ Self centering and chip breaking by R-thinning
 - ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
 - ▶ Optimized flute shape for strength of drilling and smooth chip evacuation
- ▶ 钻孔 钢件, 铸钢, 铸铁, 球墨铸铁
 - ▶ 由于R型中心刃, 卓越自定心, 断屑
 - ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
 - ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar p. A98-A99 5 × D

Plain Shank Page
 ◎ SHRINK FIT HOLDER D47-72
 ○ HYDRAULIC CHUCK D15-46
 ○ ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH408058	5.8	6	44	82
DH408059	5.9	6	44	82
DH408060	6.0	6	44	82
DH408061	6.1	8	53	91
DH408062	6.2	8	53	91
DH408063	6.3	8	53	91
DH408064	6.4	8	53	91
DH408065	6.5	8	53	91
DH408066	6.6	8	53	91
DH408067	6.7	8	53	91
DH408068	6.8	8	53	91
DH408069	6.9	8	53	91
DH408070	7.0	8	53	91
DH408071	7.1	8	53	91
DH408072	7.2	8	53	91
DH408073	7.3	8	53	91
DH408074	7.4	8	53	91
DH408075	7.5	8	53	91
DH408076	7.6	8	53	91
DH408077	7.7	8	53	91
DH408078	7.8	8	53	91
DH408079	7.9	8	53	91
DH408080	8.0	8	53	91
DH408081	8.1	10	61	103

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH408082	8.2	10	61	103
DH408083	8.3	10	61	103
DH408084	8.4	10	61	103
DH408085	8.5	10	61	103
DH408086	8.6	10	61	103
DH408087	8.7	10	61	103
DH408088	8.8	10	61	103
DH408089	8.9	10	61	103
DH408090	9.0	10	61	103
DH408091	9.1	10	61	103
DH408092	9.2	10	61	103
DH408093	9.3	10	61	103
DH408094	9.4	10	61	103
DH408095	9.5	10	61	103
DH408096	9.6	10	61	103
DH408097	9.7	10	61	103
DH408098	9.8	10	61	103
DH408099	9.9	10	61	103
DH408100	10.0	10	61	103
DH408101	10.1	12	71	118
DH408102	10.2	12	71	118
DH408103	10.3	12	71	118
DH408104	10.4	12	71	118
DH408105	10.5	12	71	118

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求。 ▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

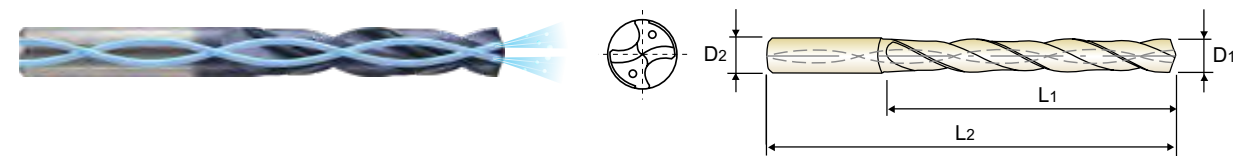
ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		◎			

TIG DREAM DRILLS - GENERAL

DH408 SERIES

CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES LONG 长

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
 - ▶ Self centering and chip breaking by R-thinning
 - ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
 - ▶ Optimized flute shape for strength of drilling and smooth chip evacuation
- ▶ 钻孔 钢件, 铸钢, 铸铁, 球墨铸铁
 - ▶ 由于R型中心刃, 卓越自定心, 断屑
 - ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
 - ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar p. A98-A99 5 × D

Plain Shank Page
 ◎ SHRINK FIT HOLDER D47-72
 ○ HYDRAULIC CHUCK D15-46
 ○ ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH408106	10.6	12	71	118
DH408107	10.7	12	71	118
DH408108	10.8	12	71	118
DH408109	10.9	12	71	118
DH408110	11.0	12	71	118
DH408111	11.1	12	71	118
DH408112	11.2	12	71	118
DH408113	11.3	12	71	118
DH408114	11.4	12	71	118
DH408115	11.5	12	71	118
DH408116	11.6	12	71	118
DH408117	11.7	12	71	118
DH408118	11.8	12	71	118
DH408119	11.9	12	71	118
DH408120	12.0	12	71	118
DH408125	12.5	14	77	124

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH408130	13.0	14	77	124
DH408135	13.5	14	77	124
DH408140	14.0	14	77	124
DH408145	14.5	16	83	133
DH408150	15.0	16	83	133
DH408155	15.5	16	83	133
DH408160	16.0	16	83	133
DH408165	16.5	18	93	143
DH408170	17.0	18	93	143
DH408175	17.5	18	93	143
DH408180	18.0	18	93	143
DH408185	18.5	20	101	153
DH408190	19.0	20	101	153
DH408195	19.5	20	101	153
DH408200	20.0	20	101	153

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		◎			

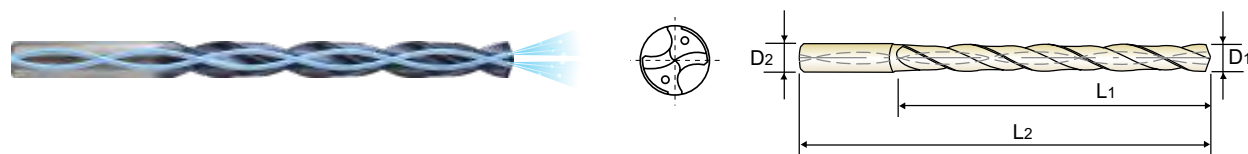
CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES EXTRA LONG

硬质合金, 梦幻钻头 带内冷孔

超长

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ 钻孔 钢件, 铸钢, 铸铁, 球墨铸铁
- ▶ 由于R型中心刃, 卓越自定心, 断屑
- ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



DIN 6537
CARBIDE
30°
h6
m7
140°
20 bar
p. A98-A99
8 × D
Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH421030	3.0	6	34	72
DH421031	3.1	6	34	72
DH421032	3.2	6	34	72
DH421033	3.3	6	34	72
DH421034	3.4	6	34	72
DH421035	3.5	6	34	72
DH421036	3.6	6	34	72
DH421037	3.7	6	34	72
DH421038	3.8	6	43	81
DH421039	3.9	6	43	81
DH421040	4.0	6	43	81
DH421041	4.1	6	43	81
DH421042	4.2	6	43	81
DH421043	4.3	6	43	81
DH421044	4.4	6	43	81
DH421045	4.5	6	43	81
DH421046	4.6	6	43	81
DH421047	4.7	6	43	81
DH421048	4.8	6	57	95
DH421049	4.9	6	57	95
DH421050	5.0	6	57	95
DH421051	5.1	6	57	95
DH421052	5.2	6	57	95
DH421053	5.3	6	57	95

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH421054	5.4	6	57	95
DH421055	5.5	6	57	95
DH421056	5.6	6	57	95
DH421057	5.7	6	57	95
DH421058	5.8	6	57	95
DH421059	5.9	6	57	95
DH421060	6.0	6	57	95
DH421061	6.1	8	76	114
DH421062	6.2	8	76	114
DH421063	6.3	8	76	114
DH421064	6.4	8	76	114
DH421065	6.5	8	76	114
DH421066	6.6	8	76	114
DH421067	6.7	8	76	114
DH421068	6.8	8	76	114
DH421069	6.9	8	76	114
DH421070	7.0	8	76	114
DH421071	7.1	8	76	114
DH421072	7.2	8	76	114
DH421073	7.3	8	76	114
DH421074	7.4	8	76	114
DH421075	7.5	8	76	114
DH421076	7.6	8	76	114
DH421077	7.7	8	76	114

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求. ▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		○			

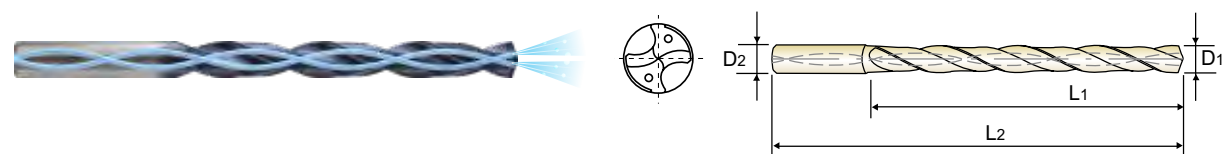
CARBIDE, DREAM DRILLS GENERAL with COOLANT HOLES EXTRA LONG

硬质合金, 梦幻钻头 带内冷孔

超长

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ 钻孔 钢件, 铸钢, 铸铁, 球墨铸铁
- ▶ 由于R型中心刃, 卓越自定心, 断屑
- ▶ 由于刃部的波形和负角设计, 实现低阻力, 稳定扭矩和提高刀具寿命
- ▶ 最佳沟槽设计使强力钻孔和顺畅排屑



DIN 6537
CARBIDE
30°
h6
m7
140°
20 bar
p. A98-A99
8 × D
Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH421078	7.8	8	76	114
DH421079	7.9	8	76	114
DH421080	8.0	8	76	114
DH421081	8.1	10	95	142
DH421082	8.2	10	95	142
DH421083	8.3	10	95	142
DH421084	8.4	10	95	142
DH421085	8.5	10	95	142
DH421086	8.6	10	95	142
DH421087	8.7	10	95	142
DH421088	8.8	10	95	142
DH421089	8.9	10	95	142
DH421090	9.0	10	95	142
DH421091	9.1	10	95	142
DH421092	9.2	10	95	142
DH421093	9.3	10	95	142
DH421094	9.4	10	95	142
DH421095	9.5	10	95	142
DH421096	9.6	10	95	142
DH421097	9.7	10	95	142
DH421098	9.8	10	95	142
DH421099	9.9	10	95	142
DH421100	10.0	10	95	142
DH421101	10.1	12	114	162

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH421102	10.2	12	114	162
DH421103	10.3	12	114	162
DH421104	10.4	12	114	162
DH421105	10.5	12	114	162
DH421106	10.6	12	114	162
DH421107	10.7	12	114	162
DH421108	10.8	12	114	162
DH421109	10.9	12	114	162
DH421110	11.0	12	114	162
DH421111	11.1	12	114	162
DH421112	11.2	12	114	162
DH421113	11.3	12	114	162
DH421114	11.4	12	114	162
DH421115	11.5	12	114	162
DH421116	11.6	12	114	162
DH421117	11.7	12	114	162
DH421118	11.8	12	114	162
DH421119	11.9	12	114	162
DH421120	12.0	12	114	162
DH421125	12.5	14	133	178
DH421130	13.0	14	133	178
DH421135	13.5	14	133	178
DH421140	14.0	14	133	178

▶ Other shank types are available on your request. / 其他的刀柄类型可以按照你的要求. ▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																		○			

HSS

HSS



RECOMMENDED CUTTING CONDITIONS
推荐加工条件



RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DH404, DH423, DH424 SERIES

without COOLANT HOLES
不带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)			Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)		
					1.0	2.0				3.0	4.0	5.0
P	2	Non-alloy steel	70	RPM	22280	11140	100	RPM	10610	7960	6370	
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	
			3	RPM	22280	11140	100	RPM	10610	7960	6370	
	FEED			0.03-0.05	0.05-0.07	FEED	0.06-0.12	0.08-0.14	0.14-0.20			
	4		RPM	22280	11140	100	RPM	10610	7960	6370		
			FEED	0.03-0.05	0.05-0.07	FEED	0.04-0.10	0.07-0.13	0.10-0.16			
	5	RPM	19100	9550	80	RPM	8490	6370	5090			
		FEED	0.03-0.05	0.05-0.07	FEED	0.04-0.10	0.07-0.13	0.10-0.16				
	Low alloy steel	6	RPM	22280	11140	100	RPM	10610	7960	6370		
			FEED	0.03-0.05	0.05-0.07	FEED	0.06-0.12	0.08-0.14	0.14-0.20			
		7	RPM	19100	9550	80	RPM	8490	6370	5090		
FEED			0.03-0.05	0.05-0.07	FEED	0.06-0.12	0.08-0.14	0.10-0.20				
8		RPM	19100	9550	80	RPM	8490	6370	5090			
		FEED	0.02-0.04	0.03-0.05	FEED	0.04-0.10	0.07-0.13	0.10-0.16				
9	RPM	9550	4770	40	RPM	4240	3180	2550				
	FEED	0.02-0.04	0.03-0.05	FEED	0.03-0.08	0.05-0.11	0.08-0.14					
High alloyed steel, and tool steel	10	RPM	15920	7960	70	RPM	7430	5570	4460			
		FEED	0.03-0.05	0.05-0.07	FEED	0.04-0.10	0.07-0.13	0.10-0.16				
11	RPM	9550	4770	40	RPM	4240	3180	2550				
	FEED	0.02-0.04	0.03-0.05	FEED	0.03-0.08	0.05-0.11	0.08-0.14					
M	12	Stainless steel	RPM	15920	7960	70	RPM	7430	5570	4460		
			FEED	0.03-0.05	0.05-0.07	FEED	0.06-0.12	0.08-0.14	0.14-0.20			
13	RPM	11140	5570	45	RPM	4770	3580	2860				
	FEED	0.02-0.04	0.03-0.05	FEED	0.04-0.10	0.07-0.13	0.10-0.16					
K	15	Grey cast iron	RPM	22280	11140	100	RPM	10610	7960	6370		
			FEED	0.04-0.06	0.04-0.06	FEED	0.08-0.14	0.12-0.18	0.15-0.22			
	16	RPM	20690	10350	80	RPM	8490	6370	5090			
		FEED	0.04-0.06	0.04-0.06	FEED	0.06-0.12	0.08-0.14	0.14-0.20				
	17	Nodular cast iron	RPM	22280	11140	100	RPM	10610	7960	6370		
			FEED	0.04-0.06	0.04-0.06	FEED	0.08-0.14	0.12-0.18	0.15-0.22			
	18	RPM	15920	7960	70	RPM	7430	5570	4460			
		FEED	0.04-0.06	0.04-0.06	FEED	0.06-0.12	0.08-0.14	0.14-0.20				
19	Malleable cast iron	RPM	19100	9550	80	RPM	8490	6370	5090			
		FEED	0.04-0.06	0.04-0.06	FEED	0.08-0.14	0.12-0.18	0.15-0.22				
20	RPM	15920	7960	70	RPM	7430	5570	4460				
	FEED	0.03-0.05	0.05-0.07	FEED	0.06-0.12	0.08-0.14	0.14-0.20					
H	55	Hardened steel	RPM	6370	3180	25	RPM	2650	1990	1590		
			FEED	0.01-0.02	0.01-0.03	FEED	0.01-0.03	0.01-0.04	0.02-0.05			

VDI 3323	Parameter 参数	Drill Diameter 刃径 (mm)							
		6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
2	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
3	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
4	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.12-0.18	0.14-0.2	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
5	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.12-0.18	0.14-0.2	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
6	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
7	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.12-0.24	0.16-0.28	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
8	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.12-0.18	0.14-0.2	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
9	RPM	2120	1590	1270	1060	910	800	710	640
	FEED	0.10-0.16	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
10	RPM	3710	2790	2230	1860	1590	1390	1240	1110
	FEED	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
11	RPM	2120	1590	1270	1060	910	800	710	640
	FEED	0.10-0.16	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
12	RPM	3710	2790	2230	1860	1590	1390	1240	1110
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
13	RPM	2390	1790	1430	1190	1020	900	800	720
	FEED	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
15	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
16	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
17	RPM	5310	3980	3180	2650	2270	1990	1770	1590
	FEED	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
18	RPM	3710	2790	2230	1860	1590	1390	1240	1110
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
19	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
20	RPM	3710	2790	2230	1860	1590	1390	1240	1110
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
55	RPM	1,330	990	800	660	570	500	440	400
	FEED	0.03-0.06	0.03-0.06	0.04-0.07	0.04-0.08	0.05-0.09	0.05-0.09	0.05-0.10	0.05-0.10

▶ Recommend to reduce the feed rate as following / 荐于按照下面减少进给速度

Feed 100% : DH404(3xD), DH423(3xD)

Feed 85% : DH424(5xD)



RECOMMENDED CUTTING CONDITIONS
推荐加工条件



RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DH406, DH408, DH421 SERIES with COOLANT HOLES
带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)			Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)		
					1.0	2.0				3.0	4.0	5.0
P	2	Non-alloy steel	80	RPM	25460	12730	110	RPM	11670	8750	7000	
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	
			80	RPM	25460	12730	110	RPM	11670	8750	7000	
	FEED			0.03-0.05	0.05-0.07	FEED	0.06-0.12	0.08-0.14	0.14-0.20			
	80		RPM	25460	12730	110	RPM	11670	8750	7000		
			FEED	0.03-0.05	0.05-0.07	FEED	0.04-0.10	0.07-0.13	0.10-0.16			
	70	RPM	22280	11140	90	RPM	9550	7160	5730			
		FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16			
	6	Low alloy steel	80	RPM	25460	12730	110	RPM	11670	8750	7000	
				FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20	
			70	RPM	22280	11140	90	RPM	9550	7160	5730	
FEED	0.03-0.05			0.05-0.07	FEED	0.06-0.12		0.08-0.14	0.10-0.20			
70	RPM		22280	11140	90	RPM	9550	7160	5730			
	FEED		0.02-0.04	0.03-0.05		FEED	0.04-0.10	0.07-0.13	0.10-0.16			
40	High alloyed steel, and tool steel	60	RPM	12730	6370	50	RPM	5310	3980	3180		
			FEED	0.02-0.04	0.03-0.05		FEED	0.03-0.08	0.05-0.11	0.08-0.14		
60		RPM	19100	9550	80	RPM	8490	6370	5090			
		FEED	0.03-0.05	0.05-0.07		FEED	0.04-0.10	0.07-0.13	0.10-0.16			
40		RPM	12730	6370	45	RPM	4770	3580	2860			
		FEED	0.02-0.04	0.03-0.05		FEED	0.03-0.08	0.05-0.11	0.08-0.14			
60	Stainless steel	60	RPM	19100	9550	80	RPM	8490	6370	5090		
			FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20		
45	Grey cast iron	45	RPM	14320	7160	55	RPM	5840	4380	3500		
			FEED	0.02-0.04	0.03-0.05		FEED	0.04-0.10	0.07-0.13	0.10-0.16		
80		80	RPM	25460	12730	110	RPM	11670	8750	7000		
			FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22		
75		Nodular cast iron	75	RPM	23870	11940	95	RPM	10080	7560	6050	
				FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20	
90	90		RPM	28650	14320	120	RPM	12730	9550	7640		
			FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22		
60	Malleable cast iron		60	RPM	19100	9550	80	RPM	8490	6370	5090	
				FEED	0.04-0.06	0.04-0.06		FEED	0.06-0.12	0.08-0.14	0.14-0.20	
70		70	RPM	22280	11140	90	RPM	9550	7160	5730		
			FEED	0.04-0.06	0.04-0.06		FEED	0.08-0.14	0.12-0.18	0.15-0.22		
60		60	RPM	19100	9550	80	RPM	8490	6370	5090		
			FEED	0.03-0.05	0.05-0.07		FEED	0.06-0.12	0.08-0.14	0.14-0.20		
25	Hardened steel	25	RPM	7960	3980	30	RPM	3180	2390	1910		
			FEED	0.01-0.02	0.01-0.03		FEED	0.01-0.03	0.01-0.04	0.02-0.05		

VDI 3323	Parameter 参数	Drill Diameter 刃径 (mm)							
		6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
2	RPM	5840	4380	3500	2920	2500	2190	1950	1750
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
3	RPM	5840	4380	3500	2920	2500	2190	1950	1750
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
4	RPM	5840	4380	3500	2920	2500	2190	1950	1750
	FEED	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
5	RPM	4770	3580	2860	2390	2050	1790	1590	1430
	FEED	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
6	RPM	5840	4380	3500	2920	2500	2190	1950	1750
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
7	RPM	4770	3580	2860	2390	2050	1790	1590	1430
	FEED	0.12-0.24	0.16-0.28	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
8	RPM	4770	3580	2860	2390	2050	1790	1590	1430
	FEED	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
9	RPM	2650	1990	1590	1330	1140	990	880	800
	FEED	0.10-0.16	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
10	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
11	RPM	2390	1790	1430	1190	1020	900	800	720
	FEED	0.10-0.16	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
12	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
13	RPM	2920	2190	1750	1460	1250	1090	970	880
	FEED	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
15	RPM	5840	4380	3500	2920	2500	2190	1950	1750
	FEED	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
16	RPM	5040	3780	3020	2520	2160	1890	1680	1510
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
17	RPM	6370	4770	3820	3180	2730	2390	2120	1910
	FEED	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
18	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
19	RPM	4770	3580	2860	2390	2050	1790	1590	1430
	FEED	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
20	RPM	4240	3180	2550	2120	1820	1590	1410	1270
	FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
55	RPM	1590	1190	950	800	680	600	530	480
	FEED	0.03-0.06	0.03-0.06	0.04-0.07	0.04-0.08	0.05-0.09	0.05-0.09	0.05-0.10	0.05-0.10

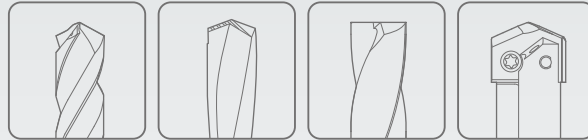
► Recommend to reduce the feed rate as following / 荐于按照下面减少进给速度

Feed 100% : DH406(3×D), DH408(5×D)

Feed 75% : DH421(8×D)



Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

SOLID CARBIDE

**DREAM DRILLS
-SOFT**

- For Steels, up to Medium Hardness

- 用于中等硬度钢

SELECTION GUIDE
选用指南



SOLID CARBIDE
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For Steels, up to Medium Hardness
用于中等硬度钢

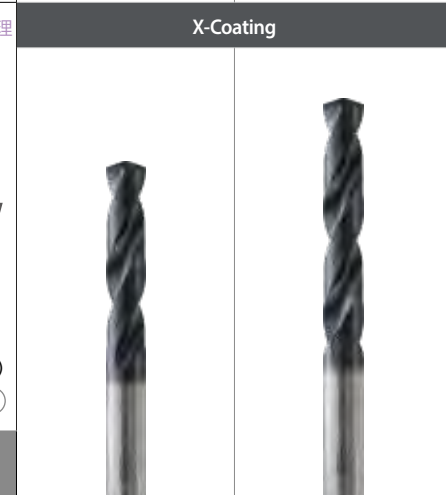
Please visit 请访问 globalygl.com/mat
for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

(Recommended cutting conditions (推荐加工条件) : p. A108)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度
P	1	Non-alloy steel	About 0.15% C Annealed	125	
	2		About 0.45% C Annealed	190	13
	3		About 0.45% C Quenched & Tempered	250	25
	4		About 0.75% C Annealed	270	28
	5	About 0.75% C Quenched & Tempered	300	32	
	6	Low alloy steel	Annealed	180	10
	7		Quenched & Tempered	275	29
	8		Quenched & Tempered	300	32
	9		Quenched & Tempered	350	38
	10		High alloyed steel, and tool steel	Annealed	200
	11	Quenched & Tempered	325	35	
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15
	13		Martensitic Quenched & Tempered	240	23
	14	Austenitic	180	10	
K	15	Grey cast iron	Pearlitic / ferritic	180	10
	16		Pearlitic (Martensitic)	260	26
	17	Nodular cast iron	Ferritic	160	3
	18		Pearlitic	250	25
	19	Malleable cast iron	Ferritic	130	
	20		Pearlitic	230	21
N	21	Aluminum-wrought alloy	Not Curable	60	
	22		Curable Hardened	100	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75	
	24		≤ 12% Si, Curable Hardened	90	
	25		> 12% Si, Not Curable	130	
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110	
	27		CuZn, CuSnZn (Brass)	90	
	28		CuSn, lead-free copper and electrolytic copper	100	
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic	
	30	Rubber, Wood, etc.			
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15
	32		Cured	280	30
	33		Annealed	250	25
	34		Ni or Co Based Cured	350	38
	35		Cast	320	34
H	36	Titanium Alloys	Pure Titanium	400 Rm	
	37		Alpha + Beta Alloys Hardened	1050 Rm	
	38	Hardened steel	Hardened	550	55
	39		Hardened	630	60
40	Chilled Cast Iron	Cast	400	42	
41	Hardened Cast Iron	Hardened	550	55	

SERIES 系列	DPPA01	DPPA02
DRILLING DEPTH 钻销深度	-	-
LENGTH 长度	REGULAR 常规	LONG 长
SIZE MIN 最小尺寸	D1.0	D3.0
SIZE MAX 最大尺寸	D20.0	D20.0
PAGE 页数	A103	A106



X-Coating



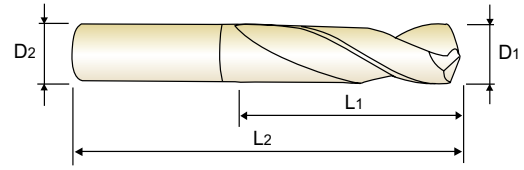
DPPA01 SERIES

CARBIDE, DREAM DRILLS - SOFT
硬质合金, 梦幻钻头 - 软材质用

REGULAR
常规

- ▶ Drilling for Non-alloy Steel, Low Alloy Steel and Cast Iron.
- ▶ Lip straight shape cutting edge will allow low thrust, strong rigidity and stable torque.
- ▶ Unique radius thinning for self-centering and chip breaking
- ▶ Negative land on the cutting edge for reliable tool life

- ▶ 为钻碳素钢, 低合金钢, 铸铁
- ▶ 唇形直刃, 低推力, 强刚性和稳定扭矩。
- ▶ 独特的薄圆弧形, 自主定心, 断屑
- ▶ 负片地的切削刃为可靠的刀具寿命



Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPPA01010	1.0	3	8	38
DPPA01011	1.1	3	9	42
DPPA01012	1.2	3	10	42
DPPA01013	1.3	3	10	42
DPPA01014	1.4	3	11	42
DPPA01015	1.5	3	11	42
DPPA01016	1.6	3	12	42
DPPA01017	1.7	3	12	42
DPPA01018	1.8	3	13	42
DPPA01019	1.9	3	13	42
DPPA01020	2.0	3	17	50
DPPA01021	2.1	3	17	50
DPPA01022	2.2	3	17	50
DPPA01023	2.3	3	17	50
DPPA01024	2.4	3	17	50
DPPA01025	2.5	3	17	50
DPPA01026	2.6	3	17	50
DPPA01027	2.7	3	17	50
DPPA01028	2.8	3	17	50
DPPA01029	2.9	3	17	50
DPPA01030	3.0	4	20	55
DPPA01031	3.1	4	20	55

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPPA01032	3.2	4	20	55
DPPA01033	3.3	4	20	55
DPPA01034	3.4	4	20	55
DPPA01035	3.5	4	20	55
DPPA01036	3.6	4	25	55
DPPA01037	3.7	4	25	55
DPPA01038	3.8	4	25	55
DPPA01039	3.9	4	25	55
DPPA01040	4.0	4	25	55
DPPA01041	4.1	4	25	55
DPPA01042	4.2	5	32	62
DPPA01043	4.3	5	32	62
DPPA01044	4.4	5	32	62
DPPA01045	4.5	5	32	62
DPPA01046	4.6	5	32	62
DPPA01047	4.7	5	32	62
DPPA01048	4.8	5	32	62
DPPA01049	4.9	5	32	62
DPPA01050	5.0	5	32	62
DPPA01051	5.1	5	32	62
DPPA01052	5.2	6	36	66
DPPA01053	5.3	6	36	66

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供。

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	○				◎	○			○	○	○			◎	○	◎	○	◎	○	
ISO	N								S							H					
Material Description	Aluminum-wrought alloy				Aluminum-cast, alloyed				Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100										550	630	400	550
Recommended																					

CARBIDE, DREAM DRILLS - SOFT
硬质合金, 梦幻钻头 - 软材质用

REGULAR

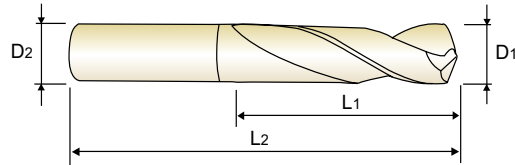
常规

- ▶ Drilling for Non-alloy Steel, Low Alloy Steel and Cast Iron.
- ▶ Lip straight shape cutting edge will allow low thrust, strong rigidity and stable torque.
- ▶ Unique radius thinning for self-centering and chip breaking
- ▶ Negative land on the cutting edge for reliable tool life

- ▶ 为钻碳素钢, 低合金钢, 铸铁
- ▶ 唇形直刃, 低推力, 强刚性和稳定扭矩。
- ▶ 独特的薄圆弧形, 自主定心, 断屑
- ▶ 负片地的切削刃为可靠的刀具寿命



up to 1.5mm ø1.6~ø1.9 over 1.9mm



Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPPA01054	5.4	6	36	66
DPPA01055	5.5	6	36	66
DPPA01056	5.6	6	36	66
DPPA01057	5.7	6	36	66
DPPA01058	5.8	6	36	66
DPPA01059	5.9	6	36	66
DPPA01060	6.0	6	36	66
DPPA01061	6.1	6	36	66
DPPA01062	6.2	7	42	74
DPPA01063	6.3	7	42	74
DPPA01064	6.4	7	42	74
DPPA01065	6.5	7	42	74
DPPA01066	6.6	7	42	74
DPPA01067	6.7	7	42	74
DPPA01068	6.8	7	42	74
DPPA01069	6.9	7	42	74
DPPA01070	7.0	7	42	74
DPPA01071	7.1	7	42	74
DPPA01072	7.2	8	46	79
DPPA01073	7.3	8	46	79
DPPA01074	7.4	8	46	79
DPPA01075	7.5	8	46	79

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPPA01076	7.6	8	46	79
DPPA01077	7.7	8	46	79
DPPA01078	7.8	8	46	79
DPPA01079	7.9	8	46	79
DPPA01080	8.0	8	46	79
DPPA01081	8.1	8	46	79
DPPA01082	8.2	9	50	84
DPPA01083	8.3	9	50	84
DPPA01084	8.4	9	50	84
DPPA01085	8.5	9	50	84
DPPA01086	8.6	9	50	84
DPPA01087	8.7	9	50	84
DPPA01088	8.8	9	50	84
DPPA01089	8.9	9	50	84
DPPA01090	9.0	9	50	84
DPPA01091	9.1	9	50	84
DPPA01092	9.2	10	53	89
DPPA01093	9.3	10	53	89
DPPA01094	9.4	10	53	89
DPPA01095	9.5	10	53	89
DPPA01096	9.6	10	53	89
DPPA01097	9.7	10	53	89

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▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, DREAM DRILLS - SOFT
硬质合金, 梦幻钻头 - 软材质用

REGULAR

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- ▶ 为钻碳素钢, 低合金钢, 铸铁
- ▶ 唇形直刃, 低推力, 强刚性和稳定扭矩。
- ▶ 独特的薄圆弧形, 自主定心, 断屑
- ▶ 负片地的切削刃为可靠的刀具寿命



up to 1.5mm ø1.6~ø1.9 over 1.9mm



Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPPA01098	9.8	10	53	89
DPPA01099	9.9	10	53	89
DPPA01100	10.0	10	53	89
DPPA01101	10.1	10	53	89
DPPA01102	10.2	11	55	95
DPPA01103	10.3	11	55	95
DPPA01104	10.4	11	55	95
DPPA01105	10.5	11	55	95
DPPA01106	10.6	11	55	95
DPPA01107	10.7	11	55	95
DPPA01108	10.8	11	55	95
DPPA01109	10.9	11	55	95
DPPA01110	11.0	11	55	95
DPPA01111	11.1	11	55	95
DPPA01112	11.2	12	62	102
DPPA01113	11.3	12	62	102
DPPA01114	11.4	12	62	102
DPPA01115	11.5	12	62	102
DPPA01116	11.6	12	62	102
DPPA01117	11.7	12	62	102

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPPA01118	11.8	12	62	102
DPPA01119	11.9	12	62	102
DPPA01120	12.0	12	62	102
DPPA01125	12.5	13	62	102
DPPA01130	13.0	13	62	102
DPPA01135	13.5	14	64	107
DPPA01140	14.0	14	64	107
DPPA01145	14.5	15	67	111
DPPA01150	15.0	15	67	111
DPPA01155	15.5	16	69	115
DPPA01160	16.0	16	69	115
DPPA01165	16.5	17	71	119
DPPA01170	17.0	17	71	119
DPPA01175	17.5	18	74	123
DPPA01180	18.0	18	74	123
DPPA01185	18.5	19	76	127
DPPA01190	19.0	19	76	127
DPPA01195	19.5	20	80	131
DPPA01200	20.0	20	80	131

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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

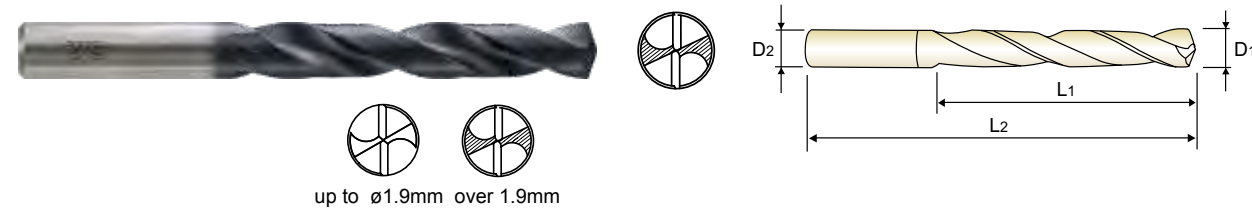
ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, DREAM DRILLS - SOFT
硬质合金, 梦幻钻头 - 软材质用

LONG
长

- ▶ Drilling for Non-alloy Steel, Low Alloy Steel and Cast Iron.
- ▶ Lip straight shape cutting edge will allow low thrust, strong rigidity and stable torque.
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up to ø1.9mm over 1.9mm



Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPPA02030	3.0	4	45	80
DPPA02031	3.1	4	45	80
DPPA02032	3.2	4	45	80
DPPA02033	3.3	4	45	80
DPPA02034	3.4	4	45	80
DPPA02035	3.5	4	45	80
DPPA02036	3.6	4	45	80
DPPA02037	3.7	4	45	80
DPPA02038	3.8	4	45	80
DPPA02039	3.9	4	45	80
DPPA02040	4.0	4	45	80
DPPA02041	4.1	4	45	80
DPPA02042	4.2	5	45	80
DPPA02043	4.3	5	45	80
DPPA02044	4.4	5	45	80
DPPA02045	4.5	5	45	80
DPPA02046	4.6	5	45	80
DPPA02047	4.7	5	45	80
DPPA02048	4.8	5	45	80
DPPA02049	4.9	5	45	80
DPPA02050	5.0	5	45	80
DPPA02051	5.1	5	45	80
DPPA02052	5.2	6	50	83
DPPA02053	5.3	6	50	83
DPPA02054	5.4	6	50	83
DPPA02055	5.5	6	50	83
DPPA02056	5.6	6	50	83

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPPA02057	5.7	6	50	83
DPPA02058	5.8	6	50	83
DPPA02059	5.9	6	50	83
DPPA02060	6.0	6	50	83
DPPA02061	6.1	6	50	83
DPPA02062	6.2	7	53	85
DPPA02063	6.3	7	53	85
DPPA02064	6.4	7	53	85
DPPA02065	6.5	7	53	85
DPPA02066	6.6	7	53	85
DPPA02067	6.7	7	53	85
DPPA02068	6.8	7	53	85
DPPA02069	6.9	7	53	85
DPPA02070	7.0	7	53	85
DPPA02071	7.1	7	53	85
DPPA02072	7.2	8	58	90
DPPA02073	7.3	8	58	90
DPPA02074	7.4	8	58	90
DPPA02075	7.5	8	58	90
DPPA02076	7.6	8	58	90
DPPA02077	7.7	8	58	90
DPPA02078	7.8	8	58	90
DPPA02079	7.9	8	58	90
DPPA02080	8.0	8	58	90
DPPA02081	8.1	8	58	90
DPPA02082	8.2	9	64	98
DPPA02083	8.3	9	64	98

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▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

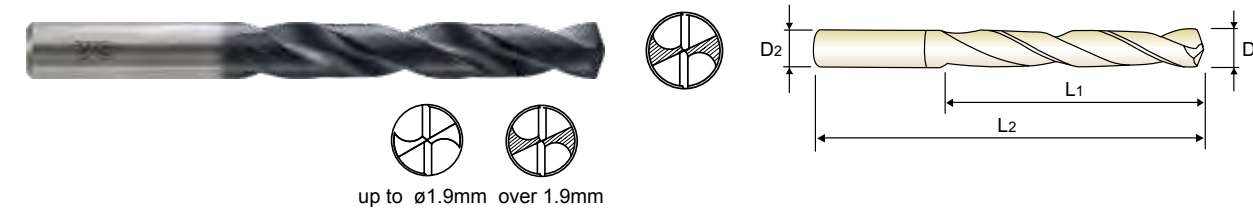
ISO	N							S							H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100	15	30	25	38	34	15	30	25	38	34	55	60	42	55
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400Rm	1050Rm	550	630	400	550			
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

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up to ø1.9mm over 1.9mm



Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPPA02084	8.4	9	64	98
DPPA02085	8.5	9	64	98
DPPA02086	8.6	9	64	98
DPPA02087	8.7	9	64	98
DPPA02088	8.8	9	64	98
DPPA02089	8.9	9	64	98
DPPA02090	9.0	9	64	98
DPPA02091	9.1	9	64	98
DPPA02092	9.2	10	68	105
DPPA02093	9.3	10	68	105
DPPA02094	9.4	10	68	105
DPPA02095	9.5	10	68	105
DPPA02096	9.6	10	68	105
DPPA02097	9.7	10	68	105
DPPA02098	9.8	10	68	105
DPPA02099	9.9	10	68	105
DPPA02100	10.0	10	68	105
DPPA02101	10.1	10	68	105
DPPA02102	10.2	11	73	110
DPPA02103	10.3	11	73	110
DPPA02104	10.4	11	73	110
DPPA02105	10.5	11	73	110
DPPA02106	10.6	11	73	110
DPPA02107	10.7	11	73	110
DPPA02108	10.8	11	73	110
DPPA02109	10.9	11	73	110
DPPA02110	11.0	11	73	110

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPPA02111	11.1	11	73	110
DPPA02112	11.2	12	80	120
DPPA02113	11.3	12	80	120
DPPA02114	11.4	12	80	120
DPPA02115	11.5	12	80	120
DPPA02116	11.6	12	80	120
DPPA02117	11.7	12	80	120
DPPA02118	11.8	12	80	120
DPPA02119	11.9	12	80	120
DPPA02120	12.0	12	80	120
DPPA02125	12.5	13	90	137
DPPA02130	13.0	13	90	137
DPPA02135	13.5	14	96	147
DPPA02140	14.0	14	96	147
DPPA02145	14.5	15	100	153
DPPA02150	15.0	15	100	153
DPPA02155	15.5	16	112	160
DPPA02160	16.0	16	112	160
DPPA02165	16.5	17	112	160
DPPA02170	17.0	17	112	160
DPPA02175	17.5	18	112	160
DPPA02180	18.0	18	112	160
DPPA02185	18.5	19	112	160
DPPA02190	19.0	19	112	160
DPPA02195	19.5	20	112	160
DPPA02200	20.0	20	112	160

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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39		

HSS

HSS



RECOMMENDED CUTTING CONDITIONS
推荐加工条件



RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DPPA01, DPPA02 SERIES

without COOLANT HOLES
不带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

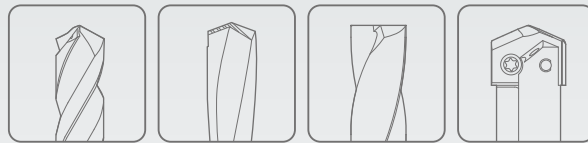
RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)					
					1.0	2.0	3.0			
P	2	Non-alloy steel	RPM	19100	9550	80	RPM	8490	6370	5090
			FEED	0.02-0.04	0.04-0.06	80	FEED	0.04-0.10	0.06-0.12	0.12-0.18
	3	Non-alloy steel	RPM	19100	9550	80	RPM	8490	4770	3820
			FEED	0.02-0.04	0.04-0.06	80	FEED	0.04-0.10	0.06-0.12	0.12-0.18
	6	Low alloy steel	RPM	19100	9550	80	RPM	8490	6370	5090
FEED			0.02-0.04	0.04-0.06	80	FEED	0.04-0.10	0.06-0.12	0.12-0.18	
7	Low alloy steel	RPM	12730	6370	60	RPM	6370	4770	3820	
		FEED	0.02-0.04	0.04-0.06	60	FEED	0.04-0.10	0.06-0.12	0.12-0.18	
10	High alloyed steel, and tool steel	RPM	11140	5570	55	RPM	5840	4380	3500	
		FEED	0.02-0.04	0.04-0.06	55	FEED	0.04-0.10	0.06-0.12	0.12-0.18	
M	12	Stainless steel	RPM	9550	4770	45	RPM	4770	3580	2860
			FEED	0.02-0.04	0.02-0.04	45	FEED	0.03-0.05	0.05-0.09	0.07-0.11
13	Stainless steel	RPM	6370	3180	35	RPM	3710	2790	2230	
		FEED	0.02-0.04	0.02-0.04	35	FEED	0.03-0.05	0.05-0.09	0.07-0.11	
K	15	Grey cast iron	RPM	19100	9550	80	RPM	8490	6370	5090
			FEED	0.03-0.05	0.05-0.07	80	FEED	0.06-0.12	0.08-0.14	0.14-0.20
	16	Grey cast iron	RPM	12730	6370	60	RPM	6370	4770	3820
			FEED	0.02-0.04	0.04-0.06	60	FEED	0.04-0.10	0.06-0.12	0.12-0.18
	17	Nodular cast iron	RPM	19100	9550	80	RPM	8490	6370	5090
			FEED	0.03-0.05	0.05-0.07	80	FEED	0.06-0.12	0.08-0.14	0.14-0.20
	18	Nodular cast iron	RPM	11140	5570	55	RPM	5840	4380	3500
			FEED	0.02-0.04	0.04-0.06	55	FEED	0.04-0.10	0.06-0.12	0.12-0.18
	19	Malleable cast iron	RPM	12730	6370	60	RPM	6370	4770	3820
			FEED	0.03-0.05	0.05-0.07	60	FEED	0.06-0.12	0.08-0.14	0.14-0.20
20	Malleable cast iron	RPM	11140	5570	55	RPM	5840	4380	3500	
		FEED	0.02-0.04	0.04-0.06	55	FEED	0.04-0.10	0.06-0.12	0.12-0.18	

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)						
					6.0	8.0	10.0	12.0	14.0	16.0	18.0
P	2	Non-alloy steel	RPM	4240	3180	2550	2120	1820	1590	1410	1270
			FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38
	3	Non-alloy steel	RPM	3180	2390	1910	1590	1360	1190	1060	950
			FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38
	6	Low alloy steel	RPM	4240	3180	2550	2120	1820	1590	1410	1270
FEED			0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38	
7	Low alloy steel	RPM	3180	2390	1910	1590	1360	1190	1060	950	
		FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38	
10	High alloyed steel, and tool steel	RPM	2920	2190	1750	1460	1250	1090	970	880	
		FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38	
M	12	Stainless steel	RPM	2390	1790	1430	1190	1020	900	800	720
			FEED	0.08-0.12	0.09-0.13	0.10-0.15	0.11-0.16	0.12-0.17	0.13-0.18	0.14-0.19	0.15-0.20
13	Stainless steel	RPM	1860	1390	1110	930	800	700	620	560	
		FEED	0.08-0.12	0.09-0.13	0.10-0.15	0.11-0.16	0.12-0.17	0.13-0.18	0.14-0.19	0.15-0.20	
15	Grey cast iron	RPM	4240	3180	2550	2120	1820	1590	1410	1270	
		FEED	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.32	0.28-0.38	0.30-0.40	
16	Grey cast iron	RPM	3180	2390	1910	1590	1360	1190	1060	950	
		FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38	
17	Nodular cast iron	RPM	4240	3180	2550	2120	1820	1590	1410	1270	
		FEED	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.32	0.28-0.38	0.30-0.40	
18	Nodular cast iron	RPM	2920	2190	1750	1460	1250	1090	970	880	
		FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38	
19	Malleable cast iron	RPM	3180	2390	1910	1590	1360	1190	1060	950	
		FEED	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.32	0.28-0.38	0.30-0.40	
20	Malleable cast iron	RPM	2920	2190	1750	1460	1250	1090	970	880	
		FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26	0.22-0.28	0.24-0.30	0.26-0.36	0.28-0.38	



Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

SOLID CARBIDE

DREAM DRILLS -HIGH FEED

- 1.5 to 2 Times Faster Feeding Speed than 2-Flute Drill
For Carbon Steels, Alloy Steels(up to HRc35) and Cast Iron
- 比2刃钻头进给量1.5到2倍
用于碳钢, 合金钢(硬度35以下)和铸铁

SELECTION GUIDE
选用指南



SERIES 系列

DRILLING DEPTH 钻销深度

LENGTH 长度

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

SURFACE TREATMENT 表面处理

DGR493	DGR495
3XD	5XD
SHORT 短	LONG 长
D5.0	D5.0
D20.0	D20.0
A113	A115

H-Coating

SOLID CARBIDE
DREAM DRILLS
HIGH FEED

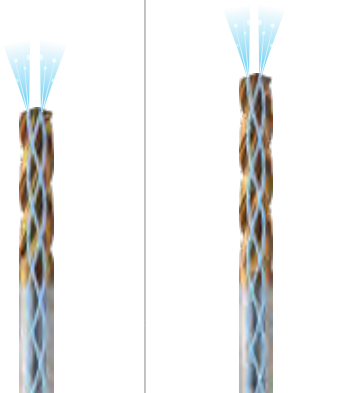
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比2刃钻头进给量1.5到2倍

用于碳钢, 合金钢(硬度35以下)和铸铁

◎: Excellent (优秀) ○: Good (良好)

(Recommended cutting conditions (推荐加工条件) : p. A117)



Please visit 请访问
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for material search 查看产品材料

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度	
P	1	Non-alloy steel	About 0.15% C Annealed	125		
	2		About 0.45% C Annealed	190	13	
	3		About 0.45% C Quenched & Tempered	250	25	
	4		About 0.75% C Annealed	270	28	
	5		About 0.75% C Quenched & Tempered	300	32	
	6	Low alloy steel	Annealed	180	10	
	7		Quenched & Tempered	275	29	
	8		Quenched & Tempered	300	32	
	9		Quenched & Tempered	350	38	
	10		High alloyed steel, and tool steel	Annealed	200	15
	11			Quenched & Tempered	325	35
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	
	13		Martensitic Quenched & Tempered	240	23	
	14	Austenitic	180	10		
K	15	Grey cast iron	Pearlitic / ferritic	180	10	
	16		Pearlitic (Martensitic)	260	26	
	17	Nodular cast iron	Ferritic	160	3	
	18		Pearlitic	250	25	
	19		Ferritic	130		
	20	Malleable cast iron	Pearlitic	230	21	
N	21	Aluminum-wrought alloy	Not Curable	60		
	22		Curable Hardened	100		
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		
	24		≤ 12% Si, Curable Hardened	90		
	25		> 12% Si, Not Curable	130		
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		
	27		CuZn, CuSnZn (Brass)	90		
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100		
	29		Duroplastic, Fiber Reinforced Plastic			
	30		Rubber, Wood, etc.			
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15	
	32		Cured	280	30	
	33		Annealed	250	25	
	34		Ni or Co Based Cured	350	38	
	35	Cast	320	34		
	36	Titanium Alloys	Pure Titanium	400 Rm		
	37		Alpha + Beta Alloys Hardened	1050 Rm		
H	38	Hardened steel	Hardened	550	55	
	39		Hardened	630	60	
	40	Hardened Cast Iron	Cast	400	42	
	41		Hardened	550	55	

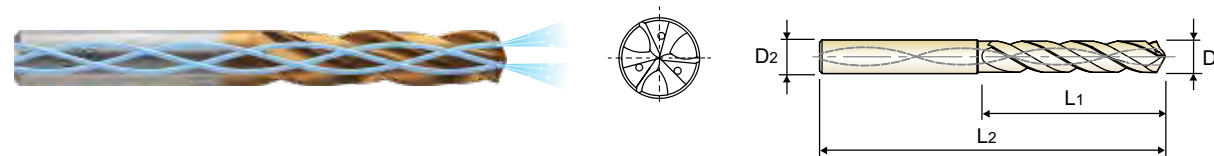
DREAM DRILLS
- HIGH FEED

DGR493 SERIES

CARBIDE, DREAM DRILLS - HIGH FEED with COOLANT HOLES
硬质合金, 梦幻钻头 - 高进给 带内冷孔

- ▶ Drilling for Carbon Steels, Alloy Steels(-HRC35) and Cast Iron
- ▶ Higher productivity due to 1.5 to 2 times faster feeding speed than 2-flute drill
- ▶ Multi-Layer coating delivers much better productivity and reliability
- ▶ Self centering and chip breaking by R-thinning and coolant holes

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p. A117

3 x D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
H-Coating	D1	D2	L1	L2
DGR493050	5.0	6	28	66
DGR493051	5.1	6	28	66
DGR493052	5.2	6	28	66
DGR493053	5.3	6	28	66
DGR493054	5.4	6	28	66
DGR493055	5.5	6	28	66
DGR493056	5.6	6	28	66
DGR493057	5.7	6	28	66
DGR493058	5.8	6	28	66
DGR493059	5.9	6	28	66
DGR493060	6.0	6	28	66
DGR493061	6.1	8	34	79
DGR493062	6.2	8	34	79
DGR493063	6.3	8	34	79
DGR493064	6.4	8	34	79
DGR493065	6.5	8	34	79
DGR493066	6.6	8	34	79
DGR493067	6.7	8	34	79
DGR493068	6.8	8	34	79
DGR493069	6.9	8	34	79
DGR493070	7.0	8	34	79
DGR493071	7.1	8	41	79
DGR493072	7.2	8	41	79
DGR493073	7.3	8	41	79
DGR493074	7.4	8	41	79
DGR493075	7.5	8	41	79
DGR493076	7.6	8	41	79
DGR493077	7.7	8	41	79
DGR493078	7.8	8	41	79
DGR493079	7.9	8	41	79
DGR493080	8.0	8	41	79
DGR493081	8.1	10	47	89
DGR493082	8.2	10	47	89
DGR493083	8.3	10	47	89
DGR493084	8.4	10	47	89
DGR493085	8.5	10	47	89
DGR493086	8.6	10	47	89
DGR493087	8.7	10	47	89
DGR493088	8.8	10	47	89
DGR493089	8.9	10	47	89
DGR493090	9.0	10	47	89
DGR493091	9.1	10	47	89
DGR493092	9.2	10	47	89
DGR493093	9.3	10	47	89
DGR493094	9.4	10	47	89
DGR493095	9.5	10	47	89
DGR493096	9.6	10	47	89
DGR493097	9.7	10	47	89

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供。

▶ NEXT PAGE 下页

◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	125	190	250	270	300	180	275	300	350	200	325	200	230	180	10	26	3	25	21	21
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
Recommended																					

HSS

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

TECHNICAL DATA

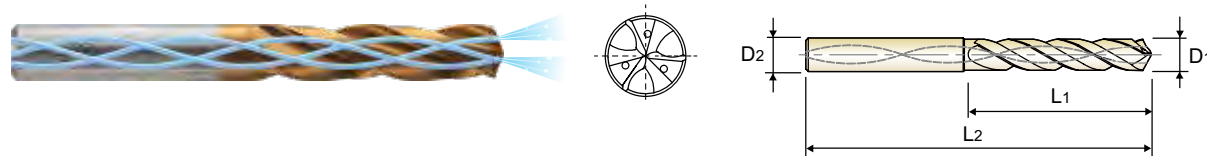
TIG DREAM DRILLS - HIGH FEED

DGR493 SERIES

CARBIDE, DREAM DRILLS - HIGH FEED with COOLANT HOLES SHORT
硬质合金, 梦幻钻头 - 高进给 带内冷孔 短

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- ▶ 由于R型中心刃和内冷, 卓越自定心和断屑性能



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar p. A117 3 x D

Plain Shank Page
 SHRINK FIT HOLDER D47-72
 HYDRAULIC CHUCK D15-46
 ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
H-Coating	D1	D2	L1	L2	H-Coating	D1	D2	L1	L2
DGR493098	9.8	10	47	89	DGR493118	11.8	12	55	102
DGR493099	9.9	10	47	89	DGR493119	11.9	12	55	102
DGR493100	10.0	10	47	89	DGR493120	12.0	12	55	102
DGR493101	10.1	12	55	102	DGR493125	12.5	14	60	107
DGR493102	10.2	12	55	102	DGR493130	13.0	14	60	107
DGR493103	10.3	12	55	102	DGR493135	13.5	14	60	107
DGR493104	10.4	12	55	102	DGR493140	14.0	14	60	107
DGR493105	10.5	12	55	102	DGR493145	14.5	16	65	115
DGR493106	10.6	12	55	102	DGR493150	15.0	16	65	115
DGR493107	10.7	12	55	102	DGR493155	15.5	16	65	115
DGR493108	10.8	12	55	102	DGR493160	16.0	16	65	115
DGR493109	10.9	12	55	102	DGR493165	16.5	18	73	123
DGR493110	11.0	12	55	102	DGR493170	17.0	18	73	123
DGR493111	11.1	12	55	102	DGR493175	17.5	18	73	123
DGR493112	11.2	12	55	102	DGR493180	18.0	18	73	123
DGR493113	11.3	12	55	102	DGR493185	18.5	20	79	131
DGR493114	11.4	12	55	102	DGR493190	19.0	20	79	131
DGR493115	11.5	12	55	102	DGR493195	19.5	20	79	131
DGR493116	11.6	12	55	102	DGR493200	20.0	20	79	131
DGR493117	11.7	12	55	102					

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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323																				
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323																					
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

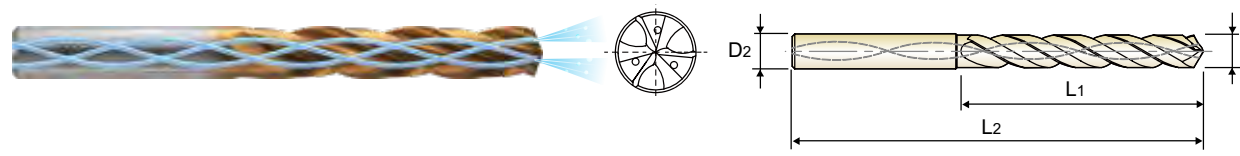
TIG DREAM DRILLS - HIGH FEED

DGR495 SERIES

CARBIDE, DREAM DRILLS - HIGH FEED with COOLANT HOLES LONG
硬质合金, 梦幻钻头 - 高进给 带内冷孔 长

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DIN 6537 CARBIDE 30° h6 m7 140° 20 bar p. A117 5 x D

Plain Shank Page
 SHRINK FIT HOLDER D47-72
 HYDRAULIC CHUCK D15-46
 ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
H-Coating	D1	D2	L1	L2	H-Coating	D1	D2	L1	L2
DGR495050	5.0	6	44	82	DGR495074	7.4	8	53	91
DGR495051	5.1	6	44	82	DGR495075	7.5	8	53	91
DGR495052	5.2	6	44	82	DGR495076	7.6	8	53	91
DGR495053	5.3	6	44	82	DGR495077	7.7	8	53	91
DGR495054	5.4	6	44	82	DGR495078	7.8	8	53	91
DGR495055	5.5	6	44	82	DGR495079	7.9	8	53	91
DGR495056	5.6	6	44	82	DGR495080	8.0	8	53	91
DGR495057	5.7	6	44	82	DGR495081	8.1	10	61	103
DGR495058	5.8	6	44	82	DGR495082	8.2	10	61	103
DGR495059	5.9	6	44	82	DGR495083	8.3	10	61	103
DGR495060	6.0	6	44	82	DGR495084	8.4	10	61	103
DGR495061	6.1	8	53	91	DGR495085	8.5	10	61	103
DGR495062	6.2	8	53	91	DGR495086	8.6	10	61	103
DGR495063	6.3	8	53	91	DGR495087	8.7	10	61	103
DGR495064	6.4	8	53	91	DGR495088	8.8	10	61	103
DGR495065	6.5	8	53	91	DGR495089	8.9	10	61	103
DGR495066	6.6	8	53	91	DGR495090	9.0	10	61	103
DGR495067	6.7	8	53	91	DGR495091	9.1	10	61	103
DGR495068	6.8	8	53	91	DGR495092	9.2	10	61	103
DGR495069	6.9	8	53	91	DGR495093	9.3	10	61	103
DGR495070	7.0	8	53	91	DGR495094	9.4	10	61	103
DGR495071	7.1	8	53	91	DGR495095	9.5	10	61	103
DGR495072	7.2	8	53	91	DGR495096	9.6	10	61	103
DGR495073	7.3	8	53	91	DGR495097	9.7	10	61	103

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▶ NEXT PAGE 下页

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ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323																				
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323																					
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

HSS

HSS



DGR495 SERIES

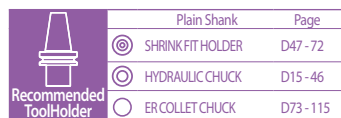
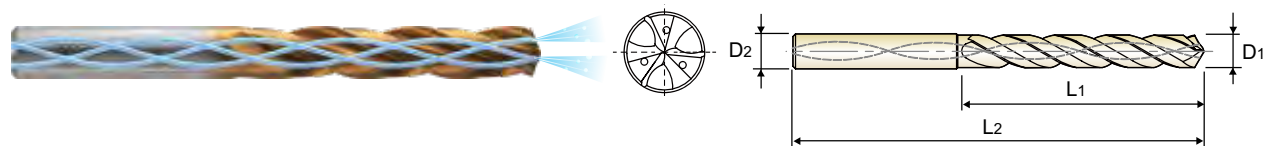


RECOMMENDED CUTTING CONDITIONS
推荐加工条件

CARBIDE, DREAM DRILLS - HIGH FEED with COOLANT HOLES LONG
硬质合金, 梦幻钻头 - 高进给 带内冷孔 长

- ▶ Drilling for Carbon Steels, Alloy Steels(-HRc35) and Cast Iron
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- ▶ Self centering and chip breaking by R-thinning and coolant holes

- ▶ 加工碳钢, 合金钢(硬度35以下)和铸铁
- ▶ 由于1.5~2倍进给量比2刃钻头, 实现高生产率
- ▶ 多层涂层带来更高产率和稳定性
- ▶ 由于R型中心刃和内冷, 卓越自定心和断屑性能



EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
DGR495098	9.8	10	61	103	DGR495118	11.8	12	71	118
DGR495099	9.9	10	61	103	DGR495119	11.9	12	71	118
DGR495100	10.0	10	61	103	DGR495120	12.0	12	71	118
DGR495101	10.1	12	71	118	DGR495125	12.5	14	77	124
DGR495102	10.2	12	71	118	DGR495130	13.0	14	77	124
DGR495103	10.3	12	71	118	DGR495135	13.5	14	77	124
DGR495104	10.4	12	71	118	DGR495140	14.0	14	77	124
DGR495105	10.5	12	71	118	DGR495145	14.5	16	83	133
DGR495106	10.6	12	71	118	DGR495150	15.0	16	83	133
DGR495107	10.7	12	71	118	DGR495155	15.5	16	83	133
DGR495108	10.8	12	71	118	DGR495160	16.0	16	83	133
DGR495109	10.9	12	71	118	DGR495165	16.5	18	93	143
DGR495110	11.0	12	71	118	DGR495170	17.0	18	93	143
DGR495111	11.1	12	71	118	DGR495175	17.5	18	93	143
DGR495112	11.2	12	71	118	DGR495180	18.0	18	93	143
DGR495113	11.3	12	71	118	DGR495185	18.5	20	101	153
DGR495114	11.4	12	71	118	DGR495190	19.0	20	101	153
DGR495115	11.5	12	71	118	DGR495195	19.5	20	101	153
DGR495116	11.6	12	71	118	DGR495200	20.0	20	101	153
DGR495117	11.7	12	71	118					

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户需求提供.

DGR493, DGR495 SERIES with COOLANT HOLES
带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 切削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)									
					5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	
P	2	Non-alloy steel	100	RPM	6370	5310	3980	3180	2650	2270	1990	1770	1590	
			FEED	0.2-0.25	0.24-0.3	0.32-0.4	0.4-0.5	0.48-0.6	0.56-0.7	0.56-0.72	0.63-0.81	0.7-0.88		
			100	RPM	6370	5310	3980	3180	2650	2270	1990	1770	1590	
	3		FEED	0.2-0.25	0.24-0.3	0.32-0.4	0.4-0.5	0.48-0.6	0.56-0.7	0.56-0.72	0.63-0.81	0.7-0.88		
			100	RPM	6370	5310	3980	3180	2650	2270	1990	1770	1590	
	4		FEED	0.16-0.21	0.2-0.26	0.26-0.34	0.34-0.42	0.41-0.47	0.47-0.54	0.47-0.55	0.5-0.59	0.54-0.67		
			80	RPM	5090	4240	3180	2550	2120	1820	1590	1410	1270	
	5		FEED	0.16-0.21	0.2-0.26	0.26-0.34	0.34-0.42	0.41-0.47	0.47-0.54	0.47-0.55	0.5-0.59	0.54-0.67		
			100	RPM	6370	5310	3980	3180	2650	2270	1990	1770	1590	
	6		FEED	0.2-0.25	0.24-0.3	0.32-0.4	0.4-0.5	0.48-0.54	0.56-0.63	0.56-0.64	0.63-0.72	0.68-0.81		
			80	RPM	5090	4240	3180	2550	2120	1820	1590	1410	1270	
7	FEED	0.2-0.25	0.24-0.3	0.32-0.4	0.4-0.5	0.48-0.54	0.56-0.63	0.56-0.64	0.63-0.72	0.68-0.81				
	80	RPM	5090	4240	3180	2550	2120	1820	1590	1410	1270			
8	FEED	0.16-0.21	0.2-0.26	0.26-0.34	0.34-0.42	0.41-0.47	0.47-0.54	0.47-0.55	0.5-0.59	0.54-0.67				
	40	RPM	2550	2120	1590	1270	1060	910	800	710	640			
9	FEED	0.13-0.18	0.16-0.22	0.21-0.29	0.26-0.36	0.32-0.38	0.36-0.43	0.36-0.45	0.38-0.47	0.41-0.54				
	70	RPM	4460	3710	2790	2230	1860	1590	1390	1240	1110			
10	FEED	0.16-0.21	0.2-0.26	0.26-0.34	0.34-0.42	0.41-0.47	0.47-0.54	0.47-0.55	0.5-0.59	0.54-0.67				
	40	RPM	2550	2120	1590	1270	1060	910	800	710	640			
11	FEED	0.13-0.18	0.16-0.22	0.21-0.29	0.26-0.36	0.32-0.38	0.36-0.43	0.36-0.45	0.38-0.47	0.41-0.54				
	15	Grey cast iron	RPM	6370	5310	3980	3180	2650	2270	1990	1770	1590		
FEED			0.23-0.30	0.27-0.36	0.36-0.48	0.45-0.60	0.54-0.72	0.63-0.84	0.64-0.80	0.72-0.90	0.80-0.98			
16	RPM		5090	4240	3180	2550	2120	1820	1590	1410	1270			
	FEED		0.20-0.25	0.24-0.30	0.32-0.40	0.40-0.50	0.48-0.60	0.56-0.70	0.56-0.72	0.63-0.81	0.70-0.90			
17	Nodular cast iron		RPM	6370	5310	3980	3180	2650	2270	1990	1770	1590		
			FEED	0.23-0.30	0.27-0.36	0.36-0.48	0.45-0.60	0.54-0.72	0.63-0.84	0.64-0.80	0.72-0.90	0.80-0.98		
18			RPM	4460	3710	2790	2230	1860	1590	1390	1240	1110		
			FEED	0.20-0.25	0.24-0.30	0.32-0.40	0.40-0.50	0.48-0.60	0.56-0.70	0.56-0.72	0.63-0.81	0.70-0.90		
19			Malleable cast iron	RPM	5090	4240	3180	2550	2120	1820	1590	1410	1270	
				FEED	0.23-0.30	0.27-0.36	0.36-0.48	0.45-0.60	0.54-0.72	0.63-0.84	0.64-0.80	0.72-0.90	0.80-0.98	
20	RPM			4460	3710	2790	2230	1860	1590	1390	1240	1110		
	FEED	0.20-0.25		0.24-0.30	0.32-0.40	0.40-0.50	0.48-0.60	0.56-0.70	0.56-0.72	0.63-0.81	0.70-0.90			

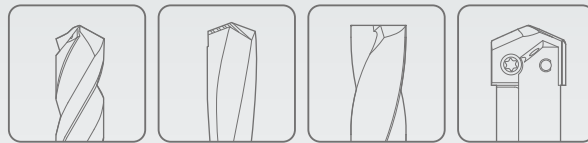
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	◎	◎	○	○	◎	○	◎	◎	◎	◎	○	◎	○	◎	○

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials	Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

SOLID CARBIDE

DREAM DRILLS -FLAT BOTTOM

- For Holes on Various Angled Surfaces
- 用于倾斜孔加工

SELECTION GUIDE
选用指南



SOLID CARBIDE
DREAM DRILLS
FLAT BOTTOM

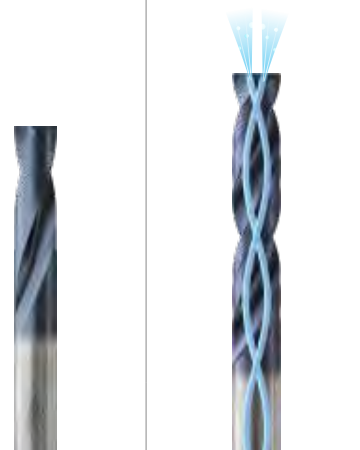
For Holes on Various Angled Surfaces
用于倾斜孔加工

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© : Excellent (优秀) ○ : Good (良好)

(Recommended cutting conditions (推荐加工条件) : p. A128)

SERIES 系列	DPP447	DH450
DRILLING DEPTH 钻销深度	2XD	5XD
LENGTH 长度	SHORT 短	LONG 长
SIZE MIN 最小尺寸	D3.0	D3.0
SIZE MAX 最大尺寸	D20.0	D20.0
PAGE 页数	A122	A125
SURFACE TREATMENT 表面处理	X-Coating	TiAIN

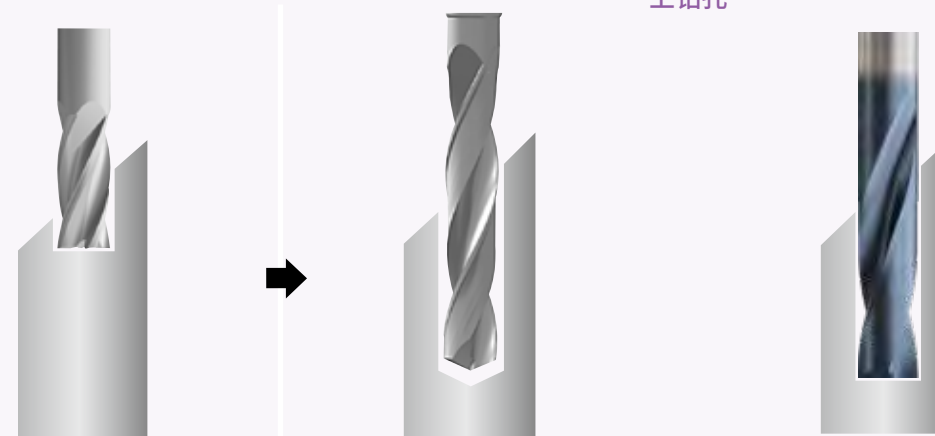


ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度		
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎
	4		About 0.75% C Annealed	270	28	○	○
	5	About 0.75% C Quenched & Tempered	300	32	○	○	
	6	Low alloy steel	Annealed	180	10	◎	◎
	7		Quenched & Tempered	275	29	○	○
	8		Quenched & Tempered	300	32	○	○
	9		Quenched & Tempered	350	38	○	○
	10		High alloyed steel, and tool steel	Annealed	200	15	
	11	Quenched & Tempered	325	35			
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○
	13		Martensitic Quenched & Tempered	240	23		
	14	Austenitic	180	10			
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎
	16		Pearlitic (Martensitic)	260	26	○	○
	17	Nodular cast iron	Ferritic	160	3		
	18		Pearlitic	250	25		
	19	Malleable cast iron	Ferritic	130			
20	Pearlitic		230	21			
N	21	Aluminum-wrought alloy	Not Curable	60		○	○
	22		Curable Hardened	100		○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75			
	24		≤ 12% Si, Curable Hardened	90			
	25		> 12% Si, Not Curable	130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110			
	27		CuZn, CuSnZn (Brass)	90			
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100			
	29		Duroplastic, Fiber Reinforced Plastic				
	30	Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34		Ni or Co Based Cured	350	38		
	35	Cast	320	34			
	36	Titanium Alloys	Pure Titanium	400 Rm			
	37		Alpha + Beta Alloys Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Chilled Cast Iron	Cast	400	42		
	41	Hardened Cast Iron	Hardened	550	55		

Only One Operation for Angled Surface
在斜面一次钻孔

For angled surfaces, two operations are required to drill in a conventional process
有斜面钻孔, 按传统工艺需要两步操作

For angled surfaces, only one operation can complete the drilling with Dream Drill Flat Bottom
采用梦幻钻头—平底钻可一步完成在斜面上钻孔



1st operation (End mill)
第一步(铣刀)

Counter boring to make flat surface and guide hole
镗平面和钻导向孔

2nd operation (Drill)
第二步(钻头)

Drilling to required depth of hole
钻至要求孔深

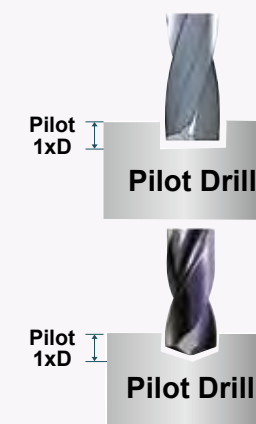
One operation (Dream Drill Flat Bottom)
One Drill does it all
第一把梦幻钻头—平底钻可一步完成孔加工
不需要同事使用铣刀

Pilot Drilling for 5 X D
导向钻孔 : 约5XD

1. FLAT SURFACE

Pilot Drill (Flat Bottom 2xD)

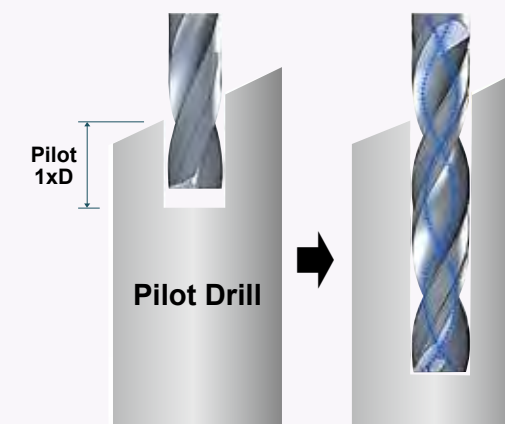
Dream Drill Flat Bottom (5xD)



2. INCLINED SURFACE

Pilot Drill (Flat Bottom 2xD or End Mill)

Dream Drill Flat Bottom (5xD)



► For Flat bottom 5xD drilling depth, Slope surface needs Pilot Drilling with YG-1 Flat Bottom Drill (2XD) and Flat surface needs Pilot Drilling with YG-1 Dream Drill General.

对于钻深5XD, 斜面需要YG-1 平底钻加工导向孔, 平面需要YG-1通用性梦幻钻头加工导向孔

► Pilot Drilling Depth : around 1XD

导向钻孔深度 : 约1XD

► Pilot Drilling Diameter : same size diameter

导向钻孔直径 : 同尺寸直径

WEG DREAM DRILLS - FLAT BOTTOM

DPP447 SERIES

CARBIDE, DREAM DRILLS - FLAT BOTTOM

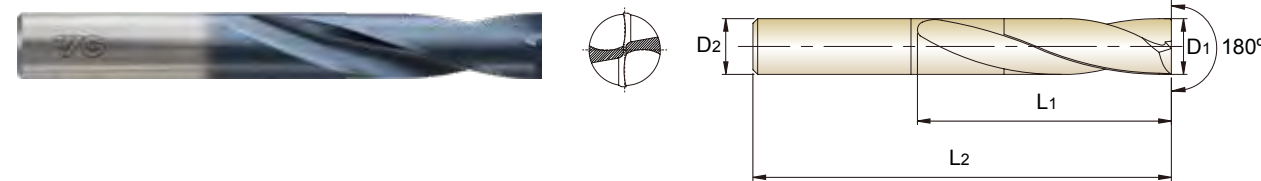
SHORT

硬质合金, 梦幻钻头一平底钻

短

- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- ▶ Optimized flute shape for excellent chip evacuation.
- ▶ High strength cutting edge to improve tool life and versatility drilling.
- ▶ For through holes, minimized burrs at entrance and exit when drilling thin plate.

- ▶ 适合各种斜面孔加工
- ▶ 采用180°钻顶角, 可以在平面, 斜面和曲面上钻孔加工
- ▶ 最佳的槽形设计, 实现出色的排屑
- ▶ 高强度切削刃, 提高刀具寿命和多功能性
- ▶ 对于通孔, 钻孔薄板时, 可以将入口和出口处的毛刺降至最低



2 x D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPP447030	3.0	6	16	50
DPP447031	3.1	6	16	50
DPP447032	3.2	6	16	50
DPP447033	3.3	6	16	50
DPP447034	3.4	6	18	50
DPP447035	3.5	6	18	50
DPP447036	3.6	6	18	50
DPP447037	3.7	6	18	50
DPP447038	3.8	6	18	50
DPP447039	3.9	6	18	50
DPP447040	4.0	6	18	50
DPP447041	4.1	6	20	60
DPP447042	4.2	6	20	60
DPP447043	4.3	6	20	60
DPP447044	4.4	6	20	60
DPP447045	4.5	6	22	60
DPP447046	4.6	6	22	60
DPP447047	4.7	6	22	60
DPP447048	4.8	6	22	60
DPP447049	4.9	6	22	60
DPP447050	5.0	6	22	60
DPP447051	5.1	6	24	60
DPP447052	5.2	6	24	60
DPP447053	5.3	6	24	60

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPP447054	5.4	6	24	60
DPP447055	5.5	6	24	60
DPP447056	5.6	6	24	60
DPP447057	5.7	6	26	60
DPP447058	5.8	6	26	60
DPP447059	5.9	6	26	60
DPP447060	6.0	6	26	60
DPP447061	6.1	8	28	70
DPP447062	6.2	8	28	70
DPP447063	6.3	8	28	70
DPP447064	6.4	8	30	70
DPP447065	6.5	8	30	70
DPP447066	6.6	8	30	70
DPP447067	6.7	8	30	70
DPP447068	6.8	8	30	70
DPP447069	6.9	8	30	70
DPP447070	7.0	8	30	70
DPP447071	7.1	8	34	70
DPP447072	7.2	8	34	70
DPP447073	7.3	8	34	70
DPP447074	7.4	8	34	70
DPP447075	7.5	8	34	70
DPP447076	7.6	8	34	70
DPP447077	7.7	8	34	70

▶ Other diameters and shank types are available upon request. / 其他直径与刀柄类型可根据您的要求提供

◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○																			

WEG DREAM DRILLS - FLAT BOTTOM

DPP447 SERIES

CARBIDE, DREAM DRILLS - FLAT BOTTOM

SHORT

硬质合金, 梦幻钻头一平底钻

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2 x D

Plain Shank	Page
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HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPP447078	7.8	8	34	70
DPP447079	7.9	8	34	70
DPP447080	8.0	8	34	70
DPP447081	8.1	10	38	80
DPP447082	8.2	10	38	80
DPP447083	8.3	10	38	80
DPP447084	8.4	10	38	80
DPP447085	8.5	10	38	80
DPP447086	8.6	10	38	80
DPP447087	8.7	10	40	80
DPP447088	8.8	10	40	80
DPP447089	8.9	10	40	80
DPP447090	9.0	10	40	80
DPP447091	9.1	10	42	80
DPP447092	9.2	10	42	80
DPP447093	9.3	10	42	80
DPP447094	9.4	10	42	80
DPP447095	9.5	10	42	80
DPP447096	9.6	10	42	80
DPP447097	9.7	10	45	80
DPP447098	9.8	10	45	80
DPP447099	9.9	10	45	80
DPP447100	10.0	10	45	80
DPP447101	10.1	12	46	90

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPP447102	10.2	12	46	90
DPP447103	10.3	12	46	90
DPP447104	10.4	12	48	90
DPP447105	10.5	12	48	90
DPP447106	10.6	12	48	90
DPP447107	10.7	12	48	90
DPP447108	10.8	12	48	90
DPP447109	10.9	12	48	90
DPP447110	11.0	12	48	90
DPP447111	11.1	12	50	90
DPP447112	11.2	12	50	90
DPP447113	11.3	12	50	90
DPP447114	11.4	12	50	90
DPP447115	11.5	12	50	90
DPP447116	11.6	12	50	90
DPP447117	11.7	12	52	90
DPP447118	11.8	12	52	90
DPP447119	11.9	12	52	90
DPP447120	12.0	12	52	90
DPP447125	12.5	14	54	100
DPP447130	13.0	14	56	100
DPP447135	13.5	14	58	100
DPP447140	14.0	14	58	100
DPP447145	14.5	16	62	105

▶ Other diameters and shank types are available upon request. / 其他直径与刀柄类型可根据您的要求提供

◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○																			

WEG DREAM DRILLS - FLAT BOTTOM

DPP447 SERIES

CARBIDE, DREAM DRILLS - FLAT BOTTOM

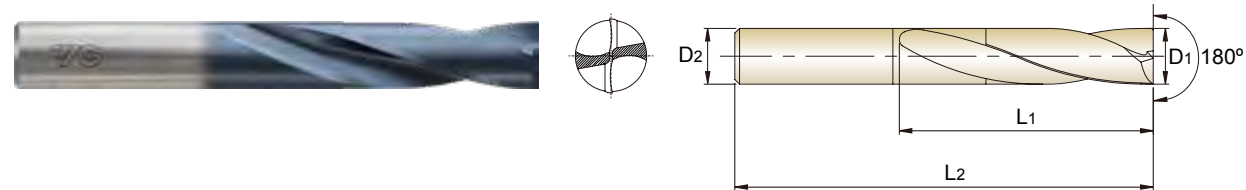
SHORT

硬质合金, 梦幻钻头—平底钻

短

- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- ▶ Optimized flute shape for excellent chip evacuation.
- ▶ High strength cutting edge to improve tool life and versatility drilling.
- ▶ For through holes, minimized burrs at entrance and exit when drilling thin plate.

- ▶ 适合各种斜面孔加工
- ▶ 采用180°钻顶角, 可以在平面, 斜面和曲面上钻孔加工
- ▶ 最佳的槽形设计, 实现出色的排屑
- ▶ 高强度切削刃, 提高刀具寿命和多功能性
- ▶ 对于通孔, 钻孔薄板时, 可以将入口和出口处的毛刺降至最低



2 x D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
X-Coating	D1	D2	L1	L2
DPP447150	15.0	16	62	105
DPP447155	15.5	16	64	115
DPP447160	16.0	16	64	115
DPP447165	16.5	18	70	125
DPP447170	17.0	18	70	125
DPP447175	17.5	18	70	125

▶ Other diameters and shank types are available upon request. / 其他直径与刀柄类型可根据您的要求提供

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○																			

WEG DREAM DRILLS - FLAT BOTTOM

DH450 SERIES

CARBIDE, DREAM DRILLS - FLAT BOTTOM with COOLANT HOLES

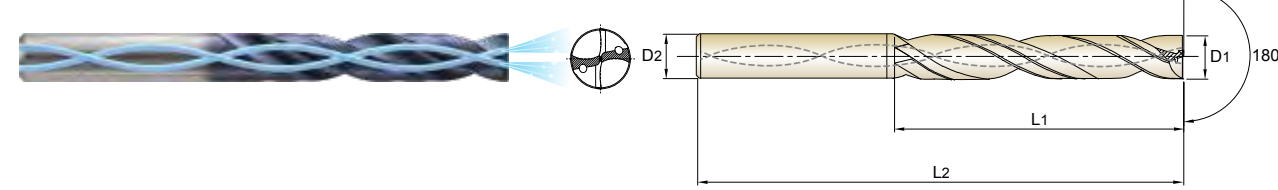
LONG

硬质合金, 梦幻钻头—平底钻带内冷孔

长

- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- ▶ Optimized flute shape for excellent chip evacuation.
- ▶ High strength cutting edge to improve tool life and versatility drilling.
- ▶ For through holes, minimized burrs at entrance and exit when drilling thin plate.
- ▶ Pilot Drilling for 5XD

- ▶ 加工多种角度的表面
- ▶ 180度钻顶角可以加工平面, 倾斜和弯曲的表面
- ▶ 最佳沟槽设计使卓越排屑
- ▶ 高强度刃部提高刀具寿命和多用途钻孔
- ▶ 加工通孔的薄工件时, 入口和出口的毛刺最小化
- ▶ 双刃带设计提供稳定的孔直线度和圆度, 以提高刀具寿命和多功能钻孔



5 x D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH450030	3.0	6	28	66
DH450031	3.1	6	28	66
DH450032	3.2	6	28	66
DH450033	3.3	6	28	66
DH450034	3.4	6	28	66
DH450035	3.5	6	28	66
DH450036	3.6	6	28	66
DH450037	3.7	6	28	66
DH450038	3.8	6	36	74
DH450039	3.9	6	36	74
DH450040	4.0	6	36	74
DH450041	4.1	6	36	74
DH450042	4.2	6	36	74
DH450043	4.3	6	36	74
DH450044	4.4	6	36	74
DH450045	4.5	6	36	74
DH450046	4.6	6	36	74
DH450047	4.7	6	36	74
DH450048	4.8	6	44	82
DH450049	4.9	6	44	82
DH450050	5.0	6	44	82
DH450051	5.1	6	44	82

▶ Other diameters and shank types are available upon request. / 其他直径与刀柄类型可根据您的要求提供

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○																			

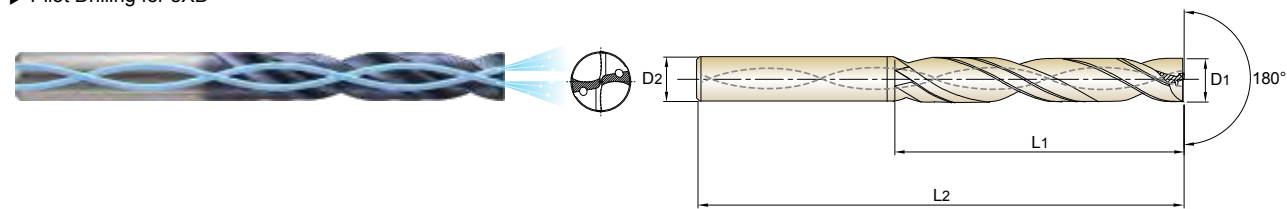
TIG DREAM DRILLS - FLAT BOTTOM

DH450 SERIES

CARBIDE, DREAM DRILLS - FLAT BOTTOM with COOLANT HOLES LONG
硬质合金, 梦幻钻头—平底钻带内冷孔 长

- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- ▶ Optimized flute shape for excellent chip evacuation.
- ▶ High strength cutting edge to improve tool life and versatility drilling.
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- ▶ 加工多种角度的表面
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- ▶ 双刃带设计提供稳定的孔直线度和圆度, 以提高刀具寿命和多功能钻孔



5 × D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH450074	7.4	8	53	91
DH450075	7.5	8	53	91
DH450076	7.6	8	53	91
DH450077	7.7	8	53	91
DH450078	7.8	8	53	91
DH450079	7.9	8	53	91
DH450080	8.0	8	53	91
DH450081	8.1	10	61	103
DH450082	8.2	10	61	103
DH450083	8.3	10	61	103
DH450084	8.4	10	61	103
DH450085	8.5	10	61	103
DH450086	8.6	10	61	103
DH450087	8.7	10	61	103
DH450088	8.8	10	61	103
DH450089	8.9	10	61	103
DH450090	9.0	10	61	103
DH450091	9.1	10	61	103
DH450092	9.2	10	61	103
DH450093	9.3	10	61	103
DH450094	9.4	10	61	103
DH450095	9.5	10	61	103

▶ Other diameters and shank types are available upon request. / 其他直径与刀柄类型可根据您的要求提供

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	◎	○	○	◎	○				

ISO	N					S					H														
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	630	400	550
Recommended	○	○																							

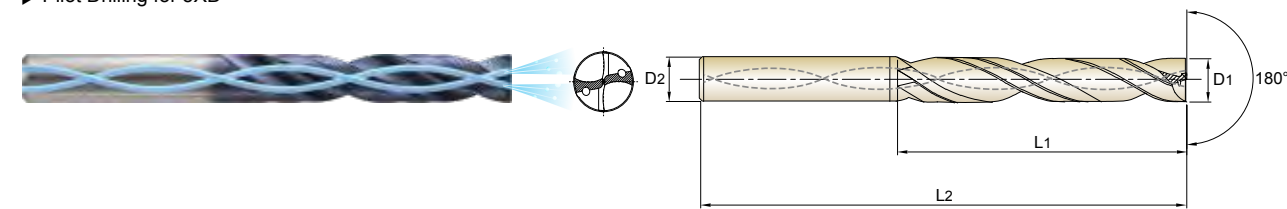
TIG DREAM DRILLS - FLAT BOTTOM

DH450 SERIES

CARBIDE, DREAM DRILLS - FLAT BOTTOM with COOLANT HOLES LONG
硬质合金, 梦幻钻头—平底钻带内冷孔 长

- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
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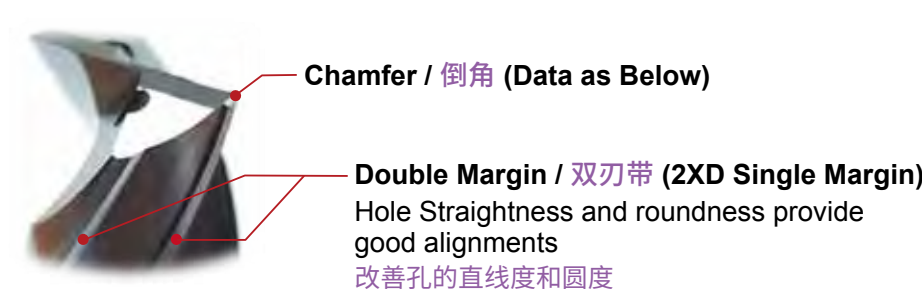


5 × D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH450170	17.0	18	93	143
DH450175	17.5	18	93	143
DH450180	18.0	18	93	143
DH450185	18.5	20	101	153
DH450190	19.0	20	101	153
DH450195	19.5	20	101	153
DH450200	20.0	20	101	153

▶ Other diameters and shank types are available upon request. / 其他直径与刀柄类型可根据您的要求提供



Drill Diameter / 刃径 (mm)	Corner Chamfer / 刀尖倒角 (mm)
Ø3.0 ~ Ø6.0	0.06
Ø6.1 ~ Ø10.0	0.12
Ø10.1 ~ Ø14.0	0.18
Ø14.1 ~ Ø20.0	0.26

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	◎	○	○	◎	○				

ISO	N					S					H														
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	630	400	550
Recommended	○	○																							

YMG DREAM DRILLS - FLAT BOTTOM

RECOMMENDED CUTTING CONDITIONS 推荐加工条件

DPP447 SERIES without COOLANT HOLES (2XD) 不带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)								
					3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1	Non-alloy steel	80	RPM	8490	6370	5090	4240	3180	2550	2120	1590	1270
				FEED	0.02-0.05	0.03-0.07	0.03-0.08	0.04-0.10	0.08-0.14	0.11-0.17	0.11-0.21	0.18-0.28	0.28-0.38
				RPM	8490	6370	5090	4240	3180	2550	2120	1590	1270
	2		80	FEED	0.02-0.05	0.03-0.07	0.03-0.08	0.04-0.10	0.08-0.14	0.11-0.17	0.11-0.21	0.18-0.28	0.28-0.38
				RPM	7430	5570	4460	3710	2790	2230	1860	1390	1110
				FEED	0.02-0.05	0.03-0.07	0.03-0.08	0.04-0.10	0.07-0.13	0.11-0.17	0.11-0.21	0.18-0.28	0.24-0.34
	3		70	RPM	4240	3180	2550	2120	1590	1270	1060	800	640
				FEED	0.02-0.05	0.03-0.07	0.03-0.08	0.04-0.10	0.07-0.13	0.11-0.17	0.11-0.21	0.18-0.28	0.24-0.34
				RPM	4030	3020	2420	2020	1510	1210	1010	760	600
4	40	FEED	0.02-0.05	0.02-0.06	0.03-0.08	0.03-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.21-0.31		
		RPM	4770	3580	2860	2390	1790	1430	1190	900	720		
		FEED	0.02-0.05	0.03-0.07	0.03-0.08	0.04-0.10	0.07-0.13	0.11-0.17	0.11-0.21	0.18-0.28	0.24-0.34		
5	38	RPM	4240	3180	2550	2120	1590	1270	1060	800	640		
		FEED	0.02-0.05	0.03-0.07	0.03-0.08	0.04-0.10	0.07-0.13	0.11-0.17	0.11-0.21	0.18-0.28	0.24-0.34		
		RPM	4030	3020	2420	2020	1510	1210	1010	760	600		
6	45	FEED	0.02-0.05	0.02-0.06	0.03-0.08	0.03-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.21-0.31		
		RPM	4770	3580	2860	2390	1790	1430	1190	900	720		
		FEED	0.02-0.05	0.03-0.07	0.03-0.08	0.04-0.10	0.07-0.13	0.11-0.17	0.11-0.21	0.18-0.28	0.24-0.34		
7	40	RPM	4240	3180	2550	2120	1590	1270	1060	800	640		
		FEED	0.02-0.05	0.03-0.07	0.03-0.08	0.04-0.10	0.07-0.13	0.11-0.17	0.11-0.21	0.18-0.28	0.24-0.34		
		RPM	4030	3020	2420	2020	1510	1210	1010	760	600		
8	38	FEED	0.02-0.05	0.02-0.06	0.03-0.08	0.03-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.21-0.31		
		RPM	2650	1990	1590	1330	990	800	660	500	400		
		FEED	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.08	0.05-0.10	0.06-0.12	0.06-0.16	0.10-0.20		
9	25	RPM	3180	2390	1910	1590	1190	950	800	600	480		
		FEED	0.01-0.03	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.08	0.05-0.10	0.06-0.12	0.09-0.15		
		RPM	7430	5570	4460	3710	2790	2230	1860	1390	1110		
M	12	Stainless steel	30	FEED	0.02-0.05	0.02-0.06	0.03-0.08	0.03-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.20-0.30
				RPM	6370	4770	3820	3180	2390	1910	1590	1190	950
				FEED	0.02-0.05	0.02-0.05	0.03-0.06	0.03-0.07	0.04-0.10	0.07-0.13	0.06-0.16	0.11-0.21	0.15-0.25
K	15	Grey cast iron	70	RPM	17510	13130	10500	8750	6570	5250	4380	3280	2630
				FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40
				RPM	17510	13130	10500	8750	6570	5250	4380	3280	2630
N	21	Aluminum-wrought alloy	165	FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40
				RPM	16980	12730	10190	8490	6370	5090	4240	3180	2550
				FEED	0.05-0.09	0.08-0.12	0.09-0.15	0.12-0.18	0.18-0.24	0.24-0.30	0.26-0.36	0.38-0.48	0.50-0.60

YMG DREAM DRILLS - FLAT BOTTOM

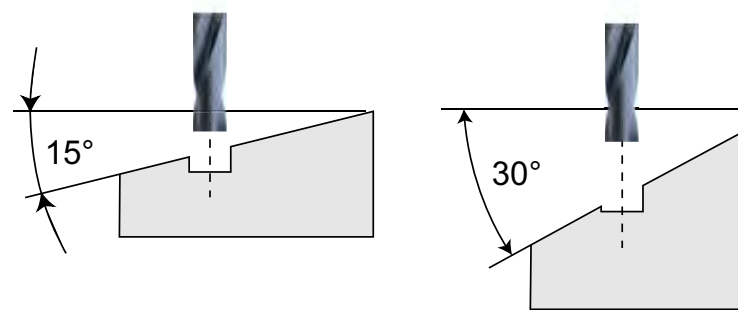
RECOMMENDED CUTTING CONDITIONS 推荐加工条件

DH450 SERIES with COOLANT HOLES (5XD) 带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)								
					3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1	Non-alloy steel	100	RPM	10610	7960	6370	5310	3980	3180	2650	1990	1590
				FEED	0.05-0.09	0.08-0.12	0.09-0.15	0.12-0.18	0.18-0.24	0.24-0.30	0.26-0.36	0.38-0.48	0.50-0.60
				RPM	9550	7160	5730	4770	3580	2860	2390	1790	1430
	2		90	FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40
				RPM	9550	7160	5730	4770	3580	2860	2390	1790	1430
				FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40
	3		90	RPM	7960	5970	4770	3980	2980	2390	1990	1490	1190
				FEED	0.02-0.04	0.03-0.06	0.05-0.08	0.05-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.20-0.30
				RPM	7960	5970	4770	3980	2980	2390	1990	1490	1190
4	75	FEED	0.02-0.04	0.03-0.06	0.05-0.08	0.05-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.20-0.30		
		RPM	9020	6760	5410	4510	3380	2710	2250	1690	1350		
		FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40		
5	75	RPM	7960	5970	4770	3980	2980	2390	1990	1490	1190		
		FEED	0.02-0.04	0.03-0.06	0.05-0.08	0.05-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.20-0.30		
		RPM	5310	3980	3180	2650	1990	1590	1330	990	800		
6	85	FEED	0.02-0.04	0.03-0.06	0.05-0.08	0.05-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.20-0.30		
		RPM	6370	4770	3820	3180	2390	1910	1590	1190	950		
		FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40		
7	75	RPM	9550	7160	5730	4770	3580	2860	2390	1790	1430		
		FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40		
		RPM	7960	5970	4770	3980	2980	2390	1990	1490	1190		
8	75	FEED	0.02-0.04	0.03-0.06	0.05-0.08	0.05-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.20-0.30		
		RPM	6370	4770	3820	3180	2390	1910	1590	1190	950		
		FEED	0.02-0.05	0.02-0.05	0.03-0.06	0.03-0.07	0.04-0.10	0.07-0.13	0.06-0.16	0.11-0.21	0.15-0.25		
9	50	RPM	16980	12730	10190	8490	6370	5090	4240	3180	2550		
		FEED	0.05-0.09	0.08-0.12	0.09-0.15	0.12-0.18	0.18-0.24	0.24-0.30	0.26-0.36	0.38-0.48	0.50-0.60		
		RPM	16980	12730	10190	8490	6370	5090	4240	3180	2550		
M	12	Stainless steel	60	FEED	0.02-0.05	0.04-0.08	0.04-0.10	0.06-0.12	0.10-0.16	0.14-0.20	0.14-0.24	0.22-0.32	0.30-0.40
				RPM	9550	7160	5730	4770	3580	2860	2390	1790	1430
				FEED	0.02-0.05	0.03-0.06	0.05-0.08	0.05-0.09	0.06-0.12	0.09-0.15	0.08-0.18	0.14-0.24	0.20-0.30
K	15	Grey cast iron	90	RPM	7960	5970	4770	3980	2980	2390	1990	1490	1190
				FEED	0.02-0.05	0.02-0.05	0.03-0.06	0.03-0.07	0.04-0.10	0.07-0.13	0.06-0.16	0.11-0.21	0.15-0.25
				RPM	16980	12730	10190	8490	6370	5090	4240	3180	2550
N	21	Aluminum-wrought alloy	160	FEED	0.02-0.05	0.02-0.05	0.03-0.06	0.03-0.07	0.04-0.10	0.07-0.13	0.06-0.16	0.11-0.21	0.15-0.25
				RPM	16980	12730	10190	8490	6370	5090	4240	3180	2550
				FEED	0.05-0.09	0.08-0.12	0.09-0.15	0.12-0.18	0.18-0.24	0.24-0.30	0.26-0.36	0.38-0.48	0.50-0.60

Surface Angle 表面角	Cutting Conditions / 加工条件	
	RPM / 转速	FEED / 进给
0° ~ 15°	100%	100%
15° ~ 30°	100%	50%
30° ~	70%	30%



- ▶ The cutting conditions are for 2xD. / 基于2XD径钻头的加工参数.
- ▶ A rigid and precise machine and holder are required. / 需要高精度和刚性的设备和刀柄.
- ▶ The recommended depth of hole is measured from the highest point of the hole on drilling in inclined and angled surfaces. 推荐的钻孔深度是从倾斜表面钻孔的最高点开始测量.
- ▶ The recommended cutting conditions are those for drilling on flat and horizontal surfaces. 推荐的切削条件是在平面和水平钻孔时的参数.
- ▶ Please adjust feed rate according to the above surface angle when drilling on an inclined surface. 在倾斜表面钻孔时, 请根据上述表面角度调整进给速度.
 - The recommended feed rate 50% or lower, in case of 15°~30° of the incline angle. 在倾角为15°~30°的情况下, 建议进给速度降为50%或更低.
 - The recommended feed rate 30% or lower and RPM 70%, in case of 30° ~ of the incline angle. 在倾角为30°的情况下, 建议进给速度降到30%或更低, 转速降为70%.
- ▶ Please decrease cutting speed as material hardness increases. / 硬度增加时, 请降低加工速度.
- ▶ Only use drilling tools. Side milling, traversing, helical milling are not usable. / 仅适用于钻孔. 侧铣, 横铣, 螺旋铣不可用.

Pilot Drilling for 5 X D 导向钻孔: 约5XD

1. FLAT SURFACE

Pilot Drill (Flat Bottom 2xD) → Dream Drill Flat Bottom (5xD)

2. INCLINED SURFACE

Pilot Drill (Flat Bottom 2xD or End Mill) → Dream Drill Flat Bottom (5xD)

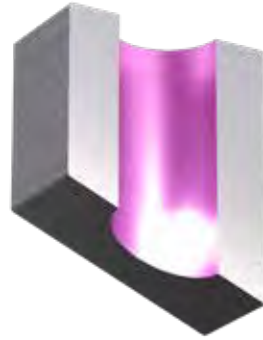
- ▶ For Flat bottom 5xD drilling depth, Slope surface needs Pilot Drilling with YG-1 Flat Bottom Drill (2XD) and Flat surface needs Pilot Drilling with YG-1 Dream Drill General. / 对于钻深5XD, 斜面需要YG-1平底钻加工导向孔, 平面需要YG-1通用性梦钻钻头加工导向孔
- ▶ Pilot Drilling Depth : around 1XD / 导向钻孔深度: 约1XD
- ▶ Pilot Drilling Diameter : same size diameter / 导向钻孔直径: 同尺寸直径



VARIETY OF DRILLING
钻削的多样性



Inclined Entry
倾斜入口



Inclined Exit
倾斜出口



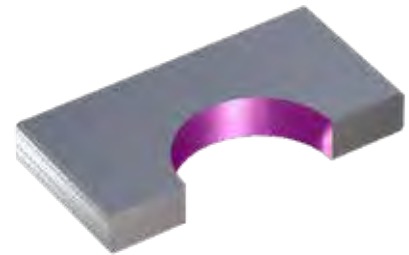
Counter Boring
沉孔



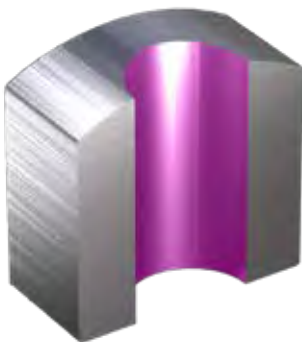
Guide Drilling
导向孔



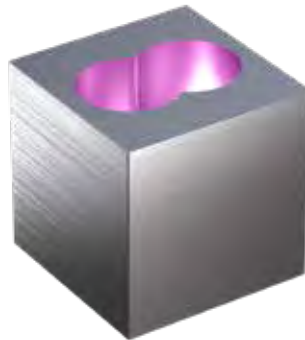
Cross Drilling
交叉孔



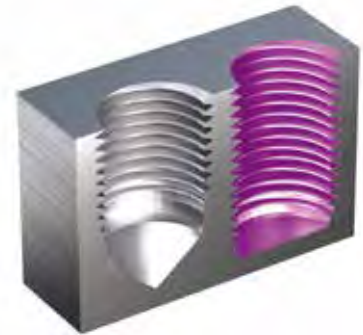
Thin Plate
薄板



Curved Surface
曲面



Chained Hole
链接孔



Blind Hole for Threading
螺纹底孔



Leading Through Innovation



SOLID CARBIDE

DREAM DRILLS -INOX

- For Tough Materials like Stainless Steels
- 镍合金和钛等硬质材料

SELECTION GUIDE
选用指南



SOLID CARBIDE
DREAM DRILLS
INOX

For Tough Materials like Stainless Steels
镍合金和钛等硬质材料

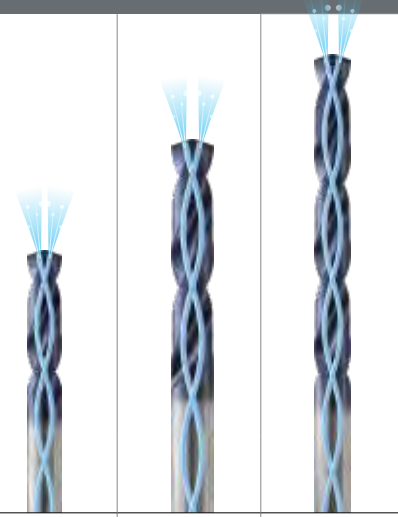
Please visit 请访问
globalyg1.com/mat
for material search 查看产品材料

◎: Excellent (优秀) ○: Good (良好)

(Recommended cutting conditions (推荐加工条件): p. A141)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度	DH451	DH452	DH453	
P	1	Non-alloy steel	About 0.15% C Annealed	125					
	2		About 0.45% C Annealed	190	◎	◎	◎		
	3		About 0.45% C Quenched & Tempered	250	○	○	○		
	4		About 0.75% C Annealed	270					
	5		About 0.75% C Quenched & Tempered	300					
	6	Low alloy steel	Annealed	180	◎	◎	◎		
	7		Quenched & Tempered	275	○	○	○		
	8		Quenched & Tempered	300					
	9		Quenched & Tempered	350					
	10		High alloyed steel, and tool steel	Annealed	200				
	11	Quenched & Tempered	325						
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	◎	◎	
	13		Martensitic Quenched & Tempered	240	23	◎	◎	◎	
	14		Austenitic	180	10	◎	◎	◎	
K	15	Grey cast iron	Pearlitic / ferritic	180	10				
	16		Pearlitic (Martensitic)	260	26				
	17	Nodular cast iron	Ferritic	160	3				
	18		Pearlitic	250	25				
	19		Ferritic	130					
20	Malleable cast iron	Pearlitic	230	21					
N	21	Aluminum-wrought alloy	Not Curable	60		◎	◎	◎	
	22		Curable Hardened	100	◎	◎	◎		
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○	○	
	24		≤ 12% Si, Curable Hardened	90	○	○	○		
	25		> 12% Si, Not Curable	130	○	○	○		
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110					
	27		CuZn, CuSnZn (Brass)	90					
	28		CuSn, lead-free copper and electrolytic copper	100					
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic						
30	Rubber, Wood, etc.								
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15				
	32		Cured	280	30				
	33		Annealed	250	25				
	34		Ni or Co Based	Cured	350	38			
	35			Cast	320	34			
36	Titanium Alloys	Pure Titanium	400 Rm						
37	Alpha + Beta Alloys	Hardened	1050 Rm			○	○	○	
H	38	Hardened steel	Hardened	550	55				
	39		Hardened	630	60				
	40	Chilled Cast Iron	Cast	400	42				
	41	Hardened Cast Iron	Hardened	550	55				

SERIES 系列	DH451	DH452	DH453
DRILLING DEPTH 钻销深度	3XD	5XD	8XD
LENGTH 长度	SHORT 短	LONG 长	EXTRA LONG 超长
SIZE MIN 最小尺寸	D3.0	D1.0	D3.0
SIZE MAX 最大尺寸	D20.0	D20.0	D14.0
PAGE 页数	A133	A136	A139
SURFACE TREATMENT 表面处理	TiAlN		



DREAM DRILLS - INOX

DH451 SERIES

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES
硬质合金, 梦幻钻头 - 不锈钢用 带内冷孔

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling
- TiAlN coating for better surface finishes and longer tool life

- 应用: 沟槽的特殊几何形状使其适合加工不锈钢
- 更好的表面处理方式使其具有优秀的排屑性能
- 横刃修成R型使产品有较强的自定心能力和螺旋切削性
- 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar p. A141 3 x D

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2	TiAlN	D1	D2	L1	L2
DH451030	3.0	6	20	62	DH451050	5.0	6	28	66
DH451031	3.1	6	20	62	DH451051	5.1	6	28	66
DH451032	3.2	6	20	62	DH451052	5.2	6	28	66
DH451033	3.3	6	20	62	DH451053	5.3	6	28	66
DH451034	3.4	6	20	62	DH451054	5.4	6	28	66
DH451035	3.5	6	20	62	DH451055	5.5	6	28	66
DH451036	3.6	6	20	62	DH451056	5.6	6	28	66
DH451037	3.7	6	20	62	DH451057	5.7	6	28	66
DH451038	3.8	6	24	66	DH451058	5.8	6	28	66
DH451039	3.9	6	24	66	DH451059	5.9	6	28	66
DH451040	4.0	6	24	66	DH451060	6.0	6	28	66
DH451041	4.1	6	24	66	DH451061	6.1	8	34	79
DH451042	4.2	6	24	66	DH451062	6.2	8	34	79
DH451043	4.3	6	24	66	DH451063	6.3	8	34	79
DH451044	4.4	6	24	66	DH451064	6.4	8	34	79
DH451045	4.5	6	24	66	DH451065	6.5	8	34	79
DH451046	4.6	6	24	66	DH451066	6.6	8	34	79
DH451047	4.7	6	24	66	DH451067	6.7	8	34	79
DH451048	4.8	6	28	66	DH451068	6.8	8	34	79
DH451049	4.9	6	28	66	DH451069	6.9	8	34	79

► Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供。 ► NEXT PAGE 下页

ISO	P										M				K					
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	○				◎	○				◎	◎	◎							

◎: Excellent (优秀) ○: Good (良好)

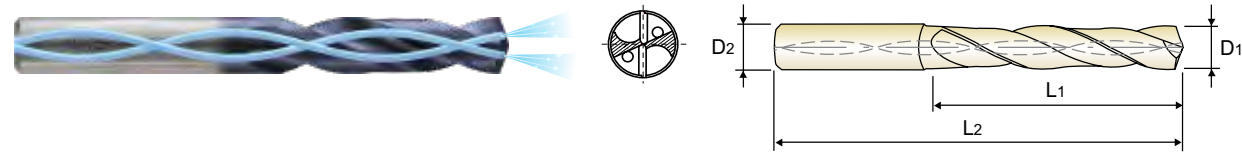
ISO	N										S						H							
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	55	60	42	55			
HB	60	100	75	90	130	110	90	100			200	280	250	350	320			550	630	400	550			
Recommended	◎	◎	○	○	○													○						



DH451 SERIES

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES SHORT
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 短

- ▶ Special flute shape and geometry suitable for machining stainless steel
 - ▶ Excellent chip evacuation from better surface treatment
 - ▶ Point R-thinning achieves superior centering and chip curling
 - ▶ TiAlN coating for better surface finishes and longer tool life
- ▶ 应用：沟槽的特殊几何形状使其适合加工不锈钢
 - ▶ 更好的表面处理方式使其具有优秀的排屑性能
 - ▶ 横刃修成R型使产品有较强的自定心能力和螺旋切削性
 - ▶ 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar p. A141 3 × D

Recommended ToolHolder: Plain Shank, SHRINK FIT HOLDER (D47-72), HYDRAULIC CHUCK (D15-46), ER COLLET CHUCK (D73-115)

Unit(单位) : mm					Unit(单位) : mm				
EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2	TiAlN	D1	D2	L1	L2
DH451070	7.0	8	34	79	DH451090	9.0	10	47	89
DH451071	7.1	8	41	79	DH451091	9.1	10	47	89
DH451072	7.2	8	41	79	DH451092	9.2	10	47	89
DH451073	7.3	8	41	79	DH451093	9.3	10	47	89
DH451074	7.4	8	41	79	DH451094	9.4	10	47	89
DH451075	7.5	8	41	79	DH451095	9.5	10	47	89
DH451076	7.6	8	41	79	DH451096	9.6	10	47	89
DH451077	7.7	8	41	79	DH451097	9.7	10	47	89
DH451078	7.8	8	41	79	DH451098	9.8	10	47	89
DH451079	7.9	8	41	79	DH451099	9.9	10	47	89
DH451080	8.0	8	41	79	DH451100	10.0	10	47	89
DH451081	8.1	10	47	89	DH451101	10.1	12	55	102
DH451082	8.2	10	47	89	DH451102	10.2	12	55	102
DH451083	8.3	10	47	89	DH451103	10.3	12	55	102
DH451084	8.4	10	47	89	DH451104	10.4	12	55	102
DH451085	8.5	10	47	89	DH451105	10.5	12	55	102
DH451086	8.6	10	47	89	DH451106	10.6	12	55	102
DH451087	8.7	10	47	89	DH451107	10.7	12	55	102
DH451088	8.8	10	47	89	DH451108	10.8	12	55	102
DH451089	8.9	10	47	89	DH451109	10.9	12	55	102

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供。 ▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

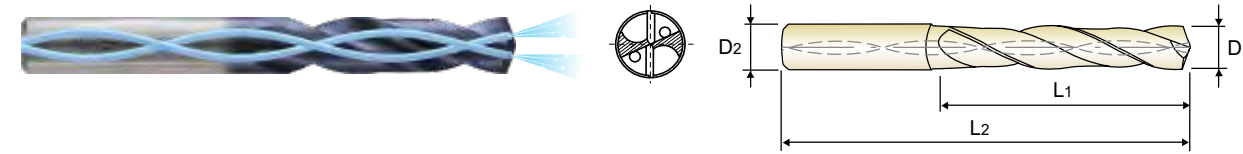
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



DH451 SERIES

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES SHORT
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 短

- ▶ Special flute shape and geometry suitable for machining stainless steel
 - ▶ Excellent chip evacuation from better surface treatment
 - ▶ Point R-thinning achieves superior centering and chip curling
 - ▶ TiAlN coating for better surface finishes and longer tool life
- ▶ 应用：沟槽的特殊几何形状使其适合加工不锈钢
 - ▶ 更好的表面处理方式使其具有优秀的排屑性能
 - ▶ 横刃修成R型使产品有较强的自定心能力和螺旋切削性
 - ▶ 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar p. A141 3 × D

Recommended ToolHolder: Plain Shank, SHRINK FIT HOLDER (D47-72), HYDRAULIC CHUCK (D15-46), ER COLLET CHUCK (D73-115)

Unit(单位) : mm					Unit(单位) : mm				
EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2	TiAlN	D1	D2	L1	L2
DH451110	11.0	12	55	102	DH451140	14.0	14	60	107
DH451111	11.1	12	55	102	DH451145	14.5	16	65	115
DH451112	11.2	12	55	102	DH451150	15.0	16	65	115
DH451113	11.3	12	55	102	DH451155	15.5	16	65	115
DH451114	11.4	12	55	102	DH451160	16.0	16	65	115
DH451115	11.5	12	55	102	DH451165	16.5	18	73	123
DH451116	11.6	12	55	102	DH451170	17.0	18	73	123
DH451117	11.7	12	55	102	DH451175	17.5	18	73	123
DH451118	11.8	12	55	102	DH451180	18.0	18	73	123
DH451119	11.9	12	55	102	DH451185	18.5	20	79	131
DH451120	12.0	12	55	102	DH451190	19.0	20	79	131
DH451125	12.5	14	60	107	DH451195	19.5	20	79	131
DH451130	13.0	14	60	107	DH451200	20.0	20	79	131
DH451135	13.5	14	60	107					

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供。

◎ : Excellent (优秀) ○ : Good (良好)

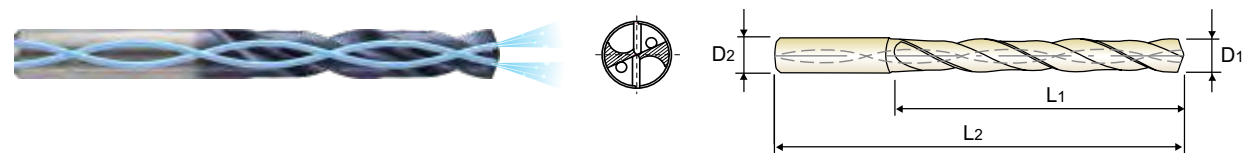
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES LONG 长
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔

- ▶ Special flute shape and geometry suitable for machining stainless steel
- ▶ Excellent chip evacuation from better surface treatment
- ▶ Point R-thinning achieves superior centering and chip curling
- ▶ TiAlN coating for better surface finishes and longer tool life

- ▶ 应用：沟槽的特殊几何形状使其适合加工不锈钢
- ▶ 更好的表面处理方式使其具有优秀的排屑性能
- ▶ 横刃修成R型使产品有较强的自定心能力和螺旋切削性
- ▶ 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar p. A141 5 × D

Plain Shank Page
 ◎ SHRINK FIT HOLDER D47-72
 ◎ HYDRAULIC CHUCK D15-46
 ○ ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH452010	1.0	3	8	55
DH452011	1.1	3	12	55
DH452012	1.2	3	12	55
DH452013	1.3	3	12	55
DH452014	1.4	3	12	55
DH452015	1.5	3	16	55
DH452016	1.6	3	16	55
DH452017	1.7	3	16	55
DH452018	1.8	3	16	55
DH452019	1.9	3	16	55
DH452020	2.0	4	21	57
DH452021	2.1	4	21	57
DH452022	2.2	4	21	57
DH452023	2.3	4	21	57
DH452024	2.4	4	21	57
DH452025	2.5	4	21	57
DH452026	2.6	4	21	57
DH452027	2.7	4	21	57
DH452028	2.8	4	21	57
DH452029	2.9	4	21	57
DH452030	3.0	6	28	66
DH452031	3.1	6	28	66

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供。 ▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

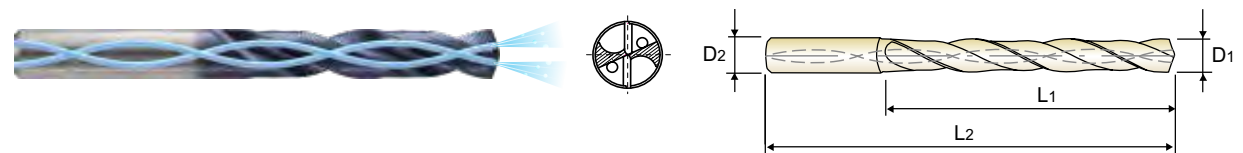
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES LONG 长
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔

- ▶ Special flute shape and geometry suitable for machining stainless steel
- ▶ Excellent chip evacuation from better surface treatment
- ▶ Point R-thinning achieves superior centering and chip curling
- ▶ TiAlN coating for better surface finishes and longer tool life

- ▶ 应用：沟槽的特殊几何形状使其适合加工不锈钢
- ▶ 更好的表面处理方式使其具有优秀的排屑性能
- ▶ 横刃修成R型使产品有较强的自定心能力和螺旋切削性
- ▶ 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar p. A141 5 × D

Plain Shank Page
 ◎ SHRINK FIT HOLDER D47-72
 ◎ HYDRAULIC CHUCK D15-46
 ○ ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH452054	5.4	6	44	82
DH452055	5.5	6	44	82
DH452056	5.6	6	44	82
DH452057	5.7	6	44	82
DH452058	5.8	6	44	82
DH452059	5.9	6	44	82
DH452060	6.0	6	44	82
DH452061	6.1	8	53	91
DH452062	6.2	8	53	91
DH452063	6.3	8	53	91
DH452064	6.4	8	53	91
DH452065	6.5	8	53	91
DH452066	6.6	8	53	91
DH452067	6.7	8	53	91
DH452068	6.8	8	53	91
DH452069	6.9	8	53	91
DH452070	7.0	8	53	91
DH452071	7.1	8	53	91
DH452072	7.2	8	53	91
DH452073	7.3	8	53	91
DH452074	7.4	8	53	91
DH452075	7.5	8	53	91

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供。 ▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

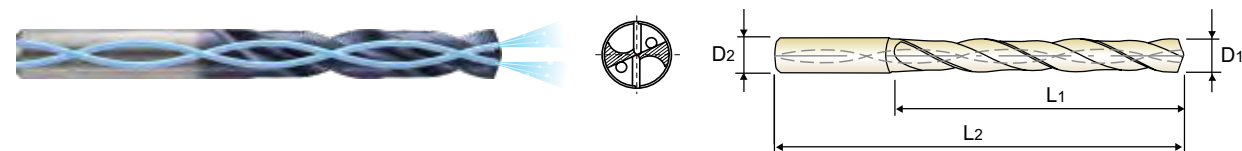


DH452 SERIES

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES LONG
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 长

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling
- TiAlN coating for better surface finishes and longer tool life

- 应用：沟槽的特殊几何形状使其适合加工不锈钢
- 更好的表面处理方式使其具有优秀的排屑性能
- 横刃修成R型使产品有较强的自定心能力和螺旋切削性
- 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命



5 × D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH452098	9.8	10	61	103
DH452099	9.9	10	61	103
DH452100	10.0	10	61	103
DH452101	10.1	12	71	118
DH452102	10.2	12	71	118
DH452103	10.3	12	71	118
DH452104	10.4	12	71	118
DH452105	10.5	12	71	118
DH452106	10.6	12	71	118
DH452107	10.7	12	71	118
DH452108	10.8	12	71	118
DH452109	10.9	12	71	118
DH452110	11.0	12	71	118
DH452111	11.1	12	71	118
DH452112	11.2	12	71	118
DH452113	11.3	12	71	118
DH452114	11.4	12	71	118
DH452115	11.5	12	71	118
DH452116	11.6	12	71	118
DH452117	11.7	12	71	118

► Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

A138

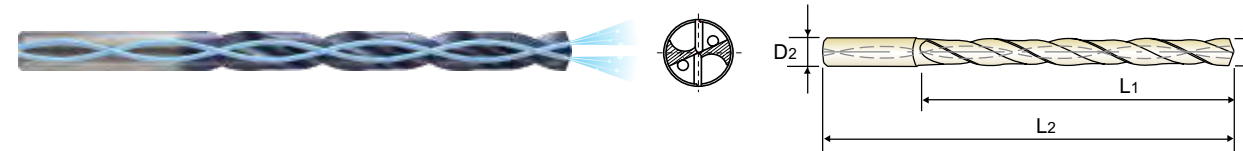


DH453 SERIES

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES EXTRA LONG
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 超长

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling
- TiAlN coating for better surface finishes and longer tool life

- 应用：沟槽的特殊几何形状使其适合加工不锈钢
- 更好的表面处理方式使其具有优秀的排屑性能
- 横刃修成R型使产品有较强的自定心能力和螺旋切削性
- 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命



8 × D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH453030	3.0	6	34	72
DH453031	3.1	6	34	72
DH453032	3.2	6	34	72
DH453033	3.3	6	34	72
DH453034	3.4	6	34	72
DH453035	3.5	6	34	72
DH453036	3.6	6	34	72
DH453037	3.7	6	34	72
DH453038	3.8	6	43	81
DH453039	3.9	6	43	81
DH453040	4.0	6	43	81
DH453041	4.1	6	43	81
DH453042	4.2	6	43	81
DH453043	4.3	6	43	81
DH453044	4.4	6	43	81
DH453045	4.5	6	43	81
DH453046	4.6	6	43	81
DH453047	4.7	6	43	81
DH453048	4.8	6	57	95
DH453049	4.9	6	57	95
DH453050	5.0	6	57	95
DH453051	5.1	6	57	95
DH453052	5.2	6	57	95
DH453053	5.3	6	57	95

► Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

A139

HSS

HSS



DH453 SERIES

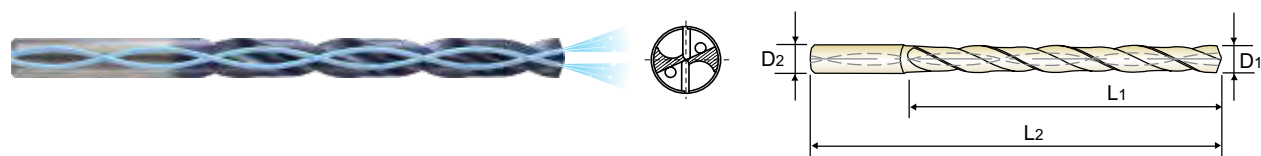


RECOMMENDED CUTTING CONDITIONS
推荐加工条件

CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES EXTRA LONG
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 超长

- ▶ Special flute shape and geometry suitable for machining stainless steel
- ▶ Excellent chip evacuation from better surface treatment
- ▶ Point R-thinning achieves superior centering and chip curling
- ▶ TiAlN coating for better surface finishes and longer tool life

- ▶ 应用：沟槽的特殊几何形状使其适合加工不锈钢
- ▶ 更好的表面处理方式使其具有优秀的排屑性能
- ▶ 横刃修成R型使产品有较强的自定心能力和螺旋切削性
- ▶ 使用TiAlN涂层使被加工材料得到良好的表面粗糙度并且延长了钻头的使用寿命



p. A141

8 x D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

Unit(单位) : mm				
EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH453078	7.8	8	76	114
DH453079	7.9	8	76	114
DH453080	8.0	8	76	114
DH453081	8.1	10	95	142
DH453082	8.2	10	95	142
DH453083	8.3	10	95	142
DH453084	8.4	10	95	142
DH453085	8.5	10	95	142
DH453086	8.6	10	95	142
DH453087	8.7	10	95	142
DH453088	8.8	10	95	142
DH453089	8.9	10	95	142
DH453090	9.0	10	95	142
DH453091	9.1	10	95	142
DH453092	9.2	10	95	142
DH453093	9.3	10	95	142
DH453094	9.4	10	95	142
DH453095	9.5	10	95	142
DH453096	9.6	10	95	142
DH453097	9.7	10	95	142
DH453098	9.8	10	95	142
DH453099	9.9	10	95	142
DH453100	10.0	10	95	142
DH453101	10.1	12	114	162

▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

A140

A141

DH451, DH452, DH453 SERIES with COOLANT HOLES
带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)		Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)			
					1.0	2.0			3.0	4.0	5.0	6.0
P	2	Non-alloy steel	70	RPM	22280	11140	100	RPM	10610	7960	6370	5310
			FEED	0.02-0.04	0.04-0.06	FEED		0.04-0.10	0.06-0.12	0.12-0.18	0.14-0.20	
	3	Non-alloy steel	70	RPM	22280	11140	100	RPM	7430	5570	4460	3710
			FEED	0.02-0.04	0.04-0.06	FEED		0.04-0.10	0.06-0.12	0.12-0.18	0.14-0.20	
6	Low alloy steel	70	RPM	22280	11140	100	RPM	7430	5570	4460	3710	
		FEED	0.02-0.04	0.04-0.06	FEED		0.04-0.10	0.06-0.12	0.12-0.18	0.14-0.20		
7	Low alloy steel	50	RPM	15920	7960	70	RPM	5310	3980	3180	2650	
		FEED	0.02-0.04	0.04-0.06	FEED		0.04-0.10	0.06-0.12	0.12-0.18	0.14-0.20		
M	12	Stainless steel	40	RPM	12730	6370	50	RPM	5310	3980	3180	2650
			FEED	0.02-0.04	0.02-0.04	FEED		0.03-0.05	0.05-0.09	0.07-0.11	0.08-0.12	
			25	RPM	7960	3980		40	RPM	4240	3180	2550
FEED	0.02-0.04	0.02-0.04	FEED	0.03-0.05	0.05-0.09	0.07-0.11	0.08-0.12					
14	Stainless steel	45	RPM	14320	7160	60	RPM	6370	4770	3820	3180	
		FEED	0.02-0.04	0.02-0.04	FEED		0.04-0.06	0.06-0.10	0.08-0.12	0.09-0.13		
		21	RPM	41380	20690		180	RPM	19100	14320	11460	9550
FEED	0.04-0.10	0.08-0.14	FEED	0.14-0.20	0.19-0.25	0.20-0.26		0.22-0.28				
22	Aluminum-wrought alloy	130	RPM	41380	20690	180	RPM	19100	14320	11460	9550	
		FEED	0.04-0.10	0.08-0.14	FEED		0.14-0.20	0.19-0.25	0.20-0.26	0.22-0.28		
		23	RPM	35010	17510		160	RPM	16980	12730	10190	8490
FEED	0.04-0.10	0.08-0.14	FEED	0.14-0.20	0.19-0.25	0.20-0.26		0.22-0.28				
24	Aluminum-cast, alloyed	110	RPM	35010	17510	160	RPM	16980	12730	10190	8490	
		FEED	0.04-0.10	0.08-0.14	FEED		0.14-0.20	0.19-0.25	0.20-0.26	0.22-0.28		
		90	RPM	28650	14320		130	RPM	13790	10350	8280	6900
FEED	0.04-0.08	0.06-0.10	FEED	0.12-0.18	0.16-0.22	0.17-0.23		0.19-0.25				
37	Titanium Alloys	25	RPM	7960	3980	40	RPM	4240	3180	2550	2120	
		FEED	0.01-0.03	0.01-0.03	FEED		0.02-0.04	0.04-0.08	0.06-0.10	0.07-0.11		

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)						
					8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	2	Non-alloy steel	100	RPM	3980	3180	2650	2270	1990	1770	1590
			FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.39	0.23-0.31	0.26-0.36	0.28-0.38	
	3	Non-alloy steel	100	RPM	2790	2230	1860	1590	1390	1240	1110
			FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.39	0.23-0.31	0.26-0.36	0.28-0.38	
6	Low alloy steel	100	RPM	2790	2230	1860	1590	1390	1240	1110	
		FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.39	0.23-0.31	0.26-0.36	0.28-0.38		
7	Low alloy steel	70	RPM	1990	1590	1330	1140	990	880	800	
		FEED	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.39	0.23-0.31	0.26-0.36	0.28-0.38		
M	12	Stainless steel	50	RPM	1990	1590	1330	1140	990	880	800
			FEED	0.09-0.13	0.10-0.15	0.11-0.16	0.12-0.17	0.13-0.18	0.14-0.19	0.15-0.20	
			40	RPM	1590	1270	1060	910	800	710	640
13	Stainless steel	40	FEED	0.09-0.13	0.10-0.15	0.11-0.16	0.12-0.17	0.13-0.18	0.14-0.19	0.15-0.20	
		60	RPM	2390	1910	1590	1360	1190	1060	950	
		FEED	0.10-0.14	0.11-0.16	0.12-0.17	0.13-0.18	0.14-0.19	0.15-0.20	0.16-0.21		
21	Aluminum-wrought alloy	180	RPM	7160	5730	4770	4090	3580	3180	2860	
		FEED	0.24-0.30	0.26-0.32	0.28-0.34	0.30-0.46	0.32-0.38	0.33-0.43	0.35-0.45		
		180	RPM	7160	5730	4770	4090	3580	3180	2860	
22	Aluminum-wrought alloy	180	FEED	0.24-0.30	0.26-0.32	0.28-0.34	0.30-0.46	0.32-0.38	0.33-0.43	0.35-0.45	
		160	RPM	6370	5090	4240	3640	3180	2830	2550	
		FEED	0.24-0.30	0.26-0.32	0.28-0.34	0.30-0.46	0.32-0.38	0.33-0.43	0.35-0.45		
23	Aluminum-cast, alloyed	160	RPM	6370	5090	4240	3640	3180	2830	2550	
		FEED	0.24-0.30	0.26-0.32	0.28-0.34	0.30-0.46	0.32-0.38	0.33-0.43	0.35-0.45		
		160	RPM	6370	5090	4240	3640	3180	2830	2550	
24	Aluminum-cast, alloyed	160	FEED	0.24-0.30	0.26-0.32	0.28-0.34	0.30-0.46	0.32-0.38	0.33-0.43	0.35-0.45	
		130	RPM	5170	4140	3450	2960	2590	2300	2070	
		FEED	0.21-0.27	0.23-0.29	0.25-0.31	0.27-0.33	0.28-0.34	0.28-0.38	0.30-0.40		
37	Titanium Alloys	40	RPM	1590	1270	1060	910	800	710	640	
		FEED	0.08-0.12	0.09-0.14	0.10-0.15	0.11-0.16	0.12-0.17	0.13-0.18	0.14-0.19		

▶ Recommend to reduce the feed rate as following / 建议进给速度降低如下

Feed 100% : DH451(3xD), DH452(5xD)

Feed 85% : DH453(8xD)

HSS

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

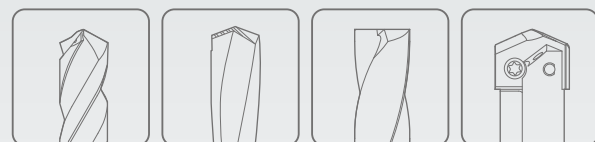
TECHNICAL DATA



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



HOLEMAKING



SOLID CARBIDE

DREAM DRILLS -ALU

- For Aluminum and Aluminum Alloys
- 铝和铝合金加工用

SELECTION GUIDE
选用指南



SOLID CARBIDE
DREAM DRILLS
ALU

For Aluminum and Aluminum Alloys
铝和铝合金加工用

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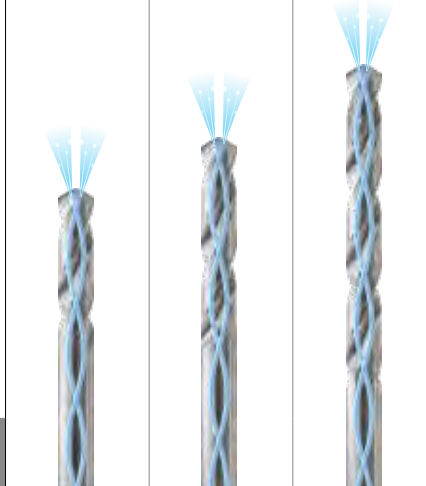
◎: Excellent (优秀) ○: Good (良好)

(Recommended cutting conditions (推荐加工条件) : p. A153)

SERIES 系列	D5432	D5433	D5434
DRILLING DEPTH 钻销深度	3XD	5XD	8XD
LENGTH 长度	SHORT 短	LONG 长	EXTRA LONG 超长
SIZE MIN 最小尺寸	D3.0	D3.0	D3.0
SIZE MAX 最大尺寸	D20.0	D20.0	D14.0
PAGE 页数	A145	A148	A151

SURFACE TREATMENT 表面处理

Bright



ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度			
P	1	Non-alloy steel	About 0.15% C	Annealed	125			
	2		About 0.45% C	Annealed	190	13		
	3		About 0.45% C	Quenched & Tempered	250	25		
	4		About 0.75% C	Annealed	270	28		
	5		About 0.75% C	Quenched & Tempered	300	32		
	6	Low alloy steel		Annealed	180	10		
	7			Quenched & Tempered	275	29		
	8			Quenched & Tempered	300	32		
	9			Quenched & Tempered	350	38		
	10	High alloyed steel, and tool steel		Annealed	200	15		
	11			Quenched & Tempered	325	35		
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15		
	13		Martensitic	Quenched & Tempered	240	23		
	14		Austenitic		180	10		
K	15	Grey cast iron	Pearlitic / ferritic		180	10		
	16		Pearlitic (Martensitic)		260	26		
	17	Nodular cast iron	Ferritic		160	3		
	18		Pearlitic		250	25		
	19	Malleable cast iron	Ferritic		130			
	20		Pearlitic		230	21		
N	21	Aluminum-wrought alloy	Not Curable		60		◎	◎
	22		Curable	Hardened	100		◎	◎
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		◎	◎
	24		≤ 12% Si, Curable	Hardened	90		◎	◎
	25		> 12% Si, Not Curable		130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110			
	27		CuZn, CuSnZn (Brass)		90			
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper		100			
	29		Duroplastic, Fiber Reinforced Plastic					
	30		Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15		
	32			Cured	280	30		
	33			Annealed	250	25		
	34	Titanium Alloys	Ni or Co Based	Cured	350	38		
	35			Cast	320	34		
	36		Pure Titanium		400 Rm			
37	Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel		Hardened	550	55		
	39			Hardened	630	60		
	40	Hardened Cast Iron		Cast	400	42		
	41			Hardened	550	55		

DREAM DRILLS - ALU

D5432 SERIES

CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES
硬质合金, 梦幻钻头 - 不锈钢用 带内冷孔

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes

- ▶ 铝&铝合金加工用最佳修磨设计预防屑堵塞问题
- ▶ 由于更宽更深的沟槽设计, 提高排屑性能
- ▶ 特殊几何形状和顺畅涂层减少刀瘤



DIN 6537 CARBIDE 30° h6 m7 118° 20 bar p. A153 3 x D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
Bright	D1	D2	L1	L2	Bright	D1	D2	L1	L2
D5432030	3.0	6	20	62	D5432052	5.2	6	28	66
D5432031	3.1	6	20	62	D5432053	5.3	6	28	66
D5432032	3.2	6	20	62	D5432054	5.4	6	28	66
D5432033	3.3	6	20	62	D5432055	5.5	6	28	66
D5432034	3.4	6	20	62	D5432056	5.6	6	28	66
D5432035	3.5	6	20	62	D5432057	5.7	6	28	66
D5432036	3.6	6	20	62	D5432058	5.8	6	28	66
D5432037	3.7	6	20	62	D5432059	5.9	6	28	66
D5432038	3.8	6	24	66	D5432060	6.0	6	28	66
D5432039	3.9	6	24	66	D5432061	6.1	8	34	79
D5432040	4.0	6	24	66	D5432062	6.2	8	34	79
D5432041	4.1	6	24	66	D5432063	6.3	8	34	79
D5432042	4.2	6	24	66	D5432064	6.4	8	34	79
D5432043	4.3	6	24	66	D5432065	6.5	8	34	79
D5432044	4.4	6	24	66	D5432066	6.6	8	34	79
D5432045	4.5	6	24	66	D5432067	6.7	8	34	79
D5432046	4.6	6	24	66	D5432068	6.8	8	34	79
D5432047	4.7	6	24	66	D5432069	6.9	8	34	79
D5432048	4.8	6	28	66	D5432070	7.0	8	34	79
D5432049	4.9	6	28	66	D5432071	7.1	8	41	79
D5432050	5.0	6	28	66	D5432072	7.2	8	41	79
D5432051	5.1	6	28	66	D5432073	7.3	8	41	79

- ▶ DLC coating is available on your request. / DLC coating可根据客户要求加工
- ▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供。

◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	125	130	250	270	300	180	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended																				

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎																	



D5432 SERIES

CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔

SHORT
短

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes

- ▶ 铝&铝合金加工用最佳修磨设计预防屑堵塞问题
- ▶ 由于更宽更深的沟槽设计，提高排屑性能
- ▶ 特殊几何形状和顺畅涂层减少刀瘤



Recommended ToolHolder	Plain Shank	Page
	SHRINK FIT HOLDER	D47-72
	HYDRAULIC CHUCK	D15-46
	ER COLLET CHUCK	D73-115

Unit(单位) : mm					Unit(单位) : mm				
EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
Bright	D1	D2	L1	L2	Bright	D1	D2	L1	L2
D5432074	7.4	8	41	79	D5432096	9.6	10	47	89
D5432075	7.5	8	41	79	D5432097	9.7	10	47	89
D5432076	7.6	8	41	79	D5432098	9.8	10	47	89
D5432077	7.7	8	41	79	D5432099	9.9	10	47	89
D5432078	7.8	8	41	79	D5432100	10.0	10	47	89
D5432079	7.9	8	41	79	D5432101	10.1	12	55	102
D5432080	8.0	8	41	79	D5432102	10.2	12	55	102
D5432081	8.1	10	47	89	D5432103	10.3	12	55	102
D5432082	8.2	10	47	89	D5432104	10.4	12	55	102
D5432083	8.3	10	47	89	D5432105	10.5	12	55	102
D5432084	8.4	10	47	89	D5432106	10.6	12	55	102
D5432085	8.5	10	47	89	D5432107	10.7	12	55	102
D5432086	8.6	10	47	89	D5432108	10.8	12	55	102
D5432087	8.7	10	47	89	D5432109	10.9	12	55	102
D5432088	8.8	10	47	89	D5432110	11.0	12	55	102
D5432089	8.9	10	47	89	D5432111	11.1	12	55	102
D5432090	9.0	10	47	89	D5432112	11.2	12	55	102
D5432091	9.1	10	47	89	D5432113	11.3	12	55	102
D5432092	9.2	10	47	89	D5432114	11.4	12	55	102
D5432093	9.3	10	47	89	D5432115	11.5	12	55	102
D5432094	9.4	10	47	89	D5432116	11.6	12	55	102
D5432095	9.5	10	47	89	D5432117	11.7	12	55	102

▶ DLC coating is available on your request. / DLC coating可根据客户要求加工
 ▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M					K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended																					

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎																	



D5432 SERIES

CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔

SHORT
短

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes

- ▶ 铝&铝合金加工用最佳修磨设计预防屑堵塞问题
- ▶ 由于更宽更深的沟槽设计，提高排屑性能
- ▶ 特殊几何形状和顺畅涂层减少刀瘤



Recommended ToolHolder	Plain Shank	Page
	SHRINK FIT HOLDER	D47-72
	HYDRAULIC CHUCK	D15-46
	ER COLLET CHUCK	D73-115

Unit(单位) : mm					Unit(单位) : mm				
EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
Bright	D1	D2	L1	L2	Bright	D1	D2	L1	L2
D5432118	11.8	12	55	102	D5432160	16.0	16	65	115
D5432119	11.9	12	55	102	D5432165	16.5	18	73	123
D5432120	12.0	12	55	102	D5432170	17.0	18	73	123
D5432125	12.5	14	60	107	D5432175	17.5	18	73	123
D5432130	13.0	14	60	107	D5432180	18.0	18	73	123
D5432135	13.5	14	60	107	D5432185	18.5	20	79	131
D5432140	14.0	14	60	107	D5432190	19.0	20	79	131
D5432145	14.5	16	65	115	D5432195	19.5	20	79	131
D5432150	15.0	16	65	115	D5432200	20.0	20	79	131
D5432155	15.5	16	65	115					

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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M					K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended																					

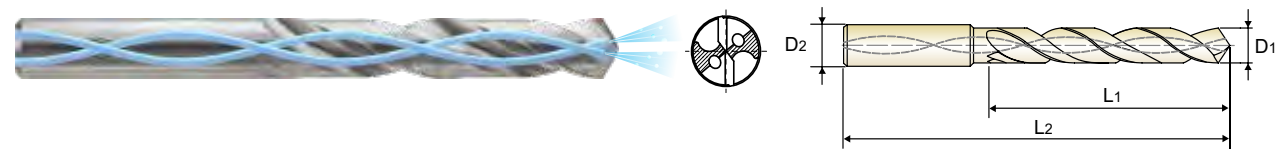
ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎																	

CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔

LONG
长

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DIN 6537 CARBIDE 30° h6 m7 118° 20 bar p. A153 5 × D

Plain Shank Page
 ◎ SHRINK FIT HOLDER D47-72
 ◎ HYDRAULIC CHUCK D15-46
 ◎ ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
Bright	D1	D2	L1	L2	Bright	D1	D2	L1	L2
D5433030	3.0	6	28	66	D5433052	5.2	6	44	82
D5433031	3.1	6	28	66	D5433053	5.3	6	44	82
D5433032	3.2	6	28	66	D5433054	5.4	6	44	82
D5433033	3.3	6	28	66	D5433055	5.5	6	44	82
D5433034	3.4	6	28	66	D5433056	5.6	6	44	82
D5433035	3.5	6	28	66	D5433057	5.7	6	44	82
D5433036	3.6	6	28	66	D5433058	5.8	6	44	82
D5433037	3.7	6	28	66	D5433059	5.9	6	44	82
D5433038	3.8	6	36	74	D5433060	6.0	6	44	82
D5433039	3.9	6	36	74	D5433061	6.1	8	53	91
D5433040	4.0	6	36	74	D5433062	6.2	8	53	91
D5433041	4.1	6	36	74	D5433063	6.3	8	53	91
D5433042	4.2	6	36	74	D5433064	6.4	8	53	91
D5433043	4.3	6	36	74	D5433065	6.5	8	53	91
D5433044	4.4	6	36	74	D5433066	6.6	8	53	91
D5433045	4.5	6	36	74	D5433067	6.7	8	53	91
D5433046	4.6	6	36	74	D5433068	6.8	8	53	91
D5433047	4.7	6	36	74	D5433069	6.9	8	53	91
D5433048	4.8	6	44	82	D5433070	7.0	8	53	91
D5433049	4.9	6	44	82	D5433071	7.1	8	53	91
D5433050	5.0	6	44	82	D5433072	7.2	8	53	91
D5433051	5.1	6	44	82	D5433073	7.3	8	53	91

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 ▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔

LONG
长

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DIN 6537 CARBIDE 30° h6 m7 118° 20 bar p. A153 5 × D

Plain Shank Page
 ◎ SHRINK FIT HOLDER D47-72
 ◎ HYDRAULIC CHUCK D15-46
 ◎ ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
Bright	D1	D2	L1	L2	Bright	D1	D2	L1	L2
D5433074	7.4	8	53	91	D5433096	9.6	10	61	103
D5433075	7.5	8	53	91	D5433097	9.7	10	61	103
D5433076	7.6	8	53	91	D5433098	9.8	10	61	103
D5433077	7.7	8	53	91	D5433099	9.9	10	61	103
D5433078	7.8	8	53	91	D5433100	10.0	10	61	103
D5433079	7.9	8	53	91	D5433101	10.1	12	71	118
D5433080	8.0	8	53	91	D5433102	10.2	12	71	118
D5433081	8.1	10	61	103	D5433103	10.3	12	71	118
D5433082	8.2	10	61	103	D5433104	10.4	12	71	118
D5433083	8.3	10	61	103	D5433105	10.5	12	71	118
D5433084	8.4	10	61	103	D5433106	10.6	12	71	118
D5433085	8.5	10	61	103	D5433107	10.7	12	71	118
D5433086	8.6	10	61	103	D5433108	10.8	12	71	118
D5433087	8.7	10	61	103	D5433109	10.9	12	71	118
D5433088	8.8	10	61	103	D5433110	11.0	12	71	118
D5433089	8.9	10	61	103	D5433111	11.1	12	71	118
D5433090	9.0	10	61	103	D5433112	11.2	12	71	118
D5433091	9.1	10	61	103	D5433113	11.3	12	71	118
D5433092	9.2	10	61	103	D5433114	11.4	12	71	118
D5433093	9.3	10	61	103	D5433115	11.5	12	71	118
D5433094	9.4	10	61	103	D5433116	11.6	12	71	118
D5433095	9.5	10	61	103	D5433117	11.7	12	71	118

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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

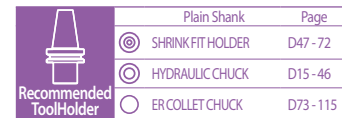
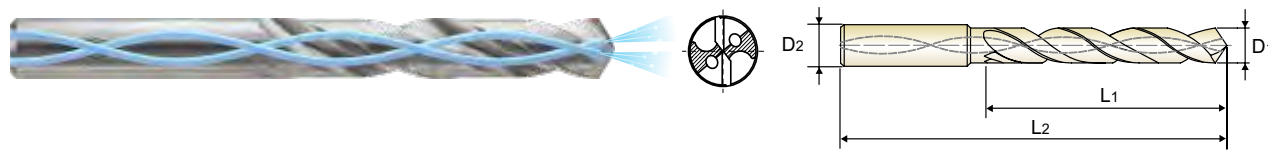
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔

LONG
长

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EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Bright	D1	D2	L1	L2
D5433118	11.8	12	71	118
D5433119	11.9	12	71	118
D5433120	12.0	12	71	118
D5433125	12.5	14	77	124
D5433130	13.0	14	77	124
D5433135	13.5	14	77	124
D5433140	14.0	14	77	124
D5433145	14.5	16	83	133
D5433150	15.0	16	83	133
D5433155	15.5	16	83	133

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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended																				

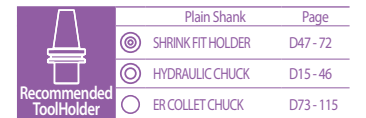
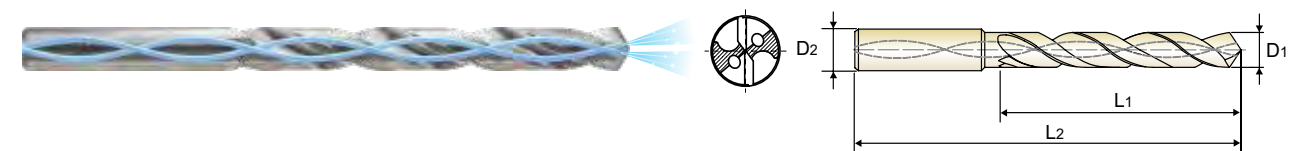
ISO	N					S						H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎																	

CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔

EXTRA LONG
超长

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EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Bright	D1	D2	L1	L2
D5434030	3.0	6	34	72
D5434031	3.1	6	34	72
D5434032	3.2	6	34	72
D5434033	3.3	6	34	72
D5434034	3.4	6	34	72
D5434035	3.5	6	34	72
D5434036	3.6	6	34	72
D5434037	3.7	6	34	72
D5434038	3.8	6	43	81
D5434039	3.9	6	43	81
D5434040	4.0	6	43	81
D5434041	4.1	6	43	81
D5434042	4.2	6	43	81
D5434043	4.3	6	43	81
D5434044	4.4	6	43	81
D5434045	4.5	6	43	81
D5434046	4.6	6	43	81
D5434047	4.7	6	43	81
D5434048	4.8	6	57	95
D5434049	4.9	6	57	95
D5434050	5.0	6	57	95
D5434051	5.1	6	57	95
D5434052	5.2	6	57	95
D5434053	5.3	6	57	95

- ▶ DLC coating is available on your request. / DLC coating可根据客户要求加工
- ▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供。

▶ NEXT PAGE 下页
 ◎ : Excellent (优秀) ○ : Good (良好)

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended																				

ISO	N					S						H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎																	



D5434 SERIES

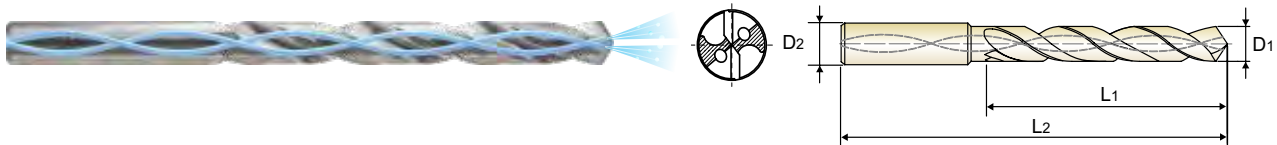


RECOMMENDED CUTTING CONDITIONS
推荐加工条件

CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES EXTRA LONG
硬质合金，梦幻钻头 - 不锈钢用 带内冷孔 超长

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes

- ▶ 铝&铝合金加工用最佳修磨设计预防屑堵塞问题
- ▶ 由于更宽更深的沟槽设计，提高排屑性能
- ▶ 特殊几何形状和顺畅涂层减少刀瘤



Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长	型号	刃径	柄径	槽长	全长
Bright	D1	D2	L1	L2	Bright	D1	D2	L1	L2
D5434078	7.8	8	76	114	D5434102	10.2	12	114	162
D5434079	7.9	8	76	114	D5434103	10.3	12	114	162
D5434080	8.0	8	76	114	D5434104	10.4	12	114	162
D5434081	8.1	10	95	142	D5434105	10.5	12	114	162
D5434082	8.2	10	95	142	D5434106	10.6	12	114	162
D5434083	8.3	10	95	142	D5434107	10.7	12	114	162
D5434084	8.4	10	95	142	D5434108	10.8	12	114	162
D5434085	8.5	10	95	142	D5434109	10.9	12	114	162
D5434086	8.6	10	95	142	D5434110	11.0	12	114	162
D5434087	8.7	10	95	142	D5434111	11.1	12	114	162
D5434088	8.8	10	95	142	D5434112	11.2	12	114	162
D5434089	8.9	10	95	142	D5434113	11.3	12	114	162
D5434090	9.0	10	95	142	D5434114	11.4	12	114	162
D5434091	9.1	10	95	142	D5434115	11.5	12	114	162
D5434092	9.2	10	95	142	D5434116	11.6	12	114	162
D5434093	9.3	10	95	142	D5434117	11.7	12	114	162
D5434094	9.4	10	95	142	D5434118	11.8	12	114	162
D5434095	9.5	10	95	142	D5434119	11.9	12	114	162
D5434096	9.6	10	95	142	D5434120	12.0	12	114	162
D5434097	9.7	10	95	142	D5434125	12.5	14	133	178
D5434098	9.8	10	95	142	D5434130	13.0	14	133	178
D5434099	9.9	10	95	142	D5434135	13.5	14	133	178
D5434100	10.0	10	95	142	D5434140	14.0	14	133	178
D5434101	10.1	12	114	162					

▶ DLC coating is available on your request. / DLC coating可根据客户要求加工
▶ Other shank types are available on your request. / 其他刀柄类型可根据客户要求提供。

ISO	P										M				K							
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended																						

ISO	N										S						H							
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55			
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550			
Recommended	◎	◎	◎	◎																				

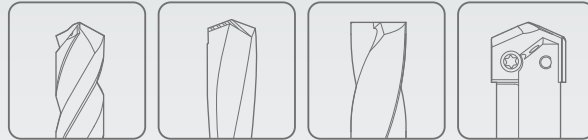
D5432, D5433, D5434 SERIES with COOLANT HOLES
带内冷孔

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)										
					3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21	Aluminum-wrought alloy	200	RPM	21220	15920	12730	10610	7960	6370	5310	4550	3980	3540	3180
				FEED	0.12-0.18	0.14-0.22	0.15-0.23	0.17-0.25	0.21-0.28	0.24-0.30	0.24-0.30	0.25-0.35	0.25-0.35	0.28-0.38	0.30-0.40
	22		160	RPM	16980	12730	10190	8490	6370	5090	4240	3640	3180	2830	2550
				FEED	0.12-0.18	0.14-0.22	0.15-0.23	0.17-0.25	0.21-0.28	0.24-0.30	0.24-0.30	0.25-0.35	0.25-0.35	0.28-0.38	0.30-0.40
	23	Aluminum-cast, alloyed	150	RPM	15920	11940	9550	7960	5970	4770	3980	3410	2980	2650	2390
				FEED	0.15-0.21	0.17-0.25	0.19-0.27	0.21-0.28	0.24-0.31	0.29-0.45	0.33-0.55	0.35-0.60	0.35-0.60	0.39-0.73	0.39-0.85
	24		140	RPM	14850	11140	8910	7430	5570	4460	3710	3180	2790	2480	2230
				FEED	0.15-0.21	0.17-0.25	0.19-0.27	0.21-0.28	0.24-0.31	0.29-0.45	0.33-0.55	0.35-0.60	0.35-0.60	0.39-0.73	0.39-0.85

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)



Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

SOLID CARBIDE

DREAM DRILLS -CFRP

- For Composite Materials including CFRP and GFRP
- 用于复合材料，含CFRP与GFRP

SELECTION GUIDE
选用指南



SERIES 系列 **DI473**

DRILLING DEPTH 钻削深度 **5XD**
LENGTH 长度 **LONG**
SIZE MIN 最小尺寸 **D2.5**
SIZE MAX 最大尺寸 **D12.0**
PAGE 页数 **A157**

SURFACE TREATMENT 表面处理 **Diamond Coating**

SOLID CARBIDE
DREAM DRILLS
CFRP

For Composite Materials including CFRP and GFRP
用于复合材料, 含CFRP与GFRP

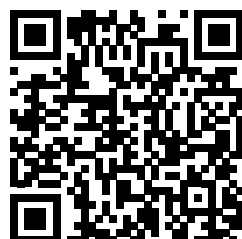


Please visit 请访问
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for material search 查看产品材料

◎: Excellent (优秀) ○: Good (良好)

(Recommended cutting conditions (推荐加工条件) : p. A158)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度
P	1	Non-alloy steel	About 0.15% C Annealed	125	
	2		About 0.45% C Annealed	190	13
	3		About 0.45% C Quenched & Tempered	250	25
	4		About 0.75% C Annealed	270	28
	5	About 0.75% C Quenched & Tempered	300	32	
	6	Low alloy steel	Annealed	180	10
	7		Quenched & Tempered	275	29
	8		Quenched & Tempered	300	32
	9		Quenched & Tempered	350	38
	10		High alloyed steel, and tool steel	Annealed	200
	11	Quenched & Tempered	325	35	
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15
	13		Martensitic Quenched & Tempered	240	23
	14	Austenitic	180	10	
K	15	Grey cast iron	Pearlitic / ferritic	180	10
	16		Pearlitic (Martensitic)	260	26
	17	Nodular cast iron	Ferritic	160	3
	18		Pearlitic	250	25
	19		Ferritic	130	
20	Malleable cast iron	Pearlitic	230	21	
N	21	Aluminum-wrought alloy	Not Curable	60	
	22		Curable Hardened	100	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75	
	24		≤ 12% Si, Curable Hardened	90	
	25		> 12% Si, Not Curable	130	
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110	
	27		CuZn, CuSnZn (Brass)	90	
	28		CuSn, lead-free copper and electrolytic copper	100	
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic	
	30	Rubber, Wood, etc.			
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15
	32		Cured	280	30
	33		Annealed	250	25
	34	Titanium Alloys	Ni or Co Based Cured	350	38
	35		Cast	320	34
36	Pure Titanium		400 Rm		
37	Alpha + Beta Alloys	Hardened	1050 Rm		
H	38	Hardened steel	Hardened	550	55
	39		Hardened	630	60
	40	Chilled Cast Iron	Cast	400	42
	41	Hardened Cast Iron	Hardened	550	55



Scan QR Code to See More Tools for COMPOSITE MATERIALS
如想查看其它用于复合材料的工具, 请扫描二维码
Dream Drill CFRP is only available till stock runs out!
梦幻钻头-CFRP, 尽在库存用完之前可用

HSS

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

TECHNICAL DATA



DI473 SERIES

CARBIDE, DREAM DRILLS -CFRP
硬质合金, 梦幻钻头 -CFRP

LONG
长

- ▶ Special point type to improve hole quality for Composite Materials
- ▶ Minimized burr and delamination at entry / exit hole
- ▶ Outstanding performance
- ▶ Long tool life and increased product by Diamond Coating

- ▶ 采用特殊钻顶类型, 提高复合材料钻孔品质
- ▶ 钻孔入口和出口处的毛刺最小化
- ▶ 卓越性能
- ▶ 由于金刚石涂层, 提高刀具寿命和产率



DIN 6537 CARBIDE 30° h6 m7 118° p. A158

Plain Shank Page
SHRINK FIT HOLDER D47-72
HYDRAULIC CHUCK D15-46
ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
Diamond-Coating	D1	D2	L1	L2
▲ DI473025	2.5	6	24	66
▲ DI473030	3.0	6	28	66
▲ DI473040	4.0	6	36	74
▲ DI473050	5.0	6	44	82
▲ DI473060	6.0	6	44	82
▲ DI473080	8.0	8	53	91
▲ DI473090	9.0	10	61	103
▲ DI473100	10.0	10	61	103
▲ DI473110	11.0	12	71	118
▲ DI473120	12.0	12	71	118

▲ : Only available till stock runs out 尽在库存用完之前可用



Scan QR Code to See More Tools for COMPOSITE MATERIALS
如想查看其它用于复合材料的工具, 请扫描二维码
Dream Drill CFRP is only available till stock runs out!
梦幻钻头-CFRP, 尽在库存用完之前可用

◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K							
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron					
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21			
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended																						
ISO	N				S					H												
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys		Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	70	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550
Recommended																						

DI473 SERIES without COOLANT HOLES
不带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)						
					3.0	4.0	5.0	6.0	8.0	10.0	20.0
N	29	Non Metallic Materials	120	RPM	12730	9550	7640	6370	4770	3820	3180
				FEED	0.03-0.07	0.03-0.07	0.03-0.07	0.03-0.07	0.03-0.07	0.03-0.07	0.03-0.07

- i-ONE DRILLS
- i-DREAM DRILLS
- DREAM DRILLS -PRO
- DREAM DRILLS -GENERAL
- DREAM DRILLS -SOFT
- DREAM DRILLS -HIGH FEED
- DREAM DRILLS -FLAT BOTTOM
- DREAM DRILLS -INOX
- DREAM DRILLS -ALU
- DREAM DRILLS -CFRP**
- DREAM DRILLS -MQL
- DREAM DRILLS for HIGH HARDENED STEELS
- GENERAL CARBIDE DRILLS
- MULTI-1 DRILLS
- GOLD-P DRILLS
- SUPER-GP DRILLS
- WORM PATTERN DRILLS
- STRAIGHT SHANK DRILLS
- TAPERSHANK DRILLS
- NC-SPOTTING DRILLS
- CENTER DRILLS
- SPADE DRILLS
- REAMERS
- COUNTER SINKS
- COUNTER BORES
- TECHNICAL DATA



Leading Through Innovation



SOLID CARBIDE

DREAM DRILLS -MQL TYPE

- Minimum Quantity Lubrication Drilling Deep Holes (10×D ~ 40×D)
- MQL (用少量的润滑油) 钻深孔 (10D到40D)

SELECTION GUIDE 选用指南



SOLID CARBIDE DREAM DRILLS MQL TYPE

Minimum Quantity Lubrication, Drilling Deep Holes (10xD ~ 40xD)
MQL (用少量的润滑油) 钻深孔 (10D到40D)



Recommended cutting conditions (推荐加工条件) : p. A166

SERIES 系列

DRILLING DEPTH 钻销深度

LENGTH 长度

SIZE MIN 最小尺寸

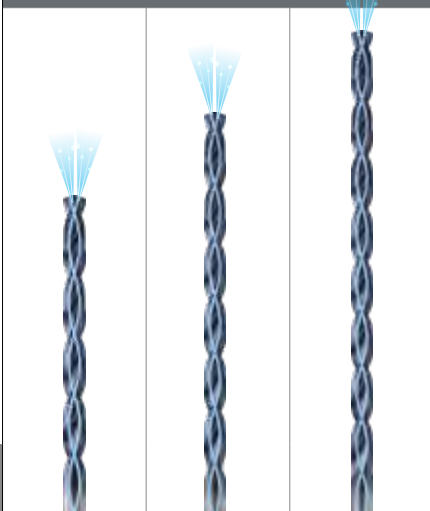
SIZE MAX 最大尺寸

PAGE 页数

SURFACE TREATMENT 表面处理

SERIES 系列	DH510	DH515	DH520
DRILLING DEPTH 钻销深度	10XD	15XD	20XD
LENGTH 长度	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长
SIZE MIN 最小尺寸	D3.0	D3.0	D3.0
SIZE MAX 最大尺寸	D14.0	D12.0	D12.0
PAGE 页数	A162	A163	A163

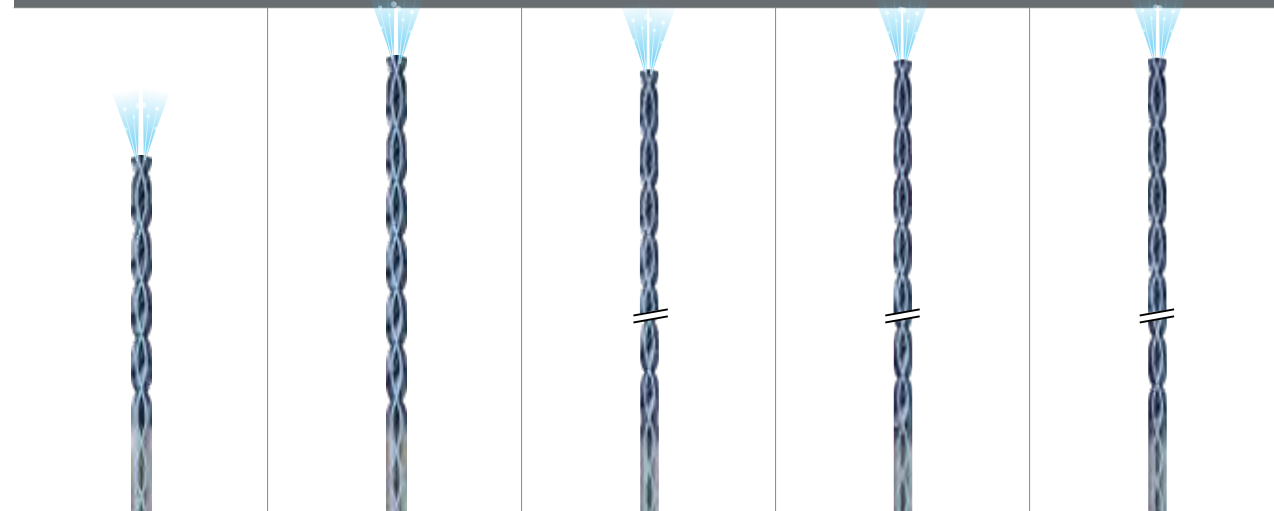
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ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度			
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	○	○	○
	4		About 0.75% C Annealed	270	28			
	5		About 0.75% C Quenched & Tempered	300	32			
	6	Low alloy steel	Annealed	180	10	◎	◎	◎
	7		Quenched & Tempered	275	29	○	○	○
	8		Quenched & Tempered	300	32	○	○	○
	9		Quenched & Tempered	350	38			
	10		High alloyed steel, and tool steel	Annealed	200	15	○	○
	11	Quenched & Tempered		325	35	○	○	○
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15			
	13		Martensitic Quenched & Tempered	240	23			
	14		Austenitic	180	10			
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎
	16		Pearlitic (Martensitic)	260	26	○	○	○
	17	Nodular cast iron	Ferritic	160	3	◎	◎	◎
	18		Pearlitic	250	25	○	○	○
	19		Ferritic	130		◎	◎	◎
	20	Malleable cast iron	Pearlitic	230	21	○	○	○
N	21	Aluminum-wrought alloy	Not Curable	60				
	22		Curable Hardened	100				
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75				
	24		≤ 12% Si, Curable Hardened	90				
	25		> 12% Si, Not Curable	130				
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110				
	27		CuZn, CuSnZn (Brass)	90				
	28		CuSn, lead-free copper and electrolytic copper	100				
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic					
	30		Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15			
	32		Cured	280	30			
	33		Annealed	250	25			
	34		Ni or Co Based Cured	350	38			
	35	Cast	320	34				
	36	Titanium Alloys	Pure Titanium	400 Rm				
	37		Alpha + Beta Alloys Hardened	1050 Rm				
H	38	Hardened steel	Hardened	550	55			
	39		Hardened	630	60			
	40	Chilled Cast Iron	Cast	400	42			
	41	Hardened Cast Iron	Hardened	550	55			

DHM10	DHM15	DHM20	DHM25	DHM30
10XD	15XD	20XD	25XD	30XD
EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长	EXTRA LONG 超长
D3.0	D3.0	D3.0	D3.0	D3.0
D14.0	D12.0	D12.0	D10.0	D8.0
A164	A164	A164	A165	A165

TiAIN



◎	◎	◎	◎	◎	1
◎	◎	◎	◎	◎	2
○	○	○	○	○	3
					4
					5
◎	◎	◎	◎	◎	6 P
○	○	○	○	○	7
○	○	○	○	○	8
○	○	○	○	○	9
○	○	○	○	○	10
○	○	○	○	○	11
					12
					13 M
					14
◎	◎	◎	◎	◎	15
○	○	○	○	○	16
◎	◎	◎	◎	◎	17 K
○	○	○	○	○	18
◎	◎	◎	◎	◎	19
○	○	○	○	○	20
					21
					22
					23
					24
					25 N
					26
					27
					28
					29
					30
					31
					32
					33
					34 S
					35
					36
					37
					38
					39
					40 H
					41

HSS

HSS

i-ONE DRILLS

i-ONE DRILLS

i-DREAM DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

STRAIGHT SHANK DRILLS

TAPERSHANK DRILLS

TAPERSHANK DRILLS

NC-SPOTTING DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

CENTER DRILLS

SPADE DRILLS

SPADE DRILLS

REAMERS

REAMERS

COUNTER SINKS

COUNTER SINKS

COUNTER BORES

COUNTER BORES

TECHNICAL DATA

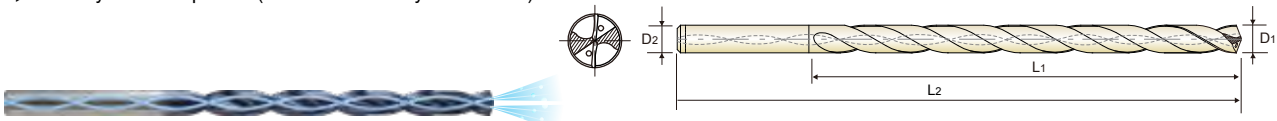
TECHNICAL DATA

TIG DREAM DRILLS - MQL TYPE

DH510 SERIES

CARBIDE, DREAM DRILLS MQL TYPE with COOLANT HOLES EXTRA LONG
硬质合金，梦幻钻头-MQL类型 带内冷孔 超长

- ▶ 4-Facet Point for good centering capability
 - ▶ Optimized special flutes are ideal for removing chips and for productive drilling
 - ▶ Enhanced chip evacuation by polished flute upgraded TiAlN nano layer full coating
 - ▶ MQL system compatible (Minimum Quantity Lubrication)
- ▶ 采用4-Facet钻顶提高定心性能
 - ▶ 最佳独特沟槽设计提高排屑性能和可提供高产率钻孔
 - ▶ 采用TiAlN纳米级涂层抛光沟槽
 - ▶ MQL系统相容 (Minimum Quantity Lubrication)



CARBIDE 30° h6 h7 140° 20 bar p. A166-A167

10 × D

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

DH510

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH510030	3.0	3	39	90
DH510033	3.3	4	46	97
DH510035	3.5	4	46	97
DH510040	4.0	4	52	103
DH510042	4.2	5	59	112
DH510045	4.5	5	59	112
DH510050	5.0	5	65	118
DH510055	5.5	6	72	127
DH510060	6.0	6	78	133
DH510065	6.5	7	85	141
DH510068	6.8	7	91	147
DH510070	7.0	7	91	147
DH510075	7.5	8	98	155

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH510080	8.0	8	104	161
DH510085	8.5	9	111	169
DH510090	9.0	9	117	175
DH510095	9.5	10	124	182
DH510100	10.0	10	130	188
DH510105	10.5	11	137	201
DH510110	11.0	11	143	207
DH510115	11.5	12	150	215
DH510120	12.0	12	156	221
DH510125	12.5	13	163	229
DH510130	13.0	13	169	235
DH510135	13.5	14	176	243
DH510140	14.0	14	182	249

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	30	32	10	29	32	38	35	15	35	23	10	10	26	3	25	25	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	◎	○	◎	○

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials	Heat Resistant Super Alloys				Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

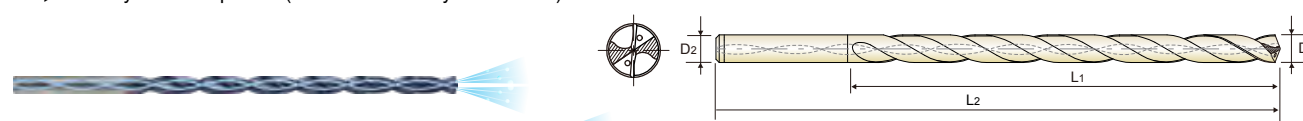
TIG DREAM DRILLS - MQL TYPE

DH515 SERIES

DH520 SERIES

CARBIDE, DREAM DRILLS MQL TYPE with COOLANT HOLES EXTRA LONG
硬质合金，梦幻钻头-MQL类型 带内冷孔 超长

- ▶ 4-Facet Point for good centering capability
 - ▶ Optimized special flutes are ideal for removing chips and for productive drilling
 - ▶ Enhanced chip evacuation by polished flute upgraded TiAlN nano layer full coating
 - ▶ MQL system compatible (Minimum Quantity Lubrication)
- ▶ 采用4-Facet钻顶提高定心性能
 - ▶ 最佳独特沟槽设计提高排屑性能和可提供高产率钻孔
 - ▶ 采用TiAlN纳米级涂层抛光沟槽
 - ▶ MQL系统相容 (Minimum Quantity Lubrication)



CARBIDE 30° h6 h7 140° 20 bar p. A166-A167

15 × D (DH515)	20 × D (DH520)
Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

DH515

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH515030	3.0	3	54	105
DH515035	3.5	4	63	114
DH515040	4.0	4	72	123
DH515045	4.5	5	81	134
DH515050	5.0	5	90	143
DH515055	5.5	6	99	154
DH515060	6.0	6	108	163
DH515070	7.0	7	126	182
DH515080	8.0	8	144	201
DH515090	9.0	9	162	220
DH515100	10.0	10	180	238
DH515110	11.0	11	198	262
DH515120	12.0	12	216	281

DH520

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DH520030	3.0	3	69	120
DH520035	3.5	4	81	132
DH520040	4.0	4	92	143
DH520045	4.5	5	104	157
DH520050	5.0	5	115	168
DH520055	5.5	6	127	182
DH520060	6.0	6	138	193
DH520070	7.0	7	161	217
DH520080	8.0	8	184	241
DH520090	9.0	9	207	265
DH520100	10.0	10	230	288
DH520120	12.0	12	276	341

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	30	32	10	29	32	38	35	15	35	23	10	10	26	3	25	25	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	◎	○	◎	○

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials	Heat Resistant Super Alloys				Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG DREAM DRILLS - MQL TYPE

DHM10 SERIES

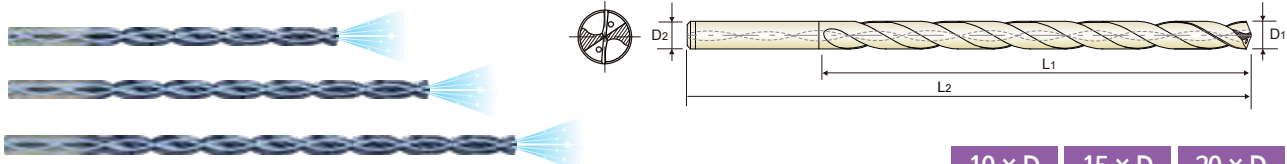
DHM15 SERIES

DHM20 SERIES

CARBIDE, DREAM DRILL MQL TYPE END MILL SHANK with COOLANT HOLE EXTRA LONG 硬质合金，梦幻钻头铣刀柄-MQL类型 带内冷孔 超长

- ▶ 4-Facet Point for good centering capability
- ▶ Optimized special flutes are ideal for removing chips and for productive drilling
- ▶ Enhanced chip evacuation by polished flute upgraded TiAlN nano layer full coating
- ▶ MQL system compatible (Minimum Quantity Lubrication)

- ▶ 采用4-Facet钻头提高定心性能
- ▶ 最佳独特沟槽设计提高排屑性能和可提供高生产率钻孔
- ▶ 采用TiAlN纳米级涂层抛光沟槽
- ▶ MQL系统相容 (Minimum Quantity Lubrication)



CARBIDE
30°
h6
h7
140°
20 bar
45 bar

DHM10 DHM15 DHM20

p. A166-A167

10 × D (DHM10)	15 × D (DHM15)	20 × D (DHM20)
Plain Shank Page		
SHRINK FIT HOLDER	D47 - 72	
HYDRAULIC CHUCK	D15 - 46	
ER COLLET CHUCK	D73 - 115	

DHM10 Unit(单位) : mm					
EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	
型号	刃径	柄径	槽长	L1	L2
TiAlN	D1	D2	L1	L2	
DHM10030	3.0	6	40	80	
DHM10033	3.3	6	47	87	
DHM10035	3.5	6	47	87	
DHM10040	4.0	6	53	93	
DHM10042	4.2	6	60	100	
DHM10045	4.5	6	60	100	
DHM10050	5.0	6	66	106	
DHM10055	5.5	6	73	113	
DHM10060	6.0	6	79	119	
DHM10065	6.5	8	86	126	
DHM10068	6.8	8	92	132	
DHM10070	7.0	8	92	132	
DHM10075	7.5	8	99	139	
DHM10080	8.0	8	105	145	
DHM10085	8.5	10	112	156	
DHM10090	9.0	10	118	162	
DHM10095	9.5	10	126	170	
DHM10100	10.0	10	132	176	
DHM10105	10.5	12	139	188	
DHM10110	11.0	12	145	194	
DHM10115	11.5	12	152	201	
DHM10120	12.0	12	158	207	
DHM10125	12.5	14	165	214	
DHM10130	13.0	14	171	220	
DHM10135	13.5	14	178	227	
DHM10140	14.0	14	184	233	

DHM15 Unit(单位) : mm					
EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	
型号	刃径	柄径	槽长	L1	L2
TiAlN	D1	D2	L1	L2	
DHM15030	3.0	6	55	95	
DHM15035	3.5	6	64	104	
DHM15040	4.0	6	73	113	
DHM15045	4.5	6	82	122	
DHM15050	5.0	6	91	131	
DHM15055	5.5	6	100	140	
DHM15060	6.0	6	109	149	
DHM15070	7.0	8	127	167	
DHM15080	8.0	8	145	185	
DHM15090	9.0	10	163	207	
DHM15100	10.0	10	182	226	
DHM15110	11.0	12	200	249	
DHM15120	12.0	12	218	267	

DHM20 Unit(单位) : mm				
EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DHM20030	3.0	6	70	110
DHM20035	3.5	6	82	122
DHM20040	4.0	6	93	133
DHM20045	4.5	6	105	145
DHM20050	5.0	6	116	156
DHM20055	5.5	6	128	168
DHM20060	6.0	6	139	179
DHM20070	7.0	8	162	202
DHM20080	8.0	8	185	225
DHM20090	9.0	10	208	252
DHM20100	10.0	10	232	276
DHM20110	11.0	12	255	304
DHM20120	12.0	12	278	327

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	◎	○	◎	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG DREAM DRILLS - MQL TYPE

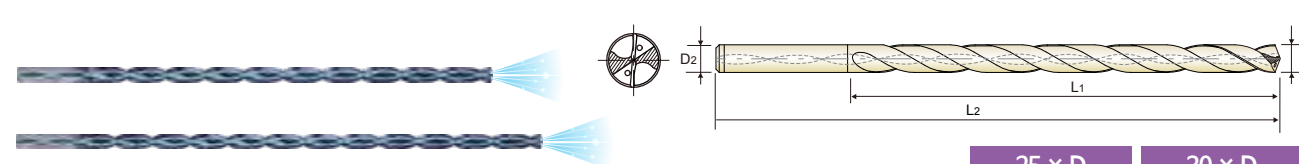
DHM25 SERIES

DHM30 SERIES

CARBIDE, DREAM DRILL MQL TYPE END MILL SHANK with COOLANT HOLE EXTRA LONG 硬质合金，梦幻钻头铣刀柄-MQL类型 带内冷孔 超长

- ▶ 4-Facet Point for good centering capability
- ▶ Optimized special flutes are ideal for removing chips and for productive drilling
- ▶ Enhanced chip evacuation by polished flute upgraded TiAlN nano layer full coating
- ▶ MQL system compatible (Minimum Quantity Lubrication)

- ▶ 采用4-Facet钻头提高定心性能
- ▶ 最佳独特沟槽设计提高排屑性能和可提供高生产率钻孔
- ▶ 采用TiAlN纳米级涂层抛光沟槽
- ▶ MQL系统相容 (Minimum Quantity Lubrication)



CARBIDE
30°
h6
h7
140°
45 bar

DHM25 DHM30

p. A166-A167

25 × D (DHM25)	30 × D (DHM30)
Plain Shank Page	
SHRINK FIT HOLDER D47 - 72	
HYDRAULIC CHUCK D15 - 46	
ER COLLET CHUCK D73 - 115	

DHM25 Unit(单位) : mm				
EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DHM25030	3.0	6.0	85	125
DHM25035	3.5	6.0	99	139
DHM25040	4.0	6.0	113	153
DHM25045	4.5	6.0	127	167
DHM25050	5.0	6.0	141	181
DHM25055	5.5	6.0	155	195
DHM25060	6.0	6.0	169	209
DHM25070	7.0	8.0	197	237
DHM25080	8.0	8.0	225	265
DHM25090	9.0	10.0	253	297
DHM25100	10.0	10.0	282	326

DHM30 Unit(单位) : mm				
EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAlN	D1	D2	L1	L2
DHM30030	3.0	6.0	100	140
DHM30035	3.5	6.0	117	157
DHM30040	4.0	6.0	133	173
DHM30045	4.5	6.0	150	190
DHM30050	5.0	6.0	166	206
DHM30055	5.5	6.0	183	223
DHM30060	6.0	6.0	199	239
DHM30070	7.0	8.0	232	272
DHM30080	8.0	8.0	265	305

▶ Made to order in depth 35xD & 40xD (Drill Dia. Ø3~6mm) / 其

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	◎	○	◎	○

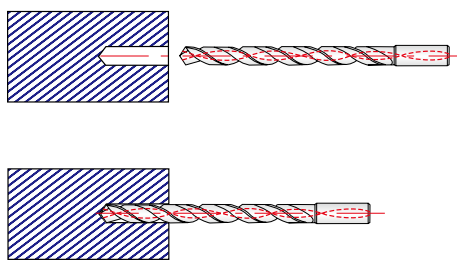
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

DH510, DH515, DH520, DHM10, DHM15, DHM20, DHM25, DHM30 SERIES

with COOLANT HOLES
带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

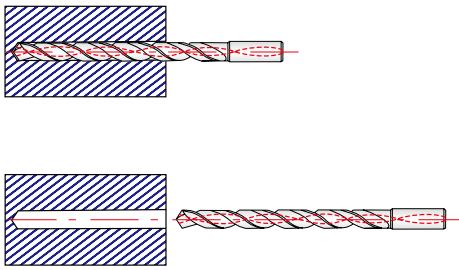
ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)		Parameter 参数	Drill Diameter 刀径 (mm)			
			10xD ~ 20xD	25xD ~ 30xD		3.0	4.0	5.0	6.0
P	1	Non-alloy steel	120	100	RPM(10xD-20xD)	12730	9550	7640	6370
					RPM(25xD-30xD)	10610	7960	6370	5310
					FEED	0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20
	2		100	RPM(10xD-20xD)	10610	7960	6370	5310	
				RPM(25xD-30xD)	8490	6370	5090	4240	
				FEED	0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20	
	3		80	RPM(10xD-20xD)	8490	6370	5090	4240	
				RPM(25xD-30xD)	6900	5170	4140	3450	
				FEED	0.06-0.10	0.08-0.12	0.10-0.16	0.12-0.18	
	6		100	RPM(10xD-20xD)	10610	7960	6370	5310	
				RPM(25xD-30xD)	10610	7960	6370	5310	
FEED		0.08-0.12		0.10-0.14	0.12-0.18	0.14-0.20			
7	70	RPM(10xD-20xD)	7430	5570	4460	3710			
		RPM(25xD-30xD)	6370	4770	3820	3180			
		FEED	0.06-0.10	0.08-0.12	0.10-0.16	0.12-0.18			
8	55	RPM(10xD-20xD)	5840	4380	3500	2920			
		RPM(25xD-30xD)	5310	3980	3180	2650			
		FEED	0.06-0.10	0.08-0.12	0.10-0.16	0.12-0.18			
10	60	RPM(10xD-20xD)	6370	4770	3820	3180			
		RPM(25xD-30xD)	5310	3980	3180	2650			
		FEED	0.05-0.09	0.07-0.11	0.08-0.14	0.10-0.16			
11	50	RPM(10xD-20xD)	5310	3980	3180	2650			
		RPM(25xD-30xD)	4770	3580	2860	2390			
		FEED	0.04-0.08	0.06-0.10	0.07-0.13	0.08-0.14			
K	15	Grey cast iron	90	75	RPM(10xD-20xD)	9550	7160	5730	4770
					RPM(25xD-30xD)	7960	5970	4770	3980
	16		70	RPM(10xD-20xD)	7430	5570	4460	3710	
				RPM(25xD-30xD)	6370	4770	3820	3180	
	17		100	RPM(10xD-20xD)	10610	7960	6370	5310	
				RPM(25xD-30xD)	8490	6370	5090	4240	
	18		70	RPM(10xD-20xD)	7430	5570	4460	3710	
				RPM(25xD-30xD)	6370	4770	3820	3180	
	19		80	RPM(10xD-20xD)	8490	6370	5090	4240	
				RPM(25xD-30xD)	6900	5170	4140	3450	
20	70	RPM(10xD-20xD)	7430	5570	4460	3710			
		RPM(25xD-30xD)	5840	4380	3500	2920			
FEED						0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20



1. Guide Drilling should be done as Diameter +0.01~+0.1mm between 3xD and 5xD depth.
导钻应该在3xD和5xD深度之间做在直径基础上+0.01~+0.1mm的孔
2. For Main Drilling, proceed with low RPM at Guide Drilling segment. (RPM 300, FEED 400mm/min)
对于主要钻孔, 应在导钻孔上使用低速进行 (钻速300, 进给400mm/min)
3. Just before the end of Guide Drilling segment, reduce feed to zero and increase the RPM according to Recommended Cutting Condition chart (See above).
在加工完导孔时, 把进给降到, 同时根据提供的切削条件表增加钻速 (参考以上)

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

VDI 3323	Parameter 参数	Drill Diameter 刀径 (mm)			
		8.0	10.0	12.0	14.0
1	RPM(10xD-20xD)	4770	3820	3180	2730
	RPM(25xD-30xD)	3980	3180	2650	2270
	FEED	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31
2	RPM(10xD-20xD)	3980	3180	2650	2270
	RPM(25xD-30xD)	3180	2550	2120	1820
	FEED	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31
3	RPM(10xD-20xD)	3180	2550	2120	1820
	RPM(25xD-30xD)	2590	2070	1720	1480
	FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26
6	RPM(10xD-20xD)	3980	3180	2650	2270
	RPM(25xD-30xD)	3980	3180	2650	2270
	FEED	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31
7	RPM(10xD-20xD)	2790	2230	1860	1590
	RPM(25xD-30xD)	2390	1910	1590	1360
	FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26
8	RPM(10xD-20xD)	2190	1750	1460	1250
	RPM(25xD-30xD)	1990	1590	1330	1140
	FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26
10	RPM(10xD-20xD)	2390	1910	1590	1360
	RPM(25xD-30xD)	1990	1590	1330	1140
	FEED	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24
11	RPM(10xD-20xD)	1990	1590	1330	1140
	RPM(25xD-30xD)	1790	1430	1190	1020
	FEED	0.10-0.16	0.12-0.18	0.13-0.19	0.15-0.21
15	RPM(10xD-20xD)	3580	2860	2390	2050
	RPM(25xD-30xD)	2980	2390	1990	1710
	FEED	0.22-0.28	0.24-0.30	0.28-0.34	0.30-0.36
16	RPM(10xD-20xD)	2790	2230	1860	1590
	RPM(25xD-30xD)	2390	1910	1590	1360
	FEED	0.22-0.28	0.24-0.30	0.28-0.34	0.30-0.36
17	RPM(10xD-20xD)	3980	3180	2650	2270
	RPM(25xD-30xD)	3180	2550	2120	1820
	FEED	0.22-0.28	0.24-0.30	0.28-0.34	0.30-0.36
18	RPM(10xD-20xD)	2790	2230	1860	1590
	RPM(25xD-30xD)	2390	1910	1590	1360
	FEED	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31
19	RPM(10xD-20xD)	3180	2550	2120	1820
	RPM(25xD-30xD)	2590	2070	1720	1480
	FEED	0.22-0.28	0.24-0.30	0.28-0.34	0.30-0.36
20	RPM(10xD-20xD)	2790	2230	1860	1590
	RPM(25xD-30xD)	2190	1750	1460	1250
	FEED	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31



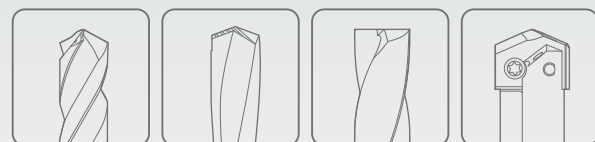
4. After then, proceed main drilling by increasing feed without step drilling.
然后, 在没有阶梯孔的情况下增加进给进行主孔加工
5. When coming out from Guide Drilling start point after drilling, RPM should be reduced as 300 and feed should be 1000 mm/min.
当钻完后从导孔的起始点出来时, 请把钻速降到300, 进给为1000mm/min.
6. When coming out from Guide Drilling segment to the outside, the feed should be decreased as 50%.
当从导孔段完全出来时, 进给应降到50%.



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



HOLEMAKING

SOLID CARBIDE

DREAM DRILLS

- for HIGH HARDENED STEELS

- For High Hardened Steels (HRc50 to HRc70)

- 用于硬质合金 (硬度50到70)

SELECTION GUIDE
选用指南



SERIES 系列

DH500

DRILLING DEPTH 钻销深度

3XD

LENGTH 长度

SHORT
短

SIZE MIN 最小尺寸

D2.6

SIZE MAX 最大尺寸

D14.0

PAGE 页数

A171

SURFACE TREATMENT 表面处理

TiAIN

SOLID CARBIDE
DREAM DRILLS
for HIGH HARDENED STEELS

For High Hardened Steels (HRc50 to HRc70)
用于硬质合金 (硬度50到70)

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◎: Excellent (优秀) ○: Good (良好)

(Recommended cutting conditions (推荐加工条件): p. A172)



ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度	
P	1	Non-alloy steel	About 0.15% C Annealed	125		
	2		About 0.45% C Annealed	190	13	
	3		About 0.45% C Quenched & Tempered	250	25	
	4		About 0.75% C Annealed	270	28	
	5		About 0.75% C Quenched & Tempered	300	32	
	6	Low alloy steel	Annealed	180	10	
	7		Quenched & Tempered	275	29	
	8		Quenched & Tempered	300	32	
	9		Quenched & Tempered	350	38	
	10		High alloyed steel, and tool steel	Annealed	200	15
	11			Quenched & Tempered	325	35
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	
	13		Martensitic Quenched & Tempered	240	23	
	14		Austenitic	180	10	
K	15	Grey cast iron	Pearlitic / ferritic	180	10	
	16		Pearlitic (Martensitic)	260	26	
	17	Nodular cast iron	Ferritic	160	3	
	18		Pearlitic	250	25	
	19	Malleable cast iron	Ferritic	130		
	20		Pearlitic	230	21	
N	21	Aluminum-wrought alloy	Not Curable	60		
	22		Curable Hardened	100		
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		
	24		≤ 12% Si, Curable Hardened	90		
	25		> 12% Si, Not Curable	130		
	26		Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90	
	27	Non Metallic Materials	Cutting Alloys, PB>1%	110		
	28		CuSn, lead-free copper and electrolytic copper	100		
	29		Duroplastic, Fiber Reinforced Plastic			
	30	Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15	
	32		Cured	280	30	
	33		Annealed	250	25	
	34	Titanium Alloys	Ni or Co Based Cured	350	38	
	35		Cast	320	34	
	36		Pure Titanium	400 Rm		
37	Alpha + Beta Alloys	Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550	55	
	39		Hardened	630	60	
	40	Chilled Cast Iron	Cast	400	42	
	41	Hardened Cast Iron	Hardened	550	55	

DREAM DRILLS
for HIGH HARDENED STEELS

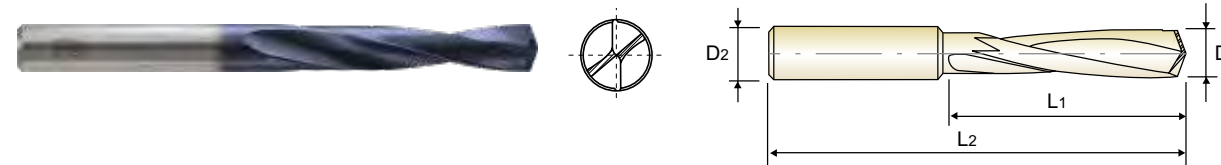
DH500 SERIES

CARBIDE, DREAM DRILLS for HIGH HARDENED STEELS (HRc50~HRc70)
硬质合金, 梦幻钻头-高硬度钢(HRc50~70)

SHORT
短

- ▶ Drilling for High Hardened Steels; Quenched Steels, Tempered Steels (under HRc70)
- ▶ Special geometry design for Hardened Steels
- ▶ Minimum of cutting load through special thinning
- ▶ Performing good chip removal and powerful drilling

- ▶ 加工高硬度钢; 淬火钢, 回火钢 (~HRc70)
- ▶ 加工高硬度钢用特殊几何形状设计
- ▶ 由于独特钻顶设计减少切削阻力
- ▶ 表现卓越排屑和强力钻孔



3 x D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

Unit(单位): mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH500026	2.6	3	14	44
DH500030	3.0	3	16	46
DH500033	3.3	4	18	48
DH500034	3.4	4	20	50
DH500035	3.5	4	20	50
DH500040	4.0	4	22	52
DH500042	4.2	6	25	65
DH500043	4.3	6	28	68
DH500044	4.4	6	28	68
DH500045	4.5	6	28	68
DH500050	5.0	6	32	72
DH500051	5.1	6	32	72
DH500052	5.2	6	32	72
DH500055	5.5	6	35	75
DH500060	6.0	6	35	75
DH500065	6.5	8	40	80
DH500068	6.8	8	45	85
DH500069	6.9	8	45	85

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
DH500070	7.0	8	45	85
DH500075	7.5	8	45	85
DH500080	8.0	8	50	98
DH500085	8.5	10	50	98
DH500086	8.6	10	57	105
DH500088	8.8	10	57	105
DH500090	9.0	10	57	105
DH500095	9.5	10	57	105
DH500100	10.0	10	63	111
DH500102	10.2	12	63	111
DH500103	10.3	12	63	111
DH500105	10.5	12	63	111
DH500108	10.8	12	71	119
DH500110	11.0	12	71	119
DH500115	11.5	12	71	119
DH500120	12.0	12	71	119
DH500140	14.0	14	77	125

◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K							
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	125	130	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	190	250	270	300	350	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended																						
ISO	N									S					H							
Material Description	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc																		55	60	70	42	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550
Recommended																		◎	◎	◎		



DREAM DRILLS
for HIGH HARDENED STEELS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

DH500 SERIES

without COOLANT HOLES
不带内冷孔

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)								
					2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0
H	38	Hardened steel	20	RPM	2550	2120	1590	1270	1060	800	640	530	450
				FEED	0.01~0.03	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.06	0.01-0.06
	15		RPM	1910	1590	1190	950	800	600	480	400	340	
			FEED	0.01~0.03	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.06	0.01-0.06	
	12		RPM	1530	1270	950	760	640	480	380	320	270	
			FEED	0.01~0.03	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.06	0.01-0.06	

DREAM DRILLS
-HIGH FEED

DREAM DRILLS
-FLAT BOTTOM

DREAM DRILLS
-INOX

DREAM DRILLS
-ALU

DREAM DRILLS
-CFRP

DREAM DRILLS
-MQL

DREAM DRILLS
for HIGH
HARDENED STEELS

GENERAL
CARBIDE
DRILLS

MULTI-1
DRILLS

GOLD-P
DRILLS

SUPER-GP
DRILLS

WORM
PATTERN
DRILLS

STRAIGHT
SHANK
DRILLS

TAPER SHANK
DRILLS

NC-
SPOTTING
DRILLS

CENTER
DRILLS

SPADE
DRILLS

REAMERS

COUNTER
SINKS

COUNTER
BORES

TECHNICAL
DATA



Leading Through Innovation



SOLID CARBIDE

GENERAL CARBIDE DRILLS

- For General Purpose
- 普通用途

SELECTION GUIDE
选用指南



**SOLID CARBIDE
GENERAL
CARBIDE DRILLS**

SURFACE TREATMENT 表面处理

For General Purpose
普通用途

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◎ : Excellent (优秀) ○ : Good (良好)

(Recommended cutting conditions (推荐加工条件) : p. A177)

SERIES 系列

STANDARD 标准

LENGTH 长度

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

SURFACE TREATMENT 表面处理

D5401

REGULAR
常规

D1.0

D13.0

A175

Bright



ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度		
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	
	2		About 0.45% C Annealed	190	13	○	
	3		About 0.45% C Quenched & Tempered	250	25		
	4		About 0.75% C Annealed	270	28		
	5		About 0.75% C Quenched & Tempered	300	32		
	6	Low alloy steel	Annealed	180	10	○	
	7		Quenched & Tempered	275	29		
	8		Quenched & Tempered	300	32		
	9		Quenched & Tempered	350	38		
	10		High alloyed steel, and tool steel	Annealed	200	15	
	11			Quenched & Tempered	325	35	
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	
	13		Martensitic Quenched & Tempered	240	23		
	14	Austenitic	180	10			
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	
	16		Pearlitic (Martensitic)	260	26		
	17	Nodular cast iron	Ferritic	160	3		
	18		Pearlitic	250	25		
	19		Ferritic	130			
	20	Malleable cast iron	Pearlitic	230	21		
N	21	Aluminum-wrought alloy	Not Curable	60		◎	
	22		Curable Hardened	100		◎	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		◎	
	24		≤ 12% Si, Curable Hardened	90		◎	
	25		> 12% Si, Not Curable	130			
	26		Copper and Copper Alloys (PB>1%)	110			
	27	Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90			
	28		CuSn, lead-free copper and electrolytic copper	100			
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				
	30		Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34		Cured	350	38		
	35	Cast	320	34			
	36	Titanium Alloys	Pure Titanium	400 Rm		○	
37	Alpha + Beta Alloys Hardened		1050 Rm				
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Chilled Cast Iron	Cast	400	42		
	41	Hardened Cast Iron	Hardened	550	55		

GENERAL CARBIDE DRILLS

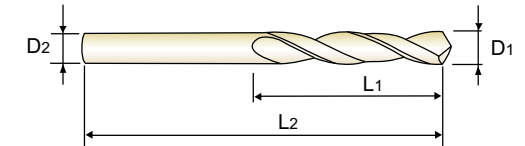
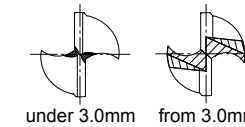
D5401 SERIES

CARBIDE DRILLS
硬质合金钻头

REGULAR
常规

► Application : Drilling into steel in general, cast steel, cast iron, chilled cast iron, malleable cast iron, nonferrous heavy metal, non-ferrous light metal, abrasive plastic.

► 应用：用于加工一般的钻件，铸钢，铸铁，冷硬铸铁，可锻铸铁，非铁重金属，非铁轻金属，耐磨塑料等材料



D1=D2



Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length	EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长	型号	刃径	槽长	全长
Bright	D1	L1	L2	Bright	D1	L1	L2
D5401010	1.0	10	32	D5401041	4.1	34	60
D5401011	1.1	10	32	D5401042	4.2	34	60
D5401012	1.2	10	32	D5401043	4.3	34	60
D5401013	1.3	10	32	D5401044	4.4	34	60
D5401014	1.4	10	32	D5401045	4.5	34	60
D5401015	1.5	13	35	D5401046	4.6	38	65
D5401016	1.6	13	35	D5401047	4.7	38	65
D5401017	1.7	13	35	D5401048	4.8	38	65
D5401018	1.8	13	35	D5401049	4.9	38	65
D5401019	1.9	13	35	D5401050	5.0	38	65
D5401020	2.0	18	40	D5401051	5.1	38	65
D5401021	2.1	18	40	D5401052	5.2	38	65
D5401022	2.2	18	40	D5401053	5.3	38	65
D5401023	2.3	18	40	D5401054	5.4	38	65
D5401024	2.4	18	40	D5401055	5.5	38	65
D5401025	2.5	22	45	D5401056	5.6	40	75
D5401026	2.6	22	45	D5401057	5.7	40	75
D5401027	2.7	22	45	D5401058	5.8	40	75
D5401028	2.8	22	45	D5401059	5.9	40	75
D5401029	2.9	22	45	D5401060	6.0	40	75
D5401030	3.0	25	50	D5401061	6.1	40	75
D5401031	3.1	25	50	D5401062	6.2	40	75
D5401032	3.2	25	50	D5401063	6.3	40	75
D5401033	3.3	28	50	D5401064	6.4	40	75
D5401034	3.4	28	50	D5401065	6.5	40	75
D5401035	3.5	28	50	D5401066	6.6	46	80
D5401036	3.6	30	55	D5401067	6.7	46	80
D5401037	3.7	30	55	D5401068	6.8	46	80
D5401038	3.8	30	55	D5401069	6.9	46	80
D5401039	3.9	30	55	D5401070	7.0	46	80
D5401040	4.0	30	55	D5401071	7.1	46	80

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P									M				K							
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc																					
HB	125	190	250	270	300	180	275	300	350	200	325	200	230	240	180	260	160	250	130	230	
Recommended	◎	○				○				○		○			○						
ISO	N				S					H											
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials	Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc																					
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
Recommended	◎	◎	◎	◎												○					

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HSS

GENERAL CARBIDE DRILLS

D5401 SERIES

GENERAL CARBIDE DRILLS

RECOMMENDED CUTTING CONDITIONS 推荐加工条件

CARBIDE DRILLS

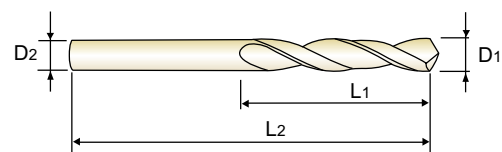
REGULAR

硬质合金钻头

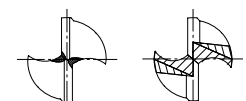
常规

► **Application** : Drilling into steel in general, cast steel, cast iron, chilled cast iron, malleable cast iron, nonferrous heavy metal, non-ferrous light metal, abrasive plastic.

► **应用** : 用于加工一般的钻件, 铸钢, 铸铁, 冷硬铸铁, 可锻铸铁, 非铁重金属, 非铁轻金属, 耐磨塑料等材料



D1=D2



under 3.0mm from 3.0mm



Plain Shank		Page
SHRINK FIT HOLDER	D47-72	
HYDRAULIC CHUCK	D15-46	
ER COLLET CHUCK	D73-115	

Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
Bright	D1	L1	L2
D5401072	7.2	46	80
D5401073	7.3	46	80
D5401074	7.4	46	80
D5401075	7.5	46	80
D5401076	7.6	50	85
D5401077	7.7	50	85
D5401078	7.8	50	85
D5401079	7.9	50	85
D5401080	8.0	50	85
D5401081	8.1	50	85
D5401082	8.2	50	85
D5401083	8.3	50	85
D5401084	8.4	50	85
D5401085	8.5	50	85
D5401086	8.6	50	95
D5401087	8.7	50	95
D5401088	8.8	50	95
D5401089	8.9	50	95
D5401090	9.0	50	95
D5401091	9.1	50	95
D5401092	9.2	50	95
D5401093	9.3	50	95
D5401094	9.4	50	95
D5401095	9.5	50	95
D5401096	9.6	50	100
D5401097	9.7	50	100
D5401098	9.8	50	100
D5401099	9.9	50	100
D5401100	10.0	50	100
D5401101	10.1	60	115

EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
Bright	D1	L1	L2
D5401102	10.2	60	115
D5401103	10.3	60	115
D5401104	10.4	60	115
D5401105	10.5	60	115
D5401106	10.6	60	115
D5401107	10.7	60	115
D5401108	10.8	60	115
D5401109	10.9	60	115
D5401110	11.0	60	115
D5401111	11.1	65	120
D5401112	11.2	65	120
D5401113	11.3	65	120
D5401114	11.4	65	120
D5401115	11.5	65	120
D5401116	11.6	65	120
D5401117	11.7	65	120
D5401118	11.8	65	120
D5401119	11.9	65	120
D5401120	12.0	65	120
D5401121	12.1	65	125
D5401122	12.2	65	125
D5401123	12.3	65	125
D5401124	12.4	65	125
D5401125	12.5	65	125
D5401126	12.6	65	125
D5401127	12.7	65	125
D5401128	12.8	65	125
D5401129	12.9	65	125
D5401130	13.0	65	125

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	○				○					○				○					

ISO	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎												○					

A176

A177

D5401 SERIES

CARBIDE DRILLS 硬质合金钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)		Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)								
					1.0	2.0			3.0	4.0	5.0	6.0	8.0	10.0	12.0	13.0	
P	1	Non-alloy steel	55	RPM	17510	8750	70	RPM	7,430	5,570	4,460	3,710	2,790	2,230	1,860	1,710	
			FEED	0.02-0.03	0.02-0.04	FEED		0.03-0.05	0.03-0.06	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.10-0.14	0.12-0.16		
	2	Non-alloy steel	45	RPM	14320	7160	60	RPM	6,370	4,770	3,820	3,180	2,390	1,910	1,590	1,470	
			FEED	0.02-0.03	0.02-0.04	FEED		0.03-0.05	0.03-0.06	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.10-0.14	0.12-0.16		
	6	Low alloy steel	35	RPM	11140	5570	50	RPM	5,310	3,980	3,180	2,650	1,990	1,590	1,330	1,220	
			FEED	0.02-0.03	0.02-0.04	FEED		0.03-0.05	0.03-0.06	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.10-0.14	0.12-0.16		
M	12	Stainless steel	15	RPM	4770	2390	25	RPM	2,650	1,990	1,590	1,330	990	800	660	610	
K	15	Grey cast iron	25	RPM	7960	3980	45	RPM	4,770	3,580	2,860	2,390	1,790	1,430	1,190	1,100	
			FEED	0.03-0.04	0.03-0.05	FEED		0.04-0.06	0.04-0.07	0.05-0.08	0.06-0.09	0.09-0.12	0.12-0.16	0.14-0.18	0.16-0.20		
N	21	Aluminum-wrought alloy	100	RPM	31830	15920	140	RPM	14,850	11,140	8,910	7,430	5,570	4,460	3,710	3,430	
			FEED	0.04-0.05	0.04-0.06	FEED		0.05-0.07	0.05-0.08	0.06-0.09	0.08-0.11	0.12-0.15	0.15-0.19	0.19-0.23	0.21-0.25		
	22	Aluminum-wrought alloy	90	RPM	28650	14320	120	RPM	12,730	9,550	7,640	6,370	4,770	3,820	3,180	2,940	
			FEED	0.04-0.05	0.04-0.06	FEED		0.05-0.07	0.05-0.08	0.06-0.09	0.08-0.11	0.12-0.15	0.15-0.19	0.19-0.23	0.21-0.25		
	23	Aluminum-cast, alloyed	70	RPM	22280	11140	100	RPM	10,610	7,960	6,370	5,310	3,980	3,180	2,650	2,450	
			FEED	0.04-0.05	0.04-0.06	FEED		0.05-0.07	0.05-0.08	0.06-0.09	0.08-0.11	0.12-0.15	0.15-0.19	0.19-0.23	0.21-0.25		
24	Aluminum-cast, alloyed	60	RPM	19100	9550	80	RPM	8,490	6,370	5,090	4,240	3,180	2,550	2,120	1,960		
		FEED	0.04-0.05	0.04-0.06	FEED		0.05-0.07	0.05-0.08	0.06-0.09	0.08-0.11	0.12-0.15	0.15-0.19	0.19-0.23	0.21-0.25			
S	36	Titanium Alloys	10	RPM	3180	1590	20	RPM	1,060	800	640	530	400	320	270	240	
			FEED	0.01-0.02	0.01-0.03	FEED		0.02-0.04	0.02-0.05	0.03-0.06	0.04-0.07	0.06-0.09	0.07-0.11	0.08-0.12	0.09-0.13		

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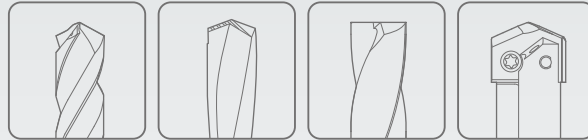
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Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

HSS-PM

MULTI-1 DRILLS

- For Wide Range of Applications Particularly Stainless Steels and Titanium
- 广泛用途特别是不锈钢和钛

SELECTION GUIDE
选用指南



SERIES 系列

TOOL MATERIAL 刀具材料

LENGTH 长度

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

SURFACE TREATMENT 表面处理

HSS-PM
MULTI-1
DRILLS

For Wide Range of Applications Particularly Stainless Steels and Titanium
广泛用途特别是不锈钢和钛

Please visit 请访问
globalygl.com/mat
for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

(Recommended cutting conditions (推荐加工条件) : p. A188)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度	
P	1	Non-alloy steel	About 0.15% C Annealed	125		
	2		About 0.45% C Annealed	190	13	
	3		About 0.45% C Quenched & Tempered	250	25	
	4		About 0.75% C Annealed	270	28	
	5		About 0.75% C Quenched & Tempered	300	32	
	6	Low alloy steel	Annealed	180	10	
	7		Quenched & Tempered	275	29	
	8		Quenched & Tempered	300	32	
	9		Quenched & Tempered	350	38	
	10		High alloyed steel, and tool steel	Annealed	200	15
	11			Quenched & Tempered	325	35
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	
	13		Martensitic Quenched & Tempered	240	23	
	14	Austenitic	180	10		
K	15	Grey cast iron	Pearlitic / ferritic	180	10	
	16		Pearlitic (Martensitic)	260	26	
	17	Nodular cast iron	Ferritic	160	3	
	18		Pearlitic	250	25	
	19		Ferritic	130		
	20	Malleable cast iron	Pearlitic	230	21	
N	21	Aluminum-wrought alloy	Not Curable	60		
	22		Curable Hardened	100		
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		
	24		≤ 12% Si, Curable Hardened	90		
	25		> 12% Si, Not Curable	130		
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		
	27		CuZn, CuSnZn (Brass)	90		
	28		CuSn, lead-free copper and electrolytic copper	100		
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic		
	30	Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15	
	32		Cured	280	30	
	33		Annealed	250	25	
	34		Ni or Co Based Cured	350	38	
	35		Cast	320	34	
H	36	Titanium Alloys	Pure Titanium	400 Rm		
	37		Alpha + Beta Alloys Hardened	1050 Rm		
	38	Hardened steel	Hardened	550	55	
	39		Hardened	630	60	
	40		Chilled Cast Iron	Cast	400	42
	41		Hardened Cast Iron	Hardened	550	55

	CDRA03	CDRA04
	HSS-PM	
STUB 超短		JOBBER 细长
D1.0		D2.0
D13.0		D13.0
A181		A185
	TiAIN	

YIG MULTI-1 DRILLS

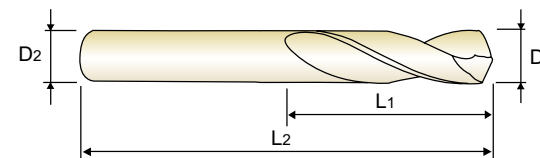
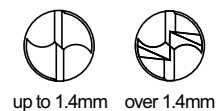
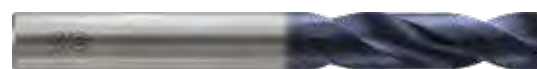
CDRA03 SERIES

HSS-PM, MULTI-1 DRILLS
粉末高速钢, MULTI-1钻头

STUB 超短

- ▶ **Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRc30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.
- ▶ **Advantage** : Point shape to maximize self-centering. Flute design for the best chip evacuation. Premium powder materials with excellent toughness.

- ▶ **应用** : 适用于结构钢, 碳素钢, 合金钢, 预硬化钢, 模具钢, 不锈钢, 淬火钢(HRc30~45), 铸铁, 铝合金, 非铁金属合金
- ▶ **优点** : 钻顶的形状使产品具有极佳的自定心能力。沟槽的设计使产品的排屑性能更高。使用粉末高速钢制作使产品具有更优良的韧性。



HSS PM 30° h6 h7 118° 135° p. A188

up to 1.9mm over 1.9mm

Plain Shank Page ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
CDRA03010	1.00	3	6	38
CDRA03910	1.05	3	6	38
CDRA03011	1.10	3	7	39
CDRA03911	1.15	3	7	39
CDRA03012	1.20	3	8	40
CDRA03912	1.25	3	8	40
CDRA03013	1.30	3	8	40
CDRA03913	1.35	3	9	41
CDRA03014	1.40	3	9	41
CDRA03914	1.45	3	9	41
CDRA03015	1.50	3	9	41
CDRA03915	1.55	3	10	42
CDRA03016	1.60	3	10	42
CDRA03916	1.65	3	10	42
CDRA03017	1.70	3	10	42
CDRA03917	1.75	3	11	43
CDRA03018	1.80	3	11	43
CDRA03918	1.85	3	11	43
CDRA03019	1.90	3	11	43
CDRA03919	1.95	3	12	44
CDRA03020	2.00	3	12	44
CDRA03920	2.05	3	12	44
CDRA03021	2.10	3	12	44
CDRA03921	2.15	3	13	45

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
CDRA03022	2.20	3	13	45
CDRA03922	2.25	3	13	45
CDRA03023	2.30	3	13	45
CDRA03923	2.35	3	13	45
CDRA03024	2.40	3	14	46
CDRA03924	2.45	3	14	46
CDRA03025	2.50	3	14	46
CDRA03925	2.55	3	14	46
CDRA03026	2.60	3	14	46
CDRA03926	2.65	3	14	46
CDRA03027	2.70	3	16	48
CDRA03927	2.75	3	16	48
CDRA03028	2.80	3	16	48
CDRA03928	2.85	3	16	48
CDRA03029	2.90	3	16	48
CDRA03929	2.95	3	16	48
CDRA03030	3.00	3	16	48
CDRA03930	3.05	4	18	50
CDRA03031	3.10	4	18	50
CDRA03931	3.15	4	18	50
CDRA03032	3.20	4	18	50
CDRA03932	3.25	4	18	50
CDRA03033	3.30	4	18	50
CDRA03933	3.35	4	18	50

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	23
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○			◎	○				○		◎	○						

ISO Material Description	N									S						H					
	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320			550	630	400	550
Recommended	◎	◎	○	○												○					

YG MULTI-1 DRILLS

CDRA03 SERIES

HSS-PM, MULTI-1 DRILLS

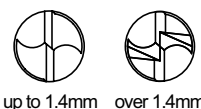
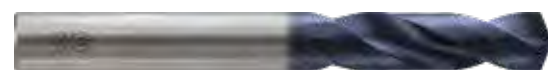
粉末高速钢，MULTI-1钻头

STUB

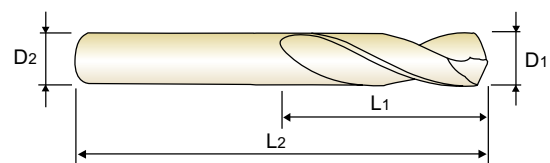
超短

- ▶ **Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRC30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.
- ▶ **Advantage** : Point shape to maximize self-centering. Flute design for the best chip evacuation. Premium powder materials with excellent toughness.

- ▶ **应用** : 适用于结构钢, 碳素钢, 合金钢, 预硬化钢, 模具钢, 不锈钢, 淬火钢(HRC30~45), 铸铁, 铝合金, 非铁金属合金
- ▶ **优点** : 钻顶的形状使产品具有极佳的自定心能力。沟槽的设计使产品的排屑性能更高。使用粉末高速钢制作使产品具有更优良的韧性。



up to 1.4mm over 1.4mm



HSS PM
30°
h6
h7
118°
135°
p. A188

Plain Shank Page
Recommended ToolHolder ER COLLET CHUCK D73 - 115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
CDRA03034	3.40	4	20	52
CDRA03934	3.45	4	20	52
CDRA03035	3.50	4	20	52
CDRA03935	3.55	4	20	52
CDRA03036	3.60	4	20	52
CDRA03936	3.65	4	20	52
CDRA03037	3.70	4	20	52
CDRA03937	3.75	4	20	52
CDRA03038	3.80	4	22	54
CDRA03938	3.85	4	22	54
CDRA03039	3.90	4	22	54
CDRA03939	3.95	4	22	54
CDRA03040	4.00	4	22	54
CDRA03940	4.05	6	22	66
CDRA03041	4.10	6	22	66
CDRA03941	4.15	6	22	66
CDRA03042	4.20	6	22	66
CDRA03942	4.25	6	22	66
CDRA03043	4.30	6	24	68
CDRA03943	4.35	6	24	68
CDRA03044	4.40	6	24	68
CDRA03944	4.45	6	24	68
CDRA03045	4.50	6	24	68
CDRA03945	4.55	6	24	68

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
CDRA03046	4.60	6	24	68
CDRA03946	4.65	6	24	68
CDRA03047	4.70	6	24	68
CDRA03947	4.75	6	24	68
CDRA03048	4.80	6	26	70
CDRA03948	4.85	6	26	70
CDRA03049	4.90	6	26	70
CDRA03949	4.95	6	26	70
CDRA03050	5.00	6	26	70
CDRA03950	5.05	6	26	70
CDRA03051	5.10	6	26	70
CDRA03951	5.15	6	26	70
CDRA03052	5.20	6	26	70
CDRA03952	5.25	6	26	70
CDRA03053	5.30	6	26	70
CDRA03953	5.35	6	28	72
CDRA03054	5.40	6	28	72
CDRA03954	5.45	6	28	72
CDRA03055	5.50	6	28	72
CDRA03955	5.55	6	28	72
CDRA03056	5.60	6	28	72
CDRA03956	5.65	6	28	72
CDRA03057	5.70	6	28	72
CDRA03957	5.75	6	28	72

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	19	21
HRC	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34	40	41	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG MULTI-1 DRILLS

CDRA03 SERIES

HSS-PM, MULTI-1 DRILLS

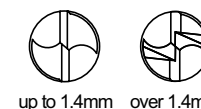
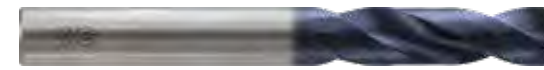
粉末高速钢，MULTI-1钻头

STUB

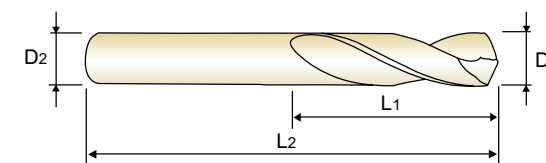
超短

- ▶ **Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRC30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.
- ▶ **Advantage** : Point shape to maximize self-centering. Flute design for the best chip evacuation. Premium powder materials with excellent toughness.

- ▶ **应用** : 适用于结构钢, 碳素钢, 合金钢, 预硬化钢, 模具钢, 不锈钢, 淬火钢(HRC30~45), 铸铁, 铝合金, 非铁金属合金
- ▶ **优点** : 钻顶的形状使产品具有极佳的自定心能力。沟槽的设计使产品的排屑性能更高。使用粉末高速钢制作使产品具有更优良的韧性。



up to 1.4mm over 1.4mm



HSS PM
30°
h6
h7
118°
135°
p. A188

Plain Shank Page
Recommended ToolHolder ER COLLET CHUCK D73 - 115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
CDRA03058	5.80	6	28	72
CDRA03958	5.85	6	28	72
CDRA03059	5.90	6	28	72
CDRA03959	5.95	6	28	72
CDRA03060	6.00	6	28	72
CDRA03061	6.10	8	31	75
CDRA03062	6.20	8	31	75
CDRA03063	6.30	8	31	75
CDRA03064	6.40	8	31	75
CDRA03065	6.50	8	31	75
CDRA03066	6.60	8	31	75
CDRA03067	6.70	8	31	75
CDRA03068	6.80	8	34	78
CDRA03069	6.90	8	34	78
CDRA03070	7.00	8	34	78
CDRA03071	7.10	8	34	78
CDRA03072	7.20	8	34	78
CDRA03073	7.30	8	34	78
CDRA03074	7.40	8	34	78
CDRA03075	7.50	8	34	78
CDRA03076	7.60	8	37	81
CDRA03077	7.70	8	37	81
CDRA03078	7.80	8	37	81
CDRA03079	7.90	8	37	81

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
CDRA03080	8.00	8	37	81
CDRA03081	8.10	10	37	87
CDRA03082	8.20	10	37	87
CDRA03083	8.30	10	37	87
CDRA03084	8.40	10	37	87
CDRA03085	8.50	10	37	87
CDRA03086	8.60	10	40	90
CDRA03087	8.70	10	40	90
CDRA03088	8.80	10	40	90
CDRA03089	8.90	10	40	90
CDRA03090	9.00	10	40	90
CDRA03091	9.10	10	40	90
CDRA03092	9.20	10	40	90
CDRA03093	9.30	10	40	90
CDRA03094	9.40	10	40	90
CDRA03095	9.50	10	40	90
CDRA03096	9.60	10	43	93
CDRA03097	9.70	10	43	93
CDRA03098	9.80	10	43	93
CDRA03099	9.90	10	43	93
CDRA03100	10.00	10	43	93
CDRA03101	10.10	12	43	100
CDRA03102	10.20	12	43	100
CDRA03103	10.30	12	43	100

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	19	21
HRC	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34	40	41	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

TIG MULTI-1 DRILLS

CDRA03 SERIES

HSS-PM, MULTI-1 DRILLS

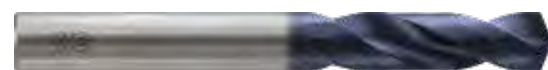
粉末高速钢, MULTI-1钻头

STUB

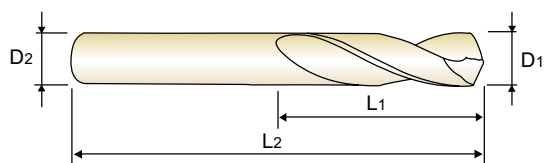
超短

- ▶ **Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRC30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.
- ▶ **Advantage** : Point shape to maximize self-centering. Flute design for the best chip evacuation. Premium powder materials with excellent toughness.

- ▶ **应用** : 适用于结构钢, 碳素钢, 合金钢, 预硬化钢, 模具钢, 不锈钢, 淬火钢(HRC30~45), 铸铁, 铝合金, 非铁金属合金
- ▶ **优点** : 钻顶的形状使产品具有极佳的自定心能力。沟槽的设计使产品的排屑性能更高。使用粉末高速钢制作使产品具有更优良的韧性。



up to 1.4mm over 1.4mm



up to 1.9mm over 1.9mm



EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
CDRA03104	10.40	12	43	100
CDRA03105	10.50	12	43	100
CDRA03106	10.60	12	43	100
CDRA03107	10.70	12	47	104
CDRA03108	10.80	12	47	104
CDRA03109	10.90	12	47	104
CDRA03110	11.00	12	47	104
CDRA03111	11.10	12	47	104
CDRA03112	11.20	12	47	104
CDRA03113	11.30	12	47	104
CDRA03114	11.40	12	47	104
CDRA03115	11.50	12	47	104
CDRA03116	11.60	12	47	104
CDRA03117	11.70	12	47	104

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
CDRA03118	11.80	12	47	104
CDRA03119	11.90	12	51	108
CDRA03120	12.00	12	51	108
CDRA03121	12.10	12	51	108
CDRA03122	12.20	12	51	108
CDRA03123	12.30	12	51	108
CDRA03124	12.40	12	51	108
CDRA03125	12.50	12	51	108
CDRA03126	12.60	12	51	108
CDRA03127	12.70	12	51	108
CDRA03128	12.80	12	51	108
CDRA03129	12.90	12	51	108
CDRA03130	13.00	12	51	108

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	180	29	32	38	15	35	15	23	10	10	26	3	25	19	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	◎	○	○	○	○	○	○	○	○

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

TIG MULTI-1 DRILLS

CDRA04 SERIES

HSS-PM, MULTI-1 DRILLS

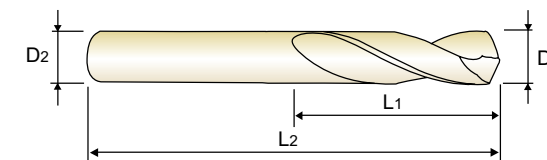
粉末高速钢, MULTI-1钻头

JOBBER

细长

- ▶ **Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRC30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.
- ▶ **Advantage** : Point shape to maximize self-centering. Flute design for the best chip evacuation. Premium powder materials with excellent toughness.

- ▶ **应用** : 适用于结构钢, 碳素钢, 合金钢, 预硬化钢, 模具钢, 不锈钢, 淬火钢(HRC30~45), 铸铁, 铝合金, 非铁金属合金
- ▶ **优点** : 钻顶的形状使产品具有极佳的自定心能力。沟槽的设计使产品的排屑性能更高。使用粉末高速钢制作使产品具有更优良的韧性。



p. A188



EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
CDRA04020	2.0	3	24	56
CDRA04021	2.1	3	24	56
CDRA04022	2.2	3	25	56
CDRA04023	2.3	3	25	56
CDRA04024	2.4	3	30	61
CDRA04025	2.5	3	30	61
CDRA04026	2.6	3	30	61
CDRA04027	2.7	3	33	64
CDRA04028	2.8	3	33	64
CDRA04029	2.9	3	33	64
CDRA04030	3.0	3	33	64
CDRA04031	3.1	4	36	68
CDRA04032	3.2	4	36	68
CDRA04033	3.3	4	36	68
CDRA04034	3.4	4	39	71
CDRA04035	3.5	4	39	71
CDRA04036	3.6	4	39	71
CDRA04037	3.7	4	39	71
CDRA04038	3.8	4	43	75
CDRA04039	3.9	4	43	75
CDRA04040	4.0	4	43	75
CDRA04041	4.1	6	43	85
CDRA04042	4.2	6	43	85
CDRA04043	4.3	6	47	89

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
CDRA04044	4.4	6	47	89
CDRA04045	4.5	6	47	89
CDRA04046	4.6	6	47	89
CDRA04047	4.7	6	47	89
CDRA04048	4.8	6	52	94
CDRA04049	4.9	6	52	94
CDRA04050	5.0	6	52	94
CDRA04051	5.1	6	52	94
CDRA04052	5.2	6	52	94
CDRA04053	5.3	6	52	94
CDRA04054	5.4	6	57	99
CDRA04055	5.5	6	57	99
CDRA04056	5.6	6	57	99
CDRA04057	5.7	6	57	99
CDRA04058	5.8	6	57	99
CDRA04059	5.9	6	57	99
CDRA04060	6.0	6	57	99
CDRA04061	6.1	8	63	107
CDRA04062	6.2	8	63	107
CDRA04063	6.3	8	63	107
CDRA04064	6.4	8	63	107
CDRA04065	6.5	8	63	107
CDRA04066	6.6	8	63	107
CDRA04067	6.7	8	63	107

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	180	29	32	38	15	35	15	23	10	10	26	3	25	19	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	◎	○	○	○	○	○	○	○	○

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

TECHNICAL DATA

TIG MULTI-1 DRILLS

CDRA04 SERIES

HSS-PM, MULTI-1 DRILLS

粉末高速钢, MULTI-1钻头

JOBBER

细长

- ▶ **Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRC30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.
- ▶ **Advantage** : Point shape to maximize self-centering. Flute design for the best chip evacuation. Premium powder materials with excellent toughness.

- ▶ **应用** : 适用于结构钢, 碳素钢, 合金钢, 预硬化钢, 模具钢, 不锈钢, 淬火钢(HRC30~45), 铸铁, 铝合金, 非铁金属合金
- ▶ **优点** : 钻顶的形状使产品具有极佳的自定心能力。沟槽的设计使产品的排屑性能更高。使用粉末高速钢制作使产品具有更优良的韧性。



HSS PM 30° h6 h7 135° p. A188

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
CDRA04068	6.8	8	69	113
CDRA04069	6.9	8	69	113
CDRA04070	7.0	8	69	113
CDRA04071	7.1	8	69	113
CDRA04072	7.2	8	69	113
CDRA04073	7.3	8	69	113
CDRA04074	7.4	8	69	113
CDRA04075	7.5	8	69	113
CDRA04076	7.6	8	75	119
CDRA04077	7.7	8	75	119
CDRA04078	7.8	8	75	119
CDRA04079	7.9	8	75	119
CDRA04080	8.0	8	75	119
CDRA04081	8.1	10	75	125
CDRA04082	8.2	10	75	125
CDRA04083	8.3	10	75	125
CDRA04084	8.4	10	75	125
CDRA04085	8.5	10	75	125
CDRA04086	8.6	10	81	131
CDRA04087	8.7	10	81	131
CDRA04088	8.8	10	81	131
CDRA04089	8.9	10	81	131
CDRA04090	9.0	10	81	131
CDRA04091	9.1	10	81	131

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○			◎	○				○			◎	○					

A188

TIG MULTI-1 DRILLS

CDRA04 SERIES

HSS-PM, MULTI-1 DRILLS

粉末高速钢, MULTI-1钻头

JOBBER

细长

- ▶ **Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRC30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.
- ▶ **Advantage** : Point shape to maximize self-centering. Flute design for the best chip evacuation. Premium powder materials with excellent toughness.

- ▶ **应用** : 适用于结构钢, 碳素钢, 合金钢, 预硬化钢, 模具钢, 不锈钢, 淬火钢(HRC30~45), 铸铁, 铝合金, 非铁金属合金
- ▶ **优点** : 钻顶的形状使产品具有极佳的自定心能力。沟槽的设计使产品的排屑性能更高。使用粉末高速钢制作使产品具有更优良的韧性。



HSS PM 30° h6 h7 135° p. A188

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73 - 115

Unit(单位) : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
型号	刃径	柄径	槽长	全长
TiAIN	D1	D2	L1	L2
CDRA04116	11.6	12	94	151
CDRA04117	11.7	12	94	151
CDRA04118	11.8	12	94	151
CDRA04119	11.9	12	101	158
CDRA04120	12.0	12	101	158
CDRA04121	12.1	12	101	158
CDRA04122	12.2	12	101	158
CDRA04123	12.3	12	101	158

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○			◎	○				○			◎	○					

A187

MULTI-1 DRILLS

RECOMMENDED CUTTING CONDITIONS

推荐加工条件

CDRA03, CDRA04 SERIES

MULTI-1 DRILLS MULTI-1 钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter (mm)		Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter (mm)			
					1.0				2.0	3.0	4.0	5.0
P	1	Non-alloy steel	30	RPM	9550	40	RPM	6370	4240	3180	2550	
				FEED	0.01~0.03		FEED	0.03~0.06	0.08~0.12	0.09~0.15	0.12~0.18	
				RPM	8910		RPM	5570	3710	2790	2230	
	2	Non-alloy steel	28	RPM	8910	35	RPM	5570	3710	2790	2230	
				FEED	0.01~0.03		FEED	0.03~0.06	0.08~0.12	0.09~0.15	0.12~0.18	
				RPM	8910		RPM	5570	3710	2790	2230	
	3	Non-alloy steel	28	RPM	8910	35	RPM	5570	3710	2790	2230	
				FEED	0.01~0.03		FEED	0.03~0.06	0.08~0.12	0.09~0.15	0.12~0.18	
				RPM	8910		RPM	5570	3710	2790	2230	
6	Low alloy steel	28	RPM	8910	35	RPM	5570	3710	2790	2230		
			FEED	0.01~0.03		FEED	0.03~0.06	0.08~0.12	0.09~0.15	0.12~0.18		
			RPM	7320		RPM	4770	3180	2390	1910		
7	Low alloy steel	23	RPM	7320	30	RPM	4770	3180	2390	1910		
			FEED	0.01~0.03		FEED	0.03~0.05	0.06~0.10	0.07~0.13	0.10~0.16		
			RPM	6370		RPM	3980	2650	1990	1590		
8	Low alloy steel	20	RPM	6370	25	RPM	3980	2650	1990	1590		
			FEED	0.01-0.02		FEED	0.02-0.05	0.03-0.07	0.04-0.10	0.06-0.12		
			RPM	4770		RPM	3180	2120	1590	1270		
9	Low alloy steel	15	RPM	4770	20	RPM	3180	2120	1590	1270		
			FEED	0.01-0.02		FEED	0.02-0.05	0.03-0.07	0.04-0.10	0.06-0.12		
			RPM	4770		RPM	3180	2120	1590	1270		
M	12	Stainless steel	15	RPM	4770	20	RPM	3180	2120	1590	1270	
				FEED	0.01~0.03		FEED	0.03-0.07	0.05-0.09	0.06-0.12	0.09-0.15	
14	Stainless steel	13	RPM	4140	15	RPM	2390	1590	1190	950		
			FEED	0.01-0.02		FEED	0.02-0.05	0.03-0.07	0.04-0.10	0.06-0.12		
K	15	Grey cast iron	30	RPM	9550	40	RPM	6370	4240	3180	2550	
				FEED	0.02~0.04		FEED	0.04~0.10	0.07~0.13	0.09~0.15	0.12~0.18	
N	21	Aluminum-wrought alloy	68	RPM	21650	90	RPM	14320	9550	7160	5730	
				FEED	0.09~0.13		FEED	0.13~0.17	0.23~0.27	0.27~0.33	0.33~0.39	
	22	Aluminum-wrought alloy	68	RPM	21650	90	RPM	14320	9550	7160	5730	
				FEED	0.09~0.13		FEED	0.13~0.17	0.23~0.27	0.27~0.33	0.33~0.39	
23	Aluminum-cast, alloyed	60	RPM	19100	80	RPM	12730	8490	6370	5090		
			FEED	0.09~0.13		FEED	0.13~0.17	0.23~0.27	0.27~0.33	0.33~0.39		
24	Aluminum-cast, alloyed	55	RPM	17510	70	RPM	11140	7430	5570	4460		
			FEED	0.06~0.10		FEED	0.10~0.14	0.15~0.19	0.20~0.26	0.24~0.30		
S	36	Titanium Alloys	5	RPM	1590	5	RPM	800	530	400	320	
				FEED	0.01~0.02		FEED	0.02~0.05	0.03~0.07	0.04~0.08	0.06~0.12	

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter (mm)				
					6.0	8.0	10.0	12.0	13.0
P	1	Non-alloy steel	40	RPM	2120	1590	1270	1060	980
				FEED	0.14~0.20	0.18~0.24	0.18~0.28	0.20~0.30	0.20~0.30
				RPM	1860	1390	1110	930	860
	2	Non-alloy steel	35	RPM	1860	1390	1110	930	860
				FEED	0.14~0.20	0.18~0.24	0.18~0.28	0.20~0.30	0.20~0.30
				RPM	1860	1390	1110	930	860
	3	Non-alloy steel	35	RPM	1860	1390	1110	930	860
				FEED	0.14~0.20	0.18~0.24	0.18~0.28	0.20~0.30	0.20~0.30
				RPM	1860	1390	1110	930	860
6	Low alloy steel	35	RPM	1860	1390	1110	930	860	
			FEED	0.14~0.20	0.18~0.24	0.18~0.28	0.20~0.30	0.20~0.30	
			RPM	1590	1190	950	800	730	
7	Low alloy steel	30	RPM	1590	1190	950	800	730	
			FEED	0.12~0.18	0.14~0.20	0.14~0.24	0.16~0.26	0.16~0.26	
			RPM	1330	990	800	660	610	
8	Low alloy steel	25	RPM	1330	990	800	660	610	
			FEED	0.07-0.13	0.10-0.20	0.12-0.22	0.14~0.24	0.14~0.24	
			RPM	1060	800	640	530	490	
9	Low alloy steel	20	RPM	1060	800	640	530	490	
			FEED	0.07-0.13	0.10-0.20	0.12-0.22	0.14~0.24	0.14~0.24	
			RPM	1060	800	640	530	490	
M	12	Stainless steel	20	RPM	1060	800	640	530	490
				FEED	0.12-0.18	0.18-0.24	0.20-0.30	0.26-0.36	0.26-0.36
14	Stainless steel	15	RPM	800	600	480	400	370	
			FEED	0.07-0.13	0.10-0.20	0.12-0.22	0.14~0.24	0.14~0.24	
K	15	Grey cast iron	40	RPM	2120	1590	1270	1060	980
				FEED	0.13~0.19	0.18~0.24	0.20~0.30	0.22~0.32	0.22~0.32
N	21	Aluminum-wrought alloy	90	RPM	4770	3580	2860	2390	2200
				FEED	0.40~0.46	0.45~0.51	0.51~0.61	0.63~0.73	0.63~0.73
	22	Aluminum-wrought alloy	90	RPM	4770	3580	2860	2390	2200
				FEED	0.40~0.46	0.45~0.51	0.51~0.61	0.63~0.73	0.63~0.73
23	Aluminum-cast, alloyed	80	RPM	4240	3180	2550	2120	1960	
			FEED	0.40~0.46	0.45~0.51	0.51~0.61	0.63~0.73	0.63~0.73	
24	Aluminum-cast, alloyed	70	RPM	3710	2790	2230	1860	1710	
			FEED	0.28~0.34	0.30~0.36	0.34~0.44	0.36~0.46	0.36~0.46	
S	36	Titanium Alloys	5	RPM	270	200	160	130	120
				FEED	0.07~0.13	0.09~0.15	0.12~0.22	0.14~0.24	0.14~0.24



Leading Through Innovation



HSS & HSSCo8

GOLD-P DRILLS

- Same Performance as Full TiN-coated Drills
- 与整个TiN涂层钻头相同的性能

SELECTION GUIDE
选用指南



SERIES 系列
STANDARD 标准
LENGTH 长度
SIZE MIN 最小尺寸
SIZE MAX 最大尺寸
PAGE 页数

	D1GP103	D1GP123
JIS	JIS	JIS
REGULAR 细长	REGULAR 细长	REGULAR 细长
D1.0	D1.0	D1.0
D13.0	D13.0	D13.0
A192	A192	A195

SURFACE TREATMENT 表面处理

TiN

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GOLD-P DRILLS

Same Performance as Full TiN-coated Drills
与整个TiN涂层钻头相同的性能



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for material search 查看产品材料
©: Excellent (优秀) ○: Good (良好)
(Recommended cutting conditions (推荐加工条件): p. A202)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure 成分 / 组织	Heat Treatment 热处理	HB 布氏硬度	HRC 硬度			
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	
	2		About 0.45% C	Annealed	190	13	◎	◎	
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	
	4		About 0.75% C	Annealed	270	28	○	○	
	5		About 0.75% C	Quenched & Tempered	300	32	○	○	
	6	Low alloy steel		Annealed	180	10	◎	◎	
	7			Quenched & Tempered	275	29	○	○	
	8			Quenched & Tempered	300	32	○	○	
	9			Quenched & Tempered	350	38	○	○	
	10		High alloyed steel, and tool steel		Annealed	200	15	○	○
	11			Quenched & Tempered	325	35	○	○	
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	◎	◎	
	13		Martensitic	Quenched & Tempered	240	23	○	○	
	14		Austenitic		180	10	○	○	
K	15	Grey cast iron	Pearlitic / ferritic		180	10	○	○	
	16		Pearlitic (Martensitic)		260	26	○	○	
	17	Nodular cast iron	Ferritic		160	3	○	○	
	18		Pearlitic		250	25	○	○	
	19		Ferritic		130		○	○	
20	Malleable cast iron	Pearlitic		230	21	○	○		
N	21	Aluminum-wrought alloy	Not Curable		60		○	○	
	22		Curable	Hardened	100		○	○	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		○	○	
	24		≤ 12% Si, Curable	Hardened	90				
	25		> 12% Si, Not Curable		130				
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110			
	27	Non Metallic Materials	CuZn, CuSnZn (Brass)		90				
	28		CuSn, lead-free copper and electrolytic copper		100				
	29		Duroplastic, Fiber Reinforced Plastic					○	○
	30	Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33			Annealed	250	25			
	34			Ni or Co Based	Cured	350	38		
	35			Cast	320	34			
	36	Titanium Alloys	Pure Titanium		400 Rm		○	○	
37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel		Hardened	550	55			
	39			Hardened	630	60			
	40		Chilled Cast Iron	Cast	400	42			
	41		Hardened Cast Iron	Hardened	550	55			

D2GP191

JIS
REGULAR
细长
D1.0
D13.0
A198

TiN



◎	1
◎	2
◎	3
○	4
○	5
◎	6 P
○	7
○	8
○	9
○	10
○	11
◎	12
○	13 M
○	14
○	15
○	16
○	17 K
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○	34 S
○	35
○	36
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○	38
○	39
○	40 H
○	41

GOLD-P DRILL SETS

SET EDP No. SET号	D1GP103SET1	D1GP103SET2	D2GP191SET1	D2GP191SET2
SIZE 尺寸	1.0-10.0x0.5mm step	1.0-13.0x0.5mm step	1.0-10.0x0.5mm step	1.0-13.0x0.5mm step
Q'TY 数量	19 pcs	25 pcs	19 pcs	25 pcs

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

TECHNICAL DATA

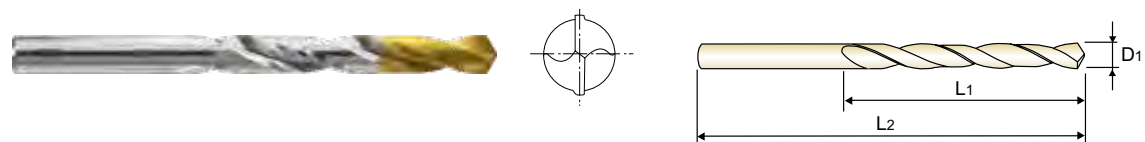
HSS, STRAIGHT SHANK DRILLS GOLD-P COATED HSS, 直柄GOLD-P涂层钻头

REGULAR

细长

- ▶ **Flute Geometry** : Right hand helix
- ▶ **Point Angle** : 118°, Normal point
- ▶ **Surface Treatment** : TiN-tip coating
- ▶ **Application** : Drilling in Steels, Cast Steels Alloyed and Non-Alloyed, Stainless Steels, Aluminum and Titanium

- ▶ **刃形** : 右螺旋形设计
- ▶ **钻顶角** : 118°, 一般钻顶
- ▶ **表面处理** : 光亮体但在实际作业的前端处使用TiN涂层。
- ▶ **应用** : 适用于钢, 铸铁合金和非合金, 灰铸铁, 不锈钢, 铝和钛



JIS HSS 20~30° h8 118° p. A202

Plain Shank Page
Recommended Toolholder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长	型号	刃径	槽长	全长
	D1	L1	L2		D1	L1	L2
D1GP103010	1.0	18	40	D1GP103036	3.6	48	76
D1GP103011	1.1	20	42	D1GP103037	3.7	48	76
D1GP103012	1.2	20	42	D1GP103038	3.8	48	76
D1GP103013	1.3	22	45	D1GP103039	3.9	51	79
D1GP103014	1.4	23	48	D1GP103040	4.0	54	83
D1GP103015	1.5	23	48	D1GP103041	4.1	54	83
D1GP103016	1.6	25	50	D1GP103042	4.2	54	83
D1GP103017	1.7	25	50	D1GP103043	4.3	54	83
D1GP103018	1.8	28	52	D1GP103044	4.4	56	86
D1GP103019	1.9	28	52	D1GP103045	4.5	56	86
D1GP103020	2.0	29	55	D1GP103046	4.6	56	86
D1GP103021	2.1	29	55	D1GP103047	4.7	59	89
D1GP103022	2.2	33	58	D1GP103048	4.8	59	89
D1GP103023	2.3	33	58	D1GP103049	4.9	62	92
D1GP103024	2.4	35	61	D1GP103050	5.0	62	92
D1GP103025	2.5	35	61	D1GP103051	5.1	62	92
D1GP103026	2.6	37	64	D1GP103052	5.2	64	95
D1GP103027	2.7	37	64	D1GP103053	5.3	64	95
D1GP103028	2.8	39	67	D1GP103054	5.4	64	95
D1GP103029	2.9	42	71	D1GP103055	5.5	64	95
D1GP103030	3.0	42	71	D1GP103056	5.6	67	98
D1GP103031	3.1	42	71	D1GP103057	5.7	67	98
D1GP103032	3.2	42	71	D1GP103058	5.8	67	98
D1GP103033	3.3	45	73	D1GP103059	5.9	67	98
D1GP103034	3.4	45	73	D1GP103060	6.0	70	102
D1GP103035	3.5	45	73	D1GP103061	6.1	70	102

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel					Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

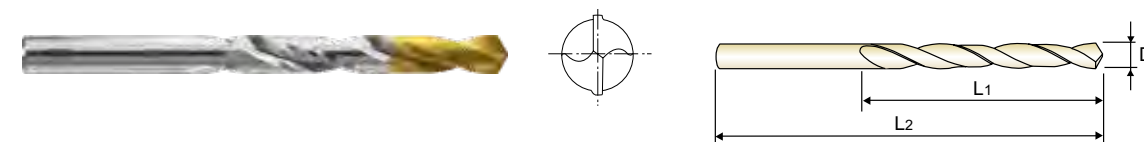
HSS, STRAIGHT SHANK DRILLS GOLD-P COATED HSS, 直柄GOLD-P涂层钻头

REGULAR

细长

- ▶ **Flute Geometry** : Right hand helix
- ▶ **Point Angle** : 118°, Normal point
- ▶ **Surface Treatment** : TiN-tip coating
- ▶ **Application** : Drilling in Steels, Cast Steels Alloyed and Non-Alloyed, Stainless Steels, Aluminum and Titanium

- ▶ **刃形** : 右螺旋形设计
- ▶ **钻顶角** : 118°, 一般钻顶
- ▶ **表面处理** : 光亮体但在实际作业的前端处使用TiN涂层。
- ▶ **应用** : 适用于钢, 铸铁合金和非合金, 灰铸铁, 不锈钢, 铝和钛



JIS HSS 20~30° h8 118° p. A202

Plain Shank Page
Recommended Toolholder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长	型号	刃径	槽长	全长
	D1	L1	L2		D1	L1	L2
D1GP103062	6.2	70	102	D1GP103088	8.8	89	124
D1GP103063	6.3	70	102	D1GP103089	8.9	89	124
D1GP103064	6.4	73	105	D1GP103090	9.0	89	124
D1GP103065	6.5	73	105	D1GP103091	9.1	89	124
D1GP103066	6.6	73	105	D1GP103092	9.2	92	127
D1GP103067	6.7	73	105	D1GP103093	9.3	92	127
D1GP103068	6.8	73	105	D1GP103094	9.4	92	127
D1GP103069	6.9	73	105	D1GP103095	9.5	92	127
D1GP103070	7.0	73	105	D1GP103096	9.6	95	130
D1GP103071	7.1	75	108	D1GP103097	9.7	95	130
D1GP103072	7.2	75	108	D1GP103098	9.8	95	130
D1GP103073	7.3	75	108	D1GP103099	9.9	95	130
D1GP103074	7.4	78	111	D1GP103100	10.0	95	130
D1GP103075	7.5	78	111	D1GP103101	10.1	98	133
D1GP103076	7.6	78	111	D1GP103102	10.2	98	133
D1GP103077	7.7	81	114	D1GP103103	10.3	98	133
D1GP103078	7.8	81	114	D1GP103104	10.4	98	133
D1GP103079	7.9	81	114	D1GP103105	10.5	100	137
D1GP103080	8.0	81	114	D1GP103106	10.6	100	137
D1GP103081	8.1	84	117	D1GP103107	10.7	100	137
D1GP103082	8.2	84	117	D1GP103108	10.8	103	140
D1GP103083	8.3	84	117	D1GP103109	10.9	103	140
D1GP103084	8.4	87	121	D1GP103110	11.0	103	140
D1GP103085	8.5	87	121	D1GP103111	11.1	103	140
D1GP103086	8.6	87	121	D1GP103112	11.2	106	143
D1GP103087	8.7	87	121	D1GP103113	11.3	106	143

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel					Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPERSHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

TECHNICAL DATA

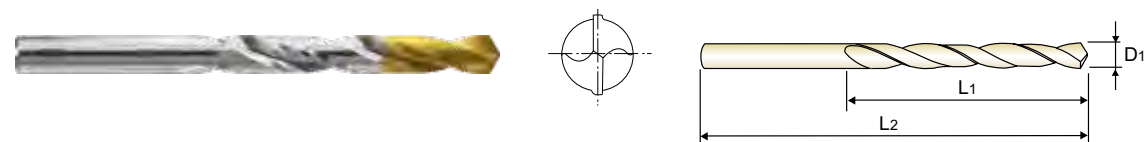
HSS, STRAIGHT SHANK DRILLS GOLD-P COATED
HSS, 直柄GOLD-P涂层钻头

REGULAR

细长

- ▶ **Flute Geometry** : Right hand helix
- ▶ **Point Angle** : 118°, Normal point
- ▶ **Surface Treatment** : TiN-tip coating
- ▶ **Application** : Drilling in Steels, Cast Steels Alloyed and Non-Alloyed, Stainless Steels, Aluminum and Titanium

- ▶ **刃形** : 右螺旋形设计
- ▶ **钻顶角** : 118°, 一般钻顶
- ▶ **表面处理** : 光亮体但在实际作业的前端处使用TiN涂层.
- ▶ **应用** : 适用于钢, 铸铁合金和非合金, 灰铸铁, 不锈钢, 铝和钛



JIS HSS 20~30° h8 118° p. A202

Plain Shank Page
 Recommended Toolholder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
D1GP103114	11.4	106	143
D1GP103115	11.5	106	143
D1GP103116	11.6	109	146
D1GP103117	11.7	109	146
D1GP103118	11.8	109	146
D1GP103119	11.9	109	146
D1GP103120	12.0	111	149
D1GP103121	12.1	111	149
D1GP103122	12.2	111	149

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
D1GP103123	12.3	111	149
D1GP103124	12.4	114	152
D1GP103125	12.5	114	152
D1GP103126	12.6	114	152
D1GP103127	12.7	114	152
D1GP103128	12.8	114	152
D1GP103129	12.9	114	152
D1GP103130	13.0	114	152

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

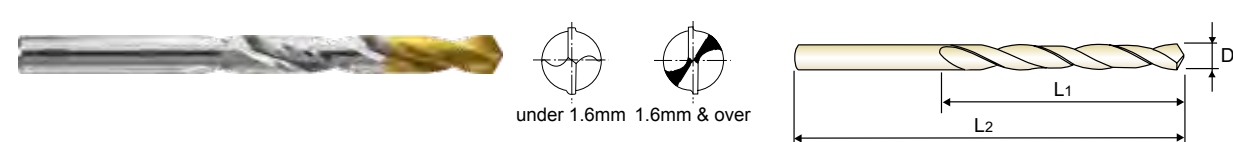
HSS, STRAIGHT SHANK DRILLS GOLD-P COATED
HSS, 直柄GOLD-P涂层钻头

REGULAR

细长

- ▶ **Flute Geometry** : Right hand helix
- ▶ **Point Angle** : 118°
- ▶ **Surface Treatment** : TiN-tip coating
- ▶ **Application** : Drilling in Steels, Cast Steels Alloyed and Non-Alloyed, Stainless Steels, Aluminum and Titanium

- ▶ **刃形** : 右螺旋形设计
- ▶ **钻顶角** : 118°
- ▶ **表面处理** : TiN-tip 涂层
- ▶ **应用** : 适用于钢, 铸铁合金和非合金, 灰铸铁, 不锈钢, 铝和钛



JIS HSS 20~30° h8 118° p. A202

Plain Shank Page
 Recommended Toolholder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
D1GP123010	1.0	18	40
D1GP123012	1.2	20	42
D1GP123013	1.3	22	45
D1GP123014	1.4	23	48
D1GP123015	1.5	23	48
D1GP123016	1.6	25	50
D1GP123017	1.7	25	50
D1GP123018	1.8	28	52
D1GP123019	1.9	28	52
D1GP123020	2.0	29	55
D1GP123021	2.1	29	55
D1GP123022	2.2	33	58
D1GP123023	2.3	33	58
D1GP123024	2.4	35	61
D1GP123025	2.5	35	61
D1GP123026	2.6	37	64
D1GP123027	2.7	37	64
D1GP123028	2.8	39	67
D1GP123029	2.9	42	71
D1GP123030	3.0	42	71
D1GP123031	3.1	42	71
D1GP123032	3.2	42	71
D1GP123033	3.3	45	73
D1GP123034	3.4	45	73
D1GP123035	3.5	45	73
D1GP123036	3.6	48	76

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
D1GP123037	3.7	48	76
D1GP123038	3.8	48	76
D1GP123039	3.9	51	79
D1GP123040	4.0	54	83
D1GP123041	4.1	54	83
D1GP123042	4.2	54	83
D1GP123043	4.3	54	83
D1GP123044	4.4	56	86
D1GP123045	4.5	56	86
D1GP123046	4.6	56	86
D1GP123047	4.7	59	89
D1GP123048	4.8	59	89
D1GP123049	4.9	62	92
D1GP123050	5.0	62	92
D1GP123051	5.1	62	92
D1GP123052	5.2	64	95
D1GP123053	5.3	64	95
D1GP123054	5.4	64	95
D1GP123055	5.5	64	95
D1GP123056	5.6	67	98
D1GP123057	5.7	67	98
D1GP123058	5.8	67	98
D1GP123059	5.9	67	98
D1GP123060	6.0	70	102
D1GP123061	6.1	70	102
D1GP123062	6.2	70	102

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

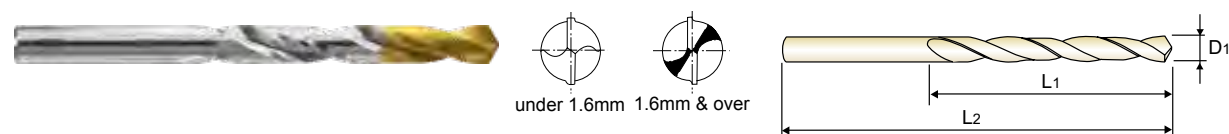
HSS, STRAIGHT SHANK DRILLS GOLD-P COATED
HSS, 直柄GOLD-P涂层钻头

REGULAR

细长

- ▶ **Flute Geometry** : Right hand helix
- ▶ **Point Angle** : 118°
Under 1.6mm : Normal point
1.6mm & over : Split point
- ▶ **Surface Treatment** : TiN-tip coating
- ▶ **Application** : Drilling in Steels, Cast Steels Alloyed and Non-Alloyed, Stainless Steels, Aluminum and Titanium

- ▶ **刃形** : 右螺旋形设计
- ▶ **钻顶角** : 118°
小于 1.6mm : 一般钻顶
大于 1.6mm : 分割点
- ▶ **表面处理** : TiN-tip 涂层
- ▶ **应用** : 适用于钢, 铸铁合金和非合金, 灰铸铁, 不锈钢, 铝和钛



JIS HSS 20~30° h8 118° p. A202

Plain Shank Page
 Recommended Toolholder ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
D1GP123063	6.3	70	102
D1GP123064	6.4	73	105
D1GP123065	6.5	73	105
D1GP123066	6.6	73	105
D1GP123067	6.7	73	105
D1GP123068	6.8	73	105
D1GP123069	6.9	73	105
D1GP123070	7.0	73	105
D1GP123071	7.1	75	108
D1GP123072	7.2	75	108
D1GP123073	7.3	75	108
D1GP123074	7.4	78	111
D1GP123075	7.5	78	111
D1GP123076	7.6	78	111
D1GP123077	7.7	81	114
D1GP123078	7.8	81	114
D1GP123079	7.9	81	114
D1GP123080	8.0	81	114
D1GP123081	8.1	84	117
D1GP123082	8.2	84	117
D1GP123083	8.3	84	117
D1GP123084	8.4	87	121
D1GP123085	8.5	87	121
D1GP123086	8.6	87	121
D1GP123087	8.7	87	121
D1GP123088	8.8	89	124

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
D1GP123089	8.9	89	124
D1GP123090	9.0	89	124
D1GP123091	9.1	89	124
D1GP123092	9.2	92	127
D1GP123093	9.3	92	127
D1GP123094	9.4	92	127
D1GP123095	9.5	92	127
D1GP123096	9.6	95	130
D1GP123097	9.7	95	130
D1GP123098	9.8	95	130
D1GP123099	9.9	95	130
D1GP123100	10.0	95	130
D1GP123101	10.1	98	133
D1GP123102	10.2	98	133
D1GP123103	10.3	98	133
D1GP123104	10.4	98	133
D1GP123105	10.5	100	137
D1GP123106	10.6	100	137
D1GP123107	10.7	100	137
D1GP123108	10.8	103	140
D1GP123109	10.9	103	140
D1GP123110	11.0	103	140
D1GP123111	11.1	103	140
D1GP123112	11.2	106	143
D1GP123113	11.3	106	143
D1GP123114	11.4	106	143

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

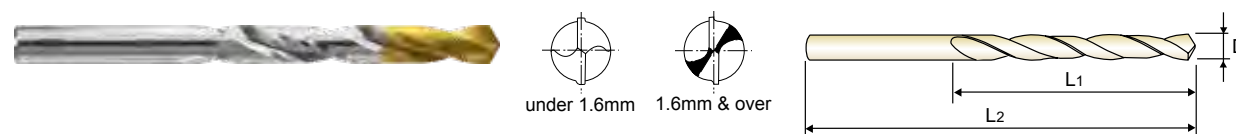
HSS, STRAIGHT SHANK DRILLS GOLD-P COATED
HSS, 直柄GOLD-P涂层钻头

REGULAR

细长

- ▶ **Flute Geometry** : Right hand helix
- ▶ **Point Angle** : 118°
Under 1.6mm : Normal point
1.6mm & over : Split point
- ▶ **Surface Treatment** : TiN-tip coating
- ▶ **Application** : Drilling in Steels, Cast Steels Alloyed and Non-Alloyed, Stainless Steels, Aluminum and Titanium

- ▶ **刃形** : 右螺旋形设计
- ▶ **钻顶角** : 118°
小于 1.6mm : 一般钻顶
大于 1.6mm : 分割点
- ▶ **表面处理** : TiN-tip 涂层
- ▶ **应用** : 适用于钢, 铸铁合金和非合金, 灰铸铁, 不锈钢, 铝和钛



JIS HSS 20~30° h8 118° p. A202

Plain Shank Page
 Recommended Toolholder ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
D1GP123115	11.5	106	143
D1GP123116	11.6	109	146
D1GP123117	11.7	109	146
D1GP123118	11.8	109	146
D1GP123119	11.9	109	146
D1GP123120	12.0	111	149
D1GP123121	12.1	111	149
D1GP123122	12.2	111	149

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
D1GP123123	12.3	111	149
D1GP123124	12.4	114	152
D1GP123125	12.5	114	152
D1GP123126	12.6	114	152
D1GP123127	12.7	114	152
D1GP123128	12.8	114	152
D1GP123129	12.9	114	152
D1GP123130	13.0	114	152

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPERSHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

TECHNICAL DATA

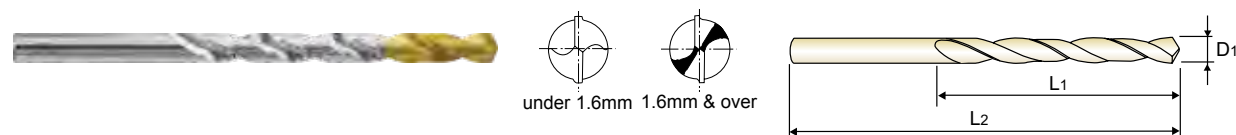
HSSCO8, STRAIGHT SHANK DRILLS, GOLD-P COATED
HSSCo8, 直柄GOLD-P涂层钻头

REGULAR

细长

- ▶ **Flute Geometry** : Right hand helix
- ▶ **Point Angle** : 135°
 under 1.6mm : Normal point
 1.6mm & over : Split point
- ▶ **Surface Treatment** : TiN-tip coating
- ▶ **Application** : Drilling in Stainless Steels, Material of difficult machinability such as Titanium Alloy and Inconel

- ▶ **刃形** : 右螺旋形设计
- ▶ **钻顶角** : 135°
 小于1.6mm: 一般钻顶
 大于1.6mm: 静点
- ▶ **表面处理** : 光亮体但在实际作业的前端处使用TiN涂层
- ▶ **应用** : 适用于不锈钢和类钛合金和镍铬合金等难加工材料的钻削。



JIS HSS Co8 33° h8 135° p. A202

Plain Shank Page
 Recommended Toolholder ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
	D1	L1	L2
D2GP191010	1.0	18	40
D2GP191011	1.1	20	42
D2GP191012	1.2	20	42
D2GP191013	1.3	22	45
D2GP191014	1.4	23	48
D2GP191015	1.5	23	48
D2GP191016	1.6	25	50
D2GP191017	1.7	25	50
D2GP191018	1.8	28	52
D2GP191019	1.9	28	52
D2GP191020	2.0	29	55
D2GP191021	2.1	29	55
D2GP191022	2.2	33	58
D2GP191023	2.3	33	58
D2GP191024	2.4	35	61
D2GP191025	2.5	35	61
D2GP191026	2.6	37	64
D2GP191027	2.7	37	64
D2GP191028	2.8	39	67
D2GP191029	2.9	42	71
D2GP191030	3.0	42	71
D2GP191031	3.1	42	71
D2GP191032	3.2	42	71
D2GP191033	3.3	45	73
D2GP191034	3.4	45	73
D2GP191035	3.5	45	73

Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
	D1	L1	L2
D2GP191036	3.6	48	76
D2GP191037	3.7	48	76
D2GP191038	3.8	48	76
D2GP191039	3.9	51	79
D2GP191040	4.0	54	83
D2GP191041	4.1	54	83
D2GP191042	4.2	54	83
D2GP191043	4.3	54	83
D2GP191044	4.4	56	86
D2GP191045	4.5	56	86
D2GP191046	4.6	56	86
D2GP191047	4.7	59	89
D2GP191048	4.8	59	89
D2GP191049	4.9	62	92
D2GP191050	5.0	62	92
D2GP191051	5.1	62	92
D2GP191052	5.2	64	95
D2GP191053	5.3	64	95
D2GP191054	5.4	64	95
D2GP191055	5.5	64	95
D2GP191056	5.6	67	98
D2GP191057	5.7	67	98
D2GP191058	5.8	67	98
D2GP191059	5.9	67	98
D2GP191060	6.0	70	102
D2GP191061	6.1	70	102

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

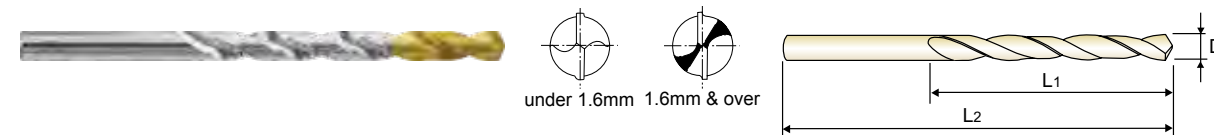
HSSCO8, STRAIGHT SHANK DRILLS, GOLD-P COATED
HSSCo8, 直柄GOLD-P涂层钻头

REGULAR

细长

- ▶ **Flute Geometry** : Right hand helix
- ▶ **Point Angle** : 135°
 under 1.6mm : Normal point
 1.6mm & over : Split point
- ▶ **Surface Treatment** : TiN-tip coating
- ▶ **Application** : Drilling in Stainless Steels, Material of difficult machinability such as Titanium Alloy and Inconel

- ▶ **刃形** : 右螺旋形设计
- ▶ **钻顶角** : 135°
 小于1.6mm: 一般钻顶
 大于1.6mm: 静点
- ▶ **表面处理** : 光亮体但在实际作业的前端处使用TiN涂层
- ▶ **应用** : 适用于不锈钢和类钛合金和镍铬合金等难加工材料的钻削。



JIS HSS Co8 33° h8 135° p. A202

Plain Shank Page
 Recommended Toolholder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
	D1	L1	L2
D2GP191062	6.2	70	102
D2GP191063	6.3	70	102
D2GP191064	6.4	73	105
D2GP191065	6.5	73	105
D2GP191066	6.6	73	105
D2GP191067	6.7	73	105
D2GP191068	6.8	73	105
D2GP191069	6.9	73	105
D2GP191070	7.0	73	105
D2GP191071	7.1	75	108
D2GP191072	7.2	75	108
D2GP191073	7.3	75	108
D2GP191074	7.4	78	111
D2GP191075	7.5	78	111
D2GP191076	7.6	78	111
D2GP191077	7.7	81	114
D2GP191078	7.8	81	114
D2GP191079	7.9	81	114
D2GP191080	8.0	81	114
D2GP191081	8.1	84	117
D2GP191082	8.2	84	117
D2GP191083	8.3	84	117
D2GP191084	8.4	87	121
D2GP191085	8.5	87	121
D2GP191086	8.6	87	121
D2GP191087	8.7	87	121

Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
	D1	L1	L2
D2GP191088	8.8	89	124
D2GP191089	8.9	89	124
D2GP191090	9.0	89	124
D2GP191091	9.1	89	124
D2GP191092	9.2	92	127
D2GP191093	9.3	92	127
D2GP191094	9.4	92	127
D2GP191095	9.5	92	127
D2GP191096	9.6	95	130
D2GP191097	9.7	95	130
D2GP191098	9.8	95	130
D2GP191099	9.9	95	130
D2GP191100	10.0	95	130
D2GP191101	10.1	98	133
D2GP191102	10.2	98	133
D2GP191103	10.3	98	133
D2GP191104	10.4	98	133
D2GP191105	10.5	100	137
D2GP191106	10.6	100	137
D2GP191107	10.7	100	137
D2GP191108	10.8	103	140
D2GP191109	10.9	103	140
D2GP191110	11.0	103	140
D2GP191111	11.1	103	140
D2GP191112	11.2	106	143
D2GP191113	11.3	106	143

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPERSHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

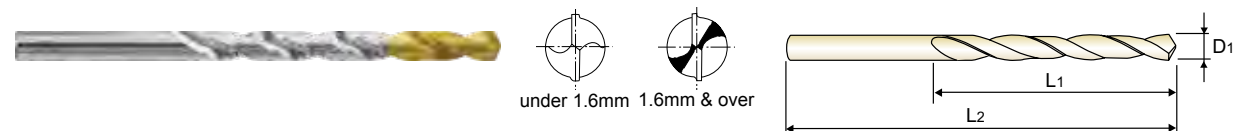
COUNTER BORES

TECHNICAL DATA

HSSCO8, STRAIGHT SHANK DRILLS, GOLD-P COATED *REGULAR*
HSSCo8, 直柄GOLD-P涂层钻头 细长

- ▶ **Flute Geometry** : Right hand helix
- ▶ **Point Angle** : 135°
 under 1.6mm : Normal point
 1.6mm & over : Split point
- ▶ **Surface Treatment** : TiN-tip coating
- ▶ **Application** : Drilling in Stainless Steels, Material of difficult machinability such as Titanium Alloy and Inconel

- ▶ 刃形: 右螺旋形设计
- ▶ 钻顶角: 135°
 小于1.6mm: 一般钻顶
 大于1.6mm: 静点
- ▶ 表面处理: 光亮体但在实际作业的前端处使用TiN涂层
- ▶ 应用: 适用于不锈钢和类钛合金和镍铬合金等难加工材料的钻削。



JIS HSS Co8 33° h8 135° p. A202

Plain Shank Page
 Recommended Toolholder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
D2GP191114	11.4	106	143
D2GP191115	11.5	106	143
D2GP191116	11.6	109	146
D2GP191117	11.7	109	146
D2GP191118	11.8	109	146
D2GP191119	11.9	109	146
D2GP191120	12.0	111	149
D2GP191121	12.1	111	149
D2GP191122	12.2	111	149

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
D2GP191123	12.3	111	149
D2GP191124	12.4	114	152
D2GP191125	12.5	114	152
D2GP191126	12.6	114	152
D2GP191127	12.7	114	152
D2GP191128	12.8	114	152
D2GP191129	12.9	114	152
D2GP191130	13.0	114	152

GOLD-P COATED DRILL SETS
成套GOLD-P涂层钻头



JIS DRILL SETS REGULAR LENGTH Gold-P coated Drills
JIS成套GOLD-P涂层钻头普通长度

SET EDP No.	DESCRIPTION	SIZE	Q'TY
SET号	规格	尺寸	数量
D1GP103SET1	HSS Straight Shank, Normal Point 高速钢直柄, 普通钻尖	1.0-10.0x0.5mm step	19 pcs
D1GP103SET2	HSS Straight Shank, Normal Point 高速钢直柄, 普通钻尖	1.0-13.0x0.5mm step	25 pcs
D2GP191SET1	HSSCo8 Straight Shank, Split Point (Ø1.0 & Ø1.5 : NORMAL point) 含钴高速钢直柄, 分离式钻尖(Ø1.0 & Ø1.5 : 普通钻尖)	1.0-10.0x0.5mm step	19 pcs
D2GP191SET2	HSSCo8 Straight Shank, Split Point (Ø1.0 & Ø1.5 : NORMAL point) 含钴高速钢直柄, 分离式钻尖(Ø1.0 & Ø1.5 : 普通钻尖)	1.0-13.0x0.5mm step	25 pcs

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					



D1GP103, D1GP123, D2GP191 SERIES

**HSS & HSSCo8 GOLD-P DRILLS
HSS & HSSCo8 GOLD-P 钻头**

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)		Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)						
					1.0	1.0			2.0	3.0	4.0	6.0	8.0	10.0	13.0
P	1	Non-alloy steel	28	RPM	8910	40	RPM	6370	4240	3180	2120	1590	1270	980	
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24	
				RPM	7960		RPM	5570	3710	2790	1860	1390	1110	860	
	2	Non-alloy steel	25	FEED	0.01-0.03	35	FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24	
				RPM	6370		RPM	4770	3180	2390	1590	1190	950	730	
	3	Non-alloy steel	20	FEED	0.01-0.03	30	FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24	
				RPM	4770		RPM	3180	2120	1590	1060	800	640	490	
	4	Non-alloy steel	15	FEED	0.01-0.02	20	FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18	
				RPM	7960		RPM	5570	3710	2790	1860	1390	1110	860	
	6	Low alloy steel	25	FEED	0.01-0.03	35	FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24	
RPM				6370	RPM		4770	3180	2390	1590	1190	950	730		
7	Low alloy steel	20	FEED	0.01-0.03	30	FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24		
			RPM	6370		RPM	4770	3180	2390	1590	1190	950	730		
8	Low alloy steel	20	FEED	0.01-0.02	30	FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18		
			RPM	4770		RPM	3180	2120	1590	1060	800	640	490		
10	High alloyed steel, and tool steel	15	FEED	0.01-0.03	20	FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24		
			RPM	5730		RPM	3980	2650	1990	1330	990	800	610		
M	12	Stainless steel	18	FEED	0.01-0.03	25	FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24	
				RPM	4770		RPM	3180	2120	1590	1060	800	640	490	
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24	
13	Stainless steel	15	RPM	3180	15	RPM	2390	1590	1190	800	600	480	370		
			FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18		
14	Stainless steel	10	RPM	8910	40	RPM	6370	4240	3180	2120	1590	1270	980		
			FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24		
15	Grey cast iron	28	RPM	7960	35	RPM	5570	3710	2790	1860	1390	1110	860		
			FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18		
16	Grey cast iron	25	RPM	8910	40	RPM	6370	4240	3180	2120	1590	1270	980		
			FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24		
17	Nodular cast iron	28	RPM	6370	30	RPM	4770	3180	2390	1590	1190	950	730		
			FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18		
18	Nodular cast iron	20	RPM	7960	35	RPM	5570	3710	2790	1860	1390	1110	860		
			FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24		
19	Malleable cast iron	25	RPM	6370	30	RPM	4770	3180	2390	1590	1190	950	730		
			FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18		
20	Malleable cast iron	20	RPM	14320	65	RPM	10350	6900	5170	3450	2590	2070	1590		
			FEED	0.02-0.05		FEED	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.22-0.28		
21	Aluminum- wrought alloy	45	RPM	14320	65	RPM	10350	6900	5170	3450	2590	2070	1590		
			FEED	0.02-0.05		FEED	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.22-0.28		
22	Aluminum- wrought alloy	45	RPM	11140	50	RPM	7960	5310	3980	2650	1990	1590	1220		
			FEED	0.02-0.05		FEED	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.22-0.28		
23	Aluminum-cast, alloyed	35	RPM	6370	30	RPM	4770	3180	2390	1590	1190	950	730		
			FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24		
29	Non Metallic Materials	20	RPM	4770	20	RPM	3180	2120	1590	1060	800	640	490		
			FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.13	0.08-0.14		
36	Titanium Alloys	15	RPM	4770	20	RPM	3180	2120	1590	1060	800	640	490		
			FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.13	0.08-0.14		



Leading Through Innovation

SUPER HSS

SUPER-GP DRILLS

- All Applications Regardless of Machining Conditions; Good or Poor
- 广泛使用无论加工条件: 好或差

SELECTION GUIDE
选用指南



SERIES 系列

STANDARD 标准

LENGTH 牙长

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

SURFACE TREATMENT 表面处理

SUPER HSS
SUPER-GP DRILLS

All Applications Regardless of Machining Conditions; Good or Poor

广泛使用无论加工条件: 好或差



◎: Excellent (优秀) ○: Good (良好)

(Recommended cutting conditions (推荐加工条件): p. A207)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度		
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	
	2		About 0.45% C Annealed	190	13	◎	
	3		About 0.45% C Quenched & Tempered	250	25	◎	
	4		About 0.75% C Annealed	270	28	○	
	5		About 0.75% C Quenched & Tempered	300	32	○	
	6	Low alloy steel	Annealed	180	10	◎	
	7		Quenched & Tempered	275	29	○	
	8		Quenched & Tempered	300	32	○	
	9		Quenched & Tempered	350	38	○	
	10		High alloyed steel, and tool steel	Annealed	200	15	○
	11			Quenched & Tempered	325	35	○
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	
	13		Martensitic Quenched & Tempered	240	23	○	
	14	Austenitic	180	10	○		
	K	15	Grey cast iron	Pearlitic / ferritic	180	10	○
16		Pearlitic (Martensitic)		260	26	○	
17		Nodular cast iron	Ferritic	160	3	○	
18			Pearlitic	250	25	○	
19			Ferritic	130		○	
20		Malleable cast iron	Pearlitic	230	21	○	
N	21	Aluminum-wrought alloy	Not Curable	60		○	
	22		Curable Hardened	100		○	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	
	24		≤ 12% Si, Curable Hardened	90		○	
	25		> 12% Si, Not Curable	130		○	
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		○	
	27		CuZn, CuSnZn (Brass)	90		○	
	28		CuSn, lead-free copper and electrolytic copper	100		○	
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic			○	
	30		Rubber, Wood, etc.			○	
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15	○	
	32		Cured	280	30	○	
	33		Annealed	250	25	○	
	34	Titanium Alloys	Ni or Co Based Cured	350	38	○	
	35		Cast	320	34	○	
	36		Pure Titanium	400 Rm		○	
	37		Alpha + Beta Alloys Hardened	1050 Rm		○	
H	38	Hardened steel	Hardened	550	55	○	
	39		Hardened	630	60	○	
	40	Chilled Cast Iron	Cast	400	42	○	
	41	Hardened Cast Iron	Hardened	550	55	○	

TIG SUPER-GP DRILLS

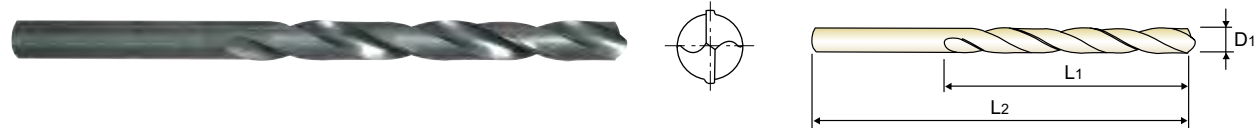
DSH101 SERIES

SUPER HSS, SUPER-GP DRILLS
高级高速钢, SUPER-GP钻头

REGULAR
常规

- ▶ Surface treatment: Steam Tempered (Black Oxide Finish)
- ▶ Excellent tool performance in steels, cast iron, alloy steels and malleable cast iron.
- ▶ Special HSS improves toughness, wear resistance as well as extends dramatically the tool life.
- ▶ All applications regardless of machine condition: Good or Poor.

- ▶ 表面处理: 氧化处理
- ▶ 在加工钢, 铸铁, 合金钢和可锻铸铁中具有优异的性能
- ▶ 特殊的高速钢改善了韧性, 耐磨性, 同时极大地提高了刀具寿命
- ▶ 各种加工条件下可广泛使用: 好或坏



EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长	型号	刃径	槽长	全长
	D1	L1	L2		D1	L1	L2
*DSH101020	2.0	29	55	*DSH101048	4.8	59	89
*DSH101021	2.1	29	55	*DSH101049	4.9	62	92
*DSH101022	2.2	33	58	*DSH101050	5.0	62	92
*DSH101023	2.3	33	58	*DSH101051	5.1	62	92
*DSH101024	2.4	35	61	*DSH101052	5.2	64	95
*DSH101025	2.5	35	61	*DSH101053	5.3	64	95
*DSH101026	2.6	37	64	*DSH101054	5.4	64	95
*DSH101027	2.7	37	64	*DSH101055	5.5	64	95
*DSH101028	2.8	39	67	*DSH101056	5.6	67	98
*DSH101029	2.9	42	71	*DSH101057	5.7	67	98
*DSH101030	3.0	42	71	*DSH101058	5.8	67	98
*DSH101031	3.1	42	71	*DSH101059	5.9	67	98
*DSH101032	3.2	42	71	*DSH101060	6.0	70	102
*DSH101033	3.3	45	73	*DSH101061	6.1	70	102
*DSH101034	3.4	45	73	*DSH101062	6.2	70	102
*DSH101035	3.5	45	73	*DSH101063	6.3	70	102
*DSH101036	3.6	48	76	*DSH101064	6.4	73	105
*DSH101037	3.7	48	76	*DSH101065	6.5	73	105
*DSH101038	3.8	48	76	*DSH101066	6.6	73	105
*DSH101039	3.9	51	79	*DSH101067	6.7	73	105
*DSH101040	4.0	54	83	*DSH101068	6.8	73	105
*DSH101041	4.1	54	83	*DSH101069	6.9	73	105
*DSH101042	4.2	54	83	*DSH101070	7.0	73	105
*DSH101043	4.3	54	83	*DSH101071	7.1	75	108
*DSH101044	4.4	56	86	*DSH101072	7.2	75	108
*DSH101045	4.5	56	86	*DSH101073	7.3	75	108
*DSH101046	4.6	56	86	*DSH101074	7.4	78	111
*DSH101047	4.7	59	89	*DSH101075	7.5	78	111

*10pcs per package

** 5pcs per package

▶ NEXT PAGE 下页

◎: Excellent (优秀) ○: Good (良好)

ISO Material Description	P									M				K						
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

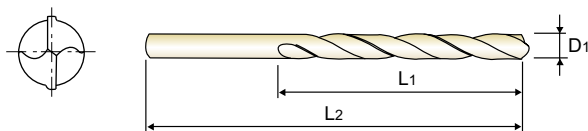
ISO Material Description	N				S					H											
	Aluminum-wrought alloy	Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys		Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	15	30	25	38	34						15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○						○							○					

SUPER HSS, SUPER-GP DRILLS 高级高速钢，SUPER-GP钻头

REGULAR
常规

- ▶ Surface treatment: Steam Tempered (Black Oxide Finish)
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- ▶ 在加工钢，铸铁，合金钢和可锻铸铁中具有优异的性能
- ▶ 特殊的高速钢改善了韧性，耐磨性，同时极大地提高了刀具寿命
- ▶ 各种加工条件下可广泛使用：好或坏



Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
*DSH101076	7.6	78	111
*DSH101077	7.7	81	114
*DSH101078	7.8	81	114
*DSH101079	7.9	81	114
*DSH101080	8.0	81	114
*DSH101081	8.1	84	117
*DSH101082	8.2	84	117
*DSH101083	8.3	84	117
**DSH101084	8.4	87	121
**DSH101085	8.5	87	121
**DSH101086	8.6	87	121
**DSH101087	8.7	87	121
**DSH101088	8.8	89	124
**DSH101089	8.9	89	124
**DSH101090	9.0	89	124
**DSH101091	9.1	89	124
**DSH101092	9.2	92	127
**DSH101093	9.3	92	127
**DSH101094	9.4	92	127
**DSH101095	9.5	92	127
**DSH101096	9.6	95	130
**DSH101097	9.7	95	130
**DSH101098	9.8	95	130
**DSH101099	9.9	95	130
**DSH101100	10.0	95	130
**DSH101101	10.1	98	133
**DSH101102	10.2	98	133
**DSH101103	10.3	98	133

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
**DSH101104	10.4	98	133
**DSH101105	10.5	100	137
**DSH101106	10.6	100	137
**DSH101107	10.7	100	137
**DSH101108	10.8	103	140
**DSH101109	10.9	103	140
**DSH101110	11.0	103	140
**DSH101111	11.1	103	140
**DSH101112	11.2	106	143
**DSH101113	11.3	106	143
**DSH101114	11.4	106	143
**DSH101115	11.5	106	143
**DSH101116	11.6	109	146
**DSH101117	11.7	109	146
**DSH101118	11.8	109	146
**DSH101119	11.9	109	146
**DSH101120	12.0	111	149
**DSH101121	12.1	111	149
**DSH101122	12.2	111	149
**DSH101123	12.3	111	149
**DSH101124	12.4	114	152
**DSH101125	12.5	114	152
**DSH101126	12.6	114	152
**DSH101127	12.7	114	152
**DSH101128	12.8	114	152
**DSH101129	12.9	114	152
**DSH101130	13.0	114	152

*10pcs per package
** 5pcs per package

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P									M				K						
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○						○							○					

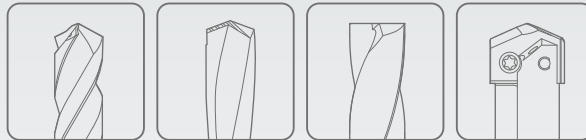
DSH101 SERIES SUPER HSS, SUPER-GP DRILLS 高级高速钢钻头-SUPER-GP

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)								
					2.0	3.0	4.0	6.0	8.0	10.0	13.0		
P	1	Non-alloy steel	30	RPM	4770	3180	2390	1590	1190	950	730		
			FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17			
			25	RPM	3980	2650	1990	1330	990	800	610		
	2		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17			
			20	RPM	3180	2120	1590	1060	800	640	490		
	3		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17			
			20	RPM	3180	2120	1590	1060	800	640	490		
	4		FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10			
			6	RPM	3980	2650	1990	1330	990	800	610		
	7			FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17		
8		RPM	3180	2120	1590	1060	800	640	490				
	10	FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10				
M		12	High alloyed steel, and tool steel	15	RPM	2390	1590	1190	800	600	480	370	
	FEED			0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17			
	20			RPM	3180	2120	1590	1060	800	640	490		
	13	FEED		0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17			
		14		RPM	2390	1590	1190	800	600	480	370		
	15			FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17		
		16		RPM	1590	1060	800	530	400	320	240		
	17			FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10		
		K		15	Grey cast iron	30	RPM	4770	3180	2390	1590	1190	950
	FEED					0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17	
25	RPM		3980	2650		1990	1330	990	800	610			
	FEED		0.01-0.02	0.01-0.03		0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10			
30	RPM	4770	3180	2390	1590	1190	950	730					
	FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17					
25	RPM	3980	2650	1990	1330	990	800	610					
	FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17					
N	21	Aluminum-wrought alloy	55	RPM	8750	5840	4380	2920	2190	1750	1350		
			FEED	0.03-0.06	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22			
	55		RPM	8750	5840	4380	2920	2190	1750	1350			
			FEED	0.03-0.06	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22			
23	RPM	6370	4240	3180	2120	1590	1270	980					
	FEED	0.03-0.06	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22					
29	RPM	3180	2120	1590	1060	800	640	490					
	FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17					
S	36	Titanium Alloys	10	RPM	1590	1060	800	530	400	320	240		
			FEED	0.01-0.03	0.02-0.04	0.03-0.05	0.04-0.07	0.05-0.08	0.05-0.09	0.06-0.10			



Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation



HSS-E



WORM PATTERN DRILLS

- DH100-For Deep hole drilling in general steels
- DH100-为了在普通钢上深孔

SELECTION GUIDE
选用指南



SERIES 系列	DL600	DL126
STANDARD 标准	DIN1869/1	-
LENGTH 长度	EXTRA LONG 超长	
SIZE MIN 最小尺寸	D2.0	D2.0
SIZE MAX 最大尺寸	D12.0	D12.0
PAGE 页数	A211	A212

SURFACE TREATMENT 表面处理

Bright

HSS-E
WORM PATTERN DRILLS

DH100-For Deep hole drilling in general steels
DH100-为了在普通钢上深孔

Please visit 请访问
globalygl.com/mat
for material search 查看产品材料

◎ : Excellent (优秀) ○ : Good (良好)

(Recommended cutting conditions (推荐加工条件) : p. A213)



ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度		
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎
	4		About 0.75% C Annealed	270	28	○	○
	5	About 0.75% C Quenched & Tempered	300	32			
	6	Low alloy steel	Annealed	180	10	◎	◎
	7		Quenched & Tempered	275	29	○	○
	8		Quenched & Tempered	300	32	○	○
	9		Quenched & Tempered	350	38		
	10		High alloyed steel, and tool steel	Annealed	200	15	○
	11		Quenched & Tempered	325	35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15		
	13		Martensitic Quenched & Tempered	240	23		
	14		Austenitic	180	10		
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○
	16		Pearlitic (Martensitic)	260	26	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○
	18		Pearlitic	250	25	○	○
	19	Malleable cast iron	Ferritic	130		○	○
	20		Pearlitic	230	21	○	○
N	21	Aluminum-wrought alloy	Not Curable	60			
	22		Curable Hardened	100			
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75			
	24		≤ 12% Si, Curable Hardened	90			
	25		> 12% Si, Not Curable	130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110			
	27		CuZn, CuSnZn (Brass)	90			
	28		CuSn, lead-free copper and electrolytic copper	100			
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic Rubber, Wood, etc.			
	30						
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34	Titanium Alloys	Ni or Co Based Cured	350	38		
	35		Cast	320	34		
	36		Pure Titanium	400 Rm			
	37		Alpha + Beta Alloys Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Chilled Cast Iron	Cast	400	42		
	41	Hardened Cast Iron	Hardened	550	55		

WORM PATTERN DRILLS

DL600 SERIES

HSS-E, STRAIGHT SHANK DRILLS for DEEP HOLES, FORM C EXTRA LONG
HSS-E, 深孔用直柄麻花钻头 超长

► Application : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, special aluminum or magnesium alloys.

► 应用: 适用于非合金钢, 合金钢, 灰铸铁, 可锻铸铁, 特殊铝和镁合金的深孔钻削。



► **DH100 worm pattern drills 蜗式钻头**

DIN 1869/1 HSS-E 38° h8 130° p. A213

Plain Shank Page
Recommended Toolholder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length	EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长	型号	刃径	槽长	全长
	D1	L1	L2		D1	L1	L2
▲ DL600020	2.0	85	125	▲ DL600065	6.5	150	215
▲ DL600922	2.25	90	135	▲ DL600972	7.25	155	225
▲ DL600025	2.5	95	140	▲ DL600075	7.5	155	225
▲ DL600927	2.75	100	150	▲ DL600080	8.0	165	240
▲ DL600030	3.0	100	150	▲ DL600982	8.25	165	240
▲ DL600035	3.5	115	165	▲ DL600085	8.5	165	240
▲ DL600040	4.0	120	175	▲ DL600987	8.75	175	250
▲ DL600942	4.25	120	175	▲ DL600090	9.0	175	250
▲ DL600045	4.5	125	185	▲ DL600992	9.25	175	250
▲ DL600947	4.75	125	185	▲ DL600095	9.5	175	250
▲ DL600050	5.0	135	195	▲ DL600997	9.75	185	265
▲ DL600952	5.25	135	195	▲ DL600110	11.0	195	280
▲ DL600055	5.5	140	205	▲ DL600115	11.5	195	280
▲ DL600060	6.0	140	205	▲ DL600120	12.0	205	295

► TiN(DN600), TiCN(DX600) and TiAlN(DT600) are available on your request.
TiN(DN600), TiCN(DX600), TiAlN(DT600) 可根据客户需求进行加工。

▲ : Only available till stock runs out 尽在库存用完之前可用

◎ : Excellent (优秀) ○ : Good (良好)

ISO 公制	P										M				K							
Material Description 材料描述	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRC 硬度	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21			
HB 布氏硬度	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended 推荐	◎	◎	◎	○		◎	○	○		○					○	○	○	○	○	○		

ISO 公制	N									S						H								
Material Description 材料描述	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys			Hardened steel		Chilled Cast Iron		Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRC 硬度	15	30	25	38	34						15	30	25	38	34	400Rm	1050Rm	550	630	400	550			
HB 布氏硬度	60	100	75	90	130	110	90	100			200	280	250	350	320									
Recommended 推荐																								

WORM PATTERN DRILLS

DL126 SERIES

HSS-E, STRAIGHT SHANK DRILLS for DEEP HOLES, FORM C EXTRA LONG HSS-E, 深孔用直柄麻花钻头 超长

▶ **Application** : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron or magnesium alloys. ▶ 应用：适用于非合金钢, 合金钢, 灰铸铁, 可锻铸铁, 和镁合金的深孔钻削。



▶ DH100 worm pattern drills 蜗式钻头



EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
	D1	L1	L2
▲ DL126220	2.0	75	100
▲ DL126230	3.0	75	100
▲ DL126335	3.5	100	150
▲ DL126340	4.0	100	150
▲ DL126350	5.0	100	150
▲ DL126360	6.0	100	150
▲ DL126460	6.0	150	200
▲ DL126462	6.2	150	200
▲ DL126475	7.5	150	200

EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
	D1	L1	L2
▲ DL126540	4.0	200	250
▲ DL126555	5.5	200	250
▲ DL126585	8.5	200	250
▲ DL126655	5.5	200	300
▲ DL126660	6.0	200	300
▲ DL126595	9.5	200	250
▲ DL126805	10.5	200	250
▲ DL126820	12.0	200	250
▲ DL126665	6.5	200	300

▲ : Only available till stock runs out 尽在库存用完之前可用

◎ : Excellent (优秀) ○ : Good (良好)

ISO 公制	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC 硬度	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220
HB 布氏硬度	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220
Recommended 推荐	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO 公制	N					S						H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC 硬度	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
HB 布氏硬度	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Recommended 推荐	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

WORM PATTERN DRILLS

RECOMMENDED CUTTING CONDITIONS 推荐加工条件

DL600, DL126 SERIES

HSS-E, STRAIGHT SHANK DRILL for DEEP HOLES HSS-E, 深孔用直柄麻花钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)						
					2.0	3.0	4.0	6.0	8.0	10.0	12.0
P	1	Non-alloy steel	30	RPM	4770	3180	2390	1590	1190	950	730
			FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17	
	2		25	RPM	3980	2650	1990	1330	990	800	610
			FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17	
	3		20	RPM	3180	2120	1590	1060	800	640	490
			FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17	
	4		20	RPM	3180	2120	1590	1060	800	640	490
			FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10	
	6		25	RPM	3980	2650	1990	1330	990	800	610
			FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17	
7	20	RPM	3180	2120	1590	1060	800	640	490		
	FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17			
8	20	RPM	3180	2120	1590	1060	800	640	490		
	FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10			
10	15	High alloyed steel, and tool steel	RPM	2390	1590	1190	800	600	480	370	
	FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17			
K	15	Grey cast iron	30	RPM	4770	3180	2390	1590	1190	950	730
			FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17	
	16		25	RPM	3980	2650	1990	1330	990	800	610
			FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10	
	17		30	RPM	4770	3180	2390	1590	1190	950	730
			FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17	
	18		20	RPM	3180	2120	1590	1060	800	640	490
			FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10	
	19		25	RPM	3980	2650	1990	1330	990	800	610
			FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17	
20	20	Malleable cast iron	RPM	3180	2120	1590	1060	800	640	490	
	FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10			

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPERSHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

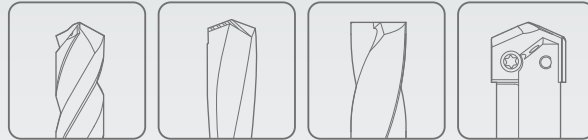
COUNTER SINKS

COUNTER BORES

TECHNICAL DATA



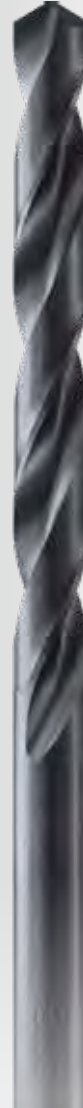
Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation



HSS & HSSCo8

STRAIGHT SHANK DRILLS

- For General Purpose (Soft & Tough Materials)

- 一般用途 (软&硬材料)

SELECTION GUIDE
选用指南



SERIES 系列	D2101	D1101	D1102	D1104
STANDARD 标准	JIS	JIS	-	DIN340
LENGTH 长度	REGULAR 常规	REGULAR 常规	LONG 长	LONG 长
SIZE MIN 最小尺寸	D2.0	D1.0	D2.0	D1.0
SIZE MAX 最大尺寸	D13.0	D13.0	D13.0	D17.5
PAGE 页数	A217	S219	A221	A227

SURFACE TREATMENT 表面处理

Gold Coloring	Steam Homo	Bright
---------------	------------	--------

HSS & HSSCo8
STRAIGHT SHANK DRILLS

For General Purpose (Soft & Tough Materials)
一般用途 (软 & 硬材料)



Please visit 请访问
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for material search 查看产品材料

◎: Excellent (优秀) ○: Good (良好)

(Recommended cutting conditions (推荐加工条件): p. A229)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度				
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎
	4		About 0.75% C Annealed	270	28	○	○	○	○
	5		About 0.75% C Quenched & Tempered	300	32				
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎
	7		Quenched & Tempered	275	29	○	○	○	○
	8		Quenched & Tempered	300	32	○	○	○	○
	9		Quenched & Tempered	350	38				
	10		High alloyed steel, and tool steel	Annealed	200	15	○	○	○
	11		Quenched & Tempered	325	35				
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	○	○	○
	13		Martensitic Quenched & Tempered	240	23	○	○	○	○
	14		Austenitic	180	10	○	○	○	○
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○	○	○
	16		Pearlitic (Martensitic)	260	26	○	○	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○	○	○
	18		Pearlitic	250	25				
	19	Malleable cast iron	Ferritic	130		○	○	○	○
	20		Pearlitic	230	21				
N	21	Aluminum-wrought alloy	Not Curable	60		○	○	○	○
	22		Curable Hardened	100		○	○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○	○	○
	24		≤ 12% Si, Curable Hardened	90					
	25		> 12% Si, Not Curable	130					
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110					
	27		CuZn, CuSnZn (Brass)	90					
	28		CuSn, lead-free copper and electrolytic copper	100					
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic Rubber, Wood, etc.			○	○	○
	S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15			
32		Cured		280	30				
33		Annealed		250	25				
34		Ni or Co Based Cured		350	38				
35		Cast	320	34					
36		Titanium Alloys	Pure Titanium	400 Rm		○	○	○	○
37			Alpha + Beta Alloys Hardened	1050 Rm					
H	38	Hardened steel	Hardened	550	55				
	39		Hardened	630	60				
	40	Hardened Cast Iron	Cast	400	42				
	41		Hardened	550	55				

TIG STRAIGHT SHANK DRILLS

D2101 SERIES

HSSCo8, STRAIGHT SHANK TWIST DRILLS
HSSCo8, 直柄麻花钻头

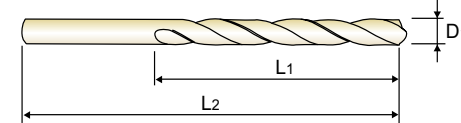
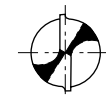
REGULAR 常规

► Surface treatment: Coloring(Gold Color)

► 表面处理: 着色 (金黄色)

► Application: Drilling in stainless steels, materials of difficult machining.

► 应用: 适用于不锈钢, 钛和镍铬合金等难加工材料。



p. A229-A230



Plain Shank	Page
ER COLLET CHUCK	D73-115

Unit(单位): mm

EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
D2101020	2.0	29	55
D2101021	2.1	29	55
D2101022	2.2	33	58
D2101023	2.3	33	58
D2101024	2.4	35	61
D2101025	2.5	35	61
D2101026	2.6	37	64
D2101027	2.7	37	64
D2101028	2.8	39	67
D2101029	2.9	42	71
D2101030	3.0	42	71
D2101031	3.1	42	71
D2101032	3.2	42	71
D2101033	3.3	45	73
D2101034	3.4	45	73
D2101035	3.5	45	73
D2101036	3.6	48	76
D2101037	3.7	48	76
D2101038	3.8	48	76
D2101039	3.9	51	79
D2101040	4.0	54	83
D2101041	4.1	54	83
D2101042	4.2	54	83
D2101043	4.3	54	83
D2101044	4.4	56	86
D2101045	4.5	56	86
D2101046	4.6	56	86
D2101047	4.7	59	89
D2101048	4.8	59	89

EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
D2101049	4.9	62	92
D2101050	5.0	62	92
D2101051	5.1	62	92
D2101052	5.2	64	95
D2101053	5.3	64	95
D2101054	5.4	64	95
D2101055	5.5	64	95
D2101056	5.6	67	98
D2101057	5.7	67	98
D2101058	5.8	67	98
D2101059	5.9	67	98
D2101060	6.0	70	102
D2101061	6.1	70	102
D2101062	6.2	70	102
D2101063	6.3	70	102
D2101064	6.4	73	105
D2101065	6.5	73	105
D2101066	6.6	73	105
D2101067	6.7	73	105
D2101068	6.8	73	105
D2101069	6.9	73	105
D2101070	7.0	73	105
D2101071	7.1	75	108
D2101072	7.2	75	108
D2101073	7.3	75	108
D2101074	7.4	78	111
D2101075	7.5	78	111
D2101076	7.6	78	111
D2101077	7.7	81	114

► The TiN(D4101), TiCN(D7101) or TiAlN(DQ101) is available on your request.
TiN(D4101), TiCN(D7101), TiAlN(DQ101) 可根据客户需求进行加工。

► NEXT PAGE 下页

◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323																				
HRc	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	○	○			◎	○	○	○	○	○	○	○	○	○	○

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials	Heat Resistant Super Alloys				Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323																					
HRc	15	30	25	38	34						15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320			550	630	400	550
Recommended	○	○	○						○							○					

STRAIGHT SHANK DRILLS

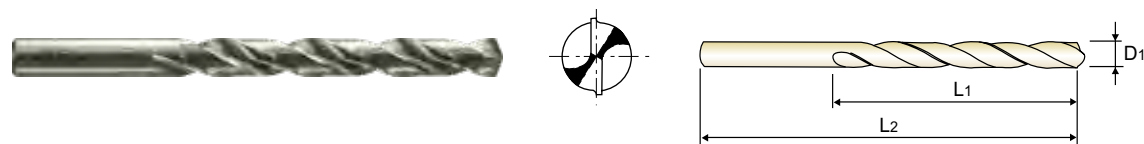
D2101 SERIES

HSSCo8, STRAIGHT SHANK TWIST DRILLS HSSCo8, 直柄麻花钻头

REGULAR
常规

► **Surface treatment** : Coloring (Gold Color)
► **Application** : Drilling in stainless steels, materials of difficult machining such as titanium and inconel.

► 表面处理: 着色 (金黄色)
► 应用 : 适用于不锈钢, 钛和镍铬合金等难加工材料。



p. A229-A230



Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length	EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长	型号	刃径	槽长	全长
	D1	L1	L2		D1	L1	L2
D2101078	7.8	81	114	D2101105	10.5	100	137
D2101079	7.9	81	114	D2101106	10.6	100	137
D2101080	8.0	81	114	D2101107	10.7	100	137
D2101081	8.1	84	117	D2101108	10.8	103	140
D2101082	8.2	84	117	D2101109	10.9	103	140
D2101083	8.3	84	117	D2101110	11.0	103	140
D2101084	8.4	87	121	D2101111	11.1	103	140
D2101085	8.5	87	121	D2101112	11.2	106	143
D2101086	8.6	87	121	D2101113	11.3	106	143
D2101087	8.7	87	121	D2101114	11.4	106	143
D2101088	8.8	89	124	D2101115	11.5	106	143
D2101089	8.9	89	124	D2101116	11.6	109	146
D2101090	9.0	89	124	D2101117	11.7	109	146
D2101091	9.1	89	124	D2101118	11.8	109	146
D2101092	9.2	92	127	D2101119	11.9	109	146
D2101093	9.3	92	127	D2101120	12.0	111	149
D2101094	9.4	92	127	D2101121	12.1	111	149
D2101095	9.5	92	127	D2101122	12.2	111	149
D2101096	9.6	95	130	D2101123	12.3	111	149
D2101097	9.7	95	130	D2101124	12.4	114	152
D2101098	9.8	95	130	D2101125	12.5	114	152
D2101099	9.9	95	130	D2101126	12.6	114	152
D2101100	10.0	95	130	D2101127	12.7	114	152
D2101101	10.1	98	133	D2101128	12.8	114	152
D2101102	10.2	98	133	D2101129	12.9	114	152
D2101103	10.3	98	133	D2101130	13.0	114	152
D2101104	10.4	98	133				

► The TiN(D4101), TiCN(D7101) or TiAlN(DQ101) is available on your request.
TiN(D4101), TiCN(D7101), TiAlN(DQ101) 可根据客户需求进行加工。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	125	190	250	270	300
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	125	190	250	270	300
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

A218

STRAIGHT SHANK DRILLS

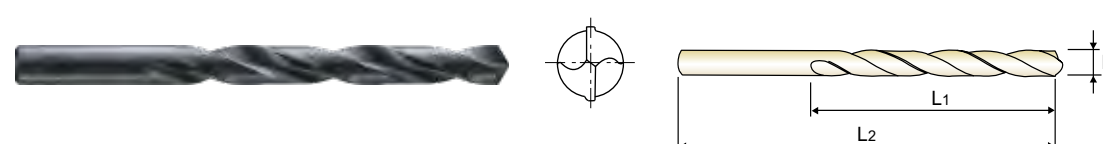
D1101 SERIES

HSS, STRAIGHT SHANK TWIST DRILLS HSS, 直柄麻花钻头

REGULAR
常规

► **Surface treatment** : Steam Homo (Black Oxide Finish)
Bright Finish under 2mm
► **Application** : Drilling in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

► 表面处理: 氧化发黑处理, 2mm以下无着色
► 应用 : 适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁的深孔钻削和石墨的加工。



p. A229-A230



Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length	EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长	型号	刃径	槽长	全长
	D1	L1	L2		D1	L1	L2
* D1101010	1.0	18	40	D1101040	4.0	54	83
* D1101011	1.1	20	42	D1101041	4.1	54	83
* D1101012	1.2	20	42	D1101042	4.2	54	83
* D1101013	1.3	22	45	D1101043	4.3	54	83
* D1101014	1.4	23	48	D1101044	4.4	56	86
* D1101015	1.5	23	48	D1101045	4.5	56	86
* D1101016	1.6	25	50	D1101046	4.6	56	86
* D1101017	1.7	25	50	D1101047	4.7	59	89
* D1101018	1.8	28	52	D1101048	4.8	59	89
* D1101019	1.9	28	52	D1101049	4.9	62	92
D1101020	2.0	29	55	D1101050	5.0	62	92
D1101021	2.1	29	55	D1101051	5.1	62	92
D1101022	2.2	33	58	D1101052	5.2	64	95
D1101023	2.3	33	58	D1101053	5.3	64	95
D1101024	2.4	35	61	D1101054	5.4	64	95
D1101025	2.5	35	61	D1101055	5.5	64	95
D1101026	2.6	37	64	D1101056	5.6	67	98
D1101027	2.7	37	64	D1101057	5.7	67	98
D1101028	2.8	39	67	D1101058	5.8	67	98
D1101029	2.9	42	71	D1101059	5.9	67	98
D1101030	3.0	42	71	D1101060	6.0	70	102
D1101031	3.1	42	71	D1101061	6.1	70	102
D1101032	3.2	42	71	D1101062	6.2	70	102
D1101033	3.3	45	73	D1101063	6.3	70	102
D1101034	3.4	45	73	D1101064	6.4	73	105
D1101035	3.5	45	73	D1101065	6.5	73	105
D1101036	3.6	48	76	D1101066	6.6	73	105
D1101037	3.7	48	76	D1101067	6.7	73	105
D1101038	3.8	48	76	D1101068	6.8	73	105
D1101039	3.9	51	79	D1101069	6.9	73	105

* Bright Finish / 光亮色

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	125	190	250	270	300
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	125	190	250	270	300
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

A219

STRAIGHT SHANK DRILLS

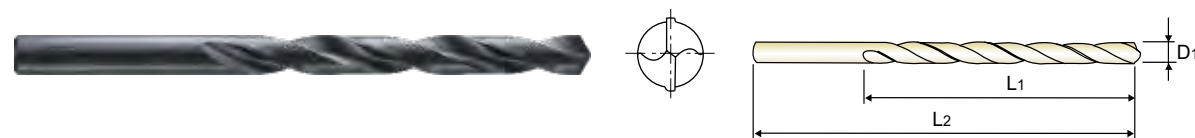
D1102 SERIES

HSS, STRAIGHT SHANK DRILLS HSS, 直柄钻头

LONG
长

▶ **Surface treatment:** Steam Homo (Black Oxide Finish)
 ▶ **Application:** Designed for drilling deep holes or deeply located holes. Drills in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

▶ **表面处理:** 氧化发黑处理
 ▶ **应用:** 设计用于深孔加工或深定位孔加工。适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁的深孔钻削和石墨的加工。



Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
	D1	L1	L2
D1102349	4.9	100	150
D1102350	5.0	100	150
D1102351	5.1	100	150
D1102352	5.2	100	150
D1102353	5.3	100	150
D1102354	5.4	100	150
D1102355	5.5	100	150
D1102356	5.6	100	150
D1102357	5.7	100	150
D1102358	5.8	100	150
D1102359	5.9	100	150
D1102360	6.0	100	150
D1102361	6.1	100	150
D1102362	6.2	100	150
D1102363	6.3	100	150
D1102364	6.4	100	150
D1102365	6.5	100	150
D1102366	6.6	100	150
D1102367	6.7	100	150
D1102368	6.8	100	150
D1102369	6.9	100	150
D1102370	7.0	100	150
D1102371	7.1	100	150
D1102372	7.2	100	150
D1102373	7.3	100	150
D1102374	7.4	100	150
D1102375	7.5	100	150
D1102376	7.6	100	150
D1102377	7.7	100	150

* Bright Finish / 光亮色

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P									M					K					
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○						○							○					

STRAIGHT SHANK DRILLS

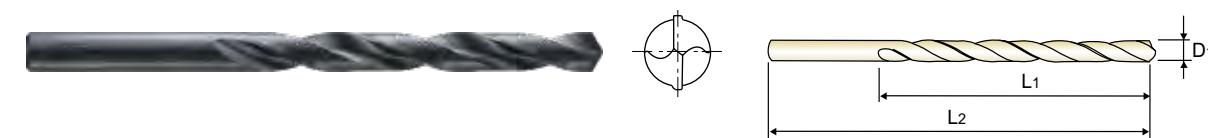
D1102 SERIES

HSS, STRAIGHT SHANK DRILLS HSS, 直柄钻头

LONG
长

▶ **Surface treatment:** Steam Homo (Black Oxide Finish)
 ▶ **Application:** Designed for drilling deep holes or deeply located holes. Drills in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

▶ **表面处理:** 氧化发黑处理
 ▶ **应用:** 设计用于深孔加工或深定位孔加工。适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁的深孔钻削和石墨的加工。



Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
	D1	L1	L2
* D1102432	3.2	150	200
* D1102434	3.4	150	200
* D1102435	3.5	150	200
* D1102436	3.6	150	200
* D1102437	3.7	150	200
* D1102438	3.8	150	200
* D1102439	3.9	150	200
D1102440	4.0	150	200
D1102441	4.1	150	200
D1102442	4.2	150	200
D1102443	4.3	150	200
D1102444	4.4	150	200
D1102445	4.5	150	200
D1102446	4.6	150	200
D1102447	4.7	150	200
D1102448	4.8	150	200
D1102449	4.9	150	200
D1102450	5.0	150	200
D1102451	5.1	150	200
D1102452	5.2	150	200
D1102453	5.3	150	200
D1102454	5.4	150	200
D1102455	5.5	150	200
D1102456	5.6	150	200
D1102457	5.7	150	200
D1102458	5.8	150	200
D1102459	5.9	150	200
D1102460	6.0	150	200
D1102461	6.1	150	200

* Bright Finish / 光亮色

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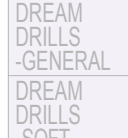
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P									M					K					
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○						○							○					

LONG
长

▶ **Surface treatment:** Steam Homo (Black Oxide Finish)
 ▶ **Application:** Designed for drilling deep holes or deeply located holes. Drills in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron



Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
	D1	L1	L2
D1102462	6.2	150	200
D1102463	6.3	150	200
D1102464	6.4	150	200
D1102465	6.5	150	200
D1102466	6.6	150	200
D1102467	6.7	150	200
D1102468	6.8	150	200
D1102469	6.9	150	200
D1102470	7.0	150	200
D1102471	7.1	150	200
D1102472	7.2	150	200
D1102473	7.3	150	200
D1102474	7.4	150	200
D1102475	7.5	150	200
D1102476	7.6	150	200
D1102477	7.7	150	200
D1102478	7.8	150	200
D1102479	7.9	150	200
D1102480	8.0	150	200
D1102481	8.1	150	200
D1102482	8.2	150	200
D1102483	8.3	150	200
D1102484	8.4	150	200
D1102485	8.5	150	200
D1102486	8.6	150	200
D1102487	8.7	150	200
D1102488	8.8	150	200
D1102489	8.9	150	200
D1102490	9.0	150	200

* Bright Finish / 光亮色

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P									M					K					
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○						○							○					

YTG STRAIGHT SHANK DRILLS

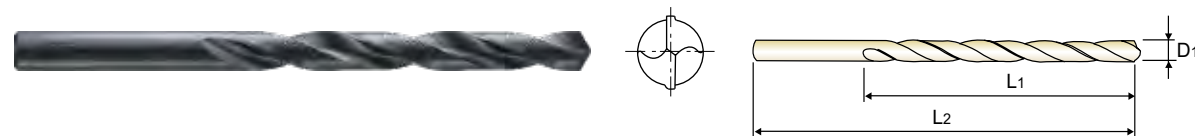
D1102 SERIES

HSS, STRAIGHT SHANK DRILLS HSS, 直柄钻头

LONG
长

► **Surface treatment:** Steam Homo (Black Oxide Finish)
 ► **Application:** Designed for drilling deep holes or deeply located holes. Drills in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

► **表面处理:** 氧化发黑处理
 ► **应用:** 设计用于深孔加工或深定位孔加工。适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁的深孔钻削和石墨的加工。



Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
	D1	L1	L2
D1102491	9.1	150	200
D1102492	9.2	150	200
D1102493	9.3	150	200
D1102494	9.4	150	200
D1102495	9.5	150	200
D1102496	9.6	150	200
D1102497	9.7	150	200
D1102498	9.8	150	200
D1102499	9.9	150	200
D1102700	10.0	150	200
D1102702	10.2	150	200
D1102704	10.4	150	200
D1102705	10.5	150	200
D1102706	10.6	150	200
D1102708	10.8	150	200
D1102710	11.0	150	200
D1102712	11.2	150	200
D1102714	11.4	150	200
D1102715	11.5	150	200
D1102716	11.6	150	200
D1102718	11.8	150	200
D1102720	12.0	150	200
D1102722	12.2	150	200
D1102724	12.4	150	200
D1102725	12.5	150	200
D1102726	12.6	150	200
D1102728	12.8	150	200
D1102730	13.0	150	200
* D1102536	3.6	200	250

* Bright Finish / 光亮色

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

YTG STRAIGHT SHANK DRILLS

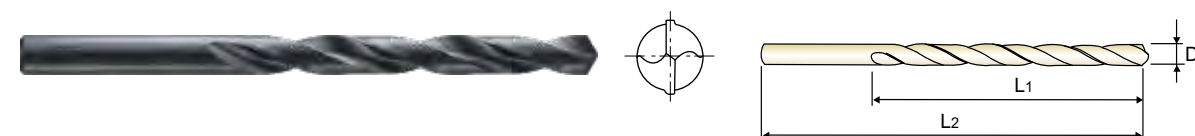
D1102 SERIES

HSS, STRAIGHT SHANK DRILLS HSS, 直柄钻头

LONG
长

► **Surface treatment:** Steam Homo (Black Oxide Finish)
 ► **Application:** Designed for drilling deep holes or deeply located holes. Drills in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

► **表面处理:** 氧化发黑处理
 ► **应用:** 设计用于深孔加工或深定位孔加工。适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁的深孔钻削和石墨的加工。



Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长
	D1	L1	L2
D1102576	7.6	200	250
D1102577	7.7	200	250
D1102578	7.8	200	250
D1102579	7.9	200	250
D1102580	8.0	200	250
D1102581	8.1	200	250
D1102582	8.2	200	250
D1102583	8.3	200	250
D1102584	8.4	200	250
D1102585	8.5	200	250
D1102586	8.6	200	250
D1102587	8.7	200	250
D1102588	8.8	200	250
D1102589	8.9	200	250
D1102590	9.0	200	250
D1102591	9.1	200	250
D1102592	9.2	200	250
D1102593	9.3	200	250
D1102594	9.4	200	250
D1102595	9.5	200	250
D1102596	9.6	200	250
D1102597	9.7	200	250
D1102598	9.8	200	250
D1102599	9.9	200	250
D1102800	10.0	200	250
D1102801	10.1	200	250
D1102802	10.2	200	250
D1102803	10.3	200	250
D1102804	10.4	200	250

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

YMG STRAIGHT SHANK DRILLS

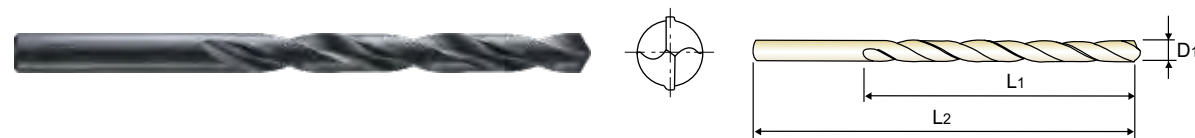
D1102 SERIES

HSS, STRAIGHT SHANK DRILLS HSS, 直柄钻头

LONG
长

► **Surface treatment:** Steam Homo (Black Oxide Finish)
 ► **Application:** Designed for drilling deep holes or deeply located holes. Drills in steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

► **表面处理:** 氧化发黑处理
 ► **应用:** 设计用于深孔加工或深定位孔加工。适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁的深孔钻削和石墨的加工。



HSS 20~30° h8 118° p. A229-A230

Plain Shank Page
 Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length	EDP No	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长	型号	刃径	槽长	全长
	D1	L1	L2		D1	L1	L2
D1102660	6.0	200	300	D1102905	10.5	200	300
D1102662	6.2	200	300	D1102906	10.6	200	300
D1102664	6.4	200	300	D1102907	10.7	200	300
D1102665	6.5	200	300	D1102908	10.8	200	300
D1102666	6.6	200	300	D1102909	10.9	200	300
D1102670	7.0	200	300	D1102910	11.0	200	300
D1102672	7.2	200	300	D1102911	11.1	200	300
D1102674	7.4	200	300	D1102912	11.2	200	300
D1102675	7.5	200	300	D1102913	11.3	200	300
D1102676	7.6	200	300	D1102914	11.4	200	300
D1102678	7.8	200	300	D1102915	11.5	200	300
D1102680	8.0	200	300	D1102916	11.6	200	300
D1102682	8.2	200	300	D1102917	11.7	200	300
D1102684	8.4	200	300	D1102918	11.8	200	300
D1102685	8.5	200	300	D1102919	11.9	200	300
D1102686	8.6	200	300	D1102920	12.0	200	300
D1102688	8.8	200	300	D1102921	12.1	200	300
D1102690	9.0	200	300	D1102922	12.2	200	300
D1102692	9.2	200	300	D1102923	12.3	200	300
D1102694	9.4	200	300	D1102924	12.4	200	300
D1102695	9.5	200	300	D1102925	12.5	200	300
D1102696	9.6	200	300	D1102926	12.6	200	300
D1102698	9.8	200	300	D1102927	12.7	200	300
D1102900	10.0	200	300	D1102928	12.8	200	300
D1102901	10.1	200	300	D1102929	12.9	200	300
D1102902	10.2	200	300	D1102930	13.0	200	300
D1102903	10.3	200	300	D1102A20	12.0	250	350
D1102904	10.4	200	300	D1102A30	13.0	250	350

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○						○							○					

YMG STRAIGHT SHANK DRILLS

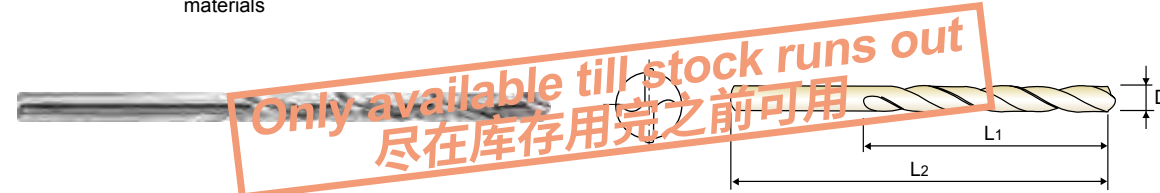
D1104 SERIES

HSS, STRAIGHT SHANK DRILLS HSS, 直柄钻头

LONG
长

► **Surface treatment:** Bright Finish
 ► **Application:** Drilling stainless steels and difficult - to - cut materials

► **表面处理:** 光亮处理
 ► **应用:** 适用于加工不锈钢, 及钛, 镍铬合金等难加工材料。



DIN 340 HSS 20~30° h8 118° p. A229-A230

Plain Shank Page
 Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径	槽长	全长	型号	刃径	槽长	全长
	D1	L1	L2		D1	L1	L2
▲ D1104010	1.0	33	56	▲ D1104040	4.0	78	119
▲ D1104011	1.1	37	60	▲ D1104041	4.1	78	119
▲ D1104012	1.2	41	65	▲ D1104042	4.2	78	119
▲ D1104013	1.3	41	65	▲ D1104043	4.3	82	126
▲ D1104014	1.4	45	70	▲ D1104044	4.4	82	126
▲ D1104015	1.5	45	70	▲ D1104045	4.5	82	126
▲ D1104016	1.6	50	76	▲ D1104046	4.6	82	126
▲ D1104017	1.7	50	76	▲ D1104047	4.7	82	126
▲ D1104018	1.8	53	80	▲ D1104048	4.8	87	132
▲ D1104019	1.9	53	80	▲ D1104049	4.9	87	132
▲ D1104020	2.0	56	85	▲ D1104050	5.0	87	132
▲ D1104021	2.1	56	85	▲ D1104051	5.1	87	132
▲ D1104022	2.2	59	90	▲ D1104052	5.2	87	132
▲ D1104023	2.3	59	90	▲ D1104053	5.3	87	132
▲ D1104024	2.4	62	95	▲ D1104054	5.4	91	139
▲ D1104025	2.5	62	95	▲ D1104055	5.5	91	139
▲ D1104026	2.6	62	95	▲ D1104056	5.6	91	139
▲ D1104027	2.7	66	100	▲ D1104057	5.7	91	139
▲ D1104028	2.8	66	100	▲ D1104058	5.8	91	139
▲ D1104029	2.9	66	100	▲ D1104059	5.9	91	139
▲ D1104030	3.0	66	100	▲ D1104060	6.0	91	139
▲ D1104031	3.1	69	106	▲ D1104061	6.1	97	148
▲ D1104032	3.2	69	106	▲ D1104062	6.2	97	148
▲ D1104033	3.3	69	106	▲ D1104063	6.3	97	148
▲ D1104034	3.4	73	112	▲ D1104064	6.4	97	148
▲ D1104035	3.5	73	112	▲ D1104065	6.5	97	148
▲ D1104036	3.6	73	112	▲ D1104066	6.6	97	148
▲ D1104037	3.7	73	112	▲ D1104067	6.7	97	148
▲ D1104038	3.8	78	119	▲ D1104068	6.8	102	156
▲ D1104039	3.9	78	119	▲ D1104069	6.9	102	156

▲ : Only available till stock runs out 尽在库存用完之前可用

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○						○							○					

YMG STRAIGHT SHANK DRILLS

D1104 SERIES

YMG STRAIGHT SHANK DRILLS

RECOMMENDED CUTTING CONDITIONS
推荐加工条件

HSS, STRAIGHT SHANK DRILLS HSS, 直柄钻头

LONG
长

▶ **Surface treatment** : Bright Finish
▶ **Application** : Drilling stainless steels and difficult - to - cut materials

▶ 表面处理: 光亮处理
▶ 应用 : 适用于加工不锈钢, 及钛, 镍铬合金等难加工材料。



DIN 340 HSS 20~30° h8 118° p. A229-A230

Plain Shank Page
Recommended ToolHolder ER COLLET CHUCK D73-115

EDP No. 型号	Drill Diameter D1	Flute Length L1	Overall Length L2	EDP No. 型号	Drill Diameter D1	Flute Length L1	Overall Length L2
▲ D1104070	7.0	102	156	▲ D1104097	9.7	121	184
▲ D1104071	7.1	102	156	▲ D1104098	9.8	121	184
▲ D1104072	7.2	102	156	▲ D1104099	9.9	121	184
▲ D1104073	7.3	102	156	▲ D1104100	10.0	121	184
▲ D1104074	7.4	102	156	▲ D1104101	10.1	121	184
▲ D1104075	7.5	102	156	▲ D1104102	10.2	121	184
▲ D1104076	7.6	109	165	▲ D1104103	10.3	121	184
▲ D1104077	7.7	109	165	▲ D1104105	10.5	121	184
▲ D1104078	7.8	109	165	▲ D1104106	10.6	121	184
▲ D1104079	7.9	109	165	▲ D1104107	10.7	128	195
▲ D1104080	8.0	109	165	▲ D1104108	10.8	128	195
▲ D1104081	8.1	109	165	▲ D1104110	11.0	128	195
▲ D1104082	8.2	109	165	▲ D1104115	11.5	128	195
▲ D1104083	8.3	109	165	▲ D1104117	11.7	128	195
▲ D1104084	8.4	109	165	▲ D1104118	11.8	128	195
▲ D1104085	8.5	109	165	▲ D1104119	11.9	134	205
▲ D1104086	8.6	115	175	▲ D1104120	12.0	134	205
▲ D1104087	8.7	115	175	▲ D1104125	12.5	134	205
▲ D1104088	8.8	115	175	▲ D1104127	12.7	134	205
▲ D1104089	8.9	115	175	▲ D1104130	13.0	134	205
▲ D1104090	9.0	115	175	▲ D1104135	13.5	140	214
▲ D1104091	9.1	115	175	▲ D1104140	14.0	140	214
▲ D1104092	9.2	115	175	▲ D1104145	14.5	144	220
▲ D1104093	9.3	115	175	▲ D1104150	15.0	144	220
▲ D1104094	9.4	115	175	▲ D1104160	16.0	149	227
▲ D1104095	9.5	115	175	▲ D1104165	16.5	154	235
▲ D1104096	9.6	121	184	▲ D1104175	17.5	158	241

▲ : Only available till stock runs out 尽在库存用完之前可用

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○						○							○					

D2101, D1101, D1102, D1104 SERIES HSS & HSSCo8 STRAIGHT SHANK DRILLS HSS & HSSCo8, 直柄钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)						
								1.0	2.0	3.0	4.0	6.0	8.0	10.0
P	1	Non-alloy steel	25	RPM	7960	30	RPM	4770	3180	2390	1590	1190	950	
			FEED	0.01-0.03	FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15			
			20	RPM	6370	25	RPM	3980	2650	1990	1330	990	800	
			FEED	0.01-0.03	FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15			
	3	15	RPM	4770	FEED	0.01-0.03	20	RPM	3180	2120	1590	1060	800	640
	4	15	RPM	4770	FEED	0.01-0.02	20	RPM	3180	2120	1590	1060	800	640
	6	20	RPM	6370	FEED	0.01-0.03	25	RPM	3980	2650	1990	1330	990	800
7	15	RPM	4770	FEED	0.01-0.03	20	RPM	3180	2120	1590	1060	800	640	
														FEED
8	15	RPM	4770	FEED	0.01-0.02	20	RPM	3180	2120	1590	1060	800	640	
														FEED
10	10	High alloyed steel, and tool steel	RPM	3180	15	RPM	2390	1590	1190	800	600	480		
			FEED	0.01-0.03	FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15			
12	15	RPM	4770	FEED	0.01-0.03	20	RPM	3180	2120	1590	1060	800	640	
														FEED
13	10	Stainless steel	RPM	3180	15	RPM	2390	1590	1190	800	600	480		
			FEED	0.01-0.03	FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15			
14	8	RPM	2550	FEED	0.01-0.02	10	RPM	1590	1060	800	530	400	320	
														FEED
K	15	Grey cast iron	25	RPM	7960	30	RPM	4770	3180	2390	1590	1190	950	
			FEED	0.01-0.03	FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15			
	20	RPM	6370	FEED	0.01-0.02	25	RPM	3980	2650	1990	1330	990	800	
														FEED
17	25	Nodular cast iron	RPM	7960	30	RPM	4770	3180	2390	1590	1190	950		
			FEED	0.01-0.03	FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15			
19	20	Malleable cast iron	RPM	6370	25	RPM	3980	2650	1990	1330	990	800		
			FEED	0.01-0.03	FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15			
N	21	Aluminum-wrought alloy	45	RPM	14320	55	RPM	8750	5840	4380	2920	2190	1750	
			FEED	0.02-0.04	FEED	0.03-0.06	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20			
	45	RPM	14320	FEED	0.02-0.04	55	RPM	8750	5840	4380	2920	2190	1750	
														FEED
23	30	Aluminum-cast, alloyed	RPM	9550	40	RPM	6370	4240	3180	2120	1590	1270		
			FEED	0.02-0.04	FEED	0.03-0.06	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20			
29	15	Non Metallic Materials	RPM	4770	20	RPM	3180	2120	1590	1060	800	640		
			FEED	0.01-0.03	FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15			
S	36	Titanium Alloys	RPM	2230	10	RPM	1590	1060	800	530	400	320		
			FEED	0.01-0.03	FEED	0.01-0.03	0.02-0.04	0.03-0.05	0.04-0.07	0.05-0.08	0.05-0.09			

▶ NEXT PAGE 下页

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPERSHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

TECHNICAL DATA

A229

COUNTER BORES

TECHNICAL DATA



STRAIGHT SHANK DRILLS

RECOMMENDED CUTTING CONDITIONS

推荐加工条件

D2101, D1101, D1102, D1104 SERIES

HSS & HSSCo8 STRAIGHT SHANK DRILLS

HSS & HSSCo8, 直柄钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)					
					13.0	16.0	18.0	20.0	30.0	
P	1	Non-alloy steel	30	RPM	730	600	530	480	320	
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	
	2		25	RPM	610	500	440	400	270	
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	
	3		20	RPM	490	400	350	320	210	
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	
	4		20	RPM	490	400	350	320	210	
				FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18	
	6		Low alloy steel	25	RPM	610	500	440	400	270
					FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
7	20	RPM		490	400	350	320	210		
		FEED		0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28		
8	20	RPM		490	400	350	320	210		
		FEED		0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18		
10	High alloyed steel, and tool steel	15		RPM	370	300	270	240	160	
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	
12		Stainless steel		20	RPM	490	400	350	320	210
					FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
13			15	RPM	370	300	270	240	160	
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	
14			10	RPM	240	200	180	160	110	
				FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18	
K		15	Grey cast iron	30	RPM	730	600	530	480	320
					FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
	16	25		RPM	610	500	440	400	270	
				FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18	
17	30	Nodular cast iron	RPM	730	600	530	480	320		
			FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28		
19	25		Malleable cast iron	RPM	610	500	440	400	270	
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	
N	21	Aluminum-wrought alloy		55	RPM	1350	1090	970	880	580
					FEED	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38
	22		55	RPM	1350	1090	970	880	580	
				FEED	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38	
23	40	Aluminum-cast, alloyed	RPM	980	800	710	640	420		
			FEED	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38		
29	20		Non Metallic Materials	RPM	490	400	350	320	210	
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	
S	36	Titanium Alloys		RPM	240	200	180	160	110	
				FEED	0.06-0.10	0.05-0.11	0.06-0.12	0.09-0.13	0.12-0.18	



Leading Through Innovation



HSS, HSS-E & HSS-Co8

MORSE TAPER SHANK DRILLS

- Morse Taper Shank Drills for Wide Applications
- 莫氏锥柄麻花钻头

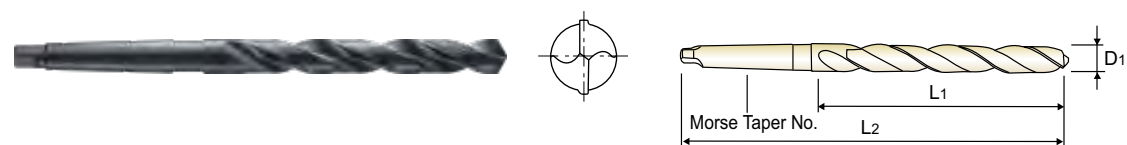
HSS, MORSE TAPER SHANK DRILLS
HSS, 莫氏锥柄麻花钻头

REGULAR

常规

▶ **Surface treatment** : Steam Homo (Black Oxide Finish)
▶ **Application** : Drilling into steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

▶ **表面处理** : 氧化发黑处理
▶ **应用** : 适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁, 石墨的加工



Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径 D1	槽长 L1	全长 L2	莫氏锥度号
D1201130	13.0	115	198	1
D1201132	13.2	118	202	1
D1201135	13.5	118	202	1
D1201138	13.8	122	205	1
D1201140	14.0	122	205	1
D1201145	14.5	122	222	2
D1201150	15.0	125	225	2
D1201155	15.5	128	228	2
D1201160	16.0	130	230	2
D1201165	16.5	132	232	2
D1201170	17.0	135	235	2
D1201175	17.5	140	240	2
D1201180	18.0	140	240	2
D1201185	18.5	145	245	2
D1201190	19.0	145	245	2
D1201195	19.5	150	250	2
D1201200	20.0	150	250	2
D1201205	20.5	155	255	2

Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径 D1	槽长 L1	全长 L2	莫氏锥度号
D1201210	21.0	155	255	2
D1201215	21.5	160	260	2
D1201220	22.0	160	260	2
D1201225	22.5	165	265	2
D1201230	23.0	165	265	2
D1201235	23.5	165	285	3
D1201240	24.0	165	285	3
D1201245	24.5	165	285	3
D1201250	25.0	165	285	3
D1201255	25.5	165	285	3
D1201260	26.0	165	285	3
D1201265	26.5	170	290	3
D1201270	27.0	170	290	3
D1201275	27.5	175	295	3
D1201280	28.0	175	295	3
D1201285	28.5	180	300	3
D1201290	29.0	180	300	3
D1201295	29.5	185	305	3

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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	◎	○	○	○	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

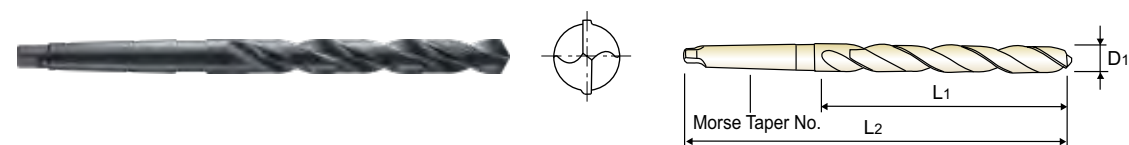
HSS, MORSE TAPER SHANK DRILLS
HSS, 莫氏锥柄麻花钻头

REGULAR

常规

▶ **Surface treatment** : Steam Homo (Black Oxide Finish)
▶ **Application** : Drilling into steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron

▶ **表面处理** : 氧化发黑处理
▶ **应用** : 适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁, 石墨的加工



Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径 D1	槽长 L1	全长 L2	莫氏锥度号
D1201300	30.0	185	305	3
D1201305	30.5	190	310	3
D1201310	31.0	190	310	3
D1201315	31.5	195	315	3
D1201320	32.0	195	315	3
D1201330	33.0	200	345	4
D1201340	34.0	205	350	4
D1201350	35.0	205	350	4
D1201360	36.0	210	355	4
D1201370	37.0	210	355	4
D1201380	38.0	215	360	4
D1201390	39.0	215	360	4
D1201400	40.0	220	365	4
D1201410	41.0	220	365	4
D1201420	42.0	225	370	4
D1201430	43.0	225	370	4
D1201440	44.0	230	375	4

Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径 D1	槽长 L1	全长 L2	莫氏锥度号
D1201450	45.0	230	375	4
D1201460	46.0	235	380	4
D1201470	47.0	235	380	4
D1201480	48.0	240	385	4
D1201490	49.0	240	385	4
D1201500	50.0	245	390	4
D1201510	51.0	245	425	5
D1201520	52.0	250	430	5
D1201530	53.0	250	430	5
D1201540	54.0	255	435	5
D1201550	55.0	255	435	5
D1201560	56.0	260	440	5
D1201570	57.0	260	440	5
D1201580	58.0	265	445	5
D1201590	59.0	265	445	5
D1201600	60.0	270	450	5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	◎	○	○	○	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

WIG MORSE TAPER SHANK DRILLS

D1203 SERIES

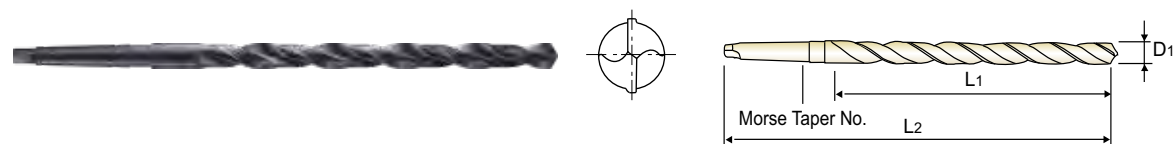
HSS, MORSE TAPER SHANK DRILLS HSS, 莫氏锥柄麻花钻头

LONG

长

► **Surface treatment** : Steam Homo (Black Oxide Finish)
► **Application** : Designed for drilling deep hole or deeply located hole.
Drilling into steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron, Spheroidal graphite cast iron, sintered iron, aluminium and aluminium alloy.

► **表面处理** : 氧化发黑处理
► **应用** : 设计用于深孔加工或深定位孔加工。
适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁, 球状石墨铸铁, 烧结铁, 铝和铝合金的深孔和深定位孔的钻削。



Overall Length : 300mm

Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径 D1	槽长 L1	全长 L2	莫氏锥度号
D1203140	14.0	200	300	1
D1203145	14.5	175	300	2
D1203150	15.0	175	300	2
D1203155	15.5	175	300	2
D1203160	16.0	175	300	2
D1203165	16.5	175	300	2
D1203170	17.0	175	300	2
D1203175	17.5	175	300	2
D1203180	18.0	175	300	2
D1203185	18.5	175	300	2

EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径 D1	槽长 L1	全长 L2	莫氏锥度号
D1203190	19.0	175	300	2
D1203195	19.5	175	300	2
D1203200	20.0	175	300	2
D1203205	20.5	175	300	2
D1203210	21.0	175	300	2
D1203215	21.5	175	300	2
D1203220	22.0	175	300	2
D1203225	22.5	175	300	2
D1203230	23.0	175	300	2

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

A236

WIG MORSE TAPER SHANK DRILLS

D1202 SERIES

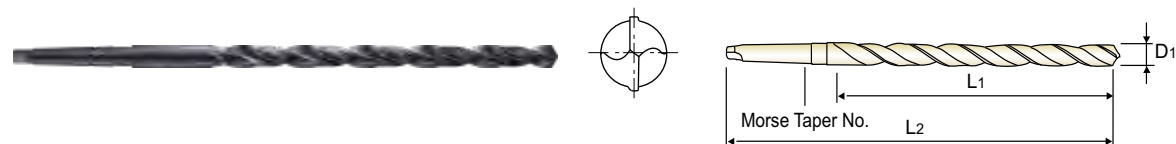
HSS, MORSE TAPER SHANK DRILLS HSS, 莫氏锥柄麻花钻头

LONG

长

► **Surface treatment** : Steam Homo (Black Oxide Finish)
► **Application** : Designed for drilling deep hole or deeply located hole.
Drilling into steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron, Spheroidal graphite cast iron, sintered iron, aluminium and aluminium alloy.

► **表面处理** : 氧化发黑处理
► **应用** : 设计用于深孔加工或深定位孔加工。
适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁, 球状石墨铸铁, 烧结铁, 铝和铝合金的深孔和深定位孔的钻削。



Overall Length : 350mm

Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径 D1	槽长 L1	全长 L2	莫氏锥度号
D1202140	14.0	225	350	1
D1202145	14.5	225	350	2
D1202150	15.0	225	350	2
D1202155	15.5	225	350	2
D1202160	16.0	225	350	2
D1202165	16.5	225	350	2
D1202170	17.0	225	350	2
D1202175	17.5	225	350	2
D1202180	18.0	225	350	2
D1202185	18.5	225	350	2
D1202190	19.0	225	350	2
D1202195	19.5	225	350	2
D1202200	20.0	225	350	2
D1202205	20.5	225	350	2
D1202210	21.0	225	350	2
D1202215	21.5	225	350	2
D1202220	22.0	225	350	2
D1202225	22.5	225	350	2
D1202230	23.0	225	350	2

EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径 D1	槽长 L1	全长 L2	莫氏锥度号
D1202235	23.5	200	350	3
D1202240	24.0	200	350	3
D1202245	24.5	200	350	3
D1202250	25.0	200	350	3
D1202255	25.5	200	350	3
D1202260	26.0	200	350	3
D1202265	26.5	200	350	3
D1202270	27.0	200	350	3
D1202275	27.5	200	350	3
D1202280	28.0	200	350	3
D1202285	28.5	200	350	3
D1202290	29.0	200	350	3
D1202295	29.5	200	350	3
D1202300	30.0	200	350	3
D1202305	30.5	200	350	3
D1202310	31.0	200	350	3
D1202315	31.5	200	350	3
D1202320	32.0	200	350	3

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

A237

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

TECHNICAL DATA

W.G. MORSE TAPER SHANK DRILLS

D1204 SERIES

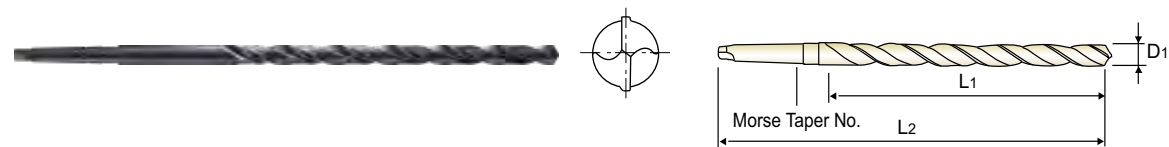
HSS, MORSE TAPER SHANK DRILLS HSS, 莫氏锥柄麻花钻头

LONG

长

► **Surface treatment** : Steam Homo (Black Oxide Finish)
► **Application** : Designed for drilling deep hole or deeply located hole.
Drilling into steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron, Spheroidal graphite cast iron, sintered iron, aluminium and aluminium alloy.

► **表面处理** : 氧化发黑处理
► **应用** : 设计用于深孔加工或深定位孔加工。
适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁, 球状石墨铸铁, 烧结铁, 铝和铝合金的深孔和深定位孔的钻削。



Overall Length : 400mm

Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper	EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径	槽长	全长	莫氏锥度号	型号	刃径	槽长	全长	莫氏锥度号
	D1	L1	L2			D1	L1	L2	
D1204145	14.5	250	400	2	D1204280	28.0	250	400	3
D1204150	15.0	250	400	2	D1204285	28.5	250	400	3
D1204155	15.5	250	400	2	D1204290	29.0	250	400	3
D1204160	16.0	250	400	2	D1204295	29.5	250	400	3
D1204165	16.5	250	400	2	D1204300	30.0	250	400	3
D1204170	17.0	250	400	2	D1204305	30.5	250	400	3
D1204175	17.5	250	400	2	D1204310	31.0	250	400	3
D1204180	18.0	250	400	2	D1204315	31.5	250	400	3
D1204185	18.5	250	400	2	D1204320	32.0	250	400	3
D1204190	19.0	250	400	2	D1204330	33.0	250	400	4
D1204195	19.5	250	400	2	D1204340	34.0	250	400	4
D1204200	20.0	250	400	2	D1204350	35.0	250	400	4
D1204205	20.5	250	400	2	D1204360	36.0	250	400	4
D1204210	21.0	250	400	2	D1204370	37.0	250	400	4
D1204215	21.5	250	400	2	D1204380	38.0	250	400	4
D1204220	22.0	250	400	2	D1204390	39.0	250	400	4
D1204225	22.5	250	400	2	D1204400	40.0	250	400	4
D1204230	23.0	250	400	2	D1204410	41.0	250	400	4
D1204235	23.5	250	400	3	D1204420	42.0	250	400	4
D1204240	24.0	250	400	3	D1204430	43.0	250	400	4
D1204245	24.5	250	400	3	D1204440	44.0	250	400	4
D1204250	25.0	250	400	3	D1204450	45.0	250	400	4
D1204255	25.5	250	400	3	D1204460	46.0	250	400	4
D1204260	26.0	250	400	3	D1204470	47.0	250	400	4
D1204265	26.5	250	400	3	D1204480	48.0	250	400	4
D1204270	27.0	250	400	3	D1204490	49.0	250	400	4
D1204275	27.5	250	400	3	D1204500	50.0	250	400	4

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

A238

W.G. MORSE TAPER SHANK DRILLS

D1208 SERIES

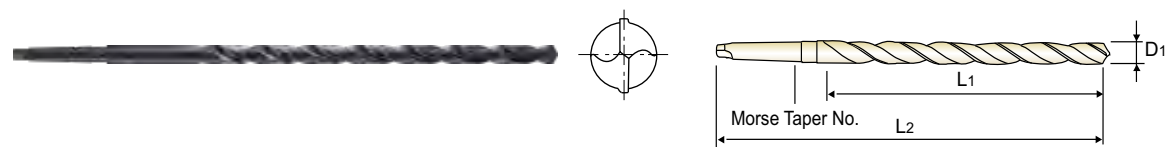
HSS, MORSE TAPER SHANK DRILLS HSS, 莫氏锥柄麻花钻头

LONG

长

► **Surface treatment** : Steam Homo (Black Oxide Finish)
► **Application** : Designed for drilling deep hole or deeply located hole.
Drilling into steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron, Spheroidal graphite cast iron, sintered iron, aluminium and aluminium alloy.

► **表面处理** : 氧化发黑处理
► **应用** : 设计用于深孔加工或深定位孔加工。
适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁, 球状石墨铸铁, 烧结铁, 铝和铝合金的深孔和深定位孔的钻削。



Overall Length : 450mm

Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper	EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径	槽长	全长	莫氏锥度号	型号	刃径	槽长	全长	莫氏锥度号
	D1	L1	L2			D1	L1	L2	
D1208145	14.5	300	450	2	D1208280	28.0	300	450	3
D1208150	15.0	300	450	2	D1208285	28.5	300	450	3
D1208155	15.5	300	450	2	D1208290	29.0	300	450	3
D1208160	16.0	300	450	2	D1208295	29.5	300	450	3
D1208165	16.5	300	450	2	D1208300	30.0	300	450	3
D1208170	17.0	300	450	2	D1208305	30.5	300	450	3
D1208175	17.5	300	450	2	D1208310	31.0	300	450	3
D1208180	18.0	300	450	2	D1208315	31.5	300	450	3
D1208185	18.5	300	450	2	D1208320	32.0	300	450	3
D1208190	19.0	300	450	2	D1208330	33.0	300	450	4
D1208195	19.5	300	450	2	D1208340	34.0	300	450	4
D1208200	20.0	300	450	2	D1208350	35.0	300	450	4
D1208205	20.5	300	450	2	D1208360	36.0	300	450	4
D1208210	21.0	300	450	2	D1208370	37.0	300	450	4
D1208215	21.5	300	450	2	D1208380	38.0	300	450	4
D1208220	22.0	300	450	2	D1208390	39.0	300	450	4
D1208225	22.5	300	450	2	D1208400	40.0	300	450	4
D1208230	23.0	300	450	2	D1208410	41.0	300	450	4
D1208235	23.5	300	450	3	D1208420	42.0	300	450	4
D1208240	24.0	300	450	3	D1208430	43.0	300	450	4
D1208245	24.5	300	450	3	D1208440	44.0	300	450	4
D1208250	25.0	300	450	3	D1208450	45.0	300	450	4
D1208255	25.5	300	450	3	D1208460	46.0	300	450	4
D1208260	26.0	300	450	3	D1208470	47.0	300	450	4
D1208265	26.5	300	450	3	D1208480	48.0	300	450	4
D1208270	27.0	300	450	3	D1208490	49.0	300	450	4
D1208275	27.5	300	450	3	D1208500	50.0	300	450	4

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

A239

TIG MORSE TAPER SHANK DRILLS

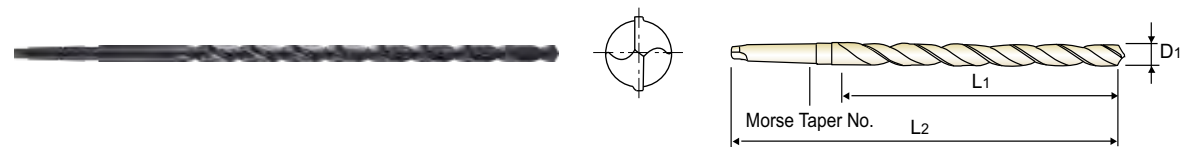
D1207 SERIES

HSS, MORSE TAPER SHANK DRILLS HSS, 莫氏锥柄麻花钻头

LONG
长

► **Surface treatment** : Steam Homo (Black Oxide Finish)
 ► **Application** : Designed for drilling deep hole or deeply located hole.
 Drilling into steel, cast steel alloyed and non-alloyed, grey cast iron, malleable cast iron, Spheroidal graphite cast iron, sintered iron, aluminium and aluminium alloy.

► **表面处理** : 氧化发黑处理
 ► **应用** : 设计用于深孔加工或深定位孔加工。
 适用于钢, 铸钢合金和非合金钢, 灰铸铁, 可锻铸铁, 球状石墨铸铁, 烧结铁, 铝和铝合金的深孔和深定位孔的钻削。



Overall Length : 500mm

Unit(单位) : mm

EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper	EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径	槽长	全长	莫氏锥度号	型号	刃径	槽长	全长	莫氏锥度号
	D1	L1	L2			D1	L1	L2	
D1207145	14.5	350	500	2	D1207280	28.0	350	500	3
D1207150	15.0	350	500	2	D1207285	28.5	350	500	3
D1207155	15.5	350	500	2	D1207290	29.0	350	500	3
D1207160	16.0	350	500	2	D1207295	29.5	350	500	3
D1207165	16.5	350	500	2	D1207300	30.0	350	500	3
D1207170	17.0	350	500	2	D1207305	30.5	350	500	3
D1207175	17.5	350	500	2	D1207310	31.0	350	500	3
D1207180	18.0	350	500	2	D1207315	31.5	350	500	3
D1207185	18.5	350	500	2	D1207320	32.0	350	500	3
D1207190	19.0	350	500	2	D1207330	33.0	350	500	4
D1207195	19.5	350	500	2	D1207340	34.0	350	500	4
D1207200	20.0	350	500	2	D1207350	35.0	350	500	4
D1207205	20.5	350	500	2	D1207360	36.0	350	500	4
D1207210	21.0	350	500	2	D1207370	37.0	350	500	4
D1207215	21.5	350	500	2	D1207380	38.0	350	500	4
D1207220	22.0	350	500	2	D1207390	39.0	350	500	4
D1207225	22.5	350	500	2	D1207400	40.0	350	500	4
D1207230	23.0	350	500	2	D1207410	41.0	350	500	4
D1207235	23.5	350	500	3	D1207420	42.0	350	500	4
D1207240	24.0	350	500	3	D1207430	43.0	350	500	4
D1207245	24.5	350	500	3	D1207440	44.0	350	500	4
D1207250	25.0	350	500	3	D1207450	45.0	350	500	4
D1207255	25.5	350	500	3	D1207460	46.0	350	500	4
D1207260	26.0	350	500	3	D1207470	47.0	350	500	4
D1207265	26.5	350	500	3	D1207480	48.0	350	500	4
D1207270	27.0	350	500	3	D1207490	49.0	350	500	4
D1207275	27.5	350	500	3	D1207500	50.0	350	500	4

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

A240

TIG MORSE TAPER SHANK DRILLS

D2201 SERIES

HSSCo8, MORSE TAPER SHANK DRILLS HSSCo8, 莫氏锥柄麻花钻头

REGULAR
常规

► **Surface treatment** : Steam Homo (Black Oxide Finish)
 ► **Application** : Cobalt 8% high speed steel-higher speed and feed, longer service life than HSS.
 Drilling in steel, cast steel alloyed and unalloyed grey cast iron, malleable cast iron

► **表面处理** : 氧化发黑处理
 ► **应用** : 适用于钢, 铸钢合金, 非合金灰铸件, 可锻铸铁件和石墨等材料的加工 含8% 钴高速钢材料, 大大优越于一般高速钢。



EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper	EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径	槽长	全长	莫氏锥度号	型号	刃径	槽长	全长	莫氏锥度号
	D1	L1	L2			D1	L1	L2	
▲ D2201130	13.0	115	198	1	▲ D2201245	24.5	165	285	3
▲ D2201135	13.5	118	202	1	▲ D2201250	25.0	165	285	3
▲ D2201138	13.8	122	205	1	▲ D2201255	25.5	165	285	3
▲ D2201140	14.0	122	205	1	▲ D2201260	26.0	165	285	3
▲ D2201145	14.5	122	222	2	▲ D2201265	26.5	170	290	3
▲ D2201150	15.0	125	225	2	▲ D2201270	27.0	170	290	3
▲ D2201155	15.5	128	228	2	▲ D2201275	27.5	175	295	3
▲ D2201160	16.0	130	230	2	▲ D2201280	28.0	175	295	3
▲ D2201165	16.5	132	232	2	▲ D2201285	28.5	180	300	3
▲ D2201170	17.0	135	235	2	▲ D2201290	29.0	180	300	3
▲ D2201175	17.5	140	240	2	▲ D2201295	29.5	185	305	3
▲ D2201180	18.0	140	240	2	▲ D2201300	30.0	185	305	3
▲ D2201185	18.5	145	245	2	▲ D2201310	31.0	190	310	3
▲ D2201190	19.0	145	245	2	▲ D2201315	31.5	195	315	3
▲ D2201195	19.5	150	250	2	▲ D2201320	32.0	195	315	3
▲ D2201200	20.0	150	250	2	▲ D2201340	34.0	205	350	4
▲ D2201205	20.5	155	255	2	▲ D2201350	35.0	205	350	4
▲ D2201210	21.0	155	255	2	▲ D2201360	36.0	210	355	4
▲ D2201215	21.5	160	260	2	▲ D2201380	38.0	215	360	4
▲ D2201220	22.0	160	260	2	▲ D2201400	40.0	220	365	4
▲ D2201225	22.5	165	265	2	▲ D2201420	42.0	225	370	4
▲ D2201230	23.0	165	265	2	▲ D2201450	42.0	230	375	4
▲ D2201235	23.5	165	285	3	▲ D2201520	52.0	250	430	5
▲ D2201240	24.0	165	285	3	▲ D2201570	47.0	260	440	5

▲ : Only available till stock runs out

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

A241

YMG MORSE TAPER SHANK DRILLS

D2203 SERIES D2204 SERIES
D2202 SERIES D2208 SERIES

HSSCo8, MORSE TAPER SHANK DRILLS HSSCo8, 莫氏锥柄麻花钻头

LONG
长

▶ **Surface treatment** : Steam Homo (Black Oxide Finish)
▶ **Application** : Cobalt 8% high speed steel-higher speed and feed, longer service life than HSS. Drilling in steel, cast steel alloyed and non-alloyed grey cast iron, malleable cast iron

▶ **表面处理** : 氧化发黑处理
▶ **应用** : 适用于钢, 铸钢合金, 非合金灰铸件, 可锻铸铁件和石墨等材料的加工 含8% 钴高速钢材料, 大大优越于一般高速钢。



Only available till stock runs out
尽在库存用完之前可用

HSS Co8 N 30° 2~3 h8 118° p. A244

Plain Shank Page Recommended ToolHolder MORSE TAPER ARBOR D177-181

D2203 Unit(单位) : mm				
EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径 D1	槽长 L1	全长 L2	莫氏锥度号
▲ D2203160	16.0	175	300	2
▲ D2203180	18.0	175	300	2
▲ D2203220	22.0	175	300	2

▲ : Only available till stock runs out

D2204 Unit(单位) : mm				
EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径 D1	槽长 L1	全长 L2	莫氏锥度号
▲ D2204200	20.0	250	400	2

▲ : Only available till stock runs out

D2202 Unit(单位) : mm				
EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径 D1	槽长 L1	全长 L2	莫氏锥度号
▲ D2202180	18.0	225	350	2
▲ D2202240	24.0	200	350	3
▲ D2202280	28.0	200	350	3
▲ D2202300	30.0	200	350	3

▲ : Only available till stock runs out

D2208 Unit(单位) : mm				
EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径 D1	槽长 L1	全长 L2	莫氏锥度号
▲ D2208200	20.0	300	450	2
▲ D2208300	30.0	300	450	3

▲ : Only available till stock runs out

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	10	29	32	38	15	35	15	23	10	18	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○								○					○					

YMG MORSE TAPER SHANK DRILLS

DN221 SERIES

HSS-E, MORSE TAPER SHANK TWIST DRILLS HSS-E, 莫氏锥柄麻花钻

SHORT
短

▶ **Application** : Short length - designed for high speed drilling in wide range of materials like carbon steels, stainless steels and aluminum.

▶ **应用** : 短长度设计适合在碳钢, 不锈钢, 铝等多种材料上进行高速 钻削。



Only available till stock runs out
尽在库存用完之前可用

HSS-E N 30° 1~3 h8 135° p. A245

Plain Shank Page Recommended ToolHolder MORSE TAPER ARBOR D177-181

D2203 Unit(单位) : mm				
EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径 D1	槽长 L1	全长 L2	莫氏锥度号
▲ DN221130	13.0	65.5	146.5	1
▲ DN221135	13.5	69.5	150.5	1
▲ DN221140	14.0	69.5	150.5	1
▲ DN221145	14.5	73	171	2
▲ DN221155	15.5	77	175	2
▲ DN221160	16.0	77	175	2
▲ DN221170	17.0	80.5	178.5	2
▲ DN221175	17.5	83.5	181.5	2
▲ DN221185	18.5	86.5	184.5	2
▲ DN221195	19.5	90	188	2
▲ DN221200	20.0	90	188	2
▲ DN221210	21.0	93	191	2
▲ DN221215	21.5	95.5	193.5	2
▲ DN221220	22.0	95.5	193.5	2
▲ DN221225	22.5	99.5	197.5	2

▲ : Only available till stock runs out

D2202 Unit(单位) : mm				
EDP No	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
型号	刃径 D1	槽长 L1	全长 L2	莫氏锥度号
▲ DN221235	23.5	102.5	223.5	3
▲ DN221240	24.0	102.5	223.5	3
▲ DN221245	24.5	102.5	223.5	3
▲ DN221250	25.0	102.5	223.5	3
▲ DN221255	25.5	105	226	3
▲ DN221260	26.0	105	226	3
▲ DN221265	26.5	105	226	3
▲ DN221275	27.5	108.5	229.5	3
▲ DN221280	28.0	108.5	229.5	3
▲ DN221285	28.5	111	232	3
▲ DN221295	29.5	111	232	3
▲ DN221300	30.0	111	232	3
▲ DN221310	31.0	114	235	3
▲ DN221320	32.0	114	235	3

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	10	29	32	38	15	35	15	23	10	18	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○								○					○					



RECOMMENDED CUTTING CONDITIONS
推荐加工条件

D1201, D1203, D1202, D1204, D1208, D1207, D2201, D2203, D2202, D2204, D2208 SERIES

HSS & HSSCo8, MORSE TAPER SHANK DRILLS
HSS & HSSCO8, 莫氏锥柄麻花钻头

RPM (转速) = (rev/min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)							
					13.0	16.0	18.0	20.0	30.0	40.0	50.0	60.0
P	1	Non-alloy steel	30	RPM	730	600	530	480	320	240	190	160
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
			25	RPM	610	500	440	400	270	200	160	130
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
	20	RPM	490	400	350	320	210	160	130	110		
		FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40		
	15	RPM	370	300	270	240	160	120	100	80		
		FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24		
	6	Low alloy steel	25	RPM	610	500	440	400	270	200	160	130
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
20			RPM	490	400	350	320	210	160	130	110	
			FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40	
15	RPM	370	300	270	240	160	120	100	80			
	FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24			
10	High alloyed steel, and tool steel	RPM	370	300	270	240	160	120	100	80		
		FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40		
M	12	Stainless steel	RPM	490	400	350	320	210	160	130	110	
			FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40	
13			RPM	370	300	270	240	160	120	100	80	
			FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40	
K	15	Grey cast iron	30	RPM	730	600	530	480	320	240	190	160
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
			25	RPM	610	500	440	400	270	200	160	130
				FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24
	17	Nodular cast iron	30	RPM	730	600	530	480	320	240	190	160
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
			20	RPM	490	400	350	320	210	160	130	110
				FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24
	19	Malleable cast iron	25	RPM	610	500	440	400	270	200	160	130
				FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40
20			RPM	490	400	350	320	210	160	130	110	
			FEED	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24	
N	21	Aluminum-wrought alloy	RPM	1350	1090	970	880	580	440	350	290	
			FEED	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38	0.32-0.42	0.36-0.46	0.40-0.50	
	55			RPM	1350	1090	970	880	580	440	350	290
				FEED	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38	0.32-0.42	0.36-0.46	0.40-0.50
	40	Aluminum-cast, alloyed	RPM	980	800	710	640	420	320	250	210	
			FEED	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38	0.32-0.42	0.36-0.46	0.40-0.50	
20	Non Metallic Materials	RPM	490	400	350	320	210	160	130	110		
		FEED	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.36-0.40		
S	36	Titanium Alloys	RPM	240	200	180	160	110	80	60	50	
			FEED	0.06-0.10	0.05-0.11	0.06-0.12	0.09-0.13	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24	



RECOMMENDED CUTTING CONDITIONS
推荐加工条件

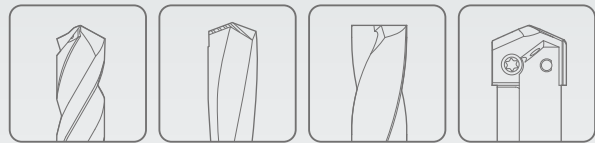
DN221 SERIES **HSS-E, MORSE TAPER SHANK DRILLS**
HSS-E, 莫氏锥柄麻花钻头

RPM (转速) = (rev/min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)				
					13.0	16.0	18.0	20.0	30.0
P	1	Non-alloy steel	40	RPM	980	800	710	640	420
				FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33
			30	RPM	730	600	530	480	320
				FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33
	25	RPM	610	500	440	400	270		
		FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33		
	20	RPM	490	400	350	320	210		
		FEED	0.09-0.15	0.11-0.17	0.13-0.19	0.15-0.21	0.17-0.23		
	6	Low alloy steel	30	RPM	730	600	530	480	320
				FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33
25			RPM	610	500	440	400	270	
			FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33	
20	RPM	490	400	350	320	210			
	FEED	0.09-0.15	0.11-0.17	0.13-0.19	0.15-0.21	0.17-0.23			
10	High alloyed steel, and tool steel	RPM	490	400	350	320	210		
		FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33		
K	15	Grey cast iron	RPM	980	800	710	640	420	
			FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33	
	30			RPM	730	600	530	480	320
				FEED	0.09-0.15	0.11-0.17	0.13-0.19	0.15-0.21	0.17-0.23
	17	Nodular cast iron	40	RPM	980	800	710	640	420
				FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33
25			RPM	610	500	440	400	270	
			FEED	0.09-0.15	0.11-0.17	0.13-0.19	0.15-0.21	0.17-0.23	
19	Malleable cast iron	30	RPM	730	600	530	480	320	
			FEED	0.16-0.22	0.17-0.23	0.19-0.25	0.24-0.30	0.27-0.33	
		25	RPM	610	500	440	400	270	
			FEED	0.09-0.15	0.11-0.17	0.13-0.19	0.15-0.21	0.17-0.23	
N	21	Aluminum-wrought alloy	RPM	1470	1190	1060	950	640	
			FEED	0.21-0.27	0.23-0.29	0.25-0.33	0.25-0.35	0.33-0.43	
			RPM	1470	1190	1060	950	640	
22			FEED	0.21-0.27	0.23-0.29	0.25-0.33	0.25-0.35	0.33-0.43	
			RPM	1100	900	800	720	480	
23	Aluminum-cast, alloyed	FEED	0.21-0.27	0.23-0.29	0.25-0.33	0.25-0.35	0.33-0.43		
		RPM	370	300	270	240	160		
S	36	Titanium Alloys	RPM	370	300	270	240	160	
			FEED	0.06-0.10	0.05-0.11	0.06-0.12	0.09-0.13	0.12-0.18	



Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation



HSSCo8

NC-SPOTTING DRILLS

- For Centering and Chamfering of Holes
- 定中心和倒角

SELECTION GUIDE
选用指南



SURFACE TREATMENT 表面处理

HSSCo8
NC-SPOTTING DRILLS

For Centering and Chamfering of Holes
定中心和倒角

Please visit 请访问 globalygl.com/mat for material search 查看产品材料
© : Excellent (优秀) ○ : Good (良好)
(Recommended cutting conditions (推荐加工条件) : p. A251)

SERIES 选用指南

POINT ANGLE 钻尖角度

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

D2306 D2307	D2320 D2323
90°/120°	142°
D3.0	D3.0 / D6.0
D20.0	D20.0 / D12.0
A249	A250

Bright



ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度		
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎
	4		About 0.75% C Annealed	270	28		
	5		About 0.75% C Quenched & Tempered	300	32		
	6	Low alloy steel	Annealed	180	10	◎	◎
	7		Quenched & Tempered	275	29	○	○
	8		Quenched & Tempered	300	32		
	9		Quenched & Tempered	350	38		
	10		High alloyed steel, and tool steel	Annealed	200	15	
	11		Quenched & Tempered	325	35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○
	13		Martensitic Quenched & Tempered	240	23		
	14		Austenitic	180	10		
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎
	16		Pearlitic (Martensitic)	260	26	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○
	18		Pearlitic	250	25		
	19		Ferritic	130		○	○
	20	Malleable cast iron	Pearlitic	230	21		
N	21	Aluminum-wrought alloy	Not Curable	60		○	○
	22		Curable Hardened	100		○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○
	24		≤ 12% Si, Curable Hardened	90			
	25		> 12% Si, Not Curable	130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110			
	27		CuZn, CuSnZn (Brass)	90			
	28		CuSn, lead-free copper and electrolytic copper	100			
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				
	30		Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34		Cured	350	38		
	35		Cast	320	34		
	36	Titanium Alloys	Pure Titanium	400 Rm			
	37		Alpha + Beta Alloys Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Hardened Cast Iron	Cast	400	42		
	41		Hardened	550	55		

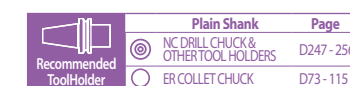
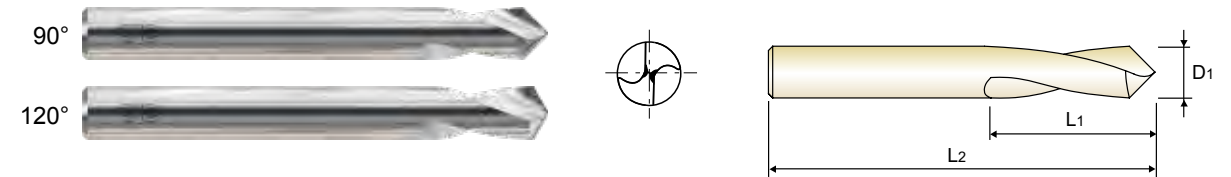


90°	D2306 SERIES
120°	D2307 SERIES

HSSCo8, NC-SPOTTING DRILLS 90°/120°
HSSCo8, 定心钻头 90°/120°

► Surface treatment : Bright Finish
► Application : For more precise centering work on NC/CNC Machines. The large diameter of the tool permits chamfering work after centering continuously.

► 表面处理: 光亮处理
► 应用: 用于NC/CNC机床上的高精度中心孔加工, 大的产品直径允许在中心孔加工后继续进行倒角工作。



Point Angle 90°

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	D1	L1	L2
D2306030	3.0	12	46
D2306040	4.0	12	55
D2306050	5.0	15	60
D2306060	6.0	20	66
D2306080	8.0	25	79
D2306100	10.0	25	89
D2306120	12.0	30	102
D2306160	16.0	35	115
D2306200	20.0	40	131

Point Angle 120°

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	D1	L1	L2
D2307030	3.0	12	46
D2307040	4.0	12	55
D2307050	5.0	15	60
D2307060	6.0	20	66
D2307080	8.0	25	79
D2307100	10.0	25	89
D2307120	12.0	30	102
D2307160	16.0	35	115
D2307200	20.0	40	131

► TiN, TiCN and TiAlN are available on your request. / TiN, TiCN, TiAlN 可根据客户需求进行加工。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	125	190	250	270	300	180	290	320	380	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎			◎	○					○			◎	○	○			

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○																		

HSSCo8, NC-SPOTTING DRILLS 142°
HSSCo8, 定心钻头 142°

▶ **Surface treatment** : Bright Finish

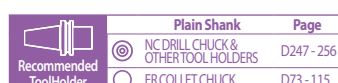
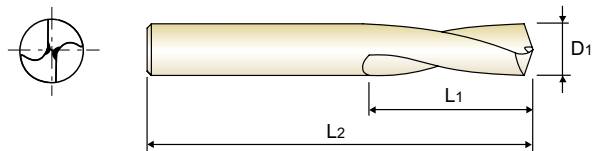
▶ **Application**: For more precise centering work on NC/CNC Machines.
The large diameter of the tool permits chamfering work after centering continuously.

▶ 表面处理: 光亮处理

▶ 应用: 用于NC/CNC机床上的高精度中心孔加工, 大的产品直径允许在中心孔加工后继续进行倒角工作。



LONG LENGTH



LONG LENGTH

Unit(单位) : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
D2320030	3.0	12	46
D2320040	4.0	12	55
D2320050	5.0	15	60
D2320060	6.0	20	66
D2320080	8.0	25	79
D2320100	10.0	25	89
D2320120	12.0	30	102
D2320160	16.0	35	115
D2320200	20.0	40	131

EDP No.	Drill Diameter	Flute Length	Overall Length
型号	刃径 D1	槽长 L1	全长 L2
D2323060	6.0	20	140
D2323080	8.0	25	140
D2323100	10.0	25	170
D2323120	12.0	30	170

▶ TiN, TiCN and TiAlN are available on your request. / TiN, TiCN, TiAlN 可根据客户需求进行加工。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	10	15	35	15	23	10	10	26	3	25	21
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

D2306, D2307, D2320, D2323 SERIES

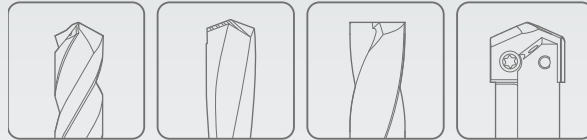
HSSCo8, NC-SPOTTING DRILLS
HSSCo8, 定心钻头

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)									
					2.0	3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	
P	1	Non-alloy steel	25	RPM	3980	2650	1990	1330	990	800	660	500	400	
				FEED	0.02-0.04	0.04-0.06	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	0.15-0.21	
			25	RPM	3980	2650	1990	1330	990	800	660	500	400	
	FEED			0.02-0.04	0.04-0.06	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	0.15-0.21		
	3		15	RPM	2390	1590	1190	800	600	480	400	300	240	
				FEED	0.01-0.03	0.03-0.05	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	
6	20	Low alloy steel	RPM	3180	2120	1590	1060	800	640	530	400	320		
			FEED	0.02-0.04	0.04-0.06	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	0.15-0.21		
7	15	RPM	2390	1590	1190	800	600	480	400	300	240			
		FEED	0.01-0.03	0.03-0.05	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19			
M	12	Stainless steel	RPM	2390	1590	1190	800	600	480	400	300	240		
			FEED	0.02-0.04	0.04-0.06	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	0.15-0.21		
K	15	Grey cast iron	RPM	4770	3180	2390	1590	1190	950	800	600	480		
			FEED	0.03-0.05	0.05-0.07	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.16	0.15-0.2	0.18-0.24	0.22-0.28		
	25		RPM	3980	2650	1990	1330	990	800	660	500	400		
			FEED	0.01-0.03	0.03-0.05	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19		
	17		30	Nodular cast iron	RPM	4770	3180	2390	1590	1190	950	800	600	480
					FEED	0.03-0.05	0.05-0.07	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.16	0.15-0.2	0.18-0.24	0.22-0.28
19	20	Malleable cast iron	RPM	3180	2120	1590	1060	800	640	530	400	320		
			FEED	0.03-0.05	0.05-0.07	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.16	0.15-0.2	0.18-0.24	0.22-0.28		
N	21	Aluminum-wrought alloy	RPM	10350	6900	5170	3450	2590	2070	1720	1290	1030		
			FEED	0.04-0.06	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.15	0.15-0.19	0.18-0.23	0.21-0.27	0.25-0.31		
	60		RPM	9550	6370	4770	3180	2390	1910	1590	1190	950		
			FEED	0.04-0.06	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.15	0.15-0.19	0.18-0.23	0.21-0.27	0.25-0.31		
	23		Aluminum-cast, alloyed	RPM	7960	5310	3980	2650	1990	1590	1330	990	800	
				FEED	0.04-0.06	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.15	0.15-0.19	0.18-0.23	0.21-0.27	0.25-0.31	



Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

HSS-E

CENTER DRILLS

- General Purpose
- 普通用途

SELECTION GUIDE
选用指南

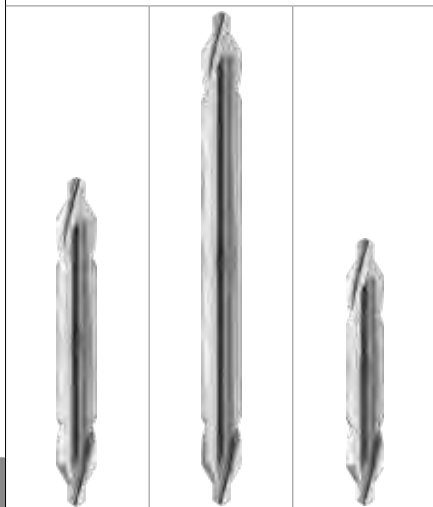


SERIES 系列	DV304	DV305	DV301
DRILLING DEPTH 钻销深度	-	-	-
LENGTH 长度	EXTRA LONG 超长	EXTRA LONG 超长	-
SIZE MIN 最小尺寸	D1.0	D1.5	D1.0
SIZE MAX 最大尺寸	D5.0	D5.0	D6.0
PAGE 页数	A255	A255	A256

SURFACE TREATMENT 表面处理 Bright

HSS-E
CENTER DRILLS

General Purpose
普通用途



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for material search 查看产品材料

◎: Excellent (优秀) ○: Good (良好)

(Recommended cutting conditions (推荐加工条件): p. A257)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度				
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	
	2		About 0.45% C Annealed	190	13	◎	◎	◎	
	3		About 0.45% C Quenched & Tempered	250	25	○	○	○	
	4		About 0.75% C Annealed	270	28				
	5		About 0.75% C Quenched & Tempered	300	32				
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	
	7		Quenched & Tempered	275	29	○	○	○	
	8		Quenched & Tempered	300	32				
	9		Quenched & Tempered	350	38				
	10		High alloyed steel, and tool steel	Annealed	200	15			
	11			Quenched & Tempered	325	35			
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○	○	
	13		Martensitic Quenched & Tempered	240	23				
	14		Austenitic	180	10				
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎	
	16		Pearlitic (Martensitic)	260	26	○	○	○	
	17	Nodular cast iron	Ferritic	160	3	○	○	○	
	18		Pearlitic	250	25				
	19		Ferritic	130		○	○	○	
	20		Malleable cast iron	230	21				
N	21	Aluminum-wrought alloy	Not Curable	60					
	22		Curable Hardened	100					
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75					
	24		≤ 12% Si, Curable Hardened	90					
	25		> 12% Si, Not Curable	130					
	26		Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90				
	27	Non Metallic Materials	Cutting Alloys, PB>1%	110					
	28		CuSn, lead-free copper and electrolytic copper	100					
	29		Duroplastic, Fiber Reinforced Plastic						
	30	Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15				
	32		Cured	280	30				
	33		Annealed	250	25				
	34		Cured	350	38				
	35	Cast	320	34					
	36	Titanium Alloys	Pure Titanium	400 Rm					
	37		Alpha + Beta Alloys Hardened	1050 Rm					
H	38	Hardened steel	Hardened	550	55				
	39		Hardened	630	60				
	40	Hardened Cast Iron	Cast	400	42				
	41		Hardened	550	55				

YIG CENTER DRILLS

100mm DV304 SERIES
150mm DV305 SERIES

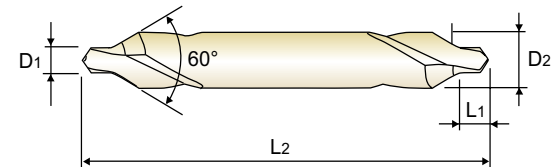
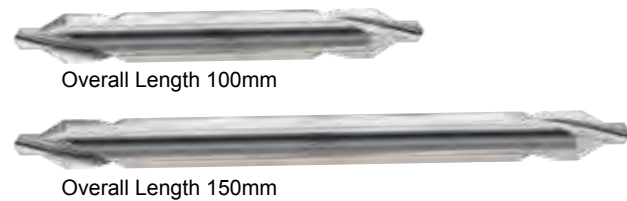
HSS-E, CENTER DRILLS
HSS-E, 中心钻

EXTRA LONG

超长

► Application : Center Drills suitable for center drilling and chamfering in general materials. Excellent performance with High Vanadium HSS-E and YG-1's unique design technology.

► 应用: 适用于一般材料的定心孔加工和倒角加工。采用含钴高速钢材料和YG1独特的设计技术, 具有卓越的加工性能



HSS-E h8 k12 120° p. A257

Plain Shank Page
NC DRILL CHUCK & OTHER TOOL HOLDERS D247-256
ER COLLET CHUCK D73-115

DV304 : 100mm

EDP No	Drill Diameter	Shank Diameter	Pilot Length	Overall Length
型号	刃径 D1	柄径 D2	槽长 L1	全长 L2
DV304010	1.0	4.0	1.0	100
DV304012	1.2	5.0	1.2	100
DV304015	1.5	5.0	1.5	100
DV304020	2.0	6.0	2.0	100
DV304025	2.5	8.0	2.5	100
DV304030	3.0	8.0	3.0	100
DV304032	3.2	8.0	3.0	100
DV304040	4.0	10.0	4.5	100
DV304050	5.0	12.0	5.5	100

DV305 : 150mm

EDP No	Drill Diameter	Shank Diameter	Pilot Length	Overall Length
型号	刃径 D1	柄径 D2	槽长 L1	全长 L2
DV305015	1.5	5.0	1.9	150
DV305020	2.0	6.0	2.5	150
DV305025	2.5	8.0	3.1	150
DV305030	3.0	10.0	3.7	150
DV305040	4.0	10.0	5.0	150
DV305050	5.0	12.0	6.3	150

Unit(单位): mm

◎: Excellent (优秀) ○: Good (良好)

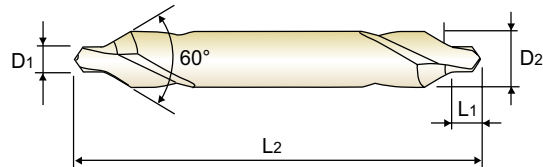
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○			◎	○				○				◎	○	○		○	

ISO Material Description	N								S								H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320			550	630	400	550
Recommended																					

HSS-E, CENTER DRILLS
HSS-E, 中心钻

▶ **Application** : Center Drills suitable for center drilling and chamfering in general materials. Excellent performance with High Vanadium HSS-E and YG-1's unique design technology.

▶ **应用** : 适用于一般材料的定心孔加工和倒角加工。采用含钴高速钢材料和YG1独特的设计技术, 具有卓越的加工性能



Recommended Toolholder	Plain Shank	Page
	NC DRILL CHUCK & OTHER TOOL HOLDERS	D247 - 256
	ER COLLET CHUCK	D73 - 115

FORM A (60°)

Unit(单位) : mm

EDP No	Drill Diameter	Shank Diameter	Pilot Length	Overall Length
型号	刃径 D1	柄径 D2	槽长 L1	全长 L2
DV301010	1.0	4.0	1.0	35
DV301015	1.5	5.0	1.5	40
DV301020	2.0	6.0	2.0	45
DV301025	2.5	7.7	2.5	50
DV301904	2.5	8.0	2.5	50
DV301030	3.0	7.7	3.0	55
DV301901	3.0	8.0	3.0	55
DV301040	4.0	10.0	4.5	65
DV301050	5.0	11.0	5.5	78
DV301060	6.0	12.0	7.0	95

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K							
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron			Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21			
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○		

ISO	N										S						H									
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41					
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55					
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550					
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎					

DV304, DV305, DV301 SERIES

HSS-E, CENTER DRILLS
HSS-E, 中心钻

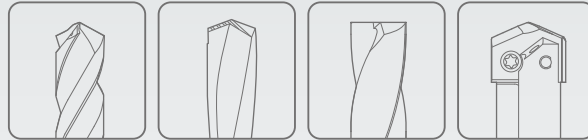
RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)		Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)	
					0.5	1.0			2.0	
P	1	Non-alloy steel	30	RPM	19100	40	RPM	12730	6370	
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.06	
	2		RPM	15920	35	RPM	9550	4770		
			FEED	0.01-0.03	FEED	0.02-0.04	0.03-0.06			
	3		RPM	12730	25	RPM	7960	3980		
FEED		0.005-0.02	FEED	0.01-0.03	0.01-0.035					
6	Low alloy steel	25	RPM	15920	30	RPM	9550	4770		
			FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.06		
			7	RPM		9550	20	RPM	6370	3180
FEED	0.005-0.02	FEED		0.01-0.03	0.01-0.035					
M	12	Stainless steel	8	RPM	5090	10	RPM	3180	1590	
K	15	Grey cast iron	30	RPM	19100	40	RPM	12730	6370	
				FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.06	
	16		RPM	15920	30	RPM	9550	4770		
			FEED	0.005-0.02	FEED	0.01-0.03	0.01-0.035			
17	Nodular cast iron	30	RPM	19100	40	RPM	12730	6370		
			FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.06		
19	Malleable cast iron	20	RPM	12730	25	RPM	7960	3980		
			FEED	0.01-0.03		FEED	0.02-0.04	0.03-0.06		

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Parameter 参数	Drill Diameter 刃径 (mm)					
					3.0	4.0	5.0	6.0	8.0	10.0
P	1	Non-alloy steel	40	RPM	4240	3180	2550	2120	1590	1270
				FEED	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18
	2		RPM	3180	2390	1910	1590	1190	950	
			FEED	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18	
	3		RPM	2650	1990	1590	1330	990	800	
FEED		0.015-0.05	0.02-0.06	0.03-0.07	0.04-0.08	0.06-0.12	0.08-0.14			
6	Low alloy steel	30	RPM	3180	2390	1910	1590	1190	950	
			FEED	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18	
7	20	RPM	2120	1590	1270	1060	800	640		
		FEED	0.015-0.05	0.02-0.06	0.03-0.07	0.04-0.08	0.06-0.12	0.08-0.14		
M	12	Stainless steel	10	RPM	1060	800	640	530	400	320
K	15	Grey cast iron	40	RPM	4240	3180	2550	2120	1590	1270
				FEED	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18
	16		RPM	3180	2390	1910	1590	1190	950	
			FEED	0.015-0.05	0.02-0.06	0.03-0.07	0.04-0.08	0.06-0.12	0.08-0.14	
17	Nodular cast iron	40	RPM	4240	3180	2550	2120	1590	1270	
			FEED	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18	
19	Malleable cast iron	25	RPM	2650	1990	1590	1330	990	800	
			FEED	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.06-0.12	0.12-0.18	



Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation



INSERTS & HOLDERS

SPADE DRILLS

- For General Machines and Drilling Large Diameters
Longer Tool Life and High Productivity

- 普通机械和钻头用直径，工具寿命延长及高生产率

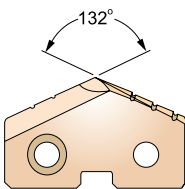
SPADE DRILLS

SERIES 1, 2

SPADE DRILL INSERTS - HSS M4 铲钻刀片-HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于钢和铸铁的普通用途。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

切削条件 / cutting conditions : p. A366

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		HSS M4		
					TiN	TiCN	TiAlN
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86	.7031	S1405045	S1410045	S1415045	
				S1455180	S1460180	S1465180	
		18.00	.7087	S1405046	S1410046	S1415046	
				S1455185	S1460185	S1465185	
		23/32	18.26	.7188	S1405047	S1410047	S1415047
					S1455190	S1460190	S1465190
	18.50	.7283	S1405048	S1410048	S1415048		
			S1405049	S1410049	S1415049		
	47/64	18.65	.7344	S1455195	S1460195	S1465195	
				S1405050	S1410050	S1415050	
	19.00	.7480	S1455200	S1460200	S1465200		
			S1405051	S1410051	S1415051		
	3/4	19.05	.7500	S1455205	S1460205	S1465205	
				S1405052	S1410052	S1415052	
	49/64	19.45	.7656	S1455210	S1460210	S1465210	
				S1405054	S1410054	S1415054	
25/32	19.84	.7813	S1405055	S1410055	S1415055		
			S1455220	S1460220	S1465220		
20.00	.7874	S1405056	S1410056	S1415056			
		S1405057	S1410057	S1415057			
51/64	20.24	.7969	S1455230	S1460230	S1465230		
			S1405058	S1410058	S1415058		
20.50	.8071	S1405059	S1410059	S1415059			
		S1455240	S1460240	S1465240			
13/16	20.64	.8125	S1405060	S1410060	S1415060		
			S1455250	S1460250	S1465250		
21.00	.8268	S1405100	S1410100	S1415100			
		S1405101	S1410101	S1415101			
27/32	21.43	.8438	S1455260	S1460260	S1465260		
			S1405102	S1410102	S1415102		
55/64	21.83	.8594	S1405103	S1410103	S1415103		
			S1455270	S1460270	S1465270		
22.00	.8661	S1405104	S1410104	S1415104			
		S1405105	S1410105	S1415105			
7/8	22.23	.8750	S1405106	S1410106	S1415106		
			S1455300	S1460300	S1465300		
57/64	22.62	.8906	S1405107	S1410107	S1415107		
			S1455310	S1460310	S1465310		
23.00	.9055	S1405108	S1410108	S1415108			
		S1455320	S1460320	S1465320			
29/32	23.02	.9063	S1405109	S1410109	S1415109		
			S1455330	S1460330	S1465330		
59/64	23.42	.9219	S1405110	S1410110	S1415110		
			S1455340	S1460340	S1465340		
15/16	23.81	.9375	S1405111	S1410111	S1415111		
			S1455350	S1460350	S1465350		
24.00	.9449	S1405112	S1410112	S1415112			
		S1405113	S1410113	S1415113			
31/32	24.61	.9688	S1405114	S1410114	S1415114		
			S1455360	S1460360	S1465360		
63/64	25.00	.9843	S1405115	S1410115	S1415115		
			S1455370	S1460370	S1465370		
1	25.40	1.0000	S1405116	S1410116	S1415116		
			S1405117	S1410117	S1415117		
Ø24.41 (.961) to Ø47.80 (1.882)	1-1/64	25.80	1.0156	S1405118	S1410118	S1415118	
				S1455380	S1460380	S1465380	
26.00	1.0236	S1405119	S1410119	S1415119			
		S1405120	S1410120	S1415120			
1-1/32	26.19	1.0313	S1405121	S1410121	S1415121		
			S1455390	S1460390	S1465390		
1-3/64	26.59	1.0469	S1405122	S1410122	S1415122		
			S1455400	S1460400	S1465400		
1-1/16	26.99	1.0625	S1405123	S1410123	S1415123		
			S1455410	S1460410	S1465410		
27.00	1.0630	S1405124	S1410124	S1415124			
		S1455420	S1460420	S1465420			

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	45	15	35	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	○	◎	○	◎	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys		Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎															

A264

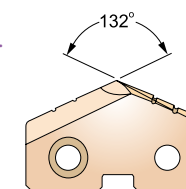
SPADE DRILLS

SERIES 2, 3

SPADE DRILL INSERTS - HSS M4 铲钻刀片-HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于钢和铸铁的普通用途。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

切削条件 / cutting conditions : p. A366

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		HSS M4		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	1-3/32	27.78	1.0938	S1405106	S1410106	S1415106	
				S1455280	S1460280	S1465280	
		28.00	1.1024	S1405107	S1410107	S1415107	
				S1455290	S1460290	S1465290	
		1-7/64	28.18	1.1094	S1405110	S1410110	S1415110
					S1455300	S1460300	S1465300
	1-1/8	28.58	1.1250	S1405112	S1410112	S1415112	
				S1405114	S1410114	S1415114	
	1-5/32	29.37	1.1563	S1405116	S1410116	S1415116	
				S1455310	S1460310	S1465310	
	30.00	1.1811	S1405118	S1410118	S1415118		
			S1455320	S1460320	S1465320		
	1-3/16	30.16	1.1875	S1405120	S1410120	S1415120	
				S1455330	S1460330	S1465330	
	1-7/32	30.96	1.2188	S1405122	S1410122	S1415122	
				S1405124	S1410124	S1415124	
31.00	1.2205	S1405126	S1410126	S1415126			
		S1455340	S1460340	S1465340			
1-1/4	31.75	1.2500	S1405128	S1410128	S1415128		
			S1455350	S1460350	S1465350		
32.00	1.2598	S1405130	S1410130	S1415130			
		S1455360	S1460360	S1465360			
1-9/32	32.54	1.2813	S1405132	S1410132	S1415132		
			S1405134	S1410134	S1415134		
33.00	1.2992	S1405136	S1410136	S1415136			
		S1455370	S1460370	S1465370			
1-5/16	33.34	1.3125	S1405138	S1410138	S1415138		
			S1455380	S1460380	S1465380		
34.00	1.3386	S1405140	S1410140	S1415140			
		S1455390	S1460390	S1465390			
1-11/32	34.13	1.3438	S1405142	S1410142	S1415142		
			S1455400	S1460400	S1465400		
1-3/8	34.93	1.3750	S1405144	S1410144	S1415144		
			S1455410	S1460410	S1465410		
35.00	1.3780	S1405146	S1410146	S1415146			
		S1455420	S1460420	S1465420			
1-13/32	35.72	1.4063	S1405148	S1410148	S1415148		
			S1455430	S1460430	S1465430		
36.00	1.4173	S1405150	S1410150	S1415150			
		S1455440	S1460440	S1465440			
1-7/16	36.51	1.4375	S1405152	S1410152	S1415152		
			S1455450	S1460450	S1465450		
37.00	1.4567	S1405154	S1410154	S1415154			
		S1455460	S1460460	S1465460			
1-15/32	37.31	1.4688	S1405156	S1410156	S1415156		
			S1455470	S1460470	S1465470		
38.00	1.4961	S1405158	S1410158	S1415158			
		S1455480	S1460480	S1465480			
1-1/2	38.10	1.5000	S1405160	S1410160	S1415160		
			S1455490	S1460490	S1465490		
1-17/32	38.89	1.5313	S1405162	S1410162	S1415162		
			S1455500	S1460500	S1465500		
39.00	1.5354	S1405164	S1410164	S1415164			
		S1455510	S1460510	S1465510			
1-9/16	39.69	1.5625	S1405166	S1410166	S1415166		
			S1455520	S1460520	S1465520		
40.00	1.5748	S1405168	S1410168	S1415168			
		S1455530	S1460530	S1465530			
1-19/32	40.48	1.5938	S1405170	S1410170	S1415170		
			S1455540	S1460540	S1465540		
41.00	1.6142	S1405172	S1410172	S1415172			
		S1455550	S1460550	S1465550			
1-5/8	41.28	1.6250	S1405174	S1410174	S1415174		
			S1455560	S1460560	S1465560		
42.00	1.6535	S1405176	S1410176	S1415176			
		S1455570	S1460570	S1465570			

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K		
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel</						

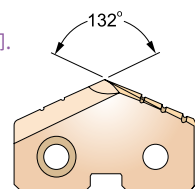
SPADE DRILLS

SERIES 3, 4

SPADE DRILL INSERTS - HSS M4 铲钻刀片-HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于钢和铸铁的普通用途。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245-246	-	-	-
	ER COLLET CHUCK	D73-115		

切削条件 / cutting conditions : p. A366

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		HSS M4		
					TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-21/32	42.07	1.6563	S1405142	S1410142	S1415142	
				S1405144	S1410144	S1415144	
				S1455430	S1460430	S1465430	
	1-11/16	42.86	1.6875	S1405146	S1410146	S1415146	
				S1455440	S1460440	S1465440	
				S1405148	S1410148	S1415148	
	1-23/32	43.66	1.7188	S1455450	S1460450	S1465450	
				S1405150	S1410150	S1415150	
				S1455460	S1460460	S1465460	
	1-3/4	44.45	1.7500	S1405152	S1410152	S1415152	
				S1455470	S1460470	S1465470	
				S1405154	S1410154	S1415154	
	1-25/32	45.00	1.7717	S1405156	S1410156	S1415156	
				S1455480	S1460480	S1465480	
				S1405158	S1410158	S1415158	
1-25/32	45.24	1.7813	S1455490	S1460490	S1465490		
			S1405160	S1410160	S1415160		
			S1455500	S1460500	S1465500		
1-13/16	46.00	1.8110	S1405162	S1410162	S1415162		
			S1455510	S1460510	S1465510		
			S1405164	S1410164	S1415164		
1-13/16	46.04	1.8125	S1405166	S1410166	S1415166		
			S1455520	S1460520	S1465520		
			S1405168	S1410168	S1415168		
1-27/32	46.83	1.8438	S1455530	S1460530	S1465530		
			S1405170	S1410170	S1415170		
			S1455540	S1460540	S1465540		
1-7/8	47.00	1.8504	S1405172	S1410172	S1415172		
			S1455550	S1460550	S1465550		
			S1405174	S1410174	S1415174		
1-29/32	47.63	1.8750	S1455560	S1460560	S1465560		
			S1405176	S1410176	S1415176		
			S1455570	S1460570	S1465570		
1-29/32	48.00	1.8898	S1405178	S1410178	S1415178		
			S1455580	S1460580	S1465580		
			S1405180	S1410180	S1415180		
1-15/16	48.42	1.9063	S1455590	S1460590	S1465590		
			S1405182	S1410182	S1415182		
			S1455600	S1460600	S1465600		
1-15/16	49.00	1.9291	S1405184	S1410184	S1415184		
			S1455610	S1460610	S1465610		
			S1405186	S1410186	S1415186		
1-15/16	49.21	1.9375	S1455620	S1460620	S1465620		
			S1405188	S1410188	S1415188		
			S1455630	S1460630	S1465630		
1-31/32	50.00	1.9685	S1405190	S1410190	S1415190		
			S1455640	S1460640	S1465640		
			S1405192	S1410192	S1415192		
2	50.80	2.0000	S1455650	S1460650	S1465650		
			S1405194	S1410194	S1415194		
			S1455660	S1460660	S1465660		
2-1/32	51.00	2.0079	S1405196	S1410196	S1415196		
			S1455670	S1460670	S1465670		
			S1405198	S1410198	S1415198		
2-3/64	51.59	2.0313	S1455680	S1460680	S1465680		
			S1405200	S1410200	S1415200		
			S1455690	S1460690	S1465690		
2-3/64	52.00	2.0472	S1405202	S1410202	S1415202		
			S1455700	S1460700	S1465700		
			S1405204	S1410204	S1415204		
2-1/16	52.39	2.0625	S1455710	S1460710	S1465710		
			S1405206	S1410206	S1415206		
			S1455720	S1460720	S1465720		
2-1/16	53.00	2.0866	S1405208	S1410208	S1415208		
			S1455730	S1460730	S1465730		
			S1405210	S1410210	S1415210		
2-3/32	53.18	2.0938	S1455740	S1460740	S1465740		
			S1405212	S1410212	S1415212		
			S1455750	S1460750	S1465750		
2-1/8	53.98	2.1250	S1405214	S1410214	S1415214		
			S1455760	S1460760	S1465760		
			S1405216	S1410216	S1415216		
2-5/32	54.00	2.1260	S1455770	S1460770	S1465770		
			S1405218	S1410218	S1415218		
			S1455780	S1460780	S1465780		
2-5/32	54.77	2.1563	S1405220	S1410220	S1415220		
			S1455790	S1460790	S1465790		
			S1405222	S1410222	S1415222		
2-5/32	55.00	2.1654	S1455800	S1460800	S1465800		
			S1405224	S1410224	S1415224		
			S1455810	S1460810	S1465810		
2-3/16	55.56	2.1875	S1405226	S1410226	S1415226		
			S1455820	S1460820	S1465820		
			S1405228	S1410228	S1415228		
2-7/32	56.00	2.2047	S1455830	S1460830	S1465830		
			S1405230	S1410230	S1415230		
			S1455840	S1460840	S1465840		
2-7/32	56.36	2.2188	S1405232	S1410232	S1415232		
			S1455850	S1460850	S1465850		
			S1405234	S1410234	S1415234		
2-7/32	57.00	2.2441	S1455860	S1460860	S1465860		
			S1405236	S1410236	S1415236		
			S1455870	S1460870	S1465870		

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	180	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	○	◎	○	◎	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎															

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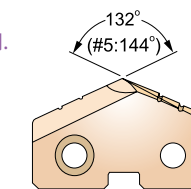
SPADE DRILLS

SERIES 4, 5

SPADE DRILL INSERTS - HSS M4 铲钻刀片-HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于钢和铸铁的普通用途。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245-246	-	-	-
	ER COLLET CHUCK	D73-115		

切削条件 / cutting conditions : p. A366

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		HSS M4		
					TiN	TiCN	TiAlN
4 Ø46.99 (1.850) to Ø65.28 (2.570)	2-1/4	57.15	2.2500	S1405216	S1410216	S1415216	
				S1405218	S1410218	S1415218	
				S1455580	S1460580	S1465580	
	2-9/32	57.94	2.2813	S1405220	S1410220	S1415220	
				S1455590	S1460590	S1465590	
				S1405222	S1410222	S1415222	
	2-5/16	58.00	2.2835	S1405224	S1410224	S1415224	
				S1455600	S1460600	S1465600	
				S1405226	S1410226	S1415226	
	2-5/16	58.74	2.3125	S1455610	S1460610	S1465610	
				S1405228	S1410228	S1415228	
				S1455620	S1460620	S1465620	
	2-11/32	59.00	2.3228	S1405230	S1410230	S1415230	
				S1455630	S1460630	S1465630	
				S1405232	S1410232	S1415232	
2-11/32	59.53	2.3438	S1455640	S1460640	S1465640		
			S1405234	S1410234	S1415234		
			S1455650	S1460650	S1465650		
2-3/8	60.00	2.3622	S1405236	S1410236	S1415236		
			S1455660	S1460660	S1465660		
			S1405238	S1410238	S1415238		
2-3/8	60.33	2.3750	S1455670	S1460670	S1465670		
			S1405240	S1410240	S1415240		
			S1455680	S1460680	S1465680		
2-13/32	61.00	2.4016	S1405242	S1410242	S1415242		
			S1455690	S1460690	S1465690		
			S1405244	S1410244	S1415244		
2-13/32	61.12	2.4063	S1455700	S1460700	S1465700		
			S1405246	S1410246	S1415246		
			S1455710	S1460710	S1465710		
2-7/16	61.91	2.4375	S1405248	S1410248	S1415248		
			S1455720	S1460720	S1465720		
			S1405250	S1410250	S1415250		
2-7/16	62.00	2.4409	S1455730	S1460730	S1465730		
			S1405252	S1410252	S1415252		
			S1455740	S1460740	S1465740		
2-15/32	62.71	2.4688	S1405254	S1410254	S1415254		
			S1455750	S1460750	S1465750		
			S1405256	S1410256	S1415256		
2-15/32	63.00	2.4803	S1455760	S1460760	S1465760		
			S1405258	S1410258	S1415258		
			S1455770	S1460770	S1465770		
2-1/2	63.50	2.5000	S1405260	S1410260	S1415260		
			S1455780	S1460780	S1465780		
			S1405262	S1410262	S1415262		
2-1/2	64.00	2.5197	S1455790	S1			

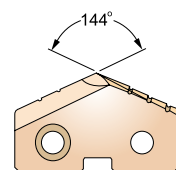
SPADE DRILLS

SERIES 5, 6, 7

SPADE DRILL INSERTS - HSS M4 铲钻刀片-HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于钢和铸铁的普通用途。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK	D73 - 115		

切削条件 / cutting conditions : p. A366

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		HSS M4		
					TiN	TiCN	TiAlN
5 Ø62.38 (2.456) to Ø76.20 (3.000)	3-1/32 to 3-1/8	72.00 to 79.38	2.8346 to 3.1250	11.1 (7/16)	S1455720	S1460720	S1465720
					S1405254	S1410254	S1415254
					S1405256	S1410256	S1415256
					S1405258	S1410258	S1415258
					S1455740	S1460740	S1465740
					S1405260	S1410260	S1415260
					S1405262	S1410262	S1415262
					S1455760	S1460760	S1465760
					S1405300	S1410300	S1415300
					S1405302	S1410302	S1415302
6 Ø76.23 (3.001) to Ø89.08 (3.507)	3-1/16 to 3-1/2	77.79 to 88.90	3.0625 to 3.5000	11.1 (7/16)	S1405304	S1410304	S1415304
					S1455780	S1460780	S1465780
					S1405306	S1410306	S1415306
					S1405308	S1410308	S1415308
					S1455800	S1460800	S1465800
					S1405310	S1410310	S1415310
					S1405312	S1410312	S1415312
					S1405314	S1410314	S1415314
					S1455820	S1460820	S1465820
					S1405316	S1410316	S1415316
7 Ø101.63 (4.001) to Ø114.48 (4.507)	3-1/8 to 3-1/2	80.00 to 88.90	3.1496 to 3.5000	11.1 (7/16)	S1405318	S1410318	S1415318
					S1455840	S1460840	S1465840
					S1405320	S1410320	S1415320
					S1405322	S1410322	S1415322
					S1405324	S1410324	S1415324
					S1455860	S1460860	S1465860
					S1405326	S1410326	S1415326
					S1405328	S1410328	S1415328
					S1455880	S1460880	S1465880
					S1405330	S1410330	S1415330
7 Ø101.63 (4.001) to Ø114.48 (4.507)	3-1/2 to 3-1/2	88.90 to 90.00	3.5000 to 3.5433	11.1 (7/16)	S1405332	S1410332	S1415332
					S1405334	S1410334	S1415334
					S1455900	S1460900	S1465900
7	3-9/16	90.49	3.5625	11.1 (7/16)	S1405336	S1410336	S1415336

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	180	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	○	◎	○	◎	○

ISO Material Description	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎				◎																

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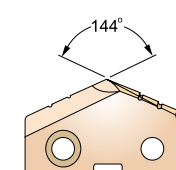
SPADE DRILLS

SERIES 7, 8

SPADE DRILL INSERTS - HSS M4 铲钻刀片-HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于钢和铸铁的普通用途。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK	D73 - 115		

切削条件 / cutting conditions : p. A366

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		HSS M4		
					TiN	TiCN	TiAlN
7 Ø87.76 (3.455) to Ø101.60 (4.000)	3-19/32 to 3-1/8	91.28 to 99.73	3.5938 to 3.8438	11.1 (7/16)	S1405338	S1410338	S1415338
					S1455920	S1460920	S1465920
					S1405340	S1410340	S1415340
					S1405342	S1410342	S1415342
					S1405344	S1410344	S1415344
					S1455940	S1460940	S1465940
					S1405346	S1410346	S1415346
					S1405348	S1410348	S1415348
					S1455960	S1460960	S1465960
					S1405350	S1410350	S1415350
8 Ø101.63 (4.001) to Ø114.48 (4.507)	4-1/16 to 4-1/2	102.00 to 114.30	4.0157 to 4.5000	11.1 (7/16)	S1405352	S1410352	S1415352
					S1405354	S1410354	S1415354
					S1455980	S1460980	S1465980
					S1405356	S1410356	S1415356
					S1405358	S1410358	S1415358
					S1455A00	S1460A00	S1465A00
					S1405360	S1410360	S1415360
					S1405362	S1410362	S1415362
					S1405400	S1410400	S1415400
					S1455A20	S1460A20	S1465A20
8 Ø101.63 (4.001) to Ø114.48 (4.507)	4-1/8 to 4-1/2	103.19 to 114.30	4.0625 to 4.5000	11.1 (7/16)	S1405404	S1410404	S1415404
					S1455A40	S1460A40	S1465A40
					S1405408	S1410408	S1415408
					S1455A60	S1460A60	S1465A60
					S1405412	S1410412	S1415412
					S1405416	S1410416	S1415416
					S1455A80	S1460A80	S1465A80
					S1405420	S1410420	S1415420
					S1455B00	S1460B00	S1465B00
					S1405424	S1410424	S1415424
8 Ø101.63 (4.001) to Ø114.48 (4.507)	4-3/8 to 4-3/8	111.13 to 112.00	4.3750 to 4.4094	11.1 (7/16)	S1455B20	S1460B20	S1465B20
					S1405428	S1410428	S1415428
					S1455B40	S1460B40	S1465B40
8	4-1/2	114.30	4.5000	11.1 (7/16)	S1405432	S1410432	S1415432

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	180	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	○	◎	○	◎	○

ISO Material Description	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎				◎																

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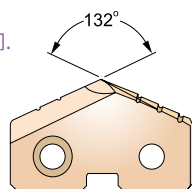
SPADE DRILLS

SERIES Y, Z, 0

SPADE DRILL INSERTS - SUPER HSS T15 铲钻刀片-SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于高镍合金和硬度超过280布氏的材质。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A365

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115	-	-

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	TiN	TiCN
Y Ø9.50 (.374) to Ø11.07 (.436)			9.50	.3740	S1155095	S1160095	S1165095
		3/8	9.53	.3750	S1105024	S1110024	S1115024
			9.80	.3860	S1155098	S1160098	S1165098
		25/64	9.92	.3906	S1105025	S1110025	S1115025
			10.00	.3937	S1155100	S1160100	S1165100
			10.20	.4016	S1155102	S1160102	S1165102
		13/32	10.32	.4063	S1105026	S1110026	S1115026
			10.50	.4134	S1155105	S1160105	S1165105
		27/64	10.72	.4219	S1105027	S1110027	S1115027
			10.80	.4252	S1155108	S1160108	S1165108
Z Ø11.11(.437) to Ø12.95(.510)		7/16	11.11	.4375	S1105028	S1110028	S1115028
			11.50	.4528	S1155115	S1160115	S1165115
		29/64	11.51	.4531	S1105029	S1110029	S1115029
		15/32	11.91	.4688	S1105030	S1110030	S1115030
			12.00	.4724	S1155120	S1160120	S1165120
		31/64	12.30	.4844	S1105031	S1110031	S1115031
			12.50	.4921	S1155125	S1160125	S1165125
		1/2	12.70	.5000	S1105032	S1110032	S1115032
			13.00	.5118	S1155130	S1160130	S1165130
		33/64	13.10	.5156	S1105033	S1110033	S1115033
0 Ø12.98 (.511) to Ø17.65 (.695)		17/32	13.49	.5313	S1105034	S1110034	S1115034
			13.50	.5315	S1155135	S1160135	S1165135
		35/64	13.89	.5469	S1105035	S1110035	S1115035
			14.00	.5512	S1155140	S1160140	S1165140
		9/16	14.29	.5625	S1105036	S1110036	S1115036
			14.50	.5709	S1155145	S1160145	S1165145
		37/64	14.68	.5781	S1105037	S1110037	S1115037
			15.00	.5906	S1155150	S1160150	S1165150
		19/32	15.08	.5938	S1105038	S1110038	S1115038
		39/64	15.48	.6094	S1105039	S1110039	S1115039
		15.50	.6102	S1155155	S1160155	S1165155	
	5/8	15.88	.6250	S1105040	S1110040	S1115040	
		16.00	.6299	S1155160	S1160160	S1165160	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	18	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	240	180	260	160	250	130	230			
Recommended	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○				○					◎	○	○	○	○			◎	◎	◎	◎

A270

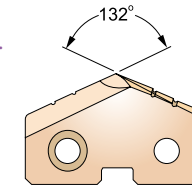
SPADE DRILLS

SERIES 0, 1

SPADE DRILL INSERTS - SUPER HSS T15 铲钻刀片-SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于高镍合金和硬度超过280布氏的材质。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A365

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115	-	-

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	TiN	TiCN
0 Ø12.98 (.511) to Ø17.65 (.695)		41/64	16.27	.6406	S1105041	S1110041	S1115041
			16.50	.6496	S1155165	S1160165	S1165165
		21/32	16.67	.6563	S1105042	S1110042	S1115042
			17.00	.6693	S1155170	S1160170	S1165170
		43/64	17.07	.6719	S1105043	S1110043	S1115043
		11/16	17.46	.6875	S1105044	S1110044	S1115044
			17.50	.6890	S1155175	S1160175	S1165175
		45/64	17.86	.7031	S1105045	S1110045	S1115045
			18.00	.7087	S1155180	S1160180	S1165180
		23/32	18.26	.7188	S1105046	S1110046	S1115046
1 Ø17.53 (.690) to Ø24.38 (.960)			18.50	.7283	S1155185	S1160185	S1165185
		47/64	18.65	.7344	S1105047	S1110047	S1115047
			19.00	.7480	S1155190	S1160190	S1165190
		3/4	19.05	.7500	S1105048	S1110048	S1115048
		49/64	19.45	.7656	S1105049	S1110049	S1115049
			19.50	.7677	S1155195	S1160195	S1165195
		25/32	19.84	.7813	S1105050	S1110050	S1115050
			20.00	.7874	S1155200	S1160200	S1165200
		51/64	20.24	.7969	S1105051	S1110051	S1115051
			20.50	.8071	S1155205	S1160205	S1165205
	13/16	20.64	.8125	S1105052	S1110052	S1115052	
		21.00	.8268	S1155210	S1160210	S1165210	
	27/32	21.43	.8438	S1105054	S1110054	S1115054	
	55/64	21.83	.8594	S1105055	S1110055	S1115055	
		22.00	.8661	S1155220	S1160220	S1165220	
	7/8	22.23	.8750	S1105056	S1110056	S1115056	
	57/64	22.62	.8906	S1105057	S1110057	S1115057	
		23.00	.9055	S1155230	S1160230	S1165230	
	29/32	23.02	.9063	S1105058	S1110058	S1115058	
	59/64	23.42	.9219	S1105059	S1110059	S1115059	
	15/16	23.81	.9375	S1105060	S1110060	S1115060	
		24.00	.9449	S1155240	S1160240	S1165240	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	18	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	240	180	260	160	250	130	230			
Recommended	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○				○					◎	○	○	○	○			◎	◎	◎	◎

A271

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPERSHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

TECHNICAL DATA

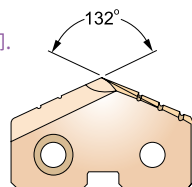
SPADE DRILLS

SERIES 2, 3

SPADE DRILL INSERTS - SUPER HSS T15 铲钻刀片-SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于高镍合金和硬度超过280布氏的材质。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A365

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK	-	-	D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		SUPER HSS T15		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	S1105062	S1110062	S1115062	
				S1155250	S1160250	S1165250	
	63/64	25.00	.9843	S1105100	S1110100	S1115100	
				S1105101	S1110101	S1115101	
	1	25.40	1.0000	S1155260	S1160260	S1165260	
				S1105102	S1110102	S1115102	
	1-1/64	25.80	1.0156	S1105103	S1110103	S1115103	
				S1105104	S1110104	S1115104	
		26.00	1.0236	S1155270	S1160270	S1165270	
				S1105106	S1110106	S1115106	
	1-1/32	26.19	1.0313	S1105107	S1110107	S1115107	
				S1105108	S1110108	S1115108	
	1-3/64	26.59	1.0469	S1105110	S1110110	S1115110	
				S1155300	S1160300	S1165300	
	1-1/16	26.99	1.0625	S1105112	S1110112	S1115112	
				S1105114	S1110114	S1115114	
		27.00	1.0630	S1155310	S1160310	S1165310	
				S1105116	S1110116	S1115116	
1-3/32	27.78	1.0938	S1155320	S1160320	S1165320		
			S1105118	S1110118	S1115118		
	28.00	1.1024	S1155330	S1160330	S1165330		
			S1105120	S1110120	S1115120		
1-7/64	28.18	1.1094	S1105122	S1110122	S1115122		
			S1105124	S1110124	S1115124		
1-1/8	28.58	1.1250	S1155350	S1160350	S1165350		
			S1105126	S1110126	S1115126		
Ø24.41 (.961) to Ø35.05 (1.380)	29.00	1.1417	S1155360	S1160360	S1165360		
			S1105128	S1110128	S1115128		
1-5/32	29.37	1.1563	S1155370	S1160370	S1165370		
			S1105130	S1110130	S1115130		
1-3/16	30.16	1.1875	S1105132	S1110132	S1115132		
			S1155380	S1160380	S1165380		
1-7/32	30.96	1.2188					
Ø34.37(1.353) to Ø47.80(1.882)	31.00	1.2205					
1-1/4	31.75	1.2500					
	32.00	1.2598					
1-9/32	32.54	1.2813					
1-5/16	33.00	1.2992					
	33.34	1.3125					
1-11/32	34.00	1.3386					
1-3/8	34.13	1.3438					
1-13/32	34.93	1.3750					
Ø34.37(1.353) to Ø47.80(1.882)	35.00	1.3780					
1-7/16	35.72	1.4063					
	36.00	1.4173					
1-15/32	36.51	1.4375					
Ø34.37(1.353) to Ø47.80(1.882)	37.00	1.4567					
1-15/32	37.31	1.4688					
	38.00	1.4961					

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55			
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550			
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			

A272

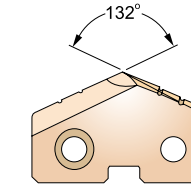
SPADE DRILLS

SERIES 3, 4

SPADE DRILL INSERTS - SUPER HSS T15 铲钻刀片-SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于高镍合金和硬度超过280布氏的材质。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A365

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK	-	-	D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		SUPER HSS T15		
					TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-1/2	38.10	1.5000	S1105132	S1110132	S1115132	
				S1105134	S1110134	S1115134	
	1-17/32	38.89	1.5313	S1155390	S1160390	S1165390	
				S1105136	S1110136	S1115136	
	1-9/16	39.00	1.5354	S1155400	S1160400	S1165400	
				S1105138	S1110138	S1115138	
	1-19/32	39.69	1.5625	S1155410	S1160410	S1165410	
				S1105140	S1110140	S1115140	
	1-5/8	40.00	1.5748	S1155420	S1160420	S1165420	
				S1105142	S1110142	S1115142	
	1-21/32	40.48	1.5938	S1105144	S1110144	S1115144	
				S1155430	S1160430	S1165430	
	1-11/16	41.00	1.6142	S1155440	S1160440	S1165440	
				S1105146	S1110146	S1115146	
	1-5/8	41.28	1.6250	S1105148	S1110148	S1115148	
				S1155450	S1160450	S1165450	
	1-23/32	41.28	1.6250	S1105150	S1110150	S1115150	
				S1155460	S1160460	S1165460	
1-21/32	42.00	1.6535	S1105152	S1110152	S1115152		
			S1155470	S1160470	S1165470		
1-11/16	42.86	1.6875	S1105154	S1110154	S1115154		
			S1155480	S1160480	S1165480		
1-23/32	43.00	1.6929	S1105156	S1110156	S1115156		
			S1155490	S1160490	S1165490		
1-3/4	44.00	1.7323	S1105160	S1110160	S1115160		
			S1155500	S1160500	S1165500		
1-25/32	44.45	1.7500	S1105162	S1110162	S1115162		
			S1155510	S1160510	S1165510		
1-7/8	45.00	1.7717	S1105200	S1110200	S1115200		
			S1155520	S1160520	S1165520		
1-25/32	45.24	1.7813	S1105204	S1110204	S1115204		
			S1155530	S1160530	S1165530		
1-13/16	46.00	1.8110					
1-27/32	46.04	1.8125					
1-7/8	46.83	1.8438					
1-29/32	47.00	1.8504					
1-7/8	47.63	1.8750					
1-29/32	48.00	1.8898					
4	48.42	1.9063					
1-15/16	49.00	1.9291					
1-31/32	49.21	1.9375					
2	50.00	1.9685					
1-31/32	50.01	1.9688					
2	50.80	2.0000					
2-1/32	51.00	2.0079					
2-1/16	51.59	2.0313					
2-3/64	52.00	2.0472					
2-1/16	52.39	2.0625					
53.00	2.0866	2.0866					

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H		

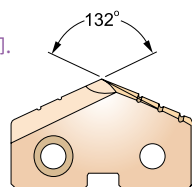
SPADE DRILLS

SERIES 4

SPADE DRILL INSERTS - SUPER HSS T15 铲钻刀片-SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于高镍合金和硬度超过280布氏的材质。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK	D73 - 115		

切削条件 / cutting conditions : p. A365

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号			
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER HSS T15		
						TiN	TiCN	TiAlN
4 Ø46.99 (1.850) to Ø65.28 (2.570)	2-3/32	53.18	2.0938	7.9 (5/16)	S1105206	S1110206	S1115206	
					S1105208	S1110208	S1115208	
	2-1/8	53.98	2.1250		S1155540	S1160540	S1165540	
					S1105210	S1110210	S1115210	
	2-5/32	54.77	2.1563		S1155550	S1160550	S1165550	
					S1105212	S1110212	S1115212	
	2-3/16	55.56	2.1875		S1155560	S1160560	S1165560	
					S1105214	S1110214	S1115214	
	2-7/32	56.36	2.2188		S1155570	S1160570	S1165570	
					S1105216	S1110216	S1115216	
	2-1/4	57.15	2.2500		S1105218	S1110218	S1115218	
					S1155580	S1160580	S1165580	
	2-9/32	57.94	2.2813		S1105220	S1110220	S1115220	
					S1155590	S1160590	S1165590	
	2-5/16	58.74	2.3125		S1105222	S1110222	S1115222	
					S1155600	S1160600	S1165600	
	2-11/32	59.53	2.3438		S1105224	S1110224	S1115224	
					S1155610	S1160610	S1165610	
	2-3/8	60.33	2.3750		S1105226	S1110226	S1115226	
					S1155620	S1160620	S1165620	
2-13/32	61.12	2.4063	S1105228	S1110228	S1115228			
			S1155630	S1160630	S1165630			
2-7/16	61.91	2.4375	S1105230	S1110230	S1115230			
			S1155640	S1160640	S1165640			
2-15/32	62.71	2.4688	S1105232	S1110232	S1115232			
			S1155650	S1160650	S1165650			
2-1/2	63.50	2.5000	S1105234	S1110234	S1115234			
			S1155660	S1160660	S1165660			
2-17/32	64.29	2.5313	S1105236	S1110236	S1115236			
			S1155670	S1160670	S1165670			
2-9/16	65.09	2.5625	S1105238	S1110238	S1115238			
			S1155680	S1160680	S1165680			

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	30	35	38	15	35	23	10	10	26	3	25	23	21
HB	125	190	250	270	300	180	275	300	350	350	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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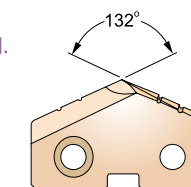
SPADE DRILLS

SERIES Y, Z, O

SPADE DRILL INSERTS - PREMIUM HSS M48 铲钻刀片-PREMIUM HSS M48

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于高镍合金和硬度超过280布氏的材质。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK	D73 - 115		

切削条件 / cutting conditions : p. A367

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号			
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	PREMIUM HSS M48		
						TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	2.4 (3/32)	3/8	9.50	.3740	S1555095	S1560095	S1565095	
					S1505024	S1510024	S1515024	
		25/64	9.80	.3860	S1555098	S1560098	S1565098	
					S1505025	S1510025	S1515025	
		13/32	10.00	.3937	S1555100	S1560100	S1565100	
					S1505026	S1510026	S1515026	
		27/64	10.20	.4016	S1555102	S1560102	S1565102	
					S1505027	S1510027	S1515027	
		7/16	10.50	.4134	S1555105	S1560105	S1565105	
					S1505028	S1510028	S1515028	
29/64	10.80	.4252	S1555108	S1560108	S1565108			
			S1505029	S1510029	S1515029			
15/32	11.00	.4331	S1555110	S1560110	S1565110			
			S1505030	S1510030	S1515030			
31/64	11.11	.4375	S1555115	S1560115	S1565115			
			S1505031	S1510031	S1515031			
1/2	11.50	.4528	S1555125	S1560125	S1565125			
			S1505032	S1510032	S1515032			
33/64	11.91	.4688	S1555130	S1560130	S1565130			
			S1505033	S1510033	S1515033			
17/32	12.00	.4724	S1555135	S1560135	S1565135			
			S1505034	S1510034	S1515034			
35/64	12.30	.4844	S1555140	S1560140	S1565140			
			S1505035	S1510035	S1515035			
9/16	12.50	.4921	S1555145	S1560145	S1565145			
			S1505036	S1510036	S1515036			
37/64	12.70	.5000	S1555150	S1560150	S1565150			
			S1505037	S1510037	S1515037			
19/32	13.00	.5118	S1555155	S1560155	S1565155			
			S1505038	S1510038	S1515038			
39/64	13.10	.5156	S1555160	S1560160	S1565160			
			S1505039	S1510039	S1515039			
5/8	13.49	.5313	S1555165	S1560165	S1565165			
			S1505040	S1510040	S1515040			
16.00	13.50	.5315	S1555170	S1560170	S1565170			
			S1505041	S1510041	S1515041			
3.2 (1/8)	14.00	.5469	S1555175	S1560175	S1565175			
			S1505042	S1510042	S1515042			
14.29	14.50	.5625	S1555180	S1560180	S1565180			
			S1505043	S1510043	S1515043			
37/64	14.50	.5709	S1555185	S1560185	S1565185			
			S1505044	S1510044	S1515044			
15.00	14.68	.5781	S1555190	S1560190	S1565190			
			S1505045	S1510045	S1515045			
19/32	15.00	.5906	S1555195	S1560195	S1565195			
			S1505046	S1510046	S1515046			
39/64	15.08	.5938	S1555200	S1560200	S1565200			
			S1505047	S1510047	S1515047			
5/8	15.50	.6102	S1555205	S1560205	S1565205			
			S1505048	S1510048	S1515048			
16.00	15.50	.6102	S1555210	S1560210	S1565210			
			S1505049	S1510049	S1515049			
16.00	15.88	.6250	S1555215	S1560215	S1565215			
			S1505050	S1510050	S1515050			
16.00	16.00	.6299	S1555220	S1560220	S1565220			
			S1505051	S1510051	S1515051			

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	30	35	38	15	35	23	10	10	26	3	25	23	21
HB	125	190	250	270	300	180	275	300	350	350	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

A275

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

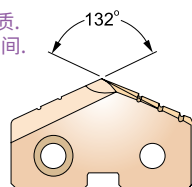
SPADE DRILLS

SERIES 0, 1

SPADE DRILL INSERTS - PREMIUM HSS M48 铲钻刀片-PREMIUM HSS M48

- ▶ For use in high temperature alloys and materials with 350~500 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于高温合金和硬度在350-500布氏之间的材质。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A367

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		PREMIUM HSS M48		
					TiN	TiCN	TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64 16.27 .6406	16.50 .6496	.6563 .6693 .6719 .6875 .6890	3.2 (1/8)	S1505041	S1510041	S1515041
					S1555165	S1560165	S1565165
					S1505042	S1510042	S1515042
					S1555170	S1560170	S1565170
					S1505043	S1510043	S1515043
					S1505044	S1510044	S1515044
					S1555175	S1560175	S1565175
					S1505045	S1510045	S1515045
					S1555180	S1560180	S1565180
					S1505046	S1510046	S1515046
1 Ø17.53 (.690) to Ø24.38 (.960)	18.26 .7188	18.50 .7283	.7344 .7480 .7500 .7656 .7677 .7813 .7874	4.0 (5/32)	S1555185	S1560185	S1565185
					S1505047	S1510047	S1515047
					S1555190	S1560190	S1565190
					S1505048	S1510048	S1515048
					S1505049	S1510049	S1515049
					S1555195	S1560195	S1565195
					S1505050	S1510050	S1515050
					S1555200	S1560200	S1565200
					S1505051	S1510051	S1515051
					S1555205	S1560205	S1565205
	20.50 .8071	20.64 .8125	.8268 .8438 .8594 .8661 .8750 .8906 .9055		S1505052	S1510052	S1515052
					S1555210	S1560210	S1565210
					S1505054	S1510054	S1515054
					S1505055	S1510055	S1515055
					S1555220	S1560220	S1565220
					S1505056	S1510056	S1515056
					S1505057	S1510057	S1515057
					S1555230	S1560230	S1565230
					S1505058	S1510058	S1515058
					S1505059	S1510059	S1515059
	21.00 .8268	21.43 .8438	.8594 .8661 .8750 .8906 .9055		S1505060	S1510060	S1515060
					S1555240	S1560240	S1565240

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	◎	◎	○	◎

ISO	N					S										H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55			
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550			
Recommended	○	○				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			

A276

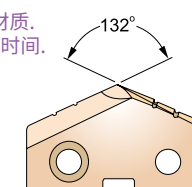
SPADE DRILLS

SERIES 2

SPADE DRILL INSERTS - PREMIUM HSS M48 铲钻刀片-PREMIUM HSS M48

- ▶ For use in high temperature alloys and materials with 350~500 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于高温合金和硬度在350-500布氏之间的材质。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A367

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		PREMIUM HSS M48		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32 63/64 1 1-1/64 1-1/32 1-3/64 1-1/16 1-3/32 1-7/64 1-1/8 1-5/32 1-3/16 1-7/32 1-1/4 1-9/32 1-5/16 1-11/32 1-3/8	24.61 25.00 25.40 25.80 26.00 26.19 26.59 26.99 27.00 27.78 28.00 28.18 28.58 29.00 29.37 30.00 30.16 30.96 31.00 31.75 32.00 32.54 33.00 33.34 34.00 34.13 34.93 35.00	.9688 .9843 1.0000 1.0156 1.0236 1.0313 1.0469 1.0625 1.0630 1.0938 1.1024 1.1094 1.1250 1.1417 1.1563 1.1811 1.1875 1.2188 1.2205 1.2500 1.2598 1.2813 1.2992 1.3125 1.3386 1.3438 1.3750 1.3780	4.8 (3/16)	S1505062	S1510062	S1515062
					S1555250	S1560250	S1565250
					S1505100	S1510100	S1515100
					S1505101	S1510101	S1515101
					S1555260	S1560260	S1565260
					S1505102	S1510102	S1515102
					S1505103	S1510103	S1515103
					S1505104	S1510104	S1515104
					S1555270	S1560270	S1565270
					S1505106	S1510106	S1515106
					S1555280	S1560280	S1565280
					S1505107	S1510107	S1515107
					S1505108	S1510108	S1515108
					S1555290	S1560290	S1565290
					S1505110	S1510110	S1515110
					S1505112	S1510112	S1515112
					S1505114	S1510114	S1515114
					S1555310	S1560310	S1565310
					S1505116	S1510116	S1515116
					S1555320	S1560320	S1565320
S1505118	S1510118	S1515118					
S1555330	S1560330	S1565330					
S1505120	S1510120	S1515120					
S1555340	S1560340	S1565340					
S1505122	S1510122	S1515122					
S1505124	S1510124	S1515124					
S1555350	S1560350	S1565350					

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	◎	◎	○	◎

ISO	N					S										H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55			
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550			
Recommended	○	○				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			

A277

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPERSHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

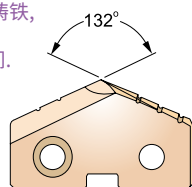
COUNTER BORES

TECHNICAL DATA

SPADE DRILL INSERTS for CAST IRON - CARBIDE K10
铸铁用铲钻刀片-硬质合金 K10

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A368

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE K10		
					TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8		9.50	S1655095	S1660095	S1665095	
			9.53	S1605024	S1610024	S1615024	
	25/64		9.80	S1655098	S1660098	S1665098	
			9.92	S1605025	S1610025	S1615025	
	2.4 (3/32)		10.00	S1655100	S1660100	S1665100	
			10.20	S1655102	S1660102	S1665102	
			10.32	S1605026	S1610026	S1615026	
			10.50	S1655105	S1660105	S1665105	
			10.72	S1605027	S1610027	S1615027	
			10.80	S1655108	S1660108	S1665108	
Z Ø11.11(.437) to Ø12.95(.510)	7/16		11.11	S1605028	S1610028	S1615028	
			11.50	S1655115	S1660115	S1665115	
	29/64		11.51	S1605029	S1610029	S1615029	
			11.91	S1605030	S1610030	S1615030	
	2.4 (3/32)		12.00	S1655120	S1660120	S1665120	
			12.30	S1605031	S1610031	S1615031	
	31/64		12.50	S1655125	S1660125	S1665125	
			12.70	S1605032	S1610032	S1615032	
	1/2		13.00	S1655130	S1660130	S1665130	
			13.10	S1605033	S1610033	S1615033	
0 Ø12.98 (.511) to Ø17.65 (.695)	33/64		13.10	S1605034	S1610034	S1615034	
			13.49	S1655135	S1660135	S1665135	
	17/32		13.50	S1605035	S1610035	S1615035	
			13.89	S1655140	S1660140	S1665140	
	3.2 (1/8)		14.00	S1605036	S1610036	S1615036	
			14.29	S1655145	S1660145	S1665145	
	9/16		14.50	S1605037	S1610037	S1615037	
			14.68	S1655150	S1660150	S1665150	
	37/64		15.00	S1605038	S1610038	S1615038	
			15.08	S1605039	S1610039	S1615039	
19/32		15.48	S1655155	S1660155	S1665155		
		15.50	S1605040	S1610040	S1615040		
39/64		15.88	S1655160	S1660160	S1665160		
		16.00					

◎ : Excellent (优秀) ○ : Good (良好)

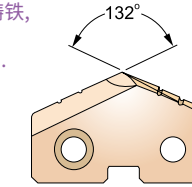
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	180	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended															◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

SPADE DRILL INSERTS for CAST IRON - CARBIDE K10
铸铁用铲钻刀片-硬质合金 K10

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A368

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE K10		
					TiN	TiCN	TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64		16.27	S1605041	S1610041	S1615041	
			16.50	S1655165	S1660165	S1665165	
	21/32		16.67	S1605042	S1610042	S1615042	
			17.00	S1655170	S1660170	S1665170	
	3.2 (1/8)		17.07	S1605043	S1610043	S1615043	
			17.46	S1605044	S1610044	S1615044	
	45/64		17.50	S1655175	S1660175	S1665175	
			17.86	S1605045	S1610045	S1615045	
	23/32		18.00	S1655180	S1660180	S1665180	
			18.26	S1605046	S1610046	S1615046	
4.0 (5/32)		18.50	S1655185	S1660185	S1665185		
		18.65	S1605047	S1610047	S1615047		
47/64		19.00	S1655190	S1660190	S1665190		
		19.05	S1605048	S1610048	S1615048		
3/4		19.45	S1605049	S1610049	S1615049		
		19.50	S1655195	S1660195	S1665195		
25/32		19.84	S1605050	S1610050	S1615050		
		20.00	S1655200	S1660200	S1665200		
51/64		20.24	S1605051	S1610051	S1615051		
		20.50	S1655205	S1660205	S1665205		
13/16		20.64	S1605052	S1610052	S1615052		
		21.00	S1655210	S1660210	S1665210		
27/32		21.43	S1605054	S1610054	S1615054		
		21.83	S1605055	S1610055	S1615055		
55/64		22.00	S1655220	S1660220	S1665220		
		22.23	S1605056	S1610056	S1615056		
7/8		22.62	S1605057	S1610057	S1615057		
		23.00	S1655230	S1660230	S1665230		
57/64		23.02	S1605058	S1610058	S1615058		
		23.42	S1605059	S1610059	S1615059		
29/32		23.81	S1605060	S1610060	S1615060		
		24.00	S1655240	S1660240	S1665240		

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	180	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended															◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

HSS

HSS

SPADE DRILLS

SERIES 2

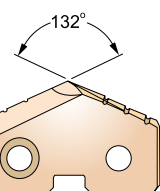
SPADE DRILLS

SERIES Y, Z, 0

SPADE DRILL INSERTS for CAST IRON - CARBIDE K10 铸铁用铲钻刀片-硬质合金 K10

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A368

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE K10		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	S1605062	S1610062	S1615062	
	63/64	25.00	.9843	S1655250	S1660250	S1665250	
	1	25.40	1.0000	S1605100	S1610100	S1615100	
	1-1/64	25.80	1.0156	S1605101	S1610101	S1615101	
		26.00	1.0236	S1655260	S1660260	S1665260	
	1-1/32	26.19	1.0313	S1605102	S1610102	S1615102	
	1-3/64	26.59	1.0469	S1605103	S1610103	S1615103	
	1-1/16	26.99	1.0625	S1605104	S1610104	S1615104	
		27.00	1.0630	S1655270	S1660270	S1665270	
	1-3/32	27.78	1.0938	S1605106	S1610106	S1615106	
		28.00	1.1024	S1655280	S1660280	S1665280	
	1-7/64	28.18	1.1094	S1605107	S1610107	S1615107	
	1-1/8	28.58	1.1250	S1605108	S1610108	S1615108	
		29.00	1.1417	S1655290	S1660290	S1665290	
	1-5/32	29.37	1.1563	S1605110	S1610110	S1615110	
		30.00	1.1811	S1655300	S1660300	S1665300	
	1-3/16	30.16	1.1875	S1605112	S1610112	S1615112	
	1-7/32	30.96	1.2188	S1605114	S1610114	S1615114	
		31.00	1.2205	S1655310	S1660310	S1665310	
	1-1/4	31.75	1.2500	S1605116	S1610116	S1615116	
	32.00	1.2598	S1655320	S1660320	S1665320		
1-9/32	32.54	1.2813	S1605118	S1610118	S1615118		
	33.00	1.2992	S1655330	S1660330	S1665330		
1-5/16	33.34	1.3125	S1605120	S1610120	S1615120		
	34.00	1.3386	S1655340	S1660340	S1665340		
1-11/32	34.13	1.3438	S1605122	S1610122	S1615122		
1-3/8	34.93	1.3750	S1605124	S1610124	S1615124		
	35.00	1.3780	S1655350	S1660350	S1665350		

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	180	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	

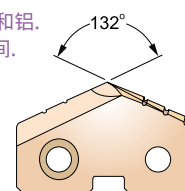
ISO	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

A280

SPADE DRILL INSERTS - CARBIDE K20 铲钻刀片-硬质合金 K20

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于220布氏以下的灰铸铁, 有色金属, 铜, 黄铜和铝。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A369

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE K20		
					TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8		9.50	.3740	S1755095	S1760095	S1765095
			9.53	.3750	S1755024	S1710024	S1715024
	25/64		9.80	.3860	S1755098	S1760098	S1765098
			9.92	.3906	S1705025	S1710025	S1715025
			10.00	.3937	S1755100	S1760100	S1765100
			10.20	.4016	S1755102	S1760102	S1765102
	13/32		10.32	.4063	S1705026	S1710026	S1715026
			10.50	.4134	S1755105	S1760105	S1765105
	27/64		10.72	.4219	S1705027	S1710027	S1715027
			10.80	.4252	S1755108	S1760108	S1765108
		11.00	.4331	S1755110	S1760110	S1765110	
		11.11	.4375	S1705028	S1710028	S1715028	
Z Ø11.11(.437) to Ø12.95(.510)	7/16		11.50	.4528	S1755115	S1760115	S1765115
			11.51	.4531	S1705029	S1710029	S1715029
	29/64		11.91	.4688	S1705030	S1710030	S1715030
			12.00	.4724	S1755120	S1760120	S1765120
	15/32		12.30	.4844	S1705031	S1710031	S1715031
			12.50	.4921	S1755125	S1760125	S1765125
	31/64		12.70	.5000	S1705032	S1710032	S1715032
			13.00	.5118	S1755130	S1760130	S1765130
	1/2		13.10	.5156	S1705033	S1710033	S1715033
			13.49	.5313	S1705034	S1710034	S1715034
		13.50	.5315	S1755135	S1760135	S1765135	
		13.89	.5469	S1705035	S1710035	S1715035	
35/64		14.00	.5512	S1755140	S1760140	S1765140	
		14.29	.5625	S1705036	S1710036	S1715036	
9/16		14.50	.5709	S1755145	S1760145	S1765145	
		14.68	.5781	S1705037	S1710037	S1715037	
37/64		15.00	.5906	S1755150	S1760150	S1765150	
		15.08	.5938	S1705038	S1710038	S1715038	
		15.48	.6094	S1705039	S1710039	S1715039	
		15.50	.6102	S1755155	S1760155	S1765155	
5/8		15.88	.6250	S1705040	S1710040	S1715040	
		16.00	.6299	S1755160	S1760160	S1765160	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	180	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○	

ISO	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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SPADE DRILLS

SPADE DRILLS

SERIES 0, 1

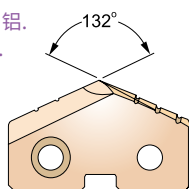
SERIES 2

SPADE DRILL INSERTS - CARBIDE K20 铲钻刀片-硬质合金 K20

SPADE DRILL INSERTS - CARBIDE K20 铲钻刀片-硬质合金 K20

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于220布氏以下的灰铸铁, 有色金属, 铜, 黄铜和铝。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A369

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE K20		
					TiN	TiCN	TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	S1705041	S1710041	S1715041
					S1755165	S1760165	S1765165
					S1705042	S1710042	S1715042
					S1755170	S1760170	S1765170
					S1705043	S1710043	S1715043
	21/32	16.67	.6563	3.2 (1/8)	S1705044	S1710044	S1715044
					S1755175	S1760175	S1765175
					S1705045	S1710045	S1715045
					S1755180	S1760180	S1765180
					S1705046	S1710046	S1715046
	43/64	17.00	.6693	3.2 (1/8)	S1755185	S1760185	S1765185
					S1705047	S1710047	S1715047
					S1755190	S1760190	S1765190
					S1705048	S1710048	S1715048
					S1705049	S1710049	S1715049
11/16	17.46	.6875	3.2 (1/8)	S1755195	S1760195	S1765195	
				S1705050	S1710050	S1715050	
				S1755200	S1760200	S1765200	
				S1705051	S1710051	S1715051	
				S1755205	S1760205	S1765205	
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86	.7031	4.0 (5/32)	S1705052	S1710052	S1715052
					S1755210	S1760210	S1765210
					S1705054	S1710054	S1715054
					S1705055	S1710055	S1715055
					S1755220	S1760220	S1765220
	23/32	18.26	.7188	4.0 (5/32)	S1705056	S1710056	S1715056
					S1705057	S1710057	S1715057
					S1755230	S1760230	S1765230
					S1705058	S1710058	S1715058
					S1705059	S1710059	S1715059
	47/64	18.50	.7283	4.0 (5/32)	S1705060	S1710060	S1715060
					S1755240	S1760240	S1765240
					S1705061	S1710061	S1715061
					S1705062	S1710062	S1715062
					S1755250	S1760250	S1765250
3/4	19.00	.7480	4.0 (5/32)	S1705063	S1710063	S1715063	
				S1705064	S1710064	S1715064	
				S1755260	S1760260	S1765260	
				S1705065	S1710065	S1715065	
				S1705066	S1710066	S1715066	
49/64	19.45	.7656	4.0 (5/32)	S1705067	S1710067	S1715067	
				S1705068	S1710068	S1715068	
				S1755270	S1760270	S1765270	
				S1705069	S1710069	S1715069	
				S1705070	S1710070	S1715070	
25/32	19.84	.7813	4.0 (5/32)	S1705071	S1710071	S1715071	
				S1705072	S1710072	S1715072	
				S1755280	S1760280	S1765280	
				S1705073	S1710073	S1715073	
				S1705074	S1710074	S1715074	
51/64	20.00	.7874	4.0 (5/32)	S1705075	S1710075	S1715075	
				S1705076	S1710076	S1715076	
				S1755290	S1760290	S1765290	
				S1705077	S1710077	S1715077	
				S1705078	S1710078	S1715078	
13/16	20.24	.7969	4.0 (5/32)	S1705079	S1710079	S1715079	
				S1705080	S1710080	S1715080	
				S1755300	S1760300	S1765300	
				S1705081	S1710081	S1715081	
				S1705082	S1710082	S1715082	
27/32	20.50	.8071	4.0 (5/32)	S1705083	S1710083	S1715083	
				S1705084	S1710084	S1715084	
				S1755310	S1760310	S1765310	
				S1705085	S1710085	S1715085	
				S1705086	S1710086	S1715086	
55/64	20.64	.8125	4.0 (5/32)	S1705087	S1710087	S1715087	
				S1705088	S1710088	S1715088	
				S1755320	S1760320	S1765320	
				S1705089	S1710089	S1715089	
				S1705090	S1710090	S1715090	
7/8	21.00	.8268	4.0 (5/32)	S1705091	S1710091	S1715091	
				S1705092	S1710092	S1715092	
				S1755330	S1760330	S1765330	
				S1705093	S1710093	S1715093	
				S1705094	S1710094	S1715094	
57/64	21.43	.8438	4.0 (5/32)	S1705095	S1710095	S1715095	
				S1705096	S1710096	S1715096	
				S1755340	S1760340	S1765340	
				S1705097	S1710097	S1715097	
				S1705098	S1710098	S1715098	
29/32	21.83	.8594	4.0 (5/32)	S1705099	S1710099	S1715099	
				S1705100	S1710100	S1715100	
				S1755350	S1760350	S1765350	
				S1705101	S1710101	S1715101	
				S1705102	S1710102	S1715102	
15/16	22.00	.8661	4.0 (5/32)	S1705103	S1710103	S1715103	
				S1705104	S1710104	S1715104	
				S1755360	S1760360	S1765360	
				S1705105	S1710105	S1715105	
				S1705106	S1710106	S1715106	
59/64	22.23	.8750	4.0 (5/32)	S1705107	S1710107	S1715107	
				S1705108	S1710108	S1715108	
				S1755370	S1760370	S1765370	
				S1705109	S1710109	S1715109	
				S1705110	S1710110	S1715110	
11/8	22.62	.8906	4.0 (5/32)	S1705111	S1710111	S1715111	
				S1705112	S1710112	S1715112	
				S1755380	S1760380	S1765380	
				S1705113	S1710113	S1715113	
				S1705114	S1710114	S1715114	
1-3/8	23.00	.9055	4.0 (5/32)	S1705115	S1710115	S1715115	
				S1705116	S1710116	S1715116	
				S1755390	S1760390	S1765390	
				S1705117	S1710117	S1715117	
				S1705118	S1710118	S1715118	
1-1/2	23.42	.9219	4.0 (5/32)	S1705119	S1710119	S1715119	
				S1705120	S1710120	S1715120	
				S1755400	S1760400	S1765400	
				S1705121	S1710121	S1715121	
				S1705122	S1710122	S1715122	
1-3/4	23.81	.9375	4.0 (5/32)	S1705123	S1710123	S1715123	
				S1705124	S1710124	S1715124	
				S1755410	S1760410	S1765410	
				S1705125	S1710125	S1715125	
				S1705126	S1710126	S1715126	
2	24.00	.9449	4.0 (5/32)	S1705127	S1710127	S1715127	
				S1705128	S1710128	S1715128	
				S1755420	S1760420	S1765420	
				S1705129	S1710129	S1715129	
				S1705130	S1710130	S1715130	

切削条件 / cutting conditions : p. A369

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE K20		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	S1705062	S1710062	S1715062
					S1755250	S1760250	S1765250
					S1705100	S1710100	S1715100
					S1705101	S1710101	S1715101
					S1755260	S1760260	S1765260
					S1705102	S1710102	S1715102
					S1705103	S1710103	S1715103
					S1705104	S1710104	S1715104
					S1755270	S1760270	S1765270
					S1705106	S1710106	S1715106
					S1755280	S1760280	S1765280
					S1705107	S1710107	S1715107
					S1705108	S1710108	S1715108
					S1755290	S1760290	S1765290
					S1705110	S1710110	S1715110
					S1755300	S1760300	S1765300
					S1705112	S1710112	S1715112
					S1705114	S1710114	S1715114
					S1755310	S1760310	S1765310
					S1705116	S1710116	S1715116
					S1755320	S1760320	S1765320
					S1705118	S1710118	S1715118
					S1755330	S1760330	S1765330
					S1705120	S1710120	S1715120
					S1755340	S1760340	S1765340
S1705122	S1710122	S1715122					
S1705124	S1710124	S1715124					
S1755350	S1760350	S1765350					

◎ : Excellent (优秀) ○ : Good (良好)

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	240	180	260	160	250	130	230	230	230	230
Recommended	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○

ISO	P										M				K			
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron
Material Description																		

SPADE DRILLS

SERIES 3

SPADE DRILLS

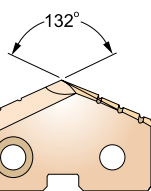
SERIES Y, Z, O

SPADE DRILL INSERTS - CARBIDE K20

铲钻刀片-硬质合金 K20

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于220布氏以下的灰铸铁, 有色金属, 铜, 黄铜和铝。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A369

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE K20		
					TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4063	S1705126	S1710126	S1715126	
				S1755360	S1760360	S1765360	
				S1705128	S1710128	S1715128	
	1-7/16	36.51	1.4375	S1755370	S1760370	S1765370	
				S1705130	S1710130	S1715130	
				S1755380	S1760380	S1765380	
	1-15/32	37.31	1.4688	S1705132	S1710132	S1715132	
				S1705134	S1710134	S1715134	
				S1755390	S1760390	S1765390	
	1-1/2	38.10	1.5000	S1705136	S1710136	S1715136	
				S1755400	S1760400	S1765400	
				S1705138	S1710138	S1715138	
	1-17/32	38.89	1.5313	S1755410	S1760410	S1765410	
				S1705140	S1710140	S1715140	
				S1755420	S1760420	S1765420	
	1-9/16	39.69	1.5625	S1705142	S1710142	S1715142	
				S1705144	S1710144	S1715144	
				S1755430	S1760430	S1765430	
	1-19/32	40.48	1.5938	S1705146	S1710146	S1715146	
				S1755440	S1760440	S1765440	
				S1705148	S1710148	S1715148	
	1-5/8	41.00	1.6142	S1755450	S1760450	S1765450	
				S1705150	S1710150	S1715150	
				S1755460	S1760460	S1765460	
1-21/32	41.28	1.6250	S1705152	S1710152	S1715152		
			S1705154	S1710154	S1715154		
			S1755470	S1760470	S1765470		
1-11/16	42.00	1.6535	S1705156	S1710156	S1715156		
			S1705158	S1710158	S1715158		
			S1755480	S1760480	S1765480		
1-23/32	42.07	1.6563	S1705159	S1710159	S1715159		
			S1705160	S1710160	S1715160		
			S1755490	S1760490	S1765490		
1-3/4	42.86	1.6875	S1705161	S1710161	S1715161		
			S1705162	S1710162	S1715162		
			S1755500	S1760500	S1765500		
1-25/32	43.00	1.6929	S1705163	S1710163	S1715163		
			S1705164	S1710164	S1715164		
			S1755510	S1760510	S1765510		
1-13/16	43.66	1.7188	S1705165	S1710165	S1715165		
			S1705166	S1710166	S1715166		
			S1755520	S1760520	S1765520		
1-27/32	44.00	1.7323	S1705167	S1710167	S1715167		
			S1705168	S1710168	S1715168		
			S1755530	S1760530	S1765530		
1-7/8	44.45	1.7500	S1705169	S1710169	S1715169		
			S1705170	S1710170	S1715170		
			S1755540	S1760540	S1765540		
1-25/32	45.00	1.7717	S1705171	S1710171	S1715171		
			S1705172	S1710172	S1715172		
			S1755550	S1760550	S1765550		
1-13/16	45.24	1.7813	S1705173	S1710173	S1715173		
			S1705174	S1710174	S1715174		
			S1755560	S1760560	S1765560		
1-27/32	46.00	1.8110	S1705175	S1710175	S1715175		
			S1705176	S1710176	S1715176		
			S1755570	S1760570	S1765570		
1-7/8	46.04	1.8125	S1705177	S1710177	S1715177		
			S1705178	S1710178	S1715178		
			S1755580	S1760580	S1765580		
1-27/32	46.83	1.8438	S1705179	S1710179	S1715179		
			S1705180	S1710180	S1715180		
			S1755590	S1760590	S1765590		
1-7/8	47.00	1.8504	S1705181	S1710181	S1715181		
			S1705182	S1710182	S1715182		
			S1755600	S1760600	S1765600		
1-7/8	47.63	1.8750	S1705183	S1710183	S1715183		
			S1705184	S1710184	S1715184		
			S1755610	S1760610	S1765610		

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	230	10	10	10	10	10
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	10	10	10	10	10
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S										H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	55	60	42	55	55	60	42	400	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	55	60	42	55	55	60	42	400	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

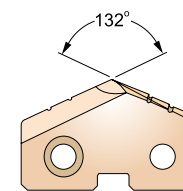
A284

SPADE DRILL INSERTS - CARBIDE P40

铲钻刀片-硬质合金 P40

- ▶ For general use in carbon steels and alloy steels.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于碳素钢和合金钢的普通用途。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A371

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE P40		
					TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	S1855095	S1860095	S1865095	
				S1805024	S1810024	S1815024	
				S1855098	S1860098	S1865098	
				S1805025	S1810025	S1815025	
				S1855100	S1860100	S1865100	
				S1855102	S1860102	S1865102	
	25/64	9.92	.3906	S1805026	S1810026	S1815026	
				S1855105	S1860105	S1865105	
				S1805027	S1810027	S1815027	
				S1855108	S1860108	S1865108	
				S1855110	S1860110	S1865110	
				S1805028	S1810028	S1815028	
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	S1855115	S1860115	S1865115	
				S1805029	S1810029	S1815029	
				S1855118	S1860118	S1865118	
				S1805030	S1810030	S1815030	
				S1855120	S1860120	S1865120	
				S1805031	S1810031	S1815031	
	15/32	11.51	.4531	S1855125	S1860125	S1865125	
				S1805032	S1810032	S1815032	
				S1855130	S1860130	S1865130	
				S1805033	S1810033	S1815033	
				S1855135	S1860135	S1865135	
				S1805034	S1810034	S1815034	
31/64	11.91	.4688	S1855140	S1860140	S1865140		
			S1805035	S1810035	S1815035		
			S1855145	S1860145	S1865145		
			S1805036	S1810036	S1815036		
			S1855150	S1860150	S1865150		
			S1805037	S1810037	S1815037		
1/2	12.30	.4844	S1855155	S1860155	S1865155		
			S1805038	S1810038	S1815038		
			S1855160	S1860160	S1865160		
			S1805039	S1810039	S1815039		
			S1855165	S1860165	S1865165		
			S1805040	S1810040	S1815040		
O Ø12.98 (.511) to Ø17.65 (.695)	33/64	12.50	.4921	S1805041	S1810041	S1815041	
				S1855170	S1860170	S1865170	
				S1805042	S1810042	S1815042	
				S1855175	S1860175	S1865175	
				S1805043	S1810043	S1815043	
				S1855180	S1860180	S1865180	
	17/32	12.70	.5000	S1805044	S1810044	S1815044	
				S1855185	S1860185	S1865185	
				S1805045	S1810045	S1815045	
				S1855190	S1860190	S1865190	
				S1805046	S1810046	S1815046	
				S1855195	S1860195	S1865195	
35/64	13.00	.5118	S1805047	S1810047	S1815047		
			S1855200	S1860200	S1865200		
			S1805048	S1810048	S1815048		
			S1855205	S1860205	S1865205		
			S1805049	S1810049	S1815049		
			S1855210	S1860210	S1865210		
9/16	13.10	.5156	S1805050	S1810050	S1815050		
			S1855215	S1860215	S1865215		
			S1805051	S1810051	S1815051		
			S1855220	S1860220	S1865220		
			S1805052	S1810052	S1815052		
			S1855225	S1860225	S1865225		
37/64	13.49	.5313	S1805053	S1810053	S1815053		
			S1855230	S1860230	S1865230		
			S1805054	S1810054	S1815054		
			S1855235	S1860235	S1865235		
			S1805055	S1810055	S1815055		
			S1855240	S1860240	S1865240		
5/8	13.50	.5315					

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SPADE DRILLS

SPADE DRILLS

SERIES 0, 1

SERIES 2

SPADE DRILL INSERTS - CARBIDE P40 铲钻刀片-硬质合金 P40

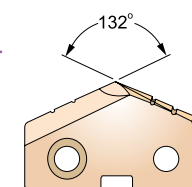
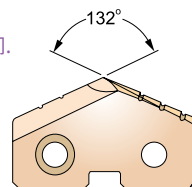
SPADE DRILL INSERTS - CARBIDE P40 铲钻刀片-硬质合金 P40

- ▶ For general use in carbon steels and alloy steels.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于碳素钢和合金钢的普通用途。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产

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- ▶ 各种非标准尺寸均可进行生产



切削条件 / cutting conditions : p. A371

切削条件 / cutting conditions : p. A371

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号				
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE P40				
					TiN	TiCN	TiAlN		
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	S1805041	S1810041	S1815041		
					S1855165	S1860165	S1865165		
					S1805042	S1810042	S1815042		
	21/32	16.67	.6563		S1855170	S1860170	S1865170		
					S1805043	S1810043	S1815043		
					S1805044	S1810044	S1815044		
	43/64	17.07	.6719		S1855175	S1860175	S1865175		
					S1805045	S1810045	S1815045		
					S1855180	S1860180	S1865180		
	11/16	17.46	.6875		S1805046	S1810046	S1815046		
					S1855185	S1860185	S1865185		
					S1805047	S1810047	S1815047		
	1 Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86		.7031	4.0 (5/32)	S1855190	S1860190	S1865190
							S1805048	S1810048	S1815048
							S1805049	S1810049	S1815049
23/32		18.26	.7188	S1855195	S1860195		S1865195		
				S1805050	S1810050		S1815050		
				S1855200	S1860200		S1865200		
47/64		18.50	.7283	S1805051	S1810051		S1815051		
				S1855205	S1860205		S1865205		
				S1805052	S1810052		S1815052		
3/4		19.00	.7480	S1855210	S1860210		S1865210		
				S1805054	S1810054		S1815054		
				S1805055	S1810055		S1815055		
49/64		19.45	.7656	S1855220	S1860220		S1865220		
				S1805056	S1810056		S1815056		
				S1805057	S1810057		S1815057		
25/32	19.84	.7813	S1855230	S1860230	S1865230				
			S1805058	S1810058	S1815058				
			S1805059	S1810059	S1815059				
51/64	20.00	.7874	S1805060	S1810060	S1815060				
			S1855240	S1860240	S1865240				
			S1805061	S1810061	S1815061				
13/16	20.64	.8125	S1805062	S1810062	S1815062				
			S1855250	S1860250	S1865250				
			S1805100	S1810100	S1815100				
27/32	21.43	.8438	S1805101	S1810101	S1815101				
			S1855260	S1860260	S1865260				
			S1805102	S1810102	S1815102				
55/64	21.83	.8594	S1805103	S1810103	S1815103				
			S1855270	S1860270	S1865270				
			S1805104	S1810104	S1815104				
7/8	22.23	.8750	S1855280	S1860280	S1865280				
			S1805106	S1810106	S1815106				
			S1855290	S1860290	S1865290				
57/64	22.62	.8906	S1805107	S1810107	S1815107				
			S1855300	S1860300	S1865300				
			S1805108	S1810108	S1815108				
29/32	23.00	.9055	S1855310	S1860310	S1865310				
			S1805110	S1810110	S1815110				
			S1855320	S1860320	S1865320				
59/64	23.42	.9219	S1805112	S1810112	S1815112				
			S1855330	S1860330	S1865330				
			S1805114	S1810114	S1815114				
15/16	23.81	.9375	S1855340	S1860340	S1865340				
			S1805116	S1810116	S1815116				
			S1855350	S1860350	S1865350				
24.00	.9449		S1805118	S1810118	S1815118				
			S1855360	S1860360	S1865360				
			S1805120	S1810120	S1815120				

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号					
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE P40					
					TiN	TiCN	TiAlN			
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	S1805062	S1810062	S1815062			
					S1855250	S1860250	S1865250			
					63/64	25.00	.9843	S1805100	S1810100	S1815100
					1	25.40	1.0000	S1805101	S1810101	S1815101
					1-1/64	25.80	1.0156	S1855260	S1860260	S1865260
					1-1/32	26.19	1.0313	S1805102	S1810102	S1815102
					1-3/64	26.59	1.0469	S1805103	S1810103	S1815103
					1-1/16	26.99	1.0625	S1805104	S1810104	S1815104
					1-3/32	27.00	1.0630	S1855270	S1860270	S1865270
								S1805106	S1810106	S1815106
								S1855280	S1860280	S1865280
					1-7/64	27.78	1.0938	S1805107	S1810107	S1815107
					1-1/8	28.00	1.1024	S1805108	S1810108	S1815108
					1-1/4	28.18	1.1094	S1855290	S1860290	S1865290
								S1805110	S1810110	S1815110
								S1855300	S1860300	S1865300
					1-5/32	28.58	1.1250	S1805112	S1810112	S1815112
					1-3/16	29.00	1.1417	S1855310	S1860310	S1865310
								S1805114	S1810114	S1815114
								S1855320	S1860320	S1865320
					1-7/32	29.37	1.1563	S1805116	S1810116	S1815116
					1-1/2	30.00	1.1811	S1855330	S1860330	S1865330
								S1805118	S1810118	S1815118
								S1855340	S1860340	S1865340
					1-9/32	30.16	1.1875	S1805120	S1810120	S1815120
1-5/16	30.96	1.2188	S1855350	S1860350	S1865350					
			S1805122	S1810122	S1815122					
			S1805124	S1810124	S1815124					
1-11/32	31.00	1.2205	S1805126	S1810126	S1815126					
1-3/8	31.75	1.2500	S1855360	S1860360	S1865360					
			S1805128	S1810128	S1815128					
			S1855370	S1860370	S1865370					
1-7/8	32.00	1.2598	S1805130	S1810130	S1815130					
1-1	32.54	1.2813	S1855380	S1860380	S1865380					
			S1805132	S1810132	S1815132					
			S1855390	S1860390	S1865390					
1-5/8	33.00	1.2992	S1805134	S1810134	S1815134					
1-3/4	33.34	1.3125	S1855400	S1860400	S1865400					
			S1805136	S1810136	S1815136					
			S1855410	S1860410	S1865410					
1-7/4	34.00	1.3386	S1805138	S1810138	S1815138					
1-1-1/2	34.13	1.3438	S1855420	S1860420	S1865420					
			S1805140	S1810140	S1815140					
			S1855430	S1860430	S1865430					
1-1-1/4	34.93	1.3750	S1805142	S1810142	S1815142					
1-1-1/2	35.00	1.3780	S1805144	S1810144	S1815144					

◎ : Excellent (优秀) ○ : Good (良好)

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60																				



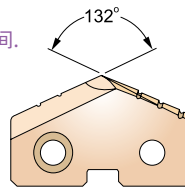
Special features of SM-Point Spade Drill

SPADE DRILL INSERTS - CARBIDE P40

铲钻刀片-硬质合金 P40

- ▶ For general use in carbon steels and alloy steels.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ 用于碳素钢和合金钢的普通用途。
- ▶ 在设备上能够简单地更换刀片可以减少调试时间。
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A371

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246			
ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号			
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	CARBIDE P40		
						TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32		35.72	1.4063	S1805126	S1810126	S1815126	
			36.00	1.4173	S1855360	S1860360	S1865360	
	1-7/16		36.51	1.4375	S1805128	S1810128	S1815128	
			37.00	1.4567	S1855370	S1860370	S1865370	
	1-15/32		37.31	1.4688	S1805130	S1810130	S1815130	
			38.00	1.4961	S1855380	S1860380	S1865380	
	1-1/2		38.10	1.5000	S1805132	S1810132	S1815132	
			38.89	1.5313	S1805134	S1810134	S1815134	
	1-17/32		39.00	1.5354	S1855390	S1860390	S1865390	
			39.69	1.5625	S1805136	S1810136	S1815136	
	1-9/16		40.00	1.5748	S1855400	S1860400	S1865400	
			40.48	1.5938	S1805138	S1810138	S1815138	
	1-19/32		41.00	1.6142	S1855410	S1860410	S1865410	
			41.28	1.6250	S1805140	S1810140	S1815140	
	1-5/8		42.00	1.6535	S1855420	S1860420	S1865420	
			42.07	1.6563	S1805142	S1810142	S1815142	
	1-21/32		42.86	1.6875	S1805144	S1810144	S1815144	
			43.00	1.6929	S1855430	S1860430	S1865430	
	1-11/16		43.66	1.7188	S1805146	S1810146	S1815146	
			44.00	1.7323	S1855440	S1860440	S1865440	
1-23/32		44.45	1.7500	S1805148	S1810148	S1815148		
		45.00	1.7717	S1855450	S1860450	S1865450		
1-3/4		45.24	1.7813	S1805150	S1810150	S1815150		
		46.00	1.8110	S1855460	S1860460	S1865460		
1-25/32		46.04	1.8125	S1805152	S1810152	S1815152		
		46.83	1.8438	S1805154	S1810154	S1815154		
1-13/16		47.00	1.8504	S1855470	S1860470	S1865470		
		47.75	1.8750	S1805156	S1810156	S1815156		

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

This new "Hybrid Point" combines the strength of the standard point with additional "Web Thinning".

This new point increases stability, reduces thrust, improves centering and allows increased speeds and feeds.

新的“混合式钻尖”结合标准钻顶角的特征并增加了“修磨横刃”
新的钻顶增加了稳定性，减少了推力，提高了定心力并且允许更高的加工速度和进给

Multiple thinning form at the bottom of the large thinning.

- ▶ The optimum thinning for the difference from the cutting speed, the cutting quantity and the cutting load according to the distance from the drill point to the cutting edge.

在宽大的横刃底面有多种横刃方式

- ▶ 根据从钻顶到切削刃的距离，在切削速度，切削质量和切削负载不同情况下最适宜的横刃。

Multiple web thinning with the cutting edge of small web thinning.

- ▶ Good self-centering
- ▶ Less tool lead off
- ▶ Reduction in bell mouching, thrust
- ▶ Increased stability

较小的修磨横刃的刃口具有多种修磨横刃

- ▶ 较好的自定心力
- ▶ 较小的刀具导向移动
- ▶ 减少锥形口及推力
- ▶ 增强稳定性

Radius back face

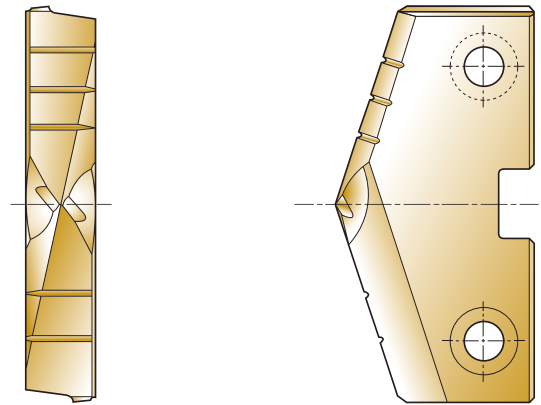
- ▶ Wide chip space

弧形的后刀面

- ▶ 较宽的排屑槽

Four-facet point / 具有四个面的钻顶角

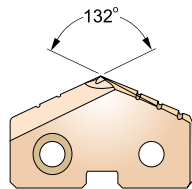
- ▶ Self-centering / 自定心
- ▶ Less thrust force / 较小的推力



SM-POINT SPADE DRILL INSERTS - HSS M4
SM-POINT 铲钻刀片-HSS M4

- ▶ For general use in steels and cast irons.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 用于钢和铸铁的普通用途
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A366

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245-246	-	-
	ER COLLET CHUCK		D73-115	

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		HSS M4		
					TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	SM405126	SM410126	SM415126	
				SM455360	SM460360	SM465360	
	1-7/16	36.51	1.4375	SM405128	SM410128	SM415128	
				SM455370	SM460370	SM465370	
	1-15/32	37.31	1.4688	SM405130	SM410130	SM415130	
				SM455380	SM460380	SM465380	
	1-1/2	38.10	1.5000	SM405132	SM410132	SM415132	
				SM405134	SM410134	SM415134	
	1-17/32	38.89	1.5312	SM405133	SM410133	SM415133	
				SM455390	SM460390	SM465390	
	1-9/16	39.69	1.5625	SM405136	SM410136	SM415136	
				SM455400	SM460400	SM465400	
	1-19/32	40.48	1.5938	SM405138	SM410138	SM415138	
				SM455410	SM460410	SM465410	
	1-5/8	41.28	1.6250	SM405140	SM410140	SM415140	
				SM455420	SM460420	SM465420	
	1-21/32	42.07	1.6562	SM405142	SM410142	SM415142	
				SM405144	SM410144	SM415144	
	1-11/16	42.86	1.6875	SM405143	SM410143	SM415143	
				SM455430	SM460430	SM465430	
1-23/32	43.66	1.7188	SM405146	SM410146	SM415146		
			SM455440	SM460440	SM465440		
1-3/4	44.45	1.7500	SM405148	SM410148	SM415148		
			SM455450	SM460450	SM465450		
1-25/32	45.24	1.7812	SM405150	SM410150	SM415150		
			SM455460	SM460460	SM465460		
1-13/16	46.04	1.8125	SM405152	SM410152	SM415152		
			SM405154	SM410154	SM415154		
1-27/32	46.83	1.8438	SM405153	SM410153	SM415153		
			SM455470	SM460470	SM465470		
1-7/8	47.63	1.8750	SM405156	SM410156	SM415156		

◎ : Excellent (优秀) ○ : Good (良好)

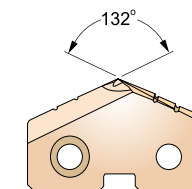
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SM-POINT SPADE DRILL INSERTS - SUPER HSS T15
SM-POINT 铲钻刀片-SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 用于高镍合金和硬度超过280布氏的材质
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A365

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245-246	-	-
	ER COLLET CHUCK		D73-115	

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		SUPER HSS T15		
					TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	SM155095	SM160095	SM165095	
				SM105024	SM110024	SM115024	
				SM155098	SM160098	SM165098	
				SM105025	SM110025	SM115025	
				SM155100	SM160100	SM165100	
				SM155102	SM160102	SM165102	
				SM105026	SM110026	SM115026	
				SM155105	SM160105	SM165105	
				SM105027	SM110027	SM115027	
				SM155108	SM160108	SM165108	
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	SM105028	SM110028	SM115028	
				SM155115	SM160115	SM165115	
				SM105029	SM110029	SM115029	
				SM105030	SM110030	SM115030	
				SM155120	SM160120	SM165120	
				SM155031	SM110031	SM115031	
				SM155125	SM160125	SM165125	
				SM105032	SM110032	SM115032	
				SM155130	SM160130	SM165130	
				SM105033	SM110033	SM115033	
O Ø12.98 (.511) to Ø17.65 (.695)	33/64	13.10	.5156	SM105034	SM110034	SM115034	
				SM155135	SM160135	SM165135	
				SM105035	SM110035	SM115035	
				SM155140	SM160140	SM165140	
				SM105036	SM110036	SM115036	
				SM155145	SM160145	SM165145	
				SM105037	SM110037	SM115037	
				SM155150	SM160150	SM165150	
				SM105038	SM110038	SM115038	
				SM105039	SM110039	SM115039	
	17/32	13.49	.5312	SM155155	SM160155	SM165155	
				SM105040	SM110040	SM115040	
				SM155160	SM160160	SM165160	

◎ : Excellent (优秀) ○ : Good (良好)

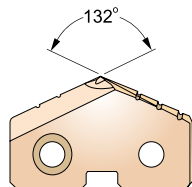
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SM-POINT SPADE DRILL INSERTS - SUPER HSS T15
SM-POINT 铲钻刀片-SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 用于高镍合金和硬度超过280布氏的材质
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A365

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245-246	-	-	-
	ER COLLET CHUCK	D73-115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号			
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER HSS T15		
						TiN	TiCN	TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64 16.27 .6406 16.50 .6496 17.00 .6693 17.07 .6719 17.46 .6875 17.50 .6890 17.86 .7031 18.00 .7087 18.26 .7188 18.50 .7283 18.65 .7344 19.00 .7480 19.05 .7500 19.45 .7656 19.50 .7677 19.84 .7812 20.00 .7874 20.24 .7969 20.50 .8071 20.64 .8125 21.00 .8268 21.43 .8438 21.83 .8594 22.00 .8661 22.23 .8750 22.62 .8906 23.00 .9055 23.02 .9062 23.42 .9219 23.81 .9375 24.00 .9449	3.2 (1/8)	SM105041	SM110041	SM115041			
			SM155165	SM160165	SM165165			
			SM105042	SM110042	SM115042			
			SM155170	SM160170	SM165170			
			SM105043	SM110043	SM115043			
			SM105044	SM110044	SM115044			
			SM155175	SM160175	SM165175			
			SM105045	SM110045	SM115045			
			SM155180	SM160180	SM165180			
			SM105046	SM110046	SM115046			
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64 18.00 .7087 23/32 18.26 .7188 18.50 .7283 47/64 18.65 .7344 19.00 .7480 3/4 19.05 .7500 49/64 19.45 .7656 19.50 .7677 25/32 19.84 .7812 20.00 .7874 51/64 20.24 .7969 20.50 .8071 13/16 20.64 .8125 21.00 .8268 27/32 21.43 .8438 55/64 21.83 .8594 22.00 .8661 7/8 22.23 .8750 57/64 22.62 .8906 23.00 .9055 29/32 23.02 .9062 59/64 23.42 .9219 15/16 23.81 .9375 24.00 .9449	4.0 (5/32)	SM105047	SM110047	SM115047			
			SM155190	SM160190	SM165190			
			SM105048	SM110048	SM115048			
			SM105049	SM110049	SM115049			
			SM155195	SM160195	SM165195			
			SM105050	SM110050	SM115050			
			SM155200	SM160200	SM165200			
			SM105051	SM110051	SM115051			
			SM155205	SM160205	SM165205			
			SM105052	SM110052	SM115052			
SM155210	SM160210	SM165210						
SM105054	SM110054	SM115054						
SM105055	SM110055	SM115055						
SM155220	SM160220	SM165220						
SM105056	SM110056	SM115056						
SM105057	SM110057	SM115057						
SM155230	SM160230	SM165230						
SM105058	SM110058	SM115058						
SM105059	SM110059	SM115059						
SM105060	SM110060	SM115060						
SM155240	SM160240	SM165240						

◎ : Excellent (优秀) ○ : Good (良好)

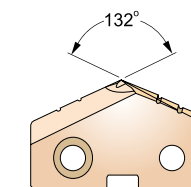
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SM-POINT SPADE DRILL INSERTS - SUPER HSS T15
SM-POINT 铲钻刀片-SUPER HSS T15

- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 用于高镍合金和硬度超过280布氏的材质
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A365

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245-246	-	-	-
	ER COLLET CHUCK	D73-115		

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号			
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER HSS T15		
						TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32 24.61 .9688 63/64 25.00 .9843 1 25.40 1.0000 1-1/64 25.80 1.0156 26.00 1.0236 1-1/32 26.19 1.0312 1-3/64 26.59 1.0469 1-1/16 26.99 1.0625 27.00 1.0630 1-3/32 27.78 1.0938 28.00 1.1024 1-7/64 28.18 1.1094 1-1/8 28.58 1.1250 29.00 1.1417 30.00 1.1811 1-3/16 30.16 1.1875 1-7/32 30.96 1.2188 31.00 1.2205 1-1/4 31.75 1.2500 32.00 1.2598 1-9/32 32.54 1.2812 33.00 1.2992 1-5/16 33.34 1.3125 34.00 1.3386 1-11/32 34.13 1.3438 1-3/8 34.93 1.3750 35.00 1.3780	4.8 (3/16)	SM105062	SM110062	SM115062			
			SM155250	SM160250	SM165250			
			SM105100	SM110100	SM115100			
			SM105101	SM110101	SM115101			
			SM155260	SM160260	SM165260			
			SM105102	SM110102	SM115102			
			SM105103	SM110103	SM115103			
			SM105104	SM110104	SM115104			
			SM155270	SM160270	SM165270			
			SM105106	SM110106	SM115106			
			SM155280	SM160280	SM165280			
			SM105107	SM110107	SM115107			
			SM105108	SM110108	SM115108			
			SM155290	SM160290	SM165290			
			SM105110	SM110110	SM115110			
			SM155300	SM160300	SM165300			
			SM105112	SM110112	SM115112			
			SM105114	SM110114	SM115114			
			SM155310	SM160310	SM165310			
			SM105116	SM110116	SM115116			
SM155320	SM160320	SM165320						
SM105118	SM110118	SM115118						
SM155330	SM160330	SM165330						
SM105120	SM110120	SM115120						
SM155340	SM160340	SM165340						
SM105122	SM110122	SM115122						
SM105124	SM110124	SM115124						
SM155350	SM160350	SM165350						

◎ : Excellent (优秀) ○ : Good (良好)

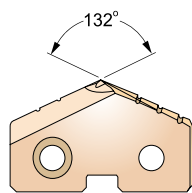
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SM-POINT SPADE DRILL INSERTS - SUPER HSS T15
SM-POINT 铲钻刀片-SUPER HSS T15

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切削条件 / cutting conditions : p. A365

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245-246	-	-
	ER COLLET CHUCK		D73-115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		SUPER HSS T15		
					TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	SM105126	SM110126	SM115126	
				SM155360	SM160360	SM165360	
	1-7/16	36.51	1.4375	SM105128	SM110128	SM115128	
				SM155370	SM160370	SM165370	
	1-15/32	37.31	1.4688	SM105130	SM110130	SM115130	
				SM155380	SM160380	SM165380	
	1-1/2	38.10	1.5000	SM105132	SM110132	SM115132	
				SM105134	SM110134	SM115134	
	1-17/32	38.89	1.5312	SM105134	SM110134	SM115134	
				SM155390	SM160390	SM165390	
	1-9/16	39.69	1.5625	SM105136	SM110136	SM115136	
				SM155400	SM160400	SM165400	
	1-19/32	40.48	1.5938	SM105138	SM110138	SM115138	
				SM155410	SM160410	SM165410	
	1-5/8	41.28	1.6250	SM105140	SM110140	SM115140	
				SM155420	SM160420	SM165420	
	1-21/32	42.07	1.6562	SM105142	SM110142	SM115142	
				SM105144	SM110144	SM115144	
	1-11/16	42.86	1.6875	SM105144	SM110144	SM115144	
				SM155430	SM160430	SM165430	
1-23/32	43.66	1.7188	SM105146	SM110146	SM115146		
			SM155440	SM160440	SM165440		
1-3/4	44.45	1.7500	SM105148	SM110148	SM115148		
			SM155450	SM160450	SM165450		
1-25/32	45.24	1.7812	SM105150	SM110150	SM115150		
			SM155460	SM160460	SM165460		
1-13/16	46.04	1.8125	SM105152	SM110152	SM115152		
			SM105154	SM110154	SM115154		
1-27/32	46.83	1.8438	SM105154	SM110154	SM115154		
			SM155470	SM160470	SM165470		
1-7/8	47.00	1.8504	SM155470	SM160470	SM165470		
			SM105156	SM110156	SM115156		
1-7/8	47.63	1.8750	SM105156	SM110156	SM115156		
			SM155470	SM160470	SM165470		

◎ : Excellent (优秀) ○ : Good (良好)

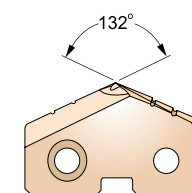
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	18	29	32	38	15	35	15	23	10	10	26	3	25	20	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S										H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55			
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550			
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			

SM-POINT SPADE DRILL INSERTS - PREMIUM HSS M48
SM-POINT 铲钻刀片-PREMIUM HSS M48

- ▶ For use in high temperature alloys and materials with 350~500 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
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- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
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切削条件 / cutting conditions : p. A367

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245-246	-	-
	ER COLLET CHUCK		D73-115	

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		PREMIUM HSS M48		
					TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	SM555095	SM560095	SM565095	
				SM505024	SM510024	SM515024	
	25/64	9.80	.3858	SM555098	SM560098	SM565098	
				SM505025	SM510025	SM515025	
		9.92	.3906	SM555100	SM560100	SM565100	
				SM555102	SM560102	SM565102	
	13/32	10.00	.3937	SM555102	SM560102	SM565102	
				SM505026	SM510026	SM515026	
	27/64	10.20	.4016	SM555105	SM560105	SM565105	
				SM505027	SM510027	SM515027	
	10.50	.4134	SM555108	SM560108	SM565108		
			SM555110	SM560110	SM565110		
7/16	10.80	.4252	SM505028	SM510028	SM515028		
			SM555115	SM560115	SM565115		
Z Ø11.11(.437) to Ø12.95(.510)	11.00	.4331	SM505029	SM510029	SM515029		
			SM555120	SM560120	SM565120		
29/64	11.11	.4375	SM505030	SM510030	SM515030		
			SM555125	SM560125	SM565125		
15/32	11.50	.4528	SM505031	SM510031	SM515031		
			SM555130	SM560130	SM565130		
31/64	11.51	.4531	SM505032	SM510032	SM515032		
			SM555135	SM560135	SM565135		
1/2	11.91	.4688	SM505033	SM510033	SM515033		
			SM555140	SM560140	SM565140		
	12.00	.4724	SM505034	SM510034	SM515034		
			SM555145	SM560145	SM565145		
33/64	12.30	.4844	SM505035	SM510035	SM515035		
			SM555150	SM560150	SM565150		
17/32	12.50	.4921	SM505036	SM510036	SM515036		
			SM555155	SM560155	SM565155		
35/64	12.70	.5000	SM505037	SM510037	SM515037		
			SM555160	SM560160	SM565160		
	13.00	.5118	SM505038	SM510038	SM515038		
			SM555165	SM560165	SM565165		
9/16	13.10	.5156	SM505039	SM510039	SM515039		
			SM555170	SM560170	SM565170		
37/64	13.49	.5312	SM505040	SM510040	SM515040		
			SM555175	SM560175	SM565175		
	13.50	.5315	SM505041	SM510041	SM515041		
			SM555180	SM560180	SM565180		
37/64	13.89	.5469	SM505042	SM510042	SM515042		
			SM555185	SM560185	SM565185		
	14.00	.5512	SM505043	SM510043	SM515043		
			SM555190	SM560190	SM565190		
5/8	14.29	.5625	SM505044	SM510044	SM515044		
			SM555195	SM560195	SM565195		
	14.50	.5709	SM505045	SM510045	SM515045		
			SM555200	SM560200	SM565200		
37/64	14.68	.5781	SM505046	SM510046	SM515046		
			SM555205	SM560205	SM565205		
	15.00	.5906	SM505047	SM510047	SM515047		
			SM555210	SM560210	SM565210		
19/32	15.08	.5938	SM505048	SM510048	SM515048		
			SM555215	SM560215	SM565215		
39/64	15.48	.6094	SM505049	SM510049	SM515049		
			SM555220	SM560220	SM565220		
	15.50	.6102	SM505050	SM510050	SM515050		
			SM555225	SM560225	SM565225		
5/8	15.88	.6250	SM505051	SM510051	SM515051		
			SM555230	SM560230	SM565230		
	16.00	.6299	SM505052	SM510052	SM515052		
			SM555235	SM560235	SM565235		

◎ : Excellent (优秀) ○ : Good (良好)

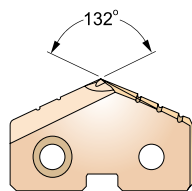
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	18	29	32	38	15	35	15	23	10	10	26	3	25	20	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S										H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55			
HB	60	100	75	90	130	110	90	100			20													

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Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245-246	-	-
	ER COLLET CHUCK		D73-115	

切削条件 / cutting conditions : p. A367

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		PREMIUM HSS M48		
					TiN	TiCN	TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64 16.27 .6406 16.50 .6496 17.00 .6693 17.07 .6719 17.46 .6875 17.50 .6890 18.00 .7087 18.26 .7188 18.50 .7283 18.65 .7344 19.00 .7480 19.05 .7500 19.45 .7656 19.50 .7677 19.84 .7812 20.00 .7874 20.24 .7969 20.50 .8071 20.64 .8125 21.00 .8268 21.43 .8438 21.83 .8594 22.00 .8661 22.23 .8750 22.62 .8906 23.00 .9055 23.02 .9062 23.42 .9219 23.81 .9375 24.00 .9449	3.2 (1/8)	SM505041	SM510041	SM515041		
			SM555165	SM560165	SM565165		
			SM505042	SM510042	SM515042		
			SM555170	SM560170	SM565170		
			SM505043	SM510043	SM515043		
			SM505044	SM510044	SM515044		
			SM555175	SM560175	SM565175		
			SM505045	SM510045	SM515045		
			SM555180	SM560180	SM565180		
			SM505046	SM510046	SM515046		
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64 17.86 .7031 18.00 .7087 23/32 18.26 .7188 18.50 .7283 47/64 18.65 .7344 19.00 .7480 3/4 19.05 .7500 49/64 19.45 .7656 19.50 .7677 25/32 19.84 .7812 20.00 .7874 51/64 20.24 .7969 20.50 .8071 13/16 20.64 .8125 21.00 .8268 27/32 21.43 .8438 55/64 21.83 .8594 22.00 .8661 7/8 22.23 .8750 57/64 22.62 .8906 23.00 .9055 29/32 23.02 .9062 59/64 23.42 .9219 15/16 23.81 .9375 24.00 .9449	4.0 (5/32)	SM505047	SM510047	SM515047		
			SM555190	SM560190	SM565190		
			SM505048	SM510048	SM515048		
			SM505049	SM510049	SM515049		
			SM555195	SM560195	SM565195		
			SM505050	SM510050	SM515050		
			SM555200	SM560200	SM565200		
			SM505051	SM510051	SM515051		
			SM555205	SM560205	SM565205		
			SM505052	SM510052	SM515052		
SM555210	SM560210	SM565210					
SM505054	SM510054	SM515054					
SM505055	SM510055	SM515055					
SM555220	SM560220	SM565220					
SM505056	SM510056	SM515056					
SM505057	SM510057	SM515057					
SM555230	SM560230	SM565230					
SM505058	SM510058	SM515058					
SM505059	SM510059	SM515059					
SM505060	SM510060	SM515060					
SM555240	SM560240	SM565240					

◎ : Excellent (优秀) ○ : Good (良好)

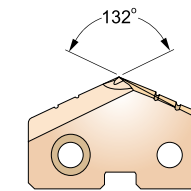
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel					
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	35	35	23	10	10	26	3	25	25	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys										
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SM-POINT SPADE DRILL INSERTS - PREMIUM HSS M48
SM-POINT 铲钻刀片-PREMIUM HSS M48

- ▶ For use in high temperature alloys and materials with 350~500 Brinell.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 用于高温合金和硬度在350-500布氏之间的材质
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产。



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245-246	-	-
	ER COLLET CHUCK		D73-115	

切削条件 / cutting conditions : p. A367

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		PREMIUM HSS M48		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32 63/64 1 1-1/64 1-1/32 1-3/64 1-1/16 1-3/32 28.00 1-7/64 1-1/8 1-5/32 30.00 1-3/16 1-7/32 31.00 1-1/4 32.00 1-9/32 33.00 1-5/16 34.00 1-11/32 34.93 35.00	24.61 25.00 25.40 25.80 26.19 26.59 26.99 27.00 27.78 28.00 28.18 28.58 29.00 29.37 30.00 30.16 30.96 31.00 31.75 32.00 32.54 33.00 33.34 34.00 34.13 34.93 35.00	.9688 .9843 1.0000 1.0156 1.0236 1.0312 1.0469 1.0625 1.0630 1.0938 1.1024 1.1094 1.1250 1.1417 1.1562 1.1811 1.1875 1.2188 1.2205 1.2500 1.2598 1.2812 1.2992 1.3125 1.3386 1.3438 1.3750 1.3780	4.8 (3/16)	SM505062	SM510062	SM515062
					SM555250	SM560250	SM565250
					SM505100	SM510100	SM515100
					SM505101	SM510101	SM515101
					SM555260	SM560260	SM565260
					SM505102	SM510102	SM515102
					SM505103	SM510103	SM515103
					SM505104	SM510104	SM515104
					SM555270	SM560270	SM565270
					SM505106	SM510106	SM515106
					SM555280	SM560280	SM565280
					SM505107	SM510107	SM515107
					SM505108	SM510108	SM515108
					SM555290	SM560290	SM565290
					SM505110	SM510110	SM515110
					SM555300	SM560300	SM565300
					SM505112	SM510112	SM515112
					SM505114	SM510114	SM515114
					SM555310	SM560310	SM565310
					SM505116	SM510116	SM515116
SM555320	SM560320	SM565320					
SM505118	SM510118	SM515118					
SM555330	SM560330	SM565330					
SM505120	SM510120	SM515120					
SM555340	SM560340	SM565340					
SM505122	SM510122	SM515122					
SM505124	SM510124	SM515124					
SM555350	SM560350	SM565350					

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel					
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	35	35	23	10	10	26	3	25	25	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys										
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

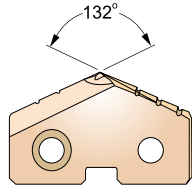
SPADE DRILLS

SERIES 2

SM-POINT SPADE DRILL INSERTS for CAST IRON - CARBIDE K10 SM-POINT 铸铁用铲钻刀片-硬质合金 K10

- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A368

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246			
ER COLLET CHUCK				D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE K10		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM605062	SM610062	SM615062
	63/64	25.00	.9843		SM655250	SM660250	SM665250
	1	25.40	1.0000		SM605100	SM610100	SM615100
	1-1/64	25.80	1.0156		SM605101	SM610101	SM615101
		26.00	1.0236		SM655260	SM660260	SM665260
	1-1/32	26.19	1.0312		SM605102	SM610102	SM615102
	1-3/64	26.59	1.0469		SM605103	SM610103	SM615103
	1-1/16	26.99	1.0625		SM605104	SM610104	SM615104
		27.00	1.0630		SM655270	SM660270	SM665270
	1-3/32	27.78	1.0938		SM605106	SM610106	SM615106
		28.00	1.1024		SM655280	SM660280	SM665280
	1-7/64	28.18	1.1094		SM605107	SM610107	SM615107
	1-1/8	28.58	1.1250		SM605108	SM610108	SM615108
		29.00	1.1417		SM655290	SM660290	SM665290
	1-5/32	29.37	1.1562		SM605110	SM610110	SM615110
		30.00	1.1811		SM655300	SM660300	SM665300
	1-3/16	30.16	1.1875		SM605112	SM610112	SM615112
	1-7/32	30.96	1.2188		SM605114	SM610114	SM615114
		31.00	1.2205		SM655310	SM660310	SM665310
	1-1/4	31.75	1.2500		SM605116	SM610116	SM615116
		32.00	1.2598		SM655320	SM660320	SM665320
	1-9/32	32.54	1.2812		SM605118	SM610118	SM615118
		33.00	1.2992		SM655330	SM660330	SM665330
	1-5/16	33.34	1.3125		SM605120	SM610120	SM615120
	34.00	1.3386	SM655340	SM660340	SM665340		
1-11/32	34.13	1.3438	SM605122	SM610122	SM615122		
1-3/8	34.93	1.3750	SM605124	SM610124	SM615124		
	35.00	1.3780	SM655350	SM660350	SM665350		

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	231
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	231
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎

ISO	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

A302

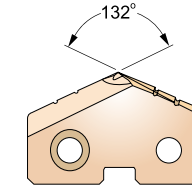
SPADE DRILLS

SERIES Y, Z, O

SM-POINT SPADE DRILL INSERTS - CARBIDE K20 SM-POINT 铲钻刀片-硬质合金K20

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A369

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246			
ER COLLET CHUCK				D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE K20		
					TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	25/64	9.50	.3740	SM755095	SM760095	SM765095
			9.53	.3750	SM705024	SM710024	SM715024
			9.80	.3858	SM755098	SM760098	SM765098
			9.92	.3906	SM705025	SM710025	SM715025
			10.00	.3937	SM755100	SM760100	SM765100
			10.20	.4016	SM755102	SM760102	SM765102
			10.32	.4062	SM705026	SM710026	SM715026
			10.50	.4134	SM755105	SM760105	SM765105
			10.72	.4219	SM705027	SM710027	SM715027
			10.80	.4252	SM755108	SM760108	SM765108
			11.00	.4331	SM755110	SM760110	SM765110
			Z Ø11.11(.437) to Ø12.95(.510)	7/16	29/64	11.11	.4375
11.50	.4528	SM755115				SM760115	SM765115
11.51	.4531	SM705029				SM710029	SM715029
11.91	.4688	SM705030				SM710030	SM715030
12.00	.4724	SM755120				SM760120	SM765120
12.30	.4844	SM705031				SM710031	SM715031
12.50	.4921	SM755125				SM760125	SM765125
12.70	.5000	SM705032				SM710032	SM715032
13.00	.5118	SM755130				SM760130	SM765130
13.10	.5156	SM705033				SM710033	SM715033
13.49	.5312	SM705034				SM710034	SM715034
13.50	.5315	SM755135				SM760135	SM765135
O Ø12.98 (.511) to Ø17.65 (.695)	33/64	17/32	13.89	.5469	SM705035	SM710035	SM715035
			14.00	.5512	SM755140	SM760140	SM765140
			14.29	.5625	SM705036	SM710036	SM715036
			14.50	.5709	SM755145	SM760145	SM765145
			14.68	.5781	SM705037	SM710037	SM715037
			15.00	.5906	SM755150	SM760150	SM765150
			15.08	.5938	SM705038	SM710038	SM715038
			15.48	.6094	SM705039	SM710039	SM715039
			15.50	.6102	SM755155	SM760155	SM765155
			15.88	.6250	SM705040	SM710040	SM715040
			16.00	.6299	SM755160	SM760160	SM765160

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	231
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	231
Recommended	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

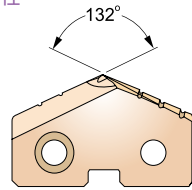
ISO	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

A303

SM-POINT SPADE DRILL INSERTS - CARBIDE K20
SM-POINT 铲钻刀片-硬质合金K20

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A369

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246			
Recommended ToolHolder		ER COLLET CHUCK	D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号			
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE K20			
					TiN	TiCN	TiAlN	
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	SM705041	SM710041	SM715041	
					SM755165	SM760165	SM765165	
					SM705042	SM710042	SM715042	
					SM755170	SM760170	SM765170	
					SM705043	SM710043	SM715043	
	43/64	17.07	.6719		SM705044	SM710044	SM715044	
					SM755175	SM760175	SM765175	
					SM705045	SM710045	SM715045	
					SM755180	SM760180	SM765180	
					SM705046	SM710046	SM715046	
	11/16	17.50	.6890		SM755185	SM760185	SM765185	
					SM705047	SM710047	SM715047	
					SM755190	SM760190	SM765190	
					SM705048	SM710048	SM715048	
					SM755195	SM760195	SM765195	
1 Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86	.7031	4.0 (5/32)	SM705050	SM710050	SM715050	
					SM755200	SM760200	SM765200	
					SM705051	SM710051	SM715051	
					SM755205	SM760205	SM765205	
					SM705052	SM710052	SM715052	
	23/32	18.26	.7188		18.50	SM755210	SM760210	SM765210
						SM705054	SM710054	SM715054
						SM755215	SM760215	SM765215
						SM705055	SM710055	SM715055
						SM755220	SM760220	SM765220
	47/64	18.65	.7344		19.00	SM705056	SM710056	SM715056
						SM755225	SM760225	SM765225
						SM705057	SM710057	SM715057
						SM755230	SM760230	SM765230
						SM705058	SM710058	SM715058
3/4	19.05	.7500	19.50	SM705059	SM710059	SM715059		
				SM755235	SM760235	SM765235		
				SM705060	SM710060	SM715060		
				SM755240	SM760240	SM765240		
				SM705061	SM710061	SM715061		
49/64	19.45	.7656	20.00	SM705062	SM710062	SM715062		
				SM755245	SM760245	SM765245		
				SM705063	SM710063	SM715063		
				SM755250	SM760250	SM765250		
				SM705064	SM710064	SM715064		
25/32	19.84	.7812	20.50	SM705065	SM710065	SM715065		
				SM755255	SM760255	SM765255		
				SM705066	SM710066	SM715066		
				SM755260	SM760260	SM765260		
				SM705067	SM710067	SM715067		
51/64	20.24	.7969	20.64	SM705068	SM710068	SM715068		
				SM755265	SM760265	SM765265		
				SM705069	SM710069	SM715069		
				SM755270	SM760270	SM765270		
				SM705070	SM710070	SM715070		
13/16	20.64	.8125	21.00	SM705071	SM710071	SM715071		
				SM755275	SM760275	SM765275		
				SM705072	SM710072	SM715072		
				SM755280	SM760280	SM765280		
				SM705073	SM710073	SM715073		
27/32	21.43	.8438	21.43	SM705074	SM710074	SM715074		
				SM755285	SM760285	SM765285		
				SM705075	SM710075	SM715075		
				SM755290	SM760290	SM765290		
				SM705076	SM710076	SM715076		
55/64	21.83	.8594	22.00	SM705077	SM710077	SM715077		
				SM755295	SM760295	SM765295		
				SM705078	SM710078	SM715078		
				SM755300	SM760300	SM765300		
				SM705079	SM710079	SM715079		
7/8	22.23	.8750	22.00	SM705080	SM710080	SM715080		
				SM755305	SM760305	SM765305		
				SM705081	SM710081	SM715081		
				SM755310	SM760310	SM765310		
				SM705082	SM710082	SM715082		
57/64	22.62	.8906	23.00	SM705083	SM710083	SM715083		
				SM755315	SM760315	SM765315		
				SM705084	SM710084	SM715084		
				SM755320	SM760320	SM765320		
				SM705085	SM710085	SM715085		
29/32	23.02	.9062	23.00	SM705086	SM710086	SM715086		
				SM755325	SM760325	SM765325		
				SM705087	SM710087	SM715087		
				SM755330	SM760330	SM765330		
				SM705088	SM710088	SM715088		
59/64	23.42	.9219	23.00	SM705089	SM710089	SM715089		
				SM755335	SM760335	SM765335		
				SM705090	SM710090	SM715090		
				SM755340	SM760340	SM765340		
				SM705091	SM710091	SM715091		
15/16	23.81	.9375	24.00	SM705092	SM710092	SM715092		
				SM755345	SM760345	SM765345		
				SM705093	SM710093	SM715093		
				SM755350	SM760350	SM765350		
				SM705094	SM710094	SM715094		

◎ : Excellent (优秀) ○ : Good (良好)

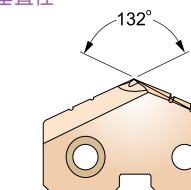
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○

ISO	N					S										H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys					Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎				◎	◎	◎			◎	◎	◎	◎	◎			○				

SM-POINT SPADE DRILL INSERTS - CARBIDE K20
SM-POINT 铲钻刀片-硬质合金K20

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A369

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246			
Recommended ToolHolder		ER COLLET CHUCK	D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE K20		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM705062	SM710062	SM715062
					SM755250	SM760250	SM765250
					SM705100	SM710100	SM715100
					SM705101	SM710101	SM715101
					SM755260	SM760260	SM765260
					SM705102	SM710102	SM715102
					SM705103	SM710103	SM715103
					SM705104	SM710104	SM715104
					SM755270	SM760270	SM765270
					SM705106	SM710106	SM715106
					SM755280	SM760280	SM765280
					SM705107	SM710107	SM715107
					SM705108	SM710108	SM715108
					SM755290	SM760290	SM765290
					SM705110	SM710110	SM715110
					SM755300	SM760300	SM765300
					SM705112	SM710112	SM715112
					SM705114	SM710114	SM715114
					SM755310	SM760310	SM765310
					SM705116	SM710116	SM715116
					SM755320	SM760320	SM765320
					SM705118	SM710118	SM715118
					SM755330	SM760330	SM765330
					SM705120	SM710120	SM715120
					SM755340	SM760340	SM765340
					SM705122	SM710122	SM715122
					SM705124	SM710124	SM715124
					SM755350	SM760350	SM765350

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○

ISO	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys					Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB																					

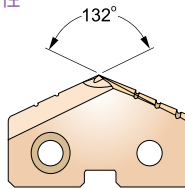
SPADE DRILLS

SERIES 3

SM-POINT SPADE DRILL INSERTS - CARBIDE K20 SM-POINT 铲钻刀片-硬质合金K20

- ▶ For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 在超过220布氏的灰铸铁, 可断成短碎片的可锻铸铁, 硅铝和铜合金上有很高的性能
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产。



Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245-246			
Recommended ToolHolder	ER COLLET CHUCK		D73-115

切削条件 / cutting conditions : p. A369

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE K20		
					TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	SM705126	SM710126	SM715126	
				SM755360	SM760360	SM765360	
	1-7/16	36.51	1.4375	SM705128	SM710128	SM715128	
				SM755370	SM760370	SM765370	
	1-15/32	37.31	1.4688	SM705130	SM710130	SM715130	
				SM755380	SM760380	SM765380	
	1-1/2	38.10	1.5000	SM705132	SM710132	SM715132	
				SM705134	SM710134	SM715134	
	1-17/32	38.89	1.5312	SM705134	SM710134	SM715134	
				SM755390	SM760390	SM765390	
	1-9/16	39.69	1.5625	SM705136	SM710136	SM715136	
				SM755400	SM760400	SM765400	
	1-19/32	40.48	1.5938	SM705138	SM710138	SM715138	
				SM755410	SM760410	SM765410	
	1-5/8	41.28	1.6250	SM705140	SM710140	SM715140	
				SM755420	SM760420	SM765420	
	1-21/32	42.07	1.6562	SM705142	SM710142	SM715142	
				SM705144	SM710144	SM715144	
	1-11/16	42.86	1.6875	SM705144	SM710144	SM715144	
				SM755430	SM760430	SM765430	
1-23/32	43.66	1.7188	SM705146	SM710146	SM715146		
			SM755440	SM760440	SM765440		
1-3/4	44.45	1.7500	SM705148	SM710148	SM715148		
			SM755450	SM760450	SM765450		
1-25/32	45.24	1.7812	SM705150	SM710150	SM715150		
			SM755460	SM760460	SM765460		
1-13/16	46.04	1.8125	SM705152	SM710152	SM715152		
			SM705154	SM710154	SM715154		
1-27/32	46.83	1.8438	SM705154	SM710154	SM715154		
			SM755470	SM760470	SM765470		
1-7/8	47.63	1.8750	SM705156	SM710156	SM715156		

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys					Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

A306

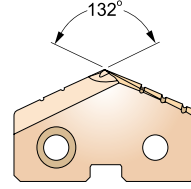
SPADE DRILLS

SERIES Y, Z, O

SM-POINT SPADE DRILL INSERTS - CARBIDE P40 SM-POINT 铲钻刀片-硬质合金 P40

- ▶ For general use in carbon steels and alloys steels.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 用于碳素钢和合金钢的普通用途
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产。



Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245-246			
Recommended ToolHolder	ER COLLET CHUCK		D73-115

切削条件 / cutting conditions : p. A371

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		CARBIDE P40		
					TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	SM855095	SM860095	SM865095	
				SM805024	SM810024	SM815024	
				SM855098	SM860098	SM865098	
				SM805025	SM810025	SM815025	
				SM855100	SM860100	SM865100	
				SM855102	SM860102	SM865102	
				SM805026	SM810026	SM815026	
				SM855105	SM860105	SM865105	
				SM805027	SM810027	SM815027	
				SM855108	SM860108	SM865108	
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	SM805028	SM810028	SM815028	
				SM855115	SM860115	SM865115	
				SM805029	SM810029	SM815029	
				SM805030	SM810030	SM815030	
				SM855120	SM860120	SM865120	
				SM805031	SM810031	SM815031	
				SM855125	SM860125	SM865125	
				SM805032	SM810032	SM815032	
				SM855130	SM860130	SM865130	
				SM805033	SM810033	SM815033	
O Ø12.98 (.511) to Ø17.65 (.695)	33/64	13.10	.5156	SM805034	SM810034	SM815034	
				SM855135	SM860135	SM865135	
				SM805035	SM810035	SM815035	
				SM855140	SM860140	SM865140	
				SM805036	SM810036	SM815036	
				SM855145	SM860145	SM865145	
				SM805037	SM810037	SM815037	
				SM855150	SM860150	SM865150	
				SM805038	SM810038	SM815038	
				SM805039	SM810039	SM815039	
	1/2	12.70	.5000	SM855155	SM860155	SM865155	
				SM805040	SM810040	SM815040	
				SM855160	SM860160	SM865160	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

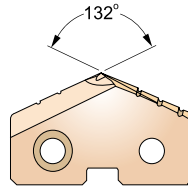
ISO	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys					Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

A307

SM-POINT SPADE DRILL INSERTS - CARBIDE P40
SM-POINT 铲钻刀片-硬质合金 P40

- ▶ For general use in carbon steels and alloys steels.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 用于碳素钢和合金钢的普通用途
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A371

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245-246			
ER COLLET CHUCK			D73-115

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号			
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	CARBIDE P40		
						TiN	TiCN	TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	SM805041	SM810041	SM815041	
		16.50	.6496		SM855165	SM860165	SM865165	
	21/32	16.67	.6562		SM805042	SM810042	SM815042	
		17.00	.6693		SM855170	SM860170	SM865170	
	43/64	17.07	.6719		SM805043	SM810043	SM815043	
		17.46	.6875		SM805044	SM810044	SM815044	
		17.50	.6890		SM855175	SM860175	SM865175	
	45/64	17.86	.7031		SM805045	SM810045	SM815045	
		18.00	.7087		SM855180	SM860180	SM865180	
		18.26	.7188		SM805046	SM810046	SM815046	
1 Ø17.53 (.690) to Ø24.38 (.960)	23/32	18.50	.7283	4.0 (5/32)	SM855185	SM860185	SM865185	
		18.65	.7344		SM805047	SM810047	SM815047	
	47/64	19.00	.7480		SM855190	SM860190	SM865190	
		19.05	.7500		SM805048	SM810048	SM815048	
	3/4	19.45	.7656		SM805049	SM810049	SM815049	
		19.50	.7677		SM855195	SM860195	SM865195	
	25/32	19.84	.7812		SM805050	SM810050	SM815050	
		20.00	.7874		SM855200	SM860200	SM865200	
	51/64	20.24	.7969		SM805051	SM810051	SM815051	
		20.50	.8071		SM855205	SM860205	SM865205	
	13/16	20.64	.8125		SM805052	SM810052	SM815052	
		21.00	.8268		SM855210	SM860210	SM865210	
	27/32	21.43	.8438		SM805054	SM810054	SM815054	
		21.83	.8594		SM805055	SM810055	SM815055	
		22.00	.8661		SM855220	SM860220	SM865220	
	7/8	22.23	.8750		SM805056	SM810056	SM815056	
		22.62	.8906		SM805057	SM810057	SM815057	
		23.00	.9055		SM855230	SM860230	SM865230	
	23.02	.9062	SM805058	SM810058	SM815058			
	59/64	23.42	.9219	SM805059	SM810059	SM815059		
	15/16	23.81	.9375	SM805060	SM810060	SM815060		
	24.00	.9449		SM855240	SM860240	SM865240		

◎ : Excellent (优秀) ○ : Good (良好)

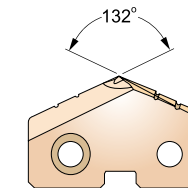
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SM-POINT SPADE DRILL INSERTS - CARBIDE P40
SM-POINT 铲钻刀片-硬质合金 P40

- ▶ For general use in carbon steels and alloys steels.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 用于碳素钢和合金钢的普通用途
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A371

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245-246			
ER COLLET CHUCK			D73-115

Series 系列	Diameter 直径			Thick 厚度	EDP No. 型号			
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	CARBIDE P40		
						TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM805062	SM810062	SM815062	
	63/64	25.00	.9843		SM855250	SM860250	SM865250	
	1	25.40	1.0000		SM805100	SM810100	SM815100	
	1-1/64	25.80	1.0156		SM805101	SM810101	SM815101	
		26.00	1.0236		SM855260	SM860260	SM865260	
	1-1/32	26.19	1.0312		SM805102	SM810102	SM815102	
	1-3/64	26.59	1.0469		SM805103	SM810103	SM815103	
	1-1/16	26.99	1.0625		SM805104	SM810104	SM815104	
		27.00	1.0630		SM855270	SM860270	SM865270	
	1-3/32	27.78	1.0938		SM805106	SM810106	SM815106	
		28.00	1.1024		SM855280	SM860280	SM865280	
	1-7/64	28.18	1.1094		SM805107	SM810107	SM815107	
	1-1/8	28.58	1.1250		SM805108	SM810108	SM815108	
		29.00	1.1417		SM855290	SM860290	SM865290	
	1-5/32	29.37	1.1562		SM805110	SM810110	SM815110	
		30.00	1.1811		SM855300	SM860300	SM865300	
	1-3/16	30.16	1.1875		SM805112	SM810112	SM815112	
	1-7/32	30.96	1.2188		SM805114	SM810114	SM815114	
		31.00	1.2205		SM855310	SM860310	SM865310	
	1-1/4	31.75	1.2500		SM805116	SM810116	SM815116	
	32.00	1.2598	SM855320	SM860320	SM865320			
1-9/32	32.54	1.2812	SM805118	SM810118	SM815118			
	33.00	1.2992	SM855330	SM860330	SM865330			
1-5/16	33.34	1.3125	SM805120	SM810120	SM815120			
	34.00	1.3386	SM855340	SM860340	SM865340			
1-11/32	34.13	1.3438	SM805122	SM810122	SM815122			
1-3/8	34.93	1.3750	SM805124	SM810124	SM815124			
	35.00	1.3780	SM855350	SM860350	SM865350			

◎ : Excellent (优秀) ○ : Good (良好)

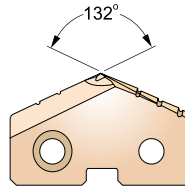
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SM-POINT SPADE DRILL INSERTS - CARBIDE P40
SM-POINT 铲钻刀片-硬质合金 P40

- ▶ For general use in carbon steels and alloys steels.
- ▶ Improved stability and hole straightness by newly developed thinning design.
- ▶ Less thrust force and excellent self-centering.
- ▶ Any non-standard size available.

- ▶ 用于碳素钢和合金钢的普通用途
- ▶ 通过新开发的钻顶设计增强稳定性和孔的垂直性
- ▶ 较小的推力和卓越的自定心功能
- ▶ 各种非标准尺寸均可进行生产。



切削条件 / cutting conditions : p. A371

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246			
ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号			
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	CARBIDE P40		
						TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	1.3125	33.33	1.4062	SM805126	SM810126	SM815126	
					SM855360	SM860360	SM865360	
	1-7/16	1.1875	36.51	1.4375	SM805128	SM810128	SM815128	
					SM855370	SM860370	SM865370	
	1-15/32	1.4062	37.31	1.4688	SM805130	SM810130	SM815130	
					SM855380	SM860380	SM865380	
	1-1/2	1.5000	38.10	1.5000	SM805132	SM810132	SM815132	
					SM855390	SM860390	SM865390	
	1-17/32	1.5312	38.89	1.5312	SM805134	SM810134	SM815134	
					SM855400	SM860400	SM865400	
	1-9/16	1.5625	39.69	1.5625	SM805136	SM810136	SM815136	
					SM855410	SM860410	SM865410	
	1-19/32	1.5938	40.48	1.5938	SM805138	SM810138	SM815138	
					SM855420	SM860420	SM865420	
	1-5/8	1.6250	41.28	1.6250	SM805140	SM810140	SM815140	
					SM855430	SM860430	SM865430	
	1-21/32	1.6562	42.07	1.6562	SM805142	SM810142	SM815142	
					SM855440	SM860440	SM865440	
	1-11/16	1.6875	42.86	1.6875	SM805144	SM810144	SM815144	
					SM855450	SM860450	SM865450	
	1-23/32	1.7188	43.66	1.7188	SM805146	SM810146	SM815146	
					SM855460	SM860460	SM865460	
	1-3/4	1.7500	44.45	1.7500	SM805148	SM810148	SM815148	
					SM855470	SM860470	SM865470	
1-25/32	1.7812	45.24	1.7812	SM805150	SM810150	SM815150		
				SM855480	SM860480	SM865480		
1-13/16	1.8125	46.04	1.8125	SM805152	SM810152	SM815152		
				SM855490	SM860490	SM865490		
1-27/32	1.8438	46.83	1.8438	SM805154	SM810154	SM815154		
				SM855500	SM860500	SM865500		
1-7/8	1.8750	47.00	1.8504	SM805156	SM810156	SM815156		
				SM855510	SM860510	SM865510		

SPADE DRILLS SV-POINT
铲钻刀片 SV-POINT

Improved stability and hole straightness
改进稳定性和孔的垂直性

H-Coating (Upgraded AlCrN-Based Multi-Layer coating)
 H-Coating(基于AlCrN多层涂层)

- Higher wear resistance and reduced material adhesion
极高的耐磨性和减少附着力
- Higher cutting speeds and feeds
更快的切削速度和进给速度
- Improved hole quality over conventional spade drills
提高孔的质量铲钻刀片



- Smooth cutting
顺畅地切削
- Breaks chips
断屑
- Low thrust
稳定扭矩
- Stable torque
稳定扭矩
- Self centering
卓越的自定心功能
- Long tool life
延长刀具寿命



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○						○			○	○	○	○	○			◎			

A310

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A365

(Series 5-8 : 144 degree)

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER COBALT T15	
						Hardstick	H-Coating
Y 9.50 (.374) to 11.07 (.436)	3/8		9.5	.3740	SV170095	SV175095	
			9.53	.3750	SV120024	SV125024	
	25/64		9.8	.3860	SV170098	SV175098	
			9.92	.3906	SV120025	SV125025	
	13/32		10	.3937	SV170100	SV175100	
			10.2	.4016	SV170102	SV175102	
	27/64		10.32	.4063	SV120026	SV125026	
			10.5	.4134	SV170105	SV175105	
			10.72	.4219	SV120027	SV125027	
			10.8	.4252	SV170108	SV175108	
		11	.4331	SV170110	SV175110		
		11.11	.4375	SV120028	SV125028		
Z 11.11 (.437) to 12.95 (.510)	7/16		11.5	.4528	SV170115	SV175115	
			11.51	.4531	SV120029	SV125029	
	15/32		11.91	.4688	SV120030	SV125030	
			12	.4724	SV170120	SV175120	
	31/64		12.3	.4844	SV120031	SV125031	
			12.5	.4921	SV170125	SV175125	
1/2		12.7	.5000	SV120032	SV125032		

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A364

(Series 5-8 : 144 degree)

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER COBALT T15	
						Hardstick	H-Coating
0 12.98 (.511) to 17.65 (.695)	33/64		13	.5118	SV170130	SV175130	
			13.1	.5156	SV120033	SV125033	
	17/32		13.49	.5313	SV120034	SV125034	
			13.5	.5315	SV170135	SV175135	
	35/64		13.89	.5469	SV120035	SV125035	
			14	.5512	SV170140	SV175140	
	9/16		14.29	.5625	SV120036	SV125036	
			14.5	.5709	SV170145	SV175145	
	37/64		14.68	.5781	SV120037	SV125037	
			15	.5906	SV170150	SV175150	
	19/32		15.08	.5938	SV120038	SV125038	
			15.48	.6094	SV120039	SV125039	
	5/8		15.5	.6102	SV170155	SV175155	
			15.88	.6250	SV120040	SV125040	
	41/64		16	.6299	SV170160	SV175160	
			16.27	.6406	SV120041	SV125041	
	21/32		16.5	.6496	SV170165	SV175165	
			16.67	.6563	SV120042	SV125042	
	43/64		17	.6693	SV170170	SV175170	
			17.07	.6719	SV120043	SV125043	
11/16		17.46	.6875	SV120044	SV125044		

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K							
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron			Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K							
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron			Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A365

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246			
Recommended ToolHolder		ER COLLET CHUCK	D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER COBALT T15	
						Hardslick	H-Coating
1 17.53 (.690) to 24.38 (.960)	45/64		17.86	.7031	SV120045	SV125045	
			18	.7087	SV170180	SV175180	
			23/32	18.26	.7188	SV120046	SV125046
	47/64		18.5	.7283	SV170185	SV175185	
			18.65	.7344	SV120047	SV125047	
			19	.7480	SV170190	SV175190	
	3/4		19.05	.7500	SV120048	SV125048	
			19.5	.7677	SV170195	SV175195	
			19.84	.7812	SV120050	SV125050	
	51/64		20	.7874	SV170200	SV175200	
			20.24	.7969	SV120051	SV125051	
			20.5	.8071	SV170205	SV175205	
	13/16		20.64	.8125	SV120052	SV125052	
			21	.8268	SV170210	SV175210	
			21.43	.8438	SV120054	SV125054	
	55/64		21.83	.8594	SV120055	SV125055	
			22	.8661	SV170220	SV175220	
			22.23	.8750	SV120056	SV125056	
7/8		22.62	.8906	SV120057	SV125057		
		23	.9055	SV170230	SV175230		
		23.02	.9062	SV120058	SV125058		
59/64		23.42	.9219	SV120059	SV125059		
		23.81	.9375	SV120060	SV125060		
		24	.9449	SV170240	SV175240		

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A364

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246			
Recommended ToolHolder		ER COLLET CHUCK	D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER COBALT T15	
						Hardslick	H-Coating
2 24.41 (.961) to 35.05 (1.380)	31/32		24.61	.9688	SV120062	SV125062	
			63/64	25	.9843	SV120063	SV125063
	1		25.4	1.0000	SV120100	SV125100	
			1 1/64	25.8	1.0156	SV120101	SV125101
	1 1/32		26	1.0236	SV170260	SV175260	
			26.19	1.0312	SV120102	SV125102	
	1 3/64		26.59	1.0469	SV120103	SV125103	
			26.99	1.0625	SV120104	SV125104	
	1 1/16		27	1.0630	SV170270	SV175270	
			27.78	1.0938	SV120106	SV125106	
	1 3/32		28	1.1024	SV170280	SV175280	
			28.18	1.1094	SV120107	SV125107	
	1 7/64		28.58	1.1250	SV120108	SV125108	
			29	1.1417	SV170290	SV175290	
	1 5/32		29.37	1.1562	SV120110	SV125110	
			30	1.1811	SV170300	SV175300	
	1 3/16		30.16	1.1875	SV120112	SV125112	
			30.96	1.2188	SV120114	SV125114	
	1 7/32		31	1.2205	SV170310	SV175310	
			31.75	1.2500	SV120116	SV125116	
	1 1/4		32	1.2598	SV170320	SV175320	
			32.54	1.2812	SV120118	SV125118	
	1 9/32		33	1.2992	SV170330	SV175330	
			33.34	1.3125	SV120120	SV125120	
	1 5/16		34	1.3386	SV170340	SV175340	
			34.13	1.3438	SV120122	SV125122	
	1 11/32		34.93	1.3750	SV120124	SV125124	
			35	1.3780	SV170350	SV175350	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N				S										H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N				S										H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A365

(Series 5-8 : 144 degree)

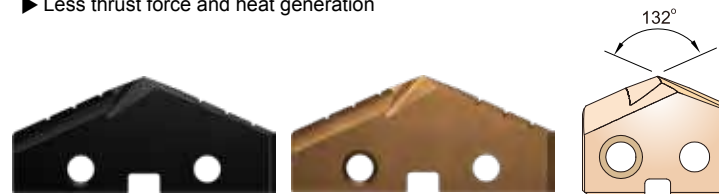
Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115	-	-

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER COBALT T15	
						Hardstick	H-Coating
3 34.37 (1.353) to 47.80 (1.882)	1 13/32	35.72	1.4063	6.4 [1/4]	SV120126	SV125126	
					SV170360	SV175360	
	1 7/16	36.51	1.4375		SV120128	SV125128	
					SV170370	SV175370	
	1 15/32	37.31	1.4688		SV120130	SV125130	
					SV170380	SV175380	
	1 1/2	38.1	1.5000		SV120132	SV125132	
					SV120134	SV125134	
	1 17/32	38.89	1.5313		SV170390	SV175390	
					SV120136	SV125136	
	1 9/16	39.69	1.5625		SV170400	SV175400	
					SV120138	SV125138	
	1 19/32	40.48	1.5938		SV170410	SV175410	
					SV120140	SV125140	
	1 5/8	41.28	1.6250		SV170420	SV175420	
					SV120142	SV125142	
	1 21/32	42.07	1.6563		SV120144	SV125144	
					SV170430	SV175430	
	1 11/16	42.86	1.6875		SV120146	SV125146	
					SV170440	SV175440	
1 23/32	43.66	1.7188	SV170440	SV175440			
			SV120148	SV125148			
1 3/4	44.45	1.7500	SV170450	SV175450			
			SV120150	SV125150			
1 25/32	45.24	1.7813	SV170460	SV175460			
			SV120152	SV125152			
1 13/16	46.04	1.8125	SV120154	SV125154			
			SV170470	SV175470			
1 27/32	46.83	1.8438	SV120156	SV125156			
			SV170470	SV175470			
1 7/8	47.63	1.8750					

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

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- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A364

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115	-	-

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER COBALT T15	
						Hardstick	H-Coating
4 46.99 (1.850) to 65.28 (2.570)	1 29/32	48.42	1.8898	7.9 [5/16]	SV170480	SV175480	
					SV120158	SV125158	
					SV170490	SV175490	
	1 15/16	49.21	1.9291		SV120160	SV125160	
					SV170500	SV175500	
	1 31/32	50.01	1.9688		SV120162	SV125162	
					SV120200	SV125200	
	2	50.8	2.0000		SV170510	SV175510	
					SV120202	SV125202	
	2 1/32	51.59	2.0312		SV120203	SV125203	
					SV120204	SV125204	
	2 3/64	51.99	2.0472		SV170530	SV175530	
					SV120206	SV125206	
	2 1/16	52.39	2.0625		SV120208	SV125208	
					SV170540	SV175540	
		53	2.0866		SV120210	SV125210	
					SV170550	SV175550	
	2 3/32	53.18	2.0938		SV120212	SV125212	
					SV170560	SV175560	
	2 1/8	53.98	2.1250		SV120214	SV125214	
					SV170570	SV175570	
	2 5/32	54.77	2.1562		SV120216	SV125216	
					SV170580	SV175580	
	2 3/16	55.56	2.1875		SV120218	SV125218	
					SV170590	SV175590	
		56	2.2047		SV120220	SV125220	
					SV170600	SV175600	
	2 7/32	56.36	2.2188		SV120222	SV125222	
					SV170600	SV175600	
		57	2.2441				
2 1/4	57.15	2.2500					
2 9/32	57.94	2.2812					
	58	2.2835					
2 5/16	58.74	2.3125					
	59	2.3228					
2 11/32	59.53	2.3438					
	60	2.3622					
2 3/8	60.33	2.3750					

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron			Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230					
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S										H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	630	400	550	550	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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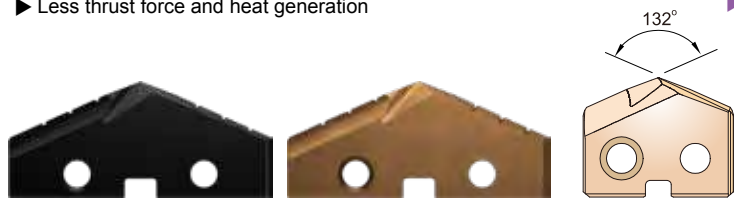
ISO	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron			Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230					
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S										H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	630	400	550	550	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
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- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A365

(Series 5-8 : 144 degree)

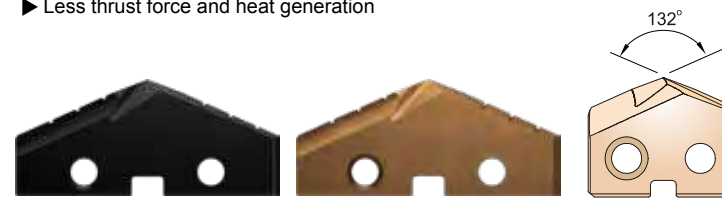
Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
Recommended ToolHolder	ER COLLET CHUCK		D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER COBALT T15	
						Hardslick	H-Coating
4 46.99 (1.850) to 65.28 (2.570)			61	2.4016	SV170610	SV175610	
		2 13/32	61.12	2.4062	SV120226	SV125226	
		2 7/16	61.91	2.4375	SV120228	SV125228	
			62	2.4409	SV170620	SV175620	
		2 15/32	62.71	2.4688	SV120230	SV125230	
			63	2.4803	SV170630	SV175630	
		2 1/2	63.5	2.5000	SV120232	SV125232	
			64	2.5197	SV170640	SV175640	
		2 17/32	64.29	2.5312	SV120234	SV125234	
		2 9/16	65.09	2.5625	SV170650	SV175650	

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

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切削条件 / cutting conditions : p. A364

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
Recommended ToolHolder	ER COLLET CHUCK		D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER COBALT T15	
						Hardslick	H-Coating
5 62.38 (2.456) to 76.20 (3.000)		2 1/2	63.5	2.5000	SV1202D2	SV1252D2	
			64	2.5197	SV170640	SV17564A	
		2 17/32	64.29	2.5312	SV1202D4	SV1252D4	
		2 9/16	65.09	2.5625	SV1202D6	SV1252D6	
		2 19/32	65.88	2.5938	SV120238	SV125238	
			66	2.5984	SV170660	SV175660	
		2 5/8	66.68	2.6250	SV120240	SV125240	
		2 21/32	67.47	2.6562	SV120242	SV125242	
			68	2.6772	SV170680	SV175680	
		2 11/16	68.26	2.6875	SV120244	SV125244	
		2 23/32	69.06	2.7188	SV120246	SV125246	
		2 3/4	69.85	2.7500	SV120248	SV125248	
			70	2.7559	SV170700	SV175700	
		2 25/32	70.64	2.7812	SV120250	SV125250	
		2 13/16	71.44	2.8125	SV120252	SV125252	
			72	2.8346	SV170720	SV175720	
		2 27/32	72.23	2.8438	SV120254	SV125254	
		2 7/8	73.03	2.8750	SV120256	SV125256	
		2 29/32	73.82	2.9062	SV120258	SV125258	
			74	2.9134	SV170740	SV175740	
	2 15/16	74.61	2.9375	SV120260	SV125260		
	2 31/32	75.41	2.9688	SV120262	SV125262		
		76	2.9921	SV170760	SV175760		
	3	76.2	3.0000	SV120300	SV125300		

◎ : Excellent (优秀) ○ : Good (良好)

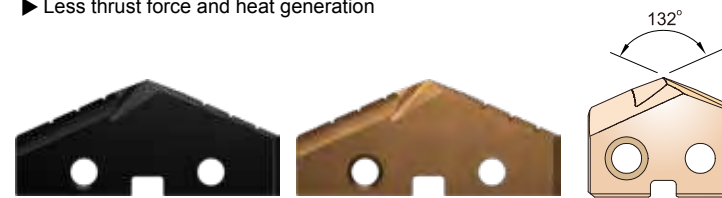
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A364

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
Recommended ToolHolder	ER COLLET CHUCK		D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER COBALT T15	
						Hardslick	H-Coating
5 62.38 (2.456) to 76.20 (3.000)		2 1/2	63.5	2.5000	SV1202D2	SV1252D2	
			64	2.5197	SV170640	SV17564A	
		2 17/32	64.29	2.5312	SV1202D4	SV1252D4	
		2 9/16	65.09	2.5625	SV1202D6	SV1252D6	
		2 19/32	65.88	2.5938	SV120238	SV125238	
			66	2.5984	SV170660	SV175660	
		2 5/8	66.68	2.6250	SV120240	SV125240	
		2 21/32	67.47	2.6562	SV120242	SV125242	
			68	2.6772	SV170680	SV175680	
		2 11/16	68.26	2.6875	SV120244	SV125244	
		2 23/32	69.06	2.7188	SV120246	SV125246	
		2 3/4	69.85	2.7500	SV120248	SV125248	
			70	2.7559	SV170700	SV175700	
		2 25/32	70.64	2.7812	SV120250	SV125250	
		2 13/16	71.44	2.8125	SV120252	SV125252	
			72	2.8346	SV170720	SV175720	
		2 27/32	72.23	2.8438	SV120254	SV125254	
		2 7/8	73.03	2.8750	SV120256	SV125256	
		2 29/32	73.82	2.9062	SV120258	SV125258	
			74	2.9134	SV170740	SV175740	
	2 15/16	74.61	2.9375	SV120260	SV125260		
	2 31/32	75.41	2.9688	SV120262	SV125262		
		76	2.9921	SV170760	SV175760		
	3	76.2	3.0000	SV120300	SV125300		

◎ : Excellent (优秀) ○ : Good (良好)

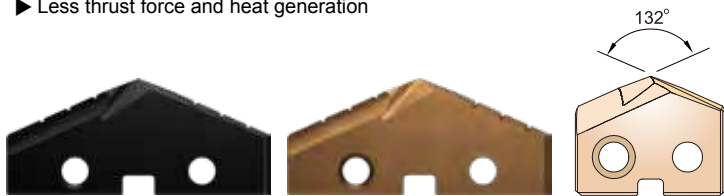
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A365

(Series 5-8 : 144 degree)

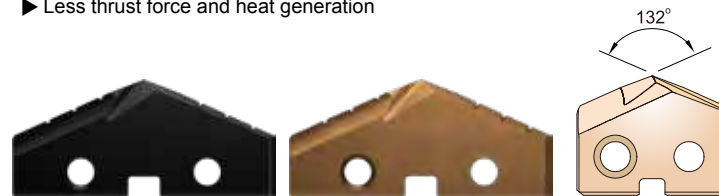
Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246		
Recommended ToolHolder		ER COLLET CHUCK	D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER COBALT T15	
						Hardstick	H-Coating
6 3.001 (76.23) to 3.507 (89.08)	3 1/32		76.99	3.0312	SV120302	SV125302	
	3 1/16		77.79	3.0625	SV120304	SV125304	
			78	3.0709	SV170780	SV175780	
	3 3/32		78.58	3.0938	SV120306	SV125306	
	3 1/8		79.38	3.1250	SV120308	SV125308	
			80	3.1496	SV170800	SV175800	
	3 5/32		80.17	3.1562	SV120310	SV125310	
	3 3/16		80.96	3.1875	SV120312	SV125312	
	3 7/32		81.76	3.2188	SV120314	SV125314	
			82	3.2283	SV170820	SV175820	
	3 1/4		82.55	3.2500	SV120316	SV125316	
	3 9/32		83.34	3.2812	SV120318	SV125318	
			84	3.3071	SV170840	SV175840	
	3 5/16		84.14	3.3125	SV120320	SV125320	
	3 11/32		84.93	3.3438	SV120322	SV125322	
	3 3/8		85.73	3.3750	SV120324	SV125324	
			86	3.3858	SV170860	SV175860	
	3 13/32		86.52	3.4063	SV120326	SV125326	
	3 7/16		87.31	3.4375	SV120328	SV125328	
			88	3.4646	SV170880	SV175880	
3 15/32		88.11	3.4688	SV120330	SV125330		
3 1/2		88.9	3.5000	SV120332	SV125332		

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A364

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246		
Recommended ToolHolder		ER COLLET CHUCK	D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER COBALT T15	
						Hardstick	H-Coating
7 87.76 (3.455) to 101.60 (4.000)	3 17/32		89.69	3.5312	SV120334	SV125334	
			90	3.5433	SV170900	SV175900	
	3 9/16		90.49	3.5625	SV120336	SV125336	
	3 19/32		91.28	3.5938	SV120338	SV125338	
			92	3.6221	SV170920	SV175920	
	3 5/8		92.08	3.6250	SV120340	SV125340	
	3 21/32		92.87	3.6562	SV120342	SV125342	
	3 11/16		93.66	3.6875	SV120344	SV125344	
			94	3.7008	SV170940	SV175940	
	3 23/32		94.46	3.7188	SV120346	SV125346	
	3 3/4		95.25	3.7500	SV120348	SV125348	
			96	3.7795	SV170960	SV175960	
	3 25/32		96.04	3.7812	SV120350	SV125350	
	3 13/16		96.84	3.8125	SV120352	SV125352	
	3 27/32		97.63	3.8438	SV120354	SV125354	
			98	3.8583	SV170980	SV175980	
	3 7/8		98.43	3.8750	SV120356	SV125356	
	3 29/32		99.22	3.9062	SV120358	SV125358	
			100	3.9370	SV170A00	SV175A00	
	3 15/16		100.01	3.9375	SV120360	SV125360	
3 31/32		100.81	3.9688	SV120362	SV125362		
4		101.6	4.0000	SV120400	SV125400		

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N						S										H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

◎ : Excellent (优秀) ○ : Good (良好)

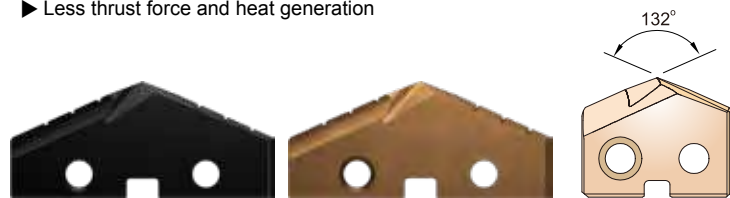
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N						S										H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SV-POINT SPADE DRILL INSERTS - SUPER COBALT T15
SV-POINT 铲钻刀片-超级含钴T15

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A365

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115	-	-

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	SUPER COBALT T15	
						Hardslick	H-Coating
8 101.63 (4.001) to 114.48 (4.507)	4 1/64		102	4.0156	SV120401	SV125401	
	4 1/16		103.19	4.0625	SV120404	SV125404	
	4 3/32		103.98	4.0945	SV120406	SV125406	
	4 1/8		104.78	4.1250	SV120408	SV125408	
			106	4.1732	SV170A60	SV175A60	
	4 3/16		106.36	4.1875	SV120412	SV125412	
	4 1/4		107.95	4.2500	SV120416	SV125416	
	4 5/16		109.54	4.3125	SV170A80	SV175A80	
			110	4.3307	SV120420	SV125420	
	4 3/8		111.13	4.3750	SV170B00	SV175B00	
			112	4.4094	SV120424	SV125424	
	4 7/16		112.71	4.4375	SV170B20	SV175B20	
			114	4.4882	SV120428	SV125428	
	4 1/2		114.3	4.5000	SV170B40	SV175B40	
					SV120432	SV125432	

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115	-	-

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	PREMIUM COBALT M48	
						Hardslick	H-Coating
Y 9.50 (.374) to 11.07 (.436)			9.5	.3740	SV570095	SV575095	
			3/8	.3750	SV520024	SV525024	
			9.8	.3860	SV570098	SV575098	
			25/64	.3906	SV520025	SV525025	
			10	.3937	SV570100	SV575100	
			10.2	.4016	SV570102	SV575102	
			13/32	.4063	SV520026	SV525026	
			10.5	.4134	SV570105	SV575105	
			27/64	.4219	SV520027	SV525027	
			10.8	.4252	SV570108	SV575108	
Z 11.11 (.437) to 12.95 (.510)			11	.4331	SV570110	SV575110	
			7/16	.4375	SV520028	SV525028	
			11.5	.4528	SV570115	SV575115	
			29/64	.4531	SV520029	SV525029	
			11.91	.4688	SV520030	SV525030	
			12	.4724	SV570120	SV575120	
			31/64	.4844	SV520031	SV525031	
			12.5	.4921	SV570125	SV575125	
			12.7	.5000	SV520032	SV525032	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	-	-	D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	PREMIUM COBALT M48	
						Hardstick	H-Coating
0 12.98 (.511) to 17.65 (.695)			13	.5118	SV570130	SV575130	
		33/64	13.1	.5156	SV520033	SV525033	
		17/32	13.49	.5313	SV520034	SV525034	
			13.5	.5315	SV570135	SV575135	
		35/64	13.89	.5469	SV520035	SV525035	
			14	.5512	SV570140	SV575140	
		9/16	14.29	.5625	SV520036	SV525036	
			14.5	.5709	SV570145	SV575145	
		37/64	14.68	.5781	SV520037	SV525037	
			15	.5906	SV570150	SV575150	
		19/32	15.08	.5938	SV520038	SV525038	
		39/64	15.48	.6094	SV520039	SV525039	
			15.5	.6102	SV570155	SV575155	
		5/8	15.88	.6250	SV520040	SV525040	
			16	.6299	SV570160	SV575160	
		41/64	16.27	.6406	SV520041	SV525041	
			16.5	.6496	SV570165	SV575165	
		21/32	16.67	.6563	SV520042	SV525042	
		17	.6693	SV570170	SV575170		
	43/64	17.07	.6719	SV520043	SV525043		
		17.46	.6875	SV520044	SV525044		
		17.5	.6890	SV570175	SV575175		

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎									◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	-	-	D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	PREMIUM COBALT M48	
						Hardstick	H-Coating
1 17.53 (.690) to 24.38 (.960)		45/64	17.86	.7031	SV520045	SV525045	
			18	.7087	SV570180	SV575180	
		23/32	18.26	.7188	SV520046	SV525046	
			18.5	.7283	SV570185	SV575185	
		47/64	18.65	.7344	SV520047	SV525047	
			19	.7480	SV570190	SV575190	
		3/4	19.05	.7500	SV520048	SV525048	
		49/64	19.45	.7656	SV520049	SV525049	
			19.5	.7677	SV570195	SV575195	
		25/32	19.84	.7812	SV520050	SV525050	
			20	.7874	SV570200	SV575200	
		51/64	20.24	.7969	SV520051	SV525051	
			20.5	.8071	SV570205	SV575205	
		13/16	20.64	.8125	SV520052	SV525052	
			21	.8268	SV570210	SV575210	
		27/32	21.43	.8438	SV520054	SV525054	
		55/64	21.83	.8594	SV520055	SV525055	
			22	.8661	SV570220	SV575220	
		7/8	22.23	.8750	SV520056	SV525056	
		57/64	22.62	.8906	SV520057	SV525057	
			23	.9055	SV570230	SV575230	
		29/32	23.02	.9062	SV520058	SV525058	
		59/64	23.42	.9219	SV520059	SV525059	
		15/16	23.81	.9375	SV520060	SV525060	
			24	.9449	SV570240	SV575240	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎									◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
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- ▶ 为柔软切削的Sinusoidal刃
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切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
Recommended ToolHolder	ER COLLET CHUCK		D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号	
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		PREMIUM COBALT M48	
					Hardstick	H-Coating
2 24.41 (.961) to 35.05 (1.380)	31/32	24.61	.9688	4.8 [3/16]	SV520062	SV525062
	63/64	25	.9843		SV520063	SV525063
	1	25.4	1.0000		SV520100	SV525100
	1 1/64	25.8	1.0156		SV520101	SV525101
		26	1.0236		SV520260	SV525260
	1 1/32	26.19	1.0312		SV520102	SV525102
	1 3/64	26.59	1.0469		SV520103	SV525103
	1 1/16	26.99	1.0625		SV520104	SV525104
		27	1.0630		SV520270	SV525270
	1 3/32	27.78	1.0938		SV520106	SV525106
		28	1.1024		SV520280	SV525280
	1 7/64	28.18	1.1094		SV520107	SV525107
	1 1/8	28.58	1.1250		SV520108	SV525108
		29	1.1417		SV520290	SV525290
	1 5/32	29.37	1.1562		SV520110	SV525110
		30	1.1811		SV520300	SV525300
	1 3/16	30.16	1.1875		SV520112	SV525112
	1 7/32	30.96	1.2188		SV520114	SV525114
		31	1.2205		SV520310	SV525310
	1 1/4	31.75	1.2500		SV520116	SV525116
		32	1.2598		SV520320	SV525320
	1 9/32	32.54	1.2812		SV520118	SV525118
		33	1.2992		SV520330	SV525330
	1 5/16	33.34	1.3125		SV520120	SV525120
	34	1.3386	SV520340	SV525340		
1 11/32	34.13	1.3438	SV520122	SV525122		
1 3/8	34.93	1.3750	SV520124	SV525124		
	35	1.3780	SV520350	SV525350		

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

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切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
Recommended ToolHolder	ER COLLET CHUCK		D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号	
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		PREMIUM COBALT M48	
					Hardstick	H-Coating
3 34.37 (1.353) to 47.80 (1.882)	1 13/32	35.72	1.4063	6.4 [1/4]	SV520126	SV525126
		36	1.4173		SV520360	SV525360
	1 7/16	36.51	1.4375		SV520128	SV525128
		37	1.4567		SV520370	SV525370
	1 15/32	37.31	1.4688		SV520130	SV525130
		38	1.4961		SV520380	SV525380
	1 1/2	38.1	1.5000		SV520132	SV525132
	1 17/32	38.89	1.5313		SV520134	SV525134
		39	1.5354		SV520390	SV525390
	1 9/16	39.69	1.5625		SV520136	SV525136
		40	1.5748		SV520400	SV525400
	1 19/32	40.48	1.5938		SV520138	SV525138
		41	1.6142		SV520410	SV525410
	1 5/8	41.28	1.6250		SV520140	SV525140
		42	1.6535		SV520420	SV525420
	1 21/32	42.07	1.6563		SV520142	SV525142
	1 11/16	42.86	1.6875		SV520144	SV525144
		43	1.6929		SV520430	SV525430
	1 23/32	43.66	1.7188		SV520146	SV525146
		44	1.7323		SV520440	SV525440
	1 3/4	44.45	1.7500		SV520148	SV525148
		45	1.7717		SV520450	SV525450
	1 25/32	45.24	1.7813		SV520150	SV525150
		46	1.8110		SV520460	SV525460
1 13/16	46.04	1.8125	SV520152	SV525152		
1 27/32	46.83	1.8438	SV520154	SV525154		
	47	1.8504	SV520470	SV525470		
1 7/8	47.63	1.8750	SV520156	SV525156		

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

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切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
Recommended ToolHolder	ER COLLET CHUCK		D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	PREMIUM COBALT M48	
						Hardslick	H-Coating
4 46.99 (1.850) to 65.28 (2.570)	1 29/32	48.42	48	1.8898	7.9 [5/16]	SV570480	SV575480
						SV520158	SV525158
	1 15/16	49.21	49	1.9291		SV570490	SV575490
						SV520160	SV525160
	1 31/32	50.01	50	1.9685		SV570500	SV575500
						SV520162	SV525162
	2	50.8	50.8	2.0000		SV520200	SV525200
						SV570510	SV575510
	2 1/32	51.59	51	2.0079		SV520202	SV525202
						SV520203	SV525203
	2 3/64	51.99	51.99	2.0472		SV520204	SV525204
						SV570530	SV575530
	2 1/16	52.39	53	2.0866		SV520206	SV525206
						SV570520	SV575520
	2 3/32	53.18	53.18	2.0938		SV520208	SV525208
						SV570540	SV575540
	2 1/8	53.98	54	2.1260		SV520210	SV525210
						SV570550	SV575550
	2 5/32	54.77	55	2.1654		SV520212	SV525212
						SV570560	SV575560
2 3/16	55.56	56	2.2047	SV520214	SV525214		
				SV570570	SV575570		
2 7/32	56.36	57	2.2441	SV520216	SV525216		
				SV520218	SV525218		
2 1/4	57.15	57.94	2.2812	SV570580	SV575580		
				SV520220	SV525220		
2 9/32	57.94	58	2.2835	SV520220	SV525220		
				SV570590	SV575590		
2 5/16	58.74	59	2.3228				

◎ : Excellent (优秀) ○ : Good (良好)

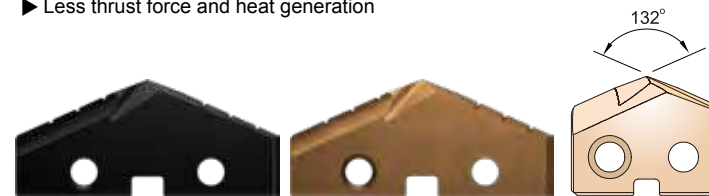
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	25	21	
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N				S										H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

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切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
Recommended ToolHolder	ER COLLET CHUCK		D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	PREMIUM COBALT M48	
						Hardslick	H-Coating
4 46.99 (1.850) to 65.28 (2.570)	2 11/32	59.53	59.53	2.3438	7.9 [5/16]	SV520222	SV525222
						SV570600	SV575600
	2 3/8	60.33	60.33	2.3750		SV520224	SV525224
						SV570610	SV575610
	2 13/32	61.12	61.12	2.4062		SV520226	SV525226
						SV520228	SV525228
	2 7/16	61.91	61.91	2.4375		SV570620	SV575620
						SV520230	SV525230
	2 15/32	62.71	62.71	2.4688		SV570630	SV575630
						SV520232	SV525232
	2 1/2	63.5	63.5	2.5000		SV520234	SV525234
						SV570640	SV575640
	2 17/32	64.29	64.29	2.5312		SV520236	SV525236
						SV570650	SV575650
	2 9/16	65.09	65.09	2.5625		SV520238	SV525238
						SV570660	SV575660
	2 1/2	63.5	63.5	2.5000		SV520240	SV525240
						SV570670	SV575670
	2 17/32	64.29	64.29	2.5312		SV520242	SV525242
						SV570680	SV575680
2 9/16	65.09	65.09	2.5625	SV520244	SV525244		
				SV570690	SV575690		

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	25	21	
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N				S										H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
Recommended ToolHolder	ER COLLET CHUCK		D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号	
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		PREMIUM COBALT M48	
					Hardstick	H-Coating
5 62.38 (2.456) to 76.20 (3.000)	2 19/32		65.88	2.5938	SV520238	SV525238
			66	2.5984	SV570660	SV575660
	2 5/8		66.68	2.6250	SV520240	SV525240
			67.47	2.6562	SV520242	SV525242
	2 11/16		68	2.6772	SV570680	SV575680
			68.26	2.6875	SV520244	SV525244
	2 23/32		69.06	2.7188	SV520246	SV525246
			69.85	2.7500	SV520248	SV525248
	2 3/4		70	2.7559	SV570700	SV575700
			70.64	2.7812	SV520250	SV525250
	2 13/16		71.44	2.8125	SV520252	SV525252
			72	2.8346	SV570720	SV575720
	2 27/32		72.23	2.8438	SV520254	SV525254
			73.03	2.8750	SV520256	SV525256
	2 29/32		73.82	2.9062	SV520258	SV525258
			74	2.9134	SV570740	SV575740
	2 15/16		74.61	2.9375	SV520260	SV525260
			75.41	2.9688	SV520262	SV525262
	3		76	2.9921	SV570760	SV575760
			76.2	3.0000	SV520300	SV525300

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48
SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
Recommended ToolHolder	ER COLLET CHUCK		D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号	
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		PREMIUM COBALT M48	
					Hardstick	H-Coating
6 76.23 (3.001) to 89.08 (3.507)	3 1/32		76.99	3.0312	SV520302	SV525302
			77.79	3.0625	SV520304	SV525304
	3 1/16		78	3.0709	SV570780	SV575780
			78.58	3.0938	SV520306	SV525306
	3 3/32		79.38	3.1250	SV520308	SV525308
			80	3.1496	SV570800	SV575800
	3 1/8		80.17	3.1562	SV520310	SV525310
			80.96	3.1875	SV520312	SV525312
	3 5/32		81.76	3.2188	SV520314	SV525314
			82	3.2283	SV570820	SV575820
	3 3/16		82.55	3.2500	SV520316	SV525316
			83.34	3.2812	SV520318	SV525318
	3 7/32		84	3.3071	SV570840	SV575840
			84.14	3.3125	SV520320	SV525320
	3 9/32		84.93	3.3438	SV520322	SV525322
			85.73	3.3750	SV520324	SV525324
	3 5/16		86	3.3858	SV570860	SV575860
			86.52	3.4063	SV520326	SV525326
	3 11/32		87.31	3.4375	SV520328	SV525328
			88	3.4646	SV570880	SV575880
3 3/8		88.11	3.4688	SV520330	SV525330	
		88.9	3.5000	SV520332	SV525332	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

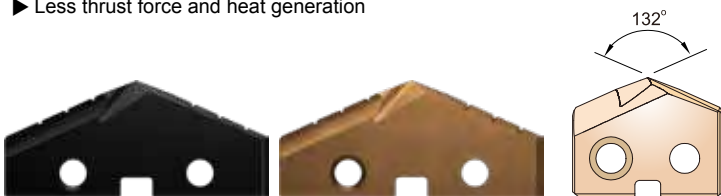
YIG SPADE DRILLS

SERIES 7

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48 SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115	-	-

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号	
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		PREMIUM COBALT M48	
					Hardslick	H-Coating
7 87.76 (3.455) to 101.60 (4.000)	3 17/32		89.69	3.5312	SV520334	SV525334
			90	3.5433	SV570900	SV575900
	3 9/16		90.49	3.5625	SV520336	SV525336
			91.28	3.5938	SV520338	SV525338
	3 19/32		92	3.6221	SV570920	SV575920
			92.08	3.6250	SV520340	SV525340
	3 5/8		92.87	3.6562	SV520342	SV525342
			93.66	3.6875	SV520344	SV525344
	3 21/32		94	3.7008	SV570940	SV575940
			94.46	3.7188	SV520346	SV525346
	3 3/4		95.25	3.7500	SV520348	SV525348
			96	3.7795	SV570960	SV575960
	3 25/32		96.04	3.7812	SV520350	SV525350
			96.84	3.8125	SV520352	SV525352
	3 13/16		97.63	3.8438	SV520354	SV525354
			98	3.8583	SV570980	SV575980
	3 27/32		98.43	3.8750	SV520356	SV525356
			99.22	3.9062	SV520358	SV525358
	3 7/8		100	3.9370	SV570A00	SV575A00
			100.01	3.9375	SV520360	SV525360
3 29/32		100.81	3.9688	SV520362	SV525362	
		101.6	4.0000	SV520400	SV525400	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

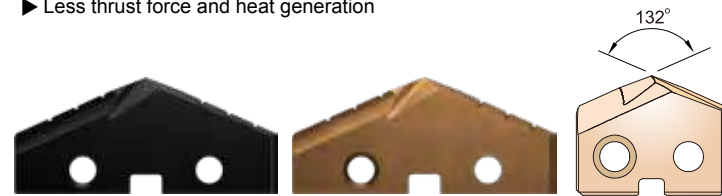
YIG SPADE DRILLS

SERIES 8

SV-POINT SPADE DRILL INSERTS - PREMIUM COBALT M48 SV-POINT 铲钻刀片-优质钴 M48

- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A367

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115	-	-

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号	
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		PREMIUM COBALT M48	
					Hardslick	H-Coating
8 101.63 (4.001) to 114.48 (4.507)	4 1/64		102	4.0156	SV520401	SV525401
			103.19	4.0625	SV520404	SV525404
	4 3/32		103.98	4.0945	SV520406	SV525406
			104.78	4.1250	SV520408	SV525408
	4 1/8		106	4.1732	SV570A60	SV575A60
			106.36	4.1875	SV520412	SV525412
	4 3/16		107.95	4.2500	SV520416	SV525416
			108	4.2520	SV570A80	SV575A80
	4 1/4		109.54	4.3125	SV520420	SV525420
			110	4.3307	SV570B00	SV575B00
	4 5/16		111.13	4.3750	SV520424	SV525424
			112	4.4094	SV570B20	SV575B20
	4 3/8		112.71	4.4375	SV520428	SV525428
			114	4.4882	SV570B40	SV575B40
	4 7/16		114.3	4.5000	SV520432	SV525432

◎ : Excellent (优秀) ○ : Good (良好)

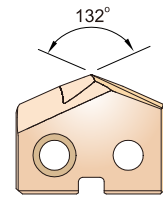
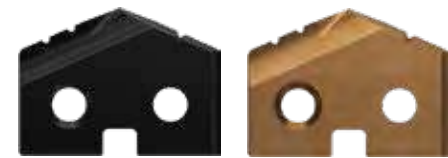
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SV-POINT SPADE DRILL INSERTS - CARBIDE C5 P40
SV-POINT 铲钻刀片-硬质合金 C5 P40

- ▶ For general use in carbon steels and alloys steels
- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 用于碳素钢和合金钢的普通用途
- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A371

(Series 5-8 : 144 degree)

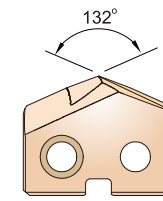
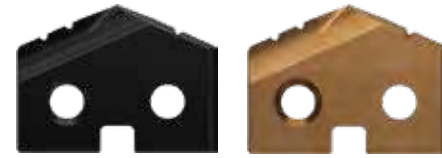
Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号 C5 P40	
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	Hardslick
Y 9.50 (.374) to 11.07 (.436)	3/8		9.5	.3740	SV870095	SV875095
			9.53	.3750	SV820024	SV825024
	25/64		9.8	.3860	SV870098	SV875098
			9.92	.3906	SV820025	SV825025
	13/32		10	.3937	SV870100	SV875100
			10.2	.4016	SV870102	SV875102
			10.32	.4063	SV820026	SV825026
			10.5	.4134	SV870105	SV875105
			10.72	.4219	SV820027	SV825027
			10.8	.4252	SV870108	SV875108
Z 11.11 (.437) to 12.95 (.510)	7/16		11.11	.4375	SV820028	SV825028
			11.5	.4528	SV870115	SV875115
	29/64		11.51	.4531	SV820029	SV825029
			11.91	.4688	SV820030	SV825030
	31/64		12	.4724	SV870120	SV875120
			12.3	.4844	SV820031	SV825031
	1/2		12.5	.4921	SV870125	SV875125
			12.7	.5000	SV820032	SV825032

SV-POINT SPADE DRILL INSERTS - CARBIDE C5 P40
SV-POINT 铲钻刀片-硬质合金 C5 P40

- ▶ For general use in carbon steels and alloys steels
- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 用于碳素钢和合金钢的普通用途
- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A371

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115		

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号 C5 P40	
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		Decimal (inch)	Hardslick
0 12.98 (.511) to 17.65 (.695)	33/64		13	.5118	SV870130	SV875130
			13.1	.5156	SV820033	SV825033
	17/32		13.49	.5313	SV820034	SV825034
			13.5	.5315	SV870135	SV875135
	35/64		13.89	.5469	SV820035	SV825035
			14	.5512	SV870140	SV875140
	9/16		14.29	.5625	SV820036	SV825036
			14.5	.5709	SV870145	SV875145
	37/64		14.68	.5781	SV820037	SV825037
			15	.5906	SV870150	SV875150
	19/32		15.08	.5938	SV820038	SV825038
		39/64		15.48	.6094	SV820039
	5/8			15.5	.6102	SV870155
		41/64		15.88	.6250	SV820040
	21/32			16	.6299	SV870160
		43/64		16.27	.6406	SV820041
	11/16			16.5	.6496	SV870165
		17		16.67	.6563	SV820042
	43/64			17	.6693	SV870170
		17.5		17.07	.6719	SV820043
17.5			17.46	.6875	SV820044	SV825044
			17.5	.6890	SV870175	SV875175

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

SV-POINT SPADE DRILL INSERTS - CARBIDE C5 P40
SV-POINT 铲钻刀片-硬质合金 C5 P40

- ▶ For general use in carbon steels and alloys steels
- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 用于碳素钢和合金钢的普通用途
- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A371

(Series 5-8 : 144 degree)

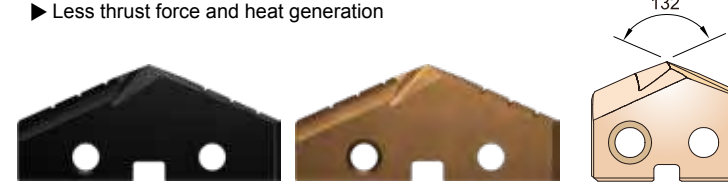
Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
◎ INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
◎ ER COLLET CHUCK	-	D73 - 115	-	-

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号	
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		C5 P40	
					Hardslick	H-Coating
1 17.53 (.690) to 24.38 (.960)	45/64	17.86	.7031	4.0 [5/32]	SV820045	SV825045
		18	.7087		SV870180	SV875180
	23/32	18.26	.7188		SV820046	SV825046
		18.5	.7283		SV870185	SV875185
	47/64	18.65	.7344		SV820047	SV825047
		19	.7480		SV870190	SV875190
	3/4	19.05	.7500		SV820048	SV825048
	49/64	19.45	.7656		SV820049	SV825049
		19.5	.7677		SV870195	SV875195
	25/32	19.84	.7812		SV820050	SV825050
		20	.7874		SV870200	SV875200
	51/64	20.24	.7969		SV820051	SV825051
		20.5	.8071		SV870205	SV875205
	13/16	20.64	.8125		SV820052	SV825052
		21	.8268		SV870210	SV875210
	27/32	21.43	.8438		SV820054	SV825054
	55/64	21.83	.8594		SV820055	SV825055
		22	.8661		SV870220	SV875220
	7/8	22.23	.8750		SV820056	SV825056
	57/64	22.62	.8906		SV820057	SV825057
	23	.9055	SV870230	SV875230		
29/32	23.02	.9062	SV820058	SV825058		
59/64	23.42	.9219	SV820059	SV825059		
15/16	23.81	.9375	SV820060	SV825060		
	24	.9449	SV870240	SV875240		

SV-POINT SPADE DRILL INSERTS - CARBIDE C5 P40
SV-POINT 铲钻刀片-硬质合金 C5 P40

- ▶ For general use in carbon steels and alloys steels
- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 用于碳素钢和合金钢的普通用途
- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A371

(Series 5-8 : 144 degree)

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
◎ INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
◎ ER COLLET CHUCK	-	D73 - 115	-	-

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号	
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		C5 P40	
					Hardslick	H-Coating
2 24.41 (.961) to 35.05 (1.380)	31/32	24.61	.9688	4.8 [3/16]	SV820062	SV825062
	63/64	25	.9843		SV820063	SV825063
	1	25.4	1.0000		SV820100	SV825100
	1 1/64	25.8	1.0156		SV820101	SV825101
		26	1.0236		SV870260	SV875260
	1 1/32	26.19	1.0312		SV820102	SV825102
	1 3/64	26.59	1.0469		SV820103	SV825103
	1 1/16	26.99	1.0625		SV820104	SV825104
		27	1.0630		SV870270	SV875270
	1 3/32	27.78	1.0938		SV820106	SV825106
		28	1.1024		SV870280	SV875280
	1 7/64	28.18	1.1094		SV820107	SV825107
	1 1/8	28.58	1.1250		SV820108	SV825108
		29	1.1417		SV870290	SV875290
	1 5/32	29.37	1.1562		SV820110	SV825110
		30	1.1811		SV870300	SV875300
	1 3/16	30.16	1.1875		SV820112	SV825112
	1 7/32	30.96	1.2188		SV820114	SV825114
		31	1.2205		SV870310	SV875310
	1 1/4	31.75	1.2500		SV820116	SV825116
		32	1.2598		SV870320	SV875320
	1 9/32	32.54	1.2812		SV820118	SV825118
		33	1.2992		SV870330	SV875330
	1 5/16	33.34	1.3125		SV820120	SV825120
		34	1.3386		SV870340	SV875340
	1 11/32	34.13	1.3438		SV820122	SV825122
	1 3/8	34.93	1.3750		SV820124	SV825124
		35	1.3780		SV870350	SV875350

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230					
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S						H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55	55	60	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550			
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230					
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S						H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55	55	60	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550			
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

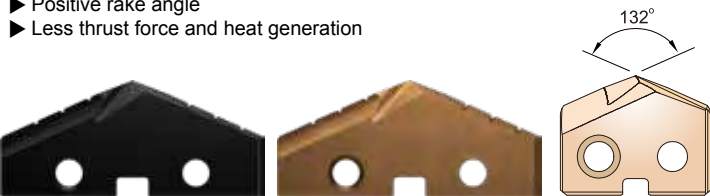
SPADE DRILLS

SERIES 3

SV-POINT SPADE DRILL INSERTS - CARBIDE C5 P40 SV-POINT 铲钻刀片-硬质合金 C5 P40

- ▶ For general use in carbon steels and alloys steels
- ▶ Sinusoidal thinning edge for smooth cutting
- ▶ Positive rake angle
- ▶ Less thrust force and heat generation

- ▶ 用于碳素钢和合金钢的普通用途
- ▶ 为柔软切削的Sinusoidal刃
- ▶ 正前角
- ▶ 较小的推力和发热性



切削条件 / cutting conditions : p. A371

(Series 5-8 : 144 degree)

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246			
ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号	
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		C5 P40	
					Hardstick	H-Coating
3 34.37 (1.353) to 47.80 (1.882)	1 13/32		35.72	1.4063	SV820126	SV825126
			36	1.4173	SV870360	SV875360
			37	1.4375	SV820128	SV825128
	1 7/16		36.51	1.4375	SV870370	SV875370
			37	1.4567	SV820130	SV825130
			38	1.4961	SV870380	SV875380
	1 15/32		37.31	1.4688	SV820132	SV825132
			38	1.4961	SV870390	SV875390
			39	1.5313	SV820134	SV825134
	1 1/2		38.1	1.5000	SV870400	SV875400
			38.89	1.5313	SV820136	SV825136
			39	1.5354	SV870410	SV875410
	1 17/32		39	1.5354	SV820138	SV825138
			39.69	1.5625	SV870420	SV875420
			40	1.5748	SV820140	SV825140
	1 19/32		40.48	1.5938	SV870430	SV875430
			41	1.6142	SV820142	SV825142
			41.28	1.6250	SV870440	SV875440
	1 5/8		42	1.6535	SV820144	SV825144
			42	1.6535	SV870450	SV875450
			42.07	1.6563	SV820146	SV825146
	1 21/32		42.86	1.6875	SV870460	SV875460
			43	1.6929	SV820148	SV825148
			43	1.6929	SV870470	SV875470
1 11/16		43.66	1.7188	SV820150	SV825150	
		44	1.7323	SV870480	SV875480	
		44	1.7323	SV820152	SV825152	
1 3/4		44.45	1.7500	SV870490	SV875490	
		45	1.7717	SV820154	SV825154	
		45.24	1.7813	SV870500	SV875500	
1 25/32		46	1.8110	SV820156	SV825156	
		46.04	1.8125			
		46.83	1.8438			
1 13/16		47	1.8504			
		47	1.8504			
		47.63	1.8750			
1 27/32						
1 7/8						

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	180	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

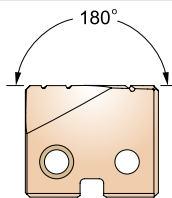
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

A338

SPADE DRILLS

SERIES Y, Z, O

SPADE DRILL INSERTS - SUPER COBALT T15 FLAT BOTTOM SV-POINT 铲钻刀片-超级含钴T15 平底



切削条件 / cutting conditions : p. A370

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246			
ER COLLET CHUCK			D73 - 115

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		SUPER HSS T15		
					TiN	Hardstick	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8		9.50	.3740	S2155095	S2170095	S2165095
			9.53	.3750	S2105024	S2120024	S2115024
			9.80	.3858	S2155098	S2170098	S2165098
			9.92	.3906	S2105025	S2120025	S2115025
			10.00	.3937	S2155100	S2170100	S2165100
			10.20	.4016	S2155102	S2170102	S2165102
	25/64		10.32	.4062	S2105026	S2120026	S2115026
			10.50	.4134	S2155105	S2170105	S2165105
			10.72	.4219	S2105027	S2120027	S2115027
			10.80	.4252	S2155108	S2170108	S2165108
			11.00	.4331	S2155110	S2170110	S2165110
			11.11	.4375	S2105028	S2120028	S2115028
Z Ø11.11(.437) to Ø12.95(.510)	7/16		11.50	.4528	S2155115	S2170115	S2165115
			11.51	.4531	S2105029	S2120029	S2115029
			11.91	.4688	S2155120	S2170120	S2165120
			12.00	.4724	S2105030	S2120030	S2115030
			12.30	.4844	S2155125	S2170125	S2165125
			12.50	.4921	S2105031	S2120031	S2115031
	1/2		12.70	.5000	S2155125	S2170125	S2165125
			12.70	.5000	S2105032	S2120032	S2115032
			13.00	.5118	S2155130	S2170130	S2165130
			13.10	.5156	S2105033	S2120033	S2115033
			13.49	.5312	S2155135	S2170135	S2165135
			13.50	.5315	S2105034	S2120034	S2115034
O Ø12.98 (.511) to Ø17.65 (.695)	35/64		13.89	.5469	S2155140	S2170140	S2165140
			14.00	.5512	S2105035	S2120035	S2115035
			14.29	.5625	S2155145	S2170145	S2165145
			14.50	.5709	S2105036	S2120036	S2115036
			14.68	.5781	S2155150	S2170150	S2165150
			15.00	.5906	S2105037	S2120037	S2115037
	3.2 (1/8)		15.08	.5938	S2155155	S2170155	S2165155
			15.50	.6102	S2105038	S2120038	S2115038
			15.88	.6250	S2155160	S2170160	S2165160
			16.00	.6299	S2105039	S2120039	S2115039
			16.00	.6299	S2155155	S2170155	S2165155
			16.00	.6299	S2105040	S2120040	S2115040

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	180	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

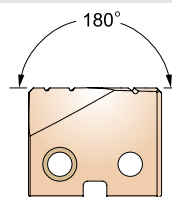
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

A339

SPADE DRILLS

SERIES 0, 1

SPADE DRILL INSERTS - SUPER COBALT T15 FLAT BOTTOM SV-POINT 铲钻刀片-超级含钴T15 平底



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK			D73 - 115

切削条件 / cutting conditions : p. A370

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		SUPER HSS T15		
					TiN	Hardslick	TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64 21/32 43/64 11/16 45/64 23/32 47/64 3/4 49/64 25/32	16.27 16.50 16.67 17.00 17.07 17.46 17.50 17.86 18.00 18.26 18.50 18.65 19.00 19.05 19.45 19.50 19.84 20.00 20.24 20.50 20.64 21.00 21.00 21.43 21.83 22.00 22.23 22.62 23.00 23.02 23.42 23.81 24.00	.6406 .6496 .6562 .6693 .6719 .6875 .6890 .7031 .7087 .7188 .7283 .7344 .7480 .7500 .7656 .7677 .7812 .7874 .7969 .8071 .8125 .8268 .8438 .8594 .8661 .8750 .8906 .9055 .9062 .9219 .9375 .9449	3.2 (1/8)	S2105041	S2120041	S2115041
					S2155165	S2170165	S2165165
					S2105042	S2120042	S2115042
					S2155170	S2170170	S2165170
					S2105043	S2120043	S2115043
					S2105044	S2120044	S2115044
					S2155175	S2170175	S2165175
					S2105045	S2120045	S2115045
					S2155180	S2170180	S2165180
					S2105046	S2120046	S2115046
1 Ø17.53 (.690) to Ø24.38 (.960)	18.50 18.75 19.00 19.25 19.50 19.75 20.00 20.25 20.50 20.75 21.00 21.25 21.50 21.75 22.00 22.25 22.50 22.75 23.00 23.25 23.50 23.75 24.00	.7188 .7283 .7344 .7480 .7500 .7656 .7677 .7812 .7874 .7969 .8071 .8125 .8268 .8438 .8594 .8661 .8750 .8906 .9055 .9062 .9219 .9375 .9449	4.0 (5/32)	S2155185	S2170185	S2165185	
				S2105047	S2120047	S2115047	
				S2155190	S2170190	S2165190	
				S2105048	S2120048	S2115048	
				S2105049	S2120049	S2115049	
				S2155195	S2170195	S2165195	
				S2105050	S2120050	S2115050	
				S2155200	S2170200	S2165200	
				S2105051	S2120051	S2115051	
				S2155205	S2170205	S2165205	
S2105052	S2120052	S2115052					
S2155210	S2170210	S2165210					
S2105054	S2120054	S2115054					
S2105055	S2120055	S2115055					
S2155220	S2170220	S2165220					
S2105056	S2120056	S2115056					
S2105057	S2120057	S2115057					
S2155230	S2170230	S2165230					
S2105058	S2120058	S2115058					
S2105059	S2120059	S2115059					
S2105060	S2120060	S2115060					
S2155240	S2170240	S2165240					

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	◎	◎	◎	○	◎

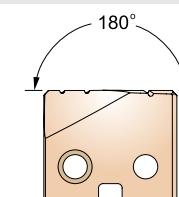
ISO	N				S										H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○				◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

A340 pl

SPADE DRILLS

SERIES 2

SPADE DRILL INSERTS - SUPER COBALT T15 FLAT BOTTOM SV-POINT 铲钻刀片-超级含钴T15 平底



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK			D73 - 115

切削条件 / cutting conditions : p. A370

Series 系列	Diameter 直径			Thick 厚度 Metric (mm, inch)	EDP No. 型号		
	Min. to Max. mm (inch)	Inch (inch)	Metric (mm)		SUPER HSS T15		
					TiN	Hardslick	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32 63/64 1 1-1/64 1-1/32 1-3/64 1-1/16 1-3/32 28.00 1-7/64 1-1/8 1-5/32 30.00 1-3/16 1-7/32 31.00 1-1/4 32.00 1-9/32 33.00 1-5/16 34.00 1-11/32 1-3/8 35.00	24.61 25.00 25.40 25.80 26.19 26.59 26.99 27.78 28.00 28.18 28.58 29.00 29.37 30.00 30.16 30.96 31.00 31.75 32.00 32.54 33.00 33.34 34.00 34.13 34.93 35.00	.9688 .9843 1.0000 1.0156 1.0236 1.0312 1.0469 1.0625 1.0630 1.0938 1.1024 1.1094 1.1250 1.1417 1.1562 1.1811 1.1875 1.2188 1.2205 1.2500 1.2598 1.2812 1.2992 1.3125 1.3386 1.3438 1.3750 1.3780	4.8 (3/16)	S2105062	S2120062	S2115062
					S2105063	S2120063	S2115063
					S2105100	S2120100	S2115100
					S2105101	S2120101	S2115101
					S2155260	S2170260	S2165260
					S2105102	S2120102	S2115102
					S2105103	S2120103	S2115103
					S2105104	S2120104	S2115104
					S2155270	S2170270	S2165270
					S2105106	S2120106	S2115106
					S2155280	S2170280	S2165280
					S2105107	S2120107	S2115107
					S2105108	S2120108	S2115108
					S2155290	S2170290	S2165290
					S2105110	S2120110	S2115110
					S2155300	S2170300	S2165300
					S2105112	S2120112	S2115112
					S2105114	S2120114	S2115114
					S2155310	S2170310	S2165310
					S2105116	S2120116	S2115116
S2155320	S2170320	S2165320					
S2105118	S2120118	S2115118					
S2155330	S2170330	S2165330					
S2105120	S2120120	S2115120					
S2155340	S2170340	S2165340					
S2105122	S2120122	S2115122					
S2105124	S2120124	S2115124					
S2155350	S2170350	S2165350					

◎ : Excellent (优秀) ○ : Good (良好)

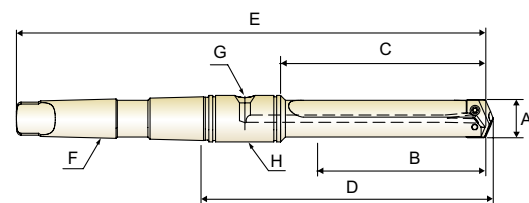
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	◎	◎	◎	○	◎

ISO	N				S										H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○				◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

A341

TAPER SHANK HOLDERS

锥柄刀杆



SHORT LENGTH - Straight Flute (Inch)

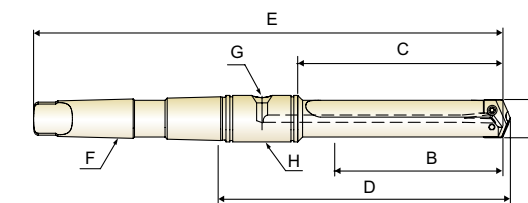
短刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	ZY0STSMT02I	3/8 ~ 27/64	1-1/4	2-1/32	3-15/32	6-5/16	#2	1/16	PR110048
Z	ZZ0STSMT02I	7/16 ~ 1/2	1-1/4	2-1/32	3-15/32	6-5/16	#2	1/16	PR110048
0	Z00STSMT02I	33/64 ~ 11/16	1-3/8	2-3/16	3-41/64	6-15/32	#2	1/16	PR110048
0.5	Z05STSMT02I	39/64 ~ 11/16	1-3/8	2-3/16	3-41/64	6-15/32	#2	1/16	PR110048
1	Z10STSMT03I	45/64 ~ 15/16	2-3/4	3-7/8	5-39/64	9-5/32	#3	1/8	PR110100
	Z10STSMT04I	45/64 ~ 15/16	2-3/4	3-7/8	5-43/64	10-5/32	#4	1/8	PR110100
1.5	Z15STSMT03I	55/64 ~ 15/16	2-3/4	3-7/8	5-39/64	9-5/32	#3	1/8	PR110100
	Z15STSMT04I	55/64 ~ 15/16	2-3/4	3-7/8	5-43/64	10-5/32	#4	1/8	PR110100
2	Z20STSMT03I	31/32 ~ 1-3/8	3-3/8	4-1/2	6-15/64	9-25/32	#3	1/8	PR110100
	Z20STSMT04I	31/32 ~ 1-3/8	3-3/8	4-1/2	6-19/64	10-25/32	#4	1/8	PR110100
2.5	Z25STSMT03I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	6-15/64	9-25/32	#3	1/8	PR110100
	Z25STSMT04I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	6-37/64	11-1/16	#4	1/4	PR110116
3	Z30STSMT04I	1-13/32 ~ 1-7/8	4-3/4	6	8-1/8	12-9/16	#4	1/4	PR110116
	Z30STSMT05I	1-13/32 ~ 1-7/8	4-3/4	6	8-1/8	13-13/16	#5	1/4	PR110148
4	Z40STSMT04I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	8-5/8	13-1/16	#4	1/4	PR110116
	Z40STSMT05I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	8-5/8	14-5/16	#5	1/4	PR110148
5	Z50STSMT05I	2-1/2 ~ 3-1/2	6-3/4	8-1/2	11-5/16	16-15/16	#5	1/2	PR110216
7	Z70STSMT05I	3-17/32 ~ 4-1/2	6-3/4	8-7/8	11-11/16	17-5/16	#5	1/2	PR110216

► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器)采用内冷(请看A308页)

TAPER SHANK HOLDERS

锥柄刀杆

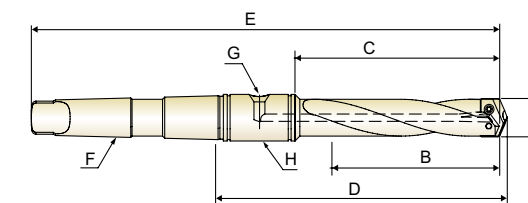


INTERMEDIATE LENGTH - Straight Flute (Inch)

普长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
1	Z10ITSMT03I	45/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
1.5	Z15ITSMT03I	55/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
2	Z20ITSMT04I	31/32 ~ 1-3/8	5-3/8	6-1/2	8-19/64	12-25/32	#4	1/8	PR110100
2.5	Z25ITSMT04I	1-3/16 ~ 1-3/8	5-3/8	6-1/2	8-37/64	13-1/16	#4	1/4	PR110116
3	Z30ITSMT04I	1-13/32 ~ 1-7/8	6-1/2	7-3/4	9-7/8	14-5/16	#4	1/4	PR110116

► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器)采用内冷(请看308页)



INTERMEDIATE LENGTH - Helical Flute (Inch)

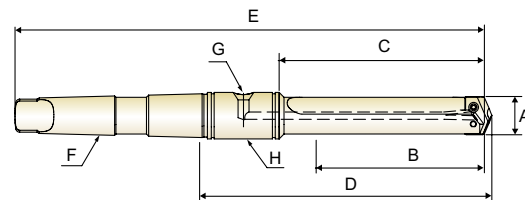
普长刃-螺旋槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
1	Z10ITHMT03I	45/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
1.5	Z15ITHMT03I	55/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
2	Z20ITHMT04I	31/32 ~ 1-3/8	5-3/8	6-1/2	8-19/64	12-25/32	#4	1/8	PR110100
2.5	Z25ITHMT04I	1-3/16 ~ 1-3/8	5-3/8	6-1/2	8-37/64	13-1/16	#4	1/4	PR110116

► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器)采用内冷(请看A308页)

TAPER SHANK HOLDERS

锥柄刀杆



STANDARD LENGTH - Straight Flute (Inch)

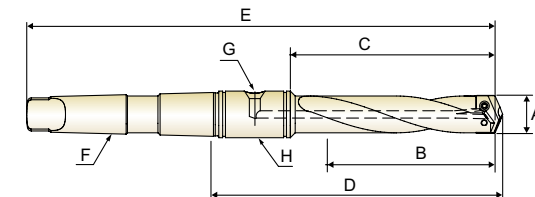
标长刀-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	ZY0SDSMT02I	3/8 ~ 27/64	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
Z	ZZ0SDSMT02I	7/16 ~ 1/2	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
0	Z00SDSMT02I	33/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
0.5	Z05SDSMT02I	39/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
1	Z10SDSMT03I	45/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z10SDSMT04I	45/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
1.5	Z15SDSMT03I	55/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z15SDSMT04I	55/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
2	Z20SDSMT03I	31/32 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z20SDSMT04I	31/32 ~ 1-3/8	7-3/8	8-1/2	10-19/64	14-25/32	#4	1/8	PR110100
2.5	Z25SDSMT03I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z25SDSMT04I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-37/64	15-1/16	#4	1/4	PR110116
3	Z30SDSMT04I	1-13/32 ~ 1-7/8	8-1/4	9-1/2	11-5/8	16-1/16	#4	1/4	PR110116
	Z30SDSMT05I	1-13/32 ~ 1-7/8	8-1/4	9-1/2	11-5/8	17-5/16	#5	1/4	PR110148
4	Z40SDSMT04I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	12-5/8	17-1/16	#4	1/4	PR110116
	Z40SDSMT05I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	12-5/8	18-5/16	#5	1/4	PR110148
5	Z50SDSMT05I	2-1/2 ~ 3-1/2	10-3/4	12-1/2	15-5/16	20-15/16	#5	1/2	PR110216
7	Z70SDSMT05I	3-17/32 ~ 4-1/2	10-3/4	12-7/8	15-11/16	21-5/16	#5	1/2	PR110216

► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器)采用内冷(请看A308页)

TAPER SHANK HOLDERS

锥柄刀杆



STANDARD LENGTH - Helical Flute (Inch)

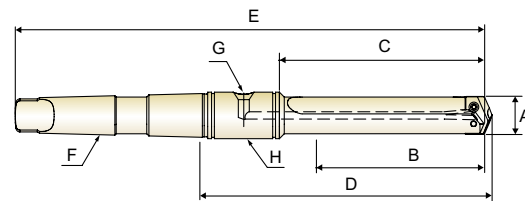
标长刀-螺旋槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	ZY0SDHMT02I	3/8 ~ 27/64	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
Z	ZZ0SDHMT02I	7/16 ~ 1/2	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
0	Z00SDHMT02I	33/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
0.5	Z05SDHMT02I	39/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
1	Z10SDHMT03I	45/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z10SDHMT04I	45/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
1.5	Z15SDHMT03I	55/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z15SDHMT04I	55/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
2	Z20SDHMT03I	31/32 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z20SDHMT04I	31/32 ~ 1-3/8	7-3/8	8-1/2	10-19/64	14-25/32	#4	1/8	PR110100
2.5	Z25SDHMT03I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z25SDHMT04I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-37/64	15-1/16	#4	1/4	PR110116

► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器)采用内冷(请看A308页)

TAPER SHANK HOLDERS

锥柄刀杆

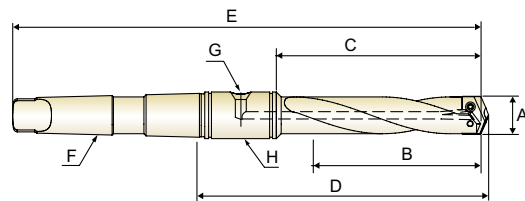


EXTENDED LENGTH - Straight Flute (Inch)

加长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	ZY0EXSMT02I	3/8 ~ 27/64	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
Z	ZZ0EXSMT02I	7/16 ~ 1/2	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
0	Z00EXSMT02I	33/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
0.5	Z05EXSMT02I	39/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
1	Z10EXSMT03I	45/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
1.5	Z15EXSMT03I	55/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
2	Z20EXSMT04I	31/32 ~ 1-3/8	11-3/8	12-1/2	14-15/64	18-25/32	#4	1/8	PR110100
2.5	Z25EXSMT04I	1-3/16 ~ 1-3/8	11-3/8	12-1/2	14-37/64	19-1/16	#4	1/4	PR110116
3	Z30EXSMT04I	1-13/32 ~ 1-7/8	13-3/4	15	17-1/8	21-9/16	#4	1/4	PR110116
4	Z40EXSMT05I	1-29/32 ~ 2-9/16	16-5/8	18	20-1/8	25-13/16	#5	1/4	PR110148
5	Z50EXSMT05I	2-1/2 ~ 3-1/2	18-1/4	20	22-13/16	28-7/16	#5	1/2	PR110216
7	Z70EXSMT05I	3-17/32 ~ 4-1/2	21-7/8	24	26-13/16	32-7/16	#5	1/2	PR110216

► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)



EXTENDED LENGTH - Helical Flute (Inch)

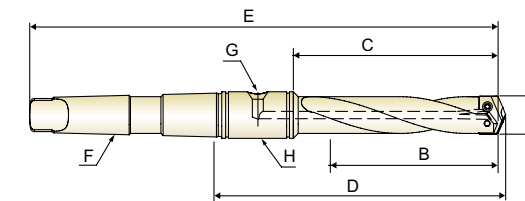
标长刃-螺旋槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	ZY0EXHMT02I	3/8 ~ 27/64	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
Z	ZZ0EXHMT02I	7/16 ~ 1/2	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
0	Z00EXHMT02I	33/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
0.5	Z05EXHMT02I	39/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
1	Z10EXHMT03I	45/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
1.5	Z15EXHMT03I	55/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
2	Z20EXHMT04I	31/32 ~ 1-3/8	11-3/8	12-1/2	14-15/64	18-25/32	#4	1/8	PR110100
2.5	Z25EXHMT04I	1-3/16 ~ 1-3/8	11-3/8	12-1/2	14-37/64	19-1/16	#4	1/4	PR110116

► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)

TAPER SHANK HOLDERS

锥柄刀杆



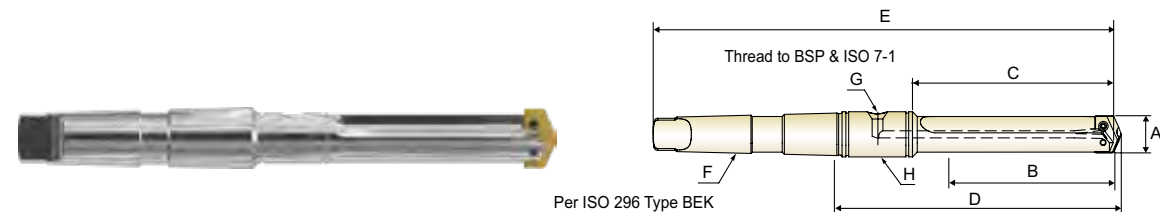
LONG LENGTH - Helical Flute (Inch)

标长刃-螺旋槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
0	Z00LGHMT02I	33/64 ~ 11/16	7	7-13/16	9-17/64	12-3/32	#2	1/16	PR110048
0.5	Z05LGHMT02I	39/64 ~ 11/16	7	7-13/16	9-17/64	12-3/32	#2	1/16	PR110048

► You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)

TAPER SHANK HOLDERS
锥柄刀杆

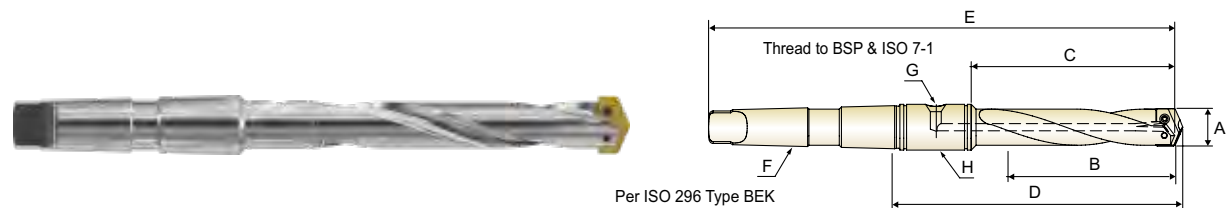


Per ISO 296 Type BEK

SHORT LENGTH - Straight Flute (Metric)
短刃-直槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	ZY0STSMT02M	9.5 ~ 11.0	31.8	51.5	88.0	160.3	#2	1/16	PR120190
Z	ZZ0STSMT02M	11.5 ~ 12.5	31.8	51.5	88.0	160.3	#2	1/16	PR120190
0	Z00STSMT02M	13.0 ~ 17.5	35.0	55.5	92.4	164.3	#2	1/16	PR120190
0.5	Z05STSMT02M	15.5 ~ 17.5	35.0	55.5	92.4	164.3	#2	1/16	PR120190
1	Z10STSMT03M	18.0 ~ 24.0	69.8	98.4	142.5	232.5	#3	1/8	PR120254
1.5	Z15STSMT03M	22.0 ~ 24.0	69.8	98.4	142.5	232.5	#3	1/8	PR120254
2	Z20STSMT04M	25.0 ~ 35.0	85.7	114.3	160.4	273.8	#4	1/8	PR120254
2.5	Z25STSMT04M	30.0 ~ 35.0	85.7	114.3	167.6	281.0	#4	1/4	PR120317
3	Z30STSMT04M	36.0 ~ 47.0	120.6	152.4	206.4	319.1	#4	1/4	PR120317
4	Z40STSMT05M	48.0 ~ 65.0	130.1	165.1	219.1	363.5	#5	1/4	PR120444
5	Z50STSMT05M	64.0 ~ 88.0	171.5	215.9	287.3	430.2	#5	1/2	PR120571
7	Z70STSMT05M	90.0 ~ 114.0	171.5	225.4	296.8	439.7	#5	1/2	PR120571

▶ You can also apply **RCA**(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)



Per ISO 296 Type BEK

INTERMEDIATE LENGTH - Helical Flute (Metric)
普长刃-螺旋槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
1	Z10ITHMT03M	18.0 ~ 24.0	120.7	149.2	193.3	283.3	#3	1/8	PR120254
1.5	Z15ITHMT03M	22.0 ~ 24.0	120.7	149.2	193.3	283.3	#3	1/8	PR120254
2	Z20ITHMT04M	25.0 ~ 35.0	136.5	165.1	211.2	324.6	#4	1/8	PR120254
2.5	Z25ITHMT04M	30.0 ~ 35.0	136.5	165.1	218.4	331.8	#4	1/4	PR120317
3	Z30ITHMT04M	36.0 ~ 47.0	165.1	196.9	250.9	363.6	#4	1/4	PR120317

▶ You can also apply **RCA**(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)

TAPER SHANK HOLDERS
锥柄刀杆



Per ISO 296 Type BEK

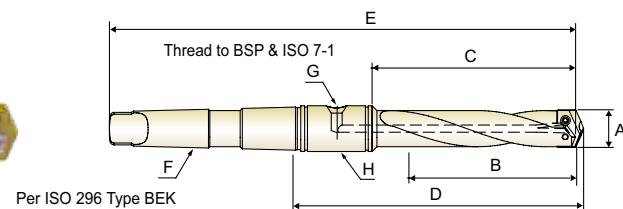
STANDARD LENGTH - Helical Flute (Metric)
标长刃-螺旋槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	ZY0SDHMT02M	9.5 ~ 11.0	60.3	80.2	116.7	188.9	#2	1/16	PR120190
Z	ZZ0SDHMT02M	11.5 ~ 12.5	60.3	80.2	116.7	188.9	#2	1/16	PR120190
0	Z00SDHMT02M	13.0 ~ 17.5	63.5	84.1	121.0	192.9	#2	1/16	PR120190
0.5	Z05SDHMT02M	15.5 ~ 17.5	63.5	84.1	121.0	192.9	#2	1/16	PR120190
1	Z10SDHMT03M	18.0 ~ 24.0	171.5	200.0	244.1	334.2	#3	1/8	PR120254
1.5	Z15SDHMT03M	22.0 ~ 24.0	171.5	200.0	244.1	334.2	#3	1/8	PR120254
2	Z20SDHMT04M	25.0 ~ 35.0	187.3	215.9	262.0	375.4	#4	1/8	PR120254
2.5	Z25SDHMT04M	30.0 ~ 35.0	187.3	215.9	269.2	382.6	#4	1/4	PR120317
3	Z30SDHMT04M	36.0 ~ 47.0	209.5	241.3	295.3	408.0	#4	1/4	PR120317
4	Z40SDHMT05M	48.0 ~ 65.0	231.8	266.7	320.7	465.1	#5	1/4	PR120444
5	Z50SDHMT05M	64.0 ~ 88.0	273.1	317.5	388.9	531.8	#5	1/2	PR120571
7	Z70SDHMT05M	90.0 ~ 114.0	273.1	327.0	398.5	541.3	#5	1/2	PR120571

▶ You can also apply **RCA**(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器) 采用内冷(请看A308页)

TAPER SHANK HOLDERS

锥柄刀杆

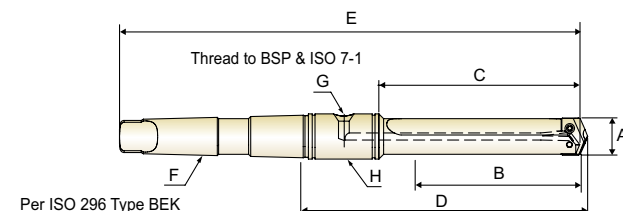


EXTENDED LENGTH - Helical Flute (Metric)

加长刃-螺旋槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
Y	ZY0EXHMT02M	9.5 ~ 11.0	111.1	130.9	167.4	239.7	#2	1/16	PR120190
Z	ZZ0EXHMT02M	11.5 ~ 12.5	111.1	130.9	167.4	239.7	#2	1/16	PR120190
0	Z00EXHMT02M	13.0 ~ 17.5	114.3	135.0	171.8	243.7	#2	1/16	PR120190
0.5	Z05EXHMT02M	15.5 ~ 17.5	114.3	135.0	171.8	243.7	#2	1/16	PR120190
1	Z10EXHMT03M	18.0 ~ 24.0	273.1	301.6	345.7	435.8	#3	1/8	PR120254
1.5	Z15EXHMT03M	22.0 ~ 24.0	273.1	301.6	345.7	435.8	#3	1/8	PR120254
2	Z20EXHMT04M	25.0 ~ 35.0	289.0	317.5	363.6	477.0	#4	1/8	PR120254
2.5	Z25EXHMT04M	30.0 ~ 35.0	289.0	317.5	370.8	484.2	#4	1/4	PR120317

► You can also apply **RCA**(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器)采用内冷(请看A308页)



EXTENDED LENGTH - Straight Flute (Metric)

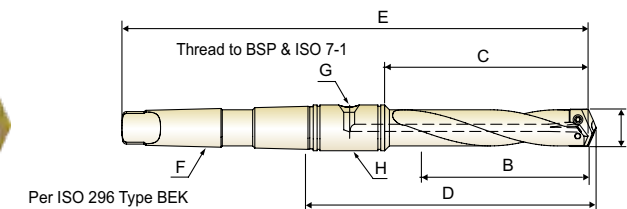
加长刃-直槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
3	Z30EXSMT04M	36.0 ~ 47.0	349.3	381.0	435.0	547.7	#4	1/4	PR120317
4	Z40EXSMT05M	48.0 ~ 65.0	422.3	457.2	511.2	655.6	#5	1/4	PR120444
5	Z50EXSMT05M	64.0 ~ 88.0	463.6	508.0	579.4	722.3	#5	1/2	PR120571
7	Z70EXSMT05M	90.0 ~ 114.0	555.6	609.6	681.1	823.9	#5	1/2	PR120571

► You can also apply **RCA**(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器)采用内冷(请看A308页)

TAPER SHANK HOLDERS

锥柄刀杆



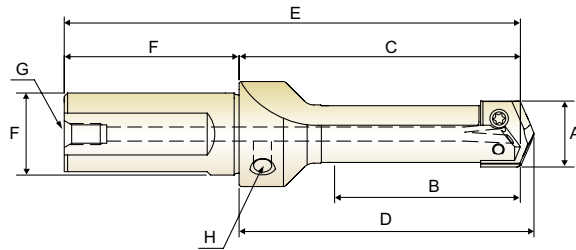
LONG LENGTH - Helical Flute (Metric)

长刃-螺旋槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	莫氏锥度	管用丝锥	旋转冷却油适配器
		A	B	C	D	E	F	G	H
0	Z00LGHMT02M	13.0 ~ 17.5	177.8	198.5	235.3	307.2	#2	1/16	PR120190
0.5	Z05LGHMT02M	15.5 ~ 17.5	177.8	198.5	235.3	307.2	#2	1/16	PR120190

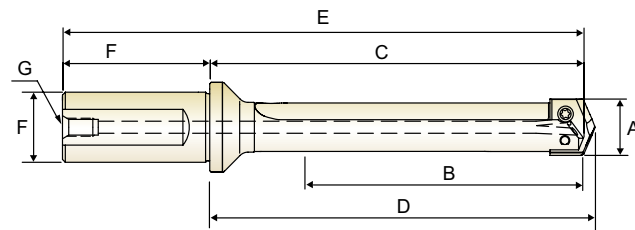
► You can also apply **RCA**(Rotary Coolant Adapter) for internal cooling. (See page A308)
你也可通过RCA(旋转冷却油适配器)采用内冷(请看A308页)

FLANGED STRAIGHT SHANK HOLDERS
凸缘直柄刀杆



STUB LENGTH - Straight Flute (Inch)
超短刃-直槽 (英制)

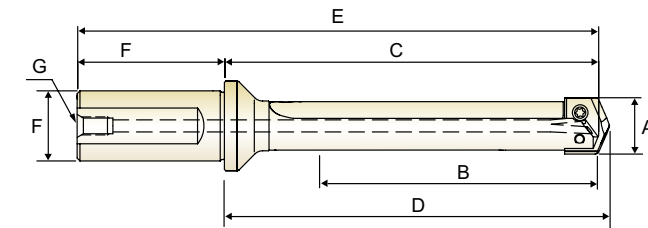
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap	
							Dia.	Length	Rear	Side
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	直径	长度	后面	侧面
		A	B	C	D	E	F	G	H	
Y	ZY0SBSF063I	3/8 ~ 27/64	3/4	1-7/8	1-31/32	3-3/4	5/8	1-7/8	1/16	1/8
Z	ZZ0SBSF063I	7/16 ~ 1/2	3/4	1-7/8	1-31/32	3-3/4	5/8	1-7/8	1/16	1/8
0	Z00SBSF075I	33/64 ~ 11/16	7/8	1-7/8	1-63/64	3-29/32	3/4	2-1/32	1/8	1/8
0.5	Z05SBSF075I	39/64 ~ 11/16	7/8	1-7/8	1-63/64	3-29/32	3/4	2-1/32	1/8	1/8
1	Z10SBSF100I	45/64 ~ 15/16	1-7/8	2-63/64	3-1/8	5-17/64	1	2-9/32	1/8	1/8
1.5	Z15SBSF100I	55/64 ~ 15/16	2-1/4	3-31/64	3-5/8	5-49/64	1	2-9/32	1/8	1/8
2	Z20SBSF125I	31/32 ~ 1-3/8	2-1/4	3-31/64	3-5/8	5-49/64	1-1/4	2-9/32	1/4	1/8
2.5	Z25SBSF125I	1-3/16 ~ 1-3/8	3-5/8	4-55/64	5	7-9/64	1-1/4	2-9/32	1/4	1/8
3	Z30SBSF150I	1-13/32 ~ 1-7/8	3	4-59/64	5-7/64	7-39/64	1-1/2	2-11/16	1/4	1/4



SHORT LENGTH - Straight Flute (Inch)
短刃-直槽 (英制)

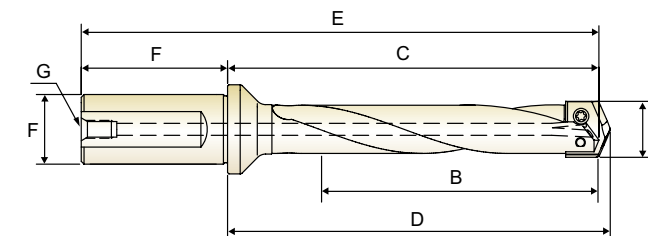
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	直径	长度	管用丝锥
		A	B	C	D	E	F	G	
Y	ZY0STSF075I	3/8 ~ 27/64	1-1/4	2-13/32	2-1/2	4-7/16	3/4	2-1/32	1/8
Z	ZZ0STSF075I	7/16 ~ 1/2	1-1/4	2-13/32	2-1/2	4-7/16	3/4	2-1/32	1/8
0	Z00STSF075I	33/64 ~ 11/16	1-3/8	2-1/2	2-39/64	4-17/32	3/4	2-1/32	1/8
0.5	Z05STSF075I	39/64 ~ 11/16	1-3/8	2-1/2	2-39/64	4-17/32	3/4	2-1/32	1/8
1	Z10STSF100I	45/64 ~ 15/16	2-5/8	4-7/32	4-23/64	6-1/2	1	2-9/32	1/8
1.5	Z15STSF100I	55/64 ~ 15/16	2-5/8	4-7/32	4-23/64	6-1/2	1	2-9/32	1/8
2	Z20STSF125I	31/32 ~ 1-3/8	3-3/8	5-1/16	5-13/64	7-11/32	1-1/4	2-9/32	1/4
2.5	Z25STSF125I	1-3/16 ~ 1-3/8	3-3/8	5-1/16	5-13/64	7-11/32	1-1/4	2-9/32	1/4
3	Z30STSF150I	1-13/32 ~ 1-7/8	4-3/4	6-13/16	7	9-1/2	1-1/2	2-11/16	1/4
4	Z40STSF150I	1-29/32 ~ 2-9/16	5-1/8	7-1/16	7-1/4	9-3/4	1-1/2	2-11/16	1/4

FLANGED STRAIGHT SHANK HOLDERS
凸缘直柄刀杆



INTERMEDIATE LENGTH - Straight Flute (Inch)
普长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	直径	长度	管用丝锥
		A	B	C	D	E	F	G	
1	Z10ITSF100I	45/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
1.5	Z15ITSF100I	55/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
2	Z20ITSF125I	31/32 ~ 1-3/8	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4
2.5	Z25ITSF125I	1-3/16 ~ 1-3/8	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4
3	Z30ITSF150I	1-13/32 ~ 1-7/8	6-1/2	8-9/16	8-3/4	11-1/4	1-1/2	2-11/16	1/4



INTERMEDIATE LENGTH - Helical Flute (Inch)
普长刃-螺旋槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	直径	长度	管用丝锥
		A	B	C	D	E	F	G	
1	Z10ITHF100I	45/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
1.5	Z15ITHF100I	55/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
2	Z20ITHF125I	31/32 ~ 1-3/8	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4
2.5	Z25ITHF125I	1-3/16 ~ 1-3/8	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4
3	Z30ITHF150I	1-13/32 ~ 1-7/8	6-1/2	8-9/16	8-3/4	11-1/4	1-1/2	2-11/16	1/4

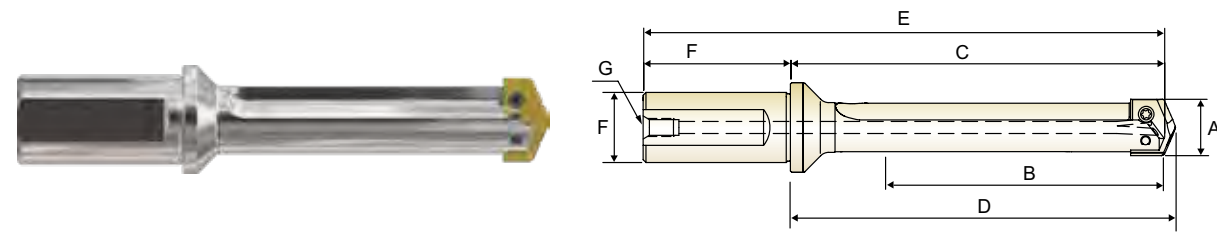


Z**SDSF SERIES

Z**SDHF SERIES

FLANGED STRAIGHT SHANK HOLDERS

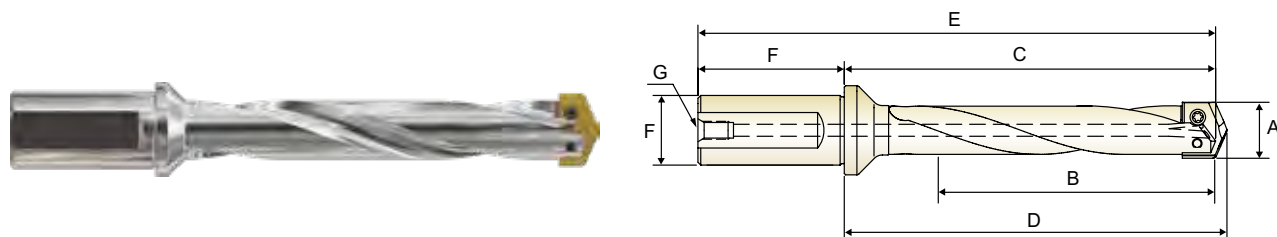
凸缘直柄刀杆



STANDARD LENGTH - Straight Flute (Inch)

标长刀-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄		管用丝锥
		A	B	C	D	E	F		G
Y	ZY0SDSF075I	3/8 ~ 27/64	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
Z	ZZ0SDSF075I	7/16 ~ 1/2	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
0	Z00SDSF075I	33/64 ~ 11/16	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8
0.5	Z05SDSF075I	39/64 ~ 11/16	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8
1	Z10SDSF100I	45/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
1.5	Z15SDSF100I	55/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
2	Z20SDSF125I	31/32 ~ 1-3/8	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4
2.5	Z25SDSF125I	1-3/16 ~ 1-3/8	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4
3	Z30SDSF150I	1-13/32 ~ 1-7/8	8-1/4	10-5/16	10-1/2	13	1-1/2	2-11/16	1/4
4	Z40SDSF150I	1-29/32 ~ 2-9/16	9-1/8	11-1/16	11-1/4	13-3/4	1-1/2	2-11/16	1/4



STANDARD LENGTH - Helical Flute (Inch)

标长刀-螺旋槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄		管用丝锥
		A	B	C	D	E	F		G
Y	ZY0SDHF075I	3/8 ~ 27/64	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
Z	ZZ0SDHF075I	7/16 ~ 1/2	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
0	Z00SDHF075I	33/64 ~ 11/16	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8
0.5	Z05SDHF075I	39/64 ~ 11/16	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8
1	Z10SDHF100I	45/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
1.5	Z15SDHF100I	55/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
2	Z20SDHF125I	31/32 ~ 1-3/8	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4
2.5	Z25SDHF125I	1-3/16 ~ 1-3/8	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4
3	Z30SDHF150I	1-13/32 ~ 1-7/8	8-1/4	10-5/16	10-1/2	13	1-1/2	2-11/16	1/4
4	Z40SDHF150I	1-29/32 ~ 2-9/16	9-1/8	11-1/16	11-1/4	13-3/4	1-1/2	2-11/16	1/4

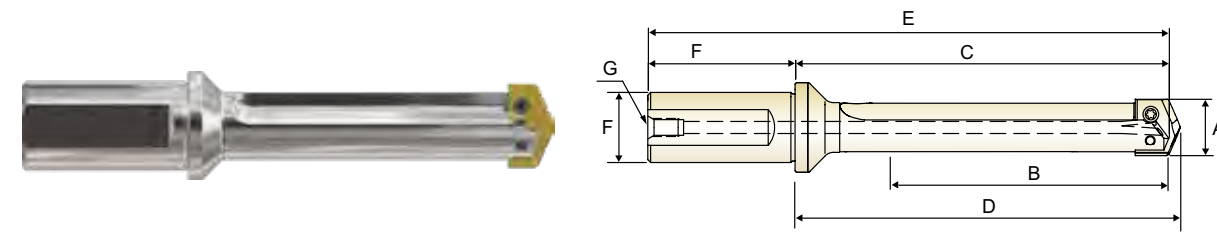


Z**EXSF SERIES

Z**EXHF SERIES

FLANGED STRAIGHT SHANK HOLDERS

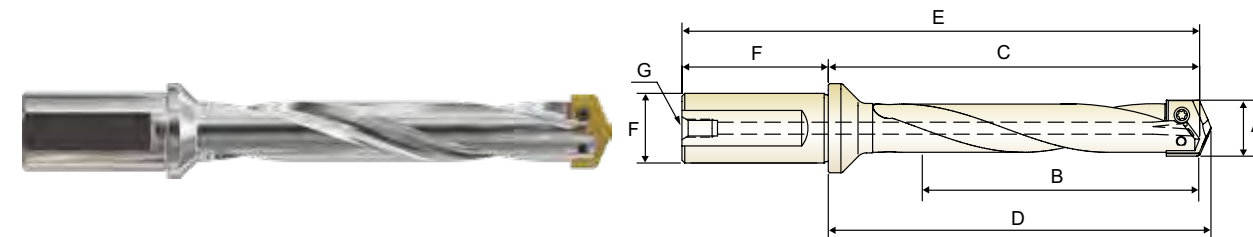
凸缘直柄刀杆



EXTENDED LENGTH - Straight Flute (Inch)

普长刀-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄		管用丝锥
		A	B	C	D	E	F		G
Y	ZY0EXSF075I	3/8 ~ 27/64	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
Z	ZZ0EXSF075I	7/16 ~ 1/2	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
0	Z00EXSF075I	33/64 ~ 11/16	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8
0.5	Z05EXSF075I	39/64 ~ 11/16	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8
1	Z10EXSF100I	45/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
1.5	Z15EXSF100I	55/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
2	Z20EXSF125I	31/32 ~ 1-3/8	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4
2.5	Z25EXSF125I	1-3/16 ~ 1-3/8	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4

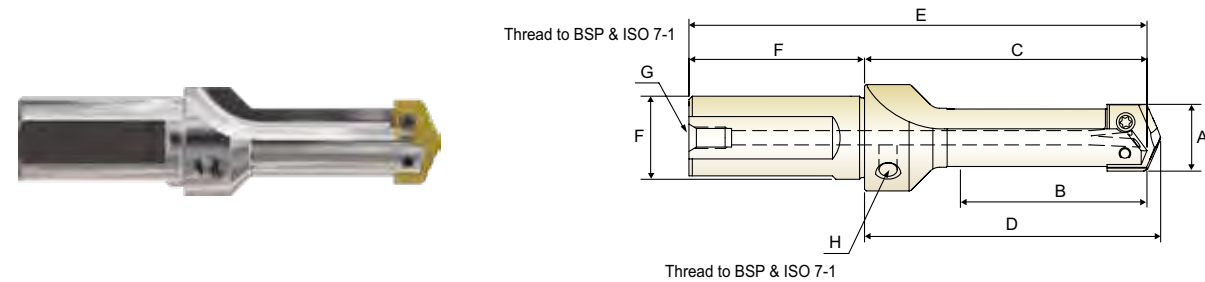


EXTENDED LENGTH - Helical Flute (Inch)

加长刀-螺旋槽 (英制)

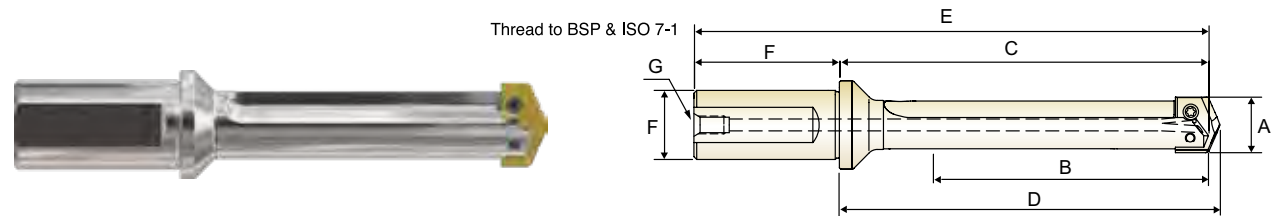
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄		管用丝锥
		A	B	C	D	E	F		G
Y	ZY0EXHF075I	3/8 ~ 27/64	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
Z	ZZ0EXHF075I	7/16 ~ 1/2	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
0	Z00EXHF075I	33/64 ~ 11/16	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8
0.5	Z05EXHF075I	39/64 ~ 11/16	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8
1	Z10EXHF100I	45/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
1.5	Z15EXHF100I	55/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
2	Z20EXHF125I	31/32 ~ 1-3/8	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4
2.5	Z25EXHF125I	1-3/16 ~ 1-3/8	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4

FLANGED STRAIGHT SHANK HOLDERS
凸缘直柄刀杆



STUB LENGTH - Straight Flute (Metric)
超短刃-直槽 (公制)

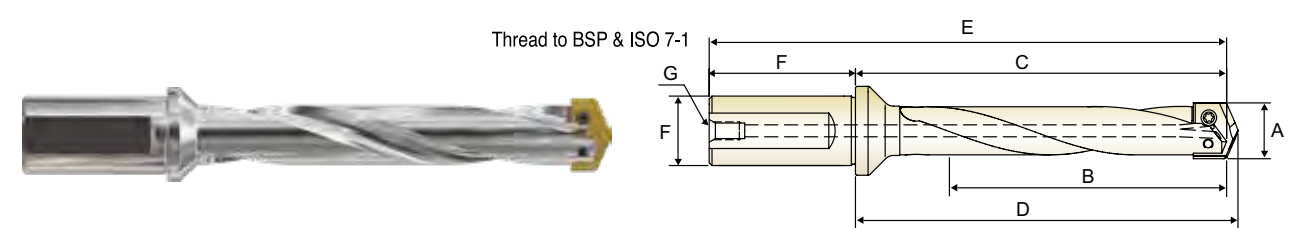
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap	
							Dia.	Length	Rear	Side
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	直径	长度	后面	侧面
		A	B	C	D	E	F	F	G	H
Y	ZY0SBSF016M	9.5 ~ 11.0	19.1	47.6	50.0	95.6	16.0	48.0	1/16	1/8
Z	ZZ0SBSF016M	11.5 ~ 12.5	19.1	47.6	50.0	95.6	16.0	48.0	1/16	1/8
0	Z00SBSF020M	13.0 ~ 17.5	22.2	47.6	50.4	97.6	20.0	50.0	1/8	1/8
0.5	Z05SBSF020M	15.5 ~ 17.5	22.2	47.6	50.4	97.6	20.0	50.0	1/8	1/8
1	Z10SBSF025M	18.0 ~ 24.0	47.6	75.8	79.4	131.8	25.0	56.0	1/8	1/8
1.5	Z15SBSF025M	22.0 ~ 24.0	57.2	88.5	92.1	144.5	25.0	56.0	1/8	1/8
2	Z20SBSF032M	25.0 ~ 35.0	57.2	88.5	92.1	148.5	32.0	60.0	1/4	1/8
2.5	Z25SBSF032M	30.0 ~ 35.0	92.1	123.4	127.0	183.4	32.0	60.0	1/4	1/8
3	Z30SBSF040M	36.0 ~ 47.0	76.2	125.0	129.8	195.0	40.0	70.0	1/4	1/4



SHORT LENGTH - Straight Flute (Metric)
标短刃-螺旋槽 (公制)

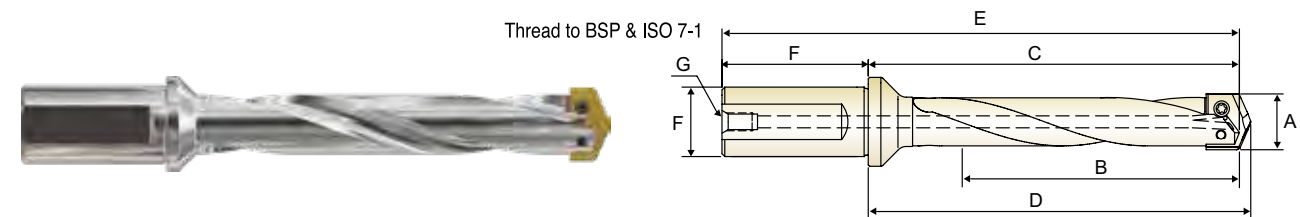
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	直径	长度	管用丝锥
		A	B	C	D	E	F	F	G
Y	ZY0STSF020M	9.5 ~ 11.0	31.8	61.1	63.5	111.1	20.0	50.0	1/8
Z	ZZ0STSF020M	11.5 ~ 12.5	31.8	61.1	63.5	111.1	20.0	50.0	1/8
0	Z00STSF020M	13.0 ~ 17.5	34.9	63.5	66.3	113.5	20.0	50.0	1/8
0.5	Z05STSF020M	15.5 ~ 17.5	34.9	63.5	66.3	113.5	20.0	50.0	1/8
1	Z10STSF025M	18.0 ~ 24.0	66.7	107.2	110.7	163.2	25.0	56.0	1/8
1.5	Z15STSF025M	22.0 ~ 24.0	66.7	107.2	110.7	163.2	25.0	56.0	1/8
2	Z20STSF032M	25.0 ~ 35.0	85.7	128.6	132.2	188.6	32.0	60.0	1/4
2.5	Z25STSF032M	30.0 ~ 35.0	85.7	128.6	132.2	188.6	32.0	60.0	1/4
3	Z30STSF040M	36.0 ~ 47.0	120.7	173.0	177.8	243.0	40.0	70.0	1/4
4	Z40STSF040M	48.0 ~ 65.0	130.2	179.4	184.0	249.4	40.0	70.0	1/4

FLANGED STRAIGHT SHANK HOLDERS
凸缘直柄刀杆



INTERMEDIATE LENGTH - Helical Flute (Metric)
普长刃-螺旋槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	直径	长度	管用丝锥
		A	B	C	D	E	F	F	G
1	Z10ITHF025M	18.0 ~ 24.0	117.5	154.8	158.4	210.8	25.0	56.0	1/8
1.5	Z15ITHF025M	22.0 ~ 24.0	117.5	154.8	158.4	210.8	25.0	56.0	1/8
2	Z20ITHF032M	25.0 ~ 35.0	136.5	179.4	183.0	239.4	32.0	60.0	1/4
2.5	Z25ITHF032M	30.0 ~ 35.0	136.5	179.4	183.0	239.4	32.0	60.0	1/4
3	Z30ITHF040M	36.0 ~ 47.0	165.1	217.5	222.3	287.5	40.0	70.0	1/4

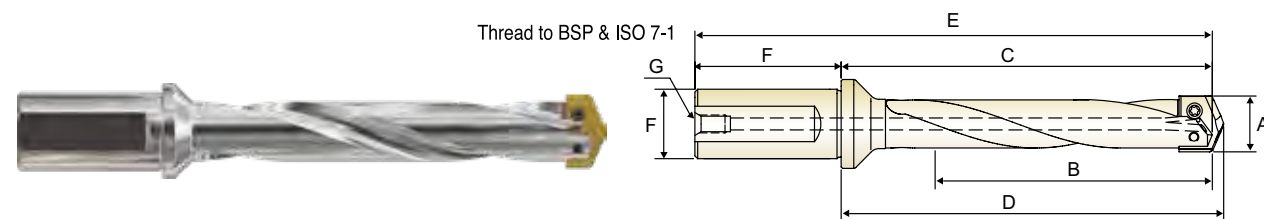


STANDARD LENGTH - Helical Flute (Metric)
标长刃-螺旋槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	直径	长度	管用丝锥
		A	B	C	D	E	F	F	G
Y	ZY0SDHF020M	9.5 ~ 11.0	60.3	89.7	92.1	139.7	20.0	50.0	1/8
Z	ZZ0SDHF020M	11.5 ~ 12.5	60.3	89.7	92.1	139.7	20.0	50.0	1/8
0	Z00SDHF020M	13.0 ~ 17.5	63.5	92.1	94.9	142.1	20.0	50.0	1/8
0.5	Z05SDHF020M	15.5 ~ 17.5	63.5	92.1	94.9	142.1	20.0	50.0	1/8
1	Z10SDHF025M	18.0 ~ 24.0	168.3	205.6	209.2	261.6	25.0	56.0	1/8
1.5	Z15SDHF025M	22.0 ~ 24.0	168.3	205.6	209.2	261.6	25.0	56.0	1/8
2	Z20SDHF032M	25.0 ~ 35.0	187.3	230.2	233.8	290.2	32.0	60.0	1/4
2.5	Z25SDHF032M	30.0 ~ 35.0	187.3	230.2	233.8	290.2	32.0	60.0	1/4
3	Z30SDHF040M	36.0 ~ 47.0	209.6	261.9	266.7	331.9	40.0	70.0	1/4
4	Z40SDHF040M	48.0 ~ 65.0	231.8	281.0	285.8	351.0	40.0	70.0	1/4

FLANGED STRAIGHT SHANK HOLDERS

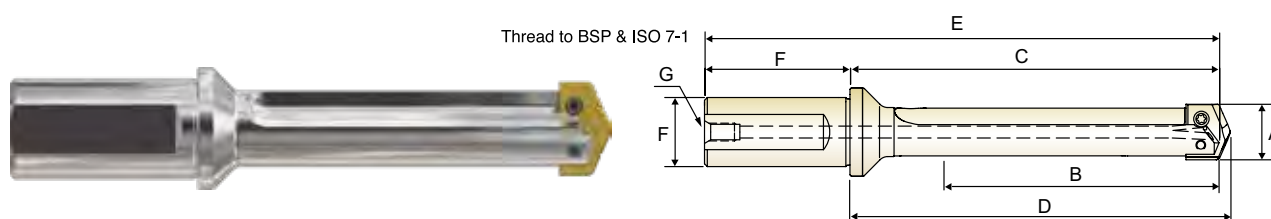
凸缘直柄刀杆



EXTENDED LENGTH - Helical Flute (Metric)

加长刃-螺旋槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄直径	柄长度	管用丝锥
		A	B	C	D	E	F	G	
Y	ZY0EXHF020M	9.5 ~ 11.0	111.1	140.5	142.9	190.5	20.0	50.0	1/8
Z	ZZ0EXHF020M	11.5 ~ 12.5	111.1	140.5	142.9	190.5	20.0	50.0	1/8
0	Z00EXHF020M	13.0 ~ 17.5	114.3	142.9	145.7	192.9	20.0	50.0	1/8
0.5	Z05EXHF020M	15.5 ~ 17.5	114.3	142.9	145.7	192.9	20.0	50.0	1/8
1	Z10EXHF025M	18.0 ~ 24.0	269.9	307.2	310.8	363.2	25.0	56.0	1/8
1.5	Z15EXHF025M	22.0 ~ 24.0	269.9	307.2	310.8	363.2	25.0	56.0	1/8
2	Z20EXHF032M	25.0 ~ 35.0	288.9	331.8	335.4	391.8	32.0	60.0	1/4
2.5	Z25EXHF032M	30.0 ~ 35.0	288.9	331.8	335.4	391.8	32.0	60.0	1/4



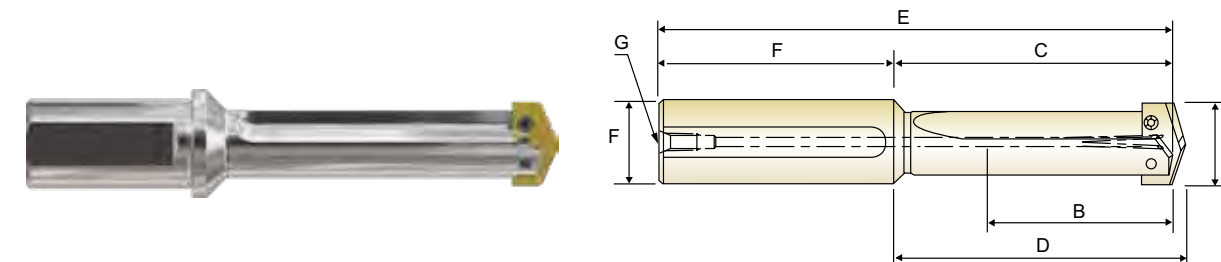
EXTENDED LENGTH - Straight Flute (Metric)

加长刃-直槽 (公制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄直径	柄长度	管用丝锥
		A	B	C	D	E	F	G	
3	Z30EXSF040M	36.0 ~ 47.0	349.3	401.6	406.4	471.6	40.0	70.0	1/4
4	Z40EXSF040M	48.0 ~ 65.0	422.3	471.5	476.3	541.5	40.0	70.0	1/4

FLANGED STRAIGHT SHANK HOLDERS

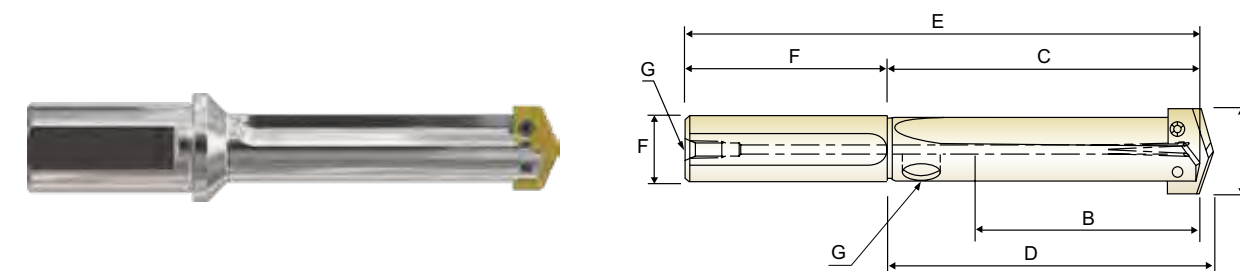
凸缘直柄刀杆



SHORT LENGTH - Straight Flute (Inch)

短刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄直径	柄长度	管用丝锥
		A	B	C	D	E	F	G	
Y	ZY0STSS075I	3/8 ~ 27/64	1-1/4	2-1/32	2-1/8	4-13/32	3/4	2-3/8	1/8
Z	ZZ0STSS075I	7/16 ~ 1/2	1-1/4	2-1/32	2-1/8	4-13/32	3/4	2-3/8	1/8
0	Z00STSS075I	33/64 ~ 11/16	1-3/8	2-3/16	2-19/64	4-9/16	3/4	2-3/8	1/8
0.5	Z05STSS075I	39/64 ~ 11/16	1-3/8	2-3/16	2-19/64	4-9/16	3/4	2-3/8	1/8



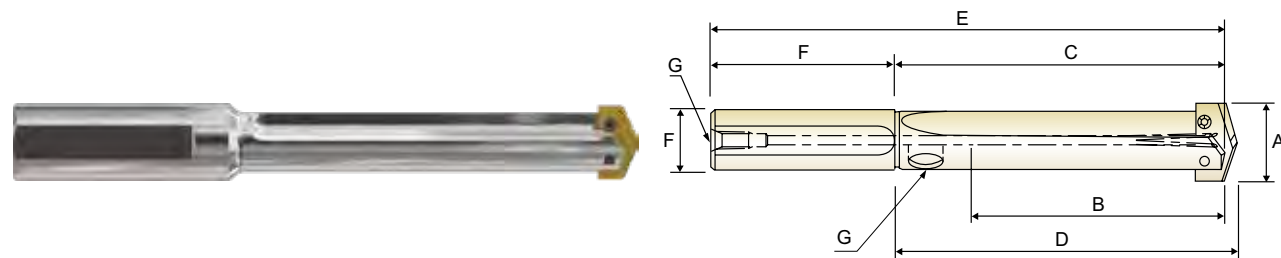
SHORT LENGTH - Straight Flute (Inch)

短刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄直径	柄长度	管用丝锥
		A	B	C	D	E	F	G	
▲ 1	Z10STSS075I	45/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	3/4	3	1/8
	Z10STSS100I	45/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	1	3	1/8
▲ 1.5	Z15STSS075I	55/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	3/4	3	1/8
	Z15STSS100I	55/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	1	3	1/8
2	Z20STSS100I	31/32 ~ 1-3/8	3-3/8	4-1/2	4-41/64	8	1	3-1/2	1/8
	Z20STSS125I	31/32 ~ 1-3/8	3-3/8	4-1/2	4-41/64	8	1-1/4	3-1/2	1/8
▲ 2.5	Z25STSS100I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	4-41/64	8	1	3-1/2	1/8
	Z25STSS125I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	4-41/64	8	1-1/4	3-1/2	1/8
3	Z30STSS125I	1-13/32 ~ 1-7/8	4-3/4	6	6-3/16	10	1-1/4	4	1/4
	Z30STSS150I	1-13/32 ~ 1-7/8	4-3/4	6	6-3/16	10	1-1/2	4	1/4
4	Z40STSS150I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	6-11/16	10-1/2	1-1/2	4	1/4
	Z40STSS175I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	6-11/16	10-1/2	1-3/4	4	1/4
5	Z50STSS200I	2-1/2 ~ 3-1/2	6-3/4	8-1/2	8-3/4	12-1/2	2	4	1/2

▲ : Flanged Type

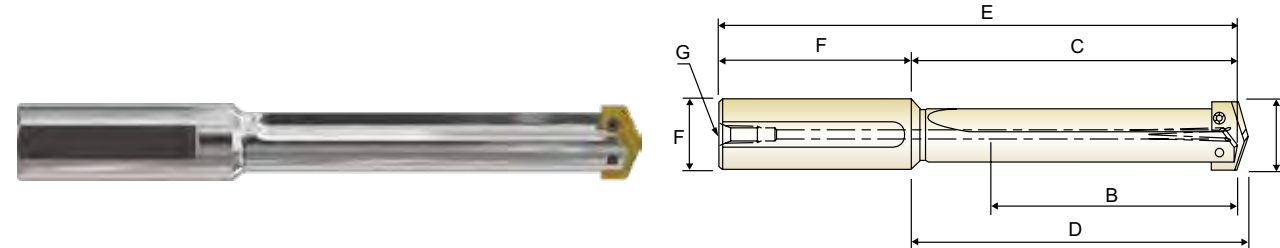
STRAIGHT SHANK HOLDERS
直柄刀杆



INTERMEDIATE LENGTH - Straight Flute (Inch)
普长刃-直槽 (英制)

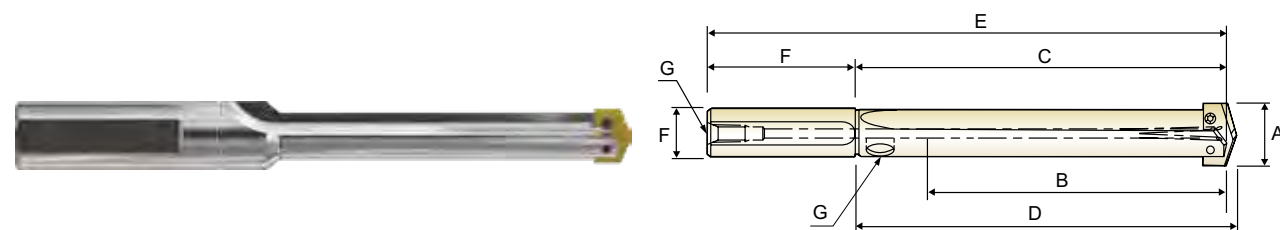
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄直径	柄长度	管用丝锥
		A	B	C	D	E	F	G	
1	Z10ITSS100I	45/64 ~ 15/16	4-5/8	5-7/8	6-1/64	8-7/8	1	3	1/8
1.5	Z15ITSS100I	55/64 ~ 15/16	4-5/8	5-7/8	6-1/64	8-7/8	1	3	1/8
2	Z20ITSS125I	31/32 ~ 1-3/8	5-3/8	6-1/2	6-41/64	10	1-1/4	3-1/2	1/8
2.5	Z25ITSS125I	1-3/16 ~ 1-3/8	5-3/8	6-1/2	6-41/64	10	1-1/4	3-1/2	1/8
3	Z30ITSS150I	1-13/32 ~ 1-7/8	6-1/2	7-3/4	7-15/16	11-3/4	1-1/2	4	1/4

STRAIGHT SHANK HOLDERS
直柄刀杆



STANDARD LENGTH - Straight Flute (Inch)
标长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	直径	长度	管用丝锥
		A	B	C	D	E	F	G	
Y	ZY0SDSS075I	3/8 ~ 27/64	2-3/8	3-5/32	3-1/4	5-17/32	3/4	2-3/8	1/8
Z	<td>7/16 ~ 1/2</td> <td>2-3/8</td> <td>3-5/32</td> <td>3-1/4</td> <td>5-17/32</td> <td>3/4</td> <td>2-3/8</td> <td>1/8</td>	7/16 ~ 1/2	2-3/8	3-5/32	3-1/4	5-17/32	3/4	2-3/8	1/8
0	Z00SDSS075I	33/64 ~ 11/16	2-1/2	3-5/16	3-27/64	5-11/16	3/4	2-3/8	1/8
0.5	Z05SDSS075I	39/64 ~ 11/16	2-1/2	3-5/16	3-27/64	5-11/16	3/4	2-3/8	1/8

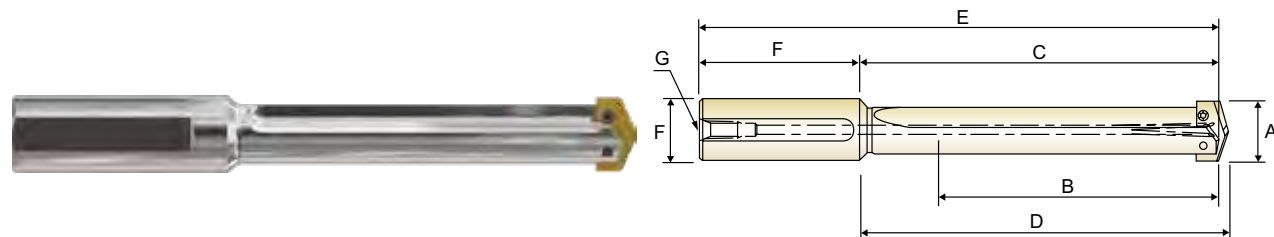


STANDARD LENGTH - Straight Flute (Inch)
标长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	直径	长度	管用丝锥
		A	B	C	D	E	F	G	
▲ 1	Z10SDSS075I	45/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	3/4	3	1/8
	Z10SDSS100I	45/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	1	3	1/8
▲ 1.5	Z15SDSS075I	55/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	3/4	3	1/8
	Z15SDSS100I	55/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	1	3	1/8
2	Z20SDSS100I	31/32 ~ 1-3/8	7-3/8	8-1/2	8-41/64	12	1	3-1/2	1/8
	Z20SDSS125I	31/32 ~ 1-3/8	7-3/8	8-1/2	8-41/64	12	1-1/4	3-1/2	1/8
▲ 2.5	Z25SDSS100I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	8-41/64	12	1	3-1/2	1/8
	Z25SDSS125I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	8-41/64	12	1-1/4	3-1/2	1/8
3	Z30SDSS125I	1-13/32 ~ 1-7/8	8-1/4	9-1/2	9-11/16	13-1/2	1-1/4	4	1/4
	Z30SDSS150I	1-13/32 ~ 1-7/8	8-1/4	9-1/2	9-11/16	13-1/2	1-1/2	4	1/4
4	Z40SDSS150I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	10-11/16	14-1/2	1-1/2	4	1/4
	Z40SDSS175I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	10-11/16	14-1/2	1-3/4	4	1/4
5	Z50SDSS200I	2-1/2 ~ 3-1/2	10-3/4	12-1/2	12-3/4	16-1/2	2	4	1/2
7	Z70SDSS300I	3-17/32 ~ 4-1/2	10-3/4	12-7/8	13-1/8	17-7/8	3	5	1/2

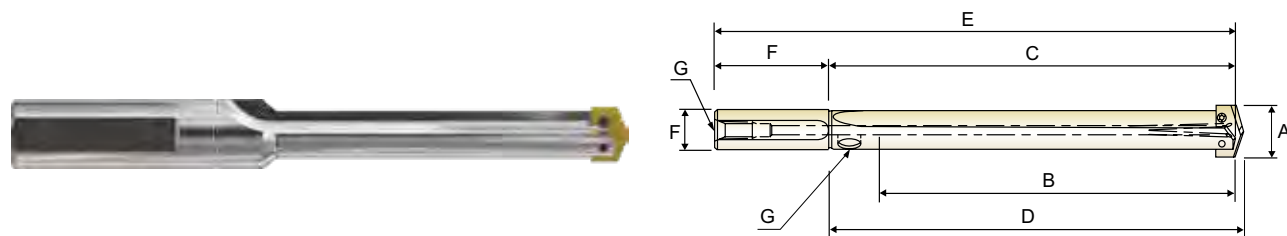
▲ : Flanged Type

STRAIGHT SHANK HOLDERS
直柄刀杆



EXTENDED LENGTH - Straight Flute (Inch)
加长刃-直槽 (英制)

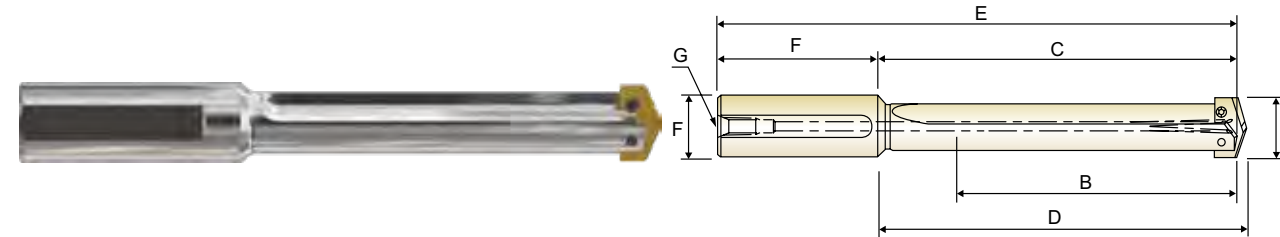
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄直径	柄长度	管用丝锥
		A	B	C	D	E	F	G	
Y	ZY0EXSS075I	3/8 ~ 27/64	4-3/8	5-5/32	5-1/4	7-17/32	3/4	2-3/8	1/8
Z	ZZ0EXSS075I	7/16 ~ 1/2	4-3/8	5-5/32	5-1/4	7-17/32	3/4	2-3/8	1/8
0	Z00EXSS075I	33/64 ~ 11/16	4-1/2	5-5/16	5-27/64	7-11/16	3/4	2-3/8	1/8
0.5	Z05EXSS075I	39/64 ~ 11/16	4-1/2	5-5/16	5-27/64	7-11/16	3/4	2-3/8	1/8



EXTENDED LENGTH - Straight Flute (Inch)
加长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄直径	柄长度	管用丝锥
		A	B	C	D	E	F	G	
1	Z10EXSS100I	45/64 ~ 15/16	10-5/8	11-7/8	12-1/64	14-7/8	1	3	1/8
1.5	Z15EXSS100I	55/64 ~ 15/16	10-5/8	11-7/8	12-1/64	14-7/8	1	3	1/8
2	Z20EXSS125I	31/32 ~ 1-3/8	11-3/8	12-1/2	12-41/64	16	1-1/4	3-1/2	1/8
2.5	Z25EXSS125I	1-3/16 ~ 1-3/8	11-3/8	12-1/2	12-41/64	16	1-1/4	3-1/2	1/8
3	Z30EXSS125I	1-13/32 ~ 1-7/8	13-3/4	15	15-3/16	19	1-1/4	4	1/4
4	Z40EXSS150I	1-29/32 ~ 2-9/16	16-5/8	18	18-3/16	22	1-1/2	4	1/4
5	Z50EXSS200I	2-1/2 ~ 3-1/2	18-1/4	20	20-1/4	24	2	4	1/2
7	Z70EXSS300I	3-17/32 ~ 4-1/2	21-7/8	24	24-1/4	29	3	5	1/2

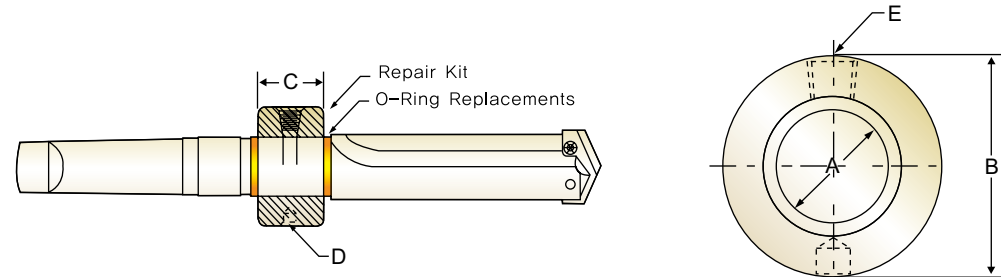
STRAIGHT SHANK HOLDERS
直柄刀杆



LONG LENGTH - Straight Flute (Inch)
长刃-直槽 (英制)

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
系列	型号	钻头刀片范围	钻的最大深度	主要长度	参考长度	全长	柄直径	柄长度	管用丝锥
		A	B	C	D	E	F	G	
0	Z00LGSS075I	33/64 ~ 11/16	7	7-13/16	7-59/64	10-3/16	3/4	2-3/8	1/8
0.5	Z05LGSS075I	39/64 ~ 11/16	7	7-13/16	7-59/64	10-3/16	3/4	2-3/8	1/8

HOLDER ACCESSORIES
刀柄附件



Inch 英制

Item No.	I.D.	O.D.	Length	Thread for Driving Rod	Pipe Tap	RCA Repair Kit Item No.	RCA O-Ring Replacements Item No.
项目	内部直径	外部直径	长	传动杆螺纹	管用丝锥	旋转式冷却适配器项目	O型垫圈项目
	A	B	C	D	E		
PR110048	3/4	1-3/4	7/8	5/16-NC	◆1/8	PR210048	PR310048
PR110100	1	2-1/8	1-1/8	5/16-NC	◆1/8	PR210100	PR310100
PR110116	1-1/4	2-1/2	1-3/8	3/8-NC	◆1/4	PR210116	PR310116
PR110148	1-3/4	3	1-3/8	3/8-NC	◆1/4	PR210148	PR310148
PR110216	2-1/4	3-3/4	1-3/4	1/2-NC	◆1/2	PR210216	PR310216

Metric 公制

Item No.	I.D.	O.D.	Length	Thread for Driving Rod	Pipe Tap	RCA Repair Kit Item No.	RCA O-Ring Replacements Item No.
项目	内部直径	外部直径	长	传动杆螺纹	管用丝锥	旋转式冷却适配器项目	O型垫圈项目
	A	B	C	D	E		
PR120190	19.05	44.45	22.23	M8 × 1.25	◆1/8	PR220190	PR320190
PR120254	25.40	53.97	28.57	M8 × 1.25	◆1/8	PR220254	PR320254
PR120317	31.75	63.50	34.92	M10 × 1.5	◆1/4	PR220317	PR320317
PR120444	44.45	76.20	34.92	M10 × 1.5	◆1/4	PR220444	PR320444
PR120571	57.15	95.27	44.45	M12 × 1.75	◆1/2	PR220571	PR320571

◆ Thread to BSP & ISO 7-1

TORX SCREWS TORX螺纹

Holder Series	Item No.	TORX Hand Driver	Drill Range Used With	
刀柄系列	项目	TORX 手动扳手	钻孔范围	
			Inch	Metric
Y	J07Y0010	J05Y0070	3/8 ~ 27/64	9.5 mm ~ 11.0 mm
Z	J07Z0110	J05Y0070	7/16 ~ 1/2	11.5 mm ~ 12.5 mm
0	J0800210	J0500080	33/64 ~ 11/16	13.0 mm ~ 17.5 mm
0.5	J0805310	J0500080	39/64 ~ 11/16	15.5 mm ~ 17.5 mm
1	J0910410	J0510090	45/64 ~ 15/16	18.0 mm ~ 24.0 mm
1.5	J0915510	J0510090	55/64 ~ 15/16	22.0 mm ~ 24.0 mm
2	J1520610	J0520150	31/32 ~ 1-3/8	25.0 mm ~ 35.0 mm
2.5	J1525710	J0520150	1-3/16 ~ 1-3/8	30.0 mm ~ 35.0 mm
3,4	J2030810	J0530200	1-13/32 ~ 2-9/16	36.0 mm ~ 65.0 mm
5 ~ 8	J2550910	J0550250	2-1/2 ~ 4-1/2	64.0 mm ~ 114.0 mm

** Note : Replacement screws sold in packages(10 screws per package)
注意：替换用螺钉成包出售(每包10个)

SPADE DRILL HSS-T15
铲钻刀片 HSS-T15

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度(m/min)			Feed 进给 (mm/rev)						
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
P	1	Non-alloy steel	54	67	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	2		49	58	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
	3		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	4	45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58	
	6	Low alloy steel	45	56	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
	7		41	50	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
	8		39	47	53	0.09	0.15	0.22	0.28	0.38	0.41	0.50
	9		36	43	46	0.08	0.15	0.21	0.27	0.38	0.40	0.51
	10	High alloyed steel, and tool steel	25	34	36	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	11		19	27	29	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	M	12	Stainless steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36
13		20		23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
14		24		29	34	0.14	0.20	0.23	0.26	0.36	0.41	0.50
K	15	Grey cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	16		29	35	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
	17	Nodular cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	18		35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
	19	Malleable cast iron	52	64	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
	20		35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
N	21	Aluminum-wrought alloy	187	229	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
	22		92	137	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and Copper Alloys (Bronze / Brass)	95	128	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79
S	31	Heat Resistant Super Alloys	9	11	12	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	32		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	33		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	34		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	35		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
H	38	Hardened steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46

► The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.

Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended

► 表中推荐的速度, 进给率和其它参数只可用来参考推荐降低速度和进给量(速度降低20%和进给降低10%)

SPADE DRILL HSS-M4
铲钻刀片 HSS-M4

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)			Feed 进给 (mm/rev)						
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
P	1	Non-alloy steel	54	67	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
			49	58	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
			45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
			45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	6	Low alloy steel	45	56	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
			41	50	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
			20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
M	Stainless steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46	
		24	29	34	0.14	0.20	0.23	0.26	0.36	0.41	0.50	
		48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68	
K	15	Grey cast iron	29	35	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
			48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	17	Nodular cast iron	35	44	52	0.13	0.17	0.23	0.3	0.35	0.43	0.50
			52	64	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
	19	Malleable cast iron	35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
N	21	Aluminum-wrought alloy	187	229	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
			92	137	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and Copper Alloys (Bronze / Brass)	95	128	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79

► The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.

Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended

► 表中推荐的速度, 进给率和其它参数只用来参考推荐降低速度和进给量(速度降低20%和进给降低10%)

SPADE DRILL HSS-M48
铲钻刀片 HSS-M48

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)			Feed 进给 (mm/rev)						
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
P	1	Non-alloy steel	54	67	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
			49	58	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
			45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
			45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	6	Low alloy steel	45	56	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
			41	50	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
			39	47	53	0.09	0.15	0.22	0.28	0.38	0.41	0.50
	8	High alloyed steel, and tool steel	36	43	46	0.08	0.15	0.21	0.27	0.38	0.40	0.51
			25	34	36	0.08	0.17	0.20	0.24	0.30	0.37	0.39
			19	27	29	0.08	0.14	0.18	0.19	0.25	0.29	0.34
			48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
K	15	Grey cast iron	29	35	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
			48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	17	Nodular cast iron	35	44	52	0.13	0.17	0.23	0.3	0.35	0.43	0.50
			52	64	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
	19	Malleable cast iron	35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
N	21	Aluminum-wrought alloy	187	229	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
			92	137	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and Copper Alloys (Bronze / Brass)	95	128	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79
S	31	Heat Resistant Super Alloys	9	11	12	0.08	0.17	0.20	0.24	0.30	0.37	0.39
			8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
			8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
			8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
			8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
H	38	Hardened steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46

► The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.

Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended

► 表中推荐的速度, 进给率和其它参数只用来参考推荐降低速度和进给量(速度降低20%和进给降低10%)

SPADE DRILL CARBIDE-K10

铲钻刀片 硬质合金-K10

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)			Feed 进给 (mm/rev)				
			TiN	TiCN	TiAlN	Ø9.5~12.5	Ø13~17.5	Ø18~24	Ø25~35	Ø36~47
K	15	Grey cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
	16		56	70	79	0.13	0.18	0.23	0.28	0.33
	17	Nodular cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
	18		66	81	93	0.13	0.15	0.28	0.33	0.37
	19	Malleable cast iron	98	125	137	0.18	0.30	0.37	0.46	0.56
	20		66	81	93	0.13	0.15	0.28	0.33	0.37

► The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.

Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended

► 表中推荐的速度, 进给率和其它参数只可用来参考推荐降低速度和进给量(速度降低20%和进给降低10%)

SPADE DRILL CARBIDE-K20

铲钻刀片 英制合金-K20

RPM (转速) = (rev./min.)
FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)			Feed 进给 (mm/rev)				
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47
P	1	Non-alloy steel	94	110	119	0.20	0.24	0.31	0.42	0.46
	2		76	82	96	0.15	0.22	0.29	0.36	0.40
	3		66	70	84	0.15	0.22	0.28	0.36	0.40
	4		66	70	84	0.15	0.22	0.28	0.36	0.40
	6	Low alloy steel	73	81	88	0.15	0.23	0.29	0.38	0.42
	7		66	73	81	0.15	0.21	0.28	0.37	0.41
	8		62	70	78	0.12	0.20	0.27	0.33	0.40
	9		53	58	64	0.10	0.18	0.23	0.30	0.38
	10		High alloyed steel, and tool steel	50	56	67	0.09	0.18	0.22	0.28
	11	37		46	50	0.09	0.18	0.22	0.28	0.31
	M	12	Stainless steel	38	43	47	0.10	0.18	0.20	0.24
13		38		43	47	0.10	0.18	0.20	0.24	0.30
14		43		49	55	0.12	0.20	0.23	0.27	0.35
K	15	Grey cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
	16		56	70	79	0.13	0.18	0.23	0.28	0.33
	17	Nodular cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
	18		66	81	93	0.13	0.15	0.28	0.33	0.37
	19	Malleable cast iron	98	125	137	0.18	0.30	0.37	0.46	0.56
	20		66	81	93	0.13	0.15	0.28	0.33	0.37
N	21	Aluminum-wrought alloy	366	396	427	0.24	0.38	0.45	0.50	0.53
	22		244	290	291	0.22	0.33	0.40	0.45	0.48
	27	Copper and Copper Alloys (Bronze / Brass)	136	168	193	0.15	0.24	0.29	0.39	0.47
S	31	Heat Resistant Super Alloys	50	55	62	0.19	0.19	0.21	0.24	0.30
	32		38	44	46	0.15	0.17	0.20	0.21	0.25
	33		38	44	46	0.15	0.17	0.20	0.21	0.25
	34		38	44	46	0.15	0.17	0.20	0.21	0.25
	35		38	44	46	0.15	0.17	0.20	0.21	0.25
H	38	Hardened steel	38	43	47	0.10	0.18	0.20	0.24	0.30

► The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.

Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended

► 表中推荐的速度, 进给率和其它参数只可用来参考推荐降低速度和进给量(速度降低20%和进给降低10%)

SPADE DRILL FLAT BOTTOM HSS-T15
铲钻刀片 平底钻 HSS-T15

 RPM (转速) = (rev./min.)
 FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)		Feed 进给 (mm/rev)			
			TiN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35
P	1-4	Non-alloy steel	54	60	0.12	0.18	0.22	0.30
			46	55	0.10	0.15	0.19	0.27
			45	50	0.10	0.15	0.18	0.27
			42	46	0.08	0.14	0.17	0.22
	6-11	Low alloy steel	45	46	0.10	0.16	0.19	0.29
			40	45	0.10	0.13	0.18	0.28
			38	42	0.07	0.12	0.18	0.22
			34	37	0.06	0.12	0.17	0.22
			27	29	0.07	0.12	0.15	0.20
			22	23	0.07	0.12	0.15	0.20
			23	25	0.13	0.15	0.18	0.22
M	Stainless steel	23	25	0.13	0.15	0.18	0.22	
		26	29	0.17	0.18	0.20	0.23	
		51	60	0.12	0.21	0.29	0.40	
K	Grey cast iron	38	48	0.10	0.14	0.20	0.25	
		51	60	0.12	0.21	0.29	0.40	
	Nodular cast iron	38	48	0.10	0.14	0.20	0.25	
		56	66	0.13	0.25	0.35	0.41	
	Malleable cast iron	38	48	0.10	0.14	0.20	0.25	
N	Aluminum-wrought alloy	208	213	0.17	0.28	0.36	0.43	
		112	121	0.17	0.28	0.36	0.41	
	Copper and Copper Alloys (Bronze / Brass)	48	70	0.15	0.26	0.37	0.45	
S	Heat Resistant Super Alloys	20	10	0.06	0.14	0.16	0.19	
		7	9	0.06	0.11	0.14	0.15	
		7	9	0.06	0.11	0.14	0.15	
		7	9	0.06	0.11	0.14	0.15	
		7	9	0.06	0.11	0.14	0.15	
H	Hardened steel	23	25	0.13	0.15	0.18	0.22	

► The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.

Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended

► 表中推荐的速度, 进给率和其它参数只用来参考推荐降低速度和进给量(速度降低20%和进给降低10%)

SPADE DRILL CARBIDE-P40
铲钻刀片 硬质合金-P40

 RPM (转速) = (rev./min.)
 FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)			Feed 进给 (mm/rev)				
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47
P	1-4	Non-alloy steel	94	110	119	0.20	0.24	0.31	0.42	0.46
			76	82	96	0.15	0.22	0.29	0.36	0.40
			66	70	84	0.15	0.22	0.28	0.36	0.40
			66	70	84	0.15	0.22	0.28	0.36	0.40
	6-11	Low alloy steel	73	81	88	0.15	0.23	0.29	0.38	0.42
			66	73	81	0.15	0.21	0.28	0.37	0.41
			62	70	78	0.12	0.20	0.27	0.33	0.40
			53	58	64	0.10	0.18	0.23	0.30	0.38
			50	56	67	0.09	0.18	0.22	0.28	0.31
			37	46	50	0.09	0.18	0.22	0.28	0.31
			38	43	47	0.10	0.18	0.20	0.24	0.30
M	Stainless steel	38	43	47	0.10	0.18	0.20	0.24	0.30	
		43	49	55	0.12	0.20	0.23	0.27	0.35	
		95	101	125	0.17	0.26	0.32	0.42	0.53	
K	Grey cast iron	56	70	79	0.13	0.18	0.23	0.28	0.33	
		95	101	125	0.17	0.26	0.32	0.42	0.53	
	Nodular cast iron	66	81	93	0.13	0.15	0.28	0.33	0.37	
		98	125	137	0.18	0.30	0.37	0.46	0.56	
	Malleable cast iron	66	81	93	0.13	0.15	0.28	0.33	0.37	
N	Aluminum-wrought alloy	366	396	427	0.24	0.38	0.45	0.50	0.53	
		244	290	291	0.22	0.33	0.40	0.45	0.48	
	Copper and Copper Alloys (Bronze / Brass)	136	168	193	0.15	0.24	0.29	0.39	0.47	
S	Heat Resistant Super Alloys	50	55	62	0.19	0.19	0.21	0.24	0.30	
		38	44	46	0.15	0.17	0.20	0.21	0.25	
		38	44	46	0.15	0.17	0.20	0.21	0.25	
		38	44	46	0.15	0.17	0.20	0.21	0.25	
		38	44	46	0.15	0.17	0.20	0.21	0.25	
H	Hardened steel	38	43	47	0.10	0.18	0.20	0.24	0.30	

► The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.

Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended

► 表中推荐的速度, 进给率和其它参数只用来参考推荐降低速度和进给量(速度降低20%和进给降低10%)

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPERSHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

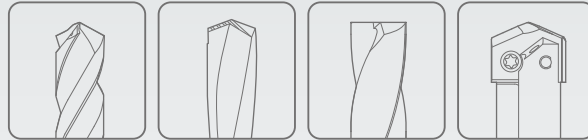
COUNTER SINKS

COUNTER BORES

TECHNICAL DATA



Global Cutting Tool Leader **YG-1**



HOLEMAKING



Leading Through Innovation

CARBIDE, HSS & HSS-E

REAMERS

- Carbide NC Machine Reamers
HSS Hand Reamers, HSS-E Chucking Reamers
- 硬质合金机用铰刀
HSS手用铰刀, HSS-E机夹铰刀

SELECTION GUIDE
选用指南



SERIES 系列

HOLE TYPE 孔类型

FLUTE TYPE 槽型

SIZE MIN 最小尺寸

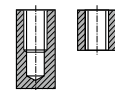
SIZE MAX 最大尺寸

PAGE 页数

SURFACE TREATMENT 表面处理

K4101

K4111



Straight
直槽

LH Spiral
左旋槽

D2.0

D2.0

D20.0

D20.0

A376

A377

Bright

CARBIDE, HSS & HSS-E REAMERS

Carbide NC Machine Reamers
HSS Hand Reamers, HSS-E Chucking Reamers
硬质合金机用铰刀
HSS手用铰刀, HSS-E机夹铰刀



◎: Excellent (优秀) ○: Good (良好)

(Recommended cutting conditions (推荐加工条件) : p. A397)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度
P	1	Non-alloy steel	About 0.15% C Annealed	125	13
	2		About 0.45% C Annealed	190	13
	3		About 0.45% C Quenched & Tempered	250	25
	4		About 0.75% C Annealed	270	28
	5		About 0.75% C Quenched & Tempered	300	32
	6	Low alloy steel	Annealed	180	10
	7		Quenched & Tempered	275	29
	8		Quenched & Tempered	300	32
	9		Quenched & Tempered	350	38
	10		High alloyed steel, and tool steel	Annealed	200
	11	Quenched & Tempered		325	35
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15
	13		Martensitic Quenched & Tempered	240	23
	14		Austenitic	180	10
K	15	Grey cast iron	Pearlitic / ferritic	180	10
	16		Pearlitic (Martensitic)	260	26
	17	Nodular cast iron	Ferritic	160	3
	18		Pearlitic	250	25
	19		Ferritic	130	3
20	Malleable cast iron	Pearlitic	230	21	
N	21	Aluminum-wrought alloy	Not Curable	60	
	22		Curable Hardened	100	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75	
	24		≤ 12% Si, Curable Hardened	90	
	25		> 12% Si, Not Curable	130	
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110	
	27		CuZn, CuSnZn (Brass)	90	
	28		CuSn, lead-free copper and electrolytic copper	100	
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic Rubber, Wood, etc.	
	30				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15
	32		Fe Based Cured	280	30
	33		Fe Based Annealed	250	25
	34		Ni or Co Based Cured	350	38
	35		Ni or Co Based Cast	320	34
	36	Titanium Alloys	Pure Titanium	400 Rm	
	37		Alpha + Beta Alloys Hardened	1050 Rm	
H	38	Hardened steel	Hardened	550	55
	39		Hardened	630	60
	40		Chilled Cast Iron	400	42
	41		Hardened Cast Iron	550	55

A374

K1143	K1153	K2101	K2111	K2121	K2102	K2112	K21B1
Straight 直槽	LH Spiral 左旋槽	Straight 直槽	LH Spiral 左旋槽	LH Spiral (Quick Spiral) 左旋槽 (快速)	Straight 直槽	LH Spiral 左旋槽	LH Spiral 左旋槽
D2.0	D2.0	D2.0	D2.0	D4.0	D10.0	D10.0	D2.0
D60.0	D60.0	D20.0	D20.0	D20.0	D50.0	D50.0	D20.0
A378	A380	A382	A384	A386	A387	A389	A391

Bright



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○	○	○	○	◎	○	○	○	24
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○	○	○	○	◎	○	○	○	26 N
○	○	○	○	◎	○	○	○	27
○	○	○	○	◎	○	○	○	28
○	○	○	○	○	○	○	○	29
○	○	○	○	○	○	○	○	30
○	○	○	○	○	○	○	○	31
○	○	○	○	○	○	○	○	32
○	○	○	○	○	○	○	○	33
○	○	○	○	○	○	○	○	34 S
○	○	○	○	○	○	○	○	35
○	○	○	○	○	○	○	○	36
○	○	○	○	○	○	○	○	37
○	○	○	○	○	○	○	○	38
○	○	○	○	○	○	○	○	39
○	○	○	○	○	○	○	○	40
○	○	○	○	○	○	○	○	41 H

A375

HSS

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -SOFT

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

WORM PATTERN DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

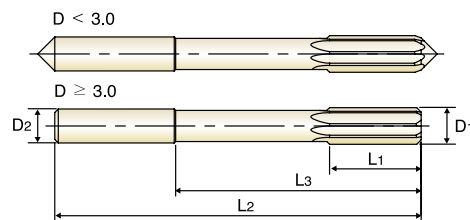
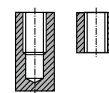
TECHNICAL DATA

CARBIDE, NC MACHINE REAMERS - STRAIGHT FLUTES
硬质合金, 机用铰刀-直槽

- ▶ Material - Up to Ø12.0 : Solid Carbide
 - Over Ø12.0 : Carbide Head Brazed
- ▶ Straight Flutes, Right Hand Cut
- ▶ Unequal Flute Spacing
- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank : DIN 6535-HA
- ▶ Chamfer Angle - D < 3.0 : 15°
 - D ≥ 3.0 : 45°

- ▶ 材料 - Ø12.0以下: 整体合金
 - Ø12.0以上: 头部焊接硬质合金
- ▶ 左槽, 右切
- ▶ 不等分切削刃
- ▶ 刃径公差: DIN 1420 H7
- ▶ 柄: DIN 6535-HA
- ▶ 倒角铰刀 - D < 3.0 : 15°
 - D ≥ 3.0 : 45°

Hole type
孔类型



CARBIDE H7 15° 45° p. A397

Recommended ToolHolder	Plain Shank	Page
	SHRINK FIT HOLDER	D47-72
	HYDRAULIC CHUCK	D15-46
	ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Reamer Diameter	Shank Diameter	Cutting Length	Neck Length	Overall Length	No. of Flute
型号	铰刀直径	柄部直径	切削长度	颈部长度	全长	刃数
	D1	D2	L1	L3	L2	
K410100200	2.0	4	11	20	50	4
K410100250	2.5	4	14	26	57	4
K410100300	3.0	4	15	31	61	6
K410100350	3.5	4	18	36	70	6
K410100400	4.0	4	19	42	75	6
K410100450	4.5	6	21	46	80	6
K410100500	5.0	6	23	51	86	6
K410100550	5.5	6	26	56	93	6
K410100600	6.0	6	26	56	93	6
K410100650	6.5	8	28	62	101	6
K410100700	7.0	8	31	68	109	6
K410100750	7.5	8	31	68	109	6
K410100800	8.0	8	33	74	117	6
K410100850	8.5	10	33	74	117	6
K410100900	9.0	10	36	80	125	6
K410100950	9.5	10	36	80	125	6
K410101000	10.0	10	38	86	133	6
K410101050	10.5	12	38	86	133	6
K410101100	11.0	12	41	95	142	6
K410101200	12.0	12	44	104	151	6
K410101300	13.0	16	44	104	151	6
K410101400	14.0	16	47	108	160	8
K410101500	15.0	16	50	110	162	8
K410101600	16.0	16	52	118	170	8
K410101700	17.0	20	54	121	175	8
K410101800	18.0	20	56	128	182	8
K410101900	19.0	20	58	129	189	8
K410102000	20.0	20	60	135	195	8

◎ : Excellent (优秀) ○ : Good (良好)

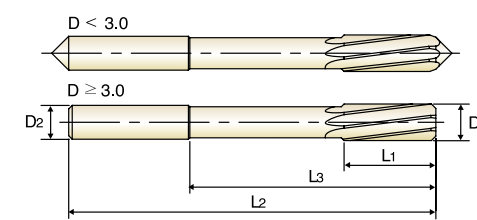
ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	◎	○	○	◎	○	◎	○	◎	○	

CARBIDE, NC MACHINE REAMERS - LH SPIRAL FLUTES
硬质合金, 机用铰刀-左螺旋槽

- ▶ Material - Up to Ø12.0 : Solid Carbide
 - Over Ø12.0 : Carbide Head Brazed
- ▶ Left Spiral Flutes, Right Hand Cut
- ▶ Unequal Flute Spacing
- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank : DIN 6535-HA
- ▶ Chamfer Angle - D < 3.0 : 15°
 - D ≥ 3.0 : 45°

- ▶ 材料 - Ø12.0以下: 整体合金
 - Ø12.0以上: 头部焊接硬质合金
- ▶ 左槽, 右切
- ▶ 不等分切削刃
- ▶ 刃径公差: DIN 1420 H7
- ▶ 柄: DIN 6535-HA
- ▶ 倒角铰刀 - D < 3.0 : 15°
 - D ≥ 3.0 : 45°

Hole type
孔类型



CARBIDE H7 LH7 15° 45° p. A397

Recommended ToolHolder	Plain Shank	Page
	SHRINK FIT HOLDER	D47-72
	HYDRAULIC CHUCK	D15-46
	ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Reamer Diameter	Shank Diameter	Cutting Length	Neck Length	Overall Length	No. of Flute
型号	铰刀直径	柄部直径	切削长度	颈部长度	全长	刃数
	D1	D2	L1	L3	L2	
K411100200	2.0	4	11	20	50	4
K411100250	2.5	4	14	26	57	4
K411100300	3.0	4	15	31	61	6
K411100350	3.5	4	18	36	70	6
K411100400	4.0	4	19	42	75	6
K411100450	4.5	6	21	46	80	6
K411100500	5.0	6	23	51	86	6
K411100550	5.5	6	26	56	93	6
K411100600	6.0	6	26	56	93	6
K411100650	6.5	8	28	62	101	6
K411100700	7.0	8	31	68	109	6
K411100750	7.5	8	31	68	109	6
K411100800	8.0	8	33	74	117	6
K411100850	8.5	10	33	74	117	6
K411100900	9.0	10	36	80	125	6
K411100950	9.5	10	36	80	125	6
K411101000	10.0	10	38	86	133	6
K411101050	10.5	12	38	86	133	6
K411101100	11.0	12	41	95	142	6
K411101200	12.0	12	44	104	151	6
K411101300	13.0	16	44	104	151	6
K411101400	14.0	16	47	108	160	8
K411101500	15.0	16	50	110	162	8
K411101600	16.0	16	52	118	170	8
K411101700	17.0	20	54	121	175	8
K411101800	18.0	20	56	128	182	8
K411101900	19.0	20	58	129	189	8
K411102000	20.0	20	60	135	195	8

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	◎	○	○	◎	○	◎	○	◎	○	

CARBIDE, NC MACHINE REAMERS - STRAIGHT FLUTES
硬质合金, 机用铰刀-直槽

- ▶ Material - Up to Ø12.0 : Solid Carbide
 - Over Ø12.0 : Carbide Head Brazed
- ▶ Straight Flutes, Right Hand Cut
- ▶ Unequal Flute Spacing
- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank : DIN 6535-HA
- ▶ Chamfer Angle - D < 3.0 : 15°
 - D ≥ 3.0 : 45°



CARBIDE H7 15° 45° p. A397

Unit(单位) : mm

EDP No.	Reamer Diameter	Shank Diameter	Cutting Length	Neck Length	Overall Length	No. of Flute
型号	铰刀直径	柄部直径	切削长度	颈部长度	全长	刃数
	D1	D2	L1	L3	L2	
K410100200	2.0	4	11	20	50	4
K410100250	2.5	4	14	26	57	4
K410100300	3.0	4	15	31	61	6
K410100350	3.5	4	18	36	70	6
K410100400	4.0	4	19	42	75	6
K410100450	4.5	6	21	46	80	6
K410100500	5.0	6	23	51	86	6
K410100550	5.5	6	26	56	93	6
K410100600	6.0	6	26	56	93	6
K410100650	6.5	8	28	62	101	6
K410100700	7.0	8	31	68	109	6
K410100750	7.5	8	31	68	109	6
K410100800	8.0	8	33	74	117	6
K410100850	8.5	10	33	74	117	6
K410100900	9.0	10	36	80	125	6
K410100950	9.5	10	36	80	125	6
K410101000	10.0	10	38	86	133	6
K410101050	10.5	12	38	86	133	6
K410101100	11.0	12	41	95	142	6
K410101200	12.0	12	44	104	151	6
K410101300	13.0	16	44	104	151	6
K410101400	14.0	16	47	108	160	8
K410101500	15.0	16	50	110	162	8
K410101600	16.0	16	52	118	170	8
K410101700	17.0	20	54	121	175	8
K410101800	18.0	20	56	128	182	8
K410101900	19.0	20	58	129	189	8
K410102000	20.0	20	60	135	195	8

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	◎	○	○	◎	○	◎	○	◎	○	

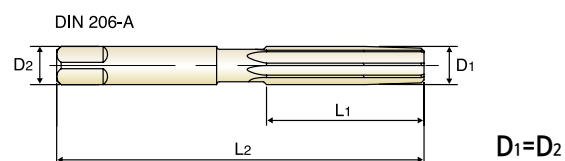
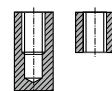
HSS, HAND REAMERS - STRAIGHT FLUTES

高速钢, 手用铰刀-直槽

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter ≅ Nominal Reamer Diameter
- ▶ Straight Flutes / Right Hand Cut
- ▶ Chamfer Angle- tapered
- ▶ Type of center - Up to Ø3.75 : external centers
- Over Ø3.75 : internal centers

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 柄部直径 = 铰刀刃部直径
- ▶ 直槽/右切
- ▶ 倒角-锥形
- ▶ 中心孔类型 - Ø3.75以下 : 凸出中心孔
- Ø3.75超过 : 内部中心孔

Hole type
孔类型



HSS DIN 206 H7

Plain Shank Page
Recommended Toolholder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Reamer Diameter	Flute Length	Overall Length	No. of Flute
型号	铰刀直径	槽长	全长	刃数
	D	L1	L2	
K114300200	2.0	25	50	4
K114300220	2.2	27	54	4
K114300250	2.5	29	58	4
K114300280	2.8	31	62	4
K114300300	3.0	31	62	6
K114300320	3.2	33	66	6
K114300350	3.5	35	71	6
K114300400	4.0	38	76	6
K114300450	4.5	41	81	6
K114300500	5.0	44	87	6
K114300550	5.5	47	93	6
K114300600	6.0	47	93	6
K114300700	7.0	54	107	6
K114300800	8.0	58	115	6
K114300900	9.0	62	124	6
K114301000	10.0	66	133	6
K114301100	11.0	71	142	6
K114301200	12.0	76	152	6
K114301300	13.0	76	152	6
K114301400	14.0	81	163	8
K114301500	15.0	81	163	8
K114301600	16.0	87	175	8
K114301700	17.0	87	175	8
K114301800	18.0	93	188	8
K114301900	19.0	93	188	8
K114302000	20.0	100	201	8
K114302200	22.0	107	215	8
K114302400	24.0	115	231	8

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	○	○				○																

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○		○	○	○													

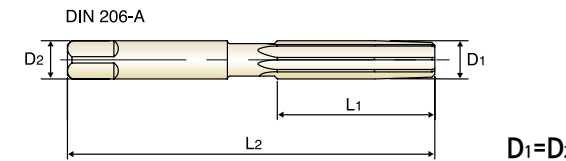
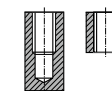
HSS, HAND REAMERS - STRAIGHT FLUTES

高速钢, 手用铰刀-直槽

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter ≅ Nominal Reamer Diameter
- ▶ Straight Flutes / Right Hand Cut
- ▶ Chamfer Angle- tapered
- ▶ Type of center - Up to Ø3.75 : external centers
- Over Ø3.75 : internal centers

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 柄部直径 = 铰刀刃部直径
- ▶ 直槽/右切
- ▶ 倒角-锥形
- ▶ 中心孔类型 - Ø3.75以下 : 凸出中心孔
- Ø3.75超过 : 内部中心孔

Hole type
孔类型



HSS DIN 206 H7

Plain Shank Page
Recommended Toolholder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Reamer Diameter	Flute Length	Overall Length	No. of Flute
型号	铰刀直径	槽长	全长	刃数
	D	L1	L2	
K114302500	25.0	115	231	8
K114302600	26.0	115	231	8
K114302700	27.0	124	247	10
K114302800	28.0	124	247	10
K114302900	29.0	124	247	10
K114303000	30.0	124	247	10
K114303100	31.0	133	265	10
K114303200	32.0	133	265	10
K114303300	33.0	133	265	10
K114303400	34.0	142	284	10
K114303500	35.0	142	284	10
K114303600	36.0	142	284	10
K114303700	37.0	142	284	10
K114303800	38.0	152	305	10
K114303810	38.1	152	305	10
K114303900	39.0	152	305	10
K114304000	40.0	152	305	10
K114304100	41.0	152	305	12
K114304200	42.0	152	305	12
K114304300	43.0	163	326	12
K114304400	44.0	163	326	12
K114304500	45.0	163	326	12
K114304600	46.0	163	326	12
K114304700	47.0	163	326	12
K114304800	48.0	174	347	12
K114304900	49.0	174	347	12
K114305200	52.0	174	347	12
K114306000	60.0	184	367	12

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	○	○				○																

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○		○	○	○													

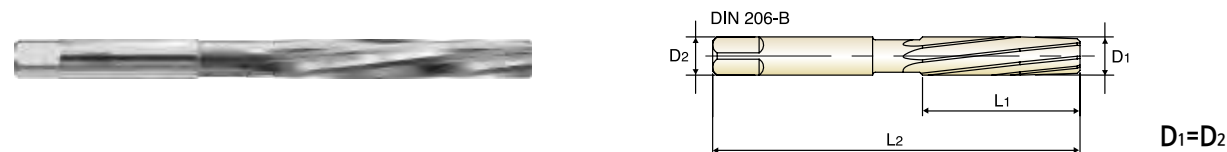
HSS, HAND REAMERS - LH SPIRAL FLUTES

高速钢, 手用铰刀-左向螺旋槽

- ▶ O.D. Tolerances : DIN 1420, H7
- ▶ Shank Diameter ≈ Nominal Reamer Diameter
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle- tapered
- ▶ Type of center - Up to Ø3.75 : external centers
- Over Ø3.75 : internal centers

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 柄部直径 = 铰刀刃部直径
- ▶ 直槽/右切
- ▶ 倒角-锥形
- ▶ 中心孔类型 - Ø3.75以下 : 凸出中心孔
- Ø3.75超过 : 内部中心孔

Hole type
孔类型



HSS DIN 206 H7 LH7°

Plain Shank Page
Recommended Toolholder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Reamer Diameter	Flute Length	Overall Length	No. of Flute
型号	铰刀直径	槽长	全长	刃数
	D	L1	L2	
K115300200	2.0	25	50	4
K115300220	2.2	27	54	4
K115300250	2.5	29	58	4
K115300280	2.8	31	62	4
K115300300	3.0	31	62	6
K115300320	3.2	33	66	6
K115300350	3.5	35	71	6
K115300400	4.0	38	76	6
K115300450	4.5	41	81	6
K115300500	5.0	44	87	6
K115300550	5.5	47	93	6
K115300600	6.0	47	93	6
K115300700	7.0	54	107	6
K115300800	8.0	58	115	6
K115300900	9.0	62	124	6
K115301000	10.0	66	133	6
K115301100	11.0	71	142	6
K115301200	12.0	76	152	6
K115301300	13.0	76	152	6
K115301400	14.0	81	163	8
K115301500	15.0	81	163	8
K115301600	16.0	87	175	8
K115301700	17.0	87	175	8
K115301800	18.0	93	188	8
K115301900	19.0	93	188	8
K115302000	20.0	100	201	8
K115302200	22.0	107	215	8
K115302400	24.0	115	231	8

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○				○														

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○		○	○	○													

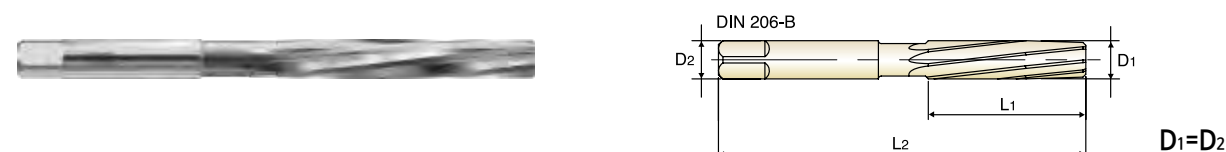
HSS, HAND REAMERS - LH SPIRAL FLUTES

高速钢, 手用铰刀-左向螺旋槽

- ▶ O.D. Tolerances : DIN 1420, H7
- ▶ Shank Diameter ≈ Nominal Reamer Diameter
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle- tapered
- ▶ Type of center - Up to Ø3.75 : external centers
- Over Ø3.75 : internal centers

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 柄部直径 = 铰刀刃部直径
- ▶ 左向螺旋槽/右切
- ▶ 倒角-锥形
- ▶ 中心孔类型 - Ø3.75以下 : 凸出中心孔
- Ø3.75超过 : 内部中心孔

Hole type
孔类型



HSS DIN 206 H7 LH7°

Plain Shank Page
Recommended Toolholder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Reamer Diameter	Flute Length	Overall Length	No. of Flute
型号	铰刀直径	槽长	全长	刃数
	D	L1	L2	
K115302500	25.0	115	231	8
K115302600	26.0	115	231	8
K115302700	27.0	124	247	10
K115302800	28.0	124	247	10
K115302900	29.0	124	247	10
K115303000	30.0	124	247	10
K115303100	31.0	133	265	10
K115303200	32.0	133	265	10
K115303300	33.0	133	265	10
K115303400	34.0	142	284	10
K115303500	35.0	142	284	10
K115303600	36.0	142	284	10
K115303700	37.0	142	284	10
K115303800	38.0	152	305	10
K115303810	38.1	152	305	10
K115303900	39.0	152	305	10
K115304000	40.0	152	305	10
K115304100	41.0	152	305	12
K115304200	42.0	152	305	12
K115304300	43.0	163	326	12
K115304400	44.0	163	326	12
K115304500	45.0	163	326	12
K115304600	46.0	163	326	12
K115304700	47.0	163	326	12
K115304800	48.0	174	347	12
K115304900	49.0	174	347	12
K115305200	52.0	174	347	12
K115306000	60.0	184	367	12

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○				○														

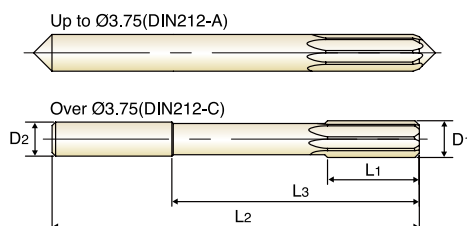
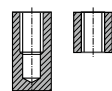
ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○		○	○	○													

HSS-E, STRAIGHT SHANK CHUCKING REAMERS - STRAIGHT FLUTES
HSS-E, 直柄夹持铰刀-直槽

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter Tolerances : h8
- ▶ Straight Flute / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°
- Over Ø3.75 : 45°

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 柄部直径 = h8
- ▶ 直槽/右切
- ▶ 倒角 - Ø3.75以下 : 15°
- Ø3.75超过 : 45°

Hole type
孔类型



HSS-E DIN 212 H7 15° 45° p. A398

Plain Shank Page
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Cutting Length 切削长度 L1	Neck Length 颈部长度 L3	Overall Length 全长 L2	No. of Flute 刃数
K210100200	2.0	2	11	-	49	4
K210100220	2.2	2.2	12	-	53	4
K210100250	2.5	2.5	14	-	57	4
K210100260	2.6	2.6	14	-	57	4
K210100280	2.8	2.8	15	-	61	4
K210100300	3.0	3	15	-	61	6
K210100310	3.1	3.1	16	-	65	6
K210100320	3.2	3.2	16	-	65	6
K210100350	3.5	3.5	18	-	70	6
K210100360	3.6	3.6	18	-	70	6
K210100370	3.7	3.7	18	-	70	6
K210100400	4.0	4	19	42	75	6
K210100430	4.3	4.5	21	46	80	6
K210100450	4.5	4.5	21	46	80	6
K210100460	4.6	4.5	21	46	80	6
K210100500	5.0	5	23	51	86	6
K210100550	5.5	5.6	26	56	93	6
K210100560	5.6	5.6	26	56	93	6
K210100600	6.0	5.6	26	56	93	6
K210100650	6.5	6.3	28	62	101	6
K210100700	7.0	7.1	31	68	109	6
K210100720	7.2	7.1	31	68	109	6
K210100800	8.0	8	33	74	117	6
K210100830	8.3	8	33	74	117	6

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◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	29	32	38	15	35	15	23	10	10	26	3	25	19	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

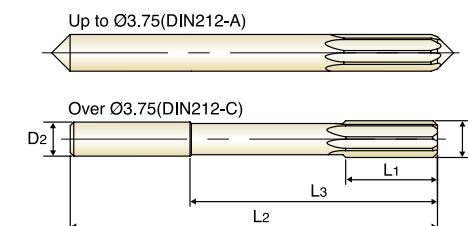
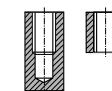
ISO Material Description	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34						15	30	25	38	34			55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

HSS-E, STRAIGHT SHANK CHUCKING REAMERS - STRAIGHT FLUTES
HSS-E, 直柄夹持铰刀-直槽

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter Tolerances : h8
- ▶ Straight Flute / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°
- Over Ø3.75 : 45°

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 柄部直径 = h8
- ▶ 直槽/右切
- ▶ 倒角 - Ø3.75以下 : 15°
- Ø3.75超过 : 45°

Hole type
孔类型



HSS-E DIN 212 H7 15° 45° p. A398

Plain Shank Page
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Cutting Length 切削长度 L1	Neck Length 颈部长度 L3	Overall Length 全长 L2	No. of Flute 刃数
K210100850	8.5	8	33	74	117	6
K210100900	9.0	9	36	80	125	6
K210100950	9.5	9	36	80	125	6
K210101000	10.0	10	38	86	133	6
K210101050	10.5	10	38	86	133	6
K210101100	11.0	10	41	95	142	6
K210101200	12.0	10	44	104	151	6
K210101300	13.0	10	44	104	151	6
K210101400	14.0	12.5	47	108	160	8
K210101500	15.0	12.5	50	110	162	8
K210101600	16.0	12.5	52	118	170	8
K210101700	17.0	14	54	121	175	8
K210101800	18.0	14	56	128	182	8
K210101900	19.0	16	58	129	189	8
K210102000	20.0	16	60	135	195	8

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	29	32	38	15	35	15	23	10	10	26	3	25	19	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

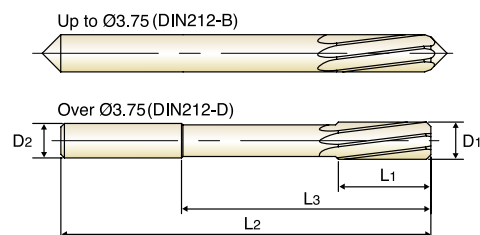
ISO Material Description	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34						15	30	25	38	34			55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

HSS-E, STRAIGHT SHANK CHUCKING REAMERS - LH SPIRAL FLUTES
HSS-E, 直柄夹持铰刀-左向螺旋槽

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter Tolerances : h8
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°
- Over Ø3.75 : 45°

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 柄部直径 = h8
- ▶ 左向螺旋槽/右切
- ▶ 倒角 - Ø3.75以下 : 15°
- Ø3.75超过 : 45°

Hole type
孔类型



HSS-E DIN 212 H7 LH7° 15° 45° p. A398

Plain Shank Page
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Cutting Length 切削长度 L1	Neck Length 颈部长度 L3	Overall Length 全长 L2	No. of Flute 刃数
K211100200	2.0	2	11	-	49	4
K211100220	2.2	2.2	12	-	53	4
K211100250	2.5	2.5	14	-	57	4
K211100260	2.6	2.6	14	-	57	4
K211100280	2.8	2.8	15	-	61	4
K211100300	3.0	3	15	-	61	6
K211100310	3.1	3.1	16	-	65	6
K211100320	3.2	3.2	16	-	65	6
K211100350	3.5	3.5	18	-	70	6
K211100360	3.6	3.6	18	-	70	6
K211100370	3.7	3.7	18	-	70	6
K211100400	4.0	4	19	42	75	6
K211100430	4.3	4.5	21	46	80	6
K211100450	4.5	4.5	21	46	80	6
K211100460	4.6	4.5	21	46	80	6
K211100500	5.0	5	23	51	86	6
K211100550	5.5	5.6	26	56	93	6
K211100560	5.6	5.6	26	56	93	6
K211100600	6.0	5.6	26	56	93	6
K211100650	6.5	6.3	28	62	101	6
K211100700	7.0	7.1	31	68	109	6
K211100720	7.2	7.1	31	68	109	6
K211100800	8.0	8	33	74	117	6
K211100830	8.3	8	33	74	117	6

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

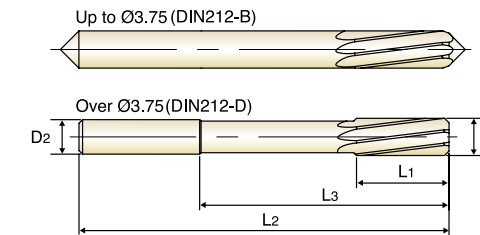
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

HSS-E, STRAIGHT SHANK CHUCKING REAMERS - LH SPIRAL FLUTES
HSS-E, 直柄夹持铰刀-左向螺旋槽

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter Tolerances : h8
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°
- Over Ø3.75 : 45°

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 柄部直径 = h8
- ▶ 左向螺旋槽/右切
- ▶ 倒角 - Ø3.75以下 : 15°
- Ø3.75超过 : 45°

Hole type
孔类型



HSS-E DIN 212 H7 LH7° 15° 45° p. A398

Plain Shank Page
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Cutting Length 切削长度 L1	Neck Length 颈部长度 L3	Overall Length 全长 L2	No. of Flute 刃数
K211100850	8.5	8	33	74	117	6
K211100900	9.0	9	36	80	125	6
K211100950	9.5	9	36	80	125	6
K211101000	10.0	10	38	86	133	6
K211101050	10.5	10	38	86	133	6
K211101100	11.0	10	41	95	142	6
K211101200	12.0	10	44	104	151	6
K211101300	13.0	10	44	104	151	6
K211101400	14.0	12.5	47	108	160	8
K211101500	15.0	12.5	50	110	162	8
K211101600	16.0	12.5	52	118	170	8
K211101700	17.0	14	54	121	175	8
K211101800	18.0	14	56	128	182	8
K211101900	19.0	16	58	129	189	8
K211102000	20.0	16	60	135	195	8

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

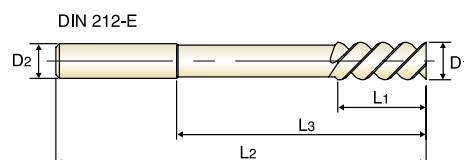
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

HSS-E, STRAIGHT SHANK CHUCKING REAMERS - LH SPIRAL FLUTES (QUICK SPIRAL)
HSS-E, 直柄夹持铰刀-左向螺旋槽(快速螺旋)

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter Tolerances : h8
- ▶ Chamfer Angle - tapered
- ▶ LH High Spiral Flutes / Right Hand Cut

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 柄部直径 = h8
- ▶ 倒角-锥形
- ▶ 左向高螺旋槽/右切

Hole type
孔类型



HSS-E DIN 212 H7 LH45° FORM E p. A399

Plain Shank Page
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Cutting Length 切削长度 L1	Neck Length 颈部长度 L3	Overall Length 全长 L2	No. of Flute 刃数
K212100400	4.0	4	19	42	75	3
K212100450	4.5	4.5	21	46	80	3
K212100500	5.0	5	23	51	86	3
K212100550	5.5	5.6	26	56	93	3
K212100600	6.0	5.6	26	56	93	3
K212100650	6.5	6.3	28	62	101	3
K212100700	7.0	7.1	31	68	109	3
K212100800	8.0	8	33	74	117	3
K212100850	8.5	8	33	74	117	3
K212100900	9.0	9	36	80	125	3
K212100950	9.5	9	36	80	125	3
K212101000	10.0	10	38	86	133	3
K212101100	11.0	10	41	95	142	3
K212101200	12.0	10	44	104	151	3
K212101300	13.0	10	44	104	151	3
K212101400	14.0	12.5	47	108	160	4
K212101500	15.0	12.5	50	110	162	4
K212101600	16.0	12.5	52	118	170	4
K212101700	17.0	14	54	121	175	4
K212101800	18.0	14	56	128	182	4
K212101900	19.0	16	58	129	189	4
K212102000	20.0	16	60	135	195	4

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

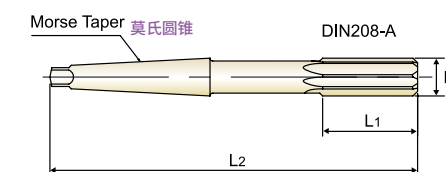
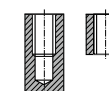
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSS-E, MORSE TAPER SHANK CHUCKING REAMERS - STRAIGHT FLUTES
HSS-E, 锥柄夹持铰刀-直槽

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Straight Flute / Right Hand Cut
- ▶ Chamfer Angle : 45°

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 直槽/右切
- ▶ 倒角 - 45°

Hole type
孔类型



HSS-E DIN 208 H7 45° p. A398

Plain Shank Page
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	No. of Morse Taper 锥度型号	Cutting Length 切削长度 L1	Overall Length 全长 L2	No. of Flute 刃数
K210201000	10.0	1	38	168	6
K210201100	11.0	1	41	175	6
K210201200	12.0	1	44	182	6
K210201300	13.0	1	44	182	6
K210201400	14.0	1	47	189	8
K210201500	15.0	2	50	204	8
K210201600	16.0	2	52	210	8
K210201700	17.0	2	54	214	8
K210201800	18.0	2	56	219	8
K210201900	19.0	2	58	223	8
K210202000	20.0	2	60	228	8
K210202100	21.0	2	62	232	8
K210202200	22.0	2	64	237	8
K210202300	23.0	2	66	241	8
K210202400	24.0	3	68	268	8
K210202500	25.0	3	68	268	8
K210202600	26.0	3	70	273	8
K210202700	27.0	3	71	277	10
K210202800	28.0	3	71	277	10
K210202900	29.0	3	73	281	10
K210203000	30.0	3	73	281	10
K210203100	31.0	3	75	285	10

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

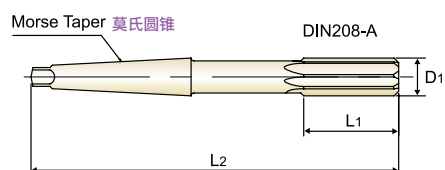
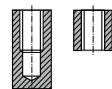
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSS-E, MORSE TAPER SHANK CHUCKING REAMERS - STRAIGHT FLUTES
HSS-E, 锥柄夹持铰刀-直槽

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Straight Flute / Right Hand Cut
- ▶ Chamfer Angle : 45°

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 直槽/右切
- ▶ 倒角: 45°

Hole type
孔类型



HSS-E DIN 208 H7 45° p. A398

Plain Shank Page
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	No. of Morse Taper 锥度型号	Cutting Length 切削长度 L1	Overall Length 全长 L2	No. of Flute 刃数
K210203200	32.0	4	77	317	10
K210203400	34.0	4	78	321	10
K210203500	35.0	4	78	321	10
K210203600	36.0	4	79	325	10
K210203800	38.0	4	81	329	10
K210204000	40.0	4	81	329	10
K210204100	41.0	4	82	333	12
K210204200	42.0	4	82	333	12
K210204300	43.0	4	83	336	12
K210204400	44.0	4	83	336	12
K210204500	45.0	4	83	336	12
K210204600	46.0	4	84	340	12
K210204700	47.0	4	84	340	12
K210204800	48.0	4	86	344	12
K210205000	50.0	4	86	344	12

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

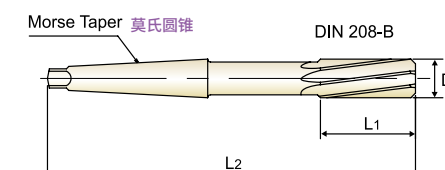
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○

HSS-E, MORSE TAPER SHANK CHUCKING REAMERS - LH SPIRAL FLUTES
HSS-E, 锥柄夹持铰刀-左向螺旋槽

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle : 45°

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 左向高螺旋槽/右切
- ▶ 倒角: 45°

Hole type
孔类型



HSS-E DIN 208 H7 LH7 45° p. A398

Plain Shank Page
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	No. of Morse Taper 锥度型号	Cutting Length 切削长度 L1	Overall Length 全长 L2	No. of Flute 刃数
K211201000	10.0	1	38	168	6
K211201100	11.0	1	41	175	6
K211201200	12.0	1	44	182	6
K211201300	13.0	1	44	182	6
K211201400	14.0	1	47	189	8
K211201500	15.0	2	50	204	8
K211201600	16.0	2	52	210	8
K211201700	17.0	2	54	214	8
K211201800	18.0	2	56	219	8
K211201900	19.0	2	58	223	8
K211202000	20.0	2	60	228	8
K211202100	21.0	2	62	232	8
K211202200	22.0	2	64	237	8
K211202300	23.0	2	66	241	8
K211202400	24.0	3	68	268	8
K211202500	25.0	3	68	268	8
K211202600	26.0	3	70	273	8
K211202700	27.0	3	71	277	10
K211202800	28.0	3	71	277	10
K211202900	29.0	3	73	281	10
K211203000	30.0	3	73	281	10
K211203100	31.0	3	75	285	10

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

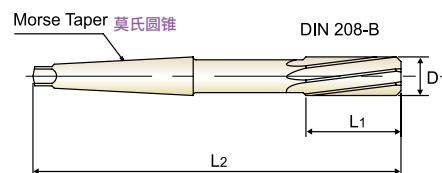
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○

HSS-E, MORSE TAPER SHANK CHUCKING REAMERS - LH SPIRAL FLUTES
HSS-E, 锥柄夹持铰刀-左向螺旋槽

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle : 45°

- ▶ 刃部公差 : DIN 1420 for H7
- ▶ 左向高螺旋槽/右切
- ▶ 倒角: 45°

Hole type
孔类型



HSS-E DIN 208 H7 LH7° 45° p. A398

Plain Shank Page
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	No. of Morse Taper 锥度型号	Cutting Length 切削长度 L1	Overall Length 全长 L2	No. of Flute 刃数
K211203200	32.0	4	77	317	10
K211203400	34.0	4	78	321	10
K211203500	35.0	4	78	321	10
K211203600	36.0	4	79	325	10
K211203800	38.0	4	81	329	10
K211204000	40.0	4	81	329	10
K211204100	41.0	4	82	333	12
K211204200	42.0	4	82	333	12
K211204300	43.0	4	83	336	12
K211204400	44.0	4	83	336	12
K211204500	45.0	4	83	336	12
K211204600	46.0	4	84	340	12
K211204700	47.0	4	84	340	12
K211204800	48.0	4	86	344	12
K211205000	50.0	4	86	344	12

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

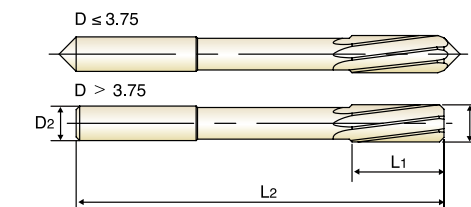
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○

HSS-E, NC MACHINE REAMERS WITH SHANK WHOLE NUMBER
HSS-E, 整数柄机用铰刀

- ▶ O.D. Tolerances
Whole-number Ø and 1/10 size : DIN 1420 for H7
1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm
from Ø5.97 to Ø12.03 : +0.005/-0mm
- ▶ Shank Diameter Tolerances : h6
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°
- Over Ø3.75 : 45°

- ▶ 刃部公差
整数和1/10梯度: DIN 1420 for H7
1/100梯度: 从Ø2.01至Ø5.03: +0.004/-0.000mm
从Ø5.97至Ø12.03: +0.005/-0mm
- ▶ 柄部公差: h6
- ▶ 左旋/右切
- ▶ 倒角角度 - 小于 D3.75: 15°
- 大于 D3.75: 45°

Hole type
孔类型



HSS-E H7 LH7° 15° 45° p. A398

Plain Shank Page
Recommended ToolHolder ER COLLET CHUCK D73-115

up to Ø3.75 over Ø3.75

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
K21B100200	2.0	2	11	49
K21B100201	2.01	2	11	49
K21B100202	2.02	2	11	49
K21B100203	2.03	2	11	49
K21B100210	2.1	2	11	49
K21B100220	2.2	3	12	53
K21B100230	2.3	3	12	53
K21B100240	2.4	3	14	57
K21B100247	2.47	3	14	57
K21B100248	2.48	3	14	57
K21B100249	2.49	3	14	57
K21B100250	2.5	3	14	57
K21B100251	2.51	3	14	57
K21B100252	2.52	3	14	57
K21B100253	2.53	3	14	57
K21B100260	2.6	3	14	57
K21B100270	2.7	3	15	61
K21B100280	2.8	3	15	61
K21B100290	2.9	3	15	61
K21B100297	2.97	3	15	61
K21B100298	2.98	3	15	61
K21B100299	2.99	3	15	61
K21B100300	3.0	3	15	61
K21B100301	3.01	4	16	65

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◎ : Excellent (优秀) ○ : Good (良好)

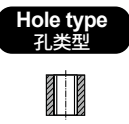
ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○

HSS-E, NC MACHINE REAMERS WITH SHANK WHOLE NUMBER
HSS-E, 整数柄机用铰刀

- ▶ O.D. Tolerances
 Whole-number Ø and 1/10 size : DIN 1420 for H7
 1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm
 from Ø5.97 to Ø12.03 : +0.005/-0mm
- ▶ Shank Diameter Tolerances : h6
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°
 - Over Ø3.75 : 45°

- ▶ 刃部公差
 整数和1/10梯度: DIN 1420 for H7
 1/100梯度: 从Ø2.01至Ø5.03: +0.004/-0.000mm
 从Ø5.97至Ø12.03: +0.005/-0mm
- ▶ 柄部公差: h6
- ▶ 左旋/右切
- ▶ 倒角角度 - 小于 D3.75: 15°
 - 大于 D3.75: 45°



HSS-E H7 LH7° 15° 45° p. A398

Plain Shank Page
 Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
K21B100302	3.02	4	16	65
K21B100303	3.03	4	16	65
K21B100310	3.1	4	16	65
K21B100320	3.2	4	16	65
K21B100330	3.3	4	16	65
K21B100340	3.4	4	18	70
K21B100350	3.5	4	18	70
K21B100360	3.6	4	18	70
K21B100370	3.7	4	18	70
K21B100380	3.8	4	19	75
K21B100390	3.9	4	19	75
K21B100397	3.97	4	19	75
K21B100398	3.98	4	19	75
K21B100399	3.99	4	19	75
K21B100400	4.0	4	19	75
K21B100401	4.01	4	19	75
K21B100402	4.02	4	19	75
K21B100403	4.03	4	19	75
K21B100410	4.1	4	19	75
K21B100420	4.2	4	19	75
K21B100430	4.3	5	21	80
K21B100440	4.4	5	21	80
K21B100450	4.5	5	21	80
K21B100460	4.6	5	21	80

◎ : Excellent (优秀) ○ : Good (良好)

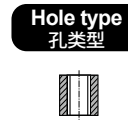
ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	45	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230		
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○		

ISO Material Description	N										S						H																			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys			Hardened steel		Chilled Cast Iron		Hardened Cast Iron												
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	15	30	25	38	34	15	30	25	38	34	42	55	42	55	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550															
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550															
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○															

HSS-E, NC MACHINE REAMERS WITH SHANK WHOLE NUMBER
HSS-E, 整数柄机用铰刀

- ▶ O.D. Tolerances
 Whole-number Ø and 1/10 size : DIN 1420 for H7
 1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm
 from Ø5.97 to Ø12.03 : +0.005/-0mm
- ▶ Shank Diameter Tolerances : h6
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°
 - Over Ø3.75 : 45°

- ▶ 刃部公差
 整数和1/10梯度: DIN 1420 for H7
 1/100梯度: 从Ø2.01至Ø5.03: +0.004/-0.000mm
 从Ø5.97至Ø12.03: +0.005/-0mm
- ▶ 柄部公差: h6
- ▶ 左旋/右切
- ▶ 倒角角度 - 小于 D3.75: 15°
 - 大于 D3.75: 45°



HSS-E H7 LH7° 15° 45° p. A398

Plain Shank Page
 Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No. 型号	Reamer Diameter 铰刀直径 D1	Shank Diameter 柄部直径 D2	Flute Length 槽长 L1	Overall Length 全长 L2
K21B100470	4.7	5	21	80
K21B100480	4.8	5	23	86
K21B100490	4.9	5	23	86
K21B100497	4.97	5	23	86
K21B100498	4.98	5	23	86
K21B100499	4.99	5	23	86
K21B100500	5.0	5	23	86
K21B100501	5.01	5	23	86
K21B100502	5.02	5	23	86
K21B100503	5.03	5	23	86
K21B100510	5.1	5	23	86
K21B100520	5.2	5	23	86
K21B100530	5.3	5	23	86
K21B100540	5.4	6	26	93
K21B100550	5.5	6	26	93
K21B100560	5.6	6	26	93
K21B100570	5.7	6	26	93
K21B100580	5.8	6	26	93
K21B100590	5.9	6	26	93
K21B100597	5.97	6	26	93
K21B100598	5.98	6	26	93
K21B100599	5.99	6	26	93
K21B100600	6.0	6	26	93
K21B100601	6.01	6	28	101

◎ : Excellent (优秀) ○ : Good (良好)

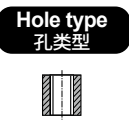
ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	45	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230		
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○		

ISO Material Description	N										S						H																			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys			Hardened steel		Chilled Cast Iron		Hardened Cast Iron												
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	15	30	25	38	34	15	30	25	38	34	42	55	42	55	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550															
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550															
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○															

HSS-E, NC MACHINE REAMERS WITH SHANK WHOLE NUMBER
HSS-E, 整数柄机用铰刀

- ▶ O.D. Tolerances
 Whole-number Ø and 1/10 size : DIN 1420 for H7
 1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm
 from Ø5.97 to Ø12.03 : +0.005/-0mm
- ▶ Shank Diameter Tolerances : h6
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°
 - Over Ø3.75 : 45°

- ▶ 刃部公差
 整数和1/10梯度: DIN 1420 for H7
 1/100梯度: 从Ø2.01至Ø5.03: +0.004/-0.000mm
 从Ø5.97至Ø12.03: +0.005/-0mm
- ▶ 柄部公差: h6
- ▶ 左旋/右切
- ▶ 倒角角度 - 小于 D3.75: 15°
 - 大于 D3.75: 45°



HSS-E H7 LH7° 15° 45° p. A398

Plain Shank Page
 Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Reamer Diameter	Shank Diameter	Flute Length	Overall Length
型号	铰刀直径	柄部直径	槽长	全长
	D1	D2	L1	L2
K21B100602	6.02	6	28	101
K21B100603	6.03	6	28	101
K21B100610	6.1	6	28	101
K21B100620	6.2	6	28	101
K21B100630	6.3	6	28	101
K21B100640	6.4	6	28	101
K21B100650	6.5	6	28	101
K21B100660	6.6	6	28	101
K21B100670	6.7	6	28	101
K21B100680	6.8	8	31	109
K21B100690	6.9	8	31	109
K21B100700	7.0	8	31	109
K21B100710	7.1	8	31	109
K21B100720	7.2	8	31	109
K21B100730	7.3	8	31	109
K21B100740	7.4	8	31	109
K21B100750	7.5	8	31	109
K21B100760	7.6	8	33	117
K21B100770	7.7	8	33	117
K21B100780	7.8	8	33	117
K21B100790	7.9	8	33	117
K21B100797	7.97	8	33	117
K21B100798	7.98	8	33	117
K21B100799	7.99	8	33	117

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

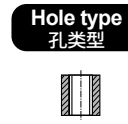
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	30	180	29	32	38	15	35	15	23	10	10	26	3	25	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○

HSS-E, NC MACHINE REAMERS WITH SHANK WHOLE NUMBER
HSS-E, 整数柄机用铰刀

- ▶ O.D. Tolerances
 Whole-number Ø and 1/10 size : DIN 1420 for H7
 1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm
 from Ø5.97 to Ø12.03 : +0.005/-0mm
- ▶ Shank Diameter Tolerances : h6
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°
 - Over Ø3.75 : 45°

- ▶ 刃部公差
 整数和1/10梯度: DIN 1420 for H7
 1/100梯度: 从Ø2.01至Ø5.03: +0.004/-0.000mm
 从Ø5.97至Ø12.03: +0.005/-0mm
- ▶ 柄部公差: h6
- ▶ 左旋/右切
- ▶ 倒角角度 - 小于 D3.75: 15°
 - 大于 D3.75: 45°



HSS-E H7 LH7° 15° 45° p. A398

Plain Shank Page
 Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Reamer Diameter	Shank Diameter	Flute Length	Overall Length
型号	铰刀直径	柄部直径	槽长	全长
	D1	D2	L1	L2
K21B100800	8.0	8	33	117
K21B100801	8.01	8	33	117
K21B100802	8.02	8	33	117
K21B100803	8.03	8	33	117
K21B100810	8.1	8	33	117
K21B100820	8.2	8	33	117
K21B100830	8.3	8	33	117
K21B100840	8.4	8	33	117
K21B100850	8.5	8	33	117
K21B100860	8.6	10	36	125
K21B100870	8.7	10	36	125
K21B100880	8.8	10	36	125
K21B100890	8.9	10	36	125
K21B100900	9.0	10	36	125
K21B100901	9.01	10	36	125
K21B100902	9.02	10	36	125
K21B100903	9.03	10	36	125
K21B100910	9.1	10	36	125
K21B100920	9.2	10	36	125
K21B100930	9.3	10	36	125
K21B100940	9.4	10	36	125
K21B100950	9.5	10	36	125
K21B100960	9.6	10	38	133
K21B100970	9.7	10	38	133

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◎ : Excellent (优秀) ○ : Good (良好)

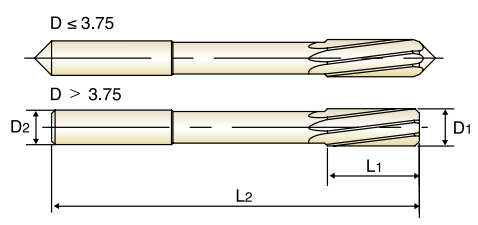
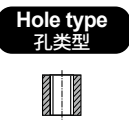
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	30	180	29	32	38	15	35	15	23	10	10	26	3	25	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○

HSS-E, NC MACHINE REAMERS WITH SHANK WHOLE NUMBER
HSS-E, 整数柄机用铰刀

- ▶ O.D. Tolerances
 Whole-number Ø and 1/10 size : DIN 1420 for H7
 1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm
 from Ø5.97 to Ø12.03 : +0.005/-0mm
- ▶ Shank Diameter Tolerances : h6
 ▶ LH Spiral Flutes / Right Hand Cut
 ▶ Chamfer Angle - Up to Ø3.75 : 15°
 - Over Ø3.75 : 45°

- ▶ 刃部公差
 整数和1/10梯度: DIN 1420 for H7
 1/100梯度: 从Ø2.01至Ø5.03: +0.004/-0.000mm
 从Ø5.97至Ø12.03: +0.005/-0mm
- ▶ 柄部公差: h6
 ▶ 左旋/右切
 ▶ 倒角角度 - 小于 D3.75: 15°
 - 大于 D3.75: 45°



HSS-E H7 LH7° 15° 45° p. A398

up to Ø3.75 over Ø3.75

Plain Shank Page
 Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No.	Reamer Diameter	Shank Diameter	Flute Length	Overall Length
型号	铰刀直径	柄部直径	槽长	全长
	D1	D2	L1	L2
K21B100980	9.8	10	38	133
K21B100990	9.9	10	38	133
K21B100997	9.97	10	38	133
K21B100998	9.98	10	38	133
K21B100999	9.99	10	38	133
K21B101000	10.0	10	38	133
K21B101001	10.01	10	38	133
K21B101002	10.02	10	38	133
K21B101003	10.03	10	38	133
K21B101100	11.0	10	41	142
K21B101197	11.97	10	41	151
K21B101198	11.98	10	41	151
K21B101199	11.99	10	41	151
K21B101200	12.0	10	44	151
K21B101201	12.01	10	44	151
K21B101202	12.02	10	44	151
K21B101203	12.03	10	44	151
K21B101300	13.0	10	44	151
K21B101400	14.0	14	47	160
K21B101500	15.0	14	50	162
K21B101600	16.0	14	52	170
K21B101700	17.0	14	54	175
K21B101800	18.0	14	56	182
K21B101900	19.0	16	58	189
K21B102000	20.0	16	60	195

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		
HRc	125	190	250	270	300	180	275	320	350	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	320	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○		

K4101, K4111 SERIES **CARBIDE, NC MACHINE REAMERS**
硬质合金机用铰刀

Vc (切削速度)= (m/min.)
 FEED (进给) = (mm/rev)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 切削速度 (m/min)	Feed 进给 (mm/rev)								
				2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1	Non-alloy steel	18	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	2		17	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	3		15	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	4		15	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	5		15	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	6	Low alloy steel	17	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	7		14	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	8		14	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	9		14	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	10		High alloyed steel, and tool steel	13	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27
M	12	Stainless steel	8	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	13		7	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	14		6	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
K	15	Grey cast iron	20	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	16		15	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	17	Nodular cast iron	18	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	18		13	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	19	Malleable cast iron	18	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	20		13	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.2-0.240	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40
N	21	Aluminum-wrought alloy	30	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50
	22		30	0.1-0.130	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50
	23	Aluminum-cast, alloyed	30	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50
	24		25	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50
	25	Copper and Copper Alloys (Bronze / Brass)	25	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50
	26		22	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50
	27		22	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50
	28		23	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50



RECOMMENDED CUTTING CONDITIONS
推荐加工条件

K2101, K2111, K21B1, K2102, K2112 SERIES

HSS-E, STRAIGHT & LH SPIRAL FLUTE CHUCKING REAMERS
HSS-E 直槽&左旋槽 机夹铰刀
HSS-E, NC MACHINE REAMERS HSS-E 机用铰刀

Vc (切削速度)= (m/min.)
FEED (进给) = (mm/rev)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 切削速度 (m/min)	Feed 进给 (mm/rev)																
				2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0	45.0	50.0	
P	1	Non-alloy steel	14	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50	
			14	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50	
			10	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40	
	4	Low alloy steel	8	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40	
			12	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40	
	7	High alloyed steel, and tool steel	8	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40	
			6	0.03-0.04	0.04-0.05	0.05-0.06	0.06-0.07	0.07-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20	0.20-0.22	0.22-0.24	0.24-0.26	0.26-0.28	0.28-0.30	
	M	12	Stainless steel	6	0.03-0.04	0.04-0.05	0.05-0.06	0.06-0.07	0.07-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20	0.20-0.22	0.22-0.24	0.24-0.26	0.26-0.28	0.28-0.30
				5	0.03-0.04	0.04-0.05	0.05-0.06	0.06-0.07	0.07-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20	0.20-0.22	0.22-0.24	0.24-0.26	0.26-0.28	0.28-0.30
				4	0.03-0.04	0.04-0.05	0.05-0.06	0.06-0.07	0.07-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20	0.20-0.22	0.22-0.24	0.24-0.26	0.26-0.28	0.28-0.30
K	15	Grey cast iron	14	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50	
			11	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40	
	17	Nodular cast iron	12	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50	
			10	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40	
	19	Malleable cast iron	12	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50	
			10	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40	
N	21	Aluminum-wrought alloy	18	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60	
			18	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60	
	23	Aluminum-cast, alloyed	18	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60	
			17	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60	
	26	Copper and Copper Alloys (Bronze / Brass)	18	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60	
			16	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60	
	27	Copper and Copper Alloys (Bronze / Brass)	16	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60	
			20	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60	
28	Copper and Copper Alloys (Bronze / Brass)	20	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60		
		20	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60		



RECOMMENDED CUTTING CONDITIONS
推荐加工条件

K2121 SERIES

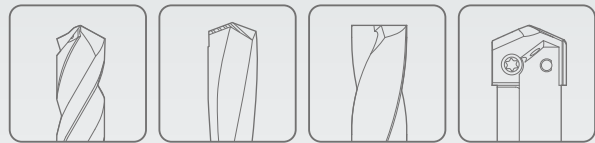
HSS-E, CHUCKING REAMERS - QUICK SPIRAL
HSS-E 夹具绞刀 - 快速螺旋

Vc (切削速度)= (m/min.)
FEED (进给) = (mm/rev)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 切削速度 (m/min)	Feed 进给 (mm/rev)							
				2.0	4.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1	Non-alloy steel	18	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32	0.32-0.36	0.36-0.40
			16	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	6	Low alloy steel	14	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
N	21	Aluminum-wrought alloy	20	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
			20	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
	23	Aluminum-cast, alloyed	20	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
			18	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
	26	Copper and Copper Alloys (Bronze / Brass)	19	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
			18	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
	27	Copper and Copper Alloys (Bronze / Brass)	18	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
			20	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
28	Copper and Copper Alloys (Bronze / Brass)	20	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60	
		20	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60	



Global Cutting Tool Leader **YG-1**



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COUNTERSINKS

- For Deburring, Chamfering and Countersinking
- 去毛刺, 倒角和深孔

SELECTION GUIDE
选用指南



SERIES 系列	C1109 C3109	C1119 C3119
STANDARD 标准	YG STD	YG STD
POINT ANGLE 钻尖角度	90°	90°
SIZE MIN 最小尺寸	D10.0	D10.0
SIZE MAX 最大尺寸	D50.0	D50.0
PAGE 页数	A404	A405

SURFACE TREATMENT 表面处理 Bright

HSS & HSSCo8
COUNTERSINKS

For Deburring, Chamfering and Countersinking
去毛刺, 倒角和深孔



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globalyg1.com/mat
for material search 查看产品材料

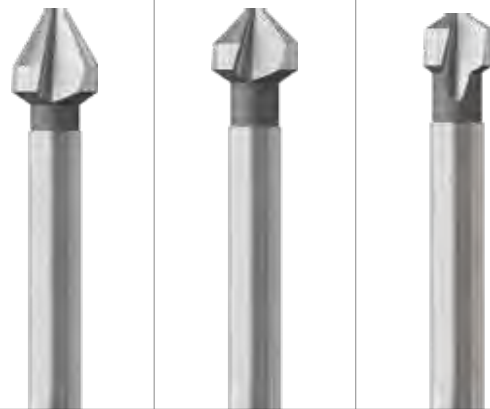
◎ : Excellent (优秀) ○ : Good (良好)

(Recommended cutting conditions (推荐加工条件) : p. A409)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度	
P	1	Non-alloy steel	About 0.15% C Annealed	125		
	2		About 0.45% C Annealed	190	13	
	3		About 0.45% C Quenched & Tempered	250	25	
	4		About 0.75% C Annealed	270	28	
	5		About 0.75% C Quenched & Tempered	300	32	
	6	Low alloy steel	Annealed	180	10	
	7		Quenched & Tempered	275	29	
	8		Quenched & Tempered	300	32	
	9		Quenched & Tempered	350	38	
	10	High alloyed steel, and tool steel	Annealed	200	15	
	11		Quenched & Tempered	325	35	
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	
	13		Martensitic Quenched & Tempered	240	23	
	14		Austenitic	180	10	
K	15	Grey cast iron	Pearlitic / ferritic	180	10	
	16		Pearlitic (Martensitic)	260	26	
	17	Nodular cast iron	Ferritic	160	3	
	18		Pearlitic	250	25	
	19	Malleable cast iron	Ferritic	130		
	20		Pearlitic	230	21	
N	21	Aluminum-wrought alloy	Not Curable	60		
	22		Curable Hardened	100		
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		
	24		≤ 12% Si, Curable Hardened	90		
	25		> 12% Si, Not Curable	130		
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		
	27		CuZn, CuSnZn (Brass)	90		
	28		CuSn, lead-free copper and electrolytic copper	100		
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic		
	30	Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15	
	32		Cured	280	30	
	33		Annealed	250	25	
	34		Ni or Co Based Cured	350	38	
	35	Cast	320	34		
	36	Titanium Alloys	Pure Titanium	400 Rm		
37	Alpha + Beta Alloys Hardened		1050 Rm			
H	38	Hardened steel	Hardened	550	55	
	39		Hardened	630	60	
	40		Chilled Cast Iron	Cast	400	42
	41		Hardened Cast Iron	Hardened	550	55

C1136 C3136	C1139 C3139	C1132 C3132
DIN334C	DIN335C	YG STD
60°	90°	120°
D6.3	D4.3	D8.0
D25.0	D31.0	D25.0
A406	A407	A408

Bright

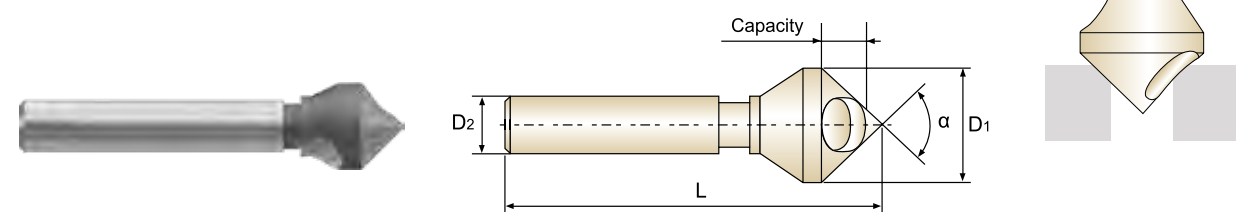


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HSS & HSSCo8, DEBURRING TOOL with HOLE
HSS & HSSCo8, 带孔的去毛刺刀具

- ▶ For light metals and plastics.
- ▶ For deburring and small chamfers.
- ▶ Best surface finish.
- ▶ Works without vibrations.

- ▶ 用于轻金属和塑料
- ▶ 用于去毛刺和小的倒角
- ▶ 最好的表面粗糙度
- ▶ 加工时没有振动



p. A409



Unit(单位) : mm

EDP No. (uncoating)		Point Angle	Cutter Diameter	Shank Diameter	Overall Length	Capacity
型号		钻尖角度	刃部直径	柄部直径	全长	生产量
HSSCo8	HSS	α	D1	D2	L(±1)	min最小/max最大
C1109100	C3109100	90°	10.0	6	45	2 - 5
C1109150	C3109150	90°	15.0	8	55	6 - 14
C1109200	C3109200	90°	20.0	10	65	8 - 18
C1109250	C3109250	90°	25.0	12	78	10 - 23
C1109300	C3109300	90°	30.0	12	88	12 - 28
C1109350	C3109350	90°	35.0	16	110	14 - 33
C1109400	C3109400	90°	40.0	16	115	16 - 38
C1109450	C3109450	90°	45.0	16	120	18 - 43
C1109500	C3109500	90°	50.0	16	130	20 - 48

▶ TiN & TiCN coating are available on your request.
 TiN&TiCN涂层可根据客户要求加工。

Cutter Dia. Tolerance(mm)	Shank Dia. Tolerance(mm)	Point Angle Tolerance(°)
刃部直径公差	柄部公差	钻尖角度公差
+0.3/-0	h9	+0/-1

◎ : Excellent (优秀) ○ : Good (良好)

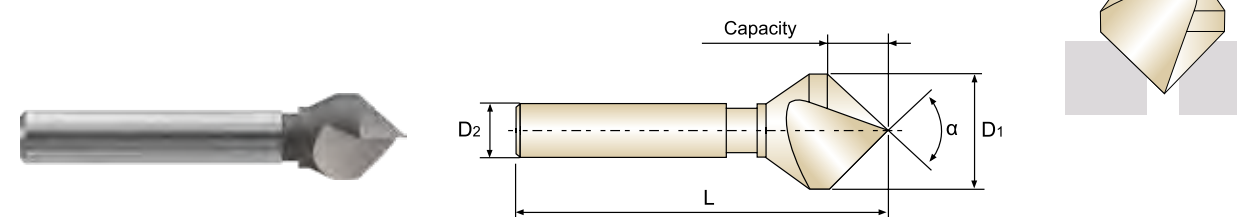
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	240	180	180	260	160	250	130	230		
Recommended	○	○	○	○	○					○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials										
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○											

HSS & HSSCo8, SINGLE FLUTE CHAMFERING CUTTERS
HSS & HSSCo8, 单刃倒角刀具

- ▶ For wood and hard plastics.
- ▶ Can drill in sheet materials.
- ▶ Easy to resharpen.
- ▶ Works without vibrations.

- ▶ 用于木头和硬塑料
- ▶ 可以在薄板上钻孔
- ▶ 容易再研磨
- ▶ 加工时没有振动



p. A409



Unit(单位) : mm

EDP No. (uncoating)		Point Angle	Cutter Diameter	Shank Diameter	Overall Length	Capacity
型号		钻尖角度	刃部直径	柄部直径	全长	生产量
HSSCo8	HSS	α	D1	D2	L(±1)	min最小/max最大
C1119100	C3119100	90°	10.0	6	45	1 - 10
C1119150	C3119150	90°	15.0	8	55	2 - 15
C1119200	C3119200	90°	20.0	10	65	2 - 20
C1119250	C3119250	90°	25.0	12	78	3 - 25
C1119300	C3119300	90°	30.0	12	88	3 - 30
C1119350	C3119350	90°	35.0	16	110	4 - 35
C1119400	C3119400	90°	40.0	16	115	5 - 40
C1119450	C3119450	90°	45.0	16	120	10 - 45
C1119500	C3119500	90°	50.0	16	130	12 - 50

▶ TiN & TiCN coating are available on your request.
 TiN&TiCN涂层可根据客户要求加工。

Cutter Dia. Tolerance(mm)	Shank Dia. Tolerance(mm)	Point Angle Tolerance(°)
刃部直径公差	柄部公差	钻尖角度公差
+0.3/-0	h9	+0/-1

◎ : Excellent (优秀) ○ : Good (良好)

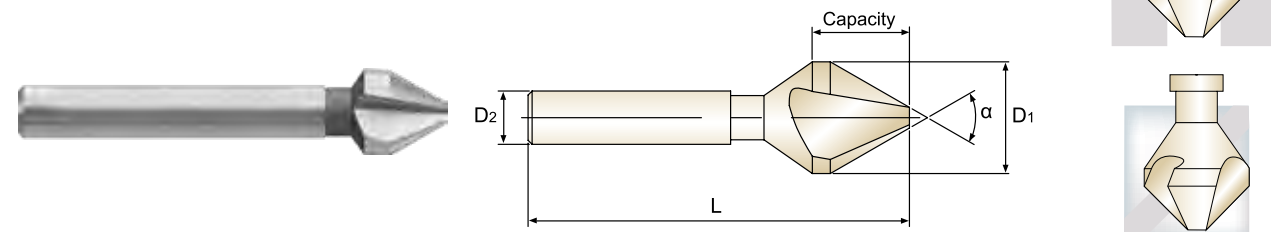
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	240	180	180	260	160	250	130	230		
Recommended	○	○	○	○	○					○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials										
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○											

HSS & HSSCo8, THREE FLUTE COUNTERSINKS (60°)
HSS & HSSCo8, 3槽沉孔刀 (60°)

- ▶ Self-centering(3 flutes)
- ▶ For deburring, chamfering and countersinking
- ▶ Hand using
- ▶ Longitudinal chamfers and contouring
- ▶ Works without vibrations

- ▶ 自定心 (3槽)
- ▶ 去毛刺, 倒角和沉孔
- ▶ 手用
- ▶ 倒角和修形
- ▶ 加工时没有振动



DIN 334 C p. A410

Plain Shank Page
 Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No. (uncoating) 型号		Point Angle 钻尖角度 α	Cutter Diameter 刃部直径 D1	Shank Diameter 柄部直径 D2	Overall Length 全长 L(±1)	Capacity 生产量 min最小/max最大
HSSCo8	HSS	α	D1	D2	L(±1)	min最小/max最大
C1136063	C3136063	60°	6.3	5	45	1.6~6.3
C1136080	C3136080	60°	8.0	6	50	2.0~8.0
C1136100	C3136100	60°	10.0	6	50	2.5~10.0
C1136125	C3136125	60°	12.5	8	56	3.2~12.5
C1136160	C3136160	60°	16.0	10	63	4.0~16.0
C1136200	C3136200	60°	20.0	10	67	5.0~20.0
C1136250	C3136250	60°	25.0	10	71	6.3~25.0

▶ TiN & TiCN coating are available on your request.
 TiN&TiCN涂层可根据客户要求加工。

Cutter Dia. Tolerance(mm) 刃部直径公差	Shank Dia. Tolerance(mm) 柄部公差	Point Angle Tolerance(°) 钻尖角度公差
±0.05	h9	+0/-1

◎ : Excellent (优秀) ○ : Good (良好)

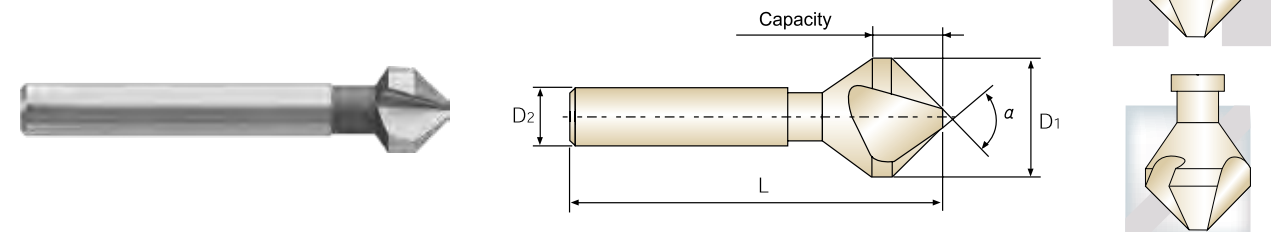
ISO Material Description	P										M						K																								
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron																				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S						H																									
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys			Hardened steel		Chilled Cast Iron		Hardened Cast Iron																		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60		
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	630	400	550																	
Recommended	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

HSS & HSSCo8, THREE FLUTE COUNTERSINKS (90°)
HSS & HSSCo8, 3刃沉孔刀

- ▶ Self-centering(3 flutes).
- ▶ Designed for 90° capscrews countersinking.
- ▶ Hand using.
- ▶ Longitudinal chamfers and contouring.
- ▶ Works without vibrations

- ▶ 自定心 (3槽)
- ▶ 为90° 螺帽钉做埋头孔而设计的
- ▶ 手用
- ▶ 倒角和修形
- ▶ 加工时没有振动



DIN 335 C p. A410

Plain Shank Page
 Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No. (uncoating) 型号		Point Angle 钻尖角度 α	Cutter Diameter 刃部直径 D1	Shank Diameter 柄部直径 D2	Overall Length 全长 L(±1)	Capacity 生产量 min最小/max最大
HSSCo8	HSS	α	D1	D2	L(±1)	min最小/max最大
C1139043	C3139043	90°	4.3	4	40	1.3 - 4.3
C1139050	C3139050	90°	5.0	4	40	1.5 - 5.0
C1139060	C3139060	90°	6.0	5	45	1.5 - 6.0
C1139063	C3139063	90°	6.3	5	45	1.5 - 6.3
C1139070	C3139070	90°	7.0	6	50	1.8 - 7.0
C1139080	C3139080	90°	8.0	6	50	2.0 - 8.0
C1139083	C3139083	90°	8.3	6	50	2.0 - 8.3
C1139100	C3139100	90°	10.0	6	50	2.5 - 10.0
C1139104	C3139104	90°	10.4	6	50	2.5 - 10.4
C1139115	C3139115	90°	11.5	8	56	2.8 - 11.5
C1139124	C3139124	90°	12.4	8	56	2.8 - 12.4
C1139150	C3139150	90°	15.0	10	60	3.2 - 15.0
C1139165	C3139165	90°	16.5	10	60	3.2 - 16.5
C1139190	C3139190	90°	19.0	10	63	3.5 - 19.0
C1139205	C3139205	90°	20.5	10	63	3.5 - 20.5
C1139230	C3139230	90°	23.0	10	67	3.8 - 23.0
C1139250	C3139250	90°	25.0	10	67	3.8 - 25.0
C1139300	C3139300	90°	30.0	12	71	4.2 - 30.0
C1139310	C3139310	90°	31.0	12	71	4.2 - 31.0

▶ TiN & TiCN coating are available on your request.
 TiN&TiCN涂层可根据客户要求加工。

Cutter Dia. Tolerance(mm) 刃部直径公差	Shank Dia. Tolerance(mm) 柄部公差	Point Angle Tolerance(°) 钻尖角度公差
±0.05	h9	+0/-1

◎ : Excellent (优秀) ○ : Good (良好)

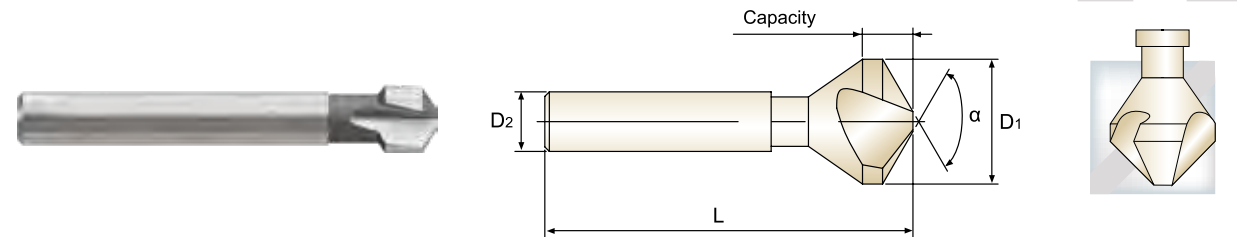
ISO Material Description	P										M						K																								
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron																				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S						H																									
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys			Hardened steel		Chilled Cast Iron		Hardened Cast Iron																		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60		
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	630	400	550																	
Recommended	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

HSS & HSSCo8, THREE FLUTE COUNTERSINKS (120°)
HSS & HSSCo8, 3槽沉孔刀 (120°)

- ▶ Self-centering(3 flutes)
- ▶ For deburring, chamfering and countersinking
- ▶ Hand using
- ▶ Longitudinal chamfers and contouring
- ▶ Works without vibrations

- ▶ 自定心 (3槽)
- ▶ 去毛刺和小的倒角
- ▶ 手用
- ▶ 倒角和修形
- ▶ 加工时没有振动



p. A410

Plain Shank Page
 Recommended ToolHolder ER COLLET CHUCK D73-115

Unit(单位) : mm

EDP No. (uncoating) 型号		Point Angle 钻尖角度 α	Cutter Diameter 刃部直径 D1	Shank Diameter 柄部直径 D2	Overall Length 全长 L(±1)	Capacity 生产量 min最小/max最大
HSSCo8	HSS					
C1132080	C3132080	120°	8.0	6	49	2.0~8.0
C1132125	C3132125	120°	12.5	8	54	2.8~12.5
C1132160	C3132160	120°	16.0	10	57	3.2~16.0
C1132200	C3132200	120°	20.0	10	59	3.5~20.0
C1132250	C3132250	120°	25.0	10	65	3.8~25.0

▶ TiN & TiCN coating are available on your request.
 TiN&TiCN涂层可根据客户要求加工。

Cutter Dia. Tolerance(mm) 刃部直径公差	Shank Dia. Tolerance(mm) 柄部公差	Point Angle Tolerance(°) 钻尖角度公差
±0.05	h9	+0/-1

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

ISO Material Description	N								S					H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	55	60	42	200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
HB	60	100	75	90	130	110	90	100													
Recommended	◎	○	○	○	○	○	○	○													

C1109, C3109, C1119, C3119 SERIES

DEBURRING TOOL with HOLE
1 FLUTE CHAMFERING CUTTERS

Vc (切削速度) = (m/min.)
 FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 钻削速度 (m/min)	Feed 进给 (mm/rev)						
				10.0	15.0	20.0	25.0	30.0	40.0	50.0
P	1	Non-alloy steel	40	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	2		40	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	3		25	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27
	4		18	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20
	5		18	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20
M	12	Stainless steel	8	0.05-0.07	0.07-0.09	0.07-0.09	0.09-0.11	0.09-0.11	0.11-0.14	0.11-0.14
	13		7	0.05-0.07	0.07-0.09	0.07-0.09	0.09-0.11	0.09-0.11	0.11-0.14	0.11-0.14
	14		6	0.05-0.07	0.07-0.09	0.07-0.09	0.09-0.11	0.09-0.11	0.11-0.14	0.11-0.14
K	15	Grey cast iron	28	0.13-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.34
	16		24	0.12-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33
	17	Nodular cast iron	24	0.13-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.34
	18		20	0.12-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33
	19	Malleable cast iron	24	0.13-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.34
	20		20	0.12-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33
N	21	Aluminum-wrought alloy	56	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	22		56	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	23	Aluminum-cast, alloyed	54	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	24		52	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	25		50	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	26		38	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37
	27	Copper and Copper Alloys (Bronze / Brass)	35	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37
	28		25	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36

**C1136, C3136, C1139,
C3139, C1132, C3132** SERIES

3 FLUTE COUNTERSINKS

 Vc (切削速度) = (m/min.)
 FEED (进给) = (mm/rev)

ISO 公制	VDI 3323	Material Description 材料描述	Vc 切削速度 (m/min)	Feed 进给 (mm/rev)							
				5.0	10.0	15.0	20.0	25.0	30.0	40.0	50.0
P	1	Non-alloy steel	20	0.12-0.16	0.16-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33	0.33-0.37	0.37-0.41
	2		20	0.12-0.16	0.16-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33	0.33-0.37	0.37-0.41
	3		13	0.10-0.14	0.14-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.39
	4		10	0.06-0.10	0.10-0.14	0.14-0.17	0.17-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35
	5		10	0.06-0.10	0.10-0.14	0.14-0.17	0.17-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35
M	12	Stainless steel	6	0.06-0.08	0.06-0.08	0.08-0.10	0.08-0.10	0.10-0.12	0.10-0.12	0.12-0.15	0.12-0.15
	13		5	0.06-0.08	0.06-0.08	0.08-0.10	0.08-0.10	0.10-0.12	0.10-0.12	0.12-0.15	0.12-0.15
	14		4	0.06-0.08	0.06-0.08	0.08-0.10	0.08-0.10	0.10-0.12	0.10-0.12	0.12-0.15	0.12-0.15
K	15	Grey cast iron	22	0.09-0.11	0.11-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32
	16		17	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31
	17	Nodular cast iron	17	0.09-0.11	0.11-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32
	18		15	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31
	19	Malleable cast iron	17	0.09-0.11	0.11-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32
20	15		0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	
N	21	Aluminum-wrought alloy	42	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.40	0.40-0.45
	22		42	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.40	0.40-0.45
	23	Aluminum-cast, alloyed	39	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.40	0.40-0.45
	24		37	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.28	0.28-0.32	0.32-0.37	0.37-0.42
	25		35	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.40	0.40-0.45
	26		28	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.28	0.28-0.32	0.32-0.37	0.37-0.42
	27	Copper and Copper Alloys (Bronze / Brass)	25	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.28	0.28-0.32	0.32-0.37	0.37-0.42
	28		15	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.28	0.28-0.32	0.32-0.37	0.37-0.42


HSS-E

COUNTERBORES

- For Machining Screw Head Seats
- 用于加工螺钉头座

SELECTION GUIDE
选用指南



SERIES 系列

EL950

TYPE 类型

MEDIUM

FINE

BEFORE THREADING

PILOT DIA. 导柱直径

3.4~14.0

3.2~13.0

2.5~10.2

CUTTER DIA. 刃部直径

6.0~20.0

PAGE 页数

A413

SURFACE TREATMENT 表面处理

Bright

HSS-E
COUNTERBORES

For Machining Screw Head Seats
用于加工螺钉头座



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◎: Excellent (优秀) ○: Good (良好)

(Recommended cutting conditions (推荐加工条件): p. A415)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度	
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎
	2		About 0.45% C Annealed	190	13	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎
	4		About 0.75% C Annealed	270	28	◎
	5		About 0.75% C Quenched & Tempered	300	32	◎
	6	Low alloy steel	Annealed	180	10	◎
	7		Quenched & Tempered	275	29	◎
	8		Quenched & Tempered	300	32	◎
	9		Quenched & Tempered	350	38	○
	10	High alloyed steel, and tool steel	Annealed	200	15	◎
	11		Quenched & Tempered	325	35	○
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○
	13		Martensitic Quenched & Tempered	240	23	○
	14		Austenitic	180	10	○
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○
	16		Pearlitic (Martensitic)	260	26	○
	17	Nodular cast iron	Ferritic	160	3	○
	18		Pearlitic	250	25	○
	19	Malleable cast iron	Ferritic	130		○
	20		Pearlitic	230	21	○
N	21	Aluminum-wrought alloy	Not Curable	60		○
	22		Curable Hardened	100		○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○
	24		≤ 12% Si, Curable Hardened	90		○
	25		> 12% Si, Not Curable	130		○
	26	Copper and Copper Alloys	Cutting Alloys, PB>1%	110		○
	27		CuZn, CuSnZn (Brass)	90		○
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100		○
	29		Duroplastic, Fiber Reinforced Plastic			○
	30	Rubber, Wood, etc.			○	
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15	○
	32		Cured	280	30	○
	33		Annealed	250	25	○
	34		Cured	350	38	○
	35		Cast	320	34	○
	36	Titanium Alloys	Pure Titanium	400 Rm		○
	37		Alpha + Beta Alloys Hardened	1050 Rm		○
H	38	Hardened steel	Hardened	550	55	○
	39		Hardened	630	60	○
	40	Hardened Cast Iron	Cast	400	42	○
	41		Hardened	550	55	○

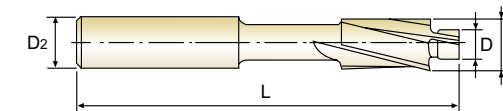
YG COUNTERBORES

EL950 SERIES

HSS-E, 3 FLUTE COUNTERBORES for 180° CAPSCREW
HSS-E, 平头螺钉(180°)用三刃沉孔铰刀

► The counterbores with solid pilot are designed for machining as fillister screw caps or ejector caps in molds.

► 带整体导柱铰刀用于模具加工中螺帽或导管安装面的加工。



HSS-E DIN 373 3 PLAIN p. A415

Plain Shank Page ER COLLET CHUCK D73-115

MEDIUM

Unit(单位): mm

EDP No.	ITEM No.	Screw Size	Pilot Diameter	Cutter Diameter	Shank Diameter	Overall Length
型号	系列号	螺丝尺寸	导杆直径	刃部直径	柄部直径	全长
PLAIN	PLAIN		D(e8)	D1(z9)	D2(h9)	L
EL950003	YG54M3-M	M3	3.4	6.0	5	71
EL950035	YG54M3.5-M	M3.5	3.9	6.5	5	71
EL950004	YG54M4-M	M4	4.5	8.0	5	71
EL950005	YG54M5-M	M5	5.5	10.0	8	80
EL950006	YG54M6-M	M6	6.6	11.0	8	80
EL950008	YG54M8-M	M8	9.0	15.0	12.5	100
EL950010	YG54M10-M	M10	11.0	18.0	12.5	100
EL950012	YG54M12-M	M12	14.0	20.0	12.5	100

FINE

Unit(单位): mm

EDP No.	ITEM No.	Screw Size	Pilot Diameter	Cutter Diameter	Shank Diameter	Overall Length
型号	系列号	螺丝尺寸	导杆直径	刃部直径	柄部直径	全长
PLAIN	PLAIN		D(e8)	D1(z9)	D2(h9)	L
EL950901	YG54M3-F	M3	3.2	6.0	5	71
EL950902	YG54M3.5-F	M3.5	3.7	6.5	5	71
EL950903	YG54M4-F	M4	4.3	8.0	5	71
EL950904	YG54M5-F	M5	5.3	10.0	8	80
EL950905	YG54M6-F	M6	6.4	11.0	8	80
EL950906	YG54M8-F	M8	8.4	15.0	12.5	100
EL950907	YG54M10-F	M10	10.5	18.0	12.5	100
EL950908	YG54M12-F	M12	13.0	20.0	12.5	100

► NEXT PAGE 下页

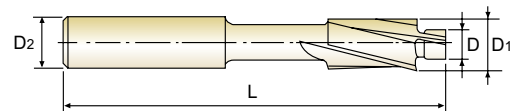
◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○										
ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○																

HSS-E, 3 FLUTE COUNTERBORES for 180° CAPSCREW
HSS-E, 平头螺钉(180°)用三刃沉孔铰刀

▶ The counterbores with solid pilot are designed for machining as filler screw caps or ejector caps in molds.

▶ 带整体导柱铰刀用于模具加工中螺帽或导管安装面的加工。



BEFORE THREADING

Unit(单位) : mm

EDP No.	ITEM No.	Screw Size	Pilot Diameter	Cutter Diameter	Shank Diameter	Overall Length
型号	系列号	螺丝尺寸	导杆直径	刃部直径	柄部直径	全长
PLAIN	PLAIN		D(e8)	D1(z9)	D2(h9)	L
EL950909	YG54M3-T	M3	2.5	6.0	5	71
EL950910	YG54M3.5-T	M3.5	2.9	6.5	5	71
EL950911	YG54M4-T	M4	3.3	8.0	5	71
EL950912	YG54M5-T	M5	4.2	10.0	8	80
EL950913	YG54M6-T	M6	5.0	11.0	8	80
EL950914	YG54M8-T	M8	6.8	15.0	12.5	100
EL950915	YG54M10-T	M10	8.5	18.0	12.5	100
EL950916	YG54M12-T	M12	10.2	20.0	12.5	100

Tolerances according to DIN 7160 & 7161
DIN 7160 & 7161 规定的精度

Tolerance range in μm / 精度范围单位					Tolerance range in μm / 精度范围单位				
Nominal-Diameter in mm / 公称直径单位					Nominal-Diameter in mm / 公称直径单位				
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18		from 6 to 10	over 10 to 14	over 14 to 18	over 18 to 24
	1~3	3~6	6~10	10~18		6~10	10~14	14~18	18~24
e8	- 14	- 20	- 25	- 32	z9	+ 78	+ 93	+103	+125
	- 28	- 38	- 47	- 59		+ 42	+ 50	+ 60	+ 73
h9	0	0	0	0					
	- 25	- 30	- 36	- 43					

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220
HB	125	190	250	270	300	180	275	320	350	200	325	200	240	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed				Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

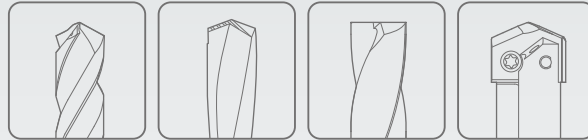
EL950 SERIES HSS-E, 3 FLUTE COUNTERBORES for 180° CAPSCREW

Vc (切削速度) = (m/min.)
 fz (每齿进给) = (mm/tooth)
 RPM (转速) = (rev./min.)
 FEED (进给) = (mm/rev.)

ISO 公制	VDI 3323	Material Description 材料描述	Parameter 参数	Cutter Diameter 刃部直径 (Ø)								
				6.0	6.5	8.0	10.0	11.0	15.0	18.0	20.0	
P	1	Non-alloy steel	Vc	25	25	25	25	25	25	25	25	
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	
			RPM	1326	1224	995	796	723	531	442	398	
			FEED	322	297	242	258	234	172	167	150	
	2		Vc	24	24	24	24	24	24	24	24	
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	
			RPM	1273	1175	955	764	694	509	424	382	
	3		Vc	18	18	18	18	18	18	18	18	
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	
			RPM	955	881	716	573	521	382	318	286	
4	Vc	18	18	18	18	18	18	18	18			
	fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13			
	RPM	955	881	716	573	521	382	318	286			
5	Vc	18	18	18	18	18	18	18	18			
	fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13			
	RPM	955	881	716	573	521	382	318	286			
N	6	Low alloy steel	Vc	24	24	24	24	24	24	24	24	
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	
			RPM	1273	1175	955	764	694	509	424	382	
			FEED	309	286	232	248	225	165	160	144	
	7		Vc	18	18	18	18	18	18	18	18	
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	
			RPM	955	881	716	573	521	382	318	286	
	8		Vc	18	18	18	18	18	18	18	18	
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	
			RPM	955	881	716	573	521	382	318	286	
9	Vc	15	15	15	15	15	15	15	15			
	fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13			
	RPM	796	735	597	477	434	318	265	239			
N	10	High alloy steel, and tool steel	Vc	24	24	24	24	24	24	24	24	
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	
			RPM	1273	1175	955	764	694	509	424	382	
			FEED	309	286	232	248	225	165	160	144	
	11		Vc	18	18	18	18	18	18	18	18	
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	
			RPM	955	881	716	573	521	382	318	286	
	21		Aluminum-wrought alloy	Vc	30	30	30	30	30	30	30	30
				fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13
				RPM	1592	1469	1194	955	868	637	531	477
FEED		382		353	286	315	286	210	207	186		
22	Vc	30	30	30	30	30	30	30	30			
	fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13			
	RPM	1592	1469	1194	955	868	637	531	477			
23	Aluminum-cast, alloyed	Vc	20	20	20	20	20	20	20	20		
		fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13		
		RPM	1061	979	796	637	579	424	354	318		
		FEED	255	235	191	210	191	140	138	124		
24	Vc	20	20	20	20	20	20	20	20			
	fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13			
	RPM	1061	979	796	637	579	424	354	318			



Global Cutting Tool Leader **YG-1**



HOLEMAKING



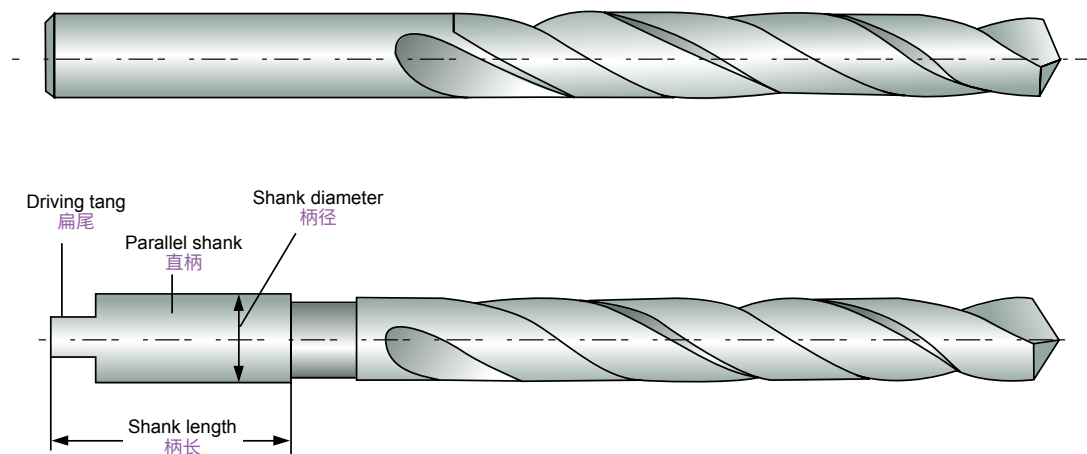
Being the best through innovation



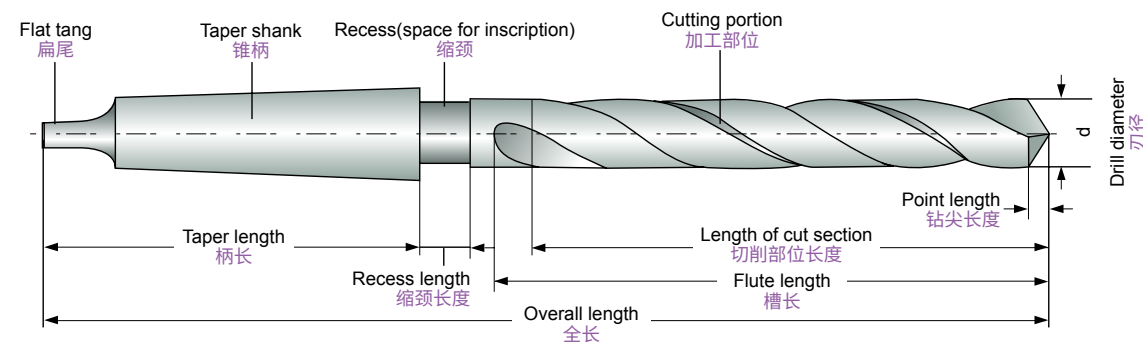
DRILLS

**TECHNICAL
DATA**

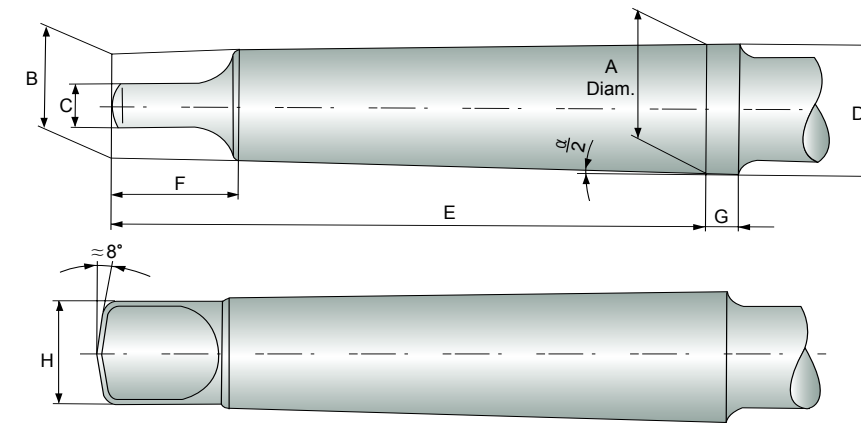
1 Twist Drill with parallel shank 直柄螺旋槽钻头



2 Twist Drill with taper shank 锥柄螺旋槽钻头

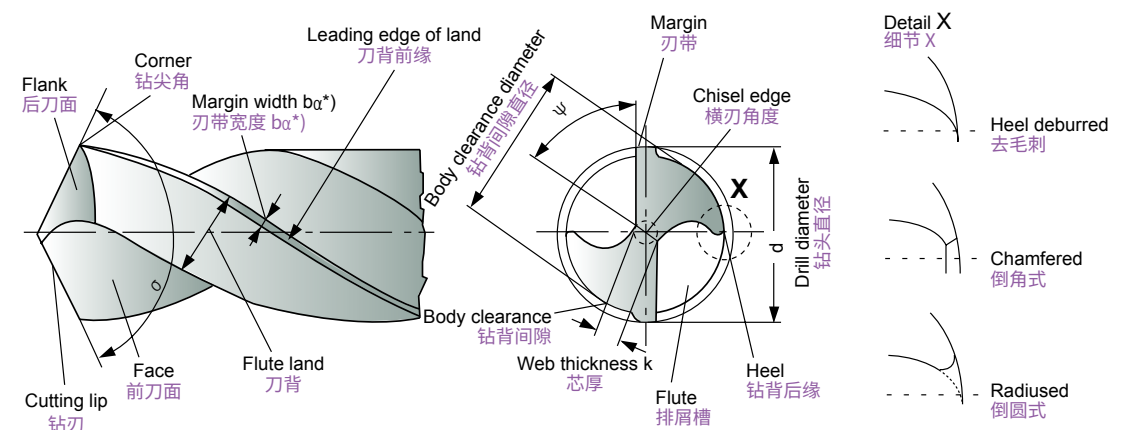


3 General dimensions of morse taper shanks 莫氏锥柄一般尺寸



Morse Taper Shank Morsekegelschaft	A mm	B mm	C(h13) mm	D mm	E mm	F(max.) mm	G mm	H(max.) mm	$\alpha/2$
No.1	12.065	9	5.2	12.2	62	13.5	3.5	8.7	1°25'43"
No.2	17.780	14	6.3	18.0	75	16	5	13.5	1°25'50"
No.3	23.825	19.1	7.9	24.1	94	20	5	18.5	1°26'16"
No.4	31.267	25.2	11.9	31.6	117.5	24	6.5	24.5	1°29'15"
No.5	44.399	36.5	15.9	44.7	149.5	29	6.5	35.7	1°30'26"
No.6	63.348	52.4	19	63.8	210	40	8	51	1°29'36"

4 Cutting portion 切削部位



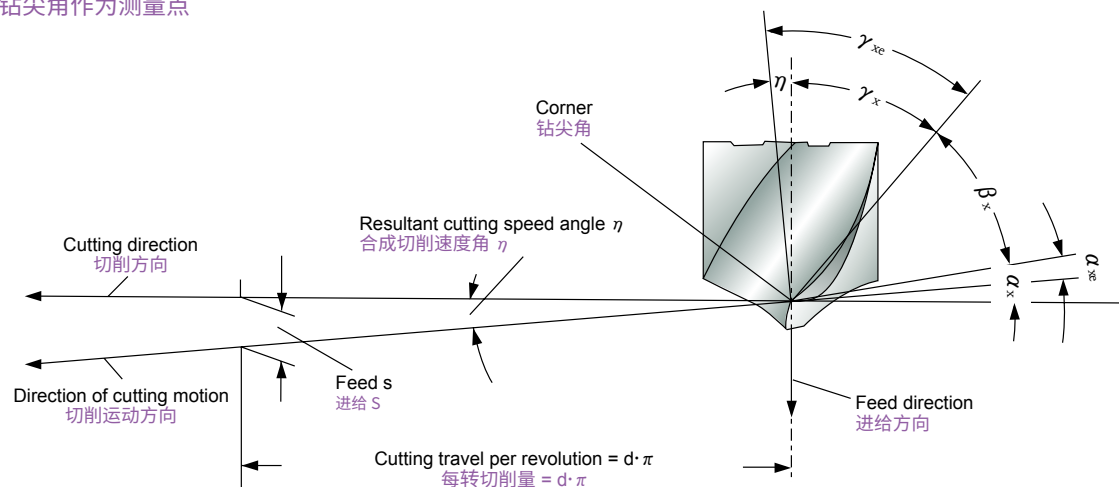
$$\sigma = \text{Point angle (sigma) / 钻顶角 (sigma)}$$

$$\Psi = \text{Chisel edge angle (psi) / 横刃角度 (psi)}$$

In the context of cutting technology, land width b_a is the body clearance land width which is to be by b_{fan} , see DIN 6581.
见DIN 6581, 在切削技术资料里, 刃背宽度 b_a 是钻背间隙宽度 b_{fan}

5 Angle at the cutting edges 切削刃角度

The corner has been adopted as the observed edge point.
钻尖角作为测量点



α_x = Side clearance angle (alpha) / 后角 (α)
 α_{xe} = Effective side clearance angle / 工作后角
 β_x = Side wedge angle (beta) / 楔角 (β)
 γ_x = Front rake angle (gamma) / 前角 (γ)
 γ_{xe} = Working front rake angle / 工作前角
 η = Resultant cutting speed angle (eta) / 合成切削速度角 (η)

Clearance angle α , wedge angle β and rake angle γ are measured in the tool orthogonal plane. For details, see DIN 6581, definitions of metal-cutting technology; geometry at the tool edge.

后角 α , 楔角 β 和前角 γ 测量是在工具正交平面上测量的。详情请参阅DIN 6581, 金属切削技术的定义; 刀具刃的几何形状。

6 Resharping Twist Drills 钻头修磨

(1) Drills are worn off irregularly. It should be sharpened prior to developing into excessive wear.
钻头会不时的磨损, 在过度磨损前应该进行修磨。

(2) Resharping / 再研磨

- Grind the correct point angle to suit your application. (figure 8)
研磨正确的钻顶角, 适应实际应用 (图8)
- Check that both cutting lips have the same angle. On a 130° point, each lip should be 65° toward the axis. The point must be on center, i.e., the chisel edge must produce cutting lips of equal length. (figure 8)
检查两个切割刃角度是否相同。在一个130度的钻顶角, 每个切割刃应该相对轴线65度。钻顶必须在中心, 即横刃必须产生等长的切削刃。(图8)
- Grind Primary relief and Secondary clearance. (figure 9)
研磨第一后角和第二后角 (图9)
- Grind web thinning. (figure 10)
修磨横刃 (图10)

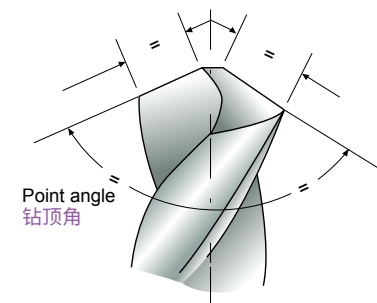


Figure 8
图 8

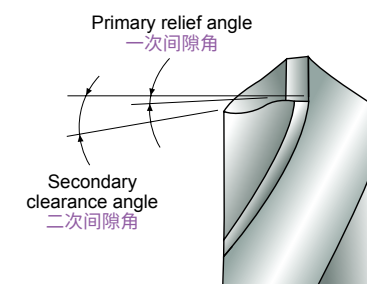


Figure 9
图 9

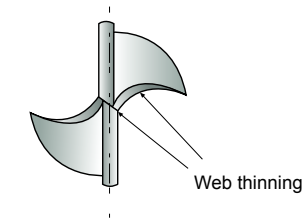
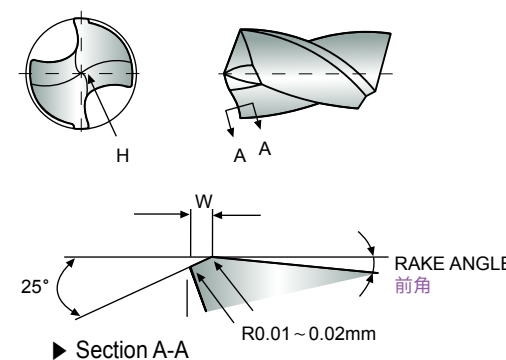


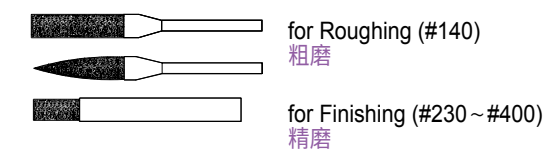
Figure 10
图 10

(3) Honing Guide of Dream Drills 梦幻钻头倒棱指导

Dimension of Honing 倒棱尺寸



Scraper 金刚锉



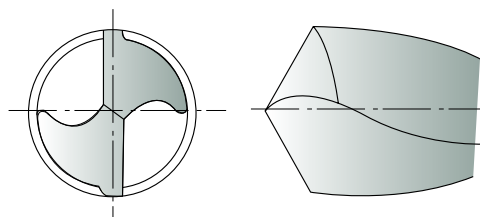
Work Material	Alloy Steels	Mild Steels	Cast Iron
W(mm)	0.15~0.2	0.1~0.15	0.03

► The dimension W of stocked products is 0.1~0.15.
在库品W值为 0.1~0.15

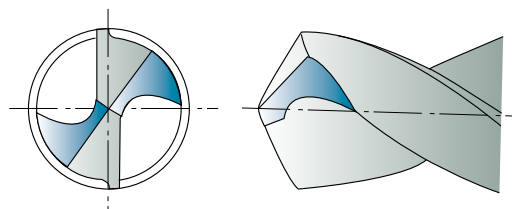

Web thinning
 横刃修磨

(1) Without thinning
 无横刃修磨

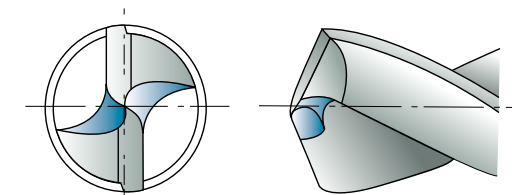
Suitable for drill of general purpose.
 Thanks to thin web thickness, web thinning is not need.
 This without web thinning type is applied to design of drills for mild steels, alloy steels, cast iron, stainless steels, titanium, inconel, etc. and conventional cutting conditons.
 适用于一般用途的钻削得益于小的横刃，不需要修磨
 这种无横刃修磨的钻头适合于低碳钢，合金钢，铸铁，不锈钢钛合金，镍合金和传统加工方式


(2) Type C thinning (DIN1412 FORM C, SPLIT POINT)
 类型C (DIN1412 FORM C, SPLIT POINT)

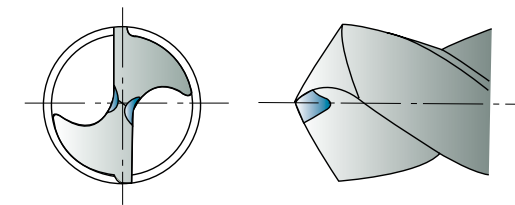
Because Split point enables good centering when drilling and breaks the chips, chip removals are easy.
 Suitable for drill design in high hardened tough materials, i.e. heat treated steels, titanium alloys, stainless steels, incoroy inconel, nimonic, etc.
 因为在钻孔时，C型钻尖能使钻具良好的定心和断屑，排屑容易适用于加工高硬化材料，热处理钢，钛合金，不锈钢，镍合金，镍铬钛合金等的钻头设计


(3) Type R thinning (HELICAL THINNING)
 类型R (螺旋横刃修磨)

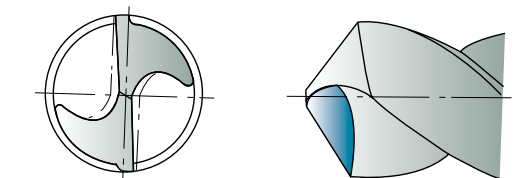
Helical thinning ensures to frequent chip breaking and removal. The different direction force of cutting edges and helical thinning parts enable that chips curl, break and remove through the flutes. In addition, helical thinning makes the chip room up to center, remove the chisel and enables good centering
 螺旋横刃修磨可以确保持续断屑和排屑
 在切削刃和螺旋横刃不同方向的切削力可以使切屑卷曲，断裂和脱落并通过排屑槽排出
 此外，螺旋型横刃修磨可以将切屑空间增至中心位置，减小横刃，定心更好


(4) Type A thinning (DIN1412 FORM A)
 类型A (DIN1412 FORM A)

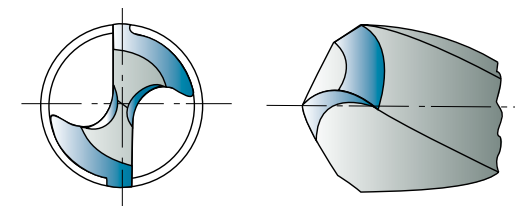
A type thinnings makes thin chisel, good chip removal and favorable centering.
 This type is the easiest type to grind the thinning. In narrow web and wide fluted drills, keeping of the rigidity and smooth chip removal are possible.
 A型横刃修磨使横刃变薄，去屑性好良好的定心。
 这种类型是最容易加工的类型。
 对于小芯厚，宽超钻头，可以保持刚性和流畅排屑


(5) Type B thinning (DIN1412 FORM B)
 类型B (DIN 1412 FORM B)

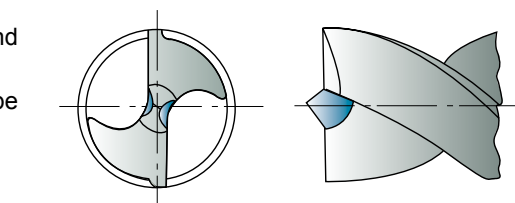
In case of work materials with low cutting resistance and good chip removal, i.e., cast iron, aluminum, plastic etc., B type thinning is suitable.
 Especially when drills for high hardened steels are designed, this type is applied to decrease rake angle and avoid chipping of cutting lips.
 该类型适合在工件材料具有低切削阻力和排屑良好的情况下使用
 如铸铁，铝合金和塑料尤其适合于加工高硬度钢钻头可以减小前角，避免切削刃崩刃


(6) Type D thinning (DIN1412 FORM D)
 类型D (DIN1412 FORM D)

Grey cast iron thinning; bevelling of external edges strengthens the cutting edge.
 Used for medium to high grey cast iron hardness and for abrasives.
 灰铸铁专用研磨；外刃斜面研磨增强切削刃强度
 用于中高硬度的灰铸铁和耐磨损性


(7) Type E thinning (DIN1412 FORM E)
 类型E (DIN 1412 FORM E)

Center drill bit thinning; ensures optimal center drilling and does not leave burs in through holes.
 As the bit and cutting edges are delicate, this bit should be used far drilling thin sheet metal.
 中心钻尖研磨，最佳的定心加工，保证通孔时无毛刺
 由于钻尖和切削刃精密的，这种钻尖尤其适合钻金属薄板





Surface Finishes for high speed steels Twist Drills 螺旋槽高速钢钻头表面处理

(1) Bright Finish / 光亮处理

Drills with a bright finish are without surface treatment and ground condition. Especially bright finished drills are used in machining of non ferrous materials.
钻头光亮处理就是无表面处理，处于磨削状态。
光亮处理的钻头尤其适合加工有色金属

(2) Coloring (Gold color) / 着色 (金色)

The coloring is a thin oxide layer formed on the tool surfaces. This is often applied to cobalt high speed steels twist drills.
着色是在工具表面形成的薄氧化层
它经常应用于含钴高速钢麻花钻

(3) Steam Tempered (black oxide finish) / 蒸汽回火 (黑色氧化物涂层)

This is a black oxide layer 1-2 μ m formed on the tool surfaces. Steam Tempered treated drill is the result of a steam tempering operation. Because the oxide layer retains some coolant on the tool surface, and aids chip flow, helps to dissipate heat, steam homo treated drills are recommended for ferrous applications.
这是在工具表面形成的黑色氧化层 (1-2 μ)
蒸汽回火处理的钻头是蒸汽回火操作的结果。因为氧化层在工具表面保留了一定的冷却效果有助于切屑流动，有助于散热，所以蒸汽均匀处理的钻头 推荐加工含铁材料



Coating 涂层

The use of coated cutting tools reduce production costs.

涂层刀具的使用可降低生产成本

For example

例如

- Avoidance of machine downtime due to premature tool wear.
避免因刀具过早磨损导致停机。
- Higher cutting capabilities to reduce actual machining times.
更高的切削能力，减少实际加工时间。
- Reproducible tool life.
稳定的刀具寿命。
- Improvement of component surface quality.
改善工件表面质量。

(1) TiN (Titanium Nitride) coating / TiN 涂层

Titanium Nitride gives the tool a higher performance in comparison to traditional non-coated drills. TiN coating, with good all-around properties, is recommended for the general application, i.e., attack by abrasive, adhesive and chemical wear in equal proportions.
与传统的无涂层钻头相比，氮化钛赋予该刀具更高的性能。
TiN涂层具有良好的综合性能，建议用于一般应用，兼具耐磨损性，附着性和耐化学性等均衡性能。

(2) TiCN (Titanium Carbon Nitride) coating / TiCN 涂层

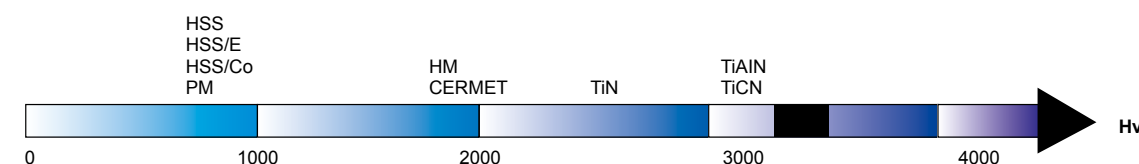
TiCN coating should be employed when severe thermodynamic stress is expected, for example when drilling in high hardened steels or in mild steels with high speed and feed.
当预计会出现严重的热应力时，应采用TiCN涂层，例如在高硬度钢或高速高进给加工低碳钢时。

(3) TiAlN (Titanium Aluminum Nitride) coating / TiAlN 涂层

The addition of Aluminum to the Titanium Nitride produces an increase in hardness and an exceptional increase in resistance to oxidation at high temperature. TiAlN coating is applied to drilling with severe thermal stress on cutting edges when continuous non-step feed, dry cutting or high speed cutting.
在氮化钛中加入铝会增加硬度，并在高温下显著提高抗氧化能力。
TiAlN涂层适用于连续加工，干式切削或高速切削时切削刃上存在严重热应力的钻孔。

(4) Properties of coating / 涂层特性

Properties 特征	TiN	TiCN	TiAlN
Coating color 涂层颜色	gold - yellow 金黄	blue - grey 蓝灰	violet - grey 紫灰
Hardness (Hv 0.05) 硬度 (HV0.005)	2300	3000	3000
Coating thickness(μ m) 涂层厚度 (μ m)	1~4	1~4	1~5
Max. working temperature ($^{\circ}$ C) 最大工作温度 ($^{\circ}$ C)	600	400	800
Coefficient of friction against steels (dry) 钢的摩擦系数 (干)	0.4	0.4	0.4



(5) Selection of coating 涂层的选择

Work-material 被加工材料	HSS TWIST DRILLS 高速钢麻花钻	CARBIDE DRILLS 硬质合金钻头
Unalloyed steels 碳素钢	TiCN, TiAlN	TiCN, TiAlN
Steels < 1000 N/mm ² 钢<1000N/mm ²	TiCN, TiAlN	TiCN, TiAlN
Steels > 1000 N/mm ² 钢>1000N/mm ²	TiCN, TiAlN	TiCN, TiAlN
Stainless steels 不锈钢	TiCN, TiAlN	TiCN, TiAlN
Cast iron 铸铁	TiCN, TiAlN	TiAlN
Al-wrought alloys 铝-锻造合金	TiN	TiN
Al-cast alloys 铝-铸件	TiCN	TiCN
Copper (pure) 铜(纯铜)	CrN	CrN
Brass 黄铜	TiCN	TiCN
Bronze 青铜	TiCN	TiCN

10 Drill sizes before Tapping 螺纹底孔

(1) Metric - ISO threads coarse pitch 公制-ISO 螺纹粗牙

Nominal diameter 螺纹	Drill diameter 钻头直径	Nominal diameter 螺纹	Drill diameter 钻头直径	Nominal diameter 螺纹	Drill diameter 钻头直径	Nominal diameter 螺纹	Drill diameter 钻头直径
M1	0.75	M3	2.5	M11	9.5	M30	26.5
M1.2	0.95	M3.5	2.9	M12	10.2	M33	29.5
M1.4	1.1	M4	3.3	M14	12.0	M36	32.0
M1.6	1.25	M5	4.2	M16	14.0	M39	35.0
M1.8	1.45	M6	5.0	M18	15.5	M42	37.5
M2	1.6	M7	6.0	M20	17.5	M45	40.5
M2.2	1.75	M8	6.8	M22	19.5	M48	43.0
M2.5	2.05	M9	7.8	M24	21.0	M52	47.0
		M10	8.5	M27	24.0	M56	50.5

(2) Metric ISO threads fine pitch 公制-ISO 螺纹细牙

Nominal diameter 螺纹	Tap Pitch	Drill diameter 钻头直径	Nominal diameter 螺纹	Tap Pitch	Drill diameter 钻头直径
2.5	0.35	2.15	7	0.75	6.2
3	0.35	2.65	8	0.75	7.2
3.5	0.35	3.15	8	1	7
4	0.5	3.5	9	0.75	8.2
4.5	0.5	4	9	1	8
5	0.5	4.5	10	0.75	9.2
5.5	0.5	5	10	1	9
6	0.75	5.2	10	1.25	8.8

Nominal diameter 螺纹	Tap Pitch	Drill diameter 钻头直径	Nominal diameter 螺纹	Tap Pitch	Drill diameter 钻头直径
11	0.75	10.2	30	1	29
11	1	10	30	1.5	28.5
12	1	11	30	2	28
12	1.25	10.8	30	3	27
12	1.5	10.5	32	1.5	30.5
14	1	13	32	2	30
14	1.25	12.8	33	1.5	31.5
14	1.5	12.5	33	2	31
15	1	14	33	3	30
15	1.5	13.5	35	1.5	33.5
16	1	15	36	1.5	34.5
16	1.5	14.5	36	2	34
17	1	16	36	3	33
17	1.5	15.5	38	1.5	36.5
18	1	17	39	1.5	37.5
18	1.5	16.5	39	2	37
18	2	16	39	3	36
20	1	19	40	1.5	38.5
20	1.5	18.5	40	2	38
20	2	18	40	3	37
22	1	21	42	1.5	40.5
22	1.5	20.5	42	2	40
22	2	20	42	3	39
24	1	23	45	1.5	43.5
24	1.5	22.5	45	2	43
24	2	22	45	3	42
25	1	24	48	1.5	46.5
25	1.5	23.5	48	2	46
25	2	23	48	3	45
26	1.5	24.5	50	1.5	48.5
27	1	26	50	2	48
27	1.5	25.5	50	3	47
27	2	25	52	1.5	50.5
28	1	27	52	2	50
28	1.5	26.5	52	3	49
28	2	26			

(3) WITHWORTH pipe threads (BSP) 惠氏管螺纹 (BSP)

Nominal size inches	Drill diameter mm	Nominal size inches	Drill diameter mm
G1/8	8.8	G1 * 1/4	39.5
G1/4	11.8	G1 * 3/8	42.0
G3/8	15.25	G1 * 1/2	45.0
G1/2	19.0	G1 * 3/4	51.0
G5/8	21.0	G2	57.0
G3/4	24.5	G2 * 1/4	63.0
G7/8	28.25	G2 * 1/2	73.0
G1	30.75	G2 * 3/4	79.0
G1 1/8	35.5	G3	85.0

(4) American unified coarse threads

美制粗牙螺纹

UNC	Drill diameter		UNC	Drill diameter	
	inches	mm		inches	mm
No. 1	53	1.51	7/16	U	9.35
No. 2	50	1.78	1/2	27/64	10.71
No. 3	47	1.99	9/16	31/64	12.30
No. 4	43	2.26	5/8	17/32	13.49
No. 5	38	2.58	3/4	21/32	16.67
No. 6	36	2.71	7/8	49/64	19.44
No. 8	29	3.45	1	7/8	22.22
No. 10	25	3.8	1 * 1/8	63/64	25.00
No. 12	16	4.5	1 * 1/4	1 * 7/64	28.18
1/4	7	5.11	1 * 3/8	1 * 7/32	30.95
5/16	F	6.53	1 * 1/2	1 * 11/32	34.13
3/8	5/16	7.94			

(5) American unified fine threads

美制细牙螺纹

NF	Drill diameter		NF	Drill diameter	
	inches	mm		inches	mm
No. 0	3/64	1.19	3/8	Q	8.43
No. 1	53	1.51	7/16	25/64	9.92
No. 2	50	1.78	1/2	29/64	11.51
No. 3	45	2.08	9/16	33/64	13.10
No. 4	42	2.37	5/8	37/64	14.86
No. 5	37	2.64	3/4	11/16	17.46
No. 6	33	2.87	7/8	13/16	20.64
No. 8	29	3.45	1	59/64	23.42
No. 10	21	4.04	1 * 1/8	1 * 3/64	26.59
No. 12	14	4.62	1 * 1/4	1 * 11/32	29.76
1/4	3	5.41	1 * 3/8	1 * 19/32	32.94
5/16	1	6.91	1 * 1/2	1 * 27/64	36.11

11 ISO Tolerance ISO 公差

$\mu\text{m}=1/1000\text{mm}$

Diameter / 直径 (mm)	1 - 3 from to	3 - 6 over to	6 - 10 over to	10 - 18 over to	18 - 30 over to	30 - 50 over to
Tolerance range in μm / 公差范围 μm						
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16
h7	0 -10	0 -12	0 -15	0 -18	0 -21	0 -25
h8	0 -14	0 -18	0 -22	0 -27	0 -33	0 -39
m7	+12 +2	+16 +4	+21 +6	+25 +7	+29 +8	+34 +9

12 Trouble Shooting in Drilling 钻孔时的问题答疑

Occurrence of trouble 问题	Cause of trouble 原因	Countermeasures 对策
Drill will not enter work 钻头无法钻进工件	1. Drill is dull. 2. Lip relief too small. 3. Too thick a web. 1. 钻头太顿了 2. 钻尖后角小 3. 芯厚过大	1. Grind lip relief sufficiently. 2. Grind web thinning. 3. Choose a drill with narrow web. 1. 研磨至足够大的后角 2. 减下芯厚 3. 选用芯厚小的产品
Margin chipping 刃带崩边	1. Oversized jig bushing. 1. 钻套过大	1. Choose the suitable jig bushing for drill diameter 1. 根据钻头直径选用合适的钻套
Cutting lip breaks 钻尖崩刃	1. Lip relief too much. 2. Feed too heavy. 1. 后角过大 2. 进给过快	1. Grind lip relief sufficiently. 2. Decrease feed rate. 1. 合适的后角 2. 减小进给速度
Tang breaks Bruch der 扁尾折断	1. Imperfect fit between taper shank and socket. 2. Burred or Badly worn sockets. 1. 钻柄和套筒配合不好 2. 套筒有毛刺或磨损	1. Clean the dirt or chips in sockets. 2. Change the worn sockets to new ones. 1. 清理套筒的污垢或切屑 2. 更换磨损的套筒
Drill breaks in brass 钻铜折断	1. Unsuitable drill 2. Flutes clogged with chips 1. 使用不合适的钻头 2. 堵屑	1. Choose the suitable drill for work material. 1. 根据工件材料选用合适的钻头
Chipping of drill center 钻尖破损	1. Lip relief too much. 2. Feed too heavy. 1. 后角过大 2. 进给过大	1. Grind lip relief sufficiently. 2. Decrease feed rate. 1. 钻刃充分研磨 2. 减小进给
Hole oversize 孔径过大	1. Unequal angle or length of cutting edges. 2. Loosen spindle. 1. 切削刃不对称或不等长 2. 主轴晃动	1. Resharpener point, choose correct drills. 2. Tighten spindle sufficiently. 1. 重新研磨钻顶角, 选择合适的钻头 2. 充分紧固主轴
Outer corners broken down. 钻角破损	1. Cutting speed too high. 2. Hard spots in work material. 3. Flutes clogged with chips. 4. Too wear of drills. 1. 切削速度太高 2. 工件材料有硬点 3. 排屑槽堵塞 4. 钻头过度磨损	1. Grind point to suit work material. 2. Decrease the feed rates. 3. Resharpener early before too wear. 1. 根据材料研磨合适的钻顶角 2. 减小进给速度 3. 及时修磨

Trouble Shooting in Drilling

钻孔时的问题答疑

Occurrence of trouble 问题	Cause of trouble 原因	Countermeasures 对策
Large chip of one flute and small chip of other flute 一个槽切屑长，一个槽切屑短	1. Improperly ground point. 2. Only one lip doing all the cutting 1. 钻顶角研磨不合适 2. 只有一个刃切削	1. Properly grind point. 2. Grind point with same point angle and length of lip 3. Grind with small lip height. 1. 正确的研磨钻顶角 2. 研磨具有相同角度和切削刃长度的钻顶角 3. 及时修磨
Hole rough 孔粗糙	1. Improperly ground point. 2. Unenough coolant supply 3. Too much feed. 4. Fixture not rigid. 1. 钻顶角研磨不合适 2. 冷却液不充分 3. 进给太大 4. 夹具刚性差	1. Properly grind point. 2. Supply coolant enough. 3. Decrease the feed rate. 4. Tighten the fixture or replace. 1. 正确的研磨钻顶角 2. 提供充足的冷却液 3. 减小进给速度 4. 拧紧夹具或重新安装

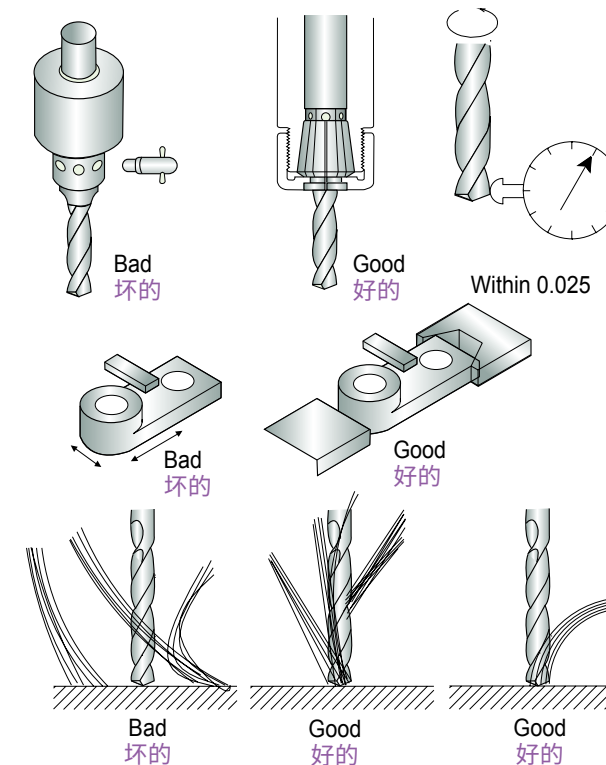
13 Characteristic of DREAM DRILLS

梦幻钻特征

- YG-1's Dream Drill Series are suitable for high speed and accurate drilling operations by special design and high quality.
采用特殊的设计和高品质，YG 的梦幻钻头适合高速和高精度钻孔加工
- Good performance for Steels, Cast Irons, Tool steels, Alloy steels and Stainless steels.
加工钢，铸铁，工具钢，合金钢和不锈钢具有高性能
- Rapid chip evacuation and excellent chip breaking can be achieved by special designed cutting edges on point and chip breakers on leading edges.
钻尖采用特殊的设计和断屑，可以确保断屑和快速排屑
- High accuracy and stability.
高精度和稳定性
- Longer tool life with TiAlN coating.
采用 TiAlN 涂层，确保长刀具寿命
- Self-centering
自定心

14 Use of DREAM DRILLS

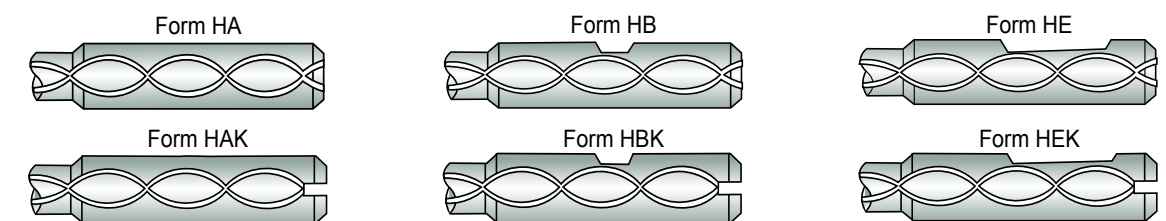
梦幻钻头的使用



- ▶ Chucking with spring collet correctly.
正确安装
- ▶ Radial run out at cutting lip must not exceed 0.025 mm.
钻尖跳动不要大于 0.025mm
- ▶ Tighten clamp of work piece.
工具加紧
- ▶ Supply coolant enough to the entrance of hole.
供应冷却液
- ▶ When using Dream Drills with Coolant holes, Supply high pressure coolant.
使用高压冷却液

15 Shank Type DREAM DRILLS with Coolant Holes

带内冷梦幻钻头柄部形式



- ▶ Shank Type of stocked products is Form HA.
在库品采用 HA 类型钻柄
- ▶ If you need other Shank Type, we can supply them.
其他类型钻柄可定制

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THREADING TOOLS

整体硬质合金螺纹铣刀

粉末高速钢同步丝锥

HSS-E Combo 丝锥

YG 普通用途HSS&HSS-E丝锥

YG 钢用HSS-E丝锥

YG 高硬度钢用粉末高速钢丝锥

YG 不锈钢用HSS-E丝锥

YG 铸铁用硬质合金&HSS-E丝锥

YG 铝用硬质合金&HSS-E丝锥

YG 钛镍用粉末高速钢丝锥

YG HSS-E 挤压丝锥

HSS-E& HSS 嵌套丝锥

HSS-E&HSS 管用丝锥

SKS21手用丝锥

SKS21管用丝锥

技术参数

SOLID CARBIDE THREAD MILLS

HSS-PM SYNCHRO TAPS

HSS-E COMBO TAPS

HSS & HSS-E YG TAP GENERAL

HSS-E YG TAP STEEL

HSS-PM YG TAP HARDENED

HSS-E YG TAP INOX

SOLID CARBIDE & HSS-E YG TAP CAST IRON

SOLID CARBIDE & HSS-E YG TAP ALU

HSS-PM YG TAP Ti Ni

HSS-E YG TAP FORMING

HSS-E & HSS SCREW THREAD INSERT TAPS

HSS-E & HSS PIPE TAPS

SKS21 HAND TAPS

SKS21 PIPE TAPS

TECHNICAL DATA

SOLID CARBIDE THREAD MILLS

SOLID CARBIDE HSS HSS-E HSS-PM MACHINE TAPS

HSS-E & HSS PIPE TAPS

SKS21 HAND TAPS & PIPE TAPS

TECHNICAL DATA

整体硬质合金螺纹铣刀 大直径高质量螺纹加工/倒角功能可选	SOLID CARBIDE THREAD MILLS (with & without Coolant Holes) Threading Large Diameter in High Quality / Available with Chamfer	THREAD MILLS
粉末高速钢同步丝锥 刚性数控机床高速攻丝	HSS-PM SYNCHRO TAPS (Spiral Flute, Spiral Point, Straight Flute & Cold Forming) For High Speed Tapping on Rigid CNC Machine	SYNCHRO TAPS
HSS-E Combo 丝锥 多用途丝锥	HSS-E COMBO TAPS For Multi Purpose Tapping	COMBO TAPS
YG 普通用途HSS&HSS-E丝锥 独特的槽形设计和排屑能力, 适合通, 盲孔加工	HSS & HSS-E YG TAP GENERAL Suitable for Tapping Blind / Through Holes due to Flute Geometry and Excellent Chip Evacuation	YG TAP GENERAL
YG 钢用HSS-E丝锥 适合钢及其它长屑材料	HSS-E YG TAP STEEL For Steel Materials but also other Long Chip Forming Materials	YG TAP STEEL
YG 高硬度钢用粉末高速钢丝锥 淬硬钢用丝锥	HSS-PM YG TAP HARDENED For Hardened Steels Applications to Control the Continuous and Red-glowing Chips	YG TAP HARDENED
YG 不锈钢用HSS-E丝锥 不锈钢专用丝锥	HSS-E YG TAP INOX For Stainless Steels with Lamellar, Irregular Chip Formation where the Cutting Forces are Higher	YG TAP INOX
YG 铸铁用硬质合金&HSS-E丝锥 对于铸铁或类似材料	SOLID CARBIDE & HSS-E YG TAP CAST IRON For Cast Iron or Similar Work Materials	YG TAP CAST IRON
YG 铝用硬质合金&HSS-E丝锥 采用大排屑槽设计, 适合长屑铝合金攻丝, 避免缠屑	SOLID CARBIDE & HSS-E YG TAP ALU For long-chipping Aluminum Wrought Alloys with Large Chip Gullets to Avoid Clogging in the Threading Operations	YG TAP ALU
YG 钛镍用粉末高速钢丝锥 耐热超合金和钛合金用丝锥	HSS-PM YG TAP Ti Ni For Heat Resistant Super Alloys and Titanium Alloys Applied with Cutting Edge Rake Angles and Thread Relief	YG TAP Ti Ni
YG HSS-E 挤压丝锥 软材料挤压成形攻丝	HSS-E YG TAP FORMING Tapping by Forming Soft Materials	YG TAP FORMING
HSS-E& HSS 嵌套丝锥 软材料加工嵌套螺纹	HSS-E & HSS SCREW THREAD INSERT TAPS Tapping STI Threads of Soft Materials	STI TAPS
HSS-E&HSS 管用丝锥 惠氏管用螺纹加工	HSS-E & HSS PIPE TAPS Tapping Whitworth Pipe threads	PIPE TAPS
SKS21手用丝锥 实现高强度加工, 易装配	SKS21 HAND TAPS To Achieve High Strength. Easy Assembling.	SKS21 HAND TAPS
SKS21管用丝锥 实现高强度加工, 易装配	SKS21 PIPE TAPS To Achieve High Strength. Easy Assembling.	SKS21 PIPE TAPS
技术参数	TECHNICAL DATA	TECHNICAL DATA

SELECTION GUIDE



THREADING TOOLS



Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

YG TAP CAST IRON

HOLE TYPE 孔类型	Max. 2.0xD Blind / Through Hole		Max. 2.5xD Blind Hole					Max. 3.0xD Through Hole	
	CARBIDE	HSS-E	CARBIDE	HSS-E					
TOOL MATERIAL 刀具材料									
CHAMFER LEAD ACC. TO DIN2197 倒角长度	1.5P/3.0P	1.5P/5.0P	1.5P/2.5P	2.5P	2.5P	2.5P	5.0P	5.0P	
FLUTE TYPE 槽型	Straight Flute 直槽旋	Straight Flute 直槽旋	Spiral Flute 螺旋	Spiral Flute 螺旋	Spiral Flute 螺旋	Spiral Flute 螺旋	Spiral Point 螺尖	Spiral Point 螺尖	
SPIRAL FLUTE ANGLE 螺旋槽夹角	-	-	R15	R40	R40	R40	-	-	
SERIES NO. 系列号 (page 页数)	JIS Type	I	I	I	I	J	S	I	J
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	UNC/F								
	W	T0462 T0452 (p. B158)	T4442 T4432 (p. B161)	T0164 T0154 (p. B167)					
	M-LH W-LH								
PIPE TAPS									
SURFACE TREATMENT 表面处理	Bright	Nitrided Steam Homo	Bright	Bright	Bright	Bright	Bright	Bright	
MODEL 模型									

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度						
P	1	Non-alloy steel	125							
	2		190	13						
	3		250	25						
	4		270	28						
	5		300	32						
	6	Low alloy steel	180	10						
	7		275	29						
	8		300	32						
	9		350	38						
	10		High alloyed steel, and tool steel	200	15					
	11	325		35						
M	12	Stainless steel	200	15						
	13		240	23						
	14		180	10						
K	15	Grey cast iron	180	10	◎	◎	○			
	16		260	26	◎	◎	○			
	17	Nodular cast iron	160	3	◎	◎	○			
	18		250	25	◎	◎	○			
	19	Malleable cast iron	130		○	○				
20		230	21	○	○					
N	21	Aluminum-wrought alloy	60				◎	◎	○	◎
	22		100				◎	◎	○	◎
	23		75			◎	◎	○	◎	◎
	24	Aluminum-cast, alloyed	90		◎	◎	○			
	25		130		○	○				
	26	Copper and Copper Alloys (Bronze / Brass)	110				○	○	○	○
	27		90		○	○	○	○	○	○
	28		100		○	○	○	○	○	○
	29	Non Metallic Materials								
	30									
S	31	Heat Resistant Super Alloys	200	15						
	32		280	30						
	33		250	25						
	34		350	38						
	35		320	34						
	36	Titanium Alloys	400 Rm							
	37		1050 Rm							
H	38	Hardened steel	550	55						
	39		630	60						
	40	Chilled Cast Iron	400	42						
	41	Hardened Cast Iron	550	55						

YG TAP Ti Ni

HOLE TYPE 孔类型	Max. 2.5xD Blind Hole		Max. 3.0xD Through Hole		Max. 3.0xD Blind / Through Hole					
	HSS-PM		HSS-E							
TOOL MATERIAL 刀具材料										
CHAMFER LEAD ACC. TO DIN2197 倒角长度	3.0P	5.0P	2.0P/4.0P	2.0P/4.0P	2.0P/4.0P	2.0P/4.0P	2.0P/4.0P	2.0P/4.0P	2.0P/4.0P	
FLUTE TYPE 槽型	Spiral Flute 螺旋	Spiral Point 螺尖	-	with Oil Groove	-	-	with Oil Groove	-	with Oil Groove	
SPIRAL FLUTE ANGLE 螺旋槽夹角	R15	-	-	-	-	-	-	-	-	
SERIES NO. 系列号 (page 页数)	JIS Type	I	I	I	I	I	J	I	I	
	M/MF	TZ181 (p. B179)	TL231 (p. B180)	T1791 T1781 (p. B184)	T1771 T1761 (p. B185)	T2731 T2701 (p. B186)	T2759 T2749 (p. B187)	T2751 T2741 (p. B188)	T3731 T3701 (p. B189)	T3751 T3741 (p. B190)
	UNC/F					T2732 T2702 (p. B191)				
	W									
	M-LH W-LH									
PIPE TAPS										
SURFACE TREATMENT 表面处理	TiAlN	Steam Homo	Steam Homo	Steam Homo	Bright	Bright	Bright	TiN	TiN	
MODEL 模型										

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRc 硬度						
P	1	Non-alloy steel	125							
	2		190	13						
	3		250	25						
	4		270	28						
	5		300	32						
	6	Low alloy steel	180	10						
	7		275	29						
	8		300	32						
	9		350	38						
	10		High alloyed steel, and tool steel	200	15					
	11	325		35						
M	12	Stainless steel	200	15						
	13		240	23						
	14		180	10						
K	15	Grey cast iron	180	10	◎	◎	○			
	16		260	26	◎	◎	○			
	17	Nodular cast iron	160	3	◎	◎	○			
	18		250	25	◎	◎	○			
	19	Malleable cast iron	130		○	○				
20		230	21	○	○					
N	21	Aluminum-wrought alloy	60				◎	◎	○	◎
	22		100				◎	◎	○	◎
	23		75			◎	◎	○	◎	◎
	24	Aluminum-cast, alloyed	90		◎	◎	○			
	25		130		○	○				
	26	Copper and Copper Alloys (Bronze / Brass)	110				○	○	○	○
	27		90		○	○	○	○	○	○
	28		100		○	○	○	○	○	○
	29	Non Metallic Materials								
	30									
S	31	Heat Resistant Super Alloys	200	15						
	32		280	30						
	33		250	25						
	34		350	38						
	35		320	34						
	36	Titanium Alloys	400 Rm							
	37		1050 Rm							
H	38	Hardened steel	550	55						
	39		630	60						
	40	Chilled Cast Iron	400	42						
	41	Hardened Cast Iron	550	55						

SELECTION GUIDE



THREADING TOOLS

SCREW THREAD INSERT TAPS

HOLE TYPE 孔类型	Max. 2.5xD Blind Hole		Max. 2.0xD Blind / Through Hole		
	HSS-E	HSS	HSS-E		
TOOL MATERIAL 刀具材料					
CHAMFER LEAD ACC. TO DIN2197 倒角长度	2.5P	1.5P/5.0P	2.5P	3.0P	
FLUTE TYPE 槽型	Spiral Flute 螺旋	Straight Flute 直槽旋	Spiral Flute 螺旋	Spiral Flute 螺旋	
SPIRAL FLUTE ANGLE 螺旋槽夹角	R40	-	R30	R35	
SERIES	JIS Type	STI	STI	PT	PS
	M/MF	T2197 (p. B195)	T7399 (p. B197)		
	UNC/F	T2198 (p. B196)	T7322 (p. B198)		
	W				
	M-LH W-LH				
	PIPE TAPS			T2518 (p. B202)	T2538 (p. B203)
SURFACE TREATMENT 表面处理	Bright	Bright	Bright	Bright	



Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRC 硬度				
P	1	Non-alloy steel	125		○	○	◎	◎
	2		190	13	○	○	◎	◎
	3		250	25	○	○	○	○
	4		270	28				
	5		300	32				
	6	180	10			◎	◎	
	7	275	29			○	○	
	8	300	32					
	9	350	38					
	10	High alloyed steel, and tool steel	200	15		○	○	
	11		325	35				
M	12	Stainless steel	200	15		○	○	
	13		240	23				
	14		180	10		○	○	
K	15	Grey cast iron	180	10				
	16		260	26				
	17	Nodular cast iron	160	3		○	○	
	18		250	25				
	19	Malleable cast iron	130					
	20		230	21				
N	21	Aluminum-wrought alloy	60		◎	◎	○	○
	22		100		◎	◎	○	○
	23	Aluminum-cast, alloyed	75		◎	◎	○	○
	24		90		○	○		
	25		130					
	26	Copper and Copper Alloys (Bronze / Brass)	110			○	○	○
	27		90		◎	◎	○	○
	28		100					
	29	Non Metallic Materials						
	30							
S	31	Heat Resistant Super Alloys	200	15				
	32		280	30				
	33		250	25				
	34		350	38				
	35		320	34				
	36	Titanium Alloys	400 Rm					
	37		1050 Rm					
H	38	Hardened steel	550	55				
	39		630	60				
	40	Chilled Cast Iron	400	42				
	41	Hardened Cast Iron	550	55				

PIPE TAPS

Max. 2.5xD Blind Hole	Max. 2.0xD Blind / Through Hole				Max. 2.0xD Blind / Through Hole	
	HSS-E	HSS, HSS-E		HSS-E		SKS21
3.0P	2.5P	3.5P	3.5P	3.0P	3.0P	1.5P/5.0P/9.0P
Spiral Flute 螺旋	Straight Flute 直槽旋	Straight Flute 直槽旋	Straight Flute 直槽旋	Straight Flute 直槽旋	Straight Flute 直槽旋	Straight Flute 直槽旋
R35	-	-	-	-	-	-
PF	PT	PS	PF	NPT	NPTF	HT
T2539 (p. B204)	T7532 T2532 (p. B205)	T7552 T2552 (p. B206)	T7562 T2562 (p. B207)	T2527 (p. B208)	T2537 (p. B209)	TSK11 (p. B213)
Bright	Bright	Bright	Bright	Bright	Bright	TSK12 (p. B216)
						TSK13 (p. B218)
						TSK21 (p. B219)
						TSK23 (p. B220)
						HT
						MMF
						UNC/F
						W
						M-LH W-LH
						PIPE TAPS



◎	◎	◎	◎	◎	◎	○	1
◎	◎	◎	◎	◎	◎	○	2
○	◎	◎	◎	◎	◎	○	3
							4
							5
◎	◎	◎	◎	◎	◎	○	6 P
○	○	○	○	○	○		7
							8
○	○	○	○	○	○	○	9
○	○	○	○	○	○	○	10
○	○	○	○	○	○	○	11
○	○	○	○	○	○	○	12
○	○	○	○	○	○	○	13 M
○	○	○	○	○	○	○	14
		○	○	○	○	○	15
○	○	○	○	○	○	○	16
○	○	○	○	○	○	○	17
						○	18 K
							19
							20
○	○	○	○	○	○	○	21
○	○	○	○	○	○	○	22
○	○	○	○	○	○	○	23
							24
○	○	○	○	○	○	○	25 N
○	○	○	○	○	○	○	26
○	○	○	○	○	○	○	27
							28
							29
							30
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							33
							34 S
							35
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							40
							41

SELECTION GUIDE



THREADING TOOLS

SKS21 PIPE TAPS

HOLE TYPE 孔类型	Max. 2.0xD Blind/Through Hole					
TOOL MATERIAL 刀具材料	SKS21					
CHAMFER LEAD ACC. TO DIN2197 倒角长度	3.0P	3.0P	3.0P	3.0P	3.0P	
FLUTE TYPE 槽型	Straight Flute 直槽旋	Straight Flute 直槽旋	Straight Flute 直槽旋	Straight Flute 直槽旋	Straight Flute 直槽旋	
SPIRAL FLUTE ANGLE 螺旋槽夹角	-	-	-	-	-	
SERIES NO. 系列号 (page 页数)	JIS Type	PT	PS	PF	NPT	NPS
	M/MF					
	UNC/F					
	W					
	M-LH W-LH					
	PIPE TAPS	TSK34 (p. B224)	TSK35 (p. B225)	TSK36 (p. B226)	TSK37 (p. B227)	TSK38 (p. B228)
SURFACE TREATMENT 表面处理	Bright	Bright	Bright	Bright	Bright	



Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

ISO 公制	VDI 3323	Material Description 材料描述	HB 布氏硬度	HRC 硬度	1	2	3	4	5
P	1	Non-alloy steel	125		○	○	○	○	○
	2		190	13	○	○	○	○	○
	3		250	25	○	○	○	○	○
	4		270	28					
	5		300	32					
	6	180	10	○	○	○	○	○	
	7	275	29						
	8	300	32						
	9	350	38						
	10	High alloyed steel, and tool steel	200	15	○	○	○	○	○
	11	325	35						
M	12	Stainless steel	200	15					
	13		240	23					
	14		180	10					
K	15	Grey cast iron	180	10	○	○	○	○	○
	16		260	26	○	○	○	○	
	17	Nodular cast iron	160	3	○	○	○	○	○
	18		250	25					
	19		Malleable cast iron	130					
	20			230	21				
N	21	Aluminum-wrought alloy	60		○	○	○	○	○
	22		100		○	○	○	○	
	23	Aluminum-cast, alloyed	75		○	○	○	○	○
	24		90						
	25		130						
	26		110	○	○	○	○	○	
	27		90	○	○	○	○	○	
	28		100						
	29		Non Metallic Materials						
	30								
S	31	Heat Resistant Super Alloys	200	15					
	32		280	30					
	33		250	25					
	34		350	38					
	35		320	34					
	36	Titanium Alloys	400 Rm						
	37		1050 Rm						
H	38	Hardened steel	550	55					
	39		630	60					
	40	Chilled Cast Iron	400	42					
	41	Hardened Cast Iron	550	55					

CUTTING SPEED TABLE

CUTTING SPEED TABLE / 切削速度表

Cutting Speeds m/min. into revolutions per minute / 切削速度mm

Tool Dia.	TOOL R.P.M. (rev/min)															
	Cutting Speed (m/min)															
	1	2	3	4	5	6	8	10	12	15	20	25	30	40	50	60
1	318	637	955	1274	1592	1910	2548	3185	3822	4777	6396	7962	9554	12739	15924	19108
2	159	318	478	637	796	955	1274	1592	1911	2388	3185	3981	4777	6369	7962	9554
3	106	212	318	425	531	637	849	1062	1274	1592	2123	2654	3185	4246	5308	6369
4	80	159	239	318	398	478	637	796	955	1194	1592	1990	2389	3185	3981	4777
5	64	127	191	255	318	382	510	637	764	955	1274	1592	1911	2548	3185	3822
6	53	106	159	212	265	318	425	531	637	796	1062	1327	1592	2123	2653	3185
8	40	80	119	159	199	239	318	398	478	597	796	955	1194	1592	1990	2388
10	31	64	96	127	159	191	255	318	382	478	637	796	955	1274	1592	1911
12	26	53	80	106	133	159	212	265	318	398	531	663	796	1062	1327	1592
14	23	45	68	91	114	136	182	227	273	341	455	569	682	910	1137	1365
16	20	40	60	80	100	119	159	199	239	299	398	498	597	796	995	1194
18	18	35	53	71	88	106	142	177	212	265	354	442	531	708	885	1062
20	16	32	48	64	80	96	127	159	191	239	318	398	478	637	796	955
25	13	25	38	51	64	76	102	127	153	191	255	318	382	510	637	764
30	11	21	32	42	53	64	85	106	127	159	212	265	318	425	531	637
35	9	18	27	36	45	55	73	91	109	136	182	227	273	364	455	546
40	8	16	24	32	40	48	64	80	96	119	159	199	239	318	398	478

RPM = rev/min
V = m/min
D = Dia.(mm)

$$V = \frac{RPM \cdot \pi \cdot D}{1000}$$

$$RPM = \frac{1000 \cdot V}{\pi \cdot D}$$

SURFACE TREATMENT AND COATING / 表面处理及涂层

The applied High Speed Steels holds a grant of good wear resistance and toughness.

Therefore YG-1 normally delivers taps with bright and unfinished surface.

For certain materials, various surface treatments provide higher advantage in machining.

高速钢具有良好的耐磨性和韧性，因此，YG-1通常交货的丝锥表面只有光亮处理。

对于某些材料，各种表面处理在机械加工中具有更高的优势。

STEAM TEMPERED - Vap

Steam Tempered is a Fe₃O₄-oxyd-coating which reduces friction between the tool and workpiece, also preventing cold welding.

蒸汽处理是一种Fe₃O₄氧化涂层，减少了工具和工件之间的摩擦，也防止冷焊。

NITRIDING - NI

Recommend surface treatment for machining materials that affect wear abrasion, such as grey cast iron, alu-alloys with high Si-percentages (more than 10%).

建议对影响磨损的机械加工材料进行的表面处理，如灰铸铁，高硅含量(超过10%)的铝合金。

Below are the various surface treatments for excellent finish surfaces suitable for many applications.

The surface treatments are produced and developed within the company.

下面是各种表面处理，为优秀的表面处理，适合多种应用。表面处理由公司自行生产和开发。

TiN-COATING TiN-涂层

TiN-coating yields a hardness of approx. 2,300 HV and also a heat resistant up to approx. 600°C.

The current coating is an excellent all-round coating for normal applications.

Colour : Golden Coefficient of friction against steel : 0.4

TiN的硬度约 2,300 HV, 耐热温度约600°C。

当前的涂料是一种优秀的全方位涂层，适用于普通应用。颜色:金色，与钢的摩擦系数:0.4

TiCN-COATING TiCN-涂层

TiCN takes place of TiN when the conditions require the coating to have a different hardness and toughness.

The TiCN brings advantages for machining very difficult steels or cutting interrupted bores.

The TiCN-coating has a hardness of approx. 3,000 HV, but is heat resistance only holds up to approx. 400°C, meaning that the TiCN needs an excellent cooling system for a long service life.

Colour : Blue-Grey Coefficient of friction against steel : 0.4

当条件要求涂层具有更高的硬度和韧性时，采用TiCN替代TiN。

TiCN对于加工非常难加工的钢或切削中断孔具有优势。

TiCN涂层的硬度约为 3,000 HV，但它的耐热性只能维持到大约400°C，这意味着TiCN需要一个优秀的冷却系统，以延长使用寿命。

颜色:蓝灰色与钢的摩擦系数:0.4。

TiAlN-COATING TiAlN-涂层

A special coating for machining abrasive materials such as grey cast iron, alu-alloys with silicon, fiber reinforced plastics, etc., or machining at high temperatures with insufficient cooling, or at high speeds $\geq 600\text{m/min}$.

TiAlN has a hardness of approx. 3,000 HV and is heat resistant up to approx. 800°C.

Colour : Violet-Grey Coefficient of friction against steel : 0.4

适用于磨削灰铸铁、含硅铝合金、纤维增强塑料等研磨材料，或在冷却不足的高温或高速下加工。

TiAlN的硬度约为 3,000 HV，耐热高达约800°C。

颜色:紫灰色与钢的摩擦系数:0.4

Hardslick-COATING Hardslick-涂层

Hardslick combines the advantages of an extremely hard, thermally stable TiAlN-coating with the sliding and lubricating properties of an outer WC/C(Tungsten carbide/carbon)-coating in a novel way.

The Hardslick coating has a hardness of approx. 3,000 HV and is temperature-resistant up to approx. 800°C.

Colour : Violet-Grey Coefficient of friction against steel : 0.2

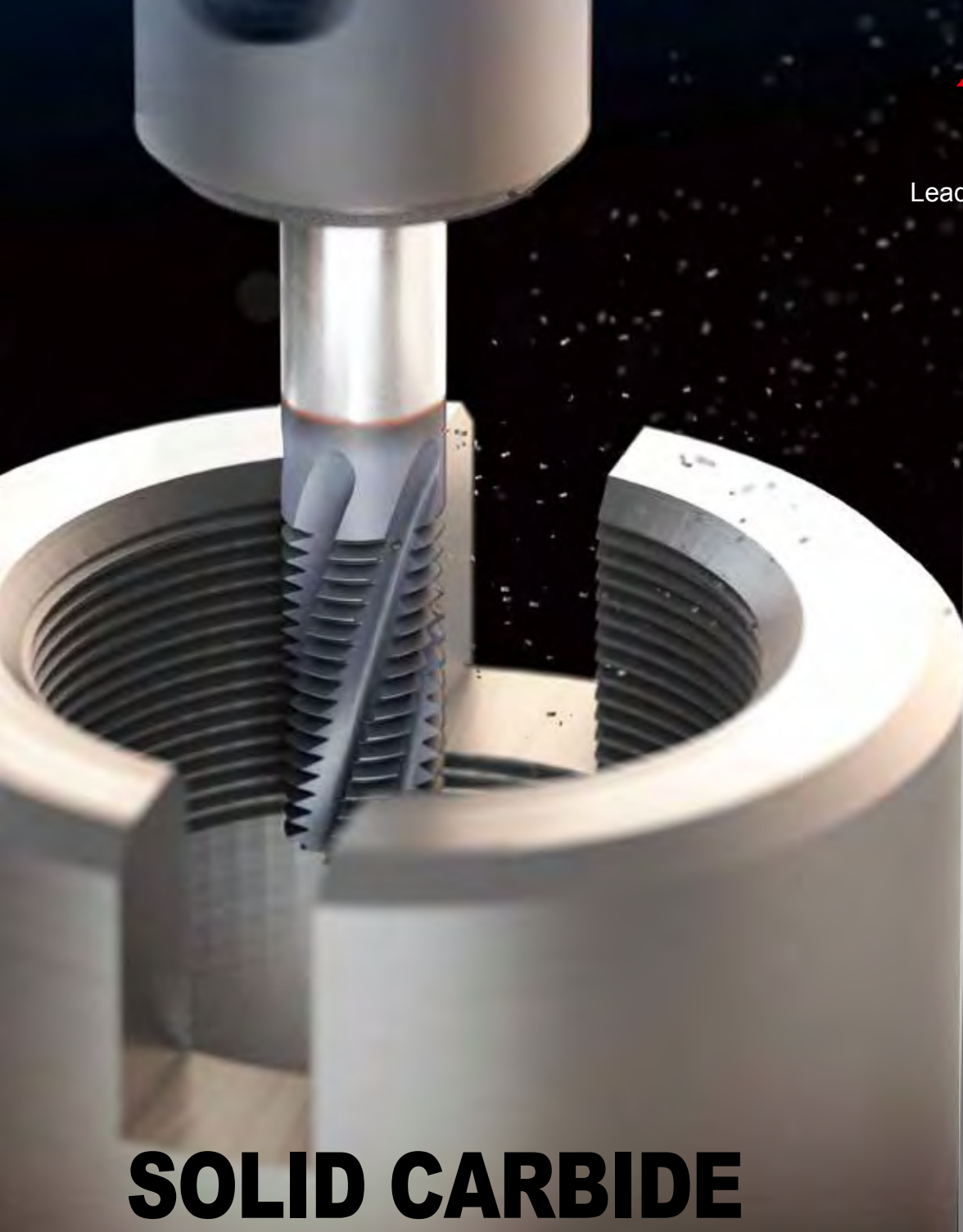
Hardslick以一种特殊的方式结合了TiAlN涂层极其坚硬、热稳定的优点，和外层WC/C(碳化钨/碳)涂层的滑动和润滑性能。

Hardslick涂层的硬度约为 3,000 HV，耐温度高达约800°C。

颜色:紫灰色与钢的摩擦系数:0.2



Leading Through Innovation



SOLID CARBIDE

THREAD MILLS

- Threading Large Diameter in High Quality Available with Chamfer
- 高质量大直径螺纹加工
可带倒角加工

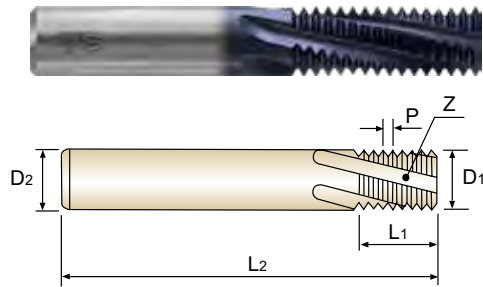
YMG THREAD MILLS

L1211 SERIES

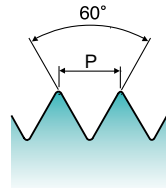
M SOLID CARBIDE THREAD MILL for ISO METRIC INTERNAL THREAD - DIN 13 ISO公制内螺纹用整体硬质合金螺纹铣刀-DIN 13

► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► 即使针对是镍, 钛等特殊材料, 可以轻松加工螺纹



Thread Depth
齿高
2.0×D



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D117 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK			D161 - 176
ER COLLET CHUCK		SKSLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Nominal Diameter[D]	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute
型号	通称直径	牙距	刃部直径	柄径	螺纹长	全长	槽数
TiAlN		P	D1	D2	L1	L2	Z
L1211200	M3	0.5	2.2	6	5	57	3
L1211240	M4	0.7	2.9	6	7	57	3
L1211280	M5	0.8	3.8	6	8	57	3
L1211310	M6	1.0	4.5	6	13	57	3
L1211360	M8	1.25	6.0	6	17.5	65	3
L1211420	M10	1.5	7.5	8	21	72	4
L1211500	M12	1.75	9.5	10	26.25	80	4
L1211540	M14	2.0	10.0	10	30	83	4
L1211600	M16	2.0	12.0	12	34	92	4
L1211650	M18	2.5	14.0	14	37.5	92	5
L1211700	M20	2.5	16.0	16	42.5	105	5

* Other coatings are available on your request
可以邀请其他的涂层方式.

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M					K																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel					Grey cast iron					Nodular cast iron					Malleable cast iron																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
HRc	13	15	18	20	22	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87	89	91	93	95	97	99	101	103	105	107	109	111	113	115	117	119	121	123	125	127	129	131	133	135	137	139	141	143	145	147	149	151	153	155	157	159	161	163	165	167	169	171	173	175	177	179	181	183	185	187	189	191	193	195	197	199	201	203	205	207	209	211	213	215	217	219	221	223	225	227	229	231	233	235	237	239	241	243	245	247	249	251	253	255	257	259	261	263	265	267	269	271	273	275	277	279	281	283	285	287	289	291	293	295	297	299	301	303	305	307	309	311	313	315	317	319	321	323	325	327	329	331	333	335	337	339	341	343	345	347	349	351	353	355	357	359	361	363	365	367	369	371	373	375	377	379	381	383	385	387	389	391	393	395	397	399	401	403	405	407	409	411	413	415	417	419	421	423	425	427	429	431	433	435	437	439	441	443	445	447	449	451	453	455	457	459	461	463	465	467	469	471	473	475	477	479	481	483	485	487	489	491	493	495	497	499	501	503	505	507	509	511	513	515	517	519	521	523	525	527	529	531	533	535	537	539	541	543	545	547	549	551	553	555	557	559	561	563	565	567	569	571	573	575	577	579	581	583	585	587	589	591	593	595	597	599	601	603	605	607	609	611	613	615	617	619	621	623	625	627	629	631	633	635	637	639	641	643	645	647	649	651	653	655	657	659	661	663	665	667	669	671	673	675	677	679	681	683	685	687	689	691	693	695	697	699	701	703	705	707	709	711	713	715	717	719	721	723	725	727	729	731	733	735	737	739	741	743	745	747	749	751	753	755	757	759	761	763	765	767	769	771	773	775	777	779	781	783	785	787	789	791	793	795	797	799	801	803	805	807	809	811	813	815	817	819	821	823	825	827	829	831	833	835	837	839	841	843	845	847	849	851	853	855	857	859	861	863	865	867	869	871	873	875	877	879	881	883	885	887	889	891	893	895	897	899	901	903	905	907	909	911	913	915	917	919	921	923	925	927	929	931	933	935	937	939	941	943	945	947	949	951	953	955	957	959	961	963	965	967	969	971	973	975	977	979	981	983	985	987	989	991	993	995	997	999	1001	1003	1005	1007	1009	1011	1013	1015	1017	1019	1021	1023	1025	1027	1029	1031	1033	1035	1037	1039	1041	1043	1045	1047	1049	1051	1053	1055	1057	1059	1061	1063	1065	1067	1069	1071	1073	1075	1077	1079	1081	1083	1085	1087	1089	1091	1093	1095	1097	1099	1101	1103	1105	1107	1109	1111	1113	1115	1117	1119	1121	1123	1125	1127	1129	1131	1133	1135	1137	1139	1141	1143	1145	1147	1149	1151	1153	1155	1157	1159	1161	1163	1165	1167	1169	1171	1173	1175	1177	1179	1181	1183	1185	1187	1189	1191	1193	1195	1197	1199	1201	1203	1205	1207	1209	1211	1213	1215	1217	1219	1221	1223	1225	1227	1229	1231	1233	1235	1237	1239	1241	1243	1245	1247	1249	1251	1253	1255	1257	1259	1261	1263	1265	1267	1269	1271	1273	1275	1277	1279	1281	1283	1285	1287	1289	1291	1293	1295	1297	1299	1301	1303	1305	1307	1309	1311	1313	1315	1317	1319	1321	1323	1325	1327	1329	1331	1333	1335	1337	1339	1341	1343	1345	1347	1349	1351	1353	1355	1357	1359	1361	1363	1365	1367	1369	1371	1373	1375	1377	1379	1381	1383	1385	1387	1389	1391	1393	1395	1397	1399	1401	1403	1405	1407	1409	1411	1413	1415	1417	1419	1421	1423	1425	1427	1429	1431	1433	1435	1437	1439	1441	1443	1445	1447	1449	1451	1453	1455	1457	1459	1461	1463	1465	1467	1469	1471	1473	1475	1477	1479	1481	1483	1485	1487	1489	1491	1493	1495	1497	1499	1501	1503	1505	1507	1509	1511	1513	1515	1517	1519	1521	1523	1525	1527	1529	1531	1533	1535	1537	1539	1541	1543	1545	1547	1549	1551	1553	1555	1557	1559	1561	1563	1565	1567	1569	1571	1573	1575	1577	1579	1581	1583	1585	1587	1589	1591	1593	1595	1597	1599	1601	1603	1605	1607	1609	1611	1613	1615	1617	1619	1621	1623	1625	1627	1629	1631	1633	1635	1637	1639	1641	1643	1645	1647	1649	1651	1653	1655	1657	1659	1661	1663	1665	1667	1669	1671	1673	1675	1677	1679	1681	1683	1685	1687	1689	1691	1693	1695	1697	1699	1701	1703	1705	1707	1709	1711	1713	1715	1717	1719	1721	1723	1725	1727	1729	1731	1733	1735	1737	1739	1741	1743	1745	1747	1749	1751	1753	1755	1757	1759	1761	1763	1765	1767	1769	1771	1773	1775	1777	1779	1781	1783	1785	1787	1789	1791	1793	1795	1797	1799	1801	1803	1805	1807	1809	1811	1813	1815	1817	1819	1821	1823	1825	1827	1829	1831	1833	1835	1837	1839	1841	1843	1845	1847	1849	1851	1853	1855	1857	1859	1861	1863	1865	1867	1869	1871	1873	1875	1877	1879	1881	1883	1885	1887	1889	1891	1893	1895	1897	1899	1901	1903	1905	1907	1909	1911	1913	1915	1917	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939	1941	1943	1945	1947	1949	1951	1953	1955	1957	1959	1961	1963	1965	1967	1969	1971	1973	1975	1977	1979	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011	2013	2015	2017	2019	2021	2023	2025	2027	2029	2031	2033	2035	2037	2039	2041	2043	2045	2047	2049	2051	2053	2055	2057	2059	2061	2063	2065	2067	2069	2071	2073	2075	2077	2079	2081	2083	2085	2087	2089	2091	2093	2095	2097	2099	2101	2103	2105	2107	2109	2111	2113	2115	2117	2119	2121	2123	2125	2127	2129	2131	2133	2135	2137	2139	2141	2143	2145	2147	2149	2151	2153	2155	2157	2159	2161	2163	2165	2167	2169	2171	2173	2175	2177	2179	2181	2183	2185	2187	2189	2191	2193	2195	2197	2199	2201	2203	2205	2207	2209	2211	2213	2215	2217	2219	2221	2223	2225	2227	2229	2231	2233	2235	2237	2239	2241	2243	22

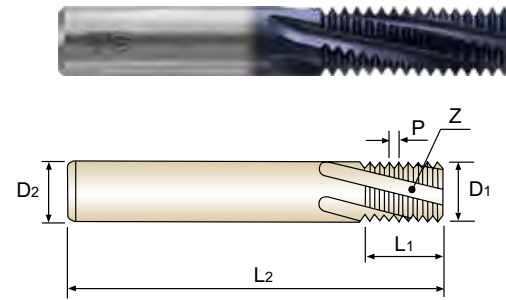
YMG THREAD MILLS

L1213 SERIES

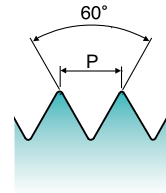
UNC SOLID CARBIDE THREAD MILL for UNC INTERNAL THREAD - ANSI B 1.1 美制内螺纹用整体硬质合金螺纹铣刀- ANSI B 1.1

► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► 即使针对是镍, 钛等特殊材料, 可以轻松加工螺纹



Thread Depth
齿高
2.0×D



Recommended ToolHolder	Flat Shank		Plain Shank	
	Page	Page	Page	Page
⊙	END MILL HOLDER D117 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER D15 - 46 D47 - 72		
⊙	POWER MILLING CHUCK		D161 - 176	
○	ER COLLET CHUCK SKSLIM CHUCK		D73 - 115 D183 - 201	

Unit(单位) : mm

EDP No.	Nominal Diameter[D]	T.P.I	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute
型号	通称直径	牙距	刃部直径	柄径	螺纹长	全长	槽数
TiAlN			D1	D2	L1	L2	Z
L1213400	1/4"	20	4.5	6	14	57	3
L1213440	5/16"	18	5.8	6	16.9	65	3
L1213480	3/8"	16	7.0	8	20.6	72	4
L1213520	7/16"	14	8.0	8	23.6	72	4
L1213560	1/2"	13	9.5	10	27.4	80	4
L1213600	9/16"	12	10.0	10	31.8	83	4
L1213640	5/8"	11	12.0	12	34.6	92	4
L1213700	3/4"	10	14.0	14	40.6	104	5

* Other coatings are available on your request
可以邀请其他的涂层方式.

⊙ : Excellent (优秀) ○ : Good (良好)

ISO	P										M					K																									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel					Grey cast iron					Nodular cast iron					Malleable cast iron										
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	230	130	230	130	230	130	130	230	130	230	130	130	230	130	230	130	130	230	130	230	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	130	230	130	230	130	130	230	130	230	130	130	230	130	230	130	130	230	130	230	130	230
Recommended	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

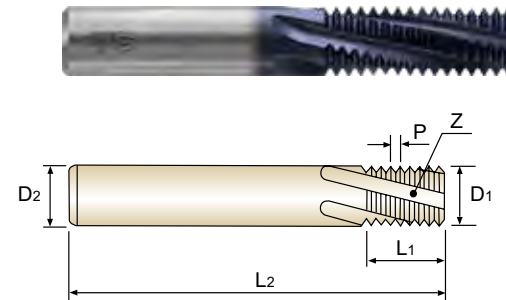
YMG THREAD MILLS

L1214 SERIES

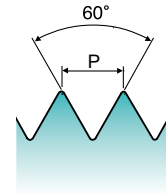
UNF SOLID CARBIDE THREAD MILL for UNF INTERNAL THREAD - ANSI B 1.1 美制细牙内螺纹用整体硬质合金螺纹铣刀- ANSI B 1.1

► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► 即使针对是镍, 钛等特殊材料, 可以轻松加工螺纹



Thread Depth
齿高
2.0×D



Recommended ToolHolder	Flat Shank		Plain Shank	
	Page	Page	Page	Page
⊙	END MILL HOLDER D117 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER D15 - 46 D47 - 72		
⊙	POWER MILLING CHUCK		D161 - 176	
○	ER COLLET CHUCK SKSLIM CHUCK		D73 - 115 D183 - 201	

Unit(单位) : mm

EDP No.	Nominal Diameter[D]	T.P.I	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute
型号	通称直径	牙距	刃部直径	柄径	螺纹长	全长	槽数
TiAlN			D1	D2	L1	L2	Z
L1214420	1/4"	28	5.0	6	13.6	57	3
L1214460	5/16"	24	6.0	6	16.9	65	3
L1214500	3/8"	24	8.0	8	20.1	72	4
L1214540	7/16"	20	8.0	8	24.1	72	4
L1214580	1/2"	20	10.0	10	26.7	80	4
L1214620	9/16"	18	12.0	12	29.6	83	4
L1214660	5/8"	18	12.0	12	33.9	92	4
L1214720	3/4"	16	14.0	14	39.7	104	5

* Other coatings are available on your request
可以邀请其他的涂层方式.

⊙ : Excellent (优秀) ○ : Good (良好)

ISO	P										M					K																									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel					Grey cast iron					Nodular cast iron					Malleable cast iron										
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	230	130	230	130	230	130	130	230	130	230	130	130	230	130	230	130	130	230	130	230	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	130	230	130	230	130	130	230	130	230	130	130	230	130	230	130	130	230	130	230	130	230
Recommended	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

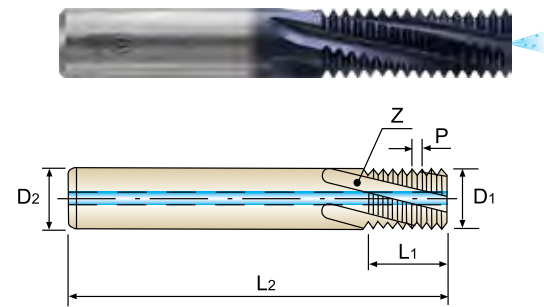
YMG THREAD MILLS

L4211 SERIES

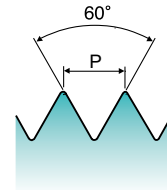
M SOLID CARBIDE THREAD MILL WITH COOLANT HOLE for ISO METRIC INTERNAL THREAD - DIN 13 ISO公制内螺纹用带内冷却孔整体合金螺纹铣刀- DIN 13

► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► 即使针对是镍, 钛等特殊材料, 可以轻松加工螺纹



Thread Depth
齿高
2.0×D



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D117 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK			D161 - 176
ER COLLET CHUCK		SKSLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Nominal Diameter[D]	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute
型号	通称直径	牙距	刃部直径	柄径	螺纹长	全长	槽数
TiAlN		P	D1	D2	L1	L2	Z
L4211310	M6	1.0	4.5	6	13.0	57	3
L4211360	M8	1.25	6.0	6	17.5	65	3
L4211420	M10	1.5	7.5	8	21.0	72	4
L4211500	M12	1.75	9.5	10	26.25	80	4
L4211540	M14	2.0	10.0	10	30.0	83	4
L4211600	M16	2.0	12.0	12	34.0	92	4
L4211700	M20	2.5	16.0	16	42.5	105	5

* Other coatings are available on your request
可以邀请其他的涂层方式.

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	35	10	29	32	38	42	15	35	40	45	10	26	3	25	10	21		
HB	125	190	250	270	300	180	275	300	350	400	200	240	180	180	180	260	160	250	130	230		
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		

ISO Material Description	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

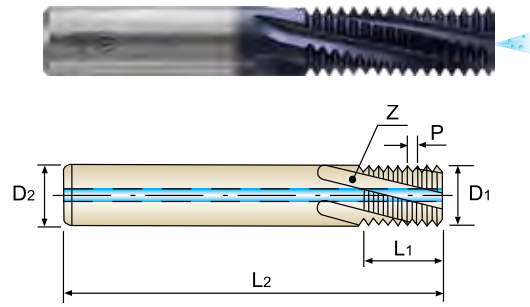
YMG THREAD MILLS

L4212 SERIES

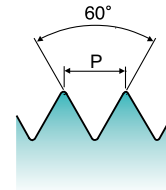
MF SOLID CARBIDE THREAD MILL WITH COOLANT HOLE for ISO METRIC-FINE INTERNAL THREAD - DIN 13 ISO公制细牙内螺纹用带内冷却孔整体合金螺纹铣刀- DIN 13

► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► 即使针对是镍, 钛等特殊材料, 可以轻松加工螺纹



Thread Depth
齿高
1.5×D



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D117 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK			D161 - 176
ER COLLET CHUCK		SKSLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Nominal Diameter[D]	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute
型号	通称直径	牙距	刃部直径	柄径	螺纹长	全长	槽数
TiAlN		P	D1	D2	L1	L2	Z
L4212370	M8	1.0	6.0	6	13.0	57	3
L4212380	M8	0.75	6.0	6	12.75	57	3
L4212440	M10	1.0	8.0	8	16.0	63	4
L4212510	M12	1.5	9.5	10	19.5	72	4
L4212520	M12	1.25	9.5	10	18.75	72	4
L4212530	M12	1.0	9.5	10	19.0	72	4
L4212550	M14	1.5	10.0	10	22.5	83	4
L4212570	M14	1.0	10.0	10	22.0	83	4
L4212610	M16	1.5	12.0	12	25.5	83	4
L4212620	M16	1.0	12.0	12	25.0	83	4
L4212670	M18	1.5	14.0	14	28.5	92	5
L4212680	M18	1.0	14.0	14	28.0	92	5
L4212720	M20	1.5	16.0	16	31.5	92	5
L4212730	M20	1.0	16.0	16	31.0	92	5

* Other coatings are available on your request
可以邀请其他的涂层方式.

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	35	10	29	32	38	42	15	35	40	45	10	26	3	25	10	21		
HB	125	190	250	270	300	180	275	300	350	400	200	240	180	180	180	260	160	250	130	230		
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		

ISO Material Description	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

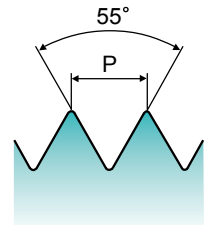
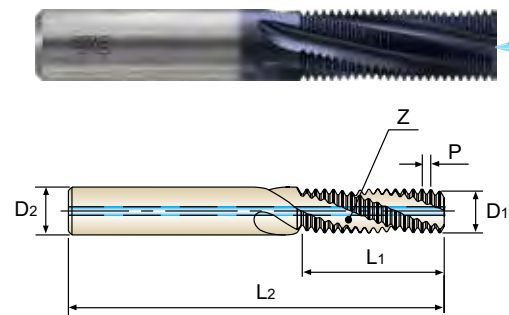
YMG THREAD MILLS

L6215 SERIES

BSP(G) SOLID CARBIDE THREAD MILL WITH COOLANT HOLE for BSP(G) INTERNAL/EXTERNAL THREAD 惠氏(G)内螺纹用带内冷却孔整体硬质合金铣刀, 带倒角

► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► 即使针对是镍, 钛等特殊材料, 可以轻松加工螺纹



Material groups: **MU** CARBIDE DIN 6535HA 55° R15 TiAlN p. B19

Recommended ToolHolder	Flat Shank		Plain Shank	
	Page	Page	Page	Page
⊙	END MILL HOLDER D117-137	HYDRAULIC CHUCK SHRINK FIT HOLDER D15-46 D47-72		
⊙	POWER MILLING CHUCK D161-176			
○	ER COLLET CHUCK SKSLIM CHUCK D73-115 D183-201			

Unit(单位) : mm

EDP No.	Nominal Diameter[D]	T.P.I	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	No. of Flute
型号	通称直径	牙距	刃部直径	柄径	螺纹长	全长	槽数
TiAlN			D1	D2	L1	L2	Z
L6215020	1/16"	28	5.9	6	16.3	65	3
L6215200	1/8"	28	7.9	8	20.0	70	4
L6215400	1/4"	19	9.9	10	26.7	80	4
L6215480	3/8"	19	13.9	14	33.4	92	4
L6215560	1/2"	14	15.9	16	43.5	104	5
L6215700	3/4"	14	17.9	18	34.5	100	5
L6215780	1"	11	19.9	20	34.6	100	5

* Other coatings are available on your request
可以邀请其他的涂层方式.

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M					K																												
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel					Grey cast iron					Nodular cast iron					Malleable cast iron													
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	30	35	42	15	25	30	35	42	15	25	30	35	42	15	25	30	35	42	15	25	30	35	42	15	25	30	35	42
HB	125	190	250	270	300	180	275	300	350	400	200	325	350	400	180	260	300	350	400	160	250	300	350	400	160	250	300	350	400	130	230	280	330	380	130	230	280	330	380	130	230	280	330	380
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N					S					H																																			
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys					Hardened steel					Chilled Cast Iron					Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550																									
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

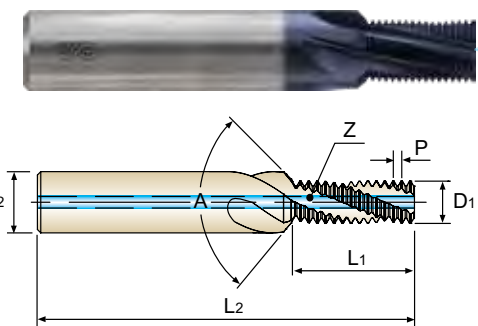
YMG THREAD MILLS

L4271 SERIES

M SOLID CARBIDE THREAD MILL WITH COOLANT HOLE & CHAMFER for ISO METRIC INTERNAL THREAD - DIN 13 ISO公制内螺纹用带内冷却孔整体硬质合金铣刀, 带倒角-DIN 13

► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► 即使针对是镍, 钛等特殊材料, 可以轻松加工螺纹



Thread Depth 齿高 2.0xD

Material groups: **MU** CARBIDE DIN 6535HA 60° R15 TiAlN p. B19

Recommended ToolHolder	Flat Shank		Plain Shank	
	Page	Page	Page	Page
⊙	END MILL HOLDER D117-137	HYDRAULIC CHUCK SHRINK FIT HOLDER D15-46 D47-72		
⊙	POWER MILLING CHUCK D161-176			
○	ER COLLET CHUCK SKSLIM CHUCK D73-115 D183-201			

Unit(单位) : mm

EDP No.	Nominal Diameter[D]	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	Angle	No. of Flute
型号	通称直径	牙距	刃部直径	柄径	螺纹长	全长	角度	槽数
TiAlN		P	D1	D2	L1	L2	A	Z
L4271310	M6	1.0	4.8	8	12.4	62	90°	3
L4271360	M8	1.25	6.5	10	16.8	74	90°	3
L4271420	M10	1.5	8.2	12	20.15	80	90°	4
L4271500	M12	1.75	9.9	14	25.25	90	90°	4
L4271540	M14	2.0	11.6	16	28.85	100	90°	4
L4271600	M16	2.0	13.6	18	32.85	102	90°	4

* Other coatings are available on your request
可以邀请其他的涂层方式.

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M					K																												
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel					Grey cast iron					Nodular cast iron					Malleable cast iron													
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	30	35	42	15	25	30	35	42	15	25	30	35	42	15	25	30	35	42	15	25	30	35	42	15	25	30	35	42
HB	125	190	250	270	300	180	275	300	350	400	200	325	350	400	180	260	300	350	400	160	250	300	350	400	160	250	300	350	400	130	230	280	330	380	130	230	280	330	380	130	230	280	330	380
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N					S					H																																			
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys					Hardened steel					Chilled Cast Iron					Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550																									
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

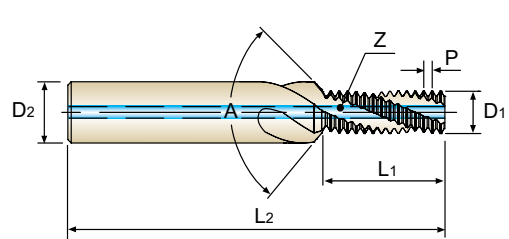
YG THREAD MILLS

L4274 SERIES

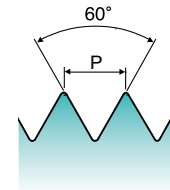
UNF SOLID CARBIDE THREAD MILL WITH COOLANT HOLE & CHAMFER for UNF INTERNAL THREAD - ANSI B 1.1 美制细牙内螺纹用带内冷却孔整体硬质合金螺纹铣刀, 带倒角- ANSI B 1.1

► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► 即使针对是镍, 钛等特殊材料, 可以轻松加工螺纹



Thread Depth
齿高
2.0×D



Material groups: **MU** CARBIDE DIN 6535HA 60° R15 TiAlN p. B19

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D117 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
		POWER MILLING CHUCK	D161 - 176
		ER COLLET CHUCK SKSLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Nominal Diameter[D]	T.P.I	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	Angle	No. of Flute
型号	通称直径	牙距	刃部直径	柄径	螺纹长	全长	角度	槽数
TiAlN			D1	D2	L1	L2	A	Z
L4274420	1/4"	28	5.1	8	13.21	62	90°	3
L4274460	5/16"	24	6.5	10	16.37	74	90°	3
L4274500	3/8"	24	8.1	12	19.54	80	90°	4
L4274540	7/16"	20	9.4	12	22.19	80	90°	4
L4274580	1/2"	20	11.0	14	26	90	90°	4
L4274620	9/16"	18	12.4	16	28.88	100	90°	4
L4274660	5/8"	18	14.0	18	33.12	102	90°	5
L4274720	3/4"	16	17.0	20	38.86	110	90°	5

* Other coatings are available on your request
可以邀请其他的涂层方式.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	3	25	3	21	
HB	125	190	250	270	300	180	275	300	350	400	200	240	180	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

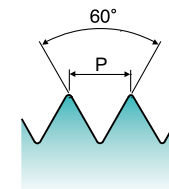
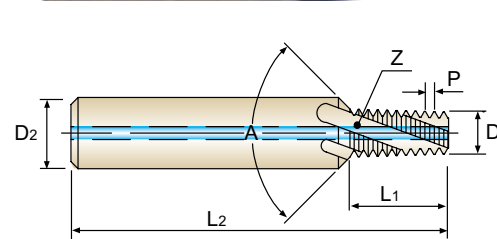
YG THREAD MILLS

L4276 SERIES

NPT SOLID CARBIDE THREAD MILL WITH COOLANT HOLE & CHAMFER for NPT THREAD - ANSI B 1.20.1 NPT螺纹用带内冷却孔整体硬质合金螺纹铣刀, 带倒角- ANSI B 1.20.1

► Easy to cut threads even if exotic materials like Nickel, Titanium or their alloys.

► 即使针对是镍, 钛等特殊材料, 可以轻松加工螺纹



Material groups: **MU** CARBIDE DIN 6535HA 60° R15 TiAlN p. B19

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D117 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
		POWER MILLING CHUCK	D161 - 176
		ER COLLET CHUCK SKSLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Nominal Diameter[D]	T.P.I	Cutter Diameter	Shank Diameter	Thread Length	Overall Length	Angle	No. of Flute
型号	通称直径	牙距	刃部直径	柄径	螺纹长	全长	角度	槽数
TiAlN			D1	D2	L1	L2	A	Z
L4276020	NPT1/16"	27	5.9	10	8.9	64	90°	3
L4276200	NPT1/8"	27	7.8	12	8.9	70	90°	4
L4276400	NPT1/4"	18	10.05	16	13.4	81	90°	4
L4276480	NPT3/8"	18	13.45	18	13.4	81	90°	4

* Other coatings are available on your request
可以邀请其他的涂层方式.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	3	25	3	21	
HB	125	190	250	270	300	180	275	300	350	400	200	240	180	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

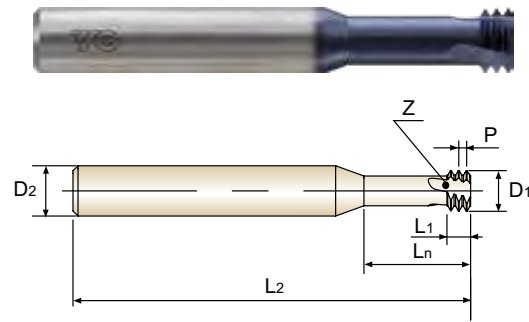
YMG THREAD MILLS

L12D1 SERIES

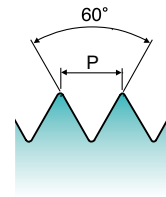
M SOLID CARBIDE MINIATURE THREAD MILL for ISO METRIC INTERNAL THREAD - DIN13 ISO公制内螺纹用整体硬质合金微型螺纹铣刀- DIN13

▶ Short thread length

▶ 短牙设计



Thread Depth
齿高
2.0×D



Material groups	Flat Shank	Page	Plain Shank	Page
⊙	END MILL HOLDER	D117 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
⊙			POWER MILLING CHUCK	D161 - 176
○			ER COLLET CHUCK SKSUM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Nominal Diameter[D]	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Neck Length	Overall Length	No. of Flute
型号	通称直径	牙距	刃部直径	柄径	螺纹长	颈长	全长	槽数
TiAlN		P	D1	D2	L1	Ln	L2	Z
L12D1010	M1	0.25	0.70	3	0.75	2.1	30	3
L12D1050	M1.2	0.25	0.90	3	0.75	2.5	30	3
L12D1070	M1.4	0.3	1.04	3	0.90	2.9	30	3
L12D1090	M1.6	0.35	1.18	3	1.05	3.4	30	3
L12D1130	M2	0.4	1.52	6	1.2	4.2	57	3
L12D1150	M2.2	0.45	1.66	6	1.35	4.6	57	3
L12D1170	M2.5	0.45	1.96	6	1.35	5.3	57	3
L12D1200	M3	0.5	2.4	6	1.5	6.3	57	3
L12D1240	M4	0.7	3.16	6	2.1	8.4	57	3
L12D1280	M5	0.8	4.04	6	2.4	10.5	57	3
L12D1310	M6	1.0	4.8	6	3.0	12.6	57	3
L12D1360	M8	1.25	6.5	8	3.75	16.8	63	3
L12D1420	M10	1.5	8.2	10	4.5	21.0	73	3
L12D1500	M12	1.75	9.9	10	5.25	25.2	73	3

* Other coatings are available on your request
可以邀请其他的涂层方式.

⊙ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○	○	⊙	⊙	⊙	⊙	⊙	⊙

ISO	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○	○	○	○	○	○	○	○	○	○

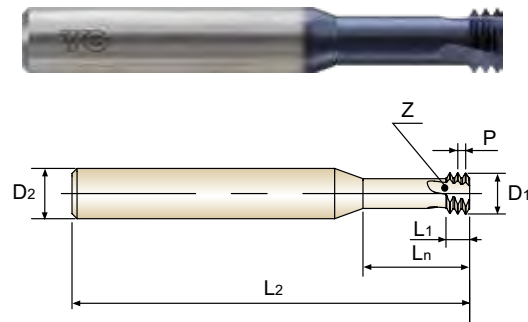
YMG THREAD MILLS

L12D3 SERIES

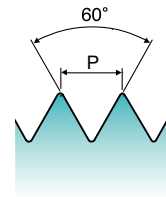
UNC SOLID CARBIDE MINIATURE THREAD MILL for UNC INTERNAL THREAD - ANSI B 1.1 美制内螺纹用整体硬质合金微型螺纹铣刀- ANSI B 1.1

▶ Short thread length

▶ 短牙设计



Thread Depth
齿高
2.0×D



Material groups	Flat Shank	Page	Plain Shank	Page
⊙	END MILL HOLDER	D117 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
⊙			POWER MILLING CHUCK	D161 - 176
○			ER COLLET CHUCK SKSUM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Nominal Diameter[D]	T.P.I	Cutter Diameter	Shank Diameter	Thread Length	Neck Length	Overall Length	No. of Flute
型号	通称直径	牙距	刃部直径	柄径	螺纹长	颈长	全长	槽数
TiAlN			D1	D2	L1	Ln	L2	Z
L12D3040	#1	64	1.38	6	1.19	3.9	57	3
L12D3080	#2	56	1.64	6	1.36	4.6	57	3
L12D3160	#4	40	2.08	6	1.91	6.0	57	3
L12D3240	#6	32	2.55	6	2.38	7.4	57	3
L12D3280	#8	32	3.21	6	2.38	8.7	57	3
L12D3320	#10	24	3.56	6	3.18	10.1	57	3
L12D3360	#12	24	4.22	6	3.18	11.5	57	3
L12D3400	1/4	20	4.83	6	3.81	13.3	57	3
L12D3440	5/16	18	6.24	8	4.23	16.7	63	3
L12D3480	3/8	16	7.62	8	4.76	20.0	63	3
L12D3520	7/16	14	8.94	10	5.44	23.3	73	3

* Other coatings are available on your request
可以邀请其他的涂层方式.

⊙ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○	○	⊙	⊙	⊙	⊙	⊙	⊙

ISO	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○	○	○	○	○	○	○	○	○	○

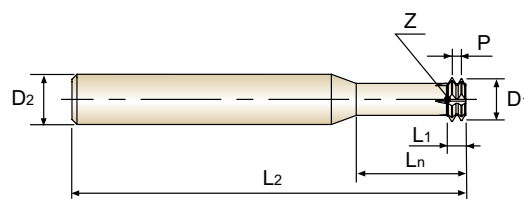
YG THREAD MILLS

L19E1 SERIES

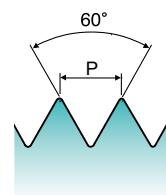
M SOLID CARBIDE MINIATURE THREAD MILL for HARD MATERIALS, ISO METRIC INTERNAL THREAD - DIN13 ISO公制内螺纹用整体硬质合金微型螺纹铣刀, 高硬度材料用-DIN13

- ▶ Short thread length
- ▶ Straight Flute
- ▶ Left hand Cut (CNC code : M04)
- ▶ The work direction is from top to bottom (Climb Milling)
- ▶ For hard materials up to HRC62

- ▶ 短牙设计
- ▶ 直槽
- ▶ 逆时针加工(CNC mode : M04)
- ▶ 加工方向, 从上到下(顺铣)
- ▶ 最高可加工硬度达 HRC62的材料



Thread Depth
齿高
2.0×D



Material groups **HR** CARBIDE DIN 6535HA 60° AITiN p. B19

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D117 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK			D161 - 176
ER COLLET CHUCK		SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Nominal Diameter[D]	Pitch	Cutter Diameter	Shank Diameter	Thread Length	Neck Length	Overall Length	No. of Flute
型号	通称直径	牙距	刃部直径	柄径	螺纹长	颈长	全长	槽数
AITiN		P	D1	D2	L1	Ln	L2	Z
L19E1130	M2	0.4	1.52	6	0.8	4.2	57	4
L19E1150	M2.2	0.45	1.66	6	0.9	4.6	57	4
L19E1170	M2.5	0.45	1.96	6	0.9	5.3	57	4
L19E1200	M3	0.5	2.4	6	1.0	6.3	57	4
L19E1240	M4	0.7	3.16	6	1.4	8.4	57	4
L19E1280	M5	0.8	4.04	6	1.6	10.5	57	4
L19E1310	M6	1.0	4.8	6	2.0	12.6	57	5
L19E1360	M8	1.25	6.5	8	2.5	16.8	63	5
L19E1420	M10	1.5	8.2	10	3.0	21.0	73	6
L19E1500	M12	1.75	9.9	10	3.5	25.2	73	6

* Other coatings are available on your request
可以邀请其他的涂层方式.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended						○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended											◎	◎	◎	◎	◎	○	○	◎	◎	◎	◎

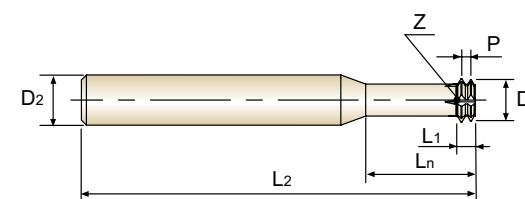
YG THREAD MILLS

L19E3 SERIES

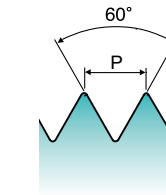
UNC SOLID CARBIDE MINIATURE THREAD MILL for HARD MATERIALS, UNC INTERNAL THREAD - ANSI B 1.1 美制内螺纹用整体硬质合金微型螺纹铣刀, 高硬度材料用-ANSI B 1.1

- ▶ Short thread length
- ▶ Straight Flute
- ▶ Left hand Cut (CNC code : M04)
- ▶ The work direction is from top to bottom (Climb Milling)
- ▶ For hard materials up to HRC62

- ▶ 短牙设计
- ▶ 直槽
- ▶ 逆时针加工(CNC mode : M04)
- ▶ 加工方向, 从上到下(顺铣)
- ▶ 最高可加工硬度达 HRC62的材料



Thread Depth
齿高
2.0×D



Material groups **HR** CARBIDE DIN 6535HA 60° AITiN p. B19

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D117 - 137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15 - 46 D47 - 72
POWER MILLING CHUCK			D161 - 176
ER COLLET CHUCK		SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Nominal Diameter[D]	T.P.I	Cutter Diameter	Shank Diameter	Thread Length	Neck Length	Overall Length	No. of Flute
型号	通称直径	牙距	刃部直径	柄径	螺纹长	颈长	全长	槽数
AITiN			D1	D2	L1	Ln	L2	Z
L19E3080	#2	56	1.64	6	0.91	4.6	57	4
L19E3160	#4	40	2.08	6	1.27	6.0	57	4
L19E3240	#6	32	2.55	6	1.59	7.4	57	4
L19E3280	#8	32	3.21	6	1.59	8.7	57	4
L19E3320	#10	24	3.56	6	2.12	10.1	57	4
L19E3360	#12	24	4.22	6	2.12	11.5	57	4
L19E3400	1/4	20	4.83	6	2.54	13.3	57	5
L19E3440	5/16	18	6.24	8	2.82	16.7	63	5
L19E3480	3/8	16	7.62	8	3.18	20.0	63	6
L19E3520	7/16	14	8.94	10	3.63	23.3	73	6

* Other coatings are available on your request
可以邀请其他的涂层方式.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended						○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended											◎	◎	◎	◎	◎	○	○	◎	◎	◎	◎

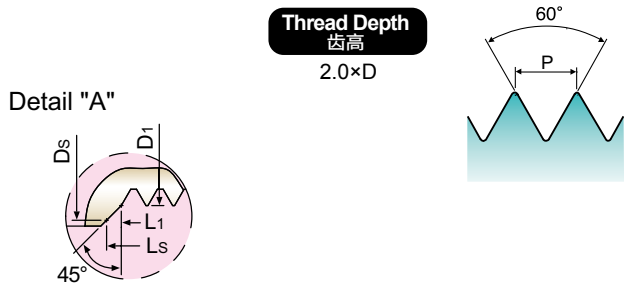
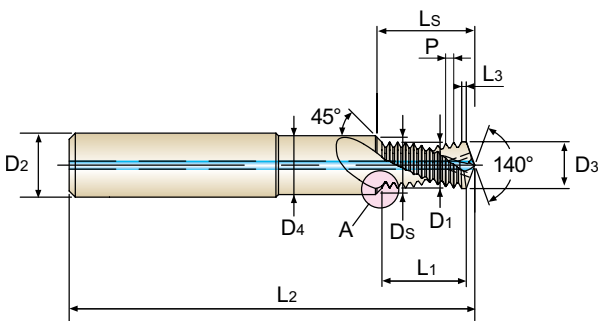
YG THREAD MILLS

Bright **L41A1** SERIES
TiAlN **L42A1** SERIES

SOLID CARBIDE DRILL AND THREAD MILL WITH CHAMFER for ISO METRIC INTERNAL THREAD - DIN 13 ISO公制内螺纹用钻, 螺纹铣一体刀, 带倒角-DIN 13

- ▶ No. of Flute : 2
- ▶ Drill Point : 140° / Countersink : 90°
- ▶ Drilling, Chamfering and Thread milling

- ▶ 2槽
- ▶ 钻尖 : 140° / 倒角 : 90°
- ▶ 钻, 倒角和螺纹铣刀一体设计



Material groups: **GG** **AI** CARBIDE **DIN 6535HA** **60°** **R25** **Bright** **TiAlN** p. B19

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER D117-137		HYDRAULIC CHUCK D15-46	
		SHRINK FIT HOLDER D47-72	
POWER MILLING CHUCK			D161-176
ER COLLET CHUCK			D73-115
SKSLIM CHUCK			D183-201

EDP No.		Nominal Diameter [D]	Pitch	Cutter Diameter	Shank Diameter	Effect. Diameter	Drill Diameter	Max. C'sink	Thread Length	Effect. Length	Drill Length	Overall Length
型号		通称直径	牙距	刃部直径	柄径	有效直径	钻头直径	最大镗锥孔	螺纹长	有效长度	钻头长度	全长
Bright	TiAlN		P	D1	D2	Ds	D3	D4	L1	Ls	L3	L2
L41A1310	L42A1310	M6	1.0	4.75	8	6.3	5.00	6.6	13.00	14.68	1.00	62
L41A1360	L42A1360	M8	1.25	6.35	10	8.3	6.75	9.0	16.27	18.48	1.25	74
L41A1420	L42A1420	M10	1.5	7.95	12	10.3	8.50	11.0	21.05	23.77	1.50	79
L41A1500	L42A1500	M12	1.75	9.95	14	12.3	10.25	13.5	24.21	27.25	1.50	89
L41A1540	L42A1540	M14	2.0	11.20	16	14.3	12.00	15.5	29.58	33.32	1.50	102

* Other coatings are available on your request
可以邀请其他的涂层方式。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

YG THREAD MILLS

RECOMMENDED CUTTING CONDITIONS 推荐加工条件

For Thread Mills 螺纹铣刀

Unit(单位) : mm

Materials 材料	Hardness(HB) 硬度(HB)	Strength(N/mm ²) 力量	Feed per Tooth 每齿进给量 (fz)	
			Cutter Diameter 刃部直径 ≤Ø8.0	Cutter Diameter 刃部直径 >Ø8.0
Low Carbon Steels 低碳钢	≤ 200	≤ 700	0.02 - 0.04	0.04 - 0.10
Medium Carbon Steels 中碳钢 High Carbon Steels 高碳钢	≤ 250	≤ 850	0.02 - 0.04	0.04 - 0.10
Alloy Steels 合金钢	≤ 250	≤ 850	0.02 - 0.04	0.04 - 0.10
Heat Treated Steels 淬火钢	≤ 400	≤ 1400	0.02 - 0.04	0.04 - 0.10
Stainless Steels 不锈钢	≤ 300	≤ 1000	0.01 - 0.02	0.02 - 0.06
Cast Iron 铸铁	≤ 300	≤ 1000	0.02 - 0.04	0.04 - 0.10
Chrome-Nickel Alloys 铬镍合金 Titanium Alloys 钛合金	≤ 350	≤ 1200	0.01 - 0.02	0.02 - 0.06
Non Ferrous Materials 有色金属	≤ 200	≤ 700	0.03 - 0.07	0.05 - 0.10

For Drill and Thread Mills 钻&螺纹一体铣刀

Unit(单位) : mm

Materials 材料	Hardness (HB) 硬度	Strength (N/mm ²) 力量	Fz(Threading) -Feed per Tooth 每齿进给量		Fdr(Drilling) - Feed per revolution 每转走刀量	
			Cutter Diameter 刃部直径 ≤Ø8.0	Cutter Diameter 刃部直径 >Ø8.0	Cutter Diameter 刃部直径 ≤Ø8.0	Cutter Diameter 刃部直径 >Ø8.0
Cast Iron 铸铁	≤ 200	≤ 700	0.03-0.08	0.08-0.12	0.10-0.20	0.20-0.25
Aluminium 铝 Aluminium-alloy 铝合金 Magnesium 镁合金	≤ 180	≤ 600	0.05-0.10	0.10-0.15	0.10-0.20	0.20-0.30
Plastics 塑料	-	-	0.05-0.10	0.10-0.15	0.10-0.20	0.20-0.30

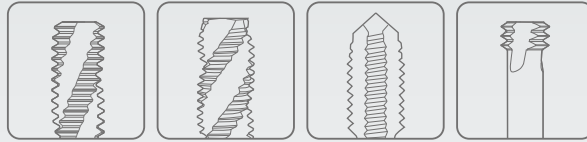
For Hard Material Miniature Thread Mills 高硬度材料用微型螺纹铣刀

Unit(单位) : mm

Materials 材料	Hardness(HB) 硬度	Strength(N/mm ²) 力量	Feed 进给 (mm/tooth)	
			Cutter Diameter 刃部直径 ≤Ø6.0	Cutter Diameter 刃部直径 >Ø6.0
Alloy Steel 合金钢	295-415HB	1000-1400	0.02-0.04	0.04-0.06
Stainless Steel 不锈钢	280-415HB	950-1250	0.02-0.04	0.04-0.06
Cast Iron 铸铁	≤ HB300	≤ 1000	0.03-0.05	0.05-0.07
Chrome-Nickel Alloys 铬镍合金 Titanium Alloys 钛合金	≤ HB445	≤ 1500	0.02-0.03	0.03-0.05
Hardened Material 淬火材料	45-50HRC		0.03-0.05	0.05-0.07
	51-55HRC		0.02-0.04	0.04-0.06
	56-62HRC		0.01-0.03	0.03-0.05



Global Cutting Tool Leader **YG-1**



THREADING



Leading Through Innovation



HSS-PM

SYNCHRO TAPS

- For High Speed Tapping on Rigid CNC Machine
- 刚性数控机床高速攻丝

SELECTION GUIDE 选用指南



HSS-PM SYNCHRO TAPS

For High Speed Tapping on Rigid CNC Machine 刚性数控机床高速攻丝

Please visit globally1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

Table with columns: HOLE TYPE, TOOL MATERIAL, CHAMFER LEAD ACC. TO DIN2197, FLUTE TYPE, SPIRAL FLUTE ANGLE, JIS Type, M/MF, UNC/F, W, M-LH, W-LH, PIPE TAPS, SURFACE TREATMENT, MODEL. Includes a detailed material selection table with rows for P, M, K, N, S, H groups and columns for material description, composition, heat treatment, hardness, and recommended tap types.

SYNCHRO TAPS

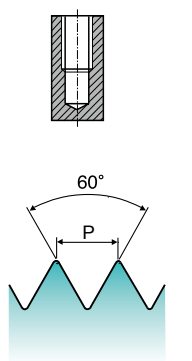
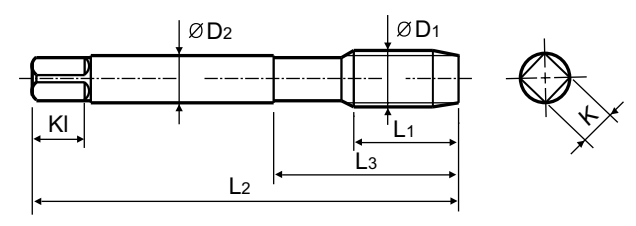
TT437 SERIES

SPIRAL FLUTE for HIGH SPEED TAPPING 螺旋槽高速攻丝丝锥

- Coated HSS-PM (Powder Metallurgy) Taps for high-speed tapping on rigid CNC machines or equivalent machines
Up to 3 times faster in tapping compared to conventional taps
For high-speed synchro tapping, synchro holder for increasing tool life and thread quality is recommended
High precision threads



Hole type 孔类型 2.5xD



Material groups: GS, HSS-PM, YH, 60°, 2P~3P, R45, TiN, p. B40

Plain Shank Page Recommended Toolholder SYNCHROTAPPING CHUCK D203-210

Table with columns: SIZE, Pitch, EDP No., Limit, Thread Length, Overall Length, Neck Length, Shank Diameter, Square Size, Square Length, No. of Flute. Includes a sub-table for Tap Limits p.B230.

Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

Material selection table with columns: ISO, Material Description, VDI 3323, HRc, HB, Recommended. Includes rows for P, M, K, N, S, H groups.

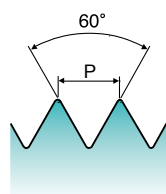
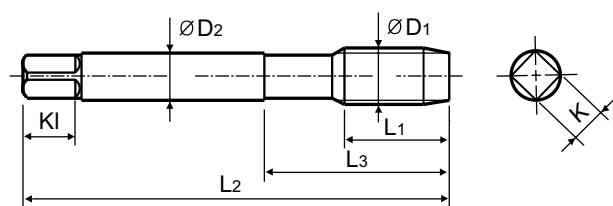
M SPIRAL POINT for HIGH SPEED TAPPING
先端高速攻丝丝锥

- ▶ Coated HSS-PM(Powder Metallurgy) Taps for high-speed tapping on rigid CNC machines or equivalent machines
- ▶ Up to 3 times faster in tapping compared to conventional taps
- ▶ For high-speed synchro tapping, synchro holder for increasing tool life and thread quality is recommended
- ▶ High precision threads

- ▶ 为坚固的CNC机械或同等的机械高速攻丝而涂层的 HSS-PM 丝锥
- ▶ 与现有丝锥相比，丝攻处理速度最大提高3倍
- ▶ 建议使用高速攻丝时，为提高工具寿命和螺纹使用同步刀夹。
- ▶ 精巧的螺纹



Hole type
孔类型
3.0×D



Material groups: **GS** HSS-PM YH 60° 4P~5P TiN p. B40

Plain Shank Page
Recommended ToolHolder SYNCHRO TAPPING CHUCK D203-210

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	螺纹长	全长	颈长	柄径	方块尺寸	方块长度	槽数
ØD1	P	TiN		L1	L2	L3	ØD2	K	KI	
M3 × 0.5		TTS01203	YH3	5.0	46.0	18.0	4.0	3.2	6.0	3
M4 × 0.7		TTS01243	YH3	7.0	52.0	20.0	6.0	4.5	7.0	3
M5 × 0.8		TTS01283	YH3	8.0	60.0	25.0	6.0	4.5	7.0	3
M6 × 1.0		TTS01313	YH3	10.0	62.0	28.0	6.0	4.5	7.0	3
M8 × 1.25		TTS01364	YH4	13.0	70.0	35.0	8.0	6.0	9.0	3
M10 × 1.5		TTS01424	YH4	15.0	75.0	39.0	8.0	6.0	9.0	3
M12 × 1.75		TTS01504	YH4	18.0	82.0	42.0	10.0	8.0	11.0	4
M14 × 2.0		TTS01545	YH5	20.0	88.0	46.0	12.0	9.0	12.0	4
M16 × 2.0		TTS01605	YH5	20.0	95.0	50.0	16.0	12.0	15.0	4
M18 × 2.5		TTS01655	YH5	25.0	100.0	55.0	16.0	12.0	15.0	4
M20 × 2.5		TTS01705	YH5	25.0	105.0	56.0	16.0	12.0	15.0	4

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

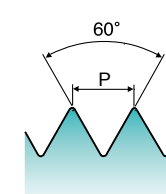
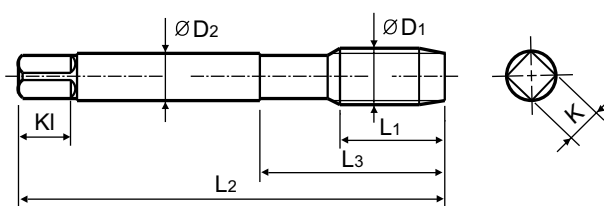
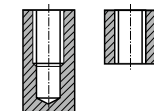
M STRAIGHT FLUTE for HIGH SPEED TAPPING
先端高速攻丝丝锥

- ▶ Coated HSS-PM(Powder Metallurgy) Taps for high-speed tapping on rigid CNC machines or equivalent machines
- ▶ Up to 3 times faster in tapping compared to conventional taps
- ▶ For high-speed synchro tapping, synchro holder for increasing tool life and thread quality is recommended
- ▶ High precision threads

- ▶ 为坚固的CNC机械或同等的机械高速攻丝而涂层的 HSS-PM 丝锥
- ▶ 与现有丝锥相比，丝攻处理速度最大提高3倍
- ▶ 建议使用高速攻丝时，为提高工具寿命和螺纹使用同步刀夹。
- ▶ 精巧的螺纹



Hole type
孔类型
2.0×D



Material groups: **GS** HSS-PM YH 60° 2P~3P TiCN p. B40

Plain Shank Page
Recommended ToolHolder SYNCHRO TAPPING CHUCK D203-210

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	螺纹长	全长	颈长	柄径	方块尺寸	方块长度	槽数
ØD1	P	TiCN		L1	L2	L3	ØD2	K	KI	
M3 × 0.5		TKS02203	YH3	5.0	46.0	18.0	4.0	3.2	6.0	3
M4 × 0.7		TKS02243	YH3	7.0	52.0	20.0	6.0	4.5	7.0	3
M5 × 0.8		TKS02283	YH3	8.0	60.0	25.0	6.0	4.5	7.0	3
M6 × 1.0		TKS02313	YH3	10.0	62.0	28.0	6.0	4.5	7.0	3
M8 × 1.25		TKS02364	YH4	13.0	70.0	35.0	8.0	6.0	9.0	3
M10 × 1.5		TKS02424	YH4	15.0	75.0	39.0	8.0	6.0	9.0	4
M12 × 1.75		TKS02504	YH4	18.0	82.0	42.0	10.0	8.0	11.0	4
M14 × 2.0		TKS02545	YH5	20.0	88.0	46.0	12.0	9.0	12.0	4
M16 × 2.0		TKS02605	YH5	20.0	95.0	50.0	16.0	12.0	15.0	4
M18 × 2.5		TKS02655	YH5	25.0	100.0	55.0	16.0	12.0	15.0	4
M20 × 2.5		TKS02705	YH5	25.0	105.0	56.0	16.0	12.0	15.0	4

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

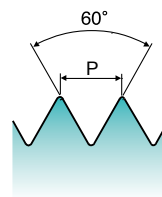
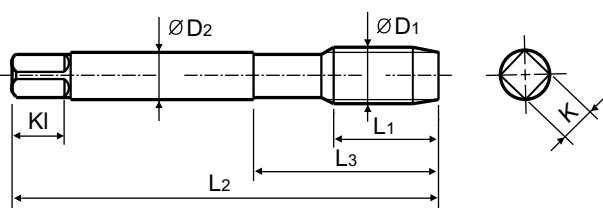
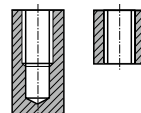
M FLUTELESS for HIGH SPEED TAPPING
高速攻丝挤压丝锥

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- ▶ 为坚固的CNC机械或同等的机械高速攻丝而涂层的 HSS-PM 丝锥
- ▶ 与现有丝锥相比, 丝攻处理速度最大提高3倍
- ▶ 建议使用高速攻丝时, 为提高工具寿命和螺纹使用同步刀夹。
- ▶ 精巧的螺纹



Hole type
孔类型
3.0×D



Material groups: **GV** HSS-PM GH 60° 2P~3P TiN p. B40

Plain Shank Page
 Recommended ToolHolder SYNCHROTAPPING CHUCK D203-210

Tap Limits: p.B231

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Thread Length	Overall Length	Neck Length	Shank Diameter	Square Size	Square Length	No. of Lobe
尺寸	牙距	型号	精度	螺纹长	全长	颈长	柄径	方块尺寸	方块长度	槽数
ØD1	P	TiN		L1	L2	L3	ØD2	K	KI	
M3 × 0.5		TTS03205	GH5	5.0	46.0	18.0	4.0	3.2	6.0	5
M4 × 0.7		TTS03246	GH6	7.0	52.0	20.0	6.0	4.5	7.0	5
M5 × 0.8		TTS03286	GH6	8.0	60.0	25.0	6.0	4.5	7.0	5
M6 × 1.0		TTS03317	GH7	10.0	62.0	28.0	6.0	4.5	7.0	5
M8 × 1.25		TTS03367	GH7	13.0	70.0	35.0	8.0	6.0	9.0	5
M10 × 1.5		TTS03427	GH7	15.0	75.0	39.0	8.0	6.0	9.0	6
M12 × 1.75		TTS03508	GH8	18.0	82.0	42.0	10.0	8.0	11.0	6

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎		◎		○				◎	◎	◎							

ISO	N										S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys							Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc											15	30	25	38	34			55	60	42	55			
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550			
Recommended	○	○	◎	◎	○	◎	◎																	



Leading Through Innovation

HSS-E

COMBO TAPS

- For Multi Purpose Tapping
- 多用途丝锥

SELECTION GUIDE
选用指南



HSS-E
COMBO
TAPS

For Multi Purpose Tapping
多用途丝锥

SERIES NO. 系列号 (page 页数)

HOLE TYPE 孔类型	Max. 2.5xD Blind Hole 盲孔	Max. 3.0xD Through Hole 通孔
TOOL MATERIAL 刀具材料	HSS-E	
CHAMFER LEAD ACC. TO DIN2197 倒角长度	2.5P	5.0P
FLUTE TYPE 槽型	Spiral Flute 螺旋角	Spiral Point 螺旋尖
SPIRAL FLUTE ANGLE 螺旋角	R40	-
JIS Type	I	I
M/MF	T2809 (p. B47)	T2829 (p. B54)
UNC/F	T2839 (p. B52)	T2849 (p. B58)
W		
M-LH W-LH		
PIPE TAPS		
SURFACE TREATMENT 表面处理	Bright	Bright

MODEL
模型



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for material search

◎ : Excellent (优秀) ○ : Good (良好)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度	盲孔	通孔	
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	5~8	
	2		About 0.45% C Annealed	190	13	◎	7~12	
	3		About 0.45% C Quenched & Tempered	250	25	◎	7~12	
	4		About 0.75% C Annealed	270	28	◎	7~12	
	5		About 0.75% C Quenched & Tempered	300	32	◎	7~12	
	6	Low alloy steel	Annealed	180	10	◎	7~12	
	7		Quenched & Tempered	275	29	◎	7~12	
	8		Quenched & Tempered	300	32	○	5~8	
	9		Quenched & Tempered	350	38	○	8~10	
	10		High alloyed steel, and tool steel	Annealed	200	15	○	6~9
	11			Quenched & Tempered	325	35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	5~8	
	13		Martensitic Quenched & Tempered	240	23	◎	5~8	
	14		Austenitic	180	10	◎	5~8	
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	7~12	
	16		Pearlitic (Martensitic)	260	26	○	7~12	
	17	Nodular cast iron	Ferritic	160	3	○	7~12	
	18		Pearlitic	250	25	○	7~12	
	19	Malleable cast iron	Ferritic	130		○	10~15	
	20		Pearlitic	230	21	○	10~15	
N	21	Aluminum-wrought alloy	Not Curable	60		◎	10~20	
	22		Curable Hardened	100		◎	10~20	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		◎	10~15	
	24		≤ 12% Si, Curable Hardened	90		◎	10~15	
	25		> 12% Si, Not Curable	130		○	10~15	
	26		Copper and Cutting Alloys, PB>1%	110		◎	6~11	
	27		Copper Alloys (Bronze / Brass)	90		◎	6~20	
	28		CuSn, lead-free copper and electrolytic copper	100				
	29		Non Metallic Duroplastic, Fiber Reinforced Plastic					
	30		Materials Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15			
	32		Cured	280	30			
	33		Annealed	250	25			
	34		Cured	350	38			
	35		Cast	320	34			
H	38	Hardened steel	Hardened	550	55			
	39		Hardened	630	60			
H	40	Hardened Cast Iron	Cast	400	42			
	41		Hardened	550	55			

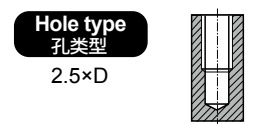
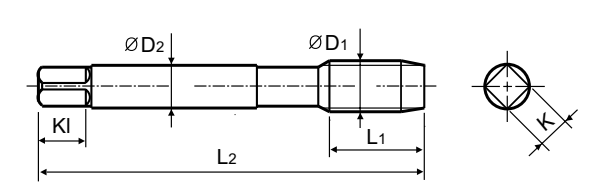
YG COMBO TAPS

Bright **T2809** SERIES

M I-SP SPIRAL FLUTE TAPS for Multi Purpose
I-SP 多用途螺旋槽丝锥

► For using multi-purpose and correct thread profiles & long tool life due to special tap geometry.

► 适合不锈钢加工, 可以修正螺纹形状, 采用独特的设计可以延长丝锥使用寿命



Material groups: **MU** HSS-E I YH 60° 2.5P R40 Homo Bright TiN p. B46

Recommended ToolHolder: Plain Shank TAPPING CHUCK D215-220 ONE-STEP TAPPING CHUCK D221-228

Tap Limits: p.B230

Unit(单位): mm

SIZE 尺寸	Pitch 牙距	EDP No. 型号	Limit 精度	Overall Length 全长	Thread Length 螺纹长	Shank Diameter 柄径	Square Size 方块尺寸	Square Length 方块长度	No. of Flute 槽数
ØD1	P	Bright		L2	L1	ØD2	K	KI	
M1 x 0.25		T2809011	YH1	30.0	5.5	3.0	2.5	5.0	2
M1.1 x 0.25		T2809031	YH1	32.0	5.5	3.0	2.5	5.0	2
M1.2 x 0.25		T2809051	YH1	32.0	5.5	3.0	2.5	5.0	2
M1.4 x 0.3		T2809071	YH1	34.0	8.0	3.0	2.5	5.0	2
M1.6 x 0.35		T2809091	YH1	36.0	8.0	3.0	2.5	5.0	2
M1.7 x 0.35		T2809K51	YH1	36.0	8.0	3.0	2.5	5.0	2
M1.8 x 0.35		T2809111	YH1	36.0	8.0	3.0	2.5	5.0	2
M2 x 0.4		T2809131	YH1	40.0	9.5	3.0	2.5	5.0	2
M2.2 x 0.45		T2809151	YH1	42.0	9.5	3.0	2.5	5.0	2
M2.3 x 0.4		T2809191	YH1	42.0	9.5	3.0	2.5	5.0	2
M2.5 x 0.45		T2809171	YH1	44.0	9.5	3.0	2.5	5.0	2
M2.5 x 0.35		T2809181	YH1	44.0	9.5	3.0	2.5	5.0	2
M2.6 x 0.45		T2809491	YH1	44.0	9.5	3.0	2.5	5.0	2
M2.6 x 0.35		T2809K71	YH1	44.0	9.5	3.0	2.5	5.0	2
M3 x 0.5		T2809202-C	YH2	46.0	11.0	4.0	3.2	6.0	3
M3 x 0.35		T2809211-C	YH1	46.0	11.0	4.0	3.2	6.0	3
M3.5 x 0.6		T2809222-C	YH2	48.0	13.0	4.0	3.2	6.0	3
M3.5 x 0.35		T2809231-C	YH1	48.0	13.0	4.0	3.2	6.0	3
M4 x 0.7		T2809242-C	YH2	52.0	13.0	5.0	4.0	7.0	3
M4 x 0.5		T2809251-C	YH1	52.0	13.0	5.0	4.0	7.0	3
M4.5 x 0.75		T2809262-C	YH2	55.0	13.0	5.0	4.0	7.0	3
M4.5 x 0.5		T2809271-C	YH1	55.0	13.0	5.0	4.0	7.0	3
M5 x 0.8		T2809282-C	YH2	60.0	16.0	5.5	4.5	7.0	3
M5 x 0.5		T2809292-C	YH2	60.0	16.0	5.5	4.5	7.0	3
M5.5 x 0.5		T2809301-C	YH1	60.0	16.0	5.5	4.5	7.0	3

* The other coating(TiCN or TiAlN) is available on your request 涂层(TiCN or TiAlN)可根据要求定制
► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸

◎ : Excellent (优秀) ○ : Good (良好)

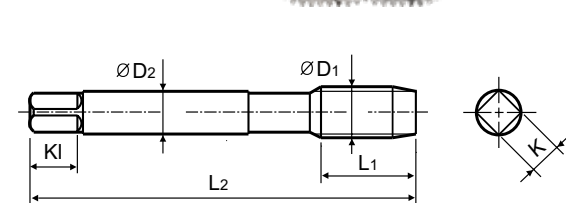
ISO	P									M				K						
Material Description	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	190	250	270	300	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	◎	◎	◎	◎	◎	◎	◎	○	○	◎	◎	◎	◎	○	○	○	○	○	○

ISO	N									S					H						
Material Description	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
Recommended	◎	◎	◎	◎	○	◎	◎														

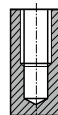
M I-SP SPIRAL FLUTE TAPS for Multi Purpose
I-SP 多用途螺旋槽丝锥

► For using multi-purpose and correct thread profiles & long tool life due to special tap geometry.

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Hole type
孔类型
2.5×D



Material groups **MU** HSS-E I YH 60° 2.5P R40 Bright p. B46

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended ToolHolder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1	P	Bright		L2	L1	ØD2	K	KI	
M6 x 1.0		T2809312-C	YH2	62.0	19.0	6.0	4.5	7.0	3
M6 x 0.75		T2809322-C	YH2	62.0	19.0	6.0	4.5	7.0	3
M6 x 0.5		T2809332-C	YH2	62.0	19.0	6.0	4.5	7.0	3
M7 x 1.0		T2809342-C	YH2	65.0	19.0	6.2	5.0	8.0	3
M7 x 0.75		T2809352-C	YH2	65.0	19.0	6.2	5.0	8.0	3
M8 x 1.25		T2809362-C	YH2	70.0	22.0	6.2	5.0	8.0	3
M8 x 1.0		T2809372-C	YH2	70.0	22.0	6.2	5.0	8.0	3
M8 x 0.75		T2809382-C	YH2	70.0	22.0	6.2	5.0	8.0	3
M9 x 1.25		T2809392-C	YH2	72.0	22.0	7.0	5.5	8.0	3
M9 x 1.0		T2809402-C	YH2	72.0	22.0	7.0	5.5	8.0	3
M9 x 0.75		T2809412-C	YH2	72.0	22.0	7.0	5.5	8.0	3
M10 x 1.5		T2809422-C	YH2	75.0	24.0	7.0	5.5	8.0	3
M10 x 1.25		T2809432-C	YH2	75.0	24.0	7.0	5.5	8.0	3
M10 x 1.0		T2809442-C	YH2	75.0	24.0	7.0	5.5	8.0	3
M10 x 0.75		T2809452-C	YH2	75.0	24.0	7.0	5.5	8.0	3
M11 x 1.5		T2809462-C	YH2	80.0	25.0	8.0	6.0	9.0	3
M11 x 1.0		T2809472-C	YH2	80.0	25.0	8.0	6.0	9.0	3
M11 x 0.75		T2809482-C	YH2	80.0	25.0	8.0	6.0	9.0	3
M12 x 1.75		T2809502-C	YH2	82.0	29.0	8.5	6.5	9.0	3
M12 x 1.5		T2809512-C	YH2	82.0	29.0	8.5	6.5	9.0	3
M12 x 1.25		T2809522-C	YH2	82.0	29.0	8.5	6.5	9.0	3
M12 x 1.0		T2809532-C	YH2	82.0	29.0	8.5	6.5	9.0	3
M14 x 2.0		T2809542	YH2	88.0	30.0	10.5	8.0	11.0	3
M14 x 1.5		T2809552	YH2	88.0	30.0	10.5	8.0	11.0	3
M14 x 1.25		T2809562	YH2	88.0	30.0	10.5	8.0	11.0	3

* The other coating(TiCN or TiAlN) is available on your request 涂层(TiCN or TiAlN)可根据要求定制

► NEXT PAGE 下页

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸

◎ : Excellent (优秀) ○ : Good (良好)

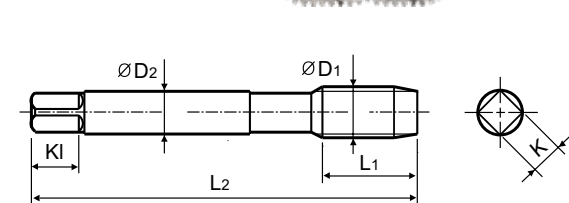
ISO	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRC	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		

ISO	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRC	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55			
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

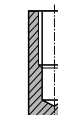
M I-SP SPIRAL FLUTE TAPS for Multi Purpose
I-SP 多用途螺旋槽丝锥

► For using multi-purpose and correct thread profiles & long tool life due to special tap geometry.

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Hole type
孔类型
2.5×D



Material groups **MU** HSS-E I YH 60° 2.5P R40 Bright p. B46

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended ToolHolder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1	P	Bright		L2	L1	ØD2	K	KI	
M14 x 1.0		T2809572	YH2	88.0	30.0	10.5	8.0	11.0	3
M15 x 1.5		T2809582	YH2	90.0	30.0	10.5	8.0	11.0	3
M15 x 1.0		T2809592	YH2	90.0	30.0	10.5	8.0	11.0	3
M16 x 2.0		T2809602	YH2	95.0	32.0	12.5	10.0	13.0	3
M16 x 1.5		T2809612	YH2	95.0	32.0	12.5	10.0	13.0	3
M16 x 1.0		T2809622	YH2	95.0	32.0	12.5	10.0	13.0	3
M18 x 2.5		T2809653	YH3	100.0	37.0	14.0	11.0	14.0	4
M18 x 2.0		T2809663	YH3	100.0	37.0	14.0	11.0	14.0	4
M18 x 1.5		T2809672	YH2	100.0	37.0	14.0	11.0	14.0	4
M18 x 1.0		T2809682	YH2	100.0	37.0	14.0	11.0	14.0	4
M20 x 2.5		T2809703	YH3	105.0	37.0	15.0	12.0	15.0	4
M20 x 2.0		T2809713	YH3	105.0	37.0	15.0	12.0	15.0	4
M20 x 1.5		T2809723	YH3	105.0	37.0	15.0	12.0	15.0	4
M20 x 1.0		T2809732	YH2	105.0	37.0	15.0	12.0	15.0	4
M22 x 2.5		T2809743	YH3	115.0	38.0	17.0	13.0	16.0	4
M22 x 2.0		T2809753	YH3	115.0	38.0	17.0	13.0	16.0	4
M22 x 1.5		T2809763	YH3	115.0	38.0	17.0	13.0	16.0	4
M22 x 1.0		T2809772	YH2	115.0	38.0	17.0	13.0	16.0	4
M24 x 3.0		T2809783	YH3	120.0	45.0	19.0	15.0	18.0	4
M24 x 2.0		T2809793	YH3	120.0	45.0	19.0	15.0	18.0	4
M24 x 1.5		T2809803	YH3	120.0	45.0	19.0	15.0	18.0	4
M24 x 1.0		T2809812	YH2	120.0	45.0	19.0	15.0	18.0	4
M25 x 2.0		T2809823	YH3	125.0	45.0	19.0	15.0	18.0	4
M25 x 1.5		T2809833	YH3	125.0	45.0	19.0	15.0	18.0	4
M26 x 2.0		T2809N43	YH3	125.0	45.0	20.0	15.0	18.0	4

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► NEXT PAGE 下页

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸

◎ : Excellent (优秀) ○ : Good (良好)

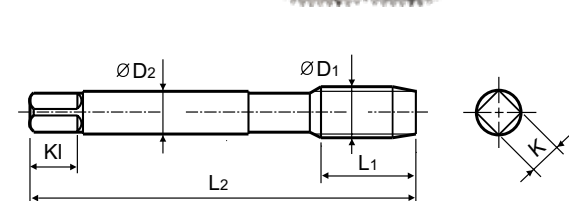
ISO	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRC	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		

ISO	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRC	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55			
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

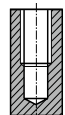
M I-SP SPIRAL FLUTE TAPS for Multi Purpose
I-SP 多用途螺旋槽丝锥

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Hole type
孔类型
2.5×D



Material groups **MU** HSS-E I YH 60° 2.5P R40 Bright p. B46

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended ToolHolder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1	P	Bright		L2	L1	ØD2	K	KI	
M26 x 1.5		T2809853	YH3	125.0	45.0	20.0	15.0	18.0	4
M26 x 1.0		T2809N52	YH2	125.0	45.0	20.0	15.0	18.0	4
M27 x 3.0		T2809863	YH3	130.0	45.0	20.0	15.0	18.0	4
M27 x 2.0		T2809873	YH3	130.0	45.0	20.0	15.0	18.0	4
M27 x 1.5		T2809883	YH3	130.0	45.0	20.0	15.0	18.0	4
M28 x 2.0		T2809903	YH3	130.0	45.0	21.0	17.0	20.0	4
M28 x 1.5		T2809913	YH3	130.0	45.0	21.0	17.0	20.0	4
M30 x 3.5		T2809944	YH4	135.0	48.0	23.0	17.0	20.0	4
M30 x 3.0		T2809953	YH3	135.0	48.0	23.0	17.0	20.0	4
M30 x 2.0		T2809963	YH3	135.0	48.0	23.0	17.0	20.0	4
M30 x 1.5		T2809973	YH3	135.0	48.0	23.0	17.0	20.0	4
M30 x 1.0		T2809982	YH2	135.0	48.0	23.0	17.0	20.0	4
M33 x 3.5		T2809A44	YH4	145.0	51.0	25.0	19.0	22.0	4
M33 x 3.0		T2809A53	YH3	145.0	51.0	25.0	19.0	22.0	4
M33 x 2.0		T2809A63	YH3	145.0	45.0	25.0	19.0	22.0	4
M33 x 1.5		T2809A73	YH3	145.0	45.0	25.0	19.0	22.0	4
M36 x 4.0		T2809B34	YH4	155.0	57.0	28.0	21.0	24.0	4
M36 x 3.0		T2809B43	YH3	155.0	57.0	28.0	21.0	24.0	4
M36 x 2.0		T2809B53	YH3	155.0	45.0	28.0	21.0	24.0	4
M36 x 1.5		T2809B63	YH3	155.0	45.0	28.0	21.0	24.0	4
M38 x 1.5		T2809B83	YH3	165.0	45.0	28.0	21.0	24.0	4
M39 x 4.0		T2809C04	YH4	165.0	60.0	30.0	23.0	26.0	4
M39 x 2.0		T2809C23	YH3	165.0	45.0	30.0	23.0	26.0	4
M39 x 1.5		T2809C33	YH3	165.0	45.0	30.0	23.0	26.0	4
M40 x 3.0		T2809C44	YH4	165.0	60.0	30.0	23.0	26.0	4

* The other coating(TiCN or TiAlN) is available on your request 涂层(TiCN or TiAlN)可根据要求定制
 ► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

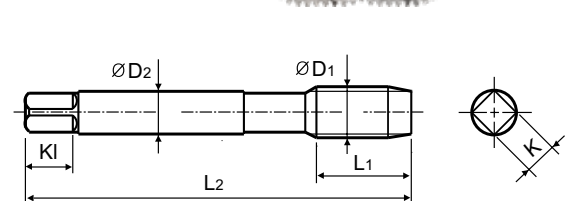
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

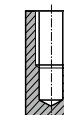
M I-SP SPIRAL FLUTE TAPS for Multi Purpose
I-SP 多用途螺旋槽丝锥

► For using multi-purpose and correct thread profiles & long tool life due to special tap geometry.

► 适合不锈钢加工, 可以修正螺纹形状, 采用独特的设计可以延长丝锥使用寿命



Hole type
孔类型
2.5×D



Material groups **MU** HSS-E I YH 60° 2.5P R40 Bright p. B46

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended ToolHolder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1	P	Bright		L2	L1	ØD2	K	KI	
M40 x 2.0		T2809C53	YH3	165.0	45.0	30.0	23.0	26.0	4
M40 x 1.5		T2809C63	YH3	165.0	45.0	30.0	23.0	26.0	4
M42 x 4.5		T2809C84	YH4	175.0	60.0	32.0	26.0	30.0	4
M42 x 3.0		T2809D04	YH4	175.0	60.0	32.0	26.0	30.0	4
M42 x 2.0		T2809D13	YH3	175.0	45.0	32.0	26.0	30.0	4
M42 x 1.5		T2809D23	YH3	175.0	45.0	32.0	26.0	30.0	4
M45 x 4.5		T2809D54	YH4	180.0	67.0	35.0	26.0	30.0	4
M45 x 1.5		T2809D93	YH3	180.0	45.0	35.0	26.0	30.0	4
M48 x 5.0		T2809E24	YH4	185.0	67.0	38.0	29.0	32.0	4
M48 x 3.0		T2809E54	YH4	185.0	67.0	38.0	29.0	32.0	4
M48 x 1.5		T2809E73	YH3	185.0	45.0	38.0	29.0	32.0	4
M50 x 5.0		T2809O34	YH4	195.0	70.0	40.0	32.0	35.0	4
M52 x 5.0		T2809F34	YH4	195.0	70.0	42.0	32.0	35.0	4
M64 x 6.0		T2809I75	YH5	225.0	79.0	48.0	38.0	42.0	4

* The other coating(TiCN or TiAlN) is available on your request 涂层(TiCN or TiAlN)可根据要求定制
 ► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

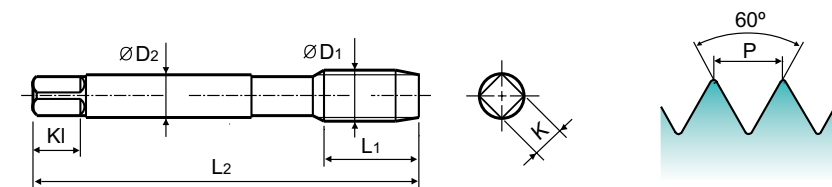
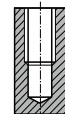
UNC/F I-SP SPIRAL FLUTE TAPS for Multi Purpose
I-SP 多用途螺旋槽丝锥

► For using multi-purpose and correct thread profiles & long tool life due to special tap geometry.

► 适合不锈钢加工, 可以修正螺纹形状, 采用独特的设计可以延长丝锥使用寿命



Hole type
孔类型
2.5×D



Material groups **MU** HSS-E I YH 60° 2.5P R40 Bright p. B46

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended ToolHolder

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1	P	Bright		L2	L1	ØD2	K	KI	
#2 - 56UNC		T2839081	YH1	42.0	9.5	3.0	2.5	5.0	2
#2 - 64UNF		T2839101	YH1	42.0	9.5	3.0	2.5	5.0	2
#3 - 48UNC		T2839121	YH1	44.0	9.5	3.0	2.5	5.0	2
#3 - 56UNF		T2839141	YH1	44.0	9.5	3.0	2.5	5.0	2
#4 - 40UNC		T2839161	YH1	44.0	9.5	3.0	2.5	5.0	3
#4 - 48UNF		T2839181	YH1	44.0	9.5	3.0	2.5	5.0	3
#5 - 40UNC		T2839201-C	YH1	46.0	11.0	4.0	3.2	6.0	3
#5 - 44UNF		T2839221-C	YH1	46.0	11.0	4.0	3.2	6.0	3
#6 - 32UNC		T2839242-C	YH2	48.0	13.0	4.0	3.2	6.0	3
#6 - 40UNF		T2839261-C	YH1	48.0	13.0	4.0	3.2	6.0	3
#8 - 32UNC		T2839282-C	YH2	52.0	13.0	5.0	4.0	7.0	3
#8 - 36UNF		T2839302-C	YH2	52.0	13.0	5.0	4.0	7.0	3
#10 - 24UNC		T2839322-C	YH2	60.0	16.0	5.5	4.5	7.0	3
#10 - 32UNF		T2839342-C	YH2	60.0	16.0	5.5	4.5	7.0	3
#12 - 24UNC		T2839362-C	YH2	60.0	16.0	5.5	4.5	7.0	3
#12 - 28UNF		T2839382-C	YH2	60.0	16.0	5.5	4.5	7.0	3
1/4 - 20UNC		T2839402-C	YH2	62.0	19.0	6.0	4.5	7.0	3
1/4 - 28UNF		T2839422-C	YH2	62.0	19.0	6.0	4.5	7.0	3
5/16 - 18UNC		T2839442-C	YH2	70.0	22.0	6.1	5.0	8.0	3
5/16 - 24UNF		T2839462-C	YH2	70.0	22.0	6.1	5.0	8.0	3
3/8 - 16UNC		T2839482-C	YH2	75.0	24.0	7.0	5.5	8.0	3
3/8 - 24UNF		T2839502-C	YH2	75.0	24.0	7.0	5.5	8.0	3
7/16 - 14UNC		T2839523-C	YH3	80.0	25.0	8.0	6.0	9.0	3
7/16 - 20UNF		T2839542-C	YH2	80.0	25.0	8.0	6.0	9.0	3

* The other coating(TiCN or TiAlN) is available on your request 涂层(TiCN or TiAlN)可根据要求定制
 ► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	45	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

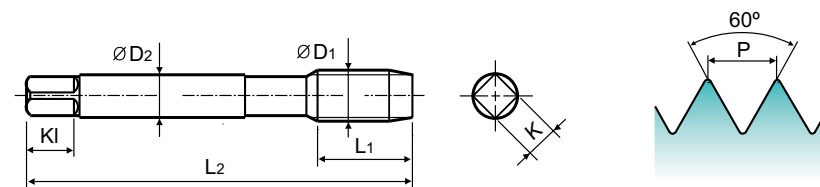
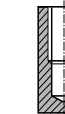
UNC/F I-SP SPIRAL FLUTE TAPS for Multi Purpose
I-SP 多用途螺旋槽丝锥

► For using multi-purpose and correct thread profiles & long tool life due to special tap geometry.

► 适合不锈钢加工, 可以修正螺纹形状, 采用独特的设计可以延长丝锥使用寿命



Hole type
孔类型
2.5×D



Material groups **MU** HSS-E I YH 60° 2.5P R40 Bright p. B46

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended ToolHolder

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1	P	Bright		L2	L1	ØD2	K	KI	
1/2 - 13UNC		T2839563-C	YH3	85.0	29.0	9.0	7.0	10.0	3
1/2 - 20UNF		T2839582-C	YH2	85.0	29.0	9.0	7.0	10.0	3
9/16 - 12UNC		T2839603	YH3	90.0	30.0	10.5	8.0	11.0	3
9/16 - 18UNF		T2839622	YH2	90.0	30.0	10.5	8.0	11.0	3
5/8 - 11UNC		T2839643	YH3	95.0	32.0	12.0	9.0	12.0	3
5/8 - 18UNF		T2839662	YH2	95.0	32.0	12.0	9.0	12.0	3
3/4 - 10UNC		T2839703	YH3	105.0	37.0	14.0	11.0	14.0	4
3/4 - 16UNF		T2839723	YH3	105.0	37.0	14.0	11.0	14.0	4
7/8 - 9UNC		T2839743	YH3	115.0	38.0	17.0	13.0	16.0	4
7/8 - 14UNF		T2839763	YH3	115.0	38.0	17.0	13.0	16.0	4
1" - 8UNC		T2839783	YH3	125.0	45.0	20.0	15.0	18.0	4
1" - 12UNF		T2839803	YH3	125.0	45.0	20.0	15.0	18.0	4

* The other coating(TiCN or TiAlN) is available on your request 涂层(TiCN or TiAlN)可根据要求定制
 ► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸

◎ : Excellent (优秀) ○ : Good (良好)

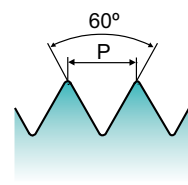
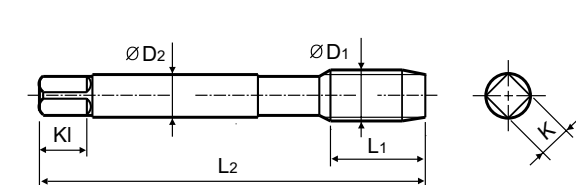
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	45	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M I-GP SPIRAL POINT TAPS for Multi Purpose
I-GP 多用途先端丝锥

► For using multi-purpose and correct thread profiles & long tool life due to special tap geometry.

► 适合不锈钢加工, 可以修正螺纹形状, 采用独特的设计可以延长丝锥使用寿命



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1	P	Bright		L2	L1	ØD2	K	KI	
M1	x 0.25	T2829011	YH1	30.0	5.5	3.0	2.5	5.0	2
M1.1	x 0.25	T2829031	YH1	32.0	5.5	3.0	2.5	5.0	2
M1.2	x 0.25	T2829051	YH1	32.0	5.5	3.0	2.5	5.0	2
M1.4	x 0.3	T2829071	YH1	34.0	8.0	3.0	2.5	5.0	2
M1.6	x 0.35	T2829091	YH1	36.0	8.0	3.0	2.5	5.0	2
M1.7	x 0.35	T2829K51	YH1	36.0	8.0	3.0	2.5	5.0	2
M1.8	x 0.35	T2829112	YH2	36.0	8.0	3.0	2.5	5.0	2
M2	x 0.4	T2829132	YH2	40.0	9.5	3.0	2.5	5.0	2
M2.2	x 0.45	T2829152	YH2	42.0	9.5	3.0	2.5	5.0	2
M2.3	x 0.4	T2829192	YH2	42.0	9.5	3.0	2.5	5.0	2
M2.5	x 0.45	T2829172	YH2	44.0	9.5	3.0	2.5	5.0	2
M2.6	x 0.45	T2829492	YH2	44.0	9.5	3.0	2.5	5.0	2
M3	x 0.5	T2829202-C	YH2	46.0	11.0	4.0	3.2	6.0	3
M3	x 0.35	T2829212-C	YH2	46.0	11.0	4.0	3.2	6.0	3
M3.5	x 0.6	T2829222-C	YH2	48.0	13.0	4.0	3.2	6.0	3
M3.5	x 0.35	T2829232-C	YH2	48.0	13.0	4.0	3.2	6.0	3
M4	x 0.7	T2829242-C	YH2	52.0	13.0	5.0	4.0	7.0	3
M4	x 0.5	T2829252-C	YH2	52.0	13.0	5.0	4.0	7.0	3
M4.5	x 0.75	T2829262-C	YH2	55.0	13.0	5.0	4.0	7.0	3
M4.5	x 0.5	T2829272-C	YH2	55.0	13.0	5.0	4.0	7.0	3
M5	x 0.8	T2829282-C	YH2	60.0	16.0	5.5	4.5	7.0	3
M5	x 0.5	T2829292-C	YH2	60.0	16.0	5.5	4.5	7.0	3
M5.5	x 0.5	T2829302-C	YH2	60.0	16.0	5.5	4.5	7.0	3
M6	x 1.0	T2829312-C	YH2	62.0	19.0	6.0	4.5	7.0	3

* The other Coating(TiCN or TiAlN) is available on your request. 涂层(TiCN or TiAlN)可根据要求定制
 ► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸

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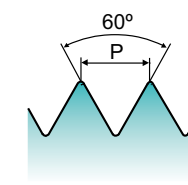
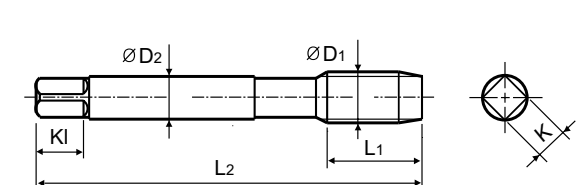
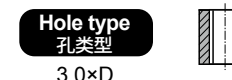
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M I-GP SPIRAL POINT TAPS for Multi Purpose
I-GP 多用途先端丝锥

► For using multi-purpose and correct thread profiles & long tool life due to special tap geometry.

► 适合不锈钢加工, 可以修正螺纹形状, 采用独特的设计可以延长丝锥使用寿命



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1	P	Bright		L2	L1	ØD2	K	KI	
M6	x 0.75	T2829322-C	YH2	62.0	19.0	6.0	4.5	7.0	3
M6	x 0.5	T2829332-C	YH2	62.0	19.0	6.0	4.5	7.0	3
M7	x 1.0	T2829342-C	YH2	65.0	19.0	6.2	5.0	8.0	3
M7	x 0.75	T2829352-C	YH2	65.0	19.0	6.2	5.0	8.0	3
M8	x 1.25	T2829363-C	YH3	70.0	22.0	6.2	5.0	8.0	3
M8	x 1.0	T2829373-C	YH3	70.0	22.0	6.2	5.0	8.0	3
M8	x 0.75	T2829383-C	YH3	70.0	22.0	6.2	5.0	8.0	3
M9	x 1.25	T2829393-C	YH3	72.0	22.0	7.0	5.5	8.0	3
M9	x 1.0	T2829403-C	YH3	72.0	22.0	7.0	5.5	8.0	3
M9	x 0.75	T2829413-C	YH3	72.0	22.0	7.0	5.5	8.0	3
M10	x 1.5	T2829423-C	YH3	75.0	24.0	7.0	5.5	8.0	3
M10	x 1.25	T2829433-C	YH3	75.0	24.0	7.0	5.5	8.0	3
M10	x 1.0	T2829443-C	YH3	75.0	24.0	7.0	5.5	8.0	3
M11	x 1.5	T2829463-C	YH3	80.0	25.0	8.0	6.0	9.0	3
M11	x 1.0	T2829473-C	YH3	80.0	25.0	8.0	6.0	9.0	3
M11	x 0.75	T2829483-C	YH3	80.0	25.0	8.0	6.0	9.0	3
M12	x 1.75	T2829504-C	YH4	82.0	29.0	8.5	6.5	9.0	3
M12	x 1.5	T2829513-C	YH3	82.0	29.0	8.5	6.5	9.0	3
M12	x 1.25	T2829523-C	YH3	82.0	29.0	8.5	6.5	9.0	3
M12	x 1.0	T2829533-C	YH3	82.0	29.0	8.5	6.5	9.0	3
M14	x 2.0	T2829544	YH4	88.0	30.0	10.5	8.0	11.0	3
M14	x 1.5	T2829553	YH3	88.0	30.0	10.5	8.0	11.0	3
M14	x 1.25	T2829563	YH3	88.0	30.0	10.5	8.0	11.0	3
M14	x 1.0	T2829573	YH3	88.0	30.0	10.5	8.0	11.0	3

* The other Coating(TiCN or TiAlN) is available on your request. 涂层(TiCN or TiAlN)可根据要求定制
 ► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸

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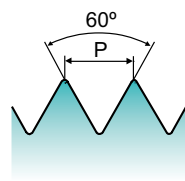
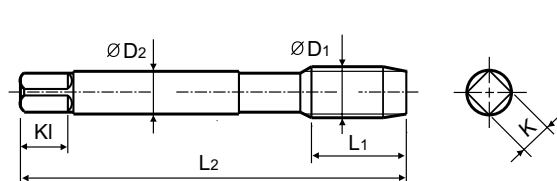
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M I-GP SPIRAL POINT TAPS for Multi Purpose
I-GP 多用途先端丝锥

► For using multi-purpose and correct thread profiles & long tool life due to special tap geometry.

► 适合不锈钢加工, 可以修正螺纹形状, 采用独特的设计可以延长丝锥使用寿命



Material groups: **MU** HSS-E I YH 60° 5.0P Bright p. B46

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended ToolHolder

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1	P	Bright		L2	L1	ØD2	K	KI	
M15 x 1.5		T2829583	YH3	90.0	30.0	10.5	8.0	11.0	3
M15 x 1.0		T2829593	YH3	90.0	30.0	10.5	8.0	11.0	3
M16 x 2.0		T2829604	YH4	95.0	32.0	12.5	10.0	13.0	3
M16 x 1.5		T2829613	YH3	95.0	32.0	12.5	10.0	13.0	3
M16 x 1.0		T2829623	YH3	95.0	32.0	12.5	10.0	13.0	3
M18 x 2.5		T2829654	YH4	100.0	37.0	14.0	11.0	14.0	3
M18 x 2.0		T2829664	YH4	100.0	37.0	14.0	11.0	14.0	3
M18 x 1.5		T2829674	YH4	100.0	37.0	14.0	11.0	14.0	3
M18 x 1.0		T2829683	YH3	100.0	37.0	14.0	11.0	14.0	3
M20 x 2.5		T2829704	YH4	105.0	37.0	15.0	12.0	15.0	3
M20 x 2.0		T2829714	YH4	105.0	37.0	15.0	12.0	15.0	3
M20 x 1.5		T2829724	YH4	105.0	37.0	15.0	12.0	15.0	3
M20 x 1.0		T2829733	YH3	105.0	37.0	15.0	12.0	15.0	3
M22 x 2.5		T2829744	YH4	115.0	38.0	17.0	13.0	16.0	3
M22 x 2.0		T2829754	YH4	115.0	38.0	17.0	13.0	16.0	3
M22 x 1.5		T2829764	YH4	115.0	38.0	17.0	13.0	16.0	3
M22 x 1.0		T2829773	YH3	115.0	38.0	17.0	13.0	16.0	3
M24 x 3.0		T2829784	YH4	120.0	45.0	19.0	15.0	18.0	3
M24 x 2.0		T2829794	YH4	120.0	45.0	19.0	15.0	18.0	3
M24 x 1.5		T2829804	YH4	120.0	45.0	19.0	15.0	18.0	3
M24 x 1.0		T2829813	YH3	120.0	45.0	19.0	15.0	18.0	3
M25 x 2.0		T2829824	YH4	125.0	45.0	19.0	15.0	18.0	3
M25 x 1.5		T2829834	YH4	125.0	45.0	19.0	15.0	18.0	3
M26 x 2.0		T2829N44	YH4	125.0	45.0	20.0	15.0	18.0	4

* The other Coating(TiCN or TiAlN) is available on your request. 涂层(TiCN or TiAlN)可根据要求定制
► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸

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◎ : Excellent (优秀) ○ : Good (良好)

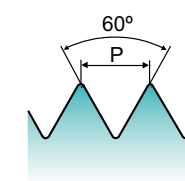
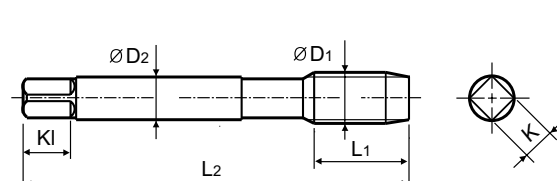
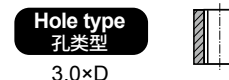
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S				H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M I-GP SPIRAL POINT TAPS for Multi Purpose
I-GP 多用途先端丝锥

► For using multi-purpose and correct thread profiles & long tool life due to special tap geometry.

► 适合不锈钢加工, 可以修正螺纹形状, 采用独特的设计可以延长丝锥使用寿命



Material groups: **MU** HSS-E I YH 60° 5.0P Bright p. B46

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended ToolHolder

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1	P	Bright		L2	L1	ØD2	K	KI	
M26 x 1.5		T2829854	YH4	125.0	45.0	20.0	15.0	18.0	4
M26 x 1.0		T2829N53	YH3	125.0	45.0	20.0	15.0	18.0	4
M27 x 3.0		T2829864	YH4	130.0	45.0	20.0	15.0	18.0	4
M27 x 2.0		T2829874	YH4	130.0	45.0	20.0	15.0	18.0	4
M27 x 1.5		T2829884	YH4	130.0	45.0	20.0	15.0	18.0	4
M28 x 2.0		T2829904	YH4	130.0	45.0	21.0	17.0	20.0	4
M28 x 1.5		T2829914	YH4	130.0	45.0	21.0	17.0	20.0	4
M30 x 3.5		T2829945	YH5	135.0	48.0	23.0	17.0	20.0	4
M30 x 3.0		T2829954	YH4	135.0	48.0	23.0	17.0	20.0	4
M30 x 2.0		T2829964	YH4	135.0	48.0	23.0	17.0	20.0	4
M30 x 1.5		T2829974	YH4	135.0	48.0	23.0	17.0	20.0	4
M30 x 1.0		T2829982	YH2	135.0	48.0	23.0	17.0	20.0	4
M33 x 3.5		T2829A45	YH5	145.0	51.0	25.0	19.0	22.0	4
M33 x 3.0		T2829A54	YH4	145.0	51.0	25.0	19.0	22.0	4
M33 x 2.0		T2829A63	YH3	145.0	45.0	25.0	19.0	22.0	4
M33 x 1.5		T2829A74	YH4	145.0	45.0	25.0	19.0	22.0	4
M36 x 4.0		T2829B35	YH5	155.0	57.0	28.0	21.0	24.0	4
M36 x 3.0		T2829B44	YH4	155.0	57.0	28.0	21.0	24.0	4
M36 x 2.0		T2829B53	YH3	155.0	45.0	28.0	21.0	24.0	4
M36 x 1.5		T2829B64	YH4	155.0	45.0	28.0	21.0	24.0	4

* The other Coating(TiCN or TiAlN) is available on your request. 涂层(TiCN or TiAlN)可根据要求定制
► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S				H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

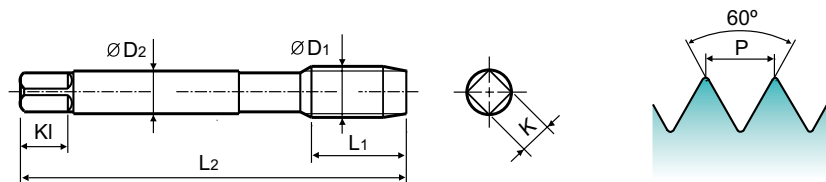
UNC/F I-GP SPIRAL POINT TAPS for Multi Purpose
I-GP 多用途先端丝锥

► For using multi-purpose and correct thread profiles & long tool life due to special tap geometry.

► 适合不锈钢加工, 可以修正螺纹形状, 采用独特的设计可以延长丝锥使用寿命



Hole type
孔类型
3.0×D



Material groups: **MU** HSS-E I YH 60° 5.0P Bright p. B46

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220 TAPPING CHUCK D221-228 ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1	P	Bright		L2	L1	ØD2	K	KI	
#2 - 56UNC		T2849081	YH1	42.0	9.5	3.0	2.5	5.0	2
#2 - 64UNF		T2849101	YH1	42.0	9.5	3.0	2.5	5.0	2
#3 - 48UNC		T2849121	YH1	44.0	9.5	3.0	2.5	5.0	2
#3 - 56UNF		T2849141	YH1	44.0	9.5	3.0	2.5	5.0	2
#4 - 40UNC		T2849162	YH2	44.0	9.5	3.0	2.5	5.0	2
#4 - 48UNF		T2849182	YH2	44.0	9.5	3.0	2.5	5.0	2
#5 - 40UNC		T2849202-C	YH2	46.0	11.0	4.0	3.2	6.0	3
#5 - 44UNF		T2849222-C	YH2	46.0	11.0	4.0	3.2	6.0	3
#6 - 32UNC		T2849242-C	YH2	48.0	13.0	4.0	3.2	6.0	3
#6 - 40UNF		T2849262-C	YH2	48.0	13.0	4.0	3.2	6.0	3
#8 - 32UNC		T2849282-C	YH2	52.0	13.0	5.0	4.0	7.0	3
#8 - 36UNF		T2849302-C	YH2	52.0	13.0	5.0	4.0	7.0	3
#10 - 24UNC		T2849322-C	YH2	60.0	16.0	5.5	4.5	7.0	3
#10 - 32UNF		T2849342-C	YH2	60.0	16.0	5.5	4.5	7.0	3
#12 - 24UNC		T2849362-C	YH2	60.0	16.0	5.5	4.5	7.0	3
#12 - 28UNF		T2849382-C	YH2	60.0	16.0	5.5	4.5	7.0	3
1/4 - 20UNC		T2849402-C	YH2	62.0	19.0	6.0	4.5	7.0	3
1/4 - 28UNF		T2849422-C	YH2	62.0	19.0	6.0	4.5	7.0	3
5/16 - 18UNC		T2849442-C	YH2	70.0	22.0	6.1	5.0	8.0	3
5/16 - 24UNF		T2849462-C	YH2	70.0	22.0	6.1	5.0	8.0	3
3/8 - 16UNC		T2849483-C	YH3	75.0	24.0	7.0	5.5	8.0	3
3/8 - 24UNF		T2849502-C	YH2	75.0	24.0	7.0	5.5	8.0	3
7/16 - 14UNC		T2849523-C	YH3	80.0	25.0	8.0	6.0	9.0	3
7/16 - 20UNF		T2849543-C	YH3	80.0	25.0	8.0	6.0	9.0	3
1/2 - 13UNC		T2849563-C	YH3	85.0	29.0	9.0	7.0	10.0	3
1/2 - 20UNF		T2849582-C	YH2	85.0	29.0	9.0	7.0	10.0	3

* The other coating(TiCN or TiAlN) is available on your request 涂层(TiCN or TiAlN)可根据要求定制
► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

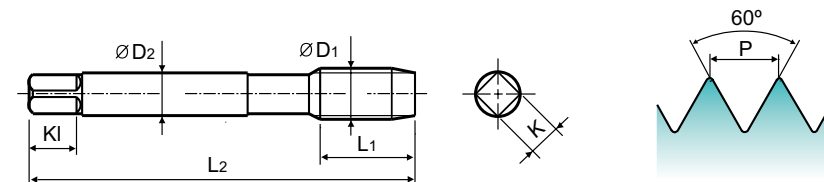
UNC/F I-GP SPIRAL POINT TAPS for Multi Purpose
I-GP 多用途先端丝锥

► For using multi-purpose and correct thread profiles & long tool life due to special tap geometry.

► 适合不锈钢加工, 可以修正螺纹形状, 采用独特的设计可以延长丝锥使用寿命



Hole type
孔类型
3.0×D



Material groups: **MU** HSS-E I YH 60° 5.0P Bright p. B46

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220 TAPPING CHUCK D221-228 ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1	P	Bright		L2	L1	ØD2	K	KI	
9/16 - 12UNC		T2849603	YH3	90.0	30.0	10.5	8.0	11.0	3
9/16 - 18UNF		T2849622	YH2	90.0	30.0	10.5	8.0	11.0	3
5/8 - 11UNC		T2849643	YH3	95.0	32.0	12.0	9.0	12.0	3
5/8 - 18UNF		T2849663	YH3	95.0	32.0	12.0	9.0	12.0	3
3/4 - 10UNC		T2849703	YH3	105.0	37.0	14.0	11.0	14.0	3
3/4 - 16UNF		T2849723	YH3	105.0	37.0	14.0	11.0	14.0	3
7/8 - 9UNC		T2849744	YH4	115.0	38.0	17.0	13.0	16.0	3
7/8 - 14UNF		T2849763	YH3	115.0	38.0	17.0	13.0	16.0	3
1" - 8UNC		T2849784	YH4	125.0	45.0	20.0	15.0	18.0	3
1" - 12UNF		T2849803	YH3	125.0	45.0	20.0	15.0	18.0	3

* The other coating(TiCN or TiAlN) is available on your request 涂层(TiCN or TiAlN)可根据要求定制
► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸

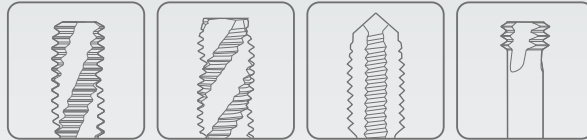
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



Global Cutting Tool Leader **YG-1**



THREADING



Leading Through Innovation

HSS-E & HSS

YG TAP GENERAL

- Suitable for Tapping Blind / Through Holes due to Flute Geometry and Excellent Chip Evacuation
- 独特的槽形设计和排屑能力，适合通，盲孔加工



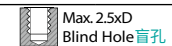
HSS-E & HSS YG TAP GENERAL

Suitable for Tapping Blind / Through Holes due to Flute Geometry and Excellent Chip Evacuation
独特的槽形设计和排屑能力，适合通，盲孔加工



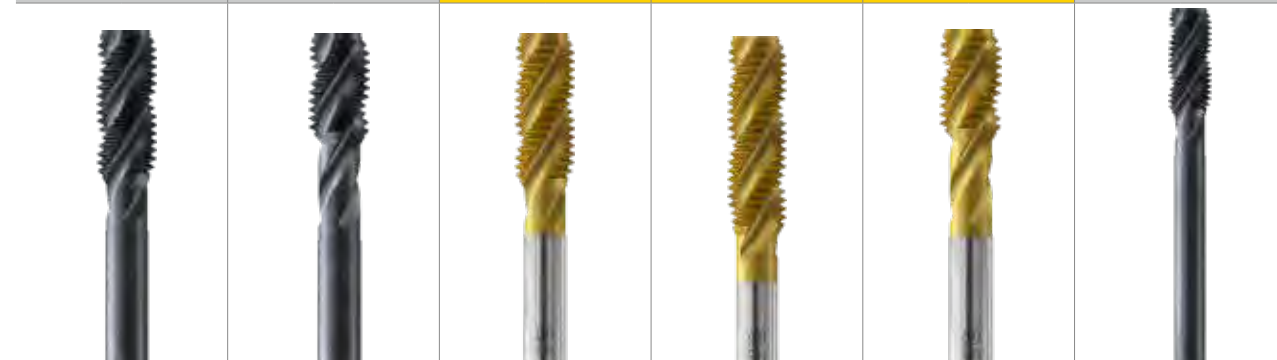
◎: Excellent (优秀) ○: Good (良好)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度	Max. 2.0xD Blind/Through Hole 盲孔 / 通孔	Max. 2.5xD Blind Hole 盲孔
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎ 8~13	◎ 8~13
	2		About 0.45% C Annealed	190	13	○ 7~12	◎ 7~12
	3		About 0.45% C Quenched & Tempered	250	25	○ 7~12	○ 7~12
	4		About 0.75% C Annealed	270	28	○ 7~12	○ 7~12
	5		About 0.75% C Quenched & Tempered	300	32	○ 7~12	
	6	Low alloy steel	Annealed	180	10	○ 7~12	○ 7~12
	7		Quenched & Tempered	275	29	○ 7~12	○ 7~12
	8		Quenched & Tempered	300	32		
	9		Quenched & Tempered	350	38		
	10		High alloyed steel, and tool steel	Annealed	200	15	○ 6~9
	11	Quenched & Tempered	325	35			
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15		○ 5~8
	13		Martensitic Quenched & Tempered	240	23		○ 5~8
	14		Austenitic	180	10		
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○ 10~15	○ 8~13
	16		Pearlitic (Martensitic)	260	26	○ 10~15	
	17	Nodular cast iron	Ferritic	160	3	○ 7~12	○ 7~12
	18		Pearlitic	250	25	○ 7~12	
	19		Ferritic	130			
20	Malleable cast iron	Pearlitic	230	21			
N	21	Aluminum-wrought alloy	Not Curable	60		○ 10~20	○ 10~20
	22		Curable Hardened	100		○ 10~20	○ 10~20
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○ 10~15	○ 10~15
	24		≤ 12% Si, Curable Hardened	90			
	25		> 12% Si, Not Curable	130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		○ 6~9	○ 6~11
	27		CuZn, CuSnZn (Brass)	90		○ 6~15	○ 6~20
	28		CuSn, lead-free copper and electrolytic copper	100			
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				
	30		Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34		Ni or Co Based Cured	350	38		
	35	Cast	320	34			
	36	Titanium Alloys	Pure Titanium	400 Rm			
	37		Alpha + Beta Alloys Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Chilled Cast Iron	Cast	400	42		
	41	Hardened Cast Iron	Hardened	550	55		



HSS-E

2.5P	2.5P	2.5P	2.5P	2.5P	2.5P
Spiral Flute 螺旋	Spiral Flute 螺旋	Spiral Flute 螺旋	Spiral Flute 螺旋	Spiral Flute 螺旋	Spiral Flute 螺旋
R40	R40	R40	R40	R40	R40
J	S	I	J	S	Long Shank
T1132 (p. B80)	T1112 (p. B87)	T3121 (p. B93)	T3132 (p. B94)	T3112 (p. B95)	T1103~6 (p. B96-99)
T1232 (p. B84)	T1172 (p. B90)				
T1162 (p. B86)	T1182 (p. B92)				T1130~60 (p. B100-101)
Steam Homo	Steam Homo	TIN	TIN	TIN	Steam Homo

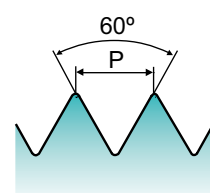
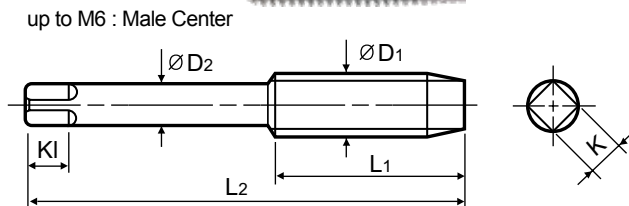
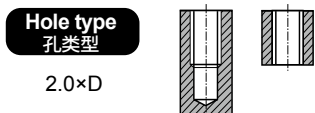


◎ 8~13	◎ 8~13	◎ 13~18	◎ 13~18	◎ 13~18	◎ 8~13
◎ 7~12	◎ 7~12	◎ 10~15	◎ 10~15	◎ 10~15	◎ 7~12
○ 7~12	○ 7~12	○ 10~15	○ 10~15	○ 10~15	○ 7~12
○ 7~12	○ 7~12	○ 10~15	○ 10~15	○ 10~15	○ 7~12
○ 7~12	○ 7~12	○ 10~15	○ 10~15	○ 10~15	○ 7~12
○ 7~12	○ 7~12	○ 10~15	○ 10~15	○ 10~15	○ 7~12
○ 6~9	○ 6~9	○ 10~15	○ 10~15	○ 10~15	○ 6~9
○ 5~8	○ 5~8	○ 5~8	○ 5~8	○ 5~8	○ 5~8
○ 5~8	○ 5~8	○ 5~8	○ 5~8	○ 5~8	○ 5~8
○ 8~13	○ 8~13	○ 13~18	○ 13~18	○ 13~18	○ 8~13
○ 7~12	○ 7~12	○ 10~15	○ 10~15	○ 10~15	○ 7~12
○ 10~20	○ 10~20	○ 15~22	○ 15~22	○ 15~22	○ 10~20
○ 10~20	○ 10~20	○ 15~22	○ 15~22	○ 15~22	○ 10~20
○ 10~15	○ 10~15	○ 15~20	○ 15~20	○ 15~20	○ 10~15
○ 6~11	○ 6~11	○ 10~15	○ 10~15	○ 10~15	○ 6~11
○ 6~20	○ 6~20	○ 11~20	○ 11~20	○ 11~20	○ 6~20

M I-SP HAND TAPS(SET of 3 PIECES)
I-SP 手用丝锥(一套3支)

▶ This tap is a serial hand tap in set, Taper, Plug and Bottoming.

▶ 这丝锥是手丝锥的一套 (头锥 / 中锥 / 底锥)



Material groups: **GS** HSS HT JIS II 60° 1.5P/5.0P/9.0P Bright p. B62

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M2	× 0.4	T7099139	JIS II	40	15	3	2.5	5	3
M2.2	× 0.45	T7099159	JIS II	42	15	3	2.5	5	3
M2.3	× 0.4	T7099199	JIS II	42	15	3	2.5	5	3
M2.5	× 0.45	T7099179	JIS II	44	16	3	2.5	5	3
M2.6	× 0.45	T7099499	JIS II	44	16	3	2.5	5	3
M3	× 0.5	T7099209	JIS II	46	18	4	3.2	6	3
M3	× 0.35	T7099219	JIS II	46	18	4	3.2	6	3
M3.5	× 0.6	T7099229	JIS II	48	18	4	3.2	6	3
M3.5	× 0.35	T7099239	JIS II	48	18	4	3.2	6	3
M4	× 0.7	T7099249	JIS II	52	20	5	4	7	4
M4	× 0.5	T7099259	JIS II	52	20	5	4	7	4
M4.5	× 0.75	T7099269	JIS II	55	20	5	4	7	4
M4.5	× 0.5	T7099279	JIS II	55	20	5	4	7	4
M5	× 0.8	T7099289	JIS II	60	22	5.5	4.5	7	4
M5	× 0.5	T7099299	JIS II	60	22	5.5	4.5	7	4
M5.5	× 0.5	T7099309	JIS II	60	22	5.5	4.5	7	4
M6	× 1	T7099319	JIS II	62	24	6	4.5	7	4
M6	× 0.75	T7099329	JIS II	62	24	6	4.5	7	4
M6	× 0.5	T7099339	JIS II	62	22	6	4.5	7	4
M7	× 1	T7099349	JIS II	65	26	6.2	5	8	4
M7	× 0.75	T7099359	JIS II	65	26	6.2	5	8	4
M8	× 1.25	T7099369	JIS II	70	30	6.2	5	8	4

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

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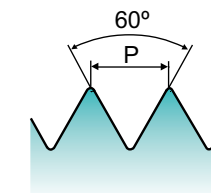
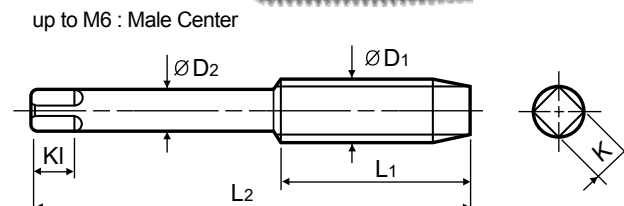
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP HAND TAPS(SET of 3 PIECES)
I-SP 手用丝锥(一套3支)

▶ This tap is a serial hand tap in set, Taper, Plug and Bottoming.

▶ 这丝锥是手丝锥的一套 (头锥 / 中锥 / 底锥)



Material groups: **GS** HSS HT JIS II 60° 1.5P/5.0P/9.0P Bright p. B62

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M8	× 1	T7099379	JIS II	70	30	6.2	5	8	4
M8	× 0.75	T7099389	JIS II	65	26	6.2	5	8	4
M9	× 1.25	T7099399	JIS II	72	30	7	5.5	8	4
M9	× 1	T7099409	JIS II	70	30	7	5.5	8	4
M9	× 0.75	T7099419	JIS II	65	26	7	5.5	8	4
M10	× 1.5	T7099429	JIS II	75	32	7	5.5	8	4
M10	× 1.25	T7099439	JIS II	75	32	7	5.5	8	4
M10	× 1	T7099449	JIS II	70	30	7	5.5	8	4
M10	× 0.75	T7099459	JIS II	65	26	7	5.5	8	4
M11	× 1.5	T7099469	JIS II	80	38	8	6	9	4
M11	× 1	T7099479	JIS II	70	30	8	6	9	4
M11	× 0.75	T7099489	JIS II	65	26	8	6	9	4
M12	× 1.75	T7099509	JIS II	82	38	8.5	6.5	9	4
M12	× 1.5	T7099519	JIS II	82	38	8.5	6.5	9	4
M12	× 1.25	T7099529	JIS II	80	38	8.5	6.5	9	4
M12	× 1	T7099539	JIS II	70	30	8.5	6.5	9	4
M14	× 2	T7099549	JIS II	88	42	10.5	8	11	4
M14	× 1.5	T7099559	JIS II	88	42	10.5	8	11	4
M14	× 1.25	T7099569	JIS II	80	38	10.5	8	11	4
M14	× 1	T7099579	JIS II	70	30	10.5	8	11	4
M15	× 1.5	T7099589	JIS II	90	42	10.5	8	11	4
M15	× 1	T7099599	JIS II	70	30	10.5	8	11	4

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

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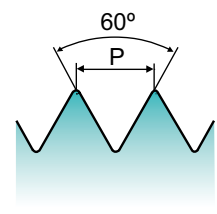
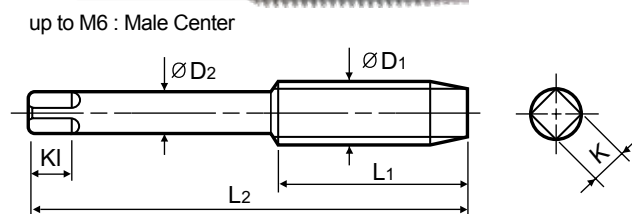
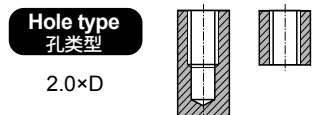
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP HAND TAPS(SET of 3 PIECES)
I-SP 手用丝锥(一套3支)

▶ This tap is a serial hand tap in set, Taper, Plug and Bottoming.

▶ 这丝锥是手丝锥的一套 (头锥 / 中锥 / 底锥)



Material groups: **GS** HSS HT JIS II 60° 1.5P/5.0P/9.0P Bright p. B62

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M16 × 2		T7099609	JIS II	95	45	12.5	10	13	4
M16 × 1.5		T7099619	JIS II	95	45	12.5	10	13	4
M16 × 1		T7099629	JIS II	75	30	12.5	10	13	4
M18 × 2.5		T7099659	JIS II	100	48	14	11	14	4
M18 × 2		T7099669	JIS II	95	45	14	11	14	4
M18 × 1.5		T7099679	JIS II	95	45	14	11	14	4
M18 × 1		T7099689	JIS II	80	30	14	11	14	4
M20 × 2.5		T7099709	JIS II	105	50	15	12	15	4
M20 × 2		T7099719	JIS II	95	45	15	12	15	4
M20 × 1.5		T7099729	JIS II	95	45	15	12	15	4
M20 × 1		T7099739	JIS II	80	30	15	12	15	4
M22 × 2.5		T7099749	JIS II	115	55	17	13	16	4
M22 × 2		T7099759	JIS II	95	45	17	13	16	4
M22 × 1.5		T7099769	JIS II	95	45	17	13	16	4
M22 × 1		T7099779	JIS II	85	30	17	13	16	4
M24 × 3		T7099789	JIS II	120	58	19	15	18	4
M24 × 2		T7099799	JIS II	95	45	19	15	18	4
M24 × 1.5		T7099809	JIS II	95	45	19	15	18	4
M24 × 1		T7099819	JIS II	90	30	19	15	18	4
M25 × 2		T7099829	JIS II	95	45	19	15	18	4
M25 × 1.5		T7099839	JIS II	95	45	19	15	18	4
M26 × 2		T7099N49	JIS II	95	45	20	15	18	4

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

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◎ : Excellent (优秀) ○ : Good (良好)

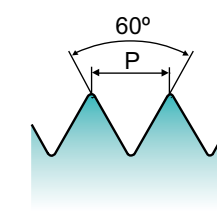
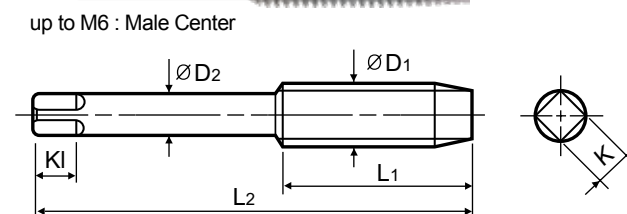
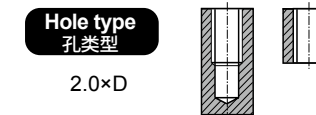
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	230	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP HAND TAPS(SET of 3 PIECES)
I-SP 手用丝锥(一套3支)

▶ This tap is a serial hand tap in set, Taper, Plug and Bottoming.

▶ 这丝锥是手丝锥的一套 (头锥 / 中锥 / 底锥)



Material groups: **GS** HSS HT JIS II 60° 1.5P/5.0P/9.0P Bright p. B62

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M26 × 1.5		T7099859	JIS II	95	45	20	15	18	4
M26 × 1		T7099N59	JIS II	95	30	20	15	18	4
M27 × 3		T7099869	JIS II	130	62	20	15	18	4
M27 × 2		T7099879	JIS II	95	45	20	15	18	4
M27 × 1.5		T7099889	JIS II	95	45	20	15	18	4
M28 × 2		T7099909	JIS II	105	45	21	17	20	4
M28 × 1.5		T7099919	JIS II	105	45	21	17	20	4
M30 × 3.5		T7099949	JIS II	135	65	23	17	20	4
M30 × 3		T7099959	JIS II	130	65	23	17	20	4
M30 × 2		T7099969	JIS II	105	45	23	17	20	4
M30 × 1.5		T7099979	JIS II	105	45	23	17	20	4
M30 × 1		T7099989	JIS II	105	30	23	17	20	4
M33 × 3.5		T7099A49	JIS II	145	70	25	19	22	4
M33 × 3		T7099A59	JIS II	145	70	25	19	22	4
M33 × 2		T7099A69	JIS II	110	45	25	19	22	4
M33 × 1.5		T7099A79	JIS II	110	45	25	19	22	4
M36 × 4		T7099B39	JIS II	155	75	28	21	24	4
M36 × 3		T7099B49	JIS II	155	75	28	21	24	4
M36 × 2		T7099B59	JIS II	110	45	28	21	24	4
M36 × 1.5		T7099B69	JIS II	110	45	28	21	24	4

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

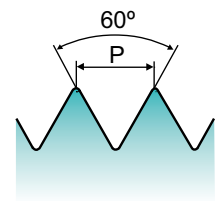
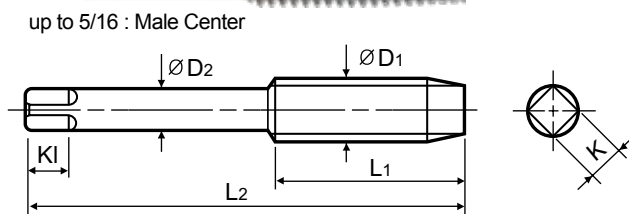
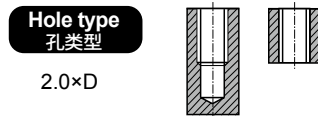
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	230	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC/F I-SP HAND TAPS(SET of 3 PIECES)
I-SP 手用丝锥(一套3支)

► This tap is a serial hand tap in set, Taper, Plus and Bottoming.

► 这丝锥是手丝锥的一套 (头锥 / 中锥 / 底锥)



Material groups: **GS** HSS HT JIS II 60° 1.5P/5.0P/9.0P Bright p. B62

Plain Shank Page
 TAPPING CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended ToolHolder

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
#4 - 40 UNC		T7199169	JIS II	44	16	3	2.5	5	3
#4 - 48 UNF		T7199189	JIS II	44	16	3	2.5	5	3
#5 - 40 UNC		T7199209	JIS II	46	18	4	3.2	6	3
#5 - 44 UNF		T7199229	JIS II	46	18	4	3.2	6	3
#6 - 32 UNC		T7199249	JIS II	48	18	4	3.2	6	3
#6 - 40 UNF		T7199269	JIS II	48	18	4	3.2	6	3
#8 - 32 UNC		T7199289	JIS II	52	18	5	4	7	4
#8 - 36 UNF		T7199309	JIS II	52	18	5	4	7	4
#10 - 24 UNC		T7199329	JIS II	60	22	5.5	4.5	7	4
#10 - 32 UNF		T7199349	JIS II	60	22	5.5	4.5	7	4
#12 - 24 UNC		T7199369	JIS II	60	22	5.5	4.5	7	4
#12 - 28 UNF		T7199389	JIS II	60	22	5.5	4.5	7	4
1/4 - 20 UNC		T7199409	JIS II	62	24	6	4.5	7	4
1/4 - 28 UNF		T7199429	JIS II	62	24	6	4.5	7	4
5/16 - 18 UNC		T7199449	JIS II	70	30	6.1	5	8	4
5/16 - 24 UNF		T7199469	JIS II	70	30	6.1	5	8	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

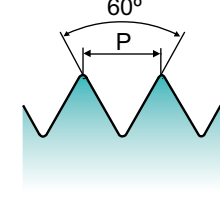
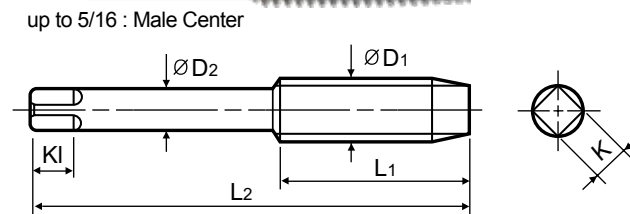
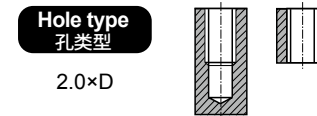
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○

UNC/F I-SP HAND TAPS(SET of 3 PIECES)
I-SP 手用丝锥(一套3支)

► This tap is a serial hand tap in set, Taper, Plus and Bottoming.

► 这丝锥是手丝锥的一套 (头锥 / 中锥 / 底锥)



Material groups: **GS** HSS HT JIS II 60° 1.5P/5.0P/9.0P Bright p. B62

Plain Shank Page
 TAPPING CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended ToolHolder

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
3/8 - 16 UNC		T7199489	JIS II	75	35	7	5.5	8	4
3/8 - 24 UNF		T7199509	JIS II	75	32	7	5.5	8	4
7/16 - 14 UNC		T7199529	JIS II	80	38	8	6	9	4
7/16 - 20 UNF		T7199549	JIS II	80	38	8	6	9	4
1/2 - 13 UNC		T7199569	JIS II	85	42	9	7	10	4
1/2 - 20 UNF		T7199589	JIS II	85	42	9	7	10	4
9/16 - 12 UNC		T7199609	JIS II	90	42	10.5	8	11	4
9/16 - 18 UNF		T7199629	JIS II	90	42	10.5	8	11	4
5/8 - 11 UNC		T7199649	JIS II	95	45	12	9	12	4
5/8 - 18 UNF		T7199669	JIS II	95	45	12	9	12	4
3/4 - 10 UNC		T7199709	JIS II	105	50	14	11	14	4
3/4 - 16 UNF		T7199729	JIS II	95	45	14	11	14	4
7/8 - 9 UNC		T7199749	JIS II	115	55	17	13	16	4
7/8 - 14 UNF		T7199769	JIS II	95	45	17	13	16	4
1" - 8 UNC		T7199789	JIS II	125	60	20	15	18	4
1" - 12 UNF		T7199809	JIS II	95	45	20	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

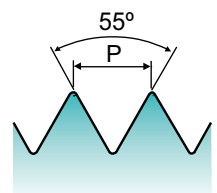
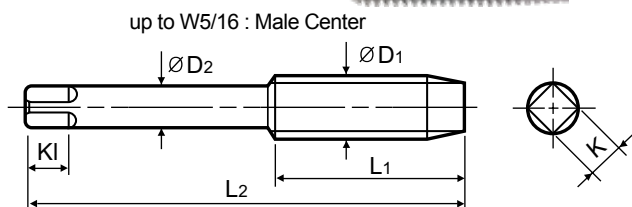
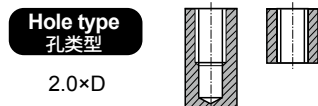
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○

W I-SP HAND TAPS(SET of 3 PIECES)
I-SP 手用丝锥(一套3支)

▶ This tap is a serial hand tap in set, Taper, Plus and Bottoming.

▶ 这丝锥是手丝锥的一套 (头锥 / 中锥 / 底锥)



Material groups: **GS** HSS HT JIS II 55° 1.5P, 5.0P, 9.0P Bright p. B62

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
W1/8	- 40	T7299209	JIS II	46	18	4	3.2	6	3
W3/16	- 24	T7299329	JIS II	60	22	5.5	4.5	7	4
W1/4	- 20	T7299409	JIS II	62	24	6	4.5	7	4
W5/16	- 18	T7299449	JIS II	70	30	6.1	5	8	4
W3/8	- 16	T7299489	JIS II	75	35	7	5.5	8	4
W7/16	- 14	T7299529	JIS II	80	38	8	6	9	4
W1/2	- 12	T7299569	JIS II	85	42	9	7	10	4
W9/16	- 12	T7299609	JIS II	90	42	10.5	8	11	4
W5/8	- 11	T7299649	JIS II	95	45	12	9	12	4
W3/4	- 10	T7299709	JIS II	105	50	14	11	14	4
W7/8	- 9	T7299749	JIS II	115	55	17	13	16	4
W1"	- 8	T7299789	JIS II	125	60	20	15	18	4

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

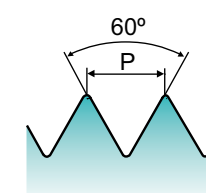
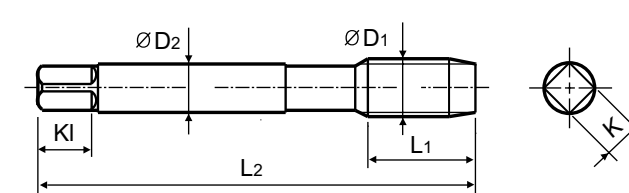
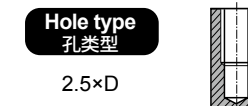
M I-SP SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 普通螺旋槽丝锥

▶ Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

▶ 适用于碳钢和合金钢的盲孔加工, 优异的排屑.



up to M7 : Male Center



Material groups: **GS** HSS-E I YH 60° 2.5P R40 Homo p. B62

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Tap Limits p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M2	× 0.4	T1121131	YH1	40	9.5	3	2.5	5	2
M2.2	× 0.45	T1121151	YH1	42	9.5	3	2.5	5	2
M2.3	× 0.4	T1121191	YH1	42	9.5	3	2.5	5	2
M2.5	× 0.45	T1121171	YH1	44	9.5	3	2.5	5	2
M2.6	× 0.45	T1121491	YH1	44	9.5	3	2.5	5	2
M3	× 0.5	T1121202	YH2	46	11	4	3.2	6	3
M3	× 0.35	T1121211	YH1	46	9.5	4	3.2	6	3
M3.5	× 0.6	T1121222	YH2	48	13	4	3.2	6	3
M3.5	× 0.35	T1121231	YH1	48	9.5	4	3.2	6	3
M4	× 0.7	T1121242	YH2	52	13	5	4	7	3
M4	× 0.5	T1121251	YH1	52	13	5	4	7	3
M4.5	× 0.75	T1121262	YH2	55	13	5	4	7	3
M4.5	× 0.5	T1121271	YH1	55	13	5	4	7	3
M5	× 0.8	T1121282	YH2	60	16	5.5	4.5	7	3
M5	× 0.5	T1121291	YH1	60	16	5.5	4.5	7	3
M5.5	× 0.5	T1121301	YH1	55	13	5.5	4.5	7	3
M6	× 1	T1121312	YH2	62	19	6	4.5	7	3
M6	× 0.75	T1121322	YH2	62	19	6	4.5	7	3
M6	× 0.5	T1121331	YH1	55	13	6	4.5	7	3
M7	× 1	T1121342	YH2	65	19	6.2	5	8	3
M7	× 0.75	T1121352	YH2	65	19	6.2	5	8	3
M8	× 1.25	T1121362	YH2	70	22	6.2	5	8	3

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

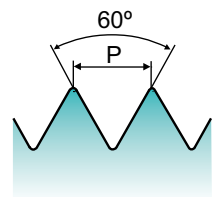
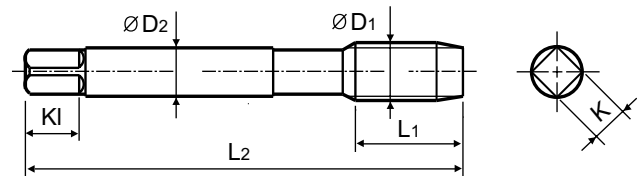
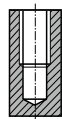
► 适用于碳钢和合金钢的盲孔加工, 优异的排屑。



up to M7 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E I YH 60° 2.5P R40 Homo p. B62

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M8 × 1		T1121372	YH2	70	22	6.2	5	8	3
M8 × 0.75		T1121382	YH2	70	22	6.2	5	8	3
M9 × 1.25		T1121392	YH2	72	22	7	5.5	8	3
M9 × 1		T1121402	YH2	72	22	7	5.5	8	3
M9 × 0.75		T1121412	YH2	72	22	7	5.5	8	3
M10 × 1.5		T1121422	YH2	75	24	7	5.5	8	3
M10 × 1.25		T1121432	YH2	75	24	7	5.5	8	3
M10 × 1		T1121442	YH2	75	24	7	5.5	8	3
M10 × 0.75		T1121452	YH2	75	24	7	5.5	8	3
M11 × 1.5		T1121462	YH2	80	25	8	6	9	3
M11 × 1		T1121472	YH2	80	25	8	6	9	3
M11 × 0.75		T1121482	YH2	80	25	8	6	9	3
M12 × 1.75		T1121502	YH2	82	29	8.5	6.5	9	3
M12 × 1.5		T1121512	YH2	82	29	8.5	6.5	9	3
M12 × 1.25		T1121522	YH2	82	29	8.5	6.5	9	3
M12 × 1		T1121532	YH2	82	29	8.5	6.5	9	3
M14 × 2		T1121542	YH2	88	30	10.5	8	11	3
M14 × 1.5		T1121552	YH2	88	30	10.5	8	11	3
M14 × 1.25		T1121562	YH2	88	30	10.5	8	11	3
M14 × 1		T1121572	YH2	88	30	10.5	8	11	3
M15 × 1.5		T1121582	YH2	90	30	10.5	8	11	3
M15 × 1		T1121592	YH2	90	30	10.5	8	11	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	23	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRC	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

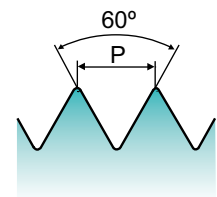
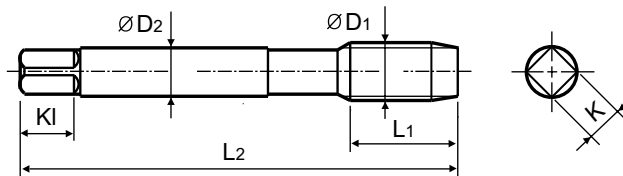
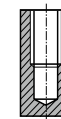
► 适用于碳钢和合金钢的盲孔加工, 优异的排屑。



up to M7 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E I YH 60° 2.5P R40 Homo p. B62

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M16 × 2		T1121602	YH2	95	32	12.5	10	13	3
M16 × 1.5		T1121612	YH2	95	32	12.5	10	13	3
M16 × 1		T1121622	YH2	95	32	12.5	10	13	3
M18 × 2.5		T1121653	YH3	100	37	14	11	14	4
M18 × 2		T1121663	YH3	100	37	14	11	14	4
M18 × 1.5		T1121672	YH2	100	37	14	11	14	4
M18 × 1		T1121682	YH2	100	37	14	11	14	4
M20 × 2.5		T1121703	YH3	105	37	15	12	15	4
M20 × 2		T1121713	YH3	105	37	15	12	15	4
M20 × 1.5		T1121723	YH3	105	37	15	12	15	4
M20 × 1		T1121732	YH2	95	30	15	12	15	4
M22 × 2.5		T1121743	YH3	115	38	17	13	16	4
M22 × 2		T1121753	YH3	115	38	17	13	16	4
M22 × 1.5		T1121763	YH3	115	38	17	13	16	4
M22 × 1		T1121772	YH2	95	30	17	13	16	4
M24 × 3		T1121783	YH3	120	45	19	15	18	4
M24 × 2		T1121793	YH3	120	45	19	15	18	4
M24 × 1.5		T1121803	YH3	120	45	19	15	18	4
M24 × 1		T1121812	YH2	95	30	19	15	18	4
M25 × 2		T1121823	YH3	125	45	19	15	18	4
M25 × 1.5		T1121833	YH3	125	45	19	15	18	4
M26 × 2		T1121N43	YH3	125	45	20	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	23	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRC	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

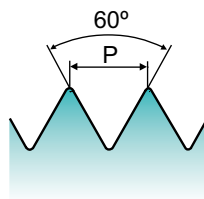
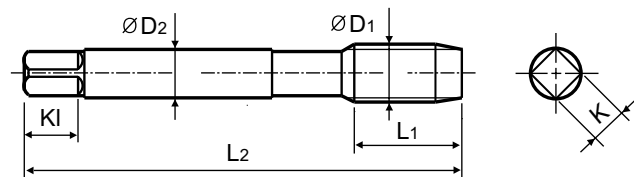
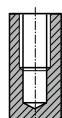
► 适用于碳钢和合金钢的盲孔加工, 优异的排屑。



up to M7 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E I YH 60° 2.5P R40 Homo p. B62

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M26 × 1.5		T1121853	YH3	125	45	20	15	18	4
M26 × 1		T1121N52	YH2	95	30	20	15	18	4
M27 × 3		T1121863	YH3	130	45	20	15	18	4
M27 × 2		T1121873	YH3	130	45	20	15	18	4
M27 × 1.5		T1121883	YH3	130	45	20	15	18	4
M28 × 2		T1121903	YH3	130	45	21	17	20	4
M28 × 1.5		T1121913	YH3	130	45	21	17	20	4
M30 × 3.5		T1121944	YH4	135	48	23	17	20	4
M30 × 3		T1121953	YH3	135	48	23	17	20	4
M30 × 2		T1121963	YH3	135	45	23	17	20	4
M30 × 1.5		T1121973	YH3	135	45	23	17	20	4
M30 × 1		T1121982	YH2	105	30	23	17	20	4
M33 × 3.5		T1121A44	YH4	145	51	25	19	22	4
M33 × 3		T1121A53	YH3	145	51	25	19	22	4
M33 × 2		T1121A63	YH3	145	45	25	19	22	4
M33 × 1.5		T1121A73	YH3	145	45	25	19	22	4
M36 × 4		T1121B34	YH4	155	57	28	21	24	4
M36 × 3		T1121B43	YH3	155	57	28	21	24	4
M36 × 2		T1121B53	YH3	155	45	28	21	24	4
M36 × 1.5		T1121B63	YH3	155	45	28	21	24	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	200	280	250	350	320	400Rm 1050Rm
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC/F I-SP SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

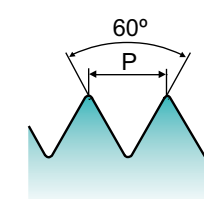
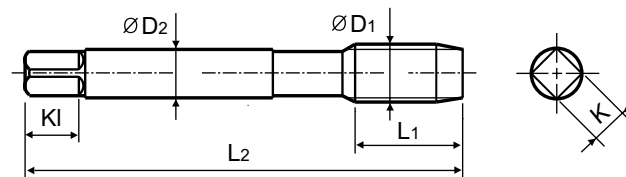
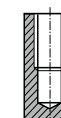
► 适用于碳钢和合金钢的盲孔加工, 优异的排屑。



up to 5/16 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E I JIS II 60° 2.5P R40 Homo p. B62

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
#4 - 40 UNC		T1152162	JIS II	44	9.5	3	2.5	5	3
#4 - 48 UNF		T1152182	JIS II	44	9.5	3	2.5	5	3
#5 - 40 UNC		T1152202	JIS II	46	11	4	3.2	6	3
#5 - 44 UNF		T1152222	JIS II	46	11	4	3.2	6	3
#6 - 32 UNC		T1152242	JIS II	48	13	4	3.2	6	3
#6 - 40 UNF		T1152262	JIS II	48	13	4	3.2	6	3
#8 - 32 UNC		T1152282	JIS II	52	13	5	4	7	3
#8 - 36 UNF		T1152302	JIS II	52	13	5	4	7	3
#10 - 24 UNC		T1152322	JIS II	60	16	5.5	4.5	7	3
#10 - 32 UNF		T1152342	JIS II	60	16	5.5	4.5	7	3
#12 - 24 UNC		T1152362	JIS II	60	16	5.5	4.5	7	3
#12 - 28 UNF		T1152382	JIS II	60	16	5.5	4.5	7	3
1/4 - 20 UNC		T1152402	JIS II	62	19	6	4.5	7	3
1/4 - 28 UNF		T1152422	JIS II	62	19	6	4.5	7	3
5/16 - 18 UNC		T1152442	JIS II	70	22	6.1	5	8	3
5/16 - 24 UNF		T1152462	JIS II	70	22	6.1	5	8	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	200	280	250	350	320	400Rm 1050Rm
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC/F I-SP SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

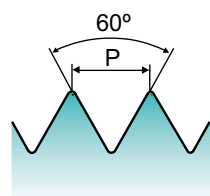
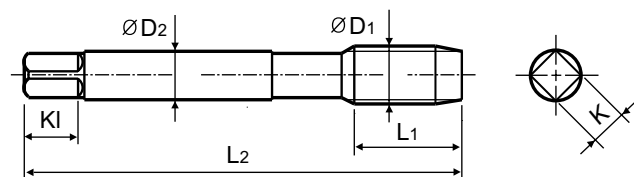
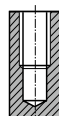
► 适用于碳钢和合金钢的盲孔加工, 优异的排屑。



up to 5/16 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E I JIS II 60° 2.5P R40 Homo p. B62

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1				L2	L1	ØD2	K	KI	
3/8 - 16 UNC		T1152482	JIS II	75	24	7	5.5	8	3
3/8 - 24 UNF		T1152502	JIS II	75	24	7	5.5	8	3
7/16 - 14 UNC		T1152522	JIS II	80	25	8	6	9	3
7/16 - 20 UNF		T1152542	JIS II	80	25	8	6	9	3
1/2 - 13 UNC		T1152562	JIS II	85	29	9	7	10	3
1/2 - 20 UNF		T1152582	JIS II	85	29	9	7	10	3
9/16 - 12 UNC		T1152602	JIS II	90	30	10.5	8	11	3
9/16 - 18 UNF		T1152622	JIS II	90	30	10.5	8	11	3
5/8 - 11 UNC		T1152642	JIS II	95	32	12	9	12	3
5/8 - 18 UNF		T1152662	JIS II	95	32	12	9	12	3
3/4 - 10 UNC		T1152702	JIS II	105	37	14	11	14	4
3/4 - 16 UNF		T1152722	JIS II	105	37	14	11	14	4
7/8 - 9 UNC		T1152742	JIS II	115	38	17	13	16	4
7/8 - 14 UNF		T1152762	JIS II	115	38	17	13	16	4
1" - 8 UNC		T1152782	JIS II	125	45	20	15	18	4
1" - 12 UNF		T1152802	JIS II	125	45	20	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

W I-SP SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

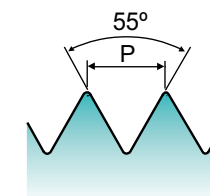
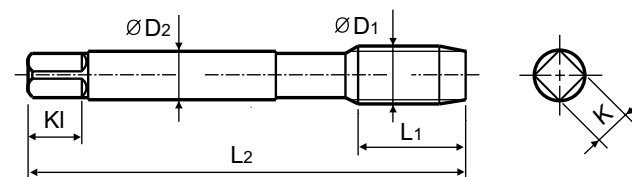
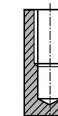
► 适用于碳钢和合金钢的盲孔加工, 优异的排屑。



up to W5/16 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E I JIS II 55° 2.5P R40 Homo p. B62

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1				L2	L1	ØD2	K	KI	
W1/8 - 40		T1251202	JIS II	46	11	4	3.2	6	3
W3/16 - 24		T1251322	JIS II	60	16	5.5	4.5	7	3
W1/4 - 20		T1251402	JIS II	62	19	6	4.5	7	3
W5/16 - 18		T1251442	JIS II	70	22	6.1	5	8	3
W3/8 - 16		T1251482	JIS II	75	24	7	5.5	8	3
W7/16 - 14		T1251522	JIS II	80	25	8	6	9	3
W1/2 - 12		T1251562	JIS II	85	29	9	7	10	3
W9/16 - 12		T1251602	JIS II	90	30	10.5	8	11	3
W5/8 - 11		T1251642	JIS II	95	32	12	9	12	3
W3/4 - 10		T1251702	JIS II	105	37	14	11	14	4
W7/8 - 9		T1251742	JIS II	115	38	17	13	16	4
W1" - 8		T1251782	JIS II	125	45	20	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 普通螺旋槽丝锥

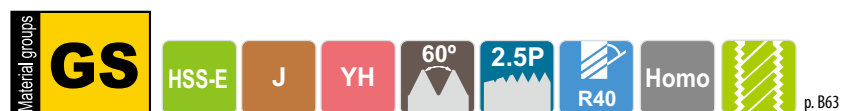
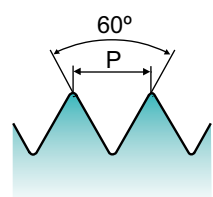
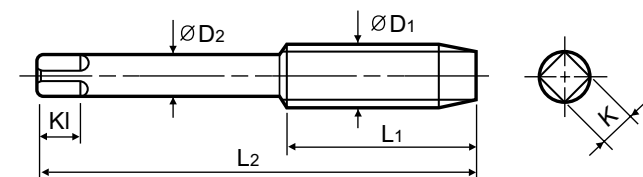
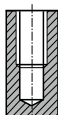
► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的盲孔加工, 优异的排屑。



up to M7 : Male Center

Hole type
孔类型
2.5×D



Tap Limits: p.B230



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M2	× 0.4	T1132131	YH1	40	15	3	2.5	5	2
M2.2	× 0.45	T1132151	YH1	42	15	3	2.5	5	2
M2.3	× 0.4	T1132191	YH1	42	15	3	2.5	5	2
M2.5	× 0.45	T1132171	YH1	44	16	3	2.5	5	2
M2.6	× 0.45	T1132491	YH1	44	16	3	2.5	5	2
M3	× 0.5	T1132202	YH2	46	18	4	3.2	6	3
M3	× 0.35	T1132211	YH1	46	10	4	3.2	6	3
M3.5	× 0.6	T1132222	YH2	48	18	4	3.2	6	3
M3.5	× 0.35	T1132231	YH1	48	10	4	3.2	6	3
M4	× 0.7	T1132242	YH2	52	20	5	4	7	3
M4	× 0.5	T1132251	YH1	52	15	5	4	7	3
M4.5	× 0.75	T1132262	YH2	55	20	5	4	7	3
M4.5	× 0.5	T1132271	YH1	55	15	5	4	7	3
M5	× 0.8	T1132282	YH2	60	22	5.5	4.5	7	3
M5	× 0.5	T1132291	YH1	52	15	5.5	4.5	7	3
M5.5	× 0.5	T1132301	YH1	52	15	5.5	4.5	7	3
M6	× 1	T1132312	YH2	62	24	6	4.5	7	3
M6	× 0.75	T1132322	YH2	62	20	6	4.5	7	3
M6	× 0.5	T1132331	YH1	55	15	6	4.5	7	3
M7	× 1	T1132342	YH2	65	26	6.2	5	8	3
M7	× 0.75	T1132352	YH2	62	20	6.2	5	8	3
M8	× 1.25	T1132362	YH2	70	30	6.2	5	8	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		

M I-SP SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 普通螺旋槽丝锥

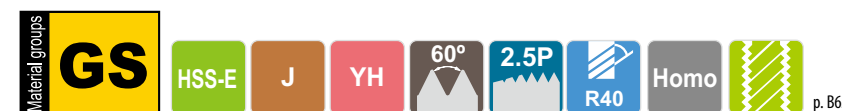
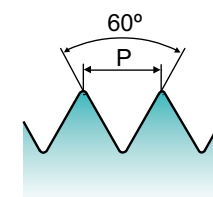
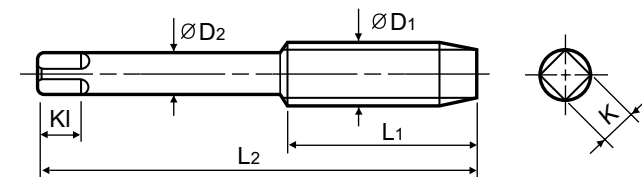
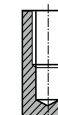
► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的盲孔加工, 优异的排屑。



up to M7 : Male Center

Hole type
孔类型
2.5×D



Tap Limits: p.B230



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M8	× 1	T1132372	YH2	70	30	6.2	5	8	3
M8	× 0.75	T1132382	YH2	65	26	6.2	5	8	3
M9	× 1.25	T1132392	YH2	72	30	7	5.5	8	3
M9	× 1	T1132402	YH2	70	30	7	5.5	8	3
M9	× 0.75	T1132412	YH2	65	26	7	5.5	8	3
M10	× 1.5	T1132422	YH2	75	32	7	5.5	8	3
M10	× 1.25	T1132432	YH2	75	32	7	5.5	8	3
M10	× 1	T1132442	YH2	70	30	7	5.5	8	3
M10	× 0.75	T1132452	YH2	65	26	7	5.5	8	3
M11	× 1.5	T1132462	YH2	80	38	8	6	9	3
M11	× 1	T1132472	YH2	70	30	8	6	9	3
M11	× 0.75	T1132482	YH2	65	26	8	6	9	3
M12	× 1.75	T1132502	YH2	82	38	8.5	6.5	9	3
M12	× 1.5	T1132512	YH2	82	38	8.5	6.5	9	3
M12	× 1.25	T1132522	YH2	80	38	8.5	6.5	9	3
M12	× 1	T1132532	YH2	70	30	8.5	6.5	9	3
M14	× 2	T1132542	YH2	88	42	10.5	8	11	3
M14	× 1.5	T1132552	YH2	88	42	10.5	8	11	3
M14	× 1.25	T1132562	YH2	80	38	10.5	8	11	3
M14	× 1	T1132572	YH2	70	30	10.5	8	11	3
M15	× 1.5	T1132582	YH2	90	42	10.5	8	11	3
M15	× 1	T1132592	YH2	70	30	10.5	8	11	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		

M I-SP SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 普通螺旋槽丝锥

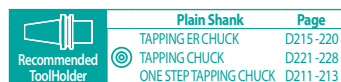
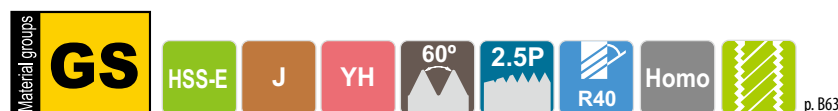
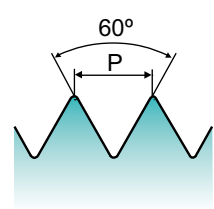
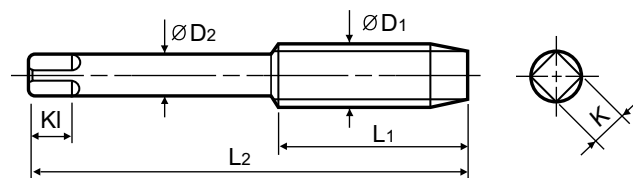
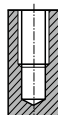
► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的盲孔加工, 优异的排屑.



up to M7 : Male Center

Hole type
孔类型
2.5×D



Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M16 × 2		T1132602	YH2	95	45	12.5	10	13	3
M16 × 1.5		T1132612	YH2	95	45	12.5	10	13	3
M16 × 1		T1132622	YH2	75	30	12.5	10	13	3
M18 × 2.5		T1132653	YH3	100	48	14	11	14	4
M18 × 2		T1132663	YH3	95	45	14	11	14	4
M18 × 1.5		T1132672	YH2	95	45	14	11	14	4
M18 × 1		T1132682	YH2	80	30	14	11	14	4
M20 × 2.5		T1132703	YH3	105	50	15	12	15	4
M20 × 2		T1132713	YH3	95	45	15	12	15	4
M20 × 1.5		T1132723	YH3	95	45	15	12	15	4
M20 × 1		T1132732	YH2	80	30	15	12	15	4
M22 × 2.5		T1132743	YH3	115	55	17	13	16	4
M22 × 2		T1132753	YH3	95	45	17	13	16	4
M22 × 1.5		T1132763	YH3	95	45	17	13	16	4
M22 × 1		T1132772	YH2	85	30	17	13	16	4
M24 × 3		T1132783	YH3	120	58	19	15	18	4
M24 × 2		T1132793	YH3	95	45	19	15	18	4
M24 × 1.5		T1132803	YH3	95	45	19	15	18	4
M24 × 1		T1132812	YH2	90	30	19	15	18	4
M25 × 2		T1132823	YH3	95	45	19	15	18	4
M25 × 1.5		T1132833	YH3	95	45	19	15	18	4
M26 × 2		T1132N43	YH3	95	45	20	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 普通螺旋槽丝锥

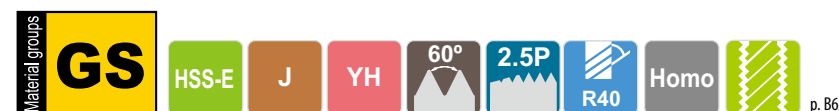
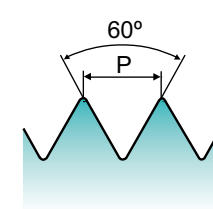
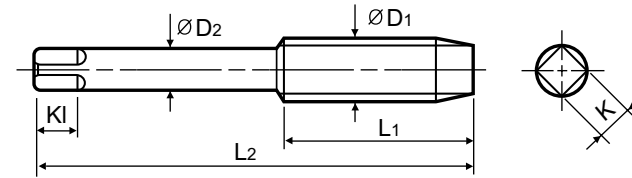
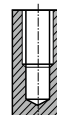
► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的盲孔加工, 优异的排屑.



up to M7 : Male Center

Hole type
孔类型
2.5×D



Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M26 × 1.5		T1132853	YH3	95	45	20	15	18	4
M26 × 1		T1132N52	YH2	95	30	20	15	18	4
M27 × 3		T1132863	YH3	130	62	20	15	18	4
M27 × 2		T1132873	YH3	95	45	20	15	18	4
M27 × 1.5		T1132883	YH3	95	45	20	15	18	4
M28 × 2		T1132903	YH3	105	45	21	17	20	4
M28 × 1.5		T1132913	YH3	105	45	21	17	20	4
M30 × 3.5		T1132944	YH4	135	65	23	17	20	4
M30 × 3		T1132953	YH3	135	65	23	17	20	4
M30 × 2		T1132963	YH3	105	45	23	17	20	4
M30 × 1.5		T1132973	YH3	105	45	23	17	20	4
M30 × 1		T1132982	YH2	105	30	23	17	20	4
M33 × 3.5		T1132A44	YH4	145	70	25	19	22	4
M33 × 3		T1132A53	YH3	145	70	25	19	22	4
M33 × 2		T1132A63	YH3	110	45	25	19	22	4
M33 × 1.5		T1132A73	YH3	110	45	25	19	22	4
M36 × 4		T1132B34	YH4	155	75	28	21	24	4
M36 × 3		T1132B43	YH3	155	75	28	21	24	4
M36 × 2		T1132B53	YH3	110	45	28	21	24	4
M36 × 1.5		T1132B63	YH3	110	45	28	21	24	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC/F I-SP SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

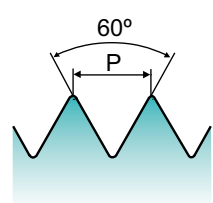
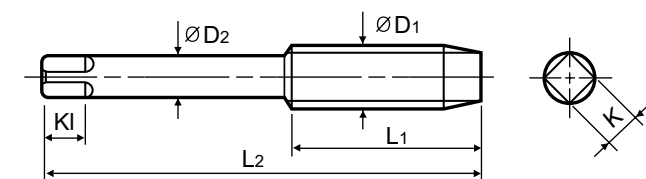
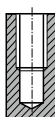
► 适用于碳钢和合金钢的盲孔加工, 优异的排屑。



up to 5/16 : Male Center

Hole type 孔类型

2.5×D



Material groups: **GS** HSS-E J JIS II 60° 2.5P R40 Homo p. B63

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
#4 - 40 UNC		T1232162	JIS II	44	16	3	2.5	5	3
#4 - 48 UNF		T1232182	JIS II	44	16	3	2.5	5	3
#5 - 40 UNC		T1232202	JIS II	46	18	4	3.2	6	3
#5 - 44 UNF		T1232222	JIS II	46	18	4	3.2	6	3
#6 - 32 UNC		T1232242	JIS II	48	18	4	3.2	6	3
#6 - 40 UNF		T1232262	JIS II	48	18	4	3.2	6	3
#8 - 32 UNC		T1232282	JIS II	52	20	5	4	7	3
#8 - 36 UNF		T1232302	JIS II	52	20	5	4	7	3
#10 - 24 UNC		T1232322	JIS II	60	22	5.5	4.5	7	3
#10 - 32 UNF		T1232342	JIS II	60	22	5.5	4.5	7	3
#12 - 24 UNC		T1232362	JIS II	60	22	5.5	4.5	7	3
#12 - 28 UNF		T1232382	JIS II	60	22	5.5	4.5	7	3
1/4 - 20 UNC		T1232402	JIS II	62	24	6	4.5	7	3
1/4 - 28 UNF		T1232422	JIS II	62	24	6	4.5	7	3
5/16 - 18 UNC		T1232442	JIS II	70	30	6.1	5	8	3
5/16 - 24 UNF		T1232462	JIS II	70	30	6.1	5	8	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC/F I-SP SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

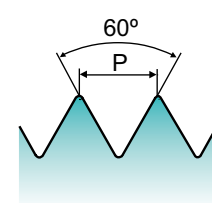
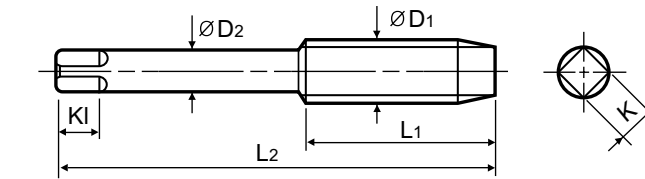
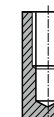
► 适用于碳钢和合金钢的盲孔加工, 优异的排屑。



up to 5/16 : Male Center

Hole type 孔类型

2.5×D



Material groups: **GS** HSS-E J JIS II 60° 2.5P R40 Homo p. B63

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
3/8 - 16 UNC		T1232482	JIS II	75	35	7	5.5	8	3
3/8 - 24 UNF		T1232502	JIS II	75	32	7	5.5	8	3
7/16 - 14 UNC		T1232522	JIS II	80	38	8	6	9	3
7/16 - 20 UNF		T1232542	JIS II	80	38	8	6	9	3
1/2 - 13 UNC		T1232562	JIS II	85	42	9	7	10	3
1/2 - 20 UNF		T1232582	JIS II	85	42	9	7	10	3
9/16 - 12 UNC		T1232602	JIS II	90	42	10.5	8	11	3
9/16 - 18 UNF		T1232622	JIS II	90	42	10.5	8	11	3
5/8 - 11 UNC		T1232642	JIS II	95	45	12	9	12	3
5/8 - 18 UNF		T1232662	JIS II	95	45	12	9	12	3
3/4 - 10 UNC		T1232702	JIS II	105	50	14	11	14	4
3/4 - 16 UNF		T1232722	JIS II	95	45	14	11	14	4
7/8 - 9 UNC		T1232742	JIS II	115	55	17	13	16	4
7/8 - 14 UNF		T1232762	JIS II	95	45	17	13	16	4
1" - 8 UNC		T1232782	JIS II	125	60	20	15	18	4
1" - 12 UNF		T1232802	JIS II	95	45	20	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

W I-SP SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

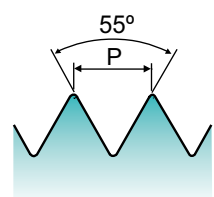
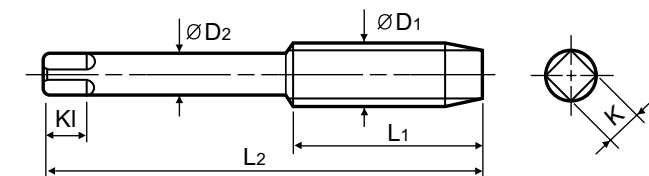
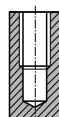
► 适用于碳钢和合金钢的盲孔加工, 优异的排屑。



up to W5/16 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E J JIS II 55° 2.5P R40 Homo p. B63

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
W1/8	- 40	T1162202	JIS II	46	18	4	3.2	6	3
W3/16	- 24	T1162322	JIS II	60	22	5.5	4.5	7	3
W1/4	- 20	T1162402	JIS II	62	24	6	4.5	7	3
W5/16	- 18	T1162442	JIS II	70	30	6.1	5	8	3
W3/8	- 16	T1162482	JIS II	75	35	7	5.5	8	3
W7/16	- 14	T1162522	JIS II	80	38	8	6	9	3
W1/2	- 12	T1162562	JIS II	85	42	9	7	10	3
W9/16	- 12	T1162602	JIS II	90	42	10.5	8	11	3
W5/8	- 11	T1162642	JIS II	95	45	12	9	12	3
W3/4	- 10	T1162702	JIS II	105	50	14	11	14	4
W7/8	- 9	T1162742	JIS II	115	55	17	13	16	4
W1"	- 8	T1162782	JIS II	125	60	20	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP SPIRAL FLUTE TAPS for DEEP HOLES(for GENERAL PURPOSE)
I-SP 深孔螺旋槽丝锥(普通)

► Suitable for tapping deep Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

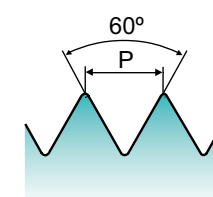
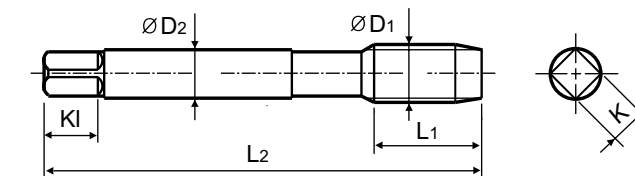
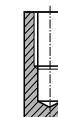
► 适用于碳钢和合金钢的盲孔深加工, 优异的排屑。



up to M7 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E S YH 60° 2.5P R40 Homo p. B63

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M2	× 0.4	T1112131	YH1	40	4	3	2.5	5	2
M2.2	× 0.45	T1112151	YH1	42	4	3	2.5	5	2
M2.3	× 0.4	T1112191	YH1	42	4	3	2.5	5	2
M2.5	× 0.45	T1112171	YH1	44	4	3	2.5	5	2
M2.6	× 0.45	T1112491	YH1	44	4	3	2.5	5	2
M3	× 0.5	T1112202	YH2	46	5	4	3.2	6	3
M3	× 0.35	T1112211	YH1	46	4	4	3.2	6	3
M3.5	× 0.6	T1112222	YH2	48	6	4	3.2	6	3
M3.5	× 0.35	T1112231	YH1	48	4	4	3.2	6	3
M4	× 0.7	T1112242	YH2	52	7	5	4	7	3
M4	× 0.5	T1112251	YH1	52	5	5	4	7	3
M4.5	× 0.75	T1112262	YH2	55	7.5	5	4	7	3
M4.5	× 0.5	T1112271	YH1	55	5	5	4	7	3
M5	× 0.8	T1112282	YH2	60	8	5.5	4.5	7	3
M5	× 0.5	T1112291	YH1	60	5	5.5	4.5	7	3
M5.5	× 0.5	T1112301	YH1	60	5	5.5	4.5	7	3
M6	× 1	T1112312	YH2	62	10	6	4.5	7	3
M6	× 0.75	T1112322	YH2	62	7.5	6	4.5	7	3
M6	× 0.5	T1112331	YH1	62	5	6	4.5	7	3
M7	× 1	T1112342	YH2	65	10	6.2	5	8	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP SPIRAL FLUTE TAPS for DEEP HOLES(for GENERAL PURPOSE)
I-SP 深孔螺旋槽丝锥(普通)

► Suitable for tapping deep Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

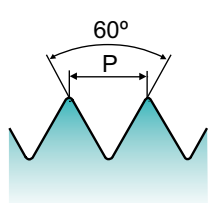
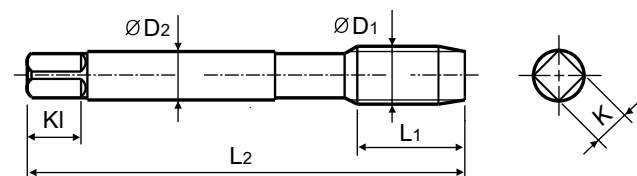
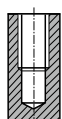
► 适用于碳钢和合金钢的盲孔深加工, 优异的排屑。



up to M7 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E S YH 60° 2.5P R40 Homo p. B63

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M7	× 0.75	T1112352	YH2	65	7.5	6.2	5	8	3
M8	× 1.25	T1112362	YH2	70	13.7	6.2	5	8	3
M8	× 1	T1112372	YH2	70	10.9	6.2	5	8	3
M8	× 0.75	T1112382	YH2	70	8.2	6.2	5	8	3
M9	× 1.25	T1112392	YH2	72	13.7	7	5.5	8	3
M9	× 1	T1112402	YH2	72	10.9	7	5.5	8	3
M9	× 0.75	T1112412	YH2	72	8.2	7	5.5	8	3
M10	× 1.5	T1112422	YH2	75	16.4	7	5.5	8	3
M10	× 1.25	T1112432	YH2	75	13.7	7	5.5	8	3
M10	× 1	T1112442	YH2	75	10.9	7	5.5	8	3
M10	× 0.75	T1112452	YH2	75	8.2	7	5.5	8	3
M11	× 1.5	T1112462	YH2	80	16.4	8	6	9	3
M11	× 1	T1112472	YH2	80	10.9	8	6	9	3
M11	× 0.75	T1112482	YH2	80	8.2	8	6	9	3
M12	× 1.75	T1112502	YH2	82	19.2	8.5	6.5	9	3
M12	× 1.5	T1112512	YH2	82	16.4	8.5	6.5	9	3
M12	× 1.25	T1112522	YH2	82	13.7	8.5	6.5	9	3
M12	× 1	T1112532	YH2	82	10.9	8.5	6.5	9	3
M14	× 2	T1112542	YH2	88	21.9	10.5	8	11	3
M14	× 1.5	T1112552	YH2	88	16.4	10.5	8	11	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP SPIRAL FLUTE TAPS for DEEP HOLES(for GENERAL PURPOSE)
I-SP 深孔螺旋槽丝锥(普通)

► Suitable for tapping deep Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

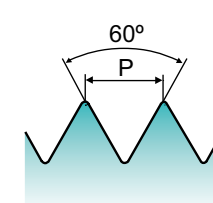
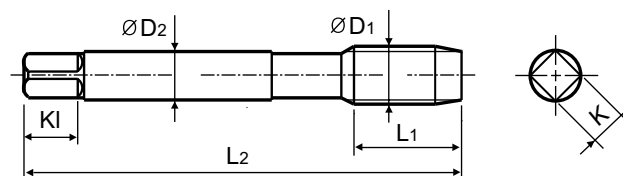
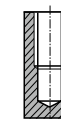
► 适用于碳钢和合金钢的盲孔深加工, 优异的排屑。



up to M7 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E S YH 60° 2.5P R40 Homo p. B63

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M14	× 1.25	T1112562	YH2	88	13.5	10.5	8	11	3
M14	× 1	T1112572	YH2	88	10.9	10.5	8	11	3
M15	× 1.5	T1112582	YH2	90	16.4	10.5	8	11	3
M15	× 1	T1112592	YH2	90	10.9	10.5	8	11	3
M16	× 2	T1112602	YH2	95	21.9	12.5	10	13	3
M16	× 1.5	T1112612	YH2	95	16.4	12.5	10	13	3
M16	× 1	T1112622	YH2	95	10.9	12.5	10	13	3
M18	× 2.5	T1112653	YH3	100	27.4	14	11	14	4
M18	× 2	T1112663	YH3	100	21.9	14	11	14	4
M18	× 1.5	T1112672	YH2	100	16.4	14	11	14	4
M18	× 1	T1112682	YH2	95	10.9	14	11	14	4
M20	× 2.5	T1112703	YH3	105	27.4	15	12	15	4
M20	× 2	T1112713	YH3	105	21.9	15	12	15	4
M20	× 1.5	T1112723	YH3	105	16.4	15	12	15	4
M20	× 1	T1112732	YH2	95	10.9	15	12	15	4
M22	× 2.5	T1112743	YH3	115	27.4	17	13	16	4
M22	× 2	T1112753	YH3	115	21.9	17	13	16	4
M22	× 1.5	T1112763	YH3	115	16.4	17	13	16	4
M22	× 1	T1112772	YH2	95	10.9	17	13	16	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC/F I-SP SPIRAL FLUTE TAPS for DEEP HOLES(for GENERAL PURPOSE)
I-SP 深孔螺旋槽丝锥(普通)

► Suitable for tapping deep Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

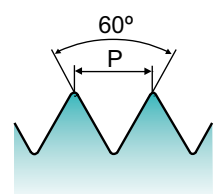
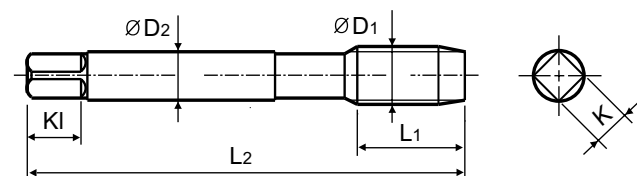
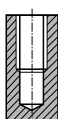
► 适用于碳钢和合金钢的盲孔深加工, 优异的排屑。



up to 5/16 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E S JIS II 60° 2.5P R40 Homo p. B63

Plain Shank	Page
TAPPING ER CHUCK	D215-220
TAPPING CHUCK	D221-228
ONE STEP TAPPING CHUCK	D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
#4 - 40 UNC		T1172162	JIS II	44	6	3	2.5	5	3
#4 - 48 UNF		T1172182	JIS II	44	6	3	2.5	5	3
#5 - 40 UNC		T1172202	JIS II	46	6	4	3.2	6	3
#5 - 44 UNF		T1172222	JIS II	46	6	4	3.2	6	3
#6 - 32 UNC		T1172242	JIS II	48	7	4	3.2	6	3
#6 - 40 UNF		T1172262	JIS II	48	7	4	3.2	6	3
#8 - 32 UNC		T1172282	JIS II	52	7	5	4	7	3
#8 - 36 UNF		T1172302	JIS II	52	7	5	4	7	3
#10 - 24 UNC		T1172322	JIS II	60	10	5.5	4.5	7	3
#10 - 32 UNF		T1172342	JIS II	60	7	5.5	4.5	7	3
#12 - 24 UNC		T1172362	JIS II	60	10	5.5	4.5	7	3
#12 - 28 UNF		T1172382	JIS II	60	9	5.5	4.5	7	3
1/4 - 20 UNC		T1172402	JIS II	62	12	6	4.5	7	3
1/4 - 28 UNF		T1172422	JIS II	62	9	6	4.5	7	3
5/16 - 18 UNC		T1172442	JIS II	70	14	6.1	5	8	3
5/16 - 24 UNF		T1172462	JIS II	70	10	6.1	5	8	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○			○	○														

UNC/F I-SP SPIRAL FLUTE TAPS for DEEP HOLES(for GENERAL PURPOSE)
I-SP 深孔螺旋槽丝锥(普通)

► Suitable for tapping deep Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

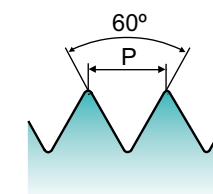
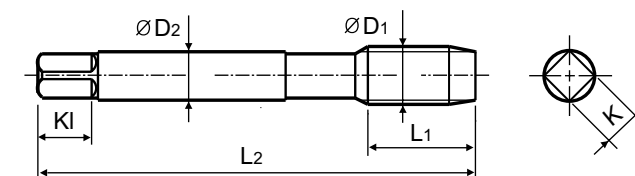
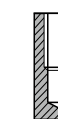
► 适用于碳钢和合金钢的盲孔深加工, 优异的排屑。



up to 5/16 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E S JIS II 60° 2.5P R40 Homo p. B63

Plain Shank	Page
TAPPING ER CHUCK	D215-220
TAPPING CHUCK	D221-228
ONE STEP TAPPING CHUCK	D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
3/8 - 16 UNC		T1172482	JIS II	75	15	7	5.5	8	3
3/8 - 24 UNF		T1172502	JIS II	75	10	7	5.5	8	3
7/16 - 14 UNC		T1172522	JIS II	80	18	8	6	9	3
7/16 - 20 UNF		T1172542	JIS II	80	12	8	6	9	3
1/2 - 13 UNC		T1172562	JIS II	85	19	9	7	10	3
1/2 - 20 UNF		T1172582	JIS II	85	12	9	7	10	3
9/16 - 12 UNC		T1172602	JIS II	90	21	10.5	8	11	3
9/16 - 18 UNF		T1172622	JIS II	90	14	10.5	8	11	3
5/8 - 11 UNC		T1172642	JIS II	95	23	12	9	12	3
5/8 - 18 UNF		T1172662	JIS II	95	14	12	9	12	3
3/4 - 10 UNC		T1172702	JIS II	105	25	14	11	14	4
3/4 - 16 UNF		T1172722	JIS II	105	15	14	11	14	4
7/8 - 9 UNC		T1172742	JIS II	115	28	17	13	16	4
7/8 - 14 UNF		T1172762	JIS II	115	18	17	13	16	4
1 - 8 UNC		T1172782	JIS II	125	31	20	15	18	4
1 - 12 UNF		T1172802	JIS II	125	21	20	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○			○	○														

M I-SP SPIRAL FLUTE TAPS
I-SP 螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels. Capable of efficient, long life, high speed tapping.

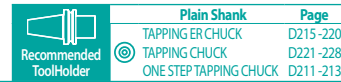
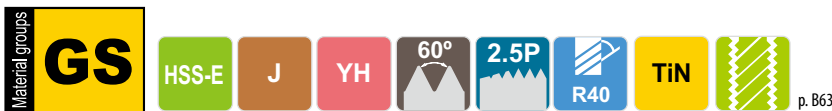
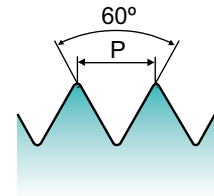
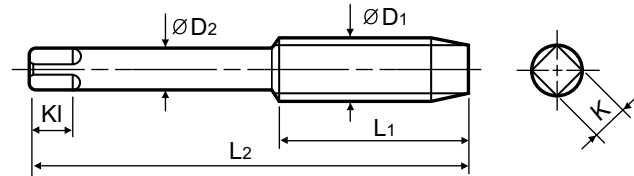
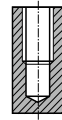
► 适用于碳钢和合金钢的通孔加工, 具有高效, 寿命长, 能够快速攻丝。



up to M7 : Male Center

Hole type
孔类型

2.5×D



Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M3	× 0.5	T3132202	YH2	46	18	4	3.2	6	3
M3.5	× 0.6	T3132222	YH2	48	18	4	3.2	6	3
M4	× 0.7	T3132242	YH2	52	20	5	4	7	3
M5	× 0.8	T3132282	YH2	60	22	5.5	4.5	7	3
M6	× 1	T3132312	YH2	62	24	6	4.5	7	3
M8	× 1.25	T3132362	YH2	70	30	6.2	5	8	3
M10	× 1.5	T3132422	YH2	75	32	7	5.5	8	3
M10	× 1.25	T3132432	YH2	75	32	7	5.5	8	3
M12	× 1.75	T3132502	YH2	82	38	8.5	6.5	9	3
M12	× 1.5	T3132512	YH2	82	38	8.5	6.5	9	3
M12	× 1.25	T3132522	YH2	80	38	8.5	6.5	9	3
M14	× 2	T3132542	YH2	88	42	10.5	8	11	3
M14	× 1.5	T3132552	YH2	88	42	10.5	8	11	3
M16	× 2	T3132602	YH2	95	45	12.5	10	13	3
M16	× 1.5	T3132612	YH2	95	45	12.5	10	13	3
M18	× 2.5	T3132653	YH3	100	48	14	11	14	4
M18	× 1.5	T3132672	YH2	95	45	14	11	14	4
M20	× 2.5	T3132703	YH3	105	50	15	12	15	4
M20	× 1.5	T3132723	YH3	95	45	15	12	15	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP SPIRAL FLUTE TAPS for DEEP HOLES
I-SP 深孔螺旋槽丝锥

► Suitable for tapping deep Blind holes in Carbon Steels and Alloy Steels. Capable of efficient, long life, high speed tapping.

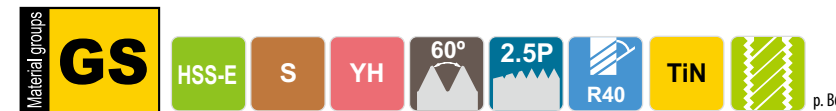
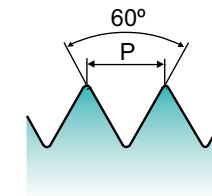
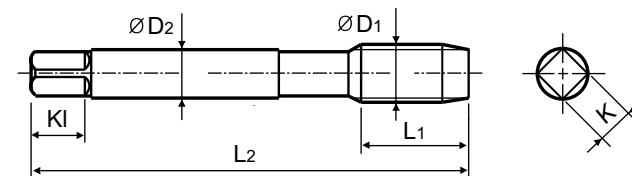
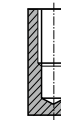
► 适用于碳钢和合金钢的通孔加工, 具有高效, 寿命长, 能够快速攻丝。



up to M7 : Male Center

Hole type
孔类型

2.5×D



Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M3	× 0.5	T3112202	YH2	46	5	4	3.2	6	3
M4	× 0.7	T3112242	YH2	52	7	5	4	7	3
M5	× 0.8	T3112282	YH2	60	8	5.5	4.5	7	3
M6	× 1	T3112312	YH2	62	10	6	4.5	7	3
M8	× 1.25	T3112362	YH2	70	13.7	6.2	5	8	3
M10	× 1.5	T3112422	YH2	75	16.4	7	5.5	8	3
M10	× 1.25	T3112432	YH2	75	13.7	7	5.5	8	3
M12	× 1.75	T3112502	YH2	82	19.2	8.5	6.5	9	3
M12	× 1.5	T3112512	YH2	82	16.4	8.5	6.5	9	3
M12	× 1.25	T3112522	YH2	82	13.7	8.5	6.5	9	3
M14	× 2	T3112542	YH2	88	21.9	10.5	8	11	3
M14	× 1.5	T3112552	YH2	88	16.4	10.5	8	11	3
M16	× 2	T3112602	YH2	95	21.9	12.5	10	13	3
M16	× 1.5	T3112612	YH2	95	16.4	12.5	10	13	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP LONG SHANK SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 长柄普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑。

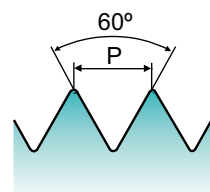
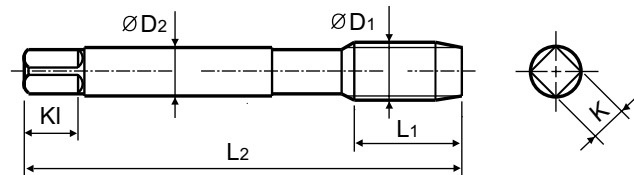
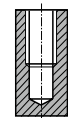
Long Shank



up to M7 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E LONG YH 60° 2.5P R40 Homo p. B63

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

► **100mm** Tap Limits: p.B230 Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M3 × 0.5		T1103201	YH1	100	11	4	3.2	6	3
M4 × 0.7		T1103242	YH2	100	13	5	4	7	3
M5 × 0.8		T1103282	YH2	100	16	5.5	4.5	7	3
M6 × 1		T1103312	YH2	100	19	6	4.5	7	3
M8 × 1.25		T1103362	YH2	100	22	6.2	5	8	3
M10 × 1.5		T1103422	YH2	100	24	7	5.5	8	3
M10 × 1.25		T1103432	YH2	100	24	7	5.5	8	3
M12 × 1.75		T1103502	YH2	100	29	8.5	6.5	9	3
M12 × 1.5		T1103512	YH2	100	29	8.5	6.5	9	3
M12 × 1.25		T1103522	YH2	100	29	8.5	6.5	9	3
M14 × 2		T1103542	YH2	100	30	10.5	8	11	3
M14 × 1.5		T1103552	YH2	100	30	10.5	8	11	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP LONG SHANK SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 长柄普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑。

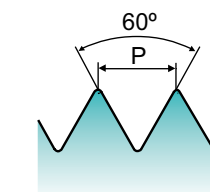
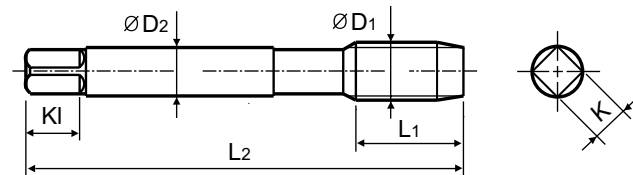
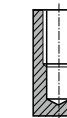
Long Shank



up to M7 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E LONG YH 60° 2.5P R40 Homo p. B63

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

► **120mm** Tap Limits: p.B230 Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M3 × 0.5		T1104201	YH1	120	11	4	3.2	6	3
M4 × 0.7		T1104242	YH2	120	13	5	4	7	3
M5 × 0.8		T1104282	YH2	120	16	5.5	4.5	7	3
M6 × 1		T1104312	YH2	120	19	6	4.5	7	3
M8 × 1.25		T1104362	YH2	120	22	6.2	5	8	3
M10 × 1.5		T1104422	YH2	120	24	7	5.5	8	3
M10 × 1.25		T1104432	YH2	120	24	7	5.5	8	3
M12 × 1.75		T1104502	YH2	120	29	8.5	6.5	9	3
M12 × 1.5		T1104512	YH2	120	29	8.5	6.5	9	3
M12 × 1.25		T1104522	YH2	120	29	8.5	6.5	9	3
M14 × 2		T1104542	YH2	120	30	10.5	8	11	3
M14 × 1.5		T1104552	YH2	120	30	10.5	8	11	3
M16 × 2		T1104602	YH2	120	32	12.5	10	13	3
M16 × 1.5		T1104612	YH2	120	32	12.5	10	13	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP LONG SHANK SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 长柄普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑.

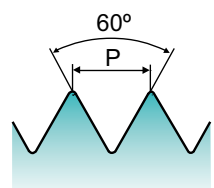
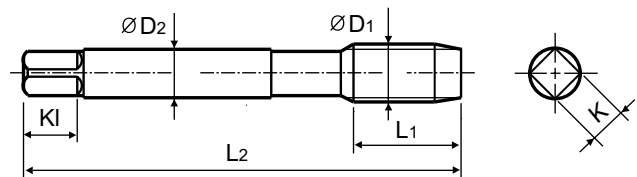
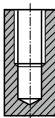
Long Shank



up to M7 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E LONG YH 60° 2.5P R40 Homo p. B63

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended ToolHolder

► **150mm** Tap Limits: p.B230 Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M3 × 0.5		T1105201	YH1	150	11	4	3.2	6	3
M4 × 0.7		T1105242	YH2	150	13	5	4	7	3
M5 × 0.8		T1105282	YH2	150	16	5.5	4.5	7	3
M6 × 1		T1105312	YH2	150	19	6	4.5	7	3
M8 × 1.25		T1105362	YH2	150	22	6.2	5	8	3
M10 × 1.5		T1105422	YH2	150	24	7	5.5	8	3
M10 × 1.25		T1105432	YH2	150	24	7	5.5	8	3
M12 × 1.75		T1105502	YH2	150	29	8.5	6.5	9	3
M12 × 1.5		T1105512	YH2	150	29	8.5	6.5	9	3
M12 × 1.25		T1105522	YH2	150	29	8.5	6.5	9	3
M14 × 2		T1105542	YH2	150	30	10.5	8	11	3
M14 × 1.5		T1105552	YH2	150	30	10.5	8	11	3
M16 × 2		T1105602	YH2	150	32	12.5	10	13	3
M16 × 1.5		T1105612	YH2	150	32	12.5	10	13	3
M18 × 2.5		T1105653	YH3	150	37	14	11	14	4
M18 × 1.5		T1105672	YH2	150	37	14	11	14	4
M20 × 2.5		T1105703	YH3	150	37	15	12	15	4
M20 × 1.5		T1105723	YH3	150	37	15	12	15	4
M22 × 2.5		T1105743	YH3	150	38	17	13	16	4
M22 × 1.5		T1105763	YH3	150	38	17	13	16	4
M24 × 3		T1105783	YH3	150	45	19	15	18	4
M24 × 1.5		T1105803	YH3	150	45	19	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP LONG SHANK SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 长柄普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑.

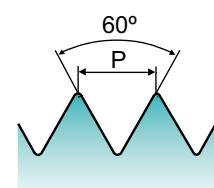
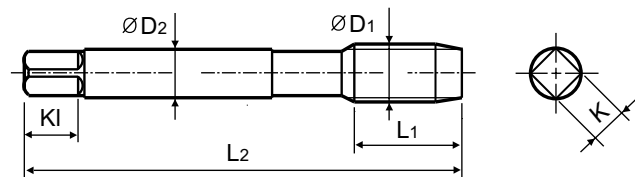
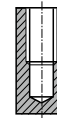
Long Shank



up to M7 : Male Center

Hole type
孔类型

2.5×D



Material groups: **GS** HSS-E LONG YH 60° 2.5P R40 Homo p. B63

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended ToolHolder

► **200mm** Tap Limits: p.B230 Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M8 × 1.25		T1106362	YH2	200	22	6.2	5	8	3
M10 × 1.5		T1106422	YH2	200	24	7	5.5	8	3
M10 × 1.25		T1106432	YH2	200	24	7	5.5	8	3
M12 × 1.75		T1106502	YH2	200	29	8.5	6.5	9	3
M12 × 1.5		T1106512	YH2	200	29	8.5	6.5	9	3
M12 × 1.25		T1106522	YH2	200	29	8.5	6.5	9	3
M14 × 2		T1106542	YH2	200	30	10.5	8	11	3
M14 × 1.5		T1106552	YH2	200	30	10.5	8	11	3
M16 × 2		T1106602	YH2	200	32	12.5	10	13	3
M16 × 1.5		T1106612	YH2	200	32	12.5	10	13	3
M18 × 2.5		T1106653	YH3	200	37	14	11	14	4
M18 × 1.5		T1106672	YH2	200	37	14	11	14	4
M20 × 2.5		T1106703	YH3	200	37	15	12	15	4
M20 × 1.5		T1106723	YH3	200	37	15	12	15	4
M22 × 2.5		T1106743	YH3	200	38	17	13	16	4
M22 × 1.5		T1106763	YH3	200	38	17	13	16	4
M24 × 3		T1106783	YH3	200	45	19	15	18	4
M24 × 1.5		T1106803	YH3	200	45	19	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

W I-SP LONG SHANK SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 长柄普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑。

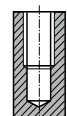
Long Shank



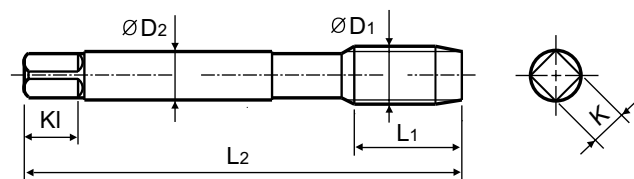
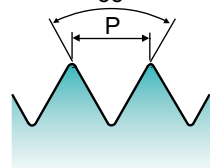
up to W5/16 : Male Center

Hole type
孔类型

2.5×D



55°



Material groups: **GS** HSS-E LONG JIS II 55° 2.5P R40 Homo p. B63

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended Toolholder

100mm

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
W1/8 - 40		T1130202	JIS II	100	11	4	3.2	6	3
W3/16 - 24		T1130322	JIS II	100	16	5.5	4.5	7	3
W1/4 - 20		T1130402	JIS II	100	19	6	4.5	7	3
W5/16 - 18		T1130442	JIS II	100	22	6.1	5	8	3
W3/8 - 16		T1130482	JIS II	100	24	7	5.5	8	3
W7/16 - 14		T1130522	JIS II	100	25	8	6	9	3
W1/2 - 12		T1130562	JIS II	100	29	9	7	10	3

120mm

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
W1/8 - 40		T1140202	JIS II	120	11	4	3.2	6	3
W3/16 - 24		T1140322	JIS II	120	16	5.5	4.5	7	3
W1/4 - 20		T1140402	JIS II	120	19	6	4.5	7	3
W5/16 - 18		T1140442	JIS II	120	22	6.1	5	8	3
W3/8 - 16		T1140482	JIS II	120	24	7	5.5	8	3
W7/16 - 14		T1140522	JIS II	120	25	8	6	9	3
W1/2 - 12		T1140562	JIS II	120	29	9	7	10	3
W9/16 - 12		T1140602	JIS II	120	30	10.5	8	11	3
W5/8 - 11		T1140642	JIS II	120	32	12	9	12	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

W I-SP LONG SHANK SPIRAL FLUTE TAPS for GENERAL PURPOSE
I-SP 长柄普通螺旋槽丝锥

► Suitable for tapping Blind holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑。

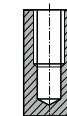
Long Shank



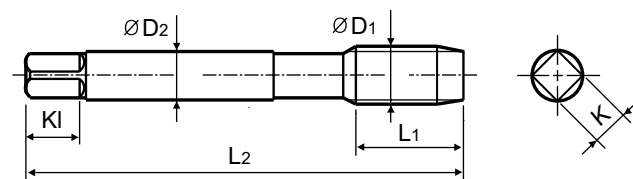
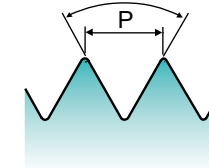
up to W5/16 : Male Center

Hole type
孔类型

2.5×D



55°



Material groups: **GS** HSS-E LONG JIS II 55° 2.5P R40 Homo p. B63

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended Toolholder

150mm

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
W1/8 - 40		T1150202	JIS II	150	11	4	3.2	6	3
W3/16 - 24		T1150322	JIS II	150	16	5.5	4.5	7	3
W1/4 - 20		T1150402	JIS II	150	19	6	4.5	7	3
W5/16 - 18		T1150442	JIS II	150	22	6.1	5	8	3
W3/8 - 16		T1150482	JIS II	150	24	7	5.5	8	3
W7/16 - 14		T1150522	JIS II	150	25	8	6	9	3
W1/2 - 12		T1150562	JIS II	150	29	9	7	10	3
W9/16 - 12		T1150602	JIS II	150	30	10.5	8	11	3
W5/8 - 11		T1150642	JIS II	150	32	12	9	12	3
W3/4 - 10		T1150702	JIS II	150	37	14	11	14	4
W7/8 - 9		T1150742	JIS II	150	38	17	13	16	4
W1" - 8		T1150782	JIS II	150	45	20	15	18	4

200mm

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
W3/8 - 16		T1160482	JIS II	200	24	7	5.5	8	3
W7/16 - 14		T1160522	JIS II	200	25	8	6	9	3
W1/2 - 12		T1160562	JIS II	200	29	9	7	10	3
W9/16 - 12		T1160602	JIS II	200	30	10.5	8	11	3
W5/8 - 11		T1160642	JIS II	200	32	12	9	12	3
W3/4 - 10		T1160702	JIS II	200	37	14	11	14	4
W7/8 - 9		T1160742	JIS II	200	38	17	13	16	4
W1" - 8		T1160782	JIS II	200	45	20	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-GP SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 普通先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑.

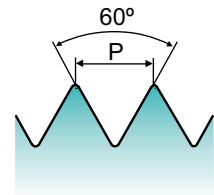
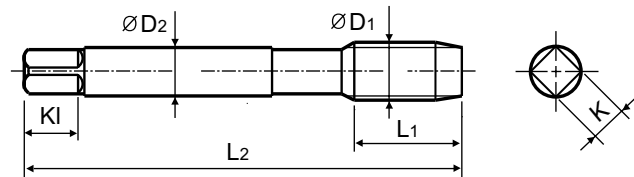


up to M8 : Male Center

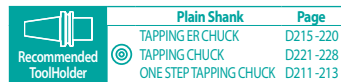
Hole type
孔类型



3.0xD



Tap Limits: p.B230



Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M2	× 0.4	T1022132	YH2	40	9.5	3	2.5	5	2
M2.2	× 0.45	T1022152	YH2	42	9.5	3	2.5	5	2
M2.3	× 0.4	T1022192	YH2	42	9.5	3	2.5	5	2
M2.5	× 0.45	T1022172	YH2	44	9.5	3	2.5	5	2
M2.6	× 0.45	T1022492	YH2	44	9.5	3	2.5	5	2
M3	× 0.5	T1022202	YH2	46	11	4	3.2	6	3
M3	× 0.35	T1022212	YH2	46	9.5	4	3.2	6	3
M3.5	× 0.6	T1022222	YH2	48	13	4	3.2	6	3
M3.5	× 0.35	T1022232	YH2	48	9.5	4	3.2	6	3
M4	× 0.7	T1022242	YH2	52	13	5	4	7	3
M4	× 0.5	T1022252	YH2	52	13	5	4	7	3
M4.5	× 0.75	T1022262	YH2	55	13	5	4	7	3
M4.5	× 0.5	T1022272	YH2	55	13	5	4	7	3
M5	× 0.8	T1022282	YH2	60	16	5.5	4.5	7	3
M5	× 0.5	T1022292	YH2	60	16	5.5	4.5	7	3
M5.5	× 0.5	T1022302	YH2	55	13	5.5	4.5	7	3
M6	× 1	T1022312	YH2	62	19	6	4.5	7	3
M6	× 0.75	T1022322	YH2	62	19	6	4.5	7	3
M6	× 0.5	T1022332	YH2	62	19	6	4.5	7	3
M7	× 1	T1022342	YH2	65	19	6.2	5	8	3
M7	× 0.75	T1022352	YH2	65	19	6.2	5	8	3
M8	× 1.25	T1022363	YH3	70	22	6.2	5	8	3

► Refer to p.B64 for recommended tap drill sizes. 参考p.B64 底孔尺寸.

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K																										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron																						
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-GP SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 普通先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑.

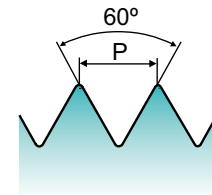
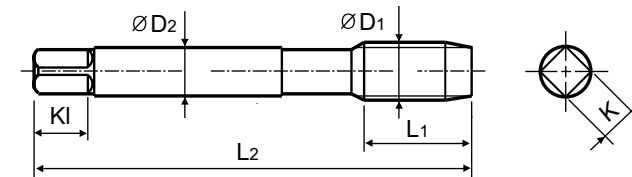


up to M8 : Male Center

Hole type
孔类型



3.0xD



Tap Limits: p.B230



Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M8	× 1	T1022373	YH3	70	22	6.2	5	8	3
M8	× 0.75	T1022383	YH3	70	22	6.2	5	8	3
M9	× 1.25	T1022393	YH3	72	22	7	5.5	8	3
M9	× 1	T1022403	YH3	72	22	7	5.5	8	3
M9	× 0.75	T1022413	YH3	72	22	7	5.5	8	3
M10	× 1.5	T1022423	YH3	75	24	7	5.5	8	3
M10	× 1.25	T1022433	YH3	75	24	7	5.5	8	3
M10	× 1	T1022443	YH3	75	24	7	5.5	8	3
M10	× 0.75	T1022453	YH3	75	24	7	5.5	8	3
M11	× 1.5	T1022463	YH3	80	25	8	6	9	3
M11	× 1	T1022473	YH3	80	25	8	6	9	3
M11	× 0.75	T1022483	YH3	80	25	8	6	9	3
M12	× 1.75	T1022504	YH4	82	29	8.5	6.5	9	3
M12	× 1.5	T1022513	YH3	82	29	8.5	6.5	9	3
M12	× 1.25	T1022523	YH3	82	29	8.5	6.5	9	3
M12	× 1	T1022533	YH3	82	29	8.5	6.5	9	3
M14	× 2	T1022544	YH4	88	30	10.5	8	11	3
M14	× 1.5	T1022553	YH3	88	30	10.5	8	11	3
M14	× 1.25	T1022563	YH3	88	30	10.5	8	11	3
M14	× 1	T1022573	YH3	88	30	10.5	8	11	3
M15	× 1.5	T1022583	YH3	90	30	10.5	8	11	3
M15	× 1	T1022593	YH3	90	30	10.5	8	11	3

► Refer to p.B64 for recommended tap drill sizes. 参考p.B64 底孔尺寸.

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K																										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron																						
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-GP SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 普通先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑。

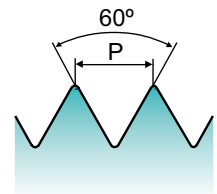
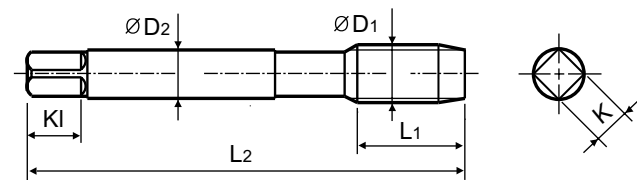


up to M8 : Male Center

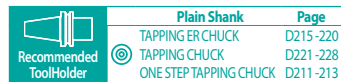
Hole type
孔类型



3.0xD



Tap Limits: p.B230



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M16 × 2		T1022604	YH4	95	32	12.5	10	13	3
M16 × 1.5		T1022613	YH3	95	32	12.5	10	13	3
M16 × 1		T1022623	YH3	95	32	12.5	10	13	3
M18 × 2.5		T1022654	YH4	100	37	14	11	14	3
M18 × 2		T1022664	YH4	100	37	14	11	14	3
M18 × 1.5		T1022674	YH4	100	37	14	11	14	3
M18 × 1		T1022683	YH3	95	30	14	11	14	3
M20 × 2.5		T1022704	YH4	105	37	15	12	15	3
M20 × 2		T1022714	YH4	105	37	15	12	15	3
M20 × 1.5		T1022724	YH4	105	37	15	12	15	3
M20 × 1		T1022733	YH3	95	30	15	12	15	3
M22 × 2.5		T1022744	YH4	115	38	17	13	16	3
M22 × 2		T1022754	YH4	115	38	17	13	16	3
M22 × 1.5		T1022764	YH4	115	38	17	13	16	3
M22 × 1		T1022773	YH3	95	30	17	13	16	3
M24 × 3		T1022784	YH4	120	45	19	15	18	3
M24 × 2		T1022794	YH4	120	45	19	15	18	3
M24 × 1.5		T1022804	YH4	120	45	19	15	18	3
M24 × 1		T1022813	YH3	95	30	19	15	18	3
M25 × 2		T1022824	YH4	125	45	19	15	18	3
M25 × 1.5		T1022834	YH4	125	45	19	15	18	3
M26 × 2		T1022N44	YH4	125	45	20	15	18	4

► Refer to p.B64 for recommended tap drill sizes. 参考p.B64 底孔尺寸。

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-GP SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 普通先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑。

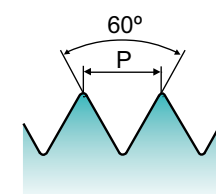
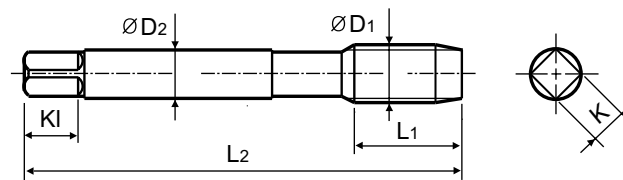


up to M8 : Male Center

Hole type
孔类型



3.0xD



Tap Limits: p.B230



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M26 × 1.5		T1022854	YH4	125	45	20	15	18	4
M26 × 1		T1022N53	YH3	95	30	20	15	18	4
M27 × 3		T1022864	YH4	130	45	20	15	18	4
M27 × 2		T1022874	YH4	130	45	20	15	18	4
M27 × 1.5		T1022884	YH4	130	45	20	15	18	4
M28 × 2		T1022904	YH4	130	45	21	17	20	4
M28 × 1.5		T1022914	YH4	130	45	21	17	20	4
M30 × 3.5		T1022945	YH5	135	48	23	17	20	4
M30 × 3		T1022954	YH4	135	48	23	17	20	4
M30 × 2		T1022964	YH4	135	45	23	17	20	4
M30 × 1.5		T1022974	YH4	135	45	23	17	20	4
M30 × 1		T1022982	YH2	105	30	23	17	20	4
M33 × 3.5		T1022A45	YH5	145	51	25	19	22	4
M33 × 3		T1022A54	YH4	145	51	25	19	22	4
M33 × 2		T1022A63	YH3	145	45	25	19	22	4
M33 × 1.5		T1022A74	YH4	145	45	25	19	22	4
M36 × 4		T1022B35	YH5	155	57	28	21	24	4
M36 × 3		T1022B44	YH4	155	57	28	21	24	4
M36 × 2		T1022B53	YH3	155	45	28	21	24	4
M36 × 1.5		T1022B64	YH4	155	45	28	21	24	4

► Refer to p.B64 for recommended tap drill sizes. 参考p.B64 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC/F I-GP SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 普通先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑。

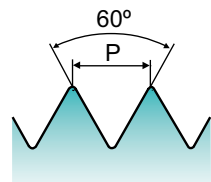
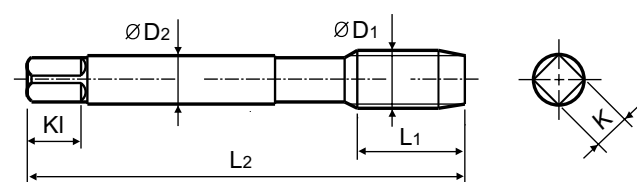


up to 5/16 : Male Center

Hole type
孔类型



3.0xD



Material groups: **GS** HSS-E I JIS II 60° 5.0P Homo p. B64

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
#4 - 40 UNC		T1272162	JIS II	44	9.5	3	2.5	5	2
#4 - 48 UNF		T1272182	JIS II	44	9.5	3	2.5	5	2
#5 - 40 UNC		T1272202	JIS II	46	11	4	3.2	6	3
#5 - 44 UNF		T1272222	JIS II	46	11	4	3.2	6	3
#6 - 32 UNC		T1272242	JIS II	48	13	4	3.2	6	3
#6 - 40 UNF		T1272262	JIS II	48	13	4	3.2	6	3
#8 - 32 UNC		T1272282	JIS II	52	13	5	4	7	3
#8 - 36 UNF		T1272302	JIS II	52	13	5	4	7	3
#10 - 24 UNC		T1272322	JIS II	60	16	5.5	4.5	7	3
#10 - 32 UNF		T1272342	JIS II	60	16	5.5	4.5	7	3
#12 - 24 UNC		T1272362	JIS II	60	16	5.5	4.5	7	3
#12 - 28 UNF		T1272382	JIS II	60	16	5.5	4.5	7	3
1/4 - 20 UNC		T1272402	JIS II	62	19	6	4.5	7	3
1/4 - 28 UNF		T1272422	JIS II	62	19	6	4.5	7	3
5/16 - 18 UNC		T1272442	JIS II	70	22	6.1	5	8	3
5/16 - 24 UNF		T1272462	JIS II	70	22	6.1	5	8	3

► Refer to p.B64 for recommended tap drill sizes. 参考p.B64 底孔尺寸。

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N								S							H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials	Heat Resistant Super Alloys				Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC/F I-GP SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 普通先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑。

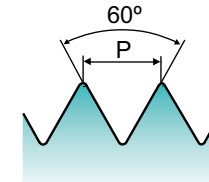
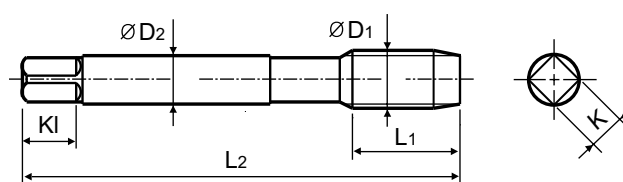


up to 5/16 : Male Center

Hole type
孔类型



3.0xD



Material groups: **GS** HSS-E I JIS II 60° 5.0P Homo p. B64

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
3/8 - 16 UNC		T1272482	JIS II	75	24	7	5.5	8	3
3/8 - 24 UNF		T1272502	JIS II	75	24	7	5.5	8	3
7/16 - 14 UNC		T1272522	JIS II	80	25	8	6	9	3
7/16 - 20 UNF		T1272542	JIS II	80	25	8	6	9	3
1/2 - 13 UNC		T1272562	JIS II	85	29	9	7	10	3
1/2 - 20 UNF		T1272582	JIS II	85	29	9	7	10	3
9/16 - 12 UNC		T1272602	JIS II	90	30	10.5	8	11	3
9/16 - 18 UNF		T1272622	JIS II	90	30	10.5	8	11	3
5/8 - 11 UNC		T1272642	JIS II	95	32	12	9	12	3
5/8 - 18 UNF		T1272662	JIS II	95	32	12	9	12	3
3/4 - 10 UNC		T1272702	JIS II	105	37	14	11	14	3
3/4 - 16 UNF		T1272722	JIS II	105	37	14	11	14	3
7/8 - 9 UNC		T1272742	JIS II	115	38	17	13	16	3
7/8 - 14 UNF		T1272762	JIS II	115	38	17	13	16	3
1" - 8 UNC		T1272782	JIS II	125	45	20	15	18	3
1" - 12 UNF		T1272802	JIS II	125	45	20	15	18	3

► Refer to p.B64 for recommended tap drill sizes. 参考p.B64 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N								S							H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials	Heat Resistant Super Alloys				Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

W I-GP SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 普通先端丝锥

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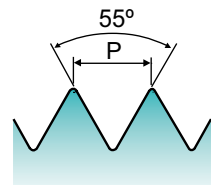
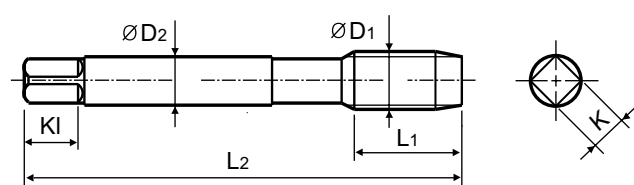


up to W5/16 : Male Center

Hole type
孔类型



3.0xD



Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
W1/8	- 40	T1282202	JIS II	46	11	4	3.2	6	3
W3/16	- 24	T1282322	JIS II	60	16	5.5	4.5	7	3
W1/4	- 20	T1282402	JIS II	62	19	6	4.5	7	3
W5/16	- 18	T1282442	JIS II	70	22	6.1	5	8	3
W3/8	- 16	T1282482	JIS II	75	24	7	5.5	8	3
W7/16	- 14	T1282522	JIS II	80	25	8	6	9	3
W1/2	- 12	T1282562	JIS II	85	29	9	7	10	3
W9/16	- 12	T1282602	JIS II	90	30	10.5	8	11	3
W5/8	- 11	T1282642	JIS II	95	32	12	9	12	3
W3/4	- 10	T1282702	JIS II	105	37	14	11	14	3
W7/8	- 9	T1282742	JIS II	115	38	17	13	16	3
W1"	- 8	T1282782	JIS II	125	45	20	15	18	3

► Refer to p.B64 for recommended tap drill sizes. 参考p.B64 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-GP SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 普通先端丝锥

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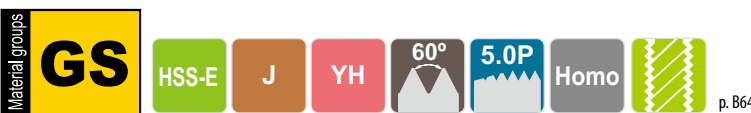
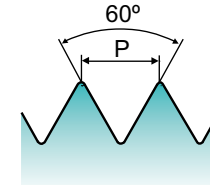
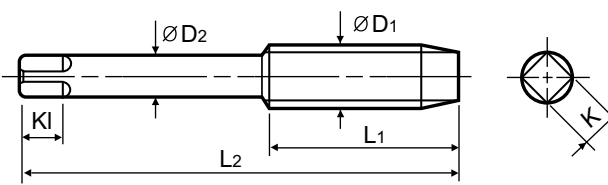


up to M8 : Male Center

Hole type
孔类型



3.0xD



Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213

Tap Limits p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M2	× 0.4	T1042132	YH2	40	15	3	2.5	5	2
M2.2	× 0.45	T1042152	YH2	42	15	3	2.5	5	2
M2.3	× 0.4	T1042192	YH2	42	15	3	2.5	5	2
M2.5	× 0.45	T1042172	YH2	44	16	3	2.5	5	2
M2.6	× 0.45	T1042492	YH2	44	16	3	2.5	5	2
M3	× 0.5	T1042202	YH2	46	18	4	3.2	6	3
M3	× 0.35	T1042212	YH2	46	10	4	3.2	6	3
M3.5	× 0.6	T1042222	YH2	48	18	4	3.2	6	3
M3.5	× 0.35	T1042232	YH2	48	10	4	3.2	6	3
M4	× 0.7	T1042242	YH2	52	20	5	4	7	3
M4	× 0.5	T1042252	YH2	52	15	5	4	7	3
M4.5	× 0.75	T1042262	YH2	55	20	5	4	7	3
M4.5	× 0.5	T1042272	YH2	55	15	5	4	7	3
M5	× 0.8	T1042282	YH2	60	22	5.5	4.5	7	3
M5	× 0.5	T1042292	YH2	52	15	5.5	4.5	7	3
M5.5	× 0.5	T1042302	YH2	52	15	5.5	4.5	7	3
M6	× 1	T1042312	YH2	62	24	6	4.5	7	3
M6	× 0.75	T1042322	YH2	62	20	6	4.5	7	3
M6	× 0.5	T1042332	YH2	55	15	6	4.5	7	3
M7	× 1	T1042342	YH2	65	26	6.2	5	8	3
M7	× 0.75	T1042352	YH2	62	20	6.2	5	8	3
M8	× 1.25	T1042363	YH3	70	30	6.2	5	8	3

► Refer to p.B64 for recommended tap drill sizes. 参考p.B64 底孔尺寸.

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-GP SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 普通先端丝锥

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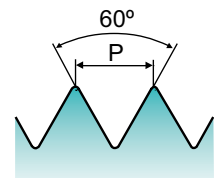
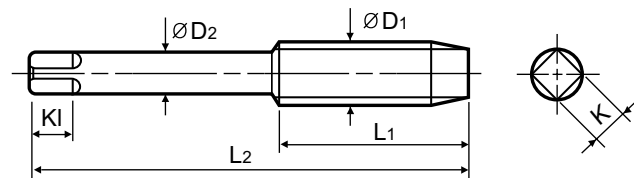


up to M8 : Male Center

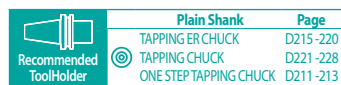
Hole type
孔类型



3.0×D



Tap Limits: p.B230



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M8 × 1		T1042373	YH3	70	30	6.2	5	8	3
M8 × 0.75		T1042383	YH3	65	26	6.2	5	8	3
M9 × 1.25		T1042393	YH3	72	30	7	5.5	8	3
M9 × 1		T1042403	YH3	70	30	7	5.5	8	3
M9 × 0.75		T1042413	YH3	65	26	7	5.5	8	3
M10 × 1.5		T1042423	YH3	75	32	7	5.5	8	3
M10 × 1.25		T1042433	YH3	75	32	7	5.5	8	3
M10 × 1		T1042443	YH3	70	30	7	5.5	8	3
M10 × 0.75		T1042453	YH3	65	26	7	5.5	8	3
M11 × 1.5		T1042463	YH3	80	38	8	6	9	3
M11 × 1		T1042474	YH4	70	30	8	6	9	3
M11 × 0.75		T1042483	YH3	65	26	8	6	9	3
M12 × 1.75		T1042504	YH4	82	38	8.5	6.5	9	3
M12 × 1.5		T1042513	YH3	82	38	8.5	6.5	9	3
M12 × 1.25		T1042523	YH3	80	38	8.5	6.5	9	3
M12 × 1		T1042533	YH3	70	30	8.5	6.5	9	3
M14 × 2		T1042544	YH4	88	42	10.5	8	11	3
M14 × 1.5		T1042553	YH3	88	42	10.5	8	11	3
M14 × 1.25		T1042563	YH3	80	38	10.5	8	11	3
M14 × 1		T1042573	YH3	70	30	10.5	8	11	3
M15 × 1.5		T1042583	YH3	90	42	10.5	8	11	3
M15 × 1		T1042593	YH3	70	30	10.5	8	11	3

► Refer to p.B64 for recommended tap drill sizes. 参考p.B64 底孔尺寸。

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-GP SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 普通先端丝锥

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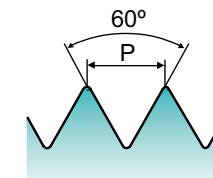
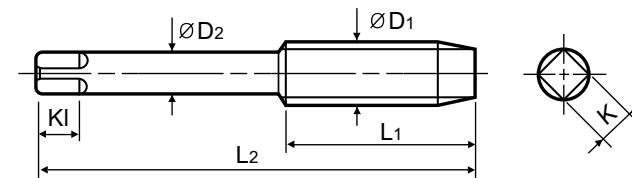


up to M8 : Male Center

Hole type
孔类型



3.0×D



Tap Limits: p.B230



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M16 × 2		T1042604	YH4	95	45	12.5	10	13	3
M16 × 1.5		T1042613	YH3	95	45	12.5	10	13	3
M16 × 1		T1042623	YH3	75	30	12.5	10	13	3
M18 × 2.5		T1042654	YH4	100	48	14	11	14	3
M18 × 2		T1042664	YH4	95	45	14	11	14	3
M18 × 1.5		T1042674	YH4	95	45	14	11	14	3
M18 × 1		T1042683	YH3	80	30	14	11	14	3
M20 × 2.5		T1042704	YH4	105	50	15	12	15	3
M20 × 2		T1042714	YH4	95	45	15	12	15	3
M20 × 1.5		T1042724	YH4	95	45	15	12	15	3
M20 × 1		T1042733	YH3	80	30	15	12	15	3
M22 × 2.5		T1042744	YH4	115	55	17	13	16	3
M22 × 2		T1042754	YH4	95	45	17	13	16	3
M22 × 1.5		T1042764	YH4	95	45	17	13	16	3
M22 × 1		T1042773	YH3	85	30	17	13	16	3
M24 × 3		T1042784	YH4	120	58	19	15	18	3
M24 × 2		T1042794	YH4	95	45	19	15	18	3
M24 × 1.5		T1042804	YH4	95	45	19	15	18	3
M24 × 1		T1042813	YH3	90	30	19	15	18	3
M25 × 2		T1042824	YH4	95	45	19	15	18	3
M25 × 1.5		T1042834	YH4	95	45	19	15	18	3
M26 × 2		T1042N44	YH4	95	45	20	15	18	4

► Refer to p.B64 for recommended tap drill sizes. 参考p.B64 底孔尺寸。

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-GP SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 普通先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑。

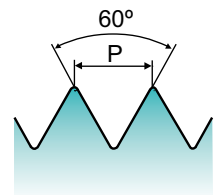
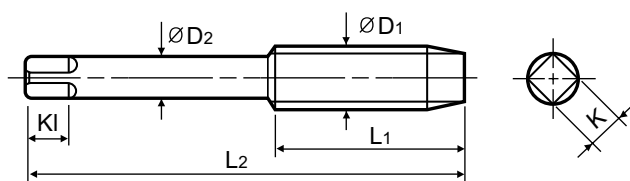


up to M8 : Male Center

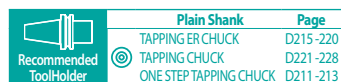
Hole type
孔类型



3.0xD



Tap Limits: p.B230



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M26 × 1.5		T1042854	YH4	95	45	20	15	18	4
M26 × 1		T1042N53	YH3	95	30	20	15	18	4
M27 × 3		T1042864	YH4	130	62	20	15	18	4
M27 × 2		T1042874	YH4	95	45	20	15	18	4
M27 × 1.5		T1042884	YH4	95	45	20	15	18	4
M28 × 2		T1042904	YH4	105	45	21	17	20	4
M28 × 1.5		T1042914	YH4	105	45	21	17	20	4
M30 × 3.5		T1042945	YH5	135	65	23	17	20	4
M30 × 3		T1042954	YH4	135	65	23	17	20	4
M30 × 2		T1042964	YH4	105	45	23	17	20	4
M30 × 1.5		T1042974	YH4	105	45	23	17	20	4
M30 × 1		T1042982	YH2	105	30	23	17	20	4
M33 × 3.5		T1042A45	YH5	145	70	25	19	22	4
M33 × 3		T1042A54	YH4	145	70	25	19	22	4
M33 × 2		T1042A63	YH3	110	45	25	19	22	4
M33 × 1.5		T1042A74	YH4	110	45	25	19	22	4
M36 × 4		T1042B35	YH5	155	75	28	21	24	4
M36 × 3		T1042B44	YH4	155	75	28	21	24	4
M36 × 2		T1042B53	YH3	110	45	28	21	24	4
M36 × 1.5		T1042B64	YH4	110	45	28	21	24	4

► Refer to p.B64 for recommended tap drill sizes. 参考p.B64 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC/F I-GP SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 普通先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑。

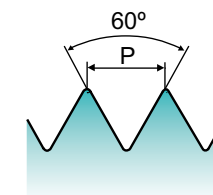
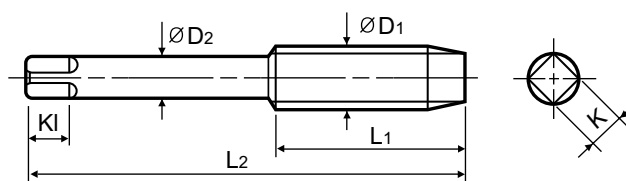


up to 5/16 : Male Center

Hole type
孔类型



3.0xD



Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
#4 - 40 UNC		T1142162	JIS II	44	16	3	2.5	5	3
#4 - 48 UNF		T1142182	JIS II	44	16	3	2.5	5	3
#5 - 40 UNC		T1142202	JIS II	46	18	4	3.2	6	3
#5 - 44 UNF		T1142222	JIS II	46	18	4	3.2	6	3
#6 - 32 UNC		T1142242	JIS II	48	18	4	3.2	6	3
#6 - 40 UNF		T1142262	JIS II	48	18	4	3.2	6	3
#8 - 32 UNC		T1142282	JIS II	52	20	5	4	7	3
#8 - 36 UNF		T1142302	JIS II	52	20	5	4	7	3
#10 - 24 UNC		T1142322	JIS II	60	22	5.5	4.5	7	3
#10 - 32 UNF		T1142342	JIS II	60	22	5.5	4.5	7	3
#12 - 24 UNC		T1142362	JIS II	60	22	5.5	4.5	7	3
#12 - 28 UNF		T1142382	JIS II	60	22	5.5	4.5	7	3
1/4 - 20 UNC		T1142402	JIS II	62	24	6	4.5	7	3
1/4 - 28 UNF		T1142422	JIS II	62	24	6	4.5	7	3
5/16 - 18 UNC		T1142442	JIS II	70	30	6.1	5	8	3
5/16 - 24 UNF		T1142462	JIS II	70	30	6.1	5	8	3

► Refer to p.B64 for recommended tap drill sizes. 参考p.B64 底孔尺寸。

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC/F I-GP SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 普通先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑。

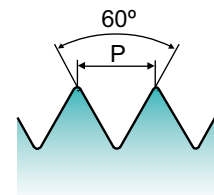
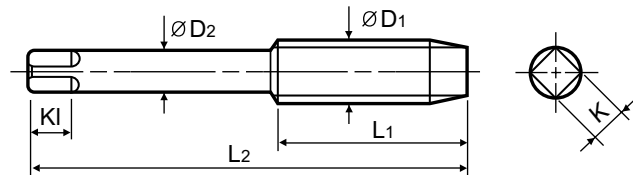


up to 5/16 : Male Center

Hole type
孔类型



3.0xD



Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1				L2	L1	ØD2	K	KI	
3/8 - 16 UNC		T1142482	JIS II	75	35	7	5.5	8	3
3/8 - 24 UNF		T1142502	JIS II	75	32	7	5.5	8	3
7/16 - 14 UNC		T1142522	JIS II	80	38	8	6	9	3
7/16 - 20 UNF		T1142542	JIS II	80	38	8	6	9	3
1/2 - 13 UNC		T1142562	JIS II	85	42	9	7	10	3
1/2 - 20 UNF		T1142582	JIS II	85	42	9	7	10	3
9/16 - 12 UNC		T1142602	JIS II	90	42	10.5	8	11	3
9/16 - 18 UNF		T1142622	JIS II	90	42	10.5	8	11	3
5/8 - 11 UNC		T1142642	JIS II	95	45	12	9	12	3
5/8 - 18 UNF		T1142662	JIS II	95	45	12	9	12	3
3/4 - 10 UNC		T1142702	JIS II	105	50	14	11	14	3
3/4 - 16 UNF		T1142722	JIS II	95	45	14	11	14	3
7/8 - 9 UNC		T1142742	JIS II	115	55	17	13	16	3
7/8 - 14 UNF		T1142762	JIS II	95	45	17	13	16	3
1" - 8 UNC		T1142782	JIS II	125	60	20	15	18	3
1" - 12 UNF		T1142802	JIS II	95	45	20	15	18	3

► Refer to p.B64 for recommended tap drill sizes. 参考p.B64 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

W I-GP SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 普通先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异的排屑。

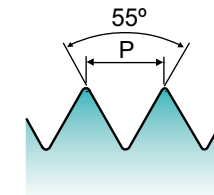
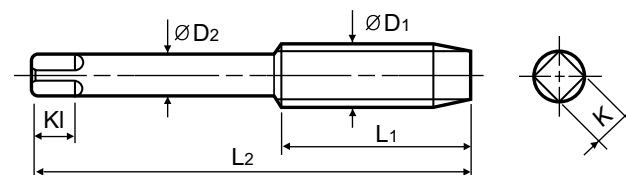


up to W5/16 : Male Center

Hole type
孔类型



3.0xD



Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1				L2	L1	ØD2	K	KI	
W1/8 - 40		T1262202	JIS II	46	18	4	3.2	6	3
W3/16 - 24		T1262322	JIS II	60	22	5.5	4.5	7	3
W1/4 - 20		T1262402	JIS II	62	24	6	4.5	7	3
W5/16 - 18		T1262442	JIS II	70	30	6.1	5	8	3
W3/8 - 16		T1262482	JIS II	75	35	7	5.5	8	3
W7/16 - 14		T1262522	JIS II	80	38	8	6	9	3
W1/2 - 12		T1262562	JIS II	85	42	9	7	10	3
W9/16 - 12		T1262602	JIS II	90	42	10.5	8	11	3
W5/8 - 11		T1262642	JIS II	95	45	12	9	12	3
W3/4 - 10		T1262702	JIS II	105	50	14	11	14	3
W7/8 - 9		T1262742	JIS II	115	55	17	13	16	3
W1" - 8		T1262782	JIS II	125	60	20	15	18	3

► Refer to p.B64 for recommended tap drill sizes. 参考p.B64 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-GP SPIRAL POINT TAPS
I-GP 先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels. Capable of efficient, long life, high speed tapping.

► 适用于碳钢和合金钢的通孔加工, 具有高效, 寿命长, 能够快速攻丝。

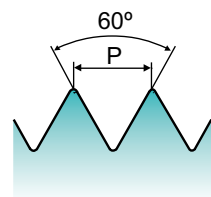
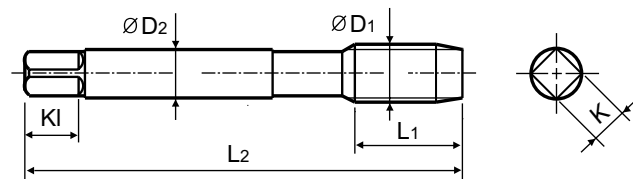


up to M8 : Male Center

Hole type
孔类型



3.0×D



Tap Limits: p.B230



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M3	× 0.5	T3022202	YH2	46	11	4	3.2	6	3
M3.5	× 0.6	T3022222	YH2	48	13	4	3.2	6	3
M4	× 0.7	T3022242	YH2	52	13	5	4	7	3
M5	× 0.8	T3022282	YH2	60	16	5.5	4.5	7	3
M6	× 1	T3022312	YH2	62	19	6	4.5	7	3
M8	× 1.25	T3022363	YH3	70	22	6.2	5	8	3
M10	× 1.5	T3022423	YH3	75	24	7	5.5	8	3
M10	× 1.25	T3022433	YH3	75	24	7	5.5	8	3
M12	× 1.75	T3022504	YH4	82	29	8.5	6.5	9	3
M12	× 1.5	T3022513	YH3	82	29	8.5	6.5	9	3
M12	× 1.25	T3022523	YH3	82	29	8.5	6.5	9	3
M14	× 2	T3022544	YH4	88	30	10.5	8	11	3
M14	× 1.5	T3022553	YH3	88	30	10.5	8	11	3
M16	× 2	T3022604	YH4	95	32	12.5	10	13	3
M16	× 1.5	T3022613	YH3	95	32	12.5	10	13	3
M18	× 2.5	T3022654	YH4	100	37	14	11	14	3
M18	× 1.5	T3022674	YH4	100	37	14	11	14	3
M20	× 2.5	T3022704	YH4	105	37	15	12	15	3
M20	× 1.5	T3022724	YH4	105	37	15	12	15	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-GP SPIRAL POINT TAPS
I-GP 先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels. Capable of efficient, long life, high speed tapping.

► 适用于碳钢和合金钢的通孔加工, 具有高效, 寿命长, 能够快速攻丝。

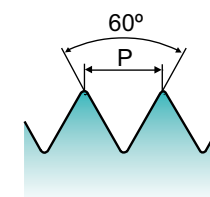
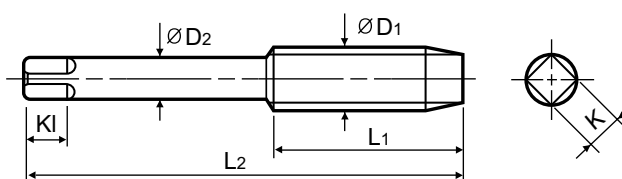


up to M8 : Male Center

Hole type
孔类型



3.0×D



Tap Limits: p.B230



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M3	× 0.5	T3042202	YH2	46	18	4	3.2	6	3
M3.5	× 0.6	T3042222	YH2	48	18	4	3.2	6	3
M4	× 0.7	T3042242	YH2	52	20	5	4	7	3
M5	× 0.8	T3042282	YH2	60	22	5.5	4.5	7	3
M6	× 1	T3042312	YH2	62	24	6	4.5	7	3
M8	× 1.25	T3042363	YH2	70	30	6.2	5	8	3
M10	× 1.5	T3042423	YH3	75	32	7	5.5	8	3
M10	× 1.25	T3042433	YH3	75	32	7	5.5	8	3
M12	× 1.75	T3042504	YH4	82	38	8.5	6.5	9	3
M12	× 1.5	T3042513	YH3	82	38	8.5	6.5	9	3
M12	× 1.25	T3042523	YH3	80	38	8.5	6.5	9	3
M14	× 2	T3042544	YH4	88	42	10.5	8	11	3
M14	× 1.5	T3042553	YH3	88	42	10.5	8	11	3
M16	× 2	T3042604	YH4	95	45	12.5	10	13	3
M16	× 1.5	T3042613	YH3	95	45	12.5	10	13	3
M18	× 2.5	T3042654	YH4	100	48	14	11	14	3
M18	× 1.5	T3042674	YH4	95	45	14	11	14	3
M20	× 2.5	T3042704	YH4	105	50	15	12	15	3
M20	× 1.5	T3042724	YH4	95	45	15	12	15	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

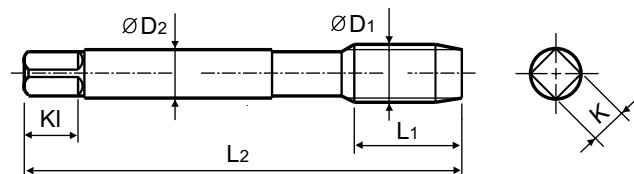
M I-GP LONG SHANK SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 长柄普通先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异排屑



up to M8 : Male Center

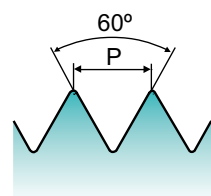


Long Shank

Hole type
孔类型



3.0xD



Material groups: **GS** HSS-E LONG YH 60° 5.0P Homo p. B65

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

► **100mm** Tap Limits: p.B230 Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M3	× 0.5	T1203202	YH2	100	11	4	3.2	6	3
M4	× 0.7	T1203242	YH2	100	13	5	4	7	3
M5	× 0.8	T1203282	YH2	100	16	5.5	4.5	7	3
M6	× 1	T1203312	YH2	100	19	6	4.5	7	3
M8	× 1.25	T1203363	YH3	100	22	6.2	5	8	3
M10	× 1.5	T1203423	YH3	100	24	7	5.5	8	3
M10	× 1.25	T1203433	YH3	100	24	7	5.5	8	3
M12	× 1.75	T1203504	YH4	100	29	8.5	6.5	9	3
M12	× 1.5	T1203513	YH3	100	29	8.5	6.5	9	3
M12	× 1.25	T1203523	YH3	100	29	8.5	6.5	9	3
M14	× 2	T1203544	YH4	100	30	10.5	8	11	3
M14	× 1.5	T1203553	YH3	100	30	10.5	8	11	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

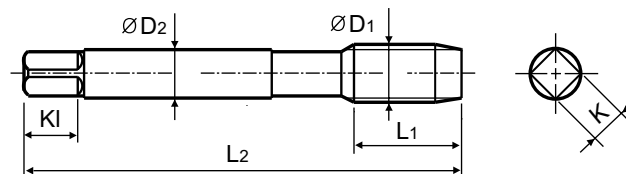
M I-GP LONG SHANK SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 长柄普通先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异排屑



up to M8 : Male Center

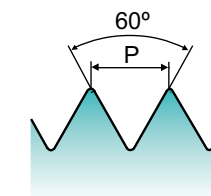


Long Shank

Hole type
孔类型



3.0xD



Material groups: **GS** HSS-E LONG YH 60° 5.0P Homo p. B65

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

► **120mm** Tap Limits: p.B230 Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M3	× 0.5	T1204202	YH2	120	11	4	3.2	6	3
M4	× 0.7	T1204242	YH2	120	13	5	4	7	3
M5	× 0.8	T1204282	YH2	120	16	5.5	4.5	7	3
M6	× 1	T1204312	YH2	120	19	6	4.5	7	3
M8	× 1.25	T1204363	YH3	120	22	6.2	5	8	3
M10	× 1.5	T1204423	YH3	120	24	7	5.5	8	3
M10	× 1.25	T1204433	YH3	120	24	7	5.5	8	3
M12	× 1.75	T1204504	YH4	120	29	8.5	6.5	9	3
M12	× 1.5	T1204513	YH3	120	29	8.5	6.5	9	3
M12	× 1.25	T1204523	YH3	120	29	8.5	6.5	9	3
M14	× 2	T1204544	YH4	120	30	10.5	8	11	3
M14	× 1.5	T1204553	YH3	120	30	10.5	8	11	3
M16	× 2	T1204604	YH4	120	32	12.5	10	13	3
M16	× 1.5	T1204613	YH3	120	32	12.5	10	13	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-GP LONG SHANK SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 长柄普通先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异排屑



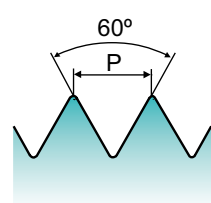
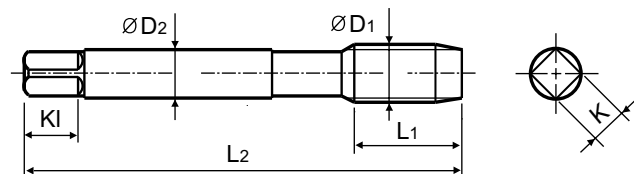
up to M8 : Male Center

Long Shank

Hole type



3.0×D



Material groups: **GS** HSS-E LONG YH 60° 5.0P Homo p. B65

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

► **150mm** Tap Limits: p.B230 Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M3 × 0.5		T1205202	YH2	150	11	4	3.2	6	3
M4 × 0.7		T1205242	YH2	150	13	5	4	7	3
M5 × 0.8		T1205282	YH2	150	16	5.5	4.5	7	3
M6 × 1		T1205312	YH2	150	19	6	4.5	7	3
M8 × 1.25		T1205363	YH3	150	22	6.2	5	8	3
M10 × 1.5		T1205423	YH3	150	24	7	5.5	8	3
M10 × 1.25		T1205433	YH3	150	24	7	5.5	8	3
M12 × 1.75		T1205504	YH4	150	29	8.5	6.5	9	3
M12 × 1.5		T1205513	YH3	150	29	8.5	6.5	9	3
M12 × 1.25		T1205523	YH3	150	29	8.5	6.5	9	3
M14 × 2		T1205544	YH4	150	30	10.5	8	11	3
M14 × 1.5		T1205553	YH3	150	30	10.5	8	11	3
M16 × 2		T1205604	YH4	150	32	12.5	10	13	3
M16 × 1.5		T1205613	YH3	150	32	12.5	10	13	3
M18 × 2.5		T1205654	YH4	150	37	14	11	14	3
M18 × 1.5		T1205674	YH4	150	37	14	11	14	3
M20 × 2.5		T1205704	YH4	150	37	15	12	15	3
M20 × 1.5		T1205724	YH4	150	37	15	12	15	3
M22 × 2.5		T1205744	YH4	150	38	17	13	16	3
M22 × 1.5		T1205764	YH4	150	38	17	13	16	3
M24 × 3		T1205784	YH4	150	45	19	15	18	3
M24 × 1.5		T1205804	YH4	150	45	19	15	18	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-GP LONG SHANK SPIRAL POINT TAPS for GENERAL PURPOSE
I-GP 长柄普通先端丝锥

► Suitable for tapping Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的通孔加工, 优异排屑



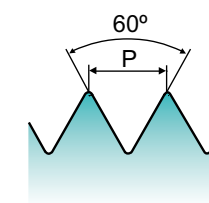
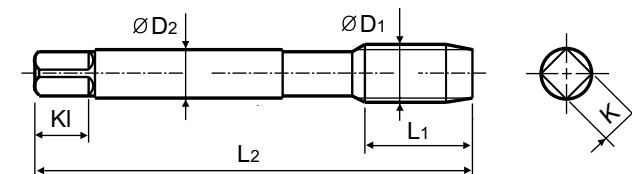
up to M8 : Male Center

Long Shank

Hole type



3.0×D



Material groups: **GS** HSS-E LONG YH 60° 5.0P Homo p. B65

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

► **200mm** Tap Limits: p.B230 Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M8 × 1.25		T1206363	YH3	200	22	6.2	5	8	3
M10 × 1.5		T1206423	YH3	200	24	7	5.5	8	3
M10 × 1.25		T1206433	YH3	200	24	7	5.5	8	3
M12 × 1.75		T1206504	YH4	200	29	8.5	6.5	9	3
M12 × 1.5		T1206513	YH3	200	29	8.5	6.5	9	3
M12 × 1.25		T1206523	YH3	200	29	8.5	6.5	9	3
M14 × 2		T1206544	YH4	200	30	10.5	8	11	3
M14 × 1.5		T1206553	YH3	200	30	10.5	8	11	3
M16 × 2		T1206604	YH4	200	32	12.5	10	13	3
M16 × 1.5		T1206613	YH3	200	32	12.5	10	13	3
M18 × 2.5		T1206654	YH4	200	37	14	11	14	3
M18 × 1.5		T1206674	YH4	200	37	14	11	14	3
M20 × 2.5		T1206704	YH4	200	37	15	12	15	3
M20 × 1.5		T1206724	YH4	200	37	15	12	15	3
M22 × 2.5		T1206744	YH4	200	38	17	13	16	3
M22 × 1.5		T1206764	YH4	200	38	17	13	16	3
M24 × 3		T1206784	YH4	200	45	19	15	18	3
M24 × 1.5		T1206804	YH4	200	45	19	15	18	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



1.5P **T3492** SERIES
5.0P **T3491** SERIES

M I-SP STRAIGHT FLUTE TAPS

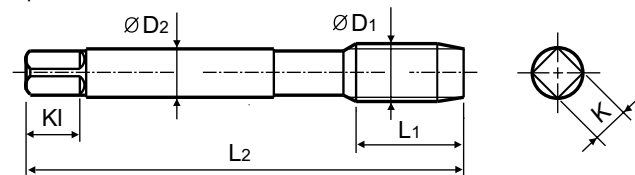
I-SP 直槽丝锥

► Suitable for tapping Blind & Through holes in Carbon Steels and Alloy Steels. Capable of efficient, long life, high speed tapping.

► 适用于碳钢和合金钢的盲孔和通孔加工, 具有高效, 寿命长, 能够快速攻丝。

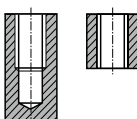


up to M8 : Male Center

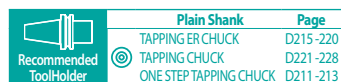
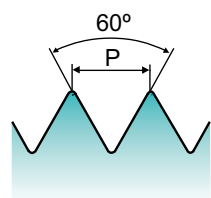


Hole type

孔类型



2.0xD



Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	1.5P	5.0P		L2	L1	ØD2	K	KI	
M3	× 0.5	T3492202	T3491202	YH2	46	11	4	3.2	6	3
M4	× 0.7	T3492242	T3491242	YH2	52	13	5	4	7	3
M5	× 0.8	T3492282	T3491282	YH2	60	16	5.5	4.5	7	3
M6	× 1	T3492312	T3491312	YH2	62	19	6	4.5	7	3
M8	× 1.25	T3492362	T3491362	YH2	70	22	6.2	5	8	4
M10	× 1.5	T3492423	T3491423	YH3	75	24	7	5.5	8	4
M10	× 1.25	T3492432	T3491432	YH2	75	24	7	5.5	8	4
M12	× 1.75	T3492503	T3491503	YH3	82	29	8.5	6.5	9	4
M12	× 1.5	T3492513	T3491513	YH3	82	29	8.5	6.5	9	4
M12	× 1.25	T3492522	T3491522	YH2	82	29	8.5	6.5	9	4
M12	× 1	T3492532	T3491532	YH2	82	29	8.5	6.5	9	4
M14	× 2	T3492543	T3491543	YH3	88	30	10.5	8	11	4
M14	× 1.5	T3492553	T3491553	YH3	88	30	10.5	8	11	4
M16	× 2	T3492603	T3491603	YH3	95	32	12.5	10	13	4
M16	× 1.5	T3492613	T3491613	YH3	95	32	12.5	10	13	4
M18	× 2.5	T3492653	T3491653	YH3	100	37	14	11	14	4
M18	× 1.5	T3492673	T3491673	YH3	100	37	14	11	14	4
M20	× 2.5	T3492703	T3491703	YH3	105	37	15	12	15	4
M20	× 1.5	T3492723	T3491723	YH3	105	37	15	12	15	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



1.5P **T1323** SERIES
5.0P **T1303** SERIES

M I-SP LONG SHANK STRAIGHT FLUTE TAPS for GENERAL PURPOSE

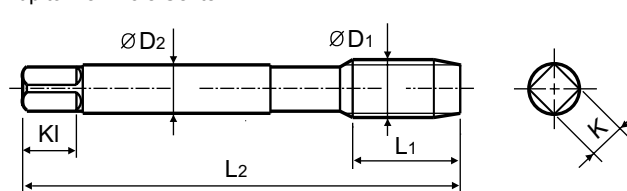
I-SP 长柄普通螺旋槽丝锥

► Suitable for tapping Blind & Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的盲孔和通孔加工, 优异的排屑。



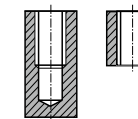
up to M8 : Male Center



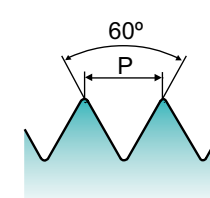
Long Shank

Hole type

孔类型



2.0xD



Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	1.5P	5.0P		L2	L1	ØD2	K	KI	
M3	× 0.5	T1323201	T1303201	YH1	100	11	4	3.2	6	3
M4	× 0.7	T1323242	T1303242	YH2	100	13	5	4	7	3
M5	× 0.8	T1323282	T1303282	YH2	100	16	5.5	4.5	7	3
M6	× 1	T1323312	T1303312	YH2	100	19	6	4.5	7	3
M8	× 1.25	T1323362	T1303362	YH2	100	22	6.2	5	8	4
M10	× 1.5	T1323422	T1303422	YH2	100	24	7	5.5	8	4
M10	× 1.25	T1323432	T1303432	YH2	100	24	7	5.5	8	4
M12	× 1.75	T1323502	T1303502	YH2	100	29	8.5	6.5	9	4
M12	× 1.5	T1323512	T1303512	YH2	100	29	8.5	6.5	9	4
M12	× 1.25	T1323522	T1303522	YH2	100	29	8.5	6.5	9	4
M14	× 2	T1323542	T1303542	YH2	100	30	10.5	8	11	4
M14	× 1.5	T1323552	T1303552	YH2	100	30	10.5	8	11	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

M I-SP LONG SHANK STRAIGHT FLUTE TAPS for GENERAL PURPOSE
I-SP 长柄普通螺旋槽丝锥

► Suitable for tapping Blind & Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的盲孔和通孔加工, 优异的排屑。

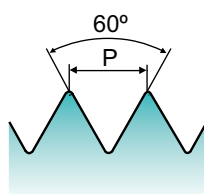
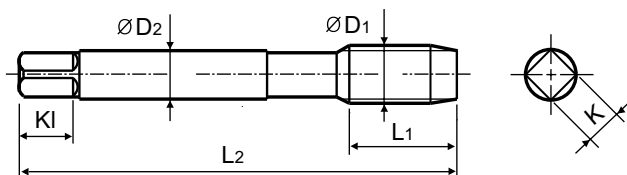
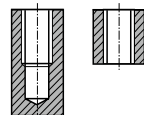


up to M8 : Male Center

Long Shank

Hole type
孔类型

2.0×D



Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213

120mm

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	1.5P	5.0P		L2	L1	ØD2	K	KI	
M3	× 0.5	T1324201	T1304201	YH1	120	11	4	3.2	6	3
M4	× 0.7	T1324242	T1304242	YH2	120	13	5	4	7	3
M5	× 0.8	T1324282	T1304282	YH2	120	16	5.5	4.5	7	3
M6	× 1	T1324312	T1304312	YH2	120	19	6	4.5	7	3
M8	× 1.25	T1324362	T1304362	YH2	120	22	6.2	5	8	4
M10	× 1.5	T1324422	T1304422	YH2	120	24	7	5.5	8	4
M10	× 1.25	T1324432	T1304432	YH2	120	24	7	5.5	8	4
M12	× 1.75	T1324502	T1304502	YH2	120	29	8.5	6.5	9	4
M12	× 1.5	T1324512	T1304512	YH2	120	29	8.5	6.5	9	4
M12	× 1.25	T1324522	T1304522	YH2	120	29	8.5	6.5	9	4
M14	× 2	T1324542	T1304542	YH2	120	30	10.5	8	11	4
M14	× 1.5	T1324552	T1304552	YH2	120	30	10.5	8	11	4
M16	× 2	T1324602	T1304602	YH2	120	32	12.5	10	13	4
M16	× 1.5	T1324612	T1304612	YH2	120	32	12.5	10	13	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○			○	○														

M I-SP LONG SHANK STRAIGHT FLUTE TAPS for GENERAL PURPOSE
I-SP 长柄普通螺旋槽丝锥

► Suitable for tapping Blind & Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的盲孔和通孔加工, 优异的排屑。

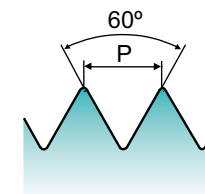
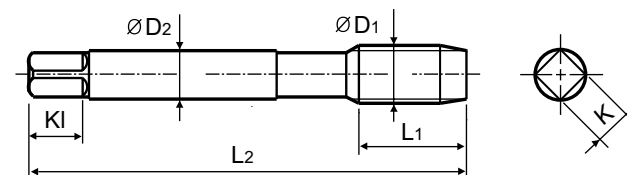
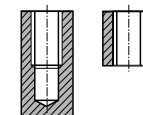


up to M8 : Male Center

Long Shank

Hole type
孔类型

2.0×D



Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213

150mm

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	1.5P	5.0P		L2	L1	ØD2	K	KI	
M3	× 0.5	T1325201	T1305201	YH1	150	11	4	3.2	6	3
M4	× 0.7	T1325242	T1305242	YH2	150	13	5	4	7	3
M5	× 0.8	T1325282	T1305282	YH2	150	16	5.5	4.5	7	3
M6	× 1	T1325312	T1305312	YH2	150	19	6	4.5	7	3
M8	× 1.25	T1325362	T1305362	YH2	150	22	6.2	5	8	4
M10	× 1.5	T1325422	T1305422	YH2	150	24	7	5.5	8	4
M10	× 1.25	T1325432	T1305432	YH2	150	24	7	5.5	8	4
M12	× 1.75	T1325502	T1305502	YH2	150	29	8.5	6.5	9	4
M12	× 1.5	T1325512	T1305512	YH2	150	29	8.5	6.5	9	4
M12	× 1.25	T1325522	T1305522	YH2	150	29	8.5	6.5	9	4
M14	× 2	T1325542	T1305542	YH2	150	30	10.5	8	11	4
M14	× 1.5	T1325552	T1305552	YH2	150	30	10.5	8	11	4
M16	× 2	T1325602	T1305602	YH2	150	32	12.5	10	13	4
M16	× 1.5	T1325612	T1305612	YH2	150	32	12.5	10	13	4
M18	× 2.5	T1325653	T1305653	YH3	150	37	14	11	14	4
M18	× 1.5	T1325672	T1305672	YH2	150	37	14	11	14	4
M20	× 2.5	T1325703	T1305703	YH3	150	37	15	12	15	4
M20	× 1.5	T1325723	T1305723	YH3	150	37	15	12	15	4
M22	× 2.5	T1325743	T1305743	YH3	150	38	17	13	16	4
M22	× 1.5	T1325763	T1305763	YH3	150	38	17	13	16	4
M24	× 3	T1325783	T1305783	YH3	150	45	19	15	18	4
M24	× 1.5	T1325803	T1305803	YH3	150	45	19	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○			○	○														



1.5P **T1326** SERIES
5.0P **T1306** SERIES

M I-SP LONG SHANK STRAIGHT FLUTE TAPS for GENERAL PURPOSE

I-SP 长柄普通螺旋槽丝锥

► Suitable for tapping Blind & Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

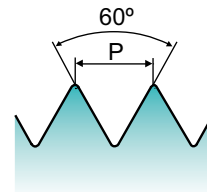
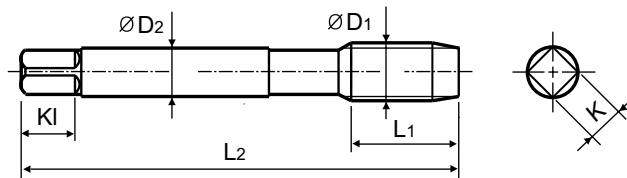
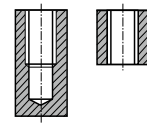
► 适用于碳钢和合金钢的盲孔和通孔加工, 优异的排屑。



up to M8 : Male Center

Long Shank

Hole type
孔类型
2.0×D



► **200mm** Tap Limits: p.B230 Unit(单位): mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	1.5P	5.0P		L2	L1	ØD2	K	KI	
M8	× 1.25	T1326362	T1306362	YH2	200	22	6.2	5	8	4
M10	× 1.5	T1326422	T1306422	YH2	200	24	7	5.5	8	4
M10	× 1.25	T1326432	T1306432	YH2	200	24	7	5.5	8	4
M12	× 1.75	T1326502	T1306502	YH2	200	29	8.5	6.5	9	4
M12	× 1.5	T1326512	T1306512	YH2	200	29	8.5	6.5	9	4
M12	× 1.25	T1326522	T1306522	YH2	200	29	8.5	6.5	9	4
M14	× 2	T1326542	T1306542	YH2	200	30	10.5	8	11	4
M14	× 1.5	T1326552	T1306552	YH2	200	30	10.5	8	11	4
M16	× 2	T1326602	T1306602	YH2	200	32	12.5	10	13	4
M16	× 1.5	T1326612	T1306612	YH2	200	32	12.5	10	13	4
M18	× 2.5	T1326653	T1306653	YH3	200	37	14	11	14	4
M18	× 1.5	T1326672	T1306672	YH2	200	37	14	11	14	4
M20	× 2.5	T1326703	T1306703	YH3	200	37	15	12	15	4
M20	× 1.5	T1326723	T1306723	YH3	200	37	15	12	15	4
M22	× 2.5	T1326743	T1306743	YH3	200	38	17	13	16	4
M22	× 1.5	T1326763	T1306763	YH3	200	38	17	13	16	4
M24	× 3	T1326783	T1306783	YH3	200	45	19	15	18	4
M24	× 1.5	T1326803	T1306803	YH3	200	45	19	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



1.5P **T1331** SERIES **T1330** SERIES
5.0P **T1341** SERIES **T1340** SERIES

W I-SP LONG SHANK STRAIGHT FLUTE TAPS for GENERAL PURPOSE

I-SP 长柄普通螺旋槽丝锥

► Suitable for tapping Blind & Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

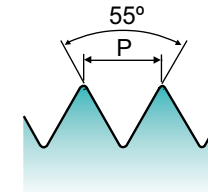
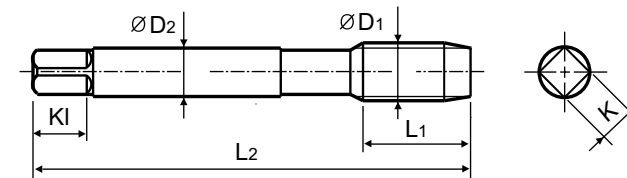
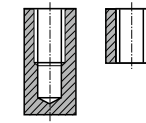
► 适用于碳钢和合金钢的盲孔和通孔加工, 优异的排屑。



up to W5/16 : Male Center

Long Shank

Hole type
孔类型
2.0×D



► **100mm** Unit(单位): mm

SIZE	TPI	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1		1.5P	5.0P		L2	L1	ØD2	K	KI	
W1/8	- 40	T1331202	T1330202	JIS II	100	11	4	3.2	6	3
W3/16	- 24	T1331322	T1330322	JIS II	100	16	5.5	4.5	7	3
W1/4	- 20	T1331402	T1330402	JIS II	100	19	6	4.5	7	3
W5/16	- 18	T1331442	T1330442	JIS II	100	22	6.1	5	8	4
W3/8	- 16	T1331482	T1330482	JIS II	100	24	7	5.5	8	4
W7/16	- 14	T1331522	T1330522	JIS II	100	25	8	6	9	4
W1/2	- 12	T1331562	T1330562	JIS II	100	29	9	7	10	4

► **120mm** Unit(单位): mm

SIZE	TPI	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1		1.5P	5.0P		L2	L1	ØD2	K	KI	
W1/8	- 40	T1341202	T1340202	JIS II	120	11	4	3.2	6	3
W3/16	- 24	T1341322	T1340322	JIS II	120	16	5.5	4.5	7	3
W1/4	- 20	T1341402	T1340402	JIS II	120	19	6	4.5	7	3
W5/16	- 18	T1341442	T1340442	JIS II	120	22	6.1	5	8	4
W3/8	- 16	T1341482	T1340482	JIS II	120	24	7	5.5	8	4
W7/16	- 14	T1341522	T1340522	JIS II	120	25	8	6	9	4
W1/2	- 12	T1341562	T1340562	JIS II	120	29	9	7	10	4
W9/16	- 12	T1341602	T1340602	JIS II	120	30	10.5	8	11	4
W5/8	- 11	T1341642	T1340642	JIS II	120	32	12	9	12	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎: Excellent (优秀) ○: Good (良好)

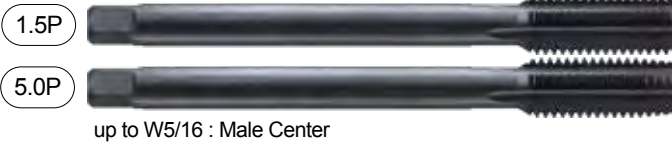
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

W I-SP LONG SHANK STRAIGHT FLUTE TAPS for GENERAL PURPOSE
I-SP 长柄普通螺旋槽丝锥

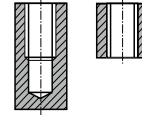
► Suitable for tapping Blind & Through holes in Carbon Steels and Alloy Steels, where chips are produced in a continuous coil state.

► 适用于碳钢和合金钢的盲孔和通孔加工, 优异的排屑。

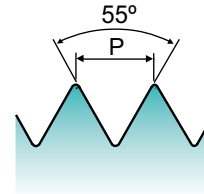
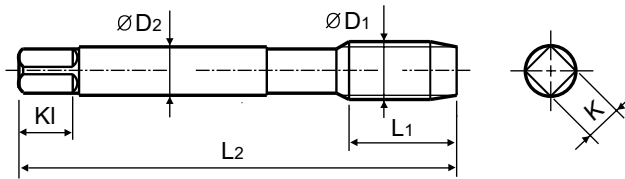


Long Shank

Hole type
孔类型



2.0×D



Material groups **GS** HSS-E LONG JIS II 55° 1.5P/5.0P Homo p. B65

Plain Shank	Page
TAPPING ER CHUCK	D215-220
TAPPING CHUCK	D221-228
ONE STEP TAPPING CHUCK	D211-213

► **150mm**

Unit(单位) : mm

SIZE 尺寸	TPI 牙距	EDP No. 型号		Limit 精度	Overall Length 全长 L2	Thread Length 螺纹长 L1	Shank Diameter 柄径 ØD2	Square Size 方块尺寸 K	Square Length 方块长度 KI	No. of Flute 槽数
		1.5P	5.0P							
W1/8	- 40	T1351202	T1350202	JIS II	150	11	4	3.2	6	3
W3/16	- 24	T1351322	T1350322	JIS II	150	16	5.5	4.5	7	3
W1/4	- 20	T1351402	T1350402	JIS II	150	19	6	4.5	7	3
W5/16	- 18	T1351442	T1350442	JIS II	150	22	6.1	5	8	4
W3/8	- 16	T1351482	T1350482	JIS II	150	24	7	5.5	8	4
W7/16	- 14	T1351522	T1350522	JIS II	150	25	8	6	9	4
W1/2	- 12	T1351562	T1350562	JIS II	150	29	9	7	10	4
W9/16	- 12	T1351602	T1350602	JIS II	150	30	10.5	8	11	4
W5/8	- 11	T1351642	T1350642	JIS II	150	32	12	9	12	4
W3/4	- 10	T1351702	T1350702	JIS II	150	37	14	11	14	4
W7/8	- 9	T1351742	T1350742	JIS II	150	38	17	13	16	4
W1"	- 8	T1351782	T1350782	JIS II	150	45	20	15	18	4

► **200mm**

Unit(单位) : mm

SIZE 尺寸	TPI 牙距	EDP No. 型号		Limit 精度	Overall Length 全长 L2	Thread Length 螺纹长 L1	Shank Diameter 柄径 ØD2	Square Size 方块尺寸 K	Square Length 方块长度 KI	No. of Flute 槽数
		1.5P	5.0P							
W3/8	- 16	T1361482	T1360482	JIS II	200	24	7	5.5	8	4
W7/16	- 14	T1361522	T1360522	JIS II	200	25	8	6	9	4
W1/2	- 12	T1361562	T1360562	JIS II	200	29	9	7	10	4
W9/16	- 12	T1361602	T1360602	JIS II	200	30	10.5	8	11	4
W5/8	- 11	T1361642	T1360642	JIS II	200	32	12	9	12	4
W3/4	- 10	T1361702	T1360702	JIS II	200	37	14	11	14	4
W7/8	- 9	T1361742	T1360742	JIS II	200	38	17	13	16	4
W1"	- 8	T1361782	T1360782	JIS II	200	45	20	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P											M			K					
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○			○	○														



Leading Through Innovation

HSS-E

YG TAP STEEL

- For Steel Materials but also other Long Chip Forming Materials

- 独



HSS-E YG TAP STEEL

For Steel Materials but also other Long Chip Forming Materials

工



◎: Excellent (优秀) ○: Good (良好)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度	Max. 2.5xD Blind Hole 盲孔	Max. 3.0xD Through Hole 通孔
P	1	Non-alloy steel	About 0.15% C Annealed	125	13	◎ 8~13	◎ 8~13
	2		About 0.45% C Annealed	190	13	◎ 7~12	◎ 7~12
	3		About 0.45% C Quenched & Tempered	250	25	◎ 7~12	◎ 7~12
	4		About 0.75% C Annealed	270	28	○ 7~12	◎ 7~12
	5		About 0.75% C Quenched & Tempered	300	32	○ 7~12	◎ 7~12
	6	Low alloy steel	Annealed	180	10	○ 7~12	◎ 7~12
	7		Quenched & Tempered	275	29	○ 7~12	◎ 7~12
	8		Quenched & Tempered	300	32	○ 3~5	○ 3~5
	9		Quenched & Tempered	350	38		
	10	High alloyed steel, and tool steel	Annealed	200	15		○ 10~15
	11		Quenched & Tempered	325	35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○ 5~8	○ 5~8
	13		Martensitic Quenched & Tempered	240	23		
	14		Austenitic	180	10		
	15	Grey cast iron	Pearlitic / ferritic	180	10		
16	Pearlitic (Martensitic)		260	26			
17	Nodular cast iron		Ferritic	160	3		
18			Pearlitic	250	25		
19	Malleable cast iron		Ferritic	130			
20		Pearlitic	230	21			
N	21	Aluminum-wrought alloy	Not Curable	60		○ 10~20	○ 10~20
	22		Curable Hardened	100		○ 10~20	○ 10~20
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○ 10~15	○ 10~15
	24		≤ 12% Si, Curable Hardened	90			
	25		> 12% Si, Not Curable	130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		○ 6~11	○ 6~11
	27		CuZn, CuSnZn (Brass)	90		○ 6~20	○ 6~20
	28		CuSn, lead-free copper and electrolytic copper	100			
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				
	30		Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34	Titanium Alloys	Ni or Co Based Cured	350	38		
	35		Cast	320	34		
36		Pure Titanium	400 Rm				
37		Alpha + Beta Alloys Hardened	1050 Rm				
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Hardened Cast Iron	Cast	400	42		
	41		Hardened	550	55		

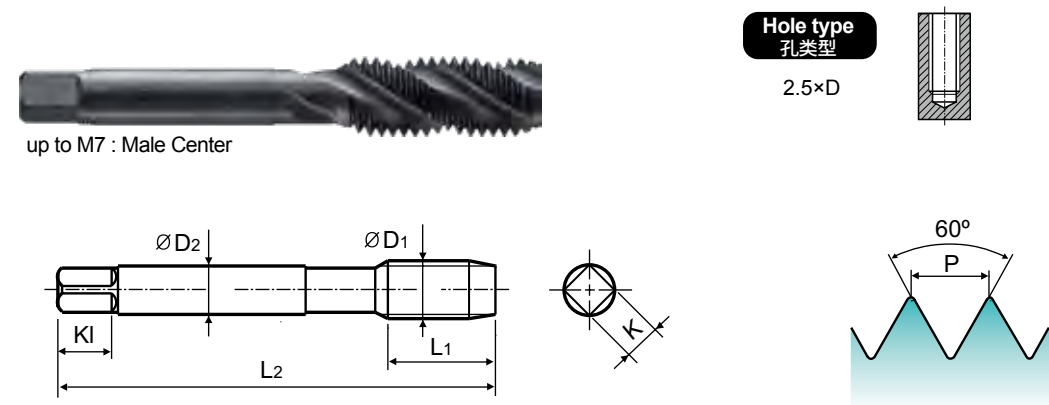


T1151 SERIES

M I-SP SPIRAL FLUTE TAPS for SOFT STRUCTURAL STEELS I-SP 软钢用螺旋槽丝锥

► Suitable for tapping Blind holes in Soft Structural Steels such as SS41, S25C and other low carbon Steels.

► 适用于类似SS41, S25C等软钢及低碳钢的盲孔加工



SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M3	× 0.5	T1151202	YH2	46	11	4	3.2	6	3
M3.5	× 0.6	T1151222	YH2	48	13	4	3.2	6	3
M4	× 0.7	T1151242	YH2	52	13	5	4	7	3
M5	× 0.8	T1151282	YH2	60	16	5.5	4.5	7	3
M6	× 1	T1151312	YH2	62	19	6	4.5	7	3
M8	× 1.25	T1151362	YH2	70	22	6.2	5	8	3
M10	× 1.5	T1151422	YH2	75	24	7	5.5	8	3
M10	× 1.25	T1151432	YH2	75	24	7	5.5	8	3
M12	× 1.75	T1151502	YH2	82	29	8.5	6.5	9	3
M12	× 1.5	T1151512	YH2	82	29	8.5	6.5	9	3
M12	× 1.25	T1151522	YH2	82	29	8.5	6.5	9	3
M14	× 2	T1151542	YH2	88	30	10.5	8	11	3
M14	× 1.5	T1151552	YH2	88	30	10.5	8	11	3
M16	× 2	T1151602	YH2	95	32	12.5	10	13	3
M16	× 1.5	T1151612	YH2	95	32	12.5	10	13	3
M18	× 2.5	T1151653	YH3	100	37	14	11	14	4
M18	× 1.5	T1151672	YH2	100	37	14	11	14	4
M20	× 2.5	T1151703	YH3	105	37	15	12	15	4
M20	× 1.5	T1151723	YH3	105	37	15	12	15	4
M22	× 2.5	T1151743	YH3	115	38	17	13	16	4
M22	× 1.5	T1151763	YH3	115	38	17	13	16	4
M24	× 3	T1151783	YH3	120	45	19	15	18	4
M24	× 1.5	T1151803	YH3	120	45	19	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H											
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41						
HRC	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550						
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550						
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○						

M I-SP SPIRAL FLUTE TAPS for SOFT STRUCTURAL STEELS
I-SP 软钢用螺旋槽丝锥

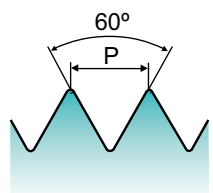
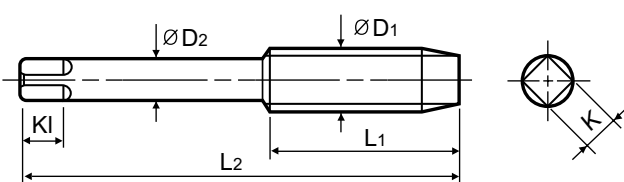
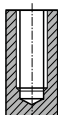
► Suitable for tapping Blind holes in Soft Structural Steels such as SS41, S25C and other low carbon Steels.

► 适用于类似SS41, S25C等软碳钢及低钢的盲孔加工



up to M7 : Male Center

Hole type
孔类型
2.5×D



Material groups: **GV** HSS-E J YH 60° 2.5P R40 Homo

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended Toolholder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M3	× 0.5	T1131202	YH2	46	18	4	3.2	6	3
M3.5	× 0.6	T1131222	YH2	48	18	4	3.2	6	3
M4	× 0.7	T1131242	YH2	52	20	5	4	7	3
M5	× 0.8	T1131282	YH2	60	22	5.5	4.5	7	3
M6	× 1	T1131312	YH2	62	24	6	4.5	7	3
M8	× 1.25	T1131362	YH2	70	30	6.2	5	8	3
M10	× 1.5	T1131422	YH2	75	32	7	5.5	8	3
M10	× 1.25	T1131432	YH2	75	32	7	5.5	8	3
M12	× 1.75	T1131502	YH2	82	38	8.5	6.5	9	3
M12	× 1.5	T1131512	YH2	82	38	8.5	6.5	9	3
M12	× 1.25	T1131522	YH2	80	38	8.5	6.5	9	3
M14	× 2	T1131542	YH2	88	42	10.5	8	11	3
M14	× 1.5	T1131552	YH2	88	42	10.5	8	11	3
M16	× 2	T1131602	YH2	95	45	12.5	10	13	3
M16	× 1.5	T1131612	YH2	95	45	12.5	10	13	3
M18	× 2.5	T1131653	YH3	100	48	14	11	14	4
M18	× 1.5	T1131672	YH2	95	45	14	11	14	4
M20	× 2.5	T1131703	YH3	105	50	15	12	15	4
M20	× 1.5	T1131723	YH3	95	45	15	12	15	4
M22	× 2.5	T1131743	YH3	115	55	17	13	16	4
M22	× 1.5	T1131763	YH3	95	45	17	13	16	4
M24	× 3	T1131783	YH3	120	58	19	15	18	4
M24	× 1.5	T1131803	YH3	95	45	19	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K																									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron																					
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRC	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	10	26	3	25	21	10	26	3	25	21	10	26	3	25	21	10	26	3	25	21			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230				
Recommended	○	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M SPIRAL POINT TAPS for HARD TO MACHINE MATERIALS
难加工材料用先端丝锥

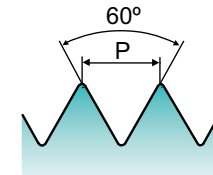
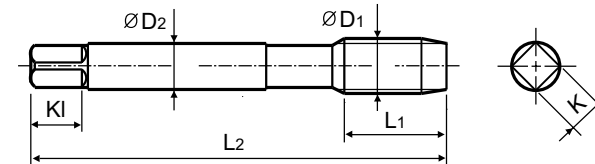
► Suitable for tapping Through holes in High Strength Steels with hardness ranging between 35~45 Rockwell "C"(HRC 35~45), such as forgings of high carbon steels and alloy steels, thermal steels and mold steels.

► 适用于高碳钢, 合金钢, 热钢和模具钢等硬度再HRC35~45的高硬度钢的通孔加工.



up to M8 : Male Center

Hole type
孔类型
3.0×D



Material groups: **HR** HSS-E I YH 60° 5.0P TiAIN

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended Toolholder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M3	× 0.5	TW201203	YH3	46	11	4	3.2	6	3
M3.5	× 0.6	TW201223	YH3	48	13	4	3.2	6	3
M4	× 0.7	TW201243	YH3	52	13	5	4	7	3
M5	× 0.8	TW201283	YH3	60	16	5.5	4.5	7	3
M6	× 1	TW201313	YH3	62	19	6	4.5	7	3
M8	× 1.25	TW201363	YH3	70	22	6.2	5	8	3
M10	× 1.5	TW201423	YH3	75	24	7	5.5	8	3
M10	× 1.25	TW201433	YH3	75	24	7	5.5	8	3
M12	× 1.75	TW201503	YH3	82	29	8.5	6.5	9	3
M12	× 1.5	TW201513	YH3	82	29	8.5	6.5	9	3
M12	× 1.25	TW201524	YH4	82	29	8.5	6.5	9	3
M14	× 2	TW201544	YH4	88	30	10.5	8	11	3
M14	× 1.5	TW201553	YH3	88	30	10.5	8	11	3
M16	× 2	TW201604	YH4	95	32	12.5	10	13	3
M16	× 1.5	TW201613	YH3	95	32	12.5	10	13	3
M18	× 2.5	TW201654	YH4	100	37	14	11	14	3
M18	× 1.5	TW201674	YH4	100	37	14	11	14	3
M20	× 2.5	TW201704	YH4	105	37	15	12	15	3
M20	× 1.5	TW201724	YH4	105	37	15	12	15	3

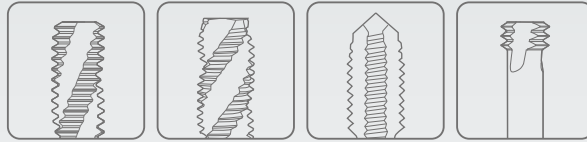
► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K																									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron																					
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRC	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	10	26	3	25	21	10	26	3	25	21	10	26	3	25	21	10	26	3	25	21			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230				
Recommended	○	○	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



Global Cutting Tool Leader **YG-1**



THREADING



Leading Through Innovation



HSS-PM

YG TAP HARDENED

- For Hardened Steels Applications to Control the Continuous and Red-glowing Chipse
- 淬硬钢用丝锥

SELECTION GUIDE

选用指南



HSS-PM YG TAP HARDENED

For Hardened Steels Applications to Control the Continuous and Red-glowing Chips

淬硬钢用丝锥



◎: Excellent (优秀) ○: Good (良好)

Table with columns: ISO, VDI, Material Description, Composition / Structure / Heat Treatment, HB, HRc. Rows include P (Non-alloy steel, Low alloy steel, High alloyed steel), M (Stainless steel), K (Grey cast iron, Nodular cast iron, Malleable cast iron), N (Aluminum-wrought alloy, Aluminum-cast, alloyed, Copper and Copper Alloys, Non Metallic Materials), S (Heat Resistant Super Alloys, Titanium Alloys), H (Hardened steel, Chilled Cast Iron, Hardened Cast Iron).

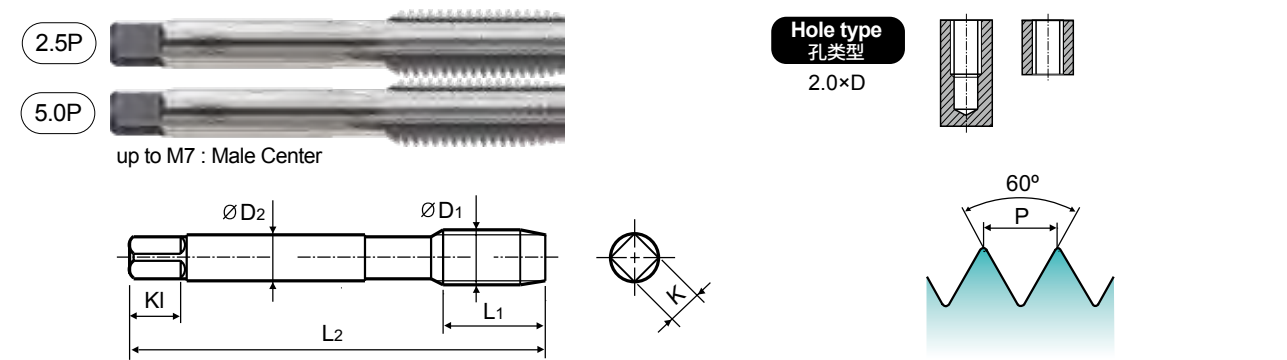
Technical specifications table for HSS-PM YG TAP HARDENED. Includes HOLE TYPE (Max. 2.0xD), TOOL MATERIAL (HSS-PM), CHAMFER LEAD ACC. TO DIN2197 (2.5P/5.0P), FLUTE TYPE (Straight Flute), SPIRAL FLUTE ANGLE (-), JIS Type (I), M/MF (TM482, TM481), UNC/F, W, M-LH, W-LH, PIPE TAPS, SURFACE TREATMENT (Bright), MODEL.



Table with 2 rows: 2.5P TM482 SERIES, 5.0P TM481 SERIES

STRAIGHT FLUTE TAPS for HARD TO MACHINE MATERIALS 难加工材料用直槽丝锥

Suitable for tapping Blind & Through holes in High Strength Steels with hardness ranging between 35~45 Rockwell (HRc 35~45), such as forgings of high carbon steels and alloy steels, thermal steels and mold steels.



Material groups: HR, HSS-PM, I, YH, 60°, 2.5P/5.0P, Bright. Includes a 'Recommended ToolHolder' icon and page reference p. B138.

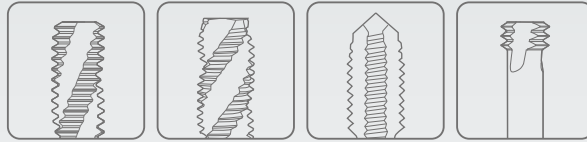
Table with columns: SIZE, Pitch, EDP No., Limit, Overall Length, Thread Length, Shank Diameter, Square Size, Square Length, No. of Flute. Rows list various sizes from M3 to M22 with corresponding dimensions and limits.

Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

Table with columns: ISO, Material Description, VDI 3323, HRc, HB, Recommended. Rows provide detailed material compatibility data for groups P, M, K, N, S, H.



Global Cutting Tool Leader **YG-1**



THREADING



Leading Through Innovation



HSS-E

YG TAP INOX

- For Stainless Steels with Lamellar, Irregular Chip Formation where the Cutting Forces are Higher
- 不锈钢专用丝锥

M SPIRAL FLUTE TAPS for STAINLESS STEELS
不锈钢用螺旋槽丝锥

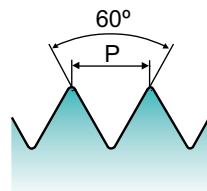
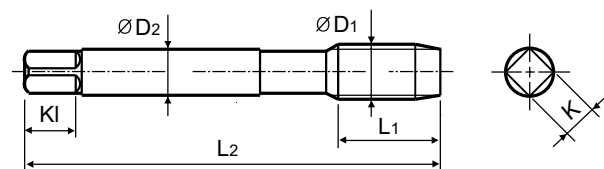
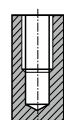
► Suitable for tapping Blind holes in Stainless Steel, Chrome Steel, Chrome Molybdenum Steel and other ductile materials.

► 适用于不锈钢, 铬钢, 铬钼钢和其他逐硬化具有韧性材料的盲孔加工



up to M7 : Male Center

Hole type
孔类型
2.5×D



Material groups: **VA** HSS-E I YH 60° 2.5P R45 Homo p. B142

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M2 × 0.4		T1191131	YH1	40	9.5	3	2.5	5	2
M2.2 × 0.45		T1191151	YH1	42	9.5	3	2.5	5	2
M2.3 × 0.4		T1191191	YH1	42	9.5	3	2.5	5	2
M2.5 × 0.45		T1191172	YH2	44	9.5	3	2.5	5	2
M2.6 × 0.45		T1191492	YH2	44	9.5	3	2.5	5	2
M3 × 0.5		T1191202	YH2	46	11	4	3.2	6	3
M3.5 × 0.6		T1191222	YH2	48	13	4	3.2	6	3
M4 × 0.7		T1191242	YH2	52	13	5	4	7	3
M5 × 0.8		T1191282	YH2	60	16	5.5	4.5	7	3
M6 × 1		T1191312	YH2	62	19	6	4.5	7	3
M8 × 1.25		T1191363	YH3	70	22	6.2	5	8	3
M10 × 1.5		T1191423	YH3	75	24	7	5.5	8	3
M10 × 1.25		T1191433	YH3	75	24	7	5.5	8	3
M12 × 1.75		T1191503	YH3	82	29	8.5	6.5	9	3
M12 × 1.5		T1191513	YH3	82	29	8.5	6.5	9	3
M12 × 1.25		T1191523	YH3	82	29	8.5	6.5	9	3
M12 × 1		T1191532	YH2	82	29	8.5	6.5	9	3
M14 × 2		T1191543	YH3	88	30	10.5	8	11	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M SPIRAL FLUTE TAPS for STAINLESS STEELS
不锈钢用螺旋槽丝锥

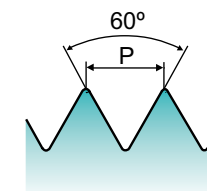
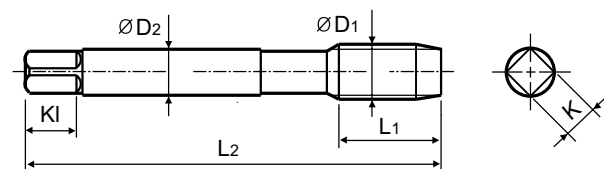
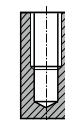
► Suitable for tapping Blind holes in Stainless Steel, Chrome Steel, Chrome Molybdenum Steel and other ductile materials.

► 适用于不锈钢, 铬钢, 铬钼钢和其他逐硬化具有韧性材料的盲孔加工



up to M7 : Male Center

Hole type
孔类型
2.5×D



Material groups: **VA** HSS-E I YH 60° 2.5P R45 Homo p. B142

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M14 × 1.5		T1191553	YH3	88	30	10.5	8	11	3
M16 × 2		T1191603	YH3	95	32	12.5	10	13	3
M16 × 1.5		T1191613	YH3	95	32	12.5	10	13	3
M18 × 2.5		T1191653	YH3	100	37	14	11	14	4
M18 × 1.5		T1191673	YH3	100	37	14	11	14	4
M20 × 2.5		T1191703	YH3	105	37	15	12	15	4
M20 × 1.5		T1191723	YH3	105	37	15	12	15	4
M22 × 2.5		T1191744	YH4	115	38	17	13	16	4
M22 × 1.5		T1191763	YH3	115	38	17	13	16	4
M24 × 3		T1191784	YH4	120	45	19	15	18	4
M24 × 1.5		T1191803	YH3	120	45	19	15	18	4
M25 × 1.5		T1191833	YH3	125	45	19	15	18	4
M26 × 1.5		T1191853	YH3	125	45	20	15	18	4
M27 × 3		T1191864	YH4	130	45	20	15	18	4
M27 × 1.5		T1191883	YH3	130	45	20	15	18	4
M28 × 1.5		T1191913	YH3	130	45	21	17	20	4
M30 × 3.5		T1191944	YH4	135	48	23	17	20	4
M30 × 1.5		T1191973	YH3	135	45	23	17	20	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M SPIRAL FLUTE TAPS for STAINLESS STEELS
不锈钢用螺旋槽丝锥

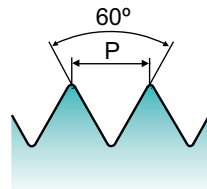
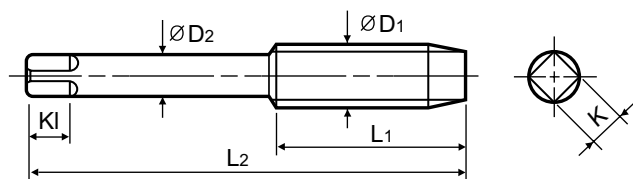
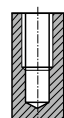
► Suitable for tapping Blind holes in Stainless Steels, Chrome Steels, Chrome Molybdenum Steels and other ductile materials with great tendency to work harden.

► 适用于不锈钢, 铬钢, 铬钼钢和其他逐硬化具有韧性材料的盲孔加工



up to M7 : Male Center

Hole type
孔类型
2.5×D



Material groups: **VA** HSS-E J YH 60° 2.5P R45 Homo p. B142

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Tap Limits: p.B230 Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M2	× 0.4	T1133131	YH1	40	15	3	2.5	5	2
M2.2	× 0.45	T1133151	YH1	42	15	3	2.5	5	2
M2.3	× 0.4	T1133191	YH1	42	15	3	2.5	5	2
M2.5	× 0.45	T1133172	YH2	44	16	3	2.5	5	2
M2.6	× 0.45	T1133492	YH2	44	16	3	2.5	5	2
M3	× 0.5	T1133202	YH2	46	18	4	3.2	6	3
M3.5	× 0.6	T1133222	YH2	48	18	4	3.2	6	3
M4	× 0.7	T1133242	YH2	52	20	5	4	7	3
M5	× 0.8	T1133282	YH2	60	22	5.5	4.5	7	3
M6	× 1	T1133312	YH2	62	24	6	4.5	7	3
M8	× 1.25	T1133363	YH3	70	30	6.2	5	8	3
M10	× 1.5	T1133423	YH3	75	32	7	5.5	8	3
M10	× 1.25	T1133433	YH3	75	32	7	5.5	8	3
M12	× 1.75	T1133503	YH3	82	38	8.5	6.5	9	3
M12	× 1.5	T1133513	YH3	82	38	8.5	6.5	9	3
M12	× 1.25	T1133523	YH3	80	38	8.5	6.5	9	3
M12	× 1	T1133532	YH2	70	30	8.5	6.5	9	3
M14	× 2	T1133543	YH3	88	42	10.5	8	11	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended						◎																

M SPIRAL FLUTE TAPS for STAINLESS STEELS
不锈钢用螺旋槽丝锥

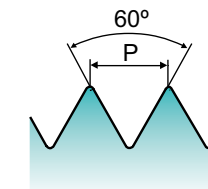
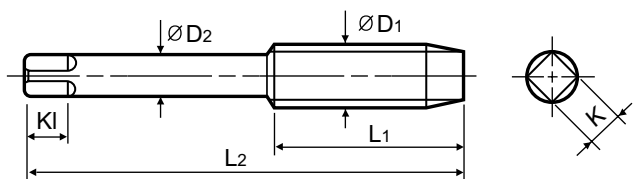
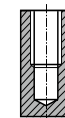
► Suitable for tapping Blind holes in Stainless Steels, Chrome Steels, Chrome Molybdenum Steels and other ductile materials with great tendency to work harden.

► 适用于不锈钢, 铬钢, 铬钼钢和其他逐硬化具有韧性材料的盲孔加工



up to M7 : Male Center

Hole type
孔类型
2.5×D



Material groups: **VA** HSS-E J YH 60° 2.5P R45 Homo p. B142

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Tap Limits: p.B230 Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M14	× 1.5	T1133553	YH3	88	42	10.5	8	11	3
M16	× 2	T1133603	YH3	95	45	12.5	10	13	3
M16	× 1.5	T1133613	YH3	95	45	12.5	10	13	3
M18	× 2.5	T1133653	YH3	100	48	14	11	14	4
M18	× 1.5	T1133673	YH3	95	45	14	11	14	4
M20	× 2.5	T1133703	YH3	105	50	15	12	15	4
M20	× 1.5	T1133723	YH3	95	45	15	12	15	4
M22	× 2.5	T1133744	YH4	115	55	17	13	16	4
M22	× 1.5	T1133763	YH3	95	45	17	13	16	4
M24	× 3	T1133784	YH4	120	58	19	15	18	4
M24	× 1.5	T1133803	YH3	95	45	19	15	18	4
M25	× 1.5	T1133833	YH3	95	45	19	15	18	4
M26	× 1.5	T1133853	YH3	95	45	20	15	18	4
M27	× 3	T1133864	YH4	130	62	20	15	18	4
M27	× 1.5	T1133883	YH3	95	45	20	15	18	4
M28	× 1.5	T1133913	YH3	105	45	21	17	20	4
M30	× 3.5	T1133944	YH4	135	65	23	17	20	4
M30	× 1.5	T1133973	YH3	105	45	23	17	20	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended						◎																

M SPIRAL FLUTE TAPS for DEEP HOLES(for STAINLESS STEELS)
深孔螺旋槽丝锥(不锈钢)

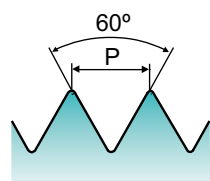
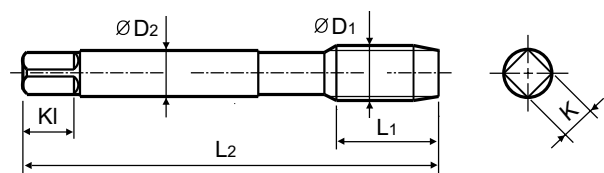
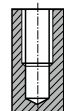
► Suitable for tapping deep Blind holes in Stainless Steels, Chrome Steels, Chrome Molybdenum Steels and other ductile materials with great tendency to work harden.

► 适用于不锈钢, 铬钢, 铬钼钢和其他逐硬化具有韧性材料的盲孔加工



up to M7 : Male Center

Hole type
孔类型
2.5×D



Material groups: **VA** HSS-E S YH 60° 2.5P R45 Homo p. B143

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M2	× 0.4	T1113131	YH1	40	4.0	3	2.5	5	2
M2.2	× 0.45	T1113151	YH1	42	4.0	3	2.5	5	2
M2.3	× 0.4	T1113191	YH1	42	4.0	3	2.5	5	2
M2.5	× 0.45	T1113172	YH2	44	4.0	3	2.5	5	2
M2.6	× 0.45	T1113492	YH2	44	4.0	3	2.5	5	2
M3	× 0.5	T1113202	YH2	46	5.0	4	3.2	6	3
M3.5	× 0.6	T1113222	YH2	48	6.0	4	3.2	6	3
M4	× 0.7	T1113242	YH2	52	7.0	5	4	7	3
M5	× 0.8	T1113282	YH2	60	8.0	5.5	4.5	7	3
M6	× 1	T1113312	YH2	62	10.0	6	4.5	7	3
M8	× 1.25	T1113363	YH3	70	13.7	6.2	5	8	3
M10	× 1.5	T1113423	YH3	75	16.4	7	5.5	8	3
M10	× 1.25	T1113433	YH3	75	13.7	7	5.5	8	3
M12	× 1.75	T1113503	YH3	82	19.2	8.5	6.5	9	3
M12	× 1.5	T1113513	YH3	82	16.4	8.5	6.5	9	3
M12	× 1.25	T1113523	YH3	82	13.7	8.5	6.5	9	3
M12	× 1	T1113532	YH2	82	10.9	8.5	6.5	9	3
M14	× 2	T1113543	YH3	88	21.9	10.5	8	11	3
M14	× 1.5	T1113553	YH3	88	16.4	10.5	8	11	3
M16	× 2	T1113603	YH3	95	21.9	12.5	10	13	3
M16	× 1.5	T1113613	YH3	95	16.4	12.5	10	13	3
M18	× 2.5	T1113653	YH3	100	27.4	14	11	14	4
M18	× 1.5	T1113673	YH3	100	16.4	14	11	14	4
M20	× 2.5	T1113703	YH3	105	27.4	15	12	15	4
M20	× 1.5	T1113723	YH3	105	16.4	15	12	15	4
M22	× 2.5	T1113744	YH4	115	27.4	17	13	16	4
M22	× 1.5	T1113763	YH3	115	16.4	17	13	16	4

► Refer to p.B143 for recommended tap drill sizes. 参考p.B143 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M SPIRAL POINT TAPS for STAINLESS STEELS
不锈钢用先端丝锥

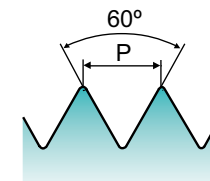
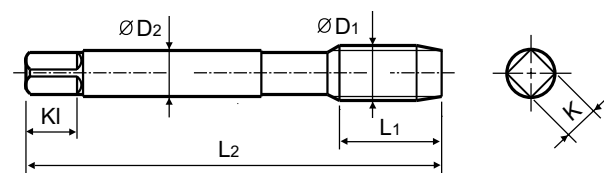
► Suitable for tapping Through holes in Stainless Steels, Chrome steels, Chrome Molybdenum Steels and other ductile materials with great tendency to work harden.

► 适用于不锈钢, 铬钢, 铬钼钢和其他逐硬化具有韧性材料的通孔加工



up to M8 : Male Center

Hole type
孔类型
3.0×D



Material groups: **VA** HSS-E I YH 60° 4.0P Homo p. B143

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M2	× 0.4	T1023131	YH1	40	9.5	3	2.5	5	2
M2.2	× 0.45	T1023151	YH1	42	9.5	3	2.5	5	2
M2.3	× 0.4	T1023191	YH1	42	9.5	3	2.5	5	2
M2.5	× 0.45	T1023172	YH2	44	9.5	3	2.5	5	2
M2.6	× 0.45	T1023492	YH2	44	9.5	3	2.5	5	2
M3	× 0.5	T1023202	YH2	46	11	4	3.2	6	3
M3.5	× 0.6	T1023222	YH2	48	13	4	3.2	6	3
M4	× 0.7	T1023242	YH2	52	13	5	4	7	3
M5	× 0.8	T1023282	YH2	60	16	5.5	4.5	7	3
M6	× 1	T1023312	YH2	62	19	6	4.5	7	3
M8	× 1.25	T1023363	YH3	70	22	6.2	5	8	3
M10	× 1.5	T1023423	YH3	75	24	7	5.5	8	3
M10	× 1.25	T1023433	YH3	75	24	7	5.5	8	3
M12	× 1.75	T1023504	YH4	82	29	8.5	6.5	9	3
M12	× 1.5	T1023513	YH3	82	29	8.5	6.5	9	3
M12	× 1.25	T1023523	YH3	82	29	8.5	6.5	9	3
M12	× 1	T1023533	YH3	82	29	8.5	6.5	9	3
M14	× 2	T1023544	YH4	88	30	10.5	8	11	3

► Refer to p.B143 for recommended tap drill sizes. 参考p.B143 底孔尺寸.

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M SPIRAL POINT TAPS for STAINLESS STEELS
不锈钢用先端丝锥

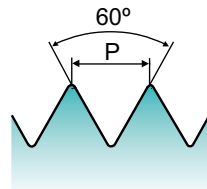
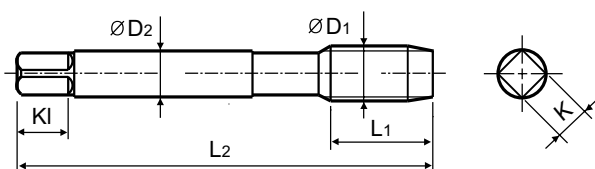
► Suitable for tapping Through holes in Stainless Steels, Chrome steels, Chrome Molybdenum Steels and other ductile materials with great tendency to work harden

► 适用于不锈钢, 铬钢, 铬钼钢和其他逐硬化具有韧性材料的通孔加工

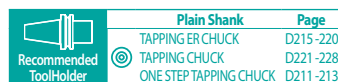


up to M8 : Male Center

Hole type
孔类型
3.0×D



Tap Limits: p.B230



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M14 × 1.5		T1023553	YH3	88	30	10.5	8	11	3
M16 × 2		T1023604	YH4	95	32	12.5	10	13	3
M16 × 1.5		T1023613	YH3	95	32	12.5	10	13	3
M18 × 2.5		T1023654	YH4	100	37	14	11	14	3
M18 × 1.5		T1023674	YH4	100	37	14	11	14	3
M20 × 2.5		T1023704	YH4	105	37	15	12	15	3
M20 × 1.5		T1023724	YH4	105	37	15	12	15	3
M22 × 2.5		T1023744	YH4	115	38	17	13	16	3
M22 × 1.5		T1023764	YH4	115	38	17	13	16	3
M24 × 3		T1023784	YH4	120	45	19	15	18	3
M24 × 1.5		T1023804	YH4	120	45	19	15	18	3
M25 × 1.5		T1023834	YH4	125	45	19	15	18	3
M26 × 1.5		T1023854	YH4	125	45	20	15	18	4
M27 × 3		T1023864	YH4	130	45	20	15	18	4
M27 × 1.5		T1023884	YH4	130	45	20	15	18	4
M28 × 1.5		T1023914	YH4	130	45	21	17	20	4
M30 × 3.5		T1023945	YH5	135	48	23	17	20	4
M30 × 1.5		T1023974	YH4	135	45	23	17	20	4

► Refer to p.B143 for recommended tap drill sizes. 参考p.B143 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M SPIRAL POINT TAPS for STAINLESS STEELS
不锈钢用先端丝锥

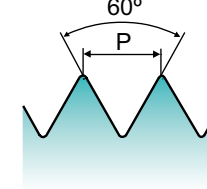
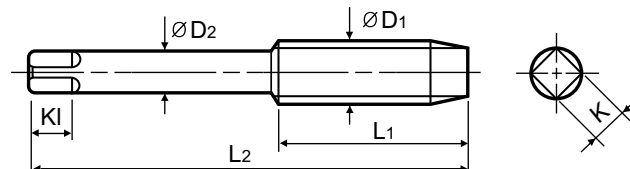
► Suitable for tapping Through holes in Stainless Steels, Chrome steels, Chrome Molybdenum Steels and other ductile materials with great tendency to work harden

► 适用于不锈钢, 铬钢, 铬钼钢和其他逐硬化具有韧性材料的通孔加工



up to M8 : Male Center

Hole type
孔类型
3.0×D



Tap Limits: p.B230



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	型号	精度	L2	L1	ØD2	K	KI	槽数
M2 × 0.4		T1043131	YH1	40	15	3	2.5	5	2
M2.2 × 0.45		T1043151	YH1	42	15	3	2.5	5	2
M2.3 × 0.4		T1043191	YH1	42	15	3	2.5	5	2
M2.5 × 0.45		T1043172	YH2	44	16	3	2.5	5	2
M2.6 × 0.45		T1043492	YH2	44	16	3	2.5	5	2
M3 × 0.5		T1043202	YH2	46	18	4	3.2	6	3
M3.5 × 0.6		T1043222	YH2	48	18	4	3.2	6	3
M4 × 0.7		T1043242	YH2	52	20	5	4	7	3
M5 × 0.8		T1043282	YH2	60	22	5.5	4.5	7	3
M6 × 1		T1043312	YH2	62	24	6	4.5	7	3
M8 × 1.25		T1043363	YH3	70	30	6.2	5	8	3
M10 × 1.5		T1043423	YH3	75	32	7	5.5	8	3
M10 × 1.25		T1043433	YH3	75	32	7	5.5	8	3
M12 × 1.75		T1043504	YH4	82	38	8.5	6.5	9	3
M12 × 1.5		T1043513	YH3	82	38	8.5	6.5	9	3
M12 × 1.25		T1043523	YH3	80	38	8.5	6.5	9	3
M12 × 1		T1043533	YH3	70	30	8.5	6.5	9	3
M14 × 2		T1043544	YH4	88	42	10.5	8	11	3

► Refer to p.B143 for recommended tap drill sizes. 参考p.B143 底孔尺寸.

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

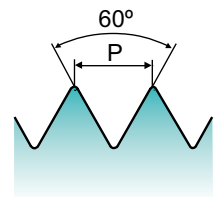
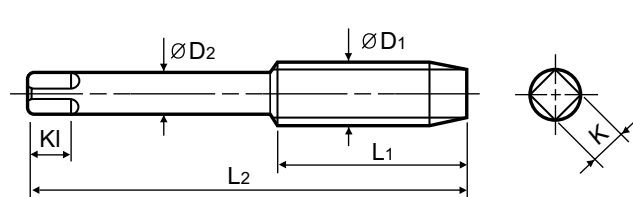
M SPIRAL POINT TAPS for STAINLESS STEELS
不锈钢用先端丝锥

► Suitable for tapping Through holes in Stainless Steels, Chrome steels, Chrome Molybdenum Steels and other ductile materials with great tendency to work harden

► 适用于不锈钢, 铬钢, 铬钼钢和其他逐硬化具有韧性材料的通孔加工



up to M8 : Male Center



Material groups: **VA** HSS-E J YH 60° 4.0P Homo p. B143

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M14	× 1.5	T1043553	YH3	88	42	10.5	8	11	3
M16	× 2	T1043604	YH4	95	45	12.5	10	13	3
M16	× 1.5	T1043613	YH3	95	45	12.5	10	13	3
M18	× 2.5	T1043654	YH4	100	48	14	11	14	3
M18	× 1.5	T1043674	YH4	95	45	14	11	14	3
M20	× 2.5	T1043704	YH4	105	50	15	12	15	3
M20	× 1.5	T1043724	YH4	95	45	15	12	15	3
M22	× 2.5	T1043744	YH4	115	55	17	13	16	3
M22	× 1.5	T1043764	YH4	95	45	17	13	16	3
M24	× 3	T1043784	YH4	120	58	19	15	18	3
M24	× 1.5	T1043804	YH4	95	45	19	15	18	3
M25	× 1.5	T1043834	YH4	95	45	19	15	18	3
M26	× 1.5	T1043854	YH4	95	45	20	15	18	4
M27	× 3	T1043864	YH4	130	62	20	15	18	4
M27	× 1.5	T1043884	YH4	95	45	20	15	18	4
M28	× 1.5	T1043914	YH4	105	45	21	17	20	4
M30	× 3.5	T1043945	YH5	135	65	23	17	20	4
M30	× 1.5	T1043974	YH4	105	45	23	17	20	4

► Refer to p.B143 for recommended tap drill sizes. 参考p.B143 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

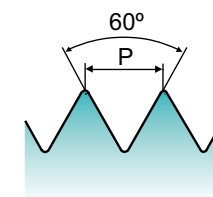
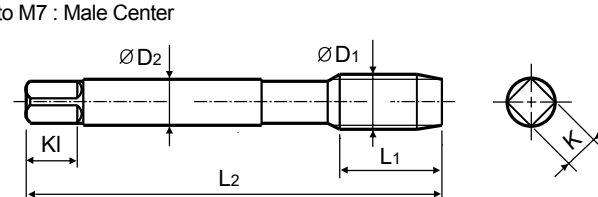
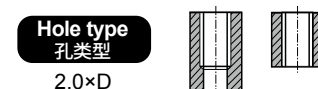
M STRAIGHT FLUTE TAPS for STAINLESS STEELS
不锈钢用直槽丝锥

► Suitable for tapping Blind & Through holes in Stainless Steels, Chrome Steels, Chrome Molybdenum Steels and other ductile materials with great tendency to work harden.

► 适用于不碳钢, 铬钢, 铬钼钢和其他逐硬化的具有韧性材料的盲孔和通孔加工



up to M7 : Male Center



Material groups: **VA** HSS-E I YH 60° 1.5P/5.0P Homo p. B143

Plain Shank Page
 TAPPING ER CHUCK D215-220
 TAPPING CHUCK D221-228
 ONE STEP TAPPING CHUCK D211-213
 Recommended Toolholder

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	1.5P	5.0P		L2	L1	ØD2	K	KI	
M3	× 0.5	T1402202	T1401202	YH2	46	11	4	3.2	6	3
M4	× 0.7	T1402242	T1401242	YH2	52	13	5	4	7	3
M5	× 0.8	T1402282	T1401282	YH2	60	16	5.5	4.5	7	3
M6	× 1	T1402312	T1401312	YH2	62	19	6	4.5	7	3
M8	× 1.25	T1402362	T1401362	YH2	70	22	6.2	5	8	3
M10	× 1.5	T1402423	T1401423	YH3	75	24	7	5.5	8	3
M10	× 1.25	T1402432	T1401432	YH2	75	24	7	5.5	8	3
M12	× 1.75	T1402503	T1401503	YH3	82	29	8.5	6.5	9	3
M12	× 1.5	T1402513	T1401513	YH3	82	29	8.5	6.5	9	3
M12	× 1.25	T1402522	T1401522	YH3	82	29	8.5	6.5	9	3
M12	× 1	T1402532	T1401532	YH2	82	29	8.5	6.5	9	3
M14	× 2	T1402543	T1401543	YH3	88	30	10.5	8	11	4
M14	× 1.5	T1402553	T1401553	YH3	88	30	10.5	8	11	4
M16	× 2	T1402603	T1401603	YH3	95	32	12.5	10	13	4
M16	× 1.5	T1402613	T1401613	YH3	95	32	12.5	10	13	4
M18	× 2.5	T1402653	T1401653	YH3	100	37	14	11	14	4
M18	× 1.5	T1402673	T1401673	YH3	100	37	14	11	14	4
M20	× 2.5	T1402703	T1401703	YH3	105	37	15	12	15	4
M20	× 1.5	T1402723	T1401723	YH3	105	37	15	12	15	4
M22	× 2.5	T1402743	T1401743	YH3	115	38	17	13	16	4
M22	× 1.5	T1402763	T1401763	YH3	115	38	17	13	16	4

► Refer to p.B143 for recommended tap drill sizes. 参考p.B143 底孔尺寸.

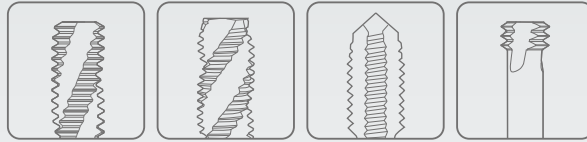
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



Global Cutting Tool Leader **YG-1**



THREADING



Leading Through Innovation

SOLID CARBIDE & HSS-E

YG TAP CAST IRON

- For Cast Iron or Similar Work Materials
- 对于铸铁或类似材料



SOLID CARBIDE & HSS-E YG TAP CAST IRON

For Cast Iron or Similar Work Materials

对于铸铁或类似材料

SERIES NO. 系列号 (page 页码)	HOLE TYPE 孔类型	Max. 2.0xD Blind/Through Hole 盲孔 / 通孔	
	TOOL MATERIAL 刀具材料	CARBIDE	HSS-E
	CHAMFER LEAD ACC. TO DIN2197 倒角长度	1.5P/3.0P	1.5P/5.0P
	FLUTE TYPE 槽型	Straight Flute 直槽	Straight Flute 直槽
	SPIRAL FLUTE ANGLE 螺旋角	-	-
	JIS Type	I	I
	M/MF	T0451 T0441 (p. B157)	T4471 T4461 (p. B159)
	UNC/F		
	W	T0462 T0452 (p. B158)	T4442 T4432 (p. B161)
	M-LH W-LH		
PIPE TAPS			
SURFACE TREATMENT 表面处理	Bright	Nitrided & Steam Homo	
MODEL 模型			

Please visit globalyg1.com/mat for material search

◎: Excellent (优秀) ○: Good (良好)

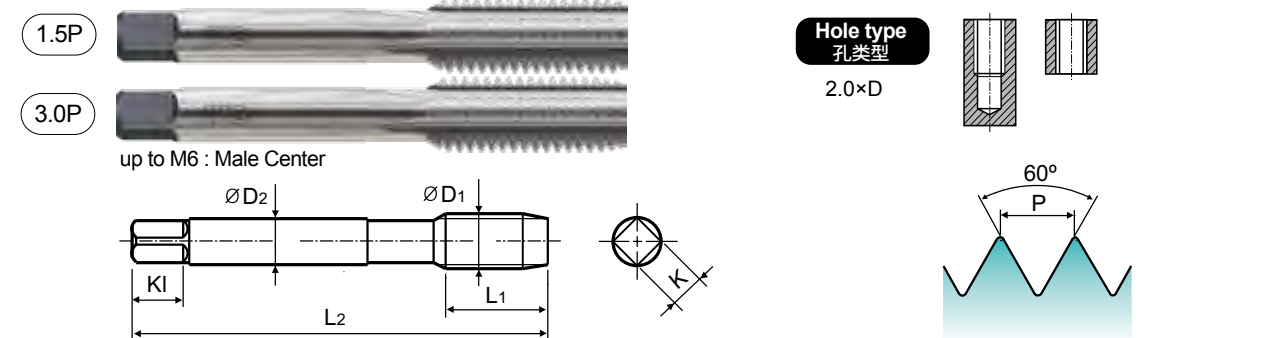
ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度		
P	1	Non-alloy steel	About 0.15% C Annealed	125			
	2		About 0.45% C Annealed	190	13		
	3		About 0.45% C Quenched & Tempered	250	25		
	4		About 0.75% C Annealed	270	28		
	5		About 0.75% C Quenched & Tempered	300	32		
	6	Low alloy steel	Annealed	180	10		
	7		Quenched & Tempered	275	29		
	8		Quenched & Tempered	300	32		
	9		Quenched & Tempered	350	38		
	10		High alloyed steel, and tool steel	Annealed	200	15	
	11	Quenched & Tempered		325	35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15		
	13		Martensitic Quenched & Tempered	240	23		
	14		Austenitic	180	10		
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎ 12~20	◎ 10~15
	16		Pearlitic (Martensitic)	260	26	◎ 12~20	◎ 10~15
	17	Nodular cast iron	Ferritic	160	3	◎ 10~15	◎ 7~12
	18		Pearlitic	250	25	◎ 10~15	◎ 7~12
	19	Malleable cast iron	Ferritic	130		○ 7~12	○ 7~12
	20		Pearlitic	230	21	○ 7~12	○ 7~12
N	21	Aluminum-wrought alloy	Not Curable	60			
	22		Curable Hardened	100			
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		◎ 15~20	◎ 10~15
	24		≤ 12% Si, Curable Hardened	90		◎ 15~20	○ 10~15
	25		> 12% Si, Not Curable	130		○ 10~15	○ 10~15
	26		Cutting Alloys, PB>1%	110			
	27	Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90		○ 6~15	○ 6~15
	28		CuSn, lead-free copper and electrolytic copper	100			
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				
	30		Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34		Ni or Co Based Cured	350	38		
	35	Cast	320	34			
	36	Titanium Alloys	Pure Titanium	400 Rm			
	37		Alpha + Beta Alloys Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Chilled Cast Iron	Cast	400	42		
	41	Hardened Cast Iron	Hardened	550	55		



1.5P **T0451** SERIES
3.0P **T0441** SERIES

SOLID CARBIDE STRAIGHT FLUTE TAPS for CAST IRONS 铸铁用硬质合金直槽丝锥

► Suitable for tapping Blind & Through holes in Grey Cast Iron, Nodular Cast Iron, Malleable Cast Iron, Brass Casting and other similar materials.
► 适用于灰铸铁, 球状石墨铸铁, 可锻铸铁, 黄铜铸件及具有相同性质的材料的盲孔和通孔的加工。



Material groups: **GG** CARBIDE I YH 60° 1.5P/3.0P Bright

Tap Limits: p.B230

Recommended Toolholder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Unit(单位): mm

SIZE 尺寸	Pitch 牙距	EDP No. 型号		Limit 精度	Overall Length 全长	Thread Length 螺纹长	Shank Diameter 柄径	Square Size 方块尺寸	Square Length 方块长度	No. of Flute 槽数
ØD1	P	1.5P	3.0P		L2	L1	ØD2	K	K1	
M3	× 0.5	T0451203	T0441203	YH3	46	11	4	3.2	6	3
M4	× 0.7	T0451243	T0441243	YH3	52	13	5	4	7	3
M5	× 0.8	T0451283	T0441283	YH3	60	16	5.5	4.5	7	3
M6	× 1	T0451313	T0441313	YH3	62	19	6	4.5	7	3
M8	× 1.25	T0451364	T0441364	YH4	70	22	6.2	5	8	4
M10	× 1.5	T0451424	T0441424	YH4	75	24	7	5.5	8	4
M12	× 1.75	T0451505	T0441505	YH5	82	29	8.5	6.5	9	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	130	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended															◎	◎	◎	◎	○	○

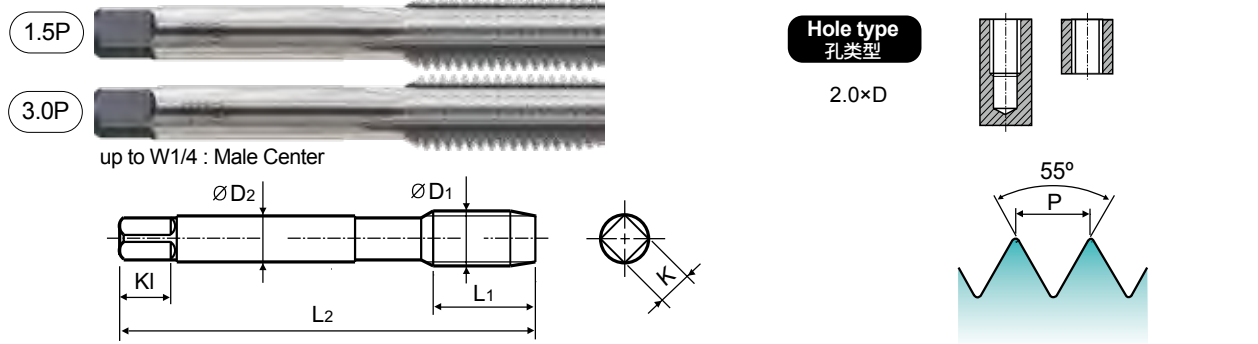
ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended			◎	◎	○			○														

YG TAP CAST IRON

1.5P **T0462** SERIES
3.0P **T0452** SERIES

W SOLID CARBIDE STRAIGHT FLUTE TAPS for CAST IRONS 铸铁用硬质合金直槽丝锥

► Suitable for tapping Blind & Through holes in Grey Cast Iron, Nodular Cast Iron, Malleable Cast Iron, Brass Casting and other similar materials.
► 适用于灰铸铁, 球状石墨铸铁, 可锻铸铁, 黄铜铸件及具有相同性质的材料的盲孔和通孔的加工。



Material groups: **GG** CARBIDE I YH 55° 1.5P/3.0P Bright p. B156

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

SIZE	TPI	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	1.5P	3.0P		L2	L1	ØD2	K	KI	
W1/8	- 40	T0462203	T0452203	YH3	46	11	4	3.2	6	3
W3/16	- 24	T0462323	T0452323	YH3	60	16	5.5	4.5	7	3
W1/4	- 20	T0462404	T0452404	YH4	62	19	6	4.5	7	3
W5/16	- 18	T0462444	T0452444	YH4	70	22	6.1	5	8	4
W3/8	- 16	T0462484	T0452484	YH4	75	24	7	5.5	8	4
W7/16	- 14	T0462524	T0452524	YH4	80	25	8	6	9	4
W1/2	- 12	T0462565	T0452565	YH5	85	29	9	7	10	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended															◎	◎	◎	◎	○	○

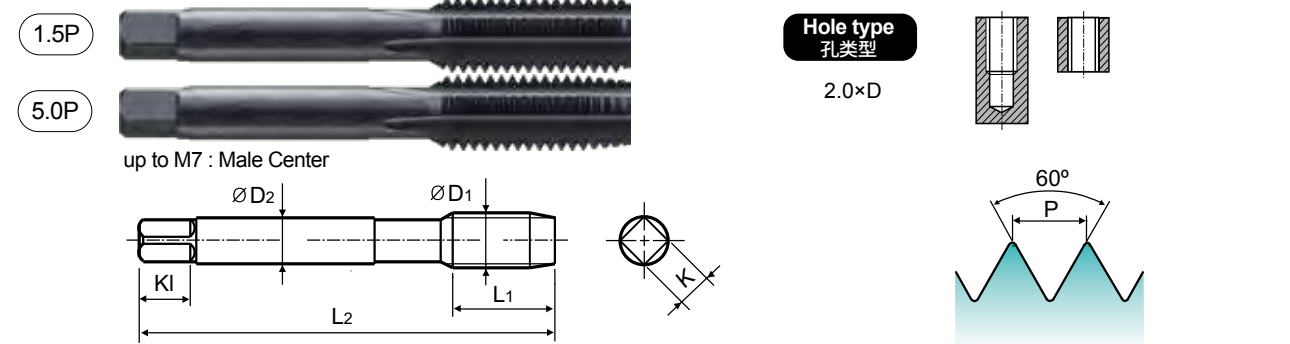
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended			◎	◎	○																

YG TAP CAST IRON

1.5P **T4471** SERIES
5.0P **T4461** SERIES

M STRAIGHT FLUTE TAPS for CAST IRONS 铸铁用直槽丝锥

► Suitable for tapping Blind & Through holes in Grey Cast Iron, Nodular Cast Iron, Malleable Cast Iron Brass Casting and other similar materials.
► 适用于灰铸铁, 球状石墨铸铁, 可锻造铸铁及具有同性质材料的盲孔和通孔的加工。



Material groups: **GG** HSS-E I YH 60° 1.5P/5.0P Nitrided & Homo p. B156

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	1.5P	5.0P		L2	L1	ØD2	K	KI	
M2	× 0.4	T4471133	T4461133	YH3	40	9.5	3	2.5	5	3
M2.2	× 0.45	T4471153	T4461153	YH3	42	9.5	3	2.5	5	3
M2.3	× 0.4	T4471193	T4461193	YH3	42	9.5	3	2.5	5	3
M2.5	× 0.45	T4471173	T4461173	YH3	44	9.5	3	2.5	5	3
M2.6	× 0.45	T4471493	T4461493	YH3	44	9.5	3	2.5	5	3
M3	× 0.5	T4471203	T4461203	YH3	46	11	4	3.2	6	3
M3.5	× 0.6	T4471223	T4461223	YH3	48	13	4	3.2	6	3
M4	× 0.7	T4471243	T4461243	YH3	52	13	5	4	7	4
M5	× 0.8	T4471283	T4461283	YH3	60	16	5.5	4.5	7	4
M6	× 1	T4471313	T4461313	YH3	62	19	6	4.5	7	4
M8	× 1.25	T4471364	T4461364	YH4	70	22	6.2	5	8	4
M10	× 1.5	T4471424	T4461424	YH4	75	24	7	5.5	8	4
M10	× 1.25	T4471434	T4461434	YH4	75	24	7	5.5	8	4
M12	× 1.75	T4471505	T4461505	YH5	82	29	8.5	6.5	9	4
M12	× 1.5	T4471514	T4461514	YH4	82	29	8.5	6.5	9	4
M12	× 1.25	T4471524	T4461524	YH4	82	29	8.5	6.5	9	4
M12	× 1	T4471533	T4461533	YH3	82	29	8.5	6.5	9	4
M14	× 2	T4471545	T4461545	YH5	88	30	10.5	8	11	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended															◎	◎	◎	◎	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended			◎	◎	○																

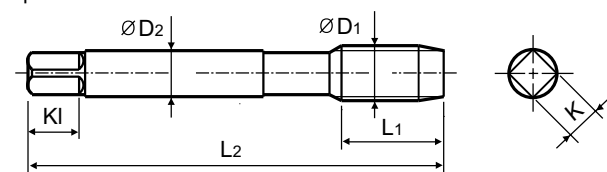
M STRAIGHT FLUTE TAPS for CAST IRONS
铸铁用直槽丝锥

► Suitable for tapping Blind & Through holes in Grey Cast Iron, Nodular Cast Iron, Malleable Cast Iron Brass Casting and other similar materials.

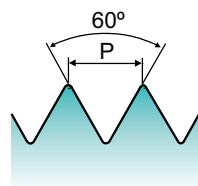
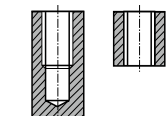
► 适用于灰铸铁, 球状石墨铸铁, 可锻造铸铁及具有同性质的材料的盲孔和通孔的加工



up to M7 : Male Center



Hole type
孔类型
2.0×D



Material groups: **GG** HSS-E I YH 60° 1.5P/5.0P Nitrided & Homo p. B156

Plain Shank	Page
TAPPING ER CHUCK	D215-220
TAPPING CHUCK	D221-228
ONE STEP TAPPING CHUCK	D211-213

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	1.5P	5.0P		L2	L1	ØD2	K	KI	
M14	× 1.5	T4471554	T4461554	YH4	88	30	10.5	8	11	4
M16	× 2	T4471605	T4461605	YH5	95	32	12.5	10	13	4
M16	× 1.5	T4471614	T4461614	YH4	95	32	12.5	10	13	4
M18	× 2.5	T4471655	T4461655	YH5	100	37	14	11	14	4
M18	× 1.5	T4471674	T4461674	YH4	100	37	14	11	14	4
M20	× 2.5	T4471705	T4461705	YH5	105	37	15	12	15	4
M20	× 1.5	T4471724	T4461724	YH4	105	37	15	12	15	4
M22	× 2.5	T4471745	T4461745	YH5	115	38	17	13	16	4
M22	× 1.5	T4471764	T4461764	YH4	115	38	17	13	16	4
M24	× 3	T4471785	T4461785	YH5	120	45	19	15	18	4
M24	× 1.5	T4471804	T4461804	YH5	120	45	19	15	18	4
M25	× 1.5	T4471834	T4461834	YH4	125	45	19	15	18	4
M26	× 1.5	T4471854	T4461854	YH4	125	45	20	15	18	4
M27	× 3	T4471865	T4461865	YH5	130	45	20	15	18	4
M27	× 1.5	T4471884	T4461884	YH4	130	45	20	15	18	4
M28	× 1.5	T4471914	T4461914	YH4	130	45	21	17	20	4
M30	× 3.5	T4471946	T4461946	YH6	135	48	23	17	20	4
M30	× 1.5	T4471974	T4461974	YH4	135	45	23	17	20	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended															◎	◎	◎	◎	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended			◎	○	○			○													

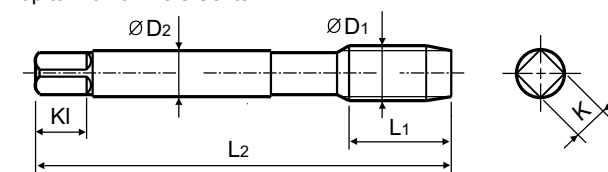
W STRAIGHT FLUTE TAPS for CAST IRONS
铸铁用直槽丝锥

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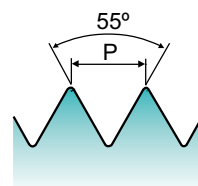
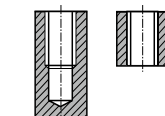
► 适用于灰铸铁, 球状石墨铸铁, 可锻造铸铁及具有同性质的材料的盲孔和通孔的加工



up to W5/16 : Male Center



Hole type
孔类型
2.0×D



Material groups: **GG** HSS-E I YH 55° 1.5P/5.0P Nitrided & Homo p. B156

Plain Shank	Page
TAPPING ER CHUCK	D215-220
TAPPING CHUCK	D221-228
ONE STEP TAPPING CHUCK	D211-213

Tap Limits: p.B230

Unit(单位) : mm

SIZE	TPI	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1		1.5P	5.0P		L2	L1	ØD2	K	KI	
W1/8	- 40	T4442203	T4432203	YH3	46	11	4	3.2	6	3
W3/16	- 24	T4442323	T4432323	YH3	60	16	5.5	4.5	7	4
W1/4	- 20	T4442404	T4432404	YH4	62	19	6	4.5	7	4
W5/16	- 18	T4442444	T4432444	YH4	70	22	6.1	5	8	4
W3/8	- 16	T4442484	T4432484	YH4	75	24	7	5.5	8	4
W7/16	- 14	T4442525	T4432525	YH5	80	25	8	6	9	4
W1/2	- 12	T4442565	T4432565	YH5	85	29	9	7	10	4
W9/16	- 12	T4442605	T4432605	YH5	90	30	10.5	8	11	4
W5/8	- 11	T4442645	T4432645	YH5	95	32	12	9	12	4
W3/4	- 10	T4442705	T4432705	YH5	105	37	14	11	14	4
W7/8	- 9	T4442746	T4432746	YH6	115	38	17	13	16	4
W1"	- 8	T4442786	T4432786	YH6	125	45	20	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended															◎	◎	◎	◎	○	○

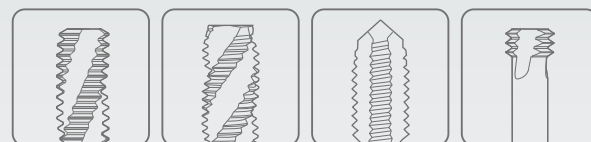
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended			◎	○	○			○													



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



THREADING



SOLID CARBIDE & HSS-E

YG TAP ALU

- For long-chipping Aluminum Wrought Alloys with Large Chip Gullets to Avoid Clogging in the Threading Operations
- 采用大排屑槽设计, 适合长屑铝合金攻丝, 避免缠屑-

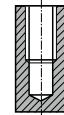
M SOLID CARBIDE SPIRAL FLUTE TAPS for NON-FERROUS METALS
有色金属用硬质合金螺旋槽丝锥

► Suitable for tapping Blind holes in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloys.

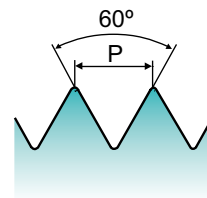
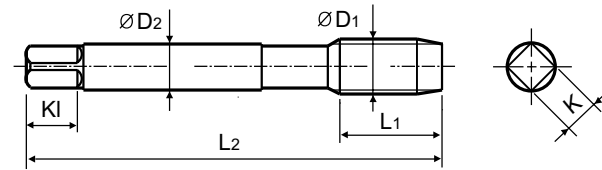
► 适用于铝, 镁, 锌, 铜及有色金属的盲孔加工.



Hole type
孔类型
2.5×D



up to M6 : Male Center



Material groups: **AI** CARBIDE I YH 60° 1.5P/2.5P R15 Bright p. B164

Plain Shank	Page
TAPPING ER CHUCK	D215-220
TAPPING CHUCK	D221-228
ONE STEP TAPPING CHUCK	D211-213

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	1.5P	2.5P		L2	L1	ØD2	K	KI	
M3	× 0.5	T0202203	T0102203	YH3	46	11	4	3.2	6	3
M4	× 0.7	T0202243	T0102243	YH3	52	13	5	4	7	3
M5	× 0.8	T0202283	T0102283	YH3	60	16	5.5	4.5	7	3
M6	× 1	T0202313	T0102313	YH3	62	19	6	4.5	7	3
M8	× 1.25	T0202364	T0102364	YH4	70	22	6.2	5	8	3
M10	× 1.5	T0202424	T0102424	YH4	75	24	7	5.5	8	3
M12	× 1.75	T0202504	T0102504	YH4	82	29	8.5	6.5	9	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180		180	260	160	250	130	230
Recommended															○	○	○	○		

ISO	N				S						H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc						15	30	25	38	34						55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	○		○	○														

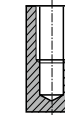
W SOLID CARBIDE SPIRAL FLUTE TAPS for NON-FERROUS METALS
有色金属用硬质合金螺旋槽丝锥

► Suitable for tapping Blind holes in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloys.

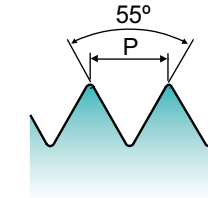
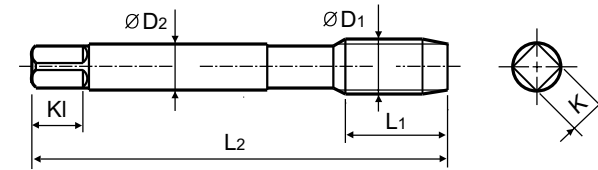
► 适用于铝, 镁, 锌, 铜及有色金属的盲孔加工.



Hole type
孔类型
2.5×D



up to W1/4 : Male Center



Material groups: **AI** CARBIDE I YH 55° 1.5P/2.5P R15 Bright p. B164

Plain Shank	Page
TAPPING ER CHUCK	D215-220
TAPPING CHUCK	D221-228
ONE STEP TAPPING CHUCK	D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1		1.5P	2.5P		L2	L1	ØD2	K	KI	
W1/8	- 40	T0164203	T0154203	YH3	46	11	4	3.2	6	3
W3/16	- 24	T0164323	T0154323	YH3	60	16	5.5	4.5	7	3
W1/4	- 20	T0164404	T0154404	YH4	62	19	6	4.5	7	3
W5/16	- 18	T0164444	T0154444	YH4	70	22	6.1	5	8	3
W3/8	- 16	T0164484	T0154484	YH4	75	24	7	5.5	8	3
W7/16	- 14	T0164524	T0154524	YH4	80	25	8	6	9	3
W1/2	- 12	T0164564	T0154564	YH4	85	29	9	7	10	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180		180	260	160	250	130	230
Recommended															○	○	○	○		

ISO	N				S						H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc						15	30	25	38	34						55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	○		○	○														

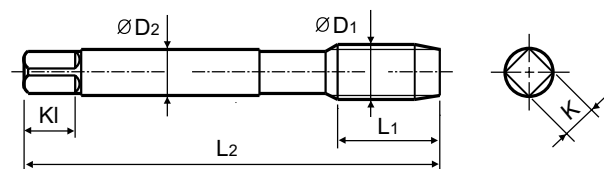
M SPIRAL FLUTE TAPS for NON-FERROUS METALS
有色金属用螺旋槽丝锥

► Suitable for tapping Blind holes in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloys.

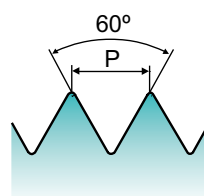
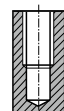
► 适用于铝, 镁, 锌, 铜及有色金属的盲孔加工



up to M7 : Male Center



Hole type
孔类型
2.5×D



Material groups: **AI** HSS-E I YH 60° 2.5P R40 Bright p. B164

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M2	× 0.4	T2120131	YH1	40	9.5	3	2.5	5	2
M2.2	× 0.45	T2120151	YH1	42	9.5	3	2.5	5	2
M2.3	× 0.4	T2120191	YH1	42	9.5	3	2.5	5	2
M2.5	× 0.45	T2120171	YH1	44	9.5	3	2.5	5	2
M2.6	× 0.45	T2120491	YH1	44	9.5	3	2.5	5	2
M3	× 0.5	T2120202	YH2	46	11	4	3.2	6	3
M3.5	× 0.6	T2120222	YH2	48	13	4	3.2	6	3
M4	× 0.7	T2120242	YH2	52	13	5	4	7	3
M5	× 0.8	T2120282	YH2	60	16	5.5	4.5	7	3
M6	× 1	T2120312	YH2	62	19	6	4.5	7	3
M8	× 1.25	T2120363	YH3	70	22	6.2	5	8	3
M10	× 1.5	T2120423	YH3	75	24	7	5.5	8	3
M10	× 1.25	T2120433	YH3	75	24	7	5.5	8	3
M12	× 1.75	T2120503	YH3	82	29	8.5	6.5	9	3
M12	× 1.5	T2120513	YH3	82	29	8.5	6.5	9	3
M12	× 1.25	T2120523	YH3	82	29	8.5	6.5	9	3
M12	× 1	T2120532	YH2	82	29	8.5	6.5	9	3
M14	× 2	T2120543	YH3	88	30	10.5	8	11	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○				○														

ISO	N								S							H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials	Heat Resistant Super Alloys							Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				○	○														

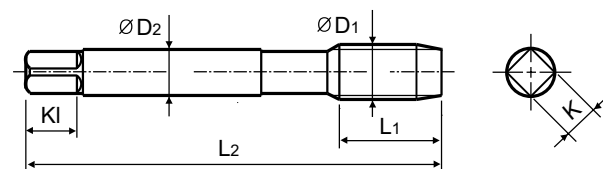
M SPIRAL FLUTE TAPS for NON-FERROUS METALS
有色金属用螺旋槽丝锥

► Suitable for tapping Blind holes in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloys.

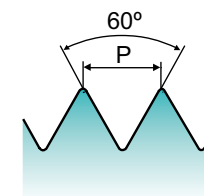
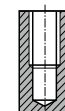
► 适用于铝, 镁, 锌, 铜及有色金属的盲孔加工



up to M7 : Male Center



Hole type
孔类型
2.5×D



Material groups: **AI** HSS-E I YH 60° 2.5P R40 Bright p. B164

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M14	× 1.5	T2120553	YH3	88	30	10.5	8	11	3
M16	× 2	T2120603	YH3	95	32	12.5	10	13	3
M16	× 1.5	T2120613	YH3	95	32	12.5	10	13	3
M18	× 2.5	T2120653	YH3	100	37	14	11	14	4
M18	× 1.5	T2120673	YH3	100	37	14	11	14	4
M20	× 2.5	T2120703	YH3	105	37	15	12	15	4
M20	× 1.5	T2120723	YH3	105	37	15	12	15	4
M22	× 2.5	T2120744	YH4	115	38	17	13	16	4
M22	× 1.5	T2120763	YH3	115	38	17	13	16	4
M24	× 3	T2120784	YH4	120	45	19	15	18	4
M24	× 1.5	T2120803	YH3	120	45	19	15	18	4
M25	× 1.5	T2120833	YH3	125	45	19	15	18	4
M26	× 1.5	T2120853	YH3	125	45	20	15	18	4
M27	× 3	T2120864	YH4	130	45	20	15	18	4
M27	× 1.5	T2120883	YH3	130	45	20	15	18	4
M28	× 1.5	T2120913	YH3	130	45	21	17	20	4
M30	× 3.5	T2120944	YH4	135	48	23	17	20	4
M30	× 1.5	T2120973	YH3	135	45	23	17	20	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

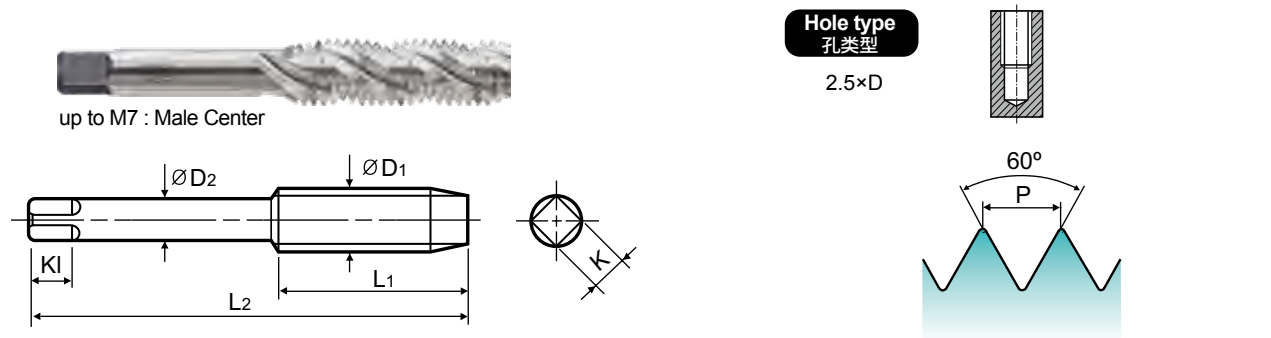
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○				○														

ISO	N								S							H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials	Heat Resistant Super Alloys							Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				○	○														

M SPIRAL FLUTE TAPS for NON-FERROUS METALS
有色金属用螺旋槽丝锥

► Suitable for tapping Blind holes in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloys.

► 适用于铝, 镁, 锌, 铜及有色金属的盲孔加工。



Material groups: **AI** HSS-E J YH 60° 2.5P R40 Bright p. B165

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Tap Limits: p.B230 Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M2	× 0.4	T2131131	YH1	40	15	3	2.5	5	2
M2.2	× 0.45	T2131151	YH1	42	15	3	2.5	5	2
M2.3	× 0.4	T2131191	YH1	42	15	3	2.5	5	2
M2.5	× 0.45	T2131171	YH1	44	16	3	2.5	5	2
M2.6	× 0.45	T2131491	YH1	44	16	3	2.5	5	2
M3	× 0.5	T2131202	YH2	46	18	4	3.2	6	3
M3.5	× 0.6	T2131222	YH2	48	18	4	3.2	6	3
M4	× 0.7	T2131242	YH2	52	20	5	4	7	3
M5	× 0.8	T2131282	YH2	60	22	5.5	4.5	7	3
M6	× 1	T2131312	YH2	62	24	6	4.5	7	3
M8	× 1.25	T2131363	YH3	70	30	6.2	5	8	3
M10	× 1.5	T2131423	YH3	75	32	7	5.5	8	3
M10	× 1.25	T2131433	YH3	75	32	7	5.5	8	3
M12	× 1.75	T2131503	YH3	82	38	8.5	6.5	9	3
M12	× 1.5	T2131513	YH3	82	38	8.5	6.5	9	3
M12	× 1.25	T2131523	YH3	80	38	8.5	6.5	9	3
M12	× 1	T2131532	YH2	70	30	8.5	6.5	9	3
M14	× 2	T2131543	YH3	88	42	10.5	8	11	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。 ► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

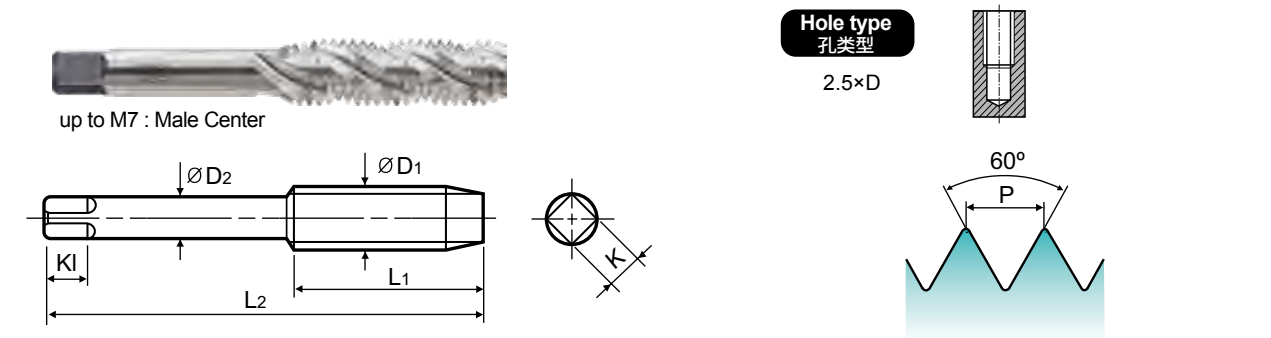
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○				○														

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○				○	○														

M SPIRAL FLUTE TAPS for NON-FERROUS METALS
有色金属用螺旋槽丝锥

► Suitable for tapping Blind holes in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloys.

► 适用于铝, 镁, 锌, 铜及有色金属的盲孔加工。



Material groups: **AI** HSS-E J YH 60° 2.5P R40 Bright p. B165

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Tap Limits: p.B230 Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M14	× 1.5	T2131553	YH3	88	42	10.5	8	11	3
M16	× 2	T2131603	YH3	95	45	12.5	10	13	3
M16	× 1.5	T2131613	YH3	95	45	12.5	10	13	3
M18	× 2.5	T2131653	YH3	100	48	14	11	14	4
M18	× 1.5	T2131673	YH3	95	45	14	11	14	4
M20	× 2.5	T2131703	YH3	105	50	15	12	15	4
M20	× 1.5	T2131723	YH3	95	45	15	12	15	4
M22	× 2.5	T2131744	YH4	115	55	17	13	16	4
M22	× 1.5	T2131763	YH3	95	45	17	13	16	4
M24	× 3	T2131784	YH4	120	58	19	15	18	4
M24	× 1.5	T2131803	YH3	95	45	19	15	18	4
M25	× 1.5	T2131833	YH3	95	45	19	15	18	4
M26	× 1.5	T2131853	YH3	95	45	20	15	18	4
M27	× 3	T2131864	YH4	130	62	20	15	18	4
M27	× 1.5	T2131883	YH3	95	45	20	15	18	4
M28	× 1.5	T2131913	YH3	105	45	21	17	20	4
M30	× 3.5	T2131944	YH4	135	65	23	17	20	4
M30	× 1.5	T2131973	YH3	105	45	23	17	20	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○				○														

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○				○	○														

M SPIRAL FLUTE TAPS for DEEP HOLES(for NON-FERROUS METALS)
深孔螺旋槽丝锥(有色金属)

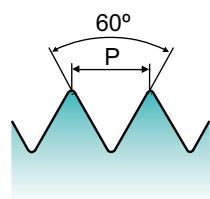
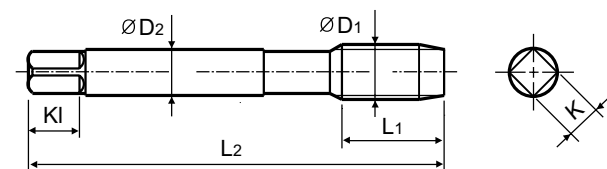
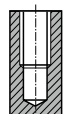
► Suitable for tapping deep Blind holes in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloys.

► 适用于铝, 镁, 锌, 铜及有色金属的盲孔加工.



up to M7 : Male Center

Hole type
孔类型
2.5×D



Material groups: **AI** HSS-E S YH 60° 2.5P R40 Bright p. B165

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended ToolHolder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M2	× 0.4	T2111131	YH1	40	4.0	3	2.5	5	2
M2.2	× 0.45	T2111151	YH1	42	4.0	3	2.5	5	2
M2.3	× 0.4	T2111191	YH1	42	4.0	3	2.5	5	2
M2.5	× 0.45	T2111171	YH1	44	4.0	3	2.5	5	2
M2.6	× 0.45	T2111491	YH1	44	4.0	3	2.5	5	2
M3	× 0.5	T2111202	YH2	46	5.0	4	3.2	6	3
M3.5	× 0.6	T2111222	YH2	48	6.0	4	3.2	6	3
M4	× 0.7	T2111242	YH2	52	7.0	5	4	7	3
M5	× 0.8	T2111282	YH2	60	8.0	5.5	4.5	7	3
M6	× 1	T2111312	YH2	62	10.0	6	4.5	7	3
M8	× 1.25	T2111363	YH3	70	13.7	6.2	5	8	3
M10	× 1.5	T2111423	YH3	75	16.4	7	5.5	8	3
M10	× 1.25	T2111433	YH3	75	13.7	7	5.5	8	3
M12	× 1.75	T2111503	YH3	82	19.2	8.5	6.5	9	3
M12	× 1.5	T2111513	YH3	82	16.4	8.5	6.5	9	3
M12	× 1.25	T2111523	YH3	82	13.7	8.5	6.5	9	3
M12	× 1	T2111532	YH2	82	10.9	8.5	6.5	9	3
M14	× 2	T2111543	YH3	88	21.9	10.5	8	11	3
M14	× 1.5	T2111553	YH3	88	16.4	10.5	8	11	3
M16	× 2	T2111603	YH3	95	21.9	12.5	10	13	3
M16	× 1.5	T2111613	YH3	95	16.4	12.5	10	13	3
M18	× 2.5	T2111653	YH3	100	27.4	14	11	14	4
M18	× 1.5	T2111673	YH3	100	16.4	14	11	14	4
M20	× 2.5	T2111703	YH3	105	27.4	15	12	15	4
M20	× 1.5	T2111723	YH3	105	16.4	15	12	15	4
M22	× 2.5	T2111744	YH4	115	27.4	17	13	16	4
M22	× 1.5	T2111763	YH3	115	16.4	17	13	16	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K																													
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron																							
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRC	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41				
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
Recommended	○	○				○																																						

M SPIRAL POINT TAPS for NON-FERROUS METALS
有色金属用先端丝锥

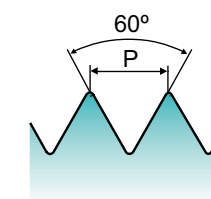
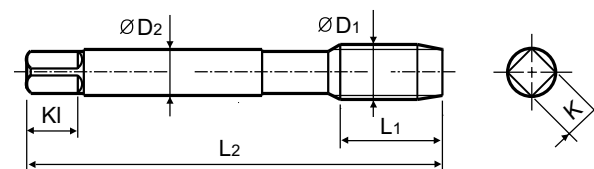
► Suitable for tapping Through holes in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloys.

► 适用于铝, 镁, 锌, 铜及有色金属的通孔加工.



up to M8 : Male Center

Hole type
孔类型
3.0×D



Material groups: **AI** HSS-E I YH 60° 5.0P Bright p. B165

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended ToolHolder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M2	× 0.4	T2021132	YH2	40	9.5	3	2.5	5	2
M2.2	× 0.45	T2021152	YH2	42	9.5	3	2.5	5	2
M2.3	× 0.4	T2021192	YH2	42	9.5	3	2.5	5	2
M2.5	× 0.45	T2021172	YH2	44	9.5	3	2.5	5	2
M2.6	× 0.45	T2021492	YH2	44	9.5	3	2.5	5	2
M3	× 0.5	T2021202	YH2	46	11	4	3.2	6	3
M3.5	× 0.6	T2021222	YH2	48	13	4	3.2	6	3
M4	× 0.7	T2021242	YH2	52	13	5	4	7	3
M5	× 0.8	T2021282	YH2	60	16	5.5	4.5	7	3
M6	× 1	T2021312	YH2	62	19	6	4.5	7	3
M8	× 1.25	T2021363	YH3	70	22	6.2	5	8	3
M10	× 1.5	T2021423	YH3	75	24	7	5.5	8	3
M10	× 1.25	T2021433	YH3	75	24	7	5.5	8	3
M12	× 1.75	T2021504	YH4	82	29	8.5	6.5	9	3
M12	× 1.5	T2021513	YH3	82	29	8.5	6.5	9	3
M12	× 1.25	T2021523	YH3	82	29	8.5	6.5	9	3
M12	× 1	T2021533	YH3	82	29	8.5	6.5	9	3
M14	× 2	T2021544	YH4	88	30	10.5	8	11	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K																													
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron																							
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRC	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41				
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
Recommended	○	○				○																																						

M SPIRAL POINT TAPS for NON-FERROUS METALS
有色金属用先端丝锥

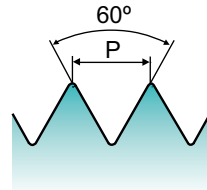
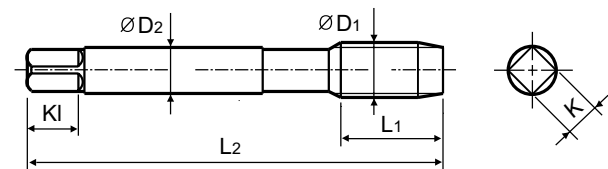
► Suitable for tapping Through holes in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloys.

► 适用于铝, 镁, 锌, 铜及有色金属的通孔加工.



up to M8 : Male Center

Hole type
孔类型
3.0×D



Material groups: **AI** HSS-E I YH 60° 5.0P Bright p. B165

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended ToolHolder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M14 × 1.5	T2021553	YH3	88	30	10.5	8	11	3	
M16 × 2	T2021604	YH4	95	32	12.5	10	13	3	
M16 × 1.5	T2021613	YH3	95	32	12.5	10	13	3	
M18 × 2.5	T2021654	YH4	100	37	14	11	14	3	
M18 × 1.5	T2021674	YH4	100	37	14	11	14	3	
M20 × 2.5	T2021704	YH4	105	37	15	12	15	3	
M20 × 1.5	T2021724	YH4	105	37	15	12	15	3	
M22 × 2.5	T2021744	YH4	115	38	17	13	16	3	
M22 × 1.5	T2021764	YH4	115	38	17	13	16	3	
M24 × 3	T2021784	YH4	120	45	19	15	18	3	
M24 × 1.5	T2021804	YH4	120	45	19	15	18	3	
M25 × 1.5	T2021834	YH4	125	45	19	15	18	3	
M26 × 1.5	T2021854	YH4	125	45	20	15	18	4	
M27 × 3	T2021864	YH4	130	45	20	15	18	4	
M27 × 1.5	T2021884	YH4	130	45	20	15	18	4	
M28 × 1.5	T2021914	YH4	130	45	21	17	20	4	
M30 × 3.5	T2021945	YH5	135	48	23	17	20	4	
M30 × 1.5	T2021974	YH4	135	45	23	17	20	4	

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommended	○	○				○				○	○	○	○							

ISO	N								S							H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials	Heat Resistant Super Alloys							Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○			○	○														

M SPIRAL POINT TAPS for NON-FERROUS METALS
有色金属用先端丝锥

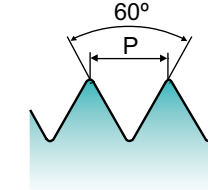
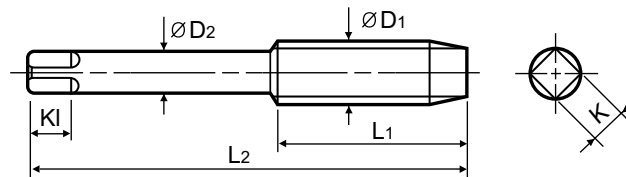
► Suitable for tapping Through holes in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloys.

► 适用于铝, 镁, 锌, 铜及有色金属的通孔加工.



up to M8 : Male Center

Hole type
孔类型
3.0×D



Material groups: **AI** HSS-E J YH 60° 5.0P Bright p. B165

Plain Shank Page
TAPPING ER CHUCK D215-220
TAPPING CHUCK D221-228
ONE STEP TAPPING CHUCK D211-213
Recommended ToolHolder

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M2 × 0.4	T2041132	YH2	40	15	3	2.5	5	2	
M2.2 × 0.45	T2041152	YH2	42	15	3	2.5	5	2	
M2.3 × 0.4	T2041192	YH2	42	15	3	2.5	5	2	
M2.5 × 0.45	T2041172	YH2	44	16	3	2.5	5	2	
M2.6 × 0.45	T2041492	YH2	44	16	3	2.5	5	2	
M3 × 0.5	T2041202	YH2	46	18	4	3.2	6	3	
M3.5 × 0.6	T2041222	YH2	48	18	4	3.2	6	3	
M4 × 0.7	T2041242	YH2	52	20	5	4	7	3	
M5 × 0.8	T2041282	YH2	60	22	5.5	4.5	7	3	
M6 × 1	T2041312	YH2	62	24	6	4.5	7	3	
M8 × 1.25	T2041363	YH3	70	30	6.2	5	8	3	
M10 × 1.5	T2041423	YH3	75	32	7	5.5	8	3	
M10 × 1.25	T2041433	YH3	75	32	7	5.5	8	3	
M12 × 1.75	T2041504	YH4	82	38	8.5	6.5	9	3	
M12 × 1.5	T2041513	YH3	82	38	8.5	6.5	9	3	
M12 × 1.25	T2041523	YH3	80	38	8.5	6.5	9	3	
M12 × 1	T2041533	YH3	70	30	8.5	6.5	9	3	
M14 × 2	T2041544	YH4	88	42	10.5	8	11	3	

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

► NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommended	○	○				○				○	○	○	○							

ISO	N								S							H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials	Heat Resistant Super Alloys							Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○			○	○														

M SPIRAL POINT TAPS for NON-FERROUS METALS
有色金属用先端丝锥

► Suitable for tapping Through holes in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloys.

► 适用于铝, 镁, 锌, 铜及有色金属的通孔加工。

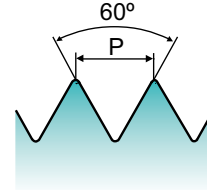
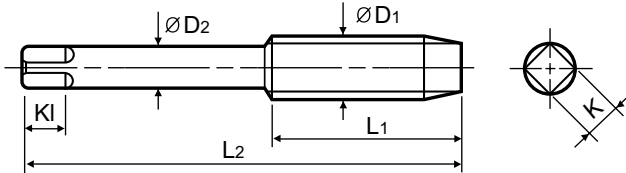


up to M8 : Male Center

Hole type

孔类型

3.0×D



Material groups: **AI** **HSS-E** **J** **YH** **60°** **5.0P** **Bright** p. B165



Plain Shank	Page
TAPPING ER CHUCK	D215-220
TAPPING CHUCK	D221-228
ONE STEP TAPPING CHUCK	D211-213

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M14	× 1.5	T2041553	YH3	88	42	10.5	8	11	3
M16	× 2	T2041604	YH4	95	45	12.5	10	13	3
M16	× 1.5	T2041613	YH3	95	45	12.5	10	13	3
M18	× 2.5	T2041654	YH4	100	48	14	11	14	3
M18	× 1.5	T2041674	YH4	95	45	14	11	14	3
M20	× 2.5	T2041704	YH4	105	50	15	12	15	3
M20	× 1.5	T2041724	YH4	95	45	15	12	15	3
M22	× 2.5	T2041744	YH4	115	55	17	13	16	3
M22	× 1.5	T2041764	YH4	95	45	17	13	16	3
M24	× 3	T2041784	YH4	120	58	19	15	18	3
M24	× 1.5	T2041804	YH4	95	45	19	15	18	3
M25	× 1.5	T2041834	YH4	95	45	19	15	18	3
M26	× 1.5	T2041854	YH4	95	45	20	15	18	4
M27	× 3	T2041864	YH4	130	62	20	15	18	4
M27	× 1.5	T2041884	YH4	95	45	20	15	18	4
M28	× 1.5	T2041914	YH4	105	45	21	17	20	4
M30	× 3.5	T2041945	YH5	135	65	23	17	20	4
M30	× 1.5	T2041974	YH4	105	45	23	17	20	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323																					
HRc																					
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○				○						○	○	○							

ISO	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
VDI 3323																							
HRc																							
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎	○			○	○																



Leading Through Innovation



HSS-PM

YG TAP Ti Ni

- For Heat Resistant Super Alloys and Titanium Alloys Applied with Cutting Edge Rake Angles and Thread Relief
- 耐热超合金和钛合金用丝锥



HSS-PM
YG TAP
Ti Ni

For Heat Resistant Super Alloys and Titanium Alloys
Applied with Cutting Edge Rake Angles and Thread Relief
耐热超合金和钛合金用丝锥

Please visit
globalyg1.com/mat
for material search

◎ : Excellent (优秀) ○ : Good (良好)

HOLE TYPE 孔类型	Max. 2.5xD Blind Hole盲孔	Max. 3.0xD Through Hole通孔
TOOL MATERIAL 刀具材料	HSS-PM	
CHAMFER LEAD ACC. TO DIN2197 倒角长度	3.0P	5.0P
FLUTE TYPE 槽型	Spiral Flute 螺旋刃	Spiral Point 螺旋尖
SPIRAL FLUTE ANGLE 螺旋角	R15	-
JIS Type	I	I
M/MF	TZ181 (p. B179)	TL231 (p. B180)
UNC/F		
W		
M-LH W-LH		
PIPE TAPS		
SURFACE TREATMENT 表面处理	TiAIN	Steam Homo

MODEL 模型		
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ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度		
P	1	Non-alloy steel	About 0.15% C Annealed	125			
	2		About 0.45% C Annealed	190	13		
	3		About 0.45% C Quenched & Tempered	250	25		
	4		About 0.75% C Annealed	270	28		
	5	About 0.75% C Quenched & Tempered	300	32			
	6	Low alloy steel	Annealed	180	10		○ 10~15
	7		Quenched & Tempered	275	29		○ 10~15
	8		Quenched & Tempered	300	32	○ 4~8	○ 6~10
	9	High alloyed steel, and tool steel	Quenched & Tempered	350	38	○ 4~8	◎ 6~10
	10		Annealed	200	15	○ 6~9	○ 7~10
	11		Quenched & Tempered	325	35	○ 4~8	○ 6~10
M	12	Ferritic / Martensitic	Annealed	200	15		
	13	Stainless steel	Martensitic	240	23		
	14	Austenitic	Quenched & Tempered	180	10		
K	15	Grey cast iron	Pearlitic / ferritic	180	10		
	16		Pearlitic (Martensitic)	260	26		
	17	Nodular cast iron	Ferritic	160	3		
	18		Pearlitic	250	25		
	19		Ferritic	130			
	20	Malleable cast iron	Pearlitic	230	21		
N	21	Aluminum-wrought alloy	Not Curable	60			
	22		Curable Hardened	100			
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75			
	24		≤ 12% Si, Curable Hardened	90			
	25		> 12% Si, Not Curable	130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110			
	27		CuZn, CuSnZn (Brass)	90			
	28		CuSn, lead-free copper and electrolytic copper	100			
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic			
	30	Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		◎ 2~4
	32		Cured	280	30		◎ 2~4
	33		Annealed	250	25	○ 1~3	◎ 2~4
	34		Ni or Co Based Cured	350	38	○ 1~3	◎ 2~4
	35	Cast	320	34	○ 1~3	○ 2~4	
36	Titanium Alloys	Pure Titanium	400 Rm			◎ 3~5	
37		Alpha + Beta Alloys Hardened	1050 Rm			◎ 3~5	
H	38	Hardened steel	Hardened	550	55		
	39	Chilled Cast Iron	Hardened	630	60		○ 2~4
	41	Hardened Cast Iron	Hardened	550	55		

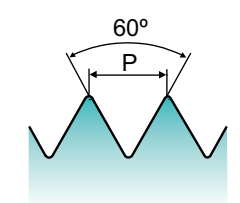
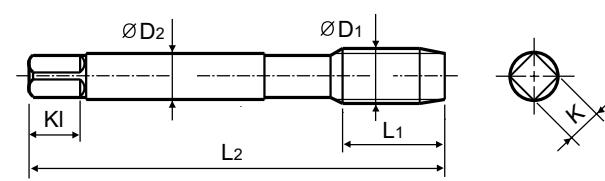
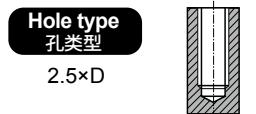


TZ181 SERIES

M SPIRAL FLUTE TAPS for TITANIUM ALLOYS
钛合金用螺旋槽丝锥

► Suitable for tapping Blind holes in Titanium and Titanium Alloys.
This tap compensates for the characteristics of titanium material such as closure and low thermal conductivity.

► 适用于钛和钛合金和具有与其相同性质的材料的盲孔加工,也适用于低导热材料的盲孔加工。



Material groups: **Ti** HSS-PM I YH 60° 3.0P R15 TiAIN p. B178

Recommended Toolholder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Tap Limits: p. B230

Unit(单位) : mm

SIZE 尺寸	Pitch 牙距	EDP No. 型号	Limit 精度	Overall Length 全长	Thread Length 螺纹长	Shank Diameter 柄径	Square Size 方块尺寸	Square Length 方块长度	No. of Flute 槽数
ØD1	P			L2	L1	ØD2	K	K1	
M3	× 0.5	TZ181203	YH3	46	11	4	3.2	6	3
M4	× 0.7	TZ181243	YH3	52	13	5	4	7	3
M5	× 0.8	TZ181283	YH3	60	16	5.5	4.5	7	3
M6	× 1	TZ181313	YH3	62	19	6	4.5	7	3
M8	× 1.25	TZ181363	YH3	70	22	6.2	5	8	3
M10	× 1.5	TZ181423	YH3	75	24	7	5.5	8	3
M12	× 1.75	TZ181504	YH4	82	29	8.5	6.5	9	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P									M				K						
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC																				
HB	125	13	25	28	32	30	10	29	32	38	15	35	15	23	10	26	3	25	21	
Recommended																				

ISO Material Description	N									S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC																					
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

M SPIRAL POINT TAPS for NICKEL BASE ALLOYS
镍合金用先端丝锥

► Suitable for tapping Through holes in Nickel Alloys, Inconel 781 and Heat Resistant Alloy Steels.

► 适用于镍合金, 铬镍铁合金781和耐热合金钢的通孔加工。

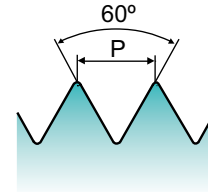
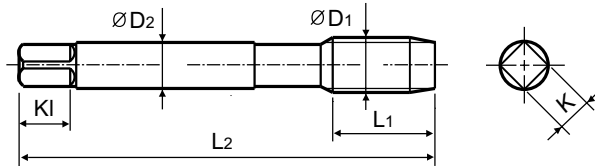


up to M7 : Male Center

Hole type

孔类型

3.0×D



Material groups: **NI** (HSS-PM), **I**, **YH**, **60°**, **5.0P**, **Homo**

p. B178



Plain Shank	Page
TAPPING ER CHUCK	D215-220
TAPPING CHUCK	D221-228
ONE STEP TAPPING CHUCK	D211-213

Tap Limits: p.B230

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M3	× 0.5	TL231203	YH3	46	11	4	3.2	6	3
M4	× 0.7	TL231243	YH3	52	13	5	4	7	3
M5	× 0.8	TL231283	YH3	60	16	5.5	4.5	7	3
M6	× 1	TL231313	YH3	62	19	6	4.5	7	3
M8	× 1.25	TL231363	YH3	70	22	6.2	5	8	3
M10	× 1.5	TL231423	YH3	75	24	7	5.5	8	3
M12	× 1.75	TL231504	YH4	82	29	8.5	6.5	9	3

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K																								
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel						Stainless steel			Grey cast iron			Nodular cast iron			Malleable cast iron															
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc																																									
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230																					
Recommended						○	○	○	◎	○	○																														
ISO	N										S							H																							
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys							Titanium Alloys		Hardened steel	Chilled Cast Iron		Hardened Cast Iron																		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41																				
HRc																																									
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550																				
Recommended											◎	◎	◎	◎	○	○	◎																								



Leading Through Innovation

HSS-E

YG TAP FORMING

- Tapping by Forming Soft Materials
- 软材料挤压成形攻丝

M FLUTELESS TAPS for STEELS
钢用挤压丝锥

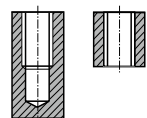
► Suitable for tapping in Low Carbon Steels, Alloy Steels and Stainless Steels.

► 适用于低碳钢, 合金钢和不锈钢的加工

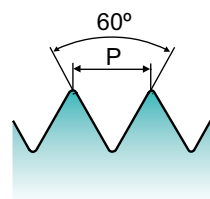
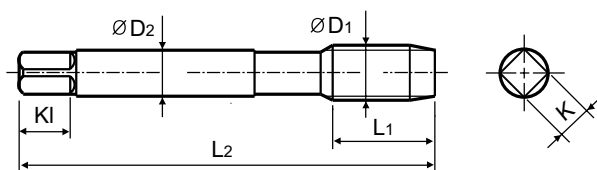


Hole type
孔类型

3.0×D



up to M6 : Male Center



Material groups: **GV** HSS-E I GH 60° 2.0P/4.0P Homo p. B182

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Lobe
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	2.0P	4.0P		L2	L1	ØD2	K	KI	
M2 × 0.4		T1791134	T1781134	GH4	40	9	3	2.5	5	
M2.3 × 0.4		T1791194	T1781194	GH4	42	10	3	2.5	5	
M2.5 × 0.45		T1791175	T1781175	GH5	44	11	3	2.5	5	
M2.6 × 0.45		T1791495	T1781495	GH5	44	11	3	2.5	5	
M3 × 0.5		T1791206	T1781206	GH6	46	9	4	3.2	6	
M3.5 × 0.6		T1791226	T1781226	GH6	48	9	4	3.2	6	
M4 × 0.7		T1791247	T1781247	GH7	52	10	5	4	7	
M5 × 0.8		T1791287	T1781287	GH7	60	11	5.5	4.5	7	
M6 × 1		T1791317	T1781317	GH7	62	12	6	4.5	7	

► Refer to p.B194 for recommended tap drill sizes. 参考p.B194 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M FLUTELESS TAPS with OIL GROOVE for STEELS
带油槽钢用挤压丝锥

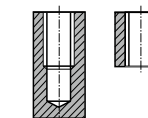
► Suitable for tapping in Low Carbon Steels, Alloy Steels and Stainless Steels.

► 适用于低碳钢, 合金钢和不锈钢的加工

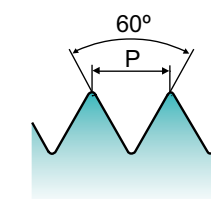
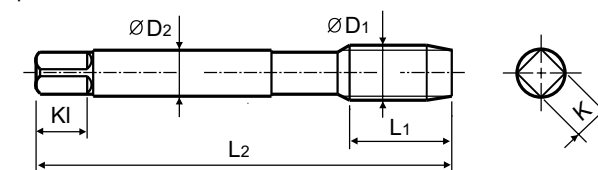


Hole type
孔类型

3.0×D



up to M7 : Male Center



Material groups: **GV** HSS-E I GH 60° 2.0P/4.0P Homo p. B182

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Lobe
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	2.0P	4.0P		L2	L1	ØD2	K	KI	
M2 × 0.4		T1771134	T1761134	GH4	40	9	3	2.5	5	
M2.3 × 0.4		T1771194	T1761194	GH4	42	10	3	2.5	5	
M2.5 × 0.45		T1771174	T1761174	GH4	44	11	3	2.5	5	
M2.6 × 0.45		T1771494	T1761494	GH4	44	11	3	2.5	5	
M3 × 0.5		T1771205	T1761205	GH5	46	9	4	3.2	6	
M3.5 × 0.6		T1771225	T1761225	GH5	48	9	4	3.2	6	
M4 × 0.7		T1771246	T1761246	GH6	52	10	5	4	7	
M5 × 0.8		T1771286	T1761286	GH6	60	11	5.5	4.5	7	
M6 × 1		T1771317	T1761317	GH7	62	12	6	4.5	7	
M7 × 1		T1771347	T1761347	GH7	65	13	6.2	5	8	
M8 × 1.25		T1771367	T1761367	GH7	70	22	6.2	5	8	
M8 × 1		T1771377	T1761377	GH7	70	22	6.2	5	8	
M10 × 1.5		T1771427	T1761427	GH7	75	24	7	5.5	8	
M10 × 1.25		T1771437	T1761437	GH7	75	24	7	5.5	8	
M10 × 1		T1771447	T1761447	GH7	75	24	7	5.5	8	
M12 × 1.75		T1771508	T1761508	GH8	82	29	8.5	6.5	9	
M12 × 1.5		T1771517	T1761517	GH7	82	29	8.5	6.5	9	
M12 × 1.25		T1771527	T1761527	GH7	82	29	8.5	6.5	9	
M12 × 1		T1771537	T1761537	GH7	82	29	8.5	6.5	9	
M14 × 2		T1771540	T1761540	GH10	88	30	10.5	8	11	
M14 × 1.5		T1771559	T1761559	GH9	88	30	10.5	8	11	
M16 × 2		T1771600	T1761600	GH10	95	32	12.5	10	13	
M16 × 1.5		T1771619	T1761619	GH9	95	32	12.5	10	13	
M18 × 2.5		T177165A	T176165A	GH11	100	37	14	11	14	
M18 × 1.5		T1771670	T1761670	GH10	100	37	14	11	14	
M20 × 2.5		T177170A	T176170A	GH11	105	37	15	12	15	
M20 × 1.5		T1771720	T1761720	GH10	105	37	15	12	15	

► Refer to p.B194 for recommended tap drill sizes. 参考p.B194 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M FLUTELESS TAPS for NON-FERROUS METALS
有色金属用挤压丝锥

► Suitable for tapping in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloy.

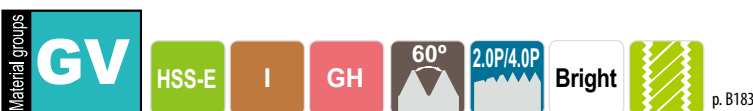
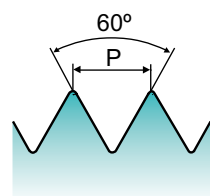
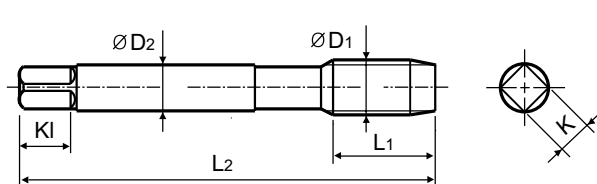
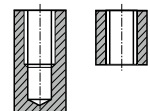
► 适用于铝, 镁, 锌, 铜及有色金属的加工



up to M6 : Male Center

Hole type
孔类型

3.0×D



Plain Shank	Page
TAPPING ER CHUCK	D215-220
TAPPING CHUCK	D221-228
ONE STEP TAPPING CHUCK	D211-213

Tap Limits: p. B231

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Lobe
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	2.0P	4.0P		L2	L1	ØD2	K	KI	
M2	× 0.4	T2731134	T2701134	GH4	40	9	3	2.5	5	
M2.3	× 0.4	T2731194	T2701194	GH4	42	10	3	2.5	5	
M2.5	× 0.45	T2731175	T2701175	GH5	44	11	3	2.5	5	
M2.6	× 0.45	T2731495	T2701495	GH5	44	11	3	2.5	5	
M3	× 0.5	T2731206	T2701206	GH6	46	9	4	3.2	6	
M3.5	× 0.6	T2731226	T2701226	GH6	48	9	4	3.2	6	
M4	× 0.7	T2731247	T2701247	GH7	52	10	5	4	7	
M5	× 0.8	T2731287	T2701287	GH7	60	11	5.5	4.5	7	
M6	× 1	T2731317	T2701317	GH7	62	12	6	4.5	7	

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	○	○			○				◎	◎	◎								

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys										
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	○		◎	◎														

M FLUTELESS TAPS for NON-FERROUS METALS
有色金属用挤压丝锥

► Suitable for tapping in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloy.

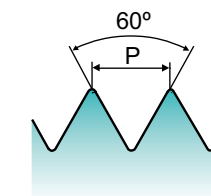
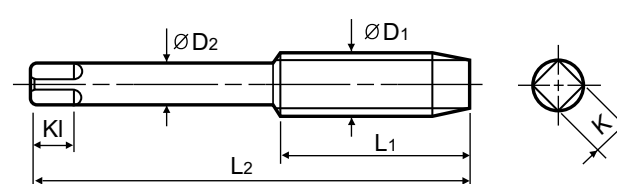
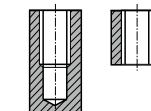
► 适用于铝, 镁, 锌, 铜及有色金属的加工



up to M7 : Male Center

Hole type
孔类型

3.0×D



Plain Shank	Page
TAPPING ER CHUCK	D215-220
TAPPING CHUCK	D221-228
ONE STEP TAPPING CHUCK	D211-213

Tap Limits: p. B231

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Lobe
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	2.0P	4.0P		L2	L1	ØD2	K	KI	
M1	× 0.25	T2759014	T2749014	GH4	30	6.0	3.0	2.5	5	
M1.4	× 0.3	T2759074	T2749074	GH4	34	6.5	3.0	2.5	5	
M1.6	× 0.35	T2759094	T2749094	GH4	36	7.0	3.0	2.5	5	
M1.7	× 0.35	T2759K54	T2749K54	GH4	36	8.0	3.0	2.5	5	
M1.8	× 0.35	T2759114	T2749114	GH4	36	8.0	3.0	2.5	5	
M2	× 0.4	T2759134	T2749134	GH4	40	9.0	3.0	2.5	5	
M2.3	× 0.4	T2759194	T2749194	GH4	42	10.0	3.0	2.5	5	
M2.5	× 0.45	T2759175	T2749175	GH5	44	11.0	3.0	2.5	5	
M2.6	× 0.45	T2759495	T2749495	GH5	44	11.0	3.0	2.5	5	
M3	× 0.5	T2759206	T2749206	GH6	46	18.0	4.0	3.2	6	
M3.5	× 0.6	T2759226	T2749226	GH6	48	18.0	4.0	3.2	6	
M4	× 0.7	T2759247	T2749247	GH7	52	20.0	5.0	4.0	7	
M5	× 0.8	T2759287	T2749287	GH7	60	22.0	5.5	4.5	7	
M6	× 1	T2759317	T2749317	GH7	62	24.0	6.0	4.5	7	

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	○	○			○				◎	◎	◎								

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys										
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	○		◎	◎														

M FLUTELESS TAPS with OIL GROOVE for NON-FERROUS METALS
带油槽有色金属用挤压丝锥

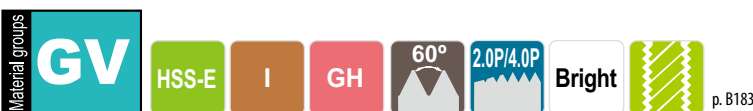
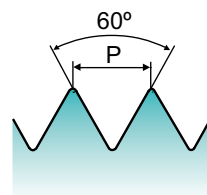
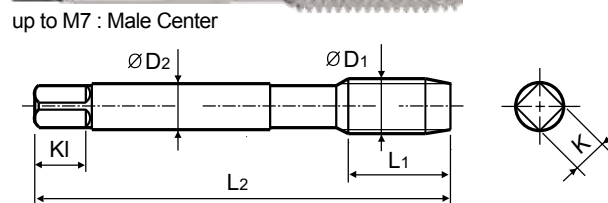
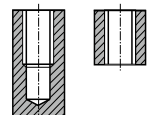
► Suitable for tapping in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloys.

► 适用于铝, 镁, 锌, 铜及有色金属的加工.



Hole type
孔类型

3.0×D



Tap Limits: p.B231

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Lobe
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	2.0P	4.0P		L2	L1	ØD2	K	KI	
M2	× 0.4	T2751134	T2741134	GH4	40	9	3	2.5	5	
M2.3	× 0.4	T2751194	T2741194	GH4	42	10	3	2.5	5	
M2.5	× 0.45	T2751174	T2741174	GH4	44	11	3	2.5	5	
M2.6	× 0.45	T2751494	T2741494	GH4	44	11	3	2.5	5	
M3	× 0.5	T2751205	T2741205	GH5	46	9	4	3.2	6	
M3.5	× 0.6	T2751225	T2741225	GH5	48	9	4	3.2	6	
M4	× 0.7	T2751246	T2741246	GH6	52	10	5	4	7	
M5	× 0.8	T2751286	T2741286	GH6	60	11	5.5	4.5	7	
M6	× 1	T2751317	T2741317	GH7	62	12	6	4.5	7	
M7	× 1	T2751347	T2741347	GH7	65	13	6.2	5	8	
M8	× 1.25	T2751367	T2741367	GH7	70	22	6.2	5	8	
M8	× 1	T2751377	T2741377	GH7	70	22	6.2	5	8	
M10	× 1.5	T2751427	T2741427	GH7	75	24	7	5.5	8	
M10	× 1.25	T2751437	T2741437	GH7	75	24	7	5.5	8	
M10	× 1	T2751447	T2741447	GH7	75	24	7	5.5	8	
M12	× 1.75	T2751508	T2741508	GH8	82	29	8.5	6.5	9	
M12	× 1.5	T2751517	T2741517	GH7	82	29	8.5	6.5	9	
M12	× 1.25	T2751527	T2741527	GH7	82	29	8.5	6.5	9	
M12	× 1	T2751537	T2741537	GH7	82	29	8.5	6.5	9	
M14	× 2	T2751540	T2741540	GH10	88	30	10.5	8	11	
M14	× 1.5	T2751559	T2741559	GH9	88	30	10.5	8	11	
M16	× 2	T2751600	T2741600	GH10	95	32	12.5	10	13	
M16	× 1.5	T2751619	T2741619	GH9	95	32	12.5	10	13	
M18	× 2.5	T275165A	T274165A	GH11	100	37	14	11	14	
M18	× 1.5	T2751670	T2741670	GH10	100	37	14	11	14	
M20	× 2.5	T275170A	T274170A	GH11	105	37	15	12	15	
M20	× 1.5	T2751720	T2741720	GH10	105	37	15	12	15	

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	30	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys										
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M FLUTELESS TAPS
挤压丝锥

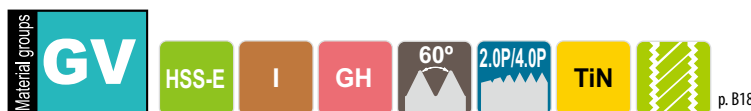
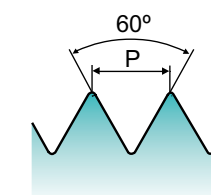
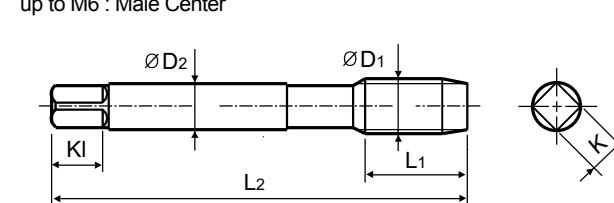
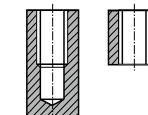
► Suitable for tapping in Steels, Non-Ferrous Metal Alloys and Stainless Steels. Capable of efficient, long life, high speed tapping.

► 适用于钢和非铁金属合金和不锈钢的加工, 具有高效, 寿命长, 能够快速攻丝.



Hole type
孔类型

3.0×D



Tap Limits: p.B231

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Lobe
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	2.0P	4.0P		L2	L1	ØD2	K	KI	
M2	× 0.4	T3731134	T3701134	GH4	40	9	3	2.5	5	
M2.3	× 0.4	T3731194	T3701194	GH4	42	10	3	2.5	5	
M2.5	× 0.45	T3731175	T3701175	GH5	44	11	3	2.5	5	
M2.6	× 0.45	T3731495	T3701495	GH5	44	11	3	2.5	5	
M3	× 0.5	T3731206	T3701206	GH6	46	9	4	3.2	6	
M3.5	× 0.6	T3731226	T3701226	GH6	48	9	4	3.2	6	
M4	× 0.7	T3731247	T3701247	GH7	52	10	5	4	7	
M5	× 0.8	T3731287	T3701287	GH7	60	11	5.5	4.5	7	
M6	× 1	T3731317	T3701317	GH7	62	12	6	4.5	7	

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	30	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys										
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

M FLUTELESS TAPS with OIL GROOVE
带油槽钢用挤压丝锥

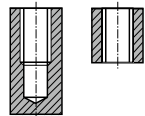
► Suitable for tapping in Steels, Non-Ferrous Metal Alloys and Stainless Steels. Capable of efficient, long life, high speed tapping.

► 适用于钢和非铁金属合金和不锈钢的加工, 具有高效, 寿命长, 能够快速攻丝。

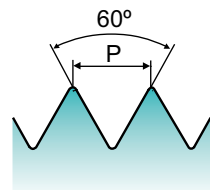
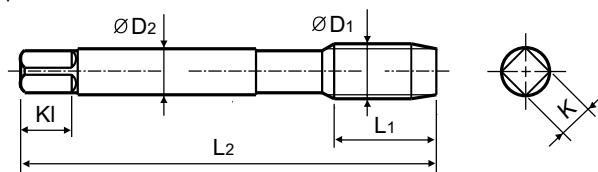


Hole type
孔类型

3.0×D



up to M7 : Male Center



Material groups: **GV** HSS-E I GH 60° 2.0P/4.0P TiN p. B183

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220 TAPPING CHUCK D221-228 ONE STEP TAPPING CHUCK D211-213

Tap Limits: p. B231

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Lobe
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	2.0P	4.0P		L2	L1	ØD2	K	KI	
M2	× 0.4	T3751134	T3741134	GH4	40	9	3	2.5	5	
M2.3	× 0.4	T3751194	T3741194	GH4	42	10	3	2.5	5	
M2.5	× 0.45	T3751174	T3741174	GH4	44	11	3	2.5	5	
M2.6	× 0.45	T3751494	T3741494	GH4	44	11	3	2.5	5	
M3	× 0.5	T3751205	T3741205	GH5	46	9	4	3.2	6	
M3.5	× 0.6	T3751225	T3741225	GH5	48	9	4	3.2	6	
M4	× 0.7	T3751246	T3741246	GH6	52	10	5	4	7	
M5	× 0.8	T3751286	T3741286	GH6	60	11	5.5	4.5	7	
M6	× 1	T3751317	T3741317	GH7	62	12	6	4.5	7	
M7	× 1	T3751347	T3741347	GH7	65	13	6.2	5	8	
M8	× 1.25	T3751367	T3741367	GH7	70	22	6.2	5	8	
M8	× 1	T3751377	T3741377	GH7	70	22	6.2	5	8	
M10	× 1.5	T3751427	T3741427	GH7	75	24	7	5.5	8	
M10	× 1.25	T3751437	T3741437	GH7	75	24	7	5.5	8	
M10	× 1	T3751447	T3741447	GH7	75	24	7	5.5	8	
M12	× 1.75	T3751508	T3741508	GH8	82	29	8.5	6.5	9	
M12	× 1.5	T3751517	T3741517	GH7	82	29	8.5	6.5	9	
M12	× 1.25	T3751527	T3741527	GH7	82	29	8.5	6.5	9	
M12	× 1	T3751537	T3741537	GH7	82	29	8.5	6.5	9	
M14	× 2	T3751540	T3741540	GH10	88	30	10.5	8	11	
M14	× 1.5	T3751559	T3741559	GH9	88	30	10.5	8	11	
M16	× 2	T3751600	T3741600	GH10	95	32	12.5	10	13	
M16	× 1.5	T3751619	T3741619	GH9	95	32	12.5	10	13	
M18	× 2.5	T375165A	T374165A	GH11	100	37	14	11	14	
M18	× 1.5	T3751670	T3741670	GH10	100	37	14	11	14	
M20	× 2.5	T375170A	T374170A	GH11	105	37	15	12	15	
M20	× 1.5	T3751720	T3741720	GH10	105	37	15	12	15	

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K									
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HRc	13	25	28	32	30	29	32	38	38	15	35	15	23	10	10	26	3	25	13	21	10	26	3	25
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250
Recommended	◎	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S										H									
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron		Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	630	400	550
Recommended	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

UNC FLUTELESS TAPS for NON-FERROUS METALS
有色金属用挤压丝锥

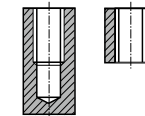
► Suitable for tapping in Aluminum, Magnesium, Zinc, Copper as well as Non-Ferrous metal alloys.

► 适用于铝, 镁, 铜及有色金属的加工。

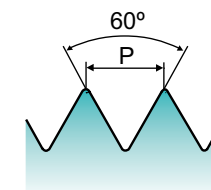
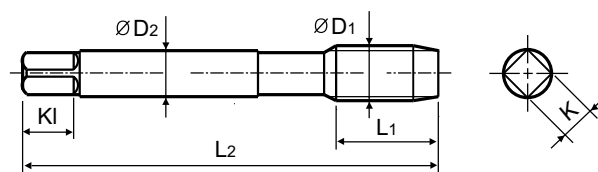


Hole type
孔类型

3.0×D



up to 1/4 : Male Center



Material groups: **GV** HSS-E I GH 60° 2.0P/4.0P Bright p. B183

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220 TAPPING CHUCK D221-228 ONE STEP TAPPING CHUCK D211-213

Tap Limits: p. B231

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Lobe
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	2.0P	4.0P		L2	L1	ØD2	K	KI	
#2	- 56 UNC	T2732085	T2702085	GH5	42	10	3	2.5	5	
#4	- 40 UNC	T2732166	T2702166	GH6	44	12	3	2.5	5	
#5	- 40 UNC	T2732206	T2702206	GH6	46	9	4	3.2	6	
#6	- 32 UNC	T2732247	T2702247	GH7	48	9	4	3.2	6	
#8	- 32 UNC	T2732287	T2702287	GH7	52	10	5	4	7	
#10	- 24 UNC	T2732327	T2702327	GH7	60	11	5.5	4.5	7	
#12	- 24 UNC	T2732367	T2702367	GH7	60	11	5.5	4.5	7	
1/4	- 20 UNC	T2732408	T2702408	GH8	62	14	6	4.5	7	

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸。

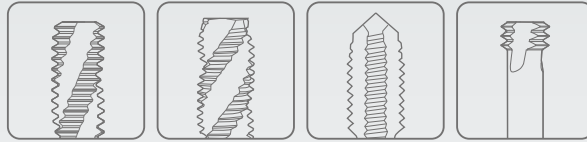
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K									
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HRc	13	25	28	32	30	29	32	38	38	15	35	15	23	10	10	26	3	25	13	21	10	26	3	25
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250
Recommended	◎	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S										H									
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron		Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	630	400	550
Recommended	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



Global Cutting Tool Leader **YG-1**



THREADING



Leading Through Innovation

HSS-E & HSS

SCREW THREAD INSERT TAPS

- Tapping STI Threads of Soft Materials
- 软材料加工嵌套螺纹

SELECTION GUIDE
选用指南



HSS-E & HSS SCREW THREAD INSERT TAPS

Tapping STI Threads of Soft Materials
软材料加工嵌套螺纹

Please visit globalyag1.com/mat for material search

◎: Excellent (优秀) ○: Good (良好)

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度	◎	○	
P	1	Non-alloy steel	About 0.15% C Annealed	125		○	8~13	
	2		About 0.45% C Annealed	190	13	○	7~12	
	3		About 0.45% C Quenched & Tempered	250	25	○	7~12	
	4		About 0.75% C Annealed	270	28			
	5		About 0.75% C Quenched & Tempered	300	32			
	6	Low alloy steel	Annealed	180	10			
	7		Quenched & Tempered	275	29			
	8		Quenched & Tempered	300	32			
	9		Quenched & Tempered	350	38			
	10		High alloyed steel, and tool steel	Annealed	200	15		
	11			Quenched & Tempered	325	35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15			
	13		Martensitic Quenched & Tempered	240	23			
	14		Austenitic	180	10			
K	15	Grey cast iron	Pearlitic / ferritic	180	10			
	16		Pearlitic (Martensitic)	260	26			
	17	Nodular cast iron	Ferritic	160	3			
	18		Pearlitic	250	25			
	19	Malleable cast iron	Ferritic	130				
	20		Pearlitic	230	21			
N	21	Aluminum-wrought alloy	Not Curable	60		◎	10~20	
	22		Curable Hardened	100		◎	10~20	
	23		≤ 12% Si, Not Curable	75		◎	10~15	
	24	Aluminum-cast, alloyed	≤ 12% Si, Curable Hardened	90		○	10~15	
	25		> 12% Si, Not Curable	130				
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110				
	27		CuZn, CuSnZn (Brass)	90		◎	6~20	
	28		CuSn, lead-free copper and electrolytic copper	100		◎	6~15	
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic					
	30		Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15			
	32		Cured	280	30			
	33		Annealed	250	25			
	34		Ni or Co Based Cured	350	38			
	35		Cast	320	34			
36	Titanium Alloys	Pure Titanium	400 Rm					
37		Alpha + Beta Alloys Hardened	1050 Rm					
H	38	Hardened steel	Hardened	550	55			
	39		Hardened	630	60			
	40	Hardened Cast Iron	Cast	400	42			
	41		Hardened	550	55			

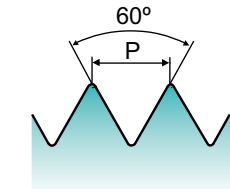
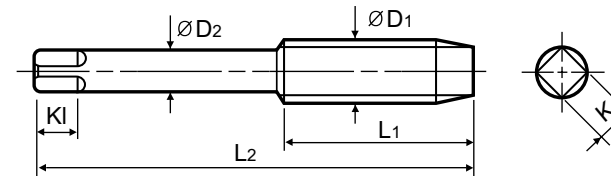
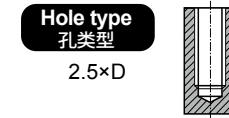
YAG SCREW THREAD INSERT TAPS

T2197 SERIES

M SCREW THREAD INSERT SPIRAL FLUTE TAPS
嵌套螺纹用螺旋槽丝锥

► Suitable for tapping deep Blind holes when a standard Straight Fluted tap is inadequate.

► 适用于标准直槽丝锥加工能力不足时的深盲孔加工。



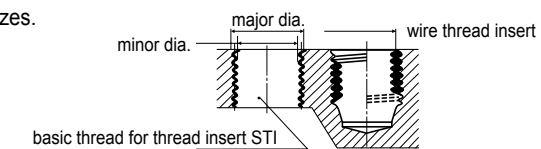
Material groups: AI, HSS-E, STI, JIS 1b, 60°, 2.5P, R40, Bright, p. B194

Recommended Toolholder: Plain Shank, TAPPING ER CHUCK, TAPPING CHUCK, ONE STEP TAPPING CHUCK

Page: D215-220, D221-228, D211-213

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M3	× 0.5	T2197201	JIS 1b	48	18	4	3.2	6	3
M4	× 0.7	T2197241	JIS 1b	60	22	5.5	4.5	7	3
M5	× 0.8	T2197281	JIS 1b	62	24	6	4.5	7	3
M6	× 1	T2197311	JIS 1b	65	26	6.2	5	8	3
M8	× 1.25	T2197361	JIS 1b	75	32	7	5.5	8	3
M10	× 1.5	T2197421	JIS 1b	82	38	8.5	6.5	9	3
M10	× 1.25	T2197431	JIS 1b	82	38	8.5	6.5	9	3
M12	× 1.75	T2197501	JIS 1b	90	42	10.5	8	11	3
M12	× 1.5	T2197511	JIS 1b	88	42	10.5	8	11	3
M12	× 1.25	T2197521	JIS 1b	88	42	10.5	8	11	3
M14	× 2	T2197541	JIS 1b	95	45	13	10	13	3
M14	× 1.5	T2197551	JIS 1b	95	45	12.5	10	13	3
M16	× 2	T2197601	JIS 1b	95	45	14	11	14	4
M16	× 1.5	T2197611	JIS 1b	95	45	14	11	14	4
M18	× 2.5	T2197651	JIS 1b	115	55	17	13	16	4
M18	× 1.5	T2197671	JIS 1b	95	45	15	12	15	4
M20	× 2.5	T2197701	JIS 1b	120	58	19	15	18	4
M20	× 1.5	T2197721	JIS 1b	95	45	17	13	16	4
M22	× 2.5	T2197741	JIS 1b	130	62	20	15	18	4
M22	× 1.5	T2197761	JIS 1b	95	45	19	15	18	4
M24	× 3	T2197781	JIS 1b	135	65	21	17	20	4
M24	× 1.5	T2197801	JIS 1b	95	45	20	15	18	4

► Refer to p.B233-B238 for recommended tap drill sizes.
参考p.B233-B238 底孔尺寸。



◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

Y/G SCREW THREAD INSERT TAPS

T2198 SERIES

UNC/F SCREW THREAD INSERT SPIRAL FLUTE TAPS 嵌套螺纹用螺旋槽丝锥

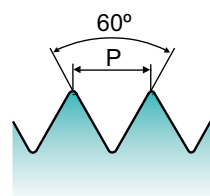
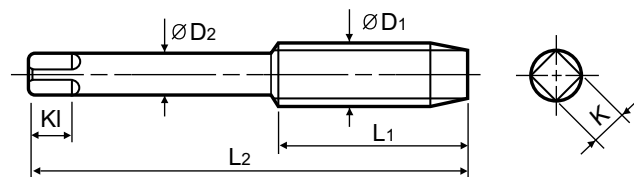
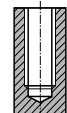
► Suitable for tapping deep Blind holes when a standard Straight Fluted tap is inadequate.

► 适用于标准直槽丝锥加工能力不足时的深盲孔加工。



up to 1/4 : Male Center

Hole type
孔类型
2.5×D



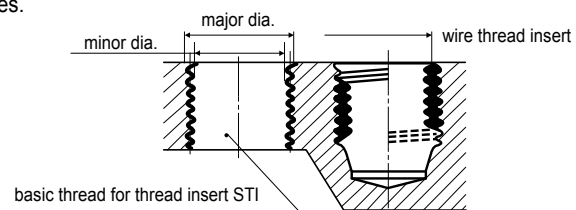
Material groups: AI, HSS-E, STI, JIS 1b, 60°, 2.5P, R40, Bright, p. B194

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK (Page D215-220), TAPPING CHUCK (Page D221-228), ONE STEP TAPPING CHUCK (Page D211-213)

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
#4	- 40 UNC	T2198161	JIS 1b	48	18	4	3.2	6	3
#5	- 40 UNC	T2198201	JIS 1b	52	20	5	4	7	3
#6	- 32 UNC	T2198241	JIS 1b	55	20	5	4	7	3
#8	- 32 UNC	T2198281	JIS 1b	60	22	5.5	4.5	7	3
#10	- 24 UNC	T2198321	JIS 1b	62	24	6	4.5	7	3
1/4	- 20 UNC	T2198401	JIS 1b	70	30	6.1	5	8	3
5/16	- 18 UNC	T2198441	JIS 1b	75	32	7	5.5	8	3
3/8	- 16 UNC	T2198481	JIS 1b	82	38	8.5	6.5	9	3
3/8	- 24 UNF	T2198501	JIS 1b	80	38	8	6	9	3
1/2	- 13 UNC	T2198561	JIS 1b	95	45	12	9	12	3
1/2	- 20 UNF	T2198581	JIS 1b	90	42	10.5	8	11	3
5/8	- 11 UNC	T2198641	JIS 1b	105	50	14	11	14	4
5/8	- 18 UNF	T2198661	JIS 1b	95	45	14	11	14	4
3/4	- 10 UNC	T2198701	JIS 1b	120	55	18	14	17	4
3/4	- 16 UNF	T2198721	JIS 1b	95	45	17	13	16	4
7/8	- 9 UNC	T2198741	JIS 1b	130	62	20	15	18	4
7/8	- 14 UNF	T2198761	JIS 1b	95	45	19	15	18	4
1"	- 8 UNC	T2198781	JIS 1b	135	65	23	17	20	4
1"	- 12 UNF	T2198801	JIS 1b	105	45	22	17	20	4

► Refer to p.B233-B238 for recommended tap drill sizes.
参考p.B233-B238 底孔尺寸。



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎	◎	○		◎																

Y/G SCREW THREAD INSERT TAPS

T7399 SERIES

M SCREW THREAD INSERT HAND TAPS 嵌套螺纹手用丝锥

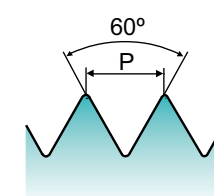
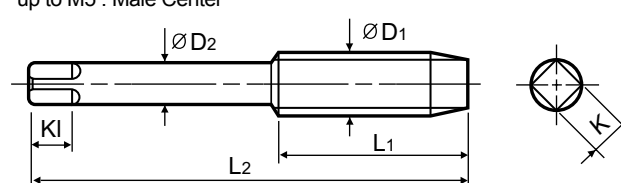
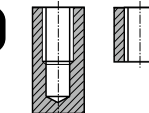
► Suitable for tapping Blind & Through holes in Aluminum, Aluminum Alloy Casting and Zinc Alloy Casting.

► 适用于铝、铝合金铸件和锌合金铸件的盲孔和通孔攻丝。



up to M5 : Male Center

Hole type
孔类型
2.0×D



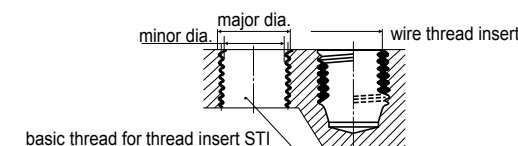
Material groups: AI, HSS, STI, JIS 1b, 60°, 1.5P/5.0P, Bright, p. B194

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK (Page D215-220), TAPPING CHUCK (Page D221-228), ONE STEP TAPPING CHUCK (Page D211-213)

Unit(单位) : mm

SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P	1.5P	5.0P		L2	L1	ØD2	K	KI	
M3	× 0.5	T7399208	T7399207	JIS 1b	48	18	4	3.2	6	3
M4	× 0.7	T7399248	T7399247	JIS 1b	60	22	5.5	4.5	7	3
M5	× 0.8	T7399288	T7399287	JIS 1b	62	24	6	4.5	7	3
M6	× 1	T7399318	T7399317	JIS 1b	65	26	6.2	5	8	3
M8	× 1.25	T7399368	T7399367	JIS 1b	75	32	7	5.5	8	4
M10	× 1.5	T7399428	T7399427	JIS 1b	82	38	8.5	6.5	9	4
M10	× 1.25	T7399438	T7399437	JIS 1b	82	38	8.5	6.5	9	4
M12	× 1.75	T7399508	T7399507	JIS 1b	90	42	10.5	8	11	4
M12	× 1.5	T7399518	T7399517	JIS 1b	88	42	10.5	8	11	4
M12	× 1.25	T7399528	T7399527	JIS 1b	88	42	10.5	8	11	4
M14	× 2	T7399548	T7399547	JIS 1b	95	45	13	10	13	4
M14	× 1.5	T7399558	T7399557	JIS 1b	95	45	12.5	10	13	4
M16	× 2	T7399608	T7399607	JIS 1b	95	45	14	11	14	4
M16	× 1.5	T7399618	T7399617	JIS 1b	95	45	14	11	14	4
M18	× 2.5	T7399658	T7399657	JIS 1b	115	55	17	13	16	4
M18	× 1.5	T7399678	T7399677	JIS 1b	95	45	15	12	15	4
M20	× 2.5	T7399708	T7399707	JIS 1b	120	58	19	15	18	5
M20	× 1.5	T7399728	T7399727	JIS 1b	95	45	17	13	16	5
M22	× 2.5	T7399748	T7399747	JIS 1b	130	62	20	15	18	5
M22	× 1.5	T7399768	T7399767	JIS 1b	95	45	19	15	18	5
M24	× 3	T7399788	T7399787	JIS 1b	135	65	21	17	20	5
M24	× 1.5	T7399808	T7399807	JIS 1b	95	45	20	15	18	5

► Refer to p.B233-B238 for recommended tap drill sizes.
参考p.B233-B238 底孔尺寸。



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎	◎	○		◎																

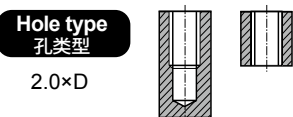
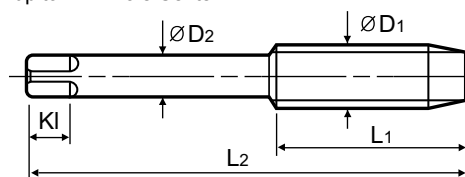
UNC/F SCREW THREAD INSERT HAND TAPS
嵌套螺纹手用丝锥

► Suitable for tapping Blind & Through holes in Aluminum, Aluminum Alloy Casting and Zinc Alloy Casting.

► 适用于铝、铝合金铸件和锌合金铸件的盲孔和通孔攻丝。



up to 1/4 : Male Center



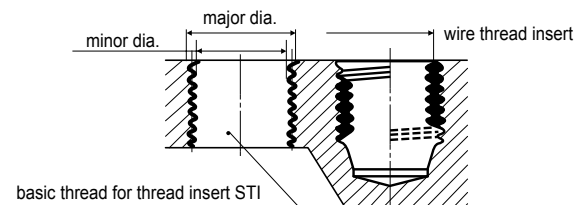
Material groups: **AI** HSS STI JIS 1b 60° 1.5P/5.0P Bright p. B194

Recommended Tool Holder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1		1.5P	5.0P		L2	L1	ØD2	K	KI	
#4 - 40 UNC		T7322168	T7322167	JIS 1b	48	18	4	3.2	6	3
#5 - 40 UNC		T7322208	T7322207	JIS 1b	52	20	5	4	7	3
#6 - 32 UNC		T7322248	T7322247	JIS 1b	55	20	5	4	7	3
#8 - 32 UNC		T7322288	T7322287	JIS 1b	60	22	5.5	4.5	7	3
#10 - 24 UNC		T7322328	T7322327	JIS 1b	62	24	6	4.5	7	3
1/4 - 20 UNC		T7322408	T7322407	JIS 1b	70	30	6.1	5	8	3
5/16 - 18 UNC		T7322448	T7322447	JIS 1b	75	32	7	5.5	8	4
3/8 - 16 UNC		T7322488	T7322487	JIS 1b	82	38	8.5	6.5	9	4
3/8 - 24 UNC		T7322508	T7322507	JIS 1b	80	38	8	6	9	4
1/2 - 13 UNC		T7322568	T7322567	JIS 1b	95	45	12	9	12	4
1/2 - 20 UNF		T7322588	T7322587	JIS 1b	90	42	10.5	8	11	4
5/8 - 11 UNC		T7322648	T7322647	JIS 1b	105	50	14	11	14	4
5/8 - 18 UNF		T7322668	T7322667	JIS 1b	95	45	14	11	14	4
3/4 - 10 UNC		T7322708	T7322707	JIS 1b	120	55	18	14	17	4
3/4 - 16 UNF		T7322728	T7322727	JIS 1b	95	45	17	13	16	4
7/8 - 9 UNC		T7322748	T7322747	JIS 1b	130	62	20	15	18	5
7/8 - 14 UNF		T7322768	T7322767	JIS 1b	95	45	19	15	18	5
1" - 8 UNC		T7322788	T7322787	JIS 1b	135	65	23	17	20	5
1" - 12 UNF		T7322808	T7322807	JIS 1b	105	45	22	17	20	5

► Refer to p.B233-B238 for recommended tap drill sizes.
 参考p.B233-B238 底孔尺寸。



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○																	

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	○				◎													



HSS-E & HSS

PIPE TAPS

- Tapping Whitworth Pipe Threads
- 惠氏管用螺纹加工



HSS-E & HSS PIPE TAPS

Tapping Whitworth Pipe Threads
惠氏管用螺纹加工



◎: Excellent (优秀) ○: Good (良好)

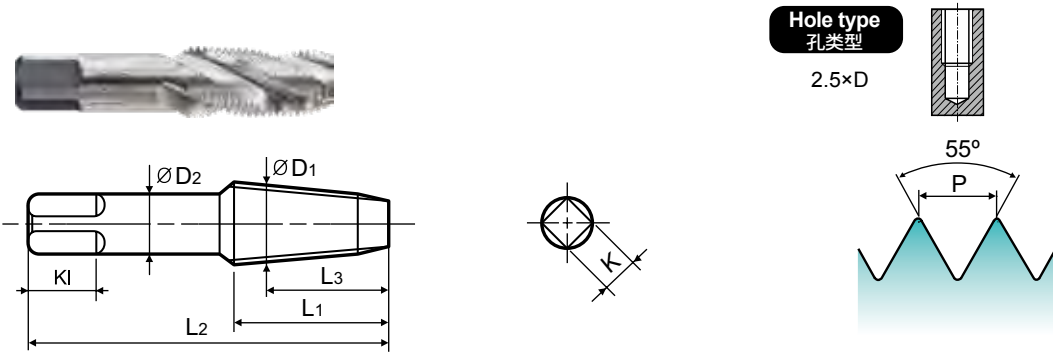
ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRC 硬度	SERIES NO. 系列号 (page 页码)	
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	3~6
	2		About 0.45% C Annealed	190	13	◎	3~6
	3		About 0.45% C Quenched & Tempered	250	25	○	3~6
	4		About 0.75% C Annealed	270	28		
	5		About 0.75% C Quenched & Tempered	300	32		
	6	Low alloy steel	Annealed	180	10	◎	3~6
	7		Quenched & Tempered	275	29	○	3~6
	8		Quenched & Tempered	300	32		
	9		Quenched & Tempered	350	38		
	10		High alloyed steel, and tool steel	Annealed	200	15	○
	11		Quenched & Tempered	325	35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	2~5
	13		Martensitic Quenched & Tempered	240	23		
	14		Austenitic	180	10	○	2~5
K	15	Grey cast iron	Pearlitic / ferritic	180	10		
	16		Pearlitic (Martensitic)	260	26		
	17	Nodular cast iron	Ferritic	160	3	○	4~8
	18		Pearlitic	250	25		
	19		Ferritic	130			
20	Malleable cast iron	Pearlitic	230	21			
N	21	Aluminum-wrought alloy	Not Curable	60		○	5~10
	22		Curable Hardened	100		○	5~10
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	10~15
	24		≤ 12% Si, Curable Hardened	90			
	25		> 12% Si, Not Curable	130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		○	3~6
	27		CuZn, CuSnZn (Brass)	90		○	5~10
	28		CuSn, lead-free copper and electrolytic copper	100			
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				
	30		Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34		Ni or Co Based Cured	350	38		
	35		Cast	320	34		
	36	Titanium Alloys	Pure Titanium	400 Rm			
	37		Alpha + Beta Alloys Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Chilled Cast Iron	Cast	400	42		
	41	Hardened Cast Iron	Hardened	550	55		

Max. 2.5xD Blind Hole 盲孔		Max. 2.0xD Blind / Through Hole 盲孔 / 通孔														
HSS-E	HSS HSS-E			HSS-E												
3.0P	2.5P	3.5P	3.5P	3.0P	3.0P											
Spiral Flute 螺旋角	Spiral Flute 螺旋角			Straight Flute 直槽												
R35	-	-	-	-	-											
PF	PT	PS	PF	NPT	NPTF											
JIS Type																
M/MF																
UNC/F																
W																
M-LH W-LH																
PIPE TAPS	T2518 (p. B202)	T2538 (p. B203)	T2539 (p. B204)	T7532 T2532 (p. B205)	T7552 T2552 (p. B206)	T7562 T2562 (p. B207)	T2527 (p. B208)	T2537 (p. B209)								
SURFACE TREATMENT 表面处理	Bright		Bright		Bright		Bright									
MODEL 模型																
ISO 公制	◎	◎	◎	◎	◎	◎	◎	◎								
1	3~6	3~6	3~6	3~6	3~6	3~6	3~6	3~6								
2	3~6	3~6	3~6	3~6	3~6	3~6	3~6	3~6								
3	3~6	3~6	3~6	3~6	3~6	3~6	3~6	3~6								
4																
5																
6	◎	◎	◎	◎	◎	◎	◎	◎								
7	○	○	○	○	○	○	○	○								
8																
9																
10	○	○	○	○	○	○	○	○								
11																
12	○	○	○	○	○	○	○	○								
13																
14	○	○	○	○	○	○	○	○								
15		○	○	○	○	○	○	○								
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PT SPIRAL FLUTE TAPER PIPE TAPS for PT THREADS
螺旋槽PT 螺纹用锥管丝锥

► Suitable for process taper pipe internal threads.
PT : Taper pipe threads (for pressure-tight joints)

► 适用于锥管螺纹加工
PT : 锥管螺纹 (用于压力密封接头)



Material groups: **GS** HSS-E PT JIS II 55° 2.5P R30 Bright p. B200

Recommended Toolholder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length	Thread Length	Projection Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	基准长度	柄径	方块尺寸	方块长度	槽数
ØD1					L2	L1	L3	ØD2	K	KI	
PT 1/8	- 28	T2518202	JIS II	9.728	55	19	13	8	6	9	3
PT 1/4	- 19	T2518402	JIS II	13.157	62	28	21	11	9	12	3
PT 3/8	- 19	T2518482	JIS II	16.662	65	28	21	14	11	14	3
PT 1/2	- 14	T2518562	JIS II	20.955	80	35	25	18	14	17	4
PT 3/4	- 14	T2518702	JIS II	26.441	85	35	25	23	17	20	4
PT 1"	- 11	T2518782	JIS II	33.249	95	45	32	26	21	24	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

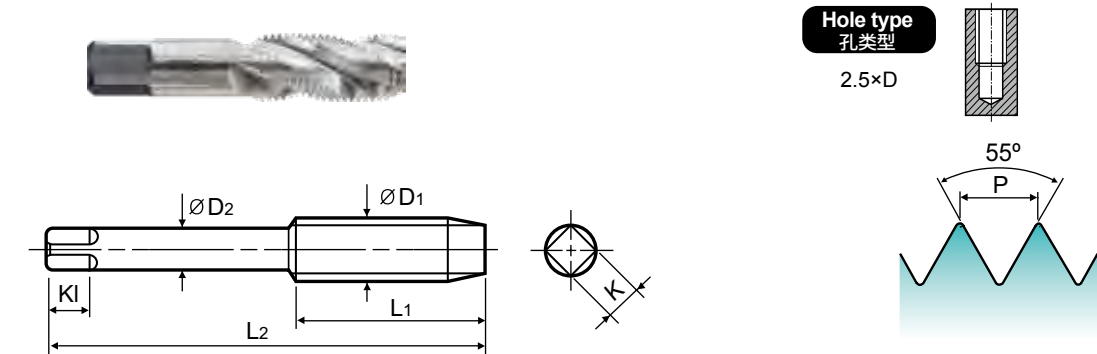
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

PS SPIRAL FLUTE STRAIGHT PIPE TAPS for PS THREADS
螺旋槽PS 螺纹用直管丝锥

► Suitable for process Straight pipe internal threads.
PS : Straight pipe threads (for pressure-tight joints)

► 适用于锥管螺纹加工
PS : 锥管螺纹 (用于压力密封接头)



Material groups: **GS** HSS-E PS JIS II 55° 3.0P R35 Bright p. B200

Recommended Toolholder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1					L2	L1	ØD2	K	KI	
PS 1/8	- 28	T2538202	JIS II	9.728	55	19	8	6	9	3
PS 1/4	- 19	T2538402	JIS II	13.157	62	28	11	9	12	3
PS 3/8	- 19	T2538482	JIS II	16.662	65	28	14	11	14	3
PS 1/2	- 14	T2538562	JIS II	20.955	80	35	18	14	17	4
PS 3/4	- 14	T2538702	JIS II	26.441	85	35	23	17	20	4
PS 1"	- 11	T2538782	JIS II	33.249	95	45	26	21	24	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

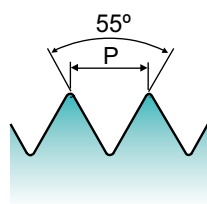
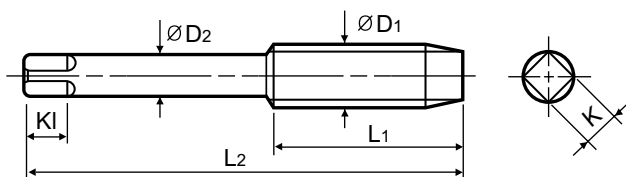
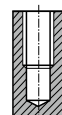
PF SPIRAL FLUTE STRAIGHT PIPE TAPS for PF THREADS
螺旋槽PF 螺纹用直管丝锥

► Suitable for process Straight pipe internal threads.
PF : Straight pipe threads (for mechanical joints)

► 适用于锥管螺纹加工
PF : 锥管螺纹 (用于压力密封接头)



Hole type
孔类型
2.5×D



Material groups: **GS** HSS-E PF JIS II 55° 3.0P R35 Bright p. B201

Recommended Toolholder	Plain Shank	Page
⊙	TAPPING ER CHUCK	D215-220
⊙	TAPPING CHUCK	D221-228
⊙	ONE STEP TAPPING CHUCK	D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	柄径	方块 尺寸	方块 长度	槽数
ØD1					L2	L1	ØD2	K	K1	
PF 1/8	- 28	T2539202	JIS II	9.728	55	19	8	6	9	3
PF 1/4	- 19	T2539402	JIS II	13.157	62	28	11	9	12	3
PF 3/8	- 19	T2539482	JIS II	16.662	65	28	14	11	14	3
PF 1/2	- 14	T2539562	JIS II	20.955	80	35	18	14	17	4
PF 3/4	- 14	T2539702	JIS II	26.441	85	35	23	17	20	4
PF 1"	- 11	T2539782	JIS II	33.249	95	45	26	21	24	4

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

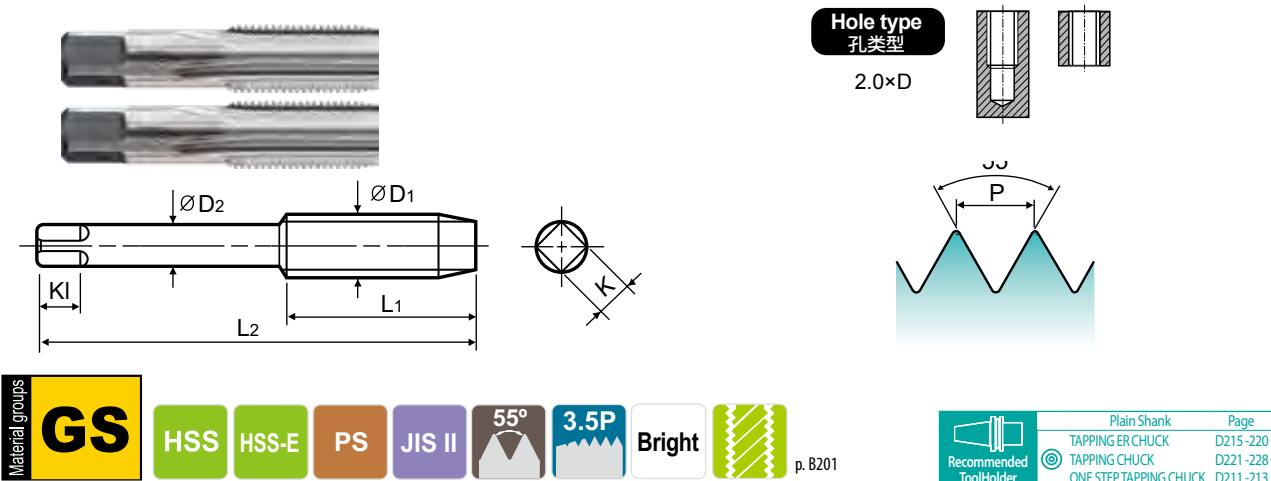
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M					K																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel					Grey cast iron					Nodular cast iron					Malleable cast iron																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355	360	365	370	375	380	385	390	395	400	405	410	415	420	425	430	435	440	445	450	455	460	465	470	475	480	485	490	495	500	505	510	515	520	525	530	535	540	545	550	555	560	565	570	575	580	585	590	595	600	605	610	615	620	625	630	635	640	645	650	655	660	665	670	675	680	685	690	695	700	705	710	715	720	725	730	735	740	745	750	755	760	765	770	775	780	785	790	795	800	805	810	815	820	825	830	835	840	845	850	855	860	865	870	875	880	885	890	895	900	905	910	915	920	925	930	935	940	945	950	955	960	965	970	975	980	985	990	995	1000	1005	1010	1015	1020	1025	1030	1035	1040	1045	1050	1055	1060	1065	1070	1075	1080	1085	1090	1095	1100	1105	1110	1115	1120	1125	1130	1135	1140	1145	1150	1155	1160	1165	1170	1175	1180	1185	1190	1195	1200	1205	1210	1215	1220	1225	1230	1235	1240	1245	1250	1255	1260	1265	1270	1275	1280	1285	1290	1295	1300	1305	1310	1315	1320	1325	1330	1335	1340	1345	1350	1355	1360	1365	1370	1375	1380	1385	1390	1395	1400	1405	1410	1415	1420	1425	1430	1435	1440	1445	1450	1455	1460	1465	1470	1475	1480	1485	1490	1495	1500	1505	1510	1515	1520	1525	1530	1535	1540	1545	1550	1555	1560	1565	1570	1575	1580	1585	1590	1595	1600	1605	1610	1615	1620	1625	1630	1635	1640	1645	1650	1655	1660	1665	1670	1675	1680	1685	1690	1695	1700	1705	1710	1715	1720	1725	1730	1735	1740	1745	1750	1755	1760	1765	1770	1775	1780	1785	1790	1795	1800	1805	1810	1815	1820	1825	1830	1835	1840	1845	1850	1855	1860	1865	1870	1875	1880	1885	1890	1895	1900	1905	1910	1915	1920	1925	1930	1935	1940	1945	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070	2075	2080	2085	2090	2095	2100	2105	2110	2115	2120	2125	2130	2135	2140	2145	2150	2155	2160	2165	2170	2175	2180	2185	2190	2195	2200	2205	2210	2215	2220	2225	2230	2235	2240	2245	2250	2255	2260	2265	2270	2275	2280	2285	2290	2295	2300	2305	2310	2315	2320	2325	2330	2335	2340	2345	2350	2355	2360	2365	2370	2375	2380	2385	2390	2395	2400	2405	2410	2415	2420	2425	2430	2435	2440	2445	2450	2455	2460	2465	2470	2475	2480	2485	2490	2495	2500	2505	2510	2515	2520	2525	2530	2535	2540	2545	2550	2555	2560	2565	2570	2575	2580	2585	2590	2595	2600	2605	2610	2615	2620	2625	2630	2635	2640	2645	2650	2655	2660	2665	2670	2675	2680	2685	2690	2695	2700	2705	2710	2715	2720	2725	2730	2735	2740	2745	2750	2755	2760	2765	2770	2775	2780	2785	2790	2795	2800	2805	2810	2815	2820	2825	2830	2835	2840	2845	2850	2855	2860	2865	2870	2875	2880	2885	2890	2895	2900	2905	2910	2915	2920	2925	2930	2935	2940	2945	2950	2955	2960	2965	2970	2975	2980	2985	2990	2995	3000	3005	3010	3015	3020	3025	3030	3035	3040	3045	3050	3055	3060	3065	3070	3075	3080	3085	3090	3095	3100	3105	3110	3115	3120	3125	3130	3135	3140	3145	3150	3155	3160	3165	3170	3175	3180	3185	3190	3195	3200	3205	3210	3215	3220	3225	3230	3235	3240	3245	3250	3255	3260	3265	3270	3275	3280	3285	3290	3295	3300	3305	3310	3315	3320	3325	3330	3335	3340	3345	3350	3355	3360	3365	3370	3375	3380	3385	3390	3395	3400	3405	3410	3415	3420	3425	3430	3435	3440	3445	3450	3455	3460	3465	3470	3475	3480	3485	3490	3495	3500	3505	3510	3515	3520	3525	3530	3535	3540	3545	3550	3555	3560	3565	3570	3575	3580	3585	3590	3595	3600	3605	3610	3615	3620	3625	3630	3635	3640	3645	3650	3655	3660	3665	3670	3675	3680	3685	3690	3695	3700	3705	3710	3715	3720	3725	3730	3735	3740	3745	3750	3755	3760	3765	3770	3775	3780	3785	3790	3795	3800	3805	3810	3815	3820	3825	3830	3835	3840	3845	3850	3855	3860	3865	3870	3875	3880	3885	3890	3895	3900	3905	3910	3915	3920	3925	3930	3935	3940	3945	3950	3955	3960	3965	3970	3975	3980	3985	3990	3995	4000	4005	4010	4015	4020	4025	4030	4035	4040	4045	4050	4055	4060	4065	4070	4075	4080	4085	4090	4095	4100	4105	4110	4115	4120	4125	4130	4135	4140	4145	4150	4155	4160	4165	4170	4175	4180	4185	4190	4195	4200	4205	4210	4215	4220	4225	4230	4235	4240	4245	4250	4255	4260	4265	4270	4275	4280	4285	4290	4295	4300	4305	4310	4315	4320	4325	4330	4335	4340	4345	4350	4355	4360	4365	4370	4375	4380	4385	4390	4395	4400	4405	4410	4415	4420	4425	4430	4435	4440	4445	4450	4455	4460	4465	4470	4475	4480	4485	4490	4495	4500	4505	4510	4515	4520	4525	4530	4535	4540	4545	4550	4555	4560	4565	4570	4575	4580	4585	4590	4595	4600	4605	4610	4615	4620	4625	4630	4635	4640	4645	4650	4655	4660	4665	4670	4675	4680	4685	4690	4695	4700	4705	4710	4715	4720	4725	4730	4735	4740	4745	4750	4755	4760	4765	4770	4775	4780	4785	4790	4795	4800	4805	4810	4815	4820	4825	4830	4835	4840	4845	4850	4855	4860	4865	4870	4875	4880	4885	4890	4895	4900	4905	4910	4915	4920	4925	4930	4935	4940	4945	4950	4955	4960	4965	4970	4975	4980	4985	4990	4995	5000	5005	5010	5015	5020	5025	5030	5035	5040	5045	5050	5055	5060	5065	5070	5075	5080	5085	5090	5095	5100	5105	5110	5115	5120	5125	5130	5135	5140	5145	5150	5155	5160	5165	5170	5175	5180	5185	5190	5195	5200	5205	5210	5215	5220	5225	5230	5235	5240	5245	5250	5255	5260	5265	5270	5275	5280	5285	5290	5295	5300	5305	5310	5315	5320	5325	5330	5335	5340	5345	5350	5355	5360	5365	5370	5375	5380	5385	5390	5395	5400	5405	5410	5415	5420	5425	5430	5435	5440	5445	5450	5455	5460	5465	5470	5475	5480	5485</

PS STRAIGHT PIPE TAPS for PS THREADS
PS 螺纹用直管丝锥

► Suitable for process Straight pipe internal threads.
PS : Straight pipe threads (for pressure-tight joints)

► 适用于锥管螺纹加工
PS : 锥管螺纹 (用于压力密封接头)



Unit(单位) : mm

SIZE	TPI	EDP No.		Limit	Basic Maj. Dia.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	最大基准直径	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1		HSS	HSS-E			L2	L1	ØD2	K	KI	
PS 1/8	- 28	T7552202	T2552202	JIS II	9.728	55	19	8	6	9	4
PS 1/4	- 19	T7552402	T2552402	JIS II	13.157	62	28	11	9	12	4
PS 3/8	- 19	T7552482	T2552482	JIS II	16.662	65	28	14	11	14	4
PS 1/2	- 14	T7552562	T2552562	JIS II	20.955	80	35	18	14	17	4
PS 3/4	- 14	T7552702	T2552702	JIS II	26.441	85	35	23	17	20	4
PS 1"	- 11	T7552782	T2552782	JIS II	33.249	95	45	26	21	24	5
PS 1*1/4	- 11	T7552862	T2552862	JIS II	41.910	105	45	32	26	30	5
PS 1*1/2	- 11	T7552962	T2552962	JIS II	47.803	110	45	38	29	32	6
PS 2"	- 11	T7552D22	T2552D22	JIS II	59.614	120	50	46	35	38	6

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

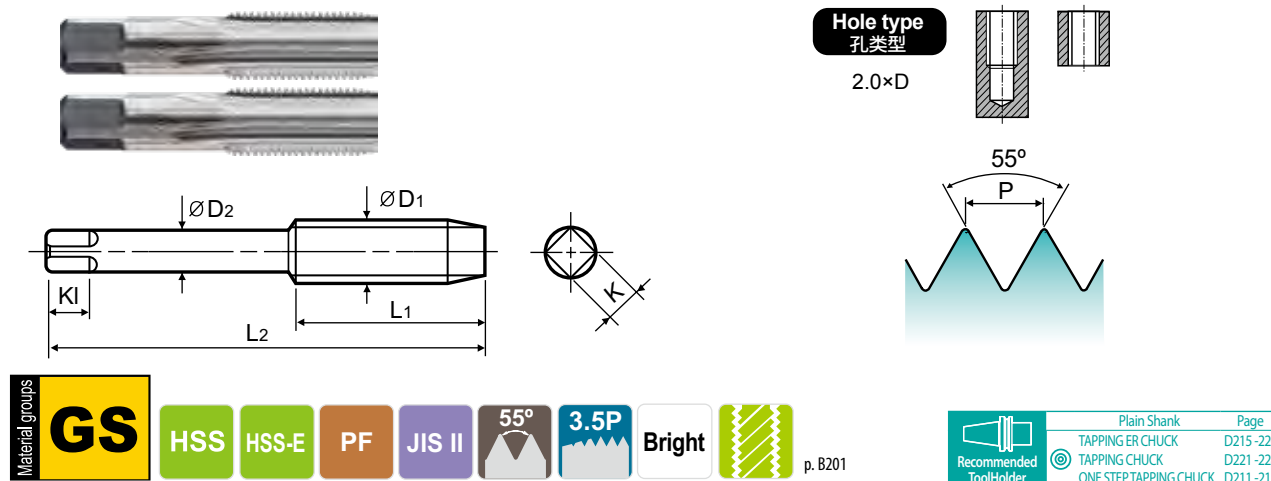
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

PF STRAIGHT PIPE TAPS for PF THREADS
PF 螺纹用直管丝锥

► Suitable for process Straight pipe internal threads.
PF : Straight pipe threads (for mechanical joints)

► 适用于锥管螺纹加工
PF : 锥管螺纹 (用于压力密封接头)



Unit(单位) : mm

SIZE	TPI	EDP No.		Limit	Basic Maj. Dia.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号		精度	最大基准直径	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1		HSS	HSS-E			L2	L1	ØD2	K	KI	
PF 1/8	- 28	T7562202	T2562202	JIS II	9.728	55	19	8	6	9	4
PF 1/4	- 19	T7562402	T2562402	JIS II	13.157	62	28	11	9	12	4
PF 3/8	- 19	T7562482	T2562482	JIS II	16.662	65	28	14	11	14	4
PF 1/2	- 14	T7562562	T2562562	JIS II	20.955	80	35	18	14	17	4
PF 3/4	- 14	T7562702	T2562702	JIS II	26.441	85	35	23	17	20	4
PF 1"	- 11	T7562782	T2562782	JIS II	33.249	95	45	26	21	24	4
PF 1*1/4	- 11	T7562862	T2562862	JIS II	41.910	105	45	32	26	30	4
PF 1*1/2	- 11	T7562962	T2562962	JIS II	47.803	110	45	38	29	32	6
PF 2"	- 11	T7562D22	T2562D22	JIS II	59.614	120	50	46	35	38	6

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

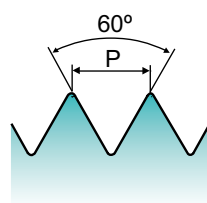
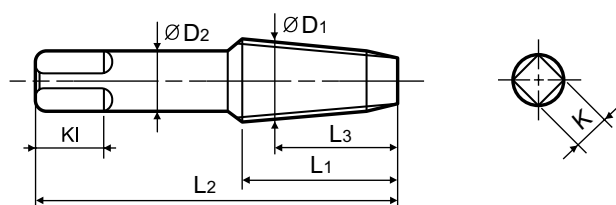
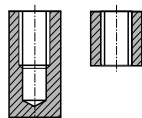
NPT AMERICAN TAPER PIPE TAPS for NPT THREADS
美制NPT螺纹用锥管丝锥

► Suitable for process Taper pipe internal threads.
 NPT : American Taper pipe threads (for mechanical joints)

► 适用于加工锥管内螺纹。
 NPT : 美制锥管螺纹 (机械连接用)



Hole type
孔类型
2.0×D



Material groups: **GS** HSS-E NPT ANSI G 60° 3.0P Bright p. B201

Recommended Toolholder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length	Thread Length	Projection Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	基准长度	柄径	方块尺寸	方块长度	槽数
ØD1					L2	L1	L3	ØD2	K	KI	
NPT 1/16 - 27		T2527020	ANSI G	7.770	54	17	12.00	8	6	9	4
NPT 1/8 - 27		T2527200	ANSI G	10.117	55	19	12.05	8	6	9	4
NPT 1/4 - 18		T2527400	ANSI G	13.426	62	28	17.45	11	9	12	4
NPT 3/8 - 18		T2527480	ANSI G	16.866	65	28	17.65	14	11	14	4
NPT 1/2 - 14		T2527560	ANSI G	20.980	80	35	22.85	18	14	17	4
NPT 3/4 - 14		T2527700	ANSI G	26.325	85	35	22.95	23	17	20	5
NPT 1" - 11*1/2		T2527780	ANSI G	32.934	95	45	27.40	26	21	24	5

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M			K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

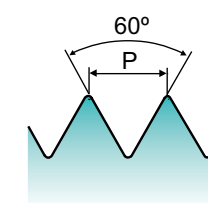
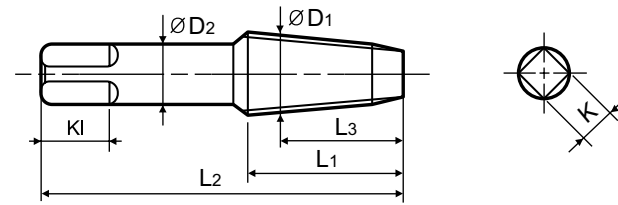
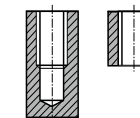
NPTF AMERICAN TAPER PIPE TAPS for NPTF THREADS
美制NPTF螺纹用锥管丝锥

► Suitable for process taper pipe internal threads.
 NPTF : American Taper pipe threads (Dry seal)

► 适用于加工锥管内螺纹。
 NPTF : 美制锥管螺纹 (干密封)



Hole type
孔类型
2.0×D



Material groups: **GS** HSS-E NPTF ANSI G 60° 3.0P Bright p. B201

Recommended Toolholder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length	Thread Length	Projection Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	基准长度	柄径	方块尺寸	方块长度	槽数
ØD1					L2	L1	L3	ØD2	K	KI	
NPTF 1/16 - 27		T2537020	ANSI G	7.770	54	17	12.00	8	6	9	4
NPTF 1/8 - 27		T2537200	ANSI G	10.117	55	19	12.05	8	6	9	4
NPTF 1/4 - 18		T2537400	ANSI G	13.426	62	28	17.45	11	9	12	4
NPTF 3/8 - 18		T2537480	ANSI G	16.866	65	28	17.65	14	11	14	4
NPTF 1/2 - 14		T2537560	ANSI G	20.980	80	35	22.85	18	14	17	4
NPTF 3/4 - 14		T2537700	ANSI G	26.325	85	35	22.95	23	17	20	5
NPTF 1" - 11*1/2		T2537780	ANSI G	32.934	95	45	27.40	26	21	24	5

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M			K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

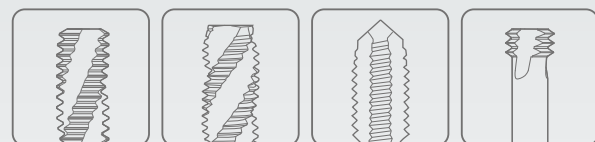
ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



THREADING

SKS21

SKS21 HAND TAPS

- To Achieve High Strength.
Easy Assembling.
- 实现高强度加工，易装配



SELECTION GUIDE

选用指南



SKS21 HAND TAPS

To Achieve High Strength. Easy Assembling.
实现高强度加工，易装配

Please visit globalyg1.com/mat for material search

◎: Excellent (优秀) ○: Good (良好)

HOLE TYPE 孔类型	Max. 2.0xD Blind/Through Hole 盲孔/通孔	
TOOL MATERIAL 刀具材料	SKS21	
CHAMFER LEAD ACC. TO DIN2197 倒角长度	1.5P 5.0P 9.0P	
FLUTE TYPE 槽型	Straight Flute 直槽	
SPIRAL FLUTE ANGLE 螺旋角	-	
SERIES NO. 系列号 (page 页码)	JIS Type	HT
	M/MF	TSK11 (p. B213)
	UNC/F	TSK12 (p. B216)
	W	TSK13 (p. B218)
	M-LH W-LH	TSK21 (p. B219) TSK23 (p. B220)
	PIPE TAPS	
SURFACE TREATMENT 表面处理	Bright	
MODEL 模型		

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度			
P	1	Non-alloy steel	About 0.15% C Annealed	125		○	8~13	
	2		About 0.45% C Annealed	190	13	○	7~12	
	3		About 0.45% C Quenched & Tempered	250	25	○	7~12	
	4		About 0.75% C Annealed	270	28			
	5		About 0.75% C Quenched & Tempered	300	32			
	6	Low alloy steel	Annealed	180	10	○	7~12	
	7		Quenched & Tempered	275	29			
	8		Quenched & Tempered	300	32			
	9		Quenched & Tempered	350	38			
	10		High alloyed steel, and tool steel	Annealed	200	15	○	6~9
	11	Quenched & Tempered		325	35			
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15			
	13		Martensitic Quenched & Tempered	240	23			
	14		Austenitic	180	10			
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	10~15	
	16		Pearlitic (Martensitic)	260	26	○	10~15	
	17	Nodular cast iron	Ferritic	160	3	○	7~12	
	18		Pearlitic	250	25	○	7~12	
	19		Ferritic	130				
	20		Pearlitic	230	21			
N	21	Aluminum-wrought alloy	Not Curable	60		○	10~20	
	22		Curable Hardened	100		○	10~20	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75				
	24		≤ 12% Si, Curable Hardened	90				
	25		> 12% Si, Not Curable	130				
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		○	6~9
	27		CuZn, CuSnZn (Brass)		90		○	6~15
	28		CuSn, lead-free copper and electrolytic copper		100			
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				
	30		Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15			
	32		Cured	280	30			
	33		Annealed	250	25			
	34		Cured	350	38			
	35	Cast	320	34				
	36	Titanium Alloys	Pure Titanium	400 Rm				
	37		Alpha + Beta Alloys Hardened	1050 Rm				
H	38	Hardened steel	Hardened	550	55			
	39		Hardened	630	60			
	40	Chilled Cast Iron	Cast	400	42			
	41	Hardened Cast Iron	Hardened	550	55			



TSK11(TS923) SERIES

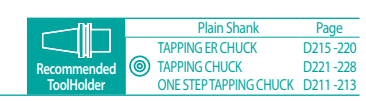
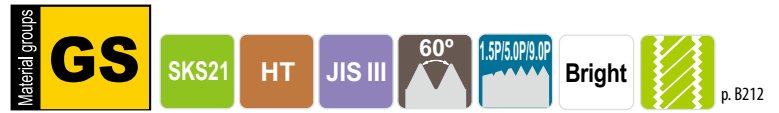
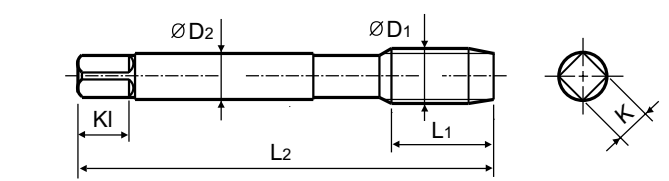
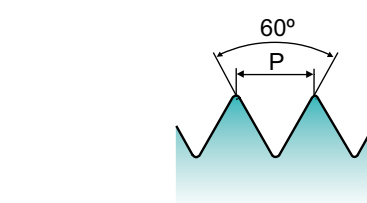
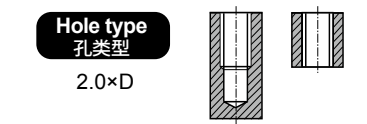
M HAND TAPS(SET of 3 PIECES) 手用丝锥(一套3支)

▶ Standard taps for a variety of application.

▶ 多用途标准丝锥



up to M6 : Male Center



SIZE 尺寸	Pitch 牙距	EDP No. 型号	Limit 精度	Overall Length 全长	Thread Length 螺纹长	Shank Diameter 柄径	Square Size 方块尺寸	Square Length 方块长度	No. of Flute 槽数
ØD1	P			L2	L1	ØD2	K	KI	
M2.5 × 0.45		TSK11179	JIS III	44	16	3	2.5	5	3
M2.6 × 0.45		TSK11499	JIS III	44	16	3	2.5	5	3
M3 × 0.5		TSK11209	JIS III	46	18	4	3.2	6	3
M3.5 × 0.6		TSK11229	JIS III	48	18	4	3.2	6	3
M4 × 0.7		TSK11249	JIS III	52	20	5	4	7	3
M4 × 0.5		TSK11259	JIS III	52	15	5	4	7	3
M4.5 × 0.75		TSK11269	JIS III	55	20	5	4	7	3
M5 × 0.9		TSK11999	JIS III	60	22	5.5	4.5	7	3
M5 × 0.8		TSK11289	JIS III	60	22	5.5	4.5	7	3
M6 × 1		TSK11319	JIS III	62	24	6	4.5	7	3
M6 × 0.75		TSK11329	JIS III	62	20	6	4.5	7	3
M7 × 1		TSK11349	JIS III	65	26	6.2	5	8	4
M7 × 0.75		TSK11359	JIS III	62	20	6.2	5	8	4
M8 × 1.25		TSK11369	JIS III	70	30	6.2	5	8	4
M8 × 1		TSK11379	JIS III	70	30	6.2	5	8	4
M8 × 0.75		TSK11389	JIS III	62	20	6.2	5	8	4
M9 × 1.25		TSK11399	JIS III	72	30	7	5.5	8	4
M9 × 1		TSK11409	JIS III	70	30	7	5.5	8	4
M9 × 0.75		TSK11419	JIS III	62	20	7	5.5	8	4
M10 × 1.5		TSK11429	JIS III	75	32	7	5.5	8	4

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

▶ NEXT PAGE 下页

◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○			○				○					○	○	○	○		

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○				○	○														

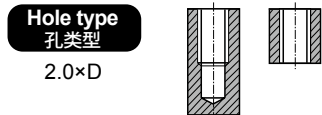
M HAND TAPS(SET of 3 PIECES)
手用丝锥(一套3支)

▶ Standard taps for a variety of application.

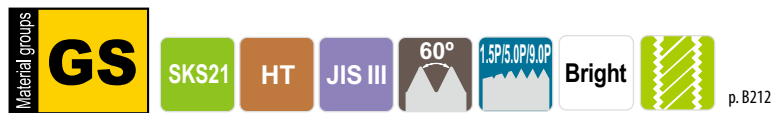
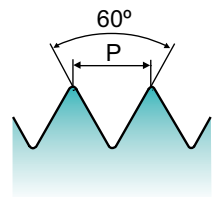
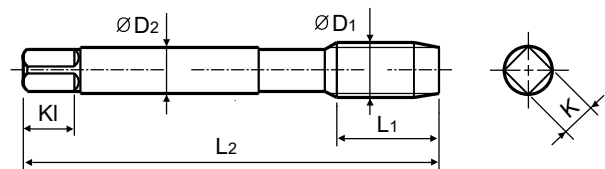
▶ 多用途标准丝锥



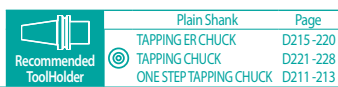
up to M6 : Male Center



Hole type
孔类型
2.0×D



p. B212



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M10 × 1.25		TSK11439	JIS III	75	32	7	5.5	8	4
M10 × 1		TSK11449	JIS III	70	30	7	5.5	8	4
M11 × 1.5		TSK11469	JIS III	80	38	8	6	9	4
M11 × 1		TSK11479	JIS III	70	30	8	6	9	4
M12 × 1.75		TSK11509	JIS III	82	38	8.5	6.5	9	4
M12 × 1.5		TSK11519	JIS III	82	38	8.5	6.5	9	4
M12 × 1.25		TSK11529	JIS III	80	38	8.5	6.5	9	4
M14 × 2		TSK11549	JIS III	88	42	10.5	8	11	4
M14 × 1.5		TSK11559	JIS III	88	42	10.5	8	11	4
M14 × 1.25		TSK11569	JIS III	80	38	10.5	8	11	4
M15 × 1.5		TSK11589	JIS III	90	42	10.5	8	11	4
M16 × 2		TSK11609	JIS III	95	45	12.5	10	13	4
M16 × 1.5		TSK11619	JIS III	95	45	12.5	10	13	4
M18 × 2.5		TSK11659	JIS III	100	48	14	11	14	4
M18 × 2		TSK11669	JIS III	95	45	14	11	14	4
M18 × 1.5		TSK11679	JIS III	95	45	14	11	14	4
M20 × 2.5		TSK11709	JIS III	105	50	15	12	15	4
M20 × 2		TSK11719	JIS III	95	45	15	12	15	4
M20 × 1.5		TSK11729	JIS III	95	45	15	12	15	4
M22 × 2.5		TSK11749	JIS III	115	55	17	13	16	4

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72	75
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

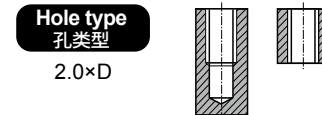
M HAND TAPS(SET of 3 PIECES)
手用丝锥(一套3支)

▶ Standard taps for a variety of application.

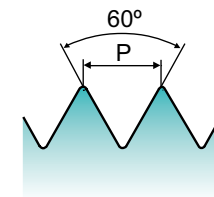
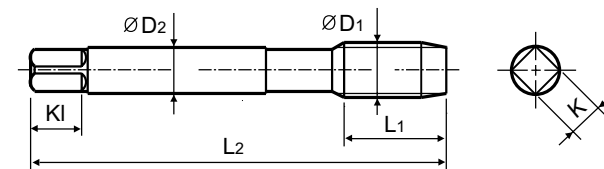
▶ 多用途标准丝锥



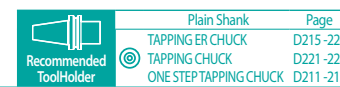
up to M6 : Male Center



Hole type
孔类型
2.0×D



p. B212



Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M22 × 2		TSK11759	JIS III	95	45	17	13	16	4
M22 × 1.5		TSK11769	JIS III	95	45	17	13	16	4
M24 × 3		TSK11789	JIS III	120	58	19	15	18	4
M24 × 2		TSK11799	JIS III	95	45	19	15	18	4
M24 × 1.5		TSK11809	JIS III	95	45	19	15	18	4
M25 × 2		TSK11829	JIS III	95	45	19	15	18	4
M25 × 1.5		TSK11839	JIS III	95	45	19	15	18	4
M26 × 2		TSK11N49	JIS III	95	45	20	15	18	4
M26 × 1.5		TSK11859	JIS III	95	45	20	15	18	4
M27 × 3		TSK11869	JIS III	130	62	20	15	18	4
M27 × 2		TSK11879	JIS III	95	45	20	15	18	4
M27 × 1.5		TSK11889	JIS III	95	45	20	15	18	4
M28 × 2		TSK11909	JIS III	105	45	21	17	20	4
M28 × 1.5		TSK11919	JIS III	105	45	21	17	20	4
M30 × 3.5		TSK11949	JIS III	135	65	23	17	20	4
M30 × 3		TSK11959	JIS III	135	65	23	17	20	4
M30 × 2		TSK11969	JIS III	105	45	23	17	20	4
M30 × 1.5		TSK11979	JIS III	105	45	23	17	20	4

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72	75
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC/F HAND TAPS(SET of 3 PIECES)
手用丝锥(一套3支)

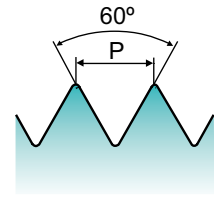
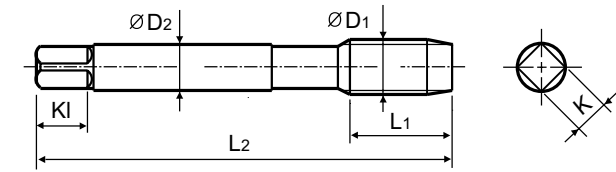
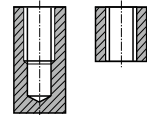
▶ Standard taps for a variety of application.

▶ 多用途标准丝锥



up to 1/4 : Male Center

Hole type
孔类型
2.0×D



Material groups: **GS** SKS21 HT JIS III 60° 1.5P/1.5.0P/1.0P Bright

Recommended Tool/Holder	Plain Shank	Page
	TAPPING ER CHUCK	D215-220
	TAPPING CHUCK	D221-228
	ONE STEP TAPPING CHUCK	D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
#4 - 40 UNC	TSK12169	JIS III	44	16	3	2.5	5	3	
#4 - 48 UNF	TSK12189	JIS III	44	16	3	2.5	5	3	
#5 - 40 UNC	TSK12209	JIS III	46	18	4	3.2	6	3	
#5 - 44 UNF	TSK12229	JIS III	46	18	4	3.2	6	3	
#6 - 32 UNC	TSK12249	JIS III	48	18	4	3.2	6	3	
#6 - 40 UNF	TSK12269	JIS III	48	18	4	3.2	6	3	
#8 - 32 UNC	TSK12289	JIS III	52	20	5	4	7	3	
#8 - 36 UNF	TSK12309	JIS III	52	20	5	4	7	3	
#10 - 24 UNC	TSK12329	JIS III	60	22	5.5	4.5	7	3	
#10 - 32 UNF	TSK12349	JIS III	60	22	5.5	4.5	7	3	
#12 - 24 UNC	TSK12369	JIS III	60	22	5.5	4.5	7	3	
#12 - 28 UNF	TSK12389	JIS III	60	22	5.5	4.5	7	3	
1/4 - 20 UNC	TSK12409	JIS III	62	24	6	4.5	7	3	
1/4 - 28 UNF	TSK12429	JIS III	62	24	6	4.5	7	3	
5/16 - 18 UNC	TSK12449	JIS III	70	30	6.1	5	8	4	
5/16 - 24 UNF	TSK12469	JIS III	70	30	6.1	5	8	4	

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

UNC/F HAND TAPS(SET of 3 PIECES)
手用丝锥(一套3支)

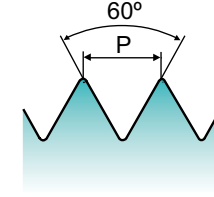
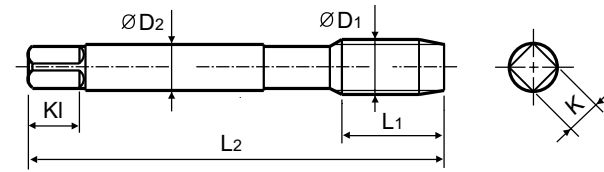
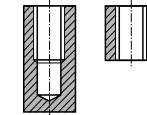
▶ Standard taps for a variety of application.

▶ 多用途标准丝锥



up to 1/4 : Male Center

Hole type
孔类型
2.0×D



Material groups: **GS** SKS21 HT JIS III 60° 1.5P/1.5.0P/1.0P Bright

Recommended Tool/Holder	Plain Shank	Page
	TAPPING ER CHUCK	D215-220
	TAPPING CHUCK	D221-228
	ONE STEP TAPPING CHUCK	D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
3/8 - 16 UNC	TSK12489	JIS III	75	35	7	5.5	8	4	
3/8 - 24 UNF	TSK12509	JIS III	75	32	7	5.5	8	4	
7/16 - 14 UNC	TSK12529	JIS III	80	38	8	6	9	4	
7/16 - 20 UNF	TSK12549	JIS III	80	38	8	6	9	4	
1/2 - 13 UNC	TSK12569	JIS III	85	42	9	7	10	4	
1/2 - 20 UNF	TSK12589	JIS III	85	42	9	7	10	4	
9/16 - 12 UNC	TSK12609	JIS III	90	42	10.5	8	11	4	
9/16 - 18 UNF	TSK12629	JIS III	90	42	10.5	8	11	4	
5/8 - 11 UNC	TSK12649	JIS III	95	45	12	9	12	4	
5/8 - 18 UNF	TSK12669	JIS III	95	45	12	9	12	4	
3/4 - 10 UNC	TSK12709	JIS III	105	50	14	11	14	4	
3/4 - 16 UNF	TSK12729	JIS III	95	45	14	11	14	4	
7/8 - 9 UNC	TSK12749	JIS III	115	55	17	13	16	4	
7/8 - 14 UNF	TSK12769	JIS III	95	45	17	13	16	4	
1 - 8 UNC	TSK12789	JIS III	125	60	20	15	18	4	
1 - 12 UNF	TSK12809	JIS III	95	45	20	15	18	4	

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

YG SKS21 HAND TAPS

TSK13(TS933) SERIES

W HAND TAPS(SET of 3 PIECES) 手用丝锥(一套3支)

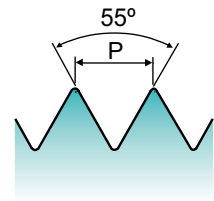
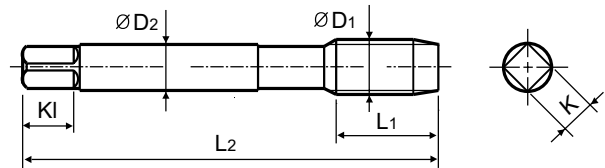
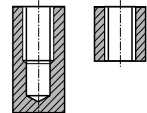
▶ Standard taps that can be used in for a variety of application.

▶ 多用途标准丝锥



up to 1/4 : Male Center

Hole type
孔类型
2.0×D



Material groups: **GS** SKS21 HT JIS III 55° 1.SP/5.OP/9.OP Bright

Plain Shank	Page
TAPPING ER CHUCK	D215-220
TAPPING CHUCK	D221-228
ONE STEP TAPPING CHUCK	D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
W1/8 - 40		TSK13209	JIS III	46	18	4	3.2	6	3
W3/16 - 24		TSK13329	JIS III	60	22	5.5	4.5	7	3
W1/4 - 20		TSK13409	JIS III	62	24	6	4.5	7	3
W5/16 - 18		TSK13449	JIS III	70	30	6.1	5	8	4
W3/8 - 16		TSK13489	JIS III	75	35	7	5.5	8	4
W7/16 - 14		TSK13529	JIS III	80	38	8	6	9	4
W1/2 - 12		TSK13569	JIS III	85	42	9	7	10	4
W9/16 - 12		TSK13609	JIS III	90	42	10.5	8	11	4
W5/8 - 11		TSK13649	JIS III	95	45	12	9	12	4
W3/4 - 10		TSK13709	JIS III	105	50	14	11	14	4
W7/8 - 9		TSK13749	JIS III	115	55	17	13	16	4
W1 - 8		TSK13789	JIS III	125	60	20	15	18	4

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34						200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

YG SKS21 HAND TAPS

TSK21 SERIES

M-LH HAND TAPS(SET of 3 PIECES) 手用丝锥(一套3支)

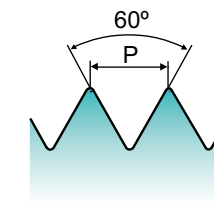
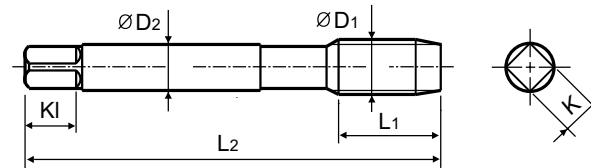
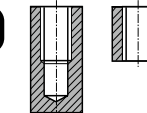
▶ Standard taps for a variety of application.

▶ 多用途标准丝锥



up to M6 : Male Center

Hole type
孔类型
2.0×D



Material groups: **GS** SKS21 HT JIS III 60° 1.SP/5.OP/9.OP Bright

Plain Shank	Page
TAPPING ER CHUCK	D215-220
TAPPING CHUCK	D221-228
ONE STEP TAPPING CHUCK	D211-213

Unit(单位) : mm

SIZE	Pitch	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1	P			L2	L1	ØD2	K	KI	
M3 × 0.5		TSK21209	JIS III	46	18	4	3.2	6	3
M4 × 0.7		TSK21249	JIS III	52	20	5	4	7	3
M5 × 0.8		TSK21289	JIS III	60	22	5.5	4.5	7	3
M6 × 1		TSK21319	JIS III	62	24	6	4.5	7	3
M7 × 1		TSK21349	JIS III	65	26	6.2	5	8	4
M8 × 1.25		TSK21369	JIS III	70	30	6.2	5	8	4
M10 × 1.5		TSK21429	JIS III	75	32	7	5.5	8	4
M10 × 1.25		TSK21439	JIS III	75	32	7	5.5	8	4
M11 × 1.5		TSK21469	JIS III	80	38	8	6	9	4
M12 × 1.75		TSK21509	JIS III	82	38	8.5	6.5	9	4
M12 × 1.5		TSK21519	JIS III	82	38	8.5	6.5	9	4
M12 × 1.25		TSK21529	JIS III	80	38	8.5	6.5	9	4
M14 × 2		TSK21549	JIS III	88	42	10.5	8	11	4
M14 × 1.5		TSK21559	JIS III	88	42	10.5	8	11	4
M14 × 1.25		TSK21569	JIS III	80	38	10.5	8	11	4
M15 × 1.5		TSK21589	JIS III	90	42	10.5	8	11	4
M16 × 2		TSK21609	JIS III	95	45	12.5	10	13	4
M16 × 1.5		TSK21619	JIS III	95	45	12.5	10	13	4
M18 × 2.5		TSK21659	JIS III	100	48	14	11	14	4
M18 × 2		TSK21669	JIS III	95	45	14	11	14	4
M18 × 1.5		TSK21679	JIS III	95	45	14	11	14	4
M20 × 2.5		TSK21709	JIS III	105	50	15	12	15	4
M20 × 2		TSK21719	JIS III	95	45	15	12	15	4
M20 × 1.5		TSK21729	JIS III	95	45	15	12	15	4

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34						200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

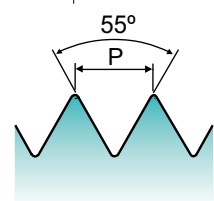
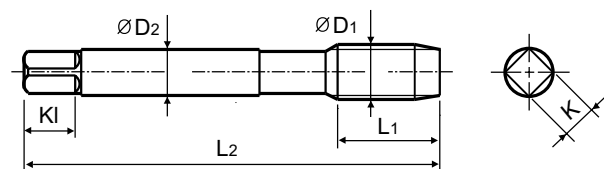
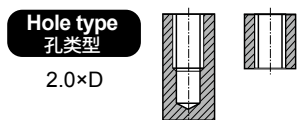
W-LH HAND TAPS(SET of 3 PIECES)
手用丝锥(一套3支)

▶ Standard taps that can be used in for a variety of application.

▶ 多用途标准丝锥



up to 1/4 : Male Center



Material groups: **GS** SKS21 HT JIS III 55° 1.5P/5.0P/9.0P Bright p. B212

Recommended ToolHolder: Plain Shank Page TAPPING ER CHUCK D215-220 TAPPING CHUCK D221-228 ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1				L2	L1	ØD2	K	KI	
W1/8	- 40	TSK23209	JIS III	46	18	4	3.2	6	3
W3/16	- 24	TSK23329	JIS III	60	22	5.5	4.5	7	3
W1/4	- 20	TSK23409	JIS III	62	24	6	4.5	7	3
W5/16	- 18	TSK23449	JIS III	70	30	6.1	5	8	4
W3/8	- 16	TSK23489	JIS III	75	35	7	5.5	8	4
W7/16	- 14	TSK23529	JIS III	80	38	8	6	9	4
W1/2	- 12	TSK23569	JIS III	85	42	9	7	10	4
W9/16	- 12	TSK23609	JIS III	90	42	10.5	8	11	4
W5/8	- 11	TSK23649	JIS III	95	45	12	9	12	4
W3/4	- 10	TSK23709	JIS III	105	50	14	11	14	4
W7/8	- 9	TSK23749	JIS III	115	55	17	13	16	4
W1	- 8	TSK23789	JIS III	125	60	20	15	18	4

▶ Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.



SKS21

SKS21 PIPE TAPS

- To Achieve High Strength. Easy Assembling.
- 实现高强度加工, 易装配

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



SKS21 PIPE TAPS

To Achieve High Strength.
Easy Assembling.
实现高强度加工, 易装配

Please visit globaly1.com/mat for material search

◎ : Excellent (优秀) ○ : Good (良好)

HOLE TYPE 孔类型		Max. 2.0xD Blind / Through Hole 盲孔 / 通孔	
TOOL MATERIAL 刀具材料		SKS21	
CHAMFER LEAD ACC. TO DIN2197 倒角长度		3.0P	3.0P
FLUTE TYPE 槽型		Straight Flute 直槽	
SPIRAL FLUTE ANGLE 螺旋角		-	-
SERIES NO. 系列号 (page 页数)	JIS Type	PT	PS
	M/MF		
	UNC/F		
	W		
	M-LH W-LH		
	PIPE TAPS	TSK34 (p. B224)	TSK35 (p. B225)
SURFACE TREATMENT 表面处理		Bright	Bright
MODEL 模型			

HOLE TYPE 孔类型		Max. 2.0xD Blind / Through Hole 盲孔 / 通孔			
TOOL MATERIAL 刀具材料		SKS21			
CHAMFER LEAD ACC. TO DIN2197 倒角长度		3.0P	3.0P		
FLUTE TYPE 槽型		Straight Flute 直槽			
SPIRAL FLUTE ANGLE 螺旋角		-	-		
SERIES NO. 系列号 (page 页数)	JIS Type	PF	NPT	NPS	JIS Type
	M/MF				
	UNC/F				
	W				
	M-LH W-LH				
	PIPE TAPS	TSK36 (p. B226)	TSK37 (p. B227)	TSK38 (p. B228)	PIPE TAPS
SURFACE TREATMENT 表面处理		Bright	Bright	Bright	
MODEL 模型					

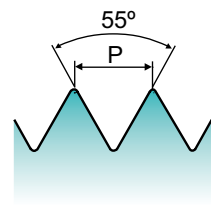
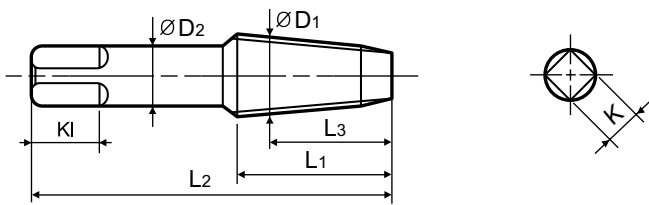
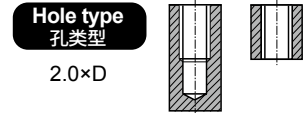
ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度	◎	○
P	1	Non-alloy steel	About 0.15% C Annealed	125		○	3~6
	2		About 0.45% C Annealed	190 13	○	3~6	
	3		About 0.45% C Quenched & Tempered	250 25	○	3~6	
	4		About 0.75% C Annealed	270 28			
	5		About 0.75% C Quenched & Tempered	300 32			
	6	Low alloy steel	Annealed	180 10	○	3~6	
	7		Quenched & Tempered	275 29			
	8		Quenched & Tempered	300 32			
	9		Quenched & Tempered	350 38			
	10		High alloyed steel, and tool steel	Annealed	200 15	○	3~6
	11			Quenched & Tempered	325 35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200 15			
	13		Martensitic Quenched & Tempered	240 23			
	14		Austenitic	180 10			
K	15	Grey cast iron	Pearlitic / ferritic	180 10	○	3~6	
	16		Pearlitic (Martensitic)	260 26	○	3~6	
	17	Nodular cast iron	Ferritic	160 3	○	4~8	
	18		Pearlitic	250 25			
	19		Ferritic	130			
	20		Pearlitic	230 21			
N	21	Aluminum-wrought alloy	Not Curable	60			
	22		Curable Hardened	100	○	5~10	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75	○	10~15	
	24		≤ 12% Si, Curable Hardened	90			
	25		> 12% Si, Not Curable	130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110	○	3~6	
	27		CuZn, CuSnZn (Brass)	90	○	5~10	
	28		CuSn, lead-free copper and electrolytic copper	100			
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic			
	30		Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200 15			
	32		Cured	280 30			
	33		Annealed	250 25			
	34		Cured	350 38			
	35	Cast	320 34				
	36	Titanium Alloys	Pure Titanium	400 Rm			
	37		Alpha + Beta Alloys Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550 55			
	39		Hardened	630 60			
	40	Hardened Cast Iron	Cast	400 42			
	41		Hardened	550 55			

ISO 公制	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB 布氏硬度	HRc 硬度	◎	○
P	1	Non-alloy steel	About 0.15% C Annealed	125		○	3~6
	2		About 0.45% C Annealed	190 13	○	3~6	
	3		About 0.45% C Quenched & Tempered	250 25	○	3~6	
	4		About 0.75% C Annealed	270 28			
	5		About 0.75% C Quenched & Tempered	300 32			
	6	Low alloy steel	Annealed	180 10	○	3~6	
	7		Quenched & Tempered	275 29			
	8		Quenched & Tempered	300 32			
	9		Quenched & Tempered	350 38			
	10		High alloyed steel, and tool steel	Annealed	200 15	○	3~6
	11			Quenched & Tempered	325 35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200 15			
	13		Martensitic Quenched & Tempered	240 23			
	14		Austenitic	180 10			
K	15	Grey cast iron	Pearlitic / ferritic	180 10	○	3~6	
	16		Pearlitic (Martensitic)	260 26	○	3~6	
	17	Nodular cast iron	Ferritic	160 3	○	4~8	
	18		Pearlitic	250 25			
	19		Ferritic	130			
	20		Pearlitic	230 21			
N	21	Aluminum-wrought alloy	Not Curable	60			
	22		Curable Hardened	100	○	5~10	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75	○	10~15	
	24		≤ 12% Si, Curable Hardened	90			
	25		> 12% Si, Not Curable	130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110	○	3~6	
	27		CuZn, CuSnZn (Brass)	90	○	5~10	
	28		CuSn, lead-free copper and electrolytic copper	100			
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic			
	30		Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200 15			
	32		Cured	280 30			
	33		Annealed	250 25			
	34		Cured	350 38			
	35	Cast	320 34				
	36	Titanium Alloys	Pure Titanium	400 Rm			
	37		Alpha + Beta Alloys Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550 55			
	39		Hardened	630 60			
	40	Hardened Cast Iron	Cast	400 42			
	41		Hardened	550 55			

PT TAPER PIPE TAPS for PT THREADS
PT 螺纹用锥管丝锥

► Suitable for taper pipe internal threads.
PT : Taper pipe threads (for pressure-tight joints)

► 适用于锥管螺纹加工
PT : 锥管螺纹 (用于压力密封接头)



Material groups: **GS** SKS21 PT JIS 55° 3.0P Bright p. B224

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length	Thread Length	Projection Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	基准长度	柄径	方块尺寸	方块长度	槽数
ØD1					L2	L1	L3	ØD2	K	KI	
PT 1/16	- 28	TSK34022	JIS	7.723	55	19	13	6.5	5	8	4
PT 1/8	- 28	TSK34202	JIS	9.728	55	19	13	8	6	9	4
PT 1/4	- 19	TSK34402	JIS	13.157	62	28	21	11	9	12	4
PT 3/8	- 19	TSK34482	JIS	16.662	65	28	21	14	11	14	4
PT 1/2	- 14	TSK34562	JIS	20.955	80	35	25	18	14	17	4
PT 3/4	- 14	TSK34702	JIS	26.441	85	35	25	23	17	20	4
PT 1	- 11	TSK34782	JIS	33.249	95	45	32	26	21	24	5
PT 1*1/4	- 11	TSK34862	JIS	41.910	105	45	32	32	26	30	5
PT 1*1/2	- 11	TSK34962	JIS	47.803	110	45	32	38	29	32	6
PT 2	- 11	TSK34D22	JIS	59.614	120	50	35	46	35	38	6

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

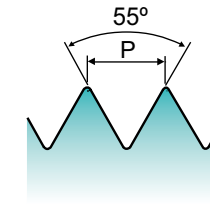
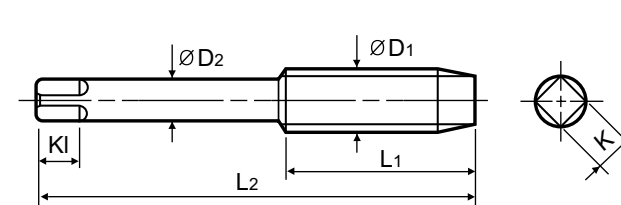
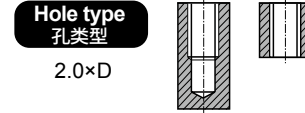
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

PS STRAIGHT PIPE TAPS for PS THREADS
PS 螺纹用直管丝锥

► Suitable for process Straight pipe internal threads.
PS : Straight pipe threads (for pressure-tight joints)

► 适用于锥管螺纹加工
PS : 锥管螺纹 (用于压力密封接头)



Material groups: **GS** SKS21 PS JIS 55° 3.0P Bright p. B225

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1					L2	L1	ØD2	K	KI	
PS 1/8	- 28	TSK35202	JIS	9.728	55	19	8	6	9	4
PS 1/4	- 19	TSK35402	JIS	13.157	62	28	11	9	12	4
PS 3/8	- 19	TSK35482	JIS	16.662	65	28	14	11	14	4
PS 1/2	- 14	TSK35562	JIS	20.955	80	35	18	14	17	4
PS 3/4	- 14	TSK35702	JIS	26.441	85	35	23	17	20	4
PS 1	- 11	TSK35782	JIS	33.249	95	45	26	21	24	5
PS 1*1/4	- 11	TSK35862	JIS	41.910	105	45	32	26	30	5
PS 1*1/2	- 11	TSK35962	JIS	47.803	110	45	38	29	32	6
PS 2	- 11	TSK35D22	JIS	59.614	120	50	46	35	38	6

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

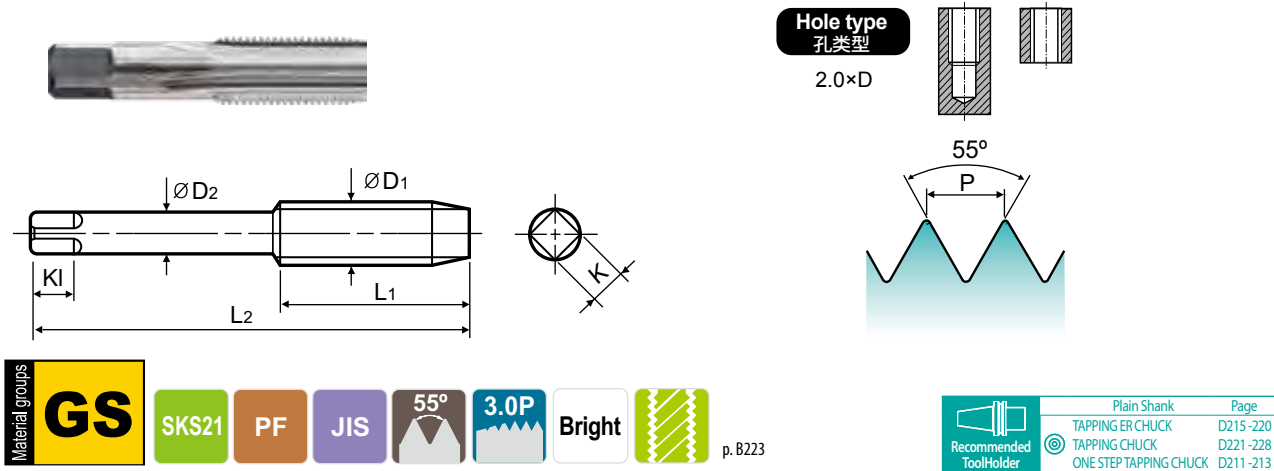
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

PF STRAIGHT PIPE TAPS for PF THREADS
PF螺纹用直管丝锥

► Suitable for process Straight pipe internal threads.
PF : Straight pipe threads (for mechanical joints)

► 适用于直管螺纹加工
PF : 直管螺纹 (用于压力密封接头)



Material groups: **GS** SKS21 PF JIS 55° 3.0P Bright

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Page: D215-220, D221-228, D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1					L2	L1	ØD2	K	K1	
PF 1/8 - 28		TSK36202	JIS	9.728	55	19	8	6	9	4
PF 1/4 - 19		TSK36402	JIS	13.157	62	28	11	9	12	4
PF 3/8 - 19		TSK36482	JIS	16.662	65	28	14	11	14	4
PF 1/2 - 14		TSK36562	JIS	20.955	80	35	18	14	17	4
PF 3/4 - 14		TSK36702	JIS	26.441	85	35	23	17	20	4
PF 1 - 11		TSK36782	JIS	33.249	95	45	26	21	24	5
PF 1*1/4 - 11		TSK36862	JIS	41.910	105	45	32	26	30	5
PF 1*1/2 - 11		TSK36962	JIS	47.803	110	45	38	29	32	6
PF 2 - 11		TSK36D22	JIS	59.614	120	50	46	35	38	6

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

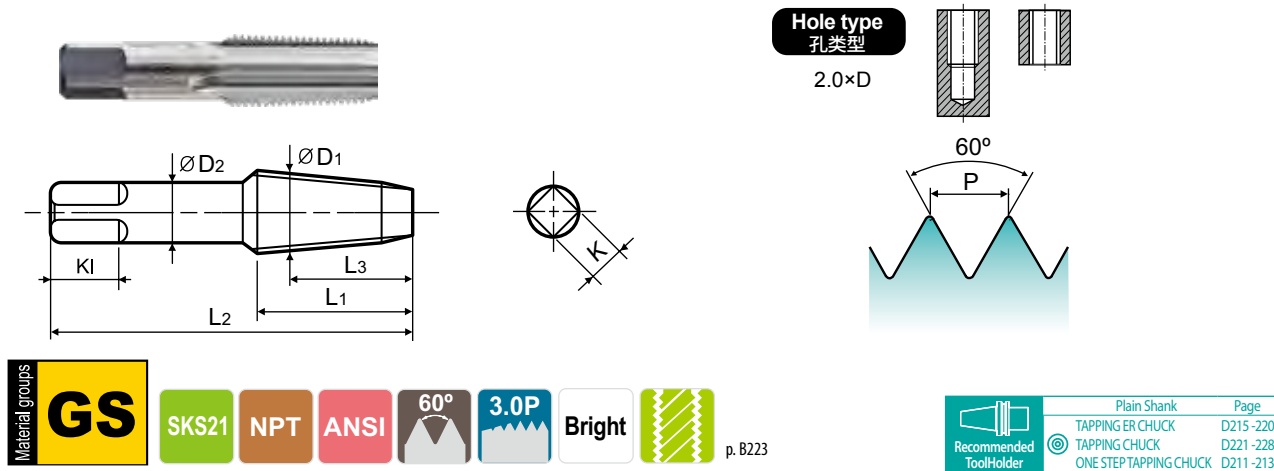
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

NPT AMERICAN TAPER PIPE TAPS for NPT THREADS
美制NPT螺纹用锥管丝锥

► Suitable for process Taper pipe internal threads.
NPT : American Taper pipe threads (for mechanical joints)

► 适用于加工锥管内螺纹。
NPT : 美制锥管螺纹 (机械连接用)



Material groups: **GS** SKS21 NPT ANSI 60° 3.0P Bright

Recommended ToolHolder: Plain Shank TAPPING ER CHUCK D215-220, TAPPING CHUCK D221-228, ONE STEP TAPPING CHUCK D211-213

Page: D215-220, D221-228, D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length	Thread Length	Projection Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	基准长度	柄径	方块尺寸	方块长度	槽数
ØD1					L2	L1	L3	ØD2	K	K1	
NPT 1/8 - 27		TSK37200	ANSI	10.117	55	19	12.05	8	6	9	4
NPT 1/4 - 18		TSK37400	ANSI	13.426	62	28	17.45	11	9	12	4
NPT 3/8 - 18		TSK37480	ANSI	16.866	65	28	17.65	14	11	14	4
NPT 1/2 - 14		TSK37560	ANSI	20.980	80	35	22.85	18	14	17	4
NPT 3/4 - 14		TSK37700	ANSI	26.325	85	35	22.95	23	17	20	4
NPT 1 - 11 1/2		TSK37780	ANSI	32.934	95	45	27.40	26	21	24	5

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

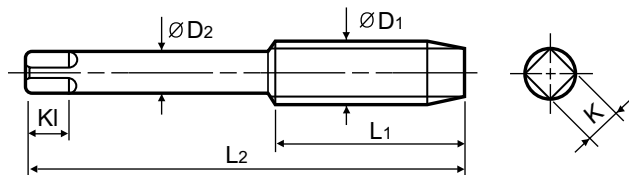


NPS STRAIGHT PIPE TAPS for NPS THREADS

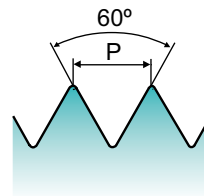
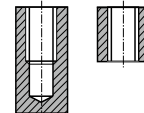
NPS螺纹用直管丝锥

► Suitable for process Straight pipe internal threads.
NPS : American Straight pipe threads (for pressure-tight joints)

► 适用于锥管螺纹加工
NPS : 锥管螺纹 (用于压力密封接头)



Hole type
孔类型
2.0×D



Material groups

GS SKS21 NPS ANSI 60° 3.0P Bright

p. B223



Plain Shank	Page
TAPPING ER CHUCK	D215-220
TAPPING CHUCK	D221-228
ONE STEP TAPPING CHUCK	D211-213

Unit(单位) : mm

SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
ØD1					L2	L1	ØD2	K	KI	
NPS 1/8 - 27		TSK38202	ANSI	10.117	55	19	8	6	9	4
NPS 1/4 - 18		TSK38402	ANSI	13.426	62	28	11	9	12	4
NPS 3/8 - 18		TSK38482	ANSI	16.866	65	28	14	11	14	4
NPS 1/2 - 14		TSK38562	ANSI	20.980	80	35	18	14	17	4
NPS 3/4 - 14		TSK38702	ANSI	26.325	85	35	23	17	20	4
NPS 1 - 11 1/2		TSK38782	ANSI	30.934	95	45	26	21	24	5
NPS 1*1/4 - 11 1/2		TSK38862	ANSI	41.689	105	45	32	26	30	5
NPS 1*1/2 - 11 1/2		TSK38962	ANSI	47.760	110	45	38	29	32	6
NPS 2 - 11 1/2		TSK38D22	ANSI	59.800	120	50	46	35	38	6

► Refer to p.B233-B238 for recommended tap drill sizes. 参考p.B233-B238 底孔尺寸.

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○			○				○					○	○	○			

ISO	N										S							H			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○			○	○														



Leading Through Innovation



TAPS



TECHNICAL DATA

**1** YG-1 YH LIMIT SYSTEM
YG-1 YH精度体系

YG-1 applies a unique system of tap pitch diameter limits. We call it the YH limits system. Using the step method, you can select the best tap pitch diameter limits to match your work condition.

YG-1使用一套独特的丝锥中径精度 我们叫它YH精度体系 用等级方法, 你可选择最合适你工件条件的丝锥中径精度。

YH limit Most of Y.G-1's taps use this limit system. The limits calculated as follows;
YH精度, 为大多数YG-1的丝锥所采用 精度计算如下。

1. Up to 0.6P (40TPI)

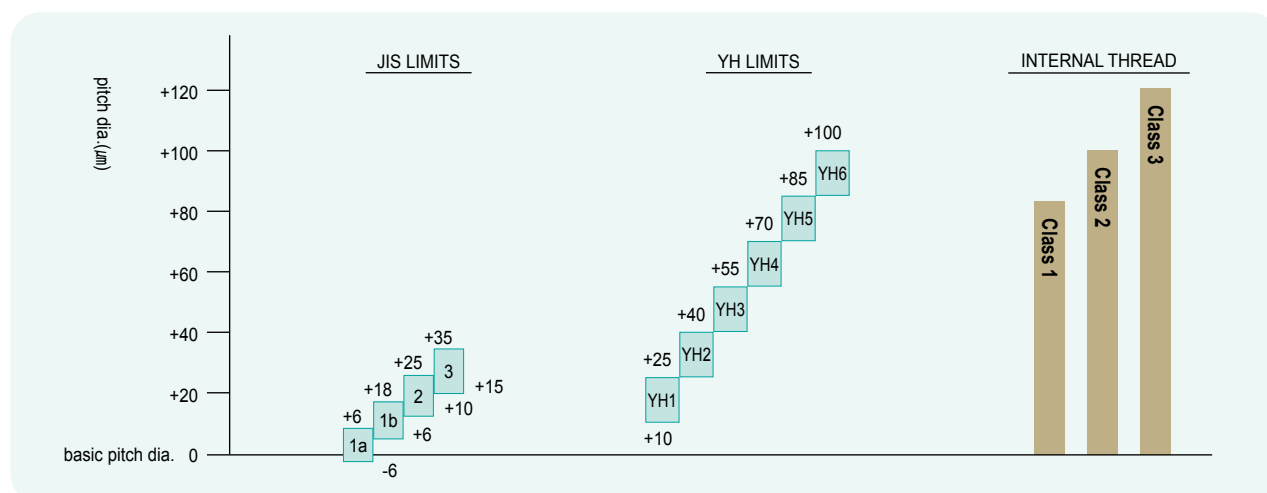
upper limits : $10\mu\text{m} + 15\mu\text{m} \times n$
lower limit : (upper limits) - $15\mu\text{m}$

n=YH No.

2. Above 0.7P (36TPI)

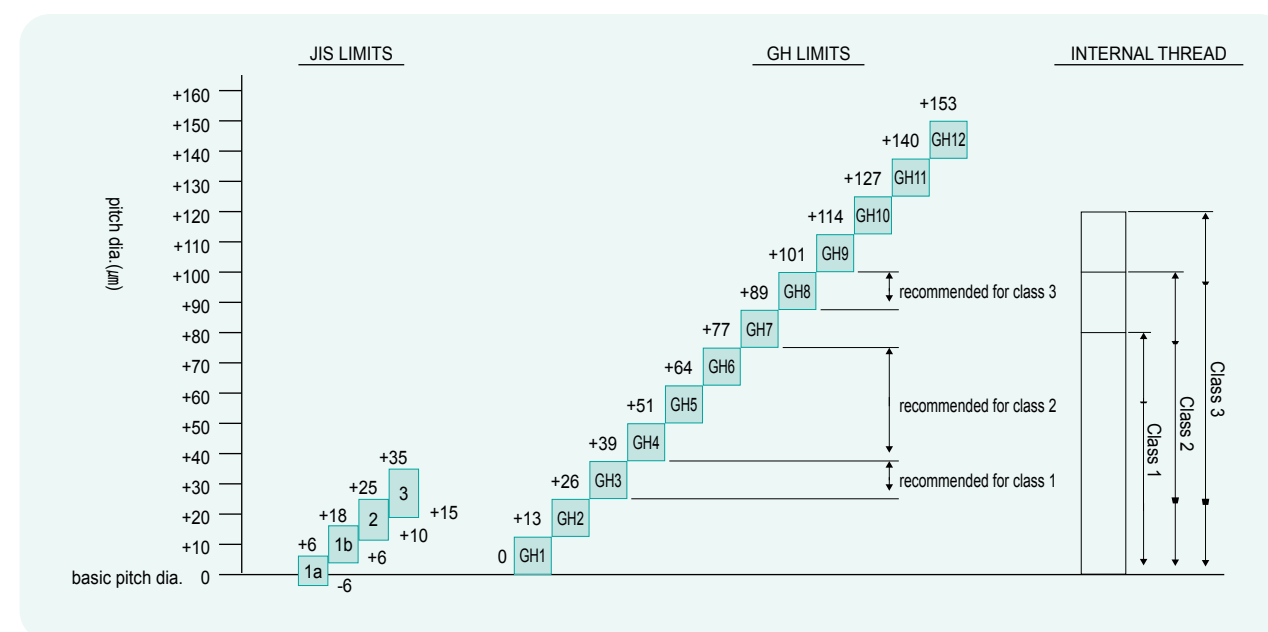
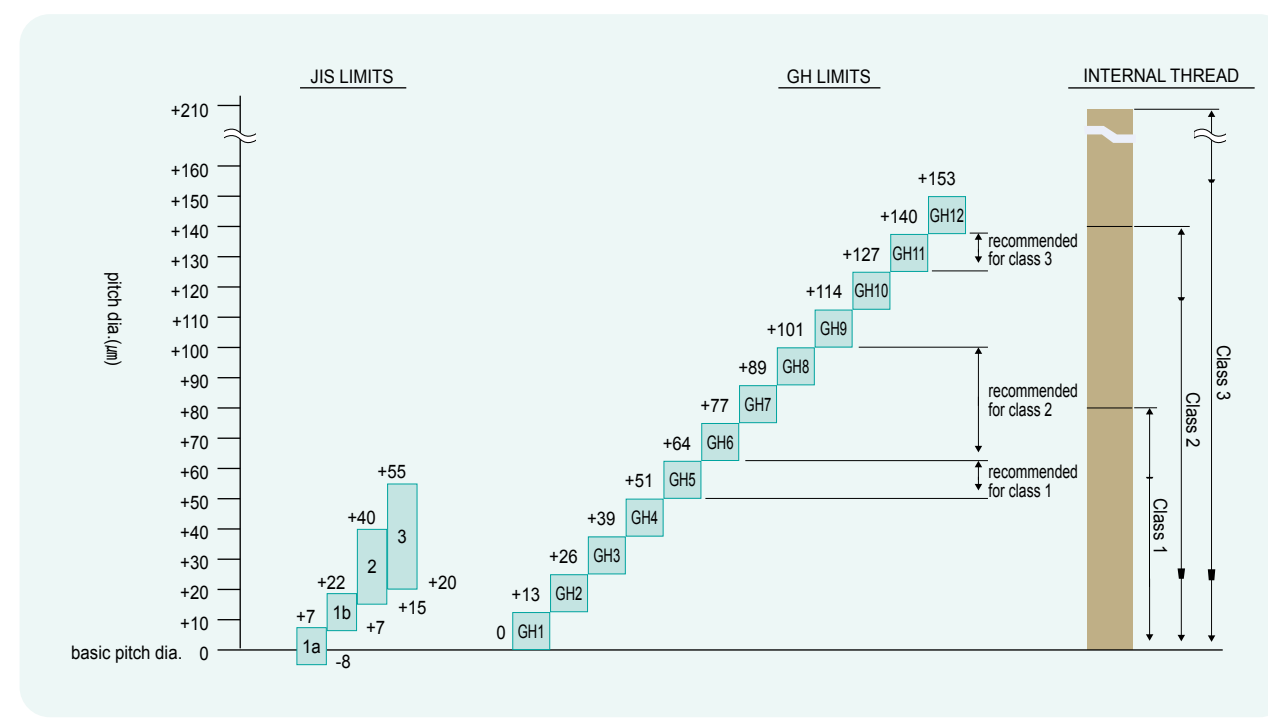
upper limits : $20\mu\text{m} \times n$
lower limit : (upper limits) - $20\mu\text{m}$

n=YH No.

Example M3×0.5 / 例如M3×0.5**Example M10×1.5 / 例如M10×1.5****2** YG-1 GH LIMIT SYSTEM
YG-1 GH精度体系

YG-1's fluteless taps are described by the GH limit system. The limits are established by increments of $12.7\mu\text{m}$.

YG-1的挤压丝锥采用GH精度体系 精度是按 $12.7\mu\text{m}$ 的增量确定的。

Example M3×0.5 / 例如M3×0.5**Example M10×1.5 / 例如M10×1.5**



3 RECOMMENDED TAPPING SPEEDS 推荐的攻丝速度

RECOMMENDED TAPPING SPEED AND CUTTING FLUIDS 推荐攻丝速度

This chart shows the recommended tapping speeds and cutting fluids. Tap material, type of tap chamfer length, dimension of drill hole, work materials and cutting fluids are important factors for determining suitable tapping speed. Lubrication, cooling capability and adhesion Resistance are the three important factors effecting cutting fluid. 表中列出推荐的攻丝速度和切削液 丝锥材质, 丝锥倒角长度的形式底孔尺寸, 工件尺寸和切削液是决定合适的攻丝速度的重要因素. 润滑, 冷却能力和抗粘合性是影响切削液的3个重要因素

WORK MATERIALS		TAPPING SPEED (m/min)						CUTTING FLUIDS	
		SPIRAL FLUTED TAP	GUN POINTED TAP	STRAIGHT FLUTED TAP	FLUTELESS TAP	SOLID CARBIDE TAP	PIPE TAP		
LOW CARBON STEELS	≤C0.2%	8~13	15~25	8~13	8~13	—	3~6	Sulfochlorinated Oil (Active Type) Tapping Paste EP Additive Non-Water-Soluble Cutting Fluid (Emulsion Type)	
MEDIUM CARBON STEELS	C0.25~0.40%	7~12	10~15	7~12	7~10	—	3~6		
HIGH CARBON STEELS	≥C0.45%	6~9	8~13	6~9	5~8	—	2~5		
ALLOY STEELS	SCM	7~12	10~15	7~12	5~8	—	2~5		
HARDENED STEELS	HRC 25~40	3~5 (4~8)	4~6 (6~10)	3~5 (4~8)	—	—	2~5		
STAINLESS STEELS	SUS	5~8	8~13	4~7	5~10	—	5~10		
TOOL STEELS	SKD	6~9	7~10	6~9	—	—	2~5		
CAST STEELS	SC	6~11	10~15	6~11	—	—	2~5		
CAST IRON	FC	—	—	10~15	—	10~20	2~5		Water-Soluble Cutting Fluid (Emulsion Type) Non-Water-Soluble Cutting Fluid
HIGH TENSION CAST IRON	FCD	7~12	10~20	7~12	—	10~20	4~8		
COPPER	Cu	6~11	7~12	6~9	7~12	10~20	2~5	Non-Water-Soluble Cutting Fluid (Inactive Type) Water-Soluble Cutting Fluid (Emulsion Type)	
BRASS BRASS CASTING	Bs, BsC	10~20	15~25	10~15	7~12	15~25	5~10		
BRONZE BORNZE CASTING	PB, PBC	6~11	10~20	6~11	7~12	10~20	6~11		
ALUMINUM ROLLED STEELS	AL	10~20	15~25	10~20	10~20	—	5~10		
ALUMINUM ALLOY CASTING	AC, ADC	10~15	15~20	10~15	10~15	10~20	10~15		
MAGNESIUM ALLOY CASTING	MC	7~12	10~15	7~12	—	10~20	10~15		
ZINC ALLOY CASTING	ZDC	7~12	10~15	7~12	7~12	10~20	10~15		
THERMOSETTING PLASTIC	BAKELITE PHENOL, EPOXY	—	—	10~20	—	15~25	5~10		Water-Soluble Cutting Fluid Mist Lubrication Air Cooling, Dry
THERMOPLASTIC	VINYL CHLORIDE NYLON	10~15	10~20	10~20	—	10~20	5~10		

- These are general recommendations which depending upon conditions, may be altered.
 - To select the best taps, please see Tap Recommended Table.
 - ()=recommendation for HSS-PM taps.
- 1.这些是一般的建议, 根据实际条件, 可能有变火.
2.要选择最适合的丝锥, 请参考丝锥推荐表
3.()=是关于HSS-PM丝锥的推荐



4 RECOMMENDED TAP DRILL SIZES 推荐攻丝底孔尺寸

FOR METRIC THREADS 公制螺纹

Thread Size	Drill Size (mm)	D1 (mm)		Thread Size	Drill Size (mm)	D1 (mm)	
		Max.	Min.			Max.	Min.
M2 × 0.4	1.60	1.679	1.567	M12 × 0.5	11.50	11.520	11.400
M2 × 0.25	1.75	(1.785)	(1.729)	M14 × 2	12.00	12.210	11.835
M2.2 × 0.45	1.75	1.838	1.713	M14 × 1.5	12.50	12.676	12.376
M2.2 × 0.25	1.95	(1.985)	(1.929)	M14 × 1	13.00	13.153	12.917
M2.2 × 0.4	1.90	1.979	1.867	M15 × 1.5	13.50	13.673	13.376
M2.3 × 0.25	2.05	2.061	2.001	M15 × 1	14.00	14.153	13.917
M2.5 × 0.45	2.10	2.138	5.013	M16 × 2	14.00	14.210	13.835
M2.5 × 0.35	2.20	2.221	2.121	M16 × 1.5	14.50	14.676	14.376
M2.6 × 0.45	2.20	2.238	2.113	M16 × 1	15.00	15.153	14.917
M2.6 × 0.35	2.20	2.246	2.186	M17 × 1.5	15.50	15.676	15.376
M3 × 0.5	2.50	2.599	2.459	M17 × 1	16.00	16.153	15.917
M3 × 0.35	2.70	2.721	2.621	M18 × 2.5	15.50	15.744	15.294
M3.5 × 0.6	2.90	3.010	2.850	M18 × 2	16.00	16.210	15.835
M3.5 × 0.35	3.20	3.221	3.121	M18 × 1.5	16.50	16.676	16.376
M4 × 0.7	3.30	3.422	3.242	M18 × 1	17.00	17.153	16.917
M4 × 0.5	3.50	3.599	3.459	M20 × 2.5	17.50	17.744	17.294
M4.5 × 0.75	3.80	3.878	3.688	M20 × 2	18.00	18.210	17.835
M4.5 × 0.5	4.00	4.099	3.959	M20 × 1.5	18.50	18.676	18.376
M5 × 0.8	4.20	4.334	4.134	M20 × 1	19.00	19.153	18.917
M5 × 0.5	4.50	4.599	4.459	M22 × 2.5	19.50	19.744	19.294
M6 × 1	5.00	5.153	4.917	M22 × 2	20.00	20.210	19.835
M6 × 0.75	5.30	5.378	5.188	M22 × 1.5	20.50	20.673	20.376
M6 × 0.5	5.50	5.550	5.400	M22 × 1	21.00	21.153	20.917
M7 × 1	6.00	6.153	5.917	M24 × 3	21.00	21.252	20.752
M7 × 0.75	6.30	6.378	6.188	M24 × 2	22.00	22.210	21.835
M7 × 0.5	6.50	6.550	6.400	M24 × 1.5	22.50	22.676	22.376
M8 × 1.25	6.80	6.912	6.647	M24 × 1	23.00	23.153	22.917
M8 × 1	7.00	7.153	6.917	M25 × 2	23.00	23.210	22.835
M8 × 0.75	7.30	7.378	7.188	M25 × 1.5	23.50	23.676	23.376
M8 × 0.5	7.50	7.520	7.400	M25 × 1	24.00	24.153	23.917
M9 × 1.25	7.80	7.912	7.647	M26 × 1.5	24.50	24.676	24.376
M9 × 1	8.00	8.153	7.917	M27 × 3	24.00	24.252	23.752
M9 × 0.75	8.30	8.378	8.188	M27 × 2	25.00	25.210	24.835
M10 × 1.5	8.50	8.676	8.376	M27 × 1.5	25.50	25.676	25.376
M10 × 1.25	8.80	8.912	8.647	M27 × 1	26.00	26.153	25.917
M10 × 1	9.00	9.153	8.917	M28 × 2	26.00	26.210	25.835
M10 × 0.75	9.30	9.378	9.188	M28 × 1.5	26.50	26.676	26.376
M10 × 0.5	9.50	9.520	9.400	M28 × 1	27.00	27.153	26.917
M11 × 1.5	9.50	9.676	9.376	M30 × 3.5	26.50	26.771	26.211
M11 × 1	10.00	10.153	9.917	M30 × 3	27.00	27.252	26.752
M11 × 0.75	10.30	10.378	10.188	M30 × 2	28.00	28.210	27.835
M12 × 1.75	10.30	10.441	10.106	M30 × 1.5	28.50	28.676	28.376
M12 × 1.5	10.50	10.676	10.376	M30 × 1	29.00	29.153	28.917
M12 × 1.25	10.80	10.912	10.647	M32 × 2	30.00	30.210	29.835
M12 × 1	11.00	11.153	10.917	M32 × 1.5	30.50	30.676	30.376



FOR METRIC THREADS

公制螺纹

Thread Size	Drill Size (mm)	D1 (mm)		Thread Size	Drill Size (mm)	D1 (mm)	
		Max.	Min.			Max.	Min.
M33 × 3.5	29.50	29.771	29.211	M42 × 4	38.00	38.270	37.670
M33 × 3	30.00	30.252	29.752	M42 × 3	39.00	39.252	38.752
M33 × 2	31.00	31.210	30.835	M42 × 2	40.00	40.210	39.835
M33 × 1.5	31.50	31.676	31.376	M42 × 1.5	40.50	40.676	40.376
M35 × 1.5	33.50	33.676	33.376	M45 × 4.5	40.50	40.799	40.129
M36 × 4	32.00	32.270	31.670	M45 × 4	41.00	41.270	40.670
M36 × 3	33.00	33.252	32.752	M45 × 3	42.00	42.252	41.752
M36 × 2	34.00	34.210	33.835	M45 × 2	43.00	43.210	42.835
M36 × 1.5	34.50	34.676	34.376	M45 × 1.5	43.50	43.676	43.376
M38 × 1.5	36.50	36.676	36.376	M48 × 5	43.00	43.297	42.587
M39 × 4	35.00	35.270	34.670	M48 × 4	44.00	44.270	43.670
M39 × 3	36.00	36.252	35.752	M48 × 3	45.00	45.252	44.752
M39 × 2	37.00	37.210	36.835	M48 × 2	46.00	46.210	45.835
M39 × 1.5	37.50	37.676	37.376	M48 × 1.5	46.50	46.676	46.376
M40 × 3	37.00	37.252	36.752	M50 × 3	47.00	47.252	46.752
M40 × 2	38.00	38.210	37.835	M50 × 2	48.00	48.210	47.835
M40 × 1.5	38.50	38.676	38.376	M50 × 1.5	48.50	48.676	48.376
M42 × 4.5	37.50	37.799	37.129				

D1 : Minor diameter of JIS class internal thread. But, the minor diameter D1 shown in () are of JIS class 1 internal threads because their nominal sizes are not specified in JIS Class 2.

D1 : JIS级内螺纹小径 但 () 内的 D1是JIS 1级内螺纹因为它们的公称尺寸在JIS2级中未指定。

FOR UNIFIED THREADS

英制螺纹

Thread Size	Drill Size (mm)	D1 (mm)		Thread Size	Drill Size (mm)	D1 (mm)	
		Max.	Min.			Max.	Min.
#2 - 56 UNC	1.80	1.871	1.695	1/4 - 28 UNF	5.50	5.588	5.360
#2 - 64 UNF	1.85	1.912	1.756	1/4 - 32 UNEF	5.60	5.690	5.486
#3 - 48 UNC	2.10	2.146	1.941	5/16 - 18 UNC	6.60	6.731	6.401
#3 - 56 UNF	2.10	2.197	2.025	5/16 - 24 UNF	6.90	7.035	6.782
#4 - 40 UNC	2.30	2.385	2.157	5/16 - 32 UNEF	7.10	7.264	7.087
#4 - 48 UNF	2.40	2.458	2.271	3/8 - 16 UNC	8.00	8.153	7.798
#5 - 40 UNC	2.60	2.697	2.487	3/8 - 24 UNF	8.50	8.636	8.382
#5 - 44 UNF	2.70	2.740	2.551	3/8 - 32 UNEF	8.70	8.865	8.661
#6 - 32 UNC	2.80	2.895	2.642	7/16 - 14 UNC	9.40	9.550	9.144
#6 - 40 UNF	2.90	3.022	2.820	7/16 - 20 UNF	9.90	10.033	9.729
#8 - 32 UNC	3.40	3.530	3.302	7/16 - 28 UNEF	10.20	10.338	10.135
#8 - 36 UNF	3.50	3.606	3.404	1/2 - 13 UNC	10.80	11.023	10.592
#10 - 24 UNC	3.90	3.962	3.683	1/2 - 20 UNF	11.50	11.607	11.329
#10 - 32 UNF	4.10	4.165	3.963	1/2 - 28 UNEF	11.80	11.938	11.709
#12 - 24 UNC	4.50	4.597	4.344	9/16 - 12 UNC	12.20	12.446	11.989
#12 - 28 UNF	4.60	4.724	4.496	9/16 - 18 UNF	12.90	13.081	12.751
#12 - 32 UNF	4.70	4.826	4.623	9/16 - 24 UNEF	13.20	13.386	13.132
1/4 - 20 UNC	5.10	5.257	4.979	5/8 - 11 UNC	13.60	13.868	13.386

FOR UNIFIED THREADS

英制螺纹

Thread Size	Drill Size (mm)	D1 (mm)		Thread Size	Drill Size (mm)	D1 (mm)	
		Max.	Min.			Max.	Min.
5/8 - 18 UNF	14.50	14.681	14.351	1 * 1/4 - 8 UN	28.50	28.956	28.321
5/8 - 24 UNEF	14.80	14.986	14.732	1 * 3/8 - 6 UNC	30.80	31.115	30.353
3/4 - 10 UNC	16.50	16.840	16.307	1 * 3/8 - 12 UNF	32.80	33.096	32.639
3/4 - 16 UNF	17.50	17.678	17.323	1 * 3/8 - 18 UNEF	33.50	33.731	33.401
3/4 - 20 UNEF	17.80	17.958	17.678	1 * 3/8 - 8 UN	31.80	32.131	31.496
7/8 - 9 UNC	19.50	19.761	19.177	1 * 1/2 - 6 UNC	34.00	34.290	33.528
7/8 - 14 UNF	20.50	20.675	20.270	1 * 1/2 - 12 UNF	36.00	36.271	35.814
7/8 - 20 UNEF	21.00	21.133	20.853	1 * 1/2 - 18 UNEF	36.50	36.881	36.576
1 - 8 UNC	22.20	22.606	21.971	1 * 1/2 - 8 UN	35.00	35.306	34.671
1 - 12 UNF	23.20	23.571	23.114	1 * 5/8 - 18 UNEF	39.80	40.081	39.751
1 - 20 UNEF	24.00	24.308	24.028	1 * 5/8 - 8 UN	38.20	38.481	37.846
1 * 1/8 - 7 UNC	25.00	25.349	24.638	1 * 5/8 - 12 UN	39.20	39.446	38.989
1 * 1/8 - 12 UNF	26.50	26.746	26.289	1 * 3/4 - 5 UNC	39.50	39.827	38.964
1 * 1/8 - 18 UNEF	27.20	27.381	27.051	1 * 3/4 - 8 UN	41.20	41.656	41.021
1 * 1/8 - 8 UN	25.50	25.781	25.146	1 * 3/4 - 12 UN	42.20	42.621	42.164
1 * 1/4 - 7 UNC	28.20	28.524	27.813	2 - 4 * 1/2 UNC	45.20	45.593	44.679
1 * 1/4 - 12 UNF	29.50	29.921	29.464	2 - 8 UN	47.80	48.006	47.371
1 * 1/4 - 18 UNEF	30.20	30.556	30.226	2 - 12 UN	48.50	48.971	48.514

D1 : Minor diameter of internal thread.

For UNC and UNF threads, according to JIS Class 2B ;

For UNEF and UN threads, according to ANSI B1.1 Class 2B

D1 : 内螺纹小径.

对 UNC 和 UNF 螺纹, 按照 JIS 2B 级

对 UNEF 和 UN 螺纹, 按照 ANSI B1, 1a, 2B 级.

FOR WHITWORTH THREADS

惠氏螺纹

Thread Size	Drill Size (mm)		Thread Size	Drill Size (mm)	
	A	B		A	B
W1/8 - 40	2.65	2.60	W7/8 - 9	19.50	19.30
W5/32 - 32	3.25	3.20	W1 - 8	22.40	22.00
W3/16 - 24	3.75	3.70	W1 * 1/8 - 7	25.00	24.80
W1/4 - 20	5.10	5.00	W1 * 1/4 - 7	28.30	28.00
W5/16 - 18	6.60	6.50	W1 * 3/8 - 6	30.50	30.30
W3/8 - 16	8.00	7.90	W1 * 1/2 - 6	33.80	33.50
W7/16 - 14	9.40	9.30	W1 * 5/8 - 5	36.00	35.70
W1/2 - 12	10.70	10.50	W1 * 3/4 - 5	39.20	39.00
W9/16 - 12	12.30	12.00	W1 * 7/8 - 4 * 1/2	41.80	41.50
W5/8 - 11	13.70	13.50	W2 - 4 * 1/2	45.00	44.70
W3/4 - 10	16.70	16.50			

Generally the tap drill sizes in column A are used for producing holes ; When holes tend to be cut oversized the tap drill sizes in column B should be Selected.

通常A栏的螺纹底孔的钻头尺寸是用于加工孔的 ; 当孔的尺寸趋向变大时应选择B栏的螺纹底孔的钻头尺寸.



PT TAPER PIPE THREADS

PT锥形管螺纹

Thread Size	Drill Size (mm)		Internal Thread Minor Dia. on [Min] Length of Useful Thread (mm)	Internal Thread Minor Dia. on [Min] Gauge Length (mm)
	With Reaming Before Tapping	Without Reaming Before Tapping		
PT 1/16 - 28	6.10	6.10	6.244	6.384
PT 1/8 - 28	8.10	8.10	8.249	8.388
PT 1/4 - 19	10.70	10.70	10.962	11.174
PT 3/8 - 19	14.20	14.20	14.448	14.658
PT 1/2 - 14	17.60	17.60	17.979	18.263
PT 3/4 - 14	23.00	23.00	23.378	23.663
PT 1 - 11	29.00	29.00	29.459	29.822
PT 1 * 1/4 - 11	37.50	37.50	37.976	38.339
PT 1 * 1/2 - 11	43.40	43.40	43.869	44.232
PT 2 - 11	54.90	54.90	55.412	55.844

PS STRAIGHT PIPE THREADS

PS直形管螺纹

Thread Size	Drill Size (mm)	D1 (mm)		Thread Size	Drill Size (mm)	D1 (mm)	
		Max.	Min.			Max.	Min.
PS 1/16 - 28	6.50	6.632	6.490	PS 3/4 - 14	24.00	24.259	23.975
PS 1/8 - 28	8.50	8.637	8.495	PS 1 - 11	30.20	30.471	30.111
PS 1/4 - 19	11.40	11.549	11.341	PS 1 * 1/4 - 11	38.80	39.132	38.772
PS 3/8 - 19	15.00	15.054	14.846	PS 1 * 1/2 - 11	44.80	45.025	44.665
PS 1/2 - 14	18.50	18.773	18.489	PS 2 - 11	56.50	56.836	56.476

PF STRAIGHT PIPE THREADS

PF直形管螺纹

Thread Size	Drill Size (mm)	D1 (mm)		Thread Size	Drill Size (mm)	D1 (mm)	
		Max.	Min.			Max.	Min.
PS 1/16 - 28	6.70	6.843	6.561	PF 3/4 - 14	24.50	24.658	24.117
PS 1/8 - 28	8.70	8.848	8.566	PF 1 - 11	30.50	30.931	30.291
PS 1/4 - 19	11.70	11.890	11.445	PF 1 * 1/4 - 11	39.20	39.592	38.952
PS 3/8 - 19	15.20	15.395	14.950	PF 1 * 1/2 - 11	45.00	45.485	44.845
PS 1/2 - 14	19.00	19.172	18.631	PF 2 - 11	57.00	57.296	56.656

NPT TAPER PIPE THREADS

NPT锥形管螺纹

Thread Size	Drill Size (mm)			
	With Reaming Before Tapping		Without Reaming Before Tapping	
	mm	inch	mm	inch
NPT 1/16 - 27	5.94	0.234	6.15	0.242
NPT 1/8 - 27	8.33	0.328	8.43	0.332
NPT 1/4 - 18	10.72	0.422	11.13	0.438
NPT 3/8 - 18	14.27	0.562	14.27	0.562
NPT 1/2 - 14	17.48	0.688	17.86	0.703
NPT 3/4 - 14	22.63	0.891	23.01	0.906
NPT 1 - 11 * 1/2	28.58	1.125	28.98	1.141
NPT 1 * 1/4 - 11 * 1/2	37.31	1.469	37.69	1.484
NPT 1 * 1/2 - 11 * 1/2	43.26	1.703	43.66	1.719
NPT 2 - 11 * 1/2	55.17	2.172	55.58	2.188
NPT 2 1/2 - 8	65.48	2.578	66.27	2.609

NPTF TAPER PIPE THREADS

NPTF锥形管螺纹

Thread Size	Drill Size (mm)			
	With Reaming Before Tapping		Without Reaming Before Tapping	
	mm	inch	mm	inch
NPTF 1/16 - 27	5.94	0.234	6.15	0.242
NPTF 1/8 - 27	8.33	0.328	8.43	0.332
NPTF 1/4 - 18	10.72	0.422	11.13	0.438
NPTF 3/8 - 18	14.27	0.562	14.27	0.562
NPTF 1/2 - 14	17.48	0.688	17.86	0.703
NPTF 3/4 - 14	22.63	0.891	23.01	0.906
NPTF 1 - 11 * 1/2	28.58	1.125	28.98	1.141
NPTF 1 * 1/4 - 11 * 1/2	37.31	1.469	37.69	1.484
NPTF 1 * 1/2 - 11 * 1/2	43.26	1.703	43.66	1.719
NPTF 2 - 11 * 1/2	55.17	2.172	55.58	2.188
NPTF 2 1/2 - 8	65.48	2.578	66.27	2.609



FOR FLUTELESS TAPS

挤压丝锥

Thread Size	Drill Size (mm)								
	Tap Limits								
	GH4	GH5	GH6	GH7	GH8	GH9	GH10	GH11	
M2 × 0.4	1.83	1.84	---	---	---	---	---	---	---
M2.2 × 0.45	2.00	2.01	---	---	---	---	---	---	---
M2.3 × 0.4	2.13	2.14	---	---	---	---	---	---	---
M2.5 × 0.45	2.30	2.31	---	---	---	---	---	---	---
M2.6 × 0.45	2.40	2.41	---	---	---	---	---	---	---
M3 × 0.5	2.77	2.78	2.79	2.81	---	---	---	---	---
M3 × 0.35	2.85	2.87	2.88	2.89	---	---	---	---	---
M3.5 × 0.6	---	3.23	3.24	3.25	---	---	---	---	---
M4 × 0.7	---	3.67	3.68	3.70	---	---	---	---	---
M4 × 0.5	---	3.78	3.79	3.81	---	---	---	---	---
M5 × 0.8	---	4.61	4.63	4.64	---	---	---	---	---
M5 × 0.5	---	4.78	4.79	4.81	---	---	---	---	---
M6 × 1	---	5.50	5.51	5.53	---	---	---	---	---
M6 × 0.75	---	5.64	5.65	5.67	---	---	---	---	---
M6 × 0.5	---	5.78	5.79	5.81	---	---	---	---	---
M7 × 1	---	6.50	6.51	6.53	---	---	---	---	---
M8 × 1.25	---	---	7.37	7.39	7.40	---	---	---	---
M8 × 1	---	---	7.51	7.53	7.54	---	---	---	---
M10 × 1.5	---	---	9.23	9.24	9.26	9.27	---	---	---
M10 × 1.25	---	---	9.37	9.39	9.40	9.41	---	---	---
M10 × 1	---	---	9.51	9.53	9.54	9.55	---	---	---
M12 × 1.75	---	---	---	11.10	11.12	11.13	11.14	---	---
M12 × 1.5	---	---	---	11.24	11.26	11.27	11.28	---	---
M12 × 1.25	---	---	---	11.39	11.40	11.41	11.42	---	---
M12 × 1	---	---	---	11.53	11.54	11.55	11.56	---	---
M14 × 2	---	---	---	---	12.98	12.99	13.00	13.01	---
M14 × 1.5	---	---	---	---	13.26	13.27	13.28	13.30	---
M14 × 1	---	---	---	---	13.54	13.55	13.56	13.58	---
M16 × 2	---	---	---	---	14.98	14.99	15.00	15.01	---
M16 × 1.5	---	---	---	---	14.26	15.27	15.28	15.30	---
M16 × 1	---	---	---	---	15.54	15.55	15.56	15.58	---
M18 × 2.5	---	---	---	---	---	16.71	16.72	16.73	---
M18 × 1.5	---	---	---	---	---	17.27	17.28	17.30	---
M20 × 2.5	---	---	---	---	---	---	18.72	18.73	---
M20 × 1.5	---	---	---	---	---	---	19.28	19.30	---

FOR FLUTELESS TAPS

挤压丝锥

Thread Size	Drill Size (mm)								
	Tap Limits								
	GH4	GH5	GH6	GH7	GH8	GH9	GH10	GH11	
#2 - 56 UNC	---	1.99	2.01	---	---	---	---	---	---
#4 - 40 UNC	---	2.55	2.56	2.58	---	---	---	---	---
#5 - 40 UNC	---	2.88	2.89	2.91	---	---	---	---	---
#6 - 32 UNC	---	3.12	3.13	3.15	3.16	---	---	---	---
#8 - 32 UNC	---	---	3.80	3.81	3.82	---	---	---	---
#10 - 24 UNC	---	---	---	4.32	4.33	4.34	---	---	---
#12 - 24 UNC	---	---	---	4.98	4.99	5.01	---	---	---
1/4 - 20 UNC	---	---	---	5.72	5.74	5.75	---	---	---



SYMBOL USED FOR STANDARD THREADS (PARTIAL LISTING)

标准螺纹规格(部分)

Thread Symbol	Thread	Reference Standard	Thread Angle
M	Metric screw threads	Coarse series	JIS B 0205
		Fine series	JIS B 0207
S	Metric screw threads	JIS B 0201	
UNC	Unified threads	Coarse series	JIS B 0206
		Fine series	ANSI B1.1
UNF	Unified threads	JIS B 0208	60°
UNEF	Extra-fine series	ANSI B1.1	
UNS	Special diameter, pitch, & length of engagement		
UN	Constant-pitch series		
UNJC	Unified threads (MIL Standard)	Coarse series	MIL-S-8879
UNJF		Fine series	
UNJEF		Extra-fine series	
UNJ		Constant-pitch series	
Tr	Metric trapezoidal screw threads	JIS B 0216	30°
TM	30° Trapezoidal screw threads	JIS B 0216 Appendix	
TW	29° Trapezoidal screw threads	JIS B 0222	29°
R	Pipe threads where pressure-tight joints are made on the threads	Taper external pipe threads	55° 1/16 Taper
Rc		Taper internal pipe threads	
Rp		Parallel internal pipe threads	
G	Pipe threads where pressure-tight joints are not made on the threads	JIS B 0202	55°
PF	Parallel pipe threads (For mechanical joints)	JIS B 0202 Appendix	
PT	Taper pipe threads	JIS B 0203 Appendix	55° 1/16 Taper
PS	Parallel pipe threads (For pressure-tight joints)		55°
NPT	American Standard taper pipe threads for general use	ANSI/ASEM B1.20.1	60° 1/16 Taper
NPSC	American Standard straight pipe threads in pipe couplings		60°
NPSM	American Standard straight pipe threads for free-fitting mechanical joints for fixtures		
NPTF	Dryseal American Standard taper pipe threads	ANSI B1.20.3	60° 1/16 Taper
NPSF	Dryseal American Standard fuel internal straight pipe threads		60°
CTG	Screw threads for rigid metal thick-walled conduits and fittings	JIS B 0204	55°
CTC	Screw threads for rigid metal thin-walled conduits and fittings		80°
BC	Cycle threads	JIS B 0225	
SM	Screw threads for sewing machine	JIS B 0226	60°
CTV	Tyre valve threads of cycle	JIS D 9422	
TV	Tyre valve threads of automobile	JIS D 4208	
E	Electric socket and lamp-base threads	JIS C 7709	---
BA	British association threads	BS 93	47° 30'
BSC	British Standard cycle threads	BS 811	60°
BSW	British Standard Whitworth threads	BS 84	55°
BSF	British Standard fine threads		
BSMO	British Standard microscope objective threads	BS 3569	
FG	(Germany) Cycle threads	DIN 79012	80°
Pg	(Germany) Steel conduit threads	DIN 40430	80°

**6** HARDNESS CONVERSION TABLE
硬度换算表

Rockwell ★ C. Scale Hardness	Vickers Hardness	Brinell Hardness	Rockwell A. Scale Hardness	Shore Hardness	Tensile Strength ★★ MPa (Kgf/mm ²)
58	653	---	80.1	78	---
57	633	---	79.6	76	---
56	613	---	79.0	75	---
55	595	---	78.5	74	2075 (212)
54	577	---	78.0	72	2015 (205)
53	560	---	77.4	71	1950 (199)
52	544	(500)	76.8	69	1880 (192)
51	528	(487)	76.3	68	1820 (186)
50	513	(475)	75.9	67	1760 (179)
49	498	(464)	75.2	66	1695 (173)
48	484	451	74.7	64	1635 (167)
47	471	442	74.1	63	1580 (161)
46	458	432	73.6	62	1530 (156)
45	446	421	73.1	60	1480 (151)
44	434	409	72.5	58	1435 (146)
43	423	400	72.0	57	1385 (141)
42	412	390	71.5	56	1340 (136)
41	402	381	70.9	55	1295 (132)
40	392	371	70.4	54	1250 (127)
39	382	362	69.9	52	1215 (124)
38	372	353	69.4	51	1180 (120)
37	363	344	68.9	50	1160 (118)
36	354	336	68.4	49	1115 (114)
35	345	327	67.9	48	1080 (110)
34	336	319	67.4	47	1055 (108)
33	327	311	66.8	46	1025 (105)
32	318	301	66.3	44	1000 (102)
31	310	294	65.8	43	980 (100)
30	302	286	65.3	42	950 (97)
29	294	279	64.7	41	930 (95)
28	286	271	64.3	41	910 (93)
27	279	264	63.8	40	880 (90)
26	272	258	63.3	38	860 (88)
25	266	253	62.8	38	840 (86)
24	260	247	62.4	37	825 (84)
23	254	243	62.0	36	805 (82)
22	248	237	61.5	35	785 (80)
21	243	231	61.0	35	770 (79)
20	238	226	60.5	34	760 (77)
(18)	230	219	---	33	730 (75)
(16)	222	212	---	32	705 (72)
(14)	213	203	---	31	675 (69)
(12)	204	194	---	29	650 (66)
(10)	196	187	---	28	620 (63)
(8)	188	179	---	27	600 (61)
(6)	180	171	---	26	580 (59)
(4)	173	165	---	25	550 (56)
(2)	166	158	---	24	530 (54)
(0)	160	152	---	24	515 (53)

● Hardness conversions should only be used as a rough guide due to variation for different materials.

Figures shown in bold type are based on ASTM E 140 (which being adjusted commonly by SAE-ASM-ASTM).

★ Figure shown in () are provided for reference only.

★★ The unit of tensile strength and figures in () are converted from psi values by using conversion tables in JIS Z 8413 & Z 8438. This table is according to SAE J 417 (partial listing).

● 硬度转换只作为粗略的参考, 因为不同材料会有变化。

黑体字的数字是以ASTM E 140为基准(通常由SAE-ASM-ASTM进行调整)

★ ()中的数字只供参考

★★ 抗拉强度的单位和()中的数字是用JIS Z 8413 & Z 8438中的转换表由psi值转换的。
此表是根据SAE J 417作成(部分)

**7** APPLICATION AND USE OF THREADING TAPS
攻丝过程中的问题及对策

Problem / 问题	Causes / 问题发生	Solutions / 对策
Tapped hole oversize 攻孔过大	Incorrect tap in use (cutting geometry unsuitable for application) 不正确的丝锥使用(切削参数不适合运用)	Use tap selected from the relevant material group 根据相应的材料组选择丝锥
	Faulty alignment 同轴性不好	Ensure that the tap is correctly aligned with the core hole axis 确保丝锥和锥孔准确的在一条线上
	Cold welding 冷焊	Improve lubrication and direction of coolant Adjust cutting speed 改变冷却油方向, 调整切削速度
	Re-ground tap(lead-in is not concentric) 重置丝锥(引入线不是同心的)	Regrind tap lead correctly on a suitable tap grinding machine 用合适的研磨机械再研磨丝锥的引入部分
Stripped threads 带状螺纹	Incorrect tap in use (cutting geometry incorrect for application) 错误使用丝锥(切削参数不适合运用)	Use a tap from the relevant material group. 根据相应的材料组选择丝锥
	Spindle speed and feed rate not synchronized 主轴速度和进给率不同步	Check feed rate programming and / or pitch of leading spindle Use a tapping spindle with axial float 检查进给率程序和主轴螺距 使用带有轴向滑动的攻丝主轴
	Insufficient start pressure exerted on tap with peel-cut 不足的启动压力, 促使外面的螺纹脱落	Increase start pressure 增大启动压力
Bell mouthed tapped hole 攻丝的孔成钟型	Incorrect start pressure applied to tap 启动压力不合适	Use a tapping spindle with axial float 使用带有轴向滑动的攻丝主轴
Unsatisfactory thread surface finish 不理想的螺纹表面	Incorrect tap in use (Cutting geometry unsuitable for application) 错误使用丝锥 (切削参数不适合运用)	Select tap from the relevant material group 根据相应的材料组选择丝锥
	The tap is blunt 丝锥生硬	Replace or re-grind tap 替换和重新研磨丝锥
	Tap badly re-ground 再研磨效果差	Re-grind tap again. Check that cutting geometry is suitable for material 再研磨一遍 检查切削参数是否适合被加工材料
	Coolant lacking in lubricating qualities and / or quantity 冷却油太少影响润滑质量和产量	Ensure the use of asuitable coolant and an ample supply 确保冷却油使用正确且供应充足

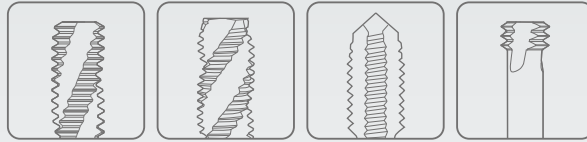


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T0462	B158	T2518	B202	TL231	B180
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T1043	B151	T2538	B203	TSK12	B216
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T1112	B87	T2552	B206	TSK21	B219
T1113	B148	T2562	B207	TSK23	B220
T1121	B73	T2701	B186	TSK34	B224
T1130~60	B100-101	T2702	B191	TSK35	B225
T1131	B134	T2731	B186	TSK36	B226
T1132	B80	T2732	B191	TSK37	B227
T1133	B146	T2741	B188	TSK38	B228
T1142	B113	T2749	B187	TT437	B41
T1151	B133	T2751	B188	TTS01	B42
T1152	B77	T2759	B187	TTS03	B44
T1162	B86	T2809	B47	TW201	B135
T1172	B90	T2829	B54	TZ181	B179
T1182	B92	T2839	B52		
T1191	B144	T2849	B58		

Problem / 问题	Causes / 问题发生	Solutions / 对策
Partial chipping of tap 丝锥的铁屑部分	Swarf jamming 金属屑阻塞	Check cutting speed Use alternative tap type 检查切削速度 使用有选择性的丝锥类型
	Tap has jammed against bottom of core hole 丝锥碰到孔底部而阻塞	Check hole and thread depths Drill core hole deeper 检查孔和螺纹的深度 钻孔要深一些
	Tap incorrectly re-ground (lead-in diameter too small therefore too few cutting teeth) 丝锥错误的再研磨 (导入的直径太小以至于切齿太少)	Ensure that original values are maintained when regrinding 在再研磨时, 确保它的原始值
	Irregular workpiece material structure 无规律的工件原材料结构	Adjust cutting speed Improve lubricating quality of coolant 调整切削速度 提高冷却油的润滑质量
Excessive tap wear 过度的丝锥破损	Incorrect cutting speed 不当的切削速度	Adjust cutting speed to suit workpiece material 调整切削速度以合适被加工材料
	Coolant lacking in lubricating qualities and / or quantity 冷却油太少影响润滑质量和产量	Ensure the use of a suitable coolant and an ample supply 确保冷却油使用正确且供应充足 Check that coolant is reaching the cutting zone 检查冷却油是否到达加工区域
	Surface of the core hole is compacted 攻孔太小, 孔的外表面压缩	Check core hole drilling conditions (drill carefully to reduce risk of surface compacting) 检查钻孔情况(仔细钻孔以减少缩孔的风险) Check drill cutting edges 检查钻边
Tap breakage 丝锥破损	Incorrect tap in use(cutting geometry unsuitable for application) 错误使用丝锥(切削参数不适合运用)	Use tap from the relevant material group 根据相应的材料组选择丝锥
	Centering error 中心误差	Ensure that axes of tap and core hole are aligned 确保丝锥和被加工孔成一条直线
	Blunt tap 丝锥生硬	Re-grind tap 再研磨丝锥 Ensure that taps are stored carefully 确保丝锥的存放安全性
	Tap has reached bottom of core hole 丝锥碰到孔的底部	Use tapping spindle with axial float and slipping clutch 用具有轴向滑动制动的攻丝主轴
	Core hole too small 攻孔太小	Select core hole as per chart, pages 533~538 of this catalogue 为每一步选择攻孔 手册在533-538页



Global Cutting Tool Leader **YG-1**



THREADING

MILLING TOOLS

CBN 铣刀

i-Xmill, 硬质合金刀片铣刀

i-Smart, 硬质合金模块铣刀

X5070 纳米硬质合金铣刀

4G 硬质合金铣刀

X-POWER PRO 硬质合金铣刀

TitaNox 硬质合金铣刀

SUS-CUT 硬质合金铣刀

V7 PLUS 硬质合金铣刀

ALU-POWER HPC 硬质合金铣刀

ALU-CUT 硬质合金铣刀

G-CUT 硬质合金铣刀

CRX 硬质合金铣刀

K-2 Plus 硬质合金铣刀

普通硬质合金铣刀

ONLY ONE 粉末高速钢铣刀

TANK-POWER 粉末高速钢铣刀

普通高速钢铣刀

高速钢铣刀

技术参数

CBN END MILLS

i-Xmill END MILLS

i-SMART END MILLS

X5070 NANO SOLID CARBIDE END MILLS

4G Mill SOLID CARBIDE END MILLS

X-POWER PRO SOLID CARBIDE END MILLS

TitaNox-POWER SOLID CARBIDE END MILLS

SUS-CUT SOLID CARBIDE END MILLS

V7 PLUS SOLID CARBIDE END MILLS

ALU-POWER HPC SOLID CARBIDE END MILLS

ALU-CUT SOLID CARBIDE & HSS-PM END MILLS

G-CUT SOLID CARBIDE END MILLS

SOLID CARBIDE ROUTERS (DIAMOND COATED)

CRX S SOLID CARBIDE END MILLS

K-2 Plus SOLID CARBIDE END MILLS

GENERAL CARBIDE END MILLS

ONLY ONE COATED PM60 END MILLS

TANK-POWER HSS-PM END MILLS

GENERAL HSS END MILLS

HSS MILLING CUTTERS

TECHNICAL DATA

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CBN END MILLS

CARBIDE EXCHANGEABLE END MILLS

SOLID CARBIDE END MILLS

HSS END MILLS

TECHNICAL DATA

CBN 铣刀
适用于加工高硬钢(~HRc70),
镜面处理的CBN(立方氮化硼)铣刀

i-Xmill, 硬质合金刀片铣刀
多样类型刀片可在加工普通钢,
预硬钢, 高硬钢, 不锈钢, 石墨

i-Smart, 硬质合金模块铣刀
适用于普通钢, 高硬钢和铸铁

X5070 纳米硬质合金铣刀
蓝色涂层, 整体硬质合金立铣刀(HRc45 to HRc70)
用于加工高硬钢, 用于高速切削和干切, 用于模具

4G 硬质合金铣刀
适用于高速加工 预硬钢 (~HRc55)

X-POWER PRO 硬质合金铣刀
适用于加工预硬钢(~HRc55),
模具, 干&湿切削

TitaNox 硬质合金铣刀
实现难切材料的高速加工 钛合金和不锈钢

SUS-CUT 硬质合金铣刀
加工不锈钢, 镍合金和钛合金

V7 PLUS 硬质合金铣刀
高性能 硬质合金 立铣刀
适用于钢件, 铸铁和不锈钢

ALU-POWER HPC 硬质合金铣刀
适用于加工铝, 铝合金, 非铁金属和塑料

ALU-CUT 硬质合金铣刀
适用于加工铝合金而无声切削

G-CUT 硬质合金铣刀
高性能加工石墨

CRX 硬质合金铣刀
加工铜的DLC涂层铣刀

K-2 Plus 硬质合金铣刀
适用于普通加工 / 普通或高速铣削 /
湿切&干切削

普通硬质合金铣刀
适用于普通加工,
非涂层及任何涂层都可以提供

ONLY ONE 粉末高速钢铣刀
在振动工况硬质合金崩刃的完美解决方案

TANK-POWER 粉末高速钢铣刀
适用于不锈钢, 碳钢, 合金钢
可用于普通加工, 粗&精加工的高韧性铣刀

普通高速钢铣刀
普通加工 / 可以提供涂层

高速钢铣刀
普通加工, 可提供燕尾槽铣刀,
月牙键槽铣刀, T型铣刀, 三面刃铣刀,
含钴8%的圆角铣刀和圆筒形端铣刀

技术参数

CBN END MILLS

CBN(Cubic Boron Nitride) Machining High Hardened Steels up to HRc70 / Mirror Finish

i-Xmill, CARBIDE INSERT END MILLS

Various Applications Type of Inserts Available for General Steels, Pre-Hardened Steels,
High Hardened Steels, Stainless Steels and Graphite

i-Smart MODULAR TYPE END MILLS

For General Steels, Hardened Steels and Cast Iron

X5070 NANO SOLID CARBIDE END MILLS

For High Hardened Steels (HRc45 to HRc70) / High Speed Machining and Dry Cutting

4G Mill SOLID CARBIDE END MILLS

High Speed Cutting for Pre-Hardened Steels up to HRc55

X-POWER PRO SOLID CARBIDE END MILLS

For Pre-Hardened Steels up to HRc55

TitaNox-POWER SOLID CARBIDE END MILLS

High Speed Machining for Exotic Materials: Titanium and Stainless Steels

SUS-CUT SOLID CARBIDE END MILLS

For Exotic materials like Stainless Steels, Nickel Alloys and Titanium

V7 PLUS SOLID CARBIDE END MILLS

High Performance Carbide End Mills for Steels, Cast Iron and Stainless Steels

ALU-POWER HPC SOLID CARBIDE END MILLS

For Aluminium, Aluminum Die Cast, Non-ferrous Alloys and Plastics

ALU-CUT SOLID CARBIDE END MILLS

For Aluminium Alloys and Silent Cutting

G-CUT SOLID CARBIDE END MILLS

For Graphites

CRX S SOLID CARBIDE END MILLS

DLC Coated End Mills for Copper

K-2 Plus SOLID CARBIDE END MILLS

General Purpose / Conventional or High Speed Milling / Wet & Dry Cutting

GENERAL CARBIDE END MILLS

General Purposes, Non-coated, Any Coating Available

ONLY ONE COATED PM60 END MILLS

Perfect Solution of Carbide Chipping under Vibrations

TANK-POWER HSS-PM END MILLS

High Toughness for Stainless Steels, Carbon steels and Alloy Steels /
for General Application, Roughing & Finishing

GENERAL HSS END MILLS

General Purpose / Coating Available

HSS MILLING CUTTERS

General Works. Available Dovetail, Woodruff Keyseat, T-slot, Side Milling Cutters
and HSS (8% Cobalt) Corner Rounding, Shell End Mills

TECHNICAL DATA

CBN
END MILLS

i-Xmill
END MILLS

i-SMART
MODULAR
END MILLS

X5070
END MILLS

4G MILL
END MILLS

X-POWER
PRO
END MILLS

Titanox-
POWER
END MILLS

SUS-CUT
END MILLS

V7 PLUS
END MILLS

ALU-POWER
HPC
END MILLS

ALU-CUT
END MILLS

G-CUT
END MILLS

CRX S
END MILLS

K-2 Plus
END MILLS

GENERAL
CARBIDE
END MILLS

ONLY ONE
COATED PM60
END MILLS

TANK-
POWER
END MILLS

GENERAL
HSS
END MILLS

MILLING
CUTTERS

TECHNICAL
DATA

SELECTION GUIDE 选用指南



MILLING TOOLS

SERIES 系列

FLUTE 槽数

HELIX ANGLE 螺旋角度

CUTTING EDGE SHAPE 类型

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

LENGTH

SURFACE TREATMENT

i-Smart Modular Head					
XSEMD98	XSEME59	XSEME60	XSEME01	XSEME68	XSEME36
2	3	4	4	6	4
30°	30°	30°	27°/30° (MULTIPLE HELIX)	45°	27°/30° (MULTIPLE HELIX)
BALL NOSE	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	SQUARE
R5.0	R5.0	R5.0	D10.0	D10.0	D10.0
R16.0	R16.0	R16.0	D32.0	D32.0	D32.0
C58	C59	C60	C61-62	C63	C64
CENTER MATCH	CENTER MATCH	CENTER MATCH	-	-	-
Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating



Please visit globaly1.com/mat for material search
 ◎: Excellent (优秀)
 ○: Good (良好)

ISO	VDI 3323	Material Description 工件材料	HB	HRc	XSEMD98	XSEME59	XSEME60	XSEME01	XSEME68	XSEME36	
P	1	Non-alloy steel	125		○	○	○	○	○	○	
	2		190	13	○	○	○	○	○	○	
	3		250	25	○	○	○	◎	○	◎	
	4		270	28	◎	◎	◎	◎	◎	◎	
	5		300	32	◎	◎	◎	◎	◎	◎	
	6	180	Low alloy steel	10	○	○	○	○	○	○	
	7	275		29	◎	◎	◎	◎	◎	◎	
	8	300		32	◎	◎	◎	◎	◎	◎	
	9	350		38	◎	◎	◎	◎	◎	◎	
	10	High alloyed steel, and tool steel		200	15	○	○	○	○	○	○
	11			325	35	◎	◎	◎	◎	◎	◎
M	12	Stainless steel	200	15							
	13		240	23							
	14		180	10						○	
K	15	Grey cast iron	180	10	○	○	○	○	○	○	
	16		260	26	○	○	○	○	○	○	
	17	Nodular cast iron	160	3	○	○	○	○	○	○	
	18		250	25	○	○	○	○	○	○	
	19	Malleable cast iron	130		○	○	○	○	○	○	
20		230	21	○	○	○	○	○	○		
N	21	Aluminum-wrought alloy	60								
	22		100								
	23	Aluminum-cast, alloyed	75								
	24		90								
	25		130								
	26		110								
	27	Copper and Copper Alloys (Bronze / Brass)	90								
	28		100								
	29		Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.								
	30										
S	31	Heat Resistant Super Alloys	200	15							
	32		280	30							
	33		250	25							
	34		350	38							
	35	320	34								
	36	Titanium Alloys	400 Rm								
	37		1050 Rm								
H	38	Hardened steel	550	55	○	○	○	○	○	○	
	39		630	60	○	○	○	○	○	○	
	40	Chilled Cast Iron	400	42	◎	◎	◎	◎	◎	◎	
	41	Hardened Cast Iron	550	55	○	○	○	○	○	○	

XSEME75	i-Smart Modular Holder			X5070								
	ZMC	ZMS	ZMT	G8B59	G8B54	G8A46	G8A54	G8A28	G8A38	G8A53	G8A59	G8D62
6	-	-	-	4	4	2	2	2	2	2	3	4
45°	-	-	-	0°	0°	30°	30°	30°	30°	30°	30°	30°
SQUARE	-	-	-	CORNER RADIUS	CORNER RADIUS	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE
D10.0	-	-	-	D2.0	D2.0	R0.05	R0.25	R0.05	R0.5	R0.2	R1.5	R1.5
D32.0	-	-	-	D12.0	D16.0	R2.0	R1.0	R6.0	R12.5	R1.0	R10.0	R10.0
C65	C66	C67	C68	C79	C80	C81-84	C85	C86-87	C88	C89	C90	C91
-	STRAIGHT NECK	STRAIGHT NECK	TAPER NECK	HIGH FEED	HIGH FEED LONG SHANK	RIB PROCESSING	RIB PROCESSING	-	EXTENDED NECK	MINIATURE	Center Match	Center Match
Y-Coating	Carbide	Steel	Steel	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating



○													1
○													2
◎													3
◎													4
◎				○	○	○	○	○	○	○	○	○	5
○													6
◎													7
◎				○	○	○	○	○	○	○	○	○	8
◎				○	○	○	○	○	○	○	○	○	9
○													10
◎				○	○	○	○	○	○	○	○	○	11
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													35
													36
													37
○				◎	◎	◎	◎	◎	◎	◎	◎	◎	38
○				◎	◎	◎	◎	◎	◎	◎	◎	◎	39
◎				○	○	○	○	○	○	○	○	○	40
○				◎	◎	◎	◎	◎	◎	◎	◎	◎	41

SELECTION GUIDE 选用指南



MILLING TOOLS

SERIES 系列

FLUTE 槽数

HELIX ANGLE 螺旋角度

CUTTING EDGE SHAPE 类型

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

LENGTH

SURFACE TREATMENT

X5070

	G8A60	G8A36	G8A52	G8A50	G8A47	G8A37	G8B08	G8A39
FLUTE 槽数	2	2	2	2	4	4	4	6
HELIX ANGLE 螺旋角度	30°	30°	30°	30°	30°	30°	30°	45°
CUTTING EDGE SHAPE 类型	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS
SIZE MIN 最小尺寸	D0.5	D0.3	D0.5	D0.3	D3.0	D1.0	D6.0	D6.0
SIZE MAX 最大尺寸	D12.0	D20.0	D2.0	D2.0	D12.0	D20.0	D12.0	D20.0
PAGE 页数	C92-96	C97-98	C99	C100	C101	C102	C103	C104
LENGTH	RIB PROCESSING	EXTENDED NECK	RIB PROCESSING	MINIATURE	EXTENDED NECK	EXTENDED NECK	EXTENDED NECK	EXTENDED NECK
SURFACE TREATMENT	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating

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 ◎ : Excellent (优秀)
 ○ : Good (良好)

ISO	VDI 3323	Material Description 工件材料	HB	HRc								
P	1	Non-alloy steel	125									
	2		190	13								
	3		250	25								
	4		270	28								
	5	300	32	○	○	○	○	○	○	○	○	○
	6	180	10									
	7	275	29									
	8	300	32	○	○	○	○	○	○	○	○	○
	9	350	38	○	○	○	○	○	○	○	○	○
	10	200	High alloyed steel, and tool steel	15								
	11	325		35	○	○	○	○	○	○	○	○
M	12	Stainless steel	200	15								
	13		240	23								
	14		180	10								
K	15	Grey cast iron	180	10								
	16		260	26								
	17	Nodular cast iron	160	3								
	18		250	25								
	19	Malleable cast iron	130									
20		230	21									
N	21	Aluminum-wrought alloy	60									
	22		100									
	23		75									
	24	Aluminum-cast, alloyed	90									
	25		130									
	26		110									
	27	Copper and Copper Alloys (Bronze / Brass)	90									
	28		100									
	29	Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.										
30												
S	31	Heat Resistant Super Alloys	200	15								
	32		280	30								
	33		250	25								
	34		350	38								
	35	320	34									
	36	Titanium Alloys	400 Rm									
	37		1050 Rm									
H	38	Hardened steel	550	55	◎	◎	◎	◎	◎	◎	◎	◎
	39		630	60	◎	◎	◎	◎	◎	◎	◎	◎
	40	Chilled Cast Iron	400	42	○	○	○	○	○	○	○	○
	41	Hardened Cast Iron	550	55	◎	◎	◎	◎	◎	◎	◎	◎

X5070

4G Mills

	G8A45	G8A01	G8A02	G8D63	G8D64	SEMD98	SEM846	SEM846	SEMD99	SEME61	SEME01	SEME64
FLUTE 槽数	2	2	4	6&8	6&8	2	2	2	2	2	4	4
HELIX ANGLE 螺旋角度	30°	30°	30°	45°	45°	30°	30°	30°	30°	30°	27°/30° (MULTIPLE HELIX)	27°/30° (MULTIPLE HELIX)
CUTTING EDGE SHAPE 类型	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	BALL NOSE	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS
SIZE MIN 最小尺寸	D0.1	D0.1	D1.0	D6.0	D6.0	R0.05	R0.05	R0.25	D0.2	D0.2	D1.0	D1.0
SIZE MAX 最大尺寸	D4.0	D20.0	D20.0	D25.0	D25.0	R12.5	R6.0	R1.0	D20.0	D20.0	D20.0	D20.0
PAGE 页数	C105-108	C109	C110	C111	C112	C140-145	C146-155	C156-158	C159-166	C167-185	C186-192	C193-207
LENGTH	RIB PROCESSING	EXTENDED NECK	EXTENDED NECK	LONG LENGTH	EXTRA LONG LENGTH	-	EXTENDED NECK	EXTENDED NECK (6mm Shank)	-	EXTENDED NECK	-	EXTENDED NECK
SURFACE TREATMENT	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Blue Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating



						○	○	○	○	○	○	○	1
						○	○	○	○	○	○	○	2
						○	○	○	◎	◎	◎	◎	3
						○	○	○	◎	◎	◎	◎	4
	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	5
						○	○	○	○	○	○	○	6
						◎	◎	◎	◎	◎	◎	◎	7
	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	8
	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	9
	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	10
	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	11
													12
													13
													14
						○	○	○	○	○	○	○	15
						○	○	○	○	○	○	○	16
						○	○	○	○	○	○	○	17
						○	○	○	○	○	○	○	18
						○	○	○	○	○	○	○	19
						○	○	○	○	○	○	○	20
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													37
						◎	◎	◎	◎	◎	◎	◎	38
						◎	◎	◎	◎	◎	◎	◎	39
						○	○	○	○	○	○	○	40
						◎	◎	◎	◎	◎	◎	◎	41

SELECTION GUIDE 选用指南



MILLING TOOLS

SERIES 系列

FLUTE 槽数

HELIX ANGLE 螺旋角度

CUTTING EDGE SHAPE 类型

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

LENGTH

SURFACE TREATMENT

TitaNox-Power

	GMG40 GMG41	GMG28 GMG29	GMG30 GMG31	GMG24 GMG25	GMG26 GMG27	EHE54 EHE55
FLUTE 槽数	4	5	5	5	5	5
HELIX ANGLE 螺旋角度	43°/45°	43°/44°/45°	43°/44°/45°	43°/44°/45°	43°/44°/45°	40°
CUTTING EDGE SHAPE 类型	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE	ROUGHING CORNER RADIUS
SIZE MIN 最小尺寸	D6.0	D6.0	D6.0	D6.0	D6.0	D6.0
SIZE MAX 最大尺寸	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0
PAGE 页数	C352-353	C354	C355-356	C357	C358	C359
LENGTH	LONG LENGTH DOUBLE CORE	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	-
SURFACE TREATMENT	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	TiAIN

Please visit globaly1.com/mat for material search
 ◎: Excellent (优秀)
 ○: Good (良好)

ISO	VDI 3323	Material Description 工件材料	HB	HRc	GMG40 GMG41	GMG28 GMG29	GMG30 GMG31	GMG24 GMG25	GMG26 GMG27	EHE54 EHE55
P	1	Non-alloy steel	125		○	○	○	○	○	
	2		190	13	○	○	○	○	○	
	3		250	25	○	○	○	○	○	
	4		270	28	○	○	○	○	○	
	5		300	32	○	○	○	○	○	
	6	180	Low alloy steel	10	○	○	○	○	○	
	7	275		29	○	○	○	○	○	
	8	300		32	○	○	○	○	○	
	9	350		38	○	○	○	○	○	
	10	200		High alloyed steel, and tool steel	15	○	○	○	○	○
	11	325	35		○	○	○	○	○	
M	12	Stainless steel	200	15	◎	◎	◎	◎	◎	○
	13		240	23	◎	◎	◎	◎	◎	○
	14		180	10	◎	◎	◎	◎	◎	○
K	15	Grey cast iron	180	10	○	○	○	○	○	
	16		260	26	○	○	○	○	○	
	17	Nodular cast iron	160	3	○	○	○	○	○	
	18		250	25	○	○	○	○	○	
	19		130		○	○	○	○	○	
20	Malleable cast iron	230	21	○	○	○	○	○		
N	21	Aluminum- wrought alloy	60							
	22		100							
	23		75							
	24	Aluminum-cast, alloyed	90							
	25		130							
	26		110							
	27	Copper and Copper Alloys (Bronze / Brass)	90							
	28		100							
	29		Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.							
	30									
S	31	Heat Resistant Super Alloys	200	15	○	○	○	○	○	○
	32		280	30	○	○	○	○	○	○
	33		250	25	○	○	○	○	○	○
	34		350	38	○	○	○	○	○	○
	35		320	34	○	○	○	○	○	○
	36	Titanium Alloys	400 Rm		◎	◎	◎	◎	◎	◎
	37		1050 Rm		◎	◎	◎	◎	◎	◎
H	38	Hardened steel	550	55						
	39		630	60						
	40	Chilled Cast Iron	400	42						
	41	Hardened Cast Iron	550	55						

HSS

CBN
END MILLS

i-Xmill
END MILLS

i-SMART
MODULAR
END MILLS

X5070
END MILLS

4G MILL
END MILLS

X-POWER
PRO
END MILLS

TitaNox-
POWER
END MILLS

SUS-CUT
END MILLS

V7 PLUS
END MILLS

ALU-POWER
HPC
END MILLS

ALU-CUT
END MILLS

G-CUT
END MILLS

CRX S
END MILLS

K-2
END MILLS

GENERAL
CARBIDE
END MILLS

ONLY ONE
COATED PM60
END MILLS

TANK-
POWER
END MILLS

GENERAL
HSS
END MILLS

MILLING
CUTTERS

TECHNICAL
DATA

TECHNICAL
DATA

TECHNICAL
DATA

TECHNICAL
DATA

TECHNICAL
DATA

TECHNICAL
DATA

TECHNICAL
DATA

TECHNICAL
DATA

TECHNICAL
DATA

TECHNICAL
DATA

SUS-CUT					V7 Plus						
EMD88	EMD83	EHD84	EMD82	EMD92	GMH66	GMH65	GMF66	GMH67	GMH68	GMH69	GMH71
4	4	3	4	3-5	4	4	4	4	4	6	6
36°~39.75° (SINUSOIDAL)	36°~39.75° (SINUSOIDAL)	45°	36°~39.75° (SINUSOIDAL)	45° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)	35°/37° (MULTIPLE HELIX)	45°	45°
BALL NOSE	CORNER RADIUS	SQUARE	SQUARE	ROUGHING CORNER RADIUS	BALL NOSE	CORNER RADIUS	SQUARE	SQUARE	SQUARE	CORNER RADIUS	SQUARE
R1.5	D1.0	D1.0	D1.0	D3.0	R1.5	D1.0	D3.0	D1.0	D1.0	D6.0	D6.0
R10.0	D20.0	D20.0	D20.0	D20.0	R12.5	D25.0	D20.0	D20.0	D20.0	D25.0	D25.0
C367	C368-369	C370	C371-372	C373-374	C384	C385-386	C387	C388	C389	C390	C391
-	-	-	-	Type A/B	LONG LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	LONG LENGTH	-	-
Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating



◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	1
◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	2
◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	3
◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	4
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	5
◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	6
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	7
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	8
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	9
◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	10
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	11
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	12
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	13
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	14
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	15
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	16
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	17
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	18
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	19
○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	20
												21
												22
												23
												24
												25
												26
												27
												28
												29
												30
○	○	○	○	○	○	○	○	○	○	○	○	31
○	○	○	○	○	○	○	○	○	○	○	○	32
○	○	○	○	○	○	○	○	○	○	○	○	33
○	○	○	○	○	○	○	○	○	○	○	○	34
○	○	○	○	○	○	○	○	○	○	○	○	35
○	○	○	○	○	○	○	○	○	○	○	○	36
○	○	○	○	○	○	○	○	○	○	○	○	37
												38
												39
												40
												41

SELECTION GUIDE 选用指南



MILLING TOOLS

SERIES 系列

FLUTE 槽数

HELIX ANGLE 螺旋角度

CUTTING EDGE SHAPE 类型

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

LENGTH

SURFACE TREATMENT

K-2 Plus

	EMC56	EMC60	EMC61	EMC62	EMC59	EMC52	EMC53	EMC54	EMC55
EMC56	4	2	2	4	2	2	2	4	4
EMC60	30°	30°	30°	30°	30°	35°	35°	35°	35°
EMC61	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE
EMC59	R0.1	R0.2	D3.0	D3.0	D0.4	D1.0	D2.0	D1.0	D2.0
EMC52	R10.0	R3.0	D12.0	D12.0	D6.0	D20.0	D20.0	D20.0	D20.0
EMC53	C463	C464-468	C469-470	C471-472	C473-478	C479	C480	C481	C482
EMC54	SHORT LENGTH	LONG NECK	-	-	LONG NECK	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH
EMC55	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN

 Please visit globaly1.com/mat for material search
 ◎: Excellent (优秀)
 ○: Good (良好)

ISO	VDI 3323	Material Description 工件材料	HB	HRc	EMC56	EMC60	EMC61	EMC62	EMC59	EMC52	EMC53	EMC54	EMC55	
P	1	Non-alloy steel	125	13	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	2		190	13	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	3		250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	4		270	28	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	5	300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎		
	6	180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎		
	7	275	29	◎	◎	◎	◎	◎	◎	◎	◎	◎		
	8	300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎		
	9	350	38	◎	◎	◎	◎	◎	◎	◎	◎	◎		
	10	200	High alloyed steel, and tool steel	15	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	11	325		35	◎	◎	◎	◎	◎	◎	◎	◎	◎	
M	12	Stainless steel	200	15	○					○	○	○	○	
	13		240	23	○					○	○	○	○	
	14		180	10	○		○	○		○	○	○	○	
K	15	Grey cast iron	180	10	○	○	○	○	○	○	○	○	○	
	16	260	26	○	○	○	○	○	○	○	○	○	○	
	17	Nodular cast iron	160	3	○	○	○	○	○	○	○	○	○	
	18	250	25	○	○	○	○	○	○	○	○	○	○	
	19	Malleable cast iron	130		○	○	○	○	○	○	○	○	○	
20	230	21	○	○	○	○	○	○	○	○	○	○		
N	21	Aluminum-wrought alloy	60		○					○	○	○	○	
	22		100		○					○	○	○	○	
	23	Aluminum-cast, alloyed	75		○					○	○	○	○	
	24		90		○					○	○	○	○	
	25		130		○					○	○	○	○	
	26		110		○									
	27	Copper and Copper Alloys (Bronze / Brass)	90		○									
	28	100		○										
	29	Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.												
	30													
S	31	Heat Resistant Super Alloys	200	15										
	32		280	30										
	33		250	25										
	34		350	38										
	35	320	34											
	36	Titanium Alloys	400 Rm											
	37		1050 Rm											
H	38	Hardened steel	550	55	○	○	○	○	○	○	○	○	○	
	39		630	60										
	40	Chilled Cast Iron	400	42	○	○	○	○	○	○	○	○	○	
	41	Hardened Cast Iron	550	55										

K-2 Plus			K-2						GENERAL CARBIDE END MILLS				
EMC57	EMC58	EMC69	G9A25	G9B52	G9A23	G9B50	G9A24	G9B51	E5414	E5524	E5401	E5423	E5402
4&6	6	4-6	2	2	2	2	4	4	2	4	2	3	4
45°	45°	45°	30°	30°	30°	30°	30°	30°	30°	30°	30°	45°	30°
SQUARE	SQUARE	ROUGHING	BALL NOSE	BALL NOSE	SQUARE	SQUARE	SQUARE	SQUARE	BALL NOSE	BALL NOSE	SQUARE	SQUARE	SQUARE
D1.0	D6.0	D6.0	R0.5	R0.5	D1.0	D1.0	D1.0	D1.0	R0.2	R1.0	D0.4	D3.0	D1.5
D20.0	D20.0	D20.0	R10.0	R10.0	D20.0	D20.0	D20.0	D20.0	R12.5	R10.0	D20.0	D20.0	D20.0
C483		C484	C485	C486	C487	C488	C489	C490	C507	C508	C509	C510	C511
SHORT LENGTH	LONG LENGTH	FINE	REGULAR LENGTH	LONG LENGTH	REGULAR LENGTH	LONG LENGTH	REGULAR LENGTH	LONG LENGTH	-	SHORT LENGTH	STANDARD	SHORT LENGTH	STANDARD
TiAlN	TiAlN	X-Coating	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated



ISO	VDI 3323	Material Description 工件材料	HB	HRc	EMC57	EMC58	EMC69	G9A25	G9B52	G9A23	G9B50	G9A24	G9B51	E5414	E5524	E5401	E5423	E5402	
P	1	Non-alloy steel	125	13	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	2		190	13	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	3		250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	4		270	28	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	5	300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	6	180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	7	275	29	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	8	300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	9	350	38	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	10	200	High alloyed steel, and tool steel	15	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	11	325		35	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
M	12	Stainless steel	200	15	○														
	13		240	23	○														
	14		180	10	○		○	○											
K	15	Grey cast iron	180	10	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	16	260	26	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	17	Nodular cast iron	160	3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	18	250	25	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	19	Malleable cast iron	130		○	○	○	○	○	○	○	○	○	○	○	○	○	○	
20	230	21	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
N	21	Aluminum-wrought alloy	60		○														
	22		100		○														
	23	Aluminum-cast, alloyed	75		○														
	24		90		○														
	25		130		○														
	26		110		○														
	27	Copper and Copper Alloys (Bronze / Brass)	90		○														
	28	100		○															
	29	Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.																	
	30																		
S	31	Heat Resistant Super Alloys	200	15															
	32		280	30															
	33		250	25															
	34		350	38															
	35	320	34																
	36	Titanium Alloys	400 Rm																
	37		1050 Rm																
H	38	Hardened steel	550	55	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	39		630	60															
	40	Chilled Cast Iron	400	42	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	41	Hardened Cast Iron	550	55															

SELECTION GUIDE 选用指南



MILLING TOOLS

SERIES 系列

FLUTE 槽数

HELIX ANGLE 螺旋角度

CUTTING EDGE SHAPE 类型

SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

LENGTH

SURFACE TREATMENT

Tool Material

ONLY ONE										
GYG77 GYF97	GYG72 GYF99	GYG01	GYG74 GYF96	GYG52	GYG76 GYG02	GYF95	GYF94	GYF98	GYG03	
2	2	3	4	4	4	Multi Flute	Multi Flute	Multi Flute	Multi Flute	
30°	30°	30°	30°	35°/37°	30°	4F:44°/45° 5F:44°/44.5°/45°	ROUGHING	ROUGHING	ROUGHING	
BALL NOSE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	CORNER RADIUS ROUGHING	ROUGHING	ROUGHING	ROUGHING	
R0.5	D1.0	D1.0	D1.0	D3.0	D2.0	D6.0	D6.0	D6.0	D6.0	
R12.5	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	
C526	C527	C528	C529	C530	C531	C532	C533	C534	C535	
SHORT LENGTH	SHORT LENGTH	SHORT LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	LONG LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	LONG LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	
Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	
PM60	PM60	PM60	PM60	PM60	PM60	PM60	PM60	PM60	PM60	

 Please visit globalyg1.com/mat for material search
 ◎ : Excellent (优秀)
 ○ : Good (良好)

ISO	VDI 3323	Material Description 工件材料	HB	HRC	GYG77	GYG72	GYG01	GYG74	GYG52	GYG76	GYF95	GYF94	GYF98	GYG03
P	1	Non-alloy steel	125		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	2		190	13	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	3		250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	4		270	28	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	5	300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	6	180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	7	Low alloy steel	275	29	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	8		300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	9		350	38	○	○	○	○	○	○	○	○	○	○
	10	High alloyed steel, and tool steel	200	15	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	11		325	35	○	○	○	○	○	○	○	○	○	○
M	12	Stainless steel	200	15	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	13		240	23	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	14		180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
K	15	Grey cast iron	180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	16		260	26	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	17	Nodular cast iron	160	3	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	18		250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	19		130		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
20	Malleable cast iron	230	21	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
N	21	Aluminum- wrought alloy	60											
	22		100											
	23		75											
	24	Aluminum-cast, alloyed	90											
	25		130											
	26		110		○	○	○	○	○	○	○	○	○	○
	27	Copper and Copper Alloys (Bronze / Brass)	90		○	○	○	○	○	○	○	○	○	○
	28		100		○	○	○	○	○	○	○	○	○	○
	29		Non Metallic Materials											
	30	Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.												
S	31	Heat Resistant Super Alloys	200	15										
	32		280	30										
	33		250	25										
	34		350	38										
	35		320	34										
	36	Titanium Alloys	400 Rm											
	37		1050 Rm											
H	38	Hardened steel	550	55										
	39		630	60										
	40	Chilled Cast Iron	400	42	○	○	○	○	○	○	○	○	○	○
	41	Hardened Cast Iron	550	55										

TANK-POWER

E9940 GA940	E9A32 GAA32	E9936 GA936	E9A29 GAA29	E9942 GA942	E9A30 GAA30	E9938 GA938	E9A31 GAA31	E9941 GA941	E9A35 GAA35	E9A26 GAA26	E9A33 GAA33	E9A34 GAA34	E9E43 GAE43
2	2	2	2	3	3	4	4	Multi Flute	Multi Flute	Multi Flute	Multi Flute	Multi Flute	Multi Flute
30°	30°	30°	30°	30°	30°	30°	30°	30°	30°	45°	30°	30°	30°
BALL NOSE	BALL NOSE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	ROUGHING	ROUGHING	ROUGHING	ROUGHING	ROUGHING	ROUGHING
R0.5	R1.0	D1.0	D1.0	D1.0	D1.0	D1.0	D2.0	D6.0	D6.0	D4.0	D6.0	D6.0	D10.0
R12.5	R12.5	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0
C548	C549	C550	C551	C552	C553	C554	C555	C556	C557	C558	C559	C560	C561
SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	STUB LENGTH	SHORT LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	SHORT LENGTH	LONG LENGTH	WITH NECK
TiAIN	TiAIN	TiAIN	TiAIN	TiAIN	TiAIN	TiAIN	TiAIN	X-Coating	X-Coating	X-Coating	X-Coating	X-Coating	X-Coating
HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM	HSS-PM

SELECTION GUIDE 选用指南



MILLING TOOLS

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SIZE MIN 最小尺寸

SIZE MAX 最大尺寸

PAGE 页数

LENGTH

SURFACE TREATMENT

Tool Material

GENERAL HSS END MILLS										
E2480	E2401	E2406	E2412	E2659	E2750	E2760	E2759	E2753	EL612	
2	2	2	4	4	4	4-6 (Multi Flute)	4-6 (Multi Flute)	3-6 (Multi Flute)	1	
30°	30°	30°	30°	30°	30°	30°	30°	30°	≈ 30°	
BALL NOSE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	
R0.5	D1.0	D3.0	D1.0	D3.0	D16.0	D6.0	D10.0	D6.0	D3.0	
R25.0	D50.0	D50.0	D50.0	D50.0	D50.0	D50.0	D50.0	D40.0	D10.0	
C582-583	C584-586	C587-588	C589-591	C592-593	C594	C595-596	C597	C598	C599	
REGULAR LENGTH	REGULAR LENGTH	LONG LENGTH	REGULAR LENGTH CENTER CUTTING	LONG LENGTH CENTER CUTTING	EXTRA LONG LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	-	
Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated	
HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSS-E	

 Please visit globalyig1.com/mat for material search
 ◎ : Excellent (优秀)
 ○ : Good (良好)

ISO	VDI 3323	Material Description 工件材料	HB	HRC	E2480	E2401	E2406	E2412	E2659	E2750	E2760	E2759	E2753	EL612	
P	1	Non-alloy steel	125	13	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	2		190	25	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	3		250	28	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	4		270	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	5		300	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	6	180	Low alloy steel	10	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	7	275		29	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	8	300		32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
	9	350		38	○	○	○	○	○	○	○	○	○	○	
	10	200		High alloyed steel, and tool steel	15	15	◎	◎	◎	◎	◎	◎	◎	◎	◎
	11	325	35		○	○	○	○	○	○	○	○	○	○	
M	12	Stainless steel	200	15											
	13		240	23											
	14		180	10											
K	15	Grey cast iron	180	10											
	16	Nodular cast iron	260	26											
	17		160	3											
	18		250	25											
19	Malleable cast iron	130													
20		230	21												
N	21	Aluminum-wrought alloy	60		○	○	○	○	○	○	○	○	○	◎	
	22		100		○	○	○	○	○	○	○	○	◎		
	23	Aluminum-cast, alloyed	75		○	○	○	○	○	○	○	○	○	◎	
	24		90		○	○	○	○	○	○	○	○	◎		
	25		130		○	○	○	○	○	○	○	○	○		
	26		110												
	27		90												
	28		100												
	29		Non Metallic Materials Duroplastic, Fiber Reinforced Plastic, Graphite, CFRP, GFRP, etc.												
	30														
S	31	Heat Resistant Super Alloys	200	15											
	32		280	30											
	33		250	25											
	34		350	38											
	35	320	34												
	36	Titanium Alloys	400 Rm												
	37		1050 Rm												
H	38	Hardened steel	550	55											
	39		630	60											
	40	Chilled Cast Iron	400	42											
41	Hardened Cast Iron	550	55												

MILLING CUTTER

ML012, ML022, ML112, ML122, ML212, ML222	ML032, ML042, ML132, ML142, ML232, ML242	ML062, ML162, ML262	ML072, ML172, ML272	ML092	ML102	E2675	E2676	E2677	E2678	E2679	E2498
-	-	-	-	-	-	Multi Flute	Multi Flute	Multi Flute	Multi Flute	Multi Flute	4
0°	0°	10°-20°	10°-20°	10°	-	30°	42°	30°	30°	30°	0°
DOVETAIL CUTTERS	DOVETAIL CUTTERS	WOODRUFF KEYSEAT CUTTERS	T-SLOT CUTTERS	SIDE AND FACE MILLING CUTTERS	SIDE AND FACE MILLING CUTTERS	SHELL END MILL	SHELL END MILL	ROUGHING SHELL END MILL	ROUGHING SHELL END MILL	ROUGHING & FINISHING SHELL END MILL	CORNER ROUNDING CUTTERS
D16.0	D16.0	D10.5	D12.5	D50.0	D50.0	D30.0	D30.0	D40.0	D40.0	D40.0	D8.0
D50.0	D38.0	D45.5	D40.0	D125.0	D200.0	D160.0	D100.0	D160.0	D160.0	D160.0	D56.0
C624	C625	C626-627	C628	C629-630	C631-636	C637	C638	C639	C640	C641	C642-643
Type A, C, E	Type B, D, F	Type B, D, F	Type AA, AB, AD	with STRAIGHT TEETH	with STAGGERED TEETH	-	for ALUMINUM	-	-	-	-
Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated
HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8





Global Cutting Tool Leader **YG-1**



MILLING



Leading Through Innovation



CBN

CBN (Cubic Boron Nitride)

- CBN(Cubic Boron Nitride) Machining High Hardened Steels up to HRc70 Mirror Finish
- 适用于加工高硬钢(~HRc70), 镜面处理的CBN(立方氮化硼)铣刀

SELECTION GUIDE 选用指南



CBN END MILLS

Cubic Boron Nitride, Machining High Hardened Steels up to HRc70, Mirror Finish

立方氮化硼, 加工高硬钢(~HRc70), 镜面处理



Please visit globalyeg1.com/mat for material search

◎: Excellent (优秀) ○: Good (良好)

Recommended cutting conditions (推荐加工参数): p.C27

SERIES 系列	ESB94	ESD02
FLUTE 槽数	2	2
HELIX ANGLE 螺旋角度	30°	0°
CUTTING EDGE SHAPE 类型	BALL NOSE	CORNER RADIUS
SIZE MIN 最小尺寸	R0.2	D0.5
SIZE MAX 最大尺寸	R1.5	D2.0
PAGE 页数	C25	C26
	UNCOATED	UNCOATED



ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理	HB	HRc	
P	1	Non-alloy steel	About 0.15% C Annealed	125		
	2		About 0.45% C Annealed	190	13	
	3		About 0.45% C Quenched & Tempered	250	25	
	4		About 0.75% C Annealed	270	28	
	5		About 0.75% C Quenched & Tempered	300	32	
	6	Low alloy steel	Annealed	180	10	
	7		Quenched & Tempered	275	29	
	8		Quenched & Tempered	300	32	
	9		Quenched & Tempered	350	38	
	10		High alloyed steel, and tool steel	Annealed	200	15
	11			Quenched & Tempered	325	35
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	
	13		Martensitic Quenched & Tempered	240	23	
	14		Austenitic	180	10	
K	15	Grey cast iron	Pearlitic / ferritic	180	10	
	16		Pearlitic (Martensitic)	260	26	
	17	Nodular cast iron	Ferritic	160	3	
	18		Pearlitic	250	25	
	19		Ferritic	130		
	20	Malleable cast iron	Pearlitic	230	21	
N	21	Aluminum-wrought alloy	Not Curable	60		
	22		Curable Hardened	100		
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		
	24		≤ 12% Si, Curable Hardened	90		
	25		> 12% Si, Not Curable	130		
	26		Cutting Alloys, PB>1%	110		
	27	Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90		
	28		CuSn, lead-free copper and electrolytic copper	100		
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic			
	30		Rubber, Wood, etc.			
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15	
	32		Cured	280	30	
	33		Annealed	250	25	
	34		Cured	350	38	
	35		Cast	320	34	
	36	Titanium Alloys	Pure Titanium	400 Rm		
	37		Alpha + Beta Alloys Hardened	1050 Rm		
H	38	Hardened steel	Hardened	550	55	
	39		Hardened	630	60	
	40	Chilled Cast Iron	Cast	400	42	
	41	Hardened Cast Iron	Hardened	550	55	

BALL NOSE = 球头 CORNER RADIUS = 圆鼻 UNCOATED = 非涂层

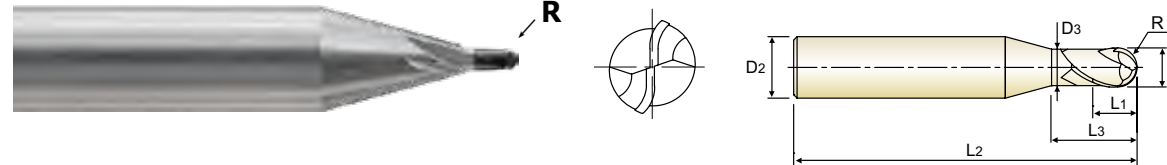


PLAIN SHANK ESB94 SERIES

CBN, 2 FLUTE BALL NOSE CBN, 2刃球头

- ▶ Achieves stable machining and higher accuracy for duration.
- ▶ Saves setting time and cost from the reduction of frequent tool change.
- ▶ Improves repeatability in performance.
- ▶ Special designed geometry improving tool rigidity at High Speed Cutting.
- ▶ Tighter Radius Tolerance of ±0.005mm and higher accuracy with longer tool life.

- ▶ 高耐用性可保证稳定的加工和高精度
- ▶ 减少换刀频率节省调试时间和成本
- ▶ 提高可重复性能
- ▶ 特殊设计的形状提高刀具在高速加工的刚性
- ▶ 精确半径公差(±0.005mm), 高精度, 高寿命



Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角	直径	柄径	刃长	颈长	全长	颈径
	R (±0.005)	D1	D2	L1	L3	L2	D3
ESB94004012	R0.2	0.4	4	0.3	1.2	50	0.37
ESB94005015	R0.25	0.5	4	0.4	1.5	50	0.46
ESB94006015	R0.3	0.6	4	0.5	1.5	50	0.56
ESB94008020	R0.4	0.8	4	0.6	2	50	0.76
ESB94010025	R0.5	1.0	4	0.6	2.5	50	0.95
ESB94010040	R0.5	1.0	4	0.6	4	50	0.95
ESB94010060	R0.5	1.0	4	0.6	6	50	0.95
ESB94012030	R0.6	1.2	4	0.8	3	50	1.15
ESB94015030	R0.75	1.5	4	0.95	3	50	1.45
ESB94015040	R0.75	1.5	4	0.95	4	50	1.45
ESB94015060	R0.75	1.5	4	0.95	6	50	1.45
ESB94020050	R1.0	2.0	4	1.2	5	50	1.95
ESB94020060	R1.0	2.0	4	1.2	6	50	1.95
ESB94030060	R1.5	3.0	4	1.8	6	50	2.85

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.005	h5

◎: Excellent (优秀) ○: Good (良好)

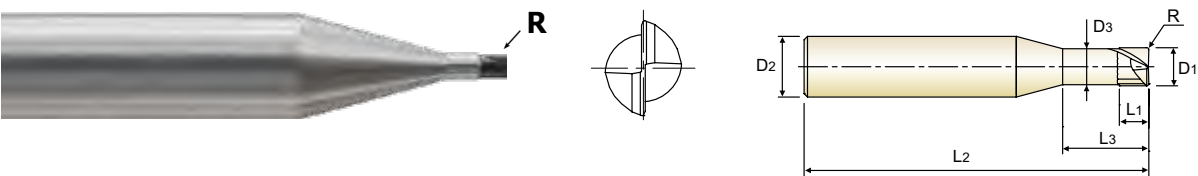
ISO	P											M				K					
	Non-alloy steel					Low alloy steel			High alloyed steel, and tool steel			Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron					
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					
ISO	N									S						H					
	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎		◎

CBN, 2 FLUTE CORNER RADIUS

CBN, 2刃 圆鼻

- ▶ Achieves stable machining and higher accuracy for duration.
- ▶ Saves setting time and cost from the reduction of frequent tool change.
- ▶ Improves repeatability in performance.
- ▶ Special designed geometry improving tool rigidity at High Speed Cutting.
- ▶ Tighter Radius Tolerance of ±0.005mm and higher accuracy with longer tool life.

- ▶ 高耐用性可保证稳定的加工和高精度
- ▶ 减少换刀频率节省调试时间和成本
- ▶ 提高可重复性能
- ▶ 特殊设计的形状提高刀具在高速加工的刚性
- ▶ 精确半径公差(±0.005mm), 高精度, 高寿命



Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R (±0.005)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
ESD02005052	R0.05	0.5	4	0.3	2	50	0.46
ESD02005053	R0.05	0.5	4	0.3	3	50	0.46
ESD02010053	R0.05	1.0	4	0.7	3	50	0.95
ESD02010055	R0.05	1.0	4	0.7	5	50	0.95
ESD02010103	R0.1	1.0	4	0.7	3	50	0.95
ESD02010105	R0.1	1.0	4	0.7	5	50	0.95
ESD02015105	R0.1	1.5	4	1.0	5	50	1.45
ESD02015108	R0.1	1.5	4	1.0	8	50	1.45
ESD02015205	R0.2	1.5	4	1.0	5	50	1.45
ESD02015208	R0.2	1.5	4	1.0	8	50	1.45
ESD02020106	R0.1	2.0	4	1.2	6	50	1.95
ESD02020100	R0.1	2.0	4	1.2	10	50	1.95
ESD02020206	R0.2	2.0	4	1.2	6	50	1.95
ESD02020200	R0.2	2.0	4	1.2	10	50	1.95

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.005	h5

◎ : Excellent (优秀) ○ : Good (良好)

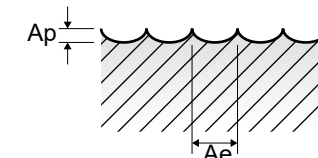
ISO	P										M					K				
	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel					Stainless steel		Grey cast iron	Nodular cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230

ISO	N										S										H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41				
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55				
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550				

ESB94 SERIES 2 FLUTE BALL NOSE
2刃 球头

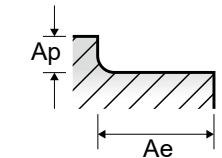
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						0.4	0.5	0.6	0.8	1.0	1.2	1.5	2.0	3.0	
H	38	Hardened steel	0.5D	0.2R	Vc	65	80	95	125	155	190	235	250	250	
					fz	0.012	0.015	0.02	0.02	0.03	0.03	0.03	0.04	0.04	
	RPM		51725	50930	50399	49736	49338	50399	49869	39789	26526				
	FEED		1241	1528	2016	1989	2960	3024	2992	3183	2122				
39.1	0.5D	0.1R	Vc	65	80	95	125	155	190	235	250	250			
			fz	0.012	0.015	0.02	0.02	0.03	0.03	0.03	0.04	0.04			
39.2	0.5D	0.1R	Vc	65	80	95	125	155	190	235	200	205			
			fz	0.012	0.015	0.02	0.02	0.03	0.03	0.03	0.039	0.04			
39.3	0.5D	0.1R	Vc	65	80	95	125	155	190	235	200	205			
			fz	0.012	0.015	0.02	0.02	0.03	0.03	0.03	0.039	0.04			
41	Hardened Cast Iron	0.5D	0.2R	Vc	65	80	95	125	155	190	235	250	250		
				fz	0.012	0.015	0.02	0.02	0.03	0.03	0.03	0.04	0.04		
41	Hardened Cast Iron	0.5D	0.2R	RPM	51725	50930	50399	49736	49338	50399	49869	39789	26526		
				FEED	1241	1528	2016	1989	2960	3024	2992	3183	2122		



ESD02 SERIES 2 FLUTE CORNER RADIUS
2刃 圆鼻

ISO	VDI 3323	Material Description 工件材料	Parameter 参数	Diameter (Ø) 直径			
				0.5	1.0	1.5	2.0
H	38	Hardened steel	Vc	80	135	140	140
			fz	0.007	0.012	0.017	0.02
	RPM		50930	42972	29709	22282	
	FEED		713	1031	1010	891	
39.1	0.1	0.2	Ap	0.1	0.2	0.4	0.6
			Ap	0.01	0.01	0.02	0.03
39.2	39.3	Hardened steel	Vc	80	95	90	90
			fz	0.006	0.012	0.018	0.029
			RPM	50930	30239	19099	14324
			FEED	611	726	688	831
41	Hardened Cast Iron	0.1	Ap	0.005	0.01	0.2	0.3
			Ap	0.005	0.01	0.02	0.03
41	Hardened Cast Iron	Vc	80	135	140	140	
		fz	0.007	0.012	0.017	0.02	
		RPM	50930	42972	29709	22282	
		FEED	713	1031	1010	891	
41	0.1	0.2	Ap	0.1	0.2	0.4	0.6
			Ap	0.01	0.01	0.02	0.03





Global Cutting Tool Leader **YG-1**



MILLING



Leading Through Innovation



CARBIDE INSERT & HOLDER

i-Xmill END MILLS

- Various Applications Type of Inserts Available for General Steels, Pre-Hardened Steels, High Hardened Steels, Stainless Steels and Graphite
- 多样类型刀片可用在加工普通钢, 预硬钢, 高硬钢, 不锈钢, 石墨



XMB110A SERIES
XMB120C SERIES
XMB260T SERIES

i-Xmill BALL INSERTS
i-Xmill 球头刀片

- ▶ Indexable Ball End Mill for economic use
- ▶ Three Types of Inserts are available
 - For General Purpose (~HRc50)
 - For Hardened Material (HRc40~HRc65)
 - For Graphite
- ▶ Special Geometry and Coating for Excellent Performance

- ▶ 经济性换头式球头铣刀
- ▶ 可提供3类型刀片
 - 普通用途 (~HRc50)
 - 高硬材料用 (HRc40~HRc65)
 - 石墨用
- ▶ 特殊形状及涂层实现优秀性能



Cutting conditions(加工参数) : p.C50

Recommended ToolHolder	Plain Shank	Page
	POWER MILLING CHUCK	D161-176
	ER COLLET CHUCK	D73-115

EDP No.			Radius of Ball Nose	Mill Diameter	Height	Thickness
AlTiN	X-Coating	Z-Coating	圆弧角	直径	高度	厚度
For General Purpose (普通用途)	For Pre-Hardened Steels (预硬钢用)	For High Hardened Steels (高硬钢用)	R	D	H	T
XMB110A080	XMB120C080	XMB260T080	R4.0	8.0	8.0	2.4
XMB110A100	XMB120C100	XMB260T100	R5.0	10.0	9.5	2.7
XMB110A110	XMB120C110	XMB260T110	R5.5	11.0	10.0	2.7
XMB110A120	XMB120C120	XMB260T120	R6.0	12.0	11.0	3.2
XMB110A130	XMB120C130	XMB260T130	R6.5	13.0	11.5	3.2
XMB110A160	XMB120C160	XMB260T160	R8.0	16.0	13.0	4.2
XMB110A170	XMB120C170	XMB260T170	R8.5	17.0	13.5	4.2
XMB110A200	XMB120C200	XMB260T200	R10.0	20.0	16.0	5.2
XMB110A210	XMB120C210	XMB260T210	R10.5	21.0	16.5	5.2
XMB110A250	XMB120C250	XMB260T250	R12.5	25.0	19.5	6.2
XMB110A260	XMB120C260	XMB260T260	R13.0	26.0	20.0	6.2
XMB110A300	XMB120C300	XMB260T300	R15.0	30.0	23.5	7.2
XMB110A320	XMB120C320	XMB260T320	R16.0	32.0	24.5	7.2
XMB110A330	XMB120C330	XMB260T330	R16.5	33.0	25.0	7.2

▶ The ball radius tolerance is ±0.01mm and the set-up accuracy is ±0.02mm.
▶ 球头圆弧角精度是±0.01mm, 设置精度是±0.02mm

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc																				
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMB110A	◎	◎	◎	◎	◎	◎	◎	◎							◎	◎	◎	◎	◎	◎
XMB120C									◎	○	◎									
XMB260T																				

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc																					
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMB110A																		◎	◎	◎	◎
XMB120C																					
XMB260T																					

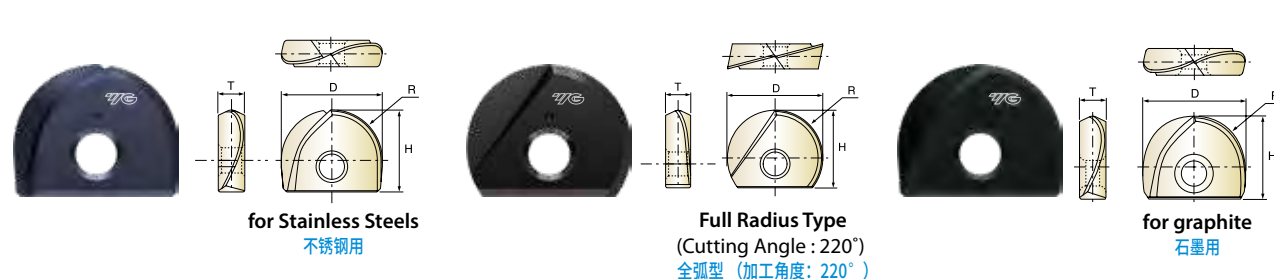


XMB130A SERIES
XMM110V SERIES
XMB110D SERIES

i-Xmill BALL INSERTS
i-Xmill 球头刀片

- ▶ Indexable Ball End Mill for economic use
- ▶ Three Types of Inserts are available
 - For Stainless Steels
 - For General Purpose Full Radius Type
 - For Graphite
- ▶ Special Geometry and Coating for Excellent Performance

- ▶ 经济性换头式球头铣刀
- ▶ 可提供3类型刀片
 - 不锈钢用
 - 普通用途 全弧型
 - 石墨用
- ▶ 特殊形状及涂层实现优秀性能



Cutting conditions(加工参数) : p.C50-51

Recommended ToolHolder	Plain Shank	Page
	POWER MILLING CHUCK	D161-176
	ER COLLET CHUCK	D73-115

EDP No.			Radius of Ball Nose	Mill Diameter	Height	Thickness
AlTiN	Y-Coating	Diamond	圆弧角	直径	高度	厚度
For Stainless Steels (不锈钢用)	For General Purpose High Feed (普通高进给)	For Graphite (石墨用)	R	D	H	T
XMB130A080	XMM110V080	XMB110D080	R4.0	8.0	8.0	2.4
XMB130A100	XMM110V100	XMB110D100	R5.0	10.0	9.5	2.7
XMB130A110	XMM110V110	XMB110D110	R5.5	11.0	10.0	2.7
XMB130A120	XMM110V120	XMB110D120	R6.0	12.0	11.0	3.2
XMB130A130	XMM110V130	XMB110D130	R6.5	13.0	11.5	3.2
XMB130A160	XMM110V160	XMB110D160	R8.0	16.0	13.0	4.2
XMB130A170	XMM110V170	XMB110D170	R8.5	17.0	13.5	4.2
XMB130A200	XMM110V200	XMB110D200	R10.0	20.0	16.0	5.2
XMB130A210	XMM110V210	XMB110D210	R10.5	21.0	16.5	5.2
XMB130A250	XMM110V250	XMB110D250	R12.5	25.0	19.5	6.2
XMB130A260	XMM110V260	XMB110D260	R13.0	26.0	20.0	6.2
XMB130A300	XMM110V300	XMB110D300	R15.0	30.0	23.5	7.2
XMB130A320	XMM110V320	XMB110D320	R16.0	32.0	24.5	7.2
XMB130A330	XMM110V330	XMB110D330	R16.5	33.0	25.0	7.2

▶ The ball radius tolerance is ±0.01mm and the set-up accuracy is ±0.02mm.
▶ 球头圆弧角精度是±0.01mm, 设置精度是±0.02mm

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc																				
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMB130A												◎	◎	◎						
XMM110V	◎	◎	◎	◎		◎	◎			◎										
XMB110D																				

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc																					
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMB130A																					
XMM110V																					
XMB110D	○	○	○	○																	

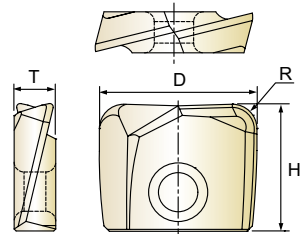


XMR110A SERIES
XMR120C SERIES
XMR260T SERIES

i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻刀片

- ▶ The optimum geometry of the tool to achieve better reliability and less vibration and cutting load.
- ▶ Interchangeability with i-Xmill ball holder, but the precise cutting is possible with i-Xmill corner radius holder due to higher stability and strength of tool.
- ▶ The various and wide cutting range makes it possible to machine over the roughing and finishing.
- ▶ Special coating makes high hardness with high thermal stability against oxidation.

- ▶ 最佳设计形状提高稳定性而减少振动和切削阻力
- ▶ 可以在i-Xmill球头刀杆, 可是为了更精密加工, 高稳定性, 刚性, 推荐采用i-Xmill圆鼻刀杆
- ▶ 多种及广大切削范围刀具可以在粗加工~精加工
- ▶ 特殊涂层提高硬度而且具有抗氧化的高温稳定性



Recommended ToolHolder	Plain Shank	Page
	POWER MILLING CHUCK	D161 - 176
	ER COLLET CHUCK	D73 - 115

Cutting conditions(加工参数) : p.C52

EDP No.			Corner Radius	Mill Diameter	Height	Thickness
AITiN	X-Coating	Z-Coating	圆弧角	直径	高度	厚度
For General Purpose & Stainless Steels (普通用途 & 不锈钢用)	For Pre-Hardened Steels (预硬钢用)	For High Hardened Steels (高硬钢用)	R	D	H	T
XMR110A080 03	XMR120C080 03	XMR260T080 03	R0.3	8.0	8.0	2.4
XMR110A080 05	XMR120C080 05	XMR260T080 05	R0.5	8.0	8.0	2.4
XMR110A080 10	XMR120C080 10	XMR260T080 10	R1.0	8.0	8.0	2.4
XMR110A080 20	XMR120C080 20	XMR260T080 20	R2.0	8.0	8.0	2.4
XMR110A100 03	XMR120C100 03	XMR260T100 03	R0.3	10.0	9.5	2.7
XMR110A100 05	XMR120C100 05	XMR260T100 05	R0.5	10.0	9.5	2.7
XMR110A100 10	XMR120C100 10	XMR260T100 10	R1.0	10.0	9.5	2.7
XMR110A100 15	XMR120C100 15	XMR260T100 15	R1.5	10.0	9.5	2.7
XMR110A100 20	XMR120C100 20	XMR260T100 20	R2.0	10.0	9.5	2.7
XMR110A100 30	XMR120C100 30	XMR260T100 30	R3.0	10.0	9.5	2.7
XMR110A110 03	XMR120C110 03	XMR260T110 03	R0.3	11.0	9.5	2.7
XMR110A110 05	XMR120C110 05	XMR260T110 05	R0.5	11.0	9.5	2.7
XMR110A110 10	XMR120C110 10	XMR260T110 10	R1.0	11.0	9.5	2.7
XMR110A110 15	XMR120C110 15	XMR260T110 15	R1.5	11.0	9.5	2.7
XMR110A110 20	XMR120C110 20	XMR260T110 20	R2.0	11.0	9.5	2.7
XMR110A110 30	XMR120C110 30	XMR260T110 30	R3.0	11.0	9.5	2.7

▶ The corner radius tolerance is ±0.015mm and the set-up accuracy is ±0.02mm.
▶ 球头圆弧角公差是±0.015mm, 设置公差是±0.02mm

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMR110A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
XMR120C										◎	○	◎			◎	◎	◎	◎	◎	◎
XMR260T																				

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMR110A																		◎	◎	◎	◎
XMR120C																		◎	◎	◎	◎
XMR260T																					

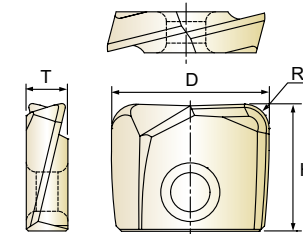


XMR110A SERIES
XMR120C SERIES
XMR260T SERIES

i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻刀片

- ▶ The optimum geometry of the tool to achieve better reliability and less vibration and cutting load.
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- ▶ 多种及广大切削范围刀具可以在粗加工~精加工
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Recommended ToolHolder	Plain Shank	Page
	POWER MILLING CHUCK	D161 - 176
	ER COLLET CHUCK	D73 - 115

Cutting conditions(加工参数) : p.C52

EDP No.			Corner Radius	Mill Diameter	Height	Thickness
AITiN	X-Coating	Z-Coating	圆弧角	直径	高度	厚度
For General Purpose & Stainless Steels (普通用途 & 不锈钢用)	For Pre-Hardened Steels (预硬钢用)	For High Hardened Steels (高硬钢用)	R	D	H	T
XMR110A120 03	XMR120C120 03	XMR260T120 03	R0.3	12.0	11.0	3.2
XMR110A120 05	XMR120C120 05	XMR260T120 05	R0.5	12.0	11.0	3.2
XMR110A120 10	XMR120C120 10	XMR260T120 10	R1.0	12.0	11.0	3.2
XMR110A120 15	XMR120C120 15	XMR260T120 15	R1.5	12.0	11.0	3.2
XMR110A120 20	XMR120C120 20	XMR260T120 20	R2.0	12.0	11.0	3.2
XMR110A120 30	XMR120C120 30	XMR260T120 30	R3.0	12.0	11.0	3.2
XMR110A130 03	XMR120C130 03	XMR260T130 03	R0.3	13.0	11.2	3.2
XMR110A130 05	XMR120C130 05	XMR260T130 05	R0.5	13.0	11.2	3.2
XMR110A130 10	XMR120C130 10	XMR260T130 10	R1.0	13.0	11.2	3.2
XMR110A130 15	XMR120C130 15	XMR260T130 15	R1.5	13.0	11.2	3.2
XMR110A130 20	XMR120C130 20	XMR260T130 20	R2.0	13.0	11.2	3.2
XMR110A130 30	XMR120C130 30	XMR260T130 30	R3.0	13.0	11.2	3.2
XMR110A160 03	XMR120C160 03	XMR260T160 03	R0.3	16.0	13.0	4.2
XMR110A160 05	XMR120C160 05	XMR260T160 05	R0.5	16.0	13.0	4.2
XMR110A160 10	XMR120C160 10	XMR260T160 10	R1.0	16.0	13.0	4.2
XMR110A160 15	XMR120C160 15	XMR260T160 15	R1.5	16.0	13.0	4.2
XMR110A160 20	XMR120C160 20	XMR260T160 20	R2.0	16.0	13.0	4.2
XMR110A160 30	XMR120C160 30	XMR260T160 30	R3.0	16.0	13.0	4.2

▶ The corner radius tolerance is ±0.015mm and the set-up accuracy is ±0.02mm.
▶ 球头圆弧角公差是±0.015mm, 设置公差是±0.02mm

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMR110A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
XMR120C										◎	◎	◎			◎	◎	◎	◎	◎	◎
XMR260T																				

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMR110A																		◎	◎	◎	◎
XMR120C																		◎	◎	◎	◎
XMR260T																					



XMR110A SERIES
XMR120C SERIES
XMR260T SERIES

i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻刀片

- ▶ The optimum geometry of the tool to achieve better reliability and less vibration and cutting load.
- ▶ Interchangeability with i-Xmill ball holder, but the precise cutting is possible with i-Xmill corner radius holder due to higher stability and strength of tool.
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Recommended ToolHolder	Plain Shank	Page
	POWER MILLING CHUCK	D161-176
	ER COLLET CHUCK	D73-115

Cutting conditions(加工参数) : p.C52

EDP No.			Corner Radius	Mill Diameter	Height	Thickness
AITiN	X-Coating	Z-Coating	圆弧角	直径	高度	厚度
For General Purpose & Stainless Steels (普通用途 & 不锈钢用)	For Pre-Hardened Steels (预硬钢用)	For High Hardened Steels (高硬钢用)	R	D	H	T
XMR110A170 03	XMR120C170 03	XMR260T170 03	R0.3	17.0	13.0	4.2
XMR110A170 05	XMR120C170 05	XMR260T170 05	R0.5	17.0	13.0	4.2
XMR110A170 10	XMR120C170 10	XMR260T170 10	R1.0	17.0	13.0	4.2
XMR110A170 15	XMR120C170 15	XMR260T170 15	R1.5	17.0	13.0	4.2
XMR110A170 20	XMR120C170 20	XMR260T170 20	R2.0	17.0	13.0	4.2
XMR110A170 30	XMR120C170 30	XMR260T170 30	R3.0	17.0	13.0	4.2
XMR110A200 03	XMR120C200 03	XMR260T200 03	R0.3	20.0	16.0	5.2
XMR110A200 05	XMR120C200 05	XMR260T200 05	R0.5	20.0	16.0	5.2
XMR110A200 10	XMR120C200 10	XMR260T200 10	R1.0	20.0	16.0	5.2
XMR110A200 15	XMR120C200 15	XMR260T200 15	R1.5	20.0	16.0	5.2
XMR110A200 20	XMR120C200 20	XMR260T200 20	R2.0	20.0	16.0	5.2
XMR110A200 30	XMR120C200 30	XMR260T200 30	R3.0	20.0	16.0	5.2
XMR110A210 03	XMR120C210 03	XMR260T210 03	R0.3	21.0	16.0	5.2
XMR110A210 05	XMR120C210 05	XMR260T210 05	R0.5	21.0	16.0	5.2
XMR110A210 10	XMR120C210 10	XMR260T210 10	R1.0	21.0	16.0	5.2
XMR110A210 15	XMR120C210 15	XMR260T210 15	R1.5	21.0	16.0	5.2
XMR110A210 20	XMR120C210 20	XMR260T210 20	R2.0	21.0	16.0	5.2
XMR110A210 30	XMR120C210 30	XMR260T210 30	R3.0	21.0	16.0	5.2

▶ The corner radius tolerance is ±0.015mm and the set-up accuracy is ±0.02mm.
▶ 圆鼻圆弧角公差是±0.015mm, 设置公差是±0.02mm

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc																				
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMR110A	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎						
XMR120C									◎	○	◎									
XMR260T																				

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc																					
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMR110A																					
XMR120C																		○			
XMR260T																		◎	◎	○	◎



XMR110A SERIES
XMR120C SERIES
XMR260T SERIES

i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻刀片

- ▶ The optimum geometry of the tool to achieve better reliability and less vibration and cutting load.
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Recommended ToolHolder	Plain Shank	Page
	POWER MILLING CHUCK	D161-176
	ER COLLET CHUCK	D73-115

Cutting conditions(加工参数) : p.C52

EDP No.			Corner Radius	Mill Diameter	Height	Thickness
AITiN	X-Coating	Z-Coating	圆弧角	直径	高度	厚度
For General Purpose & Stainless Steels (普通用途 & 不锈钢用)	For Pre-Hardened Steels (预硬钢用)	For High Hardened Steels (高硬钢用)	R	D	H	T
XMR110A250 03	XMR120C250 03	XMR260T250 03	R0.3	25.0	19.5	6.2
XMR110A250 05	XMR120C250 05	XMR260T250 05	R0.5	25.0	19.5	6.2
XMR110A250 10	XMR120C250 10	XMR260T250 10	R1.0	25.0	19.5	6.2
XMR110A250 15	XMR120C250 15	XMR260T250 15	R1.5	25.0	19.5	6.2
XMR110A250 20	XMR120C250 20	XMR260T250 20	R2.0	25.0	19.5	6.2
XMR110A250 30	XMR120C250 30	XMR260T250 30	R3.0	25.0	19.5	6.2
XMR110A260 03	XMR120C260 03	XMR260T260 03	R0.3	26.0	19.5	6.2
XMR110A260 05	XMR120C260 05	XMR260T260 05	R0.5	26.0	19.5	6.2
XMR110A260 10	XMR120C260 10	XMR260T260 10	R1.0	26.0	19.5	6.2
XMR110A260 15	XMR120C260 15	XMR260T260 15	R1.5	26.0	19.5	6.2
XMR110A260 20	XMR120C260 20	XMR260T260 20	R2.0	26.0	19.5	6.2
XMR110A260 30	XMR120C260 30	XMR260T260 30	R3.0	26.0	19.5	6.2
XMR110A300 03	XMR120C300 03	XMR260T300 03	R0.3	30.0	23.5	7.2
XMR110A300 05	XMR120C300 05	XMR260T300 05	R0.5	30.0	23.5	7.2
XMR110A300 10	XMR120C300 10	XMR260T300 10	R1.0	30.0	23.5	7.2
XMR110A300 15	XMR120C300 15	XMR260T300 15	R1.5	30.0	23.5	7.2
XMR110A300 20	XMR120C300 20	XMR260T300 20	R2.0	30.0	23.5	7.2
XMR110A300 30	XMR120C300 30	XMR260T300 30	R3.0	30.0	23.5	7.2

▶ The corner radius tolerance is ±0.015mm and the set-up accuracy is ±0.02mm.
▶ 圆鼻圆弧角公差是±0.015mm, 设置公差是±0.02mm

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc																				
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMR110A	◎	◎	◎	◎	◎	◎	◎	◎				◎	◎	◎						
XMR120C										◎	◎	◎								
XMR260T																				

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc																					
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMR110A																					
XMR120C																		○			
XMR260T																		◎	◎	○	◎



XMR110A SERIES
XMR120C SERIES
XMR260T SERIES

i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻刀片

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Recommended ToolHolder	Plain Shank	Page
	POWER MILLING CHUCK	D161-176
	ER COLLET CHUCK	D73-115

Cutting conditions(加工参数) : p.C52

EDP No.			Corner Radius	Mill Diameter	Height	Thickness
AITIN	X-Coating	Z-Coating	圆弧角	直径	高度	厚度
For General Purpose & Stainless Steels (普通用途 & 不锈钢用)	For Pre-Hardened Steels (预硬钢用)	For High Hardened Steels (高硬钢用)	R	D	H	T
XMR110A320 03	XMR120C320 03	XMR260T320 03	R0.3	32.0	23.5	7.2
XMR110A320 05	XMR120C320 05	XMR260T320 05	R0.5	32.0	23.5	7.2
XMR110A320 10	XMR120C320 10	XMR260T320 10	R1.0	32.0	23.5	7.2
XMR110A320 15	XMR120C320 15	XMR260T320 15	R1.5	32.0	23.5	7.2
XMR110A320 20	XMR120C320 20	XMR260T320 20	R2.0	32.0	23.5	7.2
XMR110A320 30	XMR120C320 30	XMR260T320 30	R3.0	32.0	23.5	7.2
XMR110A330 03	XMR120C330 03	XMR260T330 03	R0.3	33.0	23.5	7.2
XMR110A330 05	XMR120C330 05	XMR260T330 05	R0.5	33.0	23.5	7.2
XMR110A330 10	XMR120C330 10	XMR260T330 10	R1.0	33.0	23.5	7.2
XMR110A330 15	XMR120C330 15	XMR260T330 15	R1.5	33.0	23.5	7.2
XMR110A330 20	XMR120C330 20	XMR260T330 20	R2.0	33.0	23.5	7.2
XMR110A330 30	XMR120C330 30	XMR260T330 30	R3.0	33.0	23.5	7.2

▶ The corner radius tolerance is ±0.015mm and the set-up accuracy is ±0.02mm.
▶ 圆鼻圆弧角公差是±0.015mm, 设置公差是±0.02mm

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72	75	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
XMR110A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
XMR120C									◎	○	◎				◎	◎	◎	◎	◎	◎	
XMR260T																					

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
XMR110A																					
XMR120C																		○			
XMR260T																		◎	◎	○	◎

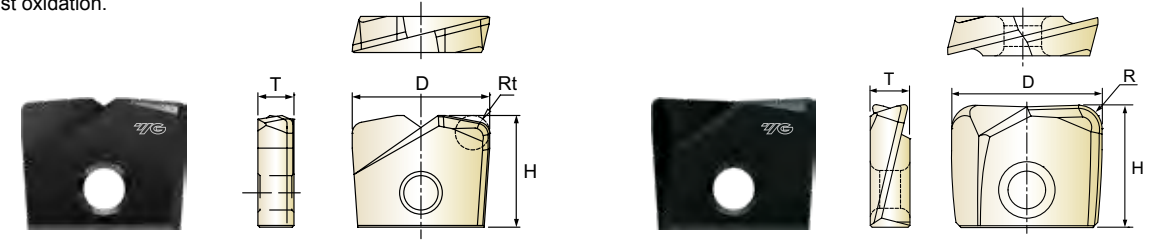


XMF110V SERIES
XMR110D SERIES

i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻刀片

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High Feed
高进给

Recommended ToolHolder	Plain Shank	Page
	POWER MILLING CHUCK	D161-176
	ER COLLET CHUCK	D73-115

Cutting conditions(加工参数) : p.C52

EDP No.		Corner Radius	Mill Diameter	Height	Thickness	for High Feed
Y-Coating	Diamond	圆弧角	直径	高度	厚度	高进给
For General Purpose High Feed (普通高进给)	For Graphite (石墨用)	R (Rt)	D	H	T	apMax. (最大切深)
-	XMR110D080 03	R0.3	8.0	8.0	2.4	0.4
-	XMR110D080 05	R0.5	8.0	8.0	2.4	0.4
XMF110V080 08	-	R0.8	8.0	8.0	2.4	0.4
-	XMR110D080 10	R1.0	8.0	8.0	2.4	0.4
-	XMR110D080 20	R2.0	8.0	8.0	2.4	0.4
-	XMR110D100 03	R0.3	10.0	9.5	2.7	0.5
-	XMR110D100 05	R0.5	10.0	9.5	2.7	0.5
XMF110V100 10	XMR110D100 10	R1.0	10.0	9.5	2.7	0.5
-	XMR110D100 15	R1.5	10.0	9.5	2.7	0.5
-	XMR110D100 20	R2.0	10.0	9.5	2.7	0.5
-	XMR110D100 30	R3.0	10.0	9.5	2.7	0.5
-	XMR110D110 03	R0.3	11.0	9.5	2.7	0.5
-	XMR110D110 05	R0.5	11.0	9.5	2.7	0.5
XMF110V110 10	XMR110D110 10	R1.0	11.0	9.5	2.7	0.5
-	XMR110D110 15	R1.5	11.0	9.5	2.7	0.5
-	XMR110D110 20	R2.0	11.0	9.5	2.7	0.5
-	XMR110D110 30	R3.0	11.0	9.5	2.7	0.5

▶ The corner radius tolerance is ±0.015mm(Rt tolerance is ±0.05mm) and the set-up accuracy is ±0.02mm.
▶ 圆鼻圆弧角公差是±0.015mm, 设置公差是±0.02mm

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◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72	75	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
XMF110V	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎										
XMR110D																					

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
XMF110V																					
XMR110D	○	○	○	○																	

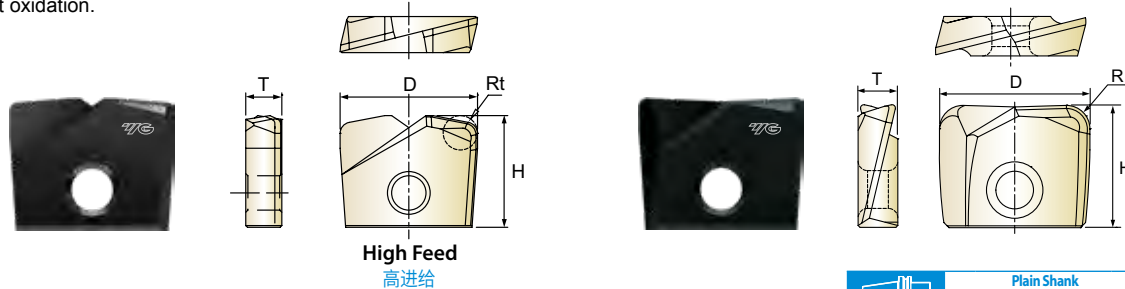


XMF110V SERIES
XMR110D SERIES

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Cutting conditions(加工参数) : p.C52

Recommended ToolHolder	Plain Shank	Page
	POWER MILLING CHUCK	D161-176
	ER COLLET CHUCK	D73-115

EDP No.		Corner Radius	Mill Diameter	Height	Thickness	for High Feed
Y-Coating	Diamond	圆弧角	直径	高度	厚度	高进给
For General Purpose High Feed (普通高进给)	For Graphite (石墨用)	R (Rt)	D	H	T	apMax. (最大切深)
-	XMR110D120 03	R0.3	12.0	11.0	2.7	0.6
-	XMR110D120 05	R0.5	12.0	11.0	2.7	0.6
XMF110V120 10	XMR110D120 10	R1.0	12.0	11.0	2.7	0.6
-	XMR110D120 15	R1.5	12.0	11.0	2.7	0.6
-	XMR110D120 20	R2.0	12.0	11.0	2.7	0.6
-	XMR110D120 30	R3.0	12.0	11.0	2.7	0.6
-	XMR110D130 03	R0.3	13.0	11.2	2.7	0.6
-	XMR110D130 05	R0.5	13.0	11.2	2.7	0.6
XMF110V130 10	XMR110D130 10	R1.0	13.0	11.2	2.7	0.6
-	XMR110D130 15	R1.5	13.0	11.2	2.7	0.6
-	XMR110D130 20	R2.0	13.0	11.2	2.7	0.6
-	XMR110D130 30	R3.0	13.0	11.2	2.7	0.6
-	XMR110D160 03	R0.3	16.0	13.0	4.2	0.8
-	XMR110D160 05	R0.5	16.0	13.0	4.2	0.8
-	XMR110D160 10	R1.0	16.0	13.0	4.2	0.8
XMF110V160 15	XMR110D160 15	R1.5	16.0	13.0	4.2	0.8
-	XMR110D160 20	R2.0	16.0	13.0	4.2	0.8
-	XMR110D160 30	R3.0	16.0	13.0	4.2	0.8

▶ The corner radius tolerance is $\pm 0.015\text{mm}$ (Rt tolerance is $\pm 0.05\text{mm}$) and the set-up accuracy is $\pm 0.02\text{mm}$.
▶ 圆鼻圆弧角公差是 $\pm 0.015\text{mm}$, 设置公差是 $\pm 0.02\text{mm}$

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMF110V	◎	◎	◎	◎	◎	◎	◎			◎										
XMR110D																				

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	550	630	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			400 Rm	1050 Rm	550	630	400	550	400	550	400	550	
XMF110V																					
XMR110D	○	○	○	○						◎											

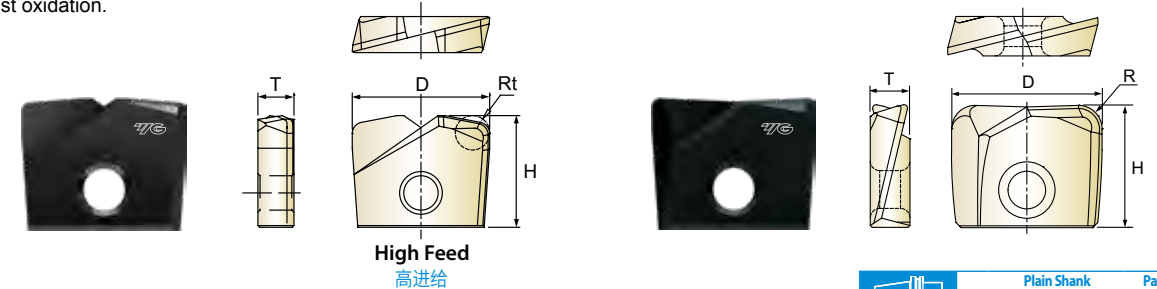


XMF110V SERIES
XMR110D SERIES

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Cutting conditions(加工参数) : p.C52

Recommended ToolHolder	Plain Shank	Page
	POWER MILLING CHUCK	D161-176
	ER COLLET CHUCK	D73-115

EDP No.		Corner Radius	Mill Diameter	Height	Thickness	for High Feed
Y-Coating	Diamond	圆弧角	直径	高度	厚度	高进给
For General Purpose High Feed (普通高进给)	For Graphite (石墨用)	R (Rt)	D	H	T	apMax. (最大切深)
-	XMR110D170 03	R0.3	17.0	13.0	4.2	0.8
-	XMR110D170 05	R0.5	17.0	13.0	4.2	0.8
-	XMR110D170 10	R1.0	17.0	13.0	4.2	0.8
XMF110V170 15	XMR110D170 15	R1.5	17.0	13.0	4.2	0.8
-	XMR110D170 20	R2.0	17.0	13.0	4.2	0.8
-	XMR110D170 30	R3.0	17.0	13.0	4.2	0.8
-	XMR110D200 03	R0.3	20.0	16.0	5.2	1.0
-	XMR110D200 05	R0.5	20.0	16.0	5.2	1.0
-	XMR110D200 10	R1.0	20.0	16.0	5.2	1.0
-	XMR110D200 15	R1.5	20.0	16.0	5.2	1.0
XMF110V200 20	XMR110D200 20	R2.0	20.0	16.0	5.2	1.0
-	XMR110D200 30	R3.0	20.0	16.0	5.2	1.0
-	XMR110D210 03	R0.3	21.0	16.0	5.2	1.0
-	XMR110D210 05	R0.5	21.0	16.0	5.2	1.0
-	XMR110D210 10	R1.0	21.0	16.0	5.2	1.0
-	XMR110D210 15	R1.5	21.0	16.0	5.2	1.0
XMF110V210 20	XMR110D210 20	R2.0	21.0	16.0	5.2	1.0
-	XMR110D210 30	R3.0	21.0	16.0	5.2	1.0

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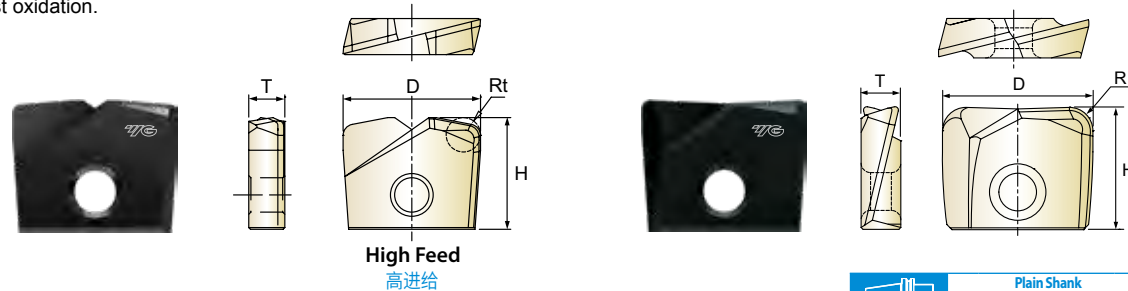
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMF110V	◎	◎	◎	◎	◎	◎	◎			◎										
XMR110D																				

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	550	630	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			400 Rm	1050 Rm	550	630	400	550	400	550	400	550	
XMF110V																					
XMR110D	○	○	○	○						◎											

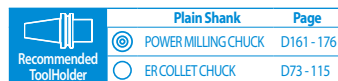
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- ▶ 最佳设计形状提高稳定性而减少振动和切削阻力
- ▶ 可以在i-Xmill球头刀杆, 可是为了更精密加工, 高稳定性, 刚性, 推荐采用i-Xmill圆鼻刀杆
- ▶ 多种及广大切削范围刀具可以用在粗加工~精加工
- ▶ 特殊涂层提高硬度而且具有抗氧化的高温稳定性



Cutting conditions(加工参数) : p.C52



EDP No.		Corner Radius	Mill Diameter	Height	Thickness	for High Feed
Y-Coating	Diamond	圆弧角	直径	高度	厚度	高进给
For General Purpose High Feed (普通高进给)	For Graphite (石墨用)	R (Rt)	D	H	T	apMax. (最大切深)
-	XMR110D250 03	R0.3	25.0	19.5	6.2	1.25
-	XMR110D250 05	R0.5	25.0	19.5	6.2	1.25
-	XMR110D250 10	R1.0	25.0	19.5	6.2	1.25
-	XMR110D250 15	R1.5	25.0	19.5	6.2	1.25
-	XMR110D250 20	R2.0	25.0	19.5	6.2	1.25
XMF110V250 25	-	R2.5	25.0	19.5	6.2	1.25
-	XMR110D250 30	R3.0	25.0	19.5	6.2	1.25
-	XMR110D260 03	R0.3	26.0	19.5	6.2	1.25
-	XMR110D260 05	R0.5	26.0	19.5	6.2	1.25
-	XMR110D260 10	R1.0	26.0	19.5	6.2	1.25
-	XMR110D260 15	R1.5	26.0	19.5	6.2	1.25
-	XMR110D260 20	R2.0	26.0	19.5	6.2	1.25
XMF110V260 25	-	R2.5	26.0	19.5	6.2	1.25
-	XMR110D260 30	R3.0	26.0	19.5	6.2	1.25
-	XMR110D300 03	R0.3	30.0	23.5	7.2	1.6
-	XMR110D300 05	R0.5	30.0	23.5	7.2	1.6
-	XMR110D300 10	R1.0	30.0	23.5	7.2	1.6
-	XMR110D300 15	R1.5	30.0	23.5	7.2	1.6
-	XMR110D300 20	R2.0	30.0	23.5	7.2	1.6
XMF110V300 30	XMR110D300 30	R3.0	30.0	23.5	7.2	1.6

▶ The corner radius tolerance is ±0.015mm(Rt tolerance is ±0.05mm) and the set-up accuracy is ±0.02mm. ▶ NEXT PAGE 下页
▶ 圆鼻圆弧角公差是±0.015mm, 设置公差是±0.02mm

◎ : Excellent (优秀) ○ : Good (良好)

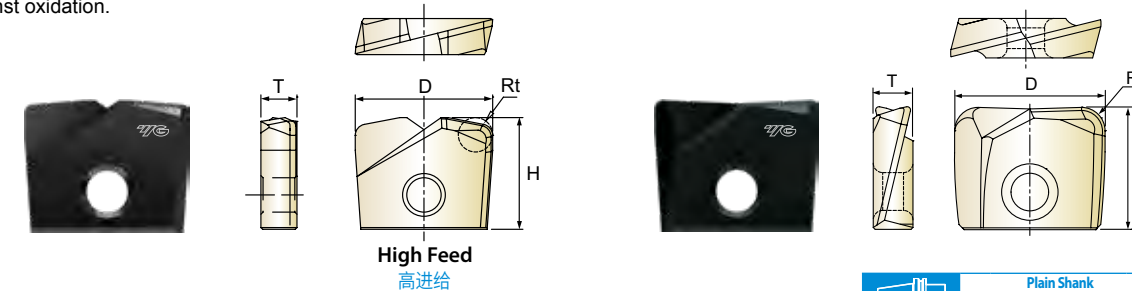
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMF110V	◎	◎	◎	◎	◎	◎	◎			◎										
XMR110D																				

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC											15	30	25	38	34	40	50	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMF110V																					
XMR110D	○	○	○	○						◎											

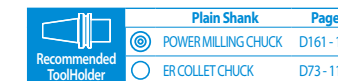
i-Xmill CORNER RADIUS INSERT
i-Xmill 圆鼻刀片

- ▶ The optimum geometry of the tool to achieve better reliability and less vibration and cutting load.
- ▶ Interchangeability with i-Xmill ball holder, but the precise cutting is possible with i-Xmill corner radius holder due to higher stability and strength of tool.
- ▶ The various and wide cutting range makes it possible to machine over the roughing and finishing.
- ▶ Special coating makes high hardness with high thermal stability against oxidation.

- ▶ 最佳设计形状提高稳定性而减少振动和切削阻力
- ▶ 可以在i-Xmill球头刀杆, 可是为了更精密加工, 高稳定性, 刚性, 推荐采用i-Xmill圆鼻刀杆
- ▶ 多种及广大切削范围刀具可以用在粗加工~精加工
- ▶ 特殊涂层提高硬度而且具有抗氧化的高温稳定性



Cutting conditions(加工参数) : p.C52



EDP No.		Corner Radius	Mill Diameter	Height	Thickness	for High Feed
Y-Coating	Diamond	圆弧角	直径	高度	厚度	高进给
For General Purpose High Feed (普通高进给)	For Graphite (石墨用)	R (Rt)	D	H	T	apMax. (最大切深)
-	XMR110D320 03	R0.3	32.0	23.5	7.2	1.6
-	XMR110D320 05	R0.5	32.0	23.5	7.2	1.6
-	XMR110D320 10	R1.0	32.0	23.5	7.2	1.6
-	XMR110D320 15	R1.5	32.0	23.5	7.2	1.6
-	XMR110D320 20	R2.0	32.0	23.5	7.2	1.6
-	XMR110D320 30	R3.0	32.0	23.5	7.2	1.6
XMF110V320 32	XMR110D320 32	R3.2	32.0	23.5	7.2	1.6
-	XMR110D330 03	R0.3	33.0	23.5	7.2	1.6
-	XMR110D330 05	R0.5	33.0	23.5	7.2	1.6
-	XMR110D330 10	R1.0	33.0	23.5	7.2	1.6
-	XMR110D330 15	R1.5	33.0	23.5	7.2	1.6
-	XMR110D330 20	R2.0	33.0	23.5	7.2	1.6
-	XMR110D330 30	R3.0	33.0	23.5	7.2	1.6
XMF110V330 32	XMR110D330 32	R3.2	33.0	23.5	7.2	1.6

▶ The corner radius tolerance is ±0.015mm(Rt tolerance is ±0.05mm) and the set-up accuracy is ±0.02mm.
▶ 圆鼻圆弧角公差是±0.015mm, 设置公差是±0.02mm

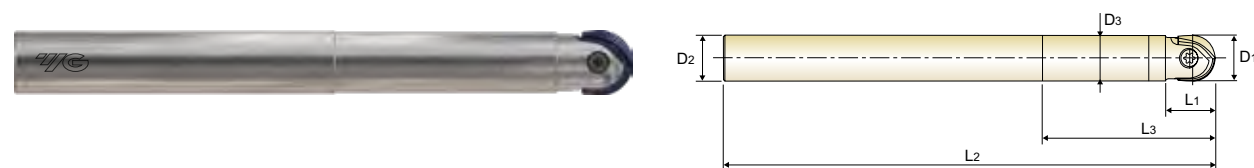
◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMF110V	◎	◎	◎	◎	◎	◎	◎			◎										
XMR110D																				

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC											15	30	25	38	34	40	50	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMF110V																					
XMR110D	○	○	○	○						◎											

i-Xmill CARBIDE BALL HOLDER - STRAIGHT NECK

i-Xmill 硬质合金球头刀杆 - 直颈



Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Neck Diameter	Length of Cut	Length Below Shank	Overall Length	Length Type	Wrench No.	Screw No.
	直径	柄径	颈径	刃长	颈长	全长			
	D1	D2	D3	L1	L3	L2	长度类型	扳手号码	螺钉号码
ZBC0801080	8	8	7.6	12	25	130	Regular	TWFT07	TX2508T07
ZBC0802080	8	8	7.6	12	40	130	Regular		
ZBC0803080	8	8	7.6	12	65	130	Regular		
ZBC0804080	8	8	7.6	12	60	150	Regular		
ZBC0805080	8	8	7.6	12	60	200	Long	TWFT08	TX3010T08
ZBC0806080	8	8	7.6	12	25	80	Short		
ZBC1001100	10, 11	10	9.5	15	30	140	Regular		
ZBC1002100	10, 11	10	9.5	15	50	140	Regular		
ZBC1003100	10, 11	10	9.5	15	75	140	Regular	TWFT10	TX3512T10
ZBC1004100	10, 11	10	9.5	15	60	180	Regular		
ZBC1005100	10, 11	10	9.5	15	60	200	Long		
ZBC1006100	10, 11	10	9.5	15	30	80	Short		
ZBC120001P	12, 13	12	11.4	17	40	200	Long	TWFT15	TX4016T15
ZBC1201120	12, 13	12	11.4	17	35	150	Regular		
ZBC1202120	12, 13	12	11.4	17	60	150	Regular		
ZBC1203120	12, 13	12	11.4	17	85	150	Regular		
ZBC1204120	12, 13	12	11.4	17	60	250	Long	TWBT20	TX5020T20
ZBC1205120	12, 13	12	11.4	17	35	100	Short		
ZBC160001P	16, 17	16	15.0	20	50	150	Regular		
ZBC1601160	16, 17	16	15.0	20	50	200	Long		
ZBC1602160	16, 17	16	15.0	20	80	200	Long	TWBT25	TX6025T25
ZBC1603160	16, 17	16	15.0	20	120	200	Long		
ZBC1604160	16, 17	16	15.0	20	80	250	Long		
ZBC1605160	16, 17	16	15.0	20	50	120	Short		
ZBC200002P	20, 21	20	19.0	25	60	150	Regular	TWBT30	TX8030T30
ZBC2001200	20, 21	20	19.0	25	60	200	Regular		
ZBC2002200	20, 21	20	19.0	25	80	200	Regular		
ZBC2003200	20, 21	20	19.0	25	100	250	Long		
ZBC2004200	20, 21	20	19.0	25	150	250	Long	TWBT25	TX6025T25
ZBC2005200	20, 21	20	19.0	25	100	300	Long		
ZBC250001P	25, 26	25	24.0	30	75	150	Regular		
ZBC2501250	25, 26	25	24.0	30	75	200	Regular		
ZBC2502250	25, 26	25	24.0	30	120	250	Regular	TWBT30	TX8030T30
ZBC2503250	25, 26	25	24.0	30	190	300	Long		
ZBC2504250	25, 26	25	24.0	30	120	350	Long		
ZBC2505250	25, 26	25	24.0	30	60	300	Long		
ZBC3001320	30, 32, 33	32	29.0	40	90	250	Regular	TWBT30	TX8030T30
ZBC3002320	30, 32, 33	32	29.0	40	150	300	Long		
ZBC3003320	30, 32, 33	32	29.0	40	190	300	Long		
ZBC3004320	30, 32, 33	32	29.0	40	120	350	Long		
ZBC3005320	30, 32, 33	32	29.0	40	150	400	Long		

* Upon request, the broken holder is able to be regenerated

按照客户要求, 破损的刀杆可以修磨

* Your carbide holder can be regenerated as YG-1 type upon request

客户的刀杆可修磨到YG-1型刀杆

* Required to use T-HANDLE (TWH600) - (p.C49)

需要使用T-HANDLE (TWH600) - (49页)

i-Xmill STEEL BALL HOLDER - STRAIGHT NECK

i-Xmill 钢件球头刀杆 - 直颈



Unit(单位) : mm

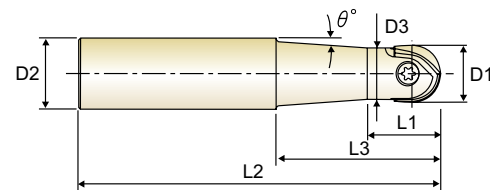
EDP No.	Mill Diameter	Shank Diameter	Neck Diameter	Length Below Shank	Overall Length	Length Type	Wrench No.	Screw No.
	直径	柄径	颈径	颈长	全长			
	D1	D2	D3	L3	L2	长度类型	扳手号码	螺钉号码
ZBS1201120	12, 13	12	10.5	35	90	Short	TWFT10	TX3512T10
ZBS1202120	12, 13	12	10.5	55	110	Regular		
ZBS120001P	12, 13	12	10.5	40	150	Long		
ZBS1601160	16, 17	16	14.5	35	95	Short		
ZBS1602160	16, 17	16	14.5	65	125	Regular	TWFT15	TX4016T15
ZBS160001P	16, 17	16	14.5	60	200	Long		
ZBS2001200	20, 21	20	18.0	40	110	Short		
ZBS2002200	20, 21	20	18.0	75	145	Regular		
ZBS200001P	20, 21	20	18.0	80	200	Long	TWBT20	TX5020T20
ZBS200002P	20, 21	20	18.0	60	200	Long		
ZBS2501250	25, 26	25	22.5	45	125	Short		
ZBS2502250	25, 26	25	22.5	90	170	Regular		
ZBS2503250	25, 26	25	22.5	100	250	Long	TWBT25	TX6025T25
ZBS250001P	25, 26	25	22.5	90	200	Long		
ZBS250002P	25, 26	25	22.5	60	200	Long		
ZBS3001320	30, 32, 33	32	27.0	55	140	Short		
ZBS3002320	30, 32, 33	32	27.0	110	195	Regular	TWBT30	TX8030T30
ZBS3004320	30, 32, 33	32	27.0	150	350	Long		
ZBS300001P	30, 32, 33	32	27.0	100	250	Long		

* Required to use T-HANDLE (TWH600) - (p.C49)

需要使用T-HANDLE (TWH600) - (49页)

i-Xmill STEEL BALL HOLDER - TAPER NECK

i-Xmill 钢件球头刀杆 - 锥颈



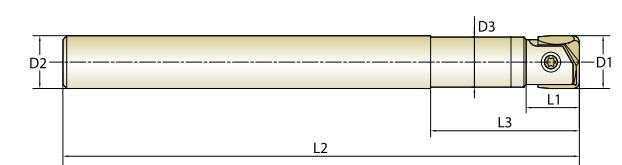
Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Neck Diameter	Length of Cut	Length Below Shank	Overall Length	Interference Angle	Length Type 长度类型	Wrench No. 扳手号码	Screw No. 螺钉号码
	直径	柄径	颈径	刃长	颈长	全长	锥度角度			
	D ₁	D ₂	D ₃	L ₁	L ₃	L ₂	θ°			
ZBT0801120	8	12	7.2	12	35	90	4° 43'	Short	TWFT07	TX2508T07
ZBT0802120	8	12	7.2	25	55	110	3° 37'	Regular		
ZBT1001120	10, 11	12	9.0	15	35	90	2° 51'	Short	TWFT08	TX3010T08
ZBT1002120	10, 11	12	9.0	30	55	110	2° 17'	Regular		
ZBT1201160	12, 13	16	10.5	17	55	110	3° 23'	Short	TWFT10	TX3512T10
ZBT1601200	16, 17	20	14.5	20	65	125	2° 51'	Short	TWFT15	TX4016T15
ZBT1604200	16, 17	20	14.5	20	115	200	1° 22'	Regular		
ZBT2001250	20, 21	25	18.0	25	75	145	3° 26'	Short		
ZBT2004250	20, 21	25	18.0	25	115	200	1° 55'	Regular	●TWBT20	TX5020T20
ZBT2005250	20, 21	25	18.0	25	160	250	1° 17'	Long		
ZBT2501320	25, 26	32	22.5	30	90	170	4° 03'	Short		
ZBT2504320	25, 26	32	22.5	30	160	250	1° 53'	Regular	●TWBT25	TX6025T25
ZBT2505320	25, 26	32	22.5	30	190	300	1° 32'	Long		
ZBT3001320	30,32,33	32	27.0	40	110	195	1° 38'	Short		
ZBT3004320	30,32,33	32	27.0	40	160	250	0° 58'	Regular	●TWBT30	TX8030T30
ZBT3005320	30,32,33	32	27.0	40	190	300	0° 46'	Long		

* ● Required to use T-HANDLE (TWH600) - (p.C49)
● 需要使用T-HANDLE (TWH600) - (49页)

i-Xmill CARBIDE CORNER RADIUS HOLDER - STRAIGHT NECK

i-Xmill 硬质合金圆鼻刀杆 - 直颈



Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Neck Diameter	Length of Cut	Length Below Shank	Overall Length	Length Type 长度类型	Wrench No. 扳手号码	Screw No. 螺钉号码
	直径	柄径	颈径	刃长	颈长	全长			
	D ₁	D ₂	D ₃	L ₁	L ₃	L ₂			
ZRC0801080	8	8	7.6	12	25	130	Regular		
ZRC0802080	8	8	7.6	12	40	130	Regular	TWFT07	TX2508T07
ZRC0803080	8	8	7.6	12	65	130	Regular		
ZRC1001100	10	10	9.5	15	30	140	Regular		
ZRC1002100	10	10	9.5	15	50	140	Regular	TWFT08	TX3010T08
ZRC1003100	10	10	9.5	15	75	140	Regular		
ZRC1201120	12, 13	12	11.4	17	35	150	Regular		
ZRC1202120	12, 13	12	11.4	17	60	150	Regular	TWFT10	TX3512T10
ZRC1203120	12, 13	12	11.4	17	85	150	Regular		
ZRC1601160	16, 17	16	15.0	20	50	200	Long		
ZRC1602160	16, 17	16	15.0	20	80	200	Long		
ZRC1603160	16, 17	16	15.0	20	120	200	Long	TWFT15	TX4016T15
ZRC1604160	16, 17	16	15.0	20	80	250	Long		
ZRC2001200	20, 21	20	19.0	25	60	200	Regular		
ZRC2002200	20, 21	20	19.0	25	80	250	Regular		
ZRC2003200	20, 21	20	19.0	25	100	250	Long	●TWBT20	TX5020T20
ZRC2004200	20, 21	20	19.0	25	150	250	Long		
ZRC2501250	25, 26	25	24.0	30	75	200	Regular		
ZRC2502250	25, 26	25	24.0	30	120	250	Regular	●TWBT25	TX6025T25
ZRC2503250	25, 26	25	24.0	30	190	300	Long		
ZRC3001320	30,32,33	32	29.0	40	90	250	Regular		
ZRC3002320	30,32,33	32	29.0	40	150	300	Long	●TWBT30	TX8030T30
ZRC3003320	30,32,33	32	29.0	40	190	300	Long		

* ● Required to use T-HANDLE (TWH600) - (p.C49)
● 需要使用T-HANDLE (TWH600) - (49页)

i-Xmill STEEL CORNER RADIUS HOLDER - STRAIGHT NECK
i-Xmill 钢件 圆鼻 刀杆 - 直颈



Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Neck Diameter	Length of Cut	Length Below Shank	Overall Length	Length Type	Wrench No.	Screw No.
	直径 D1	柄径 D2	颈径 D3	刃长 L1	颈长 L3	全长 L2			
ZRS1201120	12, 13	12	11.0	13	30	110	Regular	TWFT10	TX3512T10
ZRS1601160	16, 17	16	15.0	15	50	130	Regular	TWFT15	TX4016T15
ZRS1602160	16, 17	16	15.0	15	65	165	Intermediate		
ZRS1603160	16, 17	16	15.0	15	65	200	Long	TWBT20	TX5020T20
ZRS2001200	20, 21	20	19.0	18	60	140	Regular		
ZRS2002200	20, 21	20	19.0	18	80	180	Intermediate	TWBT25	TX6025T25
ZRS2003200	20, 21	20	19.0	18	80	250	Long		
ZRS2501250	25, 26	25	24.0	23	70	150	Regular	TWBT30	TX8030T30
ZRS2502250	25, 26	25	24.0	23	90	200	Intermediate		
ZRS2503250	25, 26	25	24.0	23	90	300	Long	TWBT30	TX8030T30
ZRS3001320	30, 32, 33	32	29.0	27	80	160	Regular		
ZRS3002320	30, 32, 33	32	29.0	27	100	220	Intermediate	TWBT30	TX8030T30
ZRS3003320	30, 32, 33	32	29.0	27	100	350	Long		

* Required to use T-HANDLE (TWH600) - (p.C49)
需要使用T-HANDLE (TWH600) - (49页)

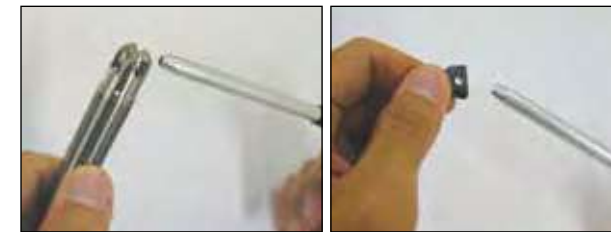
i-Xmill STEEL CORNER RADIUS HOLDER - TAPER NECK
i-Xmill 钢件 圆鼻 刀杆 - 锥颈



Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Neck Diameter	Length of Cut	Length Below Shank	Overall Length	Interference Angle	Length Type	Wrench No.	Screw No.
	直径 D1	柄径 D2	颈径 D3	刃长 L1	颈长 L3	全长 L2	锥度角度 theta			
ZRT0801120	8	12	6.7	10	22	100	9°	Regular	TWFT07	TX2508T07
ZRT0802120	8	12	6.7	10	50	130	2° 43'	Long		
ZRT1001120	10, 11	12	8.6	13	25	100	4° 45'	Regular	TWFT08	TX3010T08
ZRT1002120	10, 11	12	8.6	13	50	150	1° 32'	Long		
ZRT1202160	12, 13	16	10.2	15	60	160	2° 32'	Long	TWFT10	TX3512T10

ASSEMBLY of i-Xmill
装配 i-Xmill



▲ Make sure to clean the insert and insert seat.
确保清洁装配部分



▲ Slide the insert into the slot of the holder.
Tighten the screw using anti-seize compound.
刀片滑入刀杆的槽使用扳手拧紧螺钉

SIZE (ØD)	CLAMPING TORQUE (夹紧扭矩) [N·m]
Ø8.0	1.0
Ø10.0	1.5
Ø12.0, Ø13.0	2.5
Ø16.0, Ø17.0	3.5
Ø20.0, Ø21.0	5.0
Ø25.0, Ø26.0	6.0
Ø30.0, Ø32.0	6.5

- * When the screw is worn out, please change the a new screw. (如螺钉磨损, 请更换新的螺钉)
- * Please tighten up the screw with recommended torque. (Please refer to the table) (按照推荐扭矩拧紧螺钉 (参考上述表))
- * Don't press down the insert, when the screw is tightened. (螺钉装配后, 不要压下刀片)

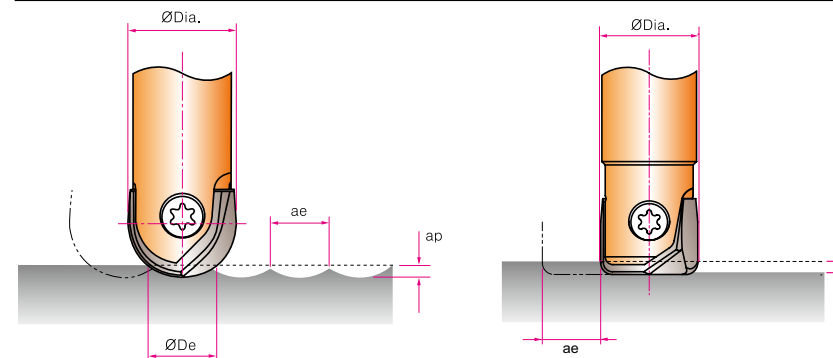


Wrench No. 扳手号码

WRENCH TYPE	PRODUCT NO.	T-HANDLE No.
WING TYPE	TWFT10	-
	TWFT15	-
TORX BIT TYPE	● TWBT20	TWH600
	● TWBT25	
	● TWBT30	

* Required to use T-HANDLE (TWH600) 需要使用T-HANDLE (TWH600)

CUTTING CONDITION
加工参数



- RPM = revolution per minute 转数 (rev/min)
- Vc = surface meter per minute 切削速度 (M/min)
- Dia. = diameter of insert 刀片直径 (mm)
- Vf = feed speed 进给量 (mm/min)
- f = feed per revolution 每转进给 (mm/rev)
- De = effective tool diameter 有效直径 (mm)
- Ap = axial depth of cut 切削深度 (mm)
- Ae = radial depth of cut 切削宽度 (mm)

$$Vc [M/min] = \frac{(RPM) \cdot (\pi) \cdot (Dia.)}{1000}$$

$$Vf [mm/min] = (RPM) \cdot (f)$$

$$RPM [rev/min] = \frac{(Vc) \cdot (1000)}{(\pi) \cdot (Dia.)}$$

$$De [mm] = 2 \sqrt{(ap) \cdot (Dia. - ap)}$$

XMB110A SERIES BALL INSERTS for GENERAL PURPOSE
普通用途 球头刀片

Vc = m/min.
Fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
P	1-4	Non-alloy steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60	
			RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430	
			FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910	
			Vc	120~280	120~300	120~350	120~380	120~420	120~480	120~550	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60	
	5	Non-alloy steel	Vc	120~280	120~300	120~350	120~380	120~420	120~480	120~550	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60	
			RPM	4770~11140	3820~9550	3180~9280	2390~7560	1910~6680	1530~6110	1270~5840	
			FEED	1910~4460	1530~3820	1270~3710	1190~4540	950~5350	760~6110	640~7000	
			Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60	
6-7	Low alloy steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700		
		fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60		
		RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430		
		FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910		
		Vc	120~280	120~300	120~350	120~380	120~420	120~480	120~550		
		fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60		
8	Low alloy steel	Vc	120~280	120~300	120~350	120~380	120~420	120~480	120~550		
		fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60		
		RPM	4770~11140	3820~9550	3180~9280	2390~7560	1910~6680	1530~6110	1270~5840		
		FEED	1910~4460	1530~3820	1270~3710	1190~4540	950~5350	760~6110	640~7000		
		Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700		
		fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60		

XMB120C SERIES BALL INSERTS for PRE-HARDENED STEELS
预硬钢用 球头刀片

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
P	9-11	Low alloy steel High alloyed steel, and tool steel	Vc	100~220	100~260	100~280	100~350	100~400	100~450	100~500	
			fz	0.15~0.20	0.15~0.20	0.15~0.20	0.20~0.30	0.20~0.40	0.20~0.50	0.20~0.60	
			RPM	3980~8750	3180~8280	2650~7430	1990~6960	1590~6370	1270~5730	1060~5310	
			FEED	1190~3500	950~3310	800~2970	800~4180	640~5090	510~5730	420~6370	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	Vc	160~320	160~360	160~400	160~500	160~550	160~620	160~720	
			fz	0.30~0.30	0.30~0.30	0.30~0.30	0.35~0.40	0.35~0.40	0.35~0.50	0.35~0.60	
			RPM	6370~12730	5090~11460	4240~10610	3180~9950	2550~8750	2040~7890	1700~7640	
			FEED	3820~7640	3060~6880	2550~6370	2230~7960	1780~7000	1430~7890	1190~9170	
H	38	Hardened steel	Vc	80~180	80~200	80~220	80~260	80~320	80~360	80~400	
			fz	0.10~0.20	0.10~0.20	0.10~0.20	0.15~0.30	0.15~0.40	0.15~0.50	0.15~0.60	
			RPM	3180~7160	2550~6370	2120~5840	1590~5170	1270~5090	1020~4580	850~4240	
			FEED	640~2860	510~2550	420~2330	480~3100	380~4070	310~4580	250~5090	

XMB260T SERIES BALL INSERTS for HIGH HARDENED STEELS
高硬钢用 球头刀片

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
H	38-41	Hardened steel	Vc	80~180	80~200	80~220	80~260	80~320	80~360	80~400	
			fz	0.10~0.15	0.10~0.15	0.10~0.15	0.15~0.25	0.15~0.25	0.15~0.25	0.15~0.30	
			RPM	3180~7160	2550~6370	2120~5840	1590~5170	1270~5090	1020~4580	850~4240	
			FEED	640~2150	510~1910	420~1750	480~2590	380~2550	310~2290	250~2550	

XMB130A SERIES BALL INSERTS for STAINLESS STEELS
不锈钢用 球头刀片

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
M	12-14	Stainless steel	Vc	90~130	90~130	90~130	90~130	90~130	90~130	90~130	
			fz	0.10~0.12	0.13~0.15	0.15~0.20	0.15~0.20	0.15~0.20	0.20~0.25	0.20~0.25	
			RPM	3580~5170	2860~4140	2390~3450	1790~2590	1430~2070	1150~1660	950~1380	
			FEED	720~1290	720~1240	720~1380	540~1030	430~830	460~830	380~690	

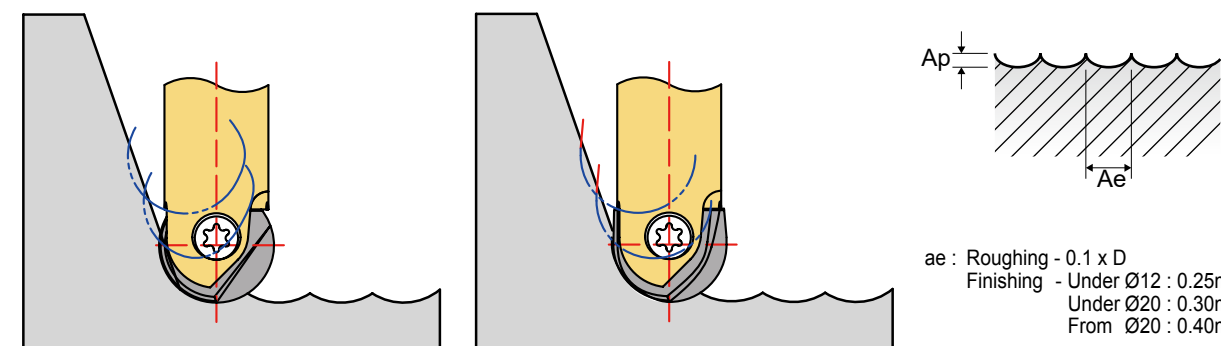
XMM110V SERIES BALL INSERTS for GENERAL PURPOSE - FULL RADIUS
普通用途 球头刀片 - 全弧型

Vc = m/min.
Fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
P	1-4	Non-alloy steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60	
			RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430	
			FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910	
	6-7	Low alloy steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60	
			RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430	
			FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910	
	10	High alloyed steel, and tool steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60	
			RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430	
			FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910	

XMB110D SERIES BALL INSERTS for GRAPHITE
石墨用 球头刀片

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
N	21~22	Aluminum-wrought alloy	Vc	300~400	300~400	300~400	300~400	300~480	300~560	300~650	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.30~0.35	0.35~0.40	0.40~0.50	
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~7640	3820~7130	3180~6900	
			FEED	4770~6370	3820~5090	3180~4240	2980~4770	2860~5350	2670~5700	2550~6900	
N	23~24	Aluminum-cast, alloyed	Vc	300~400	300~400	300~400	300~400	300~480	300~560	300~650	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.30~0.35	0.35~0.40	0.40~0.50	
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~7640	3820~7130	3180~6900	
			FEED	4770~6370	3820~5090	3180~4240	2980~4770	2860~5350	2670~5700	2550~6900	
N	29.2	Graphite	Vc	300~400	300~400	300~400	300~400	300~480	300~560	300~650	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.30~0.35	0.35~0.40	0.40~0.50	
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~7640	3820~7130	3180~6900	
			FEED	4770~6370	3820~5090	3180~4240	2980~4770	2860~5350	2670~5700	2550~6900	



- ▶ When the length of overhang exceed 4xD, we recommend to use carbide shank holder. (Feed 20% down)
- ▶ Recommend to reduce the feed rate to 70~85% when you use long(long & intermediate Type Holder) tools.
- ▶ 如悬深长超过4xD, 推荐采用硬质合金刀杆 (进给要减少20%)
- ▶ 使用加长刀具 (长, 加长型刀杆) 时, 推荐减少进给到70~85%



RECOMMENDED CUTTING CONDITIONS

推荐加工参数

XMR110A SERIES CORNER RADIUS INSERTS for GENERAL PURPOSE & STAINLESS STEELS
普通用途及不锈钢用 圆鼻刀片

Vc = m/min.
Fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
P	1-4	Non-alloy steel	Vc	160~300	160~300	160~300	160~300	160~300	160~300	160~300	160~300
			fz	0.20~0.15	0.20~0.15	0.20~0.15	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20
			RPM	6370~11940	5090~9550	4240~7960	3180~5970	2550~4770	2040~3820	1700~3180	
			FEED	2550~3580	2040~2860	1700~2390	1590~2390	1270~1910	1020~1530	850~1270	
			Vc	120~280	120~280	120~280	120~280	120~280	120~280	120~280	
			fz	0.20~0.15	0.20~0.15	0.20~0.15	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20	
	5	RPM	4770~11140	3820~8910	3180~7430	2390~5570	1910~4460	1530~3570	1270~2970		
		FEED	1910~3340	1530~2670	1270~2230	1190~2230	950~1780	760~1430	640~1190		
		Vc	160~300	160~300	160~300	160~300	160~300	160~300	160~300		
		fz	0.20~0.15	0.20~0.15	0.20~0.15	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20		
		RPM	6370~11940	5090~9550	4240~7960	3180~5970	2550~4770	2040~3820	1700~3180		
		FEED	2550~3580	2040~2860	1700~2390	1590~2390	1270~1910	1020~1530	850~1270		
6-7	Vc	120~280	120~280	120~280	120~280	120~280	120~280	120~280			
	fz	0.20~0.15	0.20~0.15	0.20~0.15	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20			
	RPM	4770~11140	3820~8910	3180~7430	2390~5570	1910~4460	1530~3570	1270~2970			
	FEED	1910~3340	1530~2670	1270~2230	1190~2230	950~1780	760~1430	640~1190			
	Vc	160~300	160~300	160~300	160~300	160~300	160~300	160~300			
	fz	0.20~0.15	0.20~0.15	0.20~0.15	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20			
8	RPM	4770~11140	3820~8910	3180~7430	2390~5570	1910~4460	1530~3570	1270~2970			
	FEED	1910~3340	1530~2670	1270~2230	1190~2230	950~1780	760~1430	640~1190			
	Vc	90~130	90~130	90~130	90~130	90~130	90~130	90~130			
	fz	0.10~0.10	0.11~0.11	0.12~0.11	0.13~0.13	0.13~0.13	0.13~0.12	0.13~0.12			
	RPM	3580~5170	2860~4140	2390~3450	1790~2590	1430~2070	1150~1660	950~1380			
	FEED	720~1030	630~910	550~790	450~650	360~520	290~410	240~340			
M	12-14	Stainless steel	Vc	90~130	90~130	90~130	90~130	90~130	90~130		
fz	0.10~0.10	0.11~0.11	0.12~0.11	0.13~0.13	0.13~0.13	0.13~0.12	0.13~0.12				
RPM	3580~5170	2860~4140	2390~3450	1790~2590	1430~2070	1150~1660	950~1380				
FEED	720~1030	630~910	550~790	450~650	360~520	290~410	240~340				

XMR120C SERIES CORNER RADIUS INSERTS for PRE-HARDENED STEELS
预硬钢用 圆鼻刀片

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
P	9-11	Low alloy steel High alloyed steel, and tool steel	Vc	100~280	100~280	100~280	100~280	100~280	100~280	100~280	100~280
			fz	0.12~0.06	0.13~0.06	0.13~0.06	0.15~0.08	0.15~0.08	0.15~0.08	0.15~0.08	
			RPM	3980~11140	3180~8910	2650~7430	1990~5570	1590~4460	1270~3570	1060~2970	
			FEED	990~1340	800~1070	690~890	600~840	480~670	380~570	320~450	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	Vc	160~380	160~380	160~380	160~380	160~380	160~380	160~380	160~380
			fz	0.30~0.20	0.30~0.20	0.30~0.20	0.35~0.30	0.35~0.30	0.35~0.30	0.35~0.30	
			RPM	6370~15120	5090~12100	4240~10080	3180~7560	2550~6050	2040~4840	1700~4030	
			FEED	3820~6050	3060~4840	2550~4030	2230~4540	1780~3630	1430~2900	1190~2420	
H	38	Hardened steel	Vc	80~220	80~220	80~220	80~220	80~220	80~220	80~220	80~220
			fz	0.10~0.05	0.10~0.05	0.10~0.05	0.15~0.06	0.15~0.06	0.15~0.06	0.15~0.06	
			RPM	3180~8750	2550~7000	2120~5840	1590~4380	1270~3500	1020~2800	850~2330	
			FEED	640~880	510~700	420~580	420~530	380~420	310~340	250~280	

XMR260T SERIES CORNER RADIUS INSERTS for HIGH HARDENED STEELS
高硬钢用 圆鼻刀片

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
H	38-41	Hardened steel	Vc	80~220	80~220	80~220	80~220	80~220	80~220	80~220	80~220
			fz	0.10~0.05	0.10~0.05	0.10~0.05	0.15~0.06	0.15~0.06	0.15~0.06	0.15~0.06	
			RPM	3180~8750	2550~7000	2120~5840	1590~4380	1270~3500	1020~2800	850~2330	
			FEED	640~880	510~700	420~580	480~530	380~420	310~340	250~280	



RECOMMENDED CUTTING CONDITIONS

推荐加工参数

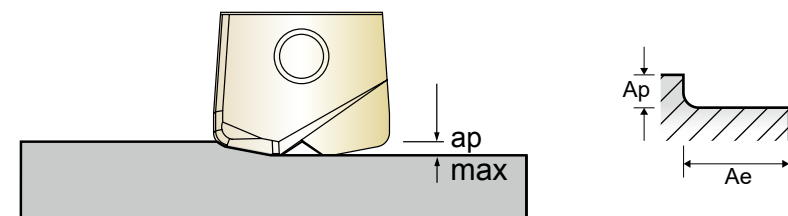
XMF110V SERIES CORNER RADIUS INSERTS for GENERAL PURPOSE - HIGH FEED
普通用途 圆鼻刀片 - 高进给

Vc = m/min.
Fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
P	1-7	Non-alloy steel Low alloy steel	Vc	150~200	150~200	150~200	150~200	150~200	150~200	150~200	150~200
			fz	0.60~0.40	0.75~0.50	0.90~0.60	1.20~0.80	1.50~1.00	1.80~1.40	2.30~1.80	
			RPM	5970~7960	4770~6370	3980~5310	2980~3980	2390~3180	1910~2550	1590~2120	
			FEED	7160~6370	7160~6370	7160~6370	7160~6370	7160~6370	6880~7140	7320~7640	
			Ap(Max)	0.4	0.5	0.6	0.8	1.0	1.3	1.6	
			Vc	150~200	150~200	150~200	150~200	150~200	150~200	150~200	
	fz	0.60~0.40	0.75~0.50	0.90~0.60	1.20~0.80	1.50~1.00	1.80~1.40	2.30~1.80			
	RPM	5970~7960	4770~6370	3980~5310	2980~3980	2390~3180	1910~2550	1590~2120			
	FEED	7160~6370	7160~6370	7160~6370	7160~6370	7160~6370	6880~7140	7320~7640			
	Ap(Max)	0.4	0.5	0.6	0.8	1.0	1.3	1.6			
	10	Vc	150~200	150~200	150~200	150~200	150~200	150~200			
		fz	0.60~0.40	0.75~0.50	0.90~0.60	1.20~0.80	1.50~1.00	1.80~1.40	2.30~1.80		
RPM		5970~7960	4770~6370	3980~5310	2980~3980	2390~3180	1910~2550	1590~2120			
FEED		7160~6370	7160~6370	7160~6370	7160~6370	7160~6370	6880~7140	7320~7640			
Ap(Max)		0.4	0.5	0.6	0.8	1.0	1.3	1.6			

XMR110D SERIES CORNER RADIUS INSERTS for GRAPHITE
石墨用 圆鼻刀片

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
N	21~22	Aluminum-wrought alloy	Vc	300~400	300~400	300~400	300~400	300~400	300~400	300~400	300~400
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.25	0.25~0.25	0.25~0.25	
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~6370	3820~5090	3180~4240	
			FEED	4770~6370	3820~5090	3180~4240	2390~3180	2390~3180	1910~2550	1590~2120	
N	23~24	Aluminum-cast, alloyed	Vc	300~400	300~400	300~400	300~400	300~400	300~400	300~400	300~400
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.25	0.25~0.25	0.25~0.25	
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~6370	3820~5090	3180~4240	
			FEED	4770~6370	3820~5090	3180~4240	2390~3180	2390~3180	1910~2550	1590~2120	
N	29.2	Graphite	Vc	300~400	300~400	300~400	300~400	300~400	300~400	300~400	300~400
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.25	0.25~0.25	0.25~0.25	
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~6370	3820~5090	3180~4240	
			FEED	4770~6370	3820~5090	3180~4240	2390~3180	2390~3180	1910~2550	1590~2120	



High Feed

ae : Roughing - 0.1 x D
Finishing - 0.2mm
ap : Roughing - Under Ø16 : 0.025 x D
From Ø16 : 0.05 x D
Finishing - Under Ø16 : 0.1mm
From Ø16 : 0.2mm

- ▶ When the length of overhang exceed 4 x D, we recommend to use carbide shank holder. (Feed 20% down)
- ▶ Recommend to reduce the feed rate to 70 ~ 85% when you use long(long & intermediate Type Holder) tools.
- ▶ 如悬深长超过4xD, 推荐采用硬质合金刀杆 (进给要减少20%)
- ▶ 使用加长刀具 (长, 加长型刀杆) 时, 推荐减少进给到70~85%



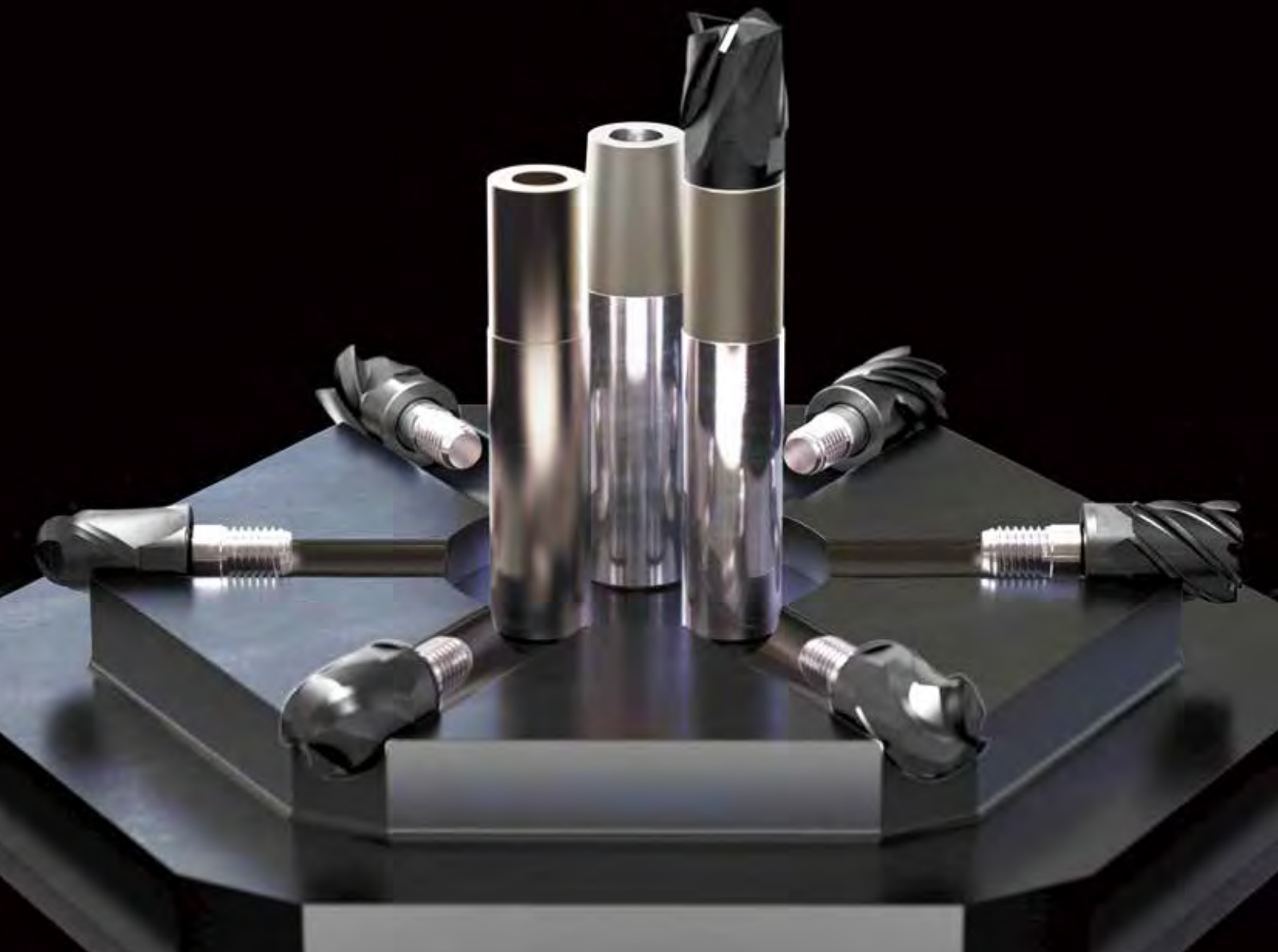
Global Cutting Tool Leader **YG-1**



MILLING



Leading Through Innovation



CARBIDE MODULAR HEAD & HOLDER

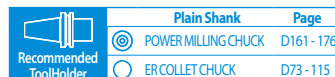
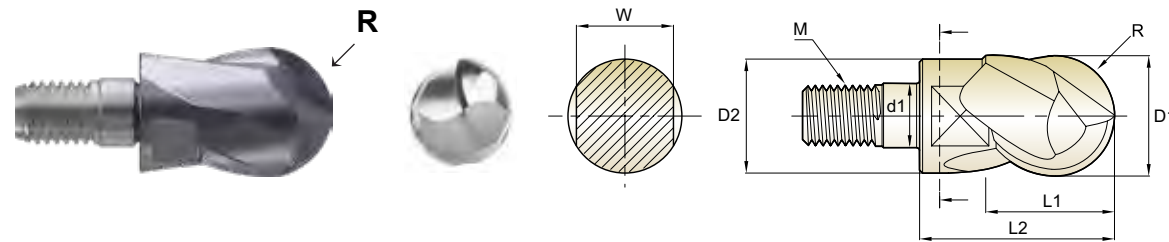
i - SMART MODULAR TYPE END MILLS

- For General Steels, Hardened Steels and Cast Iron
- 适用于普通钢，高硬钢和铸铁



XSEMD98 SERIES

CARBIDE MODULAR HEAD, 2 FLUTE BALL NOSE (Center Match)
硬质合金 模块铣刀, 2刃 球头 (中心对称)



Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角	Mill Diameter 直径	Neck Diameter 颈径	Length of Cut 刃长	Length Below Shank 颈长	Wrench Width 扳手宽度	Coupling Diameter 连接直径	Thread 螺纹
Y-COATED	R	D1	D2	L1	L2	W	d1	M
XSEMD98100	R5.0	10.0	9.2	10	17.5	8	6.5	M6
XSEMD98120	R6.0	12.0	11.2	12	20.5	10	6.5	M6
XSEMD98160	R8.0	16.0	15.0	16	25.5	13	8.5	M8
XSEMD98200	R10.0	20.0	19.0	20	30.0	17	10.5	M10
XSEMD98250	R12.5	25.0	24.0	25	37.0	22	12.5	M12
XSEMD98300	R15.0	30.0	29.0	30	43.0	27	17.0	M16
XSEMD98320	R16.0	32.0	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差
± 0.010	0 ~ - 0.02

◎ : Excellent (优秀) ○ : Good (良好)

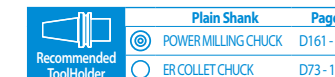
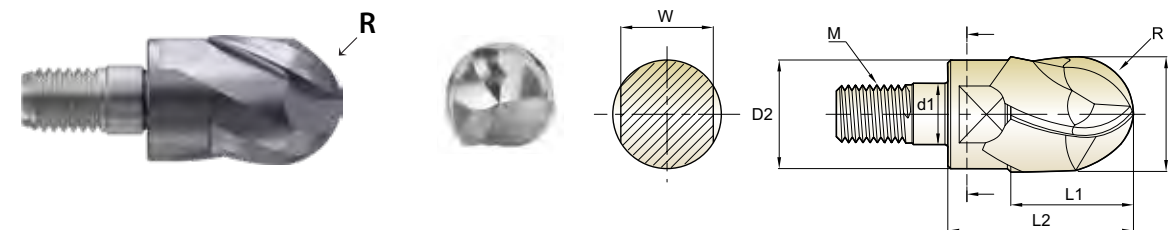
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	◎	○



XSEME59 SERIES

CARBIDE MODULAR HEAD, 3 FLUTE BALL NOSE (Center Match)
硬质合金 模块铣刀, 3刃 球头 (中心对称)



Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角	Mill Diameter 直径	Neck Diameter 颈径	Length of Cut 刃长	Length Below Shank 颈长	Wrench Width 扳手宽度	Coupling Diameter 连接直径	Thread 螺纹
Y-COATED	R	D1	D2	L1	L2	W	d1	M
XSEME59100	R5.0	10.0	9.2	10	17.5	8	6.5	M6
XSEME59120	R6.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME59160	R8.0	16.0	15.0	16	25.5	13	8.5	M8
XSEME59200	R10.0	20.0	19.0	20	30.0	17	10.5	M10
XSEME59250	R12.5	25.0	24.0	25	37.0	22	12.5	M12
XSEME59300	R15.0	30.0	29.0	30	43.0	27	17.0	M16
XSEME59320	R16.0	32.0	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差
± 0.010	0 ~ - 0.02

◎ : Excellent (优秀) ○ : Good (良好)

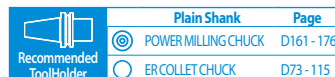
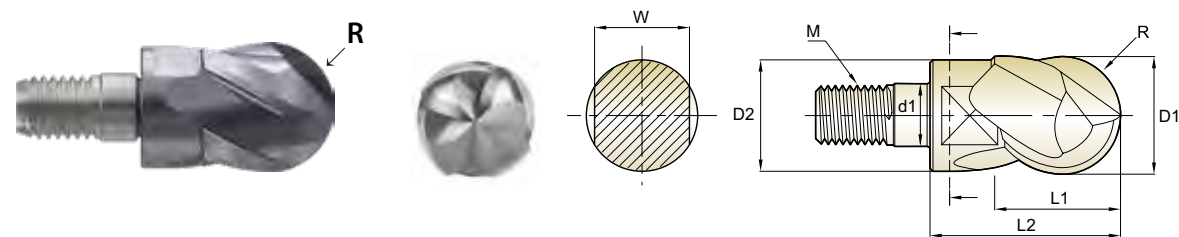
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	◎	○



XSEME60 SERIES

CARBIDE MODULAR HEAD, 4 FLUTE BALL NOSE (Center Match)
硬质合金 模块铣刀, 4刃球头 (中心对称)



Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角	Mill Diameter 直径	Neck Diameter 颈径	Length of Cut 刃长	Length Below Shank 颈长	Wrench Width 扳手宽度	Coupling Diameter 连接直径	Thread 螺纹
Y-COATED	R	D1	D2	L1	L2	W	d1	M
XSEME60100	R5.0	10.0	9.2	10	17.5	8	6.5	M6
XSEME60120	R6.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME60160	R8.0	16.0	15.0	16	25.5	13	8.5	M8
XSEME60200	R10.0	20.0	19.0	20	30.0	17	10.5	M10
XSEME60250	R12.5	25.0	24.0	25	37.0	22	12.5	M12
XSEME60300	R15.0	30.0	29.0	30	43.0	27	17.0	M16
XSEME60320	R16.0	32.0	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差
± 0.010	0 ~ - 0.02

◎ : Excellent (优秀) ○ : Good (良好)

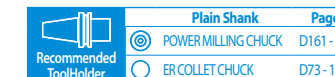
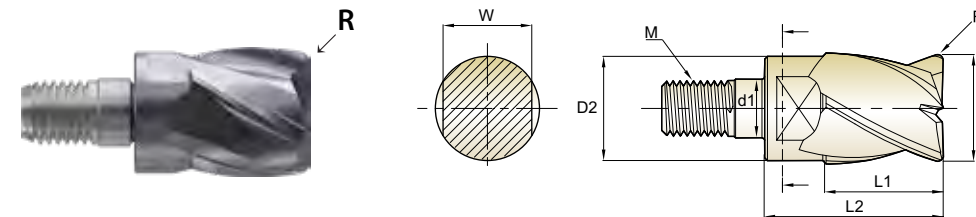
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	◎	○



XSEME01 SERIES

CARBIDE MODULAR HEAD, 4 FLUTE MULTIPLE HELIX CORNER RADIUS
硬质合金 模块铣刀, 4刃 不等螺旋 圆鼻



Unit(单位) : mm

EDP No.	Corner Radius 圆弧角	Mill Diameter 直径	Neck Diameter 颈径	Length of Cut 刃长	Length Below Shank 颈长	Wrench Width 扳手宽度	Coupling Diameter 连接直径	Thread 螺纹
Y-COATED	R	D1	D2	L1	L2	W	d1	M
XSEME01100 010	R0.1	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 020	R0.2	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 030	R0.3	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 050	R0.5	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 100	R1.0	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 150	R1.5	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 200	R2.0	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 250	R2.5	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 300	R3.0	10.0	9.2	10	17.5	8	6.5	M6
XSEME01100 400	R4.0	10.0	9.2	10	17.5	8	6.5	M6
XSEME01120 010	R0.1	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 020	R0.2	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 030	R0.3	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 050	R0.5	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 100	R1.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 150	R1.5	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 200	R2.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 250	R2.5	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 300	R3.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 400	R4.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME01120 500	R5.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME01160 050	R0.5	16.0	15.0	16	25.5	13	8.5	M8
XSEME01160 100	R1.0	16.0	15.0	16	25.5	13	8.5	M8
XSEME01160 150	R1.5	16.0	15.0	16	25.5	13	8.5	M8

Radius Tolerance(mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差
± 0.02	0 ~ - 0.03

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

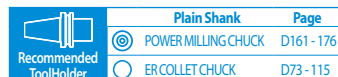
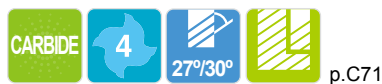
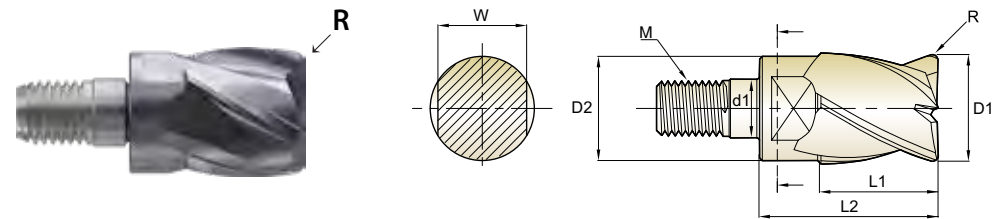
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	◎	○



XSEME01 SERIES

CARBIDE MODULAR HEAD, 4 FLUTE MULTIPLE HELIX CORNER RADIUS
硬质合金 模块铣刀, 4刃 不等螺旋 圆鼻



Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Neck Diameter	Length of Cut	Length Below Shank	Wrench Width	Coupling Diameter	Thread
Y-COATED	R	D1	D2	L1	L2	W	d1	M
XSEME01160 200	R2.0	16.0	15.0	16	25.5	13	8.5	M8
XSEME01200 050	R0.5	20.0	19.0	20	30.0	17	10.5	M10
XSEME01200 100	R1.0	20.0	19.0	20	30.0	17	10.5	M10
XSEME01200 150	R1.5	20.0	19.0	20	30.0	17	10.5	M10
XSEME01200 200	R2.0	20.0	19.0	20	30.0	17	10.5	M10
XSEME01250 050	R0.5	25.0	24.0	25	37.0	22	12.5	M12
XSEME01250 100	R1.0	25.0	24.0	25	37.0	22	12.5	M12
XSEME01250 150	R1.5	25.0	24.0	25	37.0	22	12.5	M12
XSEME01250 200	R2.0	25.0	24.0	25	37.0	22	12.5	M12
XSEME01300 050	R0.5	30.0	29.0	30	43.0	27	17.0	M16
XSEME01300 100	R1.0	30.0	29.0	30	43.0	27	17.0	M16
XSEME01300 150	R1.5	30.0	29.0	30	43.0	27	17.0	M16
XSEME01300 200	R2.0	30.0	29.0	30	43.0	27	17.0	M16
XSEME01320 050	R0.5	32.0	31.0	32	45.0	27	17.0	M16
XSEME01320 100	R1.0	32.0	31.0	32	45.0	27	17.0	M16
XSEME01320 150	R1.5	32.0	31.0	32	45.0	27	17.0	M16
XSEME01320 200	R2.0	32.0	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差
± 0.02	0 ~ - 0.03

◎ : Excellent (优秀) ○ : Good (良好)

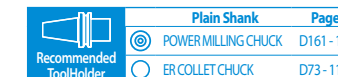
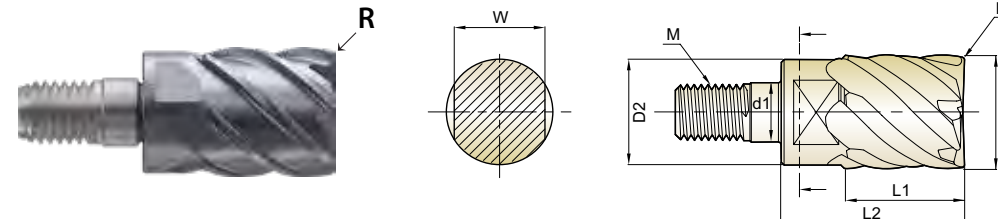
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	45	15	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



XSEME68 SERIES

CARBIDE MODULAR HEAD, 6 FLUTE 45° HELIX CORNER RADIUS
硬质合金 模块铣刀, 6刃 45度螺旋 圆鼻



Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Neck Diameter	Length of Cut	Length Below Shank	Wrench Width	Coupling Diameter	Thread
Y-COATED	R	D1	D2	L1	L2	W	d1	M
XSEME68100 030	R0.3	10.0	9.2	10	17.5	8	6.5	M6
XSEME68100 050	R0.5	10.0	9.2	10	17.5	8	6.5	M6
XSEME68100 100	R1.0	10.0	9.2	10	17.5	8	6.5	M6
XSEME68120 030	R0.3	12.0	11.2	12	20.5	10	6.5	M6
XSEME68120 050	R0.5	12.0	11.2	12	20.5	10	6.5	M6
XSEME68120 100	R1.0	12.0	11.2	12	20.5	10	6.5	M6
XSEME68160 050	R0.5	16.0	15.0	16	25.5	13	8.5	M8
XSEME68160 100	R1.0	16.0	15.0	16	25.5	13	8.5	M8
XSEME68160 150	R1.5	16.0	15.0	16	25.5	13	8.5	M8
XSEME68160 200	R2.0	16.0	15.0	16	25.5	13	8.5	M8
XSEME68200 050	R0.5	20.0	19.0	20	30.0	17	10.5	M10
XSEME68200 100	R1.0	20.0	19.0	20	30.0	17	10.5	M10
XSEME68200 150	R1.5	20.0	19.0	20	30.0	17	10.5	M10
XSEME68200 200	R2.0	20.0	19.0	20	30.0	17	10.5	M10
XSEME68250 050	R0.5	25.0	24.0	25	37.0	22	12.5	M12
XSEME68250 100	R1.0	25.0	24.0	25	37.0	22	12.5	M12
XSEME68250 150	R1.5	25.0	24.0	25	37.0	22	12.5	M12
XSEME68250 200	R2.0	25.0	24.0	25	37.0	22	12.5	M12
XSEME68300 050	R0.5	30.0	29.0	30	43.0	27	17.0	M16
XSEME68300 100	R1.0	30.0	29.0	30	43.0	27	17.0	M16
XSEME68300 150	R1.5	30.0	29.0	30	43.0	27	17.0	M16
XSEME68300 200	R2.0	30.0	29.0	30	43.0	27	17.0	M16
XSEME68320 050	R0.5	32.0	31.0	32	45.0	27	17.0	M16
XSEME68320 100	R1.0	32.0	31.0	32	45.0	27	17.0	M16
XSEME68320 150	R1.5	32.0	31.0	32	45.0	27	17.0	M16
XSEME68320 200	R2.0	32.0	31.0	32	45.0	27	17.0	M16

Radius Tolerance(mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差
± 0.015	0 ~ - 0.03

◎ : Excellent (优秀) ○ : Good (良好)

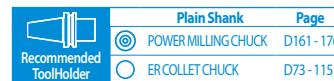
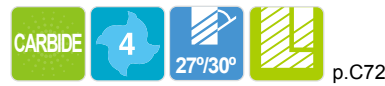
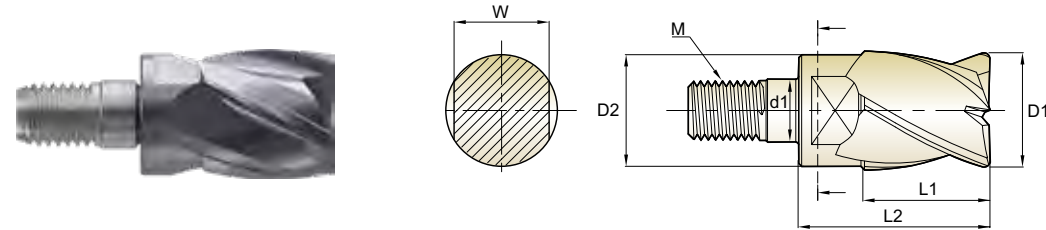
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	45	15	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



XSEME36 SERIES

CARBIDE MODULAR HEAD, 4 FLUTE MULTIPLE HELIX
硬质合金 模块铣刀, 4刃 不等螺旋



Unit(单位) : mm

EDP No.	Mill Diameter	Neck Diameter	Length of Cut	Length Below Shank	Wrench Width	Coupling Diameter	Thread
Y-COATED	D1	D2	L1	L2	W	d1	M
XSEME36100	10.0	9.2	10	17.5	8	6.5	M6
XSEME36120	12.0	11.2	12	20.5	10	6.5	M6
XSEME36160	16.0	15.0	16	25.5	13	8.5	M8
XSEME36200	20.0	19.0	20	30.0	17	10.5	M10
XSEME36250	25.0	24.0	25	37.0	22	12.5	M12
XSEME36300	30.0	29.0	30	43.0	27	17.0	M16
XSEME36320	32.0	31.0	32	45.0	27	17.0	M16

Mill Dia. Tolerance (mm)
直径公差
0 ~ -0.03

◎ : Excellent (优秀) ○ : Good (良好)

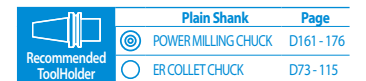
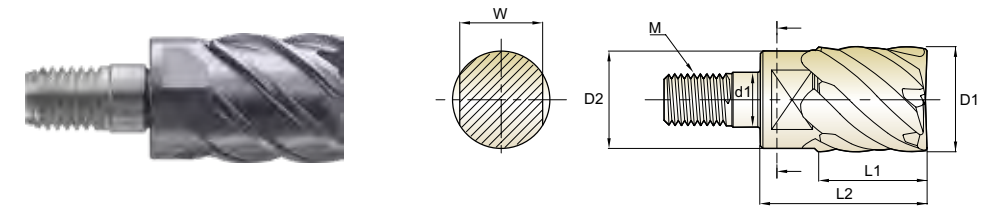
ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																		○	○	◎	○	○



XSEME75 SERIES

CARBIDE MODULAR HEAD, 6 FLUTE 45° HELIX
硬质合金 模块铣刀, 6刃 45度螺旋



Unit(单位) : mm

EDP No.	Mill Diameter	Neck Diameter	Length of Cut	Length Below Shank	Wrench Width	Coupling Diameter	Thread
Y-COATED	D1	D2	L1	L2	W	d1	M
XSEME75100	10.0	9.2	10	17.5	8	6.5	M6
XSEME75120	12.0	11.2	12	20.5	10	6.5	M6
XSEME75160	16.0	15.0	16	25.5	13	8.5	M8
XSEME75200	20.0	19.0	20	30.0	17	10.5	M10
XSEME75250	25.0	24.0	25	37.0	22	12.5	M12
XSEME75300	30.0	29.0	30	43.0	27	17.0	M16
XSEME75320	32.0	31.0	32	45.0	27	17.0	M16

Mill Dia. Tolerance (mm)
直径公差
0 ~ -0.03

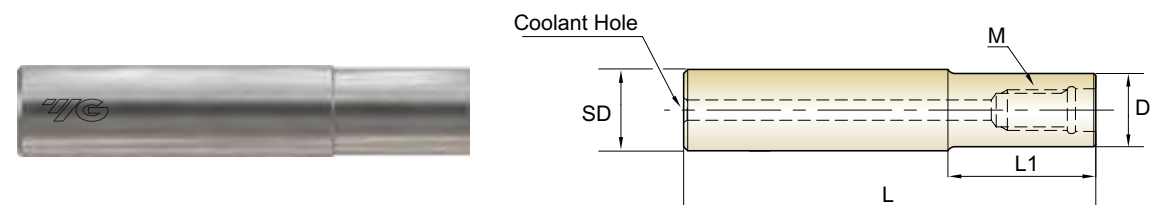
◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																		○	○	◎	○	○

CARBIDE HOLDER - STRAIGHT NECK TYPE

硬质合金 刀杆 - 直颈



Unit(单位) : mm

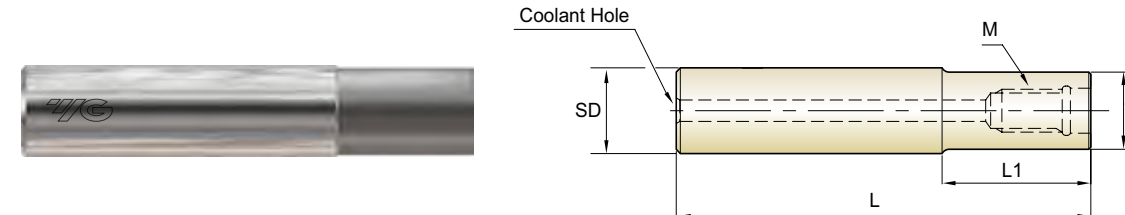
EDP No.	Mill Diameter 直径	Shank Diameter	Overall Length 全长	Neck Length 颈长	Neck Diameter 颈径	Thread Size 螺纹	Wrench No. 扳手号码	Coolant Hole 油孔
		柄径 SD						
ZMC1001100	10.0	10	70	20	9.5	M6	SPIS0810	2
ZMC1002100	10.0	10	100	40	9.5	M6	SPIS0810	2
ZMC1003100	10.0	10	130	70	9.5	M6	SPIS0810	2
ZMC1201120	12.0	12	80	20	11.5	M6	SPIS0810	2
ZMC1202120	12.0	12	100	40	11.5	M6	SPIS0810	2
ZMC1203120	12.0	12	130	70	11.5	M6	SPIS0810	2
ZMC1601160	16.0	16	100	40	15.5	M8	SPIS1300	3
ZMC1602160	16.0	16	150	80	15.5	M8	SPIS1300	3
ZMC1603160	16.0	16	200	120	15.5	M8	SPIS1300	3
ZMC2001200	20.0	20	100	40	19.5	M10	SPIS1700	4
ZMC2002200	20.0	20	150	80	19.5	M10	SPIS1700	4
ZMC2003200	20.0	20	200	120	19.5	M10	SPIS1700	4
ZMC2004200	20.0	20	250	160	19.5	M10	SPIS1700	4
ZMC2501250	25.0	25	150	70	24.3	M12	SPIS2200	5
ZMC2502250	25.0	25	200	100	24.3	M12	SPIS2200	5
ZMC2503250	25.0	25	250	150	24.3	M12	SPIS2200	5
ZMC2504250	25.0	25	300	200	24.3	M12	SPIS2200	5
ZMC3001320	30.0 / 32.0	32	150	70	29.0	M16	SPIS2700	6
ZMC3002320	30.0 / 32.0	32	200	120	29.0	M16	SPIS2700	6
ZMC3003320	30.0 / 32.0	32	250	150	29.0	M16	SPIS2700	6
ZMC3004320	30.0 / 32.0	32	300	200	29.0	M16	SPIS2700	6
ZMC3005320	30.0 / 32.0	32	350	250	29.0	M16	SPIS2700	6

► The wrench (1pc) for the relevant item is included.
If more is needed, available for sale.
扳手 (1pc) 包含, 如再要, 可以购买

► Please refer to the wrench table on the next page.
请参考下页的扳手表

STEEL HOLDER - STRAIGHT NECK TYPE

硬质合金 刀杆 - 直颈



Unit(单位) : mm

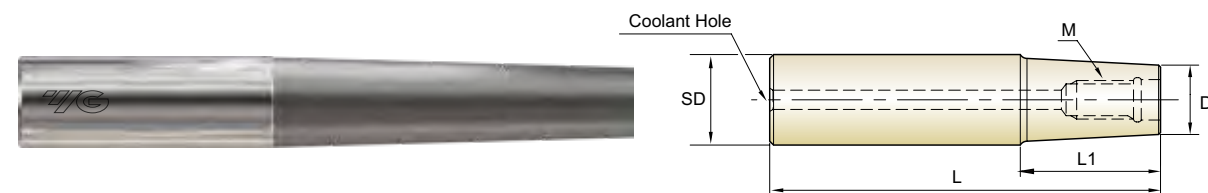
EDP No.	Mill Diameter 直径	Shank Diameter	Overall Length 全长	Neck Length 颈长	Neck Diameter 颈径	Thread Size 螺纹	Wrench No. 扳手号码	Coolant Hole 油孔
		柄径 SD						
ZMS1001100	10.0	10	70	20	9	M6	SPIS0810	3
ZMS1201120	12.0	12	90	30	11	M6	SPIS0810	3
ZMS1601160	16.0	16	100	30	15	M8	SPIS1300	4
ZMS2001200	20.0	20	100	30	19	M10	SPIS1700	5
ZMS2501250	25.0	25	115	40	24	M12	SPIS2200	5
ZMS3001320	30.0 / 32.0	32	125	40	29	M16	SPIS2700	6

► The wrench (1pc) for the relevant item is included.
If more is needed, available for sale.
扳手 (1pc) 包含, 如再要, 可以购买

Wrench 扳手

Model	Wrench No. 扳手号码	Wrench Width 扳手宽度	Mill Diameter 直径	Clamping Torque [N·m] 夹紧扭矩
	SPIS0810	8	10.0	6.5
		10	12.0	6.5
	SPIS1300	13	16.0	10
	SPIS1700	17	20.0	12
	SPIS2200	22	25.0	15
	SPIS2700	27	30.0 32.0	20

STEEL HOLDER - TAPER NECK TYPE
钢件 刀杆 - 锥颈



Unit(单位) : mm

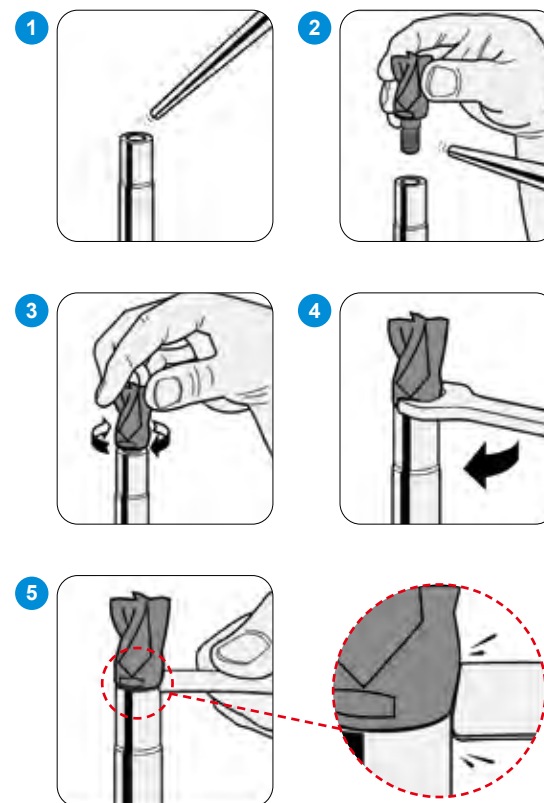
EDP No.	Mill Diameter 直径	Shank Diameter	Overall Length	Neck Length	Neck Diameter	Thread Size	Wrench No.	Coolant Hole
		柄径 SD	全长 L	颈长 L1	颈径 D	螺纹 M	扳手号码	油孔
ZMT1001120	10.0	12	100	50	9	M6	SPIS0810	3
ZMT1201160	12.0	16	130	70	11	M6	SPIS0810	3
ZMT1601200	16.0	20	150	90	15	M8	SPIS1300	4
ZMT2001250	20.0	25	170	100	19	M10	SPIS1700	5
ZMT2501320	25.0	32	200	110	24	M12	SPIS2200	5
ZMT3001320	30.0 / 32.0	32	200	110	29	M16	SPIS2700	6

►The wrench(1pc) for the relevant item is included.
If more is needed, available for sale.
扳手 (1pc) 包含, 如再要, 可以购买

Wrench 扳手

Model	Wrench No.	Wrench Width	Mill Diameter	Clamping Torque [N·m]
	扳手号码	扳手宽度	直径	夹紧扭矩
	SPIS0810	8	10.0	6.5
		10	12.0	6.5
	SPIS1300	13	16.0	10
	SPIS1700	17	20.0	12
	SPIS2200	22	25.0	15
	SPIS2700	27	30.0 32.0	20

Instruction Manual
操作说明



Step 1, 2 : Clean

Please be sure to remove dirt and debris on all adjoining surfaces before assembling. (air preferred)

步骤1, 2: 清理
组装前, 请务必清除所有结合表面上的污垢和碎屑。(空气优先)

Step 3, 4 : Assembly

Mount the modular head onto the shank by hand until it fits then use the supplied wrench to tighten.

步骤3, 4: 组装
用手将模块化铣刀安装到刀杆上, 直到其安装到位, 然后使用扳手拧紧。

Step 5 : Final Check

Re-check that there is no gap.

步骤5, 最终检查
再次检查是否有间隙

Notice

Please tighten the screw with designated torque, too much torque will damage the screw.

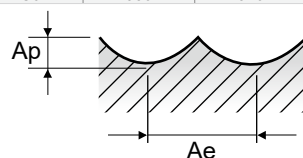
注意:
请按规定力矩拧紧螺钉, 扭矩过大会损坏螺钉。

Mill Diameter	Clamping Torque
直径 (D)	夹紧扭矩 [N·m]
10.0	6.5
12.0	6.5
16.0	10.0
20.0	12.0
25.0	15.0
30.0	20.0
32.0	20.0

XSEMD98 SERIES 2 FLUTE BALL NOSE
2刃球头

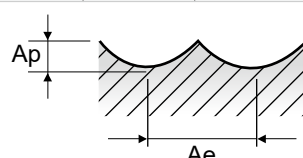
ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径											
						10	12	16	20	25	30	32					
P	1-8	Non-alloy steel	0.08D	0.03D	Vc fz RPM FEED	175 0.199 5580 2220	170 0.212 4510 1910	168 0.238 3340 1590	168 0.264 2670 1410	167 0.270 2130 1150	167 0.299 1770 1060	167 0.300 1660 995					
						Low alloy steel	168 0.174 5340 1860	165 0.188 4380 1645	162 0.206 3220 1320	162 0.227 2580 1170	162 0.231 2060 950	162 0.250 1720 860	162 0.250 1610 805				
	10-11.1	High alloyed steel, and tool steel	0.08D	0.03D	Vc fz RPM FEED	175 0.199 5580 2220	170 0.212 4510 1910	168 0.238 3340 1590	168 0.264 2670 1410	167 0.270 2130 1150	167 0.299 1770 1060	167 0.300 1660 995					
						Low alloy steel	168 0.174 5340 1860	165 0.188 4380 1645	162 0.206 3220 1320	162 0.227 2580 1170	162 0.231 2060 950	162 0.250 1720 860	162 0.250 1610 805				
						11.2	High alloyed steel, and tool steel	0.08D	0.03D	Vc fz RPM FEED	175 0.199 5580 2220	170 0.212 4510 1910	168 0.238 3340 1590	168 0.264 2670 1410	167 0.270 2130 1150	167 0.299 1770 1060	167 0.300 1660 995
											Low alloy steel	168 0.174 5340 1860	165 0.188 4380 1645	162 0.206 3220 1320	162 0.227 2580 1170	162 0.231 2060 950	162 0.250 1720 860
	K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.08D	0.03D	Vc fz RPM FEED	175 0.199 5580 2220	170 0.212 4510 1910	168 0.238 3340 1590	168 0.264 2670 1410	167 0.270 2130 1150	167 0.299 1770 1060	167 0.300 1660 995				
							Hardened steel	141 0.160 4500 1440	138 0.170 3660 1245	136 0.189 2700 1020	136 0.208 2160 900	136 0.211 1730 730	136 0.229 1440 660	136 0.230 1350 620			
	H	38.1 - 38.2	Hardened steel	0.08D	0.03D	Vc fz RPM FEED	141 0.160 4500 1440	138 0.170 3660 1245	136 0.189 2700 1020	136 0.208 2160 900	136 0.211 1730 730	136 0.229 1440 660	136 0.230 1350 620				
							Chilled Cast Iron	168 0.174 5340 1860	165 0.188 4380 1645	162 0.206 3220 1320	162 0.227 2580 1170	162 0.231 2060 950	162 0.250 1720 860	162 0.250 1610 805			
		41	Hardened Cast Iron	0.08D	0.03D	Vc fz RPM FEED	141 0.160 4500 1440	138 0.170 3660 1245	136 0.189 2700 1020	136 0.208 2160 900	136 0.211 1730 730	136 0.229 1440 660	136 0.230 1350 620				
							Chilled Cast Iron	168 0.174 5340 1860	165 0.188 4380 1645	162 0.206 3220 1320	162 0.227 2580 1170	162 0.231 2060 950	162 0.250 1720 860	162 0.250 1610 805			

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)



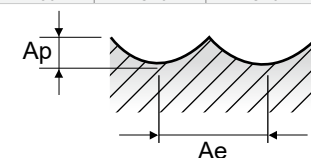
XSEME59 SERIES 3 FLUTE BALL NOSE
3刃球头

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径											
						10	12	16	20	25	30	32					
P	1-8	Non-alloy steel	0.05D	0.02D	Vc fz RPM FEED	307 0.201 9770 5890	307 0.225 8150 5490	307 0.234 6100 4280	307 0.238 4880 3490	307 0.248 3910 2910	307 0.259 3260 2530	307 0.268 3050 2450					
						Low alloy steel	257 0.168 8190 4130	257 0.187 6830 3830	257 0.199 5110 3050	257 0.209 4090 2560	257 0.219 3270 2150	257 0.230 2730 1880	257 0.234 2560 1800				
	10-11.1	High alloyed steel, and tool steel	0.05D	0.02D	Vc fz RPM FEED	307 0.201 9770 5890	307 0.225 8150 5490	307 0.234 6100 4280	307 0.238 4880 3490	307 0.248 3910 2910	307 0.259 3260 2530	307 0.268 3050 2450					
						Low alloy steel	257 0.168 8190 4130	257 0.187 6830 3830	257 0.199 5110 3050	257 0.209 4090 2560	257 0.219 3270 2150	257 0.230 2730 1880	257 0.234 2560 1800				
						11.2	High alloyed steel, and tool steel	0.05D	0.02D	Vc fz RPM FEED	307 0.201 9770 5890	307 0.225 8150 5490	307 0.234 6100 4280	307 0.238 4880 3490	307 0.248 3910 2910	307 0.259 3260 2530	307 0.268 3050 2450
											Low alloy steel	257 0.168 8190 4130	257 0.187 6830 3830	257 0.199 5110 3050	257 0.209 4090 2560	257 0.219 3270 2150	257 0.230 2730 1880
	K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	0.02D	Vc fz RPM FEED	307 0.201 9770 5890	307 0.225 8150 5490	307 0.234 6100 4280	307 0.238 4880 3490	307 0.248 3910 2910	307 0.259 3260 2530	307 0.268 3050 2450				
							Hardened steel	208 0.156 6620 3100	208 0.173 5520 2870	208 0.180 4140 2240	208 0.190 3310 1890	208 0.200 2650 1590	208 0.210 2210 1390	208 0.221 2070 1370			
	H	38.1 - 38.2	Hardened steel	0.05D	0.02D	Vc fz RPM FEED	208 0.156 6620 3100	208 0.173 5520 2870	208 0.180 4140 2240	208 0.190 3310 1890	208 0.200 2650 1590	208 0.210 2210 1390	208 0.221 2070 1370				
							Chilled Cast Iron	257 0.168 8190 4130	257 0.187 6830 3830	257 0.199 5110 3050	257 0.209 4090 2560	257 0.219 3270 2150	257 0.230 2730 1880	257 0.234 2560 1800			
		41	Hardened Cast Iron	0.05D	0.02D	Vc fz RPM FEED	208 0.156 6620 3100	208 0.173 5520 2870	208 0.180 4140 2240	208 0.190 3310 1890	208 0.200 2650 1590	208 0.210 2210 1390	208 0.221 2070 1370				
							Chilled Cast Iron	257 0.168 8190 4130	257 0.187 6830 3830	257 0.199 5110 3050	257 0.209 4090 2560	257 0.219 3270 2150	257 0.230 2730 1880	257 0.234 2560 1800			



XSEME60 SERIES 4 FLUTE BALL NOSE
4刃球头

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径											
						10	12	16	20	25	30	32					
P	1-8	Non-alloy steel	0.05D	0.02D	Vc fz RPM FEED	341 0.148 10850 6430	341 0.165 9050 5960	341 0.175 6780 4750	341 0.179 5430 3880	341 0.186 4340 3230	341 0.194 3620 2810	341 0.201 3390 2720					
						Low alloy steel	286 0.126 9100 4590	286 0.140 7500 4260	286 0.149 5680 3390	286 0.156 4550 2840	286 0.164 3640 2390	286 0.172 3030 2090	286 0.176 2840 2000				
	10-11.1	High alloyed steel, and tool steel	0.05D	0.02D	Vc fz RPM FEED	341 0.148 10850 6430	341 0.165 9050 5960	341 0.175 6780 4750	341 0.179 5430 3880	341 0.186 4340 3230	341 0.194 3620 2810	341 0.201 3390 2720					
						Low alloy steel	286 0.126 9100 4590	286 0.140 7500 4260	286 0.149 5680 3390	286 0.156 4550 2840	286 0.164 3640 2390	286 0.172 3030 2090	286 0.176 2840 2000				
						11.2	High alloyed steel, and tool steel	0.05D	0.02D	Vc fz RPM FEED	341 0.148 10850 6430	341 0.165 9050 5960	341 0.175 6780 4750	341 0.179 5430 3880	341 0.186 4340 3230	341 0.194 3620 2810	341 0.201 3390 2720
											Low alloy steel	286 0.126 9100 4590	286 0.140 7500 4260	286 0.149 5680 3390	286 0.156 4550 2840	286 0.164 3640 2390	286 0.172 3030 2090
	K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	0.02D	Vc fz RPM FEED	341 0.148 10850 6430	341 0.165 9050 5960	341 0.175 6780 4750	341 0.179 5430 3880	341 0.186 4340 3230	341 0.194 3620 2810	341 0.201 3390 2720				
							Hardened steel	231 0.117 7350 3450	231 0.130 6130 3190	231 0.135 4600 2490	231 0.143 3680 2100	231 0.150 2940 1760	231 0.157 2450 1540	231 0.165 2300 1520			
	H	38.1 - 38.2	Hardened steel	0.05D	0.02D	Vc fz RPM FEED	231 0.117 7350 3450	231 0.130 6130 3190	231 0.135 4600 2490	231 0.143 3680 2100	231 0.150 2940 1760	231 0.157 2450 1540	231 0.165 2300 1520				
							Chilled Cast Iron	286 0.126 9100 4590	286 0.140 7500 4260	286 0.149 5680 3390	286 0.156 4550 2840	286 0.164 3640 2390	286 0.172 3030 2090	286 0.176 2840 2000			
		41	Hardened Cast Iron	0.05D	0.02D	Vc fz RPM FEED	231 0.117 7350 3450	231 0.130 6130 3190	231 0.135 4600 2490	231 0.143 3680 2100	231 0.150 2940 1760	231 0.157 2450 1540	231 0.165 2300 1520				
							Chilled Cast Iron	286 0.126 9100 4590	286 0.140 7500 4260	286 0.149 5680 3390	286 0.156 4550 2840	286 0.164 3640 2390	286 0.172 3030 2090	286 0.176 2840 2000			



XSEME01 SERIES 4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃圆鼻-侧铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径											
						10	12	16	20	25	30	32					
P	1-8	Non-alloy steel	0.05D	0.8D	Vc fz RPM FEED	156 0.023 4970 455	156 0.023 4140 380	156 0.023 3100 280	156 0.023 2480 230	156 0.023 1990 180	156 0.023 1650 150	156 0.023 1550 140					
						Low alloy steel	105 0.027 3340 360	105 0.027 2780 300	105 0.027 2090 225	105 0.027 1670 180	105 0.027 1340 145	105 0.027 1110 120	105 0.026 1040 110				
	10-11.1	High alloyed steel, and tool steel	0.05D	0.8D	Vc fz RPM FEED	156 0.023 4970 455	156 0.023 4140 380	156 0.023 3100 280	156 0.023 2480 230	156 0.023 1990 180	156 0.023 1650 150	156 0.023 1550 140					
						Low alloy steel	105 0.027 3340 360	105 0.027 2780 300	105 0.027 2090 225	105 0.027 1670 180	105 0.027 1340 145	105 0.027 1110 120	105 0.026 1040 110				
						11.2	High alloyed steel, and tool steel	0.05D	0.8D	Vc fz RPM FEED	156 0.023 4970 455	156 0.023 4140 380	156 0.023 3100 280	156 0.023 2480 230	156 0.023 1990 180	156 0.023 1650 150	156 0.023 1550 140
											Low alloy steel	105 0.027 3340 360	105 0.027 2780 300	105 0.027 2090 225	105 0.027 1670 180	105 0.027 1340 145	105 0.027 1110 120
	K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.02D	0.8D	Vc fz RPM FEED	156 0.023 4960 460	156 0.023									

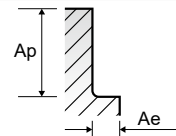


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

XSEME68 SERIES 6 FLUTE CORNER RADIUS - SIDE CUTTING
6刃 圆鼻-侧铣削

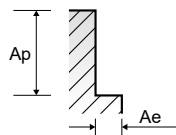
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径						
						10	12	16	20	25	30	32
P	1-8	Non-alloy steel	0.05D	1.0D	Vc	302	302	302	302	302	302	302
					fz	0.051	0.058	0.067	0.070	0.070	0.075	0.075
	RPM	9600	8010	6000	4800	3850	3200	3000				
	FEED	2940	2790	2400	2010	1615	1440	1350				
	9	Low alloy steel	0.05D	1.0D	Vc	294	294	294	294	294	294	294
					fz	0.025	0.025	0.025	0.025	0.027	0.029	0.030
	RPM	9360	7800	5850	4680	3740	3120	2920				
	FEED	1400	1170	880	690	600	540	525				
	10-11.1	High alloyed steel, and tool steel	0.05D	1.0D	Vc	302	302	302	302	302	302	302
					fz	0.051	0.058	0.067	0.070	0.070	0.075	0.075
	RPM	9600	8010	6000	4800	3850	3200	3000				
	FEED	2940	2700	2400	2010	1615	1440	1350				
11.2	High alloyed steel, and tool steel	0.05D	1.0D	Vc	294	294	294	294	294	294	294	
				fz	0.025	0.025	0.025	0.025	0.027	0.029	0.030	
RPM	9360	7800	5850	4680	3740	3120	2920					
FEED	1400	1170	880	690	600	540	525					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	1.0D	Vc	302	302	302	302	302	302	302
					fz	0.051	0.058	0.067	0.070	0.070	0.075	0.075
					RPM	9600	8010	6000	4800	3850	3200	3000
FEED	2940	2790	2400	2010	1615	1440	1350					
H	38.1 - 38.2	Hardened steel	0.02D	1.0D	Vc	181	181	181	181	181	181	181
					fz	0.006	0.006	0.006	0.006	0.007	0.007	0.007
	RPM	5760	4800	3600	2880	2305	1920	1800				
	FEED	210	180	130	110	90	85	80				
	40	Chilled Cast Iron	0.05D	1.0D	Vc	294	294	294	294	294	294	294
					fz	0.025	0.025	0.025	0.025	0.027	0.029	0.030
	RPM	9360	7800	5850	4680	3740	3120	2920				
	FEED	1400	1170	880	690	600	540	525				
	41	Hardened Cast Iron	0.02D	1.0D	Vc	181	181	181	181	181	181	181
					fz	0.006	0.006	0.006	0.006	0.007	0.007	0.007
	RPM	5760	4800	3600	2880	2305	1920	1800				
	FEED	210	180	130	110	90	85	80				



XSEME36 SERIES 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径						
						10	12	16	20	25	30	32
P	1-8	Non-alloy steel	0.05D	0.6D	Vc	128	129	130	132	134	134	134
					fz	0.040	0.040	0.040	0.040	0.040	0.040	0.040
	RPM	4080	3430	2590	2100	1700	1420	1330				
	FEED	650	545	415	335	270	230	215				
	9	Low alloy steel	0.05D	0.6D	Vc	79	79	80	82	82	82	82
					fz	0.030	0.030	0.030	0.030	0.031	0.032	0.032
	RPM	2500	2100	1590	1300	1050	870	820				
	FEED	300	250	190	155	130	110	105				
	10-11.1	High alloyed steel, and tool steel	0.05D	0.6D	Vc	128	129	130	132	134	134	134
					fz	0.040	0.040	0.040	0.040	0.040	0.040	0.040
	RPM	4080	3430	2590	2100	1700	1420	1330				
	FEED	650	545	415	335	270	230	215				
11.2	High alloyed steel, and tool steel	0.05D	0.6D	Vc	79	79	80	82	82	82	82	
				fz	0.030	0.030	0.030	0.030	0.031	0.032	0.032	
RPM	2500	2100	1590	1300	1050	870	820					
FEED	300	250	190	155	130	110	105					
M	12-14	Stainless steel	0.05D	0.6D	Vc	66	66	66	66	67	67	67
					fz	0.035	0.035	0.035	0.035	0.035	0.035	0.035
					RPM	2100	1750	1310	1050	850	710	670
FEED	300	245	180	150	120	100	95					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	0.6D	Vc	128	129	130	132	134	134	134
					fz	0.039	0.040	0.040	0.040	0.040	0.040	0.040
					RPM	4080	3430	2590	2100	1700	1420	1330
FEED	640	545	415	335	270	230	215					
H	38.1 - 38.2	Hardened steel	0.05D	0.6D	Vc	53	53	53	53	53	53	53
					fz	0.013	0.013	0.013	0.012	0.011	0.011	0.011
	RPM	1700	1400	1050	850	680	560	530				
	FEED	90	70	55	40	30	25	25				
	40	Chilled Cast Iron	0.05D	0.6D	Vc	79	79	80	82	82	82	82
					fz	0.030	0.030	0.030	0.030	0.031	0.032	0.032
	RPM	2500	2100	1590	1300	1050	870	820				
	FEED	300	250	190	155	130	110	105				
	41	Hardened Cast Iron	0.05D	0.6D	Vc	53	53	53	53	53	53	53
					fz	0.013	0.013	0.013	0.012	0.011	0.011	0.011
	RPM	1700	1400	1050	850	680	560	530				
	FEED	90	70	55	40	30	25	25				



RECOMMENDED CUTTING CONDITIONS
推荐加工参数

XSEME75 SERIES 6 FLUTE - SIDE CUTTING
6刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

NORMAL SPEED 普通速度

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径						
						10	12	16	20	25	30	32
P	1-8	Non-alloy steel	0.1D	0.8D	Vc	111	111	111	111	111	111	111
					fz	0.099	0.099	0.100	0.100	0.100	0.100	0.100
	RPM	3530	2945	2205	1765	1410	1180	1100				
	FEED	2100	1750	1325	1060	845	710	660				
	9	Low alloy steel	0.05D	0.8D	Vc	77	77	77	77	77	77	77
					fz	0.094	0.094	0.094	0.094	0.094	0.094	0.094
	RPM	2450	2040	1530	1220	980	815	765				
	FEED	1380	1150	860	690	555	460	430				
	10-11.1	High alloyed steel, and tool steel	0.1D	0.8D	Vc	111	111	111	111	111	111	111
					fz	0.099	0.099	0.100	0.100	0.100	0.100	0.100
	RPM	3530	2945	2205	1765	1410	1180	1100				
	FEED	2100	1750	1325	1060	845	710	660				
11.2	High alloyed steel, and tool steel	0.05D	0.8D	Vc	77	77	77	77	77	77	77	
				fz	0.094	0.094	0.094	0.094	0.094	0.094	0.094	
RPM	2450	2040	1530	1220	980	815	765					
FEED	1380	1150	860	690	555	460	430					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	0.8D	Vc	111	111	111	111	111	111	111
					fz	0.099	0.099	0.100	0.100	0.100	0.100	0.100
					RPM	3530	2940	2205	1765	1410	1180	1100
FEED	2100	1765	1325	1060	845	710	660					
H	38.1 - 38.2	Hardened steel	0.05D	0.6D	Vc	33	33	33	33	33	33	33
					fz	0.033	0.034	0.034	0.035	0.035	0.036	0.036
	RPM	1050	880	655	525	420	350	330				
	FEED	210	180	130	110	85	75	70				
	40	Chilled Cast Iron	0.05D	0.8D	Vc	77	77	77	77	77	77	77
					fz	0.094	0.094	0.094	0.094	0.094	0.094	0.094
	RPM	2450	2040	1530	1220	980	815	765				
	FEED	1380	1150	860	690	555	460	430				
	41	Hardened Cast Iron	0.05D	0.6D	Vc	33	33	33	33	33	33	33
					fz	0.033	0.034	0.034	0.035	0.035	0.036	0.036
	RPM	1050	880	655	525	420	350	330				
	FEED	210	180	130	110	85	75	70				

HIGH SPEED 高速度

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径						
						10	12	16	20	25	30	32
P	11.2	High alloyed steel, and tool steel	0.05D	0.6D	Vc	332	332	332	332	332	332	332
					fz	0.095	0.095	0.095	0.095	0.095	0.095	0.095
					RPM	10570	8810	6600	5290	4230	3520	3300
FEED	6020	5020	3765	3050	2400	2000	1890					
H	38.1 - 38.2	Hardened steel	0.05D	0.4D	Vc	166	166	166	166	166	166	166
					fz	0.096	0.095	0.095	0.095	0.095	0.095	0.095
	RPM	5290	4410	3300	2645	2114	1761	1651				
	FEED	3050	2520	1880	1470	1200	1000	940				
	40	Chilled Cast Iron	0.05D	0.6D	Vc	332	332	332	332	332	332	332
					fz	0.095	0.095	0.095	0.095	0.095	0.095	0.095
RPM	10570	8810	6600	5290	4230	3520	3300					
FEED	6020	5020	3765	3050	2400	2000	1890					
41	Hardened Cast Iron	0.05D	0.4D	Vc	166	166	166	166	166	166	166	
				fz	0.096	0.095	0.095	0.095	0.095	0.095	0.095	
RPM	5290	4410	3300	2645	2114	1761	1651					
FEED	3050	2520	1880	1470	1200	1000	940					



Global Cutting Tool Leader **YG-1**



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X5070 END MILLS

- For High Hardened Steels (HRc45 to HRc70)

High Speed Machining and Dry Cutting

蓝色涂层, 整体硬质合金立铣刀(HRc45 to HRc70)
用于加工高硬钢, 用于高速切削和干切, 用于模具

SELECTION GUIDE
选用指南



SERIES 系列	G8A45	G8A01	G8A02	G8D63	G8D64
FLUTE 槽数	2	2	4	6&8	6&8
HELIX ANGLE 螺旋角度	30°	30°	30°	45°	45°
CUTTING EDGE SHAPE 类型	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE
SIZE MIN 最小尺寸	D0.1	D0.1	D1.0	D6.0	D6.0
SIZE MAX 最大尺寸	D4.0	D20.0	D20.0	D25.0	D25.0
PAGE 页数	C105-108	C109	C110	C111	C112

SOLID CARBIDE
X5070
END MILLS

High Hardened Steels HRc45 to HRc70,
High Speed Machining, Dry Cutting



◎: Excellent (优秀) ○: Good (良好)

(Recommended cutting conditions (推荐加工参数): p.C113)

ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理	HB	HRc						
P	1	Non-alloy steel	About 0.15% C Annealed	125							
	2		About 0.45% C Annealed	190	13						
	3		About 0.45% C Quenched & Tempered	250	25						
	4		About 0.75% C Annealed	270	28						
	5		About 0.75% C Quenched & Tempered	300	32	○	○	○	○	○	
	6	Low alloy steel	Annealed	180	10						
	7		Quenched & Tempered	275	29						
	8		Quenched & Tempered	300	32	○	○	○	○	○	
	9		Quenched & Tempered	350	38	○	○	○	○	○	
	10		High alloyed steel, and tool steel	Annealed	200	15					
	11	Quenched & Tempered	325	35	○	○	○	○	○		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15						
	13		Martensitic Quenched & Tempered	240	23						
	14		Austenitic	180	10						
K	15	Grey cast iron	Pearlitic / ferritic	180	10						
	16		Pearlitic (Martensitic)	260	26						
	17	Nodular cast iron	Ferritic	160	3						
	18		Pearlitic	250	25						
	19		Ferritic	130							
	20		Malleable cast iron	Pearlitic	230	21					
N	21	Aluminum-wrought alloy	Not Curable	60							
	22		Curable Hardened	100							
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75							
	24		≤ 12% Si, Curable Hardened	90							
	25		> 12% Si, Not Curable	130							
	26		Cutting Alloys, PB>1%	110							
	27		Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90						
	28		CuSn, lead-free copper and electrolytic copper	100							
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic							
	30			Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15						
	32		Cured	280	30						
	33		Annealed	250	25						
	34		Ni or Co Based	Cured	350	38					
	35			Cast	320	34					
	36			Pure Titanium	400 Rm						
	37		Alpha + Beta Alloys	Hardened	1050 Rm						
H	38	Hardened Cast Iron	Hardened	550	55	◎	◎	◎	◎	◎	
	39		Hardened	630	60	◎	◎	◎	◎	◎	
	40		Cast	400	42	○	○	○	○	○	
	41		Hardened	550	55	◎	◎	◎	◎	◎	

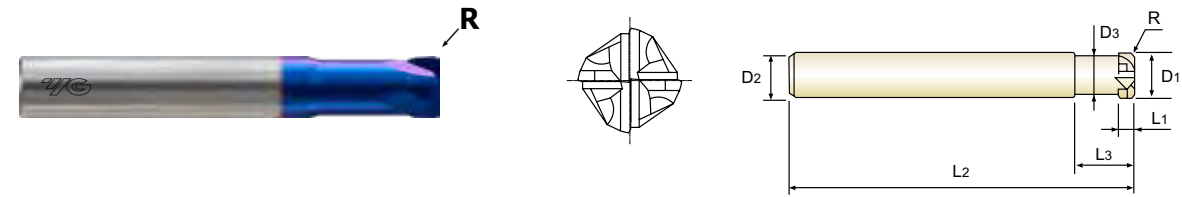


PLAIN SHANK **G8B59** SERIES

CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS HIGH FEED
硬质合金, 4刃 短刃 高进给 圆鼻

- ▶ Excellent wear resistance at heavy feed rates on high hardened material.
- ▶ Designed with reduced clearance angles and short flutes for strength.
- ▶ High hardness & heat resistance coating for long life in dry applications.

- ▶ 卓越耐磨性在高进给加工高硬度工况
- ▶ 由于减少后角及采用短槽, 提高刚性
- ▶ 采用高硬度极高耐热性涂层, 卓越刀具寿命在干切削工况



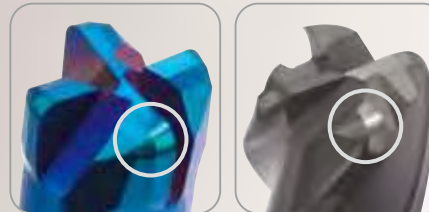
Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角	直径	柄径	刃长	颈长	全长	颈径
	R (±0.005)	D1	D2	L1	L3	L2	D3
G8B5902005	R0.5	2.0	6	1	6	50	1.8
G8B5903005	R0.5	3.0	6	1.2	8	50	2.8
G8B5904005	R0.5	4.0	6	1.5	10	50	3.8
G8B5906005	R0.5	6.0	6	2.5	12	60	5.4
G8B5906010	R1.0	6.0	6	2.5	12	60	5.4
G8B5908010	R1.0	8.0	8	3.5	16	60	7.2
G8B5908020	R2.0	8.0	8	3.5	16	60	7.2
G8B5910010	R1.0	10.0	10	4	20	70	9
G8B5910020	R2.0	10.0	10	4	20	70	9
G8B5912020	R2.0	12.0	12	5	25	80	11
G8B5912030	R3.0	12.0	12	5	25	80	11

Mill Dia. Tolerance (mm) 直径公差	Corner Radius Tolerance (mm) 圆弧角公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.02	±0.005	h5

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Comparison of the endteeth shape
刀尖形状对比图



- Reduced clearance angles and short flutes strengthens corner radius and reduces chattering
减少后角及采用短槽使提高圆弧角的刚性和减少震动
- Extra-short flute length for high rigidity
超短槽提高刚性
- Heavy core with reduced diameter allows greater depths and maximum rigidity
厚芯部和减直径的设计, 加大切削深度及提高刚性

◎: Excellent (优秀) ○: Good (良好)

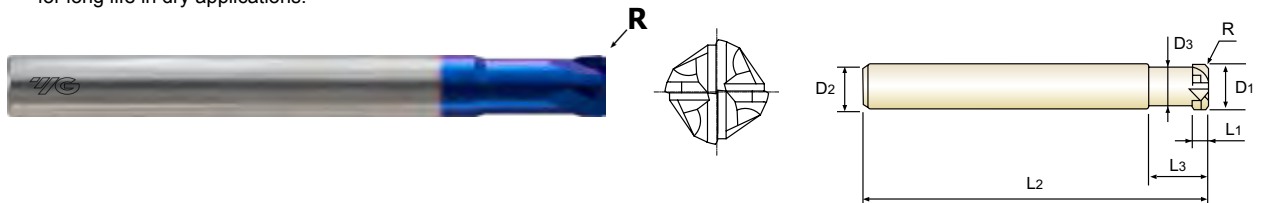
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	130	250	270	320	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○										○	○	○								
ISO	N									S						H					
	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎



PLAIN SHANK **G8B54** SERIES

CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS HIGH FEED (long shank)
硬质合金, 4刃 短刃 高进给 圆鼻

- ▶ Excellent wear resistance at heavy feed rates on high hardened material. **▶卓越耐磨性在高进给加工高硬度工件**
- ▶ Designed with reduced clearance angles and short flutes for strength. **▶由于减少后角及采用短槽, 提高刚性**
- ▶ High hardness & heat resistance coating for long life in dry applications. **▶采用高硬度极高耐热性涂层, 卓越刀具寿命在干切削工况**



CARBIDE **4** **BLUE** **0°** **±0.005** **PLAIN** **p.C113**

Recommended ToolHolder: HYDRAULIC CHUCK SHRINK FIT HOLDER (D15-46, D47-72), POWER MILLING CHUCK (D161-176), ER COLLET CHUCK SK SLIM CHUCK (D73-115, D183-201)

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R (±0.005)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8B5402005	R0.5	2.0	6	1	6	70	1.8
G8B5403005	R0.5	3.0	6	1.2	8	70	2.8
G8B5404005	R0.5	4.0	6	1.5	10	70	3.8
G8B5405005	R0.5	5.0	6	2	10	70	4.6
G8B5406005	R0.5	6.0	6	2.5	12	90	5.4
G8B5406010	R1.0	6.0	6	2.5	12	90	5.4
G8B5408010	R1.0	8.0	8	3.5	16	100	7.2
G8B5408020	R2.0	8.0	8	3.5	16	100	7.2
G8B5410010	R1.0	10.0	10	4	20	100	9
G8B5410020	R2.0	10.0	10	4	20	100	9
G8B5412020	R2.0	12.0	12	5	25	110	11
G8B5412030	R3.0	12.0	12	5	25	110	11
G8B5416030	R3.0	16.0	16	6.5	30	130	15

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Comparison of the endteeth shape
 刀尖形状对比图

- Reduced clearance angles and short flutes strengthens corner radius and reduces chattering
 减少后角及采用短槽使提高圆弧角的刚性和减少震动
- Extra-short flute length for high rigidity
 超短槽提高刚性
- Heavy core with reduced diameter allows greater depths and maximum rigidity
 厚芯部和减直径的设计, 加大切削深度及提高刚性

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M					K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	45	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○	○									

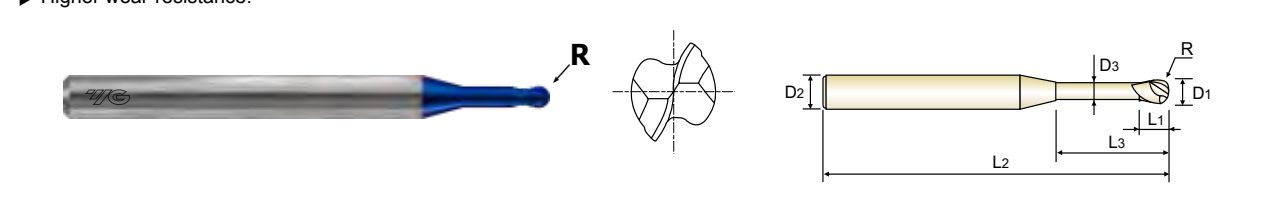
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	55	60	42	55	55	55	60	42	55	55	55	60	40	41	41	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎										◎					◎	◎	○	◎		



PLAIN SHANK **G8A46** SERIES

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
硬质合金, 2刃 球头 深腔加工

- ▶ Designed to machine high hardened materials. **▶为加工高硬度材料设计**
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating. **▶由于最新开发的原材料和涂层, 适用于干式切削, 高速切削**
- ▶ Excellent workpiece finish. **▶卓越的工件表面粗糙度**
- ▶ Designed for high precision milling operation. **▶高精密切削设计**
- ▶ Higher wear-resistance. **▶优异的耐磨性**



CARBIDE **2** **BLUE** **30°** **±0.005** **PLAIN** **p.C114-115**

Recommended ToolHolder: HYDRAULIC CHUCK SHRINK FIT HOLDER (D15-46, D47-72), POWER MILLING CHUCK (D161-176), ER COLLET CHUCK SK SLIM CHUCK (D73-115, D183-201)

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角 R (±0.005)	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
G8A46805	R0.05	0.1	4	0.1	0.3	45	0.085
G8A46806	R0.05	0.1	4	0.1	0.5	45	0.085
G8A46002	R0.1	0.2	4	0.2	0.5	45	0.17
G8A46977	R0.1	0.2	4	0.2	1	45	0.17
G8A46958	R0.1	0.2	4	0.2	1.5	45	0.17
G8A46003	R0.15	0.3	4	0.3	1	45	0.27
G8A46959	R0.15	0.3	4	0.3	2	45	0.27
G8A46986	R0.15	0.3	4	0.3	3	45	0.27
G8A46004	R0.2	0.4	4	0.4	1	45	0.37
G8A46960	R0.2	0.4	4	0.4	2	45	0.37
G8A46961	R0.2	0.4	4	0.4	3	45	0.37
G8A46981	R0.2	0.4	4	0.4	4	45	0.37
G8A46987	R0.2	0.4	4	0.4	5	45	0.37
G8A46005	R0.25	0.5	4	0.4	2	45	0.45
G8A46804	R0.25	0.5	4	0.4	2.5	45	0.45
G8A46962	R0.25	0.5	4	0.4	4	45	0.45
G8A46963	R0.25	0.5	4	0.4	6	45	0.45
G8A46964	R0.25	0.5	4	0.4	8	45	0.45
G8A46957	R0.3	0.6	4	0.5	2	45	0.55
G8A46988	R0.3	0.6	4	0.5	3	45	0.55
G8A46915	R0.3	0.6	4	0.5	4	45	0.55
G8A46989	R0.3	0.6	4	0.5	5	45	0.55

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool. **▶ NEXT PAGE 下页**
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M					K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	45	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○	○									

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	55	60	42	55	55	55	60	42	55	55	55	60	40	41	41	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎										◎					◎	◎	○	◎		

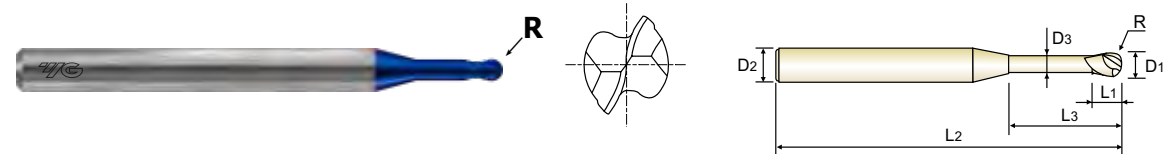


PLAIN SHANK **G8A46** SERIES

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
硬质合金, 2刃 球头 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于干式切削, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 高精密切削设计
- ▶ 优异的耐磨性



CARBIDE 2 BLUE 30° ±0.005 PLAIN

Recommended ToolHolder: HYDRAULIC CHUCK SHRINK FIT HOLDER, POWER MILLING CHUCK, ER COLLET CHUCK SK SLIM CHUCK

Page: D15-46, D47-72, D161-176, D73-115, D183-201

p.C114-115

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角						
G8A46916	R0.3	0.6	4	0.5	6	45	0.55
G8A46917	R0.3	0.6	4	0.5	8	45	0.55
G8A46990	R0.3	0.6	4	0.5	10	45	0.55
G8A46918	R0.4	0.8	4	0.6	2	45	0.75
G8A46919	R0.4	0.8	4	0.6	4	45	0.75
G8A46008	R0.4	0.8	4	0.6	6	45	0.75
G8A46901	R0.4	0.8	4	0.6	8	45	0.75
G8A46965	R0.4	0.8	4	0.6	10	45	0.75
G8A46920	R0.5	1.0	4	0.8	3	45	0.95
G8A46921	R0.5	1.0	4	0.8	4	45	0.95
G8A46923	R0.5	1.0	4	0.8	5	45	0.95
G8A46010	R0.5	1.0	4	0.8	6	45	0.95
G8A46924	R0.5	1.0	4	0.8	7	45	0.95
G8A46902	R0.5	1.0	4	0.8	8	45	0.95
G8A46925	R0.5	1.0	4	0.8	9	45	0.95
G8A46903	R0.5	1.0	4	0.8	10	45	0.95
G8A46904	R0.5	1.0	4	0.8	12	45	0.95
G8A46926	R0.5	1.0	4	0.8	14	50	0.95
G8A46927	R0.5	1.0	4	0.8	16	50	0.95
G8A46966	R0.5	1.0	4	0.8	20	55	0.95
G8A46982	R0.6	1.2	4	1.0	6	45	1.15
G8A46012	R0.6	1.2	4	1.0	8	45	1.15

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool. ▶ NEXT PAGE 下页

具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
0 ~ -0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	325	240	180	180	260	160	250	130	230
Recommend	○					○					○		○							

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	55	60	42	55	55	55	60	42	55	55	55	60	40	41	41	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎		◎			◎					◎		◎		◎		◎		◎		

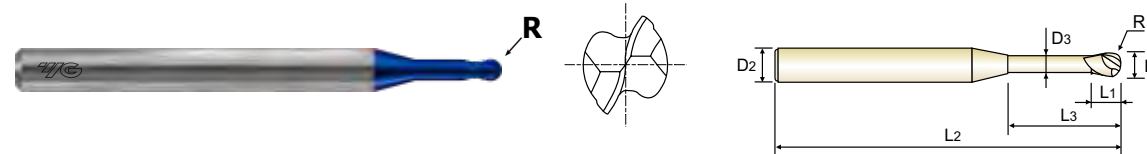


PLAIN SHANK **G8A46** SERIES

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
硬质合金, 2刃 球头 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于干式切削, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 高精密切削设计
- ▶ 优异的耐磨性



CARBIDE 2 BLUE 30° ±0.005 PLAIN

Recommended ToolHolder: HYDRAULIC CHUCK SHRINK FIT HOLDER, POWER MILLING CHUCK, ER COLLET CHUCK SK SLIM CHUCK

Page: D15-46, D47-72, D161-176, D73-115, D183-201

p.C114-115

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角						
G8A46983	R0.6	1.2	4	1.0	10	45	1.15
G8A46905	R0.6	1.2	4	1.0	12	45	1.15
G8A46930	R0.75	1.5	4	1.2	6	45	1.45
G8A46015	R0.75	1.5	4	1.2	8	45	1.45
G8A46931	R0.75	1.5	4	1.2	10	45	1.45
G8A46906	R0.75	1.5	4	1.2	12	45	1.45
G8A46992	R0.75	1.5	4	1.2	14	50	1.45
G8A46907	R0.75	1.5	4	1.2	16	50	1.45
G8A46932	R0.75	1.5	4	1.2	20	55	1.45
G8A46939	R1.0	2.0	4	1.6	4	45	1.95
G8A46940	R1.0	2.0	4	1.6	6	45	1.95
G8A46020	R1.0	2.0	4	1.6	8	45	1.95
G8A46941	R1.0	2.0	4	1.6	10	45	1.95
G8A46942	R1.0	2.0	4	1.6	12	50	1.95
G8A46943	R1.0	2.0	4	1.6	14	50	1.95
G8A46909	R1.0	2.0	4	1.6	16	50	1.95
G8A46993	R1.0	2.0	4	1.6	18	55	1.95
G8A46910	R1.0	2.0	4	1.6	20	55	1.95
G8A46944	R1.0	2.0	4	1.6	22	60	1.95
G8A46945	R1.0	2.0	4	1.6	25	60	1.95
G8A46967	R1.0	2.0	4	1.6	30	70	1.95
G8A46948	R1.5	3.0	6	2.4	12	50	2.85

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool. ▶ NEXT PAGE 下页

具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
0 ~ -0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	325	240	180	180	260	160	250	130	230
Recommend	○					○					○		○							

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	55	60	42	55	55	55	60	42	55	55	55	60	40	41	41	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎		◎			◎					◎		◎		◎		◎		◎		

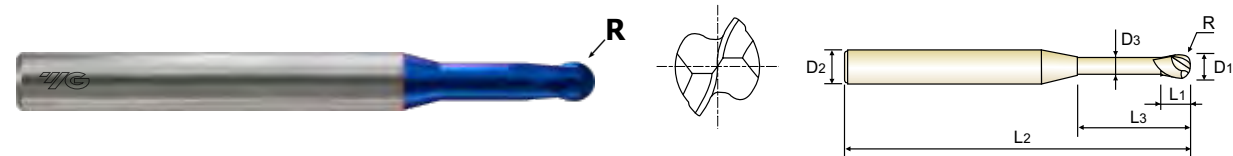


PLAIN SHANK **G8A46** SERIES

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
硬质合金, 2刃 球头 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于干式切削, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 高精密切削设计
- ▶ 优异的耐磨性



Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

p.C114-115

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角						
	R (±0.005)	D1	D2	L1	L3	L2	D3
G8A46984	R1.5	3.0	6	2.4	14	55	2.85
G8A46030	R1.5	3.0	6	2.4	16	55	2.85
G8A46985	R1.5	3.0	6	2.4	18	60	2.85
G8A46911	R1.5	3.0	6	2.4	20	60	2.85
G8A46968	R1.5	3.0	6	2.4	25	65	2.85
G8A46969	R1.5	3.0	6	2.4	30	70	2.85
G8A46970	R1.5	3.0	6	2.4	35	80	2.85
G8A46950	R2.0	4.0	6	3.2	12	60	3.85
G8A46040	R2.0	4.0	6	3.2	16	60	3.85
G8A46912	R2.0	4.0	6	3.2	20	65	3.85
G8A46913	R2.0	4.0	6	3.2	25	70	3.85
G8A46971	R2.0	4.0	6	3.2	30	70	3.85
G8A46972	R2.0	4.0	6	3.2	35	80	3.85
G8A46973	R2.0	4.0	6	3.2	40	90	3.85
G8A46974	R2.0	4.0	6	3.2	45	90	3.85
G8A46975	R2.0	4.0	6	3.2	50	100	3.85

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
直径公差	柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○				○					

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○					○					○			○							

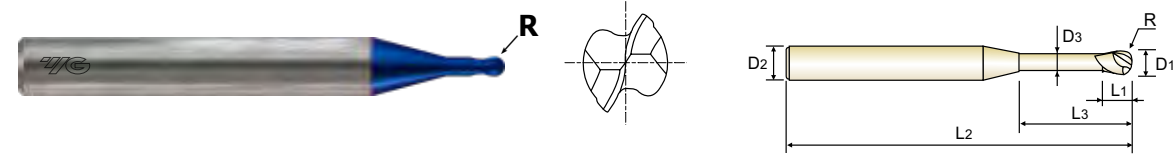


PLAIN SHANK **G8A54** SERIES

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
硬质合金, 2刃 球头 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于干式切削, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 高精密切削设计
- ▶ 优异的耐磨性



Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

p.C114-115

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角						
	R (±0.005)	D1	D2	L1	L3	L2	D3
G8A54005	R0.25	0.5	6	0.5	1.5	50	0.45
G8A54901	R0.25	0.5	6	0.5	3.3	50	0.45
G8A54006	R0.3	0.6	6	0.6	2	50	0.55
G8A54902	R0.3	0.6	6	0.6	4	50	0.55
G8A54008	R0.4	0.8	6	0.8	2.5	50	0.75
G8A54903	R0.4	0.8	6	0.8	5.5	50	0.75
G8A54010	R0.5	1.0	6	1	3.3	50	0.95
G8A54904	R0.5	1.0	6	1	6.7	50	0.95
G8A54905	R0.5	1.0	6	1	12	50	0.95
G8A54012	R0.6	1.2	6	1.2	4.4	50	1.15
G8A54906	R0.6	1.2	6	1.2	8	50	1.15
G8A54015	R0.75	1.5	6	1.5	5	50	1.45
G8A54907	R0.75	1.5	6	1.5	9.7	50	1.45
G8A54908	R0.75	1.5	6	1.5	15	50	1.45
G8A54020	R1.0	2.0	6	2	6	50	1.95
G8A54909	R1.0	2.0	6	2	13	50	1.95
G8A54910	R1.0	2.0	6	2	20	60	1.95

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
直径公差	柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

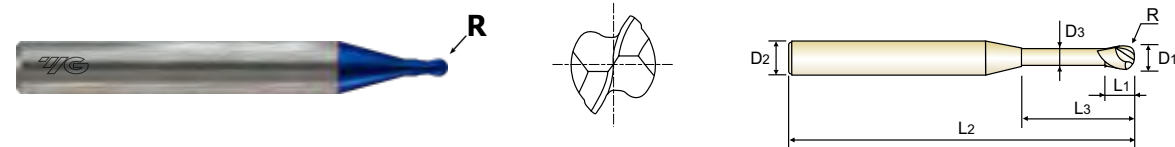
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○				○					

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○					○					○			○							

CARBIDE, 2 FLUTE BALL NOSE
硬质合金, 2刃球头

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于干式切削, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 高精密切削设计
- ▶ 优异的耐磨性



CARBIDE 2 BLUE 30° R ±0.005 R ±0.010 PLAIN p.C116-117

Recommended ToolHolder: HYDRAULIC CHUCK (D15-46, D47-72), POWER MILLING CHUCK (D161-176), ER COLLET CHUCK (D73-115, D183-201)

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A28001	R0.05	0.1	4	0.2	-	40	-
G8A28002	R0.1	0.2	4	0.3	-	40	-
G8A28003	R0.15	0.3	4	0.5	-	40	-
G8A28004	R0.2	0.4	4	0.6	-	40	-
G8A28005	R0.25	0.5	4	0.7	-	40	-
G8A28006	R0.3	0.6	4	0.9	-	40	-
G8A28007	R0.35	0.7	4	1.1	-	40	-
G8A28008	R0.4	0.8	4	1.2	-	40	-
G8A28009	R0.45	0.9	4	1.4	-	40	-
G8A280104S	R0.5	1.0	4	1.5	3	50	0.95
G8A28010	R0.5	1.0	6	1.5	3	50	0.95
G8A280154S	R0.75	1.5	4	2	4	50	1.45
G8A28015	R0.75	1.5	6	2	4	50	1.45
G8A280204S	R1.0	2.0	4	2.5	5	50	1.95
G8A28020	R1.0	2.0	6	2.5	5	50	1.95
G8A280254S	R1.25	2.5	4	3	7	50	2.4
G8A28025	R1.25	2.5	6	3	7	50	2.4
G8A28030	R1.5	3.0	6	4	10	60	2.85
G8A28035	R1.75	3.5	6	4.5	10	60	3.35
G8A28040	R2.0	4.0	6	5	10	60	3.85
G8A28045	R2.25	4.5	6	5.5	10	60	4.35
G8A28050	R2.5	5.0	6	6	12	60	4.85

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool. **具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。**

Size 尺寸	Radius Tolerance (mm) 半径公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

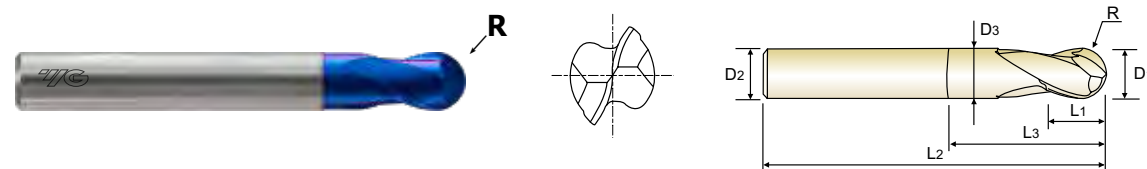
ISO Material Description	P										M					K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○					○				

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎										◎					◎					

CARBIDE, 2 FLUTE BALL NOSE
硬质合金, 2刃球头

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
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- ▶ 为加工高硬度材料设计
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- ▶ 卓越的工件表面粗糙度
- ▶ 高精密切削设计
- ▶ 优异的耐磨性



CARBIDE 2 BLUE 30° R ±0.005 R ±0.010 PLAIN p.C116-117

Recommended ToolHolder: HYDRAULIC CHUCK (D15-46, D47-72), POWER MILLING CHUCK (D161-176), ER COLLET CHUCK (D73-115, D183-201)

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A28055	R2.75	5.5	6	6.5	12	60	5.35
G8A28060	R3.0	6.0	6	7	15	60	5.85
G8A28903	R3.0	6.0	6	9	30	90	5.85
G8A28901	R4.0	8.0	8	9	15	60	7.7
G8A28080	R4.0	8.0	8	9	15	80	7.7
G8A28904	R4.0	8.0	8	12	30	100	7.7
G8A28902	R5.0	10.0	10	11	25	60	9.7
G8A28100	R5.0	10.0	10	11	25	80	9.7
G8A28905	R5.0	10.0	10	15	30	100	9.7
G8A28120	R6.0	12.0	12	14	25	80	11.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool. **具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。**

Size 尺寸	Radius Tolerance (mm) 半径公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

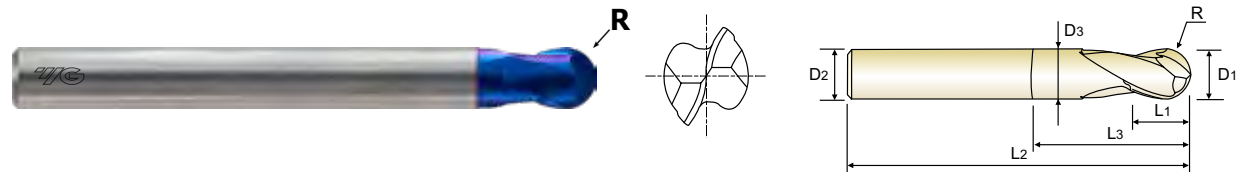
ISO Material Description	P										M					K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○					○				

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎										◎					◎					

CARBIDE, 2 FLUTE STUB LENGTH BALL NOSE with EXTENDED NECK
硬质合金, 2刃 短刃 颈部加长 球头

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于干式切削, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 高精密切削设计
- ▶ 优异的耐磨性



Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A38010	R0.5	1.0	4	1	2.2	50	0.95
G8A38012	R0.6	1.2	4	1.2	2.6	50	1.15
G8A38015	R0.75	1.5	4	1.5	3	50	1.45
G8A380204S	R1.0	2.0	4	2	4	50	1.95
G8A38020	R1.0	2.0	6	2	4	50	1.95
G8A38030	R1.5	3.0	6	3	6	60	2.85
G8A38040	R2.0	4.0	6	4	8	70	3.85
G8A38050	R2.5	5.0	6	5	10	80	4.85
G8A38060	R3.0	6.0	6	6	12	90	5.85
G8A38070	R3.5	7.0	8	7	14	90	6.7
G8A38080	R4.0	8.0	8	8	16	100	7.7
G8A38090	R4.5	9.0	10	9	18	100	8.7
G8A38100	R5.0	10.0	10	10	20	100	9.7
G8A38120	R6.0	12.0	12	12	24	110	11.7
G8A38140	R7.0	14.0	14	14	28	110	13.7
G8A38160	R8.0	16.0	16	16	32	140	15.7
G8A38180	R9.0	18.0	18	18	36	140	17.7
G8A38200	R10.0	20.0	20	20	40	160	19.7
G8A38250	R12.5	25.0	25	25	50	180	24.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Size 尺寸	Radius Tolerance (mm) 半径公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

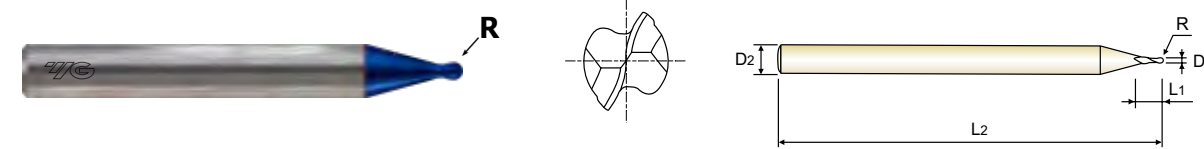
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	35	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○		○							

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎		◎			◎					◎			◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 2 FLUTE MINIATURE BALL NOSE
硬质合金, 2刃 微型 球头

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于干式切削, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 高精密切削设计
- ▶ 优异的耐磨性



Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R (±0.005)	直径 D1	柄径 D2	刃长 L1	全长 L2
G8A53004	R0.2	0.4	6	0.4	50
G8A53005	R0.25	0.5	6	0.5	50
G8A53006	R0.3	0.6	6	0.6	50
G8A53008	R0.4	0.8	6	0.8	50
G8A53010	R0.5	1.0	6	1.0	50
G8A53012	R0.6	1.2	6	1.2	50
G8A53015	R0.75	1.5	6	1.5	50
G8A53020	R1.0	2.0	6	2.0	50

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	35	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○		○							

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎		◎			◎					◎			◎	◎	◎	◎	◎	◎	◎	◎	◎

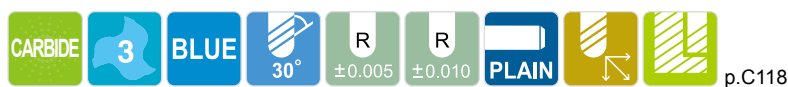
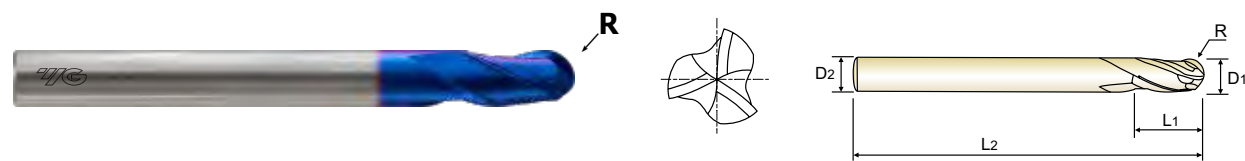


PLAIN SHANK **G8A59** SERIES

CARBIDE, 3 FLUTE BALL NOSE (Center Match)
硬质合金, 3刃球头(中心对称)

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于干式切削, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 高精密切削设计
- ▶ 优异的耐磨性



Recommended ToolHolder	Plain Shank	Page
HYDRAULIC CHUCK	D15-46	D15-46
SHRINK FIT HOLDER	D47-72	D47-72
POWER MILLING CHUCK	D161-176	D161-176
ER COLLET CHUCK	D73-115	D73-115
SK SLIM CHUCK	D183-201	D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2
G8A59030	R1.5	3.0	6	8	60
G8A59040	R2.0	4.0	6	8	70
G8A59050	R2.5	5.0	6	10	80
G8A59060	R3.0	6.0	6	12	90
G8A59080	R4.0	8.0	8	14	100
G8A59100	R5.0	10.0	10	18	100
G8A59120	R6.0	12.0	12	22	110
G8A59160	R8.0	16.0	16	30	140
G8A59200	R10.0	20.0	20	38	160

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Size 尺寸	Radius Tolerance (mm) 半径公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○				○					

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎		◎		◎	◎		◎			◎		◎	◎	◎	◎		◎	◎	◎	◎	◎

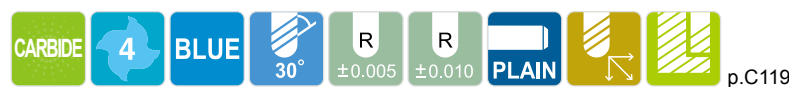
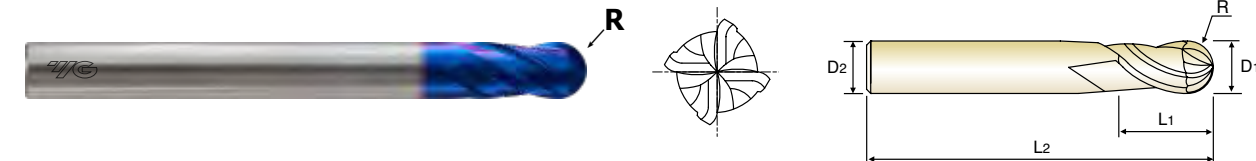


PLAIN SHANK **G8D62** SERIES

CARBIDE, 4 FLUTE BALL NOSE (Center Match)
硬质合金, 4刃球头(中心对称)

- ▶ Applied center match type & special new design on ball center shape.
- ▶ Excellent high wear resistance and high performance.
- ▶ Applied for high speed and feed.
- ▶ Increased the surface roughness.

- ▶ 采用中心交接式 & 独特设计的形状
- ▶ 卓越高耐磨性及性能
- ▶ 适用于高速和进给
- ▶ 卓越的工件表面粗糙度



Recommended ToolHolder	Plain Shank	Page
HYDRAULIC CHUCK	D15-46	D15-46
SHRINK FIT HOLDER	D47-72	D47-72
POWER MILLING CHUCK	D161-176	D161-176
ER COLLET CHUCK	D73-115	D73-115
SK SLIM CHUCK	D183-201	D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2
G8D62030	R1.5	3.0	6	8	60
G8D62040	R2.0	4.0	6	8	70
G8D62050	R2.5	5.0	6	10	80
G8D62060	R3.0	6.0	6	12	90
G8D62080	R4.0	8.0	8	14	100
G8D62100	R5.0	10.0	10	18	100
G8D62120	R6.0	12.0	12	22	110
G8D62160	R8.0	16.0	16	30	140
G8D62200	R10.0	20.0	20	38	160

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Size 尺寸	Radius Tolerance (mm) 半径公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○				○					

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎		◎		◎	◎		◎			◎		◎	◎	◎	◎		◎	◎	◎	◎	◎

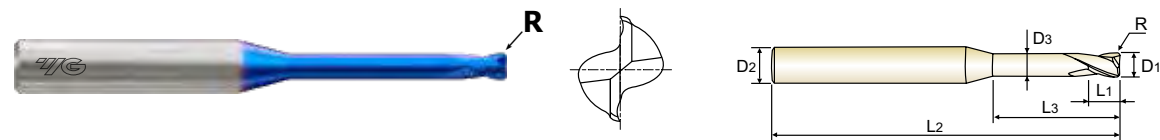


PLAIN SHANK **G8A60** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING
硬质合金, 2刃 圆鼻 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度工件设计
- ▶ 由于新开发的原材料和涂层, 适用于, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 深开槽可以通过减少的颈部设计
- ▶ 通过减小颈部设计, 实现深槽铣加工
- ▶ 优异的耐磨性



CARBIDE 2 BLUE 30° ±0.010 ±0.015 PLAIN p.C120-121

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A60936	R0.05	0.5	4	0.7	1.5	45	0.45
G8A60932	R0.05	0.5	4	0.7	2.5	45	0.45
G8A60935	R0.05	0.5	4	0.7	4	45	0.45
G8A60931	R0.05	0.6	4	0.9	2	45	0.55
G8A60933	R0.05	0.6	4	0.9	3	45	0.55
G8A60934	R0.05	0.6	4	0.9	4	45	0.55
G8A600060102	R0.1	0.6	4	0.9	2	45	0.55
G8A600070104	R0.1	0.7	4	1	4	45	0.65
G8A600080102	R0.1	0.8	4	1.2	2	45	0.75
G8A60008	R0.1	0.8	4	1.2	4	45	0.75
G8A60924	R0.1	0.8	4	1.2	6	45	0.75
G8A609254S	R0.1	1.0	4	1.5	4	50	0.95
G8A609264S	R0.1	1.0	4	1.5	6	50	0.95
G8A600100204	R0.2	1.0	4	1.5	4	50	0.95
G8A600100206	R0.2	1.0	4	1.5	6	50	0.95
G8A609114S	R0.2	1.0	4	1.5	8	50	0.95
G8A600100304	R0.3	1.0	4	1.5	4	50	0.95
G8A600100306	R0.3	1.0	4	1.5	6	50	0.95
G8A60980	R0.3	1.0	4	1.5	8	50	0.95
G8A60925	R0.1	1.0	6	1.5	4	50	0.95
G8A60926	R0.1	1.0	6	1.5	6	50	0.95
G8A60010	R0.2	1.0	6	1.5	4	50	0.95

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Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○		○			○				

ISO	N										S					H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
Recommend	◎		◎			◎					◎		◎			◎		◎	◎	◎	◎	◎	◎

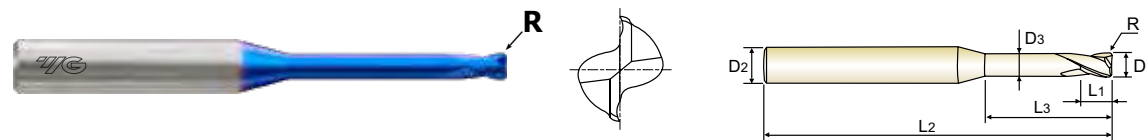


PLAIN SHANK **G8A60** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING
硬质合金, 2刃 圆鼻 深腔加工

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- ▶ Higher wear-resistance.

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CARBIDE 2 BLUE 30° ±0.010 ±0.015 PLAIN p.C120-121

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A60910	R0.2	1.0	6	1.5	6	50	0.95
G8A60911	R0.2	1.0	6	1.5	8	50	0.95
G8A60912	R0.3	1.0	6	1.5	4	50	0.95
G8A60930	R0.3	1.0	6	1.5	6	50	0.95
G8A600100308	R0.3	1.0	6	1.5	8	50	0.95
G8A600154S	R0.2	1.5	4	2.5	4	50	1.45
G8A6001502064S	R0.2	1.5	4	2.5	6	50	1.45
G8A6001502084S	R0.2	1.5	4	2.5	8	50	1.45
G8A609134S	R0.2	1.5	4	2.5	10	50	1.45
G8A609144S	R0.2	1.5	4	2.5	12	50	1.45
G8A609154S	R0.3	1.5	4	2.5	4	50	1.45
G8A6001503064S	R0.3	1.5	4	2.5	6	50	1.45
G8A6001503084S	R0.3	1.5	4	2.5	8	50	1.45
G8A60015	R0.2	1.5	6	2.5	4	50	1.45
G8A600150206	R0.2	1.5	6	2.5	6	50	1.45
G8A600150208	R0.2	1.5	6	2.5	8	50	1.45
G8A60913	R0.2	1.5	6	2.5	10	50	1.45
G8A60914	R0.2	1.5	6	2.5	12	50	1.45
G8A60915	R0.3	1.5	6	2.5	4	50	1.45
G8A600150306	R0.3	1.5	6	2.5	6	50	1.45
G8A600150308	R0.3	1.5	6	2.5	8	50	1.45
G8A609274S	R0.2	2.0	4	3	6	50	1.95

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up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○		○			○				

ISO	N										S					H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
Recommend	◎		◎			◎					◎		◎			◎		◎	◎	◎	◎	◎	◎

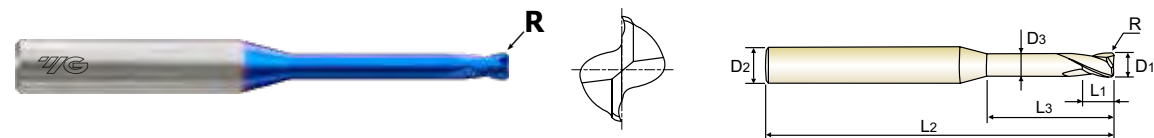


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CARBIDE 2 BLUE 30° ±0.010 ±0.015 PLAIN p.C120-121

Recommended ToolHolder: HYDRAULIC CHUCK SHRINK FIT HOLDER (D15-46, D47-72), POWER MILLING CHUCK (D161-176), ER COLLET CHUCK SK SLIM CHUCK (D73-115, D183-201)

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A6002002084S	R0.2	2.0	4	3	8	50	1.95
G8A6002002104S	R0.2	2.0	4	3	10	55	1.95
G8A6002002124S	R0.2	2.0	4	3	12	55	1.95
G8A609164S	R0.3	2.0	4	3	6	50	1.95
G8A6002003084S	R0.3	2.0	4	3	8	50	1.95
G8A6002003104S	R0.3	2.0	4	3	10	55	1.95
G8A6002003124S	R0.3	2.0	4	3	12	55	1.95
G8A6002003164S	R0.3	2.0	4	3	16	55	1.95
G8A609174S	R0.5	2.0	4	3	6	50	1.95
G8A600204S	R0.5	2.0	4	3	10	55	1.95
G8A609184S	R0.5	2.0	4	3	12	55	1.95
G8A60927	R0.2	2.0	6	3	6	50	1.95
G8A600200208	R0.2	2.0	6	3	8	50	1.95
G8A600200210	R0.2	2.0	6	3	10	55	1.95
G8A600200212	R0.2	2.0	6	3	12	55	1.95
G8A60916	R0.3	2.0	6	3	6	50	1.95
G8A600200308	R0.3	2.0	6	3	8	50	1.95
G8A600200310	R0.3	2.0	6	3	10	55	1.95
G8A600200312	R0.3	2.0	6	3	12	55	1.95
G8A600200316	R0.3	2.0	6	3	16	55	1.95
G8A60917	R0.5	2.0	6	3	6	50	1.95
G8A60020	R0.5	2.0	6	3	10	55	1.95

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up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

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ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○		○							

ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○										◎		◎		◎		◎				

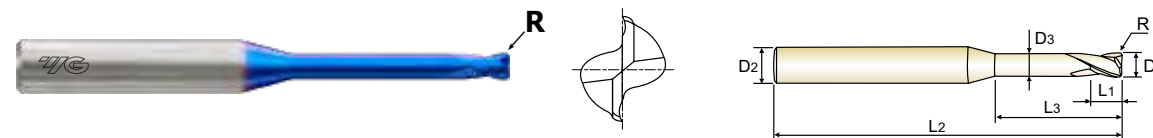


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CARBIDE 2 BLUE 30° ±0.010 ±0.015 PLAIN p.C120-121

Recommended ToolHolder: HYDRAULIC CHUCK SHRINK FIT HOLDER (D15-46, D47-72), POWER MILLING CHUCK (D161-176), ER COLLET CHUCK SK SLIM CHUCK (D73-115, D183-201)

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A60918	R0.5	2.0	6	3	12	55	1.95
G8A600300208	R0.2	3.0	6	4	8	55	2.85
G8A600300210	R0.2	3.0	6	4	10	55	2.85
G8A600300212	R0.2	3.0	6	4	12	55	2.85
G8A600300216	R0.2	3.0	6	4	16	55	2.85
G8A600300308	R0.3	3.0	6	4	8	55	2.85
G8A60919	R0.3	3.0	6	4	10	55	2.85
G8A600300312	R0.3	3.0	6	4	12	55	2.85
G8A600300316	R0.3	3.0	6	4	16	55	2.85
G8A60030	R0.5	3.0	6	4	10	55	2.85
G8A600300512	R0.5	3.0	6	4	12	55	2.85
G8A60901	R0.5	3.0	6	4	16	55	2.85
G8A60902	R0.5	3.0	6	4	20	55	2.85
G8A600400212	R0.2	4.0	6	5	12	55	3.85
G8A600400216	R0.2	4.0	6	5	16	55	3.85
G8A600400220	R0.2	4.0	6	5	20	55	3.85
G8A600400310	R0.3	4.0	6	5	10	55	3.85
G8A60920	R0.3	4.0	6	5	12	55	3.85
G8A600400316	R0.3	4.0	6	5	16	55	3.85
G8A600400320	R0.3	4.0	6	5	20	55	3.85
G8A60040	R0.5	4.0	6	5	12	55	3.85
G8A60903	R0.5	4.0	6	5	16	55	3.85

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ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○		○							

ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○										◎		◎		◎		◎				

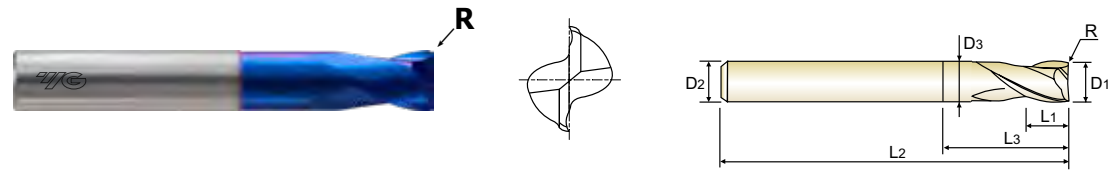


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Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A60904	R0.5	4.0	6	5	20	55	3.85
G8A600401012	R1.0	4.0	6	5	12	55	3.85
G8A600401016	R1.0	4.0	6	5	16	55	3.85
G8A60921	R0.3	6.0	6	7	20	60	5.85
G8A60060	R0.5	6.0	6	7	20	60	5.85
G8A60905	R1.0	6.0	6	7	20	60	5.85
G8A60906	R1.5	6.0	6	7	20	60	5.85
G8A600602020	R2.0	6.0	6	7	20	60	5.85
G8A60922	R0.3	8.0	8	9	25	60	7.7
G8A60929	R0.5	8.0	8	9	25	60	7.7
G8A60080	R1.0	8.0	8	9	25	60	7.7
G8A60907	R1.5	8.0	8	9	25	60	7.7
G8A600802025	R2.0	8.0	8	9	25	60	7.7
G8A60923	R0.3	10.0	10	11	32	70	9.7
G8A601000532	R0.5	10.0	10	11	32	70	9.7
G8A60100	R1.0	10.0	10	11	32	70	9.7
G8A60908	R1.5	10.0	10	11	32	70	9.7
G8A601002032	R2.0	10.0	10	11	32	70	9.7
G8A601200538	R0.5	12.0	12	12	38	80	11.7
G8A60120	R1.0	12.0	12	12	38	80	11.7
G8A60909	R1.5	12.0	12	12	38	80	11.7
G8A601202038	R2.0	12.0	12	12	38	80	11.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool. **具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。**

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○					○					○		○		○					

ISO Material Description	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎		◎			◎					◎		◎			◎	◎	◎	◎	◎	◎	◎

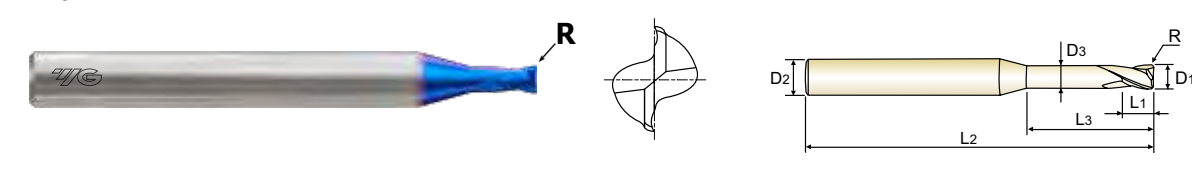


PLAIN SHANK **G8A36** SERIES

CARBIDE, 2 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK
硬质合金, 2刃 短刃 颈部加长 圆鼻

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度工件设计
- ▶ 由于新开发的原材料和涂层, 适用于, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 深开槽可以通过减少的颈部设计
- ▶ 通过减小颈部设计, 实现深槽铣加工
- ▶ 优异的耐磨性



Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A36003	-	0.3	3	0.45	-	40	-
G8A36004	-	0.4	3	0.6	-	40	-
G8A36005	R0.05	0.5	3	0.7	-	40	-
G8A36907	R0.05	0.5	4	1	-	40	-
G8A36006	R0.05	0.6	3	0.9	-	40	-
G8A36908	R0.05	0.6	4	1.2	-	40	-
G8A36909	R0.05	0.7	4	1.4	-	40	-
G8A36008	R0.05	0.8	3	1.2	-	40	-
G8A36910	R0.05	0.8	4	1.6	-	40	-
G8A36911	R0.05	0.9	4	2	-	40	-
G8A36010	R0.1	1.0	3	1.5	-	40	-
G8A36901	R0.1	1.0	4	1.5	-	40	-
G8A36903	R0.1	1.0	6	1.5	-	40	-
G8A36015	R0.1	1.5	3	2.2	-	40	-
G8A36904	R0.1	1.5	6	2.2	-	40	-
G8A36020	R0.1	2.0	3	3	6	40	1.95
G8A36902	R0.1	2.0	4	3	6	40	1.95
G8A36905	R0.1	2.0	6	3	6	40	1.95
G8A36025	R0.1	2.5	3	4	6	40	2.4
G8A36906	R0.1	2.5	6	4	6	40	2.4
G8A36030	R0.1	3.0	6	4	7	45	2.85
G8A36035	R0.1	3.5	6	5	9	45	3.35

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool. **具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。**

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○					○					○		○		○					

ISO Material Description	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎		◎			◎					◎		◎			◎	◎	◎	◎	◎	◎	◎

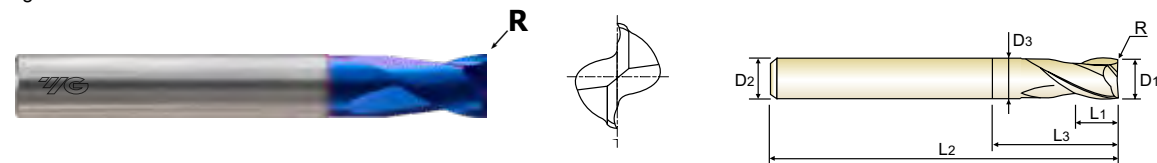


PLAIN SHANK **G8A36** SERIES

CARBIDE, 2 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK
硬质合金, 2刃 短刃 颈部加长 圆鼻

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度工件设计
- ▶ 由于新开发的原材料和涂层, 适用于, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 深开槽可以通过减少的颈部设计
- ▶ 通过减小颈部设计, 实现深槽铣加工
- ▶ 优异的耐磨性



Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A36040	R0.1	4.0	6	5	9	45	3.85
G8A36045	R0.1	4.5	6	6	10	45	4.35
G8A36050	R0.2	5.0	6	6	11	50	4.85
G8A36060	R0.2	6.0	6	7	14	50	5.85
G8A36080	R0.2	8.0	8	9	18	60	7.7
G8A36100	R0.2	10.0	10	12	25	75	9.7
G8A36120	R0.3	12.0	12	15	30	75	11.7
G8A36160	R0.3	16.0	16	18	38	90	15.7
G8A36200	R0.3	20.0	20	24	45	100	19.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过06	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○		○							

ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎		◎		◎	◎		◎			◎		◎		◎		◎		◎		◎	

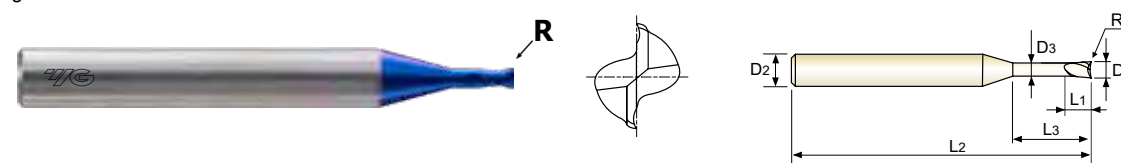


PLAIN SHANK **G8A52** SERIES

CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING
硬质合金, 2刃 圆鼻 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度工件设计
- ▶ 由于新开发的原材料和涂层, 适用于, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 深开槽可以通过减少的颈部设计
- ▶ 通过减小颈部设计, 实现深槽铣加工
- ▶ 优异的耐磨性



Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R (± 0.010)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A52005	R0.05	0.5	6	0.7	1.5	50	0.45
G8A52901	R0.05	0.5	6	0.7	3.3	50	0.45
G8A52006	R0.05	0.6	6	0.9	2	50	0.55
G8A52902	R0.05	0.6	6	0.9	4	50	0.55
G8A52008	R0.05	0.8	6	1.2	2.5	50	0.75
G8A52903	R0.05	0.8	6	1.2	5.5	50	0.75
G8A52010	R0.10	1.0	6	1.5	3.3	50	0.95
G8A52904	R0.10	1.0	6	1.5	6.7	50	0.95
G8A52012	R0.10	1.2	6	1.8	4.4	50	1.15
G8A52905	R0.10	1.2	6	1.8	8	50	1.15
G8A52015	R0.15	1.5	6	2.2	5	50	1.45
G8A52906	R0.15	1.5	6	2.2	9.7	50	1.45
G8A52020	R0.15	2.0	6	2.2	6	50	1.95
G8A52907	R0.15	2.0	6	2.2	13	50	1.95

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○		○							

ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎		◎		◎	◎		◎			◎		◎		◎		◎		◎		◎	

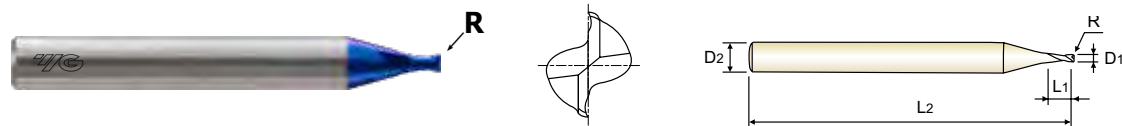


PLAIN SHANK **G8A50** SERIES

CARBIDE, 2 FLUTE MINIATURE CORNER RADIUS
硬质合金，2刃 微型 圆鼻

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度工件设计
- ▶ 由于新开发的原材料和涂层，适用于，高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 深开槽可以通过减少的颈部设计
- ▶ 通过减小颈部设计，实现深槽铣加工
- ▶ 优异的耐磨性



Recommended ToolHolder: HYDRAULIC CHUCK SHRINK FIT HOLDER (D15-46, D47-72), POWER MILLING CHUCK (D161-176), ER COLLET CHUCK SK SLIM CHUCK (D73-115, D183-201)

Icons: CARBIDE, 2, BLUE, 30°, ±0.010, PLAIN, p.C123

Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2
G8A50003	-	0.3	6	0.45	50
G8A50004	-	0.4	6	0.6	50
G8A50005	R0.05	0.5	6	0.7	50
G8A50006	R0.05	0.6	6	0.9	50
G8A50008	R0.05	0.8	6	1.2	50
G8A50010	R0.10	1.0	6	1.5	50
G8A50012	R0.10	1.2	6	1.8	50
G8A50015	R0.15	1.5	6	2.2	50
G8A50020	R0.15	2.0	6	2.2	50

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉，该特性使得涂层厚度不均。可是，对刀具的性能没有影响。

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○					○					○		○		○					

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34						15	30	25	38	34			55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	○		○		○	○		○			◎		◎		◎		◎		◎		◎	

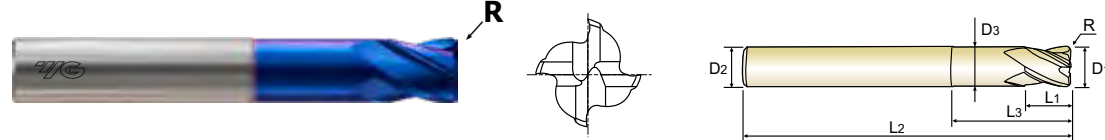


PLAIN SHANK **G8A47** SERIES

CARBIDE, 4 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金，4刃 颈部加长 圆鼻

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度工件设计
- ▶ 由于新开发的原材料和涂层，适用于，高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 深开槽可以通过减少的颈部设计
- ▶ 通过减小颈部设计，实现深槽铣加工
- ▶ 优异的耐磨性



Recommended ToolHolder: HYDRAULIC CHUCK SHRINK FIT HOLDER (D15-46, D47-72), POWER MILLING CHUCK (D161-176), ER COLLET CHUCK SK SLIM CHUCK (D73-115, D183-201)

Icons: CARBIDE, 4, BLUE, 30°, ±0.010, ±0.015, PLAIN, p.C124

Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A47916	R0.3	3.0	6	4	12	55	2.85
G8A47917	R0.3	3.0	6	4	16	55	2.85
G8A47918	R0.3	3.0	6	4	20	55	2.85
G8A47030	R0.5	3.0	6	4	10	55	2.85
G8A47901	R0.5	3.0	6	4	16	55	2.85
G8A47902	R0.5	3.0	6	4	20	55	2.85
G8A47919	R0.3	4.0	6	5	12	55	3.85
G8A47920	R0.3	4.0	6	5	16	55	3.85
G8A47921	R0.3	4.0	6	5	20	55	3.85
G8A47040	R0.5	4.0	6	5	12	55	3.85
G8A47903	R0.5	4.0	6	5	16	55	3.85
G8A47904	R0.5	4.0	6	5	20	55	3.85
G8A47922	R1.0	4.0	6	5	12	55	3.85
G8A47060	R0.5	6.0	6	7	20	60	5.85
G8A47905	R1.0	6.0	6	7	20	60	5.85
G8A47906	R1.5	6.0	6	7	20	60	5.85
G8A47910	R0.5	8.0	8	9	25	60	7.7
G8A47080	R1.0	8.0	8	9	25	60	7.7
G8A47907	R1.5	8.0	8	9	25	60	7.7
G8A47913	R2.0	8.0	8	9	25	60	7.7
G8A47911	R0.5	10.0	10	11	32	70	9.7
G8A47100	R1.0	10.0	10	11	32	70	9.7
G8A47908	R1.5	10.0	10	11	32	70	9.7
G8A47914	R2.0	10.0	10	11	32	70	9.7
G8A47912	R0.5	12.0	12	12	38	80	11.7
G8A47120	R1.0	12.0	12	12	38	80	11.7
G8A47909	R1.5	12.0	12	12	38	80	11.7
G8A47915	R2.0	12.0	12	12	38	80	11.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉，该特性使得涂层厚度不均。可是，对刀具的性能没有影响。

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 06以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过06	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○					○					○		○		○					

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron								
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34						15	30	25	38	34			55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	○		○		○	○		○			◎		◎		◎		◎		◎		◎	

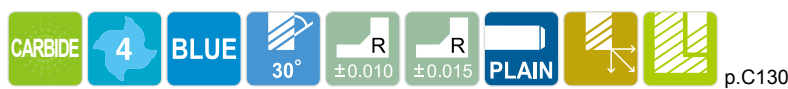
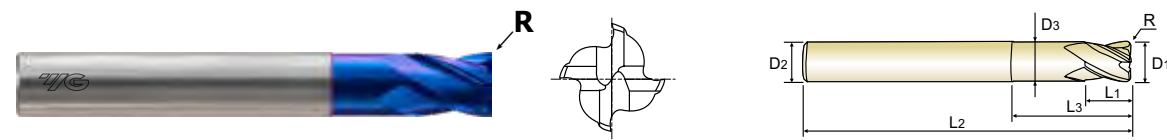


PLAIN SHANK **G8A37** SERIES

CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS with EXTENDED NECK
硬质合金, 4刃 颈部加长 短刃 圆鼻

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于, 高速切削
- ▶ 卓越的工作表面粗糙度
- ▶ 由于颈部稍细可以加工深槽
- ▶ 圆弧可防止高速切削的崩刃
- ▶ 优异的耐磨性



Recommended ToolHolder	Plain Shank	Page
HYDRAULIC CHUCK	D15-46	D15-46
SHRINK FIT HOLDER	D47-72	D47-72
POWER MILLING CHUCK	D161-176	D161-176
ER COLLET CHUCK	D73-115	D73-115
SK SLIM CHUCK	D183-201	D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A37010	R0.1	1.0	3	1.5	-	40	-
G8A37901	R0.1	1.0	6	1.5	-	40	-
G8A37015	R0.1	1.5	3	2.2	-	40	-
G8A37902	R0.1	1.5	6	2.2	-	40	-
G8A37020	R0.1	2.0	3	3	6	40	1.95
G8A37903	R0.1	2.0	6	3	6	40	1.95
G8A37025	R0.1	2.5	3	4	6	40	2.4
G8A37904	R0.1	2.5	6	4	6	40	2.4
G8A37030	R0.1	3.0	6	4	7	45	2.85
G8A37035	R0.1	3.5	6	5	9	45	3.35
G8A37040	R0.1	4.0	6	5	9	45	3.85
G8A37045	R0.1	4.5	6	6	10	45	4.35
G8A37050	R0.2	5.0	6	6	11	50	4.85
G8A37060	R0.2	6.0	6	7	14	50	5.85
G8A37080	R0.2	8.0	8	9	18	60	7.7
G8A37100	R0.2	10.0	10	12	25	75	9.7
G8A37120	R0.3	12.0	12	15	30	75	11.7
G8A37160	R0.3	16.0	16	18	38	90	15.7
G8A37200	R0.3	20.0	20	24	45	100	19.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过06	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○		○			○				

ISO	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	34	55	60	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎		◎			◎					◎		◎				◎		◎	◎	◎	◎

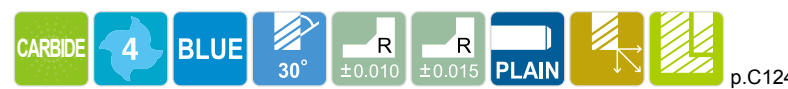
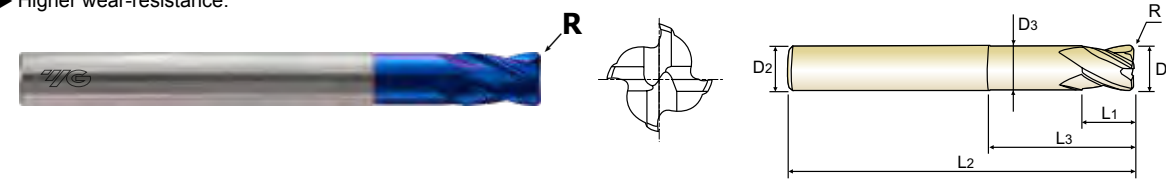


PLAIN SHANK **G8B08** SERIES

CARBIDE, 4 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金, 4刃 颈部加长 圆鼻

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度工件设计
- ▶ 由于新开发的原材料和涂层, 适用于, 高速切削
- ▶ 卓越的工作表面粗糙度
- ▶ 深开槽可以通过减少的颈部设计
- ▶ 通过减小颈部设计, 实现深槽铣加工
- ▶ 优异的耐磨性



Recommended ToolHolder	Plain Shank	Page
HYDRAULIC CHUCK	D15-46	D15-46
SHRINK FIT HOLDER	D47-72	D47-72
POWER MILLING CHUCK	D161-176	D161-176
ER COLLET CHUCK	D73-115	D73-115
SK SLIM CHUCK	D183-201	D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8B0806005090	R0.5	6.0	6	9	20	90	5.85
G8B0806010090	R1.0	6.0	6	9	20	90	5.85
G8B0808005100	R0.5	8.0	8	12	25	100	7.7
G8B0808010100	R1.0	8.0	8	12	25	100	7.7
G8B0810005100	R0.5	10.0	10	15	32	100	9.7
G8B0810010100	R1.0	10.0	10	15	32	100	9.7
G8B0810020100	R2.0	10.0	10	15	32	100	9.7
G8B0812005110	R0.5	12.0	12	18	38	110	11.7
G8B0812010110	R1.0	12.0	12	18	38	110	11.7
G8B0812020110	R2.0	12.0	12	18	38	110	11.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过06	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

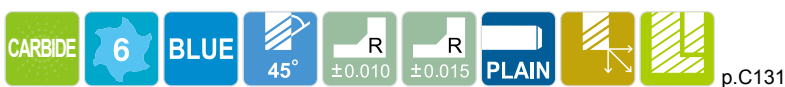
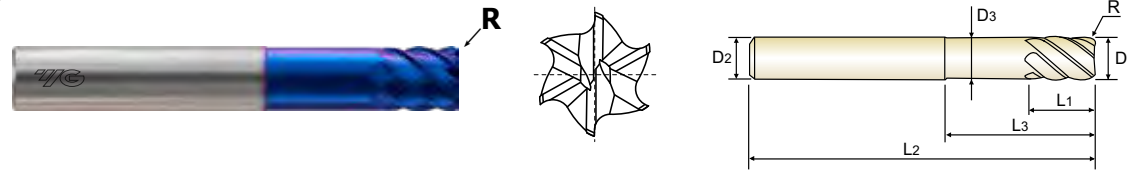
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○		○			○				

ISO	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	34	55	60	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎		◎			◎					◎		◎				◎		◎	◎	◎	◎

CARBIDE, 6 FLUTE 45° HELIX CORNER RADIUS with EXTENDED NECK
硬质合金，6刃 45°螺旋角 颈部加长 圆鼻

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 由于颈部稍细可以加工深槽
- ▶ 圆弧可防止高速切削的崩刃
- ▶ 优异的耐磨性



Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A39916	R0.25	6.0	6	6	14	50	5.85
G8A39060	R0.5	6.0	6	6	14	50	5.85
G8A39901	R0.5	6.0	6	13	-	70	-
* G8A39910	R0.5	6.0	6	26	-	70	-
G8A39080	R0.5	8.0	8	8	24	60	7.7
G8A39902	R0.5	8.0	8	19	-	90	-
* G8A39911	R0.5	8.0	8	36	-	90	-
G8A39903	R0.5	10.0	10	22	-	100	-
G8A39100	R1.0	10.0	10	10	30	70	9.7
G8A39904	R1.0	10.0	10	22	-	100	-
* G8A39912	R1.0	10.0	10	46	-	100	-
G8A39905	R0.5	12.0	12	26	-	110	-
G8A39120	R1.0	12.0	12	12	30	75	11.7
G8A39906	R1.0	12.0	12	26	-	110	-
* G8A39913	R1.0	12.0	12	56	-	110	-
G8A39160	R1.0	16.0	16	32	-	130	-
G8A39907	R1.5	16.0	16	32	-	130	-
* G8A39914	R1.5	16.0	16	66	-	130	-
G8A39200	R1.0	20.0	20	38	-	140	-
G8A39908	R1.5	20.0	20	38	-	140	-
G8A39909	R2.0	20.0	20	38	-	140	-
* G8A39915	R2.0	20.0	20	76	-	140	-

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角精度	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	±0.010	0 ~ -0.012	h5
over Ø6 超过Ø6	±0.015	0 ~ -0.015	

* Mill Dia. Tolerance(mm) for Extra Long Type : 0~-0.03 * 超长铣刀直径精度为: 0~-0.03

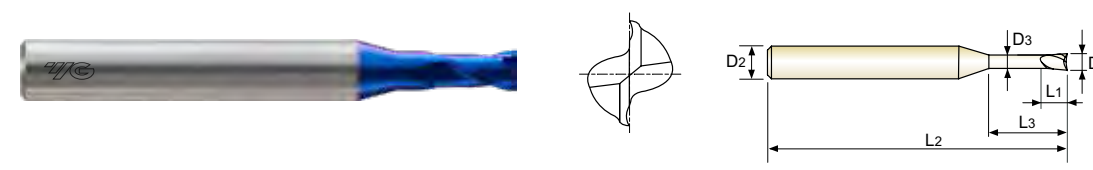
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○		○							

CARBIDE, 2 FLUTE for RIB PROCESSING
硬质合金，2刃 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 由于颈部稍细可以加工深槽
- ▶ 圆弧可防止高速切削的崩刃
- ▶ 优异的耐磨性



Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A45863	0.1	4	0.15	0.3	45	0.085
G8A45864	0.1	4	0.15	0.5	45	0.085
G8A45002	0.2	4	0.3	0.5	45	0.17
G8A45815	0.2	4	0.3	1	45	0.17
G8A45816	0.2	4	0.3	1.5	45	0.17
G8A45003	0.3	4	0.45	1	45	0.27
G8A45844	0.3	4	0.45	1.5	45	0.27
G8A45817	0.3	4	0.45	2	45	0.27
G8A45818	0.3	4	0.45	3	45	0.27
G8A45842	0.3	4	0.45	4	45	0.27
G8A45843	0.4	4	0.6	1	45	0.37
G8A45004	0.4	4	0.6	2	45	0.37
G8A45984	0.4	4	0.6	3	45	0.37
G8A45985	0.4	4	0.6	4	45	0.37
G8A45986	0.4	4	0.6	5	45	0.37
G8A45005	0.5	4	0.7	2	45	0.45
G8A45861	0.5	4	0.7	2.5	45	0.45
G8A45988	0.5	4	0.7	4	45	0.45
G8A45989	0.5	4	0.7	6	45	0.45
G8A45990	0.5	4	0.7	8	45	0.45
G8A45006	0.6	4	0.9	2	45	0.55
G8A45860	0.6	4	0.9	3	45	0.55

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool. ▶ NEXT PAGE 下页
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○		○							

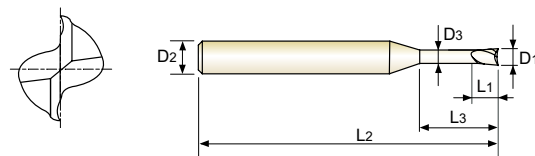


PLAIN SHANK **G8A45** SERIES

CARBIDE, 2 FLUTE for RIB PROCESSING
硬质合金，2刃 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 由于颈部稍细可以加工深槽
- ▶ 圆弧可防止高速切削的崩刃
- ▶ 优异的耐磨性



p.C125~126

Recommended ToolHolder	Plain Shank	Page
	HYDRAULIC CHUCK	D15-46
	SHRINK FIT HOLDER	D47-72
	POWER MILLING CHUCK	D161-176
	ER COLLET CHUCK	D73-115
	SK SLIM CHUCK	D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A45991	0.6	4	0.9	4	45	0.55
G8A45992	0.6	4	0.9	6	45	0.55
G8A45993	0.6	4	0.9	8	45	0.55
G8A45819	0.6	4	0.9	10	45	0.55
G8A45862	0.8	4	1.2	2	45	0.75
G8A45008	0.8	4	1.2	4	45	0.75
G8A45908	0.8	4	1.2	6	45	0.75
G8A45909	0.8	4	1.2	8	45	0.75
G8A45994	0.8	4	1.2	10	45	0.75
G8A45995	0.8	4	1.2	12	45	0.75
G8A45996	1.0	4	1.5	4	45	0.95
G8A45010	1.0	4	1.5	6	45	0.95
G8A45912	1.0	4	1.5	8	45	0.95
G8A45913	1.0	4	1.5	10	45	0.95
G8A45914	1.0	4	1.5	12	45	0.95
G8A45997	1.0	4	1.5	16	50	0.95
G8A45998	1.0	4	1.5	20	55	0.95
G8A45012	1.2	4	1.8	6	45	1.15
G8A45915	1.2	4	1.8	8	45	1.15
G8A45916	1.2	4	1.8	10	45	1.15
G8A45917	1.2	4	1.8	12	45	1.15
G8A45999	1.2	4	1.8	16	50	1.15

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool. ▶ NEXT PAGE 下页
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.012	h5

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○		○			○				

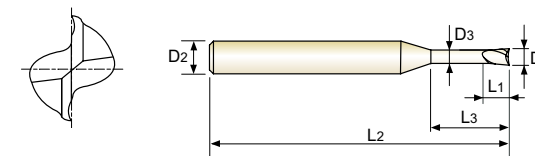


PLAIN SHANK **G8A45** SERIES

CARBIDE, 2 FLUTE for RIB PROCESSING
硬质合金，2刃 深腔加工

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 由于颈部稍细可以加工深槽
- ▶ 圆弧可防止高速切削的崩刃
- ▶ 优异的耐磨性



p.C125~126

Recommended ToolHolder	Plain Shank	Page
	HYDRAULIC CHUCK	D15-46
	SHRINK FIT HOLDER	D47-72
	POWER MILLING CHUCK	D161-176
	ER COLLET CHUCK	D73-115
	SK SLIM CHUCK	D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A45015	1.5	4	2.3	6	45	1.45
G8A45923	1.5	4	2.3	8	45	1.45
G8A45924	1.5	4	2.3	10	45	1.45
G8A45925	1.5	4	2.3	12	45	1.45
G8A45926	1.5	4	2.3	14	50	1.45
G8A45927	1.5	4	2.3	16	50	1.45
G8A45928	1.5	4	2.3	18	55	1.45
G8A45810	1.5	4	2.3	20	55	1.45
G8A45958	2.0	4	3.0	6	45	1.95
G8A45020	2.0	4	3.0	8	45	1.95
G8A45959	2.0	4	3.0	10	45	1.95
G8A45960	2.0	4	3.0	12	45	1.95
G8A45961	2.0	4	3.0	14	50	1.95
G8A45962	2.0	4	3.0	16	50	1.95
G8A45963	2.0	4	3.0	18	55	1.95
G8A45964	2.0	4	3.0	20	55	1.95
G8A45966	2.0	4	3.0	25	60	1.95
G8A45814	2.0	4	3.0	30	70	1.95
G8A45975	3.0	6	4.5	10	45	2.85
G8A45976	3.0	6	4.5	12	45	2.85
G8A45977	3.0	6	4.5	14	50	2.85
G8A45978	3.0	6	4.5	16	55	2.85

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool. ▶ NEXT PAGE 下页
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.012	h5

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○		○			○				

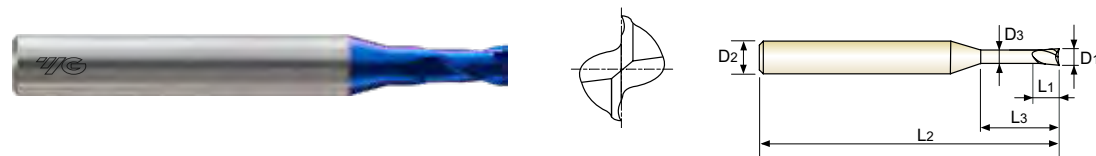


PLAIN SHANK **G8A45** SERIES

CARBIDE, 2 FLUTE for RIB PROCESSING
硬质合金, 2刃 深腔加工

- ▶ Designed to machine high hardened materials.
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- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
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- ▶ 卓越的工件表面粗糙度
- ▶ 由于颈部稍细可以加工深槽
- ▶ 圆弧可防止高速切削的崩刃
- ▶ 优异的耐磨性



Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A45979	3.0	6	4.5	18	55	2.85
G8A45980	3.0	6	4.5	20	60	2.85
G8A45981	3.0	6	4.5	25	65	2.85
G8A45832	3.0	6	4.5	30	70	2.85
G8A45833	3.0	6	4.5	35	80	2.85
G8A45983	3.0	6	4.5	40	90	2.85
G8A45040	4.0	6	6	12	50	3.85
G8A45801	4.0	6	6	16	60	3.85
G8A45802	4.0	6	6	20	60	3.85
G8A45803	4.0	6	6	25	70	3.85
G8A45834	4.0	6	6	30	70	3.85
G8A45835	4.0	6	6	35	80	3.85
G8A45836	4.0	6	6	40	90	3.85
G8A45837	4.0	6	6	45	90	3.85
G8A45838	4.0	6	6	50	100	3.85

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○				○					

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎					◎					◎			◎	◎	◎	◎				

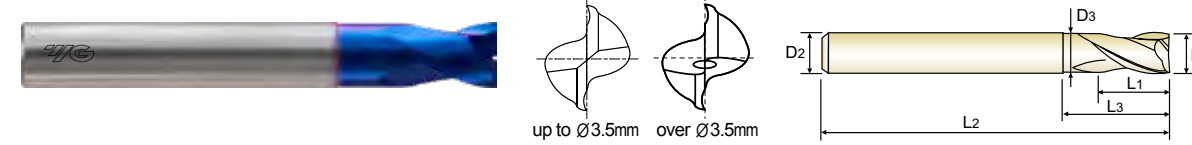


PLAIN SHANK **G8A01** SERIES

CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金, 2刃 颈部加长

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 由于颈部稍细可以加工深槽
- ▶ 圆弧可防止高速切削的崩刃
- ▶ 优异的耐磨性



Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A01001	0.1	4	0.2	-	40	-
G8A01002	0.2	4	0.4	-	40	-
G8A01003	0.3	4	0.6	-	40	-
G8A01004	0.4	4	0.8	-	40	-
G8A01005	0.5	4	1	-	40	-
G8A01006	0.6	4	1.2	-	40	-
G8A01007	0.7	4	1.4	-	40	-
G8A01008	0.8	4	1.6	-	40	-
G8A01009	0.9	4	2	-	40	-
G8A010104S	1.0	4	1.5	3	50	0.95
G8A01010	1.0	6	1.5	3	50	0.95
G8A010154S	1.5	4	1.7	4	50	1.45
G8A01015	1.5	6	1.7	4	50	1.45
G8A010204S	2.0	4	2	5	50	1.95
G8A01020	2.0	6	2	5	50	1.95
G8A010254S	2.5	4	2.5	6	55	2.4
G8A01025	2.5	6	2.5	6	55	2.4
G8A01030	3.0	6	3	8	55	2.85
G8A01035	3.5	6	3.5	9	55	3.35
G8A01040	4.0	6	4	10	55	3.85
G8A01050	5.0	6	5	13	55	4.85
G8A01060	6.0	6	6	15	55	5.85
G8A01080	8.0	8	8	20	65	7.7
G8A01100	10.0	10	10	25	75	9.7
G8A01120	12.0	12	12	28	85	11.7
G8A01160	16.0	16	16	32	90	15.7
G8A01200	20.0	20	20	40	105	19.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Size 尺寸	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø6 06以下	0 ~ - 0.012	h5
over Ø6 超过06	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○				○					

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎					◎					◎			◎	◎	◎	◎				

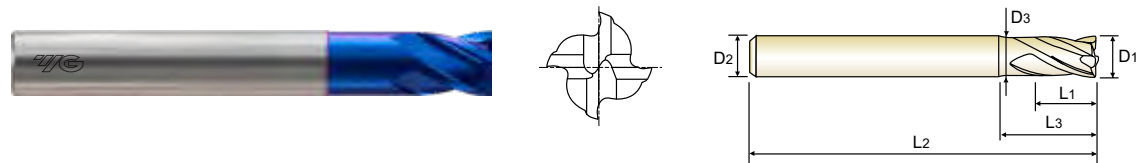


PLAIN SHANK **G8A02** SERIES

CARBIDE, 4 FLUTE with EXTENDED NECK
硬质合金，4刃 颈部加长

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Designed for high precision milling operation.
- ▶ Higher wear-resistance.

- ▶ 为加工高硬度材料设计
- ▶ 由于最新开发的原材料和涂层, 适用于, 高速切削
- ▶ 卓越的工件表面粗糙度
- ▶ 由于颈部稍细可以加工深槽
- ▶ 圆弧可防止高速切削的崩刃
- ▶ 优异的耐磨性



Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
G8A02010	1.0	6	1.5	3	50	0.95
G8A02020	2.0	6	2	5	50	1.95
G8A02030	3.0	6	3	8	55	2.85
G8A02040	4.0	6	4	10	55	3.85
G8A02050	5.0	6	5	13	55	4.85
G8A02060	6.0	6	6	15	55	5.85
G8A02080	8.0	8	8	20	65	7.7
G8A02100	10.0	10	10	25	75	9.7
G8A02120	12.0	12	12	28	85	11.7
G8A02160	16.0	16	16	32	90	15.7
G8A02200	20.0	20	20	40	105	19.7

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 以下	0 ~ - 0.012	h5
over Ø6 超过Ø6	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○				○					

ISO Material Description	N					S					H												
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
Recommend	◎		◎			◎			◎		◎					◎		◎		◎		◎	

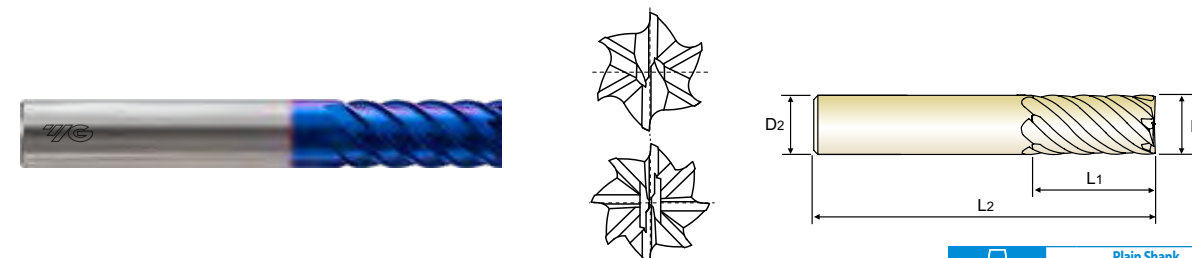


PLAIN SHANK **G8D63** SERIES

CARBIDE, 6&8 FLUTE 45° HELIX LONG LENGTH
硬质合金，6&8刃 45° 螺旋角 长刃

- ▶ Designed to machine high hardened materials.
- ▶ Designed for high abrasion resistance thanks to negative rake angle.
- ▶ Excellent side-cutting of press mold field.

- ▶ 为加工高硬度钢而设计
- ▶ 由于负前角的设计具有高耐磨性
- ▶ 在冲床模具领域有着极好的侧铣功能

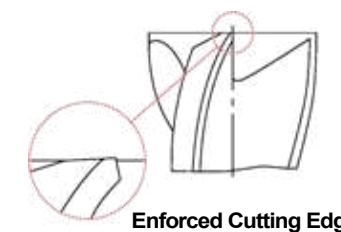


Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
	直径 D1	柄径 D2	刃长 L1	全长 L2	刃数
G8D63060	6.0	6	13	57	6
G8D63080	8.0	8	19	63	6
G8D63100	10.0	10	22	72	6
G8D63120	12.0	12	26	83	6
G8D63140	14.0	14	26	83	6
G8D63160	16.0	16	32	92	6
G8D63180	18.0	18	32	92	8
G8D63200	20.0	20	38	104	8
G8D63250	25.0	25	44	104	8

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.
 具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ - 0.02	h5



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○										○				○					

ISO Material Description	N					S					H												
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
Recommend	◎		◎			◎			◎		◎					◎		◎		◎		◎	

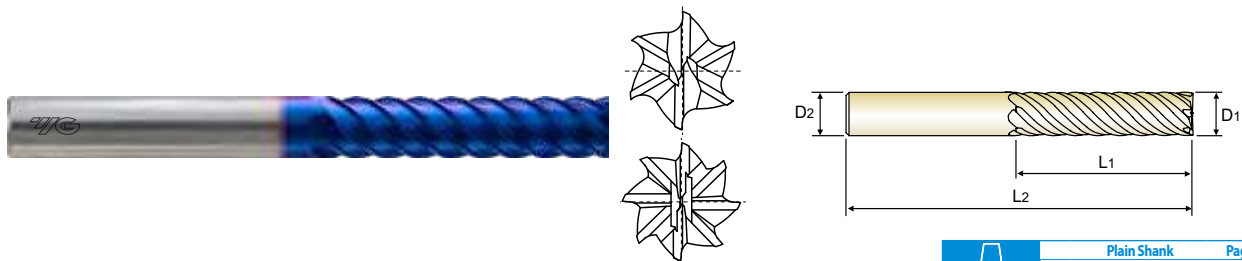


PLAIN SHANK G8D64 SERIES

CARBIDE, 6&8 FLUTE 45° HELIX EXTRA LONG LENGTH
硬质合金, 6&8刃 45° 螺旋角长刃

- ▶ Designed to machine high hardened materials.
- ▶ Designed for high abrasion resistance thanks to negative rake angle.
- ▶ Excellent side-cutting of press mold field.

- ▶ 为加工高硬度钢而设计
- ▶ 由于负前角的设计具有高耐磨性
- ▶ 在冲床模具领域有着极好的侧铣功能



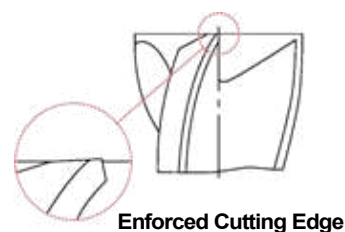
Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
	直径 D1	柄径 D2	刃长 L1	全长 L2	
G8D64060	6.0	6	26	70	6
G8D64080	8.0	8	36	90	6
G8D64100	10.0	10	46	100	6
G8D64120	12.0	12	56	110	6
G8D64160	16.0	16	66	130	6
G8D64200	20.0	20	76	140	8
G8D64250	25.0	25	92	180	8

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.

具有装饰性的蓝色涂层在初期使用时有可能会擦掉, 该特性使得涂层厚度不均。可是, 对刀具的性能没有影响。

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
直径公差	柄径公差
0 ~ - 0.03	h5



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M					K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend					○					○										

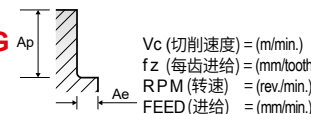
ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc																					
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		◎	◎	○	◎



RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8B59, G8B54 SERIES

4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻 - 侧铣削



HIGH SPEED 高速度

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	
P	5	Non-alloy steel	0.3D	0.1R	Vc	180	205	215	235	255	250	250	250	250	250
					fz	0.129	0.182	0.257	0.3	0.343	0.463	0.578	0.701	0.925	
					RPM	28648	21751	17109	14961	13528	9947	7958	6631	4974	
					FEED	14782	15835	17588	17953	18561	18422	18398	18595	18402	
P	8-9	Low alloy steel	0.3D	0.1R	Vc	180	205	215	235	255	250	250	250	250	
					fz	0.129	0.182	0.257	0.3	0.343	0.463	0.578	0.701	0.925	
					RPM	28648	21751	17109	14961	13528	9947	7958	6631	4974	
					FEED	14782	15835	17588	17953	18561	18422	18398	18595	18402	
H	11.1	High alloyed steel, and tool steel	0.3D	0.1R	Vc	180	205	215	235	255	250	250	250	250	
					fz	0.129	0.182	0.257	0.3	0.343	0.463	0.578	0.701	0.925	
					RPM	28648	21751	17109	14961	13528	9947	7958	6631	4974	
					FEED	14782	15835	17588	17953	18561	18422	18398	18595	18402	
H	11.2	High alloyed steel, and tool steel	0.3D	0.1R	Vc	140	160	165	175	200	200	200	200	195	
					fz	0.111	0.147	0.231	0.284	0.329	0.438	0.547	0.66	0.897	
					RPM	22282	16977	13130	11141	10610	7958	6366	5305	3879	
					FEED	9893	9982	12132	12656	13963	13942	13929	14006	13919	
H	38.1	Hardened steel	0.3D	0.1R	Vc	140	160	165	175	200	200	200	200	195	
					fz	0.111	0.147	0.231	0.284	0.329	0.438	0.547	0.66	0.897	
					RPM	22282	16977	13130	11141	10610	7958	6366	5305	3879	
					FEED	9893	9982	12132	12656	13963	13942	13929	14006	13919	
H	38.2	Hardened steel	0.3D	0.1R	Vc	95	200	140	155	170	170	170	170	165	
					fz	0.131	0.16	0.209	0.25	0.306	0.404	0.509	0.611	0.833	
					RPM	15120	21221	11141	9868	9019	6764	5411	4509	3283	
					FEED	7923	13581	9314	9868	11039	10931	11017	11021	10938	
H	39.1	Hardened steel	0.3D	0.05R	Vc	70	90	100	110	120	120	120	120	120	
					fz	0.101	0.121	0.172	0.214	0.25	0.349	0.447	0.547	0.729	
					RPM	11141	9549	7958	7003	6366	4775	3820	3183	2387	
					FEED	4501	4622	5475	5994	6366	6665	6830	6965	6961	
H	39.2	Hardened steel	0.3D	0.05R	Vc	55	65	70	75	85	85	85	85	85	
					fz	0.07	0.091	0.129	0.158	0.2	0.301	0.352	0.4	0.5	
					RPM	8754	6897	5570	4775	4509	3382	2706	2255	1691	
					FEED	2451	2510	2874	3018	3608	4072	3810	3608	3382	
H	40	Chilled Cast Iron	0.3D	0.1R	Vc	140	160	165	175	200	200	200	200	195	
					fz	0.111	0.147	0.231	0.284	0.329	0.438	0.547	0.66	0.897	
					RPM	22282	16977	13130	11141	10610	7958	6366	5305	3879	
					FEED	9893	9982	12132	12656	13963	13942	13929	14006	13919	
H	41	Hardened Cast Iron	0.3D	0.1R	Vc	95	200	140	155	170	170	170	170	165	
					fz	0.131	0.16	0.209	0.25	0.306	0.404	0.509	0.611	0.833	
					RPM	15120	21221	11141	9868	9019	6764	5411	4509	3283	
					FEED	7923	13581	9314	9868	11039	10931	11017	11021	10938	

NORMAL SPEED 普通速度

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	
P	5	Non-alloy steel	0.5D	0.2R	Vc	85	90	100	100	110	110	110	110	110	
					fz	0.12	0.17	0.22	0.281	0.33	0.44	0.546	0.659	0.869	
					RPM	13528	9549	7958	6366	5836	4377	3501	2918	2188	
					FEED	6494	6494	7003	7156	7703	7703	7647	7691	7607	
P	8-9	Low alloy steel	0.5D	0.2R	Vc	85	90	100	100	110	110	110	110	110	
					fz	0.12	0.17	0.22	0.281	0.33	0.44	0.546	0.659	0.869	
					RPM	13528	9549	7958	6366	5836	4377	3501	2918	2188	
					FEED	6494	6494	7003	7156	7703	7703	7647	7691	7607	
P	11.1	High alloyed steel, and tool steel	0.5D	0.2R	Vc	85	90	100	100	110	110	110	110	110	
					fz	0.12	0.17	0.22	0.281	0.33	0.44	0.546	0.659	0.869	
					RPM	13528	9549	7958	6366	5836	4377	3501	2918	2188	
					FEED	6494	6494	7003	7156	7703	7703	7647	7691	7607	
P	11.2	High alloyed steel, and tool steel	0.5D	0.2R	Vc	60	65	70	75	75	75	75	75	80	
					fz	0.099	0.15	0.2	0.25	0.299	0.402	0.5	0.598	0.79	
					RPM	9549	6897	5570	4775	3979	2984	2387	1989	1592	
					FEED	3782	4138	4456	4775	4759	4799	4775	4759	5029	
H	38.1	Hardened steel	0.5D	0.2R	Vc	60	65	70	75	75	75	75	75	80	
					fz	0.099	0.15	0.2	0.25	0.299	0.402	0.5	0.598	0.79	
					RPM	9549	6897	5570	4775	3979	2984	2387	1989	1592	
					FEED	3782	4138	4456	4775	4759	4799	4775	4759	5029	
H	38.2	Hardened steel	0.5D	0.2R	Vc	35	45	50	55	55	55	55	55	55	
					fz	0.1	0.151	0.2	0.235	0.302	0.398	0.5	0.603	0.795	
					RPM	5570	4775	3979	3501	2918	2188	1751	1459	1094	
					FEED	2228	2884	3183	3291	3525	3484	3501	3519	3480	
H	39.1	Hardened steel	0.5D	0.1R	Vc	20	25	30	35	35	35	35	35	35	
					fz	0.078	0.101	0.132	0.182	0.25	0.33	0.42	0.5	0.661	
					RPM	3183	2653	2387	2228	1857	1393	1114	928	696	
					FEED	993	1072	1261	1622	1857	1838	1872	1857	1841	
H	39.2	Hardened steel	0.5D	0.1R	Vc	15	20	20	25	25	25	25	25	25	
					fz	0.063	0.08	0.1	0.117	0.147	0.2	0.25	0.299	0.398	
					RPM	2387	2122	1592	1592	1326	995	796	663	497	
					FEED	602	679	637	745	780	796	793	792	792	
H	40	Chilled Cast Iron	0.5D	0.2R	Vc	60	65	70	75	75	75	75	75	80	
					fz	0.099	0.15	0.2	0.25	0.299	0.402	0.5	0.598	0.79	

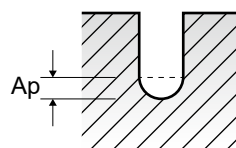
G8A46, G8A54 SERIES

2 FLUTE BALL NOSE - RIB PROCESSING
2刃球头 - 深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)				
				0.2	0.3	0.4	0.5	0.6
P	5	Non-alloy steel	Vc	31	45~47	60~63	50~55	50~56
			fz	0.003~0.004	0.005~0.005	0.007~0.008	0.006~0.013	0.007~0.015
			RPM	50000	48000~50000	48000~50000	31900~35200	26400~29700
			FEED	265~310	440~460	450~550	450~540	440~540
			Ap	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034
			Ap	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034
	8-9	Low alloy steel	Vc	31	45~47	60~63	54~78	54~77
			fz	0.003~0.004	0.005~0.005	0.007~0.008	0.006~0.013	0.007~0.015
			RPM	50000	48000~50000	48000~50000	34100~49500	28600~40700
			FEED	300~350	480~520	720~790	600~870	590~850
			Ap	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034
			Ap	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034
11.1 - 11.2	High alloyed steel and tool steel	Vc	31	45~47	60~63	54~78	54~77	
		fz	0.003~0.004	0.005~0.005	0.007~0.008	0.006~0.013	0.007~0.015	
		RPM	50000	48000~50000	48000~50000	34100~49500	28600~40700	
		FEED	300~350	480~520	720~790	600~870	590~850	
		Ap	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034	
		Ap	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034	
H	38.1 - 38.2	Hardened steel	Vc	31	45~47	60~63	50~55	50~56
			fz	0.003~0.003	0.004~0.005	0.005~0.006	0.006~0.008	0.007~0.010
			RPM	50000	48000~50000	48000~50000	31900~35200	26400~29700
			FEED	265~310	440~460	450~550	450~540	440~540
			Ap	0.005~0.013	0.008~0.014	0.011~0.026	0.005~0.023	0.006~0.028
			Ap	0.005~0.013	0.008~0.014	0.011~0.026	0.005~0.023	0.006~0.028
	39.1	Hardened steel	Vc	31	43~47	58~63	50~55	50~56
			fz	0.009~0.011	0.017~0.017	0.017~0.018	0.027~0.028	0.030~0.032
			RPM	50000	46000~50000	46000~50000	31900~35200	26400~29700
			FEED	225~265	390~420	400~460	440~480	400~480
			Ap	0.005~0.012	0.007~0.013	0.010~0.024	0.005~0.021	0.006~0.025
			Ap	0.005~0.012	0.007~0.013	0.010~0.024	0.005~0.021	0.006~0.025
39.2	Hardened steel	Vc	31	43~47	58~63	50~55	50~56	
		fz	0.009~0.011	0.017~0.017	0.017~0.018	0.027~0.028	0.030~0.032	
		RPM	50000	46000~50000	46000~50000	31900~35200	26400~29700	
		FEED	225~265	390~420	400~460	440~480	400~480	
		Ap	0.005~0.012	0.007~0.013	0.010~0.024	0.005~0.021	0.006~0.025	
		Ap	0.005~0.012	0.007~0.013	0.010~0.024	0.005~0.021	0.006~0.025	
40	Chilled Cast Iron	Vc	31	45~47	60~63	54~78	54~77	
		fz	0.003~0.004	0.005~0.005	0.007~0.008	0.006~0.013	0.007~0.015	
		RPM	50000	48000~50000	48000~50000	34100~49500	28600~40700	
		FEED	300~350	480~520	720~790	600~870	590~850	
		Ap	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034	
		Ap	0.006~0.016	0.010~0.017	0.013~0.032	0.007~0.028	0.007~0.034	
41	Hardened Cast Iron	Vc	31	45~47	60~63	50~55	50~56	
		fz	0.003~0.003	0.004~0.005	0.005~0.006	0.006~0.008	0.007~0.010	
		RPM	50000	48000~50000	48000~50000	31900~35200	26400~29700	
		FEED	265~310	440~460	450~550	450~540	440~540	
		Ap	0.005~0.013	0.008~0.014	0.011~0.026	0.005~0.023	0.006~0.028	
		Ap	0.005~0.013	0.008~0.014	0.011~0.026	0.005~0.023	0.006~0.028	

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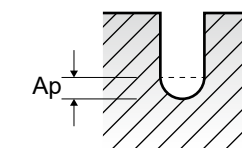


G8A46, G8A54 SERIES

2 FLUTE BALL NOSE - RIB PROCESSING
2刃球头 - 深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

VDI 3323	Parameter	Diameter (Ø)							
		0.8	1.0	1.2	1.5	2.0	3.0	4.0	
5	Vc	50~55	48~55	45~53	47~54	50~55	50~55	50~55	
	fz	0.010~0.020	0.012~0.024	0.016~0.027	0.020~0.035	0.027~0.047	0.045~0.088	0.055~0.115	
	RPM	19800~22000	15400~17600	12000~14000	10000~11500	7900~8800	5300~5800	3950~4400	
	FEED	460~550	470~540	460~540	440~540	470~530	590~650	550~620	
	Ap	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320	
	Ap	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320	
	8-9	Vc	55~77	55~76	54~70	52~67	53~69	54~77	54~78
		fz	0.010~0.020	0.012~0.024	0.016~0.027	0.020~0.035	0.027~0.047	0.045~0.088	0.055~0.115
		RPM	22000~30800	17600~24200	14300~18700	11000~14300	8500~11000	5700~8200	4300~6200
		FEED	640~890	600~850	590~780	580~760	590~800	730~1000	680~990
		Ap	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320
		Ap	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320
11.1 - 11.2	Vc	55~77	55~76	54~70	52~67	53~69	54~77	54~78	
	fz	0.010~0.020	0.012~0.024	0.016~0.027	0.020~0.035	0.027~0.047	0.045~0.088	0.055~0.115	
	RPM	22000~30800	17600~24200	14300~18700	11000~14300	8500~11000	5700~8200	4300~6200	
	FEED	640~890	600~850	590~780	580~760	590~800	730~1000	680~990	
	Ap	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320	
	Ap	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320	
38.1 - 38.2	Vc	50~55	48~55	45~53	47~54	50~55	50~55	50~55	
	fz	0.010~0.014	0.013~0.018	0.016~0.023	0.019~0.027	0.027~0.034	0.051~0.061	0.063~0.078	
	RPM	19800~22000	15400~17600	12000~14000	10000~11500	7900~8800	5300~5800	3950~4400	
	FEED	460~550	470~540	460~540	440~540	470~530	590~650	550~620	
	Ap	0.013~0.052	0.007~0.065	0.020~0.026	0.025~0.039	0.020~0.130	0.052~0.195	0.065~0.260	
	Ap	0.013~0.052	0.007~0.065	0.020~0.026	0.025~0.039	0.020~0.130	0.052~0.195	0.065~0.260	
	39.1	Vc	50~55	48~55	45~53	47~54	50~55	50~55	48~55
		fz	0.044~0.045	0.057~0.057	0.069~0.070	0.083~0.084	0.109~0.111	0.208~0.214	0.259~0.275
		RPM	19800~22000	15400~17600	12000~14000	10000~11500	7900~8800	5300~5800	3850~4400
		FEED	440~500	440~500	420~480	420~480	440~480	550~620	530~570
		Ap	0.012~0.048	0.006~0.060	0.018~0.024	0.023~0.036	0.018~0.120	0.048~0.120	0.060~0.240
		Ap	0.012~0.048	0.006~0.060	0.018~0.024	0.023~0.036	0.018~0.120	0.048~0.120	0.060~0.240
39.2	Vc	50~55	48~55	45~53	47~54	50~55	50~55	48~55	
	fz	0.044~0.045	0.057~0.057	0.069~0.070	0.083~0.084	0.109~0.111	0.208~0.214	0.259~0.275	
	RPM	19800~22000	15400~17600	12000~14000	10000~11500	7900~8800	5300~5800	3850~4400	
	FEED	440~500	440~500	420~480	420~480	440~480	550~620	530~570	
	Ap	0.012~0.048	0.006~0.060	0.018~0.024	0.023~0.036	0.018~0.120	0.048~0.120	0.060~0.240	
	Ap	0.012~0.048	0.006~0.060	0.018~0.024	0.023~0.036	0.018~0.120	0.048~0.120	0.060~0.240	
40	Vc	55~77	55~76	54~70	52~67	53~69	54~77	54~78	
	fz	0.010~0.020	0.012~0.024	0.016~0.027	0.020~0.035	0.027~0.047	0.045~0.088	0.055~0.115	
	RPM	22000~30800	17600~24200	14300~18700	11000~14300	8500~11000	5700~8200	4300~6200	
	FEED	640~890	600~850	590~780	580~760	590~800	730~1000	680~990	
	Ap	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320	
	Ap	0.016~0.064	0.008~0.080	0.024~0.032	0.031~0.048	0.024~0.160	0.064~0.240	0.080~0.320	
41	Vc	50~55	48~55	45~53	47~54	50~55	50~55	50~55	
	fz	0.010~0.014	0.013~0.018	0.016~0.023	0.019~0.027	0.027~0.034	0.051~0.061	0.063~0.078	
	RPM	19800~22000	15400~17600	12000~14000	10000~11500	7900~8800	5300~5800	3950~4400	
	FEED	460~550	470~540	460~540	440~540	470~530	590~650	550~620	
	Ap	0.013~0.052	0.007~0.065	0.020~0.026	0.025~0.039	0.020~0.130	0.052~0.195	0.065~0.260	
	Ap	0.013~0.052	0.007~0.065	0.020~0.026	0.025~0.039	0.020~0.130	0.052~0.195	0.065~0.260	

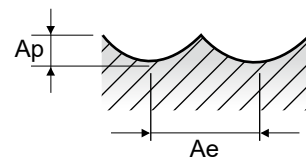


G8A28, G8A38, G8A53 SERIES 2 FLUTE BALL NOSE 2刃球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)						
						0.2	0.3	0.4	0.5	0.6	0.8	1.0
P	5	Non-alloy steel	0.05D	0.02D	Vc	30	45	65	80	95	125	155
					fz	0.012	0.015	0.019	0.024	0.029	0.039	0.048
					RPM	47746	47746	51725	50930	50399	49736	49338
					FEED	1146	1432	1966	2445	2923	3879	4736
	8-9	Low alloy steel	0.05D	0.02D	Vc	30	45	65	80	95	125	155
					fz	0.012	0.015	0.019	0.024	0.029	0.039	0.048
					RPM	47746	47746	51725	50930	50399	49736	49338
					FEED	1146	1432	1966	2445	2923	3879	4736
	11.1	High alloyed steel, and tool steel	0.05D	0.02D	Vc	30	45	65	80	95	125	155
					fz	0.012	0.015	0.019	0.024	0.029	0.039	0.048
					RPM	47746	47746	51725	50930	50399	49736	49338
					FEED	1146	1432	1966	2445	2923	3879	4736
11.2	High alloyed steel, and tool steel	0.05D	0.02D	Vc	30	45	65	80	95	125	155	
				fz	0.011	0.014	0.017	0.021	0.025	0.033	0.042	
				RPM	47746	47746	51725	50930	50399	49736	49338	
				FEED	1050	1337	1759	2139	2520	3283	4144	
H	38.1		0.05D	0.02D	Vc	30	45	65	80	95	125	155
					fz	0.011	0.014	0.017	0.021	0.025	0.033	0.042
					RPM	47746	47746	51725	50930	50399	49736	49338
					FEED	1050	1337	1759	2139	2520	3283	4144
	38.2		0.05D	0.02D	Vc	30	40	55	70	85	115	140
					fz	0.011	0.013	0.017	0.021	0.024	0.033	0.042
					RPM	47746	42441	43768	44563	45094	45757	44563
					FEED	1050	1103	1488	1872	2165	3020	3743
	39.1	Hardened steel	0.05D	0.02D	Vc	25	40	50	65	75	100	125
					fz	0.01	0.012	0.015	0.019	0.023	0.03	0.038
					RPM	39789	42441	39789	41380	39789	39789	39789
					FEED	796	1019	1194	1572	1830	2387	3024
39.2		0.05D	0.02D	Vc	20	35	45	55	65	90	110	
				fz	0.01	0.012	0.015	0.019	0.023	0.03	0.037	
				RPM	31831	37136	35810	35014	34484	35810	35014	
				FEED	637	891	1074	1331	1586	2149	2591	
39.3		0.05D	0.02D	Vc	20	30	40	50	60	80	110	
				fz	0.009	0.011	0.014	0.017	0.022	0.029	0.033	
				RPM	31831	31831	31831	31831	31831	31831	35014	
				FEED	573	700	891	1082	1401	1846	2311	
40	Chilled Cast Iron	0.05D	0.02D	Vc	30	45	65	80	95	125	155	
				fz	0.011	0.014	0.017	0.021	0.025	0.033	0.042	
				RPM	47746	47746	51725	50930	50399	49736	49338	
				FEED	1050	1337	1759	2139	2520	3283	4144	
41	Hardened Cast Iron	0.05D	0.02D	Vc	30	40	55	70	85	115	140	
				fz	0.011	0.013	0.017	0.021	0.024	0.033	0.042	
				RPM	47746	47746	51725	50930	50399	49736	49338	
				FEED	1050	1337	1759	2139	2520	3283	4144	

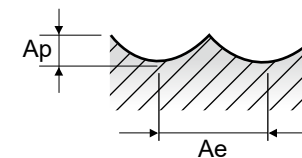
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G8A28, G8A38, G8A53 SERIES 2 FLUTE BALL NOSE 2刃球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

VDI 3323	Parameter	Diameter (Ø)											
		1.2	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
5	Vc	190	235	310	310	315	290	260	280	290	260	280	280
	fz	0.051	0.054	0.057	0.091	0.12	0.156	0.174	0.189	0.199	0.212	0.238	0.264
	RPM	50399	49869	49338	32892	25067	18462	13793	11141	9231	6897	5570	4456
	FEED	5141	5386	5625	5986	6016	5760	4800	4211	3674	2924	2652	2353
8-9	Vc	190	235	310	310	315	290	260	280	290	260	280	280
	fz	0.051	0.054	0.057	0.091	0.12	0.156	0.174	0.189	0.199	0.212	0.238	0.264
	RPM	50399	49869	49338	32892	25067	18462	13793	11141	9231	6897	5570	4456
	FEED	5141	5386	5625	5986	6016	5760	4800	4211	3674	2924	2652	2353
11.1	Vc	190	235	310	310	315	290	260	280	290	260	280	280
	fz	0.051	0.054	0.057	0.091	0.12	0.156	0.174	0.189	0.199	0.212	0.238	0.264
	RPM	50399	49869	49338	32892	25067	18462	13793	11141	9231	6897	5570	4456
	FEED	5141	5386	5625	5986	6016	5760	4800	4211	3674	2924	2652	2353
11.2	Vc	180	225	300	300	300	280	255	270	280	250	270	270
	fz	0.045	0.047	0.05	0.083	0.111	0.138	0.153	0.164	0.174	0.187	0.206	0.227
	RPM	47746	47746	47746	31831	23873	17825	13528	10743	8913	6631	5371	4297
	FEED	4297	4488	4775	5284	5300	4920	4140	3524	3102	2480	2213	1951
38.1	Vc	180	225	300	300	300	280	255	270	280	250	270	270
	fz	0.045	0.047	0.05	0.083	0.111	0.138	0.153	0.164	0.174	0.187	0.206	0.227
	RPM	47746	47746	47746	31831	23873	17825	13528	10743	8913	6631	5371	4297
	FEED	4297	4488	4775	5284	5300	4920	4140	3524	3102	2480	2213	1951
38.2	Vc	160	205	250	250	250	235	205	225	235	210	225	225
	fz	0.045	0.047	0.05	0.075	0.1	0.125	0.141	0.15	0.16	0.17	0.189	0.208
	RPM	42441	43502	39789	26526	19894	14961	10876	8952	7480	5570	4476	3581
	FEED	3820	4089	3979	3979	3979	3740	3067	2686	2394	1894	1692	1490
39.1	Vc	145	175	220	220	220	210	190	200	205	190	200	200
	fz	0.039	0.042	0.045	0.067	0.09	0.113	0.125	0.134	0.144	0.155	0.169	0.188
	RPM	38462	37136	35014	23343	17507	13369	10080	7958	6525	5040	3979	3183
	FEED	3000	3119	3151	3128	3151	3021	2520	2133	1879	1562	1345	1197
39.2	Vc	130	155	200	200	200	180	165	175	180	165	175	175
	fz	0.04	0.041	0.044	0.067	0.088	0.111	0.122	0.132	0.142	0.142	0.143	0.143
	RPM	34484	32892	31831	21221	15915	11459	8754	6963	5730	4377	3482	2785
	FEED	2759	2697	2801	2844	2801	2544	2136	1838	1627	1243	996	797
39.3	Vc	115	140	180	180	180	165	150	165	165	150	160	160
	fz	0.038	0.039	0.04	0.061	0.079	0.1	0.109	0.119	0.13	0.131	0.133	0.129
	RPM	30505	29709	28648	19099	14324	10504	7958	6565	5252	3979	3183	2546
	FEED	2318	2317	2292	2330	2263	2101	1735	1562	1366	1042	847	657
40	Vc	180	225	300	300	300	280	255	270	280	250	270	270
	fz	0.045	0.047	0.05	0.083	0.111	0.138	0.153	0.164	0.174	0.187	0.206	0.227
	RPM	47746	47746	47746	31831	23873	17825	13528	10743	8913	6631	5371	4297
	FEED	4297	4488	4775	5284	5300	4920	4140	3524	3102	2480	2213	1951
41	Vc	160	205	250	250	250	235	205	225	235	210	225	225
	fz	0.045	0.047	0.05	0.075	0.1	0.125	0.141	0.15	0.16	0.17	0.189	0.208
	RPM	47746	47746	47746	31831	23873	17825	13528	10743	8913	6631	5371	4297
	FEED	4297	4488	4775	5284	5300	4920	4140	3524	3102	2480	2213	1951



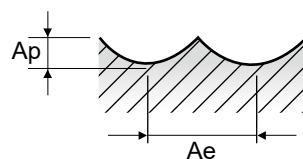


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A59 SERIES 3 FLUTE BALL NOSE 3刃球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)								
						3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	5	Non-alloy steel	0.05D	0.02D	Vc	300	305	315	340	340	340	340	335	340
					fz	0.09	0.107	0.121	0.159	0.181	0.202	0.225	0.229	0.222
					RPM	31831	24271	20054	18038	13528	10823	9019	6665	5411
	8-9	Low alloy steel	0.05D	0.02D	Vc	300	305	315	340	340	340	340	335	340
					fz	0.09	0.107	0.121	0.159	0.181	0.202	0.225	0.229	0.222
					RPM	31831	24271	20054	18038	13528	10823	9019	6665	5411
	11.1 - 11.2	High alloyed steel, and tool steel	0.05D	0.02D	Vc	300	305	315	340	340	340	340	335	340
					fz	0.09	0.107	0.121	0.159	0.181	0.202	0.225	0.229	0.222
					RPM	31831	24271	20054	18038	13528	10823	9019	6665	5411
H	38.1 - 38.2	Hardened steel	0.05D	0.02D	Vc	255	255	265	285	285	285	285	285	285
					fz	0.072	0.09	0.108	0.136	0.155	0.168	0.187	0.19	0.192
					RPM	27056	20292	16870	15120	11340	9072	7560	5670	4536
					FEED	5844	5479	5466	6169	5273	4572	4241	3232	2613
					Vc	185	185	195	230	230	230	230	230	230
					fz	0.072	0.087	0.099	0.123	0.144	0.156	0.173	0.18	0.18
	39.1	Hardened steel	0.05D	0.02D	RPM	19629	14722	12414	12202	9151	7321	6101	4576	3661
					FEED	4240	3842	3687	4502	3953	3426	3166	2471	1977
					Vc	175	180	185	210	210	210	210	210	205
					fz	0.072	0.086	0.099	0.115	0.134	0.144	0.145	0.144	0.145
					RPM	18568	14324	11777	11141	8356	6685	5570	4178	3263
					FEED	4011	3696	3498	3844	3359	2888	2423	1805	1419
	39.2	Hardened steel	0.05D	0.02D	Vc	120	120	125	145	145	145	145	145	145
					fz	0.072	0.087	0.099	0.108	0.125	0.144	0.144	0.144	0.143
					RPM	12732	9549	7958	7692	5769	4615	3846	2885	2308
					FEED	2750	2492	2363	2492	2164	1994	1662	1246	990
					Vc	300	305	315	340	340	340	340	335	340
					fz	0.09	0.107	0.121	0.159	0.181	0.202	0.225	0.229	0.222
39.3	Chilled Cast Iron	0.05D	0.02D	RPM	31831	24271	20054	18038	13528	10823	9019	6665	5411	
				FEED	8594	7791	7279	8604	7346	6558	6088	4579	3604	
				Vc	255	255	265	285	285	285	285	285	285	
				fz	0.072	0.09	0.108	0.136	0.155	0.168	0.187	0.19	0.192	
				RPM	27056	20292	16870	15120	11340	9072	7560	5670	4536	
				FEED	5844	5479	5466	6169	5273	4572	4241	3232	2613	

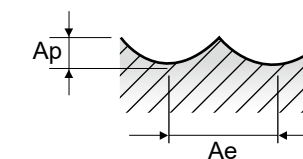


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8D62 SERIES 4 FLUTE BALL NOSE 4刃球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)								
						3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	5	Non-alloy steel	0.05D	0.02D	Vc	340	340	340	340	340	340	340	340	340
					fz	0.071	0.08	0.09	0.101	0.116	0.128	0.145	0.144	0.144
					RPM	36075	27056	21645	18038	13528	10823	9019	6764	5411
	8-9	Low alloy steel	0.05D	0.02D	Vc	340	340	340	340	340	340	340	340	340
					fz	0.071	0.08	0.09	0.101	0.116	0.128	0.145	0.144	0.144
					RPM	36075	27056	21645	18038	13528	10823	9019	6764	5411
	11.1 - 11.2	High alloyed steel, and tool steel	0.05D	0.02D	Vc	340	340	340	340	340	340	340	340	340
					fz	0.071	0.08	0.09	0.101	0.116	0.128	0.145	0.144	0.144
					RPM	36075	27056	21645	18038	13528	10823	9019	6764	5411
H	38.1 - 38.2	Hardened steel	0.05D	0.02D	Vc	285	285	280	285	285	285	285	285	285
					fz	0.06	0.07	0.081	0.092	0.103	0.111	0.125	0.129	0.126
					RPM	30239	22680	17825	15120	11340	9072	7560	5670	4536
					FEED	7257	6350	5775	5564	4672	4028	3780	2926	2286
					Vc	230	230	230	230	230	230	230	230	230
					fz	0.05	0.06	0.071	0.082	0.096	0.104	0.115	0.119	0.119
	39.1	Hardened steel	0.05D	0.02D	RPM	24404	18303	14642	12202	9151	7321	6101	4576	3661
					FEED	4881	4393	4158	4002	3514	3046	2806	2178	1743
					Vc	210	210	210	210	210	210	210	210	205
					fz	0.045	0.055	0.067	0.077	0.089	0.095	0.097	0.096	0.096
					RPM	22282	16711	13369	11141	8356	6685	5570	4178	3263
					FEED	4011	3676	3583	3431	2975	2540	2161	1604	1253
	39.2	Hardened steel	0.05D	0.02D	Vc	145	145	145	145	145	145	145	145	140
					fz	0.04	0.05	0.062	0.072	0.082	0.096	0.094	0.096	0.097
					RPM	15385	11539	9231	7692	5769	4615	3846	2885	2228
					FEED	2462	2308	2289	2215	1892	1772	1446	1108	864
					Vc	340	340	340	340	340	340	340	340	340
					fz	0.071	0.08	0.09	0.101	0.116	0.128	0.145	0.144	0.144
39.3	Chilled Cast Iron	0.05D	0.02D	RPM	36075	27056	21645	18038	13528	10823	9019	6764	5411	
				FEED	10245	8658	7792	7287	6277	5541	5231	3896	3117	
				Vc	285	285	280	285	285	285	285	285	285	
				fz	0.06	0.07	0.081	0.092	0.103	0.111	0.125	0.129	0.126	
				RPM	30239	22680	17825	15120	11340	9072	7560	5670	4536	
				FEED	7257	6350	5775	5564	4672	4028	3780	2926	2286	

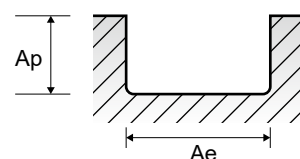


G8A60 SERIES 2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻-槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)												
						0.5	0.6	0.8	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	
P	5	Non-alloy steel	1.0D	0.05D	Vc	80	95	125	150	210	205	210	245	245	250	245	250	
					fz	0.001	0.002	0.002	0.006	0.01	0.015	0.021	0.026	0.029	0.037	0.043	0.051	
					RPM	50930	50399	49736	47746	33423	21751	16711	15597	12998	9947	7799	6631	
					FEED	102	202	199	573	668	653	702	811	754	736	671	676	
	8-9	Low alloy steel	1.0D	0.05D	Vc	80	95	125	150	210	205	210	245	245	250	245	250	
					fz	0.001	0.002	0.002	0.006	0.01	0.015	0.021	0.026	0.029	0.037	0.043	0.051	
					RPM	50930	50399	49736	47746	33423	21751	16711	15597	12998	9947	7799	6631	
					FEED	102	202	199	573	668	653	702	811	754	736	671	676	
	11.1	High alloyed steel, and tool steel	1.0D	0.05D	Vc	80	95	125	150	210	205	210	245	245	250	245	250	
					fz	0.001	0.002	0.002	0.006	0.01	0.015	0.021	0.026	0.029	0.037	0.043	0.051	
					RPM	50930	50399	49736	47746	33423	21751	16711	15597	12998	9947	7799	6631	
					FEED	102	202	199	573	668	653	702	811	754	736	671	676	
11.2	High alloyed steel, and tool steel	1.0D	0.05D	Vc	70	85	100	120	165	165	165	195	195	195	195	200		
				fz	0.001	0.002	0.002	0.006	0.01	0.016	0.021	0.026	0.03	0.037	0.044	0.051		
				RPM	44563	45094	39789	38197	26261	17507	13130	12414	10345	7759	6207	5305		
				FEED	89	180	159	458	525	560	551	646	621	574	546	541		
H	38.1	Hardened steel	1.0D	0.05D	Vc	70	85	100	120	165	165	165	195	195	195	195	200	
					fz	0.001	0.002	0.002	0.006	0.01	0.016	0.021	0.026	0.03	0.037	0.044	0.051	
					RPM	44563	45094	39789	38197	26261	17507	13130	12414	10345	7759	6207	5305	
					FEED	89	180	159	458	525	560	551	646	621	574	546	541	
	38.2	Hardened steel	1.0D	0.05D	Vc	65	75	75	80	110	110	110	130	130	130	130	130	
					fz	0.001	0.001	0.002	0.006	0.01	0.015	0.02	0.024	0.028	0.034	0.04	0.047	
					RPM	41380	39789	29842	25465	17507	11671	8754	8276	6897	5173	4138	3448	
					FEED	83	80	119	306	350	350	350	397	386	352	331	324	
	39.1	Hardened steel	1.0D	0.05D	Vc	50	55	65	65	90	90	90	100	100	100	100	100	
					fz	0.001	0.001	0.001	0.004	0.007	0.011	0.015	0.018	0.021	0.026	0.03	0.036	
					RPM	31831	29178	25863	20690	14324	9549	7162	6366	5305	3979	3183	2653	
					FEED	64	58	52	166	201	210	215	229	223	207	191	191	
39.2	Hardened steel	1.0D	0.05D	Vc	40	45	50	50	70	70	70	80	80	80	80	80		
				fz	0.001	0.001	0.001	0.003	0.006	0.009	0.012	0.014	0.017	0.02	0.024	0.029		
				RPM	25465	23873	19894	15915	11141	7427	5570	5093	4244	3183	2546	2122		
				FEED	51	48	40	95	134	134	134	143	144	127	122	123		
39.3	Hardened steel	1.0D	0.02D	Vc	30	40	40	40	60	60	60	70	70	70	70	70		
				fz	0.001	0.001	0.001	0.003	0.005	0.007	0.01	0.012	0.014	0.017	0.021	0.024		
				RPM	19099	21221	15915	12732	9549	6366	4775	4456	3714	2785	2228	1857		
				FEED	19	25	29	71	90	89	96	105	100	95	91	90		
40	Chilled Cast Iron	1.0D	0.05D	Vc	70	85	100	120	165	165	165	195	195	195	195	200		
				fz	0.001	0.002	0.002	0.006	0.01	0.016	0.021	0.026	0.03	0.037	0.044	0.051		
				RPM	44563	45094	39789	38197	26261	17507	13130	12414	10345	7759	6207	5305		
				FEED	89	180	159	458	525	560	551	646	621	574	546	541		
41	Hardened Cast Iron	1.0D	0.05D	Vc	65	75	75	80	110	110	110	130	130	130	130	130		
				fz	0.001	0.001	0.002	0.006	0.01	0.015	0.02	0.024	0.028	0.034	0.04	0.047		
				RPM	41380	39789	29842	25465	17507	11671	8754	8276	6897	5173	4138	3448		
				FEED	83	80	119	306	350	350	350	397	386	352	331	324		

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G8A60 SERIES 4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)												
						0.5	0.6	0.8	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	
P	5	Non-alloy steel	0.03D	1.0D	Vc	80	95	125	150	210	205	210	245	245	250	245	250	
					fz	0.002	0.003	0.003	0.009	0.014	0.022	0.03	0.037	0.041	0.053	0.062	0.072	
					RPM	50930	50399	49736	47746	33423	21751	16711	15597	12998	9947	7799	6631	
					FEED	204	302	298	859	936	957	1003	1154	1066	1054	967	955	
	8-9	Low alloy steel	0.03D	1.0D	Vc	80	95	125	150	210	205	210	245	245	250	245	250	
					fz	0.002	0.003	0.003	0.009	0.014	0.022	0.03	0.037	0.041	0.053	0.062	0.072	
					RPM	50930	50399	49736	47746	33423	21751	16711	15597	12998	9947	7799	6631	
					FEED	204	302	298	859	936	957	1003	1154	1066	1054	967	955	
	11.1	High alloyed steel, and tool steel	0.03D	1.0D	Vc	80	95	125	150	210	205	210	245	245	250	245	250	
					fz	0.002	0.003	0.003	0.009	0.014	0.022	0.03	0.037	0.041	0.053	0.062	0.072	
					RPM	50930	50399	49736	47746	33423	21751	16711	15597	12998	9947	7799	6631	
					FEED	204	302	298	859	936	957	1003	1154	1066	1054	967	955	
11.2	High alloyed steel, and tool steel	0.03D	1.0D	Vc	70	85	100	120	165	165	165	195	195	195	195	200		
				fz	0.002	0.002	0.003	0.009	0.015	0.022	0.03	0.037	0.043	0.053	0.063	0.074		
				RPM	44563	45094	39789	38197	26261	17507	13130	12414	10345	7759	6207	5305		
				FEED	178	180	239	688	788	770	788	919	890	822	782	785		
H	38.1	Hardened steel	0.03D	1.0D	Vc	70	85	100	120	165	165	165	195	195	195	195	200	
					fz	0.002	0.002	0.003	0.009	0.015	0.022	0.03	0.037	0.043	0.053	0.063	0.074	
					RPM	44563	45094	39789	38197	26261	17507	13130	12414	10345	7759	6207	5305	
					FEED	178	180	239	688	788	770	788	919	890	822	782	785	
	38.2	Hardened steel	0.03D	1.0D	Vc	65	75	75	80	110	110	110	130	130	130	130	130	
					fz	0.002	0.002	0.003	0.008	0.014	0.021	0.028	0.034	0.04	0.049	0.058	0.067	
					RPM	41380	39789	29842	25465	17507	11671	8754	8276	6897	5173	4138	3448	
					FEED	166	159	179	407	490	490	490	563	552	507	480	462	
	39.1	Hardened steel	0.03D	1.0D	Vc	50	55	65	65	90	90	90	100	100	100	100	100	
					fz	0.001	0.002	0.002	0.006	0.01	0.016	0.021	0.026	0.03	0.037	0.043	0.051	
					RPM	31831	29178	25863	20690	14324	9549	7162	6366	5305	3979	3183	2653	
					FEED	64	117	103	248	286	306	301	331	318	294	274	271	
39.2	Hardened steel	0.03D	1.0D	Vc	40	45	50	50	70	70	70	80	80	80	80	80		
				fz	0.001	0.001	0.002	0.005	0.008	0.012	0.017	0.02	0.024	0.029	0.035	0.042		
				RPM	25465	23873	19894	15915	11141	7427	5570	5093	4244	3183	2546	2122		
				FEED	51	48	40	95	134	134	134	143	144	127	122	123		
39.3	Hardened steel	0.03D	1.0D	Vc	30	40	40	40	60	60	60	70	70	70	70	70		
				fz	0.001	0.001	0.001	0.004	0.007	0.01	0.012	0.014	0.017	0.021	0.024	0.029		
				RPM	19099	21221	15915	12732	9549	6366	4775	4456	3714	2785	2228	1857		
				FEED	38	42	32	102	134	127	134	152	149	134	129	126		
40	Chilled Cast Iron	0.03D	1.0D	Vc	70	85	100	120	165	165	165	195	195	195	195	200		
				fz	0.002	0.002	0.003	0.009	0.015	0.022	0.03	0.037	0.043	0.053	0.063	0.074		
				RPM	44563	45094	39789	38197	26261	17507	13130	12414	10345	7759	6207	53		

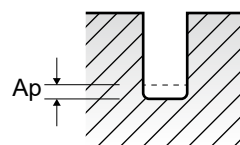


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A52 SERIES 2 FLUTE CORNER RADIUS - RIB PROCESSING
2刃 圆鼻 - 深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)							
				0.5	0.6	0.8	1.0	1.2	1.5	2.0	
P	5	Non-alloy steel	Vc	40~52	39~66	41~66	39~59	39~66	43~83	40~66	
			fz	0.006~0.009	0.005~0.013	0.007~0.018	0.009~0.022	0.010~0.028	0.012~0.046	0.016~0.045	
			RPM	25650~33000	20900~35200	16150~26400	12300~18700	10450~17600	9100~17600	6350~10550	
	8-9	Low alloy steel	Vc	40~52	39~66	41~66	39~59	39~66	43~83	40~66	
			fz	0.006~0.009	0.005~0.013	0.007~0.018	0.009~0.022	0.010~0.028	0.012~0.046	0.016~0.045	
			RPM	25650~33000	20900~35200	16150~26400	12300~18700	10450~17600	9100~17600	6350~10550	
	11.1 - 11.2	High alloyed steel, and tool steel	Vc	40~52	39~66	41~66	39~59	39~66	43~83	40~66	
			fz	0.006~0.009	0.005~0.013	0.007~0.018	0.009~0.022	0.010~0.028	0.012~0.046	0.016~0.045	
			RPM	25650~33000	20900~35200	16150~26400	12300~18700	10450~17600	9100~17600	6350~10550	
	H	38.1 - 38.2	Hardened steel	Vc	37~41	38~41	38~42	33~36	34~38	33~38	38~42
				fz	0.005~0.007	0.004~0.007	0.006~0.010	0.008~0.013	0.009~0.015	0.011~0.020	0.015~0.025
				RPM	23750~26000	19900~22000	15200~16700	10500~11500	9100~10000	7000~8000	6100~6700
39.1 - 39.3		Hardened steel	Vc	22~28	22~29	23~29	20~25	20~26	20~26	23~30	
			fz	0.014~0.016	0.015~0.017	0.021~0.024	0.029~0.032	0.033~0.037	0.042~0.047	0.051~0.056	
			RPM	14200~18000	11900~15500	9000~11700	6300~8050	5400~7000	4300~5500	3600~4700	
40		Chilled Cast Iron	Vc	40~52	39~66	41~66	39~59	39~66	43~83	40~66	
			fz	0.006~0.009	0.005~0.013	0.007~0.018	0.009~0.022	0.010~0.028	0.012~0.046	0.016~0.045	
			RPM	25650~33000	20900~35200	16150~26400	12300~18700	10450~17600	9100~17600	6350~10550	
41		Hardened Cast Iron	Vc	37~41	38~41	38~42	33~36	34~38	33~38	38~42	
			fz	0.005~0.007	0.004~0.007	0.006~0.010	0.008~0.013	0.009~0.015	0.011~0.020	0.015~0.025	
			RPM	23750~26000	19900~22000	15200~16700	10500~11500	9100~10000	7000~8000	6100~6700	

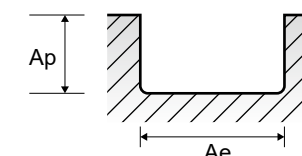


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A50 SERIES 2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						0.3	0.4	0.5	0.6	0.8	1.0	1.2	1.5	2.0	
P	5	Non-alloy steel	1.0D	0.05D	Vc	45	65	80	95	125	150	160	175	210	
					fz	0.002	0.002	0.004	0.005	0.006	0.008	0.009	0.011	0.013	
					RPM	47746	51725	50930	50399	49736	47746	42441	37136	33423	
	8-9	Low alloy steel	1.0D	0.05D	Vc	45	65	80	95	125	150	160	175	210	
					fz	0.002	0.002	0.004	0.005	0.006	0.008	0.009	0.011	0.013	
					RPM	47746	51725	50930	50399	49736	47746	42441	37136	33423	
	11.1	High alloyed steel, and tool steel	1.0D	0.05D	Vc	45	65	80	95	125	150	160	175	210	
					fz	0.002	0.002	0.004	0.005	0.006	0.008	0.009	0.011	0.013	
					RPM	47746	51725	50930	50399	49736	47746	42441	37136	33423	
	11.2	High alloyed steel, and tool steel	1.0D	0.05D	Vc	40	55	70	85	100	120	130	145	165	
					fz	0.002	0.002	0.003	0.004	0.006	0.008	0.009	0.011	0.013	
					RPM	42441	43768	44563	45094	39789	38197	34484	30770	26261	
H	38.1	Hardened steel	1.0D	0.05D	Vc	40	55	70	85	100	120	130	145	165	
					fz	0.002	0.002	0.003	0.004	0.006	0.008	0.009	0.011	0.013	
					RPM	42441	43768	44563	45094	39789	38197	34484	30770	26261	
	38.2	Hardened steel	1.0D	0.05D	Vc	40	50	65	75	75	80	85	100	110	
					fz	0.001	0.002	0.003	0.004	0.005	0.007	0.008	0.01	0.012	
					RPM	42441	39789	41380	39789	29842	25465	22547	21221	17507	
	39.1	Hardened steel	1.0D	0.02D	Vc	30	40	50	55	65	65	75	80	90	
					fz	0.001	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.009	
					RPM	31831	31831	31831	29178	25863	20690	19894	16977	14324	
	39.2	Hardened steel	1.0D	0.02D	Vc	25	30	40	45	50	50	55	60	70	
					fz	0.001	0.001	0.002	0.002	0.003	0.004	0.005	0.006	0.007	
					RPM	26526	23873	25465	23873	19894	15915	14589	12732	11141	
40	Chilled Cast Iron	1.0D	0.05D	Vc	40	55	70	85	100	120	130	145	165		
				fz	0.002	0.002	0.003	0.004	0.006	0.008	0.009	0.011	0.013		
				RPM	42441	43768	44563	45094	39789	38197	34484	30770	26261		
41	Hardened Cast Iron	1.0D	0.05D	Vc	40	50	65	75	75	80	85	100	110		
				fz	0.001	0.002	0.003	0.004	0.005	0.007	0.008	0.01	0.012		
				RPM	42441	39789	41380	39789	29842	25465	22547	21221	17507		





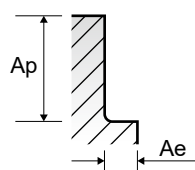
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A47, G8B08 SERIES

4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)																																																							
						1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0																																													
P	5	Non-alloy steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245	fz	0.006	0.011	0.016	0.022	0.025	0.03	0.038	0.045	0.053	0.061	0.067	RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899	FEED	1146	1471	1392	1471	1560	1560	1512	1404	1406	1189	1045									
					8-9	Low alloy steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245	fz	0.006	0.011	0.016	0.022	0.025	0.03	0.038	0.045	0.053	0.061	0.067	RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899	FEED	1146	1471	1392	1471	1560	1560	1512	1404	1406	1189	1045					
									11.1	High alloyed steel, and tool steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245	fz	0.006	0.011	0.016	0.022	0.025	0.03	0.038	0.045	0.053	0.061	0.067	RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899	FEED	1146	1471	1392	1471	1560	1560	1512	1404	1406	1189	1045	
													11.2	High alloyed steel, and tool steel	0.03D	1.0D	Vc	120	165	165	165	195	195	195	195	200	195	195	fz	0.006	0.01	0.014	0.02	0.024	0.027	0.035	0.041	0.048	0.056	0.063	RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104	FEED	917	1050	980	1050	1192	1117	1086	1018
	H	38.1	Hardened steel	0.03D													1.0D	Vc	120	165	165	165	195	195	195	195	200	195	195	fz	0.006	0.01	0.014	0.02	0.024	0.027	0.035	0.041	0.048	0.056	0.063	RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104	FEED	917	1050	980	1050	1192	1117	1086
					38.2	Hardened steel	0.03D	1.0D										Vc	80	110	110	110	130	130	130	130	130	130	130	fz	0.006	0.01	0.015	0.02	0.024	0.028	0.035	0.041	0.048	0.056	0.063	RPM	25465	17507	11671	8754	8276	6897	5173	4138	3448	2586	2069	FEED	611	700	700	700	794	772	724
									39.1	Hardened steel	0.03D	1.0D						Vc	65	90	90	90	100	100	100	100	100	100	100	fz	0.004	0.007	0.011	0.015	0.018	0.021	0.026	0.03	0.036	0.042	0.048	RPM	20690	14324	9549	7162	6366	5305	3979	3183	2653	1989	1592	FEED	331	401	420	430	458	446	414
													39.2	Hardened steel	0.03D	1.0D		Vc	50	70	70	70	80	80	80	80	80	80	80	fz	0.003	0.006	0.009	0.012	0.015	0.017	0.021	0.024	0.029	0.034	0.038	RPM	15915	11141	7427	5570	5093	4244	3183	2546	2122	1592	1273	FEED	191	267	267	267	306	289	267
		39.3	Hardened steel	0.03D													1.0D	Vc	40	60	60	60	70	70	70	70	70	70	70	fz	0.003	0.005	0.007	0.01	0.012	0.014	0.017	0.02	0.024	0.029	0.033	RPM	12732	9549	6366	4775	4456	3714	2785	2228	1857	1393	1114	FEED	153	191	178	191	214	208	189
					40	Chilled Cast Iron	0.03D	1.0D										Vc	120	165	165	165	195	195	195	195	200	195	195	fz	0.006	0.01	0.014	0.02	0.024	0.027	0.035	0.041	0.048	0.056	0.063	RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104	FEED	917	1050	980	1050	1192	1117	1086
									41	Hardened Cast Iron	0.03D	1.0D						Vc	80	110	110	110	130	130	130	130	130	130	130	fz	0.006	0.01	0.015	0.02	0.024	0.028	0.035	0.041	0.048	0.056	0.063	RPM	25465	17507	11671	8754	8276	6897	5173	4138	3448	2586	2069	FEED	611	700	700	700	794	772	724



RECOMMENDED CUTTING CONDITIONS
推荐加工参数

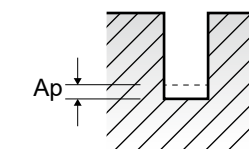
G8A45 SERIES

2 FLUTE - RIB PROCESSING
2刃-深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)																																						
				0.2	0.3	0.4	0.5	0.6	0.8																																	
P	5	Non-alloy steel	Vc	31	41~47	39~63	40~52	39~66	41~66	fz	0.003~0.004	0.004~0.004	0.006~0.006	0.007~0.007	0.008~0.008	0.011~0.011	RPM	50000	43000~50000	31400~50000	25650~33000	20900~35200	16150~26400	FEED	300~350	330~420	350~590	370~470	330~560	360~590	Ap	0.006~0.016	0.006~0.015	0.005~0.028	0.006~0.035	0.007~0.030	0.009~0.040					
			8-9	Low alloy steel	Vc	31	41~47	39~63	40~52	39~66	41~66	fz	0.003~0.004	0.004~0.004	0.006~0.006	0.007~0.007	0.008~0.008	0.011~0.011	RPM	50000	43000~50000	31400~50000	25650~33000	20900~35200	16150~26400	FEED	300~350	330~420	350~590	370~470	330~560	360~590	Ap	0.006~0.016	0.006~0.015	0.005~0.028	0.006~0.035	0.007~0.030	0.009~0.040			
					11.1	High alloyed steel, and tool steel	Vc	31	41~47	39~63	40~52	39~66	41~66	fz	0.003~0.004	0.004~0.004	0.006~0.006	0.007~0.007	0.008~0.008	0.011~0.011	RPM	50000	43000~50000	31400~50000	25650~33000	20900~35200	16150~26400	FEED	300~350	330~420	350~590	370~470	330~560	360~590	Ap	0.006~0.016	0.006~0.015	0.005~0.028	0.006~0.035	0.007~0.030	0.009~0.040	
							11.2	High alloyed steel, and tool steel	Vc	31	41~47	39~63	40~52	39~66	41~66	fz	0.003~0.004	0.004~0.004	0.006~0.006	0.007~0.007	0.008~0.008	0.011~0.011	RPM	50000	43000~50000	31400~50000	25650~33000	20900~35200	16150~26400	FEED	300~350	330~420	350~590	370~470	330~560	360~590	Ap	0.006~0.016	0.006~0.015	0.005~0.028	0.006~0.035	0.007~0.030
	H	38.1 - 38.2							Hardened steel	Vc	31	38~44	38~44	37~41	38~41	38~42	fz	0.003~0.003	0.003~0.003	0.005~0.005	0.006~0.006	0.007~0.007	0.009~0.009	RPM	50000	39900~46200	30500~35200	23750~26000	19900~22000	15200~16700	FEED	265~310	265~310	295~340	285~315	260~290	280~310	Ap	0.005~0.013	0.004~0.011	0.003~0.020	0.004~0.025
			39.1 - 39.2	Hardened steel						Vc	31	23~30	23~31	22~28	22~29	23~29	fz	0.002~0.003	0.002~0.003	0.003~0.004	0.004~0.004	0.004~0.004	0.005~0.006	RPM	50000	23900~32300	18300~24600	14200~18000	11900~15500	9000~11700	FEED	225~265	105~185	120~200	115~130	100~120	110~125	Ap	0.005~0.012	0.003~0.007	0.002~0.012	0.003~0.015
					40	Chilled Cast Iron				Vc	31	41~47	39~63	40~52	39~66	41~66	fz	0.003~0.004	0.004~0.004	0.006~0.006	0.007~0.007	0.008~0.008	0.011~0.011	RPM	50000	43000~50000	31400~50000	25650~33000	20900~35200	16150~26400	FEED	300~350	330~420	350~590	370~470	330~560	360~590	Ap	0.006~0.016	0.006~0.015	0.005~0.028	0.006~0.035
							41	Hardened Cast Iron		Vc	31	38~44	38~44	37~41	38~41	38~42	fz	0.003~0.003	0.003~0.003	0.005~0.005	0.006~0.006	0.007~0.007	0.009~0.009	RPM	50000	39900~46200	30500~35200	23750~26000	19900~22000	15200~16700	FEED	265~310	265~310	295~340	285~315	260~290	280~310	Ap	0.005~0.013	0.004~0.011	0.003~0.020	0.004~0.025

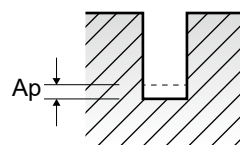
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G8A45 SERIES 2 FLUTE - RIB PROCESSING
2刃-深腔加工

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)					
				1.0	1.2	1.5	2.0	3.0	4.0
P	5	Non-alloy steel	Vc	39~59	39~66	43~83	40~66	41~66	40~67
			fz	0.014~0.014	0.017~0.017	0.024~0.024	0.027~0.027	0.064~0.064	0.063~0.064
			RPM	12300~18700	10450~17600	9100~17600	6350~10550	4300~7050	3200~5300
			FEED	350~540	350~590	430~830	340~570	550~900	400~675
			Ap	0.011~0.028	0.025~0.070	0.017~0.077	0.021~0.140	0.056~0.210	0.074~0.280
			Ap	0.011~0.028	0.025~0.070	0.017~0.077	0.021~0.140	0.056~0.210	0.074~0.280
	8-9	Low alloy steel	Vc	39~59	39~66	43~83	40~66	41~66	40~67
			fz	0.014~0.014	0.017~0.017	0.024~0.024	0.027~0.027	0.064~0.064	0.063~0.064
			RPM	12300~18700	10450~17600	9100~17600	6350~10550	4300~7050	3200~5300
			FEED	350~540	350~590	430~830	340~570	550~900	400~675
			Ap	0.011~0.028	0.025~0.070	0.017~0.077	0.021~0.140	0.056~0.210	0.074~0.280
			Ap	0.011~0.028	0.025~0.070	0.017~0.077	0.021~0.140	0.056~0.210	0.074~0.280
11.1 - 11.2	High alloyed steel, and tool steel	Vc	39~59	39~66	43~83	40~66	41~66	40~67	
		fz	0.014~0.014	0.017~0.017	0.024~0.024	0.027~0.027	0.064~0.064	0.063~0.064	
		RPM	12300~18700	10450~17600	9100~17600	6350~10550	4300~7050	3200~5300	
		FEED	350~540	350~590	430~830	340~570	550~900	400~675	
		Ap	0.011~0.028	0.025~0.070	0.017~0.077	0.021~0.140	0.056~0.210	0.074~0.280	
		Ap	0.011~0.028	0.025~0.070	0.017~0.077	0.021~0.140	0.056~0.210	0.074~0.280	
H	38.1 - 38.2	Hardened steel	Vc	33~36	34~38	33~38	38~42	38~43	38~43
			fz	0.012~0.012	0.014~0.014	0.018~0.018	0.022~0.022	0.056~0.056	0.056~0.056
			RPM	10500~11500	9100~10000	7000~8000	6100~6700	3990~4600	3000~3400
			FEED	250~280	250~280	250~280	270~300	445~515	335~380
			Ap	0.008~0.020	0.015~0.042	0.012~0.055	0.015~0.100	0.040~0.150	0.053~0.200
			Ap	0.008~0.020	0.015~0.042	0.012~0.055	0.015~0.100	0.040~0.150	0.053~0.200
	39.1 - 39.2	Hardened steel	Vc	20~25	20~26	20~26	23~30	23~30	23~30
			fz	0.007~0.008	0.008~0.009	0.010~0.012	0.013~0.014	0.022~0.048	0.021~0.048
			RPM	6300~8050	5400~7000	4300~5500	3600~4700	2400~3200	1800~2400
			FEED	100~115	100~115	100~115	100~120	105~310	75~230
			Ap	0.005~0.012	0.009~0.026	0.007~0.033	0.009~0.060	0.024~0.090	0.032~0.120
			Ap	0.005~0.012	0.009~0.026	0.007~0.033	0.009~0.060	0.024~0.090	0.032~0.120
40	Chilled Cast Iron	Vc	39~59	39~66	43~83	40~66	41~66	40~67	
		fz	0.014~0.014	0.017~0.017	0.024~0.024	0.027~0.027	0.064~0.064	0.063~0.064	
		RPM	12300~18700	10450~17600	9100~17600	6350~10550	4300~7050	3200~5300	
		FEED	350~540	350~590	430~830	340~570	550~900	400~675	
		Ap	0.011~0.028	0.025~0.070	0.017~0.077	0.021~0.140	0.056~0.210	0.074~0.280	
		Ap	0.011~0.028	0.025~0.070	0.017~0.077	0.021~0.140	0.056~0.210	0.074~0.280	
41	Hardened Cast Iron	Vc	33~36	34~38	33~38	38~42	38~43	38~43	
		fz	0.012~0.012	0.014~0.014	0.018~0.018	0.022~0.022	0.056~0.056	0.056~0.056	
		RPM	10500~11500	9100~10000	7000~8000	6100~6700	3990~4600	3000~3400	
		FEED	250~280	250~280	250~280	270~300	445~515	335~380	
		Ap	0.008~0.020	0.015~0.042	0.012~0.055	0.015~0.100	0.040~0.150	0.053~0.200	
		Ap	0.008~0.020	0.015~0.042	0.012~0.055	0.015~0.100	0.040~0.150	0.053~0.200	

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)



G8A01, G8A36 SERIES 2 FLUTE - SLOTTING
2刃-槽铣削

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						0.2	0.3	0.4	0.5	0.6	0.8	0.9	1.0	2.0	
P	5	Non-alloy steel	1.0D	0.05D	Vc	30	45	65	80	95	125	140	150	210	
					fz	0.001	0.002	0.002	0.004	0.005	0.006	0.007	0.01	0.013	
					RPM	47746	47746	51725	50930	50399	49736	49515	47746	33423	
					FEED	95	191	207	407	504	597	693	955	869	
					Vc	30	45	65	80	95	125	140	150	210	
					fz	0.001	0.002	0.002	0.004	0.005	0.006	0.007	0.01	0.013	
	8-9	Low alloy steel	1.0D	0.05D	Vc	30	45	65	80	95	125	140	150	210	
					fz	0.001	0.002	0.002	0.004	0.005	0.006	0.007	0.01	0.013	
					RPM	47746	47746	51725	50930	50399	49736	49515	47746	33423	
					FEED	95	191	207	407	504	597	693	955	869	
					Vc	30	45	65	80	95	125	140	150	210	
					fz	0.001	0.002	0.002	0.004	0.005	0.006	0.007	0.01	0.013	
11.1	High alloyed steel, and tool steel	1.0D	0.05D	Vc	30	45	65	80	95	125	140	150	210		
				fz	0.001	0.002	0.002	0.004	0.005	0.006	0.007	0.01	0.013		
				RPM	47746	47746	51725	50930	50399	49736	49515	47746	33423		
				FEED	95	191	207	407	504	597	693	955	869		
				Vc	30	45	65	80	95	125	140	150	210		
				fz	0.001	0.002	0.002	0.004	0.005	0.006	0.007	0.01	0.013		
11.2	High alloyed steel, and tool steel	1.0D	0.05D	Vc	30	40	55	70	85	100	110	120	165		
				fz	0.001	0.002	0.002	0.003	0.004	0.006	0.007	0.008	0.013		
				RPM	47746	42441	43768	44563	45094	39789	38905	38197	26261		
				FEED	95	170	175	267	361	477	545	611	683		
				Vc	30	40	55	70	85	100	110	120	165		
				fz	0.001	0.002	0.002	0.003	0.004	0.006	0.007	0.008	0.013		
H	38.1	Hardened steel	1.0D	0.05D	Vc	30	40	55	70	85	100	110	120	165	
					fz	0.001	0.002	0.002	0.003	0.004	0.006	0.007	0.008	0.013	
					RPM	47746	42441	43768	44563	45094	39789	38905	38197	26261	
					FEED	95	170	175	267	361	477	545	611	683	
					Vc	25	40	50	65	75	80	80	110		
					fz	0.001	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.012	
	38.2	Hardened steel	1.0D	0.05D	Vc	25	40	50	65	75	80	80	110		
					fz	0.001	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.012	
					RPM	39789	42441	39789	41380	39789	29842	28294	25465	17507	
					FEED	80	85	159	248	318	298	340	357	420	
					Vc	20	30	40	50	55	65	65	90		
					fz	0.001	0.001	0.001	0.002	0.003	0.004	0.005	0.009		
39.1	Hardened steel	1.0D	0.05D	Vc	20	30	40	50	55	65	65	90			
				fz	0.001	0.001	0.001	0.002	0.003	0.004	0.005	0.009			
				RPM	31831	31831	31831	31831	29178	25863	22989	20690			
				FEED	64	64	64	127	175	207	230	207			
				Vc	20	25	30	40	45	50	50	70			
				fz	0.001	0.001	0.001	0.002	0.002	0.003	0.004	0.004			
39.2	Hardened steel	1.0D	0.05D	Vc	20	25	30	40	45	50	50	70			
				fz	0.001	0.001	0.001	0.002	0.002	0.003	0.004	0.004			
				RPM	31831	26526	23873	25465	23873	19894	17684	15915			
				FEED	64	53	48	102	95	119	141	127			
				Vc	15	20	25	30	40	40	40	60			
				fz	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.006			
39.3	Hardened steel	1.0D	0.02D	Vc	23873	21221	19894	19099	21221	15915	14147	12732			
				fz	29	38	40	57	81	83	91	87			
				RPM	29	38	40	57	81	83	91	87			
				FEED	29	38	40	57	81	83	91	87			
				Vc	30	40	55	70	85	100	110	120			
				fz	0.001	0.002	0.002	0.003	0.004	0.006	0.007	0.008			
40	Chilled Cast Iron	1.0D	0.05D	Vc	47746	42441	43768	44563	45094	39789	38905	38197			
				fz	95	170	175	267	361	477	545	611			
				RPM	95	170	175	267	361	477	545	611			
				FEED	95	170	175	267	361	477	545	611			
				Vc	25	40	50	65	75	80	80	110			
				fz	0.001	0.001	0.002	0.003	0.004	0.005	0.006	0.007			
41	Hardened Cast Iron	1.0D	0.05D	Vc	39789	42441	39789	41380	39789	29842	28294	25465			
				fz	39789	42441	39789	41380	39789	29842	28294	25465			
				RPM	39789	42441	39789	41380	39789	29842	28294	25465			

G8A01, G8A36 SERIES 2 FLUTE - **SLOTING**
2刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)																																										
						3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0																																		
P	5	Non-alloy steel	1.0D	0.05D	Vc	205	210	245	245	250	245	250	245	245	fz	0.019	0.026	0.032	0.036	0.047	0.054	0.064	0.074	0.085	RPM	21751	16711	15597	12998	9947	7799	6631	4874	3899	FEED	827	869	998	936	935	842	849	721	663				
					Vc	205	210	245	245	250	245	250	245	245	fz	0.019	0.026	0.032	0.036	0.047	0.054	0.064	0.074	0.085	RPM	21751	16711	15597	12998	9947	7799	6631	4874	3899	FEED	827	869	998	936	935	842	849	721	663				
					Vc	205	210	245	245	250	245	250	245	245	fz	0.019	0.026	0.032	0.036	0.047	0.054	0.064	0.074	0.085	RPM	21751	16711	15597	12998	9947	7799	6631	4874	3899	FEED	827	869	998	936	935	842	849	721	663				
					Vc	165	165	195	195	195	195	195	200	195	195	fz	0.02	0.027	0.032	0.037	0.046	0.055	0.065	0.074	0.085	RPM	17507	13130	12414	10345	7759	6207	5305	3879	3104	FEED	700	709	794	766	714	683	690	574	528			
	8-9	Low alloy steel	1.0D	0.05D	Vc	205	210	245	245	250	245	250	245	245	fz	0.019	0.026	0.032	0.036	0.047	0.054	0.064	0.074	0.085	RPM	21751	16711	15597	12998	9947	7799	6631	4874	3899	FEED	827	869	998	936	935	842	849	721	663				
					Vc	205	210	245	245	250	245	250	245	245	fz	0.019	0.026	0.032	0.036	0.047	0.054	0.064	0.074	0.085	RPM	21751	16711	15597	12998	9947	7799	6631	4874	3899	FEED	827	869	998	936	935	842	849	721	663				
					Vc	205	210	245	245	250	245	250	245	245	fz	0.019	0.026	0.032	0.036	0.047	0.054	0.064	0.074	0.085	RPM	21751	16711	15597	12998	9947	7799	6631	4874	3899	FEED	827	869	998	936	935	842	849	721	663				
					Vc	165	165	195	195	195	195	195	200	195	195	fz	0.02	0.027	0.032	0.037	0.046	0.055	0.065	0.074	0.085	RPM	17507	13130	12414	10345	7759	6207	5305	3879	3104	FEED	700	709	794	766	714	683	690	574	528			
	11.1	High alloyed steel, and tool steel	1.0D	0.05D	Vc	165	165	195	195	195	195	200	195	195	fz	0.02	0.027	0.032	0.037	0.046	0.055	0.065	0.074	0.085	RPM	17507	13130	12414	10345	7759	6207	5305	3879	3104	FEED	700	709	794	766	714	683	690	574	528				
					Vc	165	165	195	195	195	195	195	200	195	195	fz	0.02	0.027	0.032	0.037	0.046	0.055	0.065	0.074	0.085	RPM	17507	13130	12414	10345	7759	6207	5305	3879	3104	FEED	700	709	794	766	714	683	690	574	528			
					Vc	165	165	195	195	195	195	195	200	195	195	fz	0.02	0.027	0.032	0.037	0.046	0.055	0.065	0.074	0.085	RPM	17507	13130	12414	10345	7759	6207	5305	3879	3104	FEED	700	709	794	766	714	683	690	574	528			
					Vc	165	165	195	195	195	195	195	200	195	195	fz	0.02	0.027	0.032	0.037	0.046	0.055	0.065	0.074	0.085	RPM	17507	13130	12414	10345	7759	6207	5305	3879	3104	FEED	700	709	794	766	714	683	690	574	528			
H	38.1		1.0D	0.05D	Vc	165	165	195	195	195	200	195	195	fz	0.02	0.027	0.032	0.037	0.046	0.055	0.065	0.074	0.085	RPM	17507	13130	12414	10345	7759	6207	5305	3879	3104	FEED	700	709	794	766	714	683	690	574	528					
					Vc	110	110	130	130	130	130	130	130	130	fz	0.018	0.025	0.03	0.035	0.043	0.051	0.059	0.07	0.082	RPM	11671	8754	8276	6897	5173	4138	3448	2586	2069	FEED	420	438	497	483	445	422	407	362	339				
					Vc	90	90	100	100	100	100	100	100	100	fz	0.014	0.019	0.022	0.026	0.032	0.038	0.045	0.053	0.061	RPM	9549	7162	6366	5305	3979	3183	2653	1989	1592	FEED	267	272	280	276	255	242	239	211	194				
					Vc	70	70	80	80	80	80	80	80	80	fz	0.011	0.015	0.018	0.021	0.026	0.03	0.037	0.042	0.048	RPM	7427	5570	5093	4244	3183	2546	2122	1592	1273	FEED	163	167	183	178	166	153	157	134	122				
	38.2		1.0D	0.05D	Vc	60	60	70	70	70	70	70	70	fz	0.009	0.012	0.015	0.018	0.021	0.026	0.03	0.034	0.039	RPM	6366	4775	4456	3714	2785	2228	1857	1393	1114	FEED	115	118	132	131	119	114	112	94	86					
					Vc	90	90	100	100	100	100	100	100	fz	0.014	0.019	0.022	0.026	0.032	0.038	0.045	0.053	0.061	RPM	9549	7162	6366	5305	3979	3183	2653	1989	1592	FEED	267	272	280	276	255	242	239	211	194					
					Vc	70	70	80	80	80	80	80	80	fz	0.011	0.015	0.018	0.021	0.026	0.03	0.037	0.042	0.048	RPM	7427	5570	5093	4244	3183	2546	2122	1592	1273	FEED	163	167	183	178	166	153	157	134	122					
					Vc	60	60	70	70	70	70	70	70	fz	0.009	0.012	0.015	0.018	0.021	0.026	0.03	0.034	0.039	RPM	6366	4775	4456	3714	2785	2228	1857	1393	1114	FEED	115	118	132	131	119	114	112	94	86					
	39.1	Hardened steel	1.0D	0.05D	Vc	165	165	195	195	195	200	195	195	fz	0.02	0.027	0.032	0.037	0.046	0.055	0.065	0.074	0.085	RPM	17507	13130	12414	10345	7759	6207	5305	3879	3104	FEED	700	709	794	766	714	683	690	574	528					
					Vc	110	110	130	130	130	130	130	130	fz	0.018	0.025	0.03	0.035	0.043	0.051	0.059	0.07	0.082	RPM	11671	8754	8276	6897	5173	4138	3448	2586	2069	FEED	420	438	497	483	445	422	407	362	339					
					Vc	90	90	100	100	100	100	100	100	fz	0.014	0.019	0.022	0.026	0.032	0.038	0.045	0.053	0.061	RPM	9549	7162	6366	5305	3979	3183	2653	1989	1592	FEED	267	272	280	276	255	242	239	211	194					
					Vc	70	70	80	80	80	80	80	80	fz	0.011	0.015	0.018	0.021	0.026	0.03	0.037	0.042	0.048	RPM	7427	5570	5093	4244	3183	2546	2122	1592	1273	FEED	163	167	183	178	166	153	157	134	122					
39.2	Hardened steel	1.0D	0.05D	Vc	60	60	70	70	70	70	70	70	fz	0.009	0.012	0.015	0.018	0.021	0.026	0.03	0.034	0.039	RPM	6366	4775	4456	3714	2785	2228	1857	1393	1114	FEED	115	118	132	131	119	114	112	94	86						
				Vc	90	90	100	100	100	100	100	100	fz	0.014	0.019	0.022	0.026	0.032	0.038	0.045	0.053	0.061	RPM	9549	7162	6366	5305	3979	3183	2653	1989	1592	FEED	267	272	280	276	255	242	239	211	194						
				Vc	70	70	80	80	80	80	80	80	fz	0.011	0.015	0.018	0.021	0.026	0.03	0.037	0.042	0.048	RPM	7427	5570	5093	4244	3183	2546	2122	1592	1273	FEED	163	167	183	178	166	153	157	134	122						
				Vc	60	60	70	70	70	70	70	70	fz	0.009	0.012	0.015	0.018	0.021	0.026	0.03	0.034	0.039	RPM	6366	4775	4456	3714	2785	2228	1857	1393	1114	FEED	115	118	132	131	119	114	112	94	86						
39.3	Hardened steel	1.0D	0.02D	Vc	120	165	165	165	165	195	195	195	fz	0.011	0.019	0.028	0.038	0.046	0.053	0.066	0.079	0.092	0.108	0.121	RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104	FEED	840	998	980	998	1142	1097	1024	981	976	838	751
				Vc	80	110	110	110	110	130	130	130	fz	0.01	0.017	0.026	0.036	0.043	0.05	0.061	0.072	0.084	0.1	0.116	RPM	25465	17507	11671	8754	8276	6897	5173	4138	3448	2586	2069	FEED	509	595	607	630	712	690	631	596	579	517	480
				Vc	65	90	90	90	90	100	100	100	fz	0.008	0.013	0.019	0.027	0.032	0.038	0.046	0.053	0.064	0.075	0.086	RPM	20690	14324	9549	7162	6366	5305	3979	3183	2653	1989	1592	FEED	331	372	363	387	407	403	366	337	340	298	274
				Vc	50	70	70	70	70	80	80	80	fz	0.006	0.01	0.015	0.021	0.025	0.03	0.037	0.043	0.052	0.059	0.067	RPM	15915	11141	7427	5570	5093	4244	3183	2546	2122	1592	1273	FEED	191	223	223	234	255	236					



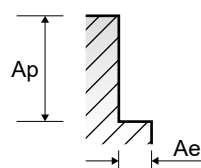
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A02, G8A37 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)											
						1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0	
P	5	Non-alloy steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245	
					fz	0.008	0.013	0.02	0.027	0.032	0.037	0.048	0.056	0.066	0.077	0.083	
					RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899	
					FEED	1528	1738	1740	1805	1996	1924	1910	1747	1751	1501	1294	
	8-9	Low alloy steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245	
					fz	0.008	0.013	0.02	0.027	0.032	0.037	0.048	0.056	0.066	0.077	0.083	
					RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899	
					FEED	1528	1738	1740	1805	1996	1924	1910	1747	1751	1501	1294	
	11.1	High alloyed steel, and tool steel	0.03D	1.0D	Vc	150	210	205	210	245	245	250	245	250	245	245	
					fz	0.008	0.013	0.02	0.027	0.032	0.037	0.048	0.056	0.066	0.077	0.083	
					RPM	47746	33423	21751	16711	15597	12998	9947	7799	6631	4874	3899	
					FEED	1528	1738	1740	1805	1996	1924	1910	1747	1751	1501	1294	
11.2	High alloyed steel, and tool steel	0.03D	1.0D	Vc	120	165	165	165	195	195	195	195	200	195	195		
				fz	0.007	0.012	0.018	0.025	0.03	0.034	0.043	0.051	0.06	0.071	0.078		
				RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104		
				FEED	1070	1261	1261	1313	1490	1407	1335	1266	1273	1102	968		
H	38.1	Hardened steel	0.03D	1.0D	Vc	120	165	165	165	195	195	195	195	200	195	195	
					fz	0.007	0.012	0.018	0.025	0.03	0.034	0.043	0.051	0.06	0.071	0.078	
					RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104	
					FEED	1070	1261	1261	1313	1490	1407	1335	1266	1273	1102	968	
	38.2	Hardened steel	0.03D	1.0D	Vc	80	110	110	110	130	130	130	130	130	130	130	
					fz	0.007	0.012	0.018	0.025	0.03	0.034	0.043	0.051	0.06	0.07	0.079	
					RPM	25465	17507	11671	8754	8276	6897	5173	4138	3448	2586	2069	
					FEED	713	840	840	875	993	938	890	844	828	724	654	
	39.1	Hardened steel	0.03D	1.0D	Vc	65	90	90	90	100	100	100	100	100	100	100	
					fz	0.005	0.009	0.014	0.019	0.023	0.026	0.033	0.038	0.045	0.053	0.059	
					RPM	20690	14324	9549	7162	6366	5305	3979	3183	2653	1989	1592	
					FEED	414	516	535	544	586	552	525	484	478	422	376	
39.2	Hardened steel	0.03D	1.0D	Vc	50	70	70	70	80	80	80	80	80	80	80		
				fz	0.004	0.007	0.011	0.015	0.018	0.021	0.026	0.03	0.036	0.042	0.048		
				RPM	15915	11141	7427	5570	5093	4244	3183	2546	2122	1592	1273		
				FEED	255	312	327	334	367	356	331	306	306	267	244		
39.3	Hardened steel	0.03D	1.0D	Vc	40	60	60	60	70	70	70	70	70	70	70		
				fz	0.004	0.007	0.009	0.013	0.016	0.018	0.022	0.025	0.03	0.036	0.041		
				RPM	12732	9549	6366	4775	4456	3714	2785	2228	1857	1393	1114		
				FEED	204	267	229	248	285	267	245	223	223	201	183		
40	Chilled Cast Iron	0.03D	1.0D	Vc	120	165	165	165	195	195	195	195	200	195	195		
				fz	0.007	0.012	0.018	0.025	0.03	0.034	0.043	0.051	0.06	0.071	0.078		
				RPM	38197	26261	17507	13130	12414	10345	7759	6207	5305	3879	3104		
				FEED	1070	1261	1261	1313	1490	1407	1335	1266	1273	1102	968		
41	Hardened Cast Iron	0.03D	1.0D	Vc	80	110	110	110	130	130	130	130	130	130	130		
				fz	0.007	0.012	0.018	0.025	0.03	0.034	0.043	0.051	0.06	0.07	0.079		
				RPM	25465	17507	11671	8754	8276	6897	5173	4138	3448	2586	2069		
				FEED	713	840	840	875	993	938	890	844	828	724	654		



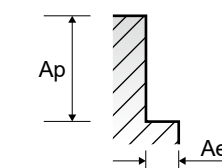
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8A39 SERIES

6 FLUTE - SIDE CUTTING
6刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)					
						6.0	8.0	10.0	12.0	16.0	20.0
P	5	Non-alloy steel	0.05D	1.0D	Vc	120	121	121	122	121	121
					fz	0.039	0.052	0.063	0.07	0.09	0.079
					RPM	6366	4814	3852	3236	2407	1926
					FEED	1490	1502	1456	1359	1300	913
	8-9	Low alloy steel	0.05D	1.0D	Vc	120	121	121	122	121	121
					fz	0.039	0.052	0.063	0.07	0.09	0.079
					RPM	6366	4814	3852	3236	2407	1926
					FEED	1490	1502	1456	1359	1300	913
	11.1	High alloyed steel, and tool steel	0.05D	1.0D	Vc	120	121	121	122	121	121
					fz	0.039	0.052	0.063	0.07	0.09	0.079
					RPM	6366	4814	3852	3236	2407	1926
					FEED	1490	1502	1456	1359	1300	913
11.2	High alloyed steel, and tool steel	0.05D	1.0D	Vc	106	108	106	106	108	110	
				fz	0.036	0.049	0.058	0.065	0.083	0.095	
				RPM	5623	4297	3374	2812	2149	1751	
				FEED	1215	1263	1174	1097	1070	998	
H	38.1	Hardened steel	0.05D	1.0D	Vc	106	108	106	106	108	110
					fz	0.036	0.049	0.058	0.065	0.083	0.095
					RPM	5623	4297	3374	2812	2149	1751
					FEED	1215	1263	1174	1097	1070	998
	38.2	Hardened steel	0.05D	1.0D	Vc	95	97	94	95	97	98
					fz	0.035	0.046	0.055	0.062	0.079	0.091
					RPM	5040	3860	2992	2520	1930	1560
					FEED	1058	1065	987	937	915	852
	39.1	Hardened steel	0.03D	1.0D	Vc	83	83	82	83	83	87
					fz	0.033	0.044	0.053	0.059	0.076	0.072
					RPM	4403	3302	2610	2202	1651	1385
					FEED	872	872	830	780	753	598
39.2	Hardened steel	0.03D	1.0D	Vc	72	72	72	72	72	75	
				fz	0.031	0.042	0.05	0.056	0.072	0.069	
				RPM	3820	2865	2292	1910	1432	1194	
				FEED	711	722	688	642	619	494	
39.3	Hardened steel	0.03D	1.0D	Vc	48	48	49	50	48	45	
				fz	0.028	0.037	0.045	0.05	0.064	0.071	
				RPM	2546	1910	1560	1326	955	716	
				FEED	428	424	421	398	367	305	
40	Chilled Cast Iron	0.05D	1.0D	Vc	106	108	106	106	108	110	
				fz	0.036	0.049	0.058	0.065	0.083	0.095	
				RPM	5623	4297	3374	2812	2149	1751	
				FEED	1215	1263	1174	1097	1070	998	
41	Hardened Cast Iron	0.05D	1.0D	Vc	95	97	94	95	97	98	
				fz	0.035	0.046	0.055	0.062	0.079	0.091	
				RPM	5040	3860	2992	2520	1930	1560	
				FEED	1058	1065	987	937	915	852	



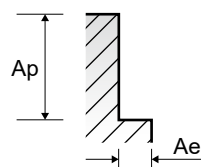


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8D63 SERIES 6&8FLUTE 45° HELIX - SIDE CUTTING
6&8刃 45度螺旋 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0	
P	5	Non-alloy steel	0.04D	1.5D	Vc	120	120	120	120	120	120	120	120	120	125
					fz	0.039	0.052	0.063	0.07	0.081	0.09	0.095	0.08	0.11	
					RPM	6366	4775	3820	3183	2728	2387	2122	1910	1592	
					FEED	1490	1490	1444	1337	1326	1289	1613	1222	1401	
	8-9	Low alloy steel	0.04D	1.5D	Vc	120	120	120	120	120	120	120	120	125	
					fz	0.039	0.052	0.063	0.07	0.081	0.09	0.095	0.08	0.11	
					RPM	6366	4775	3820	3183	2728	2387	2122	1910	1592	
					FEED	1490	1490	1444	1337	1326	1289	1613	1222	1401	
	11.1	High alloyed steel, and tool steel	0.04D	1.5D	Vc	120	120	120	120	120	120	120	120	125	
					fz	0.039	0.052	0.063	0.07	0.081	0.09	0.095	0.08	0.11	
					RPM	6366	4775	3820	3183	2728	2387	2122	1910	1592	
					FEED	1490	1490	1444	1337	1326	1289	1613	1222	1401	
11.2	High alloyed steel, and tool steel	0.04D	1.5D	Vc	95	95	95	95	95	95	95	100	95		
				fz	0.035	0.046	0.055	0.062	0.07	0.079	0.08	0.091	0.096		
				RPM	5040	3780	3024	2520	2160	1890	1680	1592	1210		
				FEED	1058	1043	998	937	907	896	1075	1159	929		
H	38.1 - 38.2	Hardened steel	0.04D	1.5D	Vc	95	95	95	95	95	95	95	100	95	
					fz	0.035	0.046	0.055	0.062	0.07	0.079	0.08	0.091	0.096	
					RPM	5040	3780	3024	2520	2160	1890	1680	1592	1210	
					FEED	1058	1043	998	937	907	896	1075	1159	929	
	39.1 - 39.2	Hardened steel	0.04D	1.5D	Vc	70	70	70	70	70	70	70	75	75	
					fz	0.031	0.042	0.05	0.056	0.066	0.072	0.073	0.069	0.087	
					RPM	3714	2785	2228	1857	1592	1393	1238	1194	955	
					FEED	691	702	668	624	630	602	723	659	665	
	39.3	Hardened steel	0.04D	1.5D	Vc	50	50	50	50	45	50	50	45	50	
					fz	0.028	0.037	0.045	0.05	0.051	0.064	0.066	0.071	0.079	
					RPM	2653	1989	1592	1326	1023	995	884	716	637	
					FEED	446	442	430	398	313	382	467	407	403	
40	Chilled Cast Iron	0.04D	1.5D	Vc	95	95	95	95	95	95	95	100	95		
				fz	0.035	0.046	0.055	0.062	0.07	0.079	0.08	0.091	0.096		
				RPM	5040	3780	3024	2520	2160	1890	1680	1592	1210		
				FEED	1058	1043	998	937	907	896	1075	1159	929		
41	Hardened Cast Iron	0.04D	1.5D	Vc	95	95	95	95	95	95	95	100	95		
				fz	0.035	0.046	0.055	0.062	0.07	0.079	0.08	0.091	0.096		
				RPM	5040	3780	3024	2520	2160	1890	1680	1592	1210		
				FEED	1058	1043	998	937	907	896	1075	1159	929		

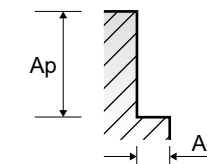


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

G8D64 SERIES 6&8FLUTE 45° HELIX - SIDE CUTTING
6&8刃 45度螺旋 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0	
P	5	Non-alloy steel	0.01D	3.0D	Vc	60	60	60	60	60	60	60	60	60	
					fz	0.04	0.05	0.06	0.07	0.075	0.081	0.085	0.086	0.089	
					RPM	3183	2387	1910	1592	1364	1194	1061	955	764	
					FEED	764	716	688	669	614	580	721	657	544	
	8-9	Low alloy steel	0.01D	3.0D	Vc	60	60	60	60	60	60	60	60	60	
					fz	0.04	0.05	0.06	0.07	0.075	0.081	0.085	0.086	0.089	
					RPM	3183	2387	1910	1592	1364	1194	1061	955	764	
					FEED	764	716	688	669	614	580	721	657	544	
	11.1	High alloyed steel, and tool steel	0.01D	3.0D	Vc	60	60	60	60	60	60	60	60	60	
					fz	0.04	0.05	0.06	0.07	0.075	0.081	0.085	0.086	0.089	
					RPM	3183	2387	1910	1592	1364	1194	1061	955	764	
					FEED	764	716	688	669	614	580	721	657	544	
11.2	High alloyed steel, and tool steel	0.01D	3.0D	Vc	60	60	60	60	60	60	60	60	60		
				fz	0.03	0.04	0.05	0.061	0.066	0.071	0.08	0.09	0.08		
				RPM	3183	2387	1910	1592	1364	1194	1061	955	764		
				FEED	573	573	573	583	540	509	679	688	489		
H	38.1 - 38.2	Hardened steel	0.01D	3.0D	Vc	60	60	60	60	60	60	60	60	60	
					fz	0.03	0.04	0.05	0.061	0.066	0.071	0.08	0.09	0.08	
					RPM	3183	2387	1910	1592	1364	1194	1061	955	764	
					FEED	573	573	573	583	540	509	679	688	489	
	39.1 - 39.2	Hardened steel	0.01D	3.0D	Vc	50	50	50	50	50	50	50	50	50	
					fz	0.03	0.04	0.05	0.06	0.066	0.071	0.081	0.091	0.081	
					RPM	2653	1989	1592	1326	1137	995	884	796	637	
					FEED	478	477	478	477	450	424	573	579	413	
	40	Chilled Cast Iron	0.01D	3.0D	Vc	60	60	60	60	60	60	60	60	60	
					fz	0.03	0.04	0.05	0.061	0.066	0.071	0.08	0.09	0.08	
					RPM	3183	2387	1910	1592	1364	1194	1061	955	764	
					FEED	573	573	573	583	540	509	679	688	489	
41	Hardened Cast Iron	0.01D	3.0D	Vc	60	60	60	60	60	60	60	60	60		
				fz	0.03	0.04	0.05	0.061	0.066	0.071	0.08	0.09	0.08		
				RPM	3183	2387	1910	1592	1364	1194	1061	955	764		
				FEED	573	573	573	583	540	509	679	688	489		





Global Cutting Tool Leader **YG-1**



MILLING



Leading Through Innovation



SOLID CARBIDE

4G Mill END MILLS

- High Speed Cutting for Pre-Hardened Steels up to HRc55
- 适用于高速加工 预硬钢 (~HRc55)

SELECTION GUIDE
选用指南



SERIES 系列	G9D75 G9D67	G9D76 G9D68	G9D77 G9D69	GAE53
FLUTE 槽数	4&5	4&5	4&5	4&5
HELIX ANGLE 螺旋角度	44°~45° (MULTIPLE HELIX)	44°~45° (MULTIPLE HELIX)	44°~45° (MULTIPLE HELIX)	44°~45° (MULTIPLE HELIX)
CUTTING EDGE SHAPE 类型	CORNER RADIUS ROUGHING	CORNER RADIUS ROUGHING	CORNER RADIUS ROUGHING	CORNER RADIUS ROUGHING
SIZE MIN 最小尺寸	D6.0	D6.0	D6.0	D6.0
SIZE MAX 最大尺寸	D20.0	D20.0	D20.0	D20.0
PAGE 页数	C247		C248	C249

SOLID CARBIDE
4G Mill
END MILLS



High Speed Cutting
for Pre-Hardened Steels up to HRc55
适用于高速加工 预硬钢 (~HRc55)



◎: Excellent (优秀) ○: Good (良好)

Recommended cutting conditions (推荐加工参数): p.C250

	SHORT LENGTH	LONG LENGTH	LONG LENGTH	SHORT LENGTH
	X-Coating	X-Coating	X-Coating	X-Coating
				HSS-PM

ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理	HB	HRc						
P	1	Non-alloy steel	About 0.15% C	Annealed	125	13	○	○	○	○	
	2		About 0.45% C	Annealed	190	13	○	○	○	○	
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎	
	4		About 0.75% C	Annealed	270	28	◎	◎	◎	◎	
	5		About 0.75% C	Quenched & Tempered	300	32	◎	◎	◎	◎	
	6	Low alloy steel		Annealed	180	10	○	○	○	○	
	7			Quenched & Tempered	275	29	◎	◎	◎	◎	
	8			Quenched & Tempered	300	32	◎	◎	◎	◎	
	9			Quenched & Tempered	350	38	◎	◎	◎	◎	
	10		High alloyed steel, and tool steel		Annealed	200	15	○	○	○	○
	11				Quenched & Tempered	325	35	◎	◎	◎	◎
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	○	○	○	○	
	13		Martensitic	Quenched & Tempered	240	23	○	○	○	○	
	14		Austenitic		180	10	○	○	○	◎	
K	15	Grey cast iron	Pearlitic / ferritic		180	10	◎	◎	◎	◎	
	16		Pearlitic (Martensitic)		260	26	◎	◎	◎	◎	
	17	Nodular cast iron	Ferritic		160	3	◎	◎	◎	◎	
	18		Pearlitic		250	25	◎	◎	◎	◎	
	19	Malleable cast iron	Ferritic		130		◎	◎	◎	◎	
	20		Pearlitic		230	21	◎	◎	◎	◎	
N	21	Aluminum-wrought alloy	Not Curable		60						
	22	Aluminum-cast, alloyed	Curable	Hardened	100						
	23		≤ 12% Si, Not Curable		75						
	24		≤ 12% Si, Curable	Hardened	90						
	25	> 12% Si, Not Curable		130							
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110		○	○	○	○	
	27		CuZn, CuSnZn (Brass)		90		○	○	○	○	
	28		CuSn, lead-free copper and electrolytic copper		100		○	○	○	○	
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic								
	30		Rubber, Wood, etc.								
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15					
	32			Cured	280	30					
	33		Annealed	250	25						
	34		Cured	350	38						
	35	Cast	320	34							
	36	Titanium Alloys	Pure Titanium		400 Rm						
37	Alpha + Beta Alloys		Hardened	1050 Rm							
H	38	Hardened Cast Iron		Hardened	550	55					
	39			Hardened	630	60					
	40			Cast	400	42					
	41			Hardened	550	55					

BALL NOSE = 球头 SQUARE = 平头 MULTIPLE HELIX = 不等螺旋 SHORT LENGTH = 短刃 EXTENDED NECK = 颈部加长 Sharp Corner Removal = 保护刀尖处理
CORNER RADIUS = 圆鼻 ROUGHING = 粗加工 LONG LENGTH = 长刃 (6mm Shank) = (6mm 柄径)



CHARACTERISTICS 特点

Unique flute design for excellent chip evacuation and vibration reduction.
Optimal roughing tooth profile to reduce cutting forces.
Special tool geometry for high feed rate and heavy cutting.
Strong end tooth design for plunge and pocket milling.
Custom engineered coating to allow long tool life and excellent chip evacuation.

特殊沟槽设计提高排屑性能和减少振动
最佳粗加工用牙设计减少切削阻力
特殊刀具设计可适用于高进给和重切削
刚性底刃设计可用坡走铣削
最佳涂层提高刀具寿命和提高排屑性能

► 4 FLUTE (刃)

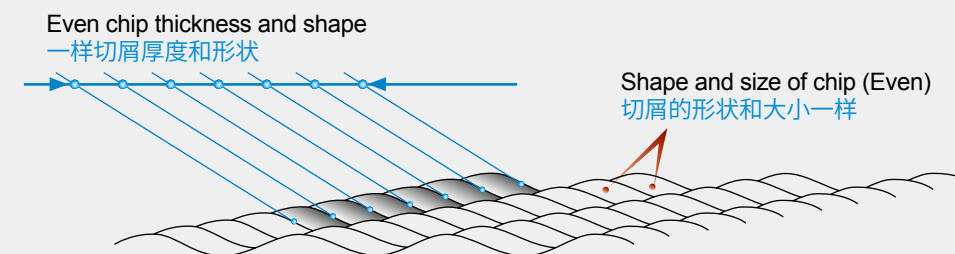


► 5 FLUTE (刃)

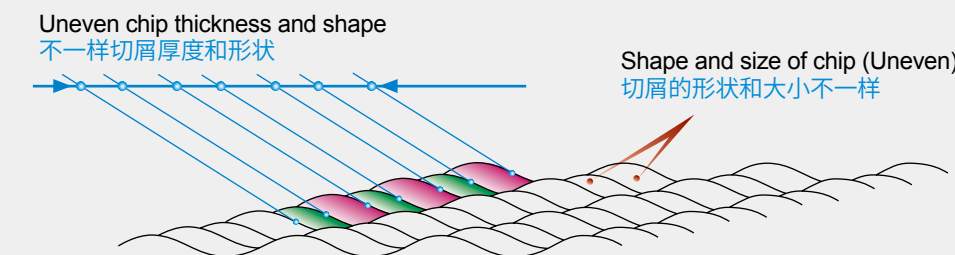


CHIP THICKNESS AND SHAPE
切屑厚度和形状

► Conventional Roughing End Mills 普通粗加工用铣刀



► X-SPEED Rougher





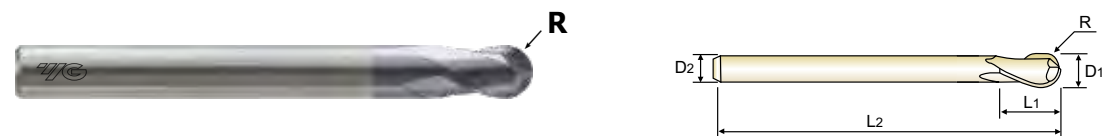
PLAIN SHANK SEMD98 SERIES

CARBIDE, 2 FLUTE BALL NOSE (Short, Regular, Long Shank)

硬质合金, 2刃球头 (短刃, 普通刃长, 长柄)

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- ▶ 加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE 2 30° ±0.005 ±0.010 PLAIN p.C250-251

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Recommended ToolHolder

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEMD98001SE	R0.05	0.1	4	0.1	40	Short
SEMD98001E	R0.05	0.1	4	0.2	40	Regular
SEMD980013SE	R0.05	0.1	3	0.2	40	3mm Shank
SEMD980015SE	R0.075	0.15	4	0.15	40	Short
SEMD980015E	R0.075	0.15	4	0.3	40	Regular
SEMD9800153SE	R0.075	0.15	3	0.3	40	3mm Shank
SEMD98002SE	R0.1	0.2	4	0.2	40	Short
SEMD98002E	R0.1	0.2	4	0.4	40	Regular
SEMD980023SE	R0.1	0.2	3	0.4	40	3mm Shank
SEMD98003SE	R0.15	0.3	4	0.3	40	Short
SEMD98003E	R0.15	0.3	4	0.6	40	Regular
SEMD980033SE	R0.15	0.3	3	0.6	40	3mm Shank
SEMD98004SE	R0.2	0.4	4	0.4	40	Short
SEMD98004E	R0.2	0.4	4	0.8	40	Regular
SEMD980043SE	R0.2	0.4	3	0.8	40	3mm Shank
SEMD98005SE	R0.25	0.5	4	0.5	40	Short
SEMD98005S6SE	R0.25	0.5	6	0.8	40	-
SEMD98005E	R0.25	0.5	4	1.0	40	Regular
SEMD980053SE	R0.25	0.5	3	1.0	40	3mm Shank
SEMD98006SE	R0.3	0.6	4	0.6	40	Short
SEMD98006E	R0.3	0.6	4	1.2	40	Regular
SEMD980063SE	R0.3	0.6	3	1.2	40	3mm Shank
SEMD98007SE	R0.35	0.7	4	0.7	40	Short
SEMD98007E	R0.35	0.7	4	1.4	40	Regular

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Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	○	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



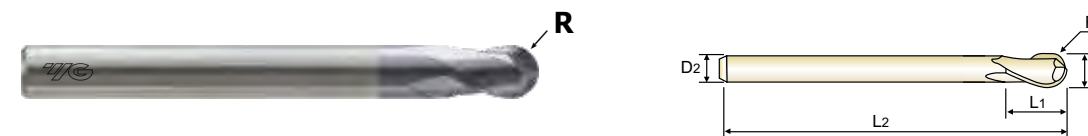
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Recommended ToolHolder

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEMD980073SE	R0.35	0.7	3	1.4	40	3mm Shank
SEMD98008SE	R0.4	0.8	4	0.8	40	Short
SEMD98008E	R0.4	0.8	4	1.6	40	Regular
SEMD980083SE	R0.4	0.8	3	1.6	40	3mm Shank
SEMD98009SE	R0.45	0.9	4	0.9	40	Short
SEMD98009E	R0.45	0.9	4	1.8	40	Regular
SEMD980093SE	R0.45	0.9	3	1.8	40	3mm Shank
SEMD98010040E	R0.5	1.0	6	1.5	40	Short
SEMD980103SE	R0.5	1.0	3	2.5	50	3mm Shank
SEMD9801054SE	R0.5	1.0	4	1.5	40	-
SEMD980104SE	R0.5	1.0	4	2.5	50	Regular
SEMD98010E	R0.5	1.0	6	2.5	50	Regular
SEMD98010070E	R0.5	1.0	6	2.5	70	Long
SEMD98010100E	R0.5	1.0	6	2.5	100	Long
SEMD98012040E	R0.6	1.2	6	2	40	Short
SEMD980123SE	R0.6	1.2	3	3	50	3mm Shank
SEMD980124SE	R0.6	1.2	4	3	50	Regular
SEMD98012E	R0.6	1.2	6	3	50	Regular
SEMD98012070E	R0.6	1.2	6	3	70	Long
SEMD98012100E	R0.6	1.2	6	3	100	Long
SEMD98015040E	R0.75	1.5	6	2.5	40	Short
SEMD980153SE	R0.75	1.5	3	4	50	3mm Shank
SEMD980154SE	R0.75	1.5	4	4	50	Regular
SEMD98015E	R0.75	1.5	6	4	50	Regular

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Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	○	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



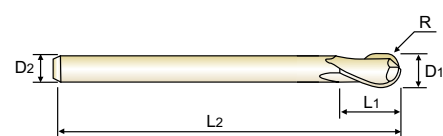
PLAIN SHANK SEMD98 SERIES

CARBIDE, 2 FLUTE BALL NOSE (Short, Regular, Long Shank)

硬质合金, 2刃球头 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ With its unique ball nose geometry and cutting edges the cutting force has decreased, also increasing wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 基于独特设计球头及刀尖形状, 减少切削阻力, 提高耐磨性
- ▶ 加工模具产业的预硬钢(HRc55以下)表现出色



CARBIDE 2 30° ±0.005 ±0.010 PLAIN p.C250-251

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

R0.05-R3 R325-R125

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEMD98015070E	R0.75	1.5	6	4	70	Long
SEMD98015100E	R0.75	1.5	6	4	100	Long
SEMD98020040E	R1.0	2.0	6	3	40	Short
SEMD980203SE	R1.0	2.0	3	5	50	3mm Shank
SEMD980204SE	R1.0	2.0	4	5	50	Regular
SEMD98020E	R1.0	2.0	6	5	50	Regular
SEMD98020080E	R1.0	2.0	6	5	80	Long
SEMD98020100E	R1.0	2.0	6	5	100	Long
SEMD98025040E	R1.25	2.5	6	4	40	Short
SEMD980253SE	R1.25	2.5	3	6	60	3mm Shank
SEMD980254SE	R1.25	2.5	4	6	60	Regular
SEMD98025E	R1.25	2.5	6	6	60	Regular
SEMD98025080E	R1.25	2.5	6	6	80	Long
SEMD98025100E	R1.25	2.5	6	6	100	Long
SEMD98030040E	R1.5	3.0	6	4.5	40	Short
SEMD980303SE	R1.5	3.0	3	6	60	3mm Shank
SEMD980304SE	R1.5	3.0	4	6	60	Regular
SEMD98030E	R1.5	3.0	6	6	60	Regular
SEMD98030080E	R1.5	3.0	6	6	80	Long
SEMD98030100E	R1.5	3.0	6	6	100	Long
SEMD98035E	R1.75	3.5	6	8	70	-
SEMD98040050E	R2.0	4.0	6	6	50	Short
SEMD980404SE	R2.0	4.0	4	8	70	Regular
SEMD98040E	R2.0	4.0	6	8	70	Regular

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Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○



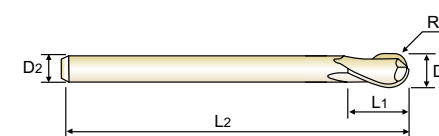
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CARBIDE 2 30° ±0.005 ±0.010 PLAIN p.C250-251

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

R0.05-R3 R325-R125

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEMD980401004SE	R2.0	4.0	4	8	100	Long
SEMD980401204SE	R2.0	4.0	4	8	120	Long
SEMD98040100E	R2.0	4.0	6	8	100	Long
SEMD98040120E	R2.0	4.0	6	8	120	Long
SEMD98045E	R2.25	4.5	6	9	80	-
SEMD98050060E	R2.5	5.0	6	7.5	60	Short
SEMD98050E	R2.5	5.0	6	10	80	Regular
SEMD980505SE	R2.5	5.0	5	10	80	5mm Shank
SEMD98055E	R2.75	5.5	6	11	90	-
SEMD98060050E	R3.0	6.0	6	9	50	Short
SEMD98060060E	R3.0	6.0	6	9	60	Short
SEMD98060080E	R3.0	6.0	6	9	80	Short
SEMD98060E	R3.0	6.0	6	12	90	Regular
SEMD98060110E	R3.0	6.0	6	12	110	Long
SEMD98060130E	R3.0	6.0	6	12	130	Long
SEMD98060150E	R3.0	6.0	6	12	150	Long
SEMD98065E	R3.25	6.5	8	13	90	-
SEMD98070E	R3.5	7.0	8	14	90	-
SEMD98080050E	R4.0	8.0	8	12	50	Short
SEMD98080060E	R4.0	8.0	8	12	60	Short
SEMD98080080E	R4.0	8.0	8	12	80	Short
SEMD98080090E	R4.0	8.0	8	12	90	Short
SEMD98080E	R4.0	8.0	8	14	100	Regular
SEMD98080130E	R4.0	8.0	8	14	130	Long

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Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○



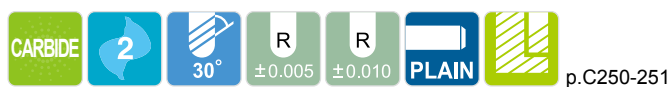
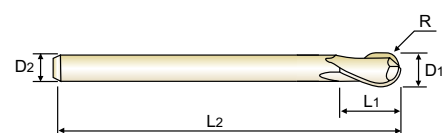
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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

R0.05-R3 R325-R125

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEMD98080150E	R4.0	8.0	8	14	150	Long
SEMD98085E	R4.25	8.5	10	16	100	-
SEMD98090E	R4.5	9.0	10	18	100	-
SEMD98100050E	R5.0	10.0	10	15	50	Short
SEMD98100060E	R5.0	10.0	10	15	60	Short
SEMD98100080E	R5.0	10.0	10	15	80	Short
SEMD98100090E	R5.0	10.0	10	15	90	Short
SEMD98100E	R5.0	10.0	10	18	100	Regular
SEMD98100130E	R5.0	10.0	10	18	130	Long
SEMD98100150E	R5.0	10.0	10	18	150	Long
SEMD98100180E	R5.0	10.0	10	18	180	Long
SEMD98100200E	R5.0	10.0	10	18	200	Long
SEMD98110E	R5.5	11.0	12	20	100	-
SEMD98120060E	R6.0	12.0	12	18	60	Short
SEMD98120080E	R6.0	12.0	12	18	80	Short
SEMD98120090E	R6.0	12.0	12	18	90	Short
SEMD98120100E	R6.0	12.0	12	18	100	Short
SEMD98120E	R6.0	12.0	12	22	110	Regular
SEMD98120130E	R6.0	12.0	12	22	130	Long
SEMD98120150E	R6.0	12.0	12	22	150	Long
SEMD98120180E	R6.0	12.0	12	22	180	Long
SEMD98120200E	R6.0	12.0	12	22	200	Long
SEMD98130E	R6.5	13.0	12	24	100	-
SEMD98140E	R7.0	14.0	12	26	100	Regular

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Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



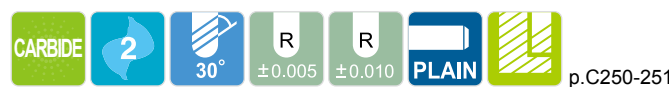
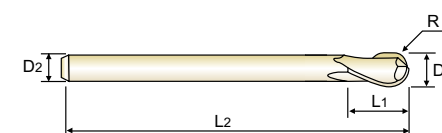
PLAIN SHANK SEMD98 SERIES

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-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

R0.05-R3 R325-R125

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEMD9814014SE	R7.0	14.0	14	26	100	-
SEMD9814016SE	R7.0	14.0	16	26	100	-
SEMD98150E	R7.5	15.0	16	28	140	-
SEMD98160100E	R8.0	16.0	16	24	100	Short
SEMD98160130E	R8.0	16.0	16	24	130	Short
SEMD98160E	R8.0	16.0	16	30	150	Regular
SEMD98160180E	R8.0	16.0	16	30	180	Long
SEMD98160200E	R8.0	16.0	16	30	200	Long
SEMD98180E	R9.0	18.0	16	34	150	Regular
SEMD9818018SE	R9.0	18.0	18	34	150	-
SEMD98200100E	R10.0	20.0	20	30	100	Short
SEMD98200130E	R10.0	20.0	20	30	130	Short
SEMD98200E	R10.0	20.0	20	38	150	Regular
SEMD98200200E	R10.0	20.0	20	38	200	Long
SEMD98250120E	R12.5	25.0	25	50	120	Short
SEMD98250E	R12.5	25.0	25	50	180	Regular

Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

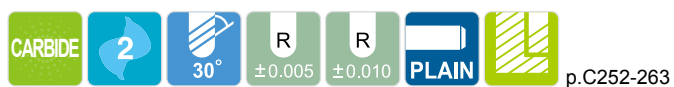
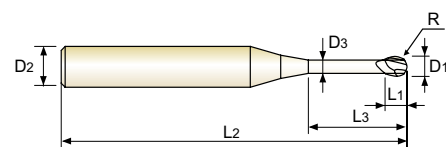
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ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
硬质合金, 2刃 球头 颈部加长

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-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

R0.05-R3 R4-R6 Unit(单位): mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角	直径	柄径	刃长	颈长	全长	颈径
	R	D1	D2	L1	L3	L2	D3
SEM846001002E	R0.05	0.1	4	0.1	0.2	40	0.085
SEM846001003E	R0.05	0.1	4	0.1	0.3	40	0.085
SEM846001005E	R0.05	0.1	4	0.1	0.5	40	0.085
SEM84600101E	R0.05	0.1	4	0.1	1	40	0.085
SEM846002005E	R0.1	0.2	4	0.2	0.5	40	0.17
SEM84600201E	R0.1	0.2	4	0.2	1	40	0.17
SEM846002015E	R0.1	0.2	4	0.2	1.5	40	0.17
SEM84600202E	R0.1	0.2	4	0.2	2	40	0.17
SEM84600203E	R0.1	0.2	4	0.2	3	40	0.17
SEM84600301E	R0.15	0.3	4	0.3	1	40	0.27
SEM846003015E	R0.15	0.3	4	0.3	1.5	40	0.27
SEM84600302E	R0.15	0.3	4	0.3	2	40	0.27
SEM846003025E	R0.15	0.3	4	0.3	2.5	40	0.27
SEM84600303E	R0.15	0.3	4	0.3	3	40	0.27
SEM84600304E	R0.15	0.3	4	0.3	4	40	0.27
SEM84600305E	R0.15	0.3	4	0.3	5	40	0.27
SEM84600401E	R0.2	0.4	4	0.4	1	40	0.37
SEM846004015E	R0.2	0.4	4	0.4	1.5	40	0.37
SEM84600402E	R0.2	0.4	4	0.4	2	40	0.37
SEM846004025E	R0.2	0.4	4	0.4	2.5	40	0.37
SEM84600403E	R0.2	0.4	4	0.4	3	40	0.37
SEM84600404E	R0.2	0.4	4	0.4	4	40	0.37
SEM84600405E	R0.2	0.4	4	0.4	5	40	0.37
SEM84600406E	R0.2	0.4	4	0.4	6	40	0.37

Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

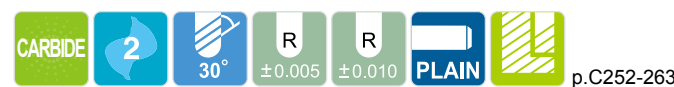
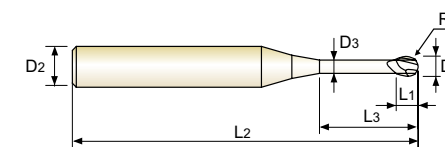
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	◎	○

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

R0.05-R3 R4-R6 Unit(单位): mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角	直径	柄径	刃长	颈长	全长	颈径
	R	D1	D2	L1	L3	L2	D3
SEM84600408E	R0.2	0.4	4	0.4	8	40	0.37
SEM84600410E	R0.2	0.4	4	0.4	10	40	0.37
SEM84600501E	R0.25	0.5	4	0.5	1	45	0.45
SEM846005015E	R0.25	0.5	4	0.5	1.5	45	0.45
SEM84600502E	R0.25	0.5	4	0.5	2	45	0.45
SEM846005025E	R0.25	0.5	4	0.5	2.5	45	0.45
SEM84600503E	R0.25	0.5	4	0.5	3	45	0.45
SEM84600504E	R0.25	0.5	4	0.5	4	45	0.45
SEM84600505E	R0.25	0.5	4	0.5	5	45	0.45
SEM84600506E	R0.25	0.5	4	0.5	6	45	0.45
SEM84600508E	R0.25	0.5	4	0.5	8	45	0.45
SEM84600510E	R0.25	0.5	4	0.5	10	45	0.45
SEM84600512E	R0.25	0.5	4	0.5	12	45	0.45
SEM84600514E	R0.25	0.5	4	0.5	14	45	0.45
SEM84600516E	R0.25	0.5	4	0.5	16	45	0.45
SEM84600601E	R0.3	0.6	4	0.6	1	45	0.55
SEM84600602E	R0.3	0.6	4	0.6	2	45	0.55
SEM84600603E	R0.3	0.6	4	0.6	3	45	0.55
SEM84600604E	R0.3	0.6	4	0.6	4	45	0.55
SEM84600605E	R0.3	0.6	4	0.6	5	45	0.55
SEM84600606E	R0.3	0.6	4	0.6	6	45	0.55
SEM84600608E	R0.3	0.6	4	0.6	8	45	0.55
SEM84600610E	R0.3	0.6	4	0.6	10	45	0.55
SEM84600612E	R0.3	0.6	4	0.6	12	45	0.55

Size 尺寸	RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

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◎ : Excellent (优秀) ○ : Good (良好)

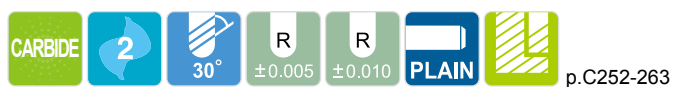
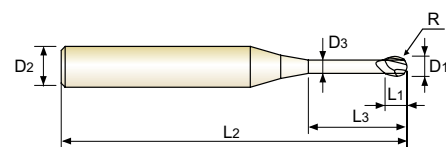
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	◎	○

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角	直径	柄径	刃长	颈长	全长	颈径
	R	D1	D2	L1	L3	L2	D3
SEM84600614E	R0.3	0.6	4	0.6	14	45	0.55
SEM84600616E	R0.3	0.6	4	0.6	16	45	0.55
SEM84600702E	R0.35	0.7	4	0.7	2	45	0.65
SEM84600704E	R0.35	0.7	4	0.7	4	45	0.65
SEM84600706E	R0.35	0.7	4	0.7	6	45	0.65
SEM84600708E	R0.35	0.7	4	0.7	8	45	0.65
SEM84600710E	R0.35	0.7	4	0.7	10	45	0.65
SEM84600712E	R0.35	0.7	4	0.7	12	45	0.65
SEM84600801E	R0.4	0.8	4	0.8	1	45	0.75
SEM84600802E	R0.4	0.8	4	0.8	2	45	0.75
SEM84600803E	R0.4	0.8	4	0.8	3	45	0.75
SEM84600804E	R0.4	0.8	4	0.8	4	45	0.75
SEM84600805E	R0.4	0.8	4	0.8	5	45	0.75
SEM84600806E	R0.4	0.8	4	0.8	6	45	0.75
SEM84600808E	R0.4	0.8	4	0.8	8	45	0.75
SEM84600810E	R0.4	0.8	4	0.8	10	45	0.75
SEM84600812E	R0.4	0.8	4	0.8	12	45	0.75
SEM84600814E	R0.4	0.8	4	0.8	14	45	0.75
SEM84600816E	R0.4	0.8	4	0.8	16	45	0.75
SEM84600820E	R0.4	0.8	4	0.8	20	45	0.75
SEM84600904E	R0.45	0.9	4	0.9	4	45	0.85
SEM84600906E	R0.45	0.9	4	0.9	6	45	0.85
SEM84600908E	R0.45	0.9	4	0.9	8	45	0.85
SEM84600910E	R0.45	0.9	4	0.9	10	45	0.85

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Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

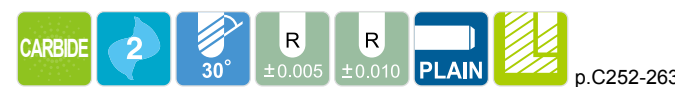
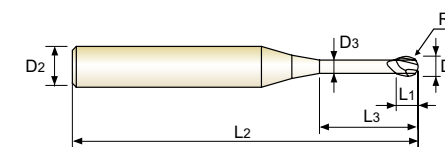
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角	直径	柄径	刃长	颈长	全长	颈径
	R	D1	D2	L1	L3	L2	D3
SEM84601002E	R0.5	1.0	4	1	2	50	0.95
SEM84601003E	R0.5	1.0	4	1	3	50	0.95
SEM84601004E	R0.5	1.0	4	1	4	50	0.95
SEM84601005E	R0.5	1.0	4	1	5	50	0.95
SEM84601006E	R0.5	1.0	4	1	6	50	0.95
SEM84601007E	R0.5	1.0	4	1	7	50	0.95
SEM84601008E	R0.5	1.0	4	1	8	50	0.95
SEM84601009E	R0.5	1.0	4	1	9	50	0.95
SEM84601010E	R0.5	1.0	4	1	10	50	0.95
SEM84601012E	R0.5	1.0	4	1	12	50	0.95
SEM84601014E	R0.5	1.0	4	1	14	50	0.95
SEM84601016E	R0.5	1.0	4	1	16	50	0.95
SEM84601018E	R0.5	1.0	4	1	18	50	0.95
SEM84601020E	R0.5	1.0	4	1	20	50	0.95
SEM84601022E	R0.5	1.0	4	1	22	60	0.95
SEM84601026E	R0.5	1.0	4	1	26	60	0.95
SEM84601030E	R0.5	1.0	4	1	30	70	0.95
SEM84601040E	R0.5	1.0	4	1	40	80	0.95
SEM84601050E	R0.5	1.0	4	1	50	100	0.95
SEM84601204E	R0.6	1.2	4	1.2	4	50	1.15
SEM84601206E	R0.6	1.2	4	1.2	6	50	1.15
SEM84601208E	R0.6	1.2	4	1.2	8	50	1.15
SEM84601210E	R0.6	1.2	4	1.2	10	50	1.15
SEM84601212E	R0.6	1.2	4	1.2	12	50	1.15

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Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
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◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○



PLAIN SHANK SEM846 SERIES

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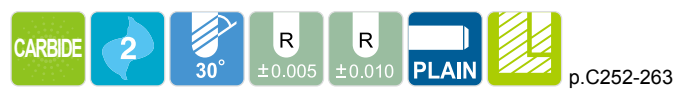
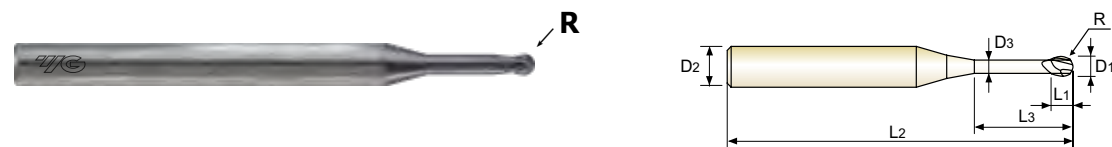


Table with 4 columns: Flat Shank, Page, Plain Shank, Page. Lists recommended toolholders like END MILL HOLDER, HYDRAULIC CHUCK, etc.

Main product table with 8 columns: EDP No., Radius of Ball Nose, Mill Diameter, Shank Diameter, Length of Cut, Length Below Shank, Overall Length, Neck Diameter. Lists various SEM846 models.

Size tolerance table with 4 columns: Size, RadiusTolerance, Mill Dia.Tolerance, Shank Dia.Tolerance.

ISO material compatibility table with columns for P (Non-alloy steel), M (Stainless steel), K (Grey cast iron), N (Aluminum), S (Heat Resistant Super Alloys), H (Titanium Alloys).



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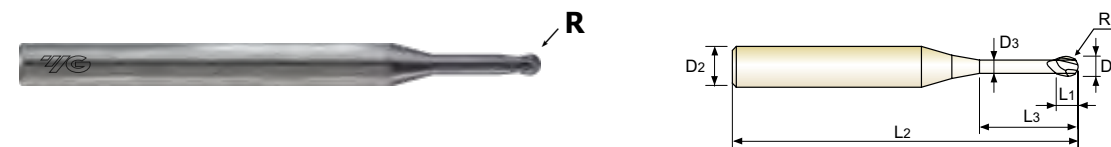


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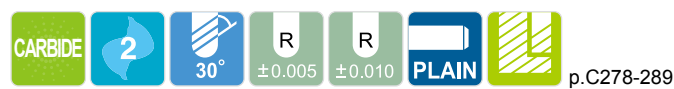
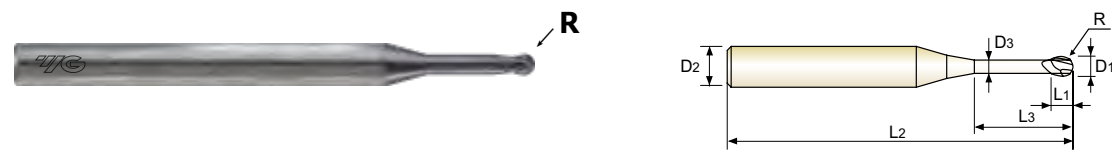
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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
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-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角	直径	柄径	刃长	颈长	全长	颈径
	R	D1	D2	L1	L3	L2	D3
SEM84602022E	R1.0	2.0	4	2	22	60	1.95
SEM84602026E	R1.0	2.0	4	2	26	60	1.95
SEM84602030E	R1.0	2.0	4	2	30	70	1.95
SEM84602035E	R1.0	2.0	4	2	35	70	1.95
SEM84602040E	R1.0	2.0	4	2	40	80	1.95
SEM84602045E	R1.0	2.0	4	2	45	90	1.95
SEM84602050E	R1.0	2.0	4	2	50	100	1.95
SEM84602060E	R1.0	2.0	4	2	60	110	1.95
SEM84602508E	R1.25	2.5	4	2.5	8	50	2.40
SEM84602510E	R1.25	2.5	4	2.5	10	50	2.40
SEM84602512E	R1.25	2.5	4	2.5	12	50	2.40
SEM84602516E	R1.25	2.5	4	2.5	16	50	2.40
SEM84602520E	R1.25	2.5	4	2.5	20	50	2.40
SEM84602522E	R1.25	2.5	4	2.5	22	60	2.40
SEM84602526E	R1.25	2.5	4	2.5	26	60	2.40
SEM84602530E	R1.25	2.5	4	2.5	30	70	2.40
SEM84602535E	R1.25	2.5	4	2.5	35	70	2.40
SEM84602540E	R1.25	2.5	4	2.5	40	80	2.40
SEM84602545E	R1.25	2.5	4	2.5	45	90	2.40
SEM84602550E	R1.25	2.5	4	2.5	50	100	2.40
SEM84603006E	R1.5	3.0	6	3	6	50	2.85
SEM84603008E	R1.5	3.0	6	3	8	50	2.85
SEM84603010E	R1.5	3.0	6	3	10	50	2.85
SEM84603012E	R1.5	3.0	6	3	12	50	2.85

Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

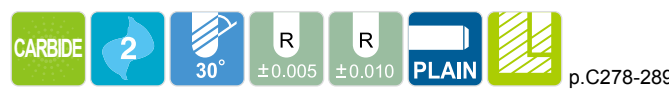
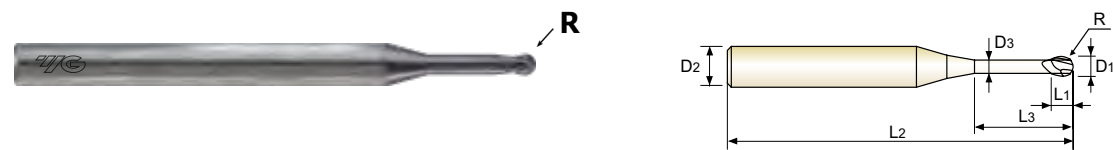
◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
硬质合金, 2刃 球头 颈部加长

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- ▶ 加工模具产业的预硬钢(HRc55以下)表现出色



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角	直径	柄径	刃长	颈长	全长	颈径
	R	D1	D2	L1	L3	L2	D3
SEM84603014E	R1.5	3.0	6	3	14	60	2.85
SEM84603015E	R1.5	3.0	6	3	15	60	2.85
SEM84603016E	R1.5	3.0	6	3	16	60	2.85
SEM84603018E	R1.5	3.0	6	3	18	60	2.85
SEM84603020E	R1.5	3.0	6	3	20	60	2.85
SEM84603022E	R1.5	3.0	6	3	22	65	2.85
SEM84603026E	R1.5	3.0	6	3	26	65	2.85
SEM84603030E	R1.5	3.0	6	3	30	70	2.85
SEM84603035E	R1.5	3.0	6	3	35	70	2.85
SEM84603040E	R1.5	3.0	6	3	40	80	2.85
SEM84603045E	R1.5	3.0	6	3	45	90	2.85
SEM84603050E	R1.5	3.0	6	3	50	100	2.85
SEM84603060E	R1.5	3.0	6	3	60	100	2.85
SEM84604008E	R2.0	4.0	6	4	8	50	3.85
SEM84604010E	R2.0	4.0	6	4	10	50	3.85
SEM84604012E	R2.0	4.0	6	4	12	50	3.85
SEM84604014E	R2.0	4.0	6	4	14	60	3.85
SEM84604016E	R2.0	4.0	6	4	16	60	3.85
SEM84604018E	R2.0	4.0	6	4	18	60	3.85
SEM84604020E	R2.0	4.0	6	4	20	60	3.85
SEM84604022E	R2.0	4.0	6	4	22	65	3.85
SEM84604026E	R2.0	4.0	6	4	26	65	3.85
SEM84604030E	R2.0	4.0	6	4	30	70	3.85
SEM84604035E	R2.0	4.0	6	4	35	70	3.85

Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

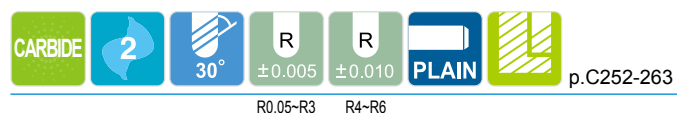
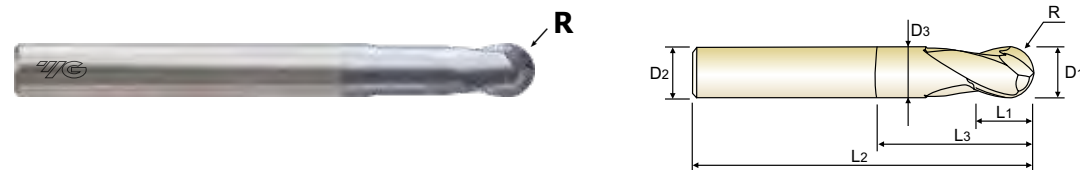
◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角	直径	柄径	刃长	颈长	全长	颈径
	R	D1	D2	L1	L3	L2	D3
SEM84604040E	R2.0	4.0	6	4	40	80	3.85
SEM84604045E	R2.0	4.0	6	4	45	90	3.85
SEM84604050E	R2.0	4.0	6	4	50	100	3.85
SEM84604055E	R2.0	4.0	6	4	55	100	3.85
SEM84604060E	R2.0	4.0	6	4	60	100	3.85
SEM84605015E	R2.5	5.0	6	6	15	60	4.85
SEM84605020E	R2.5	5.0	6	6	20	60	4.85
SEM84605026E	R2.5	5.0	6	6	26	65	4.85
SEM84605030E	R2.5	5.0	6	6	30	70	4.85
SEM84605035E	R2.5	5.0	6	6	35	70	4.85
SEM84605040E	R2.5	5.0	6	6	40	80	4.85
SEM84605045E	R2.5	5.0	6	6	45	90	4.85
SEM84605050E	R2.5	5.0	6	6	50	100	4.85
SEM84605055E	R2.5	5.0	6	6	55	100	4.85
SEM84605060E	R2.5	5.0	6	6	60	100	4.85
SEM84606020E	R3.0	6.0	6	8	20	60	5.85
SEM84606030E	R3.0	6.0	6	8	30	60	5.85
SEM84606020090E	R3.0	6.0	6	12	20	90	5.85
SEM84606030090E	R3.0	6.0	6	12	30	90	5.85
SEM84608025E	R4.0	8.0	8	10	25	70	7.70
SEM84608035E	R4.0	8.0	8	10	35	70	7.70
SEM84608025100E	R4.0	8.0	8	14	25	100	7.70
SEM84608035100E	R4.0	8.0	8	14	35	100	7.70
SEM84610030E	R5.0	10.0	10	12	30	75	9.70

Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

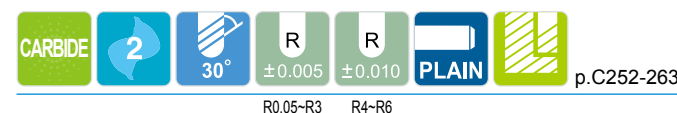
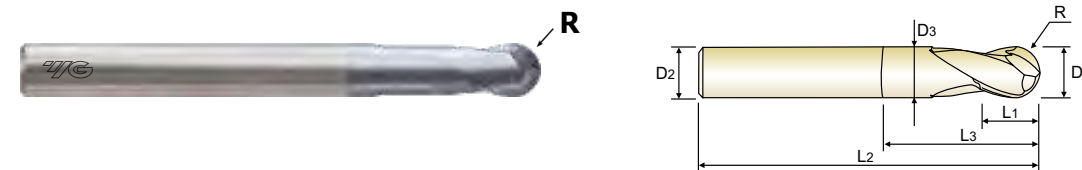
ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
Recommend																		○	◎	◎	○

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK
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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角	直径	柄径	刃长	颈长	全长	颈径
	R	D1	D2	L1	L3	L2	D3
SEM84610040E	R5.0	10.0	10	12	40	75	9.70
SEM84610030100E	R5.0	10.0	10	18	30	100	9.70
SEM84610040100E	R5.0	10.0	10	18	40	100	9.70
SEM84612032E	R6.0	12.0	12	14	32	80	11.70
SEM84612045E	R6.0	12.0	12	14	45	80	11.70
SEM84612032110E	R6.0	12.0	12	22	32	110	11.70
SEM84612045110E	R6.0	12.0	12	22	45	110	11.70

Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
Recommend																		○	◎	◎	○

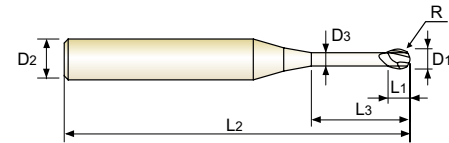


PLAIN SHANK SEM846 SERIES

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK (6mm shank)
硬质合金, 2刃球头颈部加长 (6mm 柄径)

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
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EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
SEM846005016SE	R0.25	0.5	6	0.5	1	45	0.45
SEM846005026SE	R0.25	0.5	6	0.5	2	45	0.45
SEM846005046SE	R0.25	0.5	6	0.5	4	45	0.45
SEM846006016SE	R0.3	0.6	6	0.6	1	45	0.55
SEM846006026SE	R0.3	0.6	6	0.6	2	45	0.55
SEM846006036SE	R0.3	0.6	6	0.6	3	45	0.55
SEM846006046SE	R0.3	0.6	6	0.6	4	45	0.55
SEM846006056SE	R0.3	0.6	6	0.6	5	45	0.55
SEM846006066SE	R0.3	0.6	6	0.6	6	45	0.55
SEM846006086SE	R0.3	0.6	6	0.6	8	45	0.55
SEM846006106SE	R0.3	0.6	6	0.6	10	45	0.55
SEM846006126SE	R0.3	0.6	6	0.6	12	45	0.55
SEM846006146SE	R0.3	0.6	6	0.6	14	45	0.55
SEM846006166SE	R0.3	0.6	6	0.6	16	45	0.55
SEM846008016SE	R0.4	0.8	6	0.8	1	45	0.75
SEM846008026SE	R0.4	0.8	6	0.8	2	45	0.75
SEM846008036SE	R0.4	0.8	6	0.8	3	45	0.75
SEM846008046SE	R0.4	0.8	6	0.8	4	45	0.75
SEM846008056SE	R0.4	0.8	6	0.8	5	45	0.75
SEM846008066SE	R0.4	0.8	6	0.8	6	45	0.75
SEM846008086SE	R0.4	0.8	6	0.8	8	45	0.75
SEM846008106SE	R0.4	0.8	6	0.8	10	45	0.75
SEM846008126SE	R0.4	0.8	6	0.8	12	45	0.75
SEM846008146SE	R0.4	0.8	6	0.8	14	45	0.75

▶ NEXT PAGE 下页

RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.005	0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																		○	◎	○	○	○

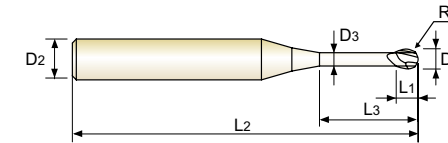


PLAIN SHANK SEM846 SERIES

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK (6mm shank)
硬质合金, 2刃球头颈部加长 (6mm 柄径)

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
SEM846008166SE	R0.4	0.8	6	0.8	16	45	0.75
SEM846008206SE	R0.4	0.8	6	0.8	20	45	0.75
SEM846010026SE	R0.5	1.0	6	1	2	50	0.95
SEM846010036SE	R0.5	1.0	6	1	3	50	0.95
SEM846010046SE	R0.5	1.0	6	1	4	50	0.95
SEM846010056SE	R0.5	1.0	6	1	5	50	0.95
SEM846010066SE	R0.5	1.0	6	1	6	50	0.95
SEM846010076SE	R0.5	1.0	6	1	7	50	0.95
SEM846010086SE	R0.5	1.0	6	1	8	50	0.95
SEM846010096SE	R0.5	1.0	6	1	9	50	0.95
SEM846010106SE	R0.5	1.0	6	1	10	50	0.95
SEM846010126SE	R0.5	1.0	6	1	12	50	0.95
SEM846010146SE	R0.5	1.0	6	1	14	50	0.95
SEM846010166SE	R0.5	1.0	6	1	16	50	0.95
SEM846010186SE	R0.5	1.0	6	1	18	50	0.95
SEM846010206SE	R0.5	1.0	6	1	20	50	0.95
SEM846010226SE	R0.5	1.0	6	1	22	60	0.95
SEM846010266SE	R0.5	1.0	6	1	26	60	0.95
SEM846010306SE	R0.5	1.0	6	1	30	70	0.95
SEM846015036SE	R0.75	1.5	6	1.5	3	50	1.45
SEM846015046SE	R0.75	1.5	6	1.5	4	50	1.45
SEM846015066SE	R0.75	1.5	6	1.5	6	50	1.45
SEM846015086SE	R0.75	1.5	6	1.5	8	50	1.45
SEM846015106SE	R0.75	1.5	6	1.5	10	50	1.45

▶ NEXT PAGE 下页

RadiusTolerance (mm) 圆弧角公差	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.005	0 ~ - 0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

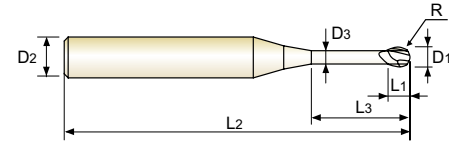
ISO Material Description	N										S				H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																		○	◎	○	○	○



PLAIN SHANK SEM846 SERIES

CARBIDE, 2 FLUTE BALL NOSE with EXTENDED NECK (6mm shank)
硬质合金, 2刃 球头 颈部加长 (6mm 柄径)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ With its unique ball nose geometry and cutting edges the cutting force has decreased, also increasing wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 基于独特设计球头及刀尖形状, 减少切削阻力, 提高耐磨性
- ▶ 加工模具产业的预硬钢(HRc55以下)表现出色



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
SEM846015126SE	R0.75	1.5	6	1.5	12	50	1.45
SEM846015146SE	R0.75	1.5	6	1.5	14	50	1.45
SEM846015166SE	R0.75	1.5	6	1.5	16	50	1.45
SEM846015186SE	R0.75	1.5	6	1.5	18	50	1.45
SEM846015206SE	R0.75	1.5	6	1.5	20	50	1.45
SEM846015226SE	R0.75	1.5	6	1.5	22	60	1.45
SEM846015266SE	R0.75	1.5	6	1.5	26	60	1.45
SEM846015306SE	R0.75	1.5	6	1.5	30	70	1.45
SEM846015356SE	R0.75	1.5	6	1.5	35	70	1.45
SEM846015406SE	R0.75	1.5	6	1.5	40	80	1.45
SEM846020046SE	R1.0	2.0	6	2	4	50	1.95
SEM846020066SE	R1.0	2.0	6	2	6	50	1.95
SEM846020086SE	R1.0	2.0	6	2	8	50	1.95
SEM846020106SE	R1.0	2.0	6	2	10	50	1.95
SEM846020126SE	R1.0	2.0	6	2	12	50	1.95
SEM846020146SE	R1.0	2.0	6	2	14	50	1.95
SEM846020166SE	R1.0	2.0	6	2	16	50	1.95
SEM846020186SE	R1.0	2.0	6	2	18	50	1.95
SEM846020206SE	R1.0	2.0	6	2	20	50	1.95
SEM846020226SE	R1.0	2.0	6	2	22	60	1.95
SEM846020266SE	R1.0	2.0	6	2	26	60	1.95
SEM846020306SE	R1.0	2.0	6	2	30	70	1.95
SEM846020356SE	R1.0	2.0	6	2	35	70	1.95
SEM846020406SE	R1.0	2.0	6	2	40	80	1.95
SEM846020456SE	R1.0	2.0	6	2	45	90	1.95
SEM846020506SE	R1.0	2.0	6	2	50	100	1.95

Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
圆弧角公差	直径公差	柄径公差
± 0.005	0 ~ -0.012	h5

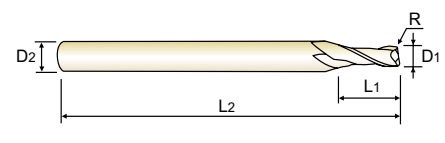
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○



PLAIN SHANK SEMD99 SERIES

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)
硬质合金, 2刃 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in short, regular and long shank end mills.
- ▶ Available with various corner radius end mills, from 0.02mm to 5.0mm corner radius.
- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
- ▶ 可提供短, 普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R5.0mm)



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEMD99002002E	R0.02	0.2	4	0.4	40	-
SEMD99002005E	R0.05	0.2	4	0.4	40	-
SEMD99003002E	R0.02	0.3	4	0.6	40	-
SEMD99003005E	R0.05	0.3	4	0.6	40	-
SEMD99004005E	R0.05	0.4	4	0.8	40	-
SEMD9900401E	R0.1	0.4	4	0.8	40	-
SEMD99005005E	R0.05	0.5	4	1	40	-
SEMD9900501E	R0.1	0.5	4	1	40	-
SEMD99006005E	R0.05	0.6	4	1.2	40	-
SEMD9900601E	R0.1	0.6	4	1.2	40	-
SEMD9900602E	R0.2	0.6	4	1.2	40	-
SEMD99007005E	R0.05	0.7	4	1.4	40	-
SEMD9900701E	R0.1	0.7	4	1.4	40	-
SEMD9900702E	R0.2	0.7	4	1.4	40	-
SEMD99008005E	R0.05	0.8	4	1.6	40	-
SEMD9900801E	R0.1	0.8	4	1.6	40	-
SEMD9900802E	R0.2	0.8	4	1.6	40	-
SEMD99009005E	R0.05	0.9	4	1.8	40	-
SEMD9900901E	R0.1	0.9	4	1.8	40	-
SEMD990100054SE	R0.05	1.0	4	2.5	50	4mm Shank
SEMD99010014SE	R0.1	1.0	4	2.5	50	4mm Shank
SEMD99010024SE	R0.2	1.0	4	2.5	50	4mm Shank
SEMD99010034SE	R0.3	1.0	4	2.5	50	4mm Shank
SEMD99010005E	R0.05	1.0	6	2.5	50	-

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	± 0.010	0 ~ -0.012	h5
over Ø6 超过06	± 0.015	0 ~ -0.015	

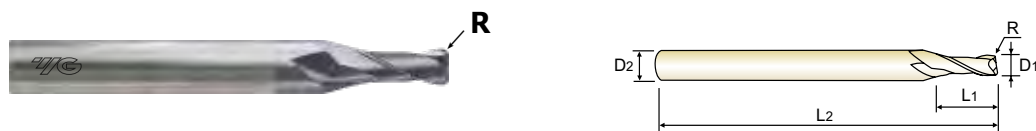
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金, 2刃 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ Available in short, regular and long shank end mills.
- ▶ Available with various corner radius end mills, from 0.02mm to 5.0mm corner radius.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRC55以下)表现出色
- ▶ 可提供短, 普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R5.0mm)



CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C264-265

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Recommended Toolholder

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEMD9901001E	R0.1	1.0	6	2.5	50	-
SEMD9901002E	R0.2	1.0	6	2.5	50	-
SEMD9901003E	R0.3	1.0	6	2.5	50	-
SEMD990120054SE	R0.05	1.2	4	3	50	4mm Shank
SEMD99012014SE	R0.1	1.2	4	3	50	4mm Shank
SEMD99012024SE	R0.2	1.2	4	3	50	4mm Shank
SEMD99012034SE	R0.3	1.2	4	3	50	4mm Shank
SEMD99012005E	R0.05	1.2	6	3	50	-
SEMD9901201E	R0.1	1.2	6	3	50	-
SEMD9901202E	R0.2	1.2	6	3	50	-
SEMD9901203E	R0.3	1.2	6	3	50	-
SEMD990150054SE	R0.05	1.5	4	4	50	-
SEMD99015014SE	R0.1	1.5	4	4	50	4mm Shank
SEMD99015024SE	R0.2	1.5	4	4	50	4mm Shank
SEMD99015034SE	R0.3	1.5	4	4	50	4mm Shank
SEMD99015054SE	R0.5	1.5	4	4	50	4mm Shank
SEMD99015005E	R0.05	1.5	6	4	50	-
SEMD9901501E	R0.1	1.5	6	4	50	-
SEMD9901502E	R0.2	1.5	6	4	50	-
SEMD9901503E	R0.3	1.5	6	4	50	-
SEMD9901505E	R0.5	1.5	6	4	50	-
SEMD99020014SE	R0.1	2.0	4	6	50	4mm Shank
SEMD99020024SE	R0.2	2.0	4	6	50	4mm Shank
SEMD99020034SE	R0.3	2.0	4	6	50	4mm Shank

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	

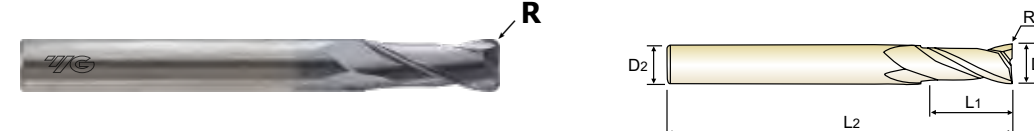
ISO Material Description	N										S						H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys			Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550			
HB	60	100	75	90	130	110	90	100																
Recommend																								

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金, 2刃 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ Available in short, regular and long shank end mills.
- ▶ Available with various corner radius end mills, from 0.02mm to 5.0mm corner radius.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRC55以下)表现出色
- ▶ 可提供短, 普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R5.0mm)



CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C264-265

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Recommended Toolholder

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEMD99020054SE	R0.5	2.0	4	6	50	4mm Shank
SEMD9902001E	R0.1	2.0	6	6	50	-
SEMD9902002E	R0.2	2.0	6	6	50	-
SEMD9902003E	R0.3	2.0	6	6	50	-
SEMD9902005E	R0.5	2.0	6	6	50	-
SEMD99025014SE	R0.1	2.5	4	7	60	4mm Shank
SEMD99025024SE	R0.2	2.5	4	7	60	4mm Shank
SEMD99025034SE	R0.3	2.5	4	7	60	4mm Shank
SEMD99025054SE	R0.5	2.5	4	7	60	4mm Shank
SEMD9902501E	R0.1	2.5	6	7	60	-
SEMD9902502E	R0.2	2.5	6	7	60	-
SEMD9902503E	R0.3	2.5	6	7	60	-
SEMD9902505E	R0.5	2.5	6	7	60	-
SEMD9903001E	R0.1	3.0	6	8	60	-
SEMD9903002E	R0.2	3.0	6	8	60	-
SEMD9903003E	R0.3	3.0	6	8	60	-
SEMD9903005E	R0.5	3.0	6	8	60	-
SEMD9903010E	R1.0	3.0	6	8	60	-
SEMD9903501E	R0.1	3.5	6	10	70	-
SEMD9903502E	R0.2	3.5	6	10	70	-
SEMD9903503E	R0.3	3.5	6	10	70	-
SEMD9903505E	R0.5	3.5	6	10	70	-
SEMD99040014SE	R0.1	4.0	4	10	70	4mm Shank
SEMD99040024SE	R0.2	4.0	4	10	70	4mm Shank

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	

ISO Material Description	N										S						H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys			Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550			
HB	60	100	75	90	130	110	90	100																
Recommend																								



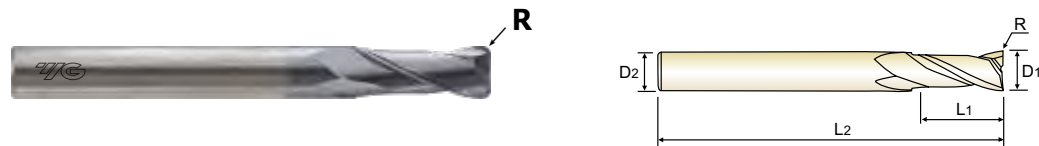
PLAIN SHANK SEMD99 SERIES

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金, 2刃 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available in short, regular and long shank end mills.
- ▶ Available with various corner radius end mills, from 0.02mm to 5.0mm corner radius.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
- ▶ 可提供短, 普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R5.0mm)



CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C264-265

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Recommended Toolholder

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEMD99040034SE	R0.3	4.0	4	10	70	4mm Shank
SEMD99040054SE	R0.5	4.0	4	10	70	4mm Shank
SEMD99040104SE	R1.0	4.0	4	10	70	4mm Shank
SEMD99040011004SE	R0.1	4.0	4	10	100	4mm Shank
SEMD99040021004SE	R0.2	4.0	4	10	100	4mm Shank
SEMD99040031004SE	R0.3	4.0	4	10	100	4mm Shank
SEMD99040051004SE	R0.5	4.0	4	10	100	4mm Shank
SEMD99040101004SE	R1.0	4.0	4	10	100	4mm Shank
SEMD9904001E	R0.1	4.0	6	10	70	Regular
SEMD9904002E	R0.2	4.0	6	10	70	Regular
SEMD9904003E	R0.3	4.0	6	10	70	Regular
SEMD9904005E	R0.5	4.0	6	10	70	Regular
SEMD9904010E	R1.0	4.0	6	10	70	Regular
SEMD9904501E	R0.1	4.5	6	11	80	-
SEMD9904502E	R0.2	4.5	6	11	80	-
SEMD9904503E	R0.3	4.5	6	11	80	-
SEMD9904505E	R0.5	4.5	6	11	80	-
SEMD9905001E	R0.1	5.0	6	13	90	-
SEMD9905002E	R0.2	5.0	6	13	90	-
SEMD9905003E	R0.3	5.0	6	13	90	-
SEMD9905005E	R0.5	5.0	6	13	90	-
SEMD9905010E	R1.0	5.0	6	13	90	-
SEMD9905501E	R0.1	5.5	6	13	90	-
SEMD9905502E	R0.2	5.5	6	13	90	-

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M					K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	630	400	550	550	
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	550	
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



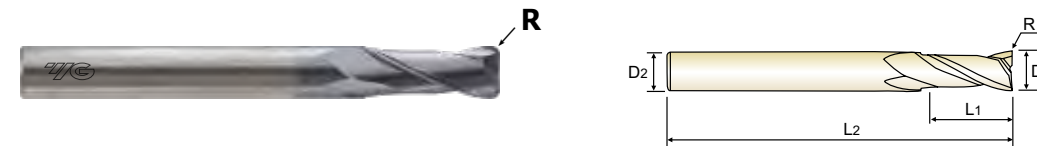
PLAIN SHANK SEMD99 SERIES

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金, 2刃 圆鼻 (短刃, 普通刃长, 长柄)

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CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C264-265

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Recommended Toolholder

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEMD9905503E	R0.3	5.5	6	13	90	-
SEMD9905505E	R0.5	5.5	6	13	90	-
SEMD9905510E	R1.0	5.5	6	13	90	-
SEMD9906002060E	R0.2	6.0	6	15	60	Short
SEMD9906003060E	R0.3	6.0	6	15	60	Short
SEMD9906005060E	R0.5	6.0	6	15	60	Short
SEMD9906010060E	R1.0	6.0	6	15	60	Short
SEMD9906001E	R0.1	6.0	6	15	90	Regular
SEMD9906002E	R0.2	6.0	6	15	90	Regular
SEMD9906003E	R0.3	6.0	6	15	90	Regular
SEMD9906005E	R0.5	6.0	6	15	90	Regular
SEMD9906010E	R1.0	6.0	6	15	90	Regular
SEMD9906015E	R1.5	6.0	6	15	90	Regular
SEMD9906020E	R2.0	6.0	6	15	90	Regular
SEMD9906005110E	R0.5	6.0	6	15	110	Long
SEMD9906010110E	R1.0	6.0	6	15	110	Long
SEMD9906005130E	R0.5	6.0	6	15	130	Long
SEMD9906010130E	R1.0	6.0	6	15	130	Long
SEMD9907001E	R0.1	7.0	8	16	90	-
SEMD9907002E	R0.2	7.0	8	16	90	-
SEMD9907003E	R0.3	7.0	8	16	90	-
SEMD9907005E	R0.5	7.0	8	16	90	-
SEMD9907010E	R1.0	7.0	8	16	90	-
SEMD9907020E	R2.0	7.0	8	16	90	-

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M					K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

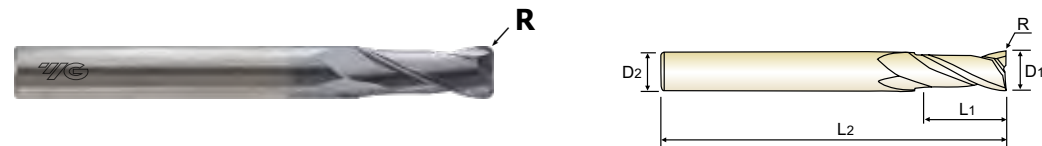
ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	630	400	550	550	
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	550	
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金, 2刃 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
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- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
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- ▶ 可提供多种圆弧角铣刀(R0.02mm~R5.0mm)



CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C264-265

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Recommended Toolholder

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEMD9908003070E	R0.3	8.0	8	20	70	Short
SEMD9908005070E	R0.5	8.0	8	20	70	Short
SEMD9908010070E	R1.0	8.0	8	20	70	Short
SEMD9908001E	R0.1	8.0	8	20	100	Regular
SEMD9908002E	R0.2	8.0	8	20	100	Regular
SEMD9908003E	R0.3	8.0	8	20	100	Regular
SEMD9908005E	R0.5	8.0	8	20	100	Regular
SEMD9908010E	R1.0	8.0	8	20	100	Regular
SEMD9908015E	R1.5	8.0	8	20	100	Regular
SEMD9908020E	R2.0	8.0	8	20	100	Regular
SEMD9908025E	R2.5	8.0	8	20	100	Regular
SEMD9908030E	R3.0	8.0	8	20	100	Regular
SEMD9908005120E	R0.5	8.0	8	20	120	Long
SEMD9908010120E	R1.0	8.0	8	20	120	Long
SEMD9908015150E	R0.5	8.0	8	20	150	Long
SEMD9908010150E	R1.0	8.0	8	20	150	Long
SEMD9910003075E	R0.3	10.0	10	25	75	Short
SEMD9910005075E	R0.5	10.0	10	25	75	Short
SEMD9910010075E	R1.0	10.0	10	25	75	Short
SEMD9910001E	R0.1	10.0	10	25	100	Regular
SEMD9910002E	R0.2	10.0	10	25	100	Regular
SEMD9910003E	R0.3	10.0	10	25	100	Regular
SEMD9910005E	R0.5	10.0	10	25	100	Regular
SEMD9910010E	R1.0	10.0	10	25	100	Regular

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

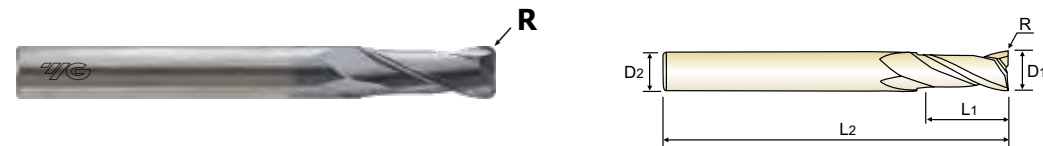
ISO	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	630	400	550	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																		○	◎	◎	○	○

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金, 2刃 圆鼻 (短刃, 普通刃长, 长柄)

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CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C264-265

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
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Recommended Toolholder

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEMD9910015E	R1.5	10.0	10	25	100	Regular
SEMD9910020E	R2.0	10.0	10	25	100	Regular
SEMD9910025E	R2.5	10.0	10	25	100	Regular
SEMD9910030E	R3.0	10.0	10	25	100	Regular
SEMD9910040E	R4.0	10.0	10	25	100	Regular
SEMD9910005130E	R0.5	10.0	10	25	130	Long
SEMD9910010130E	R1.0	10.0	10	25	130	Long
SEMD9910005150E	R0.5	10.0	10	25	150	Long
SEMD9910010150E	R1.0	10.0	10	25	150	Long
SEMD9911002E	R0.2	11.0	12	25	110	-
SEMD9911003E	R0.3	11.0	12	25	110	-
SEMD9911005E	R0.5	11.0	12	25	110	-
SEMD9911010E	R1.0	11.0	12	25	110	-
SEMD9911020E	R2.0	11.0	12	25	110	-
SEMD9912003080E	R0.3	12.0	12	30	80	Short
SEMD9912005080E	R0.5	12.0	12	30	80	Short
SEMD9912010080E	R1.0	12.0	12	30	80	Short
SEMD9912001E	R0.1	12.0	12	30	110	Regular
SEMD9912002E	R0.2	12.0	12	30	110	Regular
SEMD9912003E	R0.3	12.0	12	30	110	Regular
SEMD9912005E	R0.5	12.0	12	30	110	Regular
SEMD9912010E	R1.0	12.0	12	30	110	Regular
SEMD9912015E	R1.5	12.0	12	30	110	Regular
SEMD9912020E	R2.0	12.0	12	30	110	Regular

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
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ISO	P										M						K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron	Nodular cast iron		Malleable cast iron	
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VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

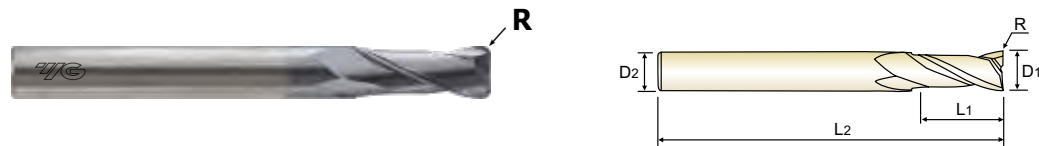
ISO	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	630	400	550	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																		○	◎	◎	○	○

CARBIDE, 2 FLUTE CORNER RADIUS (Short, Regular, Long Shank)

硬质合金, 2刃 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ Available in short, regular and long shank end mills.
- ▶ Available with various corner radius end mills, from 0.02mm to 5.0mm corner radius.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRC55以下)表现出色
- ▶ 可提供短, 普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R5.0mm)



CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C264-265

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Recommended Toolholder

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEMD9912025E	R2.5	12.0	12	30	110	Regular
SEMD9912030E	R3.0	12.0	12	30	110	Regular
SEMD9912040E	R4.0	12.0	12	30	110	Regular
SEMD9912050E	R5.0	12.0	12	30	110	Regular
SEMD9912005130E	R0.5	12.0	12	30	130	Long
SEMD9912010130E	R1.0	12.0	12	30	130	Long
SEMD9912005150E	R0.5	12.0	12	30	150	Long
SEMD9912010150E	R1.0	12.0	12	30	150	Long
SEMD9914005E	R0.5	14.0	16	35	150	-
SEMD9914010E	R1.0	14.0	16	35	150	-
SEMD9914020E	R2.0	14.0	16	35	150	-
SEMD9916005E	R0.5	16.0	16	32	150	-
SEMD9916010E	R1.0	16.0	16	32	150	-
SEMD9916015E	R1.5	16.0	16	32	150	-
SEMD9916020E	R2.0	16.0	16	32	150	-
SEMD9920005E	R0.5	20.0	20	38	150	-
SEMD9920010E	R1.0	20.0	20	38	150	-
SEMD9920015E	R1.5	20.0	20	38	150	-
SEMD9920020E	R2.0	20.0	20	38	150	-

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过06	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P									M						K				
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

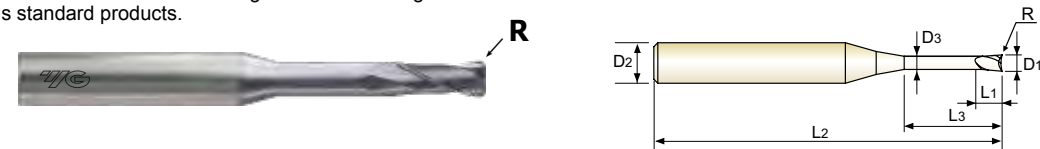
ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	○	○

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK

硬质合金, 2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ Available various products like regular length and long shank end mills etc.
- ▶ Available various corner radius end mills, from min. 0.02mm corner radius to max. 2.0mm corner radius.
- ▶ Available more various effective length and overall length end mills than previous standard products.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRC55以下)表现出色
- ▶ 可提供短, 普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C266-273

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Recommended Toolholder

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
SEME61002002005E	R0.02	0.2	4	0.3	0.5	40	0.17	-
SEME6100200201E	R0.02	0.2	4	0.3	1	40	0.17	-
SEME61002002015E	R0.02	0.2	4	0.3	1.5	40	0.17	-
SEME6100200202E	R0.02	0.2	4	0.3	2	40	0.17	-
SEME61002005005E	R0.05	0.2	4	0.3	0.5	40	0.17	-
SEME6100200501E	R0.05	0.2	4	0.3	1	40	0.17	-
SEME61002005015E	R0.05	0.2	4	0.3	1.5	40	0.17	-
SEME6100200502E	R0.05	0.2	4	0.3	2	40	0.17	-
SEME61003005015SE	R0.05	0.3	4	0.25	1.5	40	0.27	-
SEME6100300201E	R0.02	0.3	4	0.5	1	40	0.27	-
SEME6100300202E	R0.02	0.3	4	0.5	2	40	0.27	-
SEME6100300203E	R0.02	0.3	4	0.5	3	40	0.27	-
SEME6100300501E	R0.05	0.3	4	0.5	1	40	0.27	-
SEME6100300502E	R0.05	0.3	4	0.5	2	40	0.27	-
SEME6100300503E	R0.05	0.3	4	0.5	3	40	0.27	-
SEME6100300502S6SE	R0.05	0.3	6	0.25	2	40	0.27	-
SEME6100400501E	R0.05	0.4	4	0.6	1	40	0.37	-
SEME61004005015E	R0.05	0.4	4	0.6	1.5	40	0.37	-
SEME6100400502E	R0.05	0.4	4	0.6	2	40	0.37	-
SEME61004005025E	R0.05	0.4	4	0.6	2.5	40	0.37	-
SEME6100400503E	R0.05	0.4	4	0.6	3	40	0.37	-
SEME6100400504E	R0.05	0.4	4	0.6	4	40	0.37	-
SEME610040101E	R0.1	0.4	4	0.6	1	40	0.37	-
SEME6100401015E	R0.1	0.4	4	0.6	1.5	40	0.37	-

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过06	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

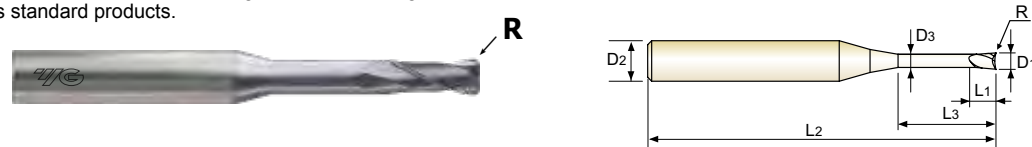
ISO Material Description	P									M						K				
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	○	○

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金, 2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
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- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRC55以下)表现出色
- ▶ 可提供短, 普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C266-273

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角	直径	柄径	刃长	颈长	全长	颈径	
	R	D1	D2	L1	L3	L2	D3	
SEME610070106E	R0.1	0.7	4	1.2	6	45	0.65	-
SEME610070108E	R0.1	0.7	4	1.2	8	45	0.65	-
SEME610070110E	R0.1	0.7	4	1.2	10	45	0.65	-
SEME610070202E	R0.2	0.7	4	1.2	2	45	0.65	-
SEME610070204E	R0.2	0.7	4	1.2	4	45	0.65	-
SEME610070206E	R0.2	0.7	4	1.2	6	45	0.65	-
SEME610070208E	R0.2	0.7	4	1.2	8	45	0.65	-
SEME610070210E	R0.2	0.7	4	1.2	10	45	0.65	-
SEME6100800502E	R0.05	0.8	4	1.2	2	45	0.75	-
SEME6100800503E	R0.05	0.8	4	1.2	3	45	0.75	-
SEME6100800504E	R0.05	0.8	4	1.2	4	45	0.75	-
SEME6100800506E	R0.05	0.8	4	1.2	6	45	0.75	-
SEME6100800508E	R0.05	0.8	4	1.2	8	45	0.75	-
SEME6100800510E	R0.05	0.8	4	1.2	10	45	0.75	-
SEME610080102E	R0.1	0.8	4	1.2	2	45	0.75	-
SEME610080103E	R0.1	0.8	4	1.2	3	45	0.75	-
SEME610080104E	R0.1	0.8	4	1.2	4	45	0.75	-
SEME610080106E	R0.1	0.8	4	1.2	6	45	0.75	-
SEME610080108E	R0.1	0.8	4	1.2	8	45	0.75	-
SEME610080110E	R0.1	0.8	4	1.2	10	45	0.75	-
SEME610080202E	R0.2	0.8	4	1.2	2	45	0.75	-
SEME610080203E	R0.2	0.8	4	1.2	3	45	0.75	-
SEME610080204E	R0.2	0.8	4	1.2	4	45	0.75	-
SEME610080206E	R0.2	0.8	4	1.2	6	45	0.75	-

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 以下	± 0.010	0 ~ -0.012	h5
over Ø6 超过	± 0.015	0 ~ -0.015	

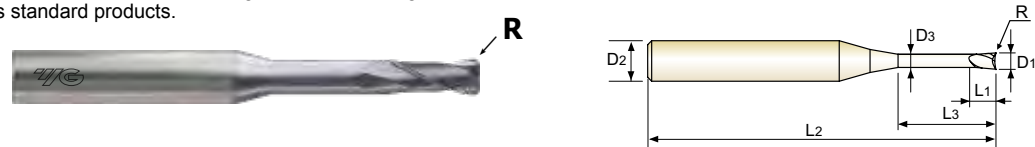
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M					K																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel					Grey cast iron					Nodular cast iron					Malleable cast iron																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	3	25	21	21	125	190	250	270	300	180

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金, 2刃 圆鼻 颈部加长

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CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C266-273

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
SEME610100205E	R0.2	1.0	4	1.5	5	50	0.95	-
SEME610100206E	R0.2	1.0	4	1.5	6	50	0.95	-
SEME610100208E	R0.2	1.0	4	1.5	8	50	0.95	-
SEME610100210E	R0.2	1.0	4	1.5	10	50	0.95	-
SEME610100212E	R0.2	1.0	4	1.5	12	50	0.95	-
SEME610100214E	R0.2	1.0	4	1.5	14	50	0.95	-
SEME610100216E	R0.2	1.0	4	1.5	16	50	0.95	-
SEME610100220E	R0.2	1.0	4	1.5	20	50	0.95	-
SEME610100303E	R0.3	1.0	4	1.5	3	50	0.95	-
SEME610100304E	R0.3	1.0	4	1.5	4	50	0.95	-
SEME610100306E	R0.3	1.0	4	1.5	6	50	0.95	-
SEME610100308E	R0.3	1.0	4	1.5	8	50	0.95	-
SEME610100310E	R0.3	1.0	4	1.5	10	50	0.95	-
SEME610100312E	R0.3	1.0	4	1.5	12	50	0.95	-
SEME610100314E	R0.3	1.0	4	1.5	14	50	0.95	-
SEME610100316E	R0.3	1.0	4	1.5	16	50	0.95	-
SEME610100320E	R0.3	1.0	4	1.5	20	50	0.95	-
SEME6101200503E	R0.05	1.2	4	1.8	3	50	1.15	-
SEME6101200504E	R0.05	1.2	4	1.8	4	50	1.15	-
SEME6101200506E	R0.05	1.2	4	1.8	6	50	1.15	-
SEME6101200508E	R0.05	1.2	4	1.8	8	50	1.15	-
SEME6101200510E	R0.05	1.2	4	1.8	10	50	1.15	-
SEME6101200512E	R0.05	1.2	4	1.8	12	50	1.15	-
SEME6101200516E	R0.05	1.2	4	1.8	16	50	1.15	-

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

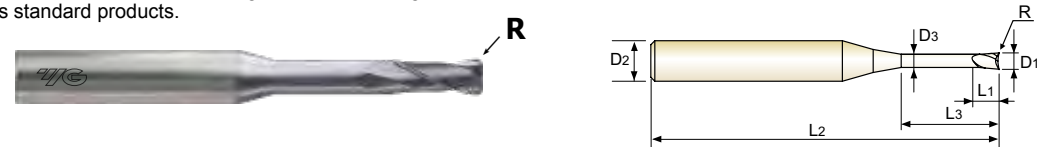
ISO	P										M						K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	15	25	25	38	15	25	38	34	34	15	30	25	38	34	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	○	○	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金, 2刃 圆鼻 颈部加长

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CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C266-273

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
SEME6101200520E	R0.05	1.2	4	1.8	20	50	1.15	-
SEME610120103E	R0.1	1.2	4	1.8	3	50	1.15	-
SEME610120104E	R0.1	1.2	4	1.8	4	50	1.15	-
SEME610120106E	R0.1	1.2	4	1.8	6	50	1.15	-
SEME610120108E	R0.1	1.2	4	1.8	8	50	1.15	-
SEME610120110E	R0.1	1.2	4	1.8	10	50	1.15	-
SEME610120112E	R0.1	1.2	4	1.8	12	50	1.15	-
SEME610120116E	R0.1	1.2	4	1.8	16	50	1.15	-
SEME610120120E	R0.1	1.2	4	1.8	20	50	1.15	-
SEME610120203E	R0.2	1.2	4	1.8	3	50	1.15	-
SEME610120204E	R0.2	1.2	4	1.8	4	50	1.15	-
SEME610120206E	R0.2	1.2	4	1.8	6	50	1.15	-
SEME610120208E	R0.2	1.2	4	1.8	8	50	1.15	-
SEME610120210E	R0.2	1.2	4	1.8	10	50	1.15	-
SEME610120212E	R0.2	1.2	4	1.8	12	50	1.15	-
SEME610120216E	R0.2	1.2	4	1.8	16	50	1.15	-
SEME610120220E	R0.2	1.2	4	1.8	20	50	1.15	-
SEME610120303E	R0.3	1.2	4	1.8	3	50	1.15	-
SEME610120304E	R0.3	1.2	4	1.8	4	50	1.15	-
SEME610120306E	R0.3	1.2	4	1.8	6	50	1.15	-
SEME610120308E	R0.3	1.2	4	1.8	8	50	1.15	-
SEME610120310E	R0.3	1.2	4	1.8	10	50	1.15	-
SEME610120312E	R0.3	1.2	4	1.8	12	50	1.15	-
SEME610120316E	R0.3	1.2	4	1.8	16	50	1.15	-

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
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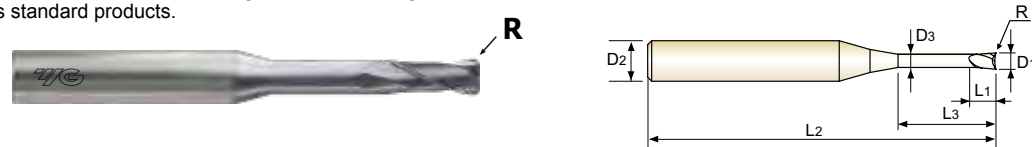
ISO	P										M						K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
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HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S						H					
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Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	15	25	25	38	15	25	38	34	34	15	30	25	38	34	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	○	○	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○

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EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角	直径	柄径	刃长	颈长	全长	颈径	
	R	D1	D2	L1	L3	L2	D3	
SEME610120320E	R0.3	1.2	4	1.8	20	50	1.15	-
SEME6101500504E	R0.05	1.5	4	2.3	4	50	1.45	-
SEME6101500506E	R0.05	1.5	4	2.3	6	50	1.45	-
SEME6101500508E	R0.05	1.5	4	2.3	8	50	1.45	-
SEME6101500510E	R0.05	1.5	4	2.3	10	50	1.45	-
SEME6101500512E	R0.05	1.5	4	2.3	12	50	1.45	-
SEME6101500514E	R0.05	1.5	4	2.3	14	50	1.45	-
SEME6101500516E	R0.05	1.5	4	2.3	16	50	1.45	-
SEME6101500520E	R0.05	1.5	4	2.3	20	50	1.45	-
SEME6101500522E	R0.05	1.5	4	2.3	22	60	1.45	-
SEME6101500526E	R0.05	1.5	4	2.3	26	60	1.45	-
SEME610150104E	R0.1	1.5	4	2.3	4	50	1.45	-
SEME610150106E	R0.1	1.5	4	2.3	6	50	1.45	-
SEME610150108E	R0.1	1.5	4	2.3	8	50	1.45	-
SEME610150110E	R0.1	1.5	4	2.3	10	50	1.45	-
SEME610150112E	R0.1	1.5	4	2.3	12	50	1.45	-
SEME610150114E	R0.1	1.5	4	2.3	14	50	1.45	-
SEME610150116E	R0.1	1.5	4	2.3	16	50	1.45	-
SEME610150120E	R0.1	1.5	4	2.3	20	50	1.45	-
SEME610150122E	R0.1	1.5	4	2.3	22	60	1.45	-
SEME610150126E	R0.1	1.5	4	2.3	26	60	1.45	-
SEME610150204E	R0.2	1.5	4	2.3	4	50	1.45	-
SEME610150206E	R0.2	1.5	4	2.3	6	50	1.45	-
SEME610150208E	R0.2	1.5	4	2.3	8	50	1.45	-

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ -0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ -0.015	

◎ : Excellent (优秀) ○ : Good (良好)

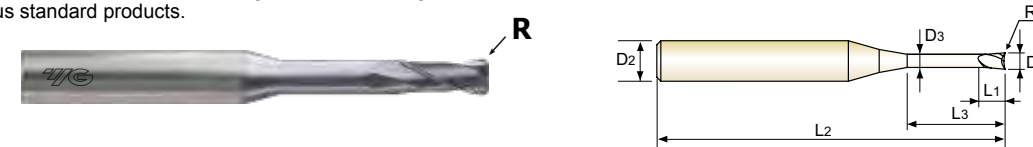
ISO	P										M					K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	630	400	550	550	
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	550	
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金, 2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Available various products like regular length and long shank end mills etc.
- ▶ Available various corner radius end mills, from min. 0.02mm corner radius to max. 2.0mm corner radius.
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- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRc55以下)表现出色
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- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C266-273

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角	直径	柄径	刃长	颈长	全长	颈径	
	R	D1	D2	L1	L3	L2	D3	
SEME610150210E	R0.2	1.5	4	2.3	10	50	1.45	-
SEME610150212E	R0.2	1.5	4	2.3	12	50	1.45	-
SEME610150214E	R0.2	1.5	4	2.3	14	50	1.45	-
SEME610150216E	R0.2	1.5	4	2.3	16	50	1.45	-
SEME610150220E	R0.2	1.5	4	2.3	20	50	1.45	-
SEME610150222E	R0.2	1.5	4	2.3	22	60	1.45	-
SEME610150226E	R0.2	1.5	4	2.3	26	60	1.45	-
SEME610150304E	R0.3	1.5	4	2.3	4	50	1.45	-
SEME610150306E	R0.3	1.5	4	2.3	6	50	1.45	-
SEME610150308E	R0.3	1.5	4	2.3	8	50	1.45	-
SEME610150310E	R0.3	1.5	4	2.3	10	50	1.45	-
SEME610150312E	R0.3	1.5	4	2.3	12	50	1.45	-
SEME610150314E	R0.3	1.5	4	2.3	14	50	1.45	-
SEME610150316E	R0.3	1.5	4	2.3	16	50	1.45	-
SEME610150320E	R0.3	1.5	4	2.3	20	50	1.45	-
SEME610150322E	R0.3	1.5	4	2.3	22	60	1.45	-
SEME610150326E	R0.3	1.5	4	2.3	26	60	1.45	-
SEME610150504E	R0.5	1.5	4	2.3	4	50	1.45	-
SEME610150506E	R0.5	1.5	4	2.3	6	50	1.45	-
SEME610150508E	R0.5	1.5	4	2.3	8	50	1.45	-
SEME610150510E	R0.5	1.5	4	2.3	10	50	1.45	-
SEME610150512E	R0.5	1.5	4	2.3	12	50	1.45	-
SEME610150514E	R0.5	1.5	4	2.3	14	50	1.45	-
SEME610150516E	R0.5	1.5	4	2.3	16	50	1.45	-

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ -0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ -0.015	

◎ : Excellent (优秀) ○ : Good (良好)

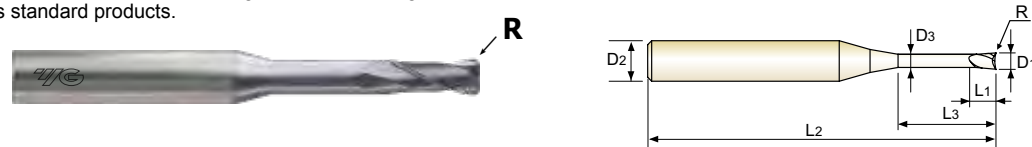
ISO	P										M					K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	630	400	550	550	
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	550	
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

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CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C266-273

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
SEME610150520E	R0.5	1.5	4	2.3	20	50	1.45	-
SEME610150522E	R0.5	1.5	4	2.3	22	60	1.45	-
SEME610150526E	R0.5	1.5	4	2.3	26	60	1.45	-
SEME610200106E	R0.1	2.0	4	3	6	50	1.95	-
SEME610200108E	R0.1	2.0	4	3	8	50	1.95	-
SEME610200110E	R0.1	2.0	4	3	10	50	1.95	-
SEME610200112E	R0.1	2.0	4	3	12	50	1.95	-
SEME610200114E	R0.1	2.0	4	3	14	50	1.95	-
SEME610200116E	R0.1	2.0	4	3	16	50	1.95	-
SEME610200120E	R0.1	2.0	4	3	20	50	1.95	-
SEME610200122E	R0.1	2.0	4	3	22	60	1.95	-
SEME610200126E	R0.1	2.0	4	3	26	60	1.95	-
SEME610200130E	R0.1	2.0	4	3	30	70	1.95	-
SEME610200206E	R0.2	2.0	4	3	6	50	1.95	-
SEME610200208E	R0.2	2.0	4	3	8	50	1.95	-
SEME610200210E	R0.2	2.0	4	3	10	50	1.95	-
SEME610200212E	R0.2	2.0	4	3	12	50	1.95	-
SEME610200214E	R0.2	2.0	4	3	14	50	1.95	-
SEME610200216E	R0.2	2.0	4	3	16	50	1.95	-
SEME610200220E	R0.2	2.0	4	3	20	50	1.95	-
SEME610200222E	R0.2	2.0	4	3	22	60	1.95	-
SEME610200226E	R0.2	2.0	4	3	26	60	1.95	-
SEME610200230E	R0.2	2.0	4	3	30	70	1.95	-
SEME610200306E	R0.3	2.0	4	3	6	50	1.95	-

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ -0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ -0.015	

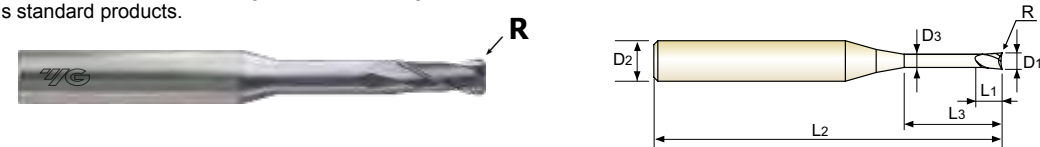
◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

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CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C266-273

Flat Shank	Page	Plain Shank	Page
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-	-	POWER MILLING CHUCK	D161-176
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EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
SEME610200308E	R0.3	2.0	4	3	8	50	1.95	-
SEME610200310E	R0.3	2.0	4	3	10	50	1.95	-
SEME610200312E	R0.3	2.0	4	3	12	50	1.95	-
SEME610200314E	R0.3	2.0	4	3	14	50	1.95	-
SEME610200316E	R0.3	2.0	4	3	16	50	1.95	-
SEME610200320E	R0.3	2.0	4	3	20	50	1.95	-
SEME610200322E	R0.3	2.0	4	3	22	60	1.95	-
SEME610200326E	R0.3	2.0	4	3	26	60	1.95	-
SEME610200330E	R0.3	2.0	4	3	30	70	1.95	-
SEME610200506E	R0.5	2.0	4	3	6	50	1.95	-
SEME610200508E	R0.5	2.0	4	3	8	50	1.95	-
SEME610200510E	R0.5	2.0	4	3	10	50	1.95	-
SEME610200512E	R0.5	2.0	4	3	12	50	1.95	-
SEME610200514E	R0.5	2.0	4	3	14	50	1.95	-
SEME610200516E	R0.5	2.0	4	3	16	50	1.95	-
SEME610200520E	R0.5	2.0	4	3	20	50	1.95	-
SEME610200522E	R0.5	2.0	4	3	22	60	1.95	-
SEME610200526E	R0.5	2.0	4	3	26	60	1.95	-
SEME610200530E	R0.5	2.0	4	3	30	70	1.95	-
SEME6102005086SE	R0.5	2.0	6	3	8	50	1.95	-
SEME610250108E	R0.1	2.5	4	4	8	50	2.40	-
SEME610250110E	R0.1	2.5	4	4	10	50	2.40	-
SEME610250112E	R0.1	2.5	4	4	12	50	2.40	-
SEME610250114E	R0.1	2.5	4	4	14	50	2.40	-

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ -0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ -0.015	

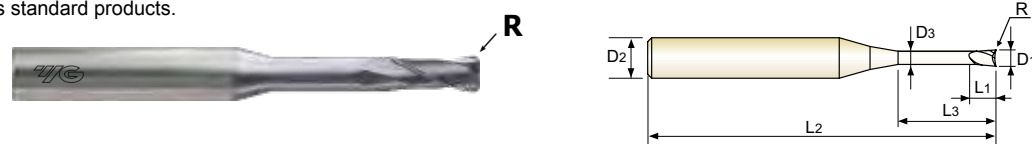
◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

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-	-	POWER MILLING CHUCK	D161-176
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EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角	直径	柄径	刃长	颈长	全长	颈径	
	R	D1	D2	L1	L3	L2	D3	
SEME610400235E	R0.2	4.0	6	6	35	70	3.85	-
SEME610400240E	R0.2	4.0	6	6	40	80	3.85	-
SEME610400245E	R0.2	4.0	6	6	45	90	3.85	-
SEME610400250E	R0.2	4.0	6	6	50	100	3.85	-
SEME610400310E	R0.3	4.0	6	6	10	50	3.85	-
SEME610400312E	R0.3	4.0	6	6	12	50	3.85	-
SEME610400314E	R0.3	4.0	6	6	14	50	3.85	-
SEME610400316E	R0.3	4.0	6	6	16	50	3.85	-
SEME610400320E	R0.3	4.0	6	6	20	50	3.85	-
SEME610400326E	R0.3	4.0	6	6	26	65	3.85	-
SEME610400330E	R0.3	4.0	6	6	30	70	3.85	-
SEME610400335E	R0.3	4.0	6	6	35	70	3.85	-
SEME610400340E	R0.3	4.0	6	6	40	80	3.85	-
SEME610400345E	R0.3	4.0	6	6	45	90	3.85	-
SEME610400350E	R0.3	4.0	6	6	50	100	3.85	-
SEME610400510E	R0.5	4.0	6	6	10	50	3.85	-
SEME610400512E	R0.5	4.0	6	6	12	50	3.85	-
SEME610400514E	R0.5	4.0	6	6	14	60	3.85	-
SEME610400516E	R0.5	4.0	6	6	16	60	3.85	-
SEME610400520E	R0.5	4.0	6	6	20	60	3.85	-
SEME610400526E	R0.5	4.0	6	6	26	65	3.85	-
SEME610400530E	R0.5	4.0	6	6	30	70	3.85	-
SEME610400535E	R0.5	4.0	6	6	35	70	3.85	-
SEME610400540E	R0.5	4.0	6	6	40	80	3.85	-

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

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◎ : Excellent (优秀) ○ : Good (良好)

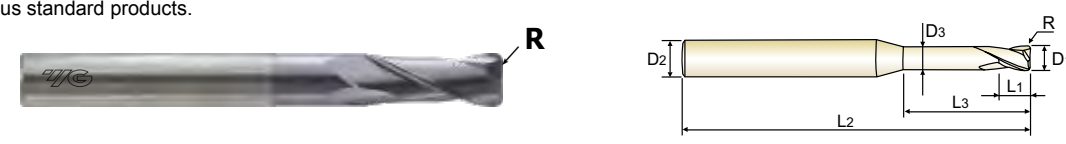
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	○	○

CARBIDE, 2 FLUTE CORNER RADIUS with EXTENDED NECK
硬质合金, 2刃 圆鼻 颈部加长

- ▶ Due to new coating and new tool geometry, outstanding cutting ability and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ Available various products like regular length and long shank end mills etc.
- ▶ Available various corner radius end mills, from min. 0.02mm corner radius to max. 2.0mm corner radius.
- ▶ Available more various effective length and overall length end mills than previous standard products.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRC55以下)表现出色
- ▶ 可提供短, 普通和长柄铣刀
- ▶ 可提供多种圆弧角铣刀(R0.02mm~R2.0mm)
- ▶ 可提供比以前标准品更多种有效长和全长产品



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角	直径	柄径	刃长	颈长	全长	颈径	
	R	D1	D2	L1	L3	L2	D3	
SEME610400545E	R0.5	4.0	6	6	45	90	3.85	-
SEME610400550E	R0.5	4.0	6	6	50	100	3.85	-
SEME610401010E	R1.0	4.0	6	6	10	50	3.85	-
SEME610401012E	R1.0	4.0	6	6	12	50	3.85	-
SEME610401014E	R1.0	4.0	6	6	14	60	3.85	-
SEME610401016E	R1.0	4.0	6	6	16	60	3.85	-
SEME610401020E	R1.0	4.0	6	6	20	60	3.85	-
SEME610401026E	R1.0	4.0	6	6	26	65	3.85	-
SEME610401030E	R1.0	4.0	6	6	30	70	3.85	-
SEME610401035E	R1.0	4.0	6	6	35	70	3.85	-
SEME610401040E	R1.0	4.0	6	6	40	80	3.85	-
SEME610401045E	R1.0	4.0	6	6	45	90	3.85	-
SEME610401050E	R1.0	4.0	6	6	50	100	3.85	-
SEME6105001E	R0.1	5.0	6	8	15	60	4.85	-
SEME6105002E	R0.2	5.0	6	8	15	60	4.85	-
SEME6105003E	R0.3	5.0	6	8	15	60	4.85	-
SEME6105005E	R0.5	5.0	6	8	15	60	4.85	-
SEME6105010E	R1.0	5.0	6	8	15	60	4.85	-
SEME6105015E	R1.5	5.0	6	8	15	60	4.85	-
SEME6105020E	R2.0	5.0	6	8	15	60	4.85	-
SEME6106001E	R0.1	6.0	6	9	20	60	5.85	Regular
SEME6106002E	R0.2	6.0	6	9	20	60	5.85	Regular
SEME6106003E	R0.3	6.0	6	9	20	60	5.85	Regular
SEME6106005E	R0.5	6.0	6	9	20	60	5.85	Regular

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

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◎ : Excellent (优秀) ○ : Good (良好)

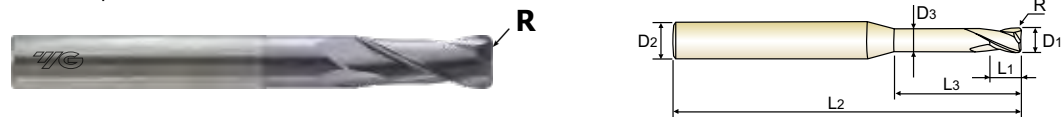
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	21			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	○	○

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角	直径	柄径	刃长	颈长	全长	颈径	
	R	D1	D2	L1	L3	L2	D3	备注
SEME6106010E	R1.0	6.0	6	9	20	60	5.85	Regular
SEME6106015E	R1.5	6.0	6	9	20	60	5.85	Regular
SEME6106020E	R2.0	6.0	6	9	20	60	5.85	Regular
SEME6106003090E	R0.3	6.0	6	15	30	90	5.85	Long
SEME610600524E	R0.5	6.0	6	9	24	90	5.85	-
SEME6106005090E	R0.5	6.0	6	15	30	90	5.85	Long
SEME6106010090E	R1.0	6.0	6	15	30	90	5.85	Long
SEME6108001E	R0.1	8.0	8	12	25	70	7.70	Regular
SEME6108002E	R0.2	8.0	8	12	25	70	7.70	Regular
SEME6108003E	R0.3	8.0	8	12	25	70	7.70	Regular
SEME6108005E	R0.5	8.0	8	12	25	70	7.70	Regular
SEME6108010E	R1.0	8.0	8	12	25	70	7.70	Regular
SEME6108015E	R1.5	8.0	8	12	25	70	7.70	Regular
SEME6108020E	R2.0	8.0	8	12	25	70	7.70	Regular
SEME6108003100E	R0.3	8.0	8	20	35	100	7.70	Long
SEME6108005100E	R0.5	8.0	8	20	35	100	7.70	Long
SEME6108010100E	R1.0	8.0	8	20	35	100	7.70	Long
SEME6110001E	R0.1	10.0	10	15	30	75	9.70	Regular
SEME6110002E	R0.2	10.0	10	15	30	75	9.70	Regular
SEME6110003E	R0.3	10.0	10	15	30	75	9.70	Regular
SEME6110005E	R0.5	10.0	10	15	30	75	9.70	Regular
SEME6110010E	R1.0	10.0	10	15	30	75	9.70	Regular
SEME6110015E	R1.5	10.0	10	15	30	75	9.70	Regular
SEME6110020E	R2.0	10.0	10	15	30	75	9.70	Regular

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

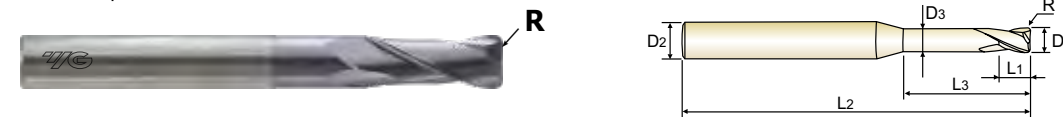
ISO	P														M			K		
	Non-alloy steel				Low alloy steel				High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	◎	○

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- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRC55以下)表现出色
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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角	直径	柄径	刃长	颈长	全长	颈径	
	R	D1	D2	L1	L3	L2	D3	备注
SEME6110003100E	R0.3	10.0	10	25	40	100	9.70	Long
SEME6110005100E	R0.5	10.0	10	25	40	100	9.70	Long
SEME6110010100E	R1.0	10.0	10	25	40	100	9.70	Long
SEME6112002E	R0.2	12.0	12	18	32	80	11.70	Regular
SEME6112003E	R0.3	12.0	12	18	32	80	11.70	Regular
SEME6112005E	R0.5	12.0	12	18	32	80	11.70	Regular
SEME6112010E	R1.0	12.0	12	18	32	80	11.70	Regular
SEME6112015E	R1.5	12.0	12	18	32	80	11.70	Regular
SEME6112020E	R2.0	12.0	12	18	32	80	11.70	Regular
SEME6112003110E	R0.3	12.0	12	30	50	110	11.70	Long
SEME6112005110E	R0.5	12.0	12	30	50	110	11.70	Long
SEME6112010110E	R1.0	12.0	12	30	50	110	11.70	Long
SEME6116005E	R0.5	16.0	16	20	35	100	15.70	Regular
SEME6116010E	R1.0	16.0	16	20	35	100	15.70	Regular
SEME6116005150E	R0.5	16.0	16	35	50	150	15.70	Long
SEME6116010150E	R1.0	16.0	16	35	50	150	15.70	Long
SEME6120005E	R0.5	20.0	20	25	40	100	19.70	Regular
SEME6120010E	R1.0	20.0	20	25	40	100	19.70	Regular
SEME6120005150E	R0.5	20.0	20	40	55	150	19.70	Long
SEME6120010150E	R1.0	20.0	20	40	55	150	19.70	Long

Size 尺寸	Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	± 0.010	0 ~ - 0.012	h5
over Ø6 超过Ø6	± 0.015	0 ~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P														M			K		
	Non-alloy steel				Low alloy steel				High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	◎	○



PLAIN SHANK SEME01 SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS (Short, Regular, Long Shank)
硬质合金, 4刃 不等螺旋 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRC55 which are used for molds & dies.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.
- ▶ Available in short, regular and long shank end mills.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性
- ▶ 可提供多种产品包括短, 普通和长柄铣刀



CARBIDE 4 27°/30° ±0.02 PLAIN p.C274-275

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Recommended Toolholder

D<Ø3, 30° HELIX Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark 备注
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEME010100054SE	R0.05	1.0	4	2.5	50	4mm Shank
SEME01010014SE	R0.1	1.0	4	2.5	50	4mm Shank
SEME01010024SE	R0.2	1.0	4	2.5	50	4mm Shank
SEME01010034SE	R0.3	1.0	4	2.5	50	4mm Shank
SEME01010005E	R0.05	1.0	6	2.5	50	-
SEME0101001E	R0.1	1.0	6	2.5	50	-
SEME0101002E	R0.2	1.0	6	2.5	50	-
SEME0101003E	R0.3	1.0	6	2.5	50	-
SEME010120054SE	R0.05	1.2	4	3	50	4mm Shank
SEME01012014SE	R0.1	1.2	4	3	50	4mm Shank
SEME01012024SE	R0.2	1.2	4	3	50	4mm Shank
SEME01012034SE	R0.3	1.2	4	3	50	4mm Shank
SEME01012005E	R0.05	1.2	6	3	50	-
SEME0101201E	R0.1	1.2	6	3	50	-
SEME0101202E	R0.2	1.2	6	3	50	-
SEME0101203E	R0.3	1.2	6	3	50	-
SEME010150054SE	R0.05	1.5	4	4	50	4mm Shank
SEME01015014SE	R0.1	1.5	4	4	50	4mm Shank
SEME01015024SE	R0.2	1.5	4	4	50	4mm Shank
SEME01015034SE	R0.3	1.5	4	4	50	4mm Shank
SEME01015054SE	R0.5	1.5	4	4	50	4mm Shank
SEME01015005E	R0.05	1.5	6	4	50	-
SEME0101501E	R0.1	1.5	6	4	50	-
SEME0101502E	R0.2	1.5	6	4	50	-

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	52	55	58	60	62	64	66	68	70
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	30	25	38	34	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○	○	○	○	○



PLAIN SHANK SEME01 SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS (Short, Regular, Long Shank)
硬质合金, 4刃 不等螺旋 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRC55 which are used for molds & dies.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.
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- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性
- ▶ 可提供多种产品包括短, 普通和长柄铣刀



CARBIDE 4 27°/30° ±0.02 PLAIN p.C274-275

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Recommended Toolholder

D<Ø3, 30° HELIX Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark 备注
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEME0101503E	R0.3	1.5	6	4	50	-
SEME0101505E	R0.5	1.5	6	4	50	-
SEME01020014SE	R0.1	2.0	4	6	50	4mm Shank
SEME01020024SE	R0.2	2.0	4	6	50	4mm Shank
SEME01020034SE	R0.3	2.0	4	6	50	4mm Shank
SEME01020054SE	R0.5	2.0	4	6	50	4mm Shank
SEME0102001E	R0.1	2.0	6	6	50	-
SEME0102002E	R0.2	2.0	6	6	50	-
SEME0102003E	R0.3	2.0	6	6	50	-
SEME0102005E	R0.5	2.0	6	6	50	-
SEME01025014SE	R0.1	2.5	4	7	60	4mm Shank
SEME01025024SE	R0.2	2.5	4	7	60	4mm Shank
SEME01025034SE	R0.3	2.5	4	7	60	4mm Shank
SEME01025054SE	R0.5	2.5	4	7	60	4mm Shank
SEME0102501E	R0.1	2.5	6	7	60	-
SEME0102502E	R0.2	2.5	6	7	60	-
SEME0102503E	R0.3	2.5	6	7	60	-
SEME0102505E	R0.5	2.5	6	7	60	-
SEME0103001E	R0.1	3.0	6	8	60	-
SEME0103002E	R0.2	3.0	6	8	60	-
SEME0103003E	R0.3	3.0	6	8	60	-
SEME0103005E	R0.5	3.0	6	8	60	-
SEME0103010E	R1.0	3.0	6	8	60	-
SEME0103501E	R0.1	3.5	6	10	70	-

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	52	55	58	60	62	64	66	68	70
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	30	25	38	34	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○	○	○	○	○

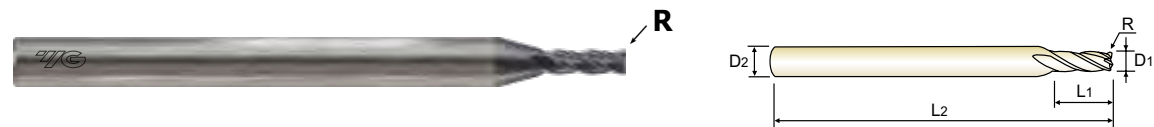


PLAIN SHANK SEME01 SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS (Short, Regular, Long Shank)
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CARBIDE 4 27°/30° ±0.02 PLAIN p.C274-275

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

D<Ø3, 30° HELIX Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark 备注
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEME0103502E	R0.2	3.5	6	10	70	-
SEME0103503E	R0.3	3.5	6	10	70	-
SEME0103505E	R0.5	3.5	6	10	70	-
SEME01040014SE	R0.1	4.0	4	10	70	4mm Shank
SEME01040024SE	R0.2	4.0	4	10	70	4mm Shank
SEME01040034SE	R0.3	4.0	4	10	70	4mm Shank
SEME01040054SE	R0.5	4.0	4	10	70	4mm Shank
SEME01040104SE	R1.0	4.0	4	10	70	4mm Shank
SEME01040011004SE	R0.1	4.0	4	10	100	4mm Shank
SEME01040021004SE	R0.2	4.0	4	10	100	4mm Shank
SEME01040031004SE	R0.3	4.0	4	10	100	4mm Shank
SEME01040051004SE	R0.5	4.0	4	10	100	4mm Shank
SEME01040101004SE	R1.0	4.0	4	10	100	4mm Shank
SEME0104001E	R0.1	4.0	6	10	70	Regular
SEME0104002E	R0.2	4.0	6	10	70	Regular
SEME0104003E	R0.3	4.0	6	10	70	Regular
SEME0104005E	R0.5	4.0	6	10	70	Regular
SEME0104010E	R1.0	4.0	6	10	70	Regular
SEME0104501E	R0.1	4.5	6	11	80	-
SEME0104502E	R0.2	4.5	6	11	80	-
SEME0104503E	R0.3	4.5	6	11	80	-
SEME0104505E	R0.5	4.5	6	11	80	-
SEME0105001E	R0.1	5.0	6	13	90	-
SEME0105002E	R0.2	5.0	6	13	90	-

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	180	260	3	25	19	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○



PLAIN SHANK SEME01 SERIES

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CARBIDE 4 27°/30° ±0.02 PLAIN p.C274-275

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

D<Ø3, 30° HELIX Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark 备注
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEME0105003E	R0.3	5.0	6	13	90	-
SEME0105005E	R0.5	5.0	6	13	90	-
SEME0105010E	R1.0	5.0	6	13	90	-
SEME0105501E	R0.1	5.5	6	13	90	-
SEME0105502E	R0.2	5.5	6	13	90	-
SEME0105503E	R0.3	5.5	6	13	90	-
SEME0105505E	R0.5	5.5	6	13	90	-
SEME0105510E	R1.0	5.5	6	13	90	-
SEME0106001060E	R0.1	6.0	6	15	60	Short
SEME0106002060E	R0.2	6.0	6	15	60	Short
SEME0106001E	R0.1	6.0	6	15	90	Regular
SEME0106002E	R0.2	6.0	6	15	90	Regular
SEME0106003E	R0.3	6.0	6	15	90	Regular
SEME0106005E	R0.5	6.0	6	15	90	Regular
SEME0106010E	R1.0	6.0	6	15	90	Regular
SEME0106015E	R1.5	6.0	6	15	90	Regular
SEME0106020E	R2.0	6.0	6	15	90	Regular
SEME0106005110E	R0.5	6.0	6	15	110	Long
SEME0106010110E	R1.0	6.0	6	15	110	Long
SEME0106005130E	R0.5	6.0	6	15	130	Long
SEME0106010130E	R1.0	6.0	6	15	130	Long
SEME0107001E	R0.1	7.0	8	16	90	-
SEME0107002E	R0.2	7.0	8	16	90	-
SEME0107003E	R0.3	7.0	8	16	90	-

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

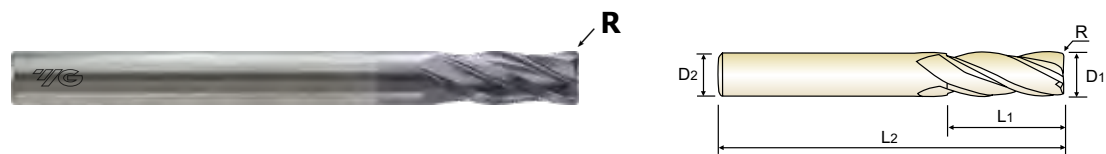
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	180	260	3	25	19	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○



PLAIN SHANK SEME01 SERIES

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

D<Ø3, 30° HELIX

Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEME0107005E	R0.5	7.0	8	16	90	-
SEME0107010E	R1.0	7.0	8	16	90	-
SEME0107020E	R2.0	7.0	8	16	90	-
SEME0108003070E	R0.3	8.0	8	20	70	Short
SEME0108005070E	R0.5	8.0	8	20	70	Short
SEME0108010070E	R1.0	8.0	8	20	70	Short
SEME0108001E	R0.1	8.0	8	20	100	Regular
SEME0108002E	R0.2	8.0	8	20	100	Regular
SEME0108003E	R0.3	8.0	8	20	100	Regular
SEME0108005E	R0.5	8.0	8	20	100	Regular
SEME0108010E	R1.0	8.0	8	20	100	Regular
SEME0108015E	R1.5	8.0	8	20	100	Regular
SEME0108020E	R2.0	8.0	8	20	100	Regular
SEME0108025E	R2.5	8.0	8	20	100	Regular
SEME0108030E	R3.0	8.0	8	20	100	Regular
SEME0108005120E	R0.5	8.0	8	20	120	Long
SEME0108010120E	R1.0	8.0	8	20	120	Long
SEME0108005150E	R0.5	8.0	8	20	150	Long
SEME0108010150E	R1.0	8.0	8	20	150	Long
SEME0110003075E	R0.3	10.0	10	25	75	Short
SEME0110005075E	R0.5	10.0	10	25	75	Short
SEME0110010075E	R1.0	10.0	10	25	75	Short
SEME0110001E	R0.1	10.0	10	25	100	Regular
SEME0110002E	R0.2	10.0	10	25	100	Regular

▶ NEXT PAGE 下页

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

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ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

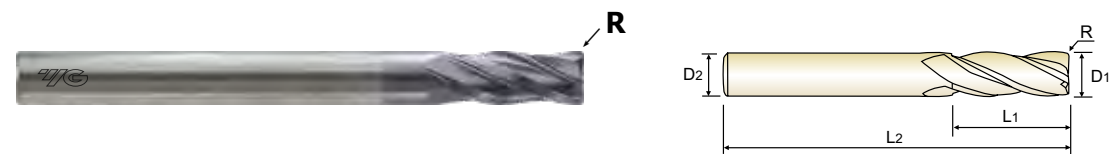
ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																		○	◎	◎	○	○



PLAIN SHANK SEME01 SERIES

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- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
 - ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
 - ▶ 基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性
 - ▶ 可提供多种产品包括短, 普通和长柄铣刀



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

D<Ø3, 30° HELIX

Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEME0110003E	R0.3	10.0	10	25	100	Regular
SEME0110005E	R0.5	10.0	10	25	100	Regular
SEME0110010E	R1.0	10.0	10	25	100	Regular
SEME0110015E	R1.5	10.0	10	25	100	Regular
SEME0110020E	R2.0	10.0	10	25	100	Regular
SEME0110025E	R2.5	10.0	10	25	100	Regular
SEME0110030E	R3.0	10.0	10	25	100	Regular
SEME0110040E	R4.0	10.0	10	25	100	Regular
SEME0110005130E	R0.5	10.0	10	22	130	Long
SEME0110010130E	R1.0	10.0	10	22	130	Long
SEME0110005150E	R0.5	10.0	10	22	150	Long
SEME0110010150E	R1.0	10.0	10	22	150	Long
SEME0111002E	R0.2	11.0	12	25	110	-
SEME0111003E	R0.3	11.0	12	25	110	-
SEME0111005E	R0.5	11.0	12	25	110	-
SEME0111010E	R1.0	11.0	12	25	110	-
SEME0111020E	R2.0	11.0	12	25	110	-
SEME0112003080E	R0.3	12.0	12	30	80	Short
SEME0112005080E	R0.5	12.0	12	30	80	Short
SEME0112010080E	R1.0	12.0	12	30	80	Short
SEME0112001E	R0.1	12.0	12	30	110	Regular
SEME0112002E	R0.2	12.0	12	30	110	Regular
SEME0112003E	R0.3	12.0	12	30	110	Regular
SEME0112005E	R0.5	12.0	12	30	110	Regular

▶ NEXT PAGE 下页

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

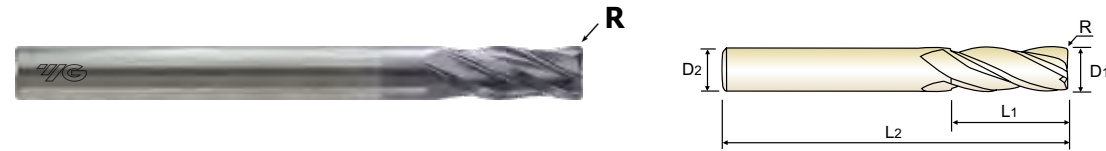
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																		○	◎	◎	○	○

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS (Short, Regular, Long Shank)
硬质合金, 4刃 不等螺旋 圆鼻 (短刃, 普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRC55 which are used for molds & dies.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.
- ▶ Available in short, regular and long shank end mills.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性
- ▶ 可提供多种产品包括短, 普通和长柄铣刀



CARBIDE 4 27°/30° ±0.02 PLAIN p.C274-275

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

D<Ø3, 30° HELIX Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2	Remark 备注
SEME0112010E	R1.0	12.0	12	30	110	Regular
SEME0112015E	R1.5	12.0	12	30	110	Regular
SEME0112020E	R2.0	12.0	12	30	110	Regular
SEME0112025E	R2.5	12.0	12	30	110	Regular
SEME0112030E	R3.0	12.0	12	30	110	Regular
SEME0112040E	R4.0	12.0	12	30	110	Regular
SEME0112050E	R5.0	12.0	12	30	110	Regular
SEME0112005130E	R0.5	12.0	12	30	130	Long
SEME0112010130E	R1.0	12.0	12	30	130	Long
SEME0112005150E	R0.5	12.0	12	30	150	Long
SEME0112010150E	R1.0	12.0	12	30	150	Long
SEME0114005E	R0.5	14.0	16	35	150	-
SEME0114010E	R1.0	14.0	16	35	150	-
SEME0114020E	R2.0	14.0	16	35	150	-
SEME0116005E	R0.5	16.0	16	32	150	-
SEME0116010E	R1.0	16.0	16	32	150	-
SEME0116015E	R1.5	16.0	16	32	150	-
SEME0116020E	R2.0	16.0	16	32	150	-
SEME0120005E	R0.5	20.0	20	38	150	-
SEME0120010E	R1.0	20.0	20	38	150	-
SEME0120015E	R1.5	20.0	20	38	150	-
SEME0120020E	R2.0	20.0	20	38	150	-

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K			
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	42	45	48	52	55	58	60	62	65	68	70	72	74	76
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金, 4刃 不等螺旋 圆鼻 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRC55 which are used for molds & dies.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
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CARBIDE 4 27°/30° ±0.02 PLAIN p.C276-279

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

D<Ø3, 30° HELIX Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME6401000503E	R0.05	1.0	4	1.5	3	50	0.95	-
SEME6401000504E	R0.05	1.0	4	1.5	4	50	0.95	-
SEME6401000506E	R0.05	1.0	4	1.5	6	50	0.95	-
SEME6401000508E	R0.05	1.0	4	1.5	8	50	0.95	-
SEME6401000510E	R0.05	1.0	4	1.5	10	50	0.95	-
SEME6401000512E	R0.05	1.0	4	1.5	12	50	0.95	-
SEME6401000514E	R0.05	1.0	4	1.5	14	50	0.95	-
SEME6401000516E	R0.05	1.0	4	1.5	16	50	0.95	-
SEME6401000520E	R0.05	1.0	4	1.5	20	50	0.95	-
SEME640100103E	R0.1	1.0	4	1.5	3	50	0.95	-
SEME640100104E	R0.1	1.0	4	1.5	4	50	0.95	-
SEME640100106E	R0.1	1.0	4	1.5	6	50	0.95	-
SEME640100108E	R0.1	1.0	4	1.5	8	50	0.95	-
SEME640100110E	R0.1	1.0	4	1.5	10	50	0.95	-
SEME640100112E	R0.1	1.0	4	1.5	12	50	0.95	-
SEME640100114E	R0.1	1.0	4	1.5	14	50	0.95	-
SEME640100116E	R0.1	1.0	4	1.5	16	50	0.95	-
SEME640100120E	R0.1	1.0	4	1.5	20	50	0.95	-
SEME640100203E	R0.2	1.0	4	1.5	3	50	0.95	-
SEME640100204E	R0.2	1.0	4	1.5	4	50	0.95	-
SEME640100206E	R0.2	1.0	4	1.5	6	50	0.95	-
SEME640100208E	R0.2	1.0	4	1.5	8	50	0.95	-
SEME640100210E	R0.2	1.0	4	1.5	10	50	0.95	-
SEME640100212E	R0.2	1.0	4	1.5	12	50	0.95	-

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K			
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	42	45	48	52	55	58	60	62	65	68	70	72	74	76
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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硬质合金, 4刃 不等螺旋 圆鼻 颈部加长

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角	直径	柄径	刃长	颈长	全长	颈径	
	R	D1	D2	L1	L3	L2	D3	
SEME640100214E	R0.2	1.0	4	1.5	14	50	0.95	-
SEME640100216E	R0.2	1.0	4	1.5	16	50	0.95	-
SEME640100220E	R0.2	1.0	4	1.5	20	50	0.95	-
SEME640100303E	R0.3	1.0	4	1.5	3	50	0.95	-
SEME640100304E	R0.3	1.0	4	1.5	4	50	0.95	-
SEME640100306E	R0.3	1.0	4	1.5	6	50	0.95	-
SEME640100308E	R0.3	1.0	4	1.5	8	50	0.95	-
SEME640100310E	R0.3	1.0	4	1.5	10	50	0.95	-
SEME640100312E	R0.3	1.0	4	1.5	12	50	0.95	-
SEME640100314E	R0.3	1.0	4	1.5	14	50	0.95	-
SEME640100316E	R0.3	1.0	4	1.5	16	50	0.95	-
SEME640100320E	R0.3	1.0	4	1.5	20	50	0.95	-
SEME6401200503E	R0.05	1.2	4	1.8	3	50	1.15	-
SEME6401200504E	R0.05	1.2	4	1.8	4	50	1.15	-
SEME6401200506E	R0.05	1.2	4	1.8	6	50	1.15	-
SEME6401200508E	R0.05	1.2	4	1.8	8	50	1.15	-
SEME6401200510E	R0.05	1.2	4	1.8	10	50	1.15	-
SEME6401200512E	R0.05	1.2	4	1.8	12	50	1.15	-
SEME6401200516E	R0.05	1.2	4	1.8	16	50	1.15	-
SEME6401200520E	R0.05	1.2	4	1.8	20	50	1.15	-
SEME640120103E	R0.1	1.2	4	1.8	3	50	1.15	-
SEME640120104E	R0.1	1.2	4	1.8	4	50	1.15	-
SEME640120106E	R0.1	1.2	4	1.8	6	50	1.15	-
SEME640120108E	R0.1	1.2	4	1.8	8	50	1.15	-

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Corner Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
圆弧角公差	直径公差	柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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硬质合金, 4刃 不等螺旋 圆鼻 颈部加长

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- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角	直径	柄径	刃长	颈长	全长	颈径	
	R	D1	D2	L1	L3	L2	D3	
SEME640120110E	R0.1	1.2	4	1.8	10	50	1.15	-
SEME640120112E	R0.1	1.2	4	1.8	12	50	1.15	-
SEME640120116E	R0.1	1.2	4	1.8	16	50	1.15	-
SEME640120120E	R0.1	1.2	4	1.8	20	50	1.15	-
SEME640120203E	R0.2	1.2	4	1.8	3	50	1.15	-
SEME640120204E	R0.2	1.2	4	1.8	4	50	1.15	-
SEME640120206E	R0.2	1.2	4	1.8	6	50	1.15	-
SEME640120208E	R0.2	1.2	4	1.8	8	50	1.15	-
SEME640120210E	R0.2	1.2	4	1.8	10	50	1.15	-
SEME640120212E	R0.2	1.2	4	1.8	12	50	1.15	-
SEME640120216E	R0.2	1.2	4	1.8	16	50	1.15	-
SEME640120220E	R0.2	1.2	4	1.8	20	50	1.15	-
SEME640120303E	R0.3	1.2	4	1.8	3	50	1.15	-
SEME640120304E	R0.3	1.2	4	1.8	4	50	1.15	-
SEME640120306E	R0.3	1.2	4	1.8	6	50	1.15	-
SEME640120308E	R0.3	1.2	4	1.8	8	50	1.15	-
SEME640120310E	R0.3	1.2	4	1.8	10	50	1.15	-
SEME640120312E	R0.3	1.2	4	1.8	12	50	1.15	-
SEME640120316E	R0.3	1.2	4	1.8	16	50	1.15	-
SEME640120320E	R0.3	1.2	4	1.8	20	50	1.15	-
SEME6401500504E	R0.05	1.5	4	2.3	4	50	1.45	-
SEME6401500506E	R0.05	1.5	4	2.3	6	50	1.45	-
SEME6401500508E	R0.05	1.5	4	2.3	8	50	1.45	-
SEME6401500510E	R0.05	1.5	4	2.3	10	50	1.45	-

▶ NEXT PAGE 下页

Corner Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
圆弧角公差	直径公差	柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金, 4刃 不等螺旋 圆鼻 颈部加长

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- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



CARBIDE 4 27°/30° ±0.02 PLAIN p.C276-279

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
SEME6401500512E	R0.05	1.5	4	2.3	12	50	1.45	-
SEME6401500514E	R0.05	1.5	4	2.3	14	50	1.45	-
SEME6401500516E	R0.05	1.5	4	2.3	16	50	1.45	-
SEME6401500520E	R0.05	1.5	4	2.3	20	50	1.45	-
SEME6401500522E	R0.05	1.5	4	2.3	22	60	1.45	-
SEME6401500526E	R0.05	1.5	4	2.3	26	60	1.45	-
SEME640150104E	R0.1	1.5	4	2.3	4	50	1.45	-
SEME640150106E	R0.1	1.5	4	2.3	6	50	1.45	-
SEME640150108E	R0.1	1.5	4	2.3	8	50	1.45	-
SEME640150110E	R0.1	1.5	4	2.3	10	50	1.45	-
SEME640150112E	R0.1	1.5	4	2.3	12	50	1.45	-
SEME640150114E	R0.1	1.5	4	2.3	14	50	1.45	-
SEME640150116E	R0.1	1.5	4	2.3	16	50	1.45	-
SEME640150118E	R0.1	1.5	4	2.3	18	50	1.45	-
SEME640150120E	R0.1	1.5	4	2.3	20	50	1.45	-
SEME640150122E	R0.1	1.5	4	2.3	22	60	1.45	-
SEME640150126E	R0.1	1.5	4	2.3	26	60	1.45	-
SEME640150204E	R0.2	1.5	4	2.3	4	50	1.45	-
SEME640150206E	R0.2	1.5	4	2.3	6	50	1.45	-
SEME640150208E	R0.2	1.5	4	2.3	8	50	1.45	-
SEME640150210E	R0.2	1.5	4	2.3	10	50	1.45	-
SEME640150212E	R0.2	1.5	4	2.3	12	50	1.45	-
SEME640150214E	R0.2	1.5	4	2.3	14	50	1.45	-
SEME640150216E	R0.2	1.5	4	2.3	16	50	1.45	-

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
±0.02	0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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CARBIDE 4 27°/30° ±0.02 PLAIN p.C276-279

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
SEME640150220E	R0.2	1.5	4	2.3	20	50	1.45	-
SEME640150222E	R0.2	1.5	4	2.3	22	60	1.45	-
SEME640150226E	R0.2	1.5	4	2.3	26	60	1.45	-
SEME640150304E	R0.3	1.5	4	2.3	4	50	1.45	-
SEME640150306E	R0.3	1.5	4	2.3	6	50	1.45	-
SEME640150308E	R0.3	1.5	4	2.3	8	50	1.45	-
SEME640150310E	R0.3	1.5	4	2.3	10	50	1.45	-
SEME640150312E	R0.3	1.5	4	2.3	12	50	1.45	-
SEME640150314E	R0.3	1.5	4	2.3	14	50	1.45	-
SEME640150316E	R0.3	1.5	4	2.3	16	50	1.45	-
SEME640150320E	R0.3	1.5	4	2.3	20	50	1.45	-
SEME640150322E	R0.3	1.5	4	2.3	22	60	1.45	-
SEME640150326E	R0.3	1.5	4	2.3	26	60	1.45	-
SEME640150504E	R0.5	1.5	4	2.3	4	50	1.45	-
SEME640150506E	R0.5	1.5	4	2.3	6	50	1.45	-
SEME640150508E	R0.5	1.5	4	2.3	8	50	1.45	-
SEME640150510E	R0.5	1.5	4	2.3	10	50	1.45	-
SEME640150512E	R0.5	1.5	4	2.3	12	50	1.45	-
SEME640150514E	R0.5	1.5	4	2.3	14	50	1.45	-
SEME640150516E	R0.5	1.5	4	2.3	16	50	1.45	-
SEME640150520E	R0.5	1.5	4	2.3	20	50	1.45	-
SEME640150522E	R0.5	1.5	4	2.3	22	60	1.45	-
SEME640150526E	R0.5	1.5	4	2.3	26	60	1.45	-
SEME640200106E	R0.1	2.0	4	3	6	50	1.95	-

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
±0.02	0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting. ▶ 基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



CARBIDE 4 27°/30° ±0.02 PLAIN p.C276-279

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Recommended Toolholder

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME640200108E	R0.1	2.0	4	3	8	50	1.95	-
SEME640200110E	R0.1	2.0	4	3	10	50	1.95	-
SEME640200112E	R0.1	2.0	4	3	12	50	1.95	-
SEME640200114E	R0.1	2.0	4	3	14	50	1.95	-
SEME640200116E	R0.1	2.0	4	3	16	50	1.95	-
SEME640200120E	R0.1	2.0	4	3	20	50	1.95	-
SEME640200122E	R0.1	2.0	4	3	22	60	1.95	-
SEME640200126E	R0.1	2.0	4	3	26	60	1.95	-
SEME640200130E	R0.1	2.0	4	3	30	70	1.95	-
SEME640200206E	R0.2	2.0	4	3	6	50	1.95	-
SEME640200208E	R0.2	2.0	4	3	8	50	1.95	-
SEME640200210E	R0.2	2.0	4	3	10	50	1.95	-
SEME640200212E	R0.2	2.0	4	3	12	50	1.95	-
SEME640200214E	R0.2	2.0	4	3	14	50	1.95	-
SEME640200216E	R0.2	2.0	4	3	16	50	1.95	-
SEME640200220E	R0.2	2.0	4	3	20	50	1.95	-
SEME640200222E	R0.2	2.0	4	3	22	60	1.95	-
SEME640200226E	R0.2	2.0	4	3	26	60	1.95	-
SEME640200230E	R0.2	2.0	4	3	30	70	1.95	-
SEME640200306E	R0.3	2.0	4	3	6	50	1.95	-
SEME640200308E	R0.3	2.0	4	3	8	50	1.95	-
SEME640200310E	R0.3	2.0	4	3	10	50	1.95	-
SEME640200312E	R0.3	2.0	4	3	12	50	1.95	-
SEME640200314E	R0.3	2.0	4	3	14	50	1.95	-

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	42	45	48	50	52	55	58	60	62	65	68	70	72	74
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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CARBIDE 4 27°/30° ±0.02 PLAIN p.C276-279

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Recommended Toolholder

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME640200316E	R0.3	2.0	4	3	16	50	1.95	-
SEME640200320E	R0.3	2.0	4	3	20	50	1.95	-
SEME640200322E	R0.3	2.0	4	3	22	60	1.95	-
SEME640200326E	R0.3	2.0	4	3	26	60	1.95	-
SEME640200330E	R0.3	2.0	4	3	30	70	1.95	-
SEME640200506E	R0.5	2.0	4	3	6	50	1.95	-
SEME640200508E	R0.5	2.0	4	3	8	50	1.95	-
SEME640200510E	R0.5	2.0	4	3	10	50	1.95	-
SEME640200512E	R0.5	2.0	4	3	12	50	1.95	-
SEME640200514E	R0.5	2.0	4	3	14	50	1.95	-
SEME640200516E	R0.5	2.0	4	3	16	50	1.95	-
SEME640200520E	R0.5	2.0	4	3	20	50	1.95	-
SEME640200522E	R0.5	2.0	4	3	22	60	1.95	-
SEME640200526E	R0.5	2.0	4	3	26	60	1.95	-
SEME640250108E	R0.1	2.5	4	4	8	50	2.40	-
SEME640250110E	R0.1	2.5	4	4	10	50	2.40	-
SEME640250112E	R0.1	2.5	4	4	12	50	2.40	-
SEME640250114E	R0.1	2.5	4	4	14	50	2.40	-
SEME640250116E	R0.1	2.5	4	4	16	50	2.40	-
SEME640250120E	R0.1	2.5	4	4	20	50	2.40	-
SEME640250126E	R0.1	2.5	4	4	26	60	2.40	-
SEME640250130E	R0.1	2.5	4	4	30	70	2.40	-
SEME640250208E	R0.2	2.5	4	4	8	50	2.40	-

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	42	45	48	50	52	55	58	60	62	65	68	70	72	74
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金, 4刃 不等螺旋 圆鼻 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRC55 which are used for molds & dies.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



CARBIDE 4 27°/30° ±0.02 PLAIN p.C276-279

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
SEME640250210E	R0.2	2.5	4	4	10	50	2.40	-
SEME640250212E	R0.2	2.5	4	4	12	50	2.40	-
SEME640250214E	R0.2	2.5	4	4	14	50	2.40	-
SEME640250216E	R0.2	2.5	4	4	16	50	2.40	-
SEME640250220E	R0.2	2.5	4	4	20	50	2.40	-
SEME640250226E	R0.2	2.5	4	4	26	60	2.40	-
SEME640250230E	R0.2	2.5	4	4	30	70	2.40	-
SEME640250308E	R0.3	2.5	4	4	8	50	2.40	-
SEME640250310E	R0.3	2.5	4	4	10	50	2.40	-
SEME640250312E	R0.3	2.5	4	4	12	50	2.40	-
SEME640250314E	R0.3	2.5	4	4	14	50	2.40	-
SEME640250316E	R0.3	2.5	4	4	16	50	2.40	-
SEME640250320E	R0.3	2.5	4	4	20	50	2.40	-
SEME640250326E	R0.3	2.5	4	4	26	60	2.40	-
SEME640250330E	R0.3	2.5	4	4	30	70	2.40	-
SEME640250508E	R0.5	2.5	4	4	8	50	2.40	-
SEME640250510E	R0.5	2.5	4	4	10	50	2.40	-
SEME640250512E	R0.5	2.5	4	4	12	50	2.40	-
SEME640250514E	R0.5	2.5	4	4	14	50	2.40	-
SEME640250516E	R0.5	2.5	4	4	16	50	2.40	-
SEME640250520E	R0.5	2.5	4	4	20	50	2.40	-
SEME640250526E	R0.5	2.5	4	4	26	60	2.40	-
SEME640250530E	R0.5	2.5	4	4	30	70	2.40	-
SEME640300108E	R0.1	3.0	6	4.5	8	50	2.85	-

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Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
±0.02	0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S				H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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硬质合金, 4刃 不等螺旋 圆鼻 颈部加长

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CARBIDE 4 27°/30° ±0.02 PLAIN p.C276-279

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
SEME640300110E	R0.1	3.0	6	4.5	10	50	2.85	-
SEME640300112E	R0.1	3.0	6	4.5	12	50	2.85	-
SEME640300114E	R0.1	3.0	6	4.5	14	60	2.85	-
SEME640300116E	R0.1	3.0	6	4.5	16	60	2.85	-
SEME640300120E	R0.1	3.0	6	4.5	20	60	2.85	-
SEME640300126E	R0.1	3.0	6	4.5	26	65	2.85	-
SEME640300130E	R0.1	3.0	6	4.5	30	70	2.85	-
SEME640300135E	R0.1	3.0	6	4.5	35	70	2.85	-
SEME640300140E	R0.1	3.0	6	4.5	40	80	2.85	-
SEME640300208E	R0.2	3.0	6	4.5	8	50	2.85	-
SEME640300210E	R0.2	3.0	6	4.5	10	50	2.85	-
SEME640300212E	R0.2	3.0	6	4.5	12	50	2.85	-
SEME640300214E	R0.2	3.0	6	4.5	14	60	2.85	-
SEME640300216E	R0.2	3.0	6	4.5	16	60	2.85	-
SEME640300218E	R0.2	3.0	6	4.5	18	60	2.85	-
SEME640300220E	R0.2	3.0	6	4.5	20	60	2.85	-
SEME640300226E	R0.2	3.0	6	4.5	26	65	2.85	-
SEME640300230E	R0.2	3.0	6	4.5	30	70	2.85	-
SEME640300235E	R0.2	3.0	6	4.5	35	70	2.85	-
SEME640300240E	R0.2	3.0	6	4.5	40	80	2.85	-
SEME640300308E	R0.3	3.0	6	4.5	8	50	2.85	-
SEME640300310E	R0.3	3.0	6	4.5	10	50	2.85	-
SEME640300312E	R0.3	3.0	6	4.5	12	50	2.85	-
SEME640300314E	R0.3	3.0	6	4.5	14	60	2.85	-

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Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
±0.02	0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S				H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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硬质合金, 4刃 不等螺旋 圆鼻 颈部加长

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CARBIDE 4 27°/30° ±0.02 PLAIN p.C276-279

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

D<Ø3, 30° HELIX Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME640300316E	R0.3	3.0	6	4.5	16	60	2.85	-
SEME640300320E	R0.3	3.0	6	4.5	20	60	2.85	-
SEME640300326E	R0.3	3.0	6	4.5	26	65	2.85	-
SEME640300330E	R0.3	3.0	6	4.5	30	70	2.85	-
SEME640300335E	R0.3	3.0	6	4.5	35	70	2.85	-
SEME640300340E	R0.3	3.0	6	4.5	40	80	2.85	-
SEME640300508E	R0.5	3.0	6	4.5	8	50	2.85	-
SEME640300510E	R0.5	3.0	6	4.5	10	50	2.85	-
SEME640300512E	R0.5	3.0	6	4.5	12	50	2.85	-
SEME640300514E	R0.5	3.0	6	4.5	14	60	2.85	-
SEME640300516E	R0.5	3.0	6	4.5	16	60	2.85	-
SEME640300520E	R0.5	3.0	6	4.5	20	60	2.85	-
SEME640300526E	R0.5	3.0	6	4.5	26	65	2.85	-
SEME640300530E	R0.5	3.0	6	4.5	30	70	2.85	-
SEME640300535E	R0.5	3.0	6	4.5	35	70	2.85	-
SEME640300540E	R0.5	3.0	6	4.5	40	80	2.85	-
SEME640301008E	R1.0	3.0	6	4.5	8	50	2.85	-
SEME640301010E	R1.0	3.0	6	4.5	10	50	2.85	-
SEME640301012E	R1.0	3.0	6	4.5	12	50	2.85	-
SEME640301014E	R1.0	3.0	6	4.5	14	60	2.85	-
SEME640301016E	R1.0	3.0	6	4.5	16	60	2.85	-
SEME640301020E	R1.0	3.0	6	4.5	20	60	2.85	-
SEME640301026E	R1.0	3.0	6	4.5	26	65	2.85	-
SEME640301030E	R1.0	3.0	6	4.5	30	70	2.85	-

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Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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CARBIDE 4 27°/30° ±0.02 PLAIN p.C276-279

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

D<Ø3, 30° HELIX Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3	Remark 备注
SEME640301035E	R1.0	3.0	6	4.5	35	70	2.85	-
SEME640301040E	R1.0	3.0	6	4.5	40	80	2.85	-
SEME640400110E	R0.1	4.0	6	6	10	50	3.85	-
SEME640400112E	R0.1	4.0	6	6	12	50	3.85	-
SEME640400114E	R0.1	4.0	6	6	14	60	3.85	-
SEME640400116E	R0.1	4.0	6	6	16	60	3.85	-
SEME640400120E	R0.1	4.0	6	6	20	60	3.85	-
SEME640400126E	R0.1	4.0	6	6	26	65	3.85	-
SEME640400130E	R0.1	4.0	6	6	30	70	3.85	-
SEME640400135E	R0.1	4.0	6	6	35	70	3.85	-
SEME640400140E	R0.1	4.0	6	6	40	80	3.85	-
SEME640400145E	R0.1	4.0	6	6	45	90	3.85	-
SEME640400150E	R0.1	4.0	6	6	50	100	3.85	-
SEME640400210E	R0.2	4.0	6	6	10	50	3.85	-
SEME640400212E	R0.2	4.0	6	6	12	50	3.85	-
SEME640400214E	R0.2	4.0	6	6	14	60	3.85	-
SEME640400216E	R0.2	4.0	6	6	16	60	3.85	-
SEME640400220E	R0.2	4.0	6	6	20	60	3.85	-
SEME640400224E	R0.2	4.0	6	6	24	65	3.85	-
SEME640400226E	R0.2	4.0	6	6	26	65	3.85	-
SEME640400230E	R0.2	4.0	6	6	30	70	3.85	-
SEME640400235E	R0.2	4.0	6	6	35	70	3.85	-
SEME640400240E	R0.2	4.0	6	6	40	80	3.85	-
SEME640400245E	R0.2	4.0	6	6	45	90	3.85	-

▶ NEXT PAGE 下页

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金, 4刃 不等螺旋 圆鼻 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRC55 which are used for molds & dies.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
SEME640400250E	R0.2	4.0	6	6	50	100	3.85	-
SEME640400310E	R0.3	4.0	6	6	10	50	3.85	-
SEME640400312E	R0.3	4.0	6	6	12	50	3.85	-
SEME640400314E	R0.3	4.0	6	6	14	60	3.85	-
SEME640400316E	R0.3	4.0	6	6	16	60	3.85	-
SEME640400320E	R0.3	4.0	6	6	20	60	3.85	-
SEME640400326E	R0.3	4.0	6	6	26	65	3.85	-
SEME640400330E	R0.3	4.0	6	6	30	70	3.85	-
SEME640400335E	R0.3	4.0	6	6	35	70	3.85	-
SEME640400340E	R0.3	4.0	6	6	40	80	3.85	-
SEME640400345E	R0.3	4.0	6	6	45	90	3.85	-
SEME640400350E	R0.3	4.0	6	6	50	100	3.85	-
SEME640400510E	R0.5	4.0	6	6	10	50	3.85	-
SEME640400512E	R0.5	4.0	6	6	12	50	3.85	-
SEME640400514E	R0.5	4.0	6	6	14	60	3.85	-
SEME640400516E	R0.5	4.0	6	6	16	60	3.85	-
SEME640400520E	R0.5	4.0	6	6	20	60	3.85	-
SEME640400526E	R0.5	4.0	6	6	26	65	3.85	-
SEME640400530E	R0.5	4.0	6	6	30	70	3.85	-
SEME640400535E	R0.5	4.0	6	6	35	70	3.85	-
SEME640400540E	R0.5	4.0	6	6	40	80	3.85	-
SEME640400545E	R0.5	4.0	6	6	45	90	3.85	-
SEME640400550E	R0.5	4.0	6	6	50	100	3.85	-
SEME640401010E	R1.0	4.0	6	6	10	50	3.85	-

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

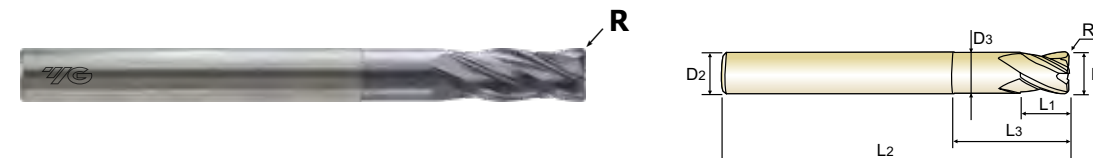
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金, 4刃 不等螺旋 圆鼻 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRC55 which are used for molds & dies.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
SEME640401012E	R1.0	4.0	6	6	12	50	3.85	-
SEME640401014E	R1.0	4.0	6	6	14	60	3.85	-
SEME640401016E	R1.0	4.0	6	6	16	60	3.85	-
SEME640401020E	R1.0	4.0	6	6	20	60	3.85	-
SEME640401026E	R1.0	4.0	6	6	26	65	3.85	-
SEME640401030E	R1.0	4.0	6	6	30	70	3.85	-
SEME640401035E	R1.0	4.0	6	6	35	70	3.85	-
SEME640401040E	R1.0	4.0	6	6	40	80	3.85	-
SEME640401045E	R1.0	4.0	6	6	45	90	3.85	-
SEME640401050E	R1.0	4.0	6	6	50	100	3.85	-
SEME6405001E	R0.1	5.0	6	8	15	60	4.85	-
SEME6405002E	R0.2	5.0	6	8	15	60	4.85	-
SEME6405003E	R0.3	5.0	6	8	15	60	4.85	-
SEME6405005E	R0.5	5.0	6	8	15	60	4.85	-
SEME6405010E	R1.0	5.0	6	8	15	60	4.85	-
SEME6405015E	R1.5	5.0	6	8	15	60	4.85	-
SEME6405020E	R2.0	5.0	6	8	15	60	4.85	-
SEME6406001E	R0.1	6.0	6	9	20	60	5.85	Regular
SEME6406002E	R0.2	6.0	6	9	20	60	5.85	Regular
SEME6406003E	R0.3	6.0	6	9	20	60	5.85	Regular
SEME6406005E	R0.5	6.0	6	9	20	60	5.85	Regular
SEME6406010E	R1.0	6.0	6	9	20	60	5.85	Regular
SEME6406015E	R1.5	6.0	6	9	20	60	5.85	Regular
SEME6406020E	R2.0	6.0	6	9	20	60	5.85	Regular

Corner Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK SEME64 SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金, 4刃 不等螺旋 圆鼻 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRC55 which are used for molds & dies.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



CARBIDE 4 27°/30° ±0.02 PLAIN p.C276-279

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
SEME6406003090E	R0.3	6.0	6	15	30	90	5.85	Long
SE5E640600524LE	R0.5	6.0	6	9	24	90	5.85	-
SEME6406005090E	R0.5	6.0	6	15	30	90	5.85	Long
SEME6406010090E	R1.0	6.0	6	15	30	90	5.85	Long
SEME6408001E	R0.1	8.0	8	12	25	70	7.70	Regular
SEME6408002E	R0.2	8.0	8	12	25	70	7.70	Regular
SEME6408003E	R0.3	8.0	8	12	25	70	7.70	Regular
SEME6408005E	R0.5	8.0	8	12	25	70	7.70	Regular
SEME6408010E	R1.0	8.0	8	12	25	70	7.70	Regular
SEME6408015E	R1.5	8.0	8	12	25	70	7.70	Regular
SEME6408020E	R2.0	8.0	8	12	25	70	7.70	Regular
SEME6408003100E	R0.3	8.0	8	20	35	100	7.70	Long
SEME6408005100E	R0.5	8.0	8	20	35	100	7.70	Long
SEME6408010100E	R1.0	8.0	8	20	35	100	7.70	Long
SEME6410001E	R0.1	10.0	10	15	30	75	9.70	Regular
SEME6410002E	R0.2	10.0	10	15	30	75	9.70	Regular
SEME6410003E	R0.3	10.0	10	15	30	75	9.70	Regular
SEME6410005E	R0.5	10.0	10	15	30	75	9.70	Regular
SEME6410010E	R1.0	10.0	10	15	30	75	9.70	Regular
SEME6410015E	R1.5	10.0	10	15	30	75	9.70	Regular
SEME6410020E	R2.0	10.0	10	15	30	75	9.70	Regular
SEME6410003100E	R0.3	10.0	10	25	40	100	9.70	Long
SEME6410005100E	R0.5	10.0	10	25	40	100	9.70	Long
SEME6410010100E	R1.0	10.0	10	25	40	100	9.70	Long

Corner Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
圆弧角公差	直径公差	柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

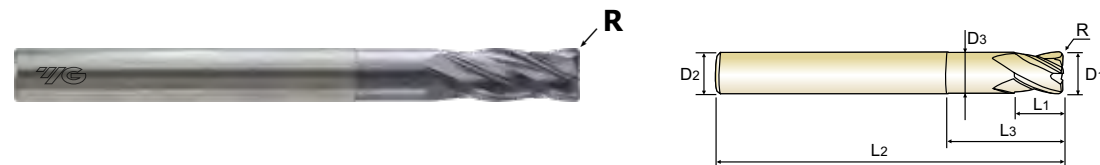


PLAIN SHANK SEME64 SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS with EXTENDED NECK
硬质合金, 4刃 不等螺旋 圆鼻 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRC55 which are used for molds & dies.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



CARBIDE 4 27°/30° ±0.02 PLAIN p.C276-279

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Remark
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
SEME6412002E	R0.2	12.0	12	18	32	80	11.70	Regular
SEME6412003E	R0.3	12.0	12	18	32	80	11.70	Regular
SEME6412005E	R0.5	12.0	12	18	32	80	11.70	Regular
SEME6412010E	R1.0	12.0	12	18	32	80	11.70	Regular
SEME6412015E	R1.5	12.0	12	18	32	80	11.70	Regular
SEME6412020E	R2.0	12.0	12	18	32	80	11.70	Regular
SEME6412003110E	R0.3	12.0	12	30	50	110	11.70	Long
SEME6412005110E	R0.5	12.0	12	30	50	110	11.70	Long
SEME6412010110E	R1.0	12.0	12	30	50	110	11.70	Long
SEME6416005E	R0.5	16.0	16	20	35	100	15.70	Regular
SEME6416010E	R1.0	16.0	16	20	35	100	15.70	Regular
SEME6416005150E	R0.5	16.0	16	35	50	150	15.70	Long
SEME6416010150E	R1.0	16.0	16	35	50	150	15.70	Long
SEME6420005E	R0.5	20.0	20	25	40	100	19.70	Regular
SEME6420010E	R1.0	20.0	20	25	40	100	19.70	Regular
SEME6420005150E	R0.5	20.0	20	40	55	150	19.70	Long
SEME6420010150E	R1.0	20.0	20	40	55	150	19.70	Long

Corner Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
圆弧角公差	直径公差	柄径公差
± 0.02	0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

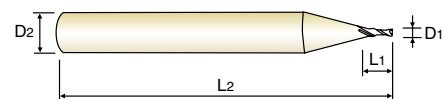


PLAIN SHANK SEME35 SERIES

CARBIDE, 2 FLUTE
硬质合金, 2刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRC55 which are used for molds & dies.
- ▶ From a sharp edge geometry at the end tooth, cutting abilities at work process is increased.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 基于锋利底刃刀尖设计, 增加切削性能



p.C280-283

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径	柄径	刃长	全长
	D1	D2	L1	L2
SEME35001E	0.1	4	0.2	40
SEME350015E	0.15	4	0.3	40
SEME35002E	0.2	4	0.4	40
SEME350025E	0.25	4	0.5	40
SEME35003E	0.3	4	0.6	40
SEME350035E	0.35	4	0.7	40
SEME35004E	0.4	4	0.8	40
SEME350045E	0.45	4	0.9	40
SEME35005E	0.5	4	1.0	40
SEME350055E	0.55	4	1.1	40
SEME35006E	0.6	4	1.2	40
SEME350065E	0.65	4	1.3	40
SEME35007E	0.7	4	1.4	40
SEME350075E	0.75	4	1.5	40
SEME35008E	0.8	4	1.6	40
SEME350085E	0.85	4	1.7	40
SEME35009E	0.9	4	1.8	40
SEME350095E	0.95	4	2	40
SEME35010E	1.0	6	2.5	50
SEME35012E	1.2	6	3	50
SEME35015E	1.5	6	4	50
SEME35020E	2.0	6	6	50
SEME35025E	2.5	6	7	50
SEME35030E	3.0	6	8	50

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	0~ -0.012	h5
over Ø6 超过06	0~ -0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34						200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100														
Recommend																		○	◎	○	○	○

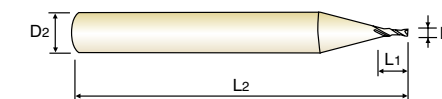


PLAIN SHANK SEME35 SERIES

CARBIDE, 2 FLUTE
硬质合金, 2刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRC55 which are used for molds & dies.
- ▶ From a sharp edge geometry at the end tooth, cutting abilities at work process is increased.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 基于锋利底刃刀尖设计, 增加切削性能



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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径	柄径	刃长	全长
	D1	D2	L1	L2
SEME35035E	3.5	6	10	50
SEME35040E	4.0	6	10	50
SEME35045E	4.5	6	14	50
SEME35050E	5.0	6	15	60
SEME35055E	5.5	6	15	60
SEME35060E	6.0	6	15	60
SEME35065E	6.5	8	18	60
SEME35070E	7.0	8	20	60
SEME35075E	7.5	8	20	60
SEME35080E	8.0	8	20	70
SEME35085E	8.5	10	22	70
SEME35090E	9.0	10	22	70
SEME35095E	9.5	10	24	70
SEME35100E	10.0	10	25	75
SEME35105E	10.5	12	26	75
SEME35110E	11.0	12	30	75
SEME35115E	11.5	12	30	80
SEME35120E	12.0	12	30	80
SEME35130E	13.0	12	35	100
SEME3514012SE	14.0	12	35	100
SEME3514014SE	14.0	14	35	100
SEME35140E	14.0	16	35	100
SEME35150E	15.0	16	38	100
SEME35160E	16.0	16	40	100

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	0~ -0.012	h5
over Ø6 超过06	0~ -0.015	

◎ : Excellent (优秀) ○ : Good (良好)

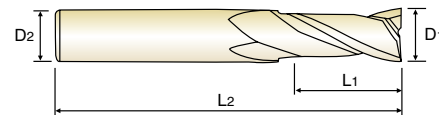
ISO Material Description	P										M						K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34						200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100														
Recommend																		○	◎	○	○	○

CARBIDE, 2 FLUTE
硬质合金, 2刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
- ▶ From a sharp edge geometry at the end tooth, cutting abilities at work process is increased.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRc55以下)表现出色
- ▶ 基于锋利底刃刀尖设计, 增加切削性能



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
SEME35170E	17.0	16	42	100
SEME35180E	18.0	16	45	100
SEME3518018SE	18.0	18	45	100
SEME35190E	19.0	20	45	100
SEME35200E	20.0	20	45	100
SEME35210E	21.0	20	45	100
SEME35220E	22.0	20	45	100
SEME35230E	23.0	25	50	120
SEME35240E	24.0	25	50	120
SEME35250E	25.0	25	50	120

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 Ø6以下	0~ -0.012	h5
over Ø6 超过Ø6	0~ -0.015	

◎ : Excellent (优秀) ○ : Good (良好)

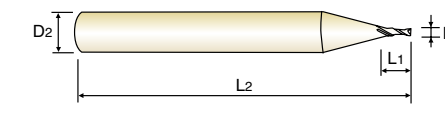
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○	○	◎	○	○

CARBIDE, 2 FLUTE (4mm Shank)
硬质合金, 2刃 (4mm 柄径)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
- ▶ From a sharp edge geometry at the end tooth, cutting abilities at work process is increased.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRc55以下)表现出色
- ▶ 基于锋利底刃刀尖设计, 增加切削性能



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
SEME350104SE	1.0	4	2.5	50
SEME350114SE	1.1	4	3	50
SEME350124SE	1.2	4	3	50
SEME350134SE	1.3	4	3	50
SEME350144SE	1.4	4	3	50
SEME350154SE	1.5	4	4	50
SEME350164SE	1.6	4	4	50
SEME350174SE	1.7	4	4	50
SEME350184SE	1.8	4	5	50
SEME350194SE	1.9	4	5	50
SEME350204SE	2.0	4	6	50
SEME350214SE	2.1	4	6	50
SEME350224SE	2.2	4	6	50
SEME350234SE	2.3	4	6	50
SEME350244SE	2.4	4	6	50
SEME350254SE	2.5	4	8	50
SEME350264SE	2.6	4	8	50
SEME350274SE	2.7	4	8	50
SEME350284SE	2.8	4	8	50
SEME350294SE	2.9	4	8	50
SEME350304SE	3.0	4	8	50
SEME350354SE	3.5	4	10	50
SEME350404SE	4.0	4	10	50
SEME350404S080E	4.0	4	10	80

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0~ -0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

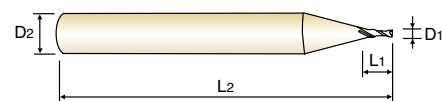
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○	○	◎	○	○

CARBIDE, 2 FLUTE (3mm Shank)
硬质合金, 2刃 (3mm 柄径)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRC55 which are used for molds & dies.
- ▶ From a sharp edge geometry at the end tooth, cutting abilities at work process is increased.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 基于锋利底刃刀尖设计, 增加切削性能



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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
SEME350013SE	0.1	3	0.2	40
SEME350023SE	0.2	3	0.4	40
SEME350033SE	0.3	3	0.6	40
SEME350043SE	0.4	3	0.8	40
SEME350053SE	0.5	3	1.0	40
SEME350063SE	0.6	3	1.2	40
SEME350073SE	0.7	3	1.4	40
SEME350083SE	0.8	3	1.6	40
SEME350093SE	0.9	3	1.8	40
SEME350103SE	1.0	3	2.5	50
SEME350123SE	1.2	3	3	50
SEME350153SE	1.5	3	4	50
SEME350203SE	2.0	3	6	50
SEME350253SE	2.5	3	7	50
SEME350303SE	3.0	3	8	50

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0~ -0.012	h5

◎ : Excellent (优秀) ○ : Good (良好)

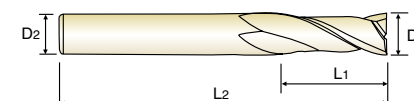
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	190	250	270	300	180	275	300	350	200	230	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	230	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	630	400	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	42	55
Recommend																		○	◎	○		

CARBIDE, 2 FLUTE LONG LENGTH
硬质合金, 2刃 长刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRC55 which are used for molds & dies.
- ▶ Available in various lengths of cut and also overall lengths.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 可提供多种刃长和全长



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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
SEME7001003E	1.0	6	3	60
SEME7001004E	1.0	6	4	60
SEME7001005E	1.0	6	5	60
SEME7001006E	1.0	6	6	60
SEME7001007E	1.0	6	7	60
SEME7001008E	1.0	6	8	60
SEME7001010E	1.0	6	10	60
SEME7001012E	1.0	6	12	60
SEME7001204E	1.2	6	4	60
SEME7001206E	1.2	6	6	60
SEME7001208E	1.2	6	8	60
SEME7001210E	1.2	6	10	60
SEME7001212E	1.2	6	12	60
SEME7001506E	1.5	6	6	60
SEME7001508E	1.5	6	8	60
SEME7001510E	1.5	6	10	60
SEME7001512E	1.5	6	12	60
SEME7001514E	1.5	6	14	60
SEME7001516E	1.5	6	16	60
SEME7002008E	2.0	6	8	60
SEME7002010E	2.0	6	10	60
SEME7002012E	2.0	6	12	60
SEME7002014E	2.0	6	14	60
SEME7002016E	2.0	6	16	60

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	190	250	270	300	180	275	300	350	200	230	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	230	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	630	400	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	42	55
Recommend																		○	◎	○		

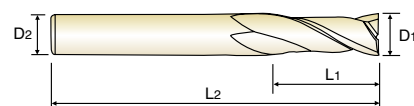


PLAIN SHANK SEME70 SERIES

CARBIDE, 2 FLUTE LONG LENGTH
硬质合金, 2刃 长刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
- ▶ Available in various lengths of cut and also overall lengths.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRc55以下)表现出色
- ▶ 可提供多种刃长和全长



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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径	柄径	刃长	全长
	D1	D2	L1	L2
SEME7002510E	2.5	6	10	60
SEME7002512E	2.5	6	12	60
SEME7002516E	2.5	6	16	60
SEME7002520E	2.5	6	20	60
SEME7002526E	2.5	6	26	60
SEME70030163SE	3.0	3	16	100
SEME7003010E	3.0	6	10	70
SEME7003012E	3.0	6	12	70
SEME7003014E	3.0	6	14	70
SEME7003016E	3.0	6	16	70
SEME7003020E	3.0	6	20	70
SEME7003026E	3.0	6	26	70
SEME7003030E	3.0	6	30	70
SEME70040204SE	4.0	4	20	100
SEME7004012E	4.0	6	12	70
SEME7004016E	4.0	6	16	70
SEME7004020E	4.0	6	20	70
SEME7004026E	4.0	6	26	70
SEME7004030E	4.0	6	30	70
SEME7005020E	5.0	6	20	70
SEME7005025E	5.0	6	25	70
SEME7005025100E	5.0	6	25	100
SEME7005030E	5.0	6	30	80
SEME7005035E	5.0	6	35	90

▶ NEXT PAGE 下页

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																		○	◎	◎	○	○

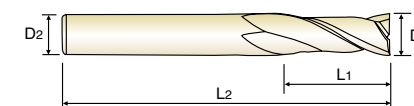


PLAIN SHANK SEME70 SERIES

CARBIDE, 2 FLUTE LONG LENGTH
硬质合金, 2刃 长刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
- ▶ Available in various lengths of cut and also overall lengths.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRc55以下)表现出色
- ▶ 可提供多种刃长和全长



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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径	柄径	刃长	全长
	D1	D2	L1	L2
SEME7005040E	5.0	6	40	100
SEME7006015E	6.0	6	15	60
SEME7006015080E	6.0	6	15	80
SEME7006020E	6.0	6	20	70
SEME7006020090E	6.0	6	20	90
SEME7006025E	6.0	6	25	75
SEME7006030E	6.0	6	30	80
SEME7006030100E	6.0	6	30	100
SEME7006030150E	6.0	6	30	150
SEME7006035E	6.0	6	35	90
SEME7006040E	6.0	6	40	90
SEME7006040120E	6.0	6	40	120
SEME7006045E	6.0	6	45	150
SEME7008025E	8.0	8	25	80
SEME7008030E	8.0	8	30	80
SEME7008030100E	8.0	8	30	100
SEME7008035E	8.0	8	35	90
SEME7008040E	8.0	8	40	90
SEME7008040120E	8.0	8	40	120
SEME7008040150E	8.0	8	40	150
SEME7008045E	8.0	8	45	100
SEME7008050E	8.0	8	50	100
SEME7008050150E	8.0	8	50	150
SEME7010030E	10.0	10	30	80

▶ NEXT PAGE 下页

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																		○	◎	◎	○	○

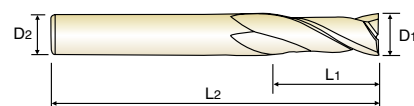


PLAIN SHANK SEME70 SERIES

CARBIDE, 2 FLUTE LONG LENGTH
硬质合金, 2刃 长刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
- ▶ Available in various lengths of cut and also overall lengths.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRc55以下)表现出色
- ▶ 可提供多种刃长和全长



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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
SEME7010030100E	10.0	10	30	100
SEME7010035E	10.0	10	35	90
SEME7010040E	10.0	10	40	90
SEME7010040120E	10.0	10	40	120
SEME7010045E	10.0	10	45	100
SEME7010050E	10.0	10	50	100
SEME7010050150E	10.0	10	50	150
SEME7010050200E	10.0	10	50	200
SEME7010055E	10.0	10	55	150
SEME7010060E	10.0	10	60	110
SEME7010060200E	10.0	10	60	200
SEME7012035E	12.0	12	35	90
SEME7012040E	12.0	12	40	100
SEME7012040120E	12.0	12	40	120
SEME7012045E	12.0	12	45	130
SEME7012050E	12.0	12	50	100
SEME7012050150E	12.0	12	50	150
SEME7012055E	12.0	12	55	110
SEME7012060E	12.0	12	60	110
SEME7012060150E	12.0	12	60	150
SEME7012060200E	12.0	12	60	200
SEME7012065E	12.0	12	65	150
SEME7012070E	12.0	12	70	120
SEME7012070200E	12.0	12	70	200

▶ NEXT PAGE 下页

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	23	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	○	○

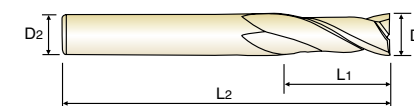


PLAIN SHANK SEME70 SERIES

CARBIDE, 2 FLUTE LONG LENGTH
硬质合金, 2刃 长刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
- ▶ Available in various lengths of cut and also overall lengths.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRc55以下)表现出色
- ▶ 可提供多种刃长和全长



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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
SEME7014050E	14.0	16	50	110
SEME7014060E	14.0	16	60	150
SEME7016040E	16.0	16	40	150
SEME7016050E	16.0	16	50	110
SEME7016050150E	16.0	16	50	150
SEME7016060E	16.0	16	60	120
SEME7016070E	16.0	16	70	130
SEME7016070150E	16.0	16	70	150
SEME7016070200E	16.0	16	70	200
SEME7016080E	16.0	16	80	150
SEME7016090E	16.0	16	90	150
SEME70160110E	16.0	16	110	200
SEME70160120E	16.0	16	120	250
SEME7018050E	18.0	20	50	120
SEME7018070E	18.0	20	70	130
SEME70180100E	18.0	20	100	200
SEME7020050E	20.0	20	50	110
SEME7020050150E	20.0	20	50	150
SEME7020060E	20.0	20	60	130
SEME7020070E	20.0	20	70	130
SEME7020080E	20.0	20	80	150
SEME7020090E	20.0	20	90	150
SEME7020090200E	20.0	20	90	200
SEME70200110E	20.0	20	110	200

▶ NEXT PAGE 下页

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

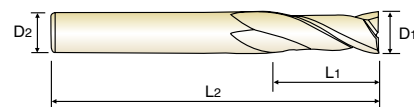
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	23	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	○	○

CARBIDE, 2 FLUTE LONG LENGTH
硬质合金, 2刃 长刃

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
SEME70200120E	20.0	20	120	250
SEME7022075E	22.0	20	75	150
SEME70220110E	22.0	20	110	200
SEME7025070E	25.0	25	70	150
SEME7025090E	25.0	25	90	150
SEME70250110E	25.0	25	110	200
SEME70250120E	25.0	25	120	250

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

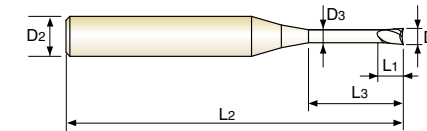
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	42	48	52	55	58	60	62	64	66	68	70	72	74	76
HB	125	190	250	270	300	300	350	400	450	500	200	240	180	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	◎	○

CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金, 2刃 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ For 1.0mm and under 1.0mm diameter size products, it is designed with a double neck to increase tool rigidity and to minimize vibration.
- ▶ Available in several effective lengths of cut and also overall lengths to apply on various rib processing.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRC55以下)表现出色
- ▶ 基于Ø1.0mm以下产品采用双颈设计, 增加刀具刚性及减少切削震动
- ▶ 按照有效长和全长条件, 可提供各种颈部类型



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SEM845001003E	0.1	4	0.15	0.3	40	0.085
SEM845001005E	0.1	4	0.15	0.5	40	0.085
SEM84500101E	0.1	4	0.15	1	40	0.085
SEM84500150035SE	0.15	4	0.2	0.35	40	0.13
SEM845002005E	0.2	4	0.3	0.5	40	0.17
SEM84500201E	0.2	4	0.3	1	40	0.17
SEM845002015E	0.2	4	0.3	1.5	40	0.17
SEM84500202E	0.2	4	0.3	2	40	0.17
SEM84500301E	0.3	4	0.5	1	40	0.27
SEM845003015E	0.3	4	0.5	1.5	40	0.27
SEM84500302E	0.3	4	0.5	2	40	0.27
SEM845003025E	0.3	4	0.5	2.5	40	0.27
SEM84500303E	0.3	4	0.5	3	40	0.27
SEM84500304E	0.3	4	0.5	4	40	0.27
SEM84500305E	0.3	4	0.5	5	40	0.27
SEM84500401E	0.4	4	0.6	1	40	0.37
SEM845004015E	0.4	4	0.6	1.5	40	0.37
SEM84500402E	0.4	4	0.6	2	40	0.37
SEM845004025E	0.4	4	0.6	2.5	40	0.37
SEM84500403E	0.4	4	0.6	3	40	0.37
SEM84500404E	0.4	4	0.6	4	40	0.37
SEM84500405E	0.4	4	0.6	5	40	0.37
SEM84500406E	0.4	4	0.6	6	40	0.37
SEM84500408E	0.4	4	0.6	8	40	0.37

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 以下	0 ~ -0.012	h5
over Ø6 超过Ø6	0 ~ -0.015	

◎ : Excellent (优秀) ○ : Good (良好)

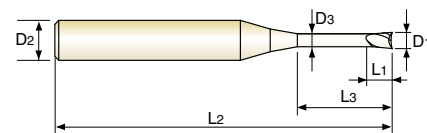
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	42	48	52	55	58	60	62	64	66	68	70	72	74	76
HB	125	190	250	270	300	300	350	400	450	500	200	240	180	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	◎	○

CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金, 2刃 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
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- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
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- ▶ 按照有效长和全长条件, 可提供各种颈部类型



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径	柄径	刃长	颈长	全长	颈径
	D1	D2	L1	L3	L2	D3
SEM84500410E	0.4	4	0.6	10	40	0.37
SEM84500501E	0.5	4	0.7	1	45	0.45
SEM845005015E	0.5	4	0.7	1.5	45	0.45
SEM84500502E	0.5	4	0.7	2	45	0.45
SEM845005025E	0.5	4	0.7	2.5	45	0.45
SEM84500503E	0.5	4	0.7	3	45	0.45
SEM84500504E	0.5	4	0.7	4	45	0.45
SEM84500505E	0.5	4	0.7	5	45	0.45
SEM84500506E	0.5	4	0.7	6	45	0.45
SEM84500508E	0.5	4	0.7	8	45	0.45
SEM84500510E	0.5	4	0.7	10	45	0.45
SEM84500512E	0.5	4	0.7	12	45	0.45
SEM84500514E	0.5	4	0.7	14	45	0.45
SEM84500516E	0.5	4	0.7	16	45	0.45
SEM84500602E	0.6	4	0.9	2	45	0.55
SEM84500603E	0.6	4	0.9	3	45	0.55
SEM84500604E	0.6	4	0.9	4	45	0.55
SEM84500605E	0.6	4	0.9	5	45	0.55
SEM84500606E	0.6	4	0.9	6	45	0.55
SEM84500608E	0.6	4	0.9	8	45	0.55
SEM84500610E	0.6	4	0.9	10	45	0.55
SEM84500612E	0.6	4	0.9	12	45	0.55
SEM84500614E	0.6	4	0.9	14	45	0.55
SEM84500616E	0.6	4	0.9	16	45	0.55

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Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	0~ -0.012	h5
over Ø6 超过06	0~ -0.015	

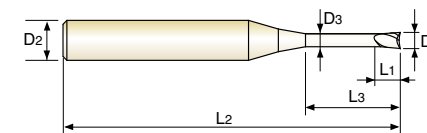
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K																																		
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron																														
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41										
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41										
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	15	30	25	38	34	200	325	200	240	180	180	260	160	250	130	230	15	30	25	38	34	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230											
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○									

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
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EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径	柄径	刃长	颈长	全长	颈径
	D1	D2	L1	L3	L2	D3
SEM84500702E	0.7	4	1.2	2	45	0.65
SEM84500704E	0.7	4	1.2	4	45	0.65
SEM84500706E	0.7	4	1.2	6	45	0.65
SEM84500708E	0.7	4	1.2	8	45	0.65
SEM84500710E	0.7	4	1.2	10	45	0.65
SEM84500712E	0.7	4	1.2	12	45	0.65
SEM84500802E	0.8	4	1.2	2	45	0.75
SEM84500803E	0.8	4	1.2	3	45	0.75
SEM84500804E	0.8	4	1.2	4	45	0.75
SEM84500805E	0.8	4	1.2	5	45	0.75
SEM84500806E	0.8	4	1.2	6	45	0.75
SEM84500808E	0.8	4	1.2	8	45	0.75
SEM84500810E	0.8	4	1.2	10	45	0.75
SEM84500812E	0.8	4	1.2	12	45	0.75
SEM84500814E	0.8	4	1.2	14	45	0.75
SEM84500816E	0.8	4	1.2	16	45	0.75
SEM84500820E	0.8	4	1.2	20	45	0.75
SEM84500906E	0.9	4	1.3	6	45	0.85
SEM84500908E	0.9	4	1.3	8	45	0.85
SEM84500910E	0.9	4	1.3	10	45	0.85
SEM84501002E	1.0	4	1.5	2	50	0.95
SEM84501003E	1.0	4	1.5	3	50	0.95
SEM84501004E	1.0	4	1.5	4	50	0.95
SEM84501005E	1.0	4	1.5	5	50	0.95

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Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	0~ -0.012	h5
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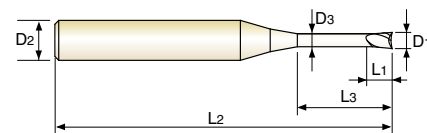
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ISO	P										M						K																																		
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron																														
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41										
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41										
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	15	30	25	38	34	200	325	200	240	180	180	260	160	250	130	230	15	30	25	38	34	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230											
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○									

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
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EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径	柄径	刃长	颈长	全长	颈径
	D1	D2	L1	L3	L2	D3
SEM84501006E	1.0	4	1.5	6	50	0.95
SEM84501007E	1.0	4	1.5	7	50	0.95
SEM84501008E	1.0	4	1.5	8	50	0.95
SEM84501010E	1.0	4	1.5	10	50	0.95
SEM84501012E	1.0	4	1.5	12	50	0.95
SEM84501014E	1.0	4	1.5	14	50	0.95
SEM84501016E	1.0	4	1.5	16	50	0.95
SEM84501018E	1.0	4	1.5	18	50	0.95
SEM84501020E	1.0	4	1.5	20	50	0.95
SEM84501022E	1.0	4	1.5	22	60	0.95
SEM84501026E	1.0	4	1.5	26	60	0.95
SEM84501030E	1.0	4	1.5	30	70	0.95
SEM84501040E	1.0	4	1.5	40	80	0.95
SEM84501050E	1.0	4	1.5	50	100	0.95
SEM84501204E	1.2	4	1.8	4	50	1.15
SEM84501206E	1.2	4	1.8	6	50	1.15
SEM84501208E	1.2	4	1.8	8	50	1.15
SEM84501210E	1.2	4	1.8	10	50	1.15
SEM84501212E	1.2	4	1.8	12	50	1.15
SEM84501214E	1.2	4	1.8	14	50	1.15
SEM84501216E	1.2	4	1.8	16	50	1.15
SEM84501220E	1.2	4	1.8	20	50	1.15
SEM84501226E	1.2	4	1.8	26	60	1.15
SEM84501230E	1.2	4	1.8	30	70	1.15

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Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	0~ -0.012	h5
over Ø6 超过06	0~ -0.015	

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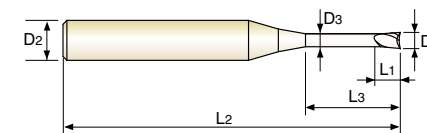
ISO	P										M						K			
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	30	32	30	29	32	38	35	35	23	10	10	26	3	25	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	○	○

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EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径	柄径	刃长	颈长	全长	颈径
	D1	D2	L1	L3	L2	D3
SEM84501406E	1.4	4	2.1	6	50	1.35
SEM84501408E	1.4	4	2.1	8	50	1.35
SEM84501410E	1.4	4	2.1	10	50	1.35
SEM84501414E	1.4	4	2.1	14	50	1.35
SEM84501416E	1.4	4	2.1	16	50	1.35
SEM84501420E	1.4	4	2.1	20	50	1.35
SEM84501504E	1.5	4	2.3	4	50	1.45
SEM84501505E	1.5	4	2.3	5	50	1.45
SEM84501506E	1.5	4	2.3	6	50	1.45
SEM84501507E	1.5	4	2.3	7	50	1.45
SEM84501508E	1.5	4	2.3	8	50	1.45
SEM84501510E	1.5	4	2.3	10	50	1.45
SEM84501512E	1.5	4	2.3	12	50	1.45
SEM84501514E	1.5	4	2.3	14	50	1.45
SEM84501516E	1.5	4	2.3	16	50	1.45
SEM84501518E	1.5	4	2.3	18	50	1.45
SEM84501520E	1.5	4	2.3	20	50	1.45
SEM84501522E	1.5	4	2.3	22	60	1.45
SEM84501526E	1.5	4	2.3	26	60	1.45
SEM84501530E	1.5	4	2.3	30	70	1.45
SEM84501608E	1.6	4	2.3	8	50	1.55
SEM84501610E	1.6	4	2.3	10	50	1.55
SEM84501612E	1.6	4	2.3	12	50	1.55
SEM84501616E	1.6	4	2.3	16	50	1.55

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Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	0~ -0.012	h5
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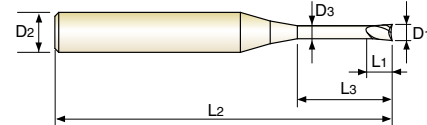
ISO	P										M						K			
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	30	32	30	29	32	38	35	35	23	10	10	26	3	25	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	○	○

CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金, 2刃 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ For 1.0mm and under 1.0mm diameter size products, it is designed with a double neck to increase tool rigidity and to minimize vibration.
- ▶ Available in several effective lengths of cut and also overall lengths to apply on various rib processing.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRC55以下) 表现出色
- ▶ 基于Ø1.0mm以下产品采用双颈设计, 增加刀具强生及减少切削震动
- ▶ 按照有效长和全长条件, 可提供各种颈部类型



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径	柄径	刃长	颈长	全长	颈径
	D1	D2	L1	L3	L2	D3
SEM84501620E	1.6	4	2.3	20	50	1.55
SEM84501808E	1.8	4	2.7	8	50	1.75
SEM84501810E	1.8	4	2.7	10	50	1.75
SEM84501812E	1.8	4	2.7	12	50	1.75
SEM84501816E	1.8	4	2.7	16	50	1.75
SEM84501820E	1.8	4	2.7	20	50	1.75
SEM84502006E	2.0	4	3	6	50	1.95
SEM84502008E	2.0	4	3	8	50	1.95
SEM84502010E	2.0	4	3	10	50	1.95
SEM84502012E	2.0	4	3	12	50	1.95
SEM84502014E	2.0	4	3	14	50	1.95
SEM84502016E	2.0	4	3	16	50	1.95
SEM84502018E	2.0	4	3	18	50	1.95
SEM84502020E	2.0	4	3	20	50	1.95
SEM84502022E	2.0	4	3	22	60	1.95
SEM84502026E	2.0	4	3	26	60	1.95
SEM84502030E	2.0	4	3	30	70	1.95
SEM84502035E	2.0	4	3	35	70	1.95
SEM84502040E	2.0	4	3	40	80	1.95
SEM84502045E	2.0	4	3	45	90	1.95
SEM84502050E	2.0	4	3	50	100	1.95
SEM84502060E	2.0	4	3	60	110	1.95
SEM84502508E	2.5	4	4	8	50	2.40
SEM84502510E	2.5	4	4	10	50	2.40

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	0~ -0.012	h5
over Ø6 超过06	0~ -0.015	

◎ : Excellent (优秀) ○ : Good (良好)

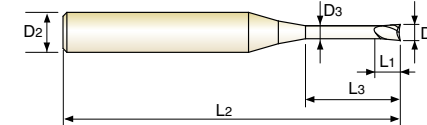
ISO	P										M						K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○	○	○	◎	○

CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金, 2刃 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ For 1.0mm and under 1.0mm diameter size products, it is designed with a double neck to increase tool rigidity and to minimize vibration.
- ▶ Available in several effective lengths of cut and also overall lengths to apply on various rib processing.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRC55以下) 表现出色
- ▶ 基于Ø1.0mm以下产品采用双颈设计, 增加刀具强生及减少切削震动
- ▶ 按照有效长和全长条件, 可提供各种颈部类型



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径	柄径	刃长	颈长	全长	颈径
	D1	D2	L1	L3	L2	D3
SEM84502512E	2.5	4	4	12	50	2.40
SEM84502514E	2.5	4	4	14	50	2.40
SEM84502516E	2.5	4	4	16	50	2.40
SEM84502518E	2.5	4	4	18	50	2.40
SEM84502520E	2.5	4	4	20	50	2.40
SEM84502522E	2.5	4	4	22	60	2.40
SEM84502526E	2.5	4	4	26	60	2.40
SEM84502530E	2.5	4	4	30	70	2.40
SEM84502535E	2.5	4	4	35	70	2.40
SEM84502540E	2.5	4	4	40	80	2.40
SEM84502545E	2.5	4	4	45	90	2.40
SEM84502550E	2.5	4	4	50	100	2.40
SEM84503006E	3.0	6	4.5	6	50	2.85
SEM84503008E	3.0	6	4.5	8	50	2.85
SEM84503010E	3.0	6	4.5	10	50	2.85
SEM84503012E	3.0	6	4.5	12	50	2.85
SEM84503014E	3.0	6	4.5	14	60	2.85
SEM84503016E	3.0	6	4.5	16	60	2.85
SEM84503018E	3.0	6	4.5	18	60	2.85
SEM84503020E	3.0	6	4.5	20	60	2.85
SEM84503022E	3.0	6	4.5	22	65	2.85
SEM84503026E	3.0	6	4.5	26	65	2.85
SEM84503030E	3.0	6	4.5	30	70	2.85
SEM84503035E	3.0	6	4.5	35	70	2.85

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Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	0~ -0.012	h5
over Ø6 超过06	0~ -0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	55	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○	○	○	◎	○

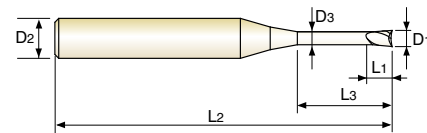


PLAIN SHANK SEM845 SERIES

CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金, 2刃 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ For 1.0mm and under 1.0mm diameter size products, it is designed with a double neck to increase tool rigidity and to minimize vibration.
- ▶ Available in several effective lengths of cut and also overall lengths to apply on various rib processing.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRC55以下) 表现出色
- ▶ 基于Ø1.0mm以下产品采用双颈设计, 增加刀具强生及减少切削震动
- ▶ 按照有效长和全长条件, 可提供各种颈部类型



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径	柄径	刃长	颈长	全长	颈径
	D1	D2	L1	L3	L2	D3
SEM84503040E	3.0	6	4.5	40	80	2.85
SEM84503045E	3.0	6	4.5	45	90	2.85
SEM84503050E	3.0	6	4.5	50	100	2.85
SEM84503060E	3.0	6	4.5	60	100	2.85
SEM84504008E	4.0	6	6	8	50	3.85
SEM84504010E	4.0	6	6	10	50	3.85
SEM84504012E	4.0	6	6	12	50	3.85
SEM84504014E	4.0	6	6	14	60	3.85
SEM84504016E	4.0	6	6	16	60	3.85
SEM84504018E	4.0	6	6	18	60	3.85
SEM84504020E	4.0	6	6	20	60	3.85
SEM84504022E	4.0	6	6	22	65	3.85
SEM84504026E	4.0	6	6	26	65	3.85
SEM84504030E	4.0	6	6	30	70	3.85
SEM84504035E	4.0	6	6	35	70	3.85
SEM84504040E	4.0	6	6	40	80	3.85
SEM84504045E	4.0	6	6	45	90	3.85
SEM84504050E	4.0	6	6	50	100	3.85
SEM84504060E	4.0	6	6	60	100	3.85
SEM84505016E	5.0	6	8	16	60	4.85
SEM84505020E	5.0	6	8	20	60	4.85
SEM84505026E	5.0	6	8	26	65	4.85
SEM84505030E	5.0	6	8	30	70	4.85
SEM84505035E	5.0	6	8	35	75	4.85

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	0~ - 0.012	h5
over Ø6 超过06	0~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K																														
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron																										
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41						
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41						
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	180	260	160	250	130	230	200	325	200	240	180	180	260	160	250	130	230	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	200	325	200	240	180	180	260	160	250	130	230	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550					
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○					

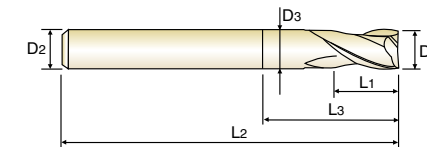


PLAIN SHANK SEM845 SERIES

CARBIDE, 2 FLUTE with EXTENDED NECK
硬质合金, 2刃 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ For 1.0mm and under 1.0mm diameter size products, it is designed with a double neck to increase tool rigidity and to minimize vibration.
- ▶ Available in several effective lengths of cut and also overall lengths to apply on various rib processing.

- ▶ 基于新形状设计, 纳米颗粒基体和涂层, 出色切削性能及耐磨性涂
- ▶ 加工模具产业的预硬钢, 碳钢, 合金钢(HRC55以下) 表现出色
- ▶ 基于Ø1.0mm以下产品采用双颈设计, 增加刀具强生及减少切削震动
- ▶ 按照有效长和全长条件, 可提供各种颈部类型



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径	柄径	刃长	颈长	全长	颈径
	D1	D2	L1	L3	L2	D3
SEM84505040E	5.0	6	8	40	80	4.85
SEM84505050E	5.0	6	8	50	90	4.85
SEM84505060E	5.0	6	8	60	100	4.85
SEM84506015E	6.0	6	9	15	60	5.85
SEM84506020E	6.0	6	9	20	60	5.85
SEM84506030E	6.0	6	9	30	70	5.85
SEM84506032E	6.0	6	9	32	90	5.85
SEM84508025E	8.0	8	12	25	70	7.70
SEM84508030E	8.0	8	12	30	80	7.70
SEM84508042E	8.0	8	12	42	100	7.70
SEM84510030E	10.0	10	15	30	75	9.70
SEM84510035E	10.0	10	15	35	80	9.70
SEM84510045E	10.0	10	15	45	100	9.70
SEM84512035E	12.0	12	20	35	80	11.70
SEM84512040E	12.0	12	20	40	90	11.70
SEM84512050E	12.0	12	20	50	110	11.70

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø6 06以下	0~ - 0.012	h5
over Ø6 超过06	0~ - 0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K																														
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron																										
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41						
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41						
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	180	260	160	250	130	230	200	325	200	240	180	180	260	160	250	130	230	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	200	325	200	240	180	180	260	160	250	130	230	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550					
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○					

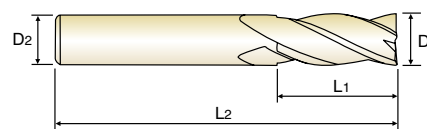


PLAIN SHANK SEME36 SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX
硬质合金, 4刃 不等螺旋

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter end mills minimizing vibration and decreasing wear in cutting.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRc55以下)表现出色
- ▶ 基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

D<Ø3, 30° HELIX

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark 备注
	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEME36008E	0.8	4	1.6	40	4mm Shank
SEME36009E	0.9	4	1.8	40	4mm Shank
SEME360104SE	1.0	4	2.5	50	4mm Shank
SEME36010E	1.0	6	2.5	50	-
SEME360124SE	1.2	4	3	50	4mm Shank
SEME36012E	1.2	6	3	50	-
SEME360154SE	1.5	4	4	50	4mm Shank
SEME36015E	1.5	6	4	50	-
SEME360204SE	2.0	4	6	50	4mm Shank
SEME36020E	2.0	6	6	50	-
SEME360254SE	2.5	4	7	50	4mm Shank
SEME36025E	2.5	6	7	50	-
SEME36030E	3.0	6	8	50	-
SEME36035E	3.5	6	10	50	-
SEME36040E	4.0	6	10	50	-
SEME36045E	4.5	6	14	50	-
SEME36050E	5.0	6	15	60	-
SEME36055E	5.5	6	15	60	-
SEME36060E	6.0	6	15	60	-
SEME36065E	6.5	8	18	60	-
SEME36070E	7.0	8	20	60	-
SEME36075E	7.5	8	20	60	-
SEME36080E	8.0	8	20	70	-
SEME36085E	8.5	10	22	70	-

▶ NEXT PAGE 下页

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	25	21			
HB	125	190	250	270	300	180	275	300	350	200	240	180	260	160	250	130	230					
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○			

ISO Material Description	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		

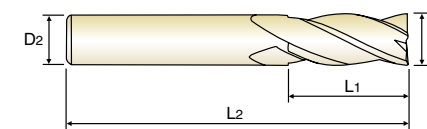


PLAIN SHANK SEME36 SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX
硬质合金, 4刃 不等螺旋

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
- ▶ Multiple Helix for 3.0mm and over 3.0mm diameter end mills minimizing vibration and decreasing wear in cutting.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRc55以下)表现出色
- ▶ 基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

D<Ø3, 30° HELIX

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark 备注
	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEME36090E	9.0	10	22	70	-
SEME36095E	9.5	10	24	70	-
SEME36100E	10.0	10	25	75	-
SEME36105E	10.5	12	26	75	-
SEME36110E	11.0	12	30	75	-
SEME36115E	11.5	12	30	80	-
SEME36120E	12.0	12	30	80	-
SEME36130E	13.0	12	35	100	-
SEME3614012SE	14.0	12	35	100	-
SEME3614014SE	14.0	14	35	100	-
SEME36140E	14.0	16	35	100	-
SEME36150E	15.0	16	38	100	-
SEME36160E	16.0	16	40	100	-
SEME36170E	17.0	16	42	100	-
SEME36180E	18.0	16	45	100	-
SEME3618018SE	18.0	18	45	100	-
SEME36190E	19.0	20	45	100	-
SEME36200E	20.0	20	45	100	-
SEME36210E	21.0	20	45	100	-
SEME36220E	22.0	20	45	100	-
SEME36230E	23.0	25	50	120	-
SEME36240E	24.0	25	50	120	-
SEME36250E	25.0	25	50	120	-

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	25	21			
HB	125	190	250	270	300	180	275	300	350	200	240	180	260	160	250	130	230					
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○			

ISO Material Description	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550		
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		



PLAIN SHANK SEME71 SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX (Sharp corner removal)
硬质合金, 4刃 不等螺旋 (保护刀尖处理)

- New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
Multiple Helix for 3.0mm and over 3.0mm diameter endmills minimizing vibration and decreasing wear in cutting.
Equal index flutes design for long length and single helix (38°) end mills.
Gash land geometry applied at the end tooth, achieving heavy duty cutting.
Available various length products like short, regular and long length end mills etc.
Available in short, regular and long shank end mills.

- 基于新涂层及形状, 实现出色切削性能和耐磨性
加工模具产业的预硬钢(HRc55以下)表现出色
基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性
-长刃产品和单螺旋(38度)产品不采用不等螺旋
基于在底刃的月牙槽形状, 可用重切削
可提供多种刃长包括短, 普通和长刃铣刀等
可提供短, 普通和长柄铣刀

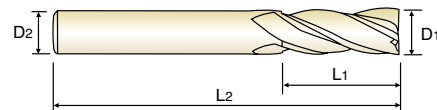


Table with columns: Flat Shank, Page, Plain Shank, Page. Lists recommended toolholders like END MILL HOLDER, HYDRAULIC CHUCK, etc.

D<Ø3, Long Length 38° HELIX

Unit(单位) : mm

Main product table with columns: EDP No., Mill Diameter, Shank Diameter, Length of Cut, Overall Length, Remark. Lists various SEME71 series end mills.

Table with columns: Mill Dia. Tolerance (mm), Shank Dia. Tolerance. Values: 0 ~ -0.03, h5



Enforced Cutting Edge (保护尖角处理) ◎ : Excellent (优秀) ○ : Good (良好)

ISO material compatibility chart with columns for Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron, Aluminum-wrought alloy, Aluminum-cast, alloyed, Copper and Copper Alloys, Non Metallic Materials, Heat Resistant Super Alloys, Titanium Alloys, Hardened steel, Chilled Cast Iron, Hardened Cast Iron.



PLAIN SHANK SEME71 SERIES

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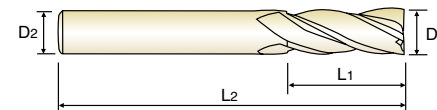


Table with columns: Flat Shank, Page, Plain Shank, Page. Lists recommended toolholders like END MILL HOLDER, HYDRAULIC CHUCK, etc.

D<Ø3, Long Length 38° HELIX

Unit(单位) : mm

Main product table with columns: EDP No., Mill Diameter, Shank Diameter, Length of Cut, Overall Length, Remark. Lists various SEME71 series end mills.

Table with columns: Mill Dia. Tolerance (mm), Shank Dia. Tolerance. Values: 0 ~ -0.03, h5



Enforced Cutting Edge (保护尖角处理) ◎ : Excellent (优秀) ○ : Good (良好)

ISO material compatibility chart with columns for Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron, Aluminum-wrought alloy, Aluminum-cast, alloyed, Copper and Copper Alloys, Non Metallic Materials, Heat Resistant Super Alloys, Titanium Alloys, Hardened steel, Chilled Cast Iron, Hardened Cast Iron.

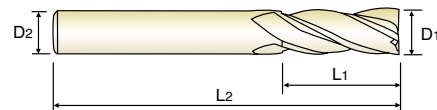


PLAIN SHANK SEME71 SERIES

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硬质合金, 4刃 不等螺旋 (保护刀尖处理)

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- ▶ 基于Ø3.0mm以上采用不等螺旋, 减少切削震动及增加切削耐磨性
- 长刃产品和单螺旋 (38度) 产品不采用不等螺旋
- ▶ 基于在底刃的月牙槽形状, 可用重切削
- ▶ 可提供多种刃长包括短, 普通和长刃铣刀等
- ▶ 可提供短, 普通和长柄铣刀



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

D<Ø3, Long Length 38° HELIX

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEME71025124SE	2.5	4	12	50	4mm Shank
SEME71025025E	2.5	6	2.5	40	Short
SEME7102505E	2.5	6	5	40	Short
SEME71025E	2.5	6	7	50	Regular
SEME7102510E	2.5	6	10	50	Long
SEME7102512E	2.5	6	12	50	Long
SEME7103003E	3.0	6	3	40	Short
SEME7103006E	3.0	6	6	40	Short
SEME71030E	3.0	6	8	50	Regular
SEME7103010E	3.0	6	10	50	Long
SEME7103012E	3.0	6	12	50	Long
SEME7103014E	3.0	6	14	50	Long
SEME7104004E	4.0	6	4	40	Short
SEME7104008E	4.0	6	8	40	Short
SEME71040E	4.0	6	10	50	Regular
SEME7104012E	4.0	6	12	50	Long
SEME7104014E	4.0	6	14	50	Long
SEME7104016E	4.0	6	16	50	Long
SEME7105005E	5.0	6	5	50	Short
SEME7105010E	5.0	6	10	50	Short
SEME71050E	5.0	6	15	60	Regular
SEME7105020E	5.0	6	20	60	Long
SEME7105025E	5.0	6	25	60	Long
SEME7106006E	6.0	6	6	50	Short

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5



Enforced Cutting Edge (保护尖角处理)

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	29	32	38	35	23	15	23	10	10	26	3	25	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	260	160	250	130	230			
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○		

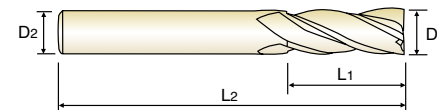


PLAIN SHANK SEME71 SERIES

CARBIDE, 4 FLUTE MULTIPLE HELIX (Sharp corner removal)
硬质合金, 4刃 不等螺旋 (保护刀尖处理)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRc55 and machine parts.
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- ▶ 加工模具产业的预硬钢(HRc55以下)表现出色
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- 长刃产品和单螺旋 (38度) 产品不采用不等螺旋
- ▶ 基于在底刃的月牙槽形状, 可用重切削
- ▶ 可提供多种刃长包括短, 普通和长刃铣刀等
- ▶ 可提供短, 普通和长柄铣刀



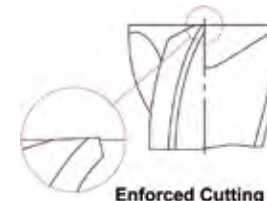
Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

D<Ø3, Long Length 38° HELIX

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEME7106012E	6.0	6	12	50	Short
SEME71060E	6.0	6	15	60	Regular
SEME7106020E	6.0	6	20	60	Long
SEME7106025E	6.0	6	25	60	Long
SEME7108016E	8.0	8	16	60	Short
SEME71080E	8.0	8	20	70	Regular
SEME7108025E	8.0	8	25	70	Long
SEME7108030E	8.0	8	30	70	Long
SEME7110022E	10.0	10	22	65	Short
SEME71100E	10.0	10	25	75	Regular
SEME7110030E	10.0	10	30	75	Long
SEME7110035E	10.0	10	35	75	Long
SEME7112026E	12.0	12	26	70	Short
SEME71120E	12.0	12	30	80	Regular
SEME7112035E	12.0	12	35	80	Long
SEME7112040E	12.0	12	40	80	Long
SEME71140E	14.0	16	35	100	Regular
SEME7116032E	16.0	16	32	100	Short
SEME71160E	16.0	16	40	100	Regular
SEME71180E	18.0	20	45	100	Regular
SEME71200E	20.0	20	45	100	Regular

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5



Enforced Cutting Edge (保护尖角处理)

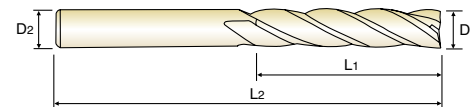
◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	29	32	38	35	23	15	23	10	10	26	3	25	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	260	160	250	130	230			
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○		

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金, 4刃 长刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ Available in short, regular and long shank end mills.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 可提供短, 普通和长柄铣刀



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
SEME7201003E	1.0	6	3	60
SEME7201004E	1.0	6	4	60
SEME7201005E	1.0	6	5	60
SEME7201006E	1.0	6	6	60
SEME7201007E	1.0	6	7	60
SEME7201008E	1.0	6	8	60
SEME7201010E	1.0	6	10	60
SEME7201012E	1.0	6	12	60
SEME7201204E	1.2	6	4	60
SEME7201206E	1.2	6	6	60
SEME7201208E	1.2	6	8	60
SEME7201210E	1.2	6	10	60
SEME7201212E	1.2	6	12	60
SEME7201506E	1.5	6	6	60
SEME7201508E	1.5	6	8	60
SEME7201510E	1.5	6	10	60
SEME7201512E	1.5	6	12	60
SEME7201514E	1.5	6	14	60
SEME7201516E	1.5	6	16	60
SEME7202008E	2.0	6	8	60
SEME7202010E	2.0	6	10	60
SEME7202012E	2.0	6	12	60
SEME7202014E	2.0	6	14	60
SEME7202016E	2.0	6	16	60

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

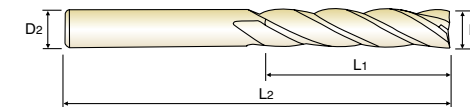
ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
Recommend																		○	◎	◎	○

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金, 4刃 长刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ Available in short, regular and long shank end mills.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 可提供短, 普通和长柄铣刀



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
SEME7202510E	2.5	6	10	60
SEME7202512E	2.5	6	12	60
SEME7202516E	2.5	6	16	60
SEME7202520E	2.5	6	20	60
SEME7202526E	2.5	6	26	60
SEME72030163SE	3.0	3	16	100
SEME7203010E	3.0	6	10	70
SEME7203012E	3.0	6	12	70
SEME7203014E	3.0	6	14	70
SEME7203016E	3.0	6	16	70
SEME7203020E	3.0	6	20	70
SEME7203026E	3.0	6	26	70
SEME7203030E	3.0	6	30	70
SEME72040204SE	4.0	4	20	100
SEME7204012E	4.0	6	12	70
SEME7204016E	4.0	6	16	70
SEME7204020E	4.0	6	20	70
SEME7204026E	4.0	6	26	70
SEME7204030E	4.0	6	30	70
SEME7205020E	5.0	6	20	70
SEME7205025E	5.0	6	25	70
SEME7205025100E	5.0	6	25	100
SEME7205030E	5.0	6	30	80
SEME7205035E	5.0	6	35	90
SEME7205040E	5.0	6	40	100

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
Recommend																		○	◎	◎	○

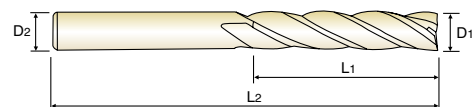


PLAIN SHANK SEME72 SERIES

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金, 4刃 长刃

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
SEME7206015E	6.0	6	15	60
SEME7206015080E	6.0	6	15	80
SEME7206020E	6.0	6	20	70
SEME7206020090E	6.0	6	20	90
SEME7206025E	6.0	6	25	75
SEME7206030E	6.0	6	30	80
SEME7206030100E	6.0	6	30	100
SEME7206030150E	6.0	6	30	150
SEME7206035E	6.0	6	35	90
SEME7206040E	6.0	6	40	90
SEME7206040120E	6.0	6	40	120
SEME7206045E	6.0	6	45	150
SEME7208025E	8.0	8	25	80
SEME7208030E	8.0	8	30	80
SEME7208030100E	8.0	8	30	100
SEME7208035E	8.0	8	35	90
SEME7208040E	8.0	8	40	90
SEME7208040120E	8.0	8	40	120
SEME7208045E	8.0	8	45	100
SEME7208050E	8.0	8	50	100
SEME7208050150E	8.0	8	50	150

Unit(单位) : mm

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	◎	○

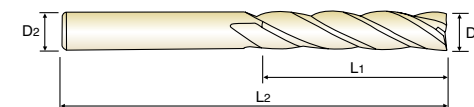


PLAIN SHANK SEME72 SERIES

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金, 4刃 长刃

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- ▶ 可提供短, 普通和长柄铣刀



p.C304-309

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
SEME7210030E	10.0	10	30	80
SEME7210030100E	10.0	10	30	100
SEME7210035E	10.0	10	35	90
SEME7210040E	10.0	10	40	90
SEME7210040120E	10.0	10	40	120
SEME7210045E	10.0	10	45	100
SEME7210050E	10.0	10	50	100
SEME7210050150E	10.0	10	50	150
SEME7210050200E	10.0	10	50	200
SEME7210055E	10.0	10	55	150
SEME7210060E	10.0	10	60	110
SEME7210060200E	10.0	10	60	200
SEME7212035E	12.0	12	35	90
SEME7212040E	12.0	12	40	100
SEME7212040120E	12.0	12	40	120
SEME7212045E	12.0	12	45	130
SEME7212050E	12.0	12	50	100
SEME7212050150E	12.0	12	50	150
SEME7212055E	12.0	12	55	110
SEME7212060E	12.0	12	60	110
SEME7212060150E	12.0	12	60	150
SEME7212060200E	12.0	12	60	200
SEME7212065E	12.0	12	65	150
SEME7212070E	12.0	12	70	120
SEME7212070200E	12.0	12	70	200

Unit(单位) : mm

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	◎	○

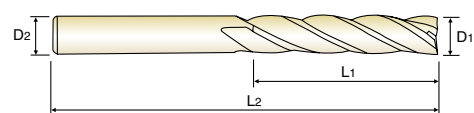


PLAIN SHANK SEME72 SERIES

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硬质合金, 4刃 长刃

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
SEME7214050E	14.0	16	50	110
SEME7214060E	14.0	16	60	150
SEME7216040E	16.0	16	40	150
SEME7216050E	16.0	16	50	110
SEME7216050150E	16.0	16	50	150
SEME7216060E	16.0	16	60	120
SEME7216070E	16.0	16	70	130
SEME7216070150E	16.0	16	70	150
SEME7216070200E	16.0	16	70	200
SEME7216080E	16.0	16	80	150
SEME7216090E	16.0	16	90	150
SEME72160110E	16.0	16	110	200
SEME72160120E	16.0	16	120	250
SEME7218050E	18.0	20	50	120
SEME7218070E	18.0	20	70	130
SEME72180100E	18.0	20	100	200
SEME7220050E	20.0	20	50	110
SEME7220050150E	20.0	20	50	150
SEME7220060E	20.0	20	60	130
SEME7220070E	20.0	20	70	130
SEME7220080E	20.0	20	80	150
SEME7220090E	20.0	20	90	150
SEME7220090200E	20.0	20	90	200
SEME72200110E	20.0	20	110	200
SEME72200120E	20.0	20	120	250

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	○	○

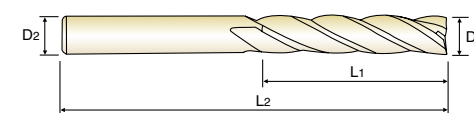


PLAIN SHANK SEME72 SERIES

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
SEME7222075E	22.0	20	75	150
SEME72220110E	22.0	20	110	200
SEME7225070E	25.0	25	70	150
SEME7225090E	25.0	25	90	150
SEME72250110E	25.0	25	110	200
SEME72250120E	25.0	25	120	250

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	○	○

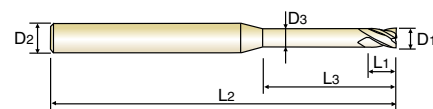


PLAIN SHANK SEME73 SERIES

CARBIDE, 4 FLUTE with EXTENDED NECK
硬质合金, 4刃 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ Available in several effective lengths of cut and also overall lengths than previous standard products.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 可提供比以前标准品更多种有效长和全长产品



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径	柄径	刃长	颈长	全长	颈径
	D1	D2	L1	L3	L2	D3
SEME7301002E	1.0	4	1.5	2	50	0.95
SEME7301003E	1.0	4	1.5	3	50	0.95
SEME7301004E	1.0	4	1.5	4	50	0.95
SEME7301005E	1.0	4	1.5	5	50	0.95
SEME7301006E	1.0	4	1.5	6	50	0.95
SEME7301007E	1.0	4	1.5	7	50	0.95
SEME7301008E	1.0	4	1.5	8	50	0.95
SEME7301010E	1.0	4	1.5	10	50	0.95
SEME7301012E	1.0	4	1.5	12	50	0.95
SEME7301014E	1.0	4	1.5	14	50	0.95
SEME7301016E	1.0	4	1.5	16	50	0.95
SEME7301018E	1.0	4	1.5	18	50	0.95
SEME7301020E	1.0	4	1.5	20	50	0.95
SEME7301022E	1.0	4	1.5	22	60	0.95
SEME7301026E	1.0	4	1.5	26	60	0.95
SEME7301030E	1.0	4	1.5	30	70	0.95
SEME7301040E	1.0	4	1.5	40	80	0.95
SEME7301050E	1.0	4	1.5	50	100	0.95
SEME7301204E	1.2	4	1.8	4	50	1.15
SEME7301206E	1.2	4	1.8	6	50	1.15
SEME7301208E	1.2	4	1.8	8	50	1.15
SEME7301210E	1.2	4	1.8	10	50	1.15
SEME7301212E	1.2	4	1.8	12	50	1.15
SEME7301214E	1.2	4	1.8	14	50	1.15

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Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	○	○

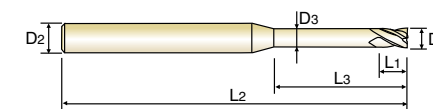


PLAIN SHANK SEME73 SERIES

CARBIDE, 4 FLUTE with EXTENDED NECK
硬质合金, 4刃 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ Available in several effective lengths of cut and also overall lengths than previous standard products.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 可提供比以前标准品更多种有效长和全长产品



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径	柄径	刃长	颈长	全长	颈径
	D1	D2	L1	L3	L2	D3
SEME7301216E	1.2	4	1.8	16	50	1.15
SEME7301220E	1.2	4	1.8	20	50	1.15
SEME7301226E	1.2	4	1.8	26	60	1.15
SEME7301230E	1.2	4	1.8	30	70	1.15
SEME7301504E	1.5	4	2.3	4	50	1.45
SEME7301505E	1.5	4	2.3	5	50	1.45
SEME7301506E	1.5	4	2.3	6	50	1.45
SEME7301507E	1.5	4	2.3	7	50	1.45
SEME7301508E	1.5	4	2.3	8	50	1.45
SEME7301510E	1.5	4	2.3	10	50	1.45
SEME7301512E	1.5	4	2.3	12	50	1.45
SEME7301514E	1.5	4	2.3	14	50	1.45
SEME7301516E	1.5	4	2.3	16	50	1.45
SEME7301518E	1.5	4	2.3	18	50	1.45
SEME7301520E	1.5	4	2.3	20	50	1.45
SEME7301522E	1.5	4	2.3	22	60	1.45
SEME7301526E	1.5	4	2.3	26	60	1.45
SEME7301530E	1.5	4	2.3	30	70	1.45
SEME7302006E	2.0	4	3	6	50	1.95
SEME7302008E	2.0	4	3	8	50	1.95
SEME7302010E	2.0	4	3	10	50	1.95
SEME7302012E	2.0	4	3	12	50	1.95
SEME7302014E	2.0	4	3	14	50	1.95
SEME7302016E	2.0	4	3	16	50	1.95

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Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

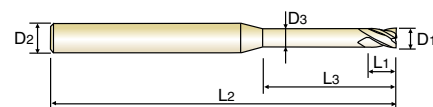
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	○	○

CARBIDE, 4 FLUTE with EXTENDED NECK
硬质合金, 4刃 颈部加长

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ Available in several effective lengths of cut and also overall lengths than previous standard products.

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 可提供比以前标准品更多种有效长和全长产品



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径	柄径	刃长	颈长	全长	颈径
	D1	D2	L1	L3	L2	D3
SEME7302018E	2.0	4	3	18	50	1.95
SEME7302020E	2.0	4	3	20	50	1.95
SEME7302022E	2.0	4	3	22	60	1.95
SEME7302026E	2.0	4	3	26	60	1.95
SEME7302030E	2.0	4	3	30	70	1.95
SEME7302035E	2.0	4	3	35	70	1.95
SEME7302040E	2.0	4	3	40	80	1.95
SEME7302045E	2.0	4	3	45	90	1.95
SEME7302050E	2.0	4	3	50	100	1.95
SEME7302060E	2.0	4	3	60	110	1.95
SEME7302508E	2.5	4	4	8	50	2.40
SEME7302510E	2.5	4	4	10	50	2.40
SEME7302512E	2.5	4	4	12	50	2.40
SEME7302514E	2.5	4	4	14	50	2.40
SEME7302516E	2.5	4	4	16	50	2.40
SEME7302518E	2.5	4	4	18	50	2.40
SEME7302520E	2.5	4	4	20	50	2.40
SEME7302522E	2.5	4	4	22	60	2.40
SEME7302526E	2.5	4	4	26	60	2.40
SEME7302530E	2.5	4	4	30	70	2.40
SEME7302535E	2.5	4	4	35	70	2.40
SEME7302540E	2.5	4	4	40	80	2.40
SEME7302545E	2.5	4	4	45	90	2.40
SEME7302550E	2.5	4	4	50	100	2.40
SEME7303006E	3.0	6	4.5	6	50	2.85
SEME7303008E	3.0	6	4.5	8	50	2.85

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Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ - 0.03	h5

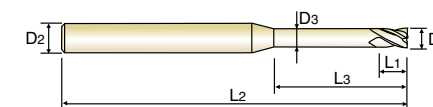
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○

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硬质合金, 4刃 颈部加长

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- ▶ Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC55 and machine parts.
- ▶ Available in several effective lengths of cut and also overall lengths than previous standard products.

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- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 可提供比以前标准品更多种有效长和全长产品



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径	柄径	刃长	颈长	全长	颈径
	D1	D2	L1	L3	L2	D3
SEME7303010E	3.0	6	4.5	10	50	2.85
SEME7303012E	3.0	6	4.5	12	50	2.85
SEME7303014E	3.0	6	4.5	14	60	2.85
SEME7303016E	3.0	6	4.5	16	60	2.85
SEME7303018E	3.0	6	4.5	18	60	2.85
SEME7303020E	3.0	6	4.5	20	60	2.85
SEME7303022E	3.0	6	4.5	22	65	2.85
SEME7303026E	3.0	6	4.5	26	65	2.85
SEME7303030E	3.0	6	4.5	30	70	2.85
SEME7303035E	3.0	6	4.5	35	70	2.85
SEME7303040E	3.0	6	4.5	40	80	2.85
SEME7303045E	3.0	6	4.5	45	90	2.85
SEME7303050E	3.0	6	4.5	50	100	2.85
SEME7303060E	3.0	6	4.5	60	100	2.85
SEME7304008E	4.0	6	6	8	50	3.85
SEME7304010E	4.0	6	6	10	50	3.85
SEME7304012E	4.0	6	6	12	50	3.85
SEME7304014E	4.0	6	6	14	60	3.85
SEME7304016E	4.0	6	6	16	60	3.85
SEME7304018E	4.0	6	6	18	60	3.85
SEME7304020E	4.0	6	6	20	60	3.85
SEME7304022E	4.0	6	6	22	65	3.85
SEME7304025E	4.0	6	6	25	65	3.85
SEME7304026E	4.0	6	6	26	65	3.85
SEME7304030E	4.0	6	6	30	70	3.85
SEME7304035E	4.0	6	6	35	70	3.85

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Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ - 0.03	h5

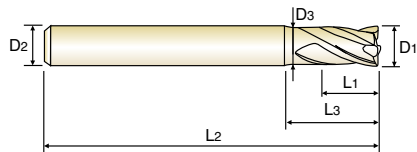
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○

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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径	柄径	刃长	颈长	全长	颈径
	D1	D2	L1	L3	L2	D3
SEME7304040E	4.0	6	6	40	80	3.85
SEME7304045E	4.0	6	6	45	90	3.85
SEME7304050E	4.0	6	6	50	100	3.85
SEME7304060E	4.0	6	6	60	100	3.85
SEME7305016E	5.0	6	8	16	60	4.85
SEME7305020E	5.0	6	8	20	60	4.85
SEME7305026E	5.0	6	8	26	65	4.85
SEME7305030E	5.0	6	8	30	70	4.85
SEME7305035E	5.0	6	8	35	75	4.85
SEME7305040E	5.0	6	8	40	80	4.85
SEME7305050E	5.0	6	8	50	90	4.85
SEME7305060E	5.0	6	8	60	100	4.85
SEME7306015E	6.0	6	9	15	60	5.85
SEME7306020E	6.0	6	9	20	60	5.85
SEME7306030E	6.0	6	9	30	70	5.85
SEME7306032E	6.0	6	9	32	90	5.85
SEME7308025E	8.0	8	12	25	70	7.70
SEME7308030E	8.0	8	12	30	80	7.70
SEME7308042E	8.0	8	12	42	100	7.70
SEME7310030E	10.0	10	15	30	75	9.70
SEME7310035E	10.0	10	15	35	80	9.70
SEME7310045E	10.0	10	15	45	100	9.70
SEME7312035E	12.0	12	20	35	80	11.70
SEME7312040E	12.0	12	20	40	90	11.70
SEME7312050E	12.0	12	20	50	110	11.70

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
直径公差	柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

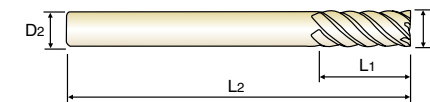
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	○	○

CARBIDE, 6 FLUTE 45° HELIX (Regular, Long Shank)
硬质合金, 6刃 45度螺旋 (普通刃长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRC55 which are used for molds & dies.
- ▶ From the 45 degree helix angle, better surface roughness can be achieved at side cutting.
- ▶ Available in several effective lengths of cut and also overall lengths

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRC55以下)表现出色
- ▶ 基于采用45°螺旋角, 侧铣削提高工件表面粗糙度
- ▶ 可提供比以前标准品更多种有效长和全长产品



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

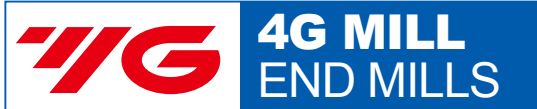
EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark
	直径	柄径	刃长	全长	
	D1	D2	L1	L2	
SEME75060E	6.0	6	15	60	Regular
SEME7506020E	6.0	6	20	70	Long
SEME7506030E	6.0	6	30	80	Long
SEME7506030110E	6.0	6	30	110	Long
SEME75080E	8.0	8	20	70	Regular
SEME7508030E	8.0	8	30	80	Long
SEME7508035E	8.0	8	35	90	Long
SEME7508040E	8.0	8	40	90	Long
SEME7508040130E	8.0	8	40	130	Long
SEME75100E	10.0	10	25	75	Regular
SEME7510030E	10.0	10	30	80	Long
SEME7510040E	10.0	10	40	90	Long
SEME7510050E	10.0	10	50	100	Long
SEME7510050150E	10.0	10	50	150	Long
SEME75120E	12.0	12	30	80	Regular
SEME7512040E	12.0	12	40	90	Long
SEME7512050E	12.0	12	50	100	Long
SEME7512060E	12.0	12	60	110	Long
SEME7512060150E	12.0	12	60	150	Long
SEME75160E	16.0	16	40	100	Regular
SEME7516050E	16.0	16	50	110	Long
SEME7516060E	16.0	16	60	120	Long
SEME7516090E	16.0	16	90	150	Long
SEME75160110E	16.0	16	110	200	Long

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
直径公差	柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	◎	○	○

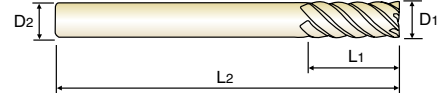


PLAIN SHANK SEME75 SERIES

CARBIDE, 6 FLUTE 45° HELIX (Regular, Long Shank)
硬质合金, 6刃 45度螺旋 (普通刀长, 长柄)

- ▶ New coating and tool geometry applied resulting outstanding cutting abilities and wear resistance.
- ▶ Excellent performance when cutting prehardened steels, up to HRc55 which are used for molds & dies.
- ▶ From the 45° helix angle, better surface roughness can be achieved at side cutting.
- ▶ Available in several effective lengths of cut and also overall lengths

- ▶ 基于新涂层及形状, 实现出色切削性能和耐磨性
- ▶ 加工模具产业的预硬钢(HRc55以下)表现出色
- ▶ 基于采用45°螺旋角, 侧铣削提高工件表面粗糙度
- ▶ 可提供比以前标准品更多种有效长和全长产品



p.C316-317

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Remark 备注
	直径 D1	柄径 D2	刃长 L1	全长 L2	
SEME75160110250E	16.0	16	110	250	Long
SEME75200E	20.0	20	45	100	Regular
SEME7520060E	20.0	20	60	120	Long
SEME7520070E	20.0	20	70	130	Long
SEME75200110E	20.0	20	110	200	Long
SEME75200110250E	20.0	20	110	250	Long
SEME75200110300E	20.0	20	110	300	Long

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	63	68	73	78	83	88	93	98	103	108	113
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

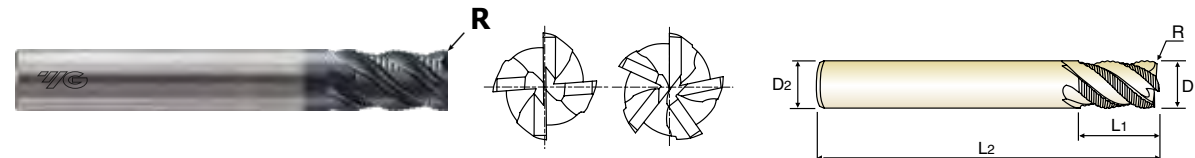


PLAIN SHANK G9D75 G9D76
FLAT SHANK G9D67 G9D68

CARBIDE, 4&5 FLUTE MULTIPLE HELIX CORNER RADIUS
硬质合金, 4&5刃 不等螺旋 圆鼻

- ▶ Unique flute design for excellent chip evacuation and vibration reduction.
- ▶ Optimal roughing tooth profile to reduce cutting forces.
- ▶ Special tool geometry for high feed rate and heavy cutting.
- ▶ Strong end tooth design for plunge and pocket milling.
- ▶ Custom engineered coating to allow long tool life and excellent chip evacuation.

- ▶ 基于独有槽型设计, 卓越的排屑性能及减少产品震动
- ▶ 采用最佳粗加工设计, 减少切削阻力
- ▶ 独特的刀具设计, 可适应高进给及重切削
- ▶ 高强度刃部设计为插铣削和型腔铣削
- ▶ YG-1自身开发涂层加强刀具寿命和排屑性能



p.C318

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

SHORT LENGTH 短刃

Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute 槽数	
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2		
PLAIN	FLAT	R	D1	D2	L1	L2	
G9D75060	G9D67060	R0.5	6.0	6	9	57	4
G9D75080	G9D67080	R0.5	8.0	8	12	63	4
G9D75100	G9D67100	R0.5	10.0	10	15	72	4
G9D75120	G9D67120	R0.5	12.0	12	18	83	4
G9D75160	G9D67160	R1.0	16.0	16	24	92	5
G9D75200	G9D67200	R1.0	20.0	20	30	104	5

LONG LENGTH 长刃

Unit(单位) : mm

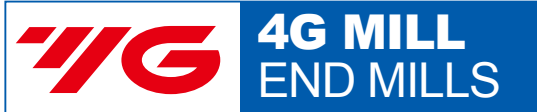
EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute 槽数	
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2		
PLAIN	FLAT	R	D1	D2	L1	L2	
G9D76060	G9D68060	R0.5	6.0	6	12	57	4
G9D76080	G9D68080	R0.5	8.0	8	16	63	4
G9D76100	G9D68100	R0.5	10.0	10	20	72	4
G9D76120	G9D68120	R0.5	12.0	12	24	83	4
G9D76160	G9D68160	R1.0	16.0	16	32	92	5
G9D76200	G9D68200	R1.0	20.0	20	40	104	5

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.05	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	63	68	73	78	83	88	93	98	103	108	113
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

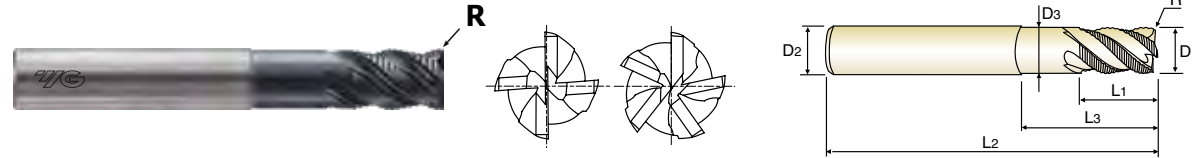


PLAIN SHANK **G9D77** SERIES
FLAT SHANK **G9D69** SERIES

CARBIDE, 4&5 FLUTE MULTIPLE HELIX LONG REACH CORNER RADIUS
硬质合金, 4&5刃 不等螺旋 长有效刃长 圆鼻

- ▶ Unique flute design for excellent chip evacuation and vibration reduction.
- ▶ Optimal roughing tooth profile to reduce cutting forces.
- ▶ Special tool geometry for high feed rate and heavy cutting.
- ▶ Strong end tooth design for plunge and pocket milling.
- ▶ Custom engineered coating to allow long tool life and excellent chip evacuation.

- ▶ 基于独有槽型设计, 卓越的排屑性能及减少产品震动
- ▶ 采用最佳粗加工设计, 减少切削阻力
- ▶ 独特的刀具设计, 可适应高进给及重切削
- ▶ 高强度刃部设计为插铣削和型腔铣削
- ▶ YG-1自身开发涂层加强刀具寿命和排屑性能



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

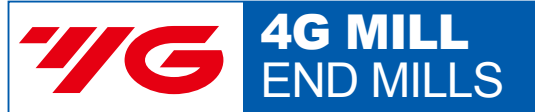
EDP No.	Corner Radius 圆弧角	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Length Below Shank 颈长	Overall Length 全长	Neck Diameter 颈径	No. of Flute 槽数	
									PLAIN
G9D77060	G9D69060	R0.5	6.0	6	9	18	57	5.50	4
G9D77080	G9D69080	R0.5	8.0	8	12	24	63	7.50	4
G9D77100	G9D69100	R0.5	10.0	10	15	30	72	9.50	4
G9D77120	G9D69120	R0.5	12.0	12	18	36	83	11.50	4
G9D77160	G9D69160	R1.0	16.0	16	24	48	100	15.50	5
G9D77200	G9D69200	R1.0	20.0	20	30	60	110	19.20	5

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.05	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													

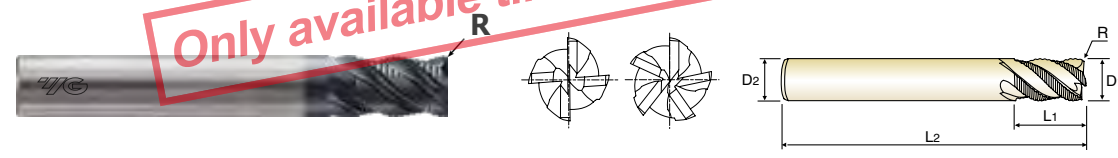


FLAT SHANK **GAE53** SERIES

HSS-PM, 4&5 FLUTE MULTIPLE HELIX SHORT LENGTH CORNER RADIUS
粉末高速钢, 4&5刃 不等螺旋 短刃 圆鼻

- ▶ Unique flute design for excellent chip evacuation and vibration reduction.
- ▶ Optimal roughing tooth profile to reduce cutting forces.
- ▶ Special tool geometry for high feed rate and heavy cutting.
- ▶ Strong end tooth design for plunge and pocket milling.
- ▶ Custom engineered coating to allow long tool life and excellent chip evacuation.

- ▶ 基于独有槽型设计, 卓越的排屑性能及减少产品震动
- ▶ 采用最佳粗加工设计, 减少切削阻力
- ▶ 独特的刀具设计, 可适应高进给及重切削
- ▶ 高强度刃部设计, 插铣削和型腔铣削
- ▶ YG-1自身开发涂层加强刀具寿命和排屑性能



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
-	-	POWER MILLING CHUCK	D161-176
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长	No. of Flute 槽数
▲ GAE53060	R0.5	6.0	6	13	57	4
▲ GAE53070	R0.5	7.0	10	16	66	4
▲ GAE53080	R0.5	8.0	10	19	69	4
▲ GAE53090	R0.5	9.0	10	19	69	4
▲ GAE53100	R0.5	10.0	10	22	72	4
▲ GAE53120	R0.5	12.0	12	26	83	4
▲ GAE53140	R1.0	14.0	16	26	83	5
▲ GAE53160	R1.0	16.0	16	32	92	5
▲ GAE53180	R1.0	18.0	20	32	92	5
▲ GAE53200	R1.0	20.0	20	38	104	5

▲ : Only available till stock runs out 只提供到消耗现库存

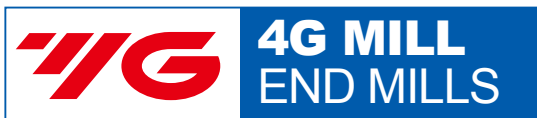
Tolerances according to DIN 7160 & 7161 (标准精度)

	Tolerance range in (精度单位为) μm					
	Nominal-Diameter in (直径单位为) mm					
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0	0	0	0	0	0
	-6	-8	-9	-11	-13	-16

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	◎	◎	◎	○	◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													



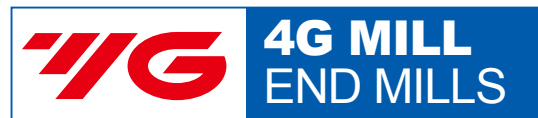
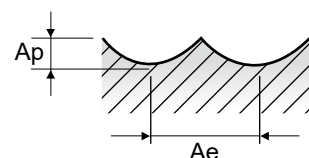
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEMD98 SERIES 2 FLUTE BALL NOSE 2刃球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

Table with columns for ISO, VDI 3323, Material Description, Ae(mm), Ap(mm), Parameter, and Diameter (Ø) 直径 (0.1 to 2.5). Rows include P (1-5, 6-8, 9, 10-11.1, 11.2) and K (15-20) series.

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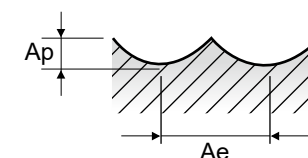


RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEMD98 SERIES 2 FLUTE BALL NOSE 2刃球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

Table with columns for VDI 3323, Parameter, and Diameter (Ø) 直径 (3.0 to 25.0). Rows include 1-5, 6-8, 9, 10-11.1, 11.2, 15-20, 38.1-38.2, 40, and 41 series.

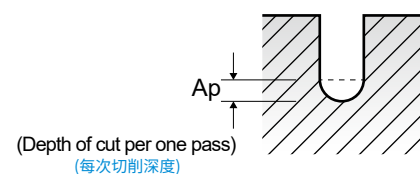


SEM846 SERIES 2 FLUTE BALL NOSE - SLOTTING 2刃球头-槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Material Description 工件材料	Parameter 参数	Diameter (Ø) 直径																																																																																							
				0.1		0.1		0.1		0.1		0.2		0.2		0.3		0.3																																																																									
				LBS	0.2	0.3	0.5	1	0.5	1	1.5	2	3	1	1.5	2	2.5	3	4																																																																								
P	1-5	Non-alloy steel	Vc	16	16	16	14	31	31	28	28	28	47	47	42	42	42	38	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.004	0.004	RPM	50930	50930	50930	44563	49338	49338	44563	44563	44563	49869	49869	44563	44563	44563	40319	FEED	204	204	204	178	296	296	267	267	267	499	499	357	357	357	323	Ap	0.009	0.009	0.006	0.002	0.018	0.013	0.007	0.005	0.003	0.019	0.019	0.011	0.007	0.007	0.007	0.004								
			6-8	Low alloy steel	Vc	16	16	16	14	31	31	28	28	28	47	47	42	42	42	38	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.004	0.004	RPM	50930	50930	50930	44563	49338	49338	44563	44563	44563	49869	49869	44563	44563	44563	40319	FEED	204	204	204	178	296	296	267	267	267	499	499	357	357	357	323	Ap	0.009	0.009	0.006	0.002	0.018	0.013	0.007	0.005	0.003	0.019	0.019	0.011	0.007	0.007	0.007	0.004							
					9	High alloyed steel, and tool steel	Vc	16	16	16	14	31	31	28	28	28	47	47	42	42	42	38	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.004	0.004	RPM	50930	50930	50930	44563	49338	49338	44563	44563	44563	49869	49869	44563	44563	44563	40319	FEED	204	204	204	178	296	296	267	267	267	399	399	357	357	357	242	Ap	0.007	0.007	0.005	0.002	0.014	0.01	0.006	0.004	0.003	0.015	0.015	0.008	0.005	0.005	0.003						
							10-11.1	High alloyed steel, and tool steel	Vc	16	16	16	14	31	31	28	28	28	47	47	42	42	42	38	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.004	0.004	RPM	50930	50930	50930	44563	49338	49338	44563	44563	44563	49869	49869	44563	44563	44563	40319	FEED	204	204	204	178	296	296	267	267	267	499	499	357	357	357	323	Ap	0.009	0.009	0.006	0.002	0.018	0.013	0.007	0.005	0.003	0.019	0.019	0.011	0.007	0.007	0.007	0.004			
									11.2	High alloyed steel, and tool steel	Vc	16	16	16	14	31	31	28	28	28	47	47	42	42	42	38	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.004	0.004	RPM	50930	50930	50930	44563	49338	49338	44563	44563	44563	49869	49869	44563	44563	44563	40319	FEED	204	204	204	178	296	296	267	267	267	399	399	357	357	357	242	Ap	0.007	0.007	0.005	0.002	0.014	0.01	0.006	0.004	0.003	0.015	0.015	0.008	0.005	0.005	0.003		
											K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	Vc	16	16	16	14	31	31	28	28	28	47	47	42	42	38	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.005	0.005	0.004	0.004	0.004	0.004	RPM	50930	50930	50930	44563	49338	49338	44563	44563	44563	49869	49869	44563	44563	44563	40319	FEED	204	204	204	178	296	296	267	267	267	499	499	357	357	357	323	Ap	0.009	0.009	0.006	0.002	0.018	0.013	0.007	0.005	0.003	0.019	0.019	0.011	0.007	0.007	0.007
	H	38.1 - 38.2												Hardened steel	Vc	16	16	16	14	27	27	24	24	40	40	36	36	36	32	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	RPM	50930	50930	50930	44563	42972	42972	38197	38197	38197	42441	42441	38197	38197	38197	33953	FEED	204	204	204	178	258	258	229	229	229	340	340	306	306	306	204	Ap	0.005	0.005	0.004	0.001	0.01	0.007	0.004	0.003	0.002	0.011	0.011	0.006	0.004	0.004
			40	Chilled Cast Iron											Vc	16	16	16	14	31	31	28	28	28	47	47	42	42	42	38	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	RPM	50930	50930	50930	44563	49338	49338	44563	44563	44563	49869	49869	44563	44563	44563	40319	FEED	204	204	204	178	296	296	267	267	267	399	399	357	357	357	242	Ap	0.007	0.007	0.005	0.002	0.014	0.01	0.006	0.004	0.003	0.015	0.015	0.008	0.005
					41	Hardened Cast Iron									Vc	16	16	16	14	27	27	24	24	40	40	36	36	36	32	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	RPM	50930	50930	50930	44563	42972	42972	38197	38197	38197	42441	42441	38197	38197	38197	33953	FEED	204	204	204	178	258	258	229	229	229	340	340	306	306	306	204	Ap	0.005	0.005	0.004	0.001	0.01	0.007	0.004	0.003	0.002	0.011	0.011	0.006	0.004	0.004

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SEM846 SERIES 2 FLUTE BALL NOSE - SLOTTING 2刃球头-槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																																																																																																								
		0.3		0.4		0.4		0.4		0.4		0.4		0.4		0.5		0.5																																																																																								
		LBS	5	1	1.5	2	2.5	3	4	5	6	8	10	1	1.5	2	2.5	3	4	5	6	8																																																																																				
1-5	Vc	28	52	52	52	46	46	46	41	41	31	15	54	54	54	48	48	48	43	32	fz	0.003	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.004	0.004	0.01	0.01	0.01	0.01	0.009	0.009	0.009	0.008	0.007	RPM	29709	41380	41380	41380	36606	36606	36606	32627	32627	24669	11937	34377	34377	34377	34377	30558	30558	30558	27375	20372	FEED	178	497	497	497	366	366	366	326	326	197	95	688	688	688	688	550	550	550	438	285	Ap	0.003	0.036	0.025	0.025	0.014	0.014	0.009	0.009	0.005	0.004	0.004	0.045	0.045	0.032	0.032	0.018	0.018	0.011	0.011	0.007			
	6-8	Vc	28	52	52	52	46	46	46	41	41	31	15	54	54	54	48	48	48	43	32	fz	0.003	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.004	0.004	0.01	0.01	0.01	0.01	0.009	0.009	0.009	0.008	0.007	RPM	29709	41380	41380	41380	36606	36606	36606	32627	32627	24669	11937	34377	34377	34377	34377	30558	30558	30558	27375	20372	FEED	178	497	497	497	366	366	366	326	326	197	95	688	688	688	688	550	550	550	438	285	Ap	0.003	0.036	0.025	0.025	0.014	0.014	0.009	0.009	0.005	0.004	0.004	0.045	0.045	0.032	0.032	0.018	0.018	0.011	0.011	0.007		
		9	Vc	28	49	49	49	44	44	44	39	39	29	15	51	51	51	46	46	46	41	30	fz	0.003	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.009	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.007	0.006	RPM	29709	38993	38993	38993	35014	35014	35014	31035	31035	23077	11937	32468	32468	32468	32468	29285	29285	29285	26101	19099	FEED	178	390	390	390	350	350	350	248	248	185	72	584	584	584	584	469	469	469	365	229	Ap	0.002	0.028	0.02	0.02	0.011	0.011	0.007	0.007	0.004	0.003	0.003	0.035	0.035	0.025	0.025	0.014	0.014	0.009	0.009	0.005
			10 - 11.1	Vc	28	52	52	52	46	46	46	41	41	31	15	54	54	54	48	48	48	43	32	fz	0.003	0.006	0.006	0.006	0.005	0.005	0.005	0.005	0.004	0.004	0.01	0.01	0.01	0.01	0.009	0.009	0.009	0.008	0.007	RPM	29709	41380	41380	41380	36606	36606	36606	32627	32627	24669	11937	34377	34377	34377	34377	30558	30558	30558	27375	20372	FEED	178	497	497	497	366	366	366	326	326	197	95	688	688	688	688	550	550	550	438	285	Ap	0.003	0.036	0.025	0.025	0.014	0.014	0.009	0.009	0.005	0.004	0.004	0.045	0.045	0.032	0.032	0.018	0.018	0.011	0.011	0.007
				11.2	Vc	28	49	49	49	44	44	44	39	39	29	15	51	51	51	46	46	46	41	30	fz	0.003	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.009	0.009	0.009	0.009	0.009	0.008	0.008																																																																



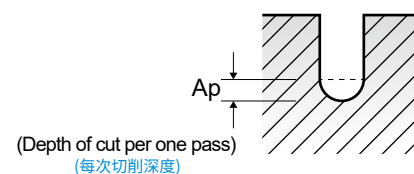
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEM846 SERIES 2 FLUTE BALL NOSE - SLOTTING 2刃球头-槽铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

Table with columns for ISO, VDI 3323, Parameter, LBS, and Diameter (Ø) 直径 (0.5 to 0.7). Rows include P (1-5, 6-8, 9, 10-11.1, 11.2) and K (15-20) series.

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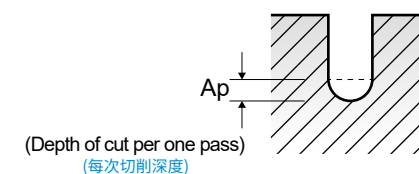
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEM846 SERIES 2 FLUTE BALL NOSE - SLOTTING 2刃球头-槽铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

Table with columns for VDI 3323, Parameter, LBS, and Diameter (Ø) 直径 (0.7 to 1.0). Rows include 1-5, 6-8, 9, 10-11.1, 11.2, 15-20, 38.1-38.2, 40, and 41 series.

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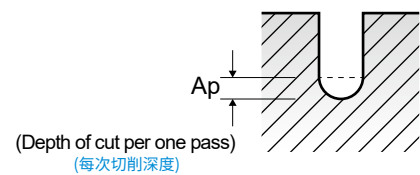
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEM846 SERIES 2 FLUTE BALL NOSE - SLOTTING 2刃球头-槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

Table with columns for ISO, VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include Vc, fz, RPM, FEED, Ap for various ISO grades (P, K, H) and diameters (1.0 to 50).

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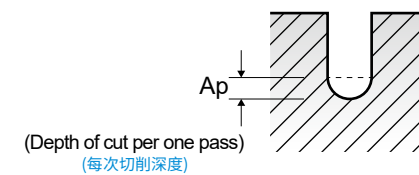
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEM846 SERIES 2 FLUTE BALL NOSE - SLOTTING 2刃球头-槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

Table with columns for VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include Vc, fz, RPM, FEED, Ap for various diameters (1.2 to 15.5).

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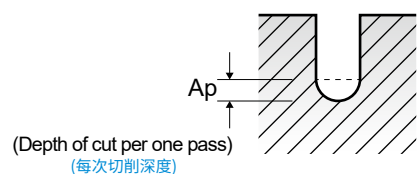
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEM846 SERIES 2 FLUTE BALL NOSE - SLOTTING 2刃球头-槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

Table with columns for ISO, VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include Vc, fz, RPM, FEED, Ap for various diameters and ISO grades (P, K, H).

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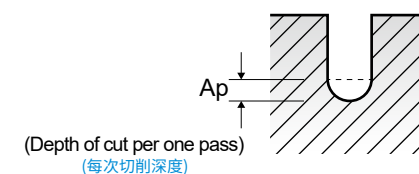
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEM846 SERIES 2 FLUTE BALL NOSE - SLOTTING 2刃球头-槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

Table with columns for VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include Vc, fz, RPM, FEED, Ap for various diameters and ISO grades (P, K, H).

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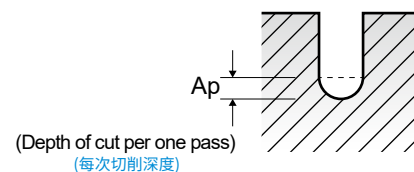
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEM846 SERIES 2 FLUTE BALL NOSE - SLOTTING
2刃球头-槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径																								
			4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0													
P	1-5	Vc	111	111	111	111	99	99	99	121	121	109	109	LBS	26	30	35	40	45	50	60	15	20	26	30		
		fz	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.12	0.12	0.108	0.108	Vc	109	109	109	97	123	123	122	122	121	121	100		
		RPM	8833	8833	8833	8833	7878	7878	7878	7703	7703	6939	6939	fz	0.108	0.108	0.108	0.096	0.146	0.146	0.186	0.186	0.214	0.214	0.151		
		FEED	1590	1590	1590	1590	1261	1261	1261	1849	1849	1499	1499	RPM	6939	6939	6939	6175	6525	6525	4854	4854	3852	3852	2653		
	6-8	Ap	0.144	0.144	0.09	0.09	0.09	0.09	0.054	0.315	0.315	0.18	0.18	FEED	1499	1499	1499	1186	1905	1905	1806	1806	1648	1648	801		
		Vc	111	111	111	111	99	99	99	121	121	109	109	Ap	0.18	0.18	0.113	0.113	0.378	0.378	0.504	0.504	0.9	0.63	1.08	0.756	0.756
		fz	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.12	0.12	0.108	0.108	Vc	109	109	109	97	123	123	122	122	121	121	100		
		RPM	8833	8833	8833	8833	7878	7878	7878	7703	7703	6939	6939	fz	0.108	0.108	0.108	0.096	0.146	0.146	0.186	0.186	0.214	0.214	0.151		
	9	FEED	1590	1590	1590	1590	1261	1261	1261	1849	1849	1499	1499	RPM	6939	6939	6939	6175	6525	6525	4854	4854	3852	3852	2653		
		Ap	0.144	0.144	0.09	0.09	0.09	0.09	0.054	0.315	0.315	0.18	0.18	FEED	1499	1499	1499	1186	1905	1905	1806	1806	1648	1648	801		
		Vc	105	105	105	105	93	93	93	115	115	103	103	Ap	0.18	0.18	0.113	0.113	0.378	0.378	0.504	0.504	0.9	0.63	1.08	0.756	0.756
		fz	0.081	0.081	0.081	0.081	0.072	0.072	0.072	0.1	0.1	0.09	0.09	Vc	103	103	103	92	117	117	116	116	116	116	95		
10-11.1	RPM	8356	8356	8356	8356	7401	7401	7401	7321	7321	6557	6557	fz	0.09	0.09	0.09	0.08	0.129	0.129	0.163	0.163	0.19	0.19	0.119			
	FEED	1354	1354	1354	1354	1066	1066	1066	1464	1464	1180	1180	RPM	6557	6557	6557	5857	6207	6207	4615	4615	3692	3692	2520			
	Ap	0.112	0.112	0.07	0.07	0.07	0.07	0.042	0.245	0.245	0.14	0.14	FEED	1180	1180	1180	937	1601	1601	1505	1505	1403	1403	600			
	Vc	111	111	111	111	99	99	99	121	121	109	109	Ap	0.14	0.14	0.088	0.088	0.294	0.294	0.392	0.392	0.7	0.49	0.84	0.588	0.588	
11.2	fz	0.081	0.081	0.081	0.081	0.072	0.072	0.072	0.1	0.1	0.09	0.09	Vc	109	109	109	97	123	123	122	122	121	121	100			
	RPM	8356	8356	8356	8356	7401	7401	7401	7321	7321	6557	6557	fz	0.108	0.108	0.108	0.096	0.146	0.146	0.186	0.186	0.214	0.214	0.151			
	FEED	1354	1354	1354	1354	1066	1066	1066	1464	1464	1180	1180	RPM	6939	6939	6939	6175	6525	6525	4854	4854	3852	3852	2653			
	Ap	0.112	0.112	0.07	0.07	0.07	0.07	0.042	0.245	0.245	0.14	0.14	FEED	1499	1499	1499	1186	1905	1905	1806	1806	1648	1648	801			
K 15-20	Vc	111	111	111	111	99	99	99	121	121	109	109	Ap	0.18	0.18	0.113	0.113	0.378	0.378	0.504	0.504	0.9	0.63	1.08	0.756	0.756	
	fz	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.12	0.12	0.108	0.108	Vc	109	109	109	97	123	123	122	122	121	121	100			
	RPM	8833	8833	8833	8833	7878	7878	7878	7703	7703	6939	6939	fz	0.108	0.108	0.108	0.096	0.146	0.146	0.186	0.186	0.214	0.214	0.151			
	FEED	1590	1590	1590	1590	1261	1261	1261	1849	1849	1499	1499	RPM	6939	6939	6939	6175	6525	6525	4854	4854	3852	3852	2653			
H	38.1 - 38.2	Ap	0.144	0.144	0.09	0.09	0.09	0.09	0.054	0.315	0.315	0.18	0.18	FEED	1499	1499	1499	1186	1905	1905	1806	1806	1648	1648	801		
		Vc	93	93	93	93	82	82	82	101	101	90	90	Ap	0.18	0.18	0.113	0.113	0.378	0.378	0.504	0.504	0.9	0.63	1.08	0.756	0.756
		fz	0.077	0.077	0.077	0.077	0.068	0.068	0.068	0.1	0.1	0.09	0.09	Vc	90	90	90	80	104	104	101	101	101	101	82		
		RPM	7401	7401	7401	7401	6525	6525	6525	6430	6430	5730	5730	fz	0.09	0.09	0.09	0.08	0.121	0.121	0.16	0.16	0.188	0.188	0.08		
	40	FEED	1140	1140	1140	1140	887	887	887	1286	1286	1031	1031	RPM	5730	5730	5730	5093	5517	5517	4019	4019	3215	3215	2175		
		Ap	0.08	0.08	0.05	0.05	0.05	0.05	0.03	0.175	0.175	0.1	0.1	FEED	1031	1031	1031	815	1335	1335	1286	1286	1209	1209	348		
		Vc	105	105	105	105	93	93	93	115	115	103	103	Ap	0.1	0.1	0.063	0.063	0.21	0.21	0.28	0.28	0.5	0.35	0.6	0.42	0.42
		fz	0.081	0.081	0.081	0.081	0.072	0.072	0.072	0.1	0.1	0.09	0.09	Vc	103	103	103	92	117	117	116	116	116	116	95		
	41	RPM	8356	8356	8356	8356	7401	7401	7401	7321	7321	6557	6557	fz	0.09	0.09	0.09	0.08	0.129	0.129	0.163	0.163	0.19	0.19	0.119		
		FEED	1354	1354	1354	1354	1066	1066	1066	1464	1464	1180	1180	RPM	6557	6557	6557	5857	6207	6207	4615	4615	3692	3692	2520		
		Ap	0.112	0.112	0.07	0.07	0.07	0.07	0.042	0.245	0.245	0.14	0.14	FEED	1180	1180	1180	937	1601	1601	1505	1505	1403	1403	600		
		Vc	93	93	93	93	82	82	82	101	101	90	90	Ap	0.14	0.14	0.088	0.088	0.294	0.294	0.392	0.392	0.7	0.49	0.84	0.588	0.588
41	fz	0.077	0.077	0.077	0.077	0.068	0.068	0.068	0.1	0.1	0.09	0.09	Vc	90	90	90	80	104	104	101	101	101	101	82			
	RPM	7401	7401	7401	7401	6525	6525	6525	6430	6430	5730	5730	fz	0.09	0.09	0.09	0.08	0.121	0.121	0.16	0.16	0.188	0.188	0.08			
	FEED	1140	1140	1140	1140	887	887	887	1286	1286	1031	1031	RPM	5730	5730	5730	5093	5517	5517	4019	4019	3215	3215	2175			
	Ap	0.08	0.08	0.05	0.05	0.05	0.05	0.03	0.175	0.175	0.1	0.1	FEED	1031	1031	1031	815	1335	1335	1286	1286	1209	1209	348			

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RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEM846 SERIES 2 FLUTE BALL NOSE - SLOTTING
2刃球头-槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

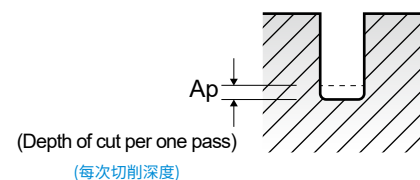
VDI 3323	Parameter 参数	Diameter (Ø) 直径																								
		5.0	5.0	5.0	5.0	6.0	6.0	8.0	8.0	10.0	10.0	12.0	12.0	12.0												
1-5	LBS	35	40	50	60	20	30	25	30	30	40	32	45	50	Vc	109	109	109	97	123	123	122	122	121	121	100
	Vc	109	109	109	97	123	123	122	122	121	121	100	fz	0.108	0.108	0.108	0.096	0.146	0.146	0.186	0.186	0.214	0.214	0.151		
	fz	0.108	0.108	0.108	0.096	0.146	0.146	0.186	0.186	0.214	0.214	0.151	RPM	6939	6939	6939	6175	6525	6525	4854	4854	3852	3852	2653		
	RPM	6939	6939	6939	6175	6525	6525	4854	4854	3852	3852	2653	FEED	1499	1499	1499	1186	1905	1905	1806	1806	1648	1648	801		
6-8	FEED	1499	1499	1499	1186	1905	1905	1806	1806	1648	1648	801	Ap	0.18	0.18	0.113	0.113	0.378	0.378	0.504	0.504	0.9	0.63	1.08	0.756	0.756
	Vc	109	109	109	97	123	123	122	122	121	121	100	Vc	109	109	109	97	123	123	122	122	121	121	100		
	fz	0.108	0.108	0.108	0.096	0.146	0.146	0.186	0.186	0.214	0.214	0.151	fz	0.108	0.108	0.108	0.096	0.146	0.146	0.186	0.186	0.214	0.214	0.151		
	RPM	6939	6939	6939	6175	6525	6525	4854	4854	3852	3852	2653	RPM	6939	6939	6939	6175	6525	6525	4854	4854	3852	3852	2653		
9	FEED	1499	1499	1499	1186	1905	1905	1806	1806	1648	1648	801	FEED	1499	1499	1499	1186	1905	1905	1806	1806	1648	1648	801		
	Vc	103	103	103	92	117	117	116	116	116	95	Ap	0.18	0.18	0.113	0.113										

SEME61 SERIES 2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Material Description 工件材料	Parameter 参数	Diameter (Ø) 直径																																																																			
				0.2		0.2		0.2		0.2		0.3		0.3		0.4		0.4																																																					
				LBS	0.5	1	1.5	2	1	2	3	1	1.5	2	2.5	3																																																							
P	1-5	Non-alloy steel	Vc	31	31	28	28	47	42	42	63	63	63	57	57	fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	RPM	49338	49338	44563	44563	49869	44563	44563	50134	50134	50134	45359	45359	FEED	197	197	178	178	199	178	178	201	201	201	181	181	Ap	0.04	0.028	0.016	0.01	0.042	0.024	0.015	0.08	0.056	0.056	0.032	0.032				
			6-8	Low alloy steel	Vc	31	31	28	28	47	42	42	63	63	63	57	57	fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	RPM	49338	49338	44563	44563	49869	44563	44563	50134	50134	50134	45359	45359	FEED	197	197	178	178	199	178	178	201	201	201	181	181	Ap	0.04	0.028	0.016	0.01	0.042	0.024	0.015	0.08	0.056	0.056	0.032	0.032			
					9	High alloyed steel, and tool steel	Vc	22	22	20	20	30	27	27	40	40	40	36	36	fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	RPM	35014	35014	31831	31831	31831	28648	28648	31831	31831	31831	28648	28648	FEED	70	70	64	64	64	57	57	64	64	64	57	57	Ap	0.03	0.021	0.012	0.008	0.032	0.018	0.011	0.06	0.042	0.042	0.024	0.024
							10-11.1	High alloyed steel, and tool steel	Vc	31	31	28	28	47	42	42	63	63	63	57	57	fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	RPM	49338	49338	44563	44563	49869	44563	44563	50134	50134	50134	45359	45359	FEED	197	197	178	178	199	178	178	201	201	201	181	181	Ap	0.04	0.028	0.016	0.01	0.042	0.024	0.015	0.08	0.056	0.056
	11.2	High alloyed steel, and tool steel							Vc	22	22	20	20	30	27	27	40	40	40	36	36	fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	RPM	35014	35014	31831	31831	31831	28648	28648	31831	31831	31831	28648	28648	FEED	70	70	64	64	64	57	57	64	64	64	57	57	Ap	0.03	0.021	0.012	0.008	0.032	0.018	0.011	0.06	0.042	0.042
			K 15-20	Grey cast iron Nodular cast iron Malleable cast iron					Vc	31	31	28	28	47	42	42	63	63	63	57	57	fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	RPM	49338	49338	44563	44563	49869	44563	44563	50134	50134	50134	45359	45359	FEED	197	197	178	178	199	178	178	201	201	201	181	181	Ap	0.04	0.028	0.016	0.01	0.042	0.024	0.015	0.08	0.056	0.056
					H 38.1 - 38.2	Hardened steel			Vc	13	13	12	12	19	17	17	25	25	25	23	23	fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	RPM	20690	20690	19099	19099	20160	18038	18038	19894	19894	19894	18303	18303	FEED	41	41	38	38	40	36	36	40	40	40	37	37	Ap	0.024	0.017	0.01	0.006	0.025	0.014	0.009	0.048	0.034	0.034
							H 40	Chilled Cast Iron	Vc	22	22	20	20	30	27	27	40	40	40	36	36	fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	RPM	35014	35014	31831	31831	31831	28648	28648	31831	31831	31831	28648	28648	FEED	70	70	64	64	64	57	57	64	64	64	57	57	Ap	0.03	0.021	0.012	0.008	0.032	0.018	0.011	0.06	0.042	0.042
	H 41	Hardened Cast Iron							Vc	13	13	12	12	19	17	17	25	25	25	23	23	fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	RPM	20690	20690	19099	19099	20160	18038	18038	19894	19894	19894	18303	18303	FEED	41	41	38	38	40	36	36	40	40	40	37	37	Ap	0.024	0.017	0.01	0.006	0.025	0.014	0.009	0.048	0.034	0.034

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SEME61 SERIES 2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																																																																																							
		0.4		0.5		0.5		0.5		0.5		0.5		0.5		0.6		0.6		0.7																																																																					
		LBS	4	1	1.5	2	2.5	3	4	5	6	2	3	4	6	8	10	2																																																																							
1-5	Vc	57	68	68	68	68	68	61	61	61	54	69	62	62	55	41	80	fz	0.002	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.002	0.003	RPM	45359	43290	43290	43290	43290	38834	38834	38834	34377	36606	36606	32892	32892	29178	21751	36378	FEED	181	260	260	260	260	155	155	155	138	220	220	197	197	175	87	218	Ap	0.02	0.1	0.1	0.07	0.07	0.04	0.04	0.025	0.025	0.084	0.084	0.048	0.048	0.03	0.018	0.012	0.14			
	6-8	Vc	57	68	68	68	68	61	61	61	54	69	69	62	62	55	41	80	fz	0.002	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.003	RPM	45359	43290	43290	43290	43290	38834	38834	38834	34377	36606	36606	32892	32892	29178	21751	36378	FEED	181	260	260	260	260	155	155	155	138	220	220	197	197	175	87	218	Ap	0.02	0.1	0.1	0.07	0.07	0.04	0.04	0.025	0.025	0.084	0.084	0.048	0.048	0.03	0.018	0.012	0.14		
		9	Vc	36	44	44	44	44	40	40	40	35	45	45	41	41	36	27	53	fz	0.001	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	RPM	28648	28011	28011	28011	28011	25465	25465	25465	22282	23873	23873	21751	21751	19099	14324	24101	FEED	57	112	112	112	112	51	51	51	45	95	95	87	87	76	57	96	Ap	0.015	0.075	0.075	0.053	0.053	0.03	0.03	0.019	0.019	0.063	0.063	0.036	0.036	0.023	0.014	0.009	0.105	
			10 - 11.1	Vc	57	68	68	68	68	61	61	61	54	69	69	62	62	55	41	80	fz	0.002	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.003	RPM	45359	43290	43290	43290	43290	38834	38834	38834	34377	36606	36606	32892	32892	29178	21751	36378	FEED	181	260	260	260	260	155	155	155	138	220	220	197	197	175	87	218	Ap	0.02	0.1	0.1	0.07	0.07	0.04	0.04	0.025	0.025	0.084	0.084	0.048	0.048	0.03	0.018	0.012
11.2				Vc	36	44	44	44	44	40	40	40	35	45	45	41	41	36	27	53	fz	0.001	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	RPM	28648	28011	28011	28011	28011	25465	25465	25465	22282	23873	23873	21751	21751	19099	14324	24101	FEED	57	112	112	112	112	51	51	51	45	95	95	87	87	76	57	96	Ap	0.015	0.075	0.075	0.053	0.053	0.03	0.03	0.019	0.019	0.063	0.063	0.036	0.036	0.023	0.014	0.009	0.105
	K 15 - 20			Vc	57	68	68	68	68	61	61	61	54	69	69	62	62	55	41	80	fz	0.002	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.003	RPM	45359	43290	43290	43290	43290	38834	38834	38834	34377	36606	36606	32892	32892	29178	21751	36378	FEED	181	260	260	260	260	155	155	155	138	220	220	197	197	175	87	218	Ap	0.02	0.1	0.1	0.07	0.07	0.04	0.04	0.025	0.025	0.084	0.084	0.048	0.048	0.03	0.018	0.012
		38.1 - 38.2		Vc	23	27	27	27	27	24	24	24	21	27	27	25	25	22	16	32	fz	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.002	RPM	18303	17189	17189	17189	17189	15279	15279	15279	13369	14324	14324	13263	13263	11671	8488	14551	FEED	37	69	69	69	69	61	61	61	27	57	57	53	53	47	17	58	Ap	0.012	0.06	0.06													



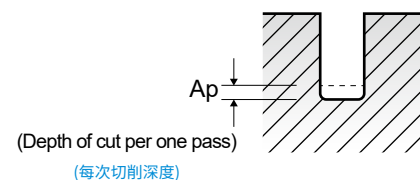
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME61 SERIES 2 FLUTE CORNER RADIUS - **SLOTTING**
2刃 圆鼻 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径															
			0.7		0.7		0.7		0.7		0.8		0.8		0.8		0.8	
			LBS	4	6	8	10	2	3	4	6	8	10	3	4	6	8	10
P	1-5	Vc	72	72	64	64	91	91	91	82	82	73	104	104	94	94	94	94
		fz	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004
		RPM	32740	32740	29103	29103	36208	36208	36208	32627	32627	29046	33104	33104	29921	29921	29921	29921
		FEED	196	196	175	175	217	217	217	196	196	174	265	265	239	239	239	239
	Ap	0.056	0.035	0.035	0.021	0.16	0.112	0.112	0.064	0.04	0.04	0.2	0.14	0.08	0.08	0.08	0.05	
	6-8	Vc	72	72	64	64	91	91	91	82	82	73	104	104	94	94	94	94
		fz	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004
		RPM	32740	32740	29103	29103	36208	36208	36208	32627	32627	29046	33104	33104	29921	29921	29921	29921
		FEED	196	196	175	175	217	217	217	196	196	174	265	265	239	239	239	239
	Ap	0.056	0.035	0.035	0.021	0.16	0.112	0.112	0.064	0.04	0.04	0.2	0.14	0.08	0.08	0.08	0.05	
	9	Vc	48	48	42	42	60	60	60	54	54	48	68	68	61	61	61	61
		fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.002
RPM		21827	21827	19099	19099	23873	23873	23873	21486	21486	19099	21645	21645	19417	19417	19417	19417	
FEED		87	87	76	76	95	95	95	86	86	76	130	130	78	78	78	78	
Ap	0.042	0.026	0.026	0.016	0.12	0.084	0.084	0.048	0.03	0.03	0.15	0.105	0.06	0.06	0.06	0.038		
10-11.1	Vc	72	72	64	64	91	91	91	82	82	73	104	104	94	94	94	94	
	fz	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	
	RPM	32740	32740	29103	29103	36208	36208	36208	32627	32627	29046	33104	33104	29921	29921	29921	29921	
	FEED	196	196	175	175	217	217	217	196	196	174	265	265	239	239	239	239	
Ap	0.056	0.035	0.035	0.021	0.16	0.112	0.112	0.064	0.04	0.04	0.2	0.14	0.08	0.08	0.08	0.05		
11.2	Vc	48	48	42	42	60	60	60	54	54	48	68	68	61	61	61	61	
	fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.002	
	RPM	21827	21827	19099	19099	23873	23873	23873	21486	21486	19099	21645	21645	19417	19417	19417	19417	
	FEED	87	87	76	76	95	95	95	86	86	76	130	130	78	78	78	78	
Ap	0.042	0.026	0.026	0.016	0.12	0.084	0.084	0.048	0.03	0.03	0.15	0.105	0.06	0.06	0.06	0.038		
K 15-20	Vc	72	72	64	64	91	91	91	82	82	73	104	104	94	94	94	94	
	fz	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	
	RPM	32740	32740	29103	29103	36208	36208	36208	32627	32627	29046	33104	33104	29921	29921	29921	29921	
	FEED	196	196	175	175	217	217	217	196	196	174	265	265	239	239	239	239	
Ap	0.056	0.035	0.035	0.021	0.16	0.112	0.112	0.064	0.04	0.04	0.2	0.14	0.08	0.08	0.08	0.05		
H	38.1 - 38.2	Vc	29	29	26	26	36	36	36	33	33	29	41	41	37	37	37	
		fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	
		RPM	13187	13187	11823	11823	14324	14324	14324	13130	13130	11539	13051	13051	11777	11777	11777	11777
		FEED	53	53	47	47	57	57	57	53	53	46	78	78	47	47	47	47
	Ap	0.034	0.021	0.021	0.013	0.096	0.067	0.067	0.038	0.024	0.024	0.12	0.084	0.048	0.048	0.048	0.03	
	40	Vc	48	48	42	42	60	60	60	54	54	48	68	68	61	61	61	61
		fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.002
		RPM	21827	21827	19099	19099	23873	23873	23873	21486	21486	19099	21645	21645	19417	19417	19417	19417
		FEED	87	87	76	76	95	95	95	86	86	76	130	130	78	78	78	78
	Ap	0.042	0.026	0.026	0.016	0.12	0.084	0.084	0.048	0.03	0.03	0.15	0.105	0.06	0.06	0.06	0.038	
	41	Vc	29	29	26	26	36	36	36	33	33	29	41	41	37	37	37	37
		fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.002
RPM		13187	13187	11823	11823	14324	14324	14324	13130	13130	11539	13051	13051	11777	11777	11777	11777	
FEED		53	53	47	47	57	57	57	53	53	46	78	78	47	47	47	47	
Ap	0.034	0.021	0.021	0.013	0.096	0.067	0.067	0.038	0.024	0.024	0.12	0.084	0.048	0.048	0.048	0.03		

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RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME61 SERIES 2 FLUTE CORNER RADIUS - **SLOTTING**
2刃 圆鼻 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径															
		1.0	1.0	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.5	1.5	1.5	1.5
		LBS	12	14	16	20	3	4	6	8	10	12	16	20	4	6	8
1-5	Vc	83	83	62	62	112	112	112	101	101	101	90	67	124	124	112	112
	fz	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.006	0.006	0.005	0.005
	RPM	26420	26420	19735	19735	29709	29709	29709	26791	26791	26791	23873	17772	26314	26314	23767	23767
	FEED	159	159	118	118	297	297	297	214	214	214	191	107	316	316	238	238
Ap	0.05	0.03	0.03	0.02	0.24	0.168	0.168	0.096	0.06	0.06	0.036	0.024	0.3	0.21	0.12	0.12	
6-8	Vc	83	83	62	62	112	112	112	101	101	101	90	67	124	124	112	112
	fz	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.006	0.006	0.005	0.005
	RPM	26420	26420	19735	19735	29709	29709	29709	26791	26791	26791	23873	17772	26314	26314	23767	23767
	FEED	159	159	118	118	297	297	297	214	214	214	191	107	316	316	238	238
Ap	0.05	0.03	0.03	0.02	0.24	0.168	0.168	0.096	0.06	0.06	0.036	0.024	0.3	0.21	0.12	0.12	
9	Vc	54	54	41	41	71	71	71	64	64	64	57	43	76	76	69	69
	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.004	0.004	0.004	0.004
	RPM	17189	17189	13051	13051	18833	18833	18833	16977	16977	16977	15120	11406	16128	16128	14642	14642
	FEED	69	69	52	52	113	113	113	102	102	102	91	46	129	129	117	117
Ap	0.038	0.023	0.023	0.015	0.18	0.126	0.126	0.072	0.045	0.045	0.027	0.018	0.225	0.158	0.09	0.09	
10 - 11.1	Vc	83	83	62	62	112	112	112	101	101	101	90	67	124	124	112	112
	fz	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.006	0.006	0.005	0.005
	RPM	26420	26420	19735	19735	29709	29709	29709	26791	26791	26791	23873	17772	26314	26314	23767	23767
	FEED	159	159	118	118	297	297	297	214	214	214	191	107	316	316	238	238
Ap	0.05	0.03	0.03	0.02	0.24	0.168	0.168	0.096	0.06	0.06	0.036	0.024	0.3	0.21	0.12	0.12	
11.2	Vc	54	54	41	41	71	71	71	64	64	64	57	43	76	76	69	69
	fz	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.004	0.004	0.004	0.004
	RPM	17189	17189	13051	13051	18833	18833	18833	16977	16977							



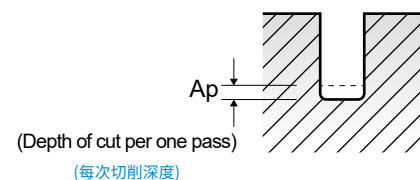
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEME61 SERIES 2 FLUTE CORNER RADIUS - SLOTTING 2刃圆鼻-槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

Table with columns for ISO, VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include ISO P (1-5, 6-8, 9, 10-11.1, 11.2) and ISO K (15-20) and ISO H (38.1-38.2, 40, 41).

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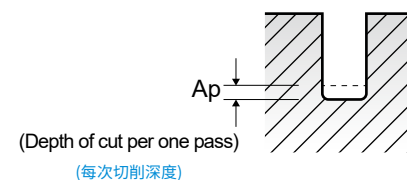
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEME61 SERIES 2 FLUTE CORNER RADIUS - SLOTTING 2刃圆鼻-槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

Table with columns for VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include ISO P (1-5, 6-8, 9, 10-11.1, 11.2) and ISO K (15-20) and ISO H (38.1-38.2, 40, 41).

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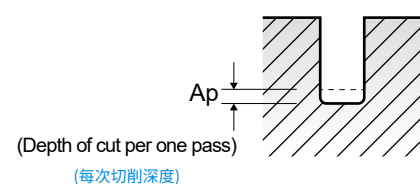


SEME61 SERIES 2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

ISO	VDI 3323	Parameter 参数	Diameter (Ø) 直径													
			3.0		3.0		4.0		4.0		4.0		4.0		4.0	
			LBS	30	35	40	10	12	14	16	20	26	30	35	40	45
P	1-5	Vc	135	120	120	161	161	161	161	161	145	145	145	145	129	
		fz	0.009	0.008	0.008	0.016	0.016	0.016	0.016	0.016	0.014	0.014	0.014	0.014	0.012	
		RPM	14324	12732	12732	12812	12812	12812	12812	12812	11539	11539	11539	11539	10265	
		FEED	258	204	204	410	410	410	410	410	323	323	323	323	246	
	Ap	0.15	0.15	0.09	0.8	0.8	0.8	0.56	0.56	0.56	0.32	0.32	0.2	0.2	0.2	
	6-8	Vc	135	120	120	161	161	161	161	161	145	145	145	145	129	
		fz	0.009	0.008	0.008	0.016	0.016	0.016	0.016	0.016	0.014	0.014	0.014	0.014	0.012	
		RPM	14324	12732	12732	12812	12812	12812	12812	12812	11539	11539	11539	11539	10265	
		FEED	258	204	204	410	410	410	410	410	323	323	323	323	246	
	Ap	0.15	0.15	0.09	0.8	0.8	0.8	0.56	0.56	0.56	0.32	0.32	0.2	0.2	0.2	
	9	Vc	87	78	78	103	103	103	103	103	93	93	93	93	82	
		fz	0.007	0.006	0.006	0.012	0.012	0.012	0.012	0.012	0.011	0.011	0.011	0.011	0.01	
RPM		9231	8276	8276	8196	8196	8196	8196	8196	7401	7401	7401	7401	6525		
FEED		129	99	99	197	197	197	197	197	163	163	163	163	131		
Ap	0.113	0.113	0.068	0.6	0.6	0.42	0.42	0.42	0.24	0.24	0.15	0.15	0.15			
10-11.1	Vc	135	120	120	161	161	161	161	161	145	145	145	145	129		
	fz	0.009	0.008	0.008	0.016	0.016	0.016	0.016	0.016	0.014	0.014	0.014	0.014	0.012		
	RPM	14324	12732	12732	12812	12812	12812	12812	12812	11539	11539	11539	11539	10265		
	FEED	258	204	204	410	410	410	410	410	323	323	323	323	246		
Ap	0.15	0.15	0.09	0.8	0.8	0.8	0.56	0.56	0.56	0.32	0.32	0.2	0.2	0.2		
11.2	Vc	87	78	78	103	103	103	103	103	93	93	93	93	82		
	fz	0.007	0.006	0.006	0.012	0.012	0.012	0.012	0.012	0.011	0.011	0.011	0.011	0.01		
	RPM	9231	8276	8276	8196	8196	8196	8196	8196	7401	7401	7401	7401	6525		
	FEED	129	99	99	197	197	197	197	197	163	163	163	163	131		
Ap	0.113	0.113	0.068	0.6	0.6	0.42	0.42	0.42	0.24	0.24	0.15	0.15	0.15			
K 15-20	Vc	135	120	120	161	161	161	161	161	145	145	145	145	129		
	fz	0.009	0.008	0.008	0.016	0.016	0.016	0.016	0.016	0.014	0.014	0.014	0.014	0.012		
	RPM	14324	12732	12732	12812	12812	12812	12812	12812	11539	11539	11539	11539	10265		
	FEED	258	204	204	410	410	410	410	410	323	323	323	323	246		
Ap	0.15	0.15	0.09	0.8	0.8	0.8	0.56	0.56	0.56	0.32	0.32	0.2	0.2	0.2		
H	38.1 - 38.2	Vc	53	48	48	65	65	65	65	65	58	58	58	58	52	
		fz	0.006	0.005	0.005	0.009	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.007	
		RPM	5623	5093	5093	5173	5173	5173	5173	5173	4615	4615	4615	4615	4138	
		FEED	67	51	51	93	93	93	93	93	74	74	74	74	58	
	Ap	0.09	0.09	0.054	0.48	0.48	0.336	0.336	0.336	0.192	0.192	0.12	0.12	0.12		
	40	Vc	87	78	78	103	103	103	103	103	93	93	93	93	82	
		fz	0.007	0.006	0.006	0.012	0.012	0.012	0.012	0.012	0.011	0.011	0.011	0.011	0.01	
		RPM	9231	8276	8276	8196	8196	8196	8196	8196	7401	7401	7401	7401	6525	
		FEED	129	99	99	197	197	197	197	197	163	163	163	163	131	
	Ap	0.113	0.113	0.068	0.6	0.6	0.42	0.42	0.42	0.24	0.24	0.15	0.15	0.15		
	41	Vc	53	48	48	65	65	65	65	65	58	58	58	58	52	
		fz	0.006	0.005	0.005	0.009	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.007	
RPM		5623	5093	5093	5173	5173	5173	5173	5173	4615	4615	4615	4615	4138		
FEED		67	51	51	93	93	93	93	93	74	74	74	74	58		
Ap	0.09	0.09	0.054	0.48	0.48	0.336	0.336	0.336	0.192	0.192	0.12	0.12	0.12			

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SEME61 SERIES 2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

VDI 3323	Parameter 参数	Diameter (Ø) 直径																											
		4.0		5.0		6.0		6.0		8.0		8.0		10.0		10.0		12.0		12.0		16.0		16.0		20.0		20.0	
		LBS	50	15	20	30	25	35	30	40	32	45	35	50	40	55													
1-5	Vc	129	173	179	179	181	181	188	188	188	188	188	188	188	188	188	188	188	188	188	188	187	187	188	188	188	188	188	
	fz	0.012	0.023	0.032	0.032	0.044	0.044	0.053	0.053	0.05	0.05	0.06	0.06	0.055	0.055														
	RPM	10265	11014	9496	9496	7202	7202	5984	5984	4987	4987	3720	3720	2992	2992														
	FEED	246	507	608	608	634	634	634	634	499	499	446	446	329	329														
Ap	0.2	1	0.84	0.84	1.12	1.12	2	1.4	2.4	1.68	3.2	2.24	4	4															
6-8	Vc	129	173	179	179	181	181	188	188	188	188	188	188	188	188	188	188	188	188	188	187	187	188	188	188	188	188		
	fz	0.012	0.023	0.032	0.032	0.044	0.044	0.053	0.053	0.05	0.05	0.06	0.06	0.055	0.055														
	RPM	10265	11014	9496	9496	7202	7202	5984	5984	4987	4987	3720	3720	2992	2992														
	FEED	246	507	608	608	634	634	634	634	499	499	446	446	329	329														
Ap	0.2	1	0.84	0.84	1.12	1.12	2	1.4	2.4	1.68	3.2	2.24	4	4															
9	Vc	82	110	113	113	114	114	126	126	126	126	126	126	126	126	126	126	126	126	126	127	127	123	123	123				
	fz	0.01	0.017	0.025	0.025	0.033	0.033	0.038	0.038	0.04	0.04	0.042	0.042	0.036	0.036														
	RPM	6525	7003	5995	5995	4536	4536	4011	4011	3342	3342	2527	2527	1958	1958														
	FEED	131	238	300	300	299	299	305	305	267	267	212	212	141	141														
Ap	0.15	0.75	0.63	0.63	0.84	0.84	1.5	1.05	1.8	1.26	2.4	1.68	3	3															
10 - 11.1	Vc	129	173	179	179	181	181	188	188	188	188	188	188	188	188	188	188	188	188	188	187	187	188	188	188				
	fz	0.012	0.023	0.032	0.032	0.044	0.044	0.053	0.053	0.05	0.05	0.06	0.06	0.055	0.055														
	RPM	10265	11014	9496	9496	7202	7202	5984	5984	4987	4987	3720	3720	2992	2992														
	FEED	246	507	608	608	634	634	634	634	499	499	446	446	329	329														
Ap	0.2	1	0.84	0.84	1.12	1.12	2	1.4	2.4	1.68	3.2	2.24	4	4															
11.2	Vc	82	110	113	113	114	114	126	126	126	126	126	126	126	126	126	126	126	126	127	127	123	123	123					
	fz	0.01	0.017	0.025	0.025	0.033	0.033	0.038	0.038	0.04	0.04	0.042	0.042	0.036	0.036														
	RPM	6525	7003	5995	5995	4536	4536	4011	4011	3342	3342	2527	2527	1958	1958														
	FEED	131	238	300	300	299	299	305	305	267	267	212	212	141	141														
Ap	0.15	0.75	0.63	0.63	0.84	0.84	1.5	1.05	1.8	1.26	2.4	1.68	3	3															
15 - 20	Vc	129	173	179	179	181	181	188	188	188	188	188	188	188	188	188	188	188	188	188	187	187	188	188	188				
	fz	0.012	0.023	0.032	0.032	0.044	0.044	0.053	0.053	0.05	0.05	0.06	0.06	0.055	0.055														
	RPM	10265	11014	9496	9496	7202	7202	5984	5984	4987	4987	3720	3720	2992	2992														
	FEED	246	507	608	608	634	634	634	634	499	499	446	446	329	329														
Ap	0.2	1	0.84	0.84	1.12	1.12	2	1.4	2.4	1.68	3.2	2.24	4	4															
38.1 - 38.2	Vc	52	72	74	74	76	76	76	76	75	75	77	77	75	75														
	fz	0.007	0.013																										



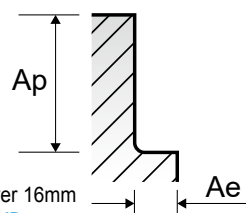
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME01 SERIES 4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径							
						1.0	1.2	1.5	2.0	2.5	3.0	3.5	4.0
P	1-5	Non-alloy steel	0.05D	2D	Vc	87	93	104	113	118	125	132	135
					fz	0.003	0.003	0.004	0.004	0.006	0.006	0.008	0.01
					RPM	27693	24669	22069	17985	15024	13263	12005	10743
	6-8	Low alloy steel	0.05D	2D	Vc	87	93	104	113	118	125	132	135
					fz	0.003	0.003	0.004	0.004	0.006	0.006	0.008	0.01
					RPM	27693	24669	22069	17985	15024	13263	12005	10743
	9	High alloyed steel, and tool steel	0.05D	2D	Vc	57	59	64	73	75	81	85	86
					fz	0.003	0.004	0.004	0.005	0.007	0.008	0.009	0.011
					RPM	18144	15650	13581	11618	9549	8594	7730	6844
	10-11.1	High alloyed steel, and tool steel	0.05D	2D	Vc	87	93	104	113	118	125	132	135
					fz	0.003	0.003	0.004	0.004	0.006	0.006	0.008	0.01
					RPM	27693	24669	22069	17985	15024	13263	12005	10743
11.2	High alloyed steel, and tool steel	0.05D	2D	Vc	57	59	64	73	75	81	85	86	
				fz	0.003	0.004	0.004	0.005	0.007	0.008	0.009	0.011	
				RPM	18144	15650	13581	11618	9549	8594	7730	6844	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	2D	Vc	87	93	104	113	118	125	132	135
					fz	0.003	0.003	0.004	0.004	0.006	0.006	0.008	0.01
					RPM	27693	24669	22069	17985	15024	13263	12005	10743
H	38.1 - 38.2	Hardened steel	0.02D	2D	Vc	35	37	40	45	48	50	53	54
					fz	0.003	0.003	0.004	0.005	0.005	0.006	0.007	0.008
					RPM	11141	9815	8488	7162	6112	5305	4820	4297
	40	Chilled Cast Iron	0.05D	2D	Vc	57	59	64	73	75	81	85	86
					fz	0.003	0.004	0.004	0.005	0.007	0.008	0.009	0.011
					RPM	18144	15650	13581	11618	9549	8594	7730	6844
	41	Hardened Cast Iron	0.02D	2D	Vc	35	37	40	45	48	50	53	54
					fz	0.003	0.003	0.004	0.005	0.005	0.006	0.007	0.008
					RPM	11141	9815	8488	7162	6112	5305	4820	4297

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* 1.5XD Axial cutting depth should be for diameter over 16mm
* 如直径超过16mm轴向切削深度(Ap)应为1.5XD

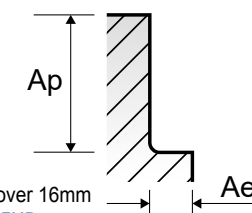


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME01 SERIES 4 FLUTE CORNER RADIUS - SIDE CUTTING
4刃 圆鼻-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径											
		4.5	5.0	5.5	6.0	7.0	8.0	10.0	11.0	12.0	14.0	16.0	20.0
1-5	Vc	141	144	147	149	153	151	158	158	155	159	156	158
	fz	0.011	0.012	0.013	0.014	0.016	0.019	0.023	0.022	0.022	0.022	0.023	0.023
	RPM	9974	9167	8508	7905	6957	6008	5029	4572	4112	3615	3104	2515
6-8	Vc	141	144	147	149	153	151	158	158	155	159	156	158
	fz	0.011	0.012	0.013	0.014	0.016	0.019	0.023	0.022	0.022	0.022	0.023	0.023
	RPM	9974	9167	8508	7905	6957	6008	5029	4572	4112	3615	3104	2515
9	Vc	89	91	94	95	97	96	103	105	105	107	106	103
	fz	0.013	0.016	0.017	0.018	0.02	0.024	0.027	0.028	0.029	0.028	0.027	0.027
	RPM	6295	5793	5440	5040	4411	3820	3279	3038	2785	2433	2109	1639
10 - 11.1	Vc	141	144	147	149	153	151	158	158	155	159	156	158
	fz	0.011	0.012	0.013	0.014	0.016	0.019	0.023	0.022	0.022	0.022	0.023	0.023
	RPM	9974	9167	8508	7905	6957	6008	5029	4572	4112	3615	3104	2515
11.2	Vc	89	91	94	95	97	96	103	105	105	107	106	103
	fz	0.013	0.016	0.017	0.018	0.02	0.024	0.027	0.028	0.029	0.028	0.027	0.027
	RPM	6295	5793	5440	5040	4411	3820	3279	3038	2785	2433	2109	1639
15 - 20	Vc	141	144	147	149	153	151	158	158	155	159	156	158
	fz	0.011	0.012	0.013	0.014	0.016	0.019	0.023	0.022	0.022	0.022	0.023	0.023
	RPM	9974	9167	8508	7905	6957	6008	5029	4572	4112	3615	3104	2515
38.1 - 38.2	Vc	57	60	61	62	64	63	64	63	65	64	63	
	fz	0.01	0.011	0.012	0.013	0.015	0.017	0.021	0.021	0.021	0.021	0.022	0.023
	RPM	4032	3820	3530	3289	2910	2507	2005	1852	1671	1478	1273	1003
40	Vc	89	91	94	95	97	96	103	105	105	107	106	103
	fz	0.013	0.016	0.017	0.018	0.02	0.024	0.027	0.028	0.029	0.028	0.027	0.027
	RPM	6295	5793	5440	5040	4411	3820	3279	3038	2785	2433	2109	1639
41	Vc	57	60	61	62	64	63	64	63	65	64	63	
	fz	0.01	0.011	0.012	0.013	0.015	0.017	0.021	0.021	0.021	0.021	0.022	0.023
	RPM	4032	3820	3530	3289	2910	2507	2005	1852	1671	1478	1273	1003



* 1.5XD Axial cutting depth should be for diameter over 16mm
* 如直径超过16mm轴向切削深度(Ap)应为1.5XD



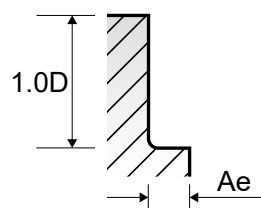
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEME64 SERIES 4 FLUTE CORNER RADIUS - SIDE CUTTING 4刃 圆鼻-侧铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ae (切削宽度) = (mm)
RPM (转速) = (rev/min) LBS (颈长) = Length Below Shank

Table with columns for ISO, VDI 3323, Material Description, Parameter, and Diameter (Ø) 直径. It lists recommended cutting conditions for various materials like Non-alloy steel, Low alloy steel, High alloyed steel, and Cast Iron.

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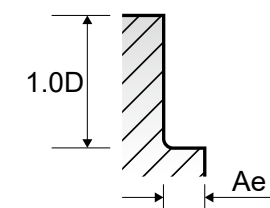
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEME64 SERIES 4 FLUTE CORNER RADIUS - SIDE CUTTING 4刃 圆鼻-侧铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ae (切削宽度) = (mm)
RPM (转速) = (rev/min) LBS (颈长) = Length Below Shank

Table with columns for VDI 3323, Parameter, and Diameter (Ø) 直径. It lists recommended cutting conditions for various materials like Non-alloy steel, Low alloy steel, High alloyed steel, and Cast Iron.

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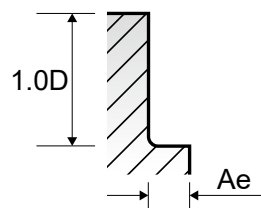
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEME64 SERIES 4 FLUTE CORNER RADIUS - SIDE CUTTING 4刃 圆鼻-侧铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ae (切削宽度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

Table with columns for ISO, VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include ISO P (1-5, 6-8, 9, 10-11.1, 11.2) and ISO K (15-20) with various parameters like Vc, fz, RPM, FEED, Ae.

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RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEME64 SERIES 4 FLUTE CORNER RADIUS - SIDE CUTTING 4刃 圆鼻-侧铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) Ae (切削宽度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

Table with columns for VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include ISO P (1-5, 6-8, 9, 10-11.1, 11.2) and ISO K (15) with various parameters like Vc, fz, RPM, FEED, Ae.

CUT D MILLS

CRX S END MILLS

K-2 END MILLS

GENERAL CARBIDE END MILLS

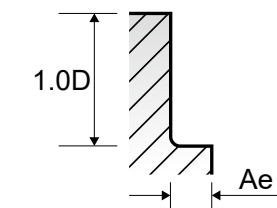
ONLY ONE COATED PM60 END MILLS

TANK-POWER END MILLS

GENERAL HSS END MILLS

MILLING CUTTERS

TECHNICAL DATA





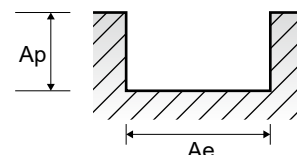
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME35 SERIES 2 FLUTE - SLOTTING
2刃-槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径								
						0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
P	1-5	Non-alloy steel	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	13	26	37	49	57	60	62	63	66
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004
					RPM	41380	41380	39258	38993	36287	31831	28193	25067	23343
	6-8	Low alloy steel	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	13	26	37	49	57	60	62	63	66
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004
					RPM	41380	41380	39258	38993	36287	31831	28193	25067	23343
	9	High alloyed steel, and tool steel	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	8	16	22	29	34	36	37	38	40
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003
					RPM	25465	25465	23343	23077	21645	19099	16825	15120	14147
	10-11.1	High alloyed steel, and tool steel	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	13	26	37	49	57	60	62	63	66
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004
					RPM	41380	41380	39258	38993	36287	31831	28193	25067	23343
11.2	High alloyed steel, and tool steel	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	8	16	22	29	34	36	37	38	40	
				fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003	
				RPM	25465	25465	23343	23077	21645	19099	16825	15120	14147	
M	14.1	Stainless steel	1.0D	0.5D (up to Ø1: 0.02D)	Vc	7	13	18	25	28	30	31	31	33
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003
					RPM	22282	20690	19099	19894	17825	15915	14097	12335	11671
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	13	26	37	49	57	60	62	63	66
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004
					RPM	41380	41380	39258	38993	36287	31831	28193	25067	23343
H	38.1-38.2	Hardened steel	1.0D	0.05D (up to Ø1: 0.02D)	Vc	5	11	15	20	23	24	25	25	27
					fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002
					RPM	15915	17507	15915	15915	14642	12732	11368	9947	9549
40	Chilled Cast Iron	1.0D	0.05D (up to Ø1: 0.02D)	Vc	8	16	22	29	34	36	37	38	40	
				fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003	
				RPM	25465	25465	23343	23077	21645	19099	16825	15120	14147	
41	Hardened Cast Iron	1.0D	0.05D (up to Ø1: 0.02D)	Vc	5	11	15	20	23	24	25	25	27	
				fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	
				RPM	15915	17507	15915	15915	14642	12732	11368	9947	9549	

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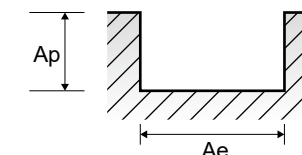
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME35 SERIES 2 FLUTE - SLOTTING
2刃-槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径															
		1.0	1.2	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0		
1-5	Vc	68	68	71	73	80	84	91	95	98	99	102	105	107	107		
	fz	0.004	0.005	0.006	0.009	0.01	0.012	0.016	0.021	0.023	0.027	0.03	0.033	0.036	0.039		
	RPM	21645	18038	15067	11618	10186	8913	8276	7560	6932	6303	5903	5570	5240	4866		
6-8	Vc	68	68	71	73	80	84	91	95	98	99	102	105	107	107		
	fz	0.004	0.005	0.006	0.009	0.01	0.012	0.016	0.021	0.023	0.027	0.03	0.033	0.036	0.039		
	RPM	21645	18038	15067	11618	10186	8913	8276	7560	6932	6303	5903	5570	5240	4866		
9	Vc	41	41	42	48	52	52	56	58	59	59	62	63	64	65		
	fz	0.004	0.005	0.006	0.008	0.01	0.013	0.017	0.021	0.023	0.026	0.03	0.034	0.036	0.037		
	RPM	13051	10876	8913	7639	6621	5517	5093	4615	4173	3756	3588	3342	3134	2956		
10-11.1	Vc	68	68	71	73	80	84	91	95	98	99	102	105	107	107		
	fz	0.004	0.005	0.006	0.009	0.01	0.012	0.016	0.021	0.023	0.027	0.03	0.033	0.036	0.039		
	RPM	21645	18038	15067	11618	10186	8913	8276	7560	6932	6303	5903	5570	5240	4866		
11.2	Vc	41	41	42	48	52	52	56	58	59	59	62	63	64	65		
	fz	0.004	0.005	0.006	0.008	0.01	0.013	0.017	0.021	0.023	0.026	0.03	0.034	0.036	0.037		
	RPM	13051	10876	8913	7639	6621	5517	5093	4615	4173	3756	3588	3342	3134	2956		
14.1	Vc	34	34	35	40	43	44	47	49	50	50	52	54	54	54		
	fz	0.004	0.005	0.006	0.008	0.01	0.014	0.016	0.021	0.023	0.027	0.03	0.033	0.036	0.038		
	RPM	10823	9019	7427	6366	5475	4669	4274	3899	3537	3183	3009	2865	2644	2456		
15-20	Vc	68	68	71	73	80	84	91	95	98	99	102	105	107	107		
	fz	0.004	0.005	0.006	0.009	0.01	0.012	0.016	0.021	0.023	0.027	0.03	0.033	0.036	0.039		
	RPM	21645	18038	15067	11618	10186	8913	8276	7560	6932	6303	5903	5570	5240	4866		
38.1-38.2	Vc	27	27	28	32	33	32	35	37	37	36	37	38	39	40		
	fz	0.002	0.002	0.003	0.004	0.005	0.006	0.007	0.007	0.009	0.011	0.013	0.015	0.016	0.018		
	RPM	8594	7162	5942	5093	4202	3395	3183	2944	2617	2292	2141	2016	1910	1819		
40	Vc	41	41	42	48	52	52	56	58	59	59	62	63	64	65		
	fz	0.004	0.005	0.006	0.008	0.01	0.013	0.017	0.021	0.023	0.026	0.03	0.034	0.036	0.037		
	RPM	13051	10876	8913	7639	6621	5517	5093	4615	4173	3756	3588	3342	3134	2956		
41	Vc	27	27	28	32	33	32	35	37	37	36	37	38	39	40		
	fz	0.002	0.002	0.003	0.004	0.005	0.006	0.007	0.007	0.009	0.011	0.013	0.015	0.016	0.018		
	RPM	8594	7162	5942	5093	4202	3395	3183	2944	2617	2292	2141	2016	1910	1819		

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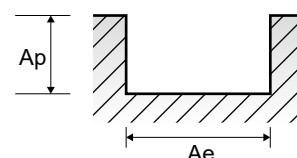
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME35 SERIES 2 FLUTE - SLOTTING
2刃-槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径																																										
					7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0																																	
P	1-5	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	107	106	106	105	104	102	103	104	104	103	fz	0.043	0.048	0.049	0.05	0.051	0.053	0.053	0.053	0.053	0.054	RPM	4541	4218	3970	3714	3485	3247	3122	3009	2879	2732	FEED	391	405	389	371	355	344	331	319	305	295
				Vc	107	106	106	105	104	102	103	104	104	103	fz	0.043	0.048	0.049	0.05	0.051	0.053	0.053	0.053	0.053	0.054	RPM	4541	4218	3970	3714	3485	3247	3122	3009	2879	2732	FEED	391	405	389	371	355	344	331	319	305	295
				Vc	64	63	64	64	64	63	63	64	64	63	fz	0.039	0.042	0.042	0.042	0.042	0.043	0.042	0.041	0.04	0.04	RPM	2716	2507	2397	2264	2144	2005	1910	1852	1771	1671	FEED	212	211	201	190	180	172	160	152	142	134
	6-8	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	107	106	106	105	104	102	103	104	104	103	fz	0.043	0.048	0.049	0.05	0.051	0.053	0.053	0.053	0.053	0.054	RPM	4541	4218	3970	3714	3485	3247	3122	3009	2879	2732	FEED	391	405	389	371	355	344	331	319	305	295
				Vc	64	63	64	64	64	63	63	64	64	63	fz	0.039	0.042	0.042	0.042	0.042	0.043	0.042	0.041	0.04	0.04	RPM	2716	2507	2397	2264	2144	2005	1910	1852	1771	1671	FEED	212	211	201	190	180	172	160	152	142	134
				Vc	107	106	106	105	104	102	103	104	104	103	fz	0.043	0.048	0.049	0.05	0.051	0.053	0.053	0.053	0.053	0.054	RPM	4541	4218	3970	3714	3485	3247	3122	3009	2879	2732	FEED	391	405	389	371	355	344	331	319	305	295
	9	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	64	63	64	64	64	63	63	64	64	63	fz	0.039	0.042	0.042	0.042	0.042	0.043	0.042	0.041	0.04	0.04	RPM	2716	2507	2397	2264	2144	2005	1910	1852	1771	1671	FEED	212	211	201	190	180	172	160	152	142	134
				Vc	107	106	106	105	104	102	103	104	104	103	fz	0.043	0.048	0.049	0.05	0.051	0.053	0.053	0.053	0.053	0.054	RPM	4541	4218	3970	3714	3485	3247	3122	3009	2879	2732	FEED	391	405	389	371	355	344	331	319	305	295
				Vc	64	63	64	64	64	63	63	64	64	63	fz	0.039	0.042	0.042	0.042	0.042	0.043	0.042	0.041	0.04	0.04	RPM	2716	2507	2397	2264	2144	2005	1910	1852	1771	1671	FEED	212	211	201	190	180	172	160	152	142	134
	10-11.1	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	54	53	53	53	53	53	53	53	52	51	fz	0.042	0.045	0.046	0.048	0.049	0.051	0.05	0.049	0.049	0.05	RPM	2292	2109	1985	1874	1776	1687	1607	1534	1439	1353	FEED	193	190	183	180	174	172	161	150	141	135
				Vc	107	106	106	105	104	102	103	104	104	103	fz	0.043	0.048	0.049	0.05	0.051	0.053	0.053	0.053	0.053	0.054	RPM	4541	4218	3970	3714	3485	3247	3122	3009	2879	2732	FEED	391	405	389	371	355	344	331	319	305	295
				Vc	64	63	64	64	64	63	63	64	64	63	fz	0.039	0.042	0.042	0.042	0.042	0.043	0.042	0.041	0.04	0.04	RPM	2716	2507	2397	2264	2144	2005	1910	1852	1771	1671	FEED	212	211	201	190	180	172	160	152	142	134
M	14.1	1.0D	0.5D (up to Ø1: 0.02D)	Vc	41	42	43	43	43	43	44	44	44	fz	0.021	0.024	0.023	0.022	0.022	0.023	0.023	0.024	0.025	RPM	1740	1671	1610	1521	1441	1369	1304	1273	1218	1167	FEED	73	80	74	67	63	60	59	58	58	58		
				Vc	64	63	64	64	64	63	63	64	64	63	fz	0.039	0.042	0.042	0.042	0.042	0.043	0.042	0.041	0.04	0.04	RPM	2716	2507	2397	2264	2144	2005	1910	1852	1771	1671	FEED	212	211	201	190	180	172	160	152	142	134
				Vc	41	42	43	43	43	43	44	44	44	fz	0.021	0.024	0.023	0.022	0.022	0.023	0.023	0.023	0.024	0.025	RPM	1740	1671	1610	1521	1441	1369	1304	1273	1218	1167	FEED	73	80	74	67	63	60	59	58	58	58	
K	15-20	1.0D	0.5D (up to Ø3: 0.2D) (up to Ø1: 0.15D)	Vc	41	42	43	43	43	43	44	44	44	fz	0.021	0.024	0.023	0.022	0.022	0.023	0.023	0.023	0.024	0.025	RPM	1740	1671	1610	1521	1441	1369	1304	1273	1218	1167	FEED	73	80	74	67	63	60	59	58	58	58	
				Vc	64	63	64	64	64	63	63	64	64	63	fz	0.039	0.042	0.042	0.042	0.042	0.043	0.042	0.041	0.04	0.04	RPM	2716	2507	2397	2264	2144	2005	1910	1852	1771	1671	FEED	212	211	201	190	180	172	160	152	142	134
				Vc	41	42	43	43	43	43	44	44	44	fz	0.021	0.024	0.023	0.022	0.022	0.023	0.023	0.023	0.024	0.025	RPM	1740	1671	1610	1521	1441	1369	1304	1273	1218	1167	FEED	73	80	74	67	63	60	59	58	58	58	
H	38.1-38.2	1.0D	0.05D (up to Ø1: 0.02D)	Vc	41	42	43	43	43	43	44	44	44	fz	0.021	0.024	0.023	0.022	0.022	0.023	0.023	0.024	0.025	RPM	1740	1671	1610	1521	1441	1369	1304	1273	1218	1167	FEED	73	80	74	67	63	60	59	58	58	58		
				Vc	64	63	64	64	64	63	63	64	64	63	fz	0.039	0.042	0.042	0.042	0.042	0.043	0.042	0.041	0.04	0.04	RPM	2716	2507	2397	2264	2144	2005	1910	1852	1771	1671	FEED	212	211	201	190	180	172	160	152	142	134
				Vc	41	42	43	43	43	43	44	44	44	fz	0.021	0.024	0.023	0.022	0.022	0.023	0.023	0.023	0.024	0.025	RPM	1740	1671	1610	1521	1441	1369	1304	1273	1218	1167	FEED	73	80	74	67	63	60	59	58	58	58	

▶ NEXT PAGE 下页



RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME35 SERIES 2 FLUTE - SLOTTING
2刃-槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径																																																						
		13.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0																																										
1-5	Vc	106	109	110	111	111	110	108	106	107	107	107	107	107	fz	0.054	0.054	0.052	0.052	0.052	0.053	0.052	0.054	0.053	0.053	0.051	0.049	0.05	RPM	2595	2478	2334	2208	2078	1945	1809	1687	1622	1548	1481	1419	1362	FEED	280	268	243	230	216	206	188	182	172	164	151	139	136
	Vc	106	109	110	111	111	110	108	106	107	107	107	107	107	fz	0.054	0.054	0.052	0.052	0.052	0.053	0.052	0.054	0.053	0.053	0.051	0.049	0.05	RPM	2595	2478	2334	2208	2078	1945	1809	1687	1622	1548	1481	1419	1362	FEED	280	268	243	230	216	206	188	182	172	164	151	139	136
	Vc	65	67	68	68	69	68	68	67	67	67	67	67	66	fz	0.041	0.041	0.042	0.042	0.041	0.041	0.04	0.04	0.04	0.041	0.042	0.043	0.044	RPM	1592	1523	1443	1353	1292	1203	1139	1066	1016	969	927	889	840	FEED	131	125	121	114	106	99	91	85	81	79	78	76	74
6-8	Vc	106	109	110	111	111	110	108	106	107	107	107	107	fz	0.054	0.054	0.052	0.052	0.052	0.053	0.052	0.054	0.053	0.053	0.051	0.049	0.05	RPM	2595	2478	2334	2208	2078	1945	1809	1687	1622	1548	1481	1419	1362	FEED	280	268	243	230	216	206	188	182	172	164	151	139	136	
	Vc	106	109	110	111	111	110	108	106	107	107	107	107	fz	0.054	0.054	0.052	0.052	0.052	0.053	0.052	0.054	0.053	0.053	0.051	0.049	0.05	RPM	2595	2478	2334	2208	2078	1945	1809	1687	1622	1548	1481	1419	1362	FEED	280	268	243	230	216	206	188	182	172	164	151	139	136	
	Vc	65	67	68	68	69	68	68	67	67	67	67	66	fz	0.041	0.041	0.042	0.042	0.041	0.041	0.04	0.04	0.04	0.041	0.042	0.043	0.044	RPM	1592	1523	1443	1353	1292																							



RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME70 SERIES 2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径																							
						1.0		1.0		1.0		1.0		1.0		1.0		1.2		1.2		1.2							
						LOC	3	4	5	6	7	8	10	12	4	6	8	10	12	14	16	18	20						
P	1-5	Non-alloy steel	1.0D	0.3D (up to Ø3:0.4mm)	Vc	50	50	50	45	45	45	45	40	51	51	46	46	50	50	50	45	45	45	45	40	51	51	46	46
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002		
					RPM	15915	15915	15915	14324	14324	14324	14324	12732	13528	13528	12202	12202	15915	15915	15915	14324	14324	14324	12732	13528	13528	12202	12202	
					FEED	64	64	64	57	57	57	57	51	81	81	49	49	64	64	64	57	57	57	51	81	81	49	49	
					Vc	50	50	50	45	45	45	45	40	51	51	46	46	50	50	50	45	45	45	45	40	51	51	46	46
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002			
	6-8	Low alloy steel	1.0D	0.3D (up to Ø3:0.4mm)	Vc	50	50	50	45	45	45	45	40	51	51	46	46	50	50	50	45	45	45	45	40	51	51	46	46
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002			
					RPM	15915	15915	15915	14324	14324	14324	14324	12732	13528	13528	12202	12202	15915	15915	15915	14324	14324	14324	12732	13528	13528	12202	12202	
					FEED	64	64	64	57	57	57	57	51	81	81	49	49	64	64	64	57	57	57	51	81	81	49	49	
					Vc	40	40	40	36	36	36	36	32	41	41	37	37	40	40	40	36	36	36	32	41	41	37	37	
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002			
9	High alloyed steel, and tool steel	1.0D	0.3D (up to Ø3:0.4mm)	Vc	50	50	50	45	45	45	45	40	51	51	46	46	50	50	50	45	45	45	45	40	51	51	46	46	
				fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002				
				RPM	12732	12732	12732	11459	11459	11459	11459	10186	10876	10876	9815	9815	12732	12732	12732	11459	11459	11459	10186	10876	10876	9815	9815		
				FEED	64	64	64	57	57	57	57	51	81	81	49	49	64	64	64	57	57	57	51	81	81	49	49		
				Vc	40	40	40	36	36	36	36	32	41	41	37	37	40	40	40	36	36	36	32	41	41	37	37		
				fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002				
10-11.1	High alloyed steel, and tool steel	1.0D	0.3D (up to Ø3:0.4mm)	Vc	50	50	50	45	45	45	45	40	51	51	46	46	50	50	50	45	45	45	45	40	51	51	46	46	
				fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002				
				RPM	15915	15915	15915	14324	14324	14324	14324	12732	13528	13528	12202	12202	15915	15915	15915	14324	14324	14324	12732	13528	13528	12202	12202		
				FEED	64	64	64	57	57	57	57	51	81	81	49	49	64	64	64	57	57	57	51	81	81	49	49		
				Vc	40	40	40	36	36	36	36	32	41	41	37	37	40	40	40	36	36	36	32	41	41	37	37		
				fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002				
11.2	High alloyed steel, and tool steel	1.0D	0.3D (up to Ø3:0.4mm)	Vc	40	40	40	36	36	36	36	32	41	41	37	37	40	40	40	36	36	36	36	32	41	41	37	37	
				fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002				
				RPM	12732	12732	12732	11459	11459	11459	11459	10186	10876	10876	9815	9815	12732	12732	12732	11459	11459	11459	10186	10876	10876	9815	9815		
				FEED	51	51	51	46	46	46	46	41	65	65	59	59	51	51	51	46	46	46	41	65	65	59	59		
				Vc	50	50	50	45	45	45	45	40	51	51	46	46	50	50	50	45	45	45	45	40	51	51	46	46	
				fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002				
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.3D (up to Ø3:0.4mm)	Vc	50	50	50	45	45	45	45	40	51	51	46	46	50	50	50	45	45	45	45	40	51	51	46	46
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.002			
					RPM	15915	15915	15915	14324	14324	14324	14324	12732	13528	13528	12202	12202	15915	15915	15915	14324	14324	14324	12732	13528	13528	12202	12202	
					FEED	64	64	64	57	57	57	57	51	81	81	49	49	64	64	64	57	57	57	51	81	81	49	49	
					Vc	25	25	25	23	23	23	23	20	25	25	23	23	25	25	25	23	23	23	23	20	25	25	23	23
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.002	0.002	0.002	
H	38.1 38.2	Hardened steel	1.0D	0.05D	Vc	7958	7958	7958	7321	7321	7321	7321	6366	6631	6631	6101	6101	7958	7958	7958	7321	7321	7321	7321	6366	6631	6631	6101	6101
					fz	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.002	0.002	0.002	
					RPM	12732	12732	12732	11459	11459	11459	11459	10186	10876	10876	9815	9815	12732	12732	12732	11459	11459	11459	10186	10876	10876	9815	9815	
					FEED	32	32	32	29	29	29	29	24	27	27	24	24	32	32	32	29	29	29	24	27	27	24	24	
					Vc	40	40	40	36	36	36	36	32	41	41	37	37	40	40	40	36	36	36	32	41	41	37	37	
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002			
H	40	Chilled Cast Iron	1.0D	0.3D (up to Ø3:0.4mm)	Vc	40	40	40	36	36	36	36	32	41	41	37	37	40	40	40	36	36	36	36	32	41	41	37	37
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002			
					RPM	12732	12732	12732	11459	11459	11459	11459	10186	10876	10876	9815	9815	12732	12732	12732	11459	11459	11459	10186	10876	10876	9815	9815	
					FEED	51	51	51	46	46	46	46	41	65	65	59	59	51	51	51	46	46	46	41	65	65	59	59	
					Vc	25	25	25	23	23	23	23	20	25	25	23	23	25	25	25	23	23	23	23	20	25	25	23	23
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.002	0.002	0.002	
H	41	Hardened Cast Iron	1.0D	0.05D	Vc	7958	7958	7958	7321	7321	7321	7321	6366	6631	6631	6101	6101	7958	7958	7958	7321	7321	7321	7321	6366	6631	6631	6101	6101
					fz	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.002	0.002	0.002	
					RPM	12732	12732	12732	11459	11459	11459	11459	10186	10876	10876	9815	9815	12732	12732	12732	11459	11459	11459	10186	10876	10876	9815	9815	
					FEED	32	32	32	29	29	29	29	24	27	27	24	24	32	32	32	29	29	29	24	27	27	24	24	
					Vc	25	25	25	23	23	23	23	20	25	25	2													



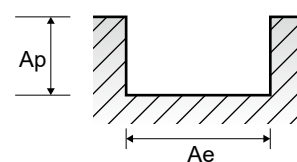
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME70 SERIES 2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev./min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径																
					LOC																
					3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	
P	1-5	1.0D	0.3D (up to Ø3:0.4mm)	Vc	54	54	54	54	65	65	65	65	58	58	58	58	69	69	62	62	72
				fz	0.008	0.007	0.006	0.006	0.012	0.012	0.012	0.01	0.01	0.017	0.017	0.015	0.015	0.014	0.024		
				RPM	5730	5730	5730	5730	5173	5173	5173	4615	4615	4393	4393	3947	3947	3947	3820		
	6-8	1.0D	0.3D (up to Ø3:0.4mm)	Vc	54	54	54	54	65	65	65	58	58	58	58	69	69	62	62	72	
				fz	0.008	0.007	0.006	0.006	0.012	0.012	0.012	0.01	0.01	0.017	0.017	0.015	0.015	0.014	0.024		
				RPM	5730	5730	5730	5730	5173	5173	5173	4615	4615	4393	4393	3947	3947	3947	3820		
	9	1.0D	0.3D (up to Ø3:0.4mm)	Vc	44	44	44	44	52	52	52	46	46	55	55	49	49	49	57		
				fz	0.008	0.008	0.006	0.006	0.012	0.012	0.012	0.012	0.018	0.018	0.016	0.016	0.014	0.025			
				RPM	4669	4669	4669	4669	4138	4138	4138	3661	3661	3501	3501	3119	3119	3119	3024		
	10-11.1	1.0D	0.3D (up to Ø3:0.4mm)	Vc	54	54	54	54	65	65	65	58	58	69	69	62	62	62	72		
				fz	0.008	0.007	0.006	0.006	0.012	0.012	0.012	0.01	0.01	0.017	0.017	0.015	0.015	0.014	0.024		
				RPM	5730	5730	5730	5730	5173	5173	5173	4615	4615	4393	4393	3947	3947	3947	3820		
11.2	1.0D	0.3D (up to Ø3:0.4mm)	Vc	44	44	44	44	52	52	52	46	46	55	55	49	49	49	57			
			fz	0.008	0.008	0.006	0.006	0.012	0.012	0.012	0.012	0.018	0.018	0.016	0.016	0.014	0.025				
			RPM	4669	4669	4669	4669	4138	4138	4138	3661	3661	3501	3501	3119	3119	3119	3024			
K	15-20	1.0D	0.3D (up to Ø3:0.4mm)	Vc	54	54	54	54	65	65	65	58	58	69	69	62	62	62	72		
				fz	0.008	0.007	0.006	0.006	0.012	0.012	0.012	0.01	0.01	0.017	0.017	0.015	0.015	0.014	0.024		
				RPM	5730	5730	5730	5730	5173	5173	5173	4615	4615	4393	4393	3947	3947	3947	3820		
H	38.1 - 38.2	1.0D	0.05D	Vc	27	27	27	27	32	32	32	29	29	36	36	32	32	32	37		
				fz	0.007	0.006	0.005	0.005	0.01	0.01	0.01	0.009	0.009	0.012	0.012	0.011	0.011	0.01	0.018		
				RPM	2865	2865	2865	2865	2546	2546	2546	2308	2308	2292	2292	2037	2037	2037	1963		
	40	1.0D	0.3D (up to Ø3:0.4mm)	Vc	44	44	44	44	52	52	52	46	46	55	55	49	49	49	57		
				fz	0.008	0.008	0.006	0.006	0.012	0.012	0.012	0.012	0.018	0.018	0.016	0.016	0.014	0.025			
				RPM	4669	4669	4669	4669	4138	4138	4138	3661	3661	3501	3501	3119	3119	3119	3024		
	41	1.0D	0.05D	Vc	27	27	27	27	32	32	32	29	29	36	36	32	32	32	37		
				fz	0.007	0.006	0.005	0.005	0.01	0.01	0.01	0.009	0.009	0.012	0.012	0.011	0.011	0.01	0.018		
				RPM	2865	2865	2865	2865	2546	2546	2546	2308	2308	2292	2292	2037	2037	2037	1963		

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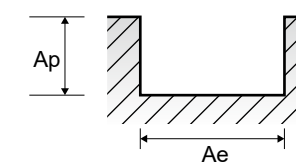
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME70 SERIES 2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev./min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径																				
		LOC																				
		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	8.0	8.0	8.0	8.0	8.0	8.0	10.0	10.0	10.0	10.0	10.0	12.0	
1-5	Vc	72	72	72	72	64	64	64	64	72	72	72	72	65	65	77	77	77	77	69	69	75
	fz	0.024	0.024	0.02	0.02	0.018	0.018	0.033	0.033	0.033	0.028	0.028	0.025	0.039	0.039	0.039	0.033	0.033	0.033	0.029	0.038	
	RPM	3820	3820	3820	3395	3395	3395	2865	2865	2865	2865	2865	2586	2586	2451	2451	2451	2451	2451	2196	2196	1989
6-8	Vc	72	72	72	72	64	64	64	64	72	72	72	72	65	65	77	77	77	77	69	69	75
	fz	0.024	0.024	0.02	0.02	0.018	0.018	0.033	0.033	0.033	0.028	0.028	0.025	0.039	0.039	0.039	0.033	0.033	0.033	0.029	0.038	
	RPM	3820	3820	3820	3395	3395	3395	2865	2865	2865	2865	2865	2586	2586	2451	2451	2451	2451	2451	2196	2196	1989
9	Vc	57	57	57	52	52	52	57	57	57	52	52	63	63	63	63	63	63	63	57	57	63
	fz	0.025	0.025	0.021	0.021	0.018	0.018	0.033	0.033	0.033	0.027	0.028	0.024	0.038	0.038	0.038	0.031	0.031	0.032	0.028	0.04	
	RPM	3024	3024	3024	2759	2759	2759	2268	2268	2268	2069	2069	2005	2005	2005	2005	2005	2005	2005	1814	1814	1671
10 - 11.1	Vc	72	72	72	64	64	64	72	72	72	72	65	65	77	77	77	77	77	69	69	75	
	fz	0.024	0.024	0.02	0.02	0.018	0.018	0.033	0.033	0.033	0.028	0.028	0.025	0.039	0.039	0.039	0.033	0.033	0.033	0.029	0.038	
	RPM	3820	3820	3820	3395	3395	3395	2865	2865	2865	2865	2586	2586	2451	2451	2451	2451	2451	2451	2196	2196	1989
11.2	Vc	57	57	57	52	52	52	57	57	57	52	52	63	63	63	63	63	63	63	57	57	63
	fz	0.025	0.025	0.021	0.021	0.018	0.018	0.033	0.033	0.033	0.027	0.028	0.024	0.038	0.038	0.038	0.031	0.031	0.032	0.028	0.04	
	RPM	3024	3024	3024	2759	2759	2759	2268	2268	2268	2069	2069	2005	2005	2005	2005	2005	2005	2005	1814	1814	1671
15 - 20	Vc	72	72	72	64	64	64	72	72	72	72	65	65	77	77	77	77	77	69	69	75	
	fz	0.024	0.024	0.02	0.02	0.018	0.018	0.033	0.033	0.033	0.028	0.028	0.025	0.039	0.039	0.039	0.033	0.033	0.033	0.029	0.038	
	RPM	3820	3820	3820	3395	3395	3395	2865	2865	2865	2865	2586	2586	2451	2451	2451	2451	2451	2451	2196	2196	1989
38.1 - 38.2	Vc	37	37	37	33	33	33	38	38	38	38	34	34	38	38	38	38	38	38	34	34	38
	fz	0.018	0.018	0.015	0.016	0.014	0.014	0.023	0.023	0.023	0.02	0.02	0.018	0.029	0.029	0.029	0.025	0.025	0.025	0.023	0.027	
	RPM	1963	1963	1963	1751	1751	1751	1512	1512	1512	1353	1353	1210	1210	1210	1210	1210	1210	1210	1082	1082	1008
40	Vc	57	57	57	52	52	52	57	57	57	52	52	63	63	63	63	63	63	63	57	57	63
	fz	0.025	0.025	0.021	0.021	0.018	0.018	0.033	0.033	0.033	0.027	0.028	0.024	0.038	0.038	0.038	0.031	0.031	0.032	0.028	0.04	
	RPM	3024	3024	3024	2759	2759	2759	2268	2268	2268	2069	2069	2005	2005	2005	2005	2005	2005	2005	1814	1814	1671
41	Vc	37	37	37	33	33	33	38	38	38	38	34	34	38	38	38	38	38	38	34	34	38
	fz	0.018	0.018	0.015	0.016	0.014	0.014	0.023	0.023	0.023	0.02	0.02	0.018	0.029	0.029	0.029	0.025	0.025	0.025	0.023	0.027	
	RPM	1963	1963	1963	1751	1751	1751	1512	1512	1512	1353	1353	1210	1210	1210	1210	1210	1210	1210	1082	1082	1008

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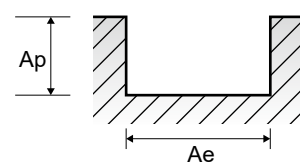
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME70 SERIES 2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径															
					LOC															
					12.0	12.0	12.0	12.0	12.0	12.0	12.0	14.0	14.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
P	1-5	1.0D	0.3D (up to Ø3:0.4mm)	Vc	75	75	75	75	75	68	68	81	81	85	85	85	85	85		
				fz	0.038	0.033	0.033	0.033	0.028	0.028	0.028	0.034	0.034	0.041	0.041	0.035	0.035	0.031		
				RPM	1989	1989	1989	1989	1989	1804	1804	1842	1842	1691	1691	1691	1691	1691	1691	
	6-8	1.0D	0.3D (up to Ø3:0.4mm)	Vc	75	75	75	75	75	68	68	81	81	85	85	85	85	85		
				fz	0.038	0.033	0.033	0.033	0.028	0.028	0.028	0.034	0.034	0.041	0.041	0.035	0.035	0.031		
				RPM	1989	1989	1989	1989	1989	1804	1804	1842	1842	1691	1691	1691	1691	1691	1691	
	9	1.0D	0.3D (up to Ø3:0.4mm)	Vc	63	63	63	63	63	57	57	65	65	64	64	64	64	64		
				fz	0.04	0.034	0.034	0.034	0.03	0.03	0.03	0.034	0.034	0.041	0.041	0.035	0.035	0.031		
				RPM	1671	1671	1671	1671	1671	1512	1512	1478	1478	1273	1273	1273	1273	1273	1273	
	10-11.1	1.0D	0.3D (up to Ø3:0.4mm)	Vc	75	75	75	75	75	68	68	81	81	85	85	85	85	85		
				fz	0.038	0.033	0.033	0.033	0.028	0.028	0.028	0.034	0.034	0.041	0.041	0.035	0.035	0.031		
				RPM	1989	1989	1989	1989	1989	1804	1804	1842	1842	1691	1691	1691	1691	1691	1691	
11.2	1.0D	0.3D (up to Ø3:0.4mm)	Vc	63	63	63	63	63	57	57	65	65	64	64	64	64	64			
			fz	0.04	0.034	0.034	0.034	0.03	0.03	0.03	0.034	0.034	0.041	0.041	0.035	0.035	0.031			
			RPM	1671	1671	1671	1671	1671	1512	1512	1478	1478	1273	1273	1273	1273	1273	1273		
K	15-20	1.0D	0.3D (up to Ø3:0.4mm)	Vc	75	75	75	75	75	68	68	81	81	85	85	85	85			
				fz	0.038	0.033	0.033	0.033	0.028	0.028	0.028	0.034	0.034	0.041	0.041	0.035	0.035	0.031		
				RPM	1989	1989	1989	1989	1989	1804	1804	1842	1842	1691	1691	1691	1691	1691	1691	
H	38.1 - 38.2	1.0D	0.05D	Vc	38	38	38	38	38	34	34	40	40	40	40	40	40	40		
				fz	0.027	0.022	0.022	0.022	0.02	0.019	0.019	0.025	0.025	0.031	0.031	0.025	0.025	0.022		
				RPM	1008	1008	1008	1008	1008	902	902	909	909	796	796	796	796	796	796	
	40	1.0D	0.3D (up to Ø3:0.4mm)	Vc	63	63	63	63	63	57	57	65	65	64	64	64	64	64		
				fz	0.04	0.034	0.034	0.034	0.03	0.03	0.03	0.034	0.034	0.041	0.041	0.035	0.035	0.031		
				RPM	1671	1671	1671	1671	1671	1512	1512	1478	1478	1273	1273	1273	1273	1273	1273	
	41	1.0D	0.05D	Vc	38	38	38	38	38	34	34	40	40	40	40	40	40	40		
				fz	0.027	0.022	0.022	0.022	0.02	0.019	0.019	0.025	0.025	0.031	0.031	0.025	0.025	0.022		
				RPM	1008	1008	1008	1008	1008	902	902	909	909	796	796	796	796	796	796	

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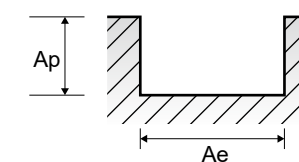


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME70 SERIES 2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev/min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径																							
		LOC																							
		16.0	16.0	16.0	18.0	18.0	18.0	20.0	20.0	20.0	20.0	20.0	20.0	22.0	22.0	25.0	25.0	25.0	25.0						
1-5	Vc	77	77	77	82	82	74	77	77	77	77	77	69	69	76	76	77	77	77						
	fz	0.031	0.031	0.031	0.041	0.034	0.031	0.041	0.041	0.035	0.035	0.031	0.032	0.032	0.034	0.032	0.041	0.036	0.036						
	RPM	1532	1532	1532	1450	1450	1309	1225	1225	1225	1225	1225	1098	1098	1100	1100	980	980	980						
6-8	Vc	77	77	77	82	82	74	77	77	77	77	69	69	76	76	77	77	77	77						
	fz	0.031	0.031	0.031	0.041	0.034	0.031	0.041	0.041	0.035	0.035	0.031	0.032	0.032	0.034	0.032	0.041	0.036	0.036						
	RPM	1532	1532	1532	1450	1450	1309	1225	1225	1225	1225	1225	1098	1098	1100	1100	980	980	980						
9	Vc	58	58	58	63	63	57	60	60	60	60	54	54	58	58	59	59	59	59						
	fz	0.03	0.03	0.03	0.04	0.033	0.03	0.039	0.039	0.034	0.034	0.029	0.029	0.029	0.033	0.03	0.04	0.033	0.033						
	RPM	1154	1154	1154	1114	1114	1008	955	955	955	955	859	859	839	839	751	751	751	751						
10 - 11.1	Vc	77	77	77	82	82	74	77	77	77	77	69	69	76	76	77	77	77	77						
	fz	0.031	0.031	0.031	0.041	0.034	0.031	0.041	0.041	0.035	0.035	0.031	0.032	0.032	0.034	0.032	0.041	0.036	0.036						
	RPM	1532	1532	1532	1450	1450	1309	1225	1225	1225	1225	1225	1098	1098	1100	1100	980	980	980						
11.2	Vc	58	58	58	63	63	57	60	60	60	60	54	54	58	58	59	59	59	59						
	fz	0.03	0.03	0.03	0.04	0.033	0.03	0.039	0.039	0.034	0.034	0.029	0.029	0.029	0.033	0.03	0.04	0.033	0.033						
	RPM	1154	1154	1154	1114	1114	1008	955	955	955	955	859	859	839	839	751	751	751	751						
15 - 20	Vc	77	77	77	82	82	74	77	77	77	77	69	69	76	76	77	77	77	77						
	fz	0.031	0.031	0.031	0.041	0.034	0.031	0.041	0.041	0.035	0.035	0.031	0.032	0.032	0.034	0.032	0.041	0.036	0.036						
	RPM	1532	1532	1532	1450	1450	1309	1225	1225	1225	1225	1225	1098	1098	1100	1100	980	980	980						
38.1 - 38.2	Vc	36	36	36	40	40	36	38	38	38	38	34	34	38	38	38	38	38	38						
	fz	0.021	0.021	0.021	0.029	0.025	0.024	0.029	0.029	0.025	0.025	0.021	0.023	0.023	0.027	0.023	0.031	0.026	0.026						
	RPM	716	716	716	707	707	637	605	605	605	605	541	541	550	550	484	484	484	484						
40	Vc	58	58	58	63	63	57	60	60	60	60	54	54	58	58	59	59	59	59						
	fz	0.03	0.03	0.03	0.04	0.033	0.03	0.039	0.039	0.034	0.034	0.029	0.029	0.029	0.033	0.03	0.04	0.033	0.033						
	RPM	1154	1154	1154	1114	1114	1008	955	955	955	955	859	859	839	839	751	751	751	751						
41	Vc	36	36	36	40	40	36	38	38	38	38	34	34	38	38	38	38	38	38						
	fz	0.021	0.021	0.021	0.029	0.025	0.024	0.029	0.029	0.025	0.025	0.021	0.023	0.023	0.027	0.023	0.031	0.026	0.026						
	RPM	716	716	716	707	707	637	605	605	605	605	541	541	550	550	484	484	484	484						





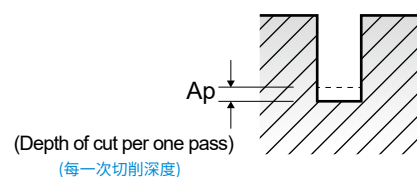
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEM845 SERIES 2 FLUTE - SLOTTING 2刃-槽铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min) LBS (颈长) = Length Below Shank

Table with columns for ISO, VDI 3323, Material Description, Parameter, and Diameter (Ø) 直径. Rows include materials like Non-alloy steel, Low alloy steel, High alloyed steel, and tool steel, with parameters Vc, fz, RPM, FEED, and Ap.

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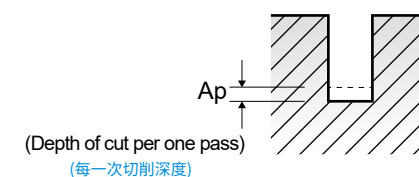
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEM845 SERIES 2 FLUTE - SLOTTING 2刃-槽铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min) LBS (颈长) = Length Below Shank

Table with columns for VDI 3323, Parameter, and Diameter (Ø) 直径. Rows include materials like Non-alloy steel, Low alloy steel, High alloyed steel, and tool steel, with parameters Vc, fz, RPM, FEED, and Ap.

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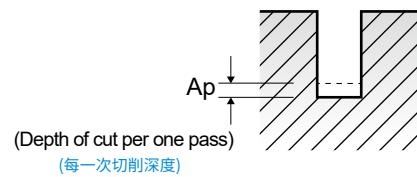
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEM845 SERIES 2 FLUTE - SLOTTING 2刃-槽铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

Table with columns for ISO, VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include ISO P (1-5, 6-8, 9, 10-11.1, 11.2) and ISO K (15-20) and ISO H (38.1-38.2, 40, 41).

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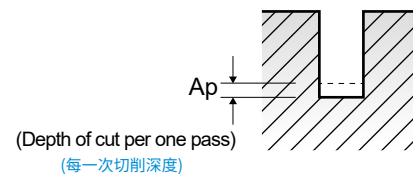
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEM845 SERIES 2 FLUTE - SLOTTING 2刃-槽铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev./min.) LBS (颈长) = Length Below Shank

Table with columns for VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include ISO P (1-5, 6-8, 9, 10-11.1, 11.2) and ISO K (15-20) and ISO H (38.1-38.2, 40, 41).

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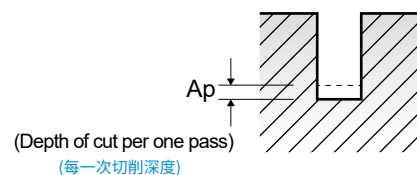
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEM845 SERIES 2 FLUTE - SLOTTING 2刃-槽铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min) LBS (颈长) = Length Below Shank

Table with columns for ISO, VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include ISO P (1-5, 6-8, 9, 10-11.1, 11.2) and ISO K (15-20) and ISO H (38.1-38.2, 40, 41).

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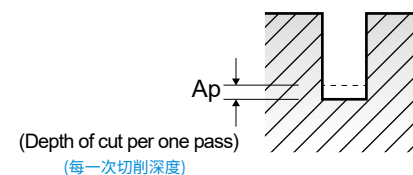
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

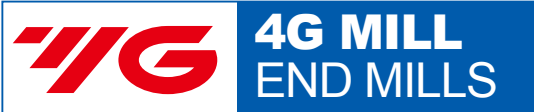
SEM845 SERIES 2 FLUTE - SLOTTING 2刃-槽铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min) LBS (颈长) = Length Below Shank

Table with columns for VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include ISO P (1-5, 6-8, 9, 10-11.1, 11.2) and ISO K (15-20) and ISO H (38.1-38.2, 40, 41).

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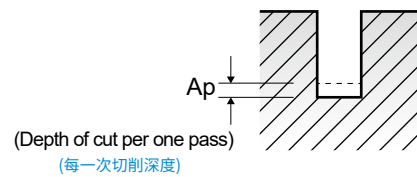
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEM845 SERIES 2 FLUTE - SLOTTING 2刃-槽铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

Table with columns for ISO, VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include ISO P (1-5, 6-8, 9, 10-11.1, 11.2) and ISO K (15-20) and ISO H (38.1-38.2, 40, 41).

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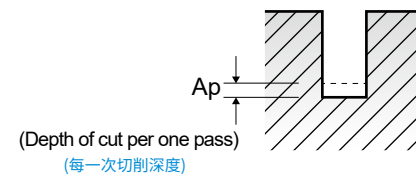
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

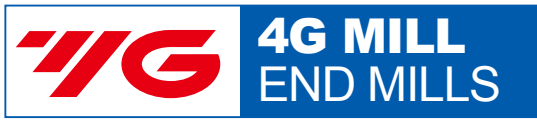
SEM845 SERIES 2 FLUTE - SLOTTING 2刃-槽铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

Table with columns for VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include ISO P (1-5, 6-8, 9, 10-11.1, 11.2) and ISO K (15-20) and ISO H (38.1-38.2, 40, 41).

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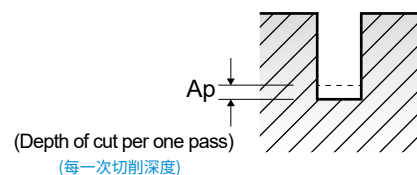
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEM845 SERIES 2 FLUTE - SLOTTING 2刃-槽铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

Table with columns for ISO, VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include ISO P (1-5, 6-8, 9, 10-11.1, 11.2) and ISO K (15-20) and ISO H (38.1-38.2, 40, 41).

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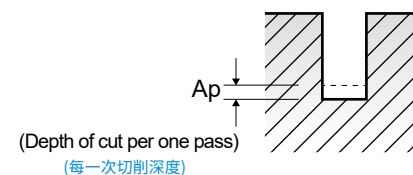


RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEM845 SERIES 2 FLUTE - SLOTTING 2刃-槽铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ap (切削深度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

Table with columns for VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include ISO P (1-5, 6-8, 9, 10-11.1, 11.2), ISO K (15-20), and ISO H (38.1-38.2, 40, 41).





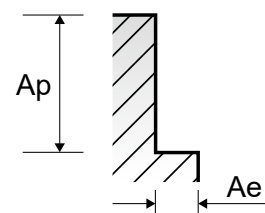
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME36, SEME71 SERIES 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径							
						0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0
P	1-5	Non-alloy steel	0.05D	1.0D	Vc	79	83	84	85	88	91	101	105
					fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008
					RPM	31433	29355	26738	22547	18674	14483	12860	11141
	6-8	Low alloy steel	0.05D	1.0D	Vc	79	83	84	85	88	91	101	105
					fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008
					RPM	31433	29355	26738	22547	18674	14483	12860	11141
	9	High alloyed steel, and tool steel	0.05D	1.0D	Vc	47	50	51	51	53	59	64	66
					fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008
					RPM	18701	17684	16234	13528	11247	9390	8149	7003
	10-11.1	High alloyed steel, and tool steel	0.05D	1.0D	Vc	79	83	84	85	88	91	101	105
					fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008
					RPM	31433	29355	26738	22547	18674	14483	12860	11141
11.2	High alloyed steel, and tool steel	0.05D	1.0D	Vc	47	50	51	51	53	59	64	66	
				fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008	
				RPM	18701	17684	16234	13528	11247	9390	8149	7003	
M	14.1	Stainless steel	0.05D	1.0D	Vc	39	41	42	42	44	50	54	54
					fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008
					RPM	15518	14501	13369	11141	9337	7958	6875	5730
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	1.0D	Vc	79	83	84	85	88	91	101	105
					fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008
					RPM	31433	29355	26738	22547	18674	14483	12860	11141
H	38.1 - 38.2	Hardened steel	0.05D	1.0D	Vc	31	33	34	34	35	40	41	40
					fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.004
					RPM	12335	11671	10823	9019	7427	6366	5220	4244
40	Chilled Cast Iron	0.05D	1.0D	Vc	47	50	51	51	53	59	64	66	
				fz	0.002	0.002	0.002	0.003	0.004	0.005	0.006	0.008	
				RPM	18701	17684	16234	13528	11247	9390	8149	7003	
41	Hardened Cast Iron	0.05D	1.0D	Vc	31	33	34	34	35	40	41	40	
				fz	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.004	
				RPM	12335	11671	10823	9019	7427	6366	5220	4244	

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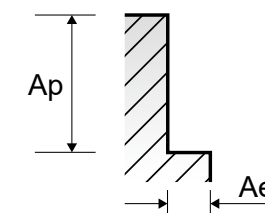
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME36, SEME71 SERIES 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径											
		3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
1-5	Vc	113	119	122	124	128	131	133	134	134	132	132	132
	fz	0.011	0.016	0.018	0.02	0.022	0.025	0.027	0.03	0.032	0.035	0.036	0.037
	RPM	10277	9470	8630	7894	7408	6950	6513	6093	5687	5252	4943	4669
6-8	Vc	113	119	122	124	128	131	133	134	134	132	132	132
	fz	0.011	0.016	0.018	0.02	0.022	0.025	0.027	0.03	0.032	0.035	0.036	0.037
	RPM	10277	9470	8630	7894	7408	6950	6513	6093	5687	5252	4943	4669
9	Vc	70	73	74	74	77	79	80	81	80	79	80	80
	fz	0.011	0.016	0.018	0.02	0.023	0.026	0.027	0.028	0.03	0.032	0.032	0.031
	RPM	6366	5809	5234	4711	4456	4191	3918	3683	3395	3143	2996	2829
10 - 11.1	Vc	113	119	122	124	128	131	133	134	134	132	132	132
	fz	0.011	0.016	0.018	0.02	0.022	0.025	0.027	0.03	0.032	0.035	0.036	0.037
	RPM	10277	9470	8630	7894	7408	6950	6513	6093	5687	5252	4943	4669
11.2	Vc	70	73	74	74	77	79	80	81	80	79	80	80
	fz	0.011	0.016	0.018	0.02	0.023	0.026	0.027	0.028	0.03	0.032	0.032	0.031
	RPM	6366	5809	5234	4711	4456	4191	3918	3683	3395	3143	2996	2829
14.1	Vc	58	61	62	62	65	67	68	68	67	66	66	67
	fz	0.011	0.015	0.017	0.02	0.022	0.024	0.026	0.029	0.031	0.035	0.036	0.036
	RPM	5275	4854	4386	3947	3762	3554	3330	3092	2844	2626	2472	2370
15 - 20	Vc	113	119	122	124	128	131	133	134	134	132	132	132
	fz	0.011	0.016	0.018	0.02	0.022	0.025	0.027	0.03	0.032	0.035	0.036	0.037
	RPM	10277	9470	8630	7894	7408	6950	6513	6093	5687	5252	4943	4669
38.1 - 38.2	Vc	43	46	47	46	47	47	49	51	52	53	53	54
	fz	0.004	0.004	0.005	0.006	0.007	0.009	0.01	0.011	0.013	0.014	0.014	0.014
	RPM	3911	3661	3325	2928	2720	2493	2400	2319	2207	2109	1985	1910
40	Vc	70	73	74	74	77	79	80	81	80	79	80	80
	fz	0.011	0.016	0.018	0.02	0.023	0.026	0.027	0.028	0.03	0.032	0.032	0.031
	RPM	6366	5809	5234	4711	4456	4191	3918	3683	3395	3143	2996	2829
41	Vc	43	46	47	46	47	47	49	51	52	53	53	54
	fz	0.004	0.004	0.005	0.006	0.007	0.009	0.01	0.011	0.013	0.014	0.014	0.014
	RPM	3911	3661	3325	2928	2720	2493	2400	2319	2207	2109	1985	1910

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RECOMMENDED CUTTING CONDITIONS
推荐加工参数

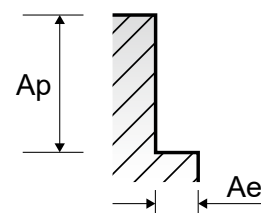
SEME36, SEME71 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径							
					9.5	10.0	10.5	11.0	11.5	12.0	13.0	14.0
P	1-5	0.05D	1.0D	Vc	130	128	129	130	130	129	133	136
				fz	0.038	0.039	0.04	0.04	0.04	0.04	0.04	
				RPM	4356	4074	3911	3762	3598	3422	3257	3092
				FEED	662	636	626	602	576	547	521	495
	6-8	0.05D	1.0D	Vc	130	128	129	130	130	129	133	136
				fz	0.038	0.039	0.04	0.04	0.04	0.04	0.04	
				RPM	4356	4074	3911	3762	3598	3422	3257	3092
				FEED	662	636	626	602	576	547	521	495
	9	0.05D	1.0D	Vc	79	79	79	79	79	79	82	84
				fz	0.031	0.032	0.032	0.032	0.032	0.032	0.031	0.031
				RPM	2647	2515	2395	2286	2187	2096	2008	1910
				FEED	328	322	307	293	280	268	249	237
10-11.1	0.05D	1.0D	Vc	130	128	129	130	130	129	133	136	
			fz	0.038	0.039	0.04	0.04	0.04	0.04	0.04		
			RPM	4356	4074	3911	3762	3598	3422	3257	3092	
			FEED	662	636	626	602	576	547	521	495	
11.2	0.05D	1.0D	Vc	79	79	79	79	79	79	82	84	
			fz	0.031	0.032	0.032	0.032	0.032	0.032	0.031	0.031	
			RPM	2647	2515	2395	2286	2187	2096	2008	1910	
			FEED	328	322	307	293	280	268	249	237	
M	14.1	0.05D	1.0D	Vc	67	66	66	66	65	64	66	68
				fz	0.037	0.038	0.038	0.038	0.038	0.037	0.037	0.037
				RPM	2245	2101	2001	1910	1799	1698	1616	1546
				FEED	332	319	304	290	273	251	239	229
K	15-20	0.05D	1.0D	Vc	130	128	129	130	130	129	133	136
				fz	0.038	0.039	0.04	0.04	0.04	0.04	0.04	
				RPM	4356	4074	3911	3762	3598	3422	3257	3092
				FEED	662	636	626	602	576	547	521	495
H	38.1 - 38.2	0.05D	1.0D	Vc	54	53	54	55	55	55	56	57
				fz	0.014	0.014	0.014	0.014	0.015	0.015	0.015	0.015
				RPM	1809	1687	1637	1592	1522	1459	1371	1296
				FEED	101	94	92	89	91	88	82	78
H	40	0.05D	1.0D	Vc	79	79	79	79	79	79	82	84
				fz	0.031	0.032	0.032	0.032	0.032	0.032	0.031	0.031
				RPM	2647	2515	2395	2286	2187	2096	2008	1910
				FEED	328	322	307	293	280	268	249	237
H	41	0.05D	1.0D	Vc	54	53	54	55	55	55	56	57
				fz	0.014	0.014	0.014	0.014	0.015	0.015	0.015	0.015
				RPM	1809	1687	1637	1592	1522	1459	1371	1296
				FEED	101	94	92	89	91	88	82	78

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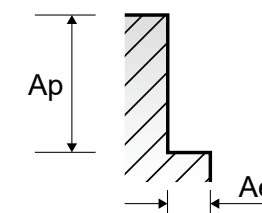
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME36, SEME71 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径										
		15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0
1-5	Vc	138	138	138	137	135	132	133	134	134	134	134
	fz	0.039	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.039	0.039
	RPM	2928	2745	2584	2423	2262	2101	2016	1939	1855	1777	1706
	FEED	457	439	413	388	362	336	323	310	297	277	266
6-8	Vc	138	138	138	137	135	132	133	134	134	134	134
	fz	0.039	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.039	0.039
	RPM	2928	2745	2584	2423	2262	2101	2016	1939	1855	1777	1706
	FEED	457	439	413	388	362	336	323	310	297	277	266
9	Vc	85	85	86	85	85	84	84	84	84	84	82
	fz	0.031	0.032	0.031	0.031	0.032	0.032	0.032	0.033	0.031	0.032	0.032
	RPM	1804	1691	1610	1503	1424	1337	1273	1215	1163	1114	1044
	FEED	224	216	200	186	182	171	163	160	144	143	134
10 - 11.1	Vc	138	138	138	137	135	132	133	134	134	134	134
	fz	0.039	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.039	0.039
	RPM	2928	2745	2584	2423	2262	2101	2016	1939	1855	1777	1706
	FEED	457	439	413	388	362	336	323	310	297	277	266
11.2	Vc	85	85	86	85	85	84	84	84	84	84	82
	fz	0.031	0.032	0.031	0.031	0.032	0.032	0.032	0.033	0.031	0.032	0.032
	RPM	1804	1691	1610	1503	1424	1337	1273	1215	1163	1114	1044
	FEED	224	216	200	186	182	171	163	160	144	143	134
14.1	Vc	69	69	69	68	67	66	67	67	67	67	67
	fz	0.038	0.038	0.039	0.038	0.039	0.038	0.037	0.037	0.038	0.037	0.037
	RPM	1464	1373	1292	1203	1122	1050	1016	969	927	889	853
	FEED	223	209	202	183	175	160	150	143	141	132	126
15 - 20	Vc	138	138	138	137	135	132	133	134	134	134	134
	fz	0.039	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.039	0.039
	RPM	2928	2745	2584	2423	2262	2101	2016	1939	1855	1777	1706
	FEED	457	439	413	388	362	336	323	310	297	277	266
38.1 - 38.2	Vc	57	57	57	56	55	53	54	54	54	54	53
	fz	0.014	0.014	0.014	0.014	0.013	0.012	0.013	0.013	0.012	0.011	0.012
	RPM	1210	1134	1067	990	921	844	819	781	747	716	675
	FEED	68	64	60	55	48	40	43	41	36	32	32
40	Vc	85	85	86	85	85	84	84	84	84	84	82
	fz	0.031	0.032	0.031	0.031	0.032	0.032	0.032	0.033	0.031	0.032	0.032
	RPM	1804	1691	1610	1503	1424	1337	1273	1215	1163	1114	1044
	FEED	224	216	200	186	182	171	163	160	144	143	134
41	Vc	57	57	57	56	55	53	54	54	54	54	53
	fz	0.014	0.014	0.014	0.014	0.013	0.012	0.013	0.013	0.012	0.011	0.012
	RPM	1210	1134	1067	990	921	844	819	781	747	716	675
	FEED	68	64	60	55	48	40	43	41	36	32	32





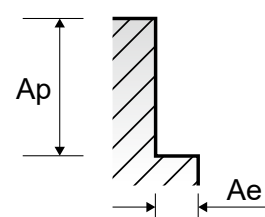
RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME72 SERIES 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev/min)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径																							
						1.0		1.0		1.0		1.0		1.0		1.0		1.2		1.2		1.2		1.2					
						LOC	3	4	5	6	7	8	10	12	4	6	8	10	12	4	6	8	10	12	4	6	8	10	
P	1-5	Non-alloy steel	0.05D	2.5D	Vc	60	60	60	54	54	54	54	48	61	61	55	55												
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002	0.003	0.003	0.003	0.002	0.003	0.003	0.003	0.002	0.003	0.003	0.002	
					RPM	19099	19099	19099	17189	17189	17189	17189	15279	16181	16181	14589	14589												
					FEED	153	153	153	138	138	138	138	122	194	194	175	117												
	6-8	Low alloy steel	0.05D	2.5D	Vc	60	60	60	54	54	54	54	48	61	61	55	55												
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002	0.003	0.003	0.003	0.002	0.003	0.003	0.003	0.002	0.003	0.003	0.002	
					RPM	19099	19099	19099	17189	17189	17189	17189	15279	16181	16181	14589	14589												
					FEED	153	153	153	138	138	138	138	122	194	194	175	117												
	9	Low alloy steel	0.05D	2.5D	Vc	34	34	34	31	31	31	31	28	35	35	31	31												
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	
					RPM	10823	10823	10823	9868	9868	9868	8913	9284	9284	8223	8223													
					FEED	87	87	87	79	79	79	39	36	74	74	66	66												
10-11.1	High alloyed steel, and tool steel	0.05D	2.5D	Vc	60	60	60	54	54	54	54	48	61	61	55	55													
				fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002	0.003	0.003	0.003	0.002	0.003	0.003	0.003	0.002	0.003	0.003	0.002		
				RPM	19099	19099	19099	17189	17189	17189	17189	15279	16181	16181	14589	14589													
				FEED	153	153	153	138	138	138	138	122	194	194	175	117													
11.2	High alloyed steel, and tool steel	0.05D	2.5D	Vc	34	34	34	31	31	31	31	28	35	35	31	31													
				fz	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002		
				RPM	10823	10823	10823	9868	9868	9868	8913	9284	9284	8223	8223														
				FEED	87	87	87	79	79	79	39	36	74	74	66	66													
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	2.5D	Vc	60	60	60	54	54	54	54	48	61	61	55	55												
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002	0.003	0.003	0.003	0.002	0.003	0.003	0.003	0.002	0.003	0.003	0.002	
					RPM	19099	19099	19099	17189	17189	17189	17189	15279	16181	16181	14589	14589												
					FEED	153	153	153	138	138	138	138	122	194	194	175	117												
H	38.1 38.2	Hardened steel	0.02D	2.0D	Vc	21	21	21	19	19	19	19	17	21	21	19	19												
					fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	
	40	Chilled Cast Iron	0.05D	2.5D	Vc	34	34	34	31	31	31	31	28	35	35	31	31												
					fz	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	
	41	Hardened Cast Iron	0.02D	2.0D	Vc	21	21	21	19	19	19	19	17	21	21	19	19												
					fz	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	

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RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME72 SERIES 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev/min)

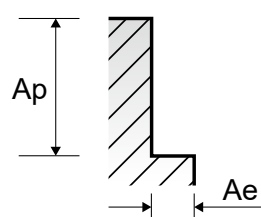
VDI 3323	Parameter 参数	Diameter (Ø) 直径																													
		1.2		1.5		1.5		1.5		1.5		1.5		1.5		2.0		2.0		2.0		2.5		2.5		2.5		3.0		3.0	
		LOC	12	6	8	10	12	14	16	8	10	12	14	16	10	12	16	20	26	10	12	16	20	26	10	12	16	20	26	10	12
1-5	Vc	55	65	59	59	59	59	52	66	66	60	60	60	71	71	64	64	64	57	70	70										
	fz	0.002	0.004	0.004	0.004	0.003	0.003	0.003	0.006	0.006	0.005	0.005	0.005	0.007	0.007	0.006	0.006	0.005	0.009	0.009	0.009										
	RPM	14589	13793	12520	12520	12520	12520	11035	10504	10504	9549	9549	9549	9040	9040	8149	8149	8149	7257	7427	7427										
	FEED	117	221	200	200	150	150	132	252	252	191	191	191	253	253	196	196	145	267	267	267										
6-8	Vc	55	65	59	59	59	59	52	66	66	60	60	60	71	71	64	64	64	57	70	70										
	fz	0.002	0.004	0.004	0.004	0.003	0.003	0.003	0.006	0.006	0.005	0.005	0.005	0.007	0.007	0.006	0.006	0.005	0.009	0.009	0.009										
	RPM	14589	13793	12520	12520	12520	12520	11035	10504	10504	9549	9549	9549	9040	9040	8149	8149	8149	7257	7427	7427										
	FEED	117	221	200	200	150	150	132	252	252	191	191	191	253	253	196	196	145	267	267	267										
9	Vc	31	37	33	33	33	33	30	38	38	34	34	34	41	41	37	37	32	40	40											
	fz	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.004	0.004	0.004	0.004	0.003	0.005	0.005	0.005	0.004	0.004	0.007	0.007	0.007										
	RPM	8223	7852	7003	7003	7003	7003	6366	6048	6048	5411	5411	5411	5220	5220	4711	4711	4074	4244	4244											
	FEED	66	94	84	56	56	56	51	97	97	87	87	87	65	104	104	94	75	119	119											
10-11.1	Vc	55	65	59	59	59	59	52	66	66	60	60	60	71	71	64	64	64	57	70	70										
	fz	0.002	0.004	0.004	0.004	0.003	0.003	0.003	0.006	0.006	0.005	0.005	0.005	0.007	0.007	0.006	0.006	0.005	0.009	0.009	0.009										
	RPM	14589	13793	12520	12520	12520	12520	11035	10504	10504	9549	9549	9549	9040	9040	8149	8149	8149	7257	7427	7427										
	FEED	117	221	200	200	150	150	132	252	252	191	191	191	253	253	196	196	145	267	267	267										
11.2	Vc	31	37	33	33	33	33	30	38	38	34	34	34	41	41	37	37	32	40	40											
	fz	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.004	0.004	0.004	0.004	0.003	0.005	0.005	0.005	0.004	0.004	0.007	0.007	0.007										
	RPM	8223	7852	7003	7003	7003	7003	6366	6048	6048	5411	5411	5411	5220	5220	4711	4711	4074	4244	4244											
	FEED	66	94	84	56	56	56	51	97	97	87	87	87	65	104	104	94	75	119	119											
15-20	Vc	55	65	59	59	59	59	52	66	66	60	60	60	71	71	64	64	64	57	70	70										
	fz	0.002	0.004	0.004																											

SEME72 SERIES 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径															
					3.0		3.0		3.0		4.0		4.0		4.0		5.0		5.0	
					LOC	14	16	20	26	30	12	16	20	26	30	20	25	30	35	40
P	1-5	0.05D	2.5D	Vc	70	63	63	63	63	75	75	75	68	68	80	80	72	72	72	
				fz	0.009	0.009	0.008	0.008	0.008	0.014	0.014	0.014	0.013	0.013	0.021	0.021	0.019	0.019	0.017	
				RPM	7427	6685	6685	6685	6685	5968	5968	5968	5411	5411	5093	5093	4584	4584	4584	
	6-8	0.05D	2.5D	Vc	70	63	63	63	63	75	75	75	68	68	80	80	72	72	72	
				fz	0.009	0.009	0.008	0.008	0.008	0.014	0.014	0.014	0.013	0.013	0.021	0.021	0.019	0.019	0.017	
				RPM	7427	6685	6685	6685	6685	5968	5968	5968	5411	5411	5093	5093	4584	4584	4584	
	9	0.05D	2.5D	Vc	40	36	36	36	36	43	43	43	39	39	46	46	41	41	41	
				fz	0.007	0.007	0.006	0.006	0.006	0.01	0.01	0.01	0.009	0.009	0.015	0.015	0.013	0.013	0.011	
				RPM	4244	3820	3820	3820	3820	3422	3422	3422	3104	3104	2928	2928	2610	2610	2610	
	10-11.1	0.05D	2.5D	Vc	70	63	63	63	63	75	75	75	68	68	80	80	72	72	72	
				fz	0.009	0.009	0.008	0.008	0.008	0.014	0.014	0.014	0.013	0.013	0.021	0.021	0.019	0.019	0.017	
				RPM	7427	6685	6685	6685	6685	5968	5968	5968	5411	5411	5093	5093	4584	4584	4584	
11.2	0.05D	2.5D	Vc	40	36	36	36	36	43	43	43	39	39	46	46	41	41	41		
			fz	0.007	0.007	0.006	0.006	0.006	0.01	0.01	0.01	0.009	0.009	0.015	0.015	0.013	0.013	0.011		
			RPM	4244	3820	3820	3820	3820	3422	3422	3422	3104	3104	2928	2928	2610	2610	2610		
K	15-20	0.05D	2.5D	Vc	70	63	63	63	63	75	75	75	68	68	80	80	72	72	72	
				fz	0.009	0.009	0.008	0.008	0.008	0.014	0.014	0.014	0.013	0.013	0.021	0.021	0.019	0.019	0.017	
				RPM	7427	6685	6685	6685	6685	5968	5968	5968	5411	5411	5093	5093	4584	4584	4584	
H	38.1-38.2	0.02D	2.0D	Vc	25	22	22	22	22	27	27	27	24	24	30	30	27	27	27	
				fz	0.006	0.006	0.006	0.005	0.005	0.008	0.008	0.008	0.008	0.011	0.011	0.01	0.01	0.01	0.009	
				RPM	2653	2334	2334	2334	2334	2149	2149	2149	1910	1910	1910	1910	1719	1719	1719	
	40	0.05D	2.5D	Vc	40	36	36	36	36	43	43	43	39	39	46	46	41	41	41	
				fz	0.007	0.007	0.006	0.006	0.006	0.01	0.01	0.01	0.009	0.009	0.015	0.015	0.013	0.013	0.011	
				RPM	4244	3820	3820	3820	3820	3422	3422	3422	3104	3104	2928	2928	2610	2610	2610	
	41	0.02D	2.0D	Vc	25	22	22	22	22	27	27	27	24	24	30	30	27	27	27	
				fz	0.006	0.006	0.006	0.005	0.005	0.008	0.008	0.008	0.008	0.011	0.011	0.01	0.01	0.01	0.009	
				RPM	2653	2334	2334	2334	2334	2149	2149	2149	1910	1910	1910	1910	1719	1719	1719	

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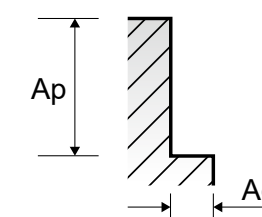


SEME72 SERIES 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev/min.)

VDI 3323	Parameter 参数	Diameter (Ø) 直径																			
		6.0		6.0		6.0		6.0		8.0		8.0		8.0		10.0					
		LOC	15	20	25	30	35	40	45	25	30	35	40	45	50	30	35	40	45	50	55
1-5	Vc	83	83	83	83	75	75	75	84	84	84	84	76	76	89	89	89	89	89	89	80
	fz	0.029	0.029	0.029	0.025	0.025	0.022	0.022	0.041	0.041	0.041	0.035	0.035	0.031	0.049	0.049	0.049	0.042	0.042	0.041	
	RPM	4403	4403	4403	4403	3979	3979	3979	3342	3342	3342	3342	3024	3024	2833	2833	2833	2833	2833	2833	2546
6-8	Vc	83	83	83	83	75	75	75	84	84	84	84	76	76	89	89	89	89	89	89	80
	fz	0.029	0.029	0.029	0.025	0.025	0.022	0.022	0.041	0.041	0.041	0.035	0.035	0.031	0.049	0.049	0.049	0.042	0.042	0.041	
	RPM	4403	4403	4403	4403	3979	3979	3979	3342	3342	3342	3342	3024	3024	2833	2833	2833	2833	2833	2833	2546
9	Vc	48	48	48	48	43	43	43	48	48	48	48	43	43	52	52	52	52	52	52	46
	fz	0.021	0.021	0.021	0.018	0.018	0.016	0.016	0.028	0.028	0.028	0.024	0.024	0.021	0.033	0.033	0.033	0.028	0.028	0.028	
	RPM	2546	2546	2546	2546	2281	2281	2281	1910	1910	1910	1910	1711	1711	1655	1655	1655	1655	1655	1655	1464
10-11.1	Vc	83	83	83	83	75	75	75	84	84	84	84	76	76	89	89	89	89	89	89	80
	fz	0.029	0.029	0.029	0.025	0.025	0.022	0.022	0.041	0.041	0.041	0.035	0.035	0.031	0.049	0.049	0.049	0.042	0.042	0.041	
	RPM	4403	4403	4403	4403	3979	3979	3979	3342	3342	3342	3342	3024	3024	2833	2833	2833	2833	2833	2833	2546
11.2	Vc	48	48	48	48	43	43	43	48	48	48	48	43	43	52	52	52	52	52	52	46
	fz	0.021	0.021	0.021	0.018	0.018	0.016	0.016	0.028	0.028	0.028	0.024	0.024	0.021	0.033	0.033	0.033	0.028	0.028	0.028	
	RPM	2546	2546	2546	2546	2281	2281	2281	1910	1910	1910	1910	1711	1711	1655	1655	1655	1655	1655	1655	1464
15-20	Vc	83	83	83	83	75	75	75	84	84	84	84	76	76	89	89	89	89	89	89	80
	fz	0.029	0.029	0.029	0.025	0.025	0.022	0.022	0.041	0.041	0.041	0.035	0.035	0.031	0.049	0.049	0.049	0.042	0.042	0.041	
	RPM	4403	4403	4403	4403	3979	3979	3979	3342	3342	3342	3342	3024	3024	2833	2833	2833	2833	2833	2833	2546
38.1-38.2	Vc	31	31	31	31	28	28	28	32	32	32	32	28	28	32	32	32	32	32	32	29
	fz	0.017	0.017	0.017	0.014	0.014	0.013	0.013	0.022	0.022	0.022	0.018	0.018	0.017	0.027	0.027	0.027	0.022	0.022	0.021	
	RPM	1645	1645	1645	1645	1485	1485	1485	1273	1273	1273	1273	1114	1114	1019	1019	1019	1019	1019	1019	923
40	Vc	48	48	48	48	43	43	43	48	48	48	48	43	43	52	52	52	52	52	52	46
	fz	0.021	0.021	0.021	0.018	0.018	0.016	0.016	0.028	0.028	0.028	0.024	0.024	0.021	0.033	0.033	0.033	0.028	0.028	0.028	
	RPM	2546	2546	2546	2546	2281	2281	2281	1910	1910	1910	1910	1711	1711	1655	1655	1655	1655	1655	1655	1464
41	Vc	31	31	31	31	28	28	28	32	32	32	32	28	28	32	32	32	32	32	32	29
	fz	0.017	0.017	0.017	0.014	0.014	0.013	0.013	0.022	0.022	0.022	0.018	0.018	0.017	0.027	0.027	0.027	0.022	0.022	0.021	
	RPM	1645	1645	1645	1645	1485	1485	1485	1273	1273	1273	1273	1114	1114	1019	1019	1019	1019	1019	1019	923

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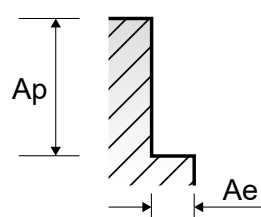
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEME72 SERIES 4 FLUTE - SIDE CUTTING 4刃 - 侧铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev/min)

Table with columns for ISO, VDI 3323, Ae(mm), Ap(mm), Parameter, and Diameter (Ø) 直径. It lists recommended cutting conditions for various materials and diameters.

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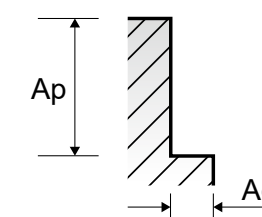


RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEME72 SERIES 4 FLUTE - SIDE CUTTING 4刃 - 侧铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev/min)

Table with columns for VDI 3323, Parameter, and Diameter (Ø) 直径. It lists recommended cutting conditions for various materials and diameters.





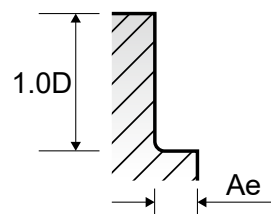
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEME73 SERIES 4 FLUTE - SIDE CUTTING 4刃 - 侧铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ae (切削宽度) = (mm)
RPM (转速) = (rev/min) LBS (颈长) = Length Below Shank

Table with columns for ISO, VDI 3323, Material Description, Parameter, and Diameter (Ø) 直径. It lists recommended cutting conditions for various materials like Non-alloy steel, Low alloy steel, High alloyed steel, and Cast Iron.

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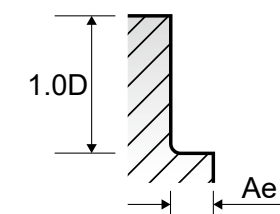
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEME73 SERIES 4 FLUTE - SIDE CUTTING 4刃 - 侧铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ae (切削宽度) = (mm)
RPM (转速) = (rev/min) LBS (颈长) = Length Below Shank

Table with columns for VDI 3323, Parameter, and Diameter (Ø) 直径. It lists recommended cutting conditions for various materials like Non-alloy steel, Low alloy steel, High alloyed steel, and Cast Iron.

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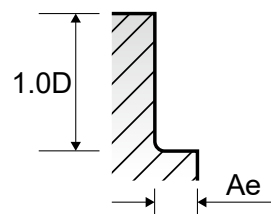
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEME73 SERIES 4 FLUTE - SIDE CUTTING 4刃 - 侧铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ae (切削宽度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

Table with columns for ISO, VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include ISO P (1-5, 6-8, 9, 10-11.1, 11.2) and ISO K (15-20) and ISO H (38.1-38.2, 40, 41).

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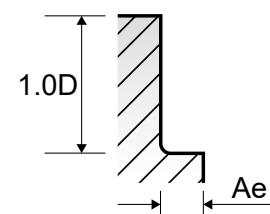
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEME73 SERIES 4 FLUTE - SIDE CUTTING 4刃 - 侧铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ae (切削宽度) = (mm)
RPM (转速) = (rev/min.) LBS (颈长) = Length Below Shank

Table with columns for VDI 3323, Parameter, LBS, and Diameter (Ø) 直径. Rows include ISO P (1-5, 6-8, 9, 10-11.1, 11.2), ISO K (15-20), and ISO H (38.1-38.2, 40, 41).

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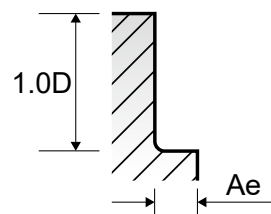
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEME73 SERIES 4 FLUTE - SIDE CUTTING 4刃 - 侧铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ae (切削宽度) = (mm)
RPM (转速) = (rev/min) LBS (颈长) = Length Below Shank

Table with columns for ISO, VDI 3323, Parameter, Diameter (Ø) 直径, and various cutting parameters (Vc, fz, RPM, Ae) for different diameters and materials (P, K, H).

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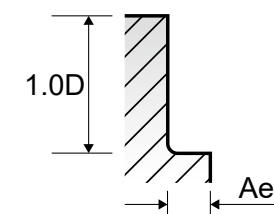


RECOMMENDED CUTTING CONDITIONS 推荐加工参数

SEME73 SERIES 4 FLUTE - SIDE CUTTING 4刃 - 侧铣削

Vc (切削速度) = (m/min) FEED (进给) = (mm/min)
fz (每齿进给) = (mm/tooth) Ae (切削宽度) = (mm)
RPM (转速) = (rev/min) LBS (颈长) = Length Below Shank

Table with columns for VDI 3323, Parameter, Diameter (Ø) 直径, and various cutting parameters (Vc, fz, RPM, Ae) for different diameters and materials (P, K, H).



CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TiAlN-POWER END MILLS
SUS-CUT END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
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ALU-CUT END MILLS
G-CUT END MILLS
CRX S END MILLS
K-2 END MILLS
GENERAL CARBIDE END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA



RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME75 SERIES 6 FLUTE - SIDE CUTTING
6刃 - 侧铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev/min.)

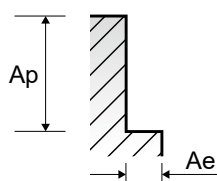
NORMAL SPEED 普通速度

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径											
						6.0			8.0			10.0			10.0		
						15	20	30	20	30	35	40	25	30	40		
P	1-5	Non-alloy steel	0.1D	1.5D	Vc	110	110	110	111	111	111	111	111	111	111	111	
					fz	0.06	0.06	0.051	0.079	0.079	0.079	0.067	0.099	0.099	0.099	0.099	
					RPM	5836	5836	5836	4417	4417	4417	4417	3533	3533	3533	3533	
					FEED	2101	2101	1786	2093	2093	2093	1775	2099	2099	2099	2099	
					Vc	110	110	110	111	111	111	111	111	111	111	111	
					fz	0.06	0.06	0.051	0.079	0.079	0.079	0.067	0.099	0.099	0.099	0.099	
	6-8	Low alloy steel	0.1D	1.5D	Vc	110	110	110	111	111	111	111	111	111	111		
					fz	0.06	0.06	0.051	0.079	0.079	0.079	0.067	0.099	0.099	0.099	0.099	
					RPM	5836	5836	5836	4417	4417	4417	4417	3533	3533	3533	3533	
					FEED	2101	2101	1786	2093	2093	2093	1775	2099	2099	2099	2099	
					Vc	77	77	77	78	78	78	78	76	76	76	76	
					fz	0.059	0.059	0.05	0.078	0.078	0.078	0.066	0.099	0.099	0.099	0.099	
9	High alloyed steel, and tool steel	0.05D	1.5D	Vc	4085	4085	4085	3104	3104	3104	3104	3104	2419	2419	2419		
				fz	1446	1446	1225	1452	1452	1452	1229	1437	1437	1437	1437		
				RPM	4085	4085	4085	3104	3104	3104	3104	2419	2419	2419	2419		
				FEED	1446	1446	1225	1452	1452	1452	1229	1437	1437	1437	1437		
				Vc	110	110	110	111	111	111	111	111	111	111	111		
				fz	0.06	0.06	0.051	0.079	0.079	0.079	0.067	0.099	0.099	0.099	0.099		
10-11.1	High alloyed steel, and tool steel	0.1D	1.5D	Vc	5836	5836	5836	4417	4417	4417	4417	3533	3533	3533			
				fz	2101	2101	1786	2093	2093	2093	1775	2099	2099	2099	2099		
				RPM	5836	5836	5836	4417	4417	4417	4417	3533	3533	3533	3533		
				FEED	2101	2101	1786	2093	2093	2093	1775	2099	2099	2099	2099		
				Vc	77	77	77	78	78	78	78	76	76	76	76		
				fz	0.059	0.059	0.05	0.078	0.078	0.078	0.066	0.099	0.099	0.099	0.099		
11.2	High alloyed steel, and tool steel	0.05D	1.5D	Vc	4085	4085	4085	3104	3104	3104	3104	2419	2419	2419			
				fz	1446	1446	1225	1452	1452	1452	1229	1437	1437	1437	1437		
				RPM	4085	4085	4085	3104	3104	3104	3104	2419	2419	2419	2419		
				FEED	1446	1446	1225	1452	1452	1452	1229	1437	1437	1437	1437		
				Vc	110	110	110	111	111	111	111	111	111	111	111		
				fz	0.06	0.06	0.051	0.079	0.079	0.079	0.067	0.099	0.099	0.099	0.099		
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	5836	5836	5836	4417	4417	4417	4417	3533	3533	3533		
					fz	2101	2101	1786	2093	2093	2093	1775	2099	2099	2099	2099	
					RPM	5836	5836	5836	4417	4417	4417	4417	3533	3533	3533	3533	
					FEED	2101	2101	1786	2093	2093	2093	1775	2099	2099	2099	2099	
					Vc	31	31	31	31	31	31	31	33	33	33	33	
					fz	0.022	0.022	0.019	0.03	0.03	0.03	0.026	0.035	0.035	0.035	0.035	
H	38.1 - 38.2	Hardened steel	0.05D	1.0D	Vc	1050	875	875	875	875	875	875	676	676	676		
					fz	189	189	189	163	142	138	138	118	96	96	117	
					RPM	1050	875	875	875	875	875	875	676	676	676	617	
					FEED	189	189	189	163	142	138	138	118	96	96	117	
					Vc	77	77	77	78	78	78	78	76	76	76	76	
					fz	0.059	0.059	0.05	0.078	0.078	0.078	0.066	0.099	0.099	0.099	0.099	
	40	Chilled Cast Iron	0.05D	1.5D	Vc	4085	4085	4085	3104	3104	3104	3104	2419	2419	2419		
					fz	1446	1446	1225	1452	1452	1452	1229	1437	1437	1437	1437	
					RPM	4085	4085	4085	3104	3104	3104	3104	2419	2419	2419	2419	
					FEED	1446	1446	1225	1452	1452	1452	1229	1437	1437	1437	1437	
					Vc	31	31	31	31	31	31	31	33	33	33	33	
					fz	0.022	0.022	0.019	0.03	0.03	0.03	0.026	0.035	0.035	0.035	0.035	
41	Hardened Cast Iron	0.05D	1.0D	Vc	1645	1645	1645	1233	1233	1233	1233	1050	1050	1050			
				fz	217	217	187	222	222	222	192	221	221	221	221		
				RPM	1645	1645	1645	1233	1233	1233	1233	1050	1050	1050	1050		
				FEED	217	217	187	222	222	222	192	221	221	221	221		
				Vc	31	31	31	31	31	31	31	33	33	33	33		
				fz	0.022	0.022	0.019	0.03	0.03	0.03	0.026	0.035	0.035	0.035	0.035		

HIGH SPEED 高速度

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径											
						6.0			8.0			10.0			10.0		
						15	20	30	20	30	35	40	25	30	40		
P	11.2	High alloyed steel, and tool steel	0.05D	1.5D	Vc	333	333	333	333	333	333	333	329	329	329		
					fz	0.06	0.06	0.051	0.081	0.081	0.081	0.068	0.1	0.1	0.1		
					RPM	17666	17666	17666	13250	13250	13250	13250	10472	10472	10472	10472	
					FEED	6360	6360	5406	6439	6439	6439	5406	6283	6283	6283	6283	
					Vc	166	166	166	166	166	166	166	166	166	166	166	
					fz	0.061	0.061	0.051	0.081	0.081	0.081	0.069	0.101	0.101	0.101	0.101	
H	38.1 - 38.2	Hardened steel	0.05D	1.0D	Vc	8807	8807	8807	6605	6605	6605	6605	5284	5284	5284		
					fz	3223	3223	2695	3210	3210	3210	2734	3202	3202	3202	3202	
					RPM	8807	8807	8807	6605	6605	6605	6605	5284	5284	5284	5284	
					FEED	3223	3223	2695	3210	3210	3210	2734	3202	3202	3202	3202	
					Vc	333	333	333	333	333	333	329	329	329	329	329	
					fz	0.06	0.06	0.051	0.081	0.081	0.081	0.068	0.1	0.1	0.1	0.1	
40	Chilled Cast Iron	0.05D	1.5D	Vc	17666	17666	17666	13250	13250	13250	13250	10472	10472	10472			
				fz	6360	6360	5406	6439	6439	6439	5406	6283	6283	6283	6283		
				RPM	17666	17666	17666	13250	13250	13250	13250	10472	10472	10472	10472		
				FEED	6360	6360	5406	6439	6439	6439	5406	6283	6283	6283	6283		
				Vc	166	166	166	166	166	166	166	166	166	166	166		
				fz	0.061	0.061	0.051	0.081	0.081	0.081	0.069	0.101	0.101	0.101	0.101		
41	Hardened Cast Iron	0.05D	1.0D	Vc	8807	8807	8807	6605	6605	6605	6605	5284	5284	5284			
				fz	3223	3223	2695	3210	3210	3210	2734	3202	3202	3202	3202		
				RPM	8807	8807	8807	6605	6605	6605	6605	5284	5284	5284	5284		
				FEED	3223	3223	2695	3210	3210	3210	2734	3202	3202	3202	3202		
				Vc	166	166	166	166	166	166	166	166	166	166	166		
				fz	0.061	0.061	0.051	0.081	0.081	0.081	0.069	0.101	0.101	0.101	0.101		

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RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SEME75 SERIES 6 FLUTE - SIDE CUTTING
6刃 - 侧铣削

Vc (切削速度) = (m/min.) FEED (进给) = (mm/min.)
fz (每齿进给) = (mm/tooth) LOC (刃长) = Length of Cut
RPM (转速) = (rev/min.)

NORMAL SPEED 普通速度

VDI 3323	Parameter 参数	Diameter (Ø) 直径															
		10.0		12.0		12.0		12.0		12.0		16.0		16.0		16.0	
		50	30	40	50	60	40	50	60	90	110	45	60	70	110		
1-5	Vc	111	112	112	112	112	111	111	111	100	100	111	111	111	100		
	fz	0.084	0.099	0.099	0.084	0.074	0.1	0.1	0.085	0.075	0.075	0.1	0.1	0.085	0.075		
	RPM	3533	2971	2971	2971	2971	2208	2208	2208	1989	1989	1767	1767	1767	1592		
	FEED	1781	1765	1765	1497	1319	1325	1325	1126	895	895	1060	1060	901	716		
	Vc	111	112	112	112	112	111	111	111	100	100	111	111	111	100		
	fz	0.084	0.099	0.099	0.084	0.074	0.1	0.1	0.085	0.075	0.075	0.1	0.1	0.085	0.075		
6-8	Vc	111	112	112	112	112	111	111	111	100	100	111	111	111	100		
	fz	0.084	0.099	0.099	0.084	0.074	0.1	0.1	0.085	0.075	0.075	0.1	0.1	0.085	0.075		



RECOMMENDED CUTTING CONDITIONS
推荐加工参数

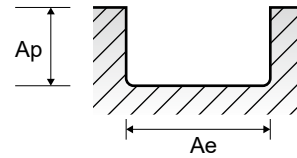
G9D75 G9D67 **G9D76 G9D68** **G9D77 G9D69**

4&5 FLUTE CORNER RADIUS ROUGHING
4&5刃 圆鼻粗加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

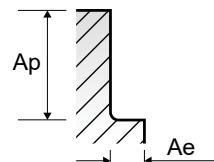
SLOTING - 槽铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径					
						6.0	8.0	10.0	12.0	16.0	20.0
P	1-3	Non-alloy steel	1.0D	1.0D	Vc	225	225	225	225	225	225
					fz	0.032	0.046	0.057	0.064	0.067	0.074
					RPM	11937	8952	7162	5968	4476	3581
					FEED	1528	1647	1633	1528	1500	1325
					Vc	200	205	200	205	205	200
					fz	0.026	0.036	0.046	0.053	0.051	0.056
	4-5	Non-alloy steel	1.0D	0.8D	Vc	10610	8157	6366	5438	4078	3183
					RPM	1103	1175	1171	1153	1040	891
					FEED	1103	1175	1171	1153	1040	891
					Vc	225	225	225	225	225	225
					fz	0.032	0.046	0.057	0.064	0.067	0.074
					RPM	11937	8952	7162	5968	4476	3581
6	Low alloy steel	1.0D	1.0D	Vc	1528	1647	1633	1528	1500	1325	
				FEED	1528	1647	1633	1528	1500	1325	
				Vc	200	205	200	205	205	200	
				fz	0.026	0.036	0.046	0.053	0.051	0.056	
				RPM	10610	8157	6366	5438	4078	3183	
				FEED	1103	1175	1171	1153	1040	891	
7-9	Low alloy steel	1.0D	0.8D	Vc	225	225	225	225	225	225	
				fz	0.032	0.046	0.057	0.064	0.067	0.074	
				RPM	11937	8952	7162	5968	4476	3581	
				FEED	1528	1647	1633	1528	1500	1325	
				Vc	200	205	200	205	205	200	
				fz	0.026	0.036	0.046	0.053	0.051	0.056	
10	High alloyed steel, and tool steel	1.0D	1.0D	Vc	10610	8157	6366	5438	4078	3183	
				RPM	1103	1175	1171	1153	1040	891	
				FEED	1103	1175	1171	1153	1040	891	
				Vc	200	205	200	205	205	200	
				fz	0.026	0.036	0.046	0.053	0.051	0.056	
				RPM	10610	8157	6366	5438	4078	3183	
11.1	High alloyed steel, and tool steel	1.0D	0.8D	Vc	1103	1175	1171	1153	1040	891	
				FEED	1103	1175	1171	1153	1040	891	
				Vc	225	225	225	225	225	225	
				fz	0.032	0.046	0.057	0.064	0.067	0.074	
				RPM	11937	8952	7162	5968	4476	3581	
				FEED	1528	1647	1633	1528	1500	1325	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	1.0D	Vc	225	225	225	225	225	225
					fz	0.032	0.046	0.057	0.064	0.067	0.074
					RPM	11937	8952	7162	5968	4476	3581
FEED	1528	1647	1633	1528	1500	1325					



SIDE CUTTING - 侧铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径					
						6.0	8.0	10.0	12.0	16.0	20.0
P	1-3	Non-alloy steel	0.5D	1.0D	Vc	300	300	300	300	300	300
					fz	0.041	0.057	0.071	0.08	0.082	0.089
					RPM	15915	11937	9549	7958	5968	4775
					FEED	2610	2722	2712	2546	2447	2125
					Vc	270	270	265	270	270	270
					fz	0.032	0.046	0.057	0.065	0.065	0.07
	4-5	Non-alloy steel	0.35D	1.0D	Vc	14324	10743	8435	7162	5371	4297
					RPM	1833	1977	1923	1862	1746	1504
					FEED	1833	1977	1923	1862	1746	1504
					Vc	300	300	300	300	300	300
					fz	0.041	0.057	0.071	0.08	0.082	0.089
					RPM	15915	11937	9549	7958	5968	4775
	6	Low alloy steel	0.5D	1.0D	Vc	2610	2722	2712	2546	2447	2125
					FEED	2610	2722	2712	2546	2447	2125
					Vc	270	270	265	270	270	270
					fz	0.032	0.046	0.057	0.065	0.065	0.07
					RPM	14324	10743	8435	7162	5371	4297
					FEED	1833	1977	1923	1862	1746	1504
7-9	Low alloy steel	0.35D	1.0D	Vc	300	300	300	300	300	300	
				fz	0.041	0.057	0.071	0.08	0.082	0.089	
				RPM	15915	11937	9549	7958	5968	4775	
				FEED	2610	2722	2712	2546	2447	2125	
				Vc	270	270	265	270	270	270	
				fz	0.032	0.046	0.057	0.065	0.065	0.07	
10	High alloyed steel, and tool steel	0.5D	1.0D	Vc	14324	10743	8435	7162	5371	4297	
				RPM	1833	1977	1923	1862	1746	1504	
				FEED	1833	1977	1923	1862	1746	1504	
				Vc	300	300	300	300	300	300	
				fz	0.041	0.057	0.071	0.08	0.082	0.089	
				RPM	15915	11937	9549	7958	5968	4775	
11.1	High alloyed steel, and tool steel	0.35D	1.0D	Vc	2610	2722	2712	2546	2447	2125	
				FEED	2610	2722	2712	2546	2447	2125	
				Vc	270	270	265	270	270	270	
				fz	0.032	0.046	0.057	0.065	0.065	0.07	
				RPM	14324	10743	8435	7162	5371	4297	
				FEED	1833	1977	1923	1862	1746	1504	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.0D	Vc	300	300	300	300	300	300
					fz	0.041	0.057	0.071	0.08	0.082	0.089
					RPM	15915	11937	9549	7958	5968	4775
FEED	2610	2722	2712	2546	2447	2125					



RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GAE53 SERIES

4&5 FLUTE CORNER RADIUS ROUGHING (HSS-PM) - SIDE CUTTING
4&5刃 圆鼻粗加工(粉末高速钢) - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径							
						6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	60	70	70	70	70	70	70	70
					fz	0.019	0.027	0.05	0.06	0.055	0.063	0.072	0.08
					RPM	3183	2785	2228	1857	1592	1393	1238	1114
					FEED	242	301	446	446	438	439	446	446
					Vc	48	54	54	54	54	54	54	54
					fz	0.018	0.028	0.049	0.063	0.073	0.081	0.085	0.101
	2	Non-alloy steel	0.5D	1.5D	Vc	2546	2149	1719	1432	1228	1074	955	859
					RPM	183	241	337	361	448	435	406	434
					FEED	183	241	337	361	448	435	406	434
					Vc	34	38	38	38	38	38	38	38
					fz	0.017	0.027	0.043	0.059	0.069	0.08	0.086	0.1
					RPM	1804	1512	1210	1008	864	756	672	605
3-4	Non-alloy steel	0.5D	1.5D	Vc	123	163	208	238	298	302	289	302	
				FEED	123	163	208	238	298	302	289	302	
				Vc	28	32	32	32	32	32	32	32	
				fz	0.018	0.028	0.041	0.055	0.065	0.075	0.082	0.092	
				RPM	1485	1273	1019	849	728	637	566	509	
				FEED	107	143	167	187	236	239	232	234	
5	Non-alloy steel	0.5D	1.5D	Vc	48	54	54	54	54	54	54	54	
				fz	0.018	0.028	0.041	0.055	0.065	0.075	0.082	0.092	
				RPM	1485	1273	1019	849	728	637	566	509	
				FEED	107	143	167	187	236	239	232	234	
				Vc	48	54	54	54	54	54	54	54	
				fz	0.018	0.028	0.041	0.055	0.065	0.075	0.082	0.092	
6	Low alloy steel	0.5D	1.5D	Vc	2546	2149	1719	1432	1228	1074	955	859	
				RPM	183	241	337	361	448	435	406	434	
				FEED	183	241	337	361	448	435	406	434	
				Vc	34	38	38	38	38	38	38	38	
				fz	0.017	0.027	0.043	0.059	0.069	0.08	0.086	0.1	
				RPM	1804	1512	1210	1008	864	756	672	605	
7	Low alloy steel	0.5D	1.5D	Vc	123	163	208	238	298	302	289	302	
				FEED	123	163	208	238	298	302	289	302	
				Vc	28	32	32	32	32	32	32	32	
				fz	0.018	0.028	0.041	0.055	0.065	0.075	0.082	0.092	
				RPM	1485	1273	1019	849	728	637	566	509	
				FEED	107	143	167	187	236	239	232	234	
8-9	Low alloy steel	0.5D	1.5D	Vc	48	54	54	54	54	54	54	54	
				fz	0.018	0.028	0.041	0.055	0.065	0.075	0.082	0.092	
				RPM	1485	1273	1019	849	728	637	566	509	
				FEED	107	143							



Global Cutting Tool Leader **YG-1**



MILLING



Leading Through Innovation



SOLID CARBIDE

X-POWER **PRO** **END MILLS**

- For Pre-Hardened Steels up to HRC55
- 适用于加工预硬钢(~HRC55)

SELECTION GUIDE 选用指南



SERIES 系列	GMH31	GMH32
FLUTE 槽数	2	2
HELIX ANGLE 螺旋角度	30°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE
SIZE MIN 最小尺寸	R0.1	R0.2
SIZE MAX 最大尺寸	R10.0	R3.0
PAGE 页数	C324	C325-326

SOLID CARBIDE X-POWER PRO END MILLS

for Pre-Hardened Steels up to HRC55,
Mold & Die, Dry & Wet Cutting
适用于加工预硬钢(~HRC55), 模具, 干&湿切削



◎: Excellent (优秀) ○: Good (良好)

Recommended cutting conditions (推荐加工参数): p.C336

SHORT LENGTH	RIB PROCESSING
Y-Coating	Y-Coating



ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理	HB	HRC
P	1	Non-alloy steel	About 0.15% C Annealed	125	
	2		About 0.45% C Annealed	190	13
	3		About 0.45% C Quenched & Tempered	250	25
	4		About 0.75% C Annealed	270	28
	5		About 0.75% C Quenched & Tempered	300	32
	6	Low alloy steel	Annealed	180	10
	7		Quenched & Tempered	275	29
	8		Quenched & Tempered	300	32
	9		Quenched & Tempered	350	38
	10		High alloyed steel, and tool steel	Annealed	200
	11	Quenched & Tempered		325	35
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15
	13		Martensitic Quenched & Tempered	240	23
	14		Austenitic	180	10
K	15	Grey cast iron	Pearlitic / ferritic	180	10
	16		Pearlitic (Martensitic)	260	26
	17	Nodular cast iron	Ferritic	160	3
	18		Pearlitic	250	25
	19	Malleable cast iron	Ferritic	130	
	20		Pearlitic	230	21
N	21	Aluminum-wrought alloy	Not Curable	60	
	22		Curable Hardened	100	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75	
	24		≤ 12% Si, Curable Hardened	90	
	25		> 12% Si, Not Curable	130	
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1% CuZn, CuSnZn (Brass)	110
	27	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100	
	28		Duroplastic, Fiber Reinforced Plastic		
	29		Rubber, Wood, etc.		
	S	31	Heat Resistant Super Alloys	Fe Based Annealed	200
32		Cured		280	30
33		Annealed		250	25
34		Ni or Co Based Cured		350	38
35		Cast		320	34
36		Titanium Alloys		Pure Titanium	400 Rm
37	Alpha + Beta Alloys Hardened		1050 Rm		
H	38	Hardened steel	Hardened	550	55
	39		Hardened	630	60
	40	Chilled Cast Iron	Cast	400	42
	41	Hardened Cast Iron	Hardened	550	55

GMH37	GMH38	GMH33	GMH34	GMH35	GMH36	GMH39	GM814
2	4	2	2	4	4	6	3&4
30°	30°	30°	30°	30°	30°	45°	20°
CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	ROUGHING
D3.0	D3.0	D1.0	D0.4	D1.0	D2.0	D6.0	D6.0
D12.0	D12	D20.0	D4.0	D20.0	D20.0	D16.0	D20.0
C327	C328	C329	C330-331	C332	C333	C334	C335
LONG LENGTH	LONG LENGTH	SHORT LENGTH	RIB PROCESSING	SHORT LENGTH	LONG LENGTH	LONG LENGTH	LONG LENGTH
Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating



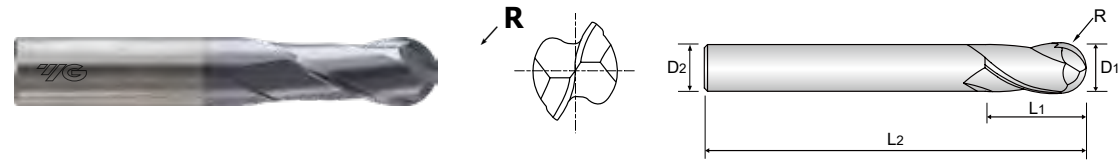
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○	○	○	○	○	○	○	○	41

BALL NOSE = 球头 CORNER RADIUS = 圆鼻 SQUARE = 平头 ROUGHING = 粗加工
SHORT LENGTH = 短刃 LONG LENGTH = 长刃 RIB PROCESSING = 颈部加长

CARBIDE, 2 FLUTE SHORT LENGTH BALL NOSE
硬质合金, 2刃 短刃 球头

- ▶ Economic type with short overall length.
- ▶ Radius tolerance $\pm 0.02\text{mm}$ & short length of cut.

- ▶ 短全长的经济型系列
- ▶ 圆弧角 $\pm 0.02\text{mm}$, 而短刃长



p.C336-337

Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R(± 0.02)	直径 D1	柄径 D2	刃长 L1	全长 L2
GMH31002	R0.1	0.2	4	0.4	50
GMH31003	R0.15	0.3	4	0.6	50
GMH31004	R0.2	0.4	4	0.8	50
GMH31005	R0.25	0.5	4	1	50
GMH31006	R0.3	0.6	4	1.2	50
GMH31008	R0.4	0.8	4	1.6	50
GMH31010	R0.5	1.0	4	2	50
GMH31015	R0.75	1.5	4	4	50
GMH31020	R1.0	2.0	4	5	50
GMH31030	R1.5	3.0	4	6	50
GMH31901	R1.5	3.0	6	6	50
GMH31040	R2.0	4.0	4	8	50
GMH31902	R2.0	4.0	6	9	50
GMH31060	R3.0	6.0	6	12	50
GMH31080	R4.0	8.0	8	14	60
GMH31100	R5.0	10.0	10	20	75
GMH31120	R6.0	12.0	12	24	75
GMH31160	R8.0	16.0	16	32	100
GMH31200	R10.0	20.0	20	40	100

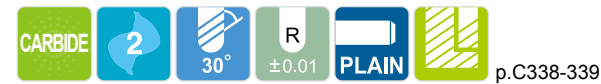
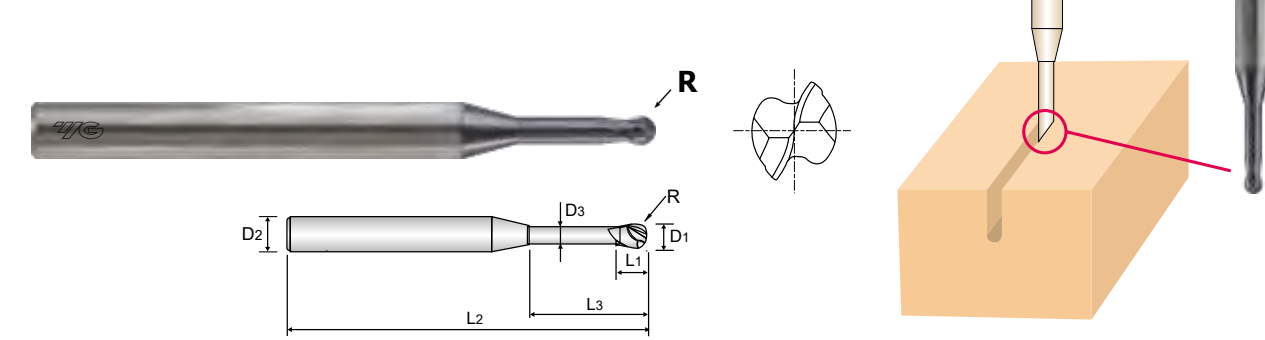
Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	180	260	3	25	19	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○	○	○	◎	○

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
硬质合金, 2刃 球头 深腔加工



p.C338-339

Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R(± 0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
GMH32004	R0.2	0.4	4	0.3	2	45	0.37
GMH32901	R0.2	0.4	4	0.3	3	45	0.37
GMH32902	R0.2	0.4	4	0.3	4	45	0.37
GMH32005	R0.25	0.5	4	0.4	2	45	0.45
GMH32903	R0.25	0.5	4	0.4	3	45	0.45
GMH32904	R0.25	0.5	4	0.4	4	45	0.45
GMH32006	R0.3	0.6	4	0.5	2	45	0.55
GMH32905	R0.3	0.6	4	0.5	3	45	0.55
GMH32906	R0.3	0.6	4	0.5	4	45	0.55
GMH32907	R0.3	0.6	4	0.5	6	45	0.55
GMH32008	R0.4	0.8	4	0.6	4	45	0.75
GMH32908	R0.4	0.8	4	0.6	6	45	0.75
GMH32010	R0.5	1.0	4	0.8	4	45	0.95
GMH32909	R0.5	1.0	4	0.8	6	45	0.95
GMH32910	R0.5	1.0	4	0.8	8	45	0.95
GMH32911	R0.5	1.0	4	0.8	10	45	0.95
GMH32912	R0.5	1.0	4	0.8	12	45	0.95
GMH32913	R0.5	1.0	4	0.8	16	50	0.95
GMH32015	R0.75	1.5	4	1.2	6	45	1.45
GMH32914	R0.75	1.5	4	1.2	8	45	1.45
GMH32915	R0.75	1.5	4	1.2	10	45	1.45
GMH32916	R0.75	1.5	4	1.2	12	45	1.45
GMH32917	R0.75	1.5	4	1.2	16	50	1.45

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.02	h5

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

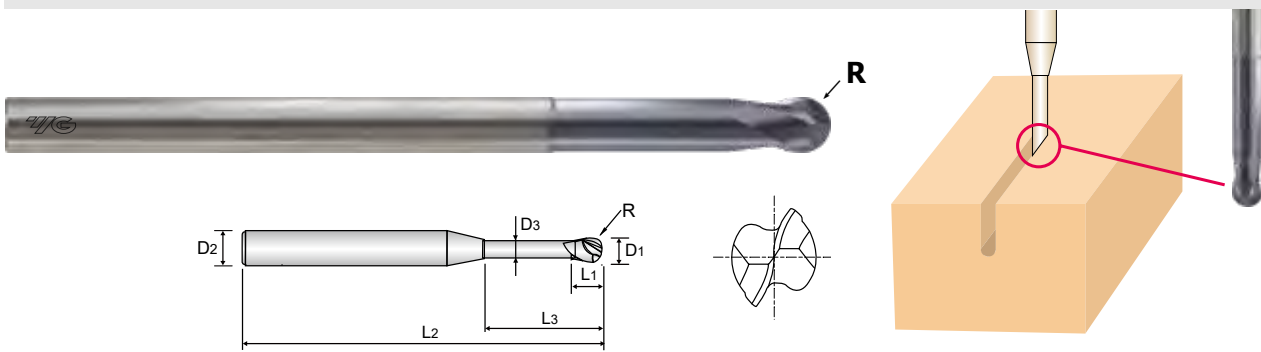
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	180	260	3	25	19	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○	○	○	◎	○



PLAIN SHANK **GMH32** SERIES

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
硬质合金, 2刃 球头 深腔加工



CARBIDE 2 30° R ±0.01 PLAIN p.C338-339

Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R(±0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
GMH32020	R1.0	2.0	4	1.6	6	45	1.95
GMH32918	R1.0	2.0	4	1.6	8	45	1.95
GMH32919	R1.0	2.0	4	1.6	10	45	1.95
GMH32920	R1.0	2.0	4	1.6	12	50	1.95
GMH32921	R1.0	2.0	4	1.6	16	50	1.95
GMH32922	R1.0	2.0	4	1.6	20	55	1.95
GMH32923	R1.0	2.0	4	1.6	26	70	1.95
GMH32924	R1.0	2.0	4	1.6	30	70	1.95
GMH32030	R1.5	3.0	6	2.4	10	50	2.85
GMH32925	R1.5	3.0	6	2.4	12	50	2.85
GMH32926	R1.5	3.0	6	2.4	16	55	2.85
GMH32927	R1.5	3.0	6	2.4	20	60	2.85
GMH32928	R1.5	3.0	6	2.4	26	70	2.85
GMH32040	R2.0	4.0	6	3.2	16	60	3.85
GMH32929	R2.0	4.0	6	3.2	20	65	3.85
GMH32930	R2.0	4.0	6	3.2	26	70	3.85
GMH32060	R3.0	6.0	6	4.8	20	80	5.85
GMH32931	R3.0	6.0	6	4.8	30	90	5.85
GMH32932	R3.0	6.0	6	4.8	40	100	5.85

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.02	h5

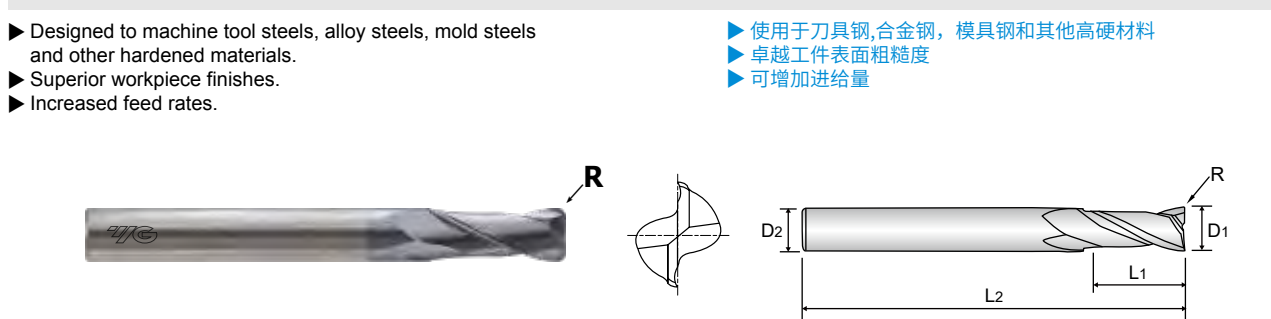
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○



PLAIN SHANK **GMH37** SERIES

CARBIDE, 2 FLUTE LONG LENGTH CORNER RADIUS
硬质合金, 2刃 长刃 圆鼻



CARBIDE 2 30° PLAIN p.C340

Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2
GMH37030	R0.5	3.0	6	10	70
GMH37040	R0.5	4.0	6	12	70
GMH37050	R0.5	5.0	6	15	80
GMH37060	R0.5	6.0	6	15	90
GMH37901	R1.0	6.0	6	15	90
GMH37080	R0.5	8.0	8	20	100
GMH37902	R1.0	8.0	8	20	100
GMH37100	R0.5	10.0	10	25	100
GMH37903	R1.0	10.0	10	25	100
GMH37120	R1.0	12.0	12	30	110

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

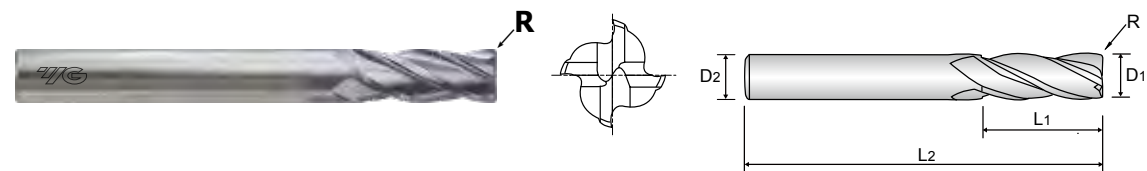


PLAIN SHANK **GMH38** SERIES

CARBIDE, 4 FLUTE LONG LENGTH CORNER RADIUS
硬质合金, 4刃 长刃 圆鼻

- ▶ Designed to machine tool steels, alloy steels, mold steels and other hardened materials.
- ▶ 4 flute allows for better workpiece finishes.
- ▶ Increased production.

- ▶ 适用于刀具钢,合金钢, 模具钢和其他高硬材料
- ▶ 4槽设计提高工件表面粗糙度
- ▶ 提高生产率



Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK	D15-46
⊙	SHRINK FIT HOLDER	D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK	D73-115
⊙	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2
GMH38030	R0.2	3.0	6	10	70
GMH38901	R0.5	3.0	6	10	70
GMH38040	R0.3	4.0	6	12	70
GMH38902	R0.5	4.0	6	12	70
GMH38050	R0.5	5.0	6	15	80
GMH38060	R0.2	6.0	6	15	90
GMH38903	R0.5	6.0	6	15	90
GMH38904	R1.0	6.0	6	15	90
GMH38080	R0.5	8.0	8	20	100
GMH38905	R1.0	8.0	8	20	100
GMH38906	R2.0	8.0	8	20	100
GMH38100	R0.5	10.0	10	25	100
GMH38907	R1.0	10.0	10	25	100
GMH38908	R2.0	10.0	10	25	100
GMH38120	R0.5	12.0	12	30	110
GMH38909	R1.0	12.0	12	30	110
GMH38910	R2.0	12.0	12	30	110

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5

⊙ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	400	200	325	200	240	180	260	160	250	130	230
Recommend	○	○	○	⊙	⊙	○	⊙	⊙	⊙	⊙	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																○	○	○	○	○	○

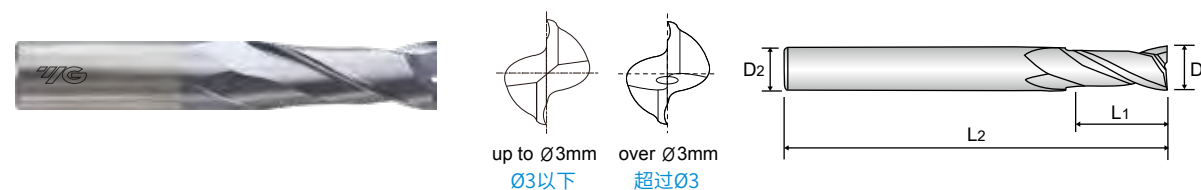


PLAIN SHANK **GMH33** SERIES

CARBIDE, 2 FLUTE SHORT LENGTH
硬质合金, 2刃 短刃

- ▶ Designed to machine tool steels, alloy steels, mold steels and other hardened materials.
- ▶ Superior workpiece finishes.
- ▶ Increased feed rates.

- ▶ 适用于刀具钢,合金钢, 模具钢和其他高硬材料
- ▶ 卓越工件表面粗糙度
- ▶ 可增加进给量



Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK	D15-46
⊙	SHRINK FIT HOLDER	D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK	D73-115
⊙	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
GMH33010	1.0	4	3	50
GMH33015	1.5	4	4	50
GMH33020	2.0	4	6	50
GMH33025	2.5	4	8	50
GMH33030	3.0	4	8	50
GMH33901	3.0	6	8	50
GMH33040	4.0	4	11	50
GMH33902	4.0	6	11	50
GMH33050	5.0	6	13	50
GMH33060	6.0	6	16	50
GMH33080	8.0	8	20	60
GMH33100	10.0	10	25	75
GMH33120	12.0	12	32	75
GMH33160	16.0	16	40	100
GMH33200	20.0	20	45	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5

⊙ : Excellent (优秀) ○ : Good (良好)

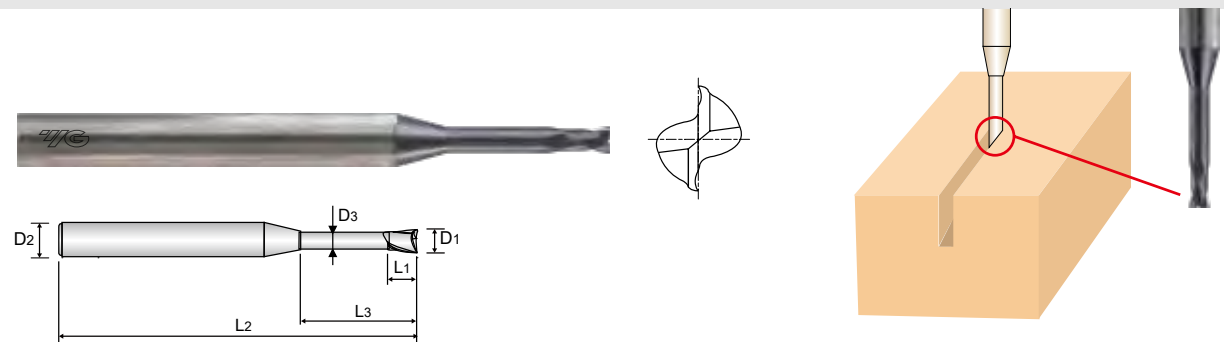
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	400	200	325	200	240	180	260	160	250	130	230
Recommend	○	○	○	⊙	⊙	○	⊙	⊙	⊙	⊙	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																○	○	○	○	○	○



PLAIN SHANK GMH34 SERIES

CARBIDE, 2 FLUTE for RIB PROCESSING
硬质合金, 2刃 深腔加工



Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
GMH34004	0.4	4	0.6	2	45	0.37
GMH34005	0.5	4	0.7	2	45	0.45
GMH34901	0.5	4	0.7	4	45	0.45
GMH34006	0.6	4	0.9	2	45	0.55
GMH34007	0.7	4	1	2	45	0.65
GMH34008	0.8	4	1.2	4	45	0.75
GMH34902	0.8	4	1.2	6	45	0.75
GMH34010	1.0	4	1.5	4	45	0.95
GMH34903	1.0	4	1.5	6	45	0.95
GMH34904	1.0	4	1.5	8	45	0.95
GMH34905	1.0	4	1.5	10	45	0.95
GMH34906	1.0	4	1.5	12	45	0.95
GMH34907	1.0	4	1.5	16	50	0.95
GMH34012	1.2	4	1.8	4	45	1.15
GMH34908	1.2	4	1.8	6	45	1.15
GMH34015	1.5	4	2.3	6	45	1.45
GMH34909	1.5	4	2.3	8	45	1.45
GMH34910	1.5	4	2.3	10	45	1.45
GMH34911	1.5	4	2.3	12	45	1.45
GMH34912	1.5	4	2.3	16	50	1.45
GMH34913	1.5	4	2.3	20	55	1.45

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.015	h5

◎ : Excellent (优秀) ○ : Good (良好)

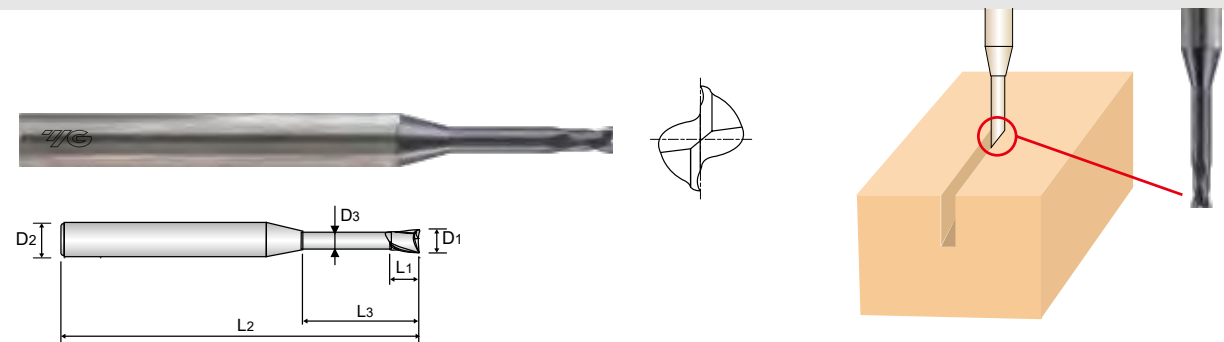
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	45	10	26	3	25	10	21
HB	125	190	250	270	300	180	275	300	350	400	200	325	200	240	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	○	◎	◎	◎	○	○	○	○	○	○

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK GMH34 SERIES

CARBIDE, 2 FLUTE for RIB PROCESSING
硬质合金, 2刃 深腔加工



Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
GMH34020	2.0	4	3	6	45	1.95
GMH34914	2.0	4	3	8	45	1.95
GMH34915	2.0	4	3	10	45	1.95
GMH34916	2.0	4	3	12	45	1.95
GMH34917	2.0	4	3	14	50	1.95
GMH34918	2.0	4	3	16	50	1.95
GMH34919	2.0	4	3	20	55	1.95
GMH34920	2.0	4	3	26	60	1.95
GMH34921	2.0	4	3	30	70	1.95
GMH34030	3.0	6	4.5	12	50	2.85
GMH34922	3.0	6	4.5	16	55	2.85
GMH34923	3.0	6	4.5	26	70	2.85
GMH34040	4.0	6	6	16	60	3.85
GMH34924	4.0	6	6	26	70	3.85

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.015	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	45	10	26	3	25	10	21
HB	125	190	250	270	300	180	275	300	350	400	200	325	200	240	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	○	◎	◎	◎	○	○	○	○	○	○

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

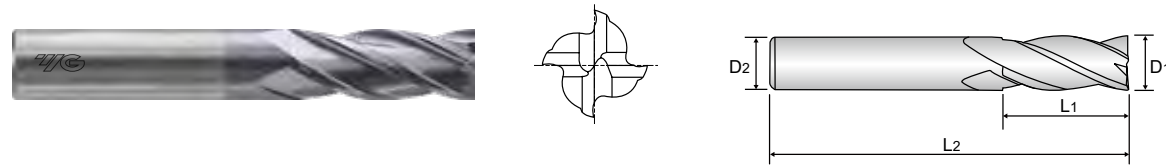


PLAIN SHANK **GMH35** SERIES

CARBIDE, 4 FLUTE SHORT LENGTH
硬质合金, 4刃 短刃

- ▶ Designed to machine tool steels, alloy steels, mold steels and other hardened materials.
- ▶ 4 flute allows for better workpiece finishes.
- ▶ Increased production.

- ▶ 适用于刀具钢,合金钢, 模具钢和其他高硬材料
- ▶ 4槽设计提高工件表面粗糙度
- ▶ 提高生产率



Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK	D15-46
⊙	SHRINK FIT HOLDER	D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK	D73-115
⊙	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径			
	D1	D2	L1	L2
GMH35010	1.0	4	3	50
GMH35015	1.5	4	4	50
GMH35020	2.0	4	6	50
GMH35025	2.5	4	8	50
GMH35030	3.0	4	8	50
GMH35901	3.0	6	8	50
GMH35040	4.0	4	11	50
GMH35902	4.0	6	11	50
GMH35050	5.0	6	13	50
GMH35060	6.0	6	16	50
GMH35080	8.0	8	20	60
GMH35100	10.0	10	25	75
GMH35120	12.0	12	32	75
GMH35160	16.0	16	40	100
GMH35200	20.0	20	45	100

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
直径公差	柄径公差
0 ~ -0.03	h5

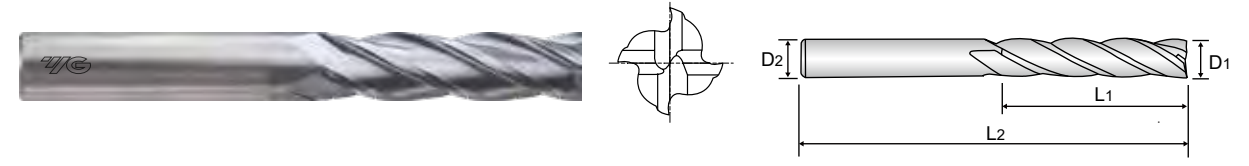


PLAIN SHANK **GMH36** SERIES

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金, 4刃 长刃

- ▶ Designed to machine tool steels, alloy steels, mold steels and other hardened materials.
- ▶ 4 flute allows for better workpiece finishes.
- ▶ Increased production.

- ▶ 适用于刀具钢,合金钢, 模具钢和其他高硬材料
- ▶ 4槽设计提高工件表面粗糙度
- ▶ 提高生产率



Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK	D15-46
⊙	SHRINK FIT HOLDER	D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK	D73-115
⊙	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径			
	D1	D2	L1	L2
GMH36020	2.0	4	10	50
GMH36030	3.0	4	15	60
GMH36901	3.0	6	15	60
GMH36040	4.0	4	20	60
GMH36902	4.0	6	20	60
GMH36050	5.0	6	25	75
GMH36060	6.0	6	30	75
GMH36080	8.0	8	35	100
GMH36100	10.0	10	45	100
GMH36120	12.0	12	45	100
GMH36160	16.0	16	70	150
GMH36200	20.0	20	75	150

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
直径公差	柄径公差
0 ~ -0.03	h5

⊙ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72
HB	125	190	250	270	300	180	210	230	250	270	290	310	330	350	180	200	160	180	200	230
Recommend	○	○	○	⊙	⊙	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	⊙	○	

⊙ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72
HB	125	190	250	270	300	180	210	230	250	270	290	310	330	350	180	200	160	180	200	230
Recommend	○	○	○	⊙	⊙	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	⊙	○	

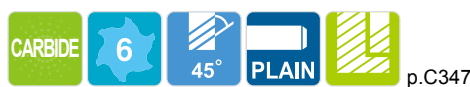
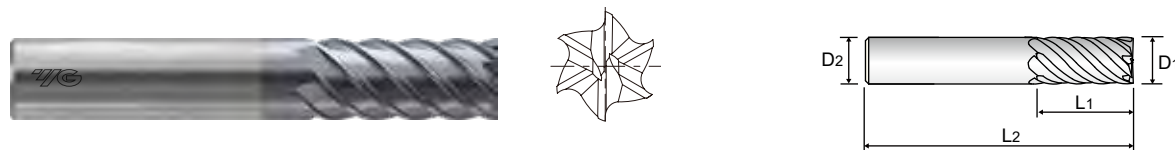


PLAIN SHANK **GMH39** SERIES

CARBIDE, 6 FLUTE 45° HELIX LONG LENGTH
硬质合金, 6刃 45度螺旋 长刃

- ▶ Designed to machine hardened materials.
- ▶ High speed cutting and finish milling with high feed rates.
- ▶ Superior workpiece finishes.
- ▶ Superior wear resistant.
- ▶ Suitable for dry and wet milling.

- ▶ 用于加工高硬度材料
- ▶ 高速加工和精铣削
- ▶ 卓越工件表面粗糙度
- ▶ 卓越耐磨性
- ▶ 可用于干切削和湿切削

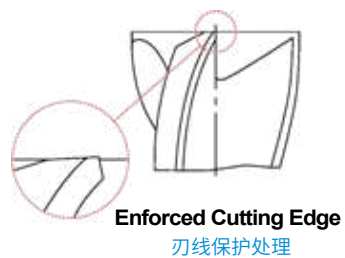


Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK	D15-46
⊙	SHRINK FIT HOLDER	D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK	D73-115
⊙	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
GMH39060	6.0	6	16	50
GMH39080	8.0	8	19	60
GMH39100	10.0	10	22	75
GMH39120	12.0	12	26	75
GMH39160	16.0	16	32	100

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	63	68	73	78	83	88	93	98	103	108	113
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

C334

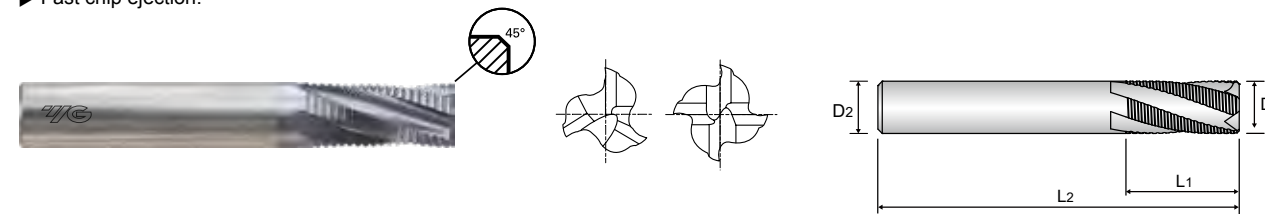


PLAIN SHANK **GM814** SERIES

CARBIDE, 3&4 FLUTE 20° HELIX LONG LENGTH ROUGHING - FINE
硬质合金, 3&4刃 20度螺旋 长刃 粗加工 - 细牙

- ▶ Designed to machine tool steels, alloy steels, mold steels and other hardened materials.
- ▶ High velocity milling of hardened steels.
- ▶ For dry and wet milling.
- ▶ Fast chip ejection.

- ▶ 用于工具钢, 合金钢, 模具钢和其他高硬度材料
- ▶ 高硬钢上高进给铣削
- ▶ 可用于干切削和湿切削
- ▶ 快速排屑



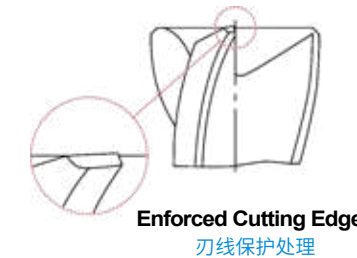
Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK	D15-46
⊙	SHRINK FIT HOLDER	D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK	D73-115
⊙	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute 槽数	Chamfer 导向
	直径 D1	柄径 D2	刃长 L1	全长 L2		
GM814060	6.0	6	16	57	3	0.38
GM814080	8.0	8	16	63	3	0.38
GM814100	10.0	10	22	72	4	0.60
GM814120	12.0	12	26	83	4	0.60
GM814160	16.0	16	32	92	4	0.60
GM814200	20.0	20	38	104	4	0.60

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

	Tolerance range in μm / 公差单位为		
	Nominal-Diameter in mm / 直径单位为		
	over 6 to 10	over 10 to 18	over 18 to 30
h10	6~10 0 - 58	10~18 0 - 70	18~30 0 - 84
h5	6~10 0 - 6	10~18 0 - 8	18~30 0 - 9



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	63	68	73	78	83	88	93	98	103	108	113
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

C335

GMH31 SERIES 2 FLUTE BALL NOSE 2刃球头

NORMAL SPEED 普通速度

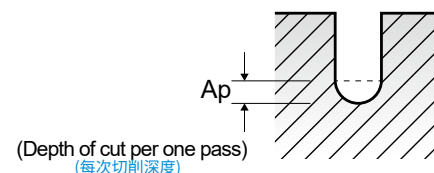
ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Parameter 参数	Diameter (Ø) 直径																																																																				
					1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0																																																								
P	1-4	Non-alloy steel	0.2D	Vc	55	85	100	125	140	150	160	180	200	225	245	270	290	fz	0.008	0.011	0.026	0.026	0.026	0.035	0.045	0.06	0.09	0.12	0.15	0.18	0.2	RPM	17507	18038	15915	15915	14854	11937	10186	9549	7958	7162	6499	5371	4615	FEED	280	397	828	828	772	836	917	1146	1432	1719	1950	1934	1846	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
				Vc	45	65	75	95	105	120	130	145	160	180	195	215	230	fz	0.008	0.011	0.023	0.023	0.023	0.032	0.040	0.060	0.080	0.100	0.120	0.140	0.160	RPM	14324	13793	11937	12096	11141	9549	8276	7692	6366	5730	5173	4277	3661	FEED	229	303	549	556	512	611	662	923	1019	1146	1241	1198	1171	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
				Vc	55	85	100	125	140	150	160	180	200	225	245	270	290	fz	0.008	0.011	0.026	0.026	0.026	0.035	0.045	0.06	0.09	0.12	0.15	0.18	0.2	RPM	17507	18038	15915	15915	14854	11937	10186	9549	7958	7162	6499	5371	4615	FEED	280	397	828	828	772	836	917	1146	1432	1719	1950	1934	1846	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
				Vc	45	65	75	95	105	120	130	145	160	180	195	215	230	fz	0.008	0.011	0.023	0.023	0.023	0.032	0.040	0.060	0.080	0.100	0.120	0.140	0.160	RPM	14324	13793	11937	12096	11141	9549	8276	7692	6366	5730	5173	4277	3661	FEED	229	303	549	556	512	611	662	923	1019	1146	1241	1198	1171	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
				Vc	55	85	100	125	140	150	160	180	200	225	245	270	290	fz	0.008	0.011	0.026	0.026	0.026	0.035	0.045	0.06	0.09	0.12	0.15	0.18	0.2	RPM	17507	18038	15915	15915	14854	11937	10186	9549	7958	7162	6499	5371	4615	FEED	280	397	828	828	772	836	917	1146	1432	1719	1950	1934	1846	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
				Vc	45	65	75	95	105	120	130	145	160	180	195	215	230	fz	0.008	0.011	0.023	0.023	0.023	0.032	0.040	0.060	0.080	0.100	0.120	0.140	0.160	RPM	14324	13793	11937	12096	11141	9549	8276	7692	6366	5730	5173	4277	3661	FEED	229	303	549	556	512	611	662	923	1019	1146	1241	1198	1171	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
	6-7	Low alloy steel	0.2D	Vc	55	85	100	125	140	150	160	180	200	225	245	270	290	fz	0.008	0.011	0.026	0.026	0.026	0.035	0.045	0.06	0.09	0.12	0.15	0.18	0.2	RPM	17507	18038	15915	15915	14854	11937	10186	9549	7958	7162	6499	5371	4615	FEED	280	397	828	828	772	836	917	1146	1432	1719	1950	1934	1846	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
				Vc	45	65	75	95	105	120	130	145	160	180	195	215	230	fz	0.008	0.011	0.023	0.023	0.023	0.032	0.040	0.060	0.080	0.100	0.120	0.140	0.160	RPM	14324	13793	11937	12096	11141	9549	8276	7692	6366	5730	5173	4277	3661	FEED	229	303	549	556	512	611	662	923	1019	1146	1241	1198	1171	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
				Vc	55	85	100	125	140	150	160	180	200	225	245	270	290	fz	0.008	0.011	0.026	0.026	0.026	0.035	0.045	0.06	0.09	0.12	0.15	0.18	0.2	RPM	17507	18038	15915	15915	14854	11937	10186	9549	7958	7162	6499	5371	4615	FEED	280	397	828	828	772	836	917	1146	1432	1719	1950	1934	1846	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
				Vc	45	65	75	95	105	120	130	145	160	180	195	215	230	fz	0.008	0.011	0.023	0.023	0.023	0.032	0.040	0.060	0.080	0.100	0.120	0.140	0.160	RPM	14324	13793	11937	12096	11141	9549	8276	7692	6366	5730	5173	4277	3661	FEED	229	303	549	556	512	611	662	923	1019	1146	1241	1198	1171	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
				Vc	55	85	100	125	140	150	160	180	200	225	245	270	290	fz	0.008	0.011	0.026	0.026	0.026	0.035	0.045	0.06	0.09	0.12	0.15	0.18	0.2	RPM	17507	18038	15915	15915	14854	11937	10186	9549	7958	7162	6499	5371	4615	FEED	280	397	828	828	772	836	917	1146	1432	1719	1950	1934	1846	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
				Vc	45	65	75	95	105	120	130	145	160	180	195	215	230	fz	0.008	0.011	0.023	0.023	0.023	0.032	0.040	0.060	0.080	0.100	0.120	0.140	0.160	RPM	14324	13793	11937	12096	11141	9549	8276	7692	6366	5730	5173	4277	3661	FEED	229	303	549	556	512	611	662	923	1019	1146	1241	1198	1171	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
8-9	High alloyed steel, and tool steel	0.2D	Vc	55	85	100	125	140	150	160	180	200	225	245	270	290	fz	0.008	0.011	0.026	0.026	0.026	0.035	0.045	0.06	0.09	0.12	0.15	0.18	0.2	RPM	17507	18038	15915	15915	14854	11937	10186	9549	7958	7162	6499	5371	4615	FEED	280	397	828	828	772	836	917	1146	1432	1719	1950	1934	1846	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	
			Vc	45	65	75	95	105	120	130	145	160	180	195	215	230	fz	0.008	0.011	0.023	0.023	0.023	0.032	0.040	0.060	0.080	0.100	0.120	0.140	0.160	RPM	14324	13793	11937	12096	11141	9549	8276	7692	6366	5730	5173	4277	3661	FEED	229	303	549	556	512	611	662	923	1019	1146	1241	1198	1171	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	
			Vc	55	85	100	125	140	150	160	180	200	225	245	270	290	fz	0.008	0.011	0.026	0.026	0.026	0.035	0.045	0.06	0.09	0.12	0.15	0.18	0.2	RPM	17507	18038	15915	15915	14854	11937	10186	9549	7958	7162	6499	5371	4615	FEED	280	397	828	828	772	836	917	1146	1432	1719	1950	1934	1846	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	
			Vc	45	65	75	95	105	120	130	145	160	180	195	215	230	fz	0.008	0.011	0.023	0.023	0.023	0.032	0.040	0.060	0.080	0.100	0.120	0.140	0.160	RPM	14324	13793	11937	12096	11141	9549	8276	7692	6366	5730	5173	4277	3661	FEED	229	303	549	556	512	611	662	923	1019	1146	1241	1198	1171	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	
			Vc	55	85	100	125	140	150	160	180	200	225	245	270	290	fz	0.008	0.011	0.026	0.026	0.026	0.035	0.045	0.06	0.09	0.12	0.15	0.18	0.2	RPM	17507	18038	15915	15915	14854	11937	10186	9549	7958	7162	6499	5371	4615	FEED	280	397	828	828	772	836	917	1146	1432	1719	1950	1934	1846	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	
			Vc	45	65	75	95	105	120	130	145	160	180	195	215	230	fz	0.008	0.011	0.023	0.023	0.023	0.032	0.040	0.060	0.080	0.100	0.120	0.140	0.160	RPM	14324	13793	11937	12096	11141	9549	8276	7692	6366	5730	5173	4277	3661	FEED	229	303	549	556	512	611	662	923	1019	1146	1241	1198	1171	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.2D	Vc	55	80	100	125	135	145	160	180	200	220	245	265	290	fz	0.008	0.011	0.026	0.026	0.026	0.035	0.045	0.06	0.09	0.12	0.15	0.181	0.201	RPM	17507	16977	15915	15915	14324	11539	10186	9549	7958	7003	6499	5272	4615	FEED	280	373	828	828	745	808	917	1146	1432	1681	1950	1908	1855	Ap	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
				Vc	20	30	35	40	50	60	65	65	70	70	75	75	80	fz	0.008	0.011	0.016	0.016	0.01																																																		

GMH32 SERIES 2 FLUTE BALL NOSE - RIB PROCESSING
2刃球头-深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description 工件材料	Parameter 参数	Diameter (Ø) 直径			
				0.4	0.5	0.6	0.8
P	1-4	Non-alloy steel	Vc	41~53	49~63	58~75	78~101
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008
			RPM	32550~42000	32550~42000	32550~42000	32550~42000
			FEED	185~515	185~515	235~660	235~660
			Ap	0.019~0.035	0.023~0.045	0.027~0.054	0.036~0.072
			Vc	30~38	35~45	42~54	57~72
	5	Non-alloy steel	fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006
			RPM	23630~29930	23630~29930	23630~29930	23630~29930
			FEED	90~285	90~285	115~370	115~370
			Ap	0.019~0.036	0.023~0.045	0.027~0.054	0.036~0.072
			Vc	41~53	49~63	58~75	78~101
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008
6-7	Low alloy steel	RPM	32550~42000	32550~42000	32550~42000	32550~42000	
		FEED	185~515	185~515	235~660	235~660	
		Ap	0.019~0.035	0.023~0.045	0.027~0.054	0.036~0.072	
		Vc	30~38	35~45	42~54	57~72	
		fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006	
		RPM	23630~29930	23630~29930	23630~29930	23630~29930	
8-9	Low alloy steel	FEED	90~285	90~285	115~370	115~370	
		Ap	0.019~0.036	0.023~0.045	0.027~0.054	0.036~0.072	
		Vc	41~53	49~63	58~75	78~101	
		fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008	
		RPM	32550~42000	32550~42000	32550~42000	32550~42000	
		FEED	185~515	185~515	235~660	235~660	
10	High alloyed steel, and tool steel	Ap	0.019~0.035	0.023~0.045	0.027~0.054	0.036~0.072	
		Vc	30~38	35~45	42~54	57~72	
		fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006	
		RPM	23630~29930	23630~29930	23630~29930	23630~29930	
		FEED	90~285	90~285	115~370	115~370	
		Ap	0.019~0.036	0.023~0.045	0.027~0.054	0.036~0.072	
11.1 - 11.2	High alloyed steel, and tool steel	Vc	41~53	49~63	58~75	78~101	
		fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008	
		RPM	32550~42000	32550~42000	32550~42000	32550~42000	
		FEED	185~515	185~515	235~660	235~660	
		Ap	0.019~0.035	0.023~0.045	0.027~0.054	0.036~0.072	
		Vc	30~38	35~45	42~54	57~72	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008
			RPM	32550~42000	32550~42000	32550~42000	32550~42000
			FEED	185~515	185~515	235~660	235~660
			Ap	0.019~0.035	0.023~0.045	0.027~0.054	0.036~0.072
			Vc	19~24	22~28	27~34	36~45
			fz	0.003~0.005	0.003~0.005	0.004~0.006	0.004~0.006
H	38.1 - 38.2	Hardened steel	RPM	15020~18900	15020~18900	15020~18900	15020~18900
			FEED	90~185	90~185	115~235	115~235
			Ap	0.005~0.009	0.005~0.009	0.005~0.011	0.007~0.014
			Vc	30~38	35~45	42~54	57~72
			fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006
			RPM	23630~29930	23630~29930	23630~29930	23630~29930
	40	Chilled Cast Iron	FEED	90~285	90~285	115~370	115~370
			Ap	0.019~0.036	0.023~0.045	0.027~0.054	0.036~0.072
			Vc	19~24	22~28	27~34	36~45
			fz	0.003~0.005	0.003~0.005	0.004~0.006	0.004~0.006
			RPM	15020~18900	15020~18900	15020~18900	15020~18900
			FEED	90~185	90~185	115~235	115~235
41	Hardened Cast Iron	Ap	0.005~0.009	0.005~0.009	0.005~0.011	0.007~0.014	

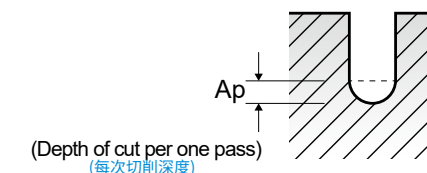
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GMH32 SERIES 2 FLUTE BALL NOSE - RIB PROCESSING
2刃球头-深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

VDI 3323	Parameter 参数	Diameter (Ø) 直径					
		1.0	1.5	2.0	3.0	4.0	6.0
1-4	Vc	91~115	90~113	97~119	99~123	107~138	107~138
	fz	0.004~0.010	0.007~0.016	0.008~0.021	0.012~0.030	0.015~0.035	0.022~0.053
	RPM	30450~38330	19950~25200	16280~19950	11030~13650	8930~11550	5990~7670
	FEED	265~735	265~820	265~820	265~820	265~820	265~820
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
	Vc	64~82	64~82	69~85	66~85	73~98	74~98
5	fz	0.003~0.008	0.005~0.011	0.006~0.014	0.009~0.022	0.011~0.025	0.016~0.038
	RPM	21530~27300	14180~18380	11550~14180	7350~9450	6090~8190	4100~5460
	FEED	130~410	130~410	130~410	130~410	130~410	130~410
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
	Vc	91~115	90~113	97~119	99~123	107~138	107~138
	fz	0.004~0.010	0.007~0.016	0.008~0.021	0.012~0.030	0.015~0.035	0.022~0.053
6-7	RPM	30450~38330	19950~25200	16280~19950	11030~13650	8930~11550	5990~7670
	FEED	265~735	265~820	265~820	265~820	265~820	265~820
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
	Vc	64~82	64~82	69~85	66~85	73~98	74~98
	fz	0.003~0.008	0.005~0.011	0.006~0.014	0.009~0.022	0.011~0.025	0.016~0.038
	RPM	21530~27300	14180~18380	11550~14180	7350~9450	6090~8190	4100~5460
8-9	FEED	130~410	130~410	130~410	130~410	130~410	130~410
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
	Vc	91~115	90~113	97~119	99~123	107~138	107~138
	fz	0.004~0.010	0.007~0.016	0.008~0.021	0.012~0.030	0.015~0.035	0.022~0.053
	RPM	30450~38330	19950~25200	16280~19950	11030~13650	8930~11550	5990~7670
	FEED	265~735	265~820	265~820	265~820	265~820	265~820
10	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
	Vc	64~82	64~82	69~85	66~85	73~98	74~98
	fz	0.003~0.008	0.005~0.011	0.006~0.014	0.009~0.022	0.011~0.025	0.016~0.038
	RPM	21530~27300	14180~18380	11550~14180	7350~9450	6090~8190	4100~5460
	FEED	130~410	130~410	130~410	130~410	130~410	130~410
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
11.1 - 11.2	Vc	91~115	90~113	97~119	99~123	107~138	107~138
	fz	0.004~0.010	0.007~0.016	0.008~0.021	0.012~0.030	0.015~0.035	0.022~0.053
	RPM	30450~38330	19950~25200	16280~19950	11030~13650	8930~11550	5990~7670
	FEED	265~735	265~820	265~820	265~820	265~820	265~820
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
	Vc	64~82	64~82	69~85	66~85	73~98	74~98
15 - 20	fz	0.003~0.008	0.005~0.011	0.006~0.014	0.009~0.022	0.011~0.025	0.016~0.038
	RPM	21530~27300	14180~18380	11550~14180	7350~9450	6090~8190	4100~5460
	FEED	130~410	130~410	130~410	130~410	130~410	130~410
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
	Vc	91~115	90~113	97~119	99~123	107~138	107~138
	fz	0.004~0.010	0.007~0.016	0.008~0.021	0.012~0.030	0.015~0.035	0.022~0.053
38.1 - 38.2	RPM	30450~38330	19950~25200	16280~19950	11030~13650	8930~11550	5990~7670
	FEED	265~735	265~820	265~820	265~820	265~820	265~820
	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
	Vc	41~51	41~50	43~54	43~54	49~62	49~62
	fz	0.005~0.008	0.007~0.012	0.009~0.015	0.014~0.022	0.016~0.026	0.024~0.038
	RPM	13650~17120	9140~11240	7250~9030	4830~5990	4100~5150	2730~3470
40	FEED	130~265	130~265	130~265	130~265	130~265	130~265
	Ap	0.009~0.018	0.014~0.028	0.018~0.035	0.028~0.055	0.035~0.070	0.053~0.105
	Vc	64~82	64~82	69~85	66~85	73~98	74~98
	fz	0.003~0.008	0.005~0.011	0.006~0.014	0.009~0.022	0.011~0.025	0.016~0.038
	RPM	21530~27300	14180~18380	11550~14180	7350~9450	6090~8190	4100~5460
	FEED	130~410	130~410	130~410	130~410	130~410	130~410
41	Ap	0.045~0.090	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360	0.270~0.540
	Vc	41~51	41~50	43~54	43~54	49~62	49~62
	fz	0.005~0.008	0.007~0.012	0.009~0.015	0.014~0.022	0.016~0.026	0.024~0.038
	RPM	13650~17120	9140~11240	7250~9030	4830~5990	4100~5150	2730~3470
	FEED	130~265	130~265	130~265	130~265	130~265	130~265
	Ap	0.009~0.018	0.014~0.028	0.018~0.035	0.028~0.055	0.035~0.070	0.053~0.105



GMH37 SERIES 2 FLUTE CORNER RADIUS - **SLOTING**
2刃 圆鼻-槽铣削

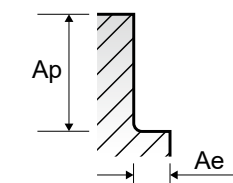
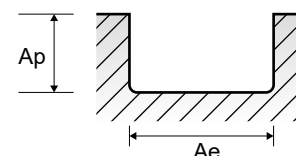
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

GMH38 SERIES 4 FLUTE CORNER RADIUS - **SIDE CUTTING**
4刃 圆鼻-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

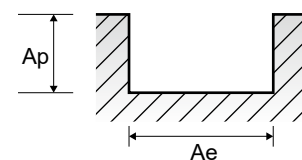
ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径						
						3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	1-4	Non-alloy steel	1.0D	0.3D	Vc	75	75	80	80	85	85	85
					fz	0.010	0.016	0.023	0.032	0.045	0.053	0.051
					RPM	7955	5968	5093	4244	3382	2706	2255
					FEED	160	191	234	272	304	287	230
					Vc	45	45	50	50	55	55	60
					fz	0.008	0.013	0.017	0.025	0.033	0.039	0.041
	5	Non-alloy steel	1.0D	0.3D	Vc	75	75	80	80	85	85	85
					fz	0.010	0.016	0.023	0.032	0.045	0.053	0.051
					RPM	7955	5968	5093	4244	3382	2706	2255
					FEED	160	191	234	272	304	287	230
					Vc	45	45	50	50	55	55	60
					fz	0.008	0.013	0.017	0.025	0.033	0.039	0.041
6-7	Low alloy steel	1.0D	0.3D	Vc	75	75	80	80	85	85	85	
				fz	0.010	0.016	0.023	0.032	0.045	0.053	0.051	
				RPM	7955	5968	5093	4244	3382	2706	2255	
				FEED	160	191	234	272	304	287	230	
				Vc	45	45	50	50	55	55	60	
				fz	0.008	0.013	0.017	0.025	0.033	0.039	0.041	
8-9	Low alloy steel	1.0D	0.3D	Vc	75	75	80	80	85	85	85	
				fz	0.010	0.016	0.023	0.032	0.045	0.053	0.051	
				RPM	7955	5968	5093	4244	3382	2706	2255	
				FEED	160	191	234	272	304	287	230	
				Vc	45	45	50	50	55	55	60	
				fz	0.008	0.013	0.017	0.025	0.033	0.039	0.041	
10	High alloyed steel, and tool steel	1.0D	0.3D	Vc	75	75	80	80	85	85	85	
				fz	0.010	0.016	0.023	0.032	0.045	0.053	0.051	
				RPM	7955	5968	5093	4244	3382	2706	2255	
				FEED	160	191	234	272	304	287	230	
				Vc	45	45	50	50	55	55	60	
				fz	0.008	0.013	0.017	0.025	0.033	0.039	0.041	
11.1 11.2	High alloyed steel, and tool steel	1.0D	0.3D	Vc	75	75	80	80	85	85	85	
				fz	0.010	0.016	0.023	0.032	0.045	0.053	0.051	
				RPM	7955	5968	5093	4244	3382	2706	2255	
				FEED	160	191	234	272	304	287	230	
				Vc	45	45	50	50	55	55	60	
				fz	0.008	0.013	0.017	0.025	0.033	0.039	0.041	
K	15-20 Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.3D	Vc	75	75	80	80	85	85	85	
				fz	0.011	0.016	0.023	0.032	0.045	0.053	0.051	
				RPM	7430	5968	5093	4244	3382	2706	2255	
				FEED	165	191	234	272	304	287	230	
				Vc	30	30	35	35	35	35	35	
				fz	0.005	0.006	0.008	0.010	0.013	0.016	0.019	
H	38.1 - 38.2	Hardened steel	1.0D	0.3D	Vc	30	30	35	35	35	35	35
					fz	0.005	0.006	0.008	0.010	0.013	0.016	0.019
					RPM	3180	2387	2228	1857	1393	1114	928
					FEED	30	29	36	37	36	36	35
					Vc	45	45	50	50	55	55	60
					fz	0.008	0.013	0.017	0.025	0.033	0.039	0.041
	40	Chilled Cast Iron	1.0D	0.3D	Vc	45	45	50	50	55	55	60
					fz	0.008	0.013	0.017	0.025	0.033	0.039	0.041
					RPM	4775	3581	3183	2653	2188	1751	1592
					FEED	80	93	108	133	144	137	131
					Vc	30	30	35	35	35	35	35
					fz	0.005	0.006	0.008	0.01	0.013	0.016	0.019
41	Hardened Cast Iron	1.0D	0.3D	Vc	30	30	35	35	35	35	35	
				fz	0.005	0.006	0.008	0.01	0.013	0.016	0.019	
				RPM	3180	2387	2228	1857	1393	1114	928	
				FEED	30	29	36	37	36	36	35	

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径					
						3.0	4.0	6.0	8.0	10.0	12.0
P	1-4	Non-alloy steel	0.05D	1.0D	Vc	110	125	140	140	135	135
					fz	0.009	0.019	0.03	0.042	0.047	0.048
					RPM	11671	9947	7427	5570	4297	3581
					FEED	420	756	891	936	808	688
					Vc	70	75	85	85	85	85
					fz	0.009	0.019	0.030	0.038	0.037	0.037
	5	Non-alloy steel	0.05D	1.0D	Vc	110	125	140	140	135	135
					fz	0.009	0.019	0.03	0.042	0.047	0.048
					RPM	11671	9947	7427	5570	4297	3581
					FEED	420	756	891	936	808	688
					Vc	70	75	85	85	85	85
					fz	0.009	0.019	0.030	0.038	0.037	0.037
6-7	Low alloy steel	0.05D	1.0D	Vc	110	125	140	140	135	135	
				fz	0.009	0.019	0.03	0.042	0.047	0.048	
				RPM	11671	9947	7427	5570	4297	3581	
				FEED	420	756	891	936	808	688	
				Vc	70	75	85	85	85	85	
				fz	0.009	0.019	0.030	0.038	0.037	0.037	
8-9	Low alloy steel	0.05D	1.0D	Vc	110	125	140	140	135	135	
				fz	0.009	0.019	0.03	0.042	0.047	0.048	
				RPM	11671	9947	7427	5570	4297	3581	
				FEED	420	756	891	936	808	688	
				Vc	70	75	85	85	85	85	
				fz	0.009	0.019	0.030	0.038	0.037	0.037	
10	High alloyed steel, and tool steel	0.05D	1.0D	Vc	110	125	140	140	135	135	
				fz	0.009	0.019	0.03	0.042	0.047	0.048	
				RPM	11671	9947	7427	5570	4297	3581	
				FEED	420	756	891	936	808	688	
				Vc	70	75	85	85	85	85	
				fz	0.009	0.019	0.030	0.038	0.037	0.037	
11.1 11.2	High alloyed steel, and tool steel	0.05D	1.0D	Vc	110	125	140	140	135	135	
				fz	0.009	0.019	0.03	0.042	0.047	0.048	
				RPM	11671	9947	7427	5570	4297	3581	
				FEED	420	756	891	936	808	688	
				Vc	70	75	85	85	85	85	
				fz	0.009	0.019	0.030	0.038	0.037	0.037	
K	15-20 Grey cast iron Nodular cast iron Malleable cast iron	0.05D	1.0D	Vc	110	125	140	140	135	135	
				fz	0.009	0.019	0.03	0.042	0.047	0.048	
				RPM	11671	9947	7427	5570	4297	3581	
				FEED	420	756	891	936	808	688	
				Vc	40	50	50	55	55	60	
				fz	0.004	0.005	0.010	0.016	0.017	0.017	
H	38.1 - 38.2	Hardened steel	0.05D	1.0D	Vc	40	50	50	55	55	60
					fz	0.004	0.005	0.010	0.016	0.017	0.017
					RPM	4244	3979	2653	2188	1751	1592
					FEED	68	80	106	140	119	108
					Vc	70	75	85	85	85	85
					fz	0.009	0.019	0.030	0.038	0.037	0.037
40	Chilled Cast Iron	0.05D	1.0D	Vc	70	75	85	85	85	85	
				fz	0.009	0.019	0.030	0.038	0.037	0.037	
				RPM	7427	5968	4509	3382	2706	2255	
				FEED	267	454	541	514	400	334	
				Vc	40	50	50	55	55	60	
				fz	0.004	0.005	0.010	0.016	0.017	0.017	
41	Hardened Cast Iron	0.05D	1.0D	Vc	40	50	50	55	55	60	
				fz	0.004	0.005	0.010	0.016	0.017	0.017	
				RPM	4244	3979	2653	2188	1751	1592	
				FEED	68	80	106	140	119	108	



GMH33 SERIES 2 FLUTE - SLOTTING
2刃 - 槽铣削

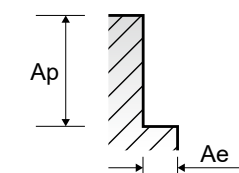
ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径	
						1.0	1.5
P	5	Non-alloy steel	1.0D	D<1:0.15D D≥1:0.25D	Vc	70	60
					fz	0.004	0.006
					RPM	22282	12732
P	8-9	Low alloy steel	1.0D	D<1:0.15D D≥1:0.25D	Vc	70	60
					fz	0.004	0.006
					RPM	22282	12732
P	11.1 11.2	High alloyed steel, and tool steel	1.0D	D<1:0.15D D≥1:0.25D	Vc	70	60
					fz	0.004	0.006
					RPM	22282	12732
H	38.1 - 38.2	Hardened steel	1.0D	D<1:0.02D D≥1:0.05D	Vc	50	45
					fz	0.003	0.004
					RPM	15915	9549
H	40	Chilled Cast Iron	1.0D	D<1:0.15D D≥1:0.25D	Vc	70	60
					fz	0.004	0.006
					RPM	22282	12732
H	41	Hardened Cast Iron	1.0D	D<1:0.02D D≥1:0.05D	Vc	50	45
					fz	0.003	0.004
					RPM	15915	9549



Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

GMH35 SERIES 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径												
						1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0	
P	1-4	Non-alloy steel	0.05D	1.0D	Vc	70	75	80	95	105	110	115	120	115	125	120		
					fz	0.003	0.004	0.006	0.009	0.019	0.024	0.03	0.042	0.047	0.047	0.048		
	5	Non-alloy steel	0.05D	1.0D	Vc	50	55	55	60	65	65	70	70	70	75	75		
					fz	0.003	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.037	0.037	0.038		
	6-7	Low alloy steel	0.05D	1.0D	Vc	70	75	80	95	105	110	115	120	115	125	120		
					fz	0.003	0.004	0.006	0.009	0.019	0.024	0.03	0.042	0.047	0.047	0.048		
8-9	Low alloy steel	0.05D	1.0D	Vc	50	55	55	60	65	65	70	70	70	75	75			
				fz	0.003	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.037	0.037	0.038			
10	High alloyed steel, and tool steel	0.05D	1.0D	Vc	70	75	80	95	105	110	115	120	115	125	120			
				fz	0.003	0.004	0.006	0.009	0.019	0.024	0.03	0.042	0.047	0.047	0.048			
11.1 11.2	High alloyed steel, and tool steel	0.05D	1.0D	Vc	50	55	55	60	65	65	70	70	70	75	75			
				fz	0.003	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.037	0.037	0.038			
M	14.1	Stainless steel	0.05D	1.0D	Vc	40	40	45	50	55	55	60	60	60	60	60		
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	1.0D	Vc	70	75	80	95	105	110	115	120	115	125	120		
					fz	0.003	0.005	0.006	0.009	0.019	0.024	0.03	0.042	0.047	0.047	0.048		
H	38.1 - 38.2	Hardened steel	0.05D	1.0D	Vc	30	30	35	35	40	40	45	50	50	50	50		
					fz	0.002	0.002	0.002	0.004	0.005	0.008	0.010	0.017	0.016	0.017	0.016		
					RPM	9550	6370	5570	3714	3183	2546	2122	1790	1592	1326	995	796	
H	40	Chilled Cast Iron	0.05D	1.0D	Vc	50	55	55	60	65	65	70	70	70	75	75		
					fz	0.003	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.037	0.037	0.038		
					RPM	15920	10610	8754	6366	5173	4138	3714	2785	2228	1857	1492	1194	
H	41	Hardened Cast Iron	0.05D	1.0D	Vc	30	30	35	35	40	40	45	50	50	50	50		
					fz	0.002	0.002	0.002	0.004	0.005	0.008	0.010	0.017	0.016	0.017	0.016		
					RPM	9550	6370	5570	3714	3183	2546	2122	1790	1592	1326	995	796	



Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径												
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0			
P	1-4	Non-alloy steel	1.0D	D≤3:0.2D D>3:0.5D	Vc	65	75	85	90	95	95	90	95	100	95			
					fz	0.010	0.015	0.025	0.032	0.039	0.057	0.064	0.064	0.062	0.063			
	5	Non-alloy steel	1.0D	D≤3:0.2D D>3:0.5D	Vc	45	45	50	55	55	55	55	60	60				
					fz	0.010	0.016	0.024	0.032	0.041	0.050	0.050	0.048	0.051	0.047			
	6-7	Low alloy steel	1.0D	D≤3:0.2D D>3:0.5D	Vc	65	75	85	90	95	95	90	95	100	95			
					fz	0.010	0.015	0.025	0.032	0.039	0.057	0.064	0.064	0.062	0.063			
8-9	Low alloy steel	1.0D	D≤3:0.2D D>3:0.5D	Vc	45	45	50	55	55	55	55	60	60					
				fz	0.010	0.016	0.024	0.032	0.041	0.050	0.050	0.048	0.051	0.047				
10	High alloyed steel, and tool steel	1.0D	D≤3:0.2D D>3:0.5D	Vc	65	75	85	90	95	95	90	95	100	95				
				fz	0.010	0.015	0.025	0.032	0.039	0.057	0.064	0.064	0.062	0.063				
11.1 11.2	High alloyed steel, and tool steel	1.0D	D≤3:0.2D D>3:0.5D	Vc	45	45	50	55	55	55	55	60	60					
				fz	0.010	0.016	0.024	0.032	0.041	0.050	0.050	0.048	0.051	0.047				
M	14.1	Stainless steel	1.0D	D≤3:0.2D D>3:0.5D	Vc	35	40	45	45	50	45	45	50	45				
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	D≤3:0.2D D>3:0.5D	Vc	65	75	85	90	95	95	90	95	100	95			
					fz	0.01	0.015	0.025	0.032	0.039	0.057	0.064	0.064	0.062	0.063			
H	38.1 - 38.2	Hardened steel	1.0D	0.05D	Vc	30	30	35	35	40	40	40	40	40				
					fz	0.004	0.007	0.009	0.013	0.017	0.028	0.027	0.029	0.028	0.028			
					RPM	4775	3183	2785	2228	1857	1592	1273	1061	796	637			
H	40	Chilled Cast Iron	1.0D	D≤3:0.2D D>3:0.5D	Vc	45	45	50	55	55	55	55	60	60				
					fz	0.010	0.016	0.024	0.032	0.041	0.05	0.05	0.048	0.051	0.047			
					RPM	7162	4775	3979	3501	2918	2188	1751	1459	1194	955			
H	41	Hardened Cast Iron	1.0D	0.05D	Vc	30	30	35	35	40	40	40	40	40				
					fz	0.004	0.007	0.009	0.013	0.017	0.028	0.027	0.029	0.028	0.028			
					RPM	4775	3183	2785	2228	1857	1592	1273	1061	796	637			

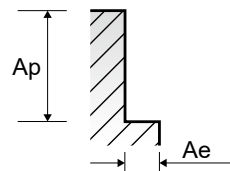


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMH36 SERIES 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

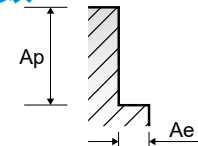
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	0.05D	2.5D	Vc	60	65	70	75	80	80	85	80	90	85
					fz	0.006	0.009	0.014	0.021	0.029	0.041	0.049	0.047	0.05	0.049
					RPM	9549	6897	5570	4775	4244	3183	2706	2122	1790	1353
					FEED	229	248	312	401	492	522	530	399	358	265
					Vc	35	40	40	45	45	45	50	50	50	50
					fz	0.004	0.007	0.010	0.014	0.021	0.028	0.033	0.035	0.035	0.033
	5	Non-alloy steel	0.05D	2.5D	Vc	60	65	70	75	80	80	85	80	90	85
					fz	0.006	0.009	0.014	0.021	0.029	0.041	0.049	0.047	0.05	0.049
					RPM	9549	6897	5570	4775	4244	3183	2706	2122	1790	1353
					FEED	229	248	312	401	492	522	530	399	358	265
					Vc	35	40	40	45	45	45	50	50	50	50
					fz	0.004	0.007	0.010	0.014	0.021	0.028	0.033	0.035	0.035	0.033
6-7	Low alloy steel	0.05D	2.5D	Vc	60	65	70	75	80	80	85	80	90	85	
				fz	0.006	0.009	0.014	0.021	0.029	0.041	0.049	0.047	0.05	0.049	
				RPM	9549	6897	5570	4775	4244	3183	2706	2122	1790	1353	
				FEED	229	248	312	401	492	522	530	399	358	265	
				Vc	35	40	40	45	45	45	50	50	50	50	
				fz	0.004	0.007	0.010	0.014	0.021	0.028	0.033	0.035	0.035	0.033	
8-9	Low alloy steel	0.05D	2.5D	Vc	60	65	70	75	80	80	85	80	90	85	
				fz	0.006	0.009	0.014	0.021	0.029	0.041	0.049	0.047	0.05	0.049	
				RPM	9549	6897	5570	4775	4244	3183	2706	2122	1790	1353	
				FEED	229	248	312	401	492	522	530	399	358	265	
				Vc	35	40	40	45	45	45	50	50	50	50	
				fz	0.004	0.007	0.010	0.014	0.021	0.028	0.033	0.035	0.035	0.033	
10	High alloyed steel, and tool steel	0.05D	2.5D	Vc	60	65	70	75	80	80	85	80	90	85	
				fz	0.006	0.009	0.014	0.021	0.029	0.041	0.049	0.047	0.05	0.049	
				RPM	9549	6897	5570	4775	4244	3183	2706	2122	1790	1353	
				FEED	229	248	312	401	492	522	530	399	358	265	
				Vc	35	40	40	45	45	45	50	50	50	50	
				fz	0.004	0.007	0.010	0.014	0.021	0.028	0.033	0.035	0.035	0.033	
11.1 11.2	High alloyed steel, and tool steel	0.05D	2.5D	Vc	60	65	70	75	80	80	85	80	90	85	
				fz	0.006	0.009	0.014	0.021	0.029	0.041	0.049	0.047	0.05	0.049	
				RPM	9549	6897	5570	4775	4244	3183	2706	2122	1790	1353	
				FEED	229	248	312	401	492	522	530	399	358	265	
				Vc	35	40	40	45	45	45	50	50	50	50	
				fz	0.004	0.007	0.010	0.014	0.021	0.028	0.033	0.035	0.035	0.033	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.05D	2.5D	Vc	60	65	70	75	80	80	85	80	90	85
					fz	0.006	0.009	0.014	0.021	0.029	0.041	0.049	0.047	0.05	0.049
					RPM	9549	6897	5570	4775	4244	3183	2706	2122	1790	1353
					FEED	229	248	312	401	492	522	530	399	358	265
					Vc	20	25	25	30	30	30	30	30	30	30
					fz	0.004	0.006	0.008	0.011	0.016	0.021	0.027	0.026	0.026	0.027
H	38.1 38.2	Hardened steel	0.02D	2.0D	Vc	20	25	25	30	30	30	30	30	30	30
					fz	0.004	0.006	0.008	0.011	0.016	0.021	0.027	0.026	0.026	0.027
					RPM	3183	2653	1989	1910	1592	1194	955	796	597	477
					FEED	51	64	64	84	102	100	103	83	62	52
					Vc	35	40	40	45	45	45	50	50	50	50
					fz	0.004	0.007	0.010	0.014	0.021	0.028	0.033	0.035	0.035	0.033
	40	Chilled Cast Iron	0.05D	2.5D	Vc	60	65	70	75	80	80	85	80	90	85
					fz	0.006	0.009	0.014	0.021	0.029	0.041	0.049	0.047	0.05	0.049
					RPM	9549	6897	5570	4775	4244	3183	2706	2122	1790	1353
					FEED	229	248	312	401	492	522	530	399	358	265
					Vc	35	40	40	45	45	45	50	50	50	50
					fz	0.004	0.007	0.010	0.014	0.021	0.028	0.033	0.035	0.035	0.033
41	Hardened Cast Iron	0.02D	2.0D	Vc	20	25	25	30	30	30	30	30	30	30	
				fz	0.004	0.006	0.008	0.011	0.016	0.021	0.027	0.026	0.026	0.027	
				RPM	3183	2653	1989	1910	1592	1194	955	796	597	477	
				FEED	51	64	64	84	102	100	103	83	62	52	
				Vc	35	40	40	45	45	45	50	50	50	50	
				fz	0.004	0.007	0.010	0.014	0.021	0.028	0.033	0.035	0.035	0.033	



RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GMH39 SERIES 6 FLUTE 45° HELIX - SIDE CUTTING
6刃 45度螺旋 - 侧铣削



Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

NORMAL SPEED 普通速度

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径				
						6.0	8.0	10.0	12.0	16.0
P	1-4	Non-alloy steel	0.1D	1.5D	Vc	105	110	110	110	110
					fz	0.06	0.079	0.099	0.099	0.1
					RPM	5570	4377	3501	2918	2188
					FEED	2005	2075	2080	1733	1313
					Vc	75	75	75	75	75
					fz	0.059	0.078	0.098	0.097	0.099
	5	Non-alloy steel	0.05D	1.5D	Vc	60	65	70	75	80
					fz	0.006	0.009	0.014	0.021	0.029
					RPM	9549	6897	5570	4775	4244
					FEED	229	248	312	401	492
					Vc	35	40	40	45	45
					fz	0.004	0.007	0.010	0.014	0.021
6-7	Low alloy steel	0.1D	1.5D	Vc	105	110	110	110	110	
				fz	0.06	0.079	0.099	0.099	0.1	
				RPM	5570	4377	3501	2918	2188	
				FEED	2005	2075	2080	1733	1313	
				Vc	75	75	75	75	75	
				fz	0.059	0.078	0.098	0.097	0.099	
8-9	Low alloy steel	0.05D	1.5D	Vc	60	65	70	75	80	
				fz	0.006	0.009	0.014	0.021	0.029	
				RPM	9549	6897	5570	4775	4244	
				FEED	229	248	312	401	492	
				Vc	35	40	40	45	45	
				fz	0.004	0.007	0.010	0.014	0.021	
10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	105	110	110	110	110	
				fz	0.06	0.079	0.099	0.099	0.1	
				RPM	5570	4377	3501	2918	2188	
				FEED	2005	2075	2080	1733	1313	
				Vc	75	75	75	75	75	
				fz	0.059	0.078	0.098	0.097	0.099	
11.1 11.2	High alloyed steel, and tool steel	0.05D	1.5D	Vc	60	65	70	75	80	
				fz	0.006	0.009	0.014	0.021	0.029	
				RPM	9549	6897	5570	4775	4244	
				FEED	229	248	312	401	492	
				Vc	35	40	40	45	45	
				fz	0.004	0.007	0.010	0.014	0.021	
H	38.1	Hardened steel	0.05D	1.5D	Vc	75	75	75	75	75
					fz	0.059	0.078	0.098	0.097	0.099
					RPM	3979	2984	2387	1989	1492
					FEED	1409	1397	1404	1158	886
					Vc	30	30	30	30	35
					fz	0.022	0.030	0.035	0.036	0.035
38.2	Hardened steel	0.05D	1.0D	Vc	1592	1194	955	796	696	
				fz	210	215	201	172	146	
				RPM	210	215	201	172	146	
				FEED	210	215	201	172	146	
				Vc	75	75	75	75	75	
				fz	0.059	0.078	0.098	0.097	0.099	
40	Chilled Cast Iron	0.05D	1.5D	Vc	60	65	70	75	80	
				fz	0.006	0.009	0.014	0.021	0.029	
				RPM	9549	6897	5570	4775	4244	
				FEED	229	248	312	401	492	
				Vc	35	40	40	45	45	
				fz	0.004	0.007	0.010	0.014	0.021	
41	Hardened Cast Iron	0.05D	1.0D	Vc	30	30	30	30	35	
				fz	0.022	0.030	0.035	0.036	0.035	
				RPM	1592	1194	955	796	696	
				FEED	210	215	201	172	146	
				Vc	160	160	160	160	160	
				fz	0.060	0.081	0.101	0.100	0.100	

HIGH SPEED 高速度

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径				
						6.0	8.0	10.0	12.0	16.0
P	1-5	Non-alloy steel	0.05D	1.5D	Vc	325	325	320	325	325
					fz	0.06	0.081	0.1	0.1	0.1
					RPM	1				

WG X-POWER PRO END MILLS

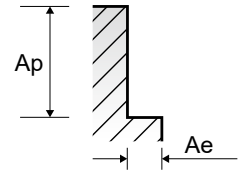
RECOMMENDED CUTTING CONDITIONS 推荐加工参数

GM814 SERIES

3&4 FLUTE ROUGHING - SIDE CUTTING 3&4刃 粗加工 - 侧铣削

Vc (切削速度) = (m/min.)
 fz (每齿进给) = (mm/tooth)
 RPM (转速) = (rev./min.)
 FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径					
						6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	0.3D	1.5D	Vc	310	305	305	315	315	315
					fz	0.05	0.067	0.063	0.075	0.1	0.113
					RPM	16446	12136	9708	8356	6267	5013
	5	Non-alloy steel	0.3D	1.5D	Vc	245	245	250	240	255	240
					fz	0.023	0.030	0.028	0.033	0.040	0.039
					RPM	12998	9748	7958	6366	5073	3820
	6-7	Low alloy steel	0.3D	1.5D	Vc	310	305	305	315	315	315
					fz	0.05	0.067	0.063	0.075	0.1	0.113
					RPM	16446	12136	9708	8356	6267	5013
	8-9	Low alloy steel	0.3D	1.5D	Vc	245	245	250	240	255	240
					fz	0.023	0.030	0.028	0.033	0.040	0.039
					RPM	12998	9748	7958	6366	5073	3820
10	High alloyed steel, and tool steel	0.3D	1.5D	Vc	310	305	305	315	315	315	
				fz	0.05	0.067	0.063	0.075	0.1	0.113	
				RPM	16446	12136	9708	8356	6267	5013	
11.1 - 11.2	High alloyed steel, and tool steel	0.3D	1.5D	Vc	245	245	250	240	255	240	
				fz	0.023	0.030	0.028	0.033	0.040	0.039	
				RPM	12998	9748	7958	6366	5073	3820	
M	14.1	Stainless steel	0.3D	1.5D	Vc	165	165	170	165	175	160
					fz	0.023	0.03	0.028	0.034	0.039	0.038
					RPM	8754	6565	5411	4377	3482	2546
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.3D	1.5D	Vc	310	305	305	315	315	315
					fz	0.05	0.067	0.063	0.075	0.1	0.113
					RPM	16446	12136	9708	8356	6267	5013
H	38.1 - 38.2	Hardened steel	0.05D	1.0D	Vc	65	65	65	65	65	65
					fz	0.026	0.033	0.036	0.039	0.034	0.038
					RPM	3448	2586	2069	1724	1293	1035
H	40	Chilled Cast Iron	0.3D	1.5D	Vc	245	245	250	240	255	240
					fz	0.023	0.030	0.028	0.033	0.040	0.039
					RPM	12998	9748	7958	6366	5073	3820
H	41	Hardened Cast Iron	0.05D	1.0D	Vc	65	65	65	65	65	65
					fz	0.026	0.033	0.036	0.039	0.034	0.038
					RPM	3448	2586	2069	1724	1293	1035





Leading Through Innovation

SOLID CARBIDE

TitaNox-POWER

END MILLS

- High Speed Machining for Exotic Materials: Titanium, Inconel and Stainless Steels
- 适用于高速加工耐高温材料：钛合金，铬镍铁合金和不锈钢

SELECTION GUIDE
选用指南



SERIES 系列	GMG40 GMG41	GMG28 GMG29	GMG30 GMG31
FLUTE 槽数	4	5	5
HELIX ANGLE 螺旋角度	43°/45°	43°/44°/45°	43°/44°/45°
CUTTING EDGE SHAPE 类型	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS
SIZE MIN 最小尺寸	D6.0	D6.0	D6.0
SIZE MAX 最大尺寸	D25.0	D25.0	D25.0
PAGE 页数	C352-353	C354	C355-356
	LONG LENGTH DOUBLE CORE	SHORT LENGTH	LONG LENGTH
	Y-Coating	Y-Coating	Y-Coating

SOLID CARBIDE
TitaNox-POWER
END MILLS

High Speed Machining for Exotic Materials:
Titanium, Inconel and Stainless Steels
实现难切材料的高速加工 钛, 铬镍合金和不锈钢



◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C360



ISO	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB	HRc				
P	1	Non-alloy steel	About 0.15% C Annealed	125		○	○	○	
	2		About 0.45% C Annealed	190	13	○	○	○	
	3		About 0.45% C Quenched & Tempered	250	25	○	○	○	
	4		About 0.75% C Annealed	270	28	○	○	○	
	5		About 0.75% C Quenched & Tempered	300	32	○	○	○	
	6	Low alloy steel	Annealed	180	10	○	○	○	
	7		Quenched & Tempered	275	29	○	○	○	
	8		Quenched & Tempered	300	32	○	○	○	
	9		Quenched & Tempered	350	38	○	○	○	
	10		High alloyed steel, and tool steel	Annealed	200	15	○	○	○
	11	Quenched & Tempered		325	35	○	○	○	
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	◎	◎	
	13		Martensitic Quenched & Tempered	240	23	◎	◎	◎	
	14		Austenitic	180	10	◎	◎	◎	
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○	○	
	16		Pearlitic (Martensitic)	260	26	○	○	○	
	17	Nodular cast iron	Ferritic	160	3	○	○	○	
	18		Pearlitic	250	25	○	○	○	
	19	Malleable cast iron	Ferritic	130		○	○	○	
	20		Pearlitic	230	21	○	○	○	
N	21	Aluminum- wrought alloy	Not Curable	60					
	22		Curable Hardened	100					
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75					
	24		≤ 12% Si, Curable Hardened	90					
	25		> 12% Si, Not Curable	130					
	26		Copper and Copper Alloys	Cutting Alloys, PB>1%	110				
	27	Non Metallic Materials	CuZn, CuSnZn (Brass)	90					
	28		CuSn, lead-free copper and electrolytic copper	100					
	29		Duroplastic, Fiber Reinforced Plastic						
	30	Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15	○	○	○	
	32		Cured	280	30	○	○	○	
	33		Annealed	250	25	○	○	○	
	34		Ni or Co Based Cured	350	38	○	○	○	
	35		Cast	320	34	○	○	○	
	36	Titanium Alloys	Pure Titanium	400 Rm		◎	◎	◎	
	37		Alpha + Beta Alloys Hardened	1050 Rm		◎	◎	◎	
H	38	Hardened steel	Hardened	550	55				
	39		Hardened	630	60				
	40	Chilled Cast Iron	Cast	400	42				
	41	Hardened Cast Iron	Hardened	550	55				

BALL NOSE = 球头 CORNER RADIUS = 圆鼻 SQUARE = 平头 ROUGHING = 粗加工
SHORT LENGTH = 短刃 LONG LENGTH = 长刃 DOUBLE CORE = 双芯厚

HSS

CBN
END MILLS

i-Xmill
END MILLS

i-SMART
MODULAR
END MILLS

X5070
END MILLS

4G MILL
END MILLS

X-POWER
PRO
END MILLS

TitaNox-
POWER
END MILLS

SUS-CUT
END MILLS

V7 PLUS
END MILLS

ALU-POWER
HPC
END MILLS

ALU-CUT
END MILLS

G-CUT
END MILLS

CRX S
END MILLS

K-2
END MILLS

GENERAL
CARBIDE
END MILLS

ONLY ONE
COATED PM60
END MILLS

TANK-
POWER
END MILLS

GENERAL
HSS
END MILLS

MILLING
CUTTERS

TECHNICAL
DATA

TECHNICAL
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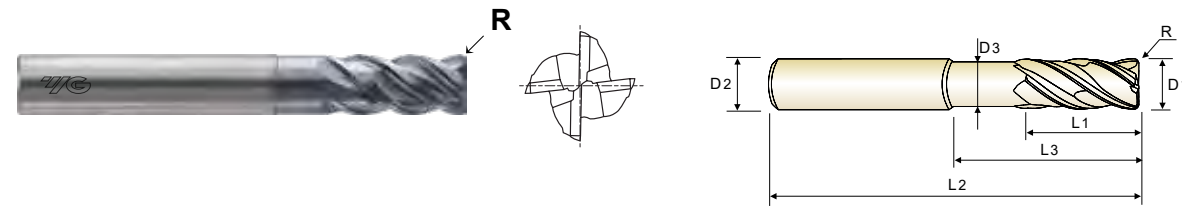
TECHNICAL
DATA

TECHNICAL
DATA

CARBIDE, 4 FLUTE CORNER RADIUS with DOUBLE CORE
硬质合金, 4刃 圆鼻 双芯厚

▶ Double core end mill has a unique flute design for excellent chip evacuation and higher rigidity.
▶ The double core adds stability and aids chip flow, reducing tool deflection, improving dimensional stability and workpiece accuracy.

▶ 双芯厚铣刀具有独特沟槽设计, 实现出色排屑性能与优秀刚性
▶ 双芯厚实现稳定性和排屑性能, 减少刀具偏斜, 提高尺寸稳定性和工件精度

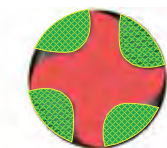
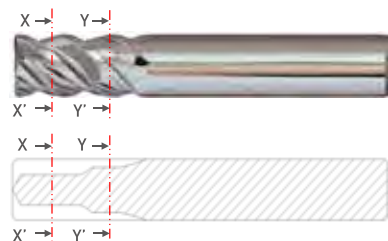


Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	HYDRAULIC CHUCK	D15-46
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK	D73-115

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
PLAIN	FLAT	R	D1	D2	L1	L3	L2	D3
GMG40060	GMG41060	R0.5	6.0	6	13	20	57	5.5
GMG40901	GMG41901	R1.0	6.0	6	13	20	57	5.5
GMG40080	GMG41080	R0.5	8.0	8	19	25	63	7.5
GMG40902	GMG41902	R1.0	8.0	8	19	25	63	7.5
GMG40903	GMG41903	R1.5	8.0	8	19	25	63	7.5
GMG40904	GMG41904	R2.0	8.0	8	19	25	63	7.5
GMG40100	GMG41100	R0.5	10.0	10	22	30	72	9.2
GMG40905	GMG41905	R1.0	10.0	10	22	30	72	9.2
GMG40906	GMG41906	R1.5	10.0	10	22	30	72	9.2
GMG40907	GMG41907	R2.0	10.0	10	22	30	72	9.2
GMG40120	GMG41120	R0.5	12.0	12	26	35	83	11.0
GMG40908	GMG41908	R1.0	12.0	12	26	35	83	11.0
GMG40909	GMG41909	R1.5	12.0	12	26	35	83	11.0
GMG40910	GMG41910	R2.0	12.0	12	26	35	83	11.0
GMG40911	GMG41911	R3.0	12.0	12	26	35	83	11.0
GMG40140	GMG41140	R1.0	14.0	14	26	35	83	13.0
GMG40912	GMG41912	R2.0	14.0	14	26	35	83	13.0
GMG40160	GMG41160	R1.0	16.0	16	35	43	92	15.0

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
0 ~ -0.03	h5 * Shank Dia. ≥ Ø12 : h6

◆ 2 STEP CORE
双芯厚



<SECTION X-X'>
EXCELLENT CHIP
EVACUATION
<X-X' 区间>
卓越排屑性能



<SECTION Y-Y'>
HIGHER RIGIDITY
<Y-Y' 区间>
高刚性

◎ : Excellent (优秀) ○ : Good (良好)

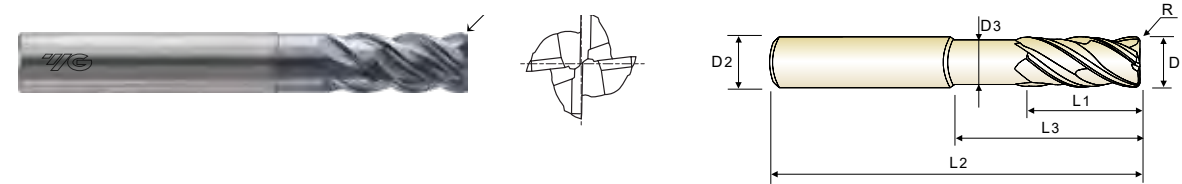
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	15	23	10	10	10	26	3	25	21	21
HRc	125	190	250	270	300	180	275	300	350	200	240	180	260	160	160	250	130	230		
HB	125	190	250	270	300	180	275	300	350	200	240	180	260	160	160	250	130	230		
Recommend	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	○	○	○	○	○	

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	○	○	○	○

CARBIDE, 4 FLUTE CORNER RADIUS with DOUBLE CORE
硬质合金, 4刃 圆鼻 双芯厚

▶ Double core end mill has a unique flute design for excellent chip evacuation and higher rigidity.
▶ The double core adds stability and aids chip flow, reducing tool deflection, improving dimensional stability and workpiece accuracy.

▶ 双芯厚铣刀具有独特沟槽设计, 实现出色排屑性能与优秀刚性
▶ 双芯厚实现稳定性和排屑性能, 减少刀具偏斜, 提高尺寸稳定性和工件精度

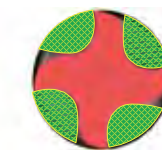
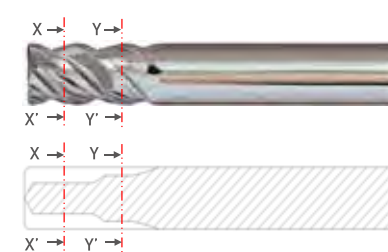


Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	HYDRAULIC CHUCK	D15-46
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK	D73-115

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
PLAIN	FLAT	R	D1	D2	L1	L3	L2	D3
GMG40913	GMG41913	R1.5	16.0	16	35	43	92	15.0
GMG40914	GMG41914	R2.0	16.0	16	35	43	92	15.0
GMG40915	GMG41915	R3.0	16.0	16	35	43	92	15.0
GMG40916	GMG41916	R4.0	16.0	16	35	43	92	15.0
GMG40200	GMG41200	R1.0	20.0	20	44	56	110	19.0
GMG40917	GMG41917	R1.5	20.0	20	44	56	110	19.0
GMG40918	GMG41918	R2.0	20.0	20	44	56	110	19.0
GMG40919	GMG41919	R3.0	20.0	20	44	56	110	19.0
GMG40920	GMG41920	R3.5	20.0	20	44	56	110	19.0
GMG40921	GMG41921	R4.0	20.0	20	44	56	110	19.0
GMG40250	GMG41250	R1.0	25.0	25	55	70	130	24.0
GMG40922	GMG41922	R1.5	25.0	25	55	70	130	24.0
GMG40923	GMG41923	R2.0	25.0	25	55	70	130	24.0
GMG40924	GMG41924	R3.0	25.0	25	55	70	130	24.0
GMG40925	GMG41925	R4.0	25.0	25	55	70	130	24.0

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
0 ~ -0.03	h5 * Shank Dia. ≥ Ø12 : h6

◆ 2 STEP CORE
双芯厚



<SECTION X-X'>
EXCELLENT CHIP
EVACUATION
<X-X' 区间>
卓越排屑性能



<SECTION Y-Y'>
HIGHER RIGIDITY
<Y-Y' 区间>
高刚性

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	15	23	10	10	10	26	3	25	21	21
HRc	125	190	250	270	300	180	275	300	350	200	240	180	260	160	160	250	130	230		
HB	125	190	250	270	300	180	275	300	350	200	240	180	260	160	160	250	130	230		
Recommend	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	○	○	○	○	○	

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	○	○	○	○

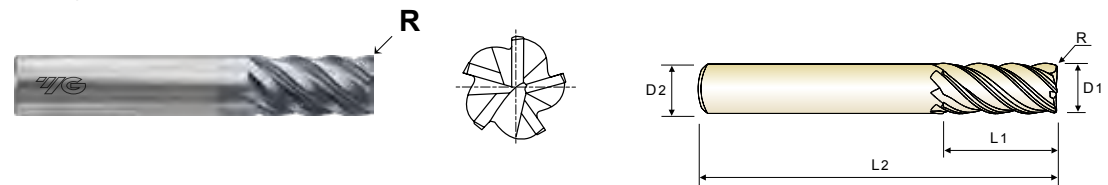


PLAIN SHANK **GMG28** SERIES
FLAT SHANK **GMG29** SERIES

CARBIDE, 5 FLUTE CORNER RADIUS SHORT LENGTH
硬质合金, 5刃 圆鼻 短刃

- ▶ Excellent performance results and long tool life when machining Titanium and other tough materials.
- ▶ This tool has high rigidity of flute so that is possible to use for heavy profile and high speed milling.
- ▶ For protecting corner chipping of end teeth, corner radius & chamfer are adopted.

- ▶ 加工钛或难切材料实现出色的性能, 优秀的寿命
- ▶ 高刚性的沟槽可适用于重型仿形铣削及高速铣削
- ▶ 为了防止崩刃, 可提供圆鼻和倒角铣刀



Icons: CARBIDE, 5, 43°/44°/45°, PLAIN, FLAT, p.C362

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	HYDRAULIC CHUCK	D15-46
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L2
GMG28060	GMG29060	R0.5	6.0	6	10	54
GMG28080	GMG29080	R0.5	8.0	8	12	58
GMG28100	GMG29100	R0.5	10.0	10	14	66
GMG28120	GMG29120	R0.5	12.0	12	16	73
GMG28160	GMG29160	R1.0	16.0	16	22	82
GMG28200	GMG29200	R1.0	20.0	20	26	92
GMG28250	GMG29250	R1.0	25.0	25	29	100

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5 * Shank Dia. ≥ Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○	

ISO Material Description	N				S						H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	○	○	○	○

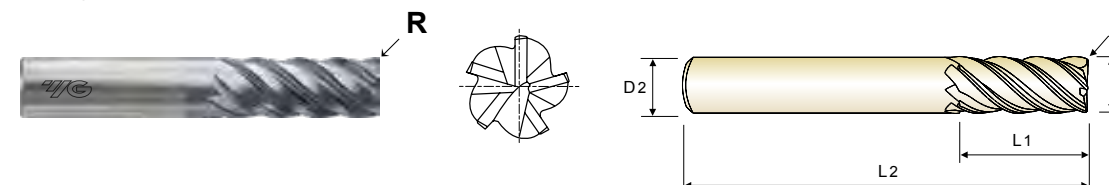


PLAIN SHANK **GMG30** SERIES
FLAT SHANK **GMG31** SERIES

CARBIDE, 5 FLUTE CORNER RADIUS LONG LENGTH
硬质合金, 5刃 圆鼻 长刃

- ▶ Excellent performance results and long tool life when machining Titanium and other tough materials.
- ▶ This tool has high rigidity of flute so that is possible to use for heavy profile and high speed milling.
- ▶ For protecting corner chipping of end teeth, corner radius & chamfer are adopted.

- ▶ 加工钛或难切材料实现出色的性能, 优秀的寿命
- ▶ 高刚性的沟槽可适用于重型仿形铣削及高速铣削
- ▶ 为了防止崩刃, 可提供圆鼻和倒角铣刀



Icons: CARBIDE, 5, 43°/44°/45°, PLAIN, FLAT, p.C362

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	HYDRAULIC CHUCK	D15-46
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L2
GMG30060	GMG31060	R0.3	6.0	6	13	57
GMG30901	GMG31901	R0.5	6.0	6	13	57
GMG30902	GMG31902	R1.0	6.0	6	13	57
GMG30080	GMG31080	R0.5	8.0	8	19	63
GMG30903	GMG31903	R1.0	8.0	8	19	63
GMG30904	GMG31904	R1.5	8.0	8	19	63
GMG30905	GMG31905	R2.0	8.0	8	19	63
GMG30100	GMG31100	R0.5	10.0	10	22	72
GMG30906	GMG31906	R1.0	10.0	10	22	72
GMG30907	GMG31907	R1.5	10.0	10	22	72
GMG30908	GMG31908	R2.0	10.0	10	22	72
GMG30120	GMG31120	R0.5	12.0	12	26	83
GMG30909	GMG31909	R1.0	12.0	12	26	83
GMG30910	GMG31910	R1.5	12.0	12	26	83
GMG30911	GMG31911	R2.0	12.0	12	26	83
GMG30912	GMG31912	R2.5	12.0	12	26	83
GMG30913	GMG31913	R3.0	12.0	12	26	83
GMG30160	GMG31160	R1.0	16.0	16	36	92
GMG30914	GMG31914	R1.5	16.0	16	36	92
GMG30915	GMG31915	R2.0	16.0	16	36	92
GMG30916	GMG31916	R2.5	16.0	16	36	92
GMG30917	GMG31917	R3.0	16.0	16	36	92

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5 * Shank Dia. ≥ Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○	

ISO Material Description	N				S						H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	○	○	○	○

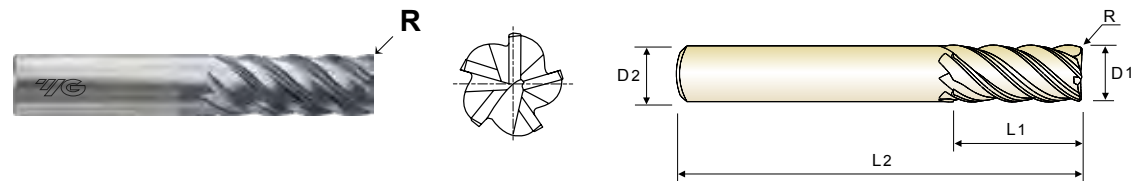


PLAIN SHANK **GMG30** SERIES
FLAT SHANK **GMG31** SERIES

CARBIDE, 5 FLUTE CORNER RADIUS LONG LENGTH
硬质合金, 5刃 圆鼻 长刃

- ▶ Excellent performance results and long tool life when machining Titanium and other tough materials.
- ▶ This tool has high rigidity of flute so that is possible to use for heavy profile and high speed milling.
- ▶ For protecting corner chipping of end teeth, corner radius & chamfer are adopted.

- ▶ 加工钛或难切材料实现出色的性能, 优秀的寿命
- ▶ 高刚性的沟槽可适用于重型仿形铣削及高速铣削
- ▶ 为了防止崩刃, 可提供圆鼻和倒角铣刀



Icons: CARBIDE, 5, 43°/44°/45°, PLAIN, FLAT, p.C362

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	HYDRAULIC CHUCK	D15-46
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L2
GMG30918	GMG31918	R4.0	16.0	16	36	92
GMG30200	GMG31200	R1.0	20.0	20	44	104
GMG30919	GMG31919	R1.5	20.0	20	44	104
GMG30920	GMG31920	R2.0	20.0	20	44	104
GMG30921	GMG31921	R2.5	20.0	20	44	104
GMG30922	GMG31922	R3.0	20.0	20	44	104
GMG30923	GMG31923	R4.0	20.0	20	44	104
GMG30924	GMG31924	R5.0	20.0	20	44	104
GMG30250	GMG31250	R1.0	25.0	25	54	121
GMG30925	GMG31925	R1.5	25.0	25	54	121
GMG30926	GMG31926	R2.0	25.0	25	54	121
GMG30927	GMG31927	R2.5	25.0	25	54	121
GMG30928	GMG31928	R3.0	25.0	25	54	121
GMG30929	GMG31929	R4.0	25.0	25	54	121
GMG30930	GMG31930	R5.0	25.0	25	54	121

Mill Dia.Tolerance (mm)	Shank Dia.Tolerance
0 ~ -0.03	h5 * Shank Dia. ≥ Ø12 : h6

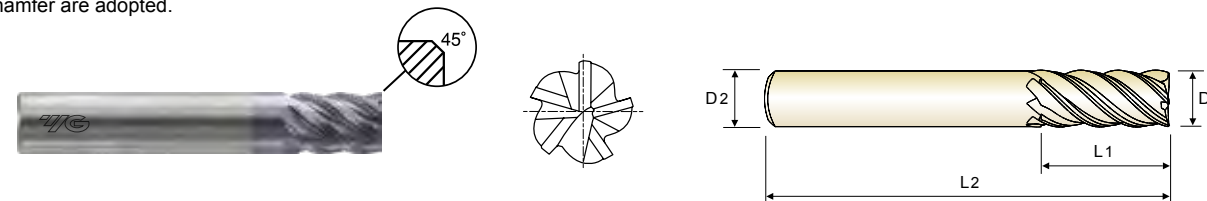


PLAIN SHANK **GMG24** SERIES
FLAT SHANK **GMG25** SERIES

CARBIDE, 5 FLUTE SHORT LENGTH
硬质合金, 5刃 短刃

- ▶ Excellent performance results and long tool life when machining Titanium and other tough materials.
- ▶ This tool has high rigidity of flute so that is possible to use for heavy profile and high speed milling.
- ▶ For protecting corner chipping of end teeth, corner radius & chamfer are adopted.

- ▶ 加工钛或难切材料实现出色的性能, 优秀的寿命
- ▶ 高刚性的沟槽可适用于重型仿形铣削及高速铣削
- ▶ 为了防止崩刃, 可提供圆鼻和倒角铣刀



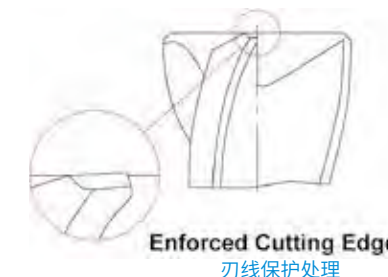
Icons: CARBIDE, 5, 43°/44°/45°, PLAIN, FLAT, C x 45°, p.C363

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	HYDRAULIC CHUCK	D15-46
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer
PLAIN	FLAT	D1	D2	L1	L2	导向
GMG24060	GMG25060	6.0	6	10	54	0.20
GMG24080	GMG25080	8.0	8	12	58	0.20
GMG24100	GMG25100	10.0	10	14	66	0.30
GMG24120	GMG25120	12.0	12	16	73	0.35
GMG24160	GMG25160	16.0	16	22	82	0.40
GMG24200	GMG25200	20.0	20	26	92	0.50
GMG24250	GMG25250	25.0	25	29	100	0.50

Mill Dia.Tolerance (mm)	Shank Dia.Tolerance
0 ~ -0.03	h5 * Shank Dia. ≥ Ø12 : h6



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommend	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	○	○	○	○

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommend	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	○	○	○	○

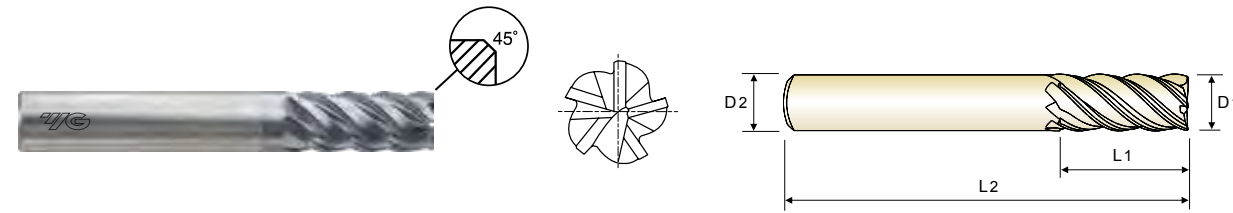


PLAIN SHANK **GMG26** SERIES
FLAT SHANK **GMG27** SERIES

CARBIDE, 5 FLUTE LONG LENGTH
硬质合金, 5刃长刃

- ▶ Suitable for Titanium, Titanium Alloys, Inconel and Stainless Steels.
- ▶ Optimized flute design for chip evacuation and rigidity when machining difficult-to-cut materials.
- ▶ Special roughing profile for machining Titanium and Titanium Alloys.
- ▶ Longer tool life with special coating.

- ▶适用于加工钛, 钛合金及不锈钢
- ▶最佳沟槽设计在加工难切材料时实现优秀排屑及高刚性
- ▶粗加工用特殊设计为加工钛和钛合金
- ▶独特涂层实现高寿命



CARBIDE 5 43°/44°/45° PLAIN FLAT C x 45° p.C363

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		HYDRAULIC CHUCK	D15-46
		SHRINK FIT HOLDER	D47-72
		ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长	Chamfer 导向	
						PLAIN
GMG26060	GMG27060	6.0	6	13	57	0.20
GMG26080	GMG27080	8.0	8	19	63	0.20
GMG26100	GMG27100	10.0	10	22	72	0.30
GMG26120	GMG27120	12.0	12	26	83	0.35
GMG26160	GMG27160	16.0	16	36	92	0.40
GMG26200	GMG27200	20.0	20	44	104	0.50
GMG26250	GMG27250	25.0	25	54	121	0.50

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5 * Shank Dia. ≥ Ø12 : h6



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	○	○	○	○	○	○

ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend											○	○	○	○	○	◎	◎					

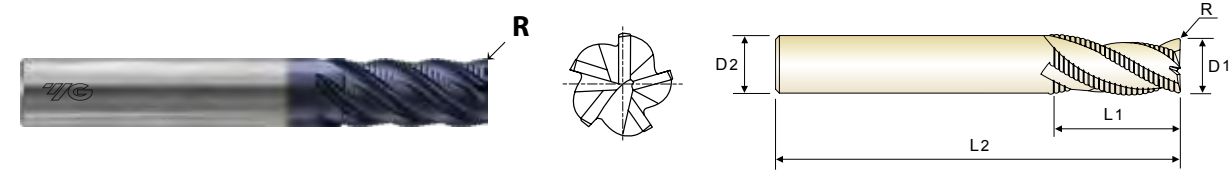


PLAIN SHANK **EHE54** SERIES
FLAT SHANK **EHE55** SERIES

CARBIDE, 5 FLUTE 40° HELIX CORNER RADIUS ROUGHING - FINE
硬质合金, 5刃 40度螺旋 圆鼻 粗加工-细牙

- ▶ Excellent performance results and long tool life when machining Titanium and other tough materials.
- ▶ This tool has high rigidity of flute so that is possible to use for heavy profile and high speed milling.
- ▶ For protecting corner chipping of end teeth, corner radius & chamfer are adopted.

- ▶加工钛或难切材料实现出色的性能, 优秀的寿命
- ▶高刚性的沟槽可适用于重型仿形铣削及高速铣削
- ▶为了防止崩刃, 可提供圆鼻和倒角铣刀



CARBIDE 5 40° HR PLAIN FLAT p.C363

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		HYDRAULIC CHUCK	D15-46
		SHRINK FIT HOLDER	D47-72
		ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长	
						PLAIN
EHE54060	EHE55060	R0.2	6.0	6	16	57
EHE54080	EHE55080	R0.2	8.0	8	16	63
EHE54100	EHE55100	R0.3	10.0	10	22	72
EHE54120	EHE55120	R0.3	12.0	12	26	83
EHE54140	EHE55140	R0.3	14.0	14	26	83
EHE54160	EHE55160	R0.3	16.0	16	32	92
EHE54200	EHE55200	R0.3	20.0	20	38	104
EHE54250	EHE55250	R0.3	25.0	25	45	121

Tolerances according to (精度依照) DIN 7160 & 7161
按DIN7160&7161的标准公差

	Tolerance range in μm / 公差单位为				
	Nominal-Diameter in mm / 直径单位为				
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
h10	0 - 40	0 - 48	0 - 58	0 - 70	0 - 84
h5	0 - 4	0 - 5	0 - 6	0 - 8	0 - 9

* Shank Dia. ≥ Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

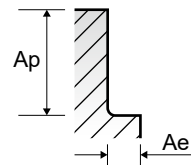
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend										○	○									

ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend											○	○	○	○	○	◎	◎					

GMG40, GMG41 SERIES 4 FLUTES CORNER RADIUS - SIDE CUTTING
4刃 圆鼻-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径																																					
						6.0	8.0	10.0	12.0	14.0	16.0	20.0	25.0																														
P	1-4	Non-alloy steel	0.4D	1.0D	Vc	160	160	160	160	160	160	160	160	fz	0.027	0.035	0.042	0.053	0.058	0.063	0.077	0.084	RPM	8488	6366	5093	4244	3638	3183	2546	2037	FEED	917	891	856	900	844	802	784	684			
					Vc	150	150	150	150	150	150	150	150	150	fz	0.025	0.035	0.042	0.049	0.056	0.063	0.070	0.084	RPM	7958	5968	4775	3979	3410	2984	2387	1910	FEED	796	836	802	780	764	752	668	642		
					Vc	160	160	160	160	160	160	160	160	160	160	160	fz	0.027	0.035	0.042	0.053	0.058	0.063	0.077	0.084	RPM	8488	6366	5093	4244	3638	3183	2546	2037	FEED	917	891	856	900	844	802	784	684
					Vc	150	150	150	150	150	150	150	150	150	150	150	fz	0.025	0.035	0.042	0.049	0.056	0.063	0.070	0.084	RPM	7958	5968	4775	3979	3410	2984	2387	1910	FEED	796	836	802	780	764	752	668	642
	6-7	Low alloy steel	0.4D	1.0D	Vc	150	150	150	150	150	150	150	150	fz	0.027	0.035	0.046	0.053	0.060	0.067	0.077	0.084	RPM	7958	5968	4775	3979	3410	2984	2387	1910	FEED	859	836	879	844	819	800	735	642			
					Vc	150	150	150	150	150	150	150	150	150	150	fz	0.027	0.035	0.046	0.053	0.060	0.067	0.077	0.084	RPM	7958	5968	4775	3979	3410	2984	2387	1910	FEED	859	836	879	844	819	800	735	642	
					Vc	150	150	150	150	150	150	150	150	150	150	fz	0.027	0.035	0.046	0.053	0.060	0.067	0.077	0.084	RPM	7958	5968	4775	3979	3410	2984	2387	1910	FEED	859	836	879	844	819	800	735	642	
					Vc	150	150	150	150	150	150	150	150	150	150	fz	0.027	0.035	0.046	0.053	0.060	0.067	0.077	0.084	RPM	7958	5968	4775	3979	3410	2984	2387	1910	FEED	859	836	879	844	819	800	735	642	
	8	High alloyed steel, and tool steel	0.4D	1.0D	Vc	155	155	155	155	155	155	155	155	fz	0.034	0.046	0.057	0.067	0.076	0.086	0.095	0.114	RPM	8223	6167	4934	4112	3524	3084	2467	1974	FEED	1118	1135	1125	1102	1071	1061	937	900			
					Vc	105	105	105	105	105	105	105	105	105	105	fz	0.025	0.034	0.042	0.048	0.055	0.062	0.071	0.081	RPM	5570	4178	3342	2785	2387	2089	1671	1337	FEED	557	568	561	535	525	518	475	433	
					Vc	44	44	44	44	44	44	44	44	44	44	fz	0.016	0.021	0.027	0.032	0.036	0.040	0.046	0.052	RPM	2334	1751	1401	1167	1000	875	700	560	FEED	149	147	151	149	144	140	129	117	
					Vc	175	175	175	175	175	175	175	175	175	175	fz	0.021	0.028	0.035	0.042	0.048	0.053	0.060	0.070	RPM	9284	6963	5570	4642	3979	3482	2785	2228	FEED	780	780	780	780	764	738	668	624	
10-11.1	Stainless steel	0.4D	1.0D	Vc	32	32	32	32	32	32	32	32	fz	0.020	0.026	0.032	0.038	0.044	0.048	0.055	0.065	RPM	1698	1273	1019	849	728	637	509	407	FEED	136	132	130	129	128	122	112	106				
				Vc	70	70	70	70	70	70	70	70	70	70	fz	0.034	0.048	0.057	0.067	0.076	0.086	0.095	0.114	RPM	3714	2785	2228	1857	1592	1393	1114	891	FEED	505	535	508	498	484	479	423	406		
				Vc	32	32	32	32	32	32	32	32	32	32	fz	0.020	0.026	0.032	0.038	0.044	0.048	0.055	0.065	RPM	1698	1273	1019	849	728	637	509	407	FEED	136	132	130	129	128	122	112	106		
				Vc	70	70	70	70	70	70	70	70	70	70	fz	0.034	0.048	0.057	0.067	0.076	0.086	0.095	0.114	RPM	3714	2785	2228	1857	1592	1393	1114	891	FEED	505	535	508	498	484	479	423	406		



GMG40, GMG41 SERIES 4 FLUTES CORNER RADIUS - SLOTTING
4刃 圆鼻-槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

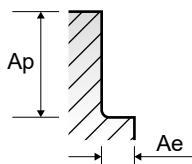
ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径																																				
						6.0	8.0	10.0	12.0	14.0	16.0	20.0	25.0																													
P	1-4	Non-alloy steel	1.0D	1.0D	Vc	125	125	125	125	125	125	125	125	fz	0.025	0.034	0.042	0.049	0.056	0.063	0.070	0.084	RPM	6631	4974	3979	3316	2842	2487	1989	1592	FEED	663	676	668	650	637	627	557	535		
					Vc	120	120	120	120	120	120	120	120	120	fz	0.025	0.034	0.042	0.049	0.056	0.063	0.070	0.084	RPM	6366	4775	3820	3183	2728	2387	1910	1528	FEED	637	649	642	624	611	602	535	471	
					Vc	125	125	125	125	125	125	125	125	125	125	fz	0.025	0.034	0.042	0.049	0.056	0.063	0.070	0.084	RPM	6631	4974	3979	3316	2842	2487	1989	1592	FEED	663	676	668	650	637	627	557	535
					Vc	120	120	120	120	120	120	120	120	120	120	fz	0.025	0.034	0.042	0.049	0.056	0.063	0.070	0.084	RPM	6366	4775	3820	3183	2728	2387	1910	1528	FEED	637	649	642	624	611	602	535	471
	6-7	Low alloy steel	1.0D	1.0D	Vc	120	120	120	120	120	120	120	120	fz	0.025	0.034	0.042	0.049	0.056	0.063	0.070	0.084	RPM	6366	4775	3820	3183	2728	2387	1910	1528	FEED	637	649	642	624	611	602	535	471		
					Vc	120	120	120	120	120	120	120	120	120	fz	0.025	0.034	0.042	0.049	0.056	0.063	0.070	0.084	RPM	6366	4775	3820	3183	2728	2387	1910	1528	FEED	637	649	642	624	611	602	535	471	
					Vc	120	120	120	120	120	120	120	120	120	fz	0.025	0.034	0.042	0.049	0.056	0.063	0.070	0.084	RPM	6366	4775	3820	3183	2728	2387	1910	1528	FEED	637	649	642	624	611	602	535	471	
					Vc	120	120	120	120	120	120	120	120	120	fz	0.025	0.034	0.042	0.049	0.056	0.063	0.070	0.084	RPM	6366	4775	3820	3183	2728	2387	1910	1528	FEED	637	649	642	624	611	602	535	471	
	8-9	High alloyed steel, and tool steel	1.0D	1.0D	Vc	120	120	120	120	120	120	120	120	fz	0.027	0.035	0.042	0.053	0.058	0.063	0.077	0.084	RPM	6366	4775	3820	3183	2728	2387	1910	1528	FEED	688	668	642	624	611	602	535	471		
					Vc	120	120	120	120	120	120	120	120	120	fz	0.027	0.035	0.042	0.053	0.058	0.063	0.077	0.084	RPM	6366	4775	3820	3183	2728	2387	1910	1528	FEED	688	668	642	624	611	602	535	471	
					Vc	120	120	120	120	120	120	120	120	120	fz	0.027	0.035	0.042	0.053	0.058	0.063	0.077	0.084	RPM	6366	4775	3820	3183	2728	2387	1910	1528	FEED	688	668	642	624	611	602	535	471	
					Vc	120	120	120	120	120	120	120	120	120	fz	0.027	0.035	0.042	0.053	0.058	0.063	0.077	0.084	RPM	6366	4775	3820	3183	2728	2387	1910	1528	FEED	688	668	642	624	611	602	535	471	
10-11.1	Stainless steel	1.0D	1.0D	Vc	125	125	125	125	125	125	125	125	fz	0.034	0.046	0.057	0.067	0.074	0.081	0.095	0.105	RPM	6631	4974	3979	3316	2842	2487	1989	1592	FEED	902	915	907	889	841	806	756	668			
				Vc	85	85	85	85	85	85	85	85	85	fz	0.025	0.034	0.042	0.048	0.055	0.062	0.071	0.081	RPM	4509	3382	2706	2255	1933	1691	1353	1082	FEED	451	460	455	433	425	419	384	351		
				Vc	36	36	36	36	36	36	36	36	36	fz	0.016	0.021	0.027	0.032	0.036	0.040	0.046	0.052	RPM	1910	1432	1146	955	819	716	573	458	FEED	122	120	124	122	118	115	105	95		
				Vc	140	140	140	140	140	140	140	140	140	fz	0.021	0.028	0.035	0.042	0.048	0.053	0.060	0.067	RPM	7427	5570	4456	3714	3183	2785	2228	1783	FEED	624	624	624	624	611	590	535	478		
12-13	Grey cast iron	1.0D	1.0D	Vc	25	25	25	25	25	25	25	25	fz	0.018	0.024	0.030	0.036	0.040	0.044	0.05																						

GMG28 GMG29 GMG30 GMG31 5 FLUTES CORNER RADIUS - SIDE CUTTING
5刃 圆鼻-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径								
						6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0
P	1-4	Non-alloy steel	0.3D	1.5D(*)	Vc	144	144	144	144	144	144	144	144	144
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
					RPM	7639	5730	4584	3820	3274	2865	2546	2292	1833
					FEED	1299	1089	1146	1203	1130	1089	1057	1020	926
					Vc	101	101	101	101	101	101	101	101	101
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
	5	Non-alloy steel	0.3D	1.5D(*)	Vc	101	101	101	101	101	101	101	101	101
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
					RPM	5358	4019	3215	2679	2296	2009	1786	1607	1286
					FEED	911	764	804	844	792	764	741	715	649
					Vc	144	144	144	144	144	144	144	144	144
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
6-7	Low alloy steel	0.3D	1.5D(*)	Vc	144	144	144	144	144	144	144	144	144	
				fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101	
				RPM	7639	5730	4584	3820	3274	2865	2546	2292	1833	
				FEED	1299	1089	1146	1203	1130	1089	1057	1020	926	
				Vc	101	101	101	101	101	101	101	101	101	
				fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101	
8-9	Low alloy steel	0.3D	1.5D(*)	Vc	101	101	101	101	101	101	101	101	101	
				fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101	
				RPM	5358	4019	3215	2679	2296	2009	1786	1607	1286	
				FEED	911	764	804	844	792	764	741	715	649	
				Vc	60	60	60	60	60	60	60	60	60	
				fz	0.024	0.027	0.035	0.044	0.049	0.054	0.058	0.062	0.071	
10-11.1	High alloyed steel, and tool steel	0.3D	1.5D(*)	Vc	60	60	60	60	60	60	60	60	60	
				fz	0.024	0.027	0.035	0.044	0.049	0.054	0.058	0.062	0.071	
				RPM	3183	2387	1910	1592	1364	1194	1061	955	764	
				FEED	382	322	334	350	334	322	308	296	271	
				Vc	117	117	117	117	117	117	117	117	117	
				fz	0.024	0.025	0.030	0.046	0.051	0.054	0.057	0.061	0.071	
M	12-13	Stainless steel	0.3D	1.5D(*)	Vc	117	117	117	117	117	117	117	117	117
					fz	0.024	0.025	0.030	0.046	0.051	0.054	0.057	0.061	0.071
					RPM	6207	4655	3724	3104	2660	2328	2069	1862	1490
					FEED	745	582	559	714	678	628	590	568	529
					Vc	82	82	82	82	82	82	82	82	82
					fz	0.030	0.032	0.038	0.063	0.065	0.069	0.070	0.076	0.088
	14.1	Stainless steel	0.3D	1.5D(*)	Vc	4350	3263	2610	2175	1864	1631	1450	1305	1044
					RPM	4350	3263	2610	2175	1864	1631	1450	1305	1044
					FEED	653	522	496	685	606	563	508	496	459
					Vc	59	59	59	59	59	59	59	59	59
					fz	0.030	0.032	0.038	0.063	0.065	0.069	0.070	0.076	0.088
					RPM	3130	2348	1878	1565	1341	1174	1043	939	751
14.2	Stainless steel	0.3D	1.5D(*)	Vc	470	376	357	493	436	405	365	357	331	
				fz	0.030	0.032	0.038	0.063	0.065	0.069	0.070	0.076	0.088	
				RPM	3130	2348	1878	1565	1341	1174	1043	939	751	
				FEED	470	376	357	493	436	405	365	357	331	
				Vc	106	106	106	106	106	106	106	106	106	
				fz	0.043	0.048	0.063	0.079	0.087	0.096	0.103	0.111	0.126	
K	15-20	Grey cast iron	0.3D	1.5D(*)	Vc	5623	4218	3374	2812	2410	2109	1874	1687	1350
					RPM	5623	4218	3374	2812	2410	2109	1874	1687	1350
					FEED	1209	1012	1063	1111	1048	1012	965	936	850
					Vc	31	31	31	31	31	31	31	31	31
					fz	0.021	0.022	0.027	0.044	0.046	0.048	0.049	0.053	0.062
					RPM	1645	1233	987	822	705	617	548	493	395
S	31-35	Heat Resistant Super Alloys	0.1D	1.5D	Vc	173	136	133	181	162	148	134	131	122
					fz	0.021	0.022	0.027	0.044	0.046	0.048	0.049	0.053	0.062
					RPM	1645	1233	987	822	705	617	548	493	395
					FEED	173	136	133	181	162	148	134	131	122
					Vc	69	69	69	69	69	69	69	69	69
					fz	0.027	0.029	0.034	0.057	0.059	0.062	0.063	0.069	0.079
36-37	Titanium Alloys	0.3D	1.5D(*)	Vc	3661	2745	2196	1830	1569	1373	1220	1098	879	
				fz	0.027	0.029	0.034	0.057	0.059	0.062	0.063	0.069	0.079	
				RPM	3661	2745	2196	1830	1569	1373	1220	1098	879	
				FEED	494	398	373	522	463	426	384	379	347	
				Vc	69	69	69	69	69	69	69	69	69	
				fz	0.027	0.029	0.034	0.057	0.059	0.062	0.063	0.069	0.079	

* Maximum recommended depth shown.
* Finish cuts typically require reduced feed rates and/or higher spindle speed, with radial width of 2% x D1 or less.
* Reduce speed and feed recommendations for materials harder than listed.
* Above recommendations are based on ideal conditions.
Adjust parameters accordingly for smaller taper machining centers or less rigid conditions.



* 显示最大建议深度
* 精加工通常需要降低进给和/或提高转速, 径向切深为2% x D1或更小
* 加工比目录上的工件硬度更高时,降低切削速度和进给
* 以上推荐参数是基于理想的工况 相应地调整参数以适应更小的加工中心或更少的刚性条件
* 具有加工铬镍铁合金工况的特殊形状设计

GMG24 GMG25 GMG26 GMG27 5 FLUTES - SIDE CUTTING
5刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径								
						6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0
P	1-4	Non-alloy steel	0.3D	1.5D(*)	Vc	144	144	144	144	144	144	144	144	144
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
					RPM	7639	5730	4584	3820	3274	2865	2546	2292	1833
					FEED	1299	1089	1146	1203	1130	1089	1057	1020	926
					Vc	101	101	101	101	101	101	101	101	101
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
	5	Non-alloy steel	0.3D	1.5D(*)	Vc	101	101	101	101	101	101	101	101	101
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
					RPM	5358	4019	3215	2679	2296	2009	1786	1607	1286
					FEED	911	764	804	844	792	764	741	715	649
					Vc	144	144	144	144	144	144	144	144	144
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101
6-7	Low alloy steel	0.3D	1.5D(*)	Vc	144	144	144	144	144	144	144	144	144	
				fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101	
				RPM	7639	5730	4584	3820	3274	2865	2546	2292	1833	
				FEED	1299	1089	1146	1203	1130	1089	1057	1020	926	
				Vc	101	101	101	101	101	101	101	101	101	
				fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101	
8-9	Low alloy steel	0.3D	1.5D(*)	Vc	101	101	101	101	101	101	101	101	101	
				fz	0.034	0.038	0.050	0.063	0.069	0.076	0.083	0.089	0.101	
				RPM	5358	4019	3215	2679	2296	2009	1786	1607	1286	
				FEED	911	764	804	844	792	764	741	715	649	
				Vc	60	60	60	60	60	60	60	60	60	
				fz	0.024	0.027	0.035	0.044	0.049	0.054	0.058	0.062	0.071	
10-11.1	High alloyed steel, and tool steel	0.3D	1.5D(*)	Vc	3183	2387	1910	1592	1364	1194	1061	955	764	
				fz	0.024	0.027	0.035	0.044	0.049	0.054	0.058	0.062	0.071	
				RPM	3183	2387	1910	1592	1364	1194	1061	955	764	
				FEED	382	322	334	350	334	322	308	296	271	
				Vc	117	117	117	117	117	117	117	117	117	
				fz	0.024	0.025	0.030	0.046	0.051	0.054	0.057	0.061	0.071	
M	12-13	Stainless steel	0.3D	1.5D(*)	Vc	6207	4655	3724	3104	2660	2328	2069	1862	1490
					fz	0.024	0.025	0.030	0.046	0.051	0.054	0.057	0.061	0.071
					RPM	6207	4655	3724	3104	2660	2328	2069	1862	1490
					FEED	745	582	559	714	678	628	590	568	529
					Vc	82	82	82	82	82	82	82	82	82
					fz	0.030	0.032	0.038	0.063	0.065	0.069	0.070	0.076	0.088
	14.1	Stainless steel	0.3D	1.5D(*)	Vc	4350	3263	2610	2175	1864	1631	1450	1305	1044
					fz	0.030	0.032	0.038	0.063	0.065	0.069	0.070	0.076	0.088
					RPM	435								



Global Cutting Tool Leader **YG-1**



MILLING



Leading Through Innovation



SOLID CARBIDE

SUS-CUT END MILLS

- High Speed Machining for Exotic Materials: Titanium, Inconel and Stainless Steels
- 适用于高速加工耐高温材料：钛合金，铬镍铁合金和不锈钢

SELECTION GUIDE
选用指南



SERIES 系列	EMD88	EMD83	EHD84	EMD82	EMD92
FLUTE 槽数	4	4	3	4	3-5
HELIX ANGLE 螺旋角度	36°~39.75° (SINUSOIDAL)	36°~39.75° (SINUSOIDAL)	45°	36°~39.75° (SINUSOIDAL)	45° (MULTIPLE HELIX)
CUTTING EDGE SHAPE 类型	BALL NOSE	CORNER RADIUS	SQUARE	SQUARE	ROUGHING CORNER RADIUS
SIZE MIN 最小尺寸	R1.5	D1.0	D1.0	D1.0	D3.0
SIZE MAX 最大尺寸	R10.0	D20.0	D20.0	D20.0	D20.0
PAGE 页数	C367	C368-369	C370	C371-372	C373-374

SOLID CARBIDE
SUS-CUT
END MILLS

Exotic materials like Stainless Steels
Nickel alloys and Titanium
加工不锈钢, 镍合金和钛合金



◎: Excellent (优秀) ○: Good (良好)

Recommended cutting conditions (推荐加工参数): p.C375

Please visit globalyg1.com/mat for material search

ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理	HB	HRc	EMD88	EMD83	EHD84	EMD82	EMD92	
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	◎	○	
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎	○	
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎	○	
	4		About 0.75% C Annealed	270	28	◎	◎	◎	◎	○	
	5		About 0.75% C Quenched & Tempered	300	32	○	○	○	○	○	
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎	○	
	7		Quenched & Tempered	275	29	◎	◎	◎	◎	○	
	8		Quenched & Tempered	300	32	○	○	○	○	○	
	9		Quenched & Tempered	350	38	○	○	○	○	○	
	10		High alloyed steel, and tool steel	Annealed	200	15	◎	◎	◎	◎	○
	11			Quenched & Tempered	325	35	○	○	○	○	○
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	◎	◎	◎	◎	
	13		Martensitic Quenched & Tempered	240	23	◎	◎	◎	◎	◎	
	14		Austenitic	180	10	◎	◎	◎	◎	◎	
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○	○	○	○	
	16		Pearlitic (Martensitic)	260	26	○	○	○	○	○	
	17	Nodular cast iron	Ferritic	160	3	○	○	○	○	○	
	18		Pearlitic	250	25	○	○	○	○	○	
	19	Malleable cast iron	Ferritic	130		○	○	○	○	○	
	20		Pearlitic	230	21	○	○	○	○	○	
N	21	Aluminum-wrought alloy	Not Curable	60							
	22		Curable Hardened	100							
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75							
	24		≤ 12% Si, Curable Hardened	90							
	25		> 12% Si, Not Curable	130							
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110			○			
	27	Non Metallic Materials	CuZn, CuSnZn (Brass)	90				○			
	28		CuSn, lead-free copper and electrolytic copper	100				○			
	29		Duroplastic, Fiber Reinforced Plastic								
	30	Rubber, Wood, etc.									
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15	○	○	○	○	○
	32			Cured	280	30	○	○	○	○	○
	33			Annealed	250	25	○	○	○	○	○
	34		Ni or Co Based	Cured	350	38	○	○	○	○	○
	35			Cast	320	34	○	○	○	○	○
	36			Pure Titanium	400 Rm		○	○	○	○	○
37	Alpha + Beta Alloys	Hardened	1050 Rm		○	○	○	○			
H	38	Hardened steel	Hardened	550	55						
	39		Hardened	630	60						
	40	Chilled Cast Iron	Cast	400	42						
	41	Hardened Cast Iron	Hardened	550	55						

BALL NOSE = 球头 CORNER RADIUS = 圆鼻 SQUARE = 平头
ROUGHING = 粗加工 MULTIPLE HELIX = 不等螺旋

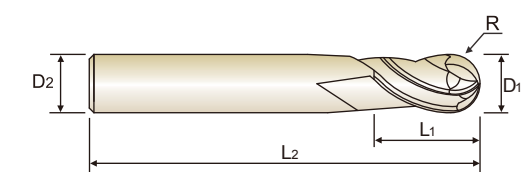


PLAIN SHANK **EMD88** SERIES

CARBIDE, 4 FLUTE BALL NOSE
硬质合金, 4刃 球头

- Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- Suitable for cutting stainless steels and sticky materials up to HRc40
- Reduction of vibration at cutting and suitable for rough and semifinish cutting due to special flute design and wave helix flutes

- 采用新涂层及新形状, 强力切削及耐磨性优秀。
- 不锈钢和粘着材料 专用加工工具, 可以到HRc 40以下使用。
- 适用于非标 Flute 设计及可变螺旋设计, 加工时可减少震动, 实现中/粗加工。



Recommended Toolholder	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
○	-	-	HYDRAULIC CHUCK	D15-46
○	-	-	SHRINK FIT HOLDER	D47-72
○	-	-	ER COLLET CHUCK	D73-115

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角	直径	柄径	刃长	全长
	R(±0.010)	D1	D2	L1	L2
EMD88030	R1.5	3.0	6	8	60
EMD88040	R2.0	4.0	6	8	70
EMD88050	R2.5	5.0	6	12	80
EMD88060	R3.0	6.0	6	12	90
EMD88080	R4.0	8.0	8	16	100
EMD88100	R5.0	10.0	10	20	100
EMD88120	R6.0	12.0	12	25	100
EMD88160	R8.0	16.0	16	30	100
EMD88200	R10.0	20.0	20	38	100

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎: Excellent (优秀) ○: Good (良好)

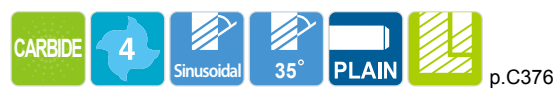
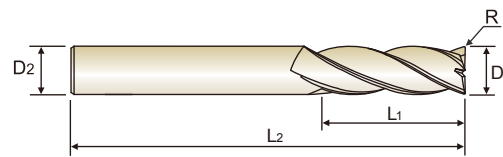
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	30	32	10	29	32	38	15	35	15	23	10	10	26	3	25		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	◎	◎	◎	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys		Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

CARBIDE, 4 FLUTE CORNER RADIUS
硬质合金, 4刃 圆鼻

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting difficult to cut materials like alloy steels, stainless steels, Titanium, Inconel etc.
- ▶ Available heavy cut, high speed cut and high feed cut due to wave helix flute design
- ▶ Applying corner radius for protecting chipping when heavy cutting

- ▶ 采用新涂层及新形状, 强力切削及耐磨性优秀。
- ▶ 适用于合金钢, 不锈钢系列, 钛 镍, 合金工具钢等工件加工。
- ▶ 侧面采用签名派, 可强力切削高速, 高移送加工。
- ▶ 强力切削时为最大程度地减少崩刃, 采用角部保护



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		HYDRAULIC CHUCK	D15-46
		SHRINK FIT HOLDER	D47-72
		ER COLLET CHUCK	D73-115

D ≥ Ø3 D < Ø3 Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2
EMD83010	R0.1	1.0	6	2.5	50
EMD8301002	R0.2	1.0	6	2.5	50
EMD83012	R0.1	1.2	6	3	50
EMD83015	R0.1	1.5	6	4	50
EMD8301502	R0.2	1.5	6	4	50
EMD83020	R0.1	2.0	6	6	50
EMD8302002	R0.2	2.0	6	6	50
EMD83025	R0.2	2.5	6	7	50
EMD83030	R0.2	3.0	6	8	55
EMD8303003	R0.3	3.0	6	8	55
EMD8303005	R0.5	3.0	6	8	55
EMD83040	R0.2	4.0	6	10	55
EMD8304003	R0.3	4.0	6	10	55
EMD8304005	R0.5	4.0	6	10	55
EMD83050	R0.2	5.0	6	15	55
EMD8305003	R0.3	5.0	6	15	55
EMD8305005	R0.5	5.0	6	15	55
EMD83060	R0.3	6.0	6	15	60
EMD8306005	R0.5	6.0	6	15	60
EMD8306010	R1.0	6.0	6	15	60

▶ NEXT PAGE 下页

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

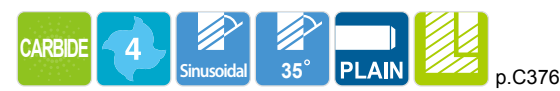
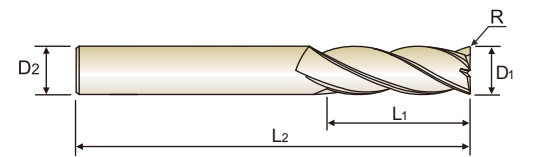
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	19	21
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 4 FLUTE CORNER RADIUS
硬质合金, 4刃 圆鼻

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting difficult to cut materials like alloy steels, stainless steels, Titanium, Inconel etc.
- ▶ Available heavy cut, high speed cut and high feed cut due to wave helix flute design
- ▶ Applying corner radius for protecting chipping when heavy cutting

- ▶ 采用新涂层及新形状, 强力切削及耐磨性优秀。
- ▶ 适用于合金钢, 不锈钢系列, 钛 镍, 合金工具钢等工件加工。
- ▶ 侧面采用签名派, 可强力切削高速, 高移送加工。
- ▶ 强力切削时为最大程度地减少崩刃, 采用角部保护



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		HYDRAULIC CHUCK	D15-46
		SHRINK FIT HOLDER	D47-72
		ER COLLET CHUCK	D73-115

D ≥ Ø3 D < Ø3 Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2
EMD83080	R0.3	8.0	8	20	70
EMD8308005	R0.5	8.0	8	20	70
EMD8308010	R1.0	8.0	8	20	70
EMD83100	R0.3	10.0	10	25	75
EMD8310005	R0.5	10.0	10	25	75
EMD8310010	R1.0	10.0	10	25	75
EMD8310015	R1.5	10.0	10	25	75
EMD8310020	R2.0	10.0	10	25	75
EMD8310030	R3.0	10.0	10	25	75
EMD83120	R0.5	12.0	12	30	80
EMD8312010	R1.0	12.0	12	30	80
EMD8312015	R1.5	12.0	12	30	80
EMD8312020	R2.0	12.0	12	30	80
EMD8312030	R3.0	12.0	12	30	80
EMD8312040	R4.0	12.0	12	30	80
EMD83140	R0.5	14.0	16	35	90
EMD8314010	R1.0	14.0	16	35	90
EMD83160	R0.5	16.0	16	42	100
EMD8316010	R1.0	16.0	16	42	100
EMD83180	R0.5	18.0	16	45	100
EMD83200	R0.5	20.0	20	48	100
EMD8320010	R1.0	20.0	20	48	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

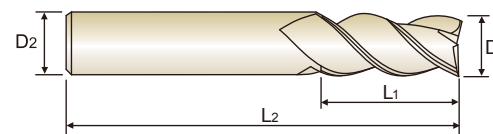
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	19	21
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 3 FLUTE 45° HELIX
硬质合金, 3刃 45度螺旋

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting difficult to cut materials like alloy steels, stainless steels, Titanium, Inconel etc.
- ▶ Excellent chip evacuation and outstanding surface roughness of workpieces due to 3 flutes
- ▶ Applying corner radius for protecting chipping when heavy cutting

- ▶ 采用新涂层及新形状, 强力切削及耐磨性优秀。
- ▶ 适用于合金钢, 不锈钢系列, 钛, 镍, 合金工具钢等工件加工。
- ▶ 使用3刃, 容易排除屑, 优秀工件和表面图。
- ▶ 强力切削时为最大程度地减少崩刃, 采用角部保护



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Recommended ToolHolder	Flat Shank		Plain Shank	
	Page	Page	Page	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176	
	-	HYDRAULIC CHUCK	D15-46	
	-	SHRINK FIT HOLDER	D47-72	
	-	ER COLLET CHUCK	D73-115	

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
EHD84010	1.0	6	2.5	50
EHD84012	1.2	6	3	50
EHD84015	1.5	6	4	50
EHD84020	2.0	6	6	50
EHD84025	2.5	6	7	50
EHD84030	3.0	6	8	55
EHD8403010	3.0	6	10	60
EHD84040	4.0	6	10	55
EHD8404012	4.0	6	12	60
EHD84050	5.0	6	13	55
EHD84060	6.0	6	15	60
EHD8406020	6.0	6	20	65
EHD84080	8.0	8	20	70
EHD8408030	8.0	8	30	80
EHD84100	10.0	10	25	75
EHD8410035	10.0	10	35	85
EHD84120	12.0	12	30	80
EHD8412040	12.0	12	40	90
EHD84140	14.0	16	35	90
EHD84160	16.0	16	42	100
EHD84180	18.0	16	45	100
EHD84200	20.0	20	48	100

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.02	h5

◎ : Excellent (优秀) ○ : Good (良好)

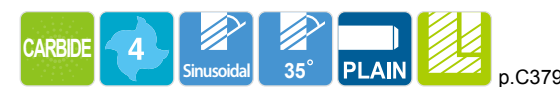
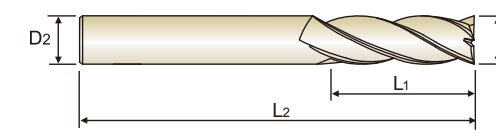
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel				Stainless steel	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 4 FLUTE
硬质合金, 4刃

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting difficult to cut materials like alloy steels, stainless steels, Titanium, Inconel etc.
- ▶ Available heavy cut, high speed cut and high feed cut due to wave helix flute design
- ▶ Applying corner radius for protecting chipping when heavy cutting

- ▶ 采用新涂层及新形状, 强力切削及耐磨性优秀。
- ▶ 适用于合金钢, 不锈钢系列, 钛, 镍, 合金工具钢等工件加工。
- ▶ 侧面采用签名派, 可强力切削高速, 高移送加工。
- ▶ 强力切削时为最大程度地减少崩刃, 采用角部保护



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Recommended ToolHolder	Flat Shank		Plain Shank	
	Page	Page	Page	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176	
	-	HYDRAULIC CHUCK	D15-46	
	-	SHRINK FIT HOLDER	D47-72	
	-	ER COLLET CHUCK	D73-115	

D ≥ Ø3 D < Ø3

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
EMD82010	1.0	6	2.5	50
EMD82012	1.2	6	3	50
EMD82015	1.5	6	4	50
EMD82020	2.0	6	6	50
EMD82025	2.5	6	7	50
EMD82030	3.0	6	8	55
EMD8203010	3.0	6	10	60
EMD82035	3.5	6	10	55
EMD82040	4.0	6	10	55
EMD8204012	4.0	6	12	60
EMD82045	4.5	6	12	55
EMD82050	5.0	6	15	55
EMD82055	5.5	6	15	60
EMD82060	6.0	6	15	60
EMD8206020	6.0	6	20	65
EMD82065	6.5	8	15	60
EMD82070	7.0	8	20	80
EMD82080	8.0	8	20	70
EMD8208025	8.0	8	25	70
EMD8208030	8.0	8	30	80
EMD82085	8.5	10	20	70
EMD82090	9.0	10	25	80

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

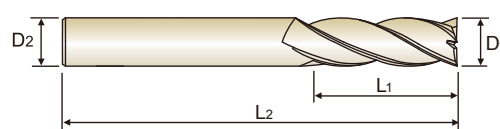
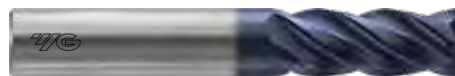
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel				Stainless steel	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 4 FLUTE
硬质合金, 4刃

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting difficult to cut materials like alloy steels, stainless steels, Titanium, Inconel etc.
- ▶ Available heavy cut, high speed cut and high feed cut due to wave helix flute design
- ▶ Applying corner radius for protecting chipping when heavy cutting

- ▶ 采用新涂层及新形状, 强力切削及耐磨性优秀。
- ▶ 适用于合金钢, 不锈钢系列, 钛, 镍, 合金工具钢等工件加工。
- ▶ 侧面采用签名派, 可强力切削高速, 高移送加工。
- ▶ 强力切削时为最大程度地减少崩刃, 采用角部保护



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		HYDRAULIC CHUCK	D15-46
		SHRINK FIT HOLDER	D47-72
		ER COLLET CHUCK	D73-115

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径	柄径	刃长	全长
	D1	D2	L1	L2
EMD82100	10.0	10	25	75
EMD8210035	10.0	10	35	85
EMD82120	12.0	12	30	80
EMD8212040	12.0	12	40	90
EMD82140	14.0	16	35	90
EMD82160	16.0	16	42	100
EMD82180	18.0	16	45	100
EMD82200	20.0	20	48	100

Mill Dia.Tolerance (mm)	Shank Dia.Tolerance
直径公差	柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HRc	125	190	250	270	300	180	275	300	350	200	240	180	260	160	250	130	230			
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 3-5 FLUTE MULTIPLE HELIX CORNER RADIUS ROUGHING (A Type)
硬质合金, 3-5刃 不等螺旋 圆鼻 粗加工 (A型)

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting alloy steels, stainless steels, difficult to cut materials etc.
- ▶ Available high speed cutting and high feed cutting due to special flute design minimizing vibration
- ▶ Applying corner radius for protecting chipping when heavy cutting

- ▶ 采用新涂层及新形状, 强力切削及耐磨性优秀。
- ▶ 适用于合金钢, 不锈钢系列, 钛, 镍, 合金工具钢等工件加工。
- ▶ 侧面采用签名派, 可强力切削高速, 高移送加工。
- ▶ 采用减少震动的 Flute 设计, 可实现高速高移送加工。
- ▶ 强力切削时为最大程度地减少崩刃, 采用角部保护



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		HYDRAULIC CHUCK	D15-46
		SHRINK FIT HOLDER	D47-72
		ER COLLET CHUCK	D73-115

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute 刃数
	圆弧角	直径	柄径	刃长	全长	
	R	D1	D2	L1	L2	
EMD92030	R0.2	3.0	6	8	50	3
EMD92040	R0.2	4.0	6	10	50	3
EMD92050	R0.2	5.0	6	13	50	4
EMD92060	R0.2	6.0	6	13	60	4
EMD9206005	R0.5	6.0	6	13	60	4
EMD92070	R0.2	7.0	8	18	70	4
EMD92080	R0.2	8.0	8	19	70	4
EMD9208010	R1.0	8.0	8	19	70	4
EMD92090	R0.3	9.0	10	20	70	4
EMD92100	R0.3	10.0	10	22	75	4
EMD9210010	R1.0	10.0	10	22	75	4
EMD92110	R0.3	11.0	12	25	80	4
EMD92120	R0.3	12.0	12	26	80	4
EMD9212010	R1.0	12.0	12	26	80	4
EMD92140	R0.5	14.0	16	28	90	5
EMD92160	R0.5	16.0	16	32	100	5
EMD92160C	R0.5	16.0	16	42	100	5
EMD9216015	R1.5	16.0	16	32	100	5
EMD9216015C	R1.5	16.0	16	42	100	5
EMD92200	R0.5	20.0	20	38	100	5
EMD92200C	R0.5	20.0	20	45	100	5
EMD9220020	R2.0	20.0	20	38	100	5
EMD9220020C	R2.0	20.0	20	45	100	5

Mill Dia.Tolerance (mm)	Shank Dia.Tolerance
直径公差	柄径公差
0 ~ -0.05	h5

◎ : Excellent (优秀) ○ : Good (良好)

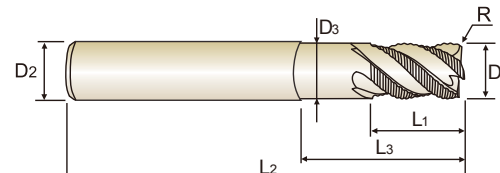
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HRc	125	190	250	270	300	180	275	300	350	200	240	180	260	160	250	130	230			
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 4 FLUTE MULTIPLE HELIX CORNER RADIUS ROUGHING (B Type)
硬质合金, 4刃 不等螺旋 圆鼻 粗加工 (B型)

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
- ▶ Suitable for cutting alloy steels, stainless steels, difficult to cut materials etc.
- ▶ Available high speed cutting and high feed cutting due to special flute design minimizing vibration
- ▶ Applying corner radius for protecting chipping when heavy cutting

- ▶ 采用新涂层及新形状, 强力切削及耐磨性优秀。
- ▶ 适用于合金钢, 不锈钢系列, 钛 镍, 合金工具钢等工件加工。
- ▶ 侧面采用签名派, 可强力切削高速, 高移送加工。
- ▶ 采用减少震动的 Flute 设计, 可实现高速高移送加工。
- ▶ 强力切削时为最大程度地减少崩刀, 采用角部保护



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		HYDRAULIC CHUCK	D15-46
		SHRINK FIT HOLDER	D47-72
		ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	No. of Flute 刃数
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
EMD9206020	R0.2	6.0	6	10	20	60	5.5	4
EMD9208025	R0.2	8.0	8	12	25	70	7.5	4
EMD9210030	R0.3	10.0	10	15	30	75	9.5	4
EMD9212035	R0.3	12.0	12	20	35	80	11.5	4

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.05	h5

◎ : Excellent (优秀) ○ : Good (良好)

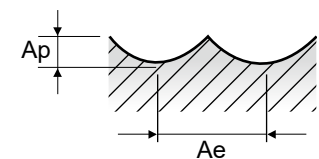
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																					

EMD88 SERIES 4 FLUTE BALL NOSE 4刃球头

Vc (切削速度) = (m/min.)
 fz (每齿进给) = (mm/tooth)
 RPM (转速) = (rev./min.)
 FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0	
P	1-2	Non-alloy steel	0.5D	1.0D	Vc	127	127	127	127	127	127	127	127	127	128
					fz	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.069	0.084	
	RPM	13500	10100	8090	6750	5050	4050	3370	2530	2030					
	FEED	275	370	410	480	620	780	750	700	680					
	6	Low alloy steel	0.5D	1.0D	Vc	127	127	127	127	127	127	127	127	128	
					fz	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.069	0.084	
RPM	13500	10100	8090	6750	5050	4050	3370	2530	2030						
FEED	275	370	410	480	620	780	750	700	680						
10	High alloyed steel, and tool steel	0.5D	1.0D	Vc	127	127	127	127	127	127	127	127	128		
				fz	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.069	0.084		
RPM	13500	10100	8090	6750	5050	4050	3370	2530	2030						
FEED	275	370	410	480	620	780	750	700	680						
M	12-13	Stainless steel	0.5D	1.0D	Vc	88	88	88	89	88	88	89	88	88	
					fz	0.004	0.007	0.010	0.014	0.024	0.038	0.046	0.056	0.066	
	RPM	9350	7000	5600	4700	3500	2800	2350	1750	1400					
	FEED	145	185	230	265	340	430	435	395	370					
	14.1	Stainless steel	0.5D	1.0D	Vc	63	63	64	63	63	64	63	63	63	
					fz	0.004	0.007	0.010	0.014	0.025	0.039	0.046	0.060	0.073	
RPM	6690	5050	4050	3350	2500	2050	1680	1250	1000						
FEED	105	135	165	190	250	320	310	300	290						
K	15	Grey cast iron	0.5D	1.0D	Vc	127	127	127	127	127	127	127	127	128	
					fz	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.069	0.084	
	RPM	13500	10100	8090	6750	5050	4050	3370	2530	2030					
	FEED	275	370	410	480	620	780	750	700	680					
	17	Nodular cast iron	0.5D	1.0D	Vc	127	127	127	127	127	127	127	127	128	
					fz	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.069	0.084	
RPM	13500	10100	8090	6750	5050	4050	3370	2530	2030						
FEED	275	370	410	480	620	780	750	700	680						
19-20	Malleable cast iron	0.5D	1.0D	Vc	127	127	127	127	127	127	127	127	128		
				fz	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.069	0.084		
RPM	13500	10100	8090	6750	5050	4050	3370	2530	2030						
FEED	275	370	410	480	620	780	750	700	680						
S	36	Titanium Alloys	0.5D	1.0D	Vc	63	63	64	63	63	64	63	63	63	
					fz	0.004	0.007	0.010	0.014	0.025	0.039	0.046	0.060	0.073	
RPM	6690	5050	4050	3350	2500	2050	1680	1250	1000						
FEED	105	135	165	190	250	320	310	300	290						



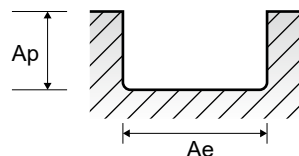


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EMD83 SERIES 4 FLUTE CORNER RADIUS - SLOTTING
4刃 圆鼻 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径																
						1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0		
P	1-2	Non-alloy steel	1.0D	1.0D	Vc	127	127	128	127	127	127	127	127	127	127	127	126	127	126			
					fz	0.002	0.003	0.004	0.005	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.058	0.063	0.070	0.078		
					RPM	40500	27000	20300	16200	13500	10100	8090	6750	5050	4050	3370	2890	2500	2250	2000		
	6	Low alloy steel	1.0D	1.0D	Vc	127	127	128	127	127	127	127	127	127	127	126	127	126				
					fz	0.002	0.003	0.004	0.005	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.058	0.063	0.070	0.078		
					RPM	40500	27000	20300	16200	13500	10100	8090	6750	5050	4050	3370	2890	2500	2250	2000		
	10	High alloyed steel, and tool steel	1.0D	1.0D	Vc	127	127	128	127	127	127	127	127	127	126	127	126					
					fz	0.002	0.003	0.004	0.005	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.058	0.063	0.070	0.078		
					RPM	40500	27000	20300	16200	13500	10100	8090	6750	5050	4050	3370	2890	2500	2250	2000		
M	12-13	Stainless steel	1.0D	1.0D	Vc	88	87	88	86	88	88	88	88	88	88	88	88	88	88			
					fz	0.001	0.002	0.003	0.004	0.004	0.007	0.010	0.014	0.024	0.038	0.046	0.051	0.053	0.059	0.065		
					RPM	28000	18500	14000	11000	9350	7000	5600	4700	3500	2800	2350	2000	1750	1550	1400		
	14.1	Stainless steel	1.0D	1.0D	Vc	63	61	63	63	63	64	63	63	64	63	62	63	62	63			
					fz	0.003	0.003	0.004	0.004	0.004	0.007	0.010	0.014	0.025	0.039	0.046	0.050	0.053	0.059	0.065		
					RPM	20000	13000	10000	8000	6690	5050	4050	3350	2500	2050	1680	1400	1250	1100	1000		
	15	Grey cast iron	1.0D	1.0D	Vc	127	127	128	127	127	127	127	127	127	127	126	127	126				
					fz	0.002	0.003	0.004	0.005	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.058	0.063	0.070	0.078		
					RPM	40500	27000	20300	16200	13500	10100	8090	6750	5050	4050	3370	2890	2500	2250	2000		
17	Nodular cast iron	1.0D	1.0D	Vc	127	127	128	127	127	127	127	127	127	126	127	126						
				fz	0.002	0.003	0.004	0.005	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.058	0.063	0.070	0.078			
				RPM	40500	27000	20300	16200	13500	10100	8090	6750	5050	4050	3370	2890	2500	2250	2000			
19-20	Malleable cast iron	1.0D	1.0D	Vc	127	127	128	127	127	127	127	127	127	126	127	126						
				fz	0.002	0.003	0.004	0.005	0.005	0.009	0.013	0.018	0.031	0.048	0.056	0.058	0.063	0.070	0.078			
				RPM	40500	27000	20300	16200	13500	10100	8090	6750	5050	4050	3370	2890	2500	2250	2000			
S	37	Titanium Alloys	1.0D	1.0D	Vc	63	61	63	63	63	64	63	63	64	63	62	63	62	63			
					fz	0.003	0.003	0.004	0.004	0.004	0.007	0.010	0.014	0.025	0.039	0.046	0.050	0.053	0.059	0.065		
					RPM	20000	13000	10000	8000	6690	5050	4050	3350	2500	2050	1680	1400	1250	1100	1000		

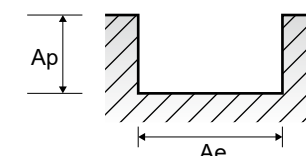


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EHD84 SERIES 3 FLUTE - SLOTTING
3刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径																
						1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0		
P	1-2	Non-alloy steel	1.0D	0.5D	Vc	94	94	94	94	95	95	94	95	94	95	94	96	94	95	93	93	94
					fz	0.011	0.017	0.022	0.028	0.031	0.062	0.083	0.109	0.151	0.180	0.200	0.240	0.288	0.333	0.378		
					RPM	30000	20000	15000	12000	10080	7550	6000	5050	3750	3050	2500	2150	1850	1650	1500		
	3-4	Non-alloy steel	1.0D	0.5D	Vc	72	73	72	74	73	74	74	73	74	72	75	75	73	74	72		
					fz	0.012	0.017	0.023	0.028	0.032	0.063	0.085	0.108	0.150	0.181	0.200	0.235	0.287	0.333	0.391		
					RPM	23000	15500	11500	9400	7750	5850	4700	3850	2950	2300	2000	1700	1450	1300	1150		
	5	Non-alloy steel	1.0D	0.5D	Vc	80	80	80	80	80	740	1100	1200	1250	1330	1250	1200	1250	1300	1350		
					fz	52	52	52	59	52	53	52	53	52	51	53	50	52	53			
					RPM	16500	11000	8200	7500	5550	4200	3300	2800	2100	1650	1350	1200	1000	920	840		
	6	Non-alloy steel	1.0D	0.5D	Vc	94	94	94	94	95	95	94	95	94	96	94	95	93	93	94		
					fz	0.011	0.017	0.022	0.028	0.031	0.062	0.083	0.109	0.151	0.180	0.200	0.240	0.288	0.333	0.378		
					RPM	30000	20000	15000	12000	10080	7550	6000	5050	3750	3050	2500	2150	1850	1650	1500		
	7	Low alloy steel	1.0D	0.5D	Vc	72	73	72	74	73	74	74	73	74	72	75	75	73	74	72		
					fz	0.012	0.017	0.023	0.028	0.032	0.063	0.085	0.108	0.150	0.181	0.200	0.235	0.287	0.333	0.391		
					RPM	23000	15500	11500	9400	7750	5850	4700	3850	2950	2300	2000	1700	1450	1300	1150		
	8-9	Low alloy steel	1.0D	0.5D	Vc	52	52	52	59	52	53	52	53	52	51	53	50	52	53			
					fz	0.009	0.014	0.018	0.020	0.024	0.047	0.066	0.083	0.113	0.134	0.149	0.168	0.217	0.254	0.298		
					RPM	16500	11000	8200	7500	5550	4200	3300	2800	2100	1650	1350	1200	1000	920	840		
10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	94	94	94	94	95	95	94	95	94	96	94	95	93	93	94			
				fz	0.011	0.017	0.022	0.028	0.031	0.062	0.083	0.109	0.151	0.180	0.200	0.240	0.288	0.333	0.378			
				RPM	30000	20000	15000	12000	10080	7550	6000	5050	3750	3050	2500	2150	1850	1650	1500			
11.1 - 112	High alloyed steel, and tool steel	1.0D	0.5D	Vc	52	52	52	59	52	53	52	53	52	51	53	50	52	53				
				fz	0.009	0.014	0.018	0.020	0.024	0.047	0.066	0.083	0.113	0.134	0.149	0.168	0.217	0.254	0.298			
				RPM	16500	11000	8200	7500	5550	4200	3300	2800	2100	1650	1350	1200	1000	920	840			
M	14.1	Stainless steel	1.0D	0.5D	Vc	52	52	53	51	52	53	52	53	52	51	53	50	51	50			
					fz	0.007	0.011	0.014	0.018	0.021	0.025	0.035	0.044	0.060	0.072	0.079	0.069	0.067	0.056	0.042		
					RPM	16500	11000	8400	6500	5550	4200	3300	2800	2100	1650	1350	1200	1000	900	800		
K	15-20	Grey cast iron	1.0D	0.5D	Vc	63	61	63	63	63	63	63	63	63	63	62	64	63	62	63		
					fz	0.008	0.013	0.017	0.021	0.026	0.036	0.050	0.066	0.089	0.105	0.115	0.133	0.160	0.188	0.213		
					RPM	20000	13000	10000	8000	6700	5050	4000	3350	2500	2000	1650	1450	1250	1100	1000		
N	21~25	Copper and Copper Alloys (Bronze / Brass)	1.0D	0.5D	Vc	79	78	79	79	78	78	79	77	78	79	75	75	74	75			
					fz	0.005	0.007	0.010	0.012	0.014	0.022	0.028	0.036	0.054	0.071	0.092	0.118	0.144	0.179	0.208		
					RPM	25000	16500	12500	10000	8300	6200	5000	4100	3100	2500	2000	1700	1500	1300	1200		
S	33	Heat Resistant Super Alloys	1.0D	0.2D	Vc	20	21	22	20	21	21	22	22	21	20	21	22	20	20	20		
					fz	0.005	0.007	0.010	0.013	0.015	0.021	0.029	0.038	0.047	0.062	0.066	0.073	0.096	0.114	0.130		
					RPM	6500	4500	3500	2600	2200	1650	1400	1150	850	650	555	500	400	350	320		
37	Titanium Alloys	1.0D	0.2D	Vc	52	52	52	51	52	53	52	53	52	51	53	50	51	50				
				fz	0.008	0.012	0.015	0.019	0.024	0.047	0.061	0.083	0.113	0.134	0.149	0.168	0.203	0.228	0.258			
				RPM	16500	11000	8200	6500	5550	4200	3300	2800	2100	1650	1350	1200	1000	900	800			



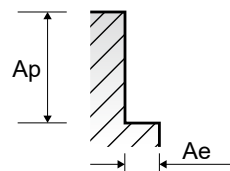


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EHD84 SERIES 3 FLUTE - SIDE CUTTING
3刃 - 侧铣削

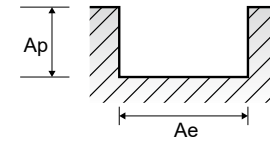
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径																	
						1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0			
P	1-2	Non-alloy steel	0.1D	1.5D	Vc	94	94	94	94	95	95	94	95	94	96	94	95	93	93	94			
					fz	0.013	0.019	0.025	0.031	0.036	0.072	0.094	0.126	0.173	0.207	0.227	0.271	0.325	0.377	0.427			
					RPM	30000	20000	15000	12000	10080	7550	6000	5050	3750	3050	2500	2150	1850	1650	1500			
	3-4		Vc	72	73	72	74	73	74	74	73	74	72	75	75	73	74	72					
			fz	0.013	0.019	0.026	0.032	0.037	0.072	0.096	0.127	0.169	0.203	0.223	0.266	0.324	0.377	0.442					
			RPM	23000	15500	11500	9400	7750	5850	4700	3850	2950	2300	2000	1700	1450	1300	1150					
	5		Vc	52	52	52	59	52	53	52	53	52	53	51	53	50	52	53					
			fz	0.010	0.015	0.021	0.023	0.027	0.054	0.074	0.096	0.129	0.157	0.173	0.190	0.245	0.286	0.335					
			RPM	16500	11000	8200	7500	5550	4200	3300	2800	2100	1650	1350	1200	1000	920	840					
	6		Vc	94	94	94	94	95	95	94	95	94	96	94	95	93	93	94					
			fz	0.013	0.019	0.025	0.031	0.036	0.072	0.094	0.126	0.173	0.207	0.227	0.271	0.325	0.377	0.427					
			RPM	30000	20000	15000	12000	10080	7550	6000	5050	3750	3050	2500	2150	1850	1650	1500					
7	Vc	72	73	72	74	73	74	74	73	74	72	75	75	73	74	72							
	fz	0.013	0.019	0.026	0.032	0.037	0.072	0.096	0.127	0.169	0.203	0.223	0.266	0.324	0.377	0.442							
	RPM	23000	15500	11500	9400	7750	5850	4700	3850	2950	2300	2000	1700	1450	1300	1150							
8-9	Vc	52	52	52	59	52	53	52	53	52	53	51	53	50	52	53							
	fz	0.010	0.015	0.021	0.023	0.027	0.054	0.074	0.096	0.129	0.157	0.173	0.190	0.245	0.286	0.335							
	RPM	16500	11000	8200	7500	5550	4200	3300	2800	2100	1650	1350	1200	1000	920	840							
10	Vc	94	94	94	94	95	95	94	95	94	96	94	95	93	93	94							
	fz	0.013	0.019	0.025	0.031	0.036	0.072	0.094	0.126	0.173	0.207	0.227	0.271	0.325	0.377	0.427							
	RPM	30000	20000	15000	12000	10080	7550	6000	5050	3750	3050	2500	2150	1850	1650	1500							
11.1 - 11.2	Vc	52	52	52	59	52	53	52	53	52	53	51	53	50	52	53							
	fz	0.010	0.015	0.021	0.023	0.027	0.054	0.074	0.096	0.129	0.157	0.173	0.190	0.245	0.286	0.335							
	RPM	16500	11000	8200	7500	5550	4200	3300	2800	2100	1650	1350	1200	1000	920	840							
M	14.1	Stainless steel	0.1D	1.5D	Vc	52	52	53	51	52	53	52	53	52	51	53	50	52	53				
					fz	0.008	0.012	0.016	0.020	0.022	0.029	0.040	0.051	0.068	0.084	0.090	0.078	0.075	0.063	0.048			
					RPM	16500	11000	8400	6500	5550	4200	3300	2800	2100	1650	1350	1200	1000	900	800			
K	15-20		Grey cast iron	0.1D	1.5D	Vc	63	61	63	63	63	63	63	63	63	62	64	63	62	63			
						fz	0.009	0.014	0.019	0.024	0.030	0.042	0.057	0.075	0.103	0.120	0.134	0.151	0.181	0.212	0.242		
						RPM	20000	13000	10000	8000	6700	5050	4000	3350	2500	2000	1650	1450	1250	1100	1000		
N	21~25			Copper and Copper Alloys (Bronze / Brass)	0.1D	1.5D	Vc	79	78	79	79	78	78	79	77	78	79	75	75	74	75		
							fz	0.005	0.008	0.011	0.014	0.016	0.024	0.032	0.040	0.059	0.076	0.103	0.133	0.163	0.203	0.236	
							RPM	25000	16500	12500	10000	8300	6200	5000	4100	3100	2500	2000	1700	1500	1300	1200	
S	33				Heat Resistant Super Alloys	0.05D	1.5D	Vc	20	21	22	20	21	21	22	21	20	21	22	20	20	20	
								fz	0.006	0.009	0.011	0.015	0.017	0.025	0.032	0.043	0.055	0.072	0.075	0.083	0.108	0.129	0.146
								RPM	6500	4500	3500	2600	2200	1650	1400	1150	850	650	555	500	400	350	320
37	Titanium Alloys	0.05D				1.5D	Vc	52	52	52	51	52	53	52	53	52	51	53	50	51	50		
							fz	0.009	0.013	0.017	0.022	0.027	0.054	0.069	0.096	0.129	0.157	0.173	0.190	0.230	0.257	0.292	
							RPM	16500	11000	8200	6500	5550	4200	3300	2800	2100	1650	1350	1200	1000	900	800	



RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EMD82 SERIES 4 FLUTE - SLOTTING
4刃 - 槽铣削



Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径										
						1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
P	1-2	Non-alloy steel	1.0D	1.0D	Vc	127	127	128	127	127	126	127	127	128	127	
					fz	0.002	0.003	0.004	0.005	0.005	0.007	0.009	0.011	0.013	0.015	0.018
					RPM	40500	27000	20300	16200	13500	11500	10100	9000	8090	7400	6750
	6		Vc	127	127	128	127	127	126	127	127	127	127	128	127	
			fz	0.002	0.003	0.004	0.005	0.005	0.007	0.009	0.011	0.013	0.015	0.018		
			RPM	40500	27000	20300	16200	13500	11500	10100	9000	8090	7400	6750		
10	Vc	127	127	128	127	127	126	127	127	127	127	128	127			
	fz	0.002	0.003	0.004	0.005	0.005	0.007	0.009	0.011	0.013	0.015	0.018				
	RPM	40500	27000	20300	16200	13500	11500	10100	9000	8090	7400	6750				
M	12-13	Stainless steel	1.0D	1.0D	Vc	88	87	88	86	88	88	88	88	88	86	89
					fz	0.001	0.002	0.003	0.004	0.004	0.005	0.007	0.008	0.010	0.011	0.014
					RPM	28000	18500	14000	11000	9350	8000	7000	6200	5600	5000	4700
	14.1		Vc	63	61	63	63	63	63	63	64	64	62	63		
			fz	0.003	0.003	0.004	0.004	0.004	0.004	0.007	0.008	0.010	0.012	0.014		
			RPM	20000	13000	10000	8000	6690	5700	5050	4500	4050	3600	3350		
K	15	Grey cast iron	1.0D	1.0D	Vc	127	127	128	127	127	126	127	127	127	128	127
					fz	0.002	0.003	0.004	0.005	0.005	0.007	0.009	0.011	0.013	0.015	0.018
					RPM	40500	27000	20300	16200	13500	11500	10100	9000	8090	7400	6750
	17		Vc	127	127	128	127	127	126	127	127	127	127	128	127	
			fz	0.002	0.003	0.004	0.005	0.005	0.007	0.009	0.011	0.013	0.015	0.018		
			RPM	40500	27000	20300	16200	13500	11500	10100	9000	8090	7400	6750		
19-20	Vc	127	127	128	127	127	126	127	127	127	127	128	127			
	fz	0.002	0.003	0.004	0.005	0.005	0.007	0.009	0.011	0.013	0.015	0.018				
	RPM	40500	27000	20300	16200	13500	11500	10100	9000	8090	7400	6750				
S	37	Titanium Alloys	1.0D	1.0D	Vc	63	61	63	63	63	63	63	64	64	62	63
					fz	0.003	0.003	0.004	0.004	0.004	0.004	0.007	0.008	0.010	0.012	0.014
					RPM	20000	13000	10000	8000	6690	5700	5050	4500	4050	3600	3350

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径										
						6.5	7.0	8.0	8.5	9.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1-2	Non-alloy steel	1.0D	1.0D	Vc	127	128	127	128	127	127	127	127	126	127	126
					fz	0.020	0.024	0.031	0.034	0.039	0.048	0.056	0.058	0.063	0.070	0.078
					RPM	6200	5800	5050	4800	4500	4050	3370	2890	2500	2250	2000
	6		Vc	127	128	127	128	127	127	127	127	127	126	127	126	
			fz	0.020	0.024	0.031	0.034	0.039	0.048	0.056	0.058	0.063	0.070	0.078		
			RPM	6200	5800	5050	4800	4500	4050	3370	2890	2500	2250	2000		
10	Vc	127	128	127	128	127	127	127	127	127	126	127	126			
	fz	0.020	0.024	0.031	0.034	0.039	0.048	0.056	0.058	0.063	0.070	0.078				
	RPM	6200	5800	5050	4800	4500	4050	3370	2890	2500	2250	2000				
M	12-13	Stainless steel	1.0D	1.0D	Vc	88	88	88	88	88	88	89	88	88	88	
					fz	0.016	0.018	0.024	0.0							

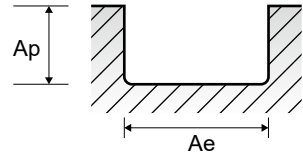


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

EMD92 SERIES **3-5 FLUTE ROUGHING - SLOTTING**
3-5刃 粗加工 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径								
						6.0	7.0	8.0	9.0	10.0	12.0	14.0	16.0	20.0
M	14.1	Stainless steel	1.0D	$\varnothing 6 \sim \varnothing 10 = 0.25 \times D$ $\varnothing 12 \sim \varnothing 16 = 0.15 \times D$ $\varnothing 18 \sim \varnothing 20 = 0.10 \times D$	Vc	83	83	83	83	84	83	86	87	79
					fz	0.019	0.022	0.025	0.028	0.031	0.037	0.032	0.034	0.033
					RPM	4410	3780	3310	2950	2680	2205	1950	1730	1260
					FEED	335	335	335	335	330	330	315	295	210



CBN END MILLS

i-Xmill END MILLS

i-SMART MODULAR END MILLS

X5070 END MILLS

4G MILL END MILLS

X-POWER PRO END MILLS

TitaNox-POWER END MILLS

SUS-CUT END MILLS

V7 PLUS END MILLS

ALU-POWER HPC END MILLS

ALU-CUT END MILLS

G-CUT END MILLS

CRX S END MILLS

K-2 END MILLS

GENERAL CARBIDE END MILLS

ONLY ONE COATED PM60 END MILLS

TANK-POWER END MILLS

GENERAL HSS END MILLS

MILLING CUTTERS

TECHNICAL DATA



Leading Through Innovation



SOLID CARBIDE

V7 PLUS END MILLS

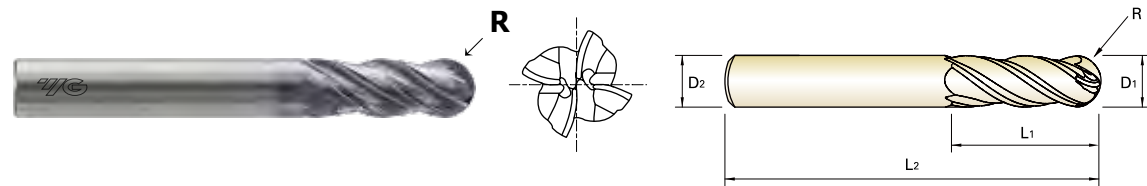
- High Performance Carbide End Mills for Steels, Cast Iron and Stainless Steels
- 高性能 硬质合金 立铣刀 适用于钢件, 铸铁和不锈钢



PLAIN SHANK **GMH66** SERIES

CARBIDE, 4 FLUTE BALL NOSE LONG LENGTH
硬质合金, 4刃 球头 长刃

- ▶ Special flute geometry and multiple helix eliminate vibrations
- ▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRC40
- ▶ 特殊沟槽设计和不等螺旋减少振动
- ▶ 卓越性能在不锈钢, 软钢, 铸铁, 低/中硬度材料(~HRC 40)



CARBIDE 4 35°/37° ±0.02 PLAIN p.C394

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	HYDRAULIC CHUCK	D15-46
-	-	ER COLLET CHUCK	D73-115
-	-	SK SLIM CHUCK	D183-201

Recommended Toolholder

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2
GMH66030	R1.5	3.0	6	8	50
GMH66040	R2.0	4.0	6	10	50
GMH66050	R2.5	5.0	6	15	60
GMH66060	R3.0	6.0	6	15	60
GMH66080	R4.0	8.0	8	20	70
GMH66100	R5.0	10.0	10	25	75
GMH66120	R6.0	12.0	12	30	80
GMH66160	R8.0	16.0	16	40	100
GMH66200	R10.0	20.0	20	45	100
GMH66250	R12.5	25.0	25	50	120

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 012以下	0 ~ - 0.02	h5
over Ø12 超过012	0 ~ - 0.03	* Shank Dia. ≥ Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

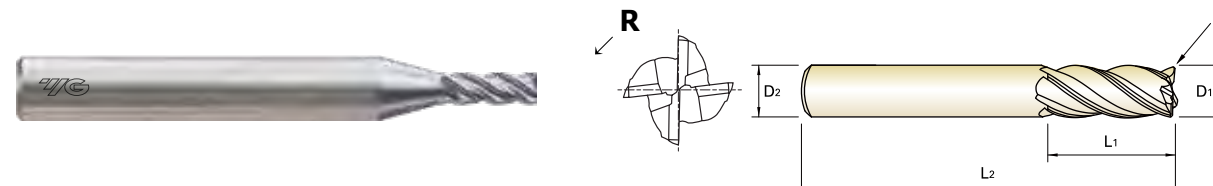
ISO Material Description	P						M						K							
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK **GMH65** SERIES

CARBIDE, 4 FLUTE CORNER RADIUS LONG LENGTH
硬质合金, 4刃 圆鼻 长刃

- ▶ Special flute geometry and multiple helix eliminate vibrations
- ▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRC40
- ▶ 特殊沟槽设计和不等螺旋减少振动
- ▶ 卓越性能在不锈钢, 软钢, 铸铁, 低/中硬度材料(~HRC 40)



CARBIDE 4 37° 35°/37° PLAIN p.C395

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	HYDRAULIC CHUCK	D15-46
-	-	ER COLLET CHUCK	D73-115
-	-	SK SLIM CHUCK	D183-201

Recommended Toolholder

Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2
GMH65010	R0.1	1.0	6	2.5	50
GMH65015	R0.1	1.5	6	4	50
GMH65020	R0.1	2.0	6	6	50
GMH65030	R0.2	3.0	6	8	50
GMH6503003	R0.3	3.0	6	8	50
GMH6503005	R0.5	3.0	6	8	50
GMH65040	R0.2	4.0	6	10	50
GMH6504003	R0.3	4.0	6	10	50
GMH6504005	R0.5	4.0	6	10	50
GMH65050	R0.2	5.0	6	15	60
GMH6505003	R0.3	5.0	6	15	60
GMH6505005	R0.5	5.0	6	15	60
GMH65060	R0.3	6.0	6	15	60
GMH6506005	R0.5	6.0	6	15	60
GMH6506010	R1.0	6.0	6	15	60
GMH65080	R0.3	8.0	8	20	70
GMH6508005	R0.5	8.0	8	20	70
GMH6508010	R1.0	8.0	8	20	70
GMH65100	R0.3	10.0	10	25	75
GMH6510005	R0.5	10.0	10	25	75
GMH6510010	R1.0	10.0	10	25	75
GMH65120	R0.5	12.0	12	30	80
GMH6512010	R1.0	12.0	12	30	80
GMH6512020	R2.0	12.0	12	30	80

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 012以下	0 ~ - 0.02	h5
over Ø12 超过012	0 ~ - 0.03	* Shank Dia. ≥ Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

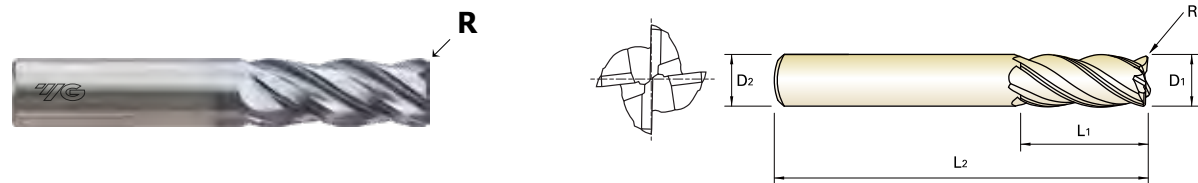
ISO Material Description	P						M						K							
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK **GMH65** SERIES

CARBIDE, 4 FLUTE CORNER RADIUS LONG LENGTH
硬质合金, 4刃 圆鼻 长刃

- ▶ Special flute geometry and multiple helix eliminate vibrations
- ▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40
- ▶ 特殊沟槽设计和不等螺旋减少振动
- ▶ 卓越性能在不锈钢, 软钢, 铸铁, 低/中硬度材料(~HRc 40)



Recommended Toolholder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	HYDRAULIC CHUCK	D15-46
-	-	ER COLLET CHUCK	D73-115
-	-	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2
GMH65160	R0.5	16.0	16	40	100
GMH6516010	R1.0	16.0	16	40	100
GMH6516020	R2.0	16.0	16	40	100
GMH6516030	R3.0	16.0	16	40	100
GMH65200	R0.5	20.0	20	45	100
GMH6520010	R1.0	20.0	20	45	100
GMH6520020	R2.0	20.0	20	45	100
GMH6520030	R3.0	20.0	20	45	100
GMH6525010	R1.0	25.0	20	50	120

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 012以下	0 ~ - 0.02	h5
over Ø12 超过012	0 ~ - 0.03	* Shank Dia. ≥ Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P						M						K							
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

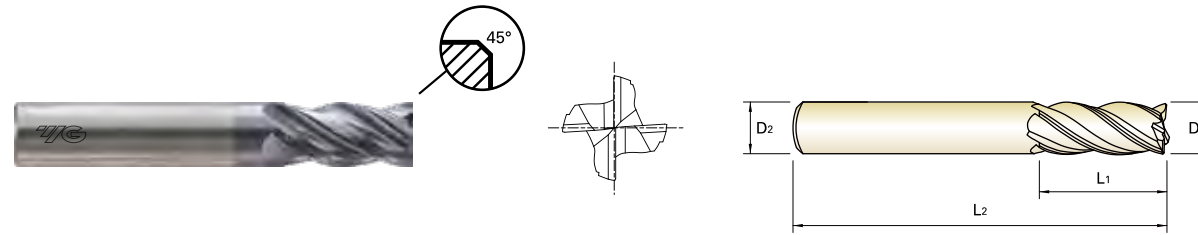
ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○	○	○	○	○



PLAIN SHANK **GMF66** SERIES

CARBIDE, 4 FLUTE SHORT LENGTH
硬质合金, 4刃 短刃

- ▶ Special flute geometry and multiple helix eliminate vibrations
- ▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40
- ▶ 特殊沟槽设计和不等螺旋减少振动
- ▶ 卓越性能在不锈钢, 软钢, 铸铁, 低/中硬度材料(~HRc 40)



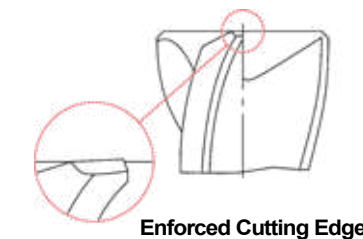
Recommended Toolholder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	HYDRAULIC CHUCK	D15-46
-	-	ER COLLET CHUCK	D73-115
-	-	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer
	直径 D1	柄径 D2	刃长 L1	全长 L2	导向
GMF66030	3.0	6	6	50	0.10
GMF66901	3.0	4	6	50	0.10
GMF66040	4.0	6	8	50	0.15
GMF66902	4.0	4	8	50	0.15
GMF66050	5.0	6	10	50	0.15
GMF66060	6.0	6	12	50	0.20
GMF66080	8.0	8	16	60	0.20
GMF66100	10.0	10	20	75	0.30
GMF66120	12.0	12	24	75	0.35
GMF66160	16.0	16	32	100	0.40
GMF66200	20.0	20	40	100	0.50

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 012以下	0 ~ - 0.02	h5
over Ø12 超过012	0 ~ - 0.03	* Shank Dia. ≥ Ø12 : h6



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P						M						K							
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

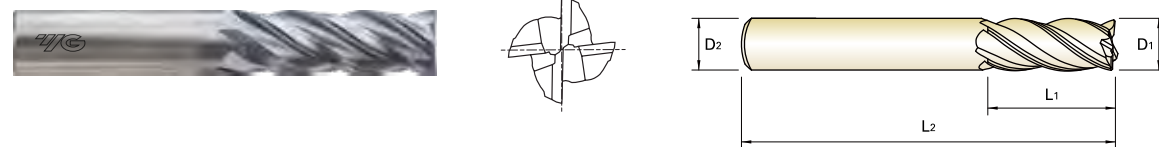
ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○	○	○	○	○



PLAIN SHANK **GMH67** SERIES

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金, 4刃长刃

- ▶ Special flute geometry and multiple helix eliminate vibrations
- ▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRC40
- ▶ 特殊沟槽设计和不等螺旋减少振动
- ▶ 卓越性能在不锈钢, 软钢, 铸铁, 低/中硬度材料(~HRC 40)



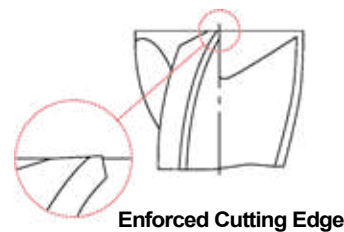
CARBIDE 4 37° 35°/37° PLAIN p.C395

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	HYDRAULIC CHUCK	D15-46
-	-	ER COLLET CHUCK	D73-115
-	-	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
GMH67010	1.0	6	2.5	50
GMH67015	1.5	6	4	50
GMH67020	2.0	6	6	50
GMH67030	3.0	6	8	50
GMH67040	4.0	6	10	50
GMH67050	5.0	6	15	60
GMH67060	6.0	6	15	60
GMH67080	8.0	8	20	70
GMH67100	10.0	10	25	75
GMH67120	12.0	12	30	80
GMH67160	16.0	16	40	100
GMH67200	20.0	20	45	100

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 012以下	0 ~ -0.02	h5
over Ø12 超过012	0 ~ -0.03	* Shank Dia. ≥ Ø12 : h6



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

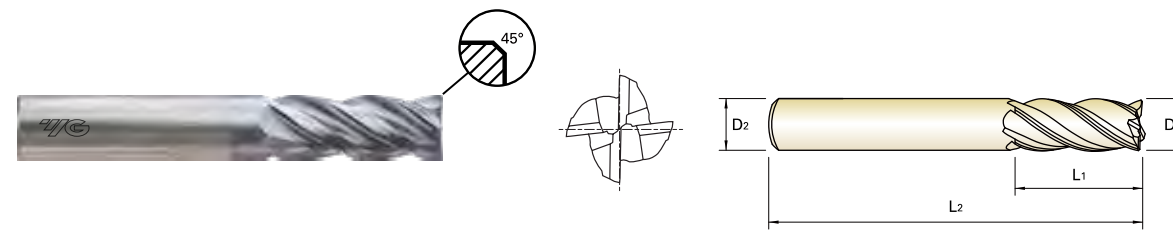
ISO Material Description	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○	○	○	○	○



PLAIN SHANK **GMH68** SERIES

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金, 4刃长刃

- ▶ Special flute geometry and multiple helix eliminate vibrations
- ▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRC40
- ▶ 特殊沟槽设计和不等螺旋减少振动
- ▶ 卓越性能在不锈钢, 软钢, 铸铁, 低/中硬度材料(~HRC 40)



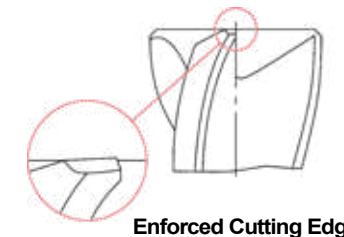
CARBIDE 4 37° 35°/37° PLAIN C x 45° p.C395

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	HYDRAULIC CHUCK	D15-46
-	-	ER COLLET CHUCK	D73-115
-	-	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer 导向
	直径 D1	柄径 D2	刃长 L1	全长 L2	
GMH68010	1.0	6	2.5	50	0.03
GMH68015	1.5	6	4	50	0.05
GMH68020	2.0	6	6	50	0.075
GMH68030	3.0	6	8	50	0.1
GMH68040	4.0	6	10	50	0.15
GMH68050	5.0	6	15	60	0.15
GMH68060	6.0	6	15	60	0.2
GMH68080	8.0	8	20	70	0.2
GMH68100	10.0	10	25	75	0.3
GMH68120	12.0	12	30	80	0.35
GMH68140	14.0	16	35	100	0.4
GMH68160	16.0	16	40	100	0.4
GMH68180	18.0	16	45	100	0.5
GMH68200	20.0	20	45	100	0.5

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 012以下	0 ~ -0.02	h5
over Ø12 超过012	0 ~ -0.03	* Shank Dia. ≥ Ø12 : h6



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

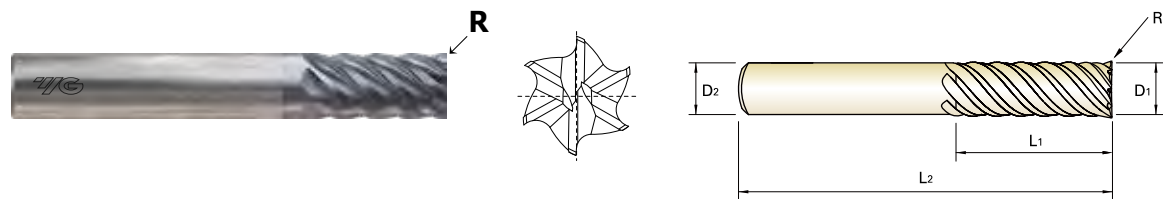
ISO Material Description	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○	○	○	○	○



PLAIN SHANK **GMH69** SERIES

CARBIDE, 6 FLUTE CORNER RADIUS
硬质合金，6刃 圆鼻

- ▶ The unique geometry of the variable pitch provides the best chatter free tool for high speed and trochoidal milling
- ▶ The unique geometry of the variable pitch provides the best chatter free tool for high speed and trochoidal milling
- ▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRC40
- ▶ 特有的可变间距设计在高速和摆线铣削工况上, 提供最好无振动刀具
- ▶ 卓越性能在不锈钢, 软钢, 铸铁, 低/中硬度材料 (~HRC 40)



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	HYDRAULIC CHUCK	D15-46
-	-	ER COLLET CHUCK	D73-115
-	-	SK SLIM CHUCK	D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	全长 L2
GMH6906005	R0.5	6.0	6	15	60
GMH6906010	R1.0	6.0	6	15	60
GMH6908005	R0.5	8.0	8	20	70
GMH6908010	R1.0	8.0	8	20	70
GMH6910005	R0.5	10.0	10	25	75
GMH6910010	R1.0	10.0	10	25	75
GMH6910015	R1.5	10.0	10	25	75
GMH6910020	R2.0	10.0	10	25	75
GMH6912005	R0.5	12.0	12	25	75
GMH6912010	R1.0	12.0	12	30	80
GMH6912015	R1.5	12.0	12	30	80
GMH6912020	R2.0	12.0	12	30	80
GMH6912030	R3.0	12.0	12	30	80
GMH6916010	R1.0	16.0	16	40	100
GMH6916015	R1.5	16.0	16	40	100
GMH6916020	R2.0	16.0	16	40	100
GMH6916030	R3.0	16.0	16	40	100
GMH6920010	R1.0	20.0	20	45	100
GMH6920015	R1.5	20.0	20	45	100
GMH6920020	R2.0	20.0	20	45	100
GMH6920030	R3.0	20.0	20	45	100
GMH6925010	R1.0	25.0	25	50	120
GMH6925015	R1.5	25.0	25	50	120
GMH6925020	R2.0	25.0	25	50	120
GMH6925030	R3.0	25.0	25	50	120

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 012以下	0 ~ - 0.02	h5
over Ø12 超过012	0 ~ - 0.03	* Shank Dia. ≥ Ø12 : h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	3	21		
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	260	160	250	130	230		
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

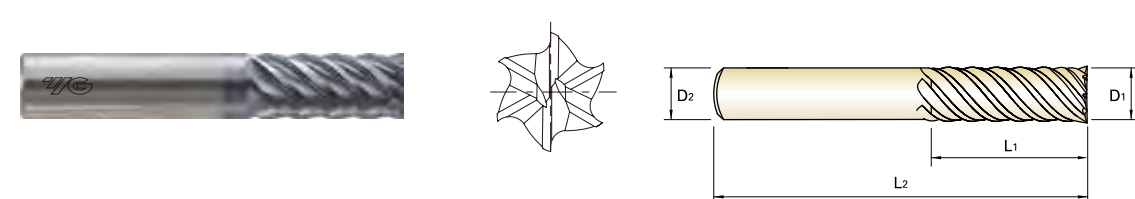
ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	



PLAIN SHANK **GMH71** SERIES

CARBIDE, 6 FLUTE
硬质合金，6刃

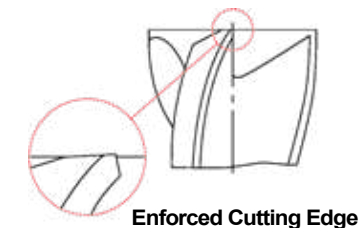
- ▶ The unique geometry of the variable pitch provides the best chatter free tool for high speed and trochoidal milling
- ▶ The unique geometry of the variable pitch provides the best chatter free tool for high speed and trochoidal milling
- ▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRC40
- ▶ 特有的可变间距设计在高速和摆线铣削工况上, 提供最好无振动刀具
- ▶ 卓越性能在不锈钢, 软钢, 铸铁, 低/中硬度材料 (~HRC 40)



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	HYDRAULIC CHUCK	D15-46
-	-	ER COLLET CHUCK	D73-115
-	-	SK SLIM CHUCK	D183-201

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
GMH71060	6.0	6	15	60
GMH71080	8.0	8	20	70
GMH71100	10.0	10	25	75
GMH71120	12.0	12	30	80
GMH71160	16.0	16	40	100
GMH71200	20.0	20	45	100
GMH71250	25.0	25	50	120

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 012以下	0 ~ - 0.02	h5
over Ø12 超过012	0 ~ - 0.03	* Shank Dia. ≥ Ø12 : h6



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	3	21		
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	260	160	250	130	230		
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

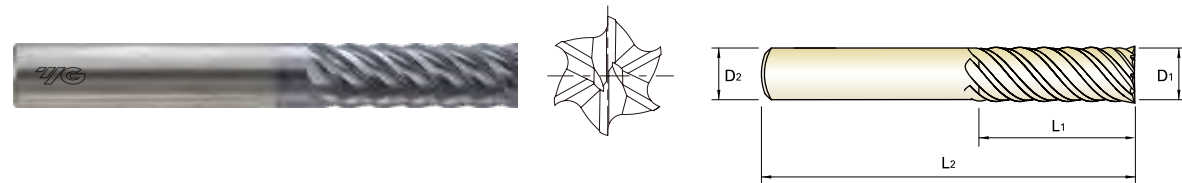
ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	



PLAIN SHANK **GMH70** SERIES

CARBIDE, 6 FLUTE LONG LENGTH
硬质合金, 6刃 长刃

- ▶ The unique geometry of the variable pitch provides the best chatter free tool for high speed and trochoidal milling
- ▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40
- ▶ 特的可变间距设计在高速和摆线铣削工况上, 提供最好无振动刀具
- ▶ 卓越性能在不锈钢, 软钢, 铸铁, 低/中硬度材料 (~HRc 40)



CARBIDE 6 45° PLAIN p.C396

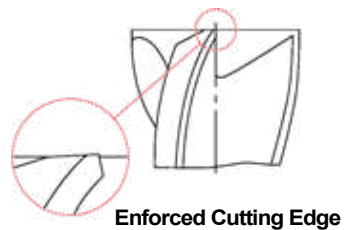
Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	HYDRAULIC CHUCK	D15-46
-	-	ER COLLET CHUCK	D73-115
-	-	SK SLIM CHUCK	D183-201

Recommended Toolholder

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
GMH70060	6.0	6	24	75
GMH70080	8.0	8	32	75
GMH70100	10.0	10	40	100
GMH70120	12.0	12	48	120
GMH70160	16.0	16	64	140
GMH70200	20.0	20	80	150
GMH70250	25.0	25	100	170

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ - 0.03	h5 * Shank Dia. ≥ Ø12 : h6



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	400	200	325	200	240	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N				S						H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

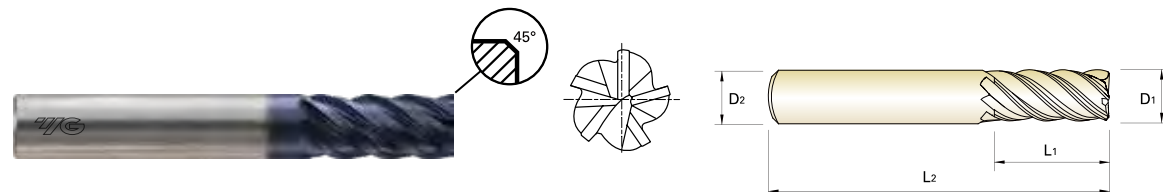
C392



PLAIN SHANK **EMB72** SERIES
 FLAT SHANK **EMB73** SERIES

CARBIDE, 5 FLUTE LONG LENGTH
硬质合金, 5刃 长刃

- ▶ Special flute geometry eliminates vibrations
- ▶ Designed for mild steels, stainless steels, cast iron, tool steels, titanium alloys, prehardened steels and low hardness materials under HRc40
- ▶ Excellent finished work piece
- ▶ Higher speeds, deeper cuts and excellent metal removal rates
- ▶ 独特沟槽设计减少振动
- ▶ 设计于软钢, 不锈钢, 铸铁, 刀具钢, 钛合金, 预硬钢和低硬度工件材料 (~HRc40)
- ▶ 卓越工件表面粗糙度
- ▶ 更高切速, 更深切深和优秀切削率



CARBIDE 5 Sinusoidal PLAIN FLAT C x 45° p.C397

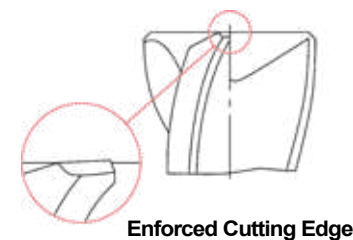
Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	HYDRAULIC CHUCK	D15-46
-	-	ER COLLET CHUCK	D73-115
-	-	SK SLIM CHUCK	D183-201

Recommended Toolholder

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer 导向
EMB72060	6.0	6	13	57	0.1
EMB72080	8.0	8	19	63	0.1
EMB72100	10.0	10	22	72	0.1
EMB72120	12.0	12	26	83	0.1
EMB72140	14.0	14	26	83	0.2
EMB72160	16.0	16	32	92	0.2
EMB72180	18.0	18	32	92	0.2
EMB72200	20.0	20	38	104	0.2
EMB72250	25.0	25	38	104	0.2

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ - 0.03	h5 * Shank Dia. ≥ Ø12 : h6



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	400	200	325	200	240	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N				S						H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

C393



RECOMMENDED CUTTING CONDITIONS

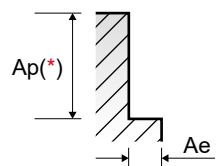
推荐加工参数

GMH69, GMH71, GMH70 SERIES

6 FLUTE - SIDE CUTTING
6刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径						
						6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1-4	Non-alloy steel	0.05D	2.0D	Vc	300	300	300	300	300	300	300
					fz	0.068	0.116	0.144	0.173	0.202	0.225	0.232
					RPM	15915	11937	9549	7958	5968	4775	3820
					FEED	6494	8308	8251	8260	7234	6446	5317
	5	Non-alloy steel	0.05D	2.0D	Vc	203	203	203	203	203	203	203
					fz	0.05	0.085	0.106	0.128	0.149	0.167	0.174
					RPM	10769	8077	6462	5385	4039	3231	2585
					FEED	3231	4119	4110	4135	3610	3237	2698
	6-7	Low alloy steel	0.05D	2.0D	Vc	300	300	300	300	300	300	300
					fz	0.068	0.116	0.144	0.173	0.202	0.225	0.232
					RPM	15915	11937	9549	7958	5968	4775	3820
					FEED	6494	8308	8251	8260	7234	6446	5317
8-9	Low alloy steel	0.05D	2.0D	Vc	203	203	203	203	203	203	203	
				fz	0.05	0.085	0.106	0.128	0.149	0.167	0.174	
				RPM	10769	8077	6462	5385	4039	3231	2585	
				FEED	3231	4119	4110	4135	3610	3237	2698	
10-11.1	High alloyed steel, and tool steel	0.05D	2.0D	Vc	100	100	100	100	100	100	100	
				fz	0.041	0.071	0.088	0.105	0.123	0.137	0.144	
				RPM	5305	3979	3183	2653	1989	1592	1273	
				FEED	1305	1695	1681	1671	1468	1308	1100	
M	12-13	Stainless steel	0.05D	2.0D	Vc	213	213	213	213	213	213	213
					fz	0.049	0.084	0.104	0.125	0.146	0.162	0.168
					RPM	11300	8475	6780	5650	4238	3390	2712
					FEED	3322	4271	4231	4238	3712	3295	2734
	14.1	Stainless steel	0.05D	2.0D	Vc	147	147	147	147	147	147	147
					fz	0.041	0.071	0.088	0.105	0.123	0.137	0.143
					RPM	7799	5849	4679	3899	2924	2340	1872
					FEED	1918	2492	2471	2457	2158	1923	1606
	14.2	Stainless steel	0.05D	2.0D	Vc	134	134	134	134	134	134	134
					fz	0.041	0.071	0.088	0.105	0.123	0.137	0.142
					RPM	7109	5332	4265	3554	2666	2133	1706
					FEED	1749	2271	2252	2239	1967	1753	1454
K	15-20	Grey cast iron	0.05D	2.0D	Vc	225	225	225	225	225	225	225
					fz	0.082	0.139	0.173	0.208	0.242	0.270	0.278
					RPM	11937	8952	7162	5968	4476	3581	2865
					FEED	5844	7477	7426	7434	6510	5801	4786
S	31-35	Heat Resistant Super Alloys	0.05D	2.0D	Vc	33	33	33	33	33	33	33
					fz	0.033	0.055	0.07	0.082	0.097	0.112	0.115
					RPM	1751	1313	1050	875	657	525	420
					FEED	347	433	441	431	382	353	290
	36-37	Titanium Alloys	0.05D	2.0D	Vc	116	116	116	116	116	116	116
					fz	0.033	0.055	0.07	0.083	0.097	0.113	0.117
					RPM	6154	4615	3692	3077	2308	1846	1477
					FEED	1218	1523	1551	1532	1343	1252	1037



(*) : If product's Length of Cut(L.O.C) is below 2D, it must be applied L.O.C x 90%
 (*): 如果工件切深(L.O.C)是2D一下, AP应该做L.O.C X 90%



RECOMMENDED CUTTING CONDITIONS

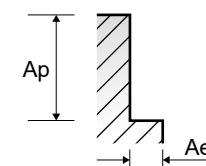
推荐加工参数

EMB72, EMB73 SERIES

5 FLUTE - SIDE CUTTING
5刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径						
						6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-2	Non-alloy steel	0.25D	1.25D	Vc	135	135	135	135	135	135	135
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.089
					RPM	7162	5371	4297	3581	3069	2686	2149
					FEED	1218	1021	1074	1128	1059	1021	956
	6	Low alloy steel	0.25D	1.25D	Vc	135	135	135	135	135	135	135
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.089
					RPM	7162	5371	4297	3581	3069	2686	2149
					FEED	1218	1021	1074	1128	1059	1021	956
	10	High alloyed steel, and tool steel	0.25D	1.25D	Vc	135	135	135	135	135	135	135
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.089
					RPM	7162	5371	4297	3581	3069	2686	2149
					FEED	1218	1021	1074	1128	1059	1021	956
M	12-13	Stainless steel	0.25D	1.25D	Vc	105	105	105	145	105	105	105
					fz	0.030	0.032	0.038	0.043	0.064	0.068	0.076
					RPM	5570	4178	3342	3846	2387	2089	1671
					FEED	836	668	635	827	764	710	635
14.1	Stainless steel	0.25D	1.25D	Vc	115	115	115	115	115	115	115	
				fz	0.030	0.032	0.038	0.063	0.065	0.069	0.076	
				RPM	6101	4576	3661	3050	2615	2288	1830	
				FEED	915	732	696	961	850	789	696	
K	15-20	Grey cast iron	0.25D	1.25D	Vc	135	135	135	135	135	135	135
					fz	0.034	0.038	0.050	0.063	0.069	0.076	0.089
					RPM	7162	5371	4297	3581	3069	2686	2149
					FEED	1218	1021	1074	1128	1059	1021	956
S	31-35	Heat Resistant Super Alloys	0.25D	1.0D	Vc	25	25	25	25	25	25	25
					fz	0.017	0.020	0.025	0.036	0.045	0.048	0.060
					RPM	1326	995	796	663	568	497	398
					FEED	113	99	99	119	128	119	119
36-37	Titanium Alloys	0.25D	1.25D	Vc	85	85	85	85	85	85	85	
				fz	0.030	0.031	0.038	0.050	0.057	0.063	0.075	
				RPM	4509	3382	2706	2255	1933	1691	1353	
				FEED	676	524	514	564	551	533	507	





Global Cutting Tool Leader **YG-1**



MILLING



Leading Through Innovation

A close-up photograph of a solid carbide end mill cutting into a metal workpiece. The tool is positioned vertically, and a large chip of metal is being removed, flying off to the right. The background is blurred, showing other parts of the machine and the workshop environment.

SOLID CARBIDE

ALU-POWER HPC END MILLS

- For Aluminium, Aluminum Die Cast, Non-ferrous Alloys and Plastics
- 适用于加工铝，铝合金，非铁金属和塑料

SELECTION GUIDE
选用指南



SERIES 系列	E5H24 JAH24	E5H25 JAH25	E5H22 JAH22	E5H23 JAH23
FLUTE 槽数	3	3	3	3
HELIX ANGLE 螺旋角度	37°	37°	37°	37°
CUTTING EDGE SHAPE 类型	CORNER RADIUS	CORNER RADIUS	SQUARE	SQUARE
SIZE MIN 最小尺寸	D6.0	D6.0	D3.0	D6.0
SIZE MAX 最大尺寸	D20.0	D20.0	D25.0	D20.0
PAGE 页数	C402-404	C405-407	C408	C409

SOLID CARBIDE
ALU-POWER HPC
END MILLS

3-Flute, High-Performance,
For Aluminum, Aluminum Die Cast,
Non-Ferrous Alloys And Plastics
3刃, 高性能, 加工铝, 铝合金, 非铁金属和塑料



Please visit globaly1.com/mat for material search
◎: Excellent (优秀) ○: Good (良好)
Recommended cutting conditions (推荐加工参数): p.C410

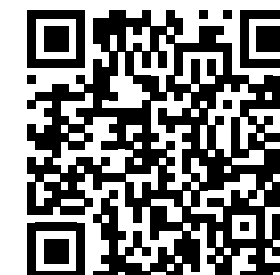
	E5H24 JAH24	E5H25 JAH25	E5H22 JAH22	E5H23 JAH23
	-	EXTENDED NECK	-	EXTENDED NECK
Uncoated	Uncoated	Uncoated	Uncoated	Uncoated
DLC	DLC	DLC	DLC	DLC



ISO	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB	HRc				
P	1	Non-alloy steel	About 0.15% C Annealed	125					
	2		About 0.45% C Annealed	190	13				
	3		About 0.45% C Quenched & Tempered	250	25				
	4		About 0.75% C Annealed	270	28				
	5		About 0.75% C Quenched & Tempered	300	32				
	6	Low alloy steel	Annealed	180	10				
	7		Quenched & Tempered	275	29				
	8		Quenched & Tempered	300	32				
	9		Quenched & Tempered	350	38				
	10		High alloyed steel, and tool steel	Annealed	200	15			
	11		Quenched & Tempered	325	35				
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15				
	13		Martensitic Quenched & Tempered	240	23				
	14		Austenitic	180	10				
K	15	Grey cast iron	Pearlitic / ferritic	180	10				
	16		Pearlitic (Martensitic)	260	26				
	17	Nodular cast iron	Ferritic	160	3				
	18		Pearlitic	250	25				
	19	Malleable cast iron	Ferritic	130					
	20		Pearlitic	230	21				
N	21	Aluminum-wrought alloy	Not Curable	60		◎	◎	◎	◎
	22		Curable Hardened	100		◎	◎	◎	◎
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		◎	◎	◎	◎
	24		≤ 12% Si, Curable Hardened	90		◎	◎	◎	◎
	25		> 12% Si, Not Curable	130		○	○	○	○
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		○	○	○	○
	27		CuZn, CuSnZn (Brass)	90		○	○	○	○
	28		CuSn, lead-free copper and electrolytic copper	100		○	○	○	○
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic Rubber, Wood, etc.			○	○	○
	30								
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33		Ni or Co Based	Annealed	250	25			
	34			Cured	350	38			
	35			Cast	320	34			
	36	Titanium Alloys	Pure Titanium	400 Rm					
	37		Alpha + Beta Alloys	Hardened	1050 Rm				
H	38	Hardened steel		Hardened	550	55			
	39			Hardened	630	60			
	40	Chilled Cast Iron	Cast	400	42				
	41	Hardened Cast Iron	Hardened	550	55				

CORNER RADIUS = 圆鼻 SQUARE = 平头 EXTENDED NECK = 颈部加长 Uncoated = 非涂层

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AEROSPACE SOLUTIONS & COMPOSITE MATERIALS



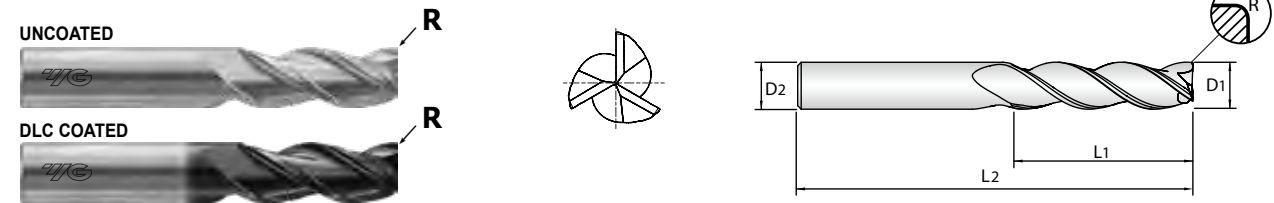


UNCOATED **E5H24** SERIES
 DLC COATED **JAH24** SERIES
 PLAIN SHANK

CARBIDE, 3 FLUTE 37° HELIX CORNER RADIUS
硬质合金, 3刃 37度螺旋 圆鼻

- ▶ Balanced cutting with less vibration
- ▶ Ability to run at higher speeds with less heat in aluminum
- ▶ More efficient chip evacuation
- ▶ Ability to counteract extreme radial forces
- ▶ DLC Coating provides edge strength and unsurpassed tool life

- ▶ 减少振动及稳定加工
- ▶ 可用高速加工减少加工铝时发热
- ▶ 提高排屑性能
- ▶ 减少切削阻力
- ▶ DLC涂层提供刃线刚性而卓越刀具寿命



p.C410

Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
Uncoated	DLC	圆弧角	直径	柄径	刃长	全长
		R	D1	D2	L1	L2
E5H24060	JAH24060	R0.5	6.0	6	13	57
E5H24901	JAH24901	R1.0	6.0	6	13	57
E5H24902	JAH24902	R1.5	6.0	6	13	57
E5H24903	JAH24903	R0.8	6.0	6	13	72
E5H24904	JAH24904	R1.2	6.0	6	13	72
E5H24905	JAH24905	R0.5	6.0	6	24	75
E5H24906	JAH24906	R1.0	6.0	6	24	75
E5H24080	JAH24080	R0.3	8.0	8	19	63
E5H24907	JAH24907	R0.5	8.0	8	19	63
E5H24908	JAH24908	R1.0	8.0	8	19	63
E5H24909	JAH24909	R1.5	8.0	8	19	63
E5H24910	JAH24910	R0.5	8.0	8	32	75
E5H24911	JAH24911	R1.0	8.0	8	32	75
E5H24912	JAH24912	R1.5	8.0	8	32	75
E5H24913	JAH24913	R2.0	8.0	8	32	75
E5H24100	JAH24100	R0.3	10.0	10	22	72
E5H24914	JAH24914	R0.5	10.0	10	22	72
E5H24915	JAH24915	R1.0	10.0	10	22	72
E5H24916	JAH24916	R1.5	10.0	10	22	72
E5H24917	JAH24917	R0.5	10.0	10	40	100

Unit(单位) : mm

▶ NEXT PAGE 下页

Mill Diameter Tolerances (mm)		Shank Diameter Tolerance
直径公差		柄径公差
Diameter (直径)	Tolerance (公差)	h5
Up to 3	+0/-0.006	
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					

◎ : Excellent (优秀) ○ : Good (良好)

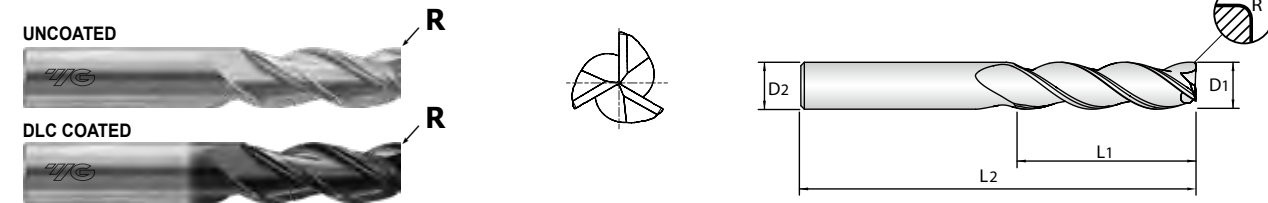


UNCOATED **E5H24** SERIES
 DLC COATED **JAH24** SERIES
 PLAIN SHANK

CARBIDE, 3 FLUTE 37° HELIX CORNER RADIUS
硬质合金, 3刃 37度螺旋 圆鼻

- ▶ Balanced cutting with less vibration
- ▶ Ability to run at higher speeds with less heat in aluminum
- ▶ More efficient chip evacuation
- ▶ Ability to counteract extreme radial forces
- ▶ DLC Coating provides edge strength and unsurpassed tool life

- ▶ 减少振动及稳定加工
- ▶ 可用高速加工减少加工铝时发热
- ▶ 提高排屑性能
- ▶ 减少切削阻力
- ▶ DLC涂层提供刃线刚性而卓越刀具寿命



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Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
Uncoated	DLC	圆弧角	直径	柄径	刃长	全长
		R	D1	D2	L1	L2
E5H24918	JAH24918	R1.0	10.0	10	40	100
E5H24919	JAH24919	R1.5	10.0	10	40	100
E5H24920	JAH24920	R2.0	10.0	10	40	100
E5H24120	JAH24120	R1.5	12.0	12	26	83
E5H24921	JAH24921	R2.0	12.0	12	26	83
E5H24922	JAH24922	R2.5	12.0	12	26	83
E5H24923	JAH24923	R3.0	12.0	12	26	83
E5H24924	JAH24924	R0.5	12.0	12	48	100
E5H24925	JAH24925	R1.0	12.0	12	48	100
E5H24926	JAH24926	R1.5	12.0	12	48	100
E5H24927	JAH24927	R2.0	12.0	12	48	100
E5H24928	JAH24928	R2.5	12.0	12	48	100
E5H24929	JAH24929	R3.0	12.0	12	48	100
E5H24140	JAH24140	R1.0	14.0	14	30	89
E5H24930	JAH24930	R2.0	14.0	14	30	89
E5H24931	JAH24931	R3.0	14.0	14	30	89
E5H24160	JAH24160	R1.5	16.0	16	32	92
E5H24932	JAH24932	R2.0	16.0	16	32	92
E5H24933	JAH24933	R2.5	16.0	16	32	92
E5H24934	JAH24934	R3.0	16.0	16	32	92

Unit(单位) : mm

▶ NEXT PAGE 下页

Mill Diameter Tolerances (mm)		Shank Diameter Tolerance
直径公差		柄径公差
Diameter (直径)	Tolerance (公差)	h5
Up to 3	+0/-0.006	
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					

◎ : Excellent (优秀) ○ : Good (良好)

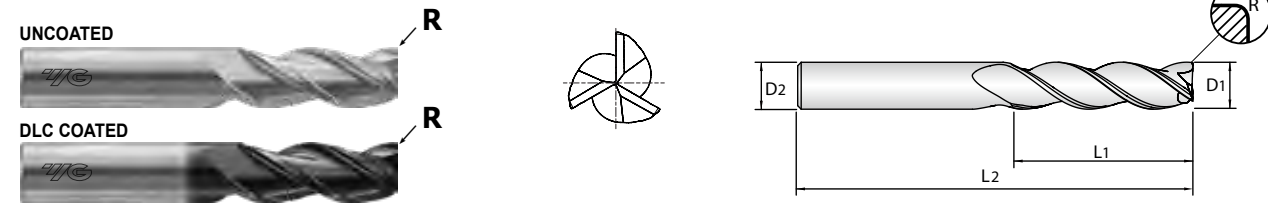


UNCOATED **E5H24** SERIES
 DLC COATED **JAH24** SERIES
 PLAIN SHANK

CARBIDE, 3 FLUTE 37° HELIX CORNER RADIUS
硬质合金, 3刃 37度螺旋 圆鼻

- ▶ Balanced cutting with less vibration
- ▶ Ability to run at higher speeds with less heat in aluminum
- ▶ More efficient chip evacuation
- ▶ Ability to counteract extreme radial forces
- ▶ DLC Coating provides edge strength and unsurpassed tool life

- ▶ 减少振动及稳定加工
- ▶ 可用高速加工减少加工铝时发热
- ▶ 提高排屑性能
- ▶ 减少切削阻力
- ▶ DLC涂层提供刃线刚性而卓越刀具寿命



Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
Uncoated	DLC	圆弧角	直径	柄径	刃长	全长
		R	D1	D2	L1	L2
E5H24935	JAH24935	R4.0	16.0	16	32	92
E5H24936	JAH24936	R0.5	16.0	16	64	125
E5H24937	JAH24937	R1.0	16.0	16	64	125
E5H24938	JAH24938	R1.5	16.0	16	64	125
E5H24939	JAH24939	R2.0	16.0	16	64	125
E5H24940	JAH24940	R2.5	16.0	16	64	125
E5H24941	JAH24941	R3.0	16.0	16	64	125
E5H24942	JAH24942	R4.0	16.0	16	64	125
E5H24200	JAH24200	R2.0	20.0	20	38	104
E5H24943	JAH24943	R2.5	20.0	20	38	104
E5H24944	JAH24944	R3.0	20.0	20	38	104
E5H24945	JAH24945	R4.0	20.0	20	38	104
E5H24946	JAH24946	R0.5	20.0	20	80	150
E5H24947	JAH24947	R1.0	20.0	20	80	150
E5H24948	JAH24948	R1.5	20.0	20	80	150
E5H24949	JAH24949	R2.0	20.0	20	80	150
E5H24950	JAH24950	R2.5	20.0	20	80	150
E5H24951	JAH24951	R3.0	20.0	20	80	150
E5H24952	JAH24952	R4.0	20.0	20	80	150

Mill Diameter Tolerances (mm)		Shank Diameter Tolerance
直径公差		
Diameter (直径)	Tolerance (公差)	h5
Up to 3	+0/-0.006	
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

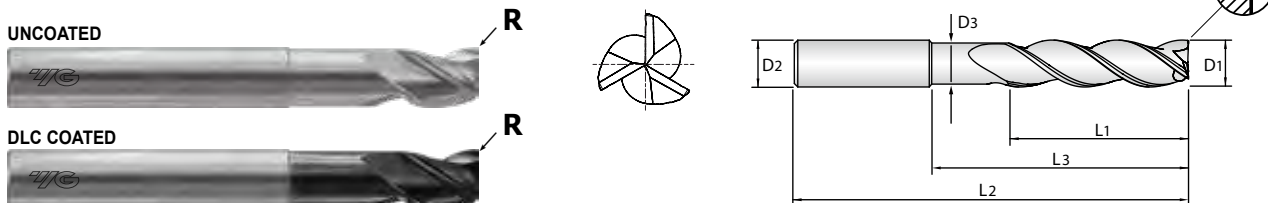


UNCOATED **E5H25** SERIES
 DLC COATED **JAH25** SERIES
 PLAIN SHANK

CARBIDE, 3 FLUTE 37° HELIX CORNER RADIUS with EXTENDED NECK
硬质合金, 3刃 37度螺旋 圆鼻 颈部加长

- ▶ Balanced cutting with less vibration
- ▶ Ability to run at higher speeds with less heat in aluminum
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Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
Uncoated	DLC	圆弧角	直径	柄径	刃长	颈长	全长	颈径
		R	D1	D2	L1	L3	L2	D3
E5H25060	JAH25060	R0.5	6.0	6	10	20	63	5.7
E5H25901	JAH25901	R1.0	6.0	6	10	20	63	5.7
E5H25902	JAH25902	R0.5	6.0	6	13	30	72	5.7
E5H25903	JAH25903	R1.0	6.0	6	13	30	72	5.7
E5H25080	JAH25080	R0.3	8.0	8	12	25	75	7.4
E5H25904	JAH25904	R0.5	8.0	8	12	25	75	7.4
E5H25905	JAH25905	R0.8	8.0	8	12	25	75	7.4
E5H25906	JAH25906	R1.0	8.0	8	12	25	75	7.4
E5H25907	JAH25907	R1.2	8.0	8	12	25	75	7.4
E5H25908	JAH25908	R1.5	8.0	8	12	25	75	7.4
E5H25909	JAH25909	R1.6	8.0	8	12	25	75	7.4
E5H25100	JAH25100	R0.3	10.0	10	14	35	100	9.2
E5H25910	JAH25910	R0.5	10.0	10	14	35	100	9.2
E5H25911	JAH25911	R0.8	10.0	10	14	35	100	9.2
E5H25912	JAH25912	R1.0	10.0	10	14	35	100	9.2
E5H25913	JAH25913	R1.2	10.0	10	14	35	100	9.2
E5H25914	JAH25914	R1.5	10.0	10	14	35	100	9.2
E5H25915	JAH25915	R1.6	10.0	10	14	35	100	9.2

Mill Diameter Tolerances (mm)		Shank Diameter Tolerance
直径公差		
Diameter (直径)	Tolerance (公差)	h5
Up to 3	+0/-0.006	
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

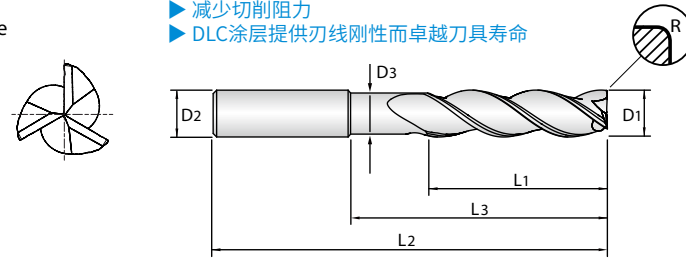


UNCOATED **E5H25** SERIES
 DLC COATED **JAH25** SERIES
 PLAIN SHANK

CARBIDE, 3 FLUTE 37° HELIX CORNER RADIUS with EXTENDED NECK
硬质合金, 3刃 37度螺旋 圆鼻 颈部加长

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Plain Shank	Page
HYDRAULIC CHUCK	D15-46
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SK SLIM CHUCK	D183-201

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
Uncoated	DLC	R	D1	D2	L1	L3	L2	D3
E5H25916	JAH25916	R2.4	10.0	10	14	35	100	9.2
E5H25120	JAH25120	R0.5	12.0	12	16	40	100	11.0
E5H25917	JAH25917	R0.8	12.0	12	16	40	100	11.0
E5H25918	JAH25918	R1.0	12.0	12	16	40	100	11.0
E5H25919	JAH25919	R1.2	12.0	12	16	40	100	11.0
E5H25920	JAH25920	R1.5	12.0	12	16	40	100	11.0
E5H25921	JAH25921	R1.6	12.0	12	16	40	100	11.0
E5H25922	JAH25922	R2.0	12.0	12	16	40	100	11.0
E5H25923	JAH25923	R2.4	12.0	12	16	40	100	11.0
E5H25924	JAH25924	R2.5	12.0	12	16	40	100	11.0
E5H25925	JAH25925	R3.0	12.0	12	16	40	100	11.0
E5H25926	JAH25926	R4.0	12.0	12	16	40	100	11.0
E5H25140	JAH25140	R1.0	14.0	14	18	45	125	13.0
E5H25927	JAH25927	R2.0	14.0	14	18	45	125	13.0
E5H25928	JAH25928	R3.0	14.0	14	18	45	125	13.0
E5H25929	JAH25929	R4.0	14.0	14	18	45	125	13.0
E5H25160	JAH25160	R0.8	16.0	16	20	50	125	15.0
E5H25930	JAH25930	R1.2	16.0	16	20	50	125	15.0

Unit(单位) : mm

Mill Diameter Tolerances (mm)		Shank Diameter Tolerance
直径公差		柄径公差
Diameter (直径)	Tolerance (公差)	h5
Up to 3	+0/-0.006	
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	○	○	○	○													

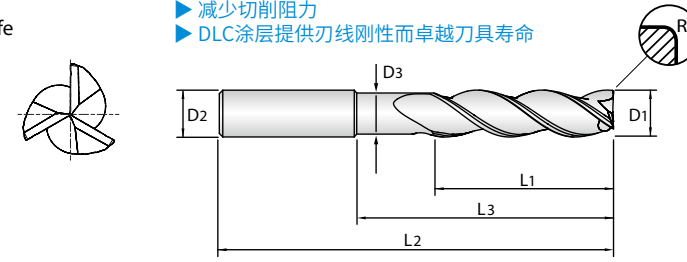


UNCOATED **E5H25** SERIES
 DLC COATED **JAH25** SERIES
 PLAIN SHANK

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SK SLIM CHUCK	D183-201

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
Uncoated	DLC	R	D1	D2	L1	L3	L2	D3
E5H25931	JAH25931	R1.6	16.0	16	20	50	125	15.0
E5H25932	JAH25932	R2.0	16.0	16	20	50	125	15.0
E5H25933	JAH25933	R2.4	16.0	16	20	50	125	15.0
E5H25934	JAH25934	R2.5	16.0	16	20	50	125	15.0
E5H25935	JAH25935	R3.0	16.0	16	20	50	125	15.0
E5H25936	JAH25936	R3.2	16.0	16	20	50	125	15.0
E5H25937	JAH25937	R4.0	16.0	16	20	50	125	15.0
E5H25200	JAH25200	R0.8	20.0	20	25	65	150	19.0
E5H25938	JAH25938	R1.2	20.0	20	25	65	150	19.0
E5H25939	JAH25939	R1.6	20.0	20	25	65	150	19.0
E5H25940	JAH25940	R2.0	20.0	20	25	65	150	19.0
E5H25941	JAH25941	R2.4	20.0	20	25	65	150	19.0
E5H25942	JAH25942	R2.5	20.0	20	25	65	150	19.0
E5H25943	JAH25943	R3.0	20.0	20	25	65	150	19.0
E5H25944	JAH25944	R3.2	20.0	20	25	65	150	19.0
E5H25945	JAH25945	R4.0	20.0	20	25	65	150	19.0

Unit(单位) : mm

Mill Diameter Tolerances (mm)		Shank Diameter Tolerance
直径公差		柄径公差
Diameter (直径)	Tolerance (公差)	h5
Up to 3	+0/-0.006	
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	○	○	○	○													

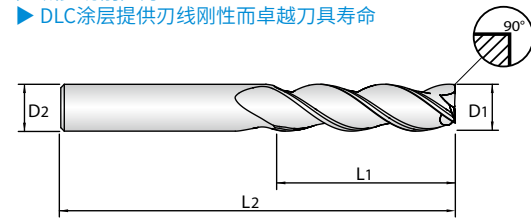
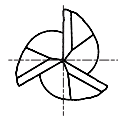
TIG ALU-POWER HPC END MILLS

UNCOATED **E5H22** SERIES
 DLC COATED **JAH22** SERIES
 PLAIN SHANK

CARBIDE, 3 FLUTE 37° HELIX
硬质合金, 3刃 37度螺旋

- ▶ Balanced cutting with less vibration
- ▶ Ability to run at higher speeds with less heat in aluminum
- ▶ More efficient chip evacuation
- ▶ Ability to counteract extreme radial forces
- ▶ DLC Coating provides edge strength and unsurpassed tool life

- ▶ 减少振动及稳定加工
- ▶ 可用高速加工减少加工铝时发热
- ▶ 提高排屑性能
- ▶ 减少切削阻力
- ▶ DLC涂层提供刃线刚性而卓越刀具寿命



p.C411

Recommended ToolHolder	Plain Shank	Page
⊗	HYDRAULIC CHUCK	D15-46
⊙	SHRINK FIT HOLDER	D47-72
⊕	POWER MILLING CHUCK	D161-176
⊖	ER COLLET CHUCK	D73-115
⊗	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
Uncoated	DLC	直径 D1	柄径 D2	刃长 L1	全长 L2
E5H22030	JAH22030	3.0	6	8	52
E5H22040	JAH22040	4.0	6	11	55
E5H22050	JAH22050	5.0	6	13	57
E5H22060	JAH22060	6.0	6	13	57
E5H22901	JAH22901	6.0	6	13	72
E5H22902	JAH22902	6.0	6	24	75
E5H22080	JAH22080	8.0	8	19	63
E5H22903	JAH22903	8.0	8	32	75
E5H22100	JAH22100	10.0	10	22	72
E5H22904	JAH22904	10.0	10	40	100
E5H22120	JAH22120	12.0	12	26	83
E5H22905	JAH22905	12.0	12	48	100
E5H22140	JAH22140	14.0	14	30	89
E5H22160	JAH22160	16.0	16	32	92
E5H22906	JAH22906	16.0	16	64	125
E5H22200	JAH22200	20.0	20	38	104
E5H22907	JAH22907	20.0	20	80	150
E5H22250	JAH22250	25.0	25	50	125

Mill Diameter Tolerances (mm)		Shank Diameter Tolerance
直径公差		柄径公差
Diameter (直径)	Tolerance (公差)	h5
Up to 3	+0/-0.006	
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

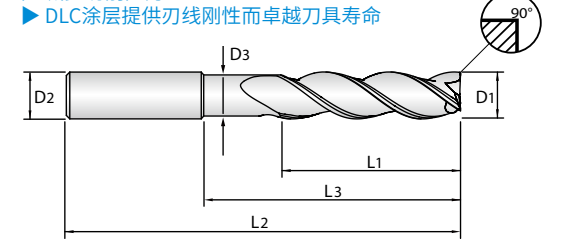
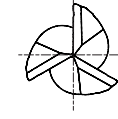
TIG ALU-POWER HPC END MILLS

UNCOATED **E5H23** SERIES
 DLC COATED **JAH23** SERIES
 PLAIN SHANK

CARBIDE, 3 FLUTE 37° HELIX with EXTENDED NECK
硬质合金, 3刃 37度螺旋 颈部加长

- ▶ Balanced cutting with less vibration
- ▶ Ability to run at higher speeds with less heat in aluminum
- ▶ More efficient chip evacuation
- ▶ Ability to counteract extreme radial forces
- ▶ DLC Coating provides edge strength and unsurpassed tool life

- ▶ 减少振动及稳定加工
- ▶ 可用高速加工减少加工铝时发热
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p.C411

Recommended ToolHolder	Plain Shank	Page
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⊗	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
Uncoated	DLC	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
E5H23060	JAH23060	6.0	6	10	20	75	5.7
E5H23080	JAH23080	8.0	8	12	25	75	7.4
E5H23100	JAH23100	10.0	10	14	35	100	9.2
E5H23120	JAH23120	12.0	12	16	40	100	11.0
E5H23140	JAH23140	14.0	14	18	45	125	13.0
E5H23160	JAH23160	16.0	16	20	50	125	15.0
E5H23200	JAH23200	20.0	20	25	65	150	19.0

Mill Diameter Tolerances (mm)		Shank Diameter Tolerance
直径公差		柄径公差
Diameter (直径)	Tolerance (公差)	h5
Up to 3	+0/-0.006	
Over 3 ~ up to 6	+0/-0.008	
Over 6 ~ up to 10	+0/-0.009	
Over 10 ~ up to 18	+0/-0.011	
Over 18 ~ up to 25	+0/-0.013	

◎ : Excellent (优秀) ○ : Good (良好)

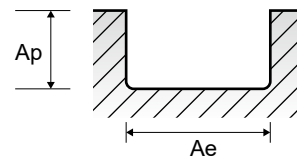
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

E5H24, JAH24, E5H25, JAH25 SERIES

3 FLUTE CORNER RADIUS - SLOTING (3刃 圆鼻-槽铣削)

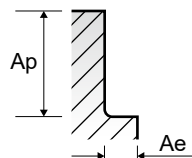
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Mill Diameter (Ø)					
						6.0	10.0	12.0	16.0	20.0	
N	21~22	Aluminum-wrought alloy	1.0D	1.0D	Vc	488	488	488	488	488	
					fz	0.076	0.114	0.152	0.168	0.191	
					RPM	25889	15533	12945	9708	7767	
	23~25	Aluminum-cast, alloyed	1.0D	1.0D	Vc	183	183	183	183	183	
					fz	0.076	0.114	0.152	0.168	0.191	
					RPM	9708	5825	4854	3641	2913	
	26-28	Copper and Copper Alloys (Bronze / Brass)	1.0D	1.0D	Vc	268	268	268	268	268	
					fz	0.051	0.102	0.127	0.140	0.152	
					RPM	14218	8531	7109	5332	4265	
	29.1	Non Metallic Materials	1.0D	1.0D	Vc	503	503	503	503	503	
					fz	0.102	0.191	0.254	0.279	0.305	
					RPM	26685	16011	13342	10007	8005	
						FEED	8134	9150	10167	8388	7320



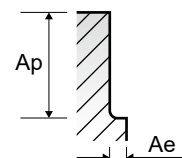
3 FLUTE CORNER RADIUS - SIDE CUTTING (3刃 圆鼻-侧铣削)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Mill Diameter (Ø)					
						6.0	10.0	12.0	16.0	20.0	
N	21~22	Aluminum-wrought alloy	0.5D	1.5D	Vc	610	610	610	610	610	
					fz	0.076	0.114	0.152	0.168	0.191	
					RPM	32361	19417	16181	12136	9708	
	23~25	Aluminum-cast, alloyed	0.5D	1.5D	Vc	244	244	244	244	244	
					fz	0.076	0.114	0.152	0.168	0.191	
					RPM	12945	7767	6472	4854	3883	
	26-28	Copper and Copper Alloys (Bronze / Brass)	0.5D	1.5D	Vc	351	351	351	351	351	
					fz	0.051	0.102	0.127	0.140	0.152	
					RPM	18621	11173	9311	6983	5586	
	29.1	Non Metallic Materials	0.5D	1.5D	Vc	625	625	625	625	625	
					fz	0.102	0.191	0.254	0.279	0.305	
					RPM	33157	19894	16579	12434	9947	
						FEED	10106	11370	12633	10422	9096



3 FLUTE CORNER RADIUS - SIDE CUTTING HSM (Light) (3刃 圆鼻-侧铣削 HSM (Light))

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Mill Diameter (Ø)					
						6.0	10.0	12.0	16.0	20.0	
N	21~22	Aluminum-wrought alloy	0.05D	2.0D	Vc	1006	1006	1006	1006	1006	
					fz	0.140	0.267	0.356	0.381	0.419	
					RPM	53370	32022	26685	20014	16011	
	23~25	Aluminum-cast, alloyed	0.05D	2.0D	Vc	366	366	366	366	366	
					fz	0.140	0.267	0.356	0.381	0.419	
					RPM	19417	11650	9708	7281	5825	
	26-28	Copper and Copper Alloys (Bronze / Brass)	0.05D	2.0D	Vc	564	564	564	564	564	
					fz	0.114	0.216	0.292	0.330	0.356	
					RPM	29921	17953	14961	11220	8976	
	29.1	Non Metallic Materials	0.05D	2.0D	Vc	1021	1021	1021	1021	1021	
					fz	0.229	0.432	0.584	0.635	0.699	
					RPM	54166	32499	27083	20312	16250	
						FEED	37147	42100	47465	38695	34051

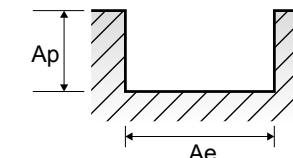


E5H22, JAH22, E5H23, JAH23 SERIES

3 FLUTE - SLOTING (3刃-槽铣削)

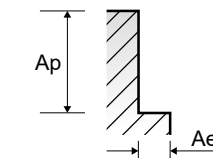
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Mill Diameter (Ø)							
						3.0	6.0	10.0	12.0	16.0	20.0	25.0	
N	21~22	Aluminum-wrought alloy	1.0D	1.0D	Vc	488	488	488	488	488	488	488	
					fz	0.025	0.076	0.114	0.152	0.168	0.191	0.254	
					RPM	51778	25889	15533	12945	9708	7767	6213	
	23~25	Aluminum-cast, alloyed	1.0D	1.0D	Vc	183	183	183	183	183	183	183	
					fz	0.025	0.076	0.114	0.152	0.168	0.191	0.254	
					RPM	19417	9708	5825	4854	3641	2913	2330	
	26-28	Copper and Copper Alloys (Bronze / Brass)	1.0D	1.0D	Vc	268	268	268	268	268	268	268	
					fz	0.020	0.051	0.102	0.127	0.140	0.152	0.178	
					RPM	28436	14218	8531	7109	5332	4265	3412	
	29.1	Non Metallic Materials	1.0D	1.0D	Vc	503	503	503	503	503	503	503	
					fz	0.038	0.102	0.191	0.254	0.279	0.305	0.356	
					RPM	53370	26685	16011	13342	10007	8005	6404	
						FEED	6100	8134	9150	10167	8388	7320	6832



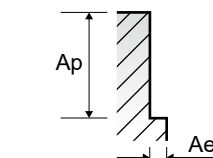
3 FLUTE - SIDE CUTTING (3刃-侧铣削)

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Mill Diameter (Ø)							
						3.0	6.0	10.0	12.0	16.0	20.0	25.0	
N	21~22	Aluminum-wrought alloy	0.5D	1.5D	Vc	610	610	610	610	610	610	610	
					fz	0.025	0.076	0.114	0.152	0.168	0.191	0.254	
					RPM	64723	32361	19417	16181	12136	9708	7767	
	23~25	Aluminum-cast, alloyed	0.5D	1.5D	Vc	244	244	244	244	244	244	244	
					fz	0.025	0.076	0.114	0.152	0.168	0.191	0.254	
					RPM	25889	12945	7767	6472	4854	3883	3107	
	26-28	Copper and Copper Alloys (Bronze / Brass)	0.5D	1.5D	Vc	351	351	351	351	351	351	351	
					fz	0.020	0.051	0.102	0.127	0.140	0.152	0.178	
					RPM	37242	18621	11173	9311	6983	5586	4469	
	29.1	Non Metallic Materials	0.5D	1.5D	Vc	625	625	625	625	625	625	625	
					fz	0.038	0.102	0.191	0.254	0.279	0.305	0.356	
					RPM	66314	33157	19894	16579	12434	9947	7958	
						FEED	7580	10106	11370	12633	10422	9096	8489



3 FLUTE - SIDE CUTTING HSM (Light) (3刃-侧铣削 HSM (Light))

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Mill Diameter (Ø)							
						3.0	6.0	10.0	12.0	16.0	20.0	25.0	
N	21~22	Aluminum-wrought alloy	0.05D	2.0D	Vc	1006	1006	1006	1006	1006	1006	1006	
					fz	0.053	0.140	0.267	0.356	0.381	0.419	0.495	
					RPM	106740	53370	32022	26685	20014	16011	12809	
	23~25	Aluminum-cast, alloyed	0.05D	2.0D	Vc	366	366	366	366	366	366	366	
					fz	0.053	0.140	0.267	0.356	0.381	0.419	0.495	
					RPM	38834	19417	11650	9708	7281	5825	4660	
	26-28	Copper and Copper Alloys (Bronze / Brass)	0.05D	2.0D	Vc	564	564	564	564	564	564	564	
					fz	0.043	0.114	0.216	0.292	0.330	0.356	0.406	
					RPM	59842	29921	17953	14961	11220	8976	7181	
	29.1	Non Metallic Materials	0.05D	2.0D	Vc	1021	1021	1021	1021	1021	1021	1021	
					fz	0.086	0.229	0.432	0.584	0.635	0.699	0.813	
					RPM	108331	54166	32499	27083	20312	16250	13000	
						FEED	28066	37147	42100	47465	38695	34051	31699



CBN END MILLS

i-Xmill END MILLS

i-SMART MODULAR END MILLS

X5070 END MILLS

4G MILL END MILLS

X-POWER PRO END MILLS

TiAlN-POWER END MILLS

SUS-CUT END MILLS

V7 PLUS END MILLS

ALU-POWER HPC END MILLS

ALU-CUT END MILLS

G-CUT END MILLS

CRX S END MILLS

K-2 END MILLS

GENERAL CARBIDE END MILLS

ONLY ONE COATED PM60 END MILLS

TANK-POWER END MILLS

GENERAL HSS END MILLS

MILLING CUTTERS

TECHNICAL DATA

TECHNICAL DATA

TECHNICAL DATA

TECHNICAL DATA

TECHNICAL DATA

TECHNICAL DATA

TECHNICAL DATA

TECHNICAL DATA

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TECHNICAL DATA



Global Cutting Tool Leader **YG-1**



MILLING



Leading Through Innovation



SOLID CARBIDE

ALU-CUT END MILLS

- Aluminium Alloys and Silent Cutting
- 适用于加工铝合金而无声切削

SELECTION GUIDE
选用指南



SERIES 系列	E5D71	E5C72	E5D70	E5D73
FLUTE 槽数	2	3	3	3
HELIX ANGLE 螺旋角度	45°	45°	45°	45°
CUTTING EDGE SHAPE 类型	SQUARE	SQUARE	SQUARE	ROUGHING
SIZE MIN 最小尺寸	D1.0	D1.0	D1.0	D4.0
SIZE MAX 最大尺寸	D20.0	D20.0	D20.0	D20.0
PAGE 页数	C415-416	C417	C418-423	C424-425

SOLID CARBIDE
ALU-CUT
END MILLS

Aluminium Alloys and Silent Cutting
加工铝合金而无声切削



◎: Excellent (优秀) ○: Good (良好)

Recommended cutting conditions (推荐加工参数): p.C426

ISO	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB	HRc				
P	1	Non-alloy steel	About 0.15% C Annealed	125					
	2		About 0.45% C Annealed	190	13				
	3		About 0.45% C Quenched & Tempered	250	25				
	4		About 0.75% C Annealed	270	28				
	5		About 0.75% C Quenched & Tempered	300	32				
	6	Low alloy steel	Annealed	180	10				
	7		Quenched & Tempered	275	29				
	8		Quenched & Tempered	300	32				
	9		Quenched & Tempered	350	38				
	10		High alloyed steel, and tool steel	Annealed	200	15			
	11		Quenched & Tempered	325	35				
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15				
	13		Martensitic Quenched & Tempered	240	23				
	14		Austenitic	180	10				
K	15	Grey cast iron	Pearlitic / ferritic	180	10				
	16		Pearlitic (Martensitic)	260	26				
	17	Nodular cast iron	Ferritic	160	3				
	18		Pearlitic	250	25				
	19	Malleable cast iron	Ferritic	130					
	20		Pearlitic	230	21				
N	21	Aluminum-wrought alloy	Not Curable	60		◎	◎	◎	◎
	22		Curable Hardened	100		◎	◎	◎	◎
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		◎	◎	◎	◎
	24		≤ 12% Si, Curable Hardened	90		◎	◎	◎	◎
	25		> 12% Si, Not Curable	130		◎		◎	◎
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110					
	27		CuZn, CuSnZn (Brass)	90					
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100					
	29		Duroplastic, Fiber Reinforced Plastic						
	30	Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33		Ni or Co Based	Annealed	250	25			
	34			Cured	350	38			
	35			Cast	320	34			
36	Titanium Alloys	Pure Titanium	400 Rm						
37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel	Hardened	550	55				
	39			630	60				
	40	Chilled Cast Iron	Hardened	400	42				
	41	Hardened Cast Iron	Hardened	550	55				

SQUARE = 平头 ROUGHING = 粗加工 SHORT LENGTH = 短刃 Uncoated = 非涂层

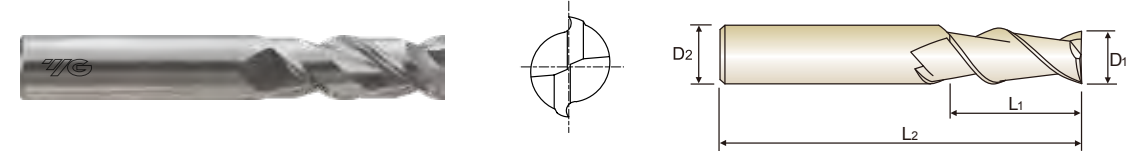


PLAIN SHANK **E5D71** SERIES

CARBIDE, 2 FLUTE 45° HELIX
硬质合金, 2刃 45度螺旋

- Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
- Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
- Special cutting edges for minimization of vibration
- Very small tolerance of cutting diameters
- Available regular and long cutting lengths

- 卓越性能在铝件, 铝合金, 非铁金属
- 镜面处理提高耐磨性, 加工时表面粗糙度
- 特殊刃线设计减小震动
- 高精度直径公差
- 可选标准刃, 长刃

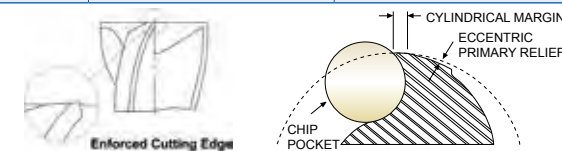


Recommended Toolholder	Flat Shank	Page	Plain Shank	Page
◎	END MILL HOLDER	D118 - 137	SHRINK FIT HOLDER	D15 - 46
○	-	-	POWER MILLING CHUCK	D161 - 176
○	-	-	ER COLLET CHUCK	D73 - 115

Unit(单位): mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
E5D71010	1.0	6	3	50
E5D7101005	1.0	6	5	50
E5D7101006	1.0	6	6	60
E5D71012	1.2	6	4	50
E5D71015	1.5	6	5	50
E5D7101508	1.5	6	8	60
E5D71020	2.0	6	6	50
E5D7102008	2.0	6	8	50
E5D7102010	2.0	6	10	60
E5D71025	2.5	6	8	55
E5D71030	3.0	6	11	55
E5D7103015	3.0	6	15	65
E5D71040	4.0	6	13	55
E5D7104016	4.0	6	16	65
E5D71050	5.0	6	17	55
E5D7105022	5.0	6	22	60
E5D71060	6.0	6	17	60
E5D7106025	6.0	6	25	70
E5D71070	7.0	8	22	65
E5D71080	8.0	8	22	70
E5D7108030	8.0	8	30	80
E5D71100	10.0	10	27	75
E5D7110035	10.0	10	35	90
E5D71120	12.0	12	32	80

Mill Dia. Tolerance (mm) 刃部公差	Shank Dia. Tolerance 柄部公差
0 ~ -0.015	h5



► NEXT PAGE 下页

◎: Excellent (优秀) ○: Good (良好)

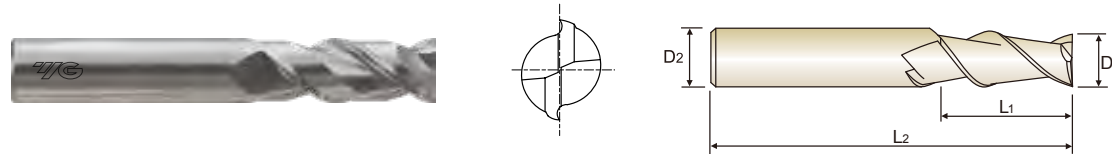
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	70	75	80	85	90	95	100	110	120	130	140	150	160	170	180	190	200	210	220	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 2 FLUTE 45° HELIX
硬质合金, 2刃 45度螺旋

- ▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
- ▶ Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
- ▶ Special cutting edges for minimization of vibration
- ▶ Very small tolerance of cutting diameters
- ▶ Available regular and long cutting lengths

- ▶ 双芯厚铣刀具有独特沟槽设计, 实现出色排屑性能与优秀刚性
- ▶ 双芯厚实现稳定性和排屑性能, 减少刀具偏斜, 提高尺寸稳定性和工件精度

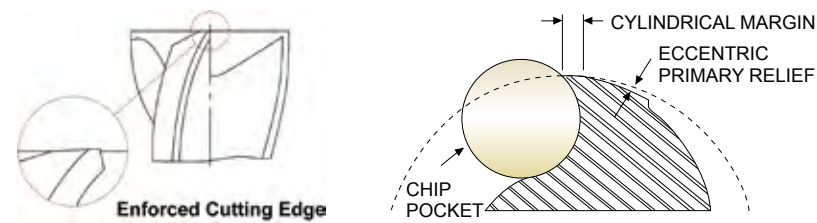


CARBIDE	2	45°	PLAIN	p.C427	Flat Shank	Page	Plain Shank	Page
					END MILL HOLDER	D118-137	HYDRAULIC CHUCK	D15-46
							SHRINK FIT HOLDER	D47-72
							POWER MILLING CHUCK	D161-176
							ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
E5D7112040	12.0	12	40	95
E5D71140	14.0	14	37	90
E5D7114016S	14.0	16	37	90
E5D71160	16.0	16	42	100
E5D7116052	16.0	16	52	110
E5D71180	18.0	16	48	100
E5D71200	20.0	20	48	100
E5D7120055	20.0	20	55	110

Mill Dia.Tolerance (mm) 刃部公差	Shank Dia.Tolerance 柄部公差
0 ~ -0.015	h5



◎ : Excellent (优秀) ○ : Good (良好)

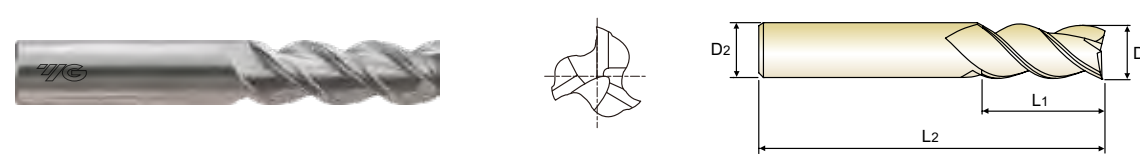
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

CARBIDE, 3 FLUTE 45° HELIX SHORT LENGTH
硬质合金, 3刃 45度螺旋 短刃

- ▶ Applied for aluminum and aluminum alloys.
- ▶ Designed to minimize vibration.
- ▶ Excellent surface roughness caused by Mirror Face of cutting edges.
- ▶ Precise tolerance of cutting diameters.

- ▶ 使用铝及铝合金材质加工
- ▶ 其设计使振动最小化
- ▶ 镜面处理的切削刃可保证加工面的粗糙度
- ▶ 刃部直径公差高精密度

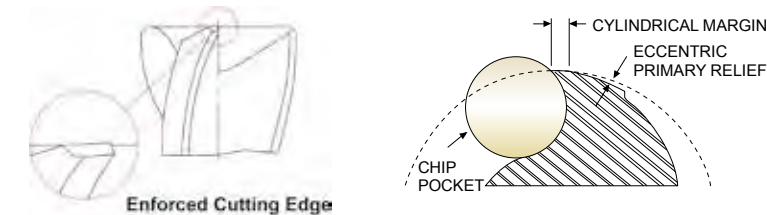


CARBIDE	3	45°	PLAIN	p.C606-607	Flat Shank	Page	Plain Shank	Page
					END MILL HOLDER	D118-137	HYDRAULIC CHUCK	D15-46
							SHRINK FIT HOLDER	D47-72
							POWER MILLING CHUCK	D161-176
							ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
E5C72010	1.0	6	3	50
E5C72015	1.5	6	5	50
E5C72020	2.0	6	6	50
E5C72025	2.5	6	8	50
E5C72030	3.0	6	11	50
E5C72040	4.0	6	13	50
E5C72050	5.0	6	17	55
E5C72060	6.0	6	17	55
E5C72070	7.0	8	22	65
E5C72080	8.0	8	22	65
E5C72090	9.0	10	27	70
E5C72100	10.0	10	27	70
E5C72120	12.0	12	32	80
E5C72140	14.0	14	37	85
E5C72160	16.0	16	42	100
E5C72180	18.0	16	48	110
E5C72200	20.0	20	48	110

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.02	h5



◎ : Excellent (优秀) ○ : Good (良好)

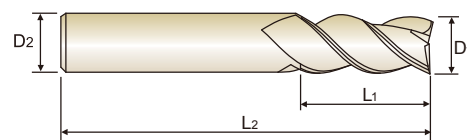
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

CARBIDE, 3 FLUTE 45° HELIX
硬质合金, 3刃 45度螺旋

- ▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
- ▶ Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
- ▶ Special cutting edges for minimization of vibration
- ▶ Very small tolerance of cutting diameters
- ▶ Available various cutting length tools

- ▶ 卓越性能在铝件, 铝合金, 非铁金属
- ▶ 镜面处理提高耐磨性, 加工时表面粗糙度
- ▶ 特殊刃线设计减小震动
- ▶ 高精度直径公差
- ▶ 多种刃长设计

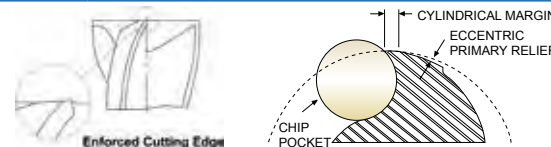


Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK	D15-46
		SHRINK FIT HOLDER	D47-72
		POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115

Unit(单位): mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
E5D7001002	1.0	6	2	40
E5D70010025	1.0	6	2.5	40
E5D70010	1.0	6	3	50
E5D7001004	1.0	6	4	60
E5D7001005	1.0	6	5	60
E5D7001006	1.0	6	6	60
E5D70012	1.2	6	4	50
E5D7001503	1.5	6	3	40
E5D7001504	1.5	6	4	40
E5D70015	1.5	6	5	50
E5D7001506	1.5	6	6	60
E5D7001508	1.5	6	8	60
E5D7001510	1.5	6	10	60
E5D7001512	1.5	6	12	60
E5D7002003	2.0	6	3	40
E5D7002005	2.0	6	5	50
E5D7002007	2.0	6	7	50
E5D70020	2.0	6	6	50
E5D7002008	2.0	6	8	60
E5D7002010	2.0	6	10	60
E5D7002012	2.0	6	12	60
E5D7002014	2.0	6	14	60
E5D7002016	2.0	6	16	60
E5D7002508	2.5	6	8	40

Mill Dia. Tolerance (mm) 刃部公差	Shank Dia. Tolerance 柄部公差
0 ~ -0.015	h5



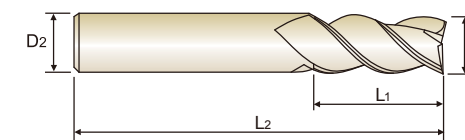
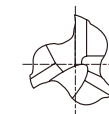
◎: Excellent (优秀) ○: Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

CARBIDE, 3 FLUTE 45° HELIX
硬质合金, 3刃 45度螺旋

- ▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
- ▶ Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
- ▶ Special cutting edges for minimization of vibration
- ▶ Very small tolerance of cutting diameters
- ▶ Available various cutting length tools

- ▶ 卓越性能在铝件, 铝合金, 非铁金属
- ▶ 镜面处理提高耐磨性, 加工时表面粗糙度
- ▶ 特殊刃线设计减小震动
- ▶ 高精度直径公差
- ▶ 多种刃长设计

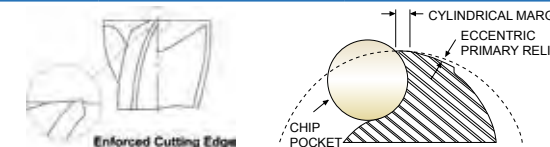


Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK	D15-46
		SHRINK FIT HOLDER	D47-72
		POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115

Unit(单位): mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
E5D70025	2.5	6	10	55
E5D7002504	2.5	6	4	40
E5D7002512	2.5	6	12	60
E5D7002515	2.5	6	15	60
E5D7003004	3.0	6	4	45
E5D7003008	3.0	6	8	45
E5D7003012	3.0	6	12	60
E5D70030	3.0	6	11	55
E5D7003015	3.0	6	15	65
E5D7003020	3.0	6	20	70
E5D7003025	3.0	6	25	75
E5D7003030	3.0	6	30	80
E5D70035	3.5	6	12	55
E5D7003506	3.5	6	6	50
E5D7004005	4.0	6	5	45
E5D7004006	4.0	6	6	45
E5D7004008	4.0	6	8	45
E5D7004011	4.0	6	11	45
E5D70040	4.0	6	13	55
E5D7004016	4.0	6	16	65
E5D7004020	4.0	6	20	70
E5D7004026	4.0	6	26	75
E5D7004030	4.0	6	30	80
E5D70045	4.5	6	15	55

Mill Dia. Tolerance (mm) 刃部公差	Shank Dia. Tolerance 柄部公差
0 ~ -0.015	h5



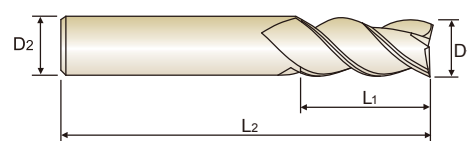
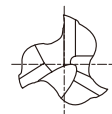
◎: Excellent (优秀) ○: Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

CARBIDE, 3 FLUTE 45° HELIX
硬质合金, 3刃 45度螺旋

- ▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
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- ▶ 高精度直径公差
- ▶ 多种刃长设计

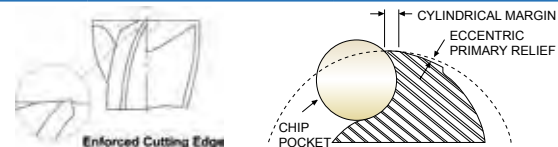


Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK	D15 - 46
		SHRINK FIT HOLDER	D47 - 72
		POWER MILLING CHUCK	D161 - 176
		ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
E5D7004512	4.5	6	12	50
E5D7004518	4.5	6	18	55
E5D7005006	5.0	6	6	45
E5D7005013	5.0	6	13	50
E5D7005020	5.0	6	20	55
E5D70050	5.0	6	17	55
E5D7005022	5.0	6	22	60
E5D7005025	5.0	6	25	70
E5D7005030	5.0	6	30	75
E5D7005035	5.0	6	35	80
E5D7005040	5.0	6	40	85
E5D7005045	5.0	6	45	90
E5D70055	5.5	6	17	55
E5D7006007	6.0	6	7	50
E5D7006013	6.0	6	13	50
E5D70060	6.0	6	17	60
E5D7006022	6.0	6	22	60
E5D7006025	6.0	6	25	70
E5D7006030	6.0	6	30	75
E5D7006035	6.0	6	35	80
E5D7006042	6.0	6	42	90
E5D7006050	6.0	6	50	100
E5D70070	7.0	8	22	65
E5D7008009	8.0	8	9	60

Mill Dia. Tolerance (mm) 刃部公差	Shank Dia. Tolerance 柄部公差
0 ~ -0.015	h5



◎ : Excellent (优秀) ○ : Good (良好)

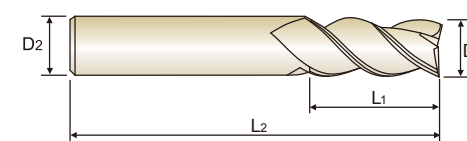
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

CARBIDE, 3 FLUTE 45° HELIX
硬质合金, 3刃 45度螺旋

- ▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
- ▶ Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
- ▶ Special cutting edges for minimization of vibration
- ▶ Very small tolerance of cutting diameters
- ▶ Available various cutting length tools

- ▶ 卓越性能在铝件, 铝合金, 非铁金属
- ▶ 镜面处理提高耐磨性, 加工时表面粗糙度
- ▶ 特殊刃线设计减小震动
- ▶ 高精度直径公差
- ▶ 多种刃长设计

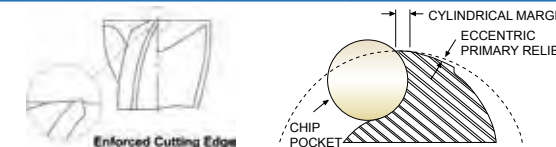


Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK	D15 - 46
		SHRINK FIT HOLDER	D47 - 72
		POWER MILLING CHUCK	D161 - 176
		ER COLLET CHUCK	D73 - 115

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
E5D7008012	8.0	8	12	60
E5D7008019	8.0	8	19	60
E5D70080	8.0	8	22	70
E5D7008028	8.0	8	28	80
E5D7008030	8.0	8	30	80
E5D7008035	8.0	8	35	85
E5D7008040	8.0	8	40	90
E5D7008045	8.0	8	45	95
E5D7008050	8.0	8	50	100
E5D7008055	8.0	8	55	105
E5D7008060	8.0	8	60	110
E5D7008065	8.0	8	65	110
E5D70090	9.0	10	27	70
E5D7010011	10.0	10	11	65
E5D7010015	10.0	10	15	65
E5D7010022	10.0	10	22	65
E5D70100	10.0	10	27	75
E5D7010032	10.0	10	32	90
E5D7010035	10.0	10	35	90
E5D7010040	10.0	10	40	90
E5D7010045	10.0	10	45	100
E5D7010050	10.0	10	50	100
E5D7010055	10.0	10	55	110
E5D7010060	10.0	10	60	110

Mill Dia. Tolerance (mm) 刃部公差	Shank Dia. Tolerance 柄部公差
0 ~ -0.015	h5



◎ : Excellent (优秀) ○ : Good (良好)

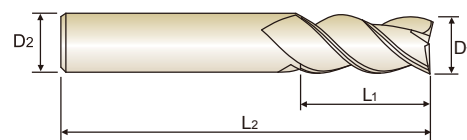
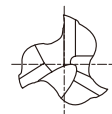
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

CARBIDE, 3 FLUTE 45° HELIX
硬质合金, 3刃 45度螺旋

- ▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
- ▶ Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
- ▶ Special cutting edges for minimization of vibration
- ▶ Very small tolerance of cutting diameters
- ▶ Available various cutting length tools

- ▶ 卓越性能在铝件, 铝合金, 非铁金属
- ▶ 镜面处理提高耐磨性, 加工时表面粗糙度
- ▶ 特殊刃线设计减小震动
- ▶ 高精度直径公差
- ▶ 多种刃长设计

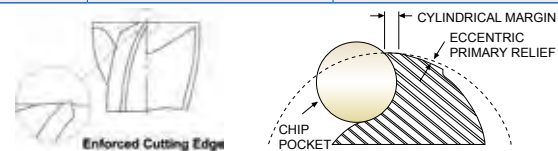


Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK	D15-46
		SHRINK FIT HOLDER	D47-72
		POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115

Unit(单位): mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
E5D7010065	10.0	10	65	120
E5D7012013	12.0	12	13	70
E5D7012026	12.0	12	26	70
E5D7012035	12.0	12	35	80
E5D70120	12.0	12	32	80
E5D7012040	12.0	12	40	95
E5D7012045	12.0	12	45	100
E5D7012050	12.0	12	50	100
E5D7012055	12.0	12	55	110
E5D7012060	12.0	12	60	110
E5D7012065	12.0	12	65	120
E5D7012070	12.0	12	70	120
E5D7012075	12.0	12	75	135
E5D7012080	12.0	12	80	140
E5D70140	14.0	14	37	90
E5D7014016S	14.0	16	37	90
E5D7014045	14.0	14	45	110
E5D7016018	16.0	16	18	90
E5D7016032	16.0	16	32	90
E5D70160	16.0	16	42	100
E5D7016052	16.0	16	52	105
E5D7016055	16.0	16	55	110
E5D7016065	16.0	16	65	130
E5D7016075	16.0	16	75	150

Mill Dia.Tolerance (mm) 刃部公差	Shank Dia.Tolerance 柄部公差
0 ~ -0.015	h5



◎: Excellent (优秀) ○: Good (良好)

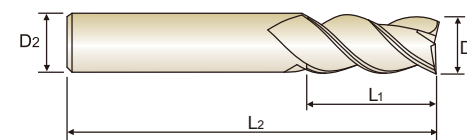
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommend																				

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

CARBIDE, 3 FLUTE 45° HELIX
硬质合金, 3刃 45度螺旋

- ▶ Suitable for workpieces of nonferrous metals including Aluminum and Aluminum Alloys
- ▶ Improvement of surface roughness of workpieces and wearresistance due to Mirror grinding of cutting edges
- ▶ Special cutting edges for minimization of vibration
- ▶ Very small tolerance of cutting diameters
- ▶ Available various cutting length tools

- ▶ 卓越性能在铝件, 铝合金, 非铁金属
- ▶ 镜面处理提高耐磨性, 加工时表面粗糙度
- ▶ 特殊刃线设计减小震动
- ▶ 高精度直径公差
- ▶ 多种刃长设计

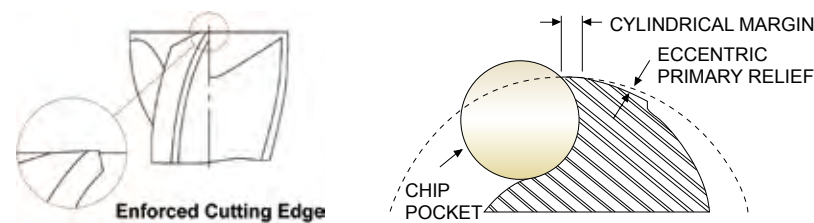


Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK	D15-46
		SHRINK FIT HOLDER	D47-72
		POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115

Unit(单位): mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
E5D7016085	16.0	16	85	160
E5D7016095	16.0	16	95	180
E5D70160105	16.0	16	105	190
E5D70160115	16.0	16	115	200
E5D70180	18.0	16	48	100
E5D7020022	20.0	20	22	90
E5D7020038	20.0	20	38	90
E5D70200	20.0	20	48	100
E5D7020055	20.0	20	55	110
E5D7020065	20.0	20	65	130
E5D7020075	20.0	20	75	150
E5D7020085	20.0	20	85	160
E5D7020095	20.0	20	95	180
E5D70200105	20.0	20	105	190
E5D70200115	20.0	20	115	200
E5D70200125	20.0	20	125	220

Mill Dia.Tolerance (mm) 刃部公差	Shank Dia.Tolerance 柄部公差
0 ~ -0.015	h5



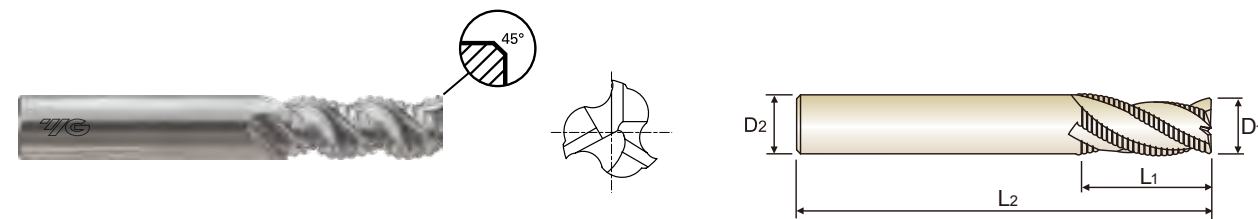
◎: Excellent (优秀) ○: Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230
Recommend																				

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

CARBIDE, 3 FLUTE 45° HELIX ROUGHING (Type A)
硬质合金, 3刃 45度螺旋 粗加工 (A型)

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
 - ▶ Suitable for cutting difficult to cut materials like alloy steels, stainless steels, Titanium, Inconel etc.
 - ▶ Excellent surface roughness when side cutting due to high helix and 6 flutes
- ▶ 卓越性能在铝件, 铝合金, 非铁材质
 - ▶ 镜面处理提高加工时表面粗糙度
 - ▶ 最佳刃线设计提高排屑性能



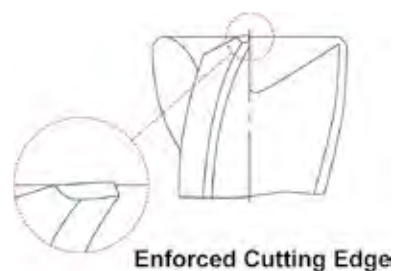
CARBIDE WR 3 45° PLAIN C x 45° p.C427

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK	D15-46
		SHRINK FIT HOLDER	D47-72
		POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer 导向
	直径 D1	柄径 D2	刃长 L1	全长 L2	
E5D73040	4.0	6	10	55	0.15
E5D73050	5.0	6	15	55	0.2
E5D73060	6.0	6	15	60	0.2
E5D73060C	6.0	6	25	80	0.2
E5D73080	8.0	8	20	65	0.2
E5D73080C	8.0	8	30	90	0.2
E5D73100	10.0	10	25	70	0.2
E5D73100C	10.0	10	40	100	0.2
E5D73120	12.0	12	30	80	0.3
E5D73120C	12.0	12	50	110	0.3
E5D73140	14.0	16	35	90	0.41
E5D73160	16.0	16	42	100	0.41
E5D73160C	16.0	16	52	150	0.41
E5D73180	18.0	20	45	100	0.41
E5D73200	20.0	20	48	100	0.41
E5D73200C	20.0	20	55	160	0.41

Mill Dia. Tolerance (mm) 刃部公差				Shank Dia. Tolerance 柄部公差
up to Ø6	over 6 to 10	over 10 to 18	over 18 to 30	
0 ~ 0.048	0 ~ 0.058	0 ~ 0.070	0 ~ 0.084	h5



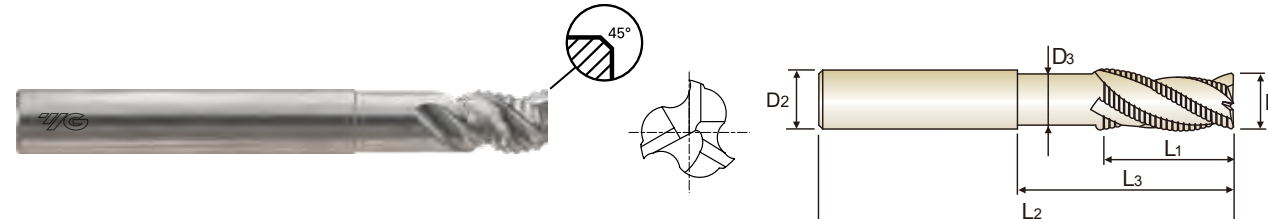
◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎															

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																

CARBIDE, 3 FLUTE 45° HELIX ROUGHING (Type B)
硬质合金, 3刃 45度螺旋 粗加工 (B型)

- ▶ Suitable for heavy cutting and good wear resistance due to new coating and new configuration of tool
 - ▶ Suitable for cutting difficult to cut materials like alloy steels, stainless steels, Titanium, Inconel etc.
 - ▶ Excellent surface roughness when side cutting due to high helix and 6 flutes
- ▶ 卓越性能在铝件, 铝合金, 非铁材质
 - ▶ 镜面处理提高加工时表面粗糙度
 - ▶ 最佳刃线设计提高排屑性能



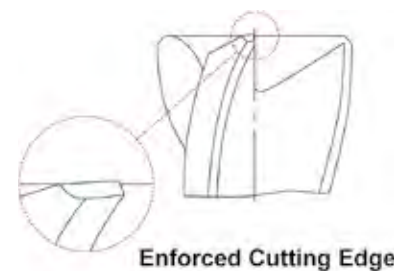
CARBIDE WR 3 45° PLAIN C x 45° p.C427

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK	D15-46
		SHRINK FIT HOLDER	D47-72
		POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Chamfer 导向
	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3	
E5D73040B	4.0	6	6	12	60	3.4	0.15
E5D73050B	5.0	6	7	20	60	4.4	0.2
E5D73060B	6.0	6	8	20	70	5.4	0.2
E5D73080B	8.0	8	10	26	80	7.4	0.2
E5D73100B	10.0	10	12	32	90	9.4	0.2
E5D73120B	12.0	12	14	36	100	11.2	0.3
E5D73160B	16.0	16	18	46	120	15.0	0.41
E5D73200B	20.0	20	22	52	120	19.0	0.41

Mill Dia. Tolerance (mm) 刃部公差				Shank Dia. Tolerance 柄部公差
up to Ø6	over 6 to 10	over 10 to 18	over 18 to 30	
0 ~ 0.048	0 ~ 0.058	0 ~ 0.070	0 ~ 0.084	h5



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎															

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron									
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎																



RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E5D70 SERIES 3 FLUTE 3刃

SLOTTING (槽铣削)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						1.0	1.2	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
N	21-22	Aluminum-wrought alloy	0.15D	2.5D	Vc	53	60	61	63	63	66	77	88	99	110
					fz	0.011	0.011	0.013	0.013	0.016	0.017	0.017	0.021	0.024	0.024
					RPM	17000	16000	13000	10000	8000	7000	7000	7000	7000	7000
	23-25	Aluminum-cast, alloyed	0.15D	2.5D	Vc	53	60	61	63	63	66	77	88	99	110
					fz	0.011	0.011	0.013	0.013	0.016	0.017	0.017	0.021	0.024	0.024
					RPM	17000	16000	13000	10000	8000	7000	7000	7000	7000	7000
FEED	550	550	500	400	380	350	350	441	500	504					

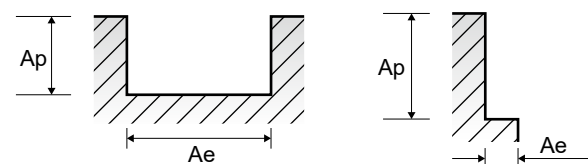
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径										
						5.5	6.0	7.0	8.0	9.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21-22	Aluminum-wrought alloy	0.15D	2.5D	Vc	121	132	132	141	158	176	211	185	211	158	176
					fz	0.029	0.029	0.039	0.042	0.048	0.051	0.063	0.072	0.075	0.083	0.096
					RPM	7000	7000	6000	5600	5600	5600	5600	4200	4200	2800	2800
	23-25	Aluminum-cast, alloyed	0.15D	2.5D	Vc	121	132	132	141	158	176	211	185	211	158	176
					fz	0.029	0.029	0.039	0.042	0.048	0.051	0.063	0.072	0.075	0.083	0.096
					RPM	7000	7000	6000	5600	5600	5600	5600	4200	4200	2800	2800
FEED	605	606	700	700	800	854	1050	903	945	700	805					

SIDE CUTTING (侧铣削)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						1.0	1.2	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
N	21-22	Aluminum-wrought alloy	0.15D	2.5D	Vc	53	60	61	63	63	66	77	88	99	110
					fz	0.018	0.018	0.022	0.021	0.022	0.022	0.026	0.026	0.029	0.031
					RPM	17000	16000	13000	10000	8000	7000	7000	7000	7000	7000
	23-25	Aluminum-cast, alloyed	0.15D	2.5D	Vc	53	60	61	63	63	66	77	88	99	110
					fz	0.018	0.018	0.022	0.021	0.022	0.022	0.026	0.026	0.029	0.031
					RPM	17000	16000	13000	10000	8000	7000	7000	7000	7000	7000
FEED	900	850	850	640	520	455	550	546	600	651					

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径										
						5.5	6.0	7.0	8.0	9.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21-22	Aluminum-wrought alloy	0.15D	2.5D	Vc	121	132	132	141	158	176	211	185	211	158	176
					fz	0.033	0.036	0.046	0.051	0.054	0.063	0.053	0.088	0.096	0.108	0.114
					RPM	7000	7000	6000	5600	5600	5600	5600	4200	4200	2800	2800
	23-25	Aluminum-cast, alloyed	0.15D	2.5D	Vc	121	132	132	141	158	176	211	185	211	158	176
					fz	0.033	0.036	0.046	0.051	0.054	0.063	0.053	0.088	0.096	0.108	0.114
					RPM	7000	7000	6000	5600	5600	5600	5600	4200	4200	2800	2800
FEED	700	756	820	861	900	1050	882	1106	1211	910	956					



RECOMMENDED CUTTING CONDITIONS
推荐加工参数

E5D71 SERIES 2 FLUTE 2刃

SLOTTING (槽铣削)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						1.0	1.2	1.5	2.0	2.5	3.0	4.0	5.0	6.0	
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	53	62	62	71	83	94	126	157	188	
					fz	0.015	0.016	0.02	0.025	0.03	0.035	0.045	0.05	0.06	
					RPM	16870	16450	13150	11300	10565	10000	10000	10000	10000	
	23-25	Aluminum-cast, alloyed	1.0D	0.5D	Vc	53	62	62	71	83	94	126	157	188	
					fz	0.015	0.016	0.02	0.025	0.03	0.035	0.045	0.05	0.06	
					RPM	16870	16450	13150	11300	10565	10000	10000	10000	10000	
FEED	505	510	525	565	635	700	900	1000	1200						

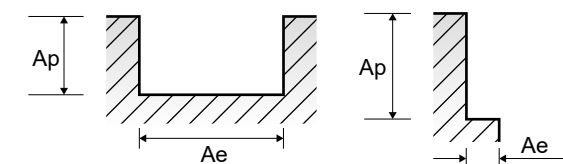
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						7.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0		
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	195	201	251	302	264	302	226	251		
					fz	0.07	0.088	0.106	0.131	0.15	0.158	0.175	0.2		
					RPM	8850	8000	8000	8000	6000	6000	4000	4000		
	23-25	Aluminum-cast, alloyed	1.0D	0.5D	Vc	195	201	251	302	264	302	226	251		
					fz	0.07	0.088	0.106	0.131	0.15	0.158	0.175	0.2		
					RPM	8850	8000	8000	8000	6000	6000	4000	4000		
FEED	1240	1400	1700	2100	1800	1900	1400	1600							

SIDE CUTTING (侧铣削)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						1.0	1.2	1.5	2.0	2.5	3.0	4.0	5.0	6.0	
N	21-22	Aluminum-wrought alloy	Ø1~Ø10=0.25D Ø12~Ø20=0.5D	1.0D	Vc	53	62	62	71	83	94	126	157	188	
					fz	0.025	0.026	0.03	0.035	0.04	0.045	0.055	0.065	0.075	
					RPM	16870	16450	13150	11300	10565	10000	10000	10000	10000	
	23-25	Aluminum-cast, alloyed	Ø1~Ø10=0.25D Ø12~Ø20=0.5D	1.0D	Vc	53	62	62	71	83	94	126	157	188	
					fz	0.025	0.026	0.03	0.035	0.04	0.045	0.055	0.065	0.075	
					RPM	16870	16450	13150	11300	10565	10000	10000	10000	10000	
FEED	845	850	790	790	845	900	1100	1300	1500						

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						7.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0		
N	21-22	Aluminum-wrought alloy	Ø1~Ø10=0.25D Ø12~Ø20=0.5D	1.0D	Vc	195	201	251	302	264	302	226	251		
					fz	0.085	0.113	0.131	0.163	0.183	0.2	0.225	0.238		
					RPM	8850	8000	8000	8000	6000	6000	4000	4000		
	23-25	Aluminum-cast, alloyed	Ø1~Ø10=0.25D Ø12~Ø20=0.5D	1.0D	Vc	195	201	251	302	264	302	226	251		
					fz	0.085	0.113	0.131	0.163	0.183	0.2	0.225	0.238		
					RPM	8850	8000	8000	8000	6000	6000	4000	4000		
FEED	1505	1800	2100	2600	2200	2400	1800	1900							



ALU-CUT END MILLS

RECOMMENDED CUTTING CONDITIONS 推荐加工参数

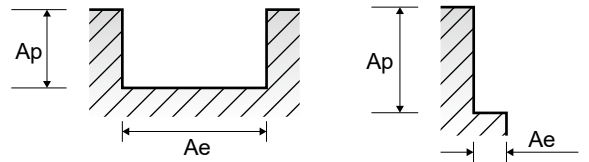
E5C72 SERIES 3 FLUTE - SLOTTING 3刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径										
						3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21~22	Aluminum-wrought alloy	1.0D	0.2D	Vc	85	113	141	170	181	226	271	238	271	204	226
					fz	0.017	0.021	0.024	0.029	0.042	0.051	0.063	0.072	0.075	0.083	0.096
					RPM	9000	9000	9000	9000	7200	7200	7200	5400	5400	3600	3600
					FEED	450	570	650	780	900	1100	1350	1160	1215	900	1035
N	23~24	Aluminum-cast, alloyed	1.0D	0.2D	Vc	85	113	141	170	181	226	271	238	271	204	226
					fz	0.017	0.021	0.024	0.029	0.042	0.051	0.063	0.072	0.075	0.083	0.096
					RPM	9000	9000	9000	9000	7200	7200	7200	5400	5400	3600	3600
					FEED	450	570	650	780	900	1100	1350	1160	1215	900	1035

SIDE CUTTING (侧铣削)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径										
						3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21~22	Aluminum-wrought alloy	0.15D	2.5D	Vc	85	113	141	170	181	226	271	238	271	204	226
					fz	0.022	0.026	0.031	0.036	0.051	0.063	0.052	0.088	0.096	0.108	0.114
					RPM	9000	9000	9000	9000	7200	7200	7200	5400	5400	3600	3600
					FEED	585	700	840	970	1110	1350	1130	1420	1560	1170	1230
N	23~24	Aluminum-cast, alloyed	0.15D	2.5D	Vc	85	113	141	170	181	226	271	238	271	204	226
					fz	0.022	0.026	0.031	0.036	0.051	0.063	0.052	0.088	0.096	0.108	0.114
					RPM	9000	9000	9000	9000	7200	7200	7200	5400	5400	3600	3600
					FEED	585	700	840	970	1110	1350	1130	1420	1560	1170	1230



E5D73 SERIES 3 FLUTE 3刃

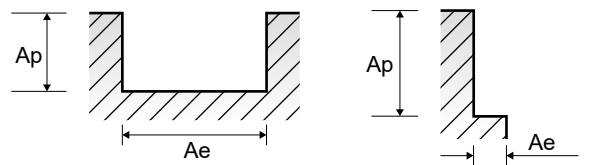
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

SLOTTING (槽铣削)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21-22	Aluminum-wrought alloy	1.0D	1.5D	Vc	188	188	198	201	204	198	198	201	201	201
					fz	0.156	0.167	0.168	0.167	0.179	0.159	0.163	0.167	0.166	0.167
					RPM	15000	12000	10500	8000	6500	5250	4500	4000	3550	3200
					FEED	7000	6000	5300	4000	3500	2500	2200	2000	1770	1600
N	23-25	Aluminum-cast, alloyed	1.0D	1.5D	Vc	188	188	198	201	204	198	198	201	201	201
					fz	0.156	0.167	0.168	0.167	0.179	0.159	0.163	0.167	0.166	0.167
					RPM	15000	12000	10500	8000	6500	5250	4500	4000	3550	3200
					FEED	7000	6000	5300	4000	3500	2500	2200	2000	1770	1600

SIDE CUTTING (侧铣削)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	251	251	254	264	267	256	255	261	266	264
					fz	0.15	0.167	0.168	0.168	0.169	0.167	0.167	0.167	0.167	0.167
					RPM	20000	16000	13500	10500	8500	6800	5800	5200	4700	4200
					FEED	9000	8000	6800	5300	4300	3400	2900	2600	2350	2100
N	23-25	Aluminum-cast, alloyed	0.5D	1.5D	Vc	251	251	254	264	267	256	255	261	266	264
					fz	0.15	0.167	0.168	0.168	0.169	0.167	0.167	0.167	0.167	0.167
					RPM	20000	16000	13500	10500	8500	6800	5800	5200	4700	4200
					FEED	9000	8000	6800	5300	4300	3400	2900	2600	2350	2100





Leading Through Innovation



SOLID CARBIDE

G-CUT END MILLS

- High performance on graphite
- 高性能加工石墨

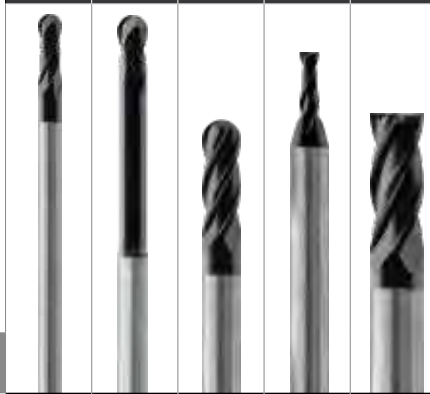
SELECTION GUIDE
选用指南



SERIES 系列	EIE21	EIE23	EIE22	EIE25	EIE26
FLUTE 槽数	2	2	4	2	4
HELIX ANGLE 螺旋角度	30°	30°	30°	30°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE	BALL NOSE	SQUARE	SQUARE
SIZE MIN 最小尺寸	R0.05	R0.5	R0.5	D0.1	D2.0
SIZE MAX 最大尺寸	R10.0	R6.0	R10.0	D12.0	D20.0
PAGE 页数	C431-435	C436-437	C438-440	C441-442	C443-444

SOLID CARBIDE
G-CUT
END MILLS

High performance on graphite
高性能加工石墨



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for material search

◎: Excellent (优秀) ○: Good (良好)

Recommended cutting conditions (推荐加工参数): p.C445

ISO	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB	HRc				
P	1	Non-alloy steel	About 0.15% C Annealed	125	13				
	2		About 0.45% C Annealed	190	13				
	3		About 0.45% C Quenched & Tempered	250	25				
	4		About 0.75% C Annealed	270	28				
	5		About 0.75% C Quenched & Tempered	300	32				
	6	Low alloy steel	Annealed	180	10				
	7		Quenched & Tempered	275	29				
	8		Quenched & Tempered	300	32				
	9		Quenched & Tempered	350	38				
	10		High alloyed steel, and tool steel	Annealed	200	15			
	11	High alloyed steel, and tool steel	Quenched & Tempered	325	35				
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15				
	13		Martensitic Quenched & Tempered	240	23				
	14		Austenitic	180	10				
K	15	Grey cast iron	Pearlitic / ferritic	180	10				
	16		Pearlitic (Martensitic)	260	26				
	17	Nodular cast iron	Ferritic	160	3				
	18		Pearlitic	250	25				
	19	Malleable cast iron	Ferritic	130					
	20		Pearlitic	230	21				
N	21	Aluminum-wrought alloy	Not Curable	60					
	22		Curable Hardened	100					
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75					
	24		≤ 12% Si, Curable Hardened	90					
	25		> 12% Si, Not Curable	130					
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110					
	27		CuZn, CuSnZn (Brass)	90					
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100					
	29		Duroplastic, Fiber Reinforced Plastic						
	30	Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33		Ni or Co Based	Annealed	250	25			
	34			Cured	350	38			
	35			Cast	320	34			
36	Titanium Alloys	Pure Titanium	400 Rm						
37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel	Hardened	550	55				
	39			630	60				
	40	Chilled Cast Iron	Cast	400	42				
	41	Hardened Cast Iron	Hardened	550	55				

BALL NOSE = 球头 SQUARE = 平头 LONG NECK = 长颈

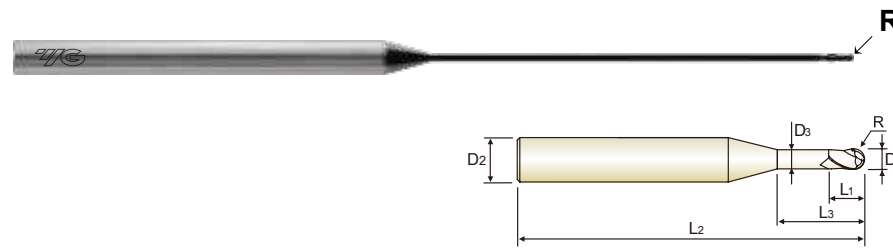


PLAIN SHANK **EIE21** SERIES

CARBIDE, 2 FLUTE BALL NOSE
硬质合金, 2刃 球头

- ▶ High quality coating due to YG-1 tailored diamond coating
- ▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
- ▶ Maximized thickness of coating for improvement of wearresistance
- ▶ Available various length below shank and overall lengths for various application

- ▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
- ▶ 可以加工石墨, 增强塑料, 有色金属等
- ▶ 适应最厚的涂层, 以提高耐磨性
- ▶ 各种有效长度和全长会适用于各种尺寸的工件



CARBIDE 2 30° R ±0.01 PLAIN p.C445

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R(±0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
EIE21001	R0.05	0.1	4	0.2	-	45	-
EIE21001003	R0.05	0.1	4	0.2	0.3	45	0.07
EIE21001005	R0.05	0.1	4	0.2	0.5	45	0.07
EIE21002	R0.1	0.2	4	0.6	-	45	-
EIE2100201	R0.1	0.2	4	0.6	1.0	45	0.17
EIE21002015	R0.1	0.2	4	0.6	1.5	45	0.17
EIE21003	R0.15	0.3	4	1	-	45	-
EIE21003015	R0.15	0.3	4	1	1.5	45	0.27
EIE2100302	R0.15	0.3	4	1	2.0	45	0.27
EIE21004	R0.2	0.4	4	1.2	-	45	-
EIE2100402	R0.2	0.4	4	1.2	2.0	45	0.37
EIE2100403	R0.2	0.4	4	1.2	3.0	45	0.37
EIE2100404	R0.2	0.4	4	1.2	4.0	45	0.37
EIE21005	R0.25	0.5	4	1.5	-	45	-
EIE2100503	R0.25	0.5	4	1.5	3.0	45	0.45
EIE2100504	R0.25	0.5	4	1.5	4.0	45	0.45
EIE2100505	R0.25	0.5	4	1.5	5.0	45	0.45
EIE2100506	R0.25	0.5	4	1.5	6.0	45	0.45
EIE2100508	R0.25	0.5	4	1.5	8.0	45	0.45
EIE21006	R0.3	0.6	4	2	-	45	-
EIE2100604	R0.3	0.6	4	2	4.0	45	0.55
EIE2100605	R0.3	0.6	4	2	5.0	45	0.55
EIE2100606	R0.3	0.6	4	2	6.0	45	0.55
EIE2100608	R0.3	0.6	4	2	8.0	45	0.55

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 以下	0 ~ -0.02	h5
over Ø12 超过Ø12	0 ~ -0.03	

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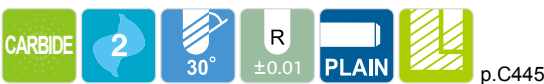
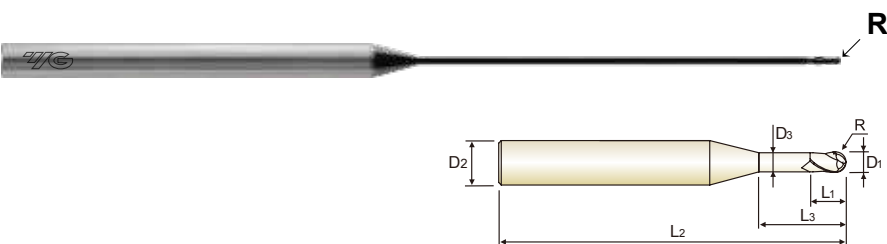
◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K							
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron					
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	125	13	25	28	300	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommend																						
ISO	N									S						H						
	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																						

CARBIDE, 2 FLUTE BALL NOSE
硬质合金, 2刃球头

- ▶ High quality coating due to YG-1 tailored diamond coating
- ▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
- ▶ Maximized thickness of coating for improvement of wearresistance
- ▶ Available various length below shank and overall lengths for various application

- ▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
- ▶ 可以加工石墨, 增强塑料, 有色金属等
- ▶ 适应最厚的涂层, 以提高耐磨性
- ▶ 各种有效长度和全会长会适用于各种尺寸的工件



Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R(±0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
EIE2100610	R0.3	0.6	4	2	10.0	45	0.55
EIE21008	R0.4	0.8	4	2.5	-	45	-
EIE2100804	R0.4	0.8	4	2.5	4.0	45	0.75
EIE2100805	R0.4	0.8	4	2.5	5.0	45	0.75
EIE2100806	R0.4	0.8	4	2.5	6.0	45	0.75
EIE2100808	R0.4	0.8	4	2.5	8.0	45	0.75
EIE2100810	R0.4	0.8	4	2.5	10.0	45	0.75
EIE21010	R0.5	1.0	4	3	-	60	-
EIE2101010	R0.5	1.0	4	3	10.0	60	0.95
EIE2101012	R0.5	1.0	4	3	12.0	60	0.95
EIE2101015	R0.5	1.0	4	3	15.0	60	0.95
EIE2101020	R0.5	1.0	4	3	20.0	60	0.95
EIE2101025	R0.5	1.0	4	3	25.0	80	0.95
EIE2101030	R0.5	1.0	4	3	30.0	80	0.95
EIE2101035	R0.5	1.0	4	3	35.0	80	0.95
EIE2101040	R0.5	1.0	4	3	40.0	100	0.95
EIE2101050	R0.5	1.0	4	3	50.0	100	0.95
EIE21015	R0.75	1.5	4	4	-	60	-
EIE2101510	R0.75	1.5	4	4	10.0	80	1.45
EIE2101515	R0.75	1.5	4	4	15.0	80	1.45
EIE2101520	R0.75	1.5	4	4	20.0	80	1.45
EIE2101525	R0.75	1.5	4	4	25.0	80	1.45
EIE2101530	R0.75	1.5	4	4	30.0	80	1.45
EIE2101535	R0.75	1.5	4	4	35.0	80	1.45

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 012以下	0 ~ - 0.02	h5
over Ø12 超过012	0 ~ - 0.03	

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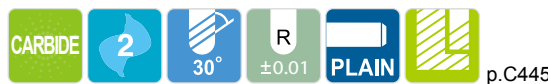
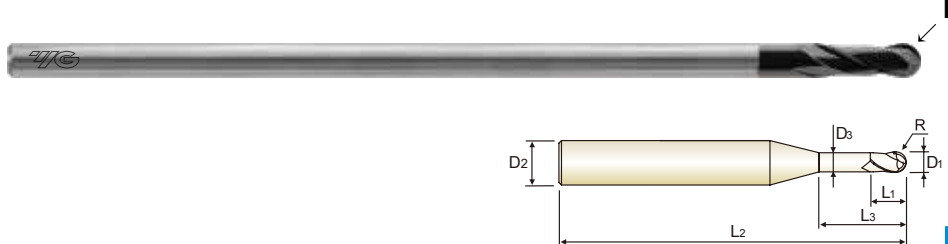
◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																					

CARBIDE, 2 FLUTE BALL NOSE
硬质合金, 2刃球头

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Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R(±0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
EIE2101540	R0.75	1.5	4	4	40.0	100	1.45
EIE2101550	R0.75	1.5	4	4	50.0	100	1.45
EIE2101560	R0.75	1.5	4	4	60.0	110	1.45
EIE21020	R1.0	2.0	4	6	-	60	-
EIE2102010	R1.0	2.0	4	6	10.0	80	1.95
EIE2102015	R1.0	2.0	4	6	15.0	80	1.95
EIE2102020	R1.0	2.0	4	6	20.0	80	1.95
EIE2102025	R1.0	2.0	4	6	25.0	80	1.95
EIE2102030	R1.0	2.0	4	6	30.0	80	1.95
EIE2102035	R1.0	2.0	4	6	35.0	80	1.95
EIE2102040	R1.0	2.0	4	6	40.0	100	1.95
EIE2102050	R1.0	2.0	4	6	50.0	100	1.95
EIE2102060	R1.0	2.0	4	6	60.0	110	1.95
EIE210303S	R1.5	3.0	3	15	-	100	-
EIE21030	R1.5	3.0	4	9	-	60	-
EIE2103015	R1.5	3.0	4	9	15.0	100	2.89
EIE2103020	R1.5	3.0	4	9	20.0	100	2.89
EIE2103025	R1.5	3.0	4	9	25.0	100	2.89
EIE2103030	R1.5	3.0	4	9	30.0	100	2.89
EIE2103035	R1.5	3.0	4	9	35.0	100	2.89
EIE2103040	R1.5	3.0	4	9	40.0	100	2.89
EIE2103050	R1.5	3.0	4	9	50.0	100	2.89
EIE2103060	R1.5	3.0	4	9	60.0	110	2.89
EIE21040060	R2.0	4.0	4	12	-	60	-

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 012以下	0 ~ - 0.02	h5
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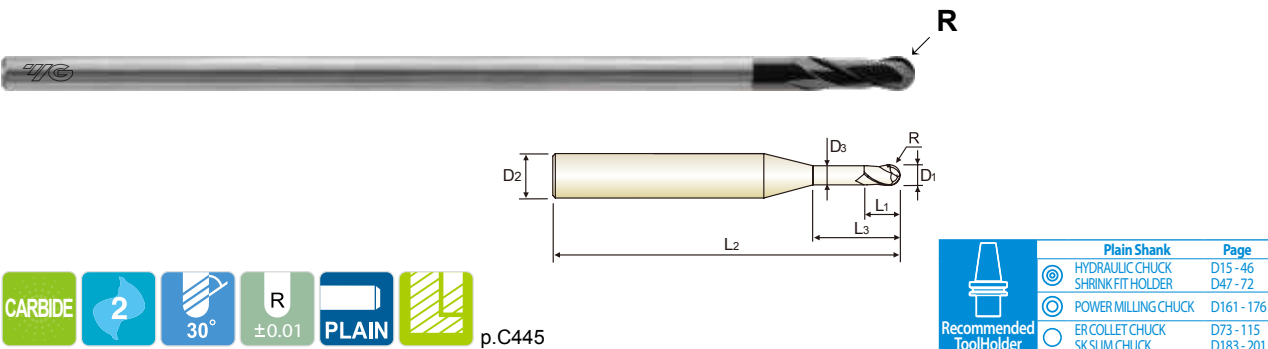
◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																					

CARBIDE, 2 FLUTE BALL NOSE
硬质合金, 2刃球头

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Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R(±0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
EIE21040080	R2.0	4.0	4	12	-	80	-
EIE21040110	R2.0	4.0	4	12	-	110	-
EIE21040130	R2.0	4.0	4	12	-	130	-
EIE21040150	R2.0	4.0	4	12	-	150	-
EIE21050080	R2.5	5.0	6	15	30.0	80	4.90
EIE21050100	R2.5	5.0	6	15	30.0	100	4.90
EIE21060090	R3.0	6.0	6	20	-	90	-
EIE21060110	R3.0	6.0	6	20	-	110	-
EIE21060130	R3.0	6.0	6	20	-	130	-
EIE21060150	R3.0	6.0	6	20	-	150	-
EIE21060180	R3.0	6.0	6	20	-	180	-
EIE21080080	R4.0	8.0	8	25	-	80	-
EIE21080110	R4.0	8.0	8	25	-	110	-
EIE21080130	R4.0	8.0	8	25	-	130	-
EIE21080150	R4.0	8.0	8	25	-	150	-
EIE21080200	R4.0	8.0	8	25	-	200	-
EIE21100080	R5.0	10.0	10	30	-	80	-
EIE21100110	R5.0	10.0	10	30	-	110	-
EIE21100130	R5.0	10.0	10	30	-	130	-
EIE21100150	R5.0	10.0	10	30	-	150	-
EIE21100180	R5.0	10.0	10	30	-	180	-
EIE21100200	R5.0	10.0	10	30	-	200	-
EIE21120110	R6.0	12.0	12	35	-	110	-
EIE21120130	R6.0	12.0	12	35	-	130	-

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 012以下	0 ~ -0.02	h5
over Ø12 超过012	0 ~ -0.03	

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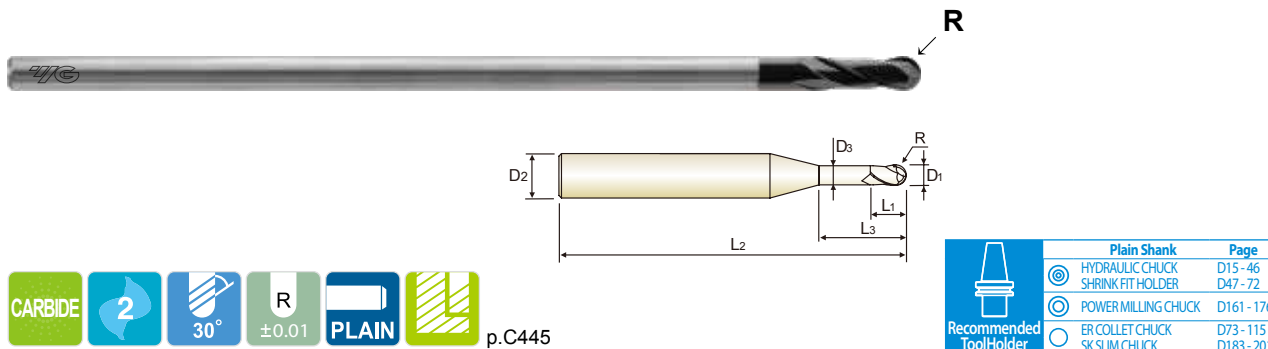
◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P									M				K							
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron						
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					
ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
Recommend																					

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硬质合金, 2刃球头

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Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R(±0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
EIE21120150	R6.0	12.0	12	35	-	150	-
EIE21120180	R6.0	12.0	12	35	-	180	-
EIE21120200	R6.0	12.0	12	35	-	200	-
EIE21160150	R8.0	16.0	16	50	-	150	-
EIE21160200	R8.0	16.0	16	50	-	200	-
EIE21200150	R10.0	20.0	20	60	-	150	-
EIE21200200	R10.0	20.0	20	60	-	200	-

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 012以下	0 ~ -0.02	h5
over Ø12 超过012	0 ~ -0.03	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P									M				K							
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron						
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					
ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100													
Recommend																					

CARBIDE, 2F BALL NOSE LONG NECK
硬质合金, 2刃球头长颈

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Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R(±0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
EIE2301004	R0.5	1.0	4	2	4	50	0.95
EIE2301005	R0.5	1.0	4	2	5	50	0.95
EIE2301006	R0.5	1.0	4	2	6	50	0.95
EIE2301008	R0.5	1.0	4	2	8	50	0.95
EIE2301010	R0.5	1.0	4	2	10	50	0.95
EIE2301012	R0.5	1.0	4	2	12	50	0.95
EIE2301016	R0.5	1.0	4	2	16	50	0.95
EIE2301018	R0.5	1.0	4	2	18	50	0.95
EIE2301020	R0.5	1.0	4	2	20	50	0.95
EIE2301504	R0.75	1.5	4	3	4	50	1.40
EIE2301506	R0.75	1.5	4	3	6	50	1.40
EIE2301508	R0.75	1.5	4	3	8	50	1.40
EIE2301510	R0.75	1.5	4	3	10	50	1.40
EIE2301512	R0.75	1.5	4	3	12	50	1.40
EIE2301516	R0.75	1.5	4	3	16	50	1.40
EIE2301520	R0.75	1.5	4	3	20	50	1.40
EIE2301525	R0.75	1.5	4	3	25	60	1.40
EIE2302006	R1.0	2.0	4	4	6	50	1.90
EIE2302008	R1.0	2.0	4	4	8	50	1.90
EIE2302010	R1.0	2.0	4	4	10	50	1.90
EIE2302012	R1.0	2.0	4	4	12	50	1.90
EIE2302016	R1.0	2.0	4	4	16	50	1.90
EIE2302018	R1.0	2.0	4	4	18	50	1.90
EIE2302020	R1.0	2.0	4	4	20	50	1.90

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 以下	0 ~ -0.02	h5
over Ø12 超过Ø12	0 ~ -0.03	

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

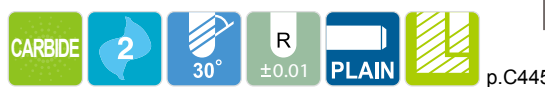
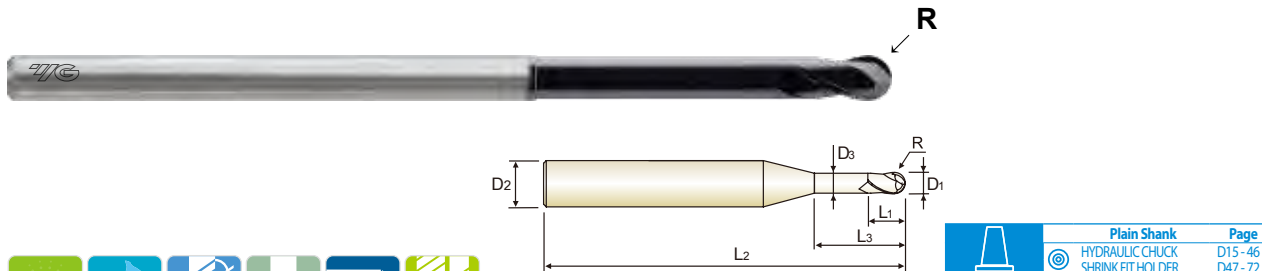
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																						

CARBIDE, 2F BALL NOSE LONG NECK
硬质合金, 2刃球头长颈

- ▶ High quality coating due to YG-1 tailored diamond coating
- ▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
- ▶ Maximized thickness of coating for improvement of wearresistance
- ▶ Available various length below shank and overall lengths for various application

- ▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
- ▶ 可以加工石墨, 增强塑料, 有色金属等
- ▶ 适应最厚的涂层, 以提高耐磨性
- ▶ 各种有效长度和全会长会适用于各种尺寸的工件



Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R(±0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
EIE2302025	R1.0	2.0	4	4	25	60	1.90
EIE2302030	R1.0	2.0	4	4	30	70	1.90
EIE2303008	R1.5	3.0	6	6	8	50	2.90
EIE2303010	R1.5	3.0	6	6	10	50	2.90
EIE2303012	R1.5	3.0	6	6	12	50	2.90
EIE2303016	R1.5	3.0	6	6	16	60	2.90
EIE2303020	R1.5	3.0	6	6	20	60	2.90
EIE2303025	R1.5	3.0	6	6	25	65	2.90
EIE2303030	R1.5	3.0	6	6	30	70	2.90
EIE2303040	R1.5	3.0	6	6	40	80	2.90
EIE2304010	R2.0	4.0	6	8	10	50	3.90
EIE2304012	R2.0	4.0	6	8	12	50	3.90
EIE2304016	R2.0	4.0	6	8	16	60	3.90
EIE2304020	R2.0	4.0	6	8	20	60	3.90
EIE2304025	R2.0	4.0	6	8	25	65	3.90
EIE2304030	R2.0	4.0	6	8	30	70	3.90
EIE2304040	R2.0	4.0	6	8	40	80	3.90
EIE2304050	R2.0	4.0	6	8	50	100	3.90
EIE2306030	R3.0	6.0	6	12	30	90	5.60
EIE2306050	R3.0	6.0	6	12	50	90	5.60
EIE2308040	R4.0	8.0	8	16	40	100	7.40
EIE2308055	R4.0	8.0	8	16	55	100	7.40
EIE2310050	R5.0	10.0	10	20	50	110	9.40
EIE2312060	R6.0	12.0	12	24	60	110	11.40

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 以下	0 ~ -0.02	h5
over Ø12 超过Ø12	0 ~ -0.03	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																						

CARBIDE, 4 FLUTE BALL NOSE
硬质合金, 4刃球头

- ▶ High quality coating due to YG-1 tailored diamond coating
- ▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
- ▶ Available high feed cutting and improvement of productivity due to 4 flute ball end mills
- ▶ Center match type to improve surface roughness

- ▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
- ▶ 可以加工石墨, 增强塑料, 有色金属等
- ▶ 适应4刃球头可实现高进给切削并提高生产率
- ▶ 适应中心匹配类型可改善表面精度



CARBIDE 2 30° ±0.01 **PLAIN** p.C445

Recommended ToolHolder: Plain Shank

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R(±0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
EIE22010	R0.5	1.0	4	3	-	60	-
EIE2201010	R0.5	1.0	4	3	10	60	0.95
EIE2201015	R0.5	1.0	4	3	15	60	0.95
EIE2201020	R0.5	1.0	4	3	20	60	0.95
EIE2201025	R0.5	1.0	4	3	25	80	0.95
EIE2201030	R0.5	1.0	4	3	30	80	0.95
EIE22015	R0.75	1.5	4	4	-	60	-
EIE2201510	R0.75	1.5	4	4	10	80	1.45
EIE2201515	R0.75	1.5	4	4	15	80	1.45
EIE2201520	R0.75	1.5	4	4	20	80	1.45
EIE2201525	R0.75	1.5	4	4	25	80	1.45
EIE2201530	R0.75	1.5	4	4	30	80	1.45
EIE22020	R1.0	2.0	4	6	-	60	-
EIE2202010	R1.0	2.0	4	6	10	80	1.95
EIE2202015	R1.0	2.0	4	6	15	80	1.95
EIE2202020	R1.0	2.0	4	6	20	80	1.95
EIE2202025	R1.0	2.0	4	6	25	80	1.95
EIE2202030	R1.0	2.0	4	6	30	80	1.95
EIE2202040	R1.0	2.0	4	6	40	100	1.95
EIE22030	R1.5	3.0	4	9	-	60	-
EIE2203015	R1.5	3.0	4	9	15	100	2.85
EIE2203020	R1.5	3.0	4	9	20	100	2.85
EIE2203025	R1.5	3.0	4	9	25	100	2.85
EIE2203030	R1.5	3.0	4	9	30	100	2.85

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 012以下	0 ~ - 0.02	h5
over Ø12 超过012	0 ~ - 0.03	

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◎ : Excellent (优秀) ○ : Good (良好)

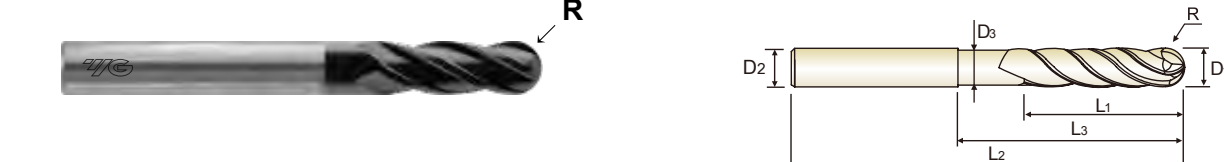
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																					

CARBIDE, 4 FLUTE BALL NOSE
硬质合金, 4刃球头

- ▶ High quality coating due to YG-1 tailored diamond coating
- ▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
- ▶ Available high feed cutting and improvement of productivity due to 4 flute ball end mills
- ▶ Center match type to improve surface roughness

- ▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
- ▶ 可以加工石墨, 增强塑料, 有色金属等
- ▶ 适应4刃球头可实现高进给切削并提高生产率
- ▶ 适应中心匹配类型可改善表面精度



CARBIDE 2 30° ±0.01 **PLAIN** p.C445

Recommended ToolHolder: Plain Shank

Plain Shank	Page
HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R(±0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
EIE2203040	R1.5	3.0	4	9	40	100	2.85
EIE2203050	R1.5	3.0	4	9	50	100	2.85
EIE22040060	R2.0	4.0	4	12	-	60	-
EIE22040080	R2.0	4.0	4	12	-	80	-
EIE22040110	R2.0	4.0	4	12	-	110	-
EIE22040130	R2.0	4.0	4	12	-	130	-
EIE22040150	R2.0	4.0	4	12	-	150	-
EIE22050080	R2.5	5.0	6	15	-	80	-
EIE22050110	R2.5	5.0	6	15	-	110	-
EIE22050130	R2.5	5.0	6	15	-	130	-
EIE22050150	R2.5	5.0	6	15	-	150	-
EIE22060090	R3.0	6.0	6	20	-	90	-
EIE22060110	R3.0	6.0	6	20	-	110	-
EIE22060130	R3.0	6.0	6	20	-	130	-
EIE22060150	R3.0	6.0	6	20	-	150	-
EIE22060180	R3.0	6.0	6	20	-	180	-
EIE22080110	R4.0	8.0	8	25	-	110	-
EIE22080130	R4.0	8.0	8	25	-	130	-
EIE22080150	R4.0	8.0	8	25	-	150	-
EIE22080200	R4.0	8.0	8	25	-	200	-
EIE22100110	R5.0	10.0	10	30	-	110	-
EIE22100130	R5.0	10.0	10	30	-	130	-
EIE22100150	R5.0	10.0	10	30	-	150	-
EIE22100180	R5.0	10.0	10	30	-	180	-

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 012以下	0 ~ - 0.02	h5
over Ø12 超过012	0 ~ - 0.03	

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◎ : Excellent (优秀) ○ : Good (良好)

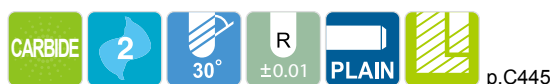
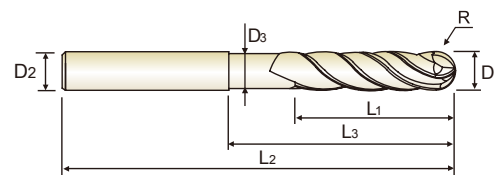
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																					

CARBIDE, 4 FLUTE BALL NOSE
硬质合金, 4刃球头

- ▶ High quality coating due to YG-1 tailored diamond coating
- ▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
- ▶ Available high feed cutting and improvement of productivity due to 4 flute ball end mills
- ▶ Center match type to improve surface roughness

- ▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
- ▶ 可以加工石墨, 增强塑料, 有色金属等
- ▶ 适应4刃球头可实现高进给切削并提高生产率
- ▶ 适应中心匹配类型可改善表面粗糙度



Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R(±0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
EIE22100200	R5.0	10.0	10	30	-	200	-
EIE22120110	R6.0	12.0	12	35	-	110	-
EIE22120130	R6.0	12.0	12	35	-	130	-
EIE22120150	R6.0	12.0	12	35	-	150	-
EIE22120180	R6.0	12.0	12	35	-	180	-
EIE22120200	R6.0	12.0	12	35	-	200	-
EIE22160150	R8.0	16.0	16	50	-	150	-
EIE22160200	R8.0	16.0	16	50	-	200	-
EIE22200150	R10.0	20.0	20	60	-	150	-
EIE22200200	R10.0	20.0	20	60	-	200	-

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø12 以下	0 ~ -0.02	h5
over Ø12 超过Ø12	0 ~ -0.03	

◎ : Excellent (优秀) ○ : Good (良好)

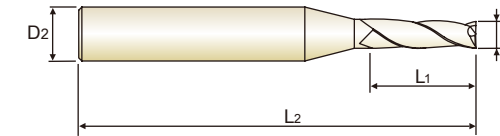
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																					

CARBIDE, 2 FLUTE
硬质合金, 2刃

- ▶ High quality coating due to YG-1 tailored diamond coating
- ▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
- ▶ Available various cutting lengths and overall lengths

- ▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
- ▶ 可以加工石墨, 增强塑料, 有色金属等
- ▶ 采用各种刃长度和总长



Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
EIE25001	0.1	4	0.2	40
EIE25002	0.2	4	0.4	40
EIE25003	0.3	4	0.6	40
EIE25004	0.4	4	0.8	40
EIE25005	0.5	4	1	40
EIE25006	0.6	4	1.2	40
EIE25007	0.7	4	1.4	40
EIE25008	0.8	4	1.6	40
EIE25009	0.9	4	1.8	40
EIE25010	1.0	4	2.5	50
EIE2501004	1.0	4	4	50
EIE2501006	1.0	4	6	50
EIE25012	1.2	4	3	50
EIE2501206	1.2	4	6	50
EIE25015	1.5	4	4	50
EIE2501506	1.5	4	6	50
EIE2501508	1.5	4	8	50
EIE25020	2.0	4	6	50
EIE2502008	2.0	4	8	50
EIE2502010	2.0	4	10	50
EIE25025	2.5	4	8	50
EIE25030	3.0	6	8	50
EIE2503010	3.0	6	10	50
EIE2503012	3.0	6	12	50

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

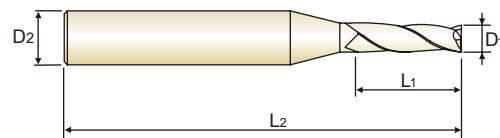
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																					

CARBIDE, 2 FLUTE
硬质合金, 2刃

- ▶ High quality coating due to YG-1 tailored diamond coating
- ▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
- ▶ Available various cutting lengths and overall lengths

- ▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
- ▶ 可以加工石墨, 增强塑料, 有色金属等
- ▶ 采用各种刃长度和总长



p.C445

Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
EIE2503016	3.0	6	16	60
EIE2503020	3.0	6	20	60
EIE2504045	4.0	4	10	80
EIE25040	4.0	6	10	50
EIE2504012	4.0	6	12	50
EIE2504016	4.0	6	16	60
EIE2504020	4.0	6	20	60
EIE2504025	4.0	6	25	60
EIE25050	5.0	6	15	60
EIE25060	6.0	6	15	60
EIE2506020	6.0	6	20	60
EIE2506025	6.0	6	25	65
EIE25080	8.0	8	20	70
EIE2508025	8.0	8	25	75
EIE2508030	8.0	8	30	80
EIE25100	10.0	10	25	75
EIE2510030	10.0	10	30	80
EIE2510035	10.0	10	35	85
EIE25120	12.0	12	30	80
EIE2512035	12.0	12	35	85
EIE2512040	12.0	12	40	90
EIE2512045	12.0	12	45	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

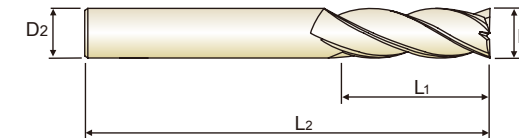
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					

ISO	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																						

CARBIDE, 4 FLUTE
硬质合金, 4刃

- ▶ High quality coating due to YG-1 tailored diamond coating
- ▶ Suitable for Graphite, Reinforced plastics, nonferrous metal etc.
- ▶ The biggest length of cut and overall length for setting a datum

- ▶ 适应高质量的纯金刚石涂层提高涂层的稳定性
- ▶ 可以加工石墨, 增强塑料, 有色金属等
- ▶ 采用各种刃长度和总长加工阶段



p.C445

Recommended ToolHolder	Plain Shank	Page
⊙	HYDRAULIC CHUCK SHRINK FIT HOLDER	D15-46 D47-72
⊙	POWER MILLING CHUCK	D161-176
⊙	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
EIE26020	2.0	4	6	50
EIE2602008	2.0	4	8	50
EIE2602010	2.0	4	10	50
EIE26025	2.5	4	8	50
EIE26030	3.0	6	8	50
EIE2603010	3.0	6	10	50
EIE2603012	3.0	6	12	50
EIE2603016	3.0	6	16	60
EIE2603020	3.0	6	20	60
EIE26040	4.0	6	10	50
EIE2604012	4.0	6	12	50
EIE2604016	4.0	6	16	60
EIE2604020	4.0	6	20	60
EIE2604025	4.0	6	25	60
EIE26050	5.0	6	15	60
EIE26060	6.0	6	15	60
EIE2606020	6.0	6	20	110
EIE2606030	6.0	6	30	150
EIE26080	8.0	8	20	70
EIE2608030	8.0	8	30	110
EIE2608040	8.0	8	40	150
EIE26100	10.0	10	25	75
EIE2610040	10.0	10	40	110
EIE2610050	10.0	10	50	150

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

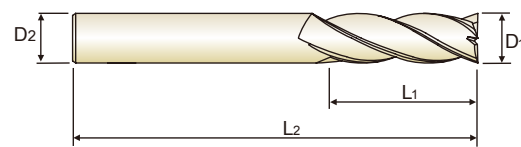
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					

ISO	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend																						

CARBIDE, 4 FLUTE
硬质合金, 4刃

- ▶ High quality coating due to YG-1 tailored diamond coating
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Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Overall Length 全长 L2
EIE26120	12.0	12	30	80
EIE2612050	12.0	12	50	120
EIE2612060	12.0	12	60	160
EIE26160	16.0	16	50	110
EIE2616070	16.0	16	70	160
EIE2616090	16.0	16	90	160
EIE26160100	16.0	16	100	200
EIE26160120	16.0	16	120	250
EIE26200	20.0	20	70	160
EIE2620090	20.0	20	90	160
EIE26200100	20.0	20	100	200
EIE26200120	20.0	20	120	250

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HRc	125	190	250	270	300	180	275	300	350	200	200	240	180		180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	200	240	180		180	260	160	250	130	230
Recommend																				

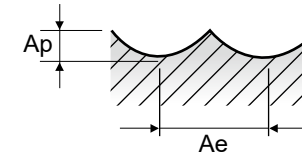
ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																					

C444

EIE21 SERIES 2 FLUTE BALL NOSE
2刃球头

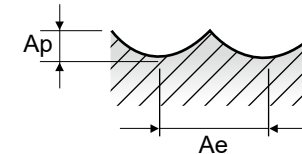
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径										
						1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
N	29.2	GRAPHITE	0.2D	0.2D	Vc	50	101	151	201	243	283	327	361	396	402	408
					fz	0.013	0.025	0.045	0.066	0.082	0.098	0.115	0.133	0.150	0.156	0.154
					RPM	16000	16000	16000	16000	15500	15000	13000	11500	10500	8000	6500
					FEED	400	800	1450	2100	2550	2950	3000	3050	3150	2500	2000



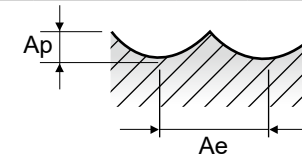
EIE23 SERIES 2 FLUTE BALL NOSE LONG NECK
2刃球头长颈

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	
N	29.2	GRAPHITE	0.2D	0.2D	Vc	38	75	113	151	183	212	245	271	297	
					fz	0.013	0.025	0.045	0.065	0.082	0.098	0.115	0.132	0.150	
					RPM	12000	12000	12000	12000	11630	11250	9750	8630	7880	
					FEED	300	600	1080	1570	1910	2210	2250	2280	2360	



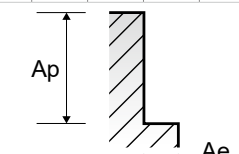
EIE22 SERIES 4 FLUTE BALL NOSE
4刃球头

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径										
						1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
N	29.2	GRAPHITE	0.2D	0.2D	Vc	63	101	151	201	236	283	327	377	377	377	377
					fz	0.009	0.019	0.031	0.048	0.063	0.073	0.087	0.096	0.118	0.127	0.146
					RPM	20000	16000	16000	16000	15000	15000	13000	12000	10000	7500	6000
					FEED	700	1200	2000	3100	3800	4400	4500	4600	4700	3800	3500



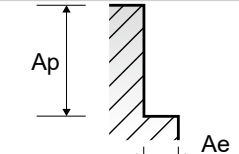
EIE25 SERIES 2 FLUTE - SIDE CUTTING
2刃 - 侧铣削

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
						0.1	0.2	0.4	0.6	0.8	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	
N	29.2	GRAPHITE	0.1D	1.5D	Vc	13	25	50	75	101	126	157	188	226	220	207	201	204	207	
					fz	0.001	0.001	0.003	0.004	0.007	0.009	0.016	0.020	0.026	0.043	0.064	0.081	0.092	0.092	0.109
					RPM	40000	40000	40000	40000	40000	40000	25000	20000	18000	14000	11000	8000	6500	5500	
					FEED	50	100	200	350	550	700	800	800	950	1200	1400	1300	1200	1200	



EIE26 SERIES 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0	
N	29.2	GRAPHITE	0.1D	1.5D	Vc	188	226	220	207	201	204	207	211	207	
					fz	0.020	0.026	0.043	0.064	0.081	0.092	0.109	0.146	0.182	
					RPM	20000	18000	14000	11000	8000	6500	5500	4200	3300	
					FEED	1600	1900	2400	2800	2600	2400	2400	2450	2400	



C445



Global Cutting Tool Leader **YG-1**



MILLING



Leading Through Innovation



SOLID CARBIDE

CRX S END MILLS

- DLC Coated Carbide End Mills for Copper
- 适用于加工铜的DLC涂层铣刀

SELECTION GUIDE
选用指南



SOLID CARBIDE
CRX S
END MILLS

DLC Coated Carbide End Mills for Copper
加工铜的DLC涂层铣刀

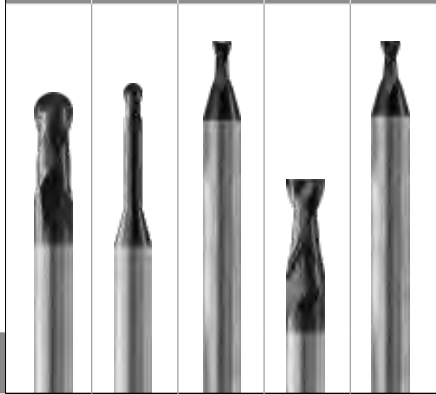
Please visit
globalyg1.com/mat
for material search

◎: Excellent (优秀) ○: Good (良好)

Recommended cutting conditions (推荐加工参数): p.C457

SERIES 系列	SGED28	SGED27	SGED29	SGED31	SGED30
FLUTE 槽数	2	2	2	2	2
HELIX ANGLE 螺旋角度	30°	30°	30°	30°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE	CORNER RADIUS	SQUARE	SQUARE
SIZE MIN 最小尺寸	R0.5	R0.25	D1.0	D1.0	D0.5
SIZE MAX 最大尺寸	R6.0	R6.0	D12.0	D12.0	D12.0
PAGE 页数	C449	C450-451	C452-453	C454	C455-456

	EXTENDED NECK	EXTENDED NECK		EXTENDED NECK
	DLC	DLC	DLC	DLC



ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理	HB	HRc						
P	1	Non-alloy steel	About 0.15% C Annealed	125	13						
	2		About 0.45% C Annealed	190	25						
	3		About 0.45% C Quenched & Tempered	250	28						
	4		About 0.75% C Annealed	270	32						
	5		About 0.75% C Quenched & Tempered	300	10						
	6	Low alloy steel	Annealed	180	29						
	7		Quenched & Tempered	275	32						
	8		Quenched & Tempered	300	38						
	9		Quenched & Tempered	350	15						
	10		High alloyed steel, and tool steel	Annealed	200	35					
	11			Quenched & Tempered	325						
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	23						
	13		Martensitic Quenched & Tempered	240	10						
	14		Austenitic	180							
K	15	Grey cast iron	Pearlitic / ferritic	180	3						
	16		Pearlitic (Martensitic)	260							
	17	Nodular cast iron	Ferritic	160							
	18		Pearlitic	250							
	19	Malleable cast iron	Ferritic	130							
	20		Pearlitic	230							
N	21	Aluminum-wrought alloy	Not Curable	60		○	○	○	○	○	
	22		Curable Hardened	100		○	○	○	○	○	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75							
	24		≤ 12% Si, Curable Hardened	90							
	25		> 12% Si, Not Curable	130							
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1% CuZn, CuSnZn (Brass)	110 90		◎	◎	◎	◎	◎
	27	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100		◎	◎	◎	◎	◎	
	28		Duroplastic, Fiber Reinforced Plastic			○	○	○	○	○	
	29		Rubber, Wood, etc.								
	30										
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15						
	32		Cured	280	25						
	33		Annealed	250	38						
	34		Cured	350	34						
	35		Cast	320							
	36		Titanium Alloys	Pure Titanium Alpha + Beta Alloys	400 Rm 1050 Rm						
H	38	Hardened steel	Hardened	550	55						
	39		Hardened	630							
	40	Hardened Cast Iron	Cast	400	42						
	41		Hardened	550							

BALL NOSE = 球头 CORNER RADIUS = 圆鼻 SQUARE = 平头 EXTENDED NECK = 颈部加长



PLAIN SHANK **SGED28** SERIES

CARBIDE, 2 FLUTE BALL NOSE DLC COATING
硬质合金, 2刃 球头 DLC涂层

- Designed for copper, copper alloys, soft graphite, reinforced plastics and materials affiliated with non-ferrous metals.
- Tight radius tolerance is applied (±0.005mm tolerance under R3).
- Excellent surface roughness from Mirror Face of cutting edges

- 加工铜, 铜合金, 软石墨, 强化塑料等非铁金属用设计
- 紧密的圆弧角公差 (R3以下的公差是 +/-0.005mm)
- 刃线采用镜面处理实现卓越工件表面粗糙度



CARBIDE 2 30° ±0.005 PLAIN p.C457

Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
SGED28010	R0.5	1.0	6	2.5	50
SGED28015	R0.75	1.5	6	4	50
SGED28020	R1.0	2.0	6	5	50
SGED28030	R1.5	3.0	6	8	60
SGED28040	R2.0	4.0	6	8	70
SGED28050	R2.5	5.0	6	12	90
SGED28060	R3.0	6.0	6	12	90
SGED28080	R4.0	8.0	8	16	100
SGED28100	R5.0	10.0	10	20	100
SGED28120	R6.0	12.0	12	25	110

Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ - 0.012	h5
over R3 超过R3	± 0.010	0 ~ - 0.015	

◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					
ISO	N									S						H					
	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○				◎	◎	◎	○												

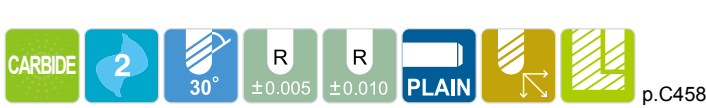
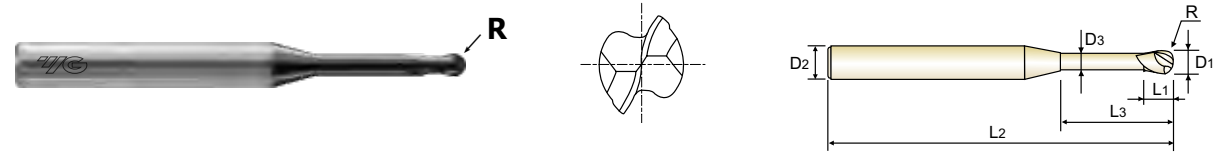


PLAIN SHANK **SGED27** SERIES

CARBIDE, 2 FLUTE BALL NOSE DLC COATING with EXTENDED NECK
硬质合金, 2刃球头 DLC涂层 颈部加长

- ▶ Designed for copper, copper alloys soft graphite, reinforced plastics and the materials affiliated with non-ferrous metals.
- ▶ Tight radius tolerance is applied ($\pm 0.005\text{mm}$ tolerance under R3).
- ▶ Excellent surface roughness thanks to Mirror Face of cutting edges
- ▶ High strength and minimized vibration are available due to two step taper neck (under R0.5).

- ▶ 加工铜, 铜合金, 软石墨, 强化塑料等非铁金属用设计
- ▶ 紧密的圆弧角公差 (R3以下的公差是 $\pm 0.005\text{mm}$)
- ▶ 刃线采用镜面处理实现卓越工件表面粗糙度
- ▶ R0.5以下产品采用双颈设计, 提高刚性和减少振动



Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
SGED2700502	R0.25	0.5	4	0.5	2	45	0.45
SGED2700504	R0.25	0.5	4	0.5	4	45	0.45
SGED2700506	R0.25	0.5	4	0.5	6	45	0.45
SGED2700508	R0.25	0.5	4	0.5	8	45	0.45
SGED2700510	R0.25	0.5	4	0.5	10	45	0.45
SGED2700602	R0.3	0.6	4	0.6	2	45	0.55
SGED2700604	R0.3	0.6	4	0.6	4	45	0.55
SGED2700606	R0.3	0.6	4	0.6	6	45	0.55
SGED2700608	R0.3	0.6	4	0.6	8	45	0.55
SGED2700610	R0.3	0.6	4	0.6	10	45	0.55
SGED2700804	R0.4	0.8	4	0.8	4	45	0.75
SGED2700806	R0.4	0.8	4	0.8	6	45	0.75
SGED2700808	R0.4	0.8	4	0.8	8	45	0.75
SGED2700810	R0.4	0.8	4	0.8	10	45	0.75
SGED2700812	R0.4	0.8	4	0.8	12	45	0.75
SGED2701004	R0.5	1.0	4	1	4	45	0.95
SGED2701006	R0.5	1.0	4	1	6	45	0.95
SGED2701008	R0.5	1.0	4	1	8	45	0.95
SGED2701010	R0.5	1.0	4	1	10	45	0.95
SGED2701012	R0.5	1.0	4	1	12	45	0.95
SGED2701506	R0.75	1.5	4	1.5	6	45	1.45
SGED2701508	R0.75	1.5	4	1.5	8	45	1.45
SGED2701510	R0.75	1.5	4	1.5	10	45	1.45
SGED2701512	R0.75	1.5	4	1.5	12	45	1.45

▶ NEXT PAGE 下页

Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ -0.012	h5
over R3 超过R3	± 0.010	0 ~ -0.015	

◎: Excellent (优秀) ○: Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					

C450

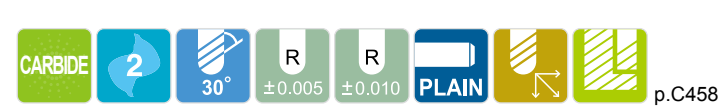
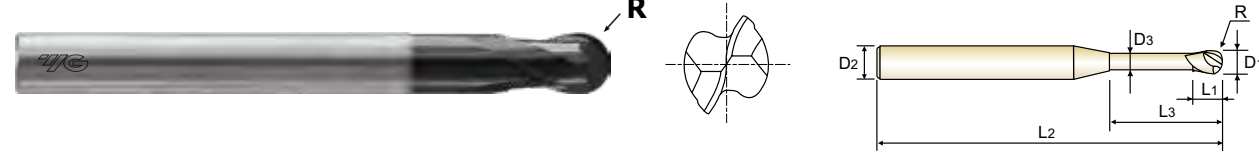


PLAIN SHANK **SGED27** SERIES

CARBIDE, 2 FLUTE BALL NOSE DLC COATING with EXTENDED NECK
硬质合金, 2刃球头 DLC涂层

- ▶ Designed for copper, copper alloys soft graphite, reinforced plastics and the materials affiliated with non-ferrous metals.
- ▶ Tight radius tolerance is applied ($\pm 0.005\text{mm}$ tolerance under R3).
- ▶ Excellent surface roughness thanks to Mirror Face of cutting edges
- ▶ High strength and minimized vibration are available due to two step taper neck (under R0.5).

- ▶ 加工铜, 铜合金, 软石墨, 强化塑料等非铁金属用设计
- ▶ 紧密的圆弧角公差 (R3以下的公差是 $\pm 0.005\text{mm}$)
- ▶ 刃线采用镜面处理实现卓越工件表面粗糙度
- ▶ R0.5以下产品采用双颈设计, 提高刚性和减少振动



Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
SGED2701516	R0.75	1.5	4	1.5	16	50	1.45
SGED2702006	R1.0	2.0	4	3	6	45	1.95
SGED2702008	R1.0	2.0	4	3	8	45	1.95
SGED2702010	R1.0	2.0	4	3	10	45	1.95
SGED2702012	R1.0	2.0	4	3	12	45	1.95
SGED2702016	R1.0	2.0	4	3	16	50	1.95
SGED2703010	R1.5	3.0	6	4	10	50	2.85
SGED2703012	R1.5	3.0	6	4	12	50	2.85
SGED2703016	R1.5	3.0	6	4	16	60	2.85
SGED2703020	R1.5	3.0	6	4	20	60	2.85
SGED2704010	R2.0	4.0	6	5	10	50	3.85
SGED2704012	R2.0	4.0	6	5	12	50	3.85
SGED2704016	R2.0	4.0	6	5	16	60	3.85
SGED2704020	R2.0	4.0	6	5	20	60	3.85
SGED2704025	R2.0	4.0	6	5	25	60	3.85
SGED2706020	R3.0	6.0	6	8	20	60	5.85
SGED2706030	R3.0	6.0	6	8	30	90	5.85
SGED2708020	R4.0	8.0	8	10	20	70	7.70
SGED2710025	R5.0	10.0	10	12	25	80	9.70
SGED2712025	R6.0	12.0	12	14	25	80	11.70

Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R3 R3以下	± 0.005	0 ~ -0.012	h5
over R3 超过R3	± 0.010	0 ~ -0.015	

◎: Excellent (优秀) ○: Good (良好)

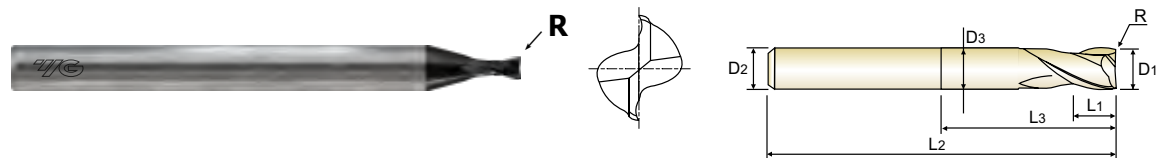
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					

C451

CARBIDE, 2 FLUTE CORNER RADIUS DLC COATING with EXTENDED NECK
硬质合金, 2刃 圆鼻 DLC涂层 颈部加长

► Designed for copper, copper alloys, soft graphite, reinforced plastics and materials affiliated with non-ferrous metals.
 ► Excellent surface roughness from Mirror Face of cutting edges

► 加工铜, 铜合金, 软石墨, 强化塑料等非铁金属用设计
 ► 刃线采用镜面处理实现卓越工件表面粗糙度



CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C457

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
SGED290100104	R0.1	1.0	4	1.5	4	45	0.95
SGED290100106	R0.1	1.0	4	1.5	6	45	0.95
SGED290100108	R0.1	1.0	4	1.5	8	45	0.95
SGED290100204	R0.2	1.0	4	1.5	4	45	0.95
SGED290100206	R0.2	1.0	4	1.5	6	45	0.95
SGED290100208	R0.2	1.0	4	1.5	8	45	0.95
SGED290150106	R0.1	1.5	4	2.3	6	45	1.45
SGED290150108	R0.1	1.5	4	2.3	8	45	1.45
SGED290150110	R0.1	1.5	4	2.3	10	45	1.45
SGED290150206	R0.2	1.5	4	2.3	6	45	1.45
SGED290150208	R0.2	1.5	4	2.3	8	45	1.45
SGED290150210	R0.2	1.5	4	2.3	10	45	1.45
SGED290200208	R0.2	2.0	4	3	8	45	1.95
SGED290200210	R0.2	2.0	4	3	10	45	1.95
SGED290200212	R0.2	2.0	4	3	12	45	1.95
SGED290200508	R0.5	2.0	4	3	8	45	1.95
SGED290200510	R0.5	2.0	4	3	10	45	1.95
SGED290200512	R0.5	2.0	4	3	12	45	1.95
SGED290300210	R0.2	3.0	6	4.5	10	50	2.85
SGED290300212	R0.2	3.0	6	4.5	12	50	2.85
SGED290300216	R0.2	3.0	6	4.5	16	60	2.85
SGED290300310	R0.3	3.0	6	4.5	10	50	2.85
SGED290300312	R0.3	3.0	6	4.5	12	50	2.85
SGED290300316	R0.3	3.0	6	4.5	16	60	2.85

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Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R6 R6以下	±0.010	0 ~ -0.012	h5
over R6 超过R6	±0.015	0 ~ -0.015	

◎: Excellent (优秀) ○: Good (良好)

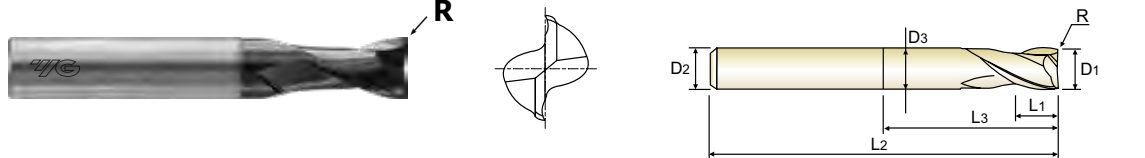
ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					

ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc											15	30	25	38	34	34	55	60	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	○	○				◎	◎	◎	○													

CARBIDE, 2 FLUTE CORNER RADIUS DLC COATING with EXTENDED NECK
硬质合金, 2刃 圆鼻 DLC涂层 颈部加长

► Designed for copper, copper alloys, soft graphite, reinforced plastics and materials affiliated with non-ferrous metals.
 ► Excellent surface roughness from Mirror Face of cutting edges

► 加工铜, 铜合金, 软石墨, 强化塑料等非铁金属用设计
 ► 刃线采用镜面处理实现卓越工件表面粗糙度



CARBIDE 2 30° ±0.010 ±0.015 PLAIN p.C457

Recommended ToolHolder

Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
SGED290400212	R0.2	4.0	6	6	12	50	3.85
SGED290400216	R0.2	4.0	6	6	16	60	3.85
SGED290400220	R0.2	4.0	6	6	20	60	3.85
SGED290400512	R0.5	4.0	6	6	12	50	3.85
SGED290400516	R0.5	4.0	6	6	16	60	3.85
SGED290400520	R0.5	4.0	6	6	20	60	3.85
SGED290600320	R0.3	6.0	6	9	20	60	5.85
SGED290600520	R0.5	6.0	6	9	20	60	5.85
SGED290601020	R1.0	6.0	6	9	20	60	5.85
SGED290800325	R0.3	8.0	8	12	25	65	7.70
SGED290800525	R0.5	8.0	8	12	25	65	7.70
SGED290801025	R1.0	8.0	8	12	25	65	7.70
SGED291000530	R0.5	10.0	10	15	30	70	9.70
SGED291001030	R1.0	10.0	10	15	30	70	9.70
SGED291200532	R0.5	12.0	12	18	32	80	11.70
SGED291201032	R1.0	12.0	12	18	32	80	11.70

Size 尺寸	Radius Tolerance (mm) 圆弧角公差	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R6 R6以下	±0.010	0 ~ -0.012	h5
over R6 超过R6	±0.015	0 ~ -0.015	

◎: Excellent (优秀) ○: Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					

ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc											15	30	25	38	34	34	55	60	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	○	○				◎	◎	◎	○													

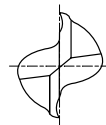
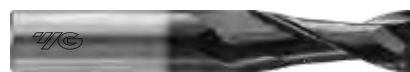


PLAIN SHANK **SGED31** SERIES

CARBIDE, 2 FLUTE DLC COATING
硬质合金, 2刃 DLC涂层

- ▶ Designed for copper, copper alloys, soft graphite, reinforced plastics and materials affiliated with non-ferrous metals.
- ▶ Excellent surface roughness from special flute geometry for removing burrs

- ▶ 加工铜, 铜合金, 软石墨, 强化塑料等非铁金属用设计
- ▶ 采用提高排屑性能的特殊设计实现卓越工件表面粗糙度



Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径	柄径	刃长	全长
SGED31010	1.0	6	2.5	50
SGED31015	1.5	6	4	50
SGED31020	2.0	6	6	50
SGED31025	2.5	6	8	50
SGED31030	3.0	6	10	50
SGED31040	4.0	6	12	50
SGED31050	5.0	6	15	60
SGED31060	6.0	6	15	60
SGED31080	8.0	8	20	65
SGED31100	10.0	10	25	70
SGED31120	12.0	12	30	80

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R6 R6以下	0 ~ -0.012	h5
over R6 超过R6	0 ~ -0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					

C454

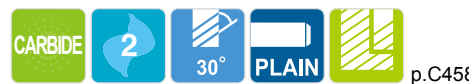
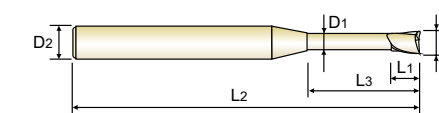
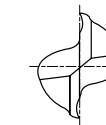


PLAIN SHANK **SGED30** SERIES

CARBIDE, 2 FLUTE DLC COATING with EXTENDED NECK
硬质合金, 2刃 DLC涂层 颈部加长

- ▶ Designed for copper, copper alloys, soft graphite, reinforced plastics and materials affiliated with non-ferrous metals.
- ▶ High toughness and minimized vibration applied from two step taper neck (under dia. 1.0mm)
- ▶ Excellent surface roughness from special flute geometry for removing burrs

- ▶ 加工铜, 铜合金, 软石墨, 强化塑料等非铁金属用设计
- ▶ 1.0mm直径以下产品采用双颈设计, 提高韧性和减少振动
- ▶ 采用提高排屑性能的特殊设计实现卓越工件表面粗糙度



Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径	柄径	刃长	颈长	全长	颈径
	D1	D2	L1	L3	L2	D3
SGED3000502	0.5	4	0.7	2	45	0.45
SGED3000504	0.5	4	0.7	4	45	0.45
SGED3000506	0.5	4	0.7	6	45	0.45
SGED3000508	0.5	4	0.7	8	45	0.45
SGED3000510	0.5	4	0.7	10	45	0.45
SGED3000602	0.6	4	0.9	2	45	0.55
SGED3000604	0.6	4	0.9	4	45	0.55
SGED3000606	0.6	4	0.9	6	45	0.55
SGED3000608	0.6	4	0.9	8	45	0.55
SGED3000610	0.6	4	0.9	10	45	0.55
SGED3000804	0.8	4	1.2	4	45	0.75
SGED3000806	0.8	4	1.2	6	45	0.75
SGED3000808	0.8	4	1.2	8	45	0.75
SGED3000810	0.8	4	1.2	10	45	0.75
SGED3000812	0.8	4	1.2	12	45	0.75
SGED3001004	1.0	4	1.5	4	45	0.95
SGED3001006	1.0	4	1.5	6	45	0.95
SGED3001008	1.0	4	1.5	8	45	0.95
SGED3001010	1.0	4	1.5	10	45	0.95
SGED3001012	1.0	4	1.5	12	45	0.95
SGED3001506	1.5	4	2.3	6	45	1.45
SGED3001508	1.5	4	2.3	8	45	1.45
SGED3001510	1.5	4	2.3	10	45	1.45
SGED3001512	1.5	4	2.3	12	45	1.45

▶ NEXT PAGE 下页

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R6 R6以下	0 ~ -0.012	h5
over R6 超过R6	0 ~ -0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend																					

C455

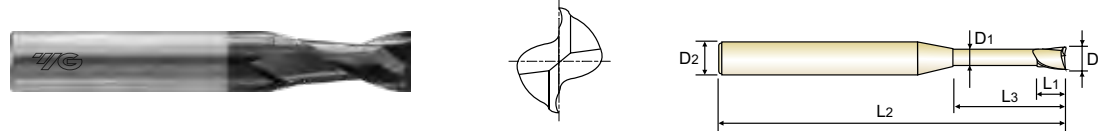


PLAIN SHANK **SGED30** SERIES

CARBIDE, 2 FLUTE DLC COATING with EXTENDED NECK
硬质合金, 2刃 DLC涂层 颈部加长

- ▶ Designed for copper, copper alloys, soft graphite, reinforced plastics and materials affiliated with non-ferrous metals.
- ▶ High toughness and minimized vibration applied from two step taper neck (under dia. 1.0mm)
- ▶ Excellent surface roughness from special flute geometry for removing burrs

- ▶ 加工铜, 铜合金, 软石墨, 强化塑料等非铁金属用设计
- ▶ 1.0mm直径以下产品采用双颈设计, 提高韧性和减少振动
- ▶ 采用提高排屑性能的特殊设计实现卓越工件表面粗糙度



Plain Shank	Page
HYDRAULIC CHUCK	D15-46
SHRINK FIT HOLDER	D47-72
POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115
SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1	Shank Diameter 柄径 D2	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall Length 全长 L2	Neck Diameter 颈径 D3
SGED3001516	1.5	4	2.3	16	50	1.45
SGED3002008	2.0	4	3	8	45	1.95
SGED3002010	2.0	4	3	10	45	1.95
SGED3002012	2.0	4	3	12	45	1.95
SGED3002016	2.0	4	3	16	50	1.95
SGED3003008	3.0	6	4.5	8	50	2.85
SGED3003010	3.0	6	4.5	10	50	2.85
SGED3003012	3.0	6	4.5	12	50	2.85
SGED3003016	3.0	6	4.5	16	60	2.85
SGED3003020	3.0	6	4.5	20	60	2.85
SGED3004010	4.0	6	6	10	50	3.85
SGED3004012	4.0	6	6	12	50	3.85
SGED3004016	4.0	6	6	16	60	3.85
SGED3004020	4.0	6	6	20	60	3.85
SGED3004025	4.0	6	6	25	60	3.85
SGED3006020	6.0	6	8	20	60	5.85
SGED3006030	6.0	6	8	30	90	5.85
SGED3008020	8.0	8	12	20	70	7.70
SGED3010025	10.0	10	15	25	80	9.70
SGED3012025	12.0	12	18	25	80	11.70

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to R6 R6以下	0 ~ -0.012	h5
over R6 超过R6	0 ~ -0.015	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend																				

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○				◎	◎	◎													

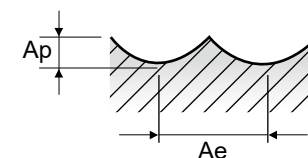


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SGED28 SERIES **2 FLUTE BALL NOSE**
2刃 球头

Vc (切削速度) = (m/min.)
 fz (每齿进给) = (mm/tooth)
 RPM (转速) = (rev/min.)
 FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	
N	21-22	Aluminum-wrought alloy	0.05D	0.02D	Vc	155	300	295	285	290	295	300	300	300	
					fz	0.01	0.022	0.031	0.042	0.052	0.061	0.079	0.101	0.12	
					RPM	49338	47746	31300	22680	18462	15650	11937	9549	7958	
					FEED	987	2101	1941	1905	1920	1909	1886	1929	1910	
N	26-28	Copper and Copper Alloys (Bronze / Brass)	0.05D	0.02D	Vc	130	150	150	145	145	145	150	150	150	
					fz	0.011	0.02	0.028	0.038	0.047	0.055	0.072	0.092	0.109	
					RPM	41380	23873	15915	11539	9231	7692	5968	4775	3979	
					FEED	910	955	891	877	868	846	859	879	867	
N	29.1	Duroplastic	0.05D	0.02D	Vc	155	315	445	435	440	445	450	455	450	
					fz	0.008	0.015	0.019	0.026	0.033	0.038	0.05	0.063	0.076	
					RPM	49338	50134	47216	34616	28011	23608	17905	14483	11937	
					FEED	789	1504	1794	1800	1849	1790	1825	1814		



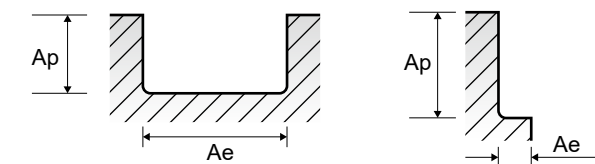
SGED29 SERIES

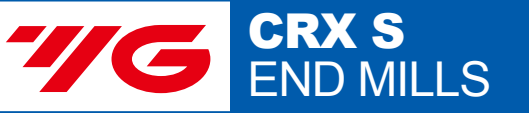
2 FLUTE CORNER RADIUS - SLOTTING
2刃 圆鼻-槽铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	155	315	470	630	785	840	840	840	835	
					fz	0.01	0.018	0.026	0.037	0.043	0.052	0.068	0.089	0.105	
					RPM	49338	50134	49869	50134	49975	44563	33423	26738	22149	
					FEED	987	1805	2593	3710	4298	4635	4545	4759	4651	
N	26-28	Copper and Copper Alloys (Bronze / Brass)	1.0D	0.5D	Vc	155	315	420	420	425	420	420	420	420	
					fz	0.01	0.017	0.026	0.031	0.039	0.047	0.063	0.079	0.095	
					RPM	49338	50134	44563	33423	27056	22282	16711	13369	11141	
					FEED	987	1705	2317	2072	2110	2094	2106	2112	2117	
N	29.1	Duroplastic	1.0D	0.5D	Vc	155	315	470	630	785	940	1255	1255	1265	
					fz	0.007	0.014	0.021	0.026	0.034	0.042	0.057	0.069	0.084	
					RPM	49338	50134	49869	50134	49975	49869	49935	39948	33555	
					FEED	691	1404	2094	2607	3398	4189	5693	5513	5637	

2 FLUTE CORNER RADIUS - SIDE CUTTING
2刃 圆鼻-侧铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	
N	21-22	Aluminum-wrought alloy	0.5D	1.0D	Vc	155	315	470	630	785	940	940	940	940	
					fz	0.014	0.028	0.042	0.053	0.065	0.079	0.105	0.131	0.157	
					RPM	49338	50134	49869	50134	49975	49869	37401	29921	24934	
					FEED	1381	2807	4189	5314	6497	7879	7854	7839	7829	
N	26-28	Copper and Copper Alloys (Bronze / Brass)	0.5D	1.0D	Vc	155	315	470	630	630	630	630	630	630	
					fz	0.012	0.025	0.037	0.047	0.06	0.073	0.094	0.12	0.141	
					RPM	49338	50134	49869	50134	40107	33423	25067	20054	16711	
					FEED	1184	2507	3690	4713	4813	4880	4713	4813	4713	
N	29.1	Duroplastic	0.5D	1.0D	Vc	155	315	470	630	785	940	1255	1255	1265	
					fz	0.012	0.025	0.037	0.05	0.065	0.075	0.084	0.105	0.125	
					RPM	49338	50134	49869	50134	49975	49869	49935	39948	33555	
					FEED	1184	2507	3690	5013	6497	7480	8389	8389	8389	



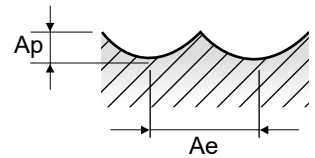


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

SGED27 SERIES 2 FLUTE BALL NOSE
2刃球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径											
						0.5	0.6	0.8	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
N	21	Aluminum-wrought alloy	0.05D	0.02D	Vc	80	95	125	155	250	245	240	240	245	250	250	250
					fz	0.005	0.007	0.009	0.01	0.022	0.03	0.042	0.052	0.061	0.079	0.1	0.122
					RPM	50930	50399	49736	49338	39789	25995	19099	15279	12998	9947	7958	6631
N	26-28	Copper and Copper Alloys (Bronze / Brass)	0.05D	0.02D	Vc	80	95	110	110	125	125	120	120	125	125	125	
					fz	0.005	0.007	0.009	0.011	0.02	0.028	0.038	0.047	0.055	0.072	0.091	0.111
					RPM	50930	50399	43768	35014	19894	13263	9549	7639	6631	4974	3979	3316
N	29.1	Duroplastic	0.05D	0.02D	Vc	80	95	125	155	315	370	360	365	370	375	375	
					fz	0.004	0.005	0.006	0.006	0.013	0.019	0.027	0.033	0.039	0.05	0.064	0.077
					RPM	50930	50399	49736	49338	50134	39258	28648	23237	19629	14921	11937	9947
					FEED	407	504	597	592	1303	1492	1547	1534	1531	1492	1528	1532



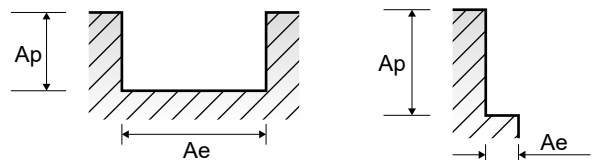
SGED30, SGED31 SERIES

2 FLUTE - SLOTTING
2刃 - 槽铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径										
						0.5	0.6	0.8	1.0	2.0	3.0	4.0	6.0	8.0	10.0	12.0
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	80	95	125	155	315	330	325	325	330	325	330
					fz	0.005	0.006	0.008	0.01	0.01	0.023	0.032	0.048	0.064	0.081	0.097
					RPM	50930	50399	49736	49338	50134	35014	25863	17242	13130	10345	8754
N	26-28	Copper and Copper Alloys (Bronze / Brass)	1.0D	0.5D	Vc	80	95	105	110	160	165	160	165	165	160	165
					fz	0.005	0.006	0.008	0.01	0.01	0.023	0.032	0.048	0.064	0.081	0.097
					RPM	50930	50399	41778	35014	25465	17507	12732	8754	6565	5093	4377
N	29.1	Duroplastic	1.0D	0.5D	Vc	80	95	125	155	315	470	490	490	500	490	495
					fz	0.001	0.002	0.002	0.003	0.004	0.007	0.009	0.014	0.018	0.023	0.028
					RPM	50930	50399	49736	49338	50134	49869	38993	25995	19894	15597	13130
					FEED	102	202	199	296	401	698	702	728	716	717	735

2 FLUTE - SIDE CUTTING
2刃 - 侧铣削

ISO	VDI 3323	Material Description 工件材料	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径										
						0.5	0.6	0.8	1.0	2.0	3.0	4.0	6.0	8.0	10.0	12.0
N	21-22	Aluminum-wrought alloy	0.5D	1.0D	Vc	80	95	125	130	260	260	265	270	265	265	270
					fz	0.005	0.006	0.008	0.01	0.011	0.025	0.034	0.053	0.069	0.086	0.107
					RPM	50930	50399	49736	41380	41380	27587	21088	14324	10544	8435	7162
N	26-28	Copper and Copper Alloys (Bronze / Brass)	0.5D	1.0D	Vc	80	85	85	85	170	175	175	180	175	175	180
					fz	0.005	0.006	0.008	0.01	0.01	0.023	0.032	0.05	0.064	0.08	0.1
					RPM	50930	45094	33820	27056	27056	18568	13926	9549	6963	5570	4775
N	29.1	Duroplastic	0.5D	1.0D	Vc	80	95	125	155	315	350	350	360	350	350	360
					fz	0.004	0.005	0.006	0.008	0.018	0.026	0.04	0.051	0.064	0.08	
					RPM	50930	50399	49736	49338	50134	37136	27852	19099	13926	11141	9549
					FEED	407	504	597	789	902	1337	1448	1528	1420	1426	1528





Leading Through Innovation

SOLID CARBIDE

K-2 END MILLS

- General Purpose / Conventional or High Speed Milling / Wet & Dry Cutting
- 适用于普通加工 / 普通或高速铣削 / 湿切&干切削

SELECTION GUIDE
选用指南



SERIES 系列	K-2 Plus			
	EMC56	EMC60	EMC61	EMC62
FLUTE 槽数	4	2	2	4
HELIX ANGLE 螺旋角度	30°	30°	30°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS
SIZE MIN 最小尺寸	R0.1	R0.2	D3.0	D3.0
SIZE MAX 最大尺寸	R10.0	R3.0	D12.0	D12.0
PAGE 页数	C463	C464-468	C469-470	C471-472

SOLID CARBIDE
K-2
END MILLS

General Purpose
Conventional or High Speed Milling, Wet & Dry Cutting
普通用途
普通或高速铣削 / 湿切 & 干切削



◎: Excellent (优秀) ○: Good (良好)
Recommended cutting conditions (推荐加工参数): p.C491

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	EMC56	EMC60	EMC61	EMC62
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎
	4		About 0.75% C Annealed	270	28	◎	◎	◎	◎
	5		About 0.75% C Quenched & Tempered	300	32	◎	◎	◎	◎
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎
	7		Quenched & Tempered	275	29	◎	◎	◎	◎
	8		Quenched & Tempered	300	32	◎	◎	◎	◎
	9		Quenched & Tempered	350	38	◎	◎	◎	◎
	10		High alloyed steel, and tool steel	Annealed	200	15	◎	◎	◎
	11	Quenched & Tempered		325	35	◎	◎	◎	◎
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○			
	13		Martensitic Quenched & Tempered	240	23	○			
	14	Austenitic	180	10	○				
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○	○	○
	16		Pearlitic (Martensitic)	260	26	○	○	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○	○	○
	18		Pearlitic	250	25	○	○	○	○
	19	Malleable cast iron	Ferritic	130		○	○	○	○
	20		Pearlitic	230	21	○	○	○	○
N	21	Aluminum-wrought alloy	Not Curable	60		○			
	22		Curable Hardened	100		○			
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○			
	24		≤ 12% Si, Curable Hardened	90		○			
	25		> 12% Si, Not Curable	130		○			
	26		Copper and Copper Alloys	CuZn, CuSnZn (Brass)	110		○		
	27	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	90		○			
	28		Duroplastic, Fiber Reinforced Plastic	100		○			
	29		Rubber, Wood, etc.						
	S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15			
32		Fe Based Cured		280	30				
33		Fe Based Annealed		250	25				
34		Ni or Co Based Cured		350	38				
35		Ni or Co Based Cast	320	34					
36		Titanium Alloys	Pure Titanium	400 Rm					
37	Alpha + Beta Alloys Hardened		1050 Rm						
H	38	Hardened steel	Hardened	550	55	○	○	○	○
	39		Hardened	630	60				
	40	Chilled Cast Iron	Cast	400	42	○	○	○	○
	41	Hardened Cast Iron	Hardened	550	55				

EMC59	K-2 Plus							K-2	
	EMC52	EMC53	EMC54	EMC55	EMC57	EMC58	EMC69	G9A25	G9B52
2	2	2	4	4	4&6	6	4-6	2	2
30°	35°	35°	35°	35°	45°	45°	45°	30°	30°
SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	ROUGHING	BALL NOSE	BALL NOSE
D0.4	D1.0	D2.0	D1.0	D2.0	D1.0	D6.0	D6.0	R0.5	R0.5
D6.0	D20.0	D20.0	D20.0	D20.0	D20.0	D20.0	D20.0	R10.0	R10.0
C473-478	C479	C480	C481	C482	C483		C484	C485	C486
LONG NECK	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	FINE	REGULAR LENGTH	LONG LENGTH
TiAIN	TiAIN	TiAIN	TiAIN	TiAIN	TiAIN	TiAIN	X-Coating	TiAIN	TiAIN

BALL NOSE = 球头 SHORT LENGTH = 短刃 CORNER RADIUS = 圆鼻 REGULAR LENGTH = 普通刀长 SQUARE = 平头 LONG LENGTH = 长刃 ROUGHING = 粗加工 LONG NECK = 颈部加长 FINE = 细牙

SELECTION GUIDE
选用指南



SERIES 系列	K-2			
	G9A23	G9B50	G9A24	G9B51
FLUTE 槽数	2	2	4	4
HELIX ANGLE 螺旋角度	30°	30°	30°	30°
CUTTING EDGE SHAPE 类型	SQUARE	SQUARE	SQUARE	SQUARE
SIZE MIN 最小尺寸	D1.0	D1.0	D1.0	D1.0
SIZE MAX 最大尺寸	D20.0	D20.0	D20.0	D20.0
PAGE 页数	C487	C488	C489	C490

SOLID CARBIDE
K-2
END MILLS

General Purpose with Coating
Conventional or High Speed Milling, Wet or Dry Cutting
普通用途
普通或高速铣削 / 湿切 & 干切削



◎: Excellent (优秀) ○: Good (良好)

Recommended cutting conditions (推荐加工参数): p.491

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	G9A23	G9B50	G9A24	G9B51	
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	◎	
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎	
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎	
	4		About 0.75% C Annealed	270	28	◎	◎	◎	◎	
	5		About 0.75% C Quenched & Tempered	300	32	◎	◎	◎	◎	
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎	
	7		Quenched & Tempered	275	29	◎	◎	◎	◎	
	8		Quenched & Tempered	300	32	◎	◎	◎	◎	
	9		Quenched & Tempered	350	38	◎	◎	◎	◎	
	10		High alloyed steel, and tool steel	Annealed	200	15	◎	◎	◎	◎
	11	Quenched & Tempered		325	35	◎	◎	◎	◎	
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○	○	○	
	13		Martensitic Quenched & Tempered	240	23	○	○	○	○	
K	14	Grey cast iron	Austenitic	180	10	○	○	○	○	
	15		Pearlitic / ferritic	180	10	○	○	○	○	
	16		Pearlitic (Martensitic)	260	26	○	○	○	○	
	17		Nodular cast iron	Ferritic	160	3	○	○	○	○
	18			Pearlitic	250	25	○	○	○	○
	19		Malleable cast iron	Ferritic	130		○	○	○	○
	20			Pearlitic	230	21	○	○	○	○
N	21	Aluminum-wrought alloy	Not Curable	60		○	○	○	○	
	22		Curable Hardened	100		○	○	○	○	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○	○	○	
	24		≤ 12% Si, Curable Hardened	90		○	○	○	○	
	25		> 12% Si, Not Curable	130		○	○	○	○	
	26		Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90		○	○	○	○
	27	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic							
	28		Rubber, Wood, etc.							
	29									
	S	30	Heat Resistant Super Alloys	Fe Based Annealed	200	15				
31		Cured		280	30					
32		Annealed		250	25					
33		Cured		350	38					
34		Cast		320	34					
H	35	Titanium Alloys	Pure Titanium	400 Rm						
	36		Alpha + Beta Alloys Hardened	1050 Rm						
	37									
H	38	Hardened Cast Iron	Hardened	550	55					
	39		Hardened	630	60					
	40		Cast	400	42	○	○	○	○	
	41		Hardened	550	55					

BALL NOSE = 球头 CORNER RADIUS = 圆鼻 SQUARE = 平头 ROUGHING = 粗加工
SHORT LENGTH = 短刃 REGULAR LENGTH = 普通刃长 LONG LENGTH = 长刃 LONG NECK = 颈部长加细牙

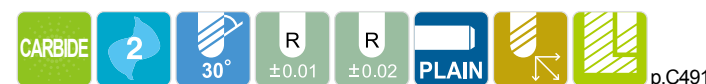


PLAIN SHANK **EMC56** SERIES

CARBIDE, 2 FLUTE SHORT LENGTH BALL NOSE
硬质合金, 2刃 短刃 球头

- Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- Suitable for high speed machining in wet or dry condition.
- Designed for milling of radius bottom slots, fillets and special contours.
- Application in high speed machining, wet and dry cutting conditions.

- 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢
- 高耐磨性
- 设计用于铣削圆型底部的槽, 带和特殊轮廓
- 适应于高速加工, 湿式和干式切削条件



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

R1.0 - R3 R3.5 - R10

Unit(单位): mm

EDP No.	Radius of Ball Nose 圆弧角 R	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
EMC56002	R0.1	0.2	4	0.4	50
EMC56003	R0.15	0.3	4	0.6	50
EMC56004	R0.2	0.4	4	0.8	50
EMC56005	R0.25	0.5	4	1.0	50
EMC56006	R0.3	0.6	4	1.2	50
EMC56008	R0.4	0.8	4	1.6	50
EMC56010	R0.5	1.0	4	2.0	50
EMC56015	R0.75	1.5	4	4.0	50
EMC56020	R1.0	2.0	4	5.0	50
EMC56025	R1.25	2.5	4	6.0	50
EMC56030	R1.5	3.0	4	6.0	50
EMC56901	R1.5	3.0	6	6.0	50
EMC56040	R2.0	4.0	4	8.0	50
EMC56902	R2.0	4.0	6	8.0	50
EMC56050	R2.5	5.0	6	10.0	50
EMC56060	R3.0	6.0	6	12.0	50
EMC56070	R3.5	7.0	8	14.0	60
EMC56080	R4.0	8.0	8	14.0	60
EMC56090	R4.5	9.0	10	18.0	75
EMC56100	R5.0	10.0	10	20.0	75
EMC56120	R6.0	12.0	12	24.0	75
EMC56160	R8.0	16.0	16	32.0	100
EMC56200	R10.0	20.0	20	40.0	100

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ - 0.03	h5

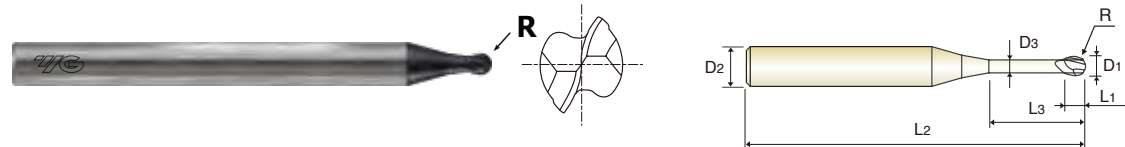
◎: Excellent (优秀) ○: Good (良好)

ISO	P									M				K							
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron					
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323																					
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○

ISO	N									S					H							
	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323																						
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB																						
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

CARBIDE, 2 FLUTE BALL NOSE LONG NECK
硬质合金, 2刃 球头 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢
- ▶ 由于颈部稍细能够加工深槽
- ▶ 高耐磨性



CARBIDE 2 30° ±0.01 PLAIN p.C497-498

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R (±0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
EMC60015080	R0.75	1.5	4	1.5	8	45	1.45
EMC60015100	R0.75	1.5	4	1.5	10	45	1.45
EMC60015120	R0.75	1.5	4	1.5	12	45	1.45
EMC60015140	R0.75	1.5	4	1.5	14	50	1.45
EMC60015160	R0.75	1.5	4	1.5	16	50	1.45
EMC60015200	R0.75	1.5	4	1.5	20	55	1.45
EMC60016080	R0.8	1.6	4	1.6	8	45	1.55
EMC60016120	R0.8	1.6	4	1.6	12	45	1.55
EMC60016160	R0.8	1.6	4	1.6	16	50	1.55
EMC60016200	R0.8	1.6	4	1.6	20	55	1.55
EMC60018080	R0.9	1.8	4	1.8	8	45	1.75
EMC60018120	R0.9	1.8	4	1.8	12	45	1.75
EMC60018160	R0.9	1.8	4	1.8	16	50	1.75
EMC60018200	R0.9	1.8	4	1.8	20	55	1.75
EMC60020040	R1.0	2.0	4	2.0	4	45	1.95
EMC60020060	R1.0	2.0	4	2.0	6	45	1.95
EMC60020080	R1.0	2.0	4	2.0	8	45	1.95
EMC60020100	R1.0	2.0	4	2.0	10	45	1.95
EMC60020120	R1.0	2.0	4	2.0	12	50	1.95
EMC60020140	R1.0	2.0	4	2.0	14	50	1.95
EMC60020160	R1.0	2.0	4	2.0	16	50	1.95
EMC60020180	R1.0	2.0	4	2.0	18	55	1.95
EMC60020200	R1.0	2.0	4	2.0	20	55	1.95
EMC60020220	R1.0	2.0	4	2.0	22	60	1.95

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø3 以下	0 ~ -0.015	h5
over Ø3 超过Ø3	0 ~ -0.020	

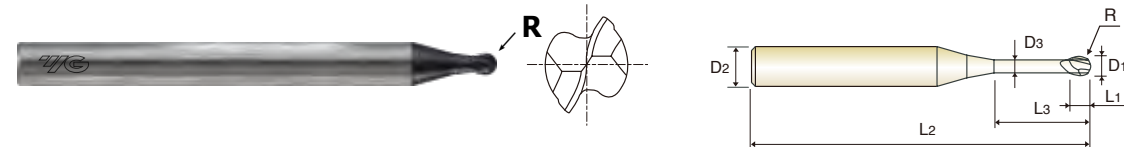
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◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K																								
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel			Grey cast iron			Nodular cast iron			Malleable cast iron																
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	19	21	15	35	15	23	10	26	3	25	130	230	200	260	350	400 Rm	1050 Rm	550	630	400	42	55	550
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130	230	180	260	130	230	200	260	350	400 Rm	1050 Rm	550	630	400	42	55	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 2 FLUTE BALL NOSE LONG NECK
硬质合金, 2刃 球头 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢
- ▶ 由于颈部稍细能够加工深槽
- ▶ 高耐磨性



CARBIDE 2 30° ±0.01 PLAIN p.C497-498

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R (±0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
EMC60020260	R1.0	2.0	4	2.0	26	70	1.95
EMC60020300	R1.0	2.0	4	2.0	30	70	1.95
EMC60025080	R1.25	2.5	6	2.5	8	50	2.4
EMC60025100	R1.25	2.5	6	2.5	10	50	2.4
EMC60025160	R1.25	2.5	6	2.5	16	55	2.4
EMC60025200	R1.25	2.5	6	2.5	20	60	2.4
EMC60030080	R1.5	3.0	6	3.0	8	50	2.85
EMC60030100	R1.5	3.0	6	3.0	10	50	2.85
EMC60030120	R1.5	3.0	6	3.0	12	50	2.85
EMC60030140	R1.5	3.0	6	3.0	14	55	2.85
EMC60030160	R1.5	3.0	6	3.0	16	55	2.85
EMC60030180	R1.5	3.0	6	3.0	18	60	2.85
EMC60030200	R1.5	3.0	6	3.0	20	60	2.85
EMC60030260	R1.5	3.0	6	3.0	26	70	2.85
EMC60030300	R1.5	3.0	6	3.0	30	70	2.85
EMC60030360	R1.5	3.0	6	3.0	36	80	2.85
EMC60040100	R2.0	4.0	6	4.0	10	60	3.85
EMC60040120	R2.0	4.0	6	4.0	12	60	3.85
EMC60040160	R2.0	4.0	6	4.0	16	60	3.85
EMC60040200	R2.0	4.0	6	4.0	20	65	3.85
EMC60040260	R2.0	4.0	6	4.0	26	70	3.85
EMC60040300	R2.0	4.0	6	4.0	30	70	3.85
EMC60040360	R2.0	4.0	6	4.0	36	80	3.85
EMC60040400	R2.0	4.0	6	4.0	40	90	3.85

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø3 以下	0 ~ -0.015	h5
over Ø3 超过Ø3	0 ~ -0.020	

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◎ : Excellent (优秀) ○ : Good (良好)

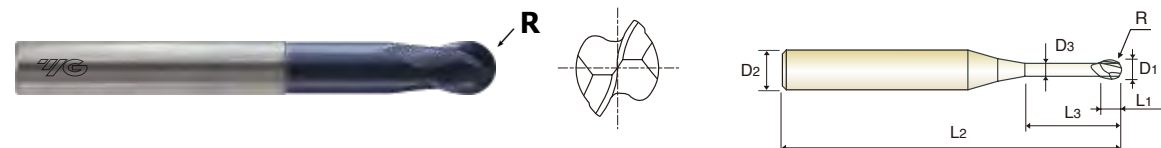
ISO Material Description	P										M						K																								
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel			Grey cast iron			Nodular cast iron			Malleable cast iron																
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	19	21	15	35	15	23	10	26	3	25	130	230	200	260	350	400 Rm	1050 Rm	550	630	400	42	55	550
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130	230	180	260	130	230	200	260	350	400 Rm	1050 Rm	550	630	400	42	55	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK EMC60 SERIES

CARBIDE, 2 FLUTE BALL NOSE LONG NECK 硬质合金, 2刃 球头 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢
- ▶ 由于颈部稍细能够加工深槽
- ▶ 高耐磨性



CARBIDE 2 30° ±0.01 PLAIN p.C497-498

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	圆弧角 R (±0.01)	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 L2	颈径 D3
EMC60040460	R2.0	4.0	6	4.0	46	90	3.85
EMC60040500	R2.0	4.0	6	4.0	50	100	3.85
EMC60050160	R2.5	5.0	6	5.0	16	60	4.85
EMC60050200	R2.5	5.0	6	5.0	20	60	4.85
EMC60050260	R2.5	5.0	6	5.0	26	70	4.85
EMC60050300	R2.5	5.0	6	5.0	30	80	4.85
EMC60050360	R2.5	5.0	6	5.0	36	80	4.85
EMC60060200	R3.0	6.0	6	6.0	20	80	5.85
EMC60060300	R3.0	6.0	6	6.0	30	90	5.85
EMC60060400	R3.0	6.0	6	6.0	40	100	5.85
EMC60060500	R3.0	6.0	6	6.0	50	110	5.85

Size 尺寸	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø3 03以下	0 ~ -0.015	h5
over Ø3 超过03	0 ~ -0.020	

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	18	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○



PLAIN SHANK EMC61 SERIES

CARBIDE, 2 FLUTE CORNER RADIUS 硬质合金, 2刃 圆鼻

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ Corner radius against chipping in high speed machining.
- ▶ Application in high speed machining, wet and dry cutting conditions.
- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢
- ▶ 高耐磨性
- ▶ 弧形角可防止高速切削的崩刃
- ▶ 适应于高速加工, 湿式和干式切削条件



CARBIDE 2 30° ±0.02 PLAIN p.C602

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R	直径 直径	柄径 柄径	刃长 刃长	全长 全长
EMC6103002	R0.2	3.0	6	10	70
EMC6103003	R0.3	3.0	6	10	70
EMC6103005	R0.5	3.0	6	10	70
EMC6104002	R0.2	4.0	6	12	70
EMC6104003	R0.3	4.0	6	12	70
EMC6104005	R0.5	4.0	6	12	70
EMC6104010	R1.0	4.0	6	12	70
EMC6105002	R0.2	5.0	6	15	80
EMC6105003	R0.3	5.0	6	15	80
EMC6105005	R0.5	5.0	6	15	80
EMC6105010	R1.0	5.0	6	15	80
EMC6106002	R0.2	6.0	6	15	90
EMC6106003	R0.3	6.0	6	15	90
EMC6106005	R0.5	6.0	6	15	90
EMC6106010	R1.0	6.0	6	15	90
EMC6108003	R0.3	8.0	8	20	100
EMC6108005	R0.5	8.0	8	20	100
EMC6108010	R1.0	8.0	8	20	100
EMC6108015	R1.5	8.0	8	20	100
EMC6108020	R2.0	8.0	8	20	100

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	18	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○

CARBIDE, 2 FLUTE CORNER RADIUS
硬质合金, 2刃 圆鼻

- Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- Suitable for high speed machining in wet or dry condition.
- Corner radius against chipping in high speed machining.
- Application in high speed machining, wet and dry cutting conditions.

- 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢。
- 高耐磨性
- 弧形角可防止高速切削的崩刃
- 适应于高速加工, 湿式和干式切削条件



CARBIDE 2 30° ±0.02 PLAIN PLAIN p.C494-495

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
EMC6110003	R0.3	10.0	10	25	100
EMC6110005	R0.5	10.0	10	25	100
EMC6110010	R1.0	10.0	10	25	100
EMC6110015	R1.5	10.0	10	25	100
EMC6110020	R2.0	10.0	10	25	100
EMC6110025	R2.5	10.0	10	25	100
EMC6112003	R0.3	12.0	12	30	110
EMC6112005	R0.5	12.0	12	30	110
EMC6112010	R1.0	12.0	12	30	110
EMC6112015	R1.5	12.0	12	30	110
EMC6112020	R2.0	12.0	12	30	110
EMC6112025	R2.5	12.0	12	30	110
EMC6112030	R3.0	12.0	12	30	110

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	18	10	26	3	25	10	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	160	250	130	230	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	○	○

CARBIDE, 4 FLUTE CORNER RADIUS
硬质合金, 4刃 圆鼻

- Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- Suitable for high speed machining in wet or dry condition.
- 4 flute allows for better work piece finishes.
- Corner radius against chipping in high speed machining.
- Application in high speed machining, wet and dry cutting conditions.

- 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢。
- 高耐磨性
- 4刃可得到较好的表面粗糙度
- 弧形角可防止高速切削的崩刃
- 适应于高速加工, 湿式和干式切削条件



CARBIDE 4 30° ±0.02 PLAIN PLAIN p.C496

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
EMC6203002	R0.2	3.0	6	10	70
EMC6203003	R0.3	3.0	6	10	70
EMC6203005	R0.5	3.0	6	10	70
EMC6204002	R0.2	4.0	6	12	70
EMC6204003	R0.3	4.0	6	12	70
EMC6204005	R0.5	4.0	6	12	70
EMC6204010	R1.0	4.0	6	12	70
EMC6205002	R0.2	5.0	6	15	80
EMC6205003	R0.3	5.0	6	15	80
EMC6205005	R0.5	5.0	6	15	80
EMC6205010	R1.0	5.0	6	15	80
EMC6206002	R0.2	6.0	6	15	90
EMC6206003	R0.3	6.0	6	15	90
EMC6206005	R0.5	6.0	6	15	90
EMC6206010	R1.0	6.0	6	15	90
EMC6208003	R0.3	8.0	8	20	100
EMC6208005	R0.5	8.0	8	20	100
EMC6208010	R1.0	8.0	8	20	100
EMC6208015	R1.5	8.0	8	20	100
EMC6208020	R2.0	8.0	8	20	100

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	18	10	26	3	25	10	21
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	160	250	130	230	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○	○	○	○

CARBIDE, 4 FLUTE CORNER RADIUS
硬质合金, 4刃 圆鼻

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ 4 flute allows for better work piece finishes.
- ▶ Corner radius against chipping in high speed machining.
- ▶ Application in high speed machining, wet and dry cutting conditions.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢。
- ▶ 高耐磨性
- ▶ 4刃可得到较好的表面粗糙度
- ▶ 弧形角可防止高速切削的崩刃
- ▶ 适应于高速加工, 湿式和干式切削条件



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R				
EMC6210003	R0.3	10.0	10	25	100
EMC6210005	R0.5	10.0	10	25	100
EMC6210010	R1.0	10.0	10	25	100
EMC6210015	R1.5	10.0	10	25	100
EMC6210020	R2.0	10.0	10	25	100
EMC6210025	R2.5	10.0	10	25	100
EMC6212005	R0.5	12.0	12	30	110
EMC6212010	R1.0	12.0	12	30	110
EMC6212015	R1.5	12.0	12	30	110
EMC6212020	R2.0	12.0	12	30	110
EMC6212025	R2.5	12.0	12	30	110
EMC6212030	R3.0	12.0	12	30	110

Mill Dia.Tolerance (mm)	Shank Dia.Tolerance
直径公差	柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K																								
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron																				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HRc	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
HB	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 2 FLUTE LONG NECK
硬质合金, 2刃 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢
- ▶ 由于颈部稍细能够加工深槽
- ▶ 高耐磨性



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径					颈径
	D1					D3
EMC59004010	0.4	4	0.6	1	45	0.37
EMC59004020	0.4	4	0.6	2	45	0.37
EMC59004030	0.4	4	0.6	3	45	0.37
EMC59004040	0.4	4	0.6	4	45	0.37
EMC59004050	0.4	4	0.6	5	45	0.37
EMC59005020	0.5	4	0.7	2	45	0.45
EMC59005030	0.5	4	0.7	3	45	0.45
EMC59005040	0.5	4	0.7	4	45	0.45
EMC59005060	0.5	4	0.7	6	45	0.45
EMC59005080	0.5	4	0.7	8	45	0.45
EMC59006020	0.6	4	0.9	2	45	0.55
EMC59006030	0.6	4	0.9	3	45	0.55
EMC59006040	0.6	4	0.9	4	45	0.55
EMC59006060	0.6	4	0.9	6	45	0.55
EMC59006080	0.6	4	0.9	8	45	0.55
EMC59006100	0.6	4	0.9	10	45	0.55
EMC59007020	0.7	4	1.0	2	45	0.65
EMC59007040	0.7	4	1.0	4	45	0.65
EMC59007060	0.7	4	1.0	6	45	0.65
EMC59007080	0.7	4	1.0	8	45	0.65
EMC59007100	0.7	4	1.0	10	45	0.65
EMC59008020	0.8	4	1.2	2	45	0.75
EMC59008040	0.8	4	1.2	4	45	0.75
EMC59008060	0.8	4	1.2	6	45	0.75

▶ NEXT PAGE 下页

Size	Mill Dia.Tolerance (mm)	Shank Dia.Tolerance
up to Ø3	0 ~ -0.015	h5
over to Ø3	0 ~ -0.020	

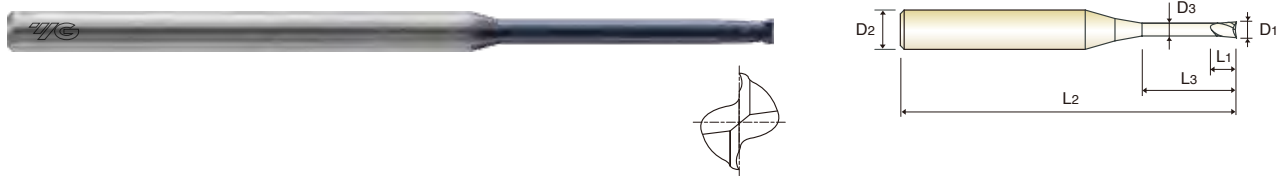
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K																								
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron																				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HRc	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
HB	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 2 FLUTE LONG NECK
硬质合金, 2刃 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢
- ▶ 由于颈部稍细能够加工深槽
- ▶ 高耐磨性



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 D3	颈径 D3
EMC59018100	1.8	4	2.7	10	45	1.75
EMC59018120	1.8	4	2.7	12	45	1.75
EMC59018140	1.8	4	2.7	14	50	1.75
EMC59018160	1.8	4	2.7	16	50	1.75
EMC59018180	1.8	4	2.7	18	55	1.75
EMC59018200	1.8	4	2.7	20	55	1.75
EMC59018260	1.8	4	2.7	26	65	1.75
EMC59020060	2.0	4	3.0	6	45	1.95
EMC59020080	2.0	4	3.0	8	45	1.95
EMC59020100	2.0	4	3.0	10	45	1.95
EMC59020120	2.0	4	3.0	12	45	1.95
EMC59020140	2.0	4	3.0	14	50	1.95
EMC59020160	2.0	4	3.0	16	50	1.95
EMC59020180	2.0	4	3.0	18	55	1.95
EMC59020200	2.0	4	3.0	20	55	1.95
EMC59020220	2.0	4	3.0	22	60	1.95
EMC59020260	2.0	4	3.0	26	60	1.95
EMC59020300	2.0	4	3.0	30	70	1.95
EMC59025080	2.5	4	3.7	8	45	2.4
EMC59025100	2.5	4	3.7	10	45	2.4
EMC59025120	2.5	4	3.7	12	45	2.4
EMC59025140	2.5	4	3.7	14	50	2.4
EMC59025160	2.5	4	3.7	16	55	2.4
EMC59025180	2.5	4	3.7	18	55	2.4

Size	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø3	0 ~ -0.015	h5
over to Ø3	0 ~ -0.020	

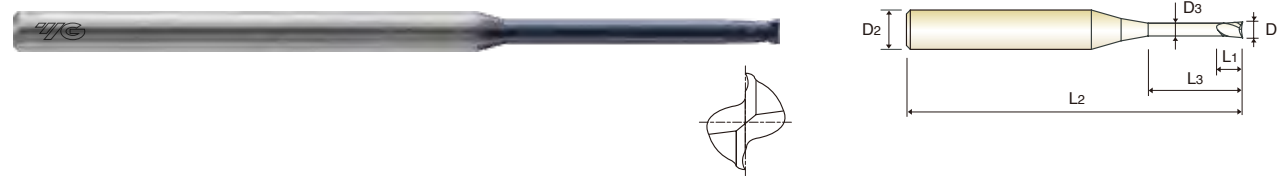
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	3	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○		

CARBIDE, 2 FLUTE LONG NECK
硬质合金, 2刃 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢
- ▶ 由于颈部稍细能够加工深槽
- ▶ 高耐磨性



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 D3	颈径 D3
EMC59025200	2.5	4	3.7	20	60	2.4
EMC59025260	2.5	4	3.7	26	70	2.4
EMC59025300	2.5	4	3.7	30	80	2.4
EMC59030080	3.0	6	4.5	8	45	2.85
EMC59030100	3.0	6	4.5	10	45	2.85
EMC59030120	3.0	6	4.5	12	50	2.85
EMC59030140	3.0	6	4.5	14	50	2.85
EMC59030160	3.0	6	4.5	16	55	2.85
EMC59030180	3.0	6	4.5	18	55	2.85
EMC59030200	3.0	6	4.5	20	60	2.85
EMC59030260	3.0	6	4.5	26	70	2.85
EMC59030300	3.0	6	4.5	30	70	2.85
EMC59030360	3.0	6	4.5	36	80	2.85
EMC59030400	3.0	6	4.5	40	90	2.85
EMC59040100	4.0	6	6.0	10	50	3.85
EMC59040120	4.0	6	6.0	12	50	3.85
EMC59040160	4.0	6	6.0	16	60	3.85
EMC59040200	4.0	6	6.0	20	60	3.85
EMC59040260	4.0	6	6.0	26	70	3.85
EMC59040300	4.0	6	6.0	30	70	3.85
EMC59040360	4.0	6	6.0	36	80	3.85
EMC59040400	4.0	6	6.0	40	90	3.85
EMC59040460	4.0	6	6.0	46	90	3.85
EMC59040500	4.0	6	6.0	50	100	3.85

Size	Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
up to Ø3	0 ~ -0.015	h5
over to Ø3	0 ~ -0.020	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	3	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○		

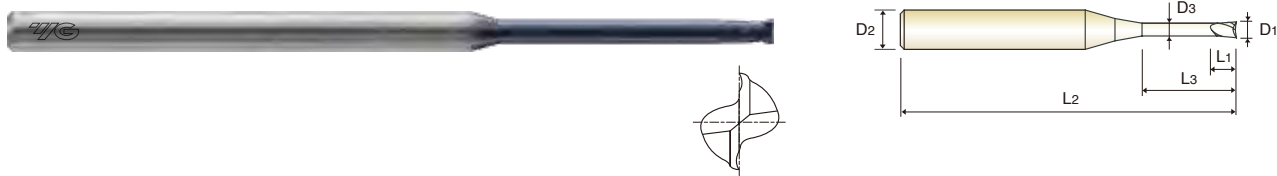


PLAIN SHANK **EMC59** SERIES

CARBIDE, 2 FLUTE LONG NECK
硬质合金, 2刃 颈部加长

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Suitable for high speed machining in wet or dry condition.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢
- ▶ 由于颈部稍细能够加工深槽
- ▶ 高耐磨性



p.C499-500

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201



Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	直径 D1	柄径 D2	刃长 L1	颈长 L3	全长 D3	颈径 D3
EMC59050160	5.0	6	7.5	16	60	4.85
EMC59050200	5.0	6	7.5	20	60	4.85
EMC59050260	5.0	6	7.5	26	70	4.85
EMC59050300	5.0	6	7.5	30	80	4.85
EMC59050360	5.0	6	7.5	36	80	4.85
EMC59050400	5.0	6	7.5	40	80	4.85
EMC59050500	5.0	6	7.5	50	110	4.85
EMC59060200	6.0	6	9.0	20	80	5.85
EMC59060300	6.0	6	9.0	30	90	5.85
EMC59060400	6.0	6	9.0	40	100	5.85
EMC59060500	6.0	6	9.0	50	110	5.85

Size	Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
up to Ø3	0 ~ -0.015	h5
over to Ø3	0 ~ -0.020	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	180	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	200	325	200	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○



PLAIN SHANK **EMC52** SERIES

CARBIDE, 2 FLUTE 35° HELIX SHORT LENGTH
硬质合金, 2刃 35度螺旋 短刃

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ Application in high speed machining, wet and dry cutting conditions.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢
- ▶ 高耐磨性
- ▶ 适应于高速加工, 湿式和干式切削条件



p.C501

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201



Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 D3
EMC52010	1.0	4	3	50
EMC52015	1.5	4	4	50
EMC52020	2.0	4	6	50
EMC52025	2.5	4	8	50
EMC52030	3.0	4	8	50
EMC52901	3.0	6	8	50
EMC52035	3.5	4	10	50
EMC52902	3.5	6	10	50
EMC52040	4.0	4	11	50
EMC52903	4.0	6	11	50
EMC52045	4.5	6	11	50
EMC52050	5.0	6	13	50
EMC52055	5.5	6	13	50
EMC52060	6.0	6	16	50
EMC52065	6.5	8	16	60
EMC52070	7.0	8	20	60
EMC52075	7.5	8	20	60
EMC52080	8.0	8	20	60
EMC52085	8.5	10	20	75
EMC52090	9.0	10	20	75
EMC52095	9.5	10	22	75
EMC52100	10.0	10	25	75
EMC52110	11.0	12	30	75
EMC52120	12.0	12	32	75
EMC52140	14.0	16	40	100
EMC52160	16.0	16	40	100
EMC52180	18.0	20	40	100
EMC52200	20.0	20	45	100

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	180	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	200	325	200	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○



PLAIN SHANK **EMC53** SERIES

CARBIDE, 2 FLUTE 35° HELIX LONG LENGTH
硬质合金, 2刃 35度螺旋 长刃

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ Application in high speed machining, wet and dry cutting conditions.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢
- ▶ 高耐磨性
- ▶ 适应于高速加工, 湿式和干式切削条件

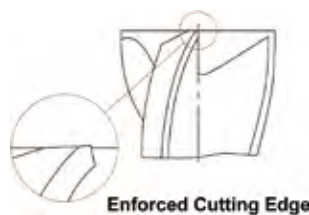


Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径	柄径	刃长	全长
EMC53020	2.0	4	10	50
EMC53030	3.0	4	15	60
EMC53901	3.0	6	15	60
EMC53040	4.0	4	20	60
EMC53902	4.0	6	20	60
EMC53050	5.0	6	25	75
EMC53060	6.0	6	30	75
EMC53080	8.0	8	35	100
EMC53100	10.0	10	45	100
EMC53120	12.0	12	45	100
EMC53140	14.0	14	70	150
EMC53903	14.0	16	70	150
EMC53160	16.0	16	70	150
EMC53180	18.0	20	75	150
EMC53200	20.0	20	75	150

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	20	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34						15	30	25	38	34	55	60	42	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

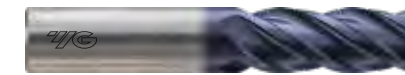


PLAIN SHANK **EMC54** SERIES

CARBIDE, 4 FLUTE 35° HELIX SHORT LENGTH
硬质合金, 4刃 35度螺旋 短刃

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ 4 flute allows for better work piece finishes.
- ▶ Application in high speed machining, wet and dry cutting conditions.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢
- ▶ 高耐磨性
- ▶ 4刃可得到较好的表面粗糙度
- ▶ 适应于高速加工, 湿式和干式切削条件



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径	柄径	刃长	全长
EMC54010	1.0	4	3	50
EMC54015	1.5	4	4	50
EMC54020	2.0	4	6	50
EMC54025	2.5	4	8	50
EMC54030	3.0	4	8	50
EMC54901	3.0	6	8	50
EMC54035	3.5	4	10	50
EMC54902	3.5	6	10	50
EMC54040	4.0	4	11	50
EMC54903	4.0	6	11	50
EMC54045	4.5	6	11	50
EMC54050	5.0	6	13	50
EMC54055	5.5	6	13	50
EMC54060	6.0	6	16	50
EMC54065	6.5	8	16	60
EMC54070	7.0	8	20	60
EMC54075	7.5	8	20	60
EMC54080	8.0	8	20	60
EMC54085	8.5	10	20	75
EMC54090	9.0	10	20	75
EMC54095	9.5	10	22	75
EMC54100	10.0	10	25	75
EMC54110	11.0	12	30	75
EMC54120	12.0	12	32	75
EMC54140	14.0	16	40	100
EMC54160	16.0	16	40	100
EMC54180	18.0	20	40	100
EMC54200	20.0	20	45	100

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	20	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34						15	30	25	38	34	55	60	42	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	



PLAIN SHANK EMC55 SERIES

CARBIDE, 4 FLUTE 35° HELIX LONG LENGTH
硬质合金, 4刃 35度螺旋 长刃

- ▶ Designed for general purposes to carbon steels, tool steels, alloy steels and stainless steels.
- ▶ Suitable for high speed machining in wet or dry condition.
- ▶ 4 flute allows for better work piece finishes.
- ▶ Application in high speed machining, wet and dry cutting conditions.

- ▶ 设计用于加工碳钢, 工具钢, 合金钢, 不锈钢等多种用途的钢
- ▶ 高耐磨性
- ▶ 4刃可得到较好的表面粗糙度
- ▶ 适应于高速加工, 湿式和干式切削条件

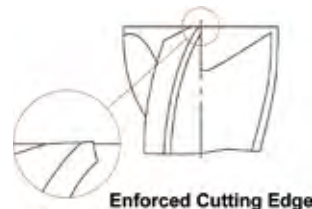


Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 115 D183 - 201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径	柄径	刃长	全长
EMC55020	2.0	4	10	50
EMC55030	3.0	4	15	60
EMC55901	3.0	6	15	60
EMC55040	4.0	4	20	60
EMC55902	4.0	6	20	60
EMC55050	5.0	6	25	75
EMC55060	6.0	6	30	75
EMC55080	8.0	8	35	100
EMC55100	10.0	10	45	100
EMC55120	12.0	12	45	100
EMC55140	14.0	14	70	150
EMC55903	14.0	16	70	150
EMC55160	16.0	16	70	150
EMC55180	18.0	20	75	150
EMC55200	20.0	20	75	150

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5



Enforced Cutting Edge

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	38	10	29	32	38	45	15	23	28	34	10	26	3	25	21			
HB	125	190	250	270	300	180	275	300	350	200	240	180	260	160	250	130	230					
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34	55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

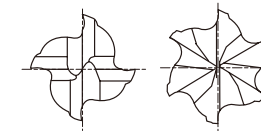
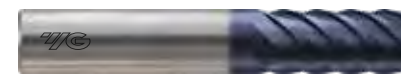


PLAIN SHANK SHORT LENGTH EMC57 SERIES
 PLAIN SHANK LONG LENGTH EMC58 SERIES

CARBIDE, 4&6 FLUTE 45° HELIX SHORT / LONG LENGTH
硬质合金, 4&6刃 45度螺旋 短刃/长刃

- ▶ High speed cutting and finish milling with high feed rate.
- ▶ Excellent surface finishes.
- ▶ Application in high speed machining, wet and dry cutting condition.

- ▶ 高速切削和高进给量的精切削
- ▶ 卓越的工作表面粗糙度
- ▶ 适应于高速加工, 湿式和干式切削条件



Enforced Cutting Edge



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118 - 137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15 - 46 D161 - 176
-	-	SHRINK FIT HOLDER	D47 - 72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73 - 118 D183 - 201

SHORT 短刃

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute 槽数
	直径	柄径	刃长	全长	
EMC57010	1.0	4	3	45	4
EMC57015	1.5	4	4	45	4
EMC57020	2.0	4	6	45	4
EMC57025	2.5	4	8	45	4
EMC57030	3.0	4	8	50	4
EMC57040	4.0	4	11	50	4
EMC57050	5.0	6	13	50	6
EMC57060	6.0	6	16	50	6
EMC57080	8.0	8	19	60	6
EMC57100	10.0	10	22	75	6
EMC57120	12.0	12	26	75	6
EMC57140	14.0	14	30	90	6
EMC57160	16.0	16	32	100	6
EMC57180	18.0	18	38	100	6
EMC57200	20.0	20	38	100	6

LONG 长刃

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute 槽数
	直径	柄径	刃长	全长	
EMC58060	6.0	6	25	80	6
EMC58080	8.0	8	35	90	6
EMC58100	10.0	10	45	100	6
EMC58120	12.0	12	50	100	6
EMC58160	16.0	16	65	150	6
EMC58200	20.0	20	70	150	6

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	38	10	29	32	38	45	15	23	28	34	10	26	3	25	21			
HB	125	190	250	270	300	180	275	300	350	200	240	180	260	160	250	130	230					
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34	55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

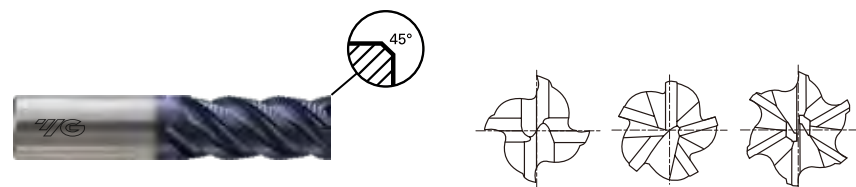


PLAIN SHANK **EMC69** SERIES

CARBIDE, MULTI FLUTE 45° HELIX ROUGHING-FINE
硬质合金，多刃 45度螺旋 - 细牙

- ▶ Suitable for rough machining of stainless steels, Ti, Ni, Inconel etc.
- ▶ Fine pitch wave for high speed machining..

- ▶ 适用于不锈钢系列, Ti/Ni, INCONEL(铬镍铁合金)等的粗加工
- ▶ 采用细螺旋, 适合高速加工



CARBIDE HR 4-6 45° PLAIN C x 45° p.C504

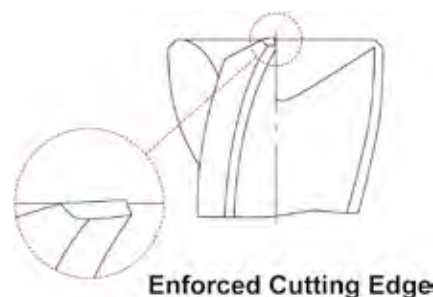
Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute 槽数	Chamfer 导向
	直径 h10	柄径 h5				
EMC69060	6.0	6	13	60	4	0.15
EMC69080	8.0	8	19	65	4	0.18
EMC69090	9.0	10	20	70	4	0.18
EMC69100	10.0	10	22	70	4	0.20
EMC69120	12.0	12	26	80	4	0.20
EMC69160	16.0	16	42	110	5	0.20
EMC69200	20.0	20	48	110	6	0.20

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为					
Nominal-Diameter in mm / 直径单位为					
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
h10	0 -40	0 -48	0 -58	0 -70	0 -84
h5	0 -4	0 -5	0 -6	0 -8	0 -9



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	40	29	32	38	45	50	55	60	65	70	75	80	85	90	95	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎



PLAIN SHANK **G9A25** SERIES

CARBIDE, 2 FLUTE REGULAR LENGTH BALL NOSE
硬质合金，2刃 普通刃长 球头

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.

- ▶ 适于高温干切削
- ▶ 卓越的高性能铣刀
- ▶ 设计用于加工圆底沟槽带和特殊轮廓



CARBIDE 2 30° R ±0.02 PLAIN p.C491

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose 圆弧角	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
	R (±0.02)				
▲ G9A25010	R0.5	1.0	4	2	50
▲ G9A25015	R0.75	1.5	4	3	50
▲ G9A25020	R1.0	2.0	4	4	50
▲ G9A25025	R1.25	2.5	4	6	50
▲ G9A25030	R1.5	3.0	4	6	50
▲ G9A25040	R2.0	4.0	4	8	50
▲ G9A25050	R2.5	5.0	6	10	50
▲ G9A25060	R3.0	6.0	6	12	50
▲ G9A25080	R4.0	8.0	8	14	60
▲ G9A25100	R5.0	10.0	10	18	75
▲ G9A25120	R6.0	12.0	12	22	75
▲ G9A25910	R6.0	12.0	12	25	75
▲ G9A25911	R7.0	14.0	16	25	100
▲ G9A25160	R8.0	16.0	16	32	100
▲ G9A25912	R8.0	16.0	16	30	100
▲ G9A25200	R10.0	20.0	20	38	100

▲ : Only available till stock runs out 只提供到消耗库存

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	40	29	32	38	45	50	55	60	65	70	75	80	85	90	95	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎

CARBIDE, 2 FLUTE LONG LENGTH BALL NOSE
硬质合金, 2刃 长刃 球头

- ▶ Suitable for dry milling applications at high temperatures. ▶ 适于高温干切削
- ▶ Excellent high-performance end mills. ▶ 卓越的高性能铣刀
- ▶ Designed for milling of radius bottom slots, fillets and special contours. ▶ 设计用于加工圆底沟槽带和特殊轮廓



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	圆弧角 R (±0.02)				
▲ G9B52010	R0.5	1.0	4	2	75
▲ G9B52901	R0.5	1.0	6	2	75
▲ G9B52015	R0.75	1.5	4	3	75
▲ G9B52902	R0.75	1.5	6	3	75
▲ G9B52020	R1.0	2.0	4	4	75
▲ G9B52903	R1.0	2.0	6	4	75
▲ G9B52030	R1.5	3.0	4	8	75
▲ G9B52904	R1.5	3.0	6	8	75
▲ G9B52040	R2.0	4.0	4	11	100
▲ G9B52905	R2.0	4.0	6	11	100
▲ G9B52050	R2.5	5.0	6	13	100
▲ G9B52060	R3.0	6.0	6	13	150
▲ G9B52080	R4.0	8.0	8	16	150
▲ G9B52100	R5.0	10.0	10	16	75
▲ G9B52120	R6.0	12.0	12	25	75
▲ G9B52160	R8.0	16.0	16	30	75
▲ G9B52200	R10.0	20.0	20	30	75

▲ : Only available till stock runs out 只提供到消耗现库存

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 2 FLUTE REGULAR LENGTH
硬质合金, 2刃 普通刃长

- ▶ Suitable for dry milling applications at high temperatures. ▶ 适于高温干切削
- ▶ Excellent high-performance end mills. ▶ 卓越的高性能铣刀
- ▶ 2 flute design for slotting. ▶ 2刃为槽铣设计



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径			
▲ G9A23010	1.0	4	3	50
▲ G9A23015	1.5	4	4	100
▲ G9A23020	2.0	4	6	50
▲ G9A23030	3.0	4	9	50
▲ G9A23040	4.0	4	11	50
▲ G9A23050	5.0	6	13	50
▲ G9A23060	6.0	6	16	50
▲ G9A23070	7.0	8	16	50
▲ G9A23080	8.0	8	19	60
▲ G9A23090	9.0	10	19	60
▲ G9A23905	9.0	10	25	60
▲ G9A23100	10.0	10	25	75
▲ G9A23120	12.0	12	30	75
▲ G9A23140	14.0	14	32	75
▲ G9A23906	14.0	16	45	100
▲ G9A23160	16.0	16	32	100
▲ G9A23907	16.0	16	45	100
▲ G9A23180	18.0	18	32	75
▲ G9A23908	18.0	20	45	100
▲ G9A23200	20.0	20	38	100

▲ : Only available till stock runs out 只提供到消耗现库存

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK **G9B50** SERIES

CARBIDE, 2 FLUTE LONG LENGTH
硬质合金, 2刃 普通刃长

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.

- ▶ 适于高温干切削
- ▶ 卓越的高性能铣刀
- ▶ 2刃为槽铣设计



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径	柄径	刃长	全长
▲ G9B50010	1.0	4	5	75
▲ G9B50901	1.0	6	5	75
▲ G9B50015	1.5	4	6	75
▲ G9B50902	1.5	6	6	75
▲ G9B50020	2.0	4	9	75
▲ G9B50903	2.0	6	9	75
▲ G9B50025	2.5	4	12	75
▲ G9B50904	2.5	6	12	75
▲ G9B50030	3.0	4	12	75
▲ G9B50905	3.0	6	12	75
▲ G9B50040	4.0	4	16	75
▲ G9B50906	4.0	6	16	75
▲ G9B50060	6.0	6	20	75
▲ G9B50080	8.0	8	20	100
▲ G9B50100	10.0	10	25	100
▲ G9B50120	12.0	12	30	100
▲ G9B50140	14.0	16	75	150
▲ G9B50200	20.0	20	75	150

▲ : Only available till stock runs out 只提供到消耗现库存

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



PLAIN SHANK **G9A24** SERIES

CARBIDE, 4 FLUTE REGULAR LENGTH
硬质合金, 4刃 普通刃长

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 4 flute allows for better work piece finishes.

- ▶ 适于高温干切削
- ▶ 卓越的高性能铣刀
- ▶ 4刃可得到好的表面质量



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径	柄径	刃长	全长
▲ G9A24010	1.0	4	3	50
▲ G9A24015	1.5	4	4	50
▲ G9A24020	2.0	4	6	50
▲ G9A24025	2.5	4	8	50
▲ G9A24030	3.0	4	9	50
▲ G9A24040	4.0	4	11	50
▲ G9A24050	5.0	6	13	50
▲ G9A24060	6.0	6	16	50
▲ G9A24080	8.0	8	19	60
▲ G9A24905	9.0	10	25	75
▲ G9A24100	10.0	10	25	75
▲ G9A24120	12.0	12	30	75
▲ G9A24140	14.0	14	32	75
▲ G9A24160	16.0	16	32	100
▲ G9A24907	16.0	16	45	100
▲ G9A24908	18.0	20	45	100
▲ G9A24200	20.0	20	38	100

▲ : Only available till stock runs out 只提供到消耗现库存

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



PLAIN SHANK **G9B51** SERIES

CARBIDE, 4 FLUTE LONG LENGTH
硬质合金, 4刃 长刃

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 4 flute allows for better work piece finishes.

- ▶ 适于高温干切削
- ▶ 卓越的高性能铣刀
- ▶ 4刃可得到好的表面质量



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ G9B51010	1.0	4	5	75
▲ G9B51015	1.5	4	6	75
▲ G9B51020	2.0	4	9	75
▲ G9B51025	2.5	4	12	75
▲ G9B51030	3.0	4	12	75
▲ G9B51035	3.5	4	12	75
▲ G9B51040	4.0	4	16	75
▲ G9B51045	4.5	4	16	75
▲ G9B51050	5.0	6	20	75
▲ G9B51055	5.5	6	20	75
▲ G9B51060	6.0	6	20	75
▲ G9B51065	6.5	6	20	75
▲ G9B51070	7.0	6	20	75
▲ G9B51075	7.5	6	20	75
▲ G9B51080	8.0	8	20	100
▲ G9B51085	8.5	8	20	100
▲ G9B51090	9.0	8	20	100
▲ G9B51095	9.5	8	20	100
▲ G9B51100	10.0	10	25	100
▲ G9B51105	10.5	10	25	100
▲ G9B51110	11.0	10	25	100
▲ G9B51115	11.5	10	25	100
▲ G9B51120	12.0	12	30	100
▲ G9B51125	12.5	12	30	100
▲ G9B51130	13.0	12	30	100
▲ G9B51135	13.5	12	30	100
▲ G9B51140	14.0	16	75	150
▲ G9B51145	14.5	16	75	150
▲ G9B51150	15.0	16	75	150
▲ G9B51155	15.5	16	75	150
▲ G9B51160	16.0	16	75	150
▲ G9B51165	16.5	16	75	150
▲ G9B51170	17.0	16	75	150
▲ G9B51175	17.5	16	75	150
▲ G9B51180	18.0	16	75	150
▲ G9B51185	18.5	16	75	150
▲ G9B51190	19.0	16	75	150
▲ G9B51195	19.5	16	75	150
▲ G9B51200	20.0	20	75	150

▲ : Only available till stock runs out 只提供到消耗库存

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72	74
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○



RECOMMENDED CUTTING CONDITIONS
推荐加工参数

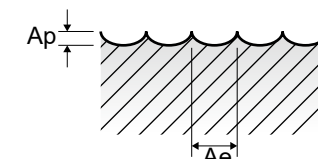
G9A25, G9B52, EMC56 SERIES

2 FLUTE BALL NOSE
2刃 球头

Vc (切削速度) = (m/min)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径											
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1-4	Non-alloy steel	-	0.2D	Vc	78	107	112	123	137	153	171	188	199	205	215	223
					fz	0.026	0.025	0.035	0.045	0.060	0.089	0.122	0.150	0.165	0.180	0.188	0.201
					RPM	12350	11400	8950	7800	7250	6100	5450	4990	4530	4085	3800	3550
					FEED	640	575	630	700	870	1090	1330	1500	1495	1470	1425	1425
	5		Vc	57	83	90	97	111	123	137	149	158	161	170	176		
			fz	0.023	0.022	0.031	0.040	0.060	0.080	0.100	0.120	0.128	0.141	0.148	0.158		
			RPM	9150	8850	7150	6200	5900	4900	4350	3950	3600	3200	3000	2800		
			FEED	415	390	450	490	705	785	870	950	925	905	890	885		
	6-7		Vc	78	107	112	123	137	153	171	188	199	205	215	223		
			fz	0.026	0.025	0.035	0.045	0.060	0.089	0.122	0.150	0.165	0.180	0.188	0.201		
			RPM	12350	11400	8950	7800	7250	6100	5450	4990	4530	4085	3800	3550		
			FEED	640	575	630	700	870	1090	1330	1500	1495	1470	1425	1425		
8-9	Vc	57	83	90	97	111	123	137	149	158	161	170	176				
	fz	0.023	0.022	0.031	0.040	0.060	0.080	0.100	0.120	0.128	0.141	0.148	0.158				
	RPM	9150	8850	7150	6200	5900	4900	4350	3950	3600	3200	3000	2800				
	FEED	415	390	450	490	705	785	870	950	925	905	890	885				
10	Vc	78	107	112	123	137	153	171	188	199	205	215	223				
	fz	0.026	0.025	0.035	0.045	0.060	0.089	0.122	0.150	0.165	0.180	0.188	0.201				
	RPM	12350	11400	8950	7800	7250	6100	5450	4990	4530	4085	3800	3550				
	FEED	640	575	630	700	870	1090	1330	1500	1495	1470	1425	1425				
11.1 11.2	Vc	57	83	90	97	111	123	137	149	158	161	170	176				
	fz	0.023	0.022	0.031	0.040	0.060	0.080	0.100	0.120	0.128	0.141	0.148	0.158				
	RPM	9150	8850	7150	6200	5900	4900	4350	3950	3600	3200	3000	2800				
	FEED	415	390	450	490	705	785	870	950	925	905	890	885				
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.7D	0.3D	Vc	66	66	65	65	64	63	64	66	62	65	62	66
					fz	0.010	0.016	0.028	0.040	0.053	0.092	0.112	0.131	0.164	0.177	0.209	0.200
					RPM	10500	7050	5150	4150	3400	2500	2050	1750	1400	1300	1100	1050
					FEED	220	230	285	330	360	460	460	460	460	460	460	420
N	21~22	Aluminum-wrought alloy	0.7D	0.3D	Vc	194	193	194	190	194	199	193	194	189	194	192	185
					fz	0.006	0.010	0.013	0.019	0.023	0.034	0.044	0.061	0.073	0.070	0.079	0.092
					RPM	30800	20500	15400	12100	10300	7900	6150	5150	4300	3850	3400	2950
					FEED	395	395	395	470	470	540	540	630	630	540	540	540
23~25	Vc	194	193	194	190	194	199	193	194	189	194	192	185				
	fz	0.006	0.010	0.013	0.019	0.023	0.034	0.044	0.061	0.073	0.070	0.079	0.092				
	RPM	30800	20500	15400	12100	10300	7900	6150	5150	4300	3850	3400	2950				
	FEED	395	395	395	470	470	540	540	630	630	540	540	540				
H	38.1	Hardened steel	-	0.2D	Vc	25	36	45	49	51	52	55	57	57	58	59	60
					fz	0.016	0.016	0.021	0.024	0.030	0.046	0.054	0.070	0.081	0.091	0.100	0.111
					RPM	4000	3800	3600	3100	2700	2050	1750	1500	1300	1150	1050	950
					FEED	125	125	150	150	160	190	190	210	210	210	210	210
40	Chilled Cast Iron	-	0.2D	Vc	57	83	90	97	111	123	137	149	158	161	170	176	
				fz	0.023	0.022	0.031	0.040	0.060	0.080	0.100	0.120	0.128	0.141	0.148	0.158	
				RPM	9150	8850	7150	6200	5900	4900	4350	3950	3600	3200	3000	2800	
				FEED	415	390	450	490	705	785	870	950	925	905	890	885	
40	Chilled Cast Iron	-	0.2D	Vc	57	83	90	97	111	123	137	149	158	161	170	176	
				fz	0.023	0.022	0.031	0.040	0.060	0.080	0.100	0.120	0.128	0.141	0.148	0.158	
				RPM	9150	8850	7150	6200	5900	4900	4350	3950	3600	3200	3000	2800	
				FEED	415	390	450	490	705	785	870	950	925	905	890	885	

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%





**K-2 plus & K-2
END MILLS**

RECOMMENDED CUTTING CONDITIONS

推荐加工参数

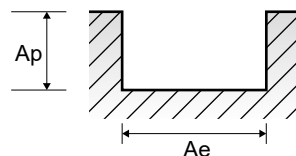
G9A23, G9B50 SERIES

**2 FLUTE - SLOTTING
2刃 - 槽铣削**

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径															
						1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0			
P	1-4	Non-alloy steel	1.0D	0.5D (Up to Ø3 : 0.2D)	Vc	45	44	49	57	65	68	72	72	69	70	75	75	72			
					fz	0.004	0.008	0.010	0.015	0.025	0.031	0.039	0.057	0.064	0.065	0.063	0.062	0.063			
	RPM		14300	9350	7850	6100	5150	4300	3800	2850	2200	1850	1700	1500	1150						
	FEED		105	150	160	180	255	270	300	325	280	240	215	185	145						
	Vc		27	26	32	36	40	40	43	43	42	43	46	48	44						
	fz		0.004	0.008	0.010	0.016	0.025	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050						
	RPM		8500	5550	5150	3800	3150	2550	2300	1700	1350	1150	1050	950	700						
	FEED		65	85	100	120	155	160	190	170	135	110	100	95	70						
	Vc		45	44	49	57	65	68	72	72	69	70	75	75	72						
	fz		0.004	0.008	0.010	0.015	0.025	0.031	0.039	0.057	0.064	0.065	0.063	0.062	0.063						
RPM	14300	9350	7850	6100	5150	4300	3800	2850	2200	1850	1700	1500	1150								
FEED	105	150	160	180	255	270	300	325	280	240	215	185	145								
Vc	27	26	32	36	40	40	43	43	42	43	46	48	44								
fz	0.004	0.008	0.010	0.016	0.025	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050								
RPM	8500	5550	5150	3800	3150	2550	2300	1700	1350	1150	1050	950	700								
FEED	65	85	100	120	155	160	190	170	135	110	100	95	70								
Vc	45	44	49	57	65	68	72	72	69	70	75	75	72								
fz	0.004	0.008	0.010	0.015	0.025	0.031	0.039	0.057	0.064	0.065	0.063	0.062	0.063								
RPM	14300	9350	7850	6100	5150	4300	3800	2850	2200	1850	1700	1500	1150								
FEED	105	150	160	180	255	270	300	325	280	240	215	185	145								
Vc	27	26	32	36	40	40	43	43	42	43	46	48	44								
fz	0.004	0.008	0.010	0.016	0.025	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050								
RPM	8500	5550	5150	3800	3150	2550	2300	1700	1350	1150	1050	950	700								
FEED	65	85	100	120	155	160	190	170	135	110	100	95	70								
Vc	22	26	27	30	33	34	37	36	36	36	37	35	35								
fz	0.003	0.007	0.009	0.016	0.025	0.031	0.04	0.053	0.059	0.058	0.059	0.068	0.064								
RPM	7150	5600	4300	3150	2650	2150	1950	1450	1150	950	850	700	550								
FEED	50	80	80	100	130	135	155	155	135	110	100	95	70								
Vc	59	57	59	57	58	57	56	55	58	55	57	55	57								
fz	0.005	0.008	0.012	0.018	0.024	0.030	0.043	0.063	0.077	0.102	0.119	0.145	0.189								
RPM	18700	12100	9350	6050	4600	3650	2950	2200	1850	1450	1300	1100	900								
FEED	205	205	220	220	220	255	275	285	295	310	320	320	340								
Vc	138	130	138	145	138	144	143	143	145	141	145	143	138								
fz	0.004	0.007	0.010	0.015	0.021	0.025	0.032	0.043	0.053	0.065	0.073	0.085	0.110								
RPM	44000	27500	22000	15400	11000	9150	7600	5700	4600	3750	3300	2850	2200								
FEED	330	385	460	460	460	485	485	485	485	485	485	485	485								
Vc	138	130	138	145	138	144	143	143	145	141	145	143	138								
fz	0.004	0.007	0.010	0.015	0.021	0.025	0.032	0.043	0.053	0.065	0.073	0.085	0.110								
RPM	44000	27500	22000	15400	11000	9150	7600	5700	4600	3750	3300	2850	2200								
FEED	330	385	460	460	460	485	485	485	485	485	485	485	485								
Vc	78	96	104	104	111	107	107	111	107	107	106	111	107								
fz	0.004	0.007	0.010	0.015	0.019	0.025	0.033	0.043	0.055	0.066	0.078	0.085	0.110								
RPM	24700	20300	16500	11000	8800	6800	5700	4400	3400	2850	2400	2200	1700								
FEED	200	300	340	340	340	340	375	375	375	375	375	375	375								
Vc	27	26	32	36	40	40	43	43	42	43	46	48	44								
fz	0.004	0.008	0.010	0.016	0.025	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050								
RPM	8500	5550	5150	3800	3150	2550	2300	1700	1350	1150	1050	950	700								
FEED	65	85	100	120	155	160	190	170	135	110	100	95	70								

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



**K-2 plus & K-2
END MILLS**

RECOMMENDED CUTTING CONDITIONS

推荐加工参数

G9A24, G9B51 SERIES

**4 FLUTE - SIDE CUTTING
4刃 - 侧铣削**

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径															
						1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0			
P	1-4	Non-alloy steel	0.1D	1.0D	Vc	55	56	62	72	81	84	90	89	86	89	92	93	91			
					fz	0.004	0.009	0.012	0.018	0.038	0.048	0.059	0.085	0.094	0.094	0.095	0.093				
	RPM		17600	11800	9850	7600	6450	5350	4750	3550	2750	2350	2100	1850	1450						
	FEED		150	215	240	270	485	510	560	605	520	440	395	350	270						
	Vc		32	33	41	45	50	54	54	53	55	57	58	57							
	fz		0.004	0.008	0.011	0.018	0.038	0.048	0.061	0.076	0.075	0.074	0.075	0.074	0.075						
	RPM		10250	7050	6450	4750	3950	3200	2850	2150	1700	1450	1300	1150	900						
	FEED		85	115	145	170	300	305	350	325	255	215	195	170	135						
	Vc		55	56	62	72	81	84	90	89	86	89	92	93	91						
	fz		0.004	0.009	0.012	0.018	0.038	0.048	0.059	0.085	0.094	0.094	0.095	0.093							
RPM	17600	11800	9850	7600	6450	5350	4750	3550	2750	2350	2100	1850	1450								
FEED	150	215	240	270	485	510	560	605	520	440	395	350	270								
Vc	32	33	41	45	50	54	54	53	55	57	58	57									
fz	0.004	0.008	0.011	0.018	0.038	0.048	0.061	0.076	0.075	0.074	0.075	0.074	0.075								
RPM	10250	7050	6450	4750	3950	3200	2850	2150	1700	1450	1300	1150	900								
FEED	85	115	145	170	300	305	350	325	255	215	195	170	135								
Vc	55	56	62	72	81	84	90	89	86	89	92	93	91								
fz	0.004	0.009	0.012	0.018	0.038	0.048	0.059	0.085	0.094	0.094	0.095	0.093									
RPM	17600	11800	9850	7600	6450	5350	4750	3550	2750	2350	2100	1850	1450								
FEED	150	215	240	270	485	510	560	605	520	440	395	350	270								
Vc	32	33	41	45	50	54	54	53	55	57	58	57									
fz	0.004	0.008	0.011	0.018	0.038	0.048	0.061	0.076	0.075	0.074	0.075	0.074	0.075								
RPM	10250	7050	6450	4750	3950	3200	2850	2150	1700	1450	1300	1150	900								
FEED	85	115	145	170	300	305	350	325	255	215	195	170	135								
Vc	27	33	34	37	41	42	45	45	46	43	46	48	44								
fz	0.004	0.009	0.011	0.018	0.036	0.047	0.058	0.083	0.088	0.089	0.090	0.089	0.093								
RPM	8650	7050	5350	3950	3300	2700	2400	1800	1450	1150	1050	950	700								
FEED	75	120	120	145	240	255	280	300	255	205	190	170	130								
Vc	59	57	59	57	58	57	56	55	58	55	57	55	57								
fz	0.017	0.026	0.034	0.053	0.070	0.088	0.131	0.185	0.232	0.310	0.363	0.441	0.575								
RPM	18700	12100	9350	6050	4600	3650	2950	2200	1850	1450	1300	1100	900								
FEED	620	620	640	640	640	640	770	815	860	900	945	970	1035								
Vc	138	130	138	145	138	144	143	143	145	141	145	143	138								
fz	0.012	0.021	0.030	0.043	0.060	0.072	0.094	0.125	0.155	0.191	0.217	0.251	0.325								
RPM	44000	27500	22000	15400	11000	9150	7600	5700	4600	3750	3300	2850	2200								
FEED	1050	1160	1320	1320	1320	1320	1430	1430	1430	1430	1430	1430	1430								
Vc	138	130	138	145	138	144	143	143	145	141	145	143	13								



**K-2 plus & K-2
END MILLS**

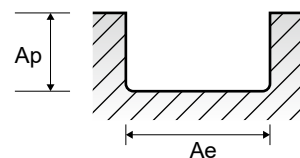
**RECOMMENDED CUTTING CONDITIONS
推荐加工参数**

**EMC61 SERIES 2 FLUTE CORNER-SLOTTING
2刃 圆鼻 - 槽铣削**

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径												
						3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0				
P	1-4	Non-alloy steel	1.0D	0.3D	Vc	59	63	68	70	71	61	61	81	74				
					fz	0.011	0.018	0.025	0.035	0.034	0.058	0.056	0.059	0.060				
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170				
					FEED	140	180	220	260	190	225	180	190	140				
					Vc	38	41	43	45	45	48	51	50	48				
					fz	0.009	0.014	0.018	0.027	0.036	0.042	0.044	0.045	0.039				
	5	Non-alloy steel	1.0D	0.3D	Vc	59	63	68	70	71	61	61	81	74				
					fz	0.011	0.018	0.025	0.035	0.034	0.058	0.056	0.059	0.060				
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170				
					FEED	140	180	220	260	190	225	180	190	140				
					Vc	38	41	43	45	45	48	51	50	48				
					fz	0.009	0.014	0.018	0.027	0.036	0.042	0.044	0.045	0.039				
6-7	Low alloy steel	1.0D	0.3D	Vc	59	63	68	70	71	61	61	81	74					
				fz	0.011	0.018	0.025	0.035	0.034	0.058	0.056	0.059	0.060					
				RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170					
				FEED	140	180	220	260	190	225	180	190	140					
				Vc	38	41	43	45	45	48	51	50	48					
				fz	0.009	0.014	0.018	0.027	0.036	0.042	0.044	0.045	0.039					
8-9	Low alloy steel	1.0D	0.3D	Vc	59	63	68	70	71	61	61	81	74					
				fz	0.011	0.018	0.025	0.035	0.034	0.058	0.056	0.059	0.060					
				RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170					
				FEED	140	180	220	260	190	225	180	190	140					
				Vc	38	41	43	45	45	48	51	50	48					
				fz	0.009	0.014	0.018	0.027	0.036	0.042	0.044	0.045	0.039					
10	High alloyed steel, and tool steel	1.0D	0.3D	Vc	59	63	68	70	71	61	61	81	74					
				fz	0.011	0.018	0.025	0.035	0.034	0.058	0.056	0.059	0.060					
				RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170					
				FEED	140	180	220	260	190	225	180	190	140					
				Vc	38	41	43	45	45	48	51	50	48					
				fz	0.009	0.014	0.018	0.027	0.036	0.042	0.044	0.045	0.039					
11.1 11.2	High alloyed steel, and tool steel	1.0D	0.3D	Vc	59	63	68	70	71	61	61	81	74					
				fz	0.011	0.018	0.025	0.035	0.034	0.058	0.056	0.059	0.060					
				RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170					
				FEED	140	180	220	260	190	225	180	190	140					
				Vc	38	41	43	45	45	48	51	50	48					
				fz	0.009	0.014	0.018	0.027	0.036	0.042	0.044	0.045	0.039					
H	38.1 38.2	Hardened steel	1.0D	0.3D	Vc	28	31	33	35	36	35	36	34	35				
					fz	0.008	0.010	0.017	0.022	0.028	0.036	0.037	0.037	0.036				
					RPM	2970	2430	2115	1845	1440	1125	945	670	560				
					FEED	50	50	70	80	80	80	70	50	40				
					Vc	38	41	43	45	45	48	51	50	48				
					fz	0.009	0.014	0.018	0.027	0.036	0.042	0.044	0.045	0.039				
	40	Chilled Cast Iron	1.0D	0.3D	Vc	38	41	43	45	45	48	51	50	48				
					fz	0.009	0.014	0.018	0.027	0.036	0.042	0.044	0.045	0.039				
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770				
					FEED	70	90	100	130	130	120	90	60	60				
					Vc	28	31	33	35	36	35	36	34	35				
					fz	0.008	0.010	0.017	0.022	0.028	0.036	0.037	0.037	0.036				
41	Hardened Cast Iron	1.0D	0.3D	Vc	28	31	33	35	36	35	36	34	35					
				fz	0.008	0.010	0.017	0.022	0.028	0.036	0.037	0.037	0.036					
				RPM	2970	2430	2115	1845	1440	1125	945	670	560					
				FEED	50	50	70	80	80	80	70	50	40					

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



**K-2 plus & K-2
END MILLS**

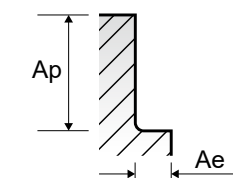
**RECOMMENDED CUTTING CONDITIONS
推荐加工参数**

**EMC61 SERIES 2 FLUTE CORNER-SIDE CUTTING
2刃 圆鼻 - 侧铣削**

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径												
						3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0				
P	1-4	Non-alloy steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74				
					fz	0.014	0.022	0.026	0.030	0.042	0.062	0.059	0.052	0.051				
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170				
					FEED	180	220	225	225	240	240	190	170	120				
					Vc	38	41	43	45	45	48	51	50	48				
					fz	0.017	0.023	0.035	0.040	0.053	0.062	0.063	0.063	0.062				
	5	Non-alloy steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74				
					fz	0.011	0.018	0.025	0.035	0.034	0.058	0.056	0.059	0.060				
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170				
					FEED	140	180	220	260	190	225	180	190	140				
					Vc	38	41	43	45	45	48	51	50	48				
					fz	0.009	0.014	0.018	0.027	0.036	0.042	0.044	0.045	0.039				
6-7	Low alloy steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74					
				fz	0.011	0.018	0.025	0.035	0.034	0.058	0.056	0.059	0.060					
				RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170					
				FEED	180	220	225	225	240	240	190	170	120					
				Vc	38	41	43	45	45	48	51	50	48					
				fz	0.017	0.023	0.035	0.040	0.053	0.062	0.063	0.063	0.062					
8-9	Low alloy steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74					
				fz	0.011	0.018	0.025	0.035	0.034	0.058	0.056	0.059	0.060					
				RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170					
				FEED	180	220	225	225	240	240	190	170	120					
				Vc	38	41	43	45	45	48	51	50	48					
				fz	0.017	0.023	0.035	0.040	0.053	0.062	0.063	0.063	0.062					
10	High alloyed steel, and tool steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74					
				fz	0.014	0.022	0.026	0.030	0.042	0.062	0.059	0.052	0.051					
				RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170					
				FEED	180	220	225	225	240	240	190	170	120					
				Vc	38	41	43	45	45	48	51	50	48					
				fz	0.017	0.023	0.035	0.040	0.053	0.062	0.063	0.063	0.062					
11.1 11.2	High alloyed steel, and tool steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74					
				fz	0.011	0.018	0.025	0.035	0.034	0.058	0.056	0.059	0.060					
				RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170					
				FEED	180	220	225	225	240	240	190	170	120					
				Vc	38	41	43	45	45	48	51	50	48					
				fz	0.017	0.023	0.035	0.040	0.053	0.062	0.063	0.063	0.062					
H	38.1 38.2	Hardened steel	0.02D	2.0D	Vc	28	31	33	35	36	35	36	34	35				
					fz	0.015	0.020	0.026	0.030	0.038	0.049	0.050	0.053	0.054				
					RPM	2970	2430	2115	1845	1440	1125	945	670	560				
					FEED	90	95	110	110	110	110	95	80	60				
					Vc	38	41	43	45	45	48	51	50	48				
					fz	0.017	0.023	0.035	0.040	0.053	0.062	0.063	0.063	0.062				
	40	Chilled Cast Iron	0.05D	2.0D	Vc	38	41	43	45	45	48	51	50	48				
					fz	0.017	0.023	0.035	0.040	0.053	0.062	0.063	0.063	0.062				
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770				
					FEED	135	150	190	190	190	190	170	125	95				
					Vc	28	31	33	35	36	35	36	34	35				
					fz	0.015	0.020	0.026	0.030	0.038	0.049	0.050	0.053	0.054				
41	Hardened Cast Iron	0.02D	2.0D	Vc	28	31	33	35	36	35	36	34	35					
				fz	0.015	0.020	0.026	0.030	0.038	0.049	0.050	0.053	0.054					
				RPM	2970	2430	2115	1845	1440	1125	945	670	560					
				FEED	90	95	110	110	110	110	95	80	60					

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%

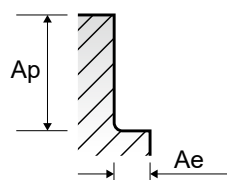


EMC62 SERIES 4 FLUTE CORNER-SIDE CUTTING
4刃 圆鼻-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径								
						3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Non-alloy steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74
					fz	0.007	0.011	0.013	0.015	0.021	0.031	0.029	0.026	0.026
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170
					FEED	180	220	225	225	240	240	190	170	120
					Vc	38	41	43	45	45	48	51	50	48
					fz	0.008	0.012	0.017	0.020	0.026	0.031	0.031	0.033	0.031
	5	Non-alloy steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74
					fz	0.007	0.011	0.013	0.015	0.021	0.031	0.029	0.026	0.026
					RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170
					FEED	180	220	225	225	240	240	190	170	120
					Vc	38	41	43	45	45	48	51	50	48
					fz	0.008	0.012	0.017	0.020	0.026	0.031	0.031	0.033	0.031
6-7	Low alloy steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74	
				fz	0.007	0.011	0.013	0.015	0.021	0.031	0.029	0.026	0.026	
				RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170	
				FEED	180	220	225	225	240	240	190	170	120	
				Vc	38	41	43	45	45	48	51	50	48	
				fz	0.008	0.012	0.017	0.020	0.026	0.031	0.031	0.033	0.031	
8-9	Low alloy steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74	
				fz	0.007	0.011	0.013	0.015	0.021	0.031	0.029	0.026	0.026	
				RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170	
				FEED	180	220	225	225	240	240	190	170	120	
				Vc	38	41	43	45	45	48	51	50	48	
				fz	0.008	0.012	0.017	0.020	0.026	0.031	0.031	0.033	0.031	
10	High alloyed steel, and tool steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74	
				fz	0.007	0.011	0.013	0.015	0.021	0.031	0.029	0.026	0.026	
				RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170	
				FEED	180	220	225	225	240	240	190	170	120	
				Vc	38	41	43	45	45	48	51	50	48	
				fz	0.008	0.012	0.017	0.020	0.026	0.031	0.031	0.033	0.031	
11.1 11.2	High alloyed steel, and tool steel	0.05D	2.0D	Vc	59	63	68	70	71	61	61	81	74	
				fz	0.007	0.011	0.013	0.015	0.021	0.031	0.029	0.026	0.026	
				RPM	6255	5040	4320	3735	2835	1935	1620	1620	1170	
				FEED	180	220	225	225	240	240	190	170	120	
				Vc	38	41	43	45	45	48	51	50	48	
				fz	0.008	0.012	0.017	0.020	0.026	0.031	0.031	0.033	0.031	
H	38.1 38.2	Hardened steel	0.02D	2.0D	Vc	28	31	33	35	36	35	36	38	35
					fz	0.008	0.010	0.013	0.015	0.019	0.024	0.025	0.026	0.027
					RPM	2970	2430	2115	1845	1440	1125	945	760	560
					FEED	90	95	110	110	110	110	95	80	60
					Vc	38	41	43	45	45	48	51	50	48
					fz	0.008	0.012	0.017	0.020	0.026	0.031	0.031	0.033	0.031
	40	Chilled Cast Iron	0.05D	2.0D	Vc	38	41	43	45	45	48	51	50	48
					fz	0.008	0.012	0.017	0.020	0.026	0.031	0.031	0.033	0.031
					RPM	4050	3240	2745	2385	1800	1530	1350	990	770
					FEED	135	150	190	190	190	170	130	95	95
					Vc	28	31	33	35	36	35	36	38	35
					fz	0.008	0.010	0.013	0.015	0.019	0.024	0.025	0.026	0.027
41	Hardened Cast Iron	0.02D	2.0D	Vc	28	31	33	35	36	35	36	38	35	
				fz	0.008	0.010	0.013	0.015	0.019	0.024	0.025	0.026	0.027	
				RPM	2970	2430	2115	1845	1440	1125	945	760	560	
				FEED	90	95	110	110	110	110	95	80	60	

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



EMC60 SERIES 2 FLUTE BALL NOSE - RIB PROCESSING
2刃 球头-深腔加工

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径						
				0.4	0.5	0.6	0.8	1.0	1.2	1.4
P	1-4	Non-alloy steel	Vc	37-48	47-59	56-71	75-95	85-107	85-109	87-107
			fz	0.003-0.006	0.003-0.006	0.004-0.008	0.004-0.008	0.005-0.01	0.006-0.013	0.006-0.016
			RPM	29700-37800	29700-37800	29700-37800	29700-37800	27000-34200	22500-28800	19800-24300
			FEED	180-490	180-490	225-630	225-630	250-690	250-770	250-770
			Ap	0.018-0.036	0.023-0.045	0.027-0.054	0.036-0.072	0.045-0.09	0.055-0.100	0.062-0.125
			Vc	27-34	34-42	41-51	54-68	62-76	61-78	63-75
	5	Non-alloy steel	Vc	37-48	47-59	56-71	75-95	85-107	85-109	87-107
			fz	0.002-0.005	0.002-0.005	0.003-0.006	0.003-0.006	0.003-0.008	0.004-0.009	0.005-0.011
			RPM	21600-27000	21600-27000	21600-27000	21600-27000	19800-24300	16200-20700	14400-17100
			FEED	90-270	90-270	110-350	110-350	130-390	130-390	130-390
			Ap	0.018-0.036	0.023-0.045	0.027-0.054	0.036-0.072	0.045-0.090	0.055-0.100	0.062-0.125
			Vc	27-34	34-42	41-51	54-68	62-76	61-78	63-75
6-7	Low alloy steel	Vc	37-48	47-59	56-71	75-95	85-107	85-109	87-107	
		fz	0.003-0.006	0.003-0.006	0.004-0.008	0.004-0.008	0.005-0.01	0.006-0.013	0.006-0.016	
		RPM	29700-37800	29700-37800	29700-37800	29700-37800	27000-34200	22500-28800	19800-24300	
		FEED	180-490	180-490	225-630	225-630	250-690	250-770	250-770	
		Ap	0.018-0.036	0.023-0.045	0.027-0.054	0.036-0.072	0.045-0.090	0.055-0.100	0.062-0.125	
		Vc	27-34	34-42	41-51	54-68	62-76	61-78	63-75	
8-9	Low alloy steel	Vc	37-48	47-59	56-71	75-95	85-107	85-109	87-107	
		fz	0.002-0.005	0.002-0.005	0.003-0.006	0.003-0.006	0.003-0.008	0.004-0.009	0.005-0.011	
		RPM	21600-27000	21600-27000	21600-27000	21600-27000	19800-24300	16200-20700	14400-17100	
		FEED	90-270	90-270	110-350	110-350	130-390	130-390	130-390	
		Ap	0.018-0.036	0.023-0.045	0.027-0.054	0.036-0.072	0.045-0.090	0.055-0.100	0.062-0.125	
		Vc	27-34	34-42	41-51	54-68	62-76	61-78	63-75	
10	High alloyed steel, and tool steel	Vc	37-48	47-59	56-71	75-95	85-107	85-109	87-107	
		fz	0.003-0.006	0.003-0.006	0.004-0.008	0.004-0.008	0.005-0.01	0.006-0.013	0.006-0.016	
		RPM	29700-37800	29700-37800	29700-37800	29700-37800	27000-34200	22500-28800	19800-24300	
		FEED	180-490	180-490	225-630	225-630	250-690	250-770	250-770	
		Ap	0.018-0.036	0.023-0.045	0.027-0.054	0.036-0.072	0.045-0.090	0.055-0.100	0.062-0.125	
		Vc	27-34	34-42	41-51	54-68	62-76	61-78	63-75	
11.1 11.2	High alloyed steel, and tool steel	Vc	37-48	47-59	56-71	75-95	85-107	85-109	87-107	
		fz	0.003-0.006	0.003-0.006	0.004-0.008	0.004-0.008	0.005-0.01	0.006-0.013	0.006-0.016	
		RPM	29700-37800	29700-37800	29700-37800	29700-37800	27000-34200	22500-28800	19800-24300	
		FEED	180-490	180-490	225-630	225-630	250-690	250-770	250-770	
		Ap	0.018-0.036	0.023-0.045	0.027-0.054	0.036-0.072	0.045-0.090	0.055-0.100	0.062-0.125	
		Vc	27-34	34-42	41-51	54-68	62-76	61-78	63-75	
H	38.1 38.2	Hardened steel	Vc	17-21	21-27	25-32	34-43	38-49	39-49	40-49
			fz	0.003-0.005	0.003-0.005	0.004-0.007	0.004-0.007	0.005-0.008	0.006-0.010	0.007-0.011
			RPM	13500-17100	13500-17100	13500-17100	13500-17100	12150-15750	10350-13050	9000-11250
			FEED	90-180	90-180	110-225	110-225	130-250	130-250	130-250
			Ap	0.004-0.007	0.005-0.009	0.005-0.011	0.007-0.014	0.009-0.018	0.010-0.022	0.012-0.025
			Vc	27-34	34-42	41-51	54-68	62-76	61-78	63-75
	40	Chilled Cast Iron	Vc	17-21	21-27	25-32	34-43	38-49	39-49	40-49
			fz	0.002-0.005	0.002-0.005	0.003-0.006	0.003-0.006	0.003-0.008	0.004-0.009	0.005-0.011
			RPM	21600-27000	21600-27000	21600-27000	21600-27000	19800-24300	16200-20700	14400-17100
			FEED	90-270	90-270	110-350	110-350	130-390	130-390	130-390
			Ap	0.018-0.036	0.023-0.045	0.027-0.054	0.036-0.072	0.045-0.090	0.055-0.100	0.062-0.125
			Vc	27-34	34-42	41-51	54-68	62-76	61-78	63-75
41	Hardened Cast Iron	Vc	17-21	21-27	25-32	34-43	38-49	39-49	40-49	
		fz	0.003-0.005	0.003-0.005	0.004-0.007	0.004-0.007	0.005-0.008	0.006-0.010	0.007-0.011	
		RPM	13500-17100	13500-17100	13500-17100	13500-17100	12150-15750	10350-13050	9000-11250	
		FEED								



**K-2 plus & K-2
END MILLS**

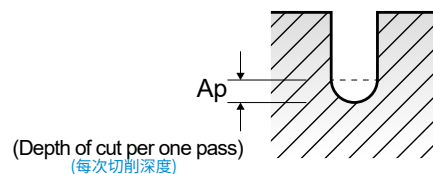
**RECOMMENDED CUTTING CONDITIONS
推荐加工参数**

**EMC60 SERIES 2 FLUTE BALL NOSE - RIB PROCESSING
2刃 球头 - 深腔加工**

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径							
				1.5	1.6	1.8	2.0	3.0	4.0	5.0	6.0
P	1-4	Non-alloy steel	Vc	85~106	86~113	92~117	90~113	93~119	102~136	99~127	102~136
			fz	0.007~0.017	0.007~0.017	0.008~0.019	0.009~0.021	0.013~0.031	0.015~0.036	0.020~0.048	0.023~0.053
			RPM	18000~22500	17100~22500	16200~20700	14400~18000	9900~12600	8100~10800	6300~8100	5400~7200
			FEED	250~770	250~770	250~770	250~770	250~770	250~770	250~770	250~770
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
			Vc	61~78	63~79	64~81	65~82	64~81	69~93	71~92	68~93
	5	Non-alloy steel	fz	0.005~0.012	0.005~0.012	0.006~0.014	0.006~0.015	0.010~0.023	0.012~0.026	0.014~0.033	0.018~0.039
			RPM	13050~16650	12600~15750	11250~14400	10350~13050	6750~8550	5490~7380	4500~5850	3600~4950
			FEED	130~390	130~390	130~390	130~390	130~390	130~390	130~390	130~390
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
			Vc	85~106	86~113	92~117	90~113	93~119	102~136	99~127	102~136
			fz	0.007~0.017	0.007~0.017	0.008~0.019	0.009~0.021	0.013~0.031	0.015~0.036	0.020~0.048	0.023~0.053
6-7	Low alloy steel	RPM	18000~22500	17100~22500	16200~20700	14400~18000	9900~12600	8100~10800	6300~8100	5400~7200	
		FEED	250~770	250~770	250~770	250~770	250~770	250~770	250~770	250~770	
		Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540	
		Vc	61~78	63~79	64~81	65~82	64~81	69~93	71~92	68~93	
		fz	0.005~0.012	0.005~0.012	0.006~0.014	0.006~0.015	0.010~0.023	0.012~0.026	0.014~0.033	0.018~0.039	
		RPM	13050~16650	12600~15750	11250~14400	10350~13050	6750~8550	5490~7380	4500~5850	3600~4950	
8-9	Low alloy steel	FEED	130~390	130~390	130~390	130~390	130~390	130~390	130~390	130~390	
		Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540	
		Vc	85~106	86~113	92~117	90~113	93~119	102~136	99~127	102~136	
		fz	0.007~0.017	0.007~0.017	0.008~0.019	0.009~0.021	0.013~0.031	0.015~0.036	0.020~0.048	0.023~0.053	
		RPM	18000~22500	17100~22500	16200~20700	14400~18000	9900~12600	8100~10800	6300~8100	5400~7200	
		FEED	250~770	250~770	250~770	250~770	250~770	250~770	250~770	250~770	
10	High alloyed steel, and tool steel	Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540	
		Vc	61~78	63~79	64~81	65~82	64~81	69~93	71~92	68~93	
		fz	0.005~0.012	0.005~0.012	0.006~0.014	0.006~0.015	0.010~0.023	0.012~0.026	0.014~0.033	0.018~0.039	
		RPM	13050~16650	12600~15750	11250~14400	10350~13050	6750~8550	5490~7380	4500~5850	3600~4950	
		FEED	130~390	130~390	130~390	130~390	130~390	130~390	130~390	130~390	
		Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540	
11.1 11.2	High alloyed steel, and tool steel	Vc	40~49	41~50	41~51	42~51	42~51	45~57	46~58	42~59	
		fz	0.008~0.012	0.008~0.012	0.009~0.014	0.010~0.015	0.014~0.023	0.018~0.028	0.022~0.034	0.029~0.040	
		RPM	8550~10350	8100~9900	7200~9000	6750~8100	4500~5400	3600~4500	2930~3690	2250~3150	
		FEED	130~250	130~250	130~250	130~250	130~250	130~250	130~250	130~250	
		Ap	0.014~0.028	0.015~0.030	0.016~0.032	0.018~0.035	0.028~0.055	0.035~0.070	0.044~0.088	0.053~0.105	
		Vc	61~78	63~79	64~81	65~82	64~81	69~93	71~92	68~93	
H	38.1 38.2	Hardened steel	fz	0.005~0.012	0.005~0.012	0.006~0.014	0.006~0.015	0.010~0.023	0.012~0.026	0.014~0.033	0.018~0.039
			RPM	13050~16650	12600~15750	11250~14400	10350~13050	6750~8550	5490~7380	4500~5850	3600~4950
			FEED	130~390	130~390	130~390	130~390	130~390	130~390	130~390	130~390
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
			Vc	40~49	41~50	41~51	42~51	42~51	45~57	46~58	42~59
			fz	0.008~0.012	0.008~0.012	0.009~0.014	0.010~0.015	0.014~0.023	0.018~0.028	0.022~0.034	0.029~0.040
H	40	Chilled Cast Iron	RPM	8550~10350	8100~9900	7200~9000	6750~8100	4500~5400	3600~4500	2930~3690	2250~3150
			FEED	130~250	130~250	130~250	130~250	130~250	130~250	130~250	130~250
			Ap	0.014~0.028	0.015~0.030	0.016~0.032	0.018~0.035	0.028~0.055	0.035~0.070	0.044~0.088	0.053~0.105
			Vc	61~78	63~79	64~81	65~82	64~81	69~93	71~92	68~93
			fz	0.005~0.012	0.005~0.012	0.006~0.014	0.006~0.015	0.010~0.023	0.012~0.026	0.014~0.033	0.018~0.039
			RPM	13050~16650	12600~15750	11250~14400	10350~13050	6750~8550	5490~7380	4500~5850	3600~4950
H	41	Hardened Cast Iron	FEED	130~390	130~390	130~390	130~390	130~390	130~390	130~390	
			Ap	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
			Vc	40~49	41~50	41~51	42~51	42~51	45~57	46~58	42~59
			fz	0.008~0.012	0.008~0.012	0.009~0.014	0.010~0.015	0.014~0.023	0.018~0.028	0.022~0.034	0.029~0.040
			RPM	8550~10350	8100~9900	7200~9000	6750~8100	4500~5400	3600~4500	2930~3690	2250~3150
			FEED	130~250	130~250	130~250	130~250	130~250	130~250	130~250	130~250

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%



**K-2 plus & K-2
END MILLS**

**RECOMMENDED CUTTING CONDITIONS
推荐加工参数**

**EMC59 SERIES 2 FLUTE - RIB PROCESSING
2刃 - 深腔加工**

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)
Ap (切削深度) = (mm)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径								
				0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.4
P	1-4	Non-alloy steel	Vc	37~48	47~59	56~71	65~83	64~84	66~84	68~85	66~81	67~83
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008	0.005~0.009	0.006~0.012	0.006~0.015	0.008~0.021	0.009~0.024
			RPM	29700~37800	29700~37800	29700~37800	29700~37800	25650~33300	23400~29700	21600~27000	17550~21600	15300~18900
			FEED	200~440	200~440	250~570	250~570	280~630	280~720	280~810	280~890	280~890
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100	0.062~0.125
			Vc	27~34	34~42	41~51	48~59	46~59	48~61	47~59	48~58	48~59
	5	Non-alloy steel	fz	0.002~0.006	0.002~0.006	0.003~0.008	0.003~0.008	0.003~0.010	0.005~0.013	0.006~0.016	0.008~0.019	0.009~0.022
			RPM	21600~27000	21600~27000	21600~27000	21600~27000	18450~23400	17100~21600	14850~18900	12600~15300	10800~13500
			FEED	90~340	90~340	110~440	110~440	120~480	160~540	190~590	190~590	190~590
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100	0.062~0.125
			Vc	37~48	47~59	56~71	65~83	64~84	66~84	68~85	66~81	67~83
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008	0.005~0.009	0.006~0.012	0.006~0.015	0.008~0.021	0.009~0.024
6-7	Low alloy steel	RPM	29700~37800	29700~37800	29700~37800	29700~37800	25650~33300	23400~29700	21600~27000	17550~21600	15300~18900	
		FEED	200~440	200~440	250~570	250~570	280~630	280~720	280~810	280~890	280~890	
		Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100	0.062~0.125	
		Vc	27~34	34~42	41~51	48~59	46~59	48~61	47~59	48~58	48~59	
		fz	0.002~0.006	0.002~0.006	0.003~0.008	0.003~0.008	0.003~0.010	0.005~0.013	0.006~0.016	0.008~0.019	0.009~0.022	
		RPM	21600~27000	21600~27000	21600~27000	21600~27000	18450~23400	17100~21600	14850~18900	12600~15300	10800~13500	
8-9	Low alloy steel	FEED	90~340	90~340	110~440	110~440	120~480	160~540	190~590	190~590	190~590	
		Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100	0.062~0.125	
		Vc	37~48	47~59	56~71	65~83	64~84	66~84	68~85	66~81	67~83	
		fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008	0.005~0.009	0.006~0.012	0.006~0.015	0.008~0.021	0.009~0.024	
		RPM	29700~37800	29700~37800	29700~37800	29700~37800	25650~33300	23400~29700	21600~27000	17550~21600	15300~18900	
		FEED	200~440	200~440								



K-2 plus & K-2 END MILLS

RECOMMENDED CUTTING CONDITIONS

推荐加工参数

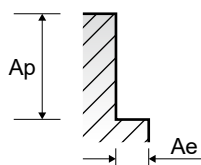
EMC54, EMC55 SERIES

4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径															
						1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0			
P	1-4	Non-alloy steel	0.1D	1.0D	Vc	55	56	62	72	81	84	90	89	86	89	92	93	91			
					fz	0.002	0.005	0.006	0.009	0.019	0.024	0.029	0.043	0.047	0.047	0.047	0.047	0.047	0.047	0.047	
	5	0.1D	1.0D	Vc	32	33	41	45	50	50	54	53	55	57	58	57	57				
				fz	0.002	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.038	0.037	0.037	0.038	0.038		
	6-7	Low alloy steel	0.1D	1.0D	Vc	55	56	62	72	81	84	90	89	86	89	92	93	91			
					fz	0.002	0.005	0.006	0.009	0.019	0.024	0.029	0.043	0.047	0.047	0.047	0.047	0.047	0.047	0.047	
	8-9	0.1D	1.0D	Vc	32	33	41	45	50	50	54	53	55	57	58	57	57				
				fz	0.002	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.038	0.037	0.037	0.038	0.038		
	10	High alloyed steel, and tool steel	0.1D	1.0D	Vc	55	56	62	72	81	84	90	89	86	89	92	93	91			
					fz	0.002	0.005	0.006	0.009	0.019	0.024	0.029	0.043	0.047	0.047	0.047	0.047	0.047	0.047	0.047	
11.1 11.2	0.1D	1.0D	Vc	32	33	41	45	50	50	54	53	55	57	58	57	57					
			fz	0.002	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.038	0.037	0.037	0.038	0.038			
M	14.1	Stainless steel	0.1D	1.0D	Vc	27	33	34	37	41	42	45	45	46	43	46	48	44			
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	59	57	59	57	58	57	56	55	58	55	57	55	57	57		
					fz	0.008	0.013	0.017	0.026	0.035	0.044	0.065	0.093	0.116	0.155	0.182	0.220	0.288	0.220	0.288	
N	21~22	Aluminum-wrought alloy	0.1D	1.5D	Vc	138	130	138	145	138	144	143	143	145	141	145	143	138			
					fz	0.006	0.011	0.015	0.021	0.030	0.036	0.047	0.063	0.078	0.095	0.108	0.125	0.163	0.163	0.163	
H	38.1	Hardened steel	0.1D	1.0D	Vc	32	33	41	45	50	50	54	53	55	57	58	57				
					fz	0.002	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.038	0.037	0.037	0.038	0.038	
40	Chilled Cast Iron	0.1D	1.0D	Vc	32	33	41	45	50	50	54	53	55	57	58	57					
				fz	0.002	0.004	0.006	0.009	0.019	0.024	0.031	0.038	0.038	0.037	0.038	0.037	0.037	0.038	0.038		

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超超型进给量应该减少约50%



K-2 plus & K-2 END MILLS

RECOMMENDED CUTTING CONDITIONS

推荐加工参数

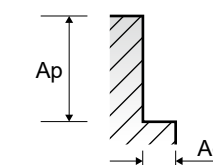
EMC57, EMC58 SERIES

4&6 FLUTE - SIDE CUTTING
4&6刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径															
						1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0					
P	1-4	Non-alloy steel	0.05D	1.5D	Vc	60	82	82	83	98	98	98	97	99	98	97	97				
					fz	0.009	0.016	0.024	0.033	0.026	0.030	0.038	0.045	0.053	0.062	0.069	0.069	0.069	0.069		
	5	0.05D	1.5D	Vc	40	55	54	55	65	65	65	64	66	65	64	64					
				fz	0.009	0.016	0.024	0.033	0.027	0.030	0.038	0.045	0.053	0.062	0.070	0.070	0.070	0.070			
	6-7	Low alloy steel	0.05D	1.5D	Vc	60	82	82	83	98	98	98	97	99	98	97	97				
					fz	0.009	0.016	0.024	0.033	0.026	0.030	0.038	0.045	0.053	0.062	0.069	0.069	0.069	0.069		
	8-9	0.05D	1.5D	Vc	40	55	54	55	65	65	65	64	66	65	64	64					
				fz	0.009	0.016	0.024	0.033	0.027	0.030	0.038	0.045	0.053	0.062	0.070	0.070	0.070	0.070			
	10	High alloyed steel, and tool steel	0.05D	1.5D	Vc	60	82	82	83	98	98	98	97	99	98	97	97				
					fz	0.009	0.016	0.024	0.033	0.026	0.030	0.038	0.045	0.053	0.062	0.069	0.069	0.069	0.069		
11.1 11.2	0.03D	1.5D	Vc	40	55	54	55	65	65	65	64	66	65	64	64						
			fz	0.009	0.016	0.024	0.033	0.027	0.030	0.038	0.045	0.053	0.062	0.070	0.070	0.070	0.070				
H	38.1	Hardened steel	0.03D	1.5D	Vc	40	55	54	55	65	65	65	64	66	65	64	64				
					fz	0.009	0.016	0.024	0.033	0.027	0.030	0.038	0.045	0.053	0.062	0.070	0.070	0.070	0.070		
38.2	0.03D	1.5D	Vc	32	46	45	45	50	50	50	50	50	50	50	50	50					
			fz	0.007	0.012	0.018	0.025	0.020	0.023	0.029	0.033	0.029	0.046	0.052	0.052	0.052	0.052				
40	Chilled Cast Iron	0.03D	1.5D	Vc	40	55	54	55	65	65	65	64	66	65	64	64					
				fz	0.009	0.016	0.024	0.033	0.027	0.030	0.038	0.045	0.053	0.062	0.070	0.070	0.070	0.070			
41	Hardened Cast Iron	0.03D	1.5D	Vc	32	46	45	45	50	50	50	50	50	50	50	50					
				fz	0.007	0.012	0.018	0.025	0.020	0.023	0.029	0.033	0.029	0.046	0.052	0.052	0.052	0.052			

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超超型进给量应该减少约50%



K-2 plus & K-2 END MILLS

RECOMMENDED CUTTING CONDITIONS 推荐加工参数

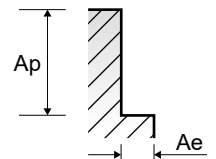
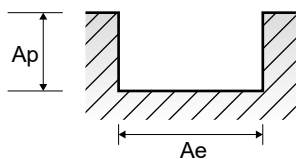
EMC69 SERIES

Multi Flute Roughing - SLOTTING / SIDE CUTTING 多刃 粗加工 - 槽铣削 / 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

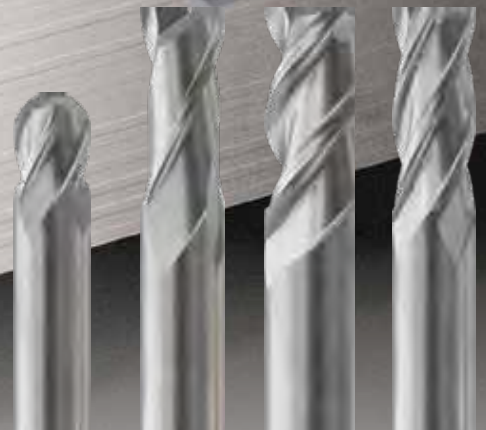
ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	SLOTTING 槽铣削 - Diameter (Ø) 直径						Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	SIDE CUTTING 侧铣削 - Diameter (Ø) 直径																												
					6.0	8.0	10.0	12.0	16.0	20.0				6.0	8.0	10.0	12.0	16.0	20.0																							
P	1-4	1.0D	0.5D	Vc	278	275	273	285	285	285	0.3D	1.5D	Vc	278	275	273	285	285	285	fz	0.041	0.055	0.069	0.082	0.088	0.083	RPM	14740	10960	8690	7560	5670	4540	FEED	2410	2410	2410	2490	2490	2250		
				fz	0.041	0.055	0.069	0.082	0.088	0.083			fz	0.041	0.055	0.069	0.082	0.088	0.083	RPM	14740	10960	8690	7560	5670	4540	FEED	2410	2410	2410	2490	2490	2250									
				RPM	14740	10960	8690	7560	5670	4540			FEED	2410	2410	2410	2490	2490	2250	Vc	221	218	226	214	228	214	fz	0.019	0.025	0.030	0.037	0.035	0.029	RPM	11720	8690	7180	5670	4540	3400	FEED	870
	5	1.0D	0.5D	Vc	278	275	273	285	285	285	0.3D	1.5D	Vc	278	275	273	285	285	285	fz	0.041	0.055	0.069	0.082	0.088	0.083	RPM	14740	10960	8690	7560	5670	4540	FEED	2410	2410	2410	2490	2490	2250		
				fz	0.041	0.055	0.069	0.082	0.088	0.083			fz	0.041	0.055	0.069	0.082	0.088	0.083	RPM	14740	10960	8690	7560	5670	4540	FEED	2410	2410	2410	2490	2490	2250									
				RPM	14740	10960	8690	7560	5670	4540			FEED	2410	2410	2410	2490	2490	2250	Vc	221	218	226	214	228	214	fz	0.019	0.025	0.030	0.037	0.035	0.029	RPM	11720	8690	7180	5670	4540	3400	FEED	870
	6-7	1.0D	0.5D	Vc	278	275	273	285	285	285	0.3D	1.5D	Vc	278	275	273	285	285	285	fz	0.041	0.055	0.069	0.082	0.088	0.083	RPM	14740	10960	8690	7560	5670	4540	FEED	2410	2410	2410	2490	2490	2250		
				fz	0.041	0.055	0.069	0.082	0.088	0.083			fz	0.041	0.055	0.069	0.082	0.088	0.083	RPM	14740	10960	8690	7560	5670	4540	FEED	2410	2410	2410	2490	2490	2250									
				RPM	14740	10960	8690	7560	5670	4540			FEED	2410	2410	2410	2490	2490	2250	Vc	221	218	226	214	228	214	fz	0.019	0.025	0.030	0.037	0.035	0.029	RPM	11720	8690	7180	5670	4540	3400	FEED	870
	8-9	1.0D	0.5D	Vc	221	218	226	214	228	214	0.3D	1.5D	Vc	221	218	226	214	228	214	fz	0.019	0.025	0.030	0.037	0.035	0.029	RPM	11720	8690	7180	5670	4540	3400	FEED	870	870	870	830	790	590		
				fz	0.019	0.025	0.030	0.037	0.035	0.029			fz	0.019	0.025	0.030	0.037	0.035	0.029	RPM	11720	8690	7180	5670	4540	3400	FEED	870	870	870	830	790	590									
				RPM	11720	8690	7180	5670	4540	3400			FEED	870	870	870	830	790	590	Vc	278	275	273	285	285	285	fz	0.041	0.055	0.069	0.082	0.088	0.083	RPM	14740	10960	8690	7560	5670	4540	FEED	2410
10	1.0D	0.5D	Vc	278	275	273	285	285	285	0.3D	1.5D	Vc	278	275	273	285	285	285	fz	0.041	0.055	0.069	0.082	0.088	0.083	RPM	14740	10960	8690	7560	5670	4540	FEED	2410	2410	2410	2490	2490	2250			
			fz	0.041	0.055	0.069	0.082	0.088	0.083			fz	0.041	0.055	0.069	0.082	0.088	0.083	RPM	14740	10960	8690	7560	5670	4540	FEED	2410	2410	2410	2490	2490	2250										
			RPM	14740	10960	8690	7560	5670	4540			FEED	2410	2410	2410	2490	2490	2250	Vc	221	218	226	214	228	214	fz	0.019	0.025	0.030	0.037	0.035	0.029	RPM	11720	8690	7180	5670	4540	3400	FEED	870	870
11.1 11.2	1.0D	0.5D	Vc	221	218	226	214	228	214	0.3D	1.5D	Vc	221	218	226	214	228	214	fz	0.019	0.025	0.030	0.037	0.035	0.029	RPM	11720	8690	7180	5670	4540	3400	FEED	870	870	870	830	790	590			
			fz	0.019	0.025	0.030	0.037	0.035	0.029			fz	0.019	0.025	0.030	0.037	0.035	0.029	RPM	11720	8690	7180	5670	4540	3400	FEED	870	870	870	830	790	590										
			RPM	11720	8690	7180	5670	4540	3400			FEED	870	870	870	830	790	590	Vc	150	150	151	150	157	143	fz	0.019	0.025	0.031	0.037	0.034	0.027	RPM	7940	5950	4820	3970	3120	2270	FEED	600	600
M	14.1	1.0D	-	Vc	150	150	151	150	157	143	-	1.5D	Vc	150	150	151	150	157	143	fz	0.019	0.025	0.031	0.037	0.034	0.027	RPM	7940	5950	4820	3970	3120	2270	FEED	600	600	590	590	530	370		
				fz	0.019	0.025	0.031	0.037	0.034	0.027			fz	0.019	0.025	0.031	0.037	0.034	0.027	RPM	7940	5950	4820	3970	3120	2270	FEED	600	600	590	590	530	370									
				RPM	7940	5950	4820	3970	3120	2270			FEED	600	600	590	590	530	370	Ae	0.25D	0.25D	0.25D	0.15D	0.15D	0.10D																
S	31-35	1.0D	0.5D	Vc	51	51	46	51	45	46	0.05D	1.0D	Vc	51	51	46	51	45	46	fz	0.024	0.030	0.045	0.048	0.033	0.030	RPM	2700	2025	1460	1350	900	740	FEED	260	240	260	260	150	135		
				fz	0.024	0.030	0.045	0.048	0.033	0.030			fz	0.024	0.030	0.045	0.048	0.033	0.030	RPM	2700	2025	1460	1350	900	740	FEED	260	240	260	260	150	135									
				RPM	2700	2025	1460	1350	900	740			FEED	260	240	260	260	150	135	Vc	221	218	226	214	228	214	fz	0.019	0.025	0.030	0.037	0.035	0.029	RPM	11720	8690	7180	5670	4540	3400	FEED	870
H	40	1.0D	0.3D	Vc	221	218	226	214	228	214	0.3D	1.0D	Vc	221	218	226	214	228	214	fz	0.019	0.025	0.030	0.037	0.035	0.029	RPM	11720	8690	7180	5670	4540	3400	FEED	870	870	870	830	790	590		
				fz	0.019	0.025	0.030	0.037	0.035	0.029			fz	0.019	0.025	0.030	0.037	0.035	0.029	RPM	11720	8690	7180	5670	4540	3400	FEED	870	870	870	830	790	590									
				RPM	11720	8690	7180	5670	4540	3400			FEED	870	870	870	830	790	590																							

※ The FEED, in long & extra long types, should be reduced by around 50%
对于长型合超长型进给量应该减少约50%





Leading Through Innovation



SOLID CARBIDE

GENERAL CARBIDE END MILLS

- General Purposes, Non-coated, Any Coating Available
- 适用于普通加工，非涂层及任何涂层都可以提供

SELECTION GUIDE
选用指南



SOLID CARBIDE
GENERAL CARBIDE
END MILLS

General Purposes, Non-coated, Any Coating Available
适用于普通加工, 非涂层及任何涂层都可以提供



◎: Excellent (优秀) ○: Good (良好)

Recommended cutting conditions (推荐加工参数): p.C512

ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理	HB	HRc	E5414	E5524	E5401	E5423	E5402
P	1	Non-alloy steel	About 0.15% C Annealed	125	13	◎	◎	◎	◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎	◎
	4		About 0.75% C Annealed	270	28	◎	◎	◎	◎	◎
	5		About 0.75% C Quenched & Tempered	300	32	◎	◎	◎	◎	◎
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎	◎
	7		Quenched & Tempered	275	29	◎	◎	◎	◎	◎
	8		Quenched & Tempered	300	32	◎	◎	◎	◎	◎
	9		Quenched & Tempered	350	38	◎	◎	◎	◎	◎
	10		High alloyed steel, and tool steel	Annealed	200	15	◎	◎	◎	◎
	11	Quenched & Tempered	325	35	◎	◎	◎	◎	◎	
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15			○	○	○
	13		Martensitic Quenched & Tempered	240	23			○	○	○
	14		Austenitic	180	10			○	○	○
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○	○	○	○
	16		Pearlitic (Martensitic)	260	26	○	○	○	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○	○	○	○
	18		Pearlitic	250	25	○	○	○	○	○
	19	Malleable cast iron	Ferritic	130		○	○	○	○	○
	20		Pearlitic	230	21	○	○	○	○	○
N	21	Aluminum-wrought alloy	Not Curable	60		○	○	○	○	○
	22		Curable Hardened	100		○	○	○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○	○	○	○
	24		≤ 12% Si, Curable Hardened	90		○	○	○	○	○
	25		> 12% Si, Not Curable	130		○	○	○	○	○
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110				○	○	○
	27		CuZn, CuSnZn (Brass)	90				○	○	○
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100				○	○	○
	29		Duroplastic, Fiber Reinforced Plastic							
	30		Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15				
	32			Cured	280	30				
	33		Ni or Co Based	Annealed	250	25				
	34			Cured	350	38				
	35			Cast	320	34				
36	Titanium Alloys	Pure Titanium	400 Rm				○	○		
37		Alpha + Beta Alloys Hardened	1050 Rm				○	○		
H	38	Hardened steel	Hardened	550	55					
	39			630	60					
	40	Chilled Cast Iron	Cast	400	42					
	41	Hardened Cast Iron	Hardened	550	55					

BALL NOSE = 球头 SQUARE = 平头 SHORT LENGTH = 短刃 STANDARD = 标准 Uncoated = 非涂层

SERIES 系列	E5414	E5524	E5401	E5423	E5402
FLUTE 槽数	2	4	2	3	4
HELIX ANGLE 螺旋角度	30°	30°	30°	45°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE	SQUARE	SQUARE	SQUARE
SIZE MIN 最小尺寸	R0.2	R1.0	D0.4	D3.0	D1.5
SIZE MAX 最大尺寸	R10.0	R10.0	D20.0	D20.0	D20.0
PAGE 页数	C507	C508	C509	C510	C511

	Uncoated	Uncoated	Uncoated	Uncoated	Uncoated
SHORT LENGTH					
STANDARD					
SHORT LENGTH					
STANDARD					



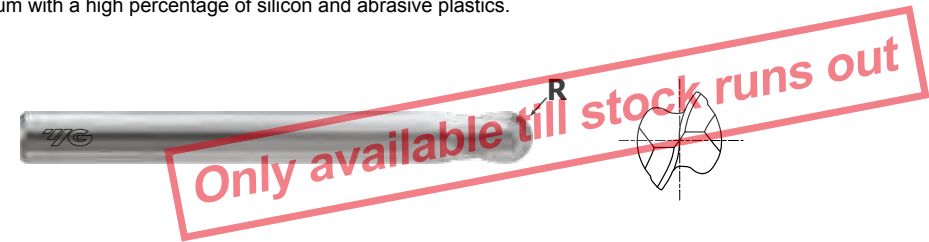
YG GENERAL CARBIDE
END MILLS

PLAIN SHANK **E5414** SERIES

CARBIDE, 2 FLUTE BALL NOSE
硬质合金, 2刃 球头

► The raw materials in micro grain grade has excellent wear resistance as well as great toughness and rigidity which is the same as normal carbide. Designed for cutting hardened & high alloy steels, steel casting, chill casting, malleable cast iron, CrNi-steels, brass, copper, aluminum with a high percentage of silicon and abrasive plastics.

► 这种微粒硬质合金具有很好的耐磨性, 同时也具有普通硬质合金一样的韧性和刚性, 适于切削高硬质合金钢, 铸铁, 冷铸件, 可锻铸铁, 铬镍合金, 青铜, 黄铜, 硅含量大的铝和耐磨塑料。



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

EDP No.	Radius of Ball Nose 圆弧角	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R (±0.02)	直径	柄径	刃长	全长
▲ E5414004	R0.2	0.4	3	0.8	50
▲ E5414006	R0.3	0.6	3	1.2	50
▲ E5414008	R0.4	0.8	3	1.6	50
▲ E5414901	R0.5	1.0	6	3	50
▲ E5414902	R1.0	2.0	6	6	50
▲ E5414030	R1.5	3.0	6	8	60
▲ E5414040	R2.0	4.0	6	11	70
▲ E5414050	R2.5	5.0	6	13	80
▲ E5414060	R3.0	6.0	6	13	80
▲ E5414070	R3.5	7.0	8	16	90
▲ E5414080	R4.0	8.0	8	19	90
▲ E5414090	R4.5	9.0	10	19	100
▲ E5414100	R5.0	10.0	10	22	100
▲ E5414120	R6.0	12.0	12	26	110
▲ E5414140	R7.0	14.0	14	26	120
▲ E5414160	R8.0	16.0	16	30	120
▲ E5414200	R10.0	20.0	20	38	130

▲ : Only available till stock runs out 只提供到消耗库存

► TiCN-COATING & TiAlN-COATING are available on your request.
按客户需求, 可以提供TiCN涂层&TiAlN涂层

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ -0.03	h5

ISO	P									M				K							
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron					
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	190	250	270	300	180	275	300	350	15	35	15	23	10	10	26	3	25	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	
ISO	N									S					H						
Material Description	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	260	250	350	320	400 Rm	1050 Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	260	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

◎: Excellent (优秀) ○: Good (良好)

CARBIDE, 4 FLUTE SHORT LENGTH BALL NOSE
硬质合金, 2刃 短刃 球头



CARBIDE YG STD N 4 30° R ±0.02 DIN 6535HB p.C514 ~515 Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	ITEM No. 系列号	Radius of Ball Nose 圆弧角 R (±0.02)	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ E5524020	T4GRB-020AF	R1.0	2.0	6	4	48
▲ E5524030	T4GRB-030AF	R1.5	3.0	6	4	48
▲ E5524040	T4GRB-040AF	R2.0	4.0	6	6	50
▲ E5524050	T4GRB-050AF	R2.5	5.0	6	7	51
▲ E5524080	T4GRB-080AF	R4.0	8.0	8	9	59
▲ E5524100	T4GRB-100AF	R5.0	10.0	10	10	60
▲ E5524120	T4GRB-120AF	R6.0	12.0	12	14	71
▲ E5524160	T4GRB-160AF	R8.0	16.0	16	16	76
▲ E5524180	T4GRB-180AF	R9.0	18.0	18	18	76
▲ E5524200	T4GRB-200AF	R10.0	20.0	20	20	82

▲ : Only available till stock runs out 只提供到消耗现库存

▶ TiCN-COATING & TiAlN-COATING are available on your request.
 按客户需求, 可以提供TiCN涂层&TiAlN涂层

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

	Tolerance range in μm / 公差单位为				
	Nominal-Diameter in mm / 直径单位为				
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
h10	0 -40	0 -48	0 -58	0 -70	0 -84
h5	0 -4	0 -5	0 -6	0 -8	0 -9

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 2 FLUTE STANDARD
硬质合金, 2刃 标准

▶ The raw materials in micro grain grade has excellent wear resistance as well as great toughness and rigidity which is the same as normal carbide. Designed for cutting hardened & high alloy steels, steel casting, chill casting, malleable cast iron, CrNi-steels, brass, copper, aluminum with a high percentage of silicon and abrasive plastics.

▶ 这种微粒硬质合金具有很好的耐磨性, 同时也具有普通硬质合金一样的韧性和刚性, 适于切削高硬度合金钢, 铸铁, 冷铸件, 可锻铸铁, 铬镍合金, 青铜, 黄铜, 硅含量大的铝和耐磨塑料。



CARBIDE 2 30° PLAIN p.C516~517 Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
-	-	SHRINK FIT HOLDER	D47-72
-	-	ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ E5401004	0.4	3	1	38
▲ E5401005	0.5	3	1.5	38
▲ E5401006	0.6	3	1.5	38
▲ E5401008	0.8	3	2	38
▲ E5401010	1.0	4	3	40
▲ E5401915	1.5	6	5	40
▲ E5401015	1.5	4	5	40
▲ E5401020	2.0	4	6	40
▲ E5401920	2.0	6	6	40
▲ E5401030	3.0	6	8	45
▲ E5401040	4.0	6	11	45
▲ E5401050	5.0	6	13	50
▲ E5401060	6.0	6	13	50
▲ E5401080	8.0	8	19	60
▲ E5401090	9.0	10	19	70
▲ E5401100	10.0	10	22	70
▲ E5401110	11.0	12	22	75
▲ E5401120	12.0	12	26	75
▲ E5401160	16.0	16	25	75
▲ E5401180	18.0	18	32	100
▲ E5401200	20.0	20	32	100

▲ : Only available till stock runs out 只提供到消耗现库存

▶ TiCN-COATING & TiAlN-COATING are available on your request.
 按客户需求, 可以提供TiCN涂层&TiAlN涂层

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 3 FLUTE 45°HELIX SHORT LENGTH
硬质合金, 3刃 45度螺旋 短刃



CARBIDE YG STD N 3 45° DIN 6535HA p.C518-519

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
		SHRINK FIT HOLDER	D47-72
		ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	ITEM No. 系列号	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ E5423030	T3ERS-030A	3.0	6	8	45
▲ E5423040	T3ERS-040A	4.0	6	11	45
▲ E5423050	T3ERS-050A	5.0	6	13	50
▲ E5423060	T3ERS-060Z	6.0	6	13	50
▲ E5423080	T3ERS-080Z	8.0	8	19	60
▲ E5423100	T3ERS-100Z	10.0	10	22	70
▲ E5423120	T3ERS-120Z	12.0	12	26	75
▲ E5423140	T3ERS-140Z	14.0	14	26	75
▲ E5423160	T3ERS-160Z	16.0	16	25	75
▲ E5423200	T3ERS-200Z	20.0	20	32	100

▲ : Only available till stock runs out 只提供到消耗现库存

▶ TiCN-COATING & TiAlN-COATING are available on your request.
 按客户需求, 可以提供TiCN涂层&TiAlN涂层

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

	Tolerance range in μ m / 公差单位为				
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
h10	0 -40	0 -48	0 -58	0 -70	0 -84
h5	0 -4	0 -5	0 -6	0 -8	0 -9

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P					M					K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel									
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	55	60	68	75	82	90
HB	125	190	250	270	300	180	275	300	350	400	200	240	280	320	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

CARBIDE, 4 FLUTE STANDARD
硬质合金, 4刃 标准



CARBIDE 4 30° PLAIN p.C520-521

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	HYDRAULIC CHUCK POWER MILLING CHUCK	D15-46 D161-176
		SHRINK FIT HOLDER	D47-72
		ER COLLET CHUCK SK SLIM CHUCK	D73-115 D183-201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
▲ E5402015	1.5	4	5	40
▲ E5402020	2.0	4	6	40
▲ E5402025	2.5	4	8	40
▲ E5402030	3.0	6	8	45
▲ E5402035	3.5	6	10	45
▲ E5402040	4.0	6	11	45
▲ E5402045	4.5	6	11	45
▲ E5402050	5.0	6	13	50
▲ E5402055	5.5	6	13	50
▲ E5402060	6.0	6	13	50
▲ E5402080	8.0	8	19	60
▲ E5402090	9.0	10	19	70
▲ E5402100	10.0	10	22	70
▲ E5402110	11.0	12	22	75
▲ E5402120	12.0	12	26	75
▲ E5402140	14.0	14	26	75
▲ E5402160	16.0	16	25	75
▲ E5402180	18.0	18	32	100
▲ E5402200	20.0	20	32	100

▲ : Only available till stock runs out 只提供到消耗现库存

Mill Dia. Tolerance (mm) 直径公差	Shank Dia. Tolerance 柄径公差
0 ~ - 0.03	h5

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P					M					K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel									
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	48	55	60	68	75	82	90
HB	125	190	250	270	300	180	275	300	350	400	200	240	280	320	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



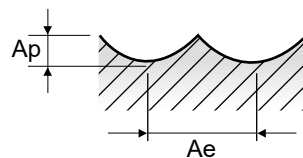
E5414 SERIES

**2 FLUTE BALL NOSE
2刃球头**

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0			
P	1-4	Non-alloy steel	0.7D	0.3D	Vc	33	33	33	33	32	31	33	33	33	33	33	33	31		
					fz	0.009	0.014	0.019	0.025	0.029	0.037	0.048	0.049	0.057	0.065	0.073	0.085			
	RPM	5200	3500	2600	2100	1700	1270	1000	870	750	650	580	500							
	FEED	90	100	100	105	100	95	95	85	85	85	85	85							
	5	0.7D	0.3D	Vc	28	27	26	27	27	28	27	28	27	27	27	27				
				fz	0.005	0.008	0.011	0.013	0.016	0.020	0.026	0.031	0.036	0.042	0.047	0.052				
	RPM	4400	2900	2100	1700	1430	1100	870	730	620	540	480	430							
	FEED	45	45	45	45	45	45	45	45	45	45	45	45							
	6-7	Low alloy steel	0.7D	0.3D	Vc	33	33	33	33	32	31	33	33	33	33	31				
					fz	0.009	0.014	0.019	0.025	0.029	0.037	0.048	0.049	0.057	0.065	0.073	0.085			
RPM	5200	3500	2600	2100	1700	1270	1000	870	750	650	580	500								
FEED	90	100	100	105	100	95	95	85	85	85	85	85								
8-9	0.7D	0.3D	Vc	28	27	26	27	27	28	27	28	27	27	27						
			fz	0.005	0.008	0.011	0.013	0.016	0.020	0.026	0.031	0.036	0.042	0.047	0.052					
RPM	4400	2900	2100	1700	1430	1100	870	730	620	540	480	430								
FEED	45	45	45	45	45	45	45	45	45	45	45	45								
10	High alloyed steel, and tool steel	0.7D	0.3D	Vc	33	33	33	33	32	31	33	33	33	33	31					
				fz	0.009	0.014	0.019	0.025	0.029	0.037	0.048	0.049	0.057	0.065	0.073	0.085				
RPM	5200	3500	2600	2100	1700	1270	1000	870	750	650	580	500								
FEED	90	100	100	105	100	95	95	85	85	85	85	85								
11.1	0.7D	0.3D	Vc	28	27	26	27	27	28	27	28	27	27	27						
			fz	0.005	0.008	0.011	0.013	0.016	0.020	0.026	0.031	0.036	0.042	0.047	0.052					
RPM	4400	2900	2100	1700	1430	1100	870	730	620	540	480	430								
FEED	45	45	45	45	45	45	45	45	45	45	45	45								
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.7D	0.3D	Vc	46	46	45	46	45	45	45	44	46	46	46				
					fz	0.010	0.016	0.028	0.040	0.052	0.089	0.112	0.133	0.163	0.177	0.201	0.199			
					RPM	7300	4900	3600	2900	2400	1800	1430	1200	1000	920	810	730			
FEED	150	160	200	230	250	320	320	320	325	325	325	290								
N	21~22	Aluminum-wrought alloy	0.7D	0.3D	Vc	135	135	137	138	137	138	135	136	132	136	132				
					fz	0.007	0.010	0.013	0.019	0.023	0.035	0.044	0.061	0.073	0.070	0.079	0.090			
	RPM	21500	14300	10900	8800	7260	5500	4300	3600	3000	2700	2400	2100							
	FEED	280	280	280	330	330	380	380	440	440	380	380	380							
	23~25	Aluminum-cast, alloyed	0.7D	0.3D	Vc	135	135	137	138	137	138	135	136	132	136	132				
					fz	0.007	0.010	0.013	0.019	0.023	0.035	0.044	0.061	0.073	0.070	0.079	0.090			
RPM	21500	14300	10900	8800	7260	5500	4300	3600	3000	2700	2400	2100								
FEED	280	280	280	330	330	380	380	440	440	380	380	380								

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给



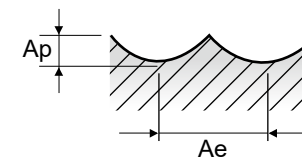
E5414 SERIES

**2 FLUTE BALL NOSE (TiAIN-COATED)
2刃球头 (TiAIN 涂层)**

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0			
P	1-4	Non-alloy steel	0.7D	0.3D	Vc	46	46	46	46	45	45	44	46	46	46	44				
					fz	0.009	0.014	0.019	0.025	0.029	0.038	0.048	0.049	0.057	0.066	0.074	0.086			
	RPM	7280	4900	3640	2940	2380	1780	1400	1220	1050	910	810	700							
	FEED	125	140	140	145	140	135	135	120	120	120	120	120							
	5	0.7D	0.3D	Vc	39	38	37	37	38	39	38	38	38	38	38					
				fz	0.005	0.008	0.011	0.014	0.016	0.021	0.027	0.032	0.037	0.043	0.049	0.054				
	RPM	6160	4060	2940	2380	2000	1540	1220	1020	870	755	670	600							
	FEED	65	65	65	65	65	65	65	65	65	65	65	65							
	6-7	Low alloy steel	0.7D	0.3D	Vc	46	46	46	46	45	45	44	46	46	46	44				
					fz	0.009	0.014	0.019	0.025	0.029	0.038	0.048	0.049	0.057	0.066	0.074	0.086			
RPM	7280	4900	3640	2940	2380	1780	1400	1220	1050	910	810	700								
FEED	125	140	140	145	140	135	135	120	120	120	120	120								
8-9	0.7D	0.3D	Vc	39	38	37	37	38	39	38	38	38	38	38						
			fz	0.005	0.008	0.011	0.014	0.016	0.021	0.027	0.032	0.037	0.043	0.049	0.054					
RPM	6160	4060	2940	2380	2000	1540	1220	1020	870	755	670	600								
FEED	65	65	65	65	65	65	65	65	65	65	65	65								
10	High alloyed steel, and tool steel	0.7D	0.3D	Vc	46	46	46	46	45	45	44	46	46	46	44					
				fz	0.009	0.014	0.019	0.025	0.029	0.038	0.048	0.049	0.057	0.066	0.074	0.086				
RPM	7280	4900	3640	2940	2380	1780	1400	1220	1050	910	810	700								
FEED	125	140	140	145	140	135	135	120	120	120	120	120								
11.1	0.7D	0.3D	Vc	39	38	37	37	38	39	38	38	38	38	38						
			fz	0.005	0.008	0.011	0.014	0.016	0.021	0.027	0.032	0.037	0.043	0.049	0.054					
RPM	6160	4060	2940	2380	2000	1540	1220	1020	870	755	670	600								
FEED	65	65	65	65	65	65	65	65	65	65	65	65								
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.7D	0.3D	Vc	64	65	63	64	63	63	63	63	62	65	64	64			
					fz	0.010	0.016	0.028	0.039	0.052	0.089	0.113	0.134	0.163	0.176	0.200	0.199			
					RPM	10220	6860	5040	4060	3360	2520	2000	1680	1400	1290	1135	1020			
FEED	210	225	280	320	350	450	450	450	455	455	455	405								
N	21~22	Aluminum-wrought alloy	0.7D	0.3D	Vc	189	189	192	194	192	194	189	190	185	190	185				
					fz	0.006	0.010	0.013	0.019	0.023	0.034	0.044	0.061	0.073	0.070	0.079	0.090			
	RPM	30100	20020	15260	12320	10165	7700	6020	5040	4200	3780	3360	2940							
	FEED	390	390	390	460	460	530	530	615	615	530	530	530							
	23~25	Aluminum-cast, alloyed	0.7D	0.3D	Vc	189	189	192	194	192	194	189	190	185	190	185				
					fz	0.006	0.010	0.013	0.019	0.023	0.034	0.044	0.061	0.073	0.070	0.079	0.090			
RPM	30100	20020	15260	12320	10165	7700	6020	5040	4200	3780	3360	2940								
FEED	390	390	390	460	460	530	530	615	615	530	530	530								

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃，加长刃类型需要减少约50%进给





**GENERAL CARBIDE
END MILLS**

**RECOMMENDED CUTTING CONDITIONS
推荐加工参数**

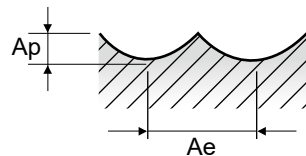
E5524 SERIES

**4 FLUTE BALL NOSE
4刃球头**

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径															
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0				
P	1-4	Non-alloy steel	0.7D	0.3D	Vc	33	33	33	33	32	32	31	33	33	33	33	33	31			
					fz	0.007	0.011	0.014	0.019	0.022	0.028	0.035	0.037	0.043	0.05	0.056	0.065				
	RPM	5200	3500	2600	2100	1700	1270	1000	870	750	650	580	500								
	FEED	140	150	150	160	150	140	140	130	130	130	130	130								
	5	Non-alloy steel	0.7D	0.3D	Vc	28	27	26	27	27	28	27	28	27	27	27	27				
					fz	0.004	0.006	0.008	0.01	0.012	0.016	0.02	0.024	0.028	0.032	0.036	0.041				
	RPM	4400	2900	2100	1700	1430	1100	870	730	620	540	480	430								
	FEED	70	70	70	70	70	70	70	70	70	70	70	70								
	6-7	Low alloy steel	0.7D	0.3D	Vc	33	33	33	33	32	32	31	33	33	33	33	31				
					fz	0.007	0.011	0.014	0.019	0.022	0.028	0.035	0.037	0.043	0.05	0.056	0.065				
RPM	5200	3500	2600	2100	1700	1270	1000	870	750	650	580	500									
FEED	140	150	150	160	150	140	140	130	130	130	130	130									
8-9	Low alloy steel	0.7D	0.3D	Vc	28	27	26	27	27	28	27	28	27	27	27						
				fz	0.004	0.006	0.008	0.01	0.012	0.016	0.02	0.024	0.028	0.032	0.036	0.041					
RPM	4400	2900	2100	1700	1430	1100	870	730	620	540	480	430									
FEED	70	70	70	70	70	70	70	70	70	70	70	70									
10	High alloyed steel, and tool steel	0.7D	0.3D	Vc	33	33	33	33	32	32	31	33	33	33	33	31					
				fz	0.007	0.011	0.014	0.019	0.022	0.028	0.035	0.037	0.043	0.05	0.056	0.065					
RPM	5200	3500	2600	2100	1700	1270	1000	870	750	650	580	500									
FEED	140	150	150	160	150	140	140	130	130	130	130	130									
11.1	High alloyed steel, and tool steel	0.7D	0.3D	Vc	28	27	26	27	27	28	27	28	27	27	27						
				fz	0.004	0.006	0.008	0.01	0.012	0.016	0.02	0.024	0.028	0.032	0.036	0.041					
RPM	4400	2900	2100	1700	1430	1100	870	730	620	540	480	430									
FEED	70	70	70	70	70	70	70	70	70	70	70	70									
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.7D	0.3D	Vc	46	46	45	46	45	45	45	44	46	46	46	46				
					fz	0.008	0.012	0.021	0.03	0.04	0.067	0.084	0.1	0.123	0.133	0.151	0.151				
					RPM	7300	4900	3600	2900	2400	1800	1430	1200	1000	920	810	730				
FEED	230	240	300	350	380	480	480	480	490	490	490	440									
N	21~22	Aluminum-wrought alloy	0.7D	0.3D	Vc	135	135	137	138	137	138	135	136	132	136	136	132				
					fz	0.005	0.007	0.01	0.014	0.017	0.026	0.033	0.046	0.055	0.053	0.059	0.068				
					RPM	21500	14300	10900	8800	7260	5500	4300	3600	3000	2700	2400	2100				
	FEED	420	420	420	500	500	570	570	660	660	570	570	570								
	23~25	Aluminum-cast, alloyed	0.7D	0.3D	Vc	135	135	137	138	137	138	135	136	132	136	136	132				
					fz	0.005	0.007	0.01	0.014	0.017	0.026	0.033	0.046	0.055	0.053	0.059	0.068				
RPM					21500	14300	10900	8800	7260	5500	4300	3600	3000	2700	2400	2100					
FEED	420	420	420	500	500	570	570	660	660	570	570	570									

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给



**GENERAL CARBIDE
END MILLS**

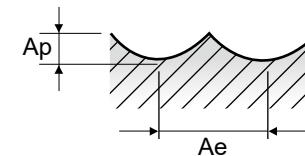
E5524 SERIES

**4 FLUTE BALL NOSE (TiAIN-COATED)
4刃球头 (TiAIN 涂层)**

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径															
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0				
P	1-4	Non-alloy steel	0.7D	0.3D	Vc	46	46	46	46	45	45	44	46	46	46	46	44				
					fz	0.007	0.011	0.014	0.019	0.022	0.027	0.035	0.037	0.043	0.049	0.056	0.064				
	RPM	7280	4900	3640	2940	2380	1780	1400	1220	1050	910	810	700								
	FEED	195	210	210	225	210	195	195	180	180	180	180	180								
	5	Non-alloy steel	0.7D	0.3D	Vc	39	38	37	37	38	39	38	38	38	38	38					
					fz	0.004	0.006	0.009	0.011	0.013	0.016	0.02	0.025	0.029	0.033	0.037	0.042				
	RPM	6160	4060	2940	2380	2000	1540	1220	1020	870	755	670	600								
	FEED	100	100	100	100	100	100	100	100	100	100	100	100								
	6-7	Low alloy steel	0.7D	0.3D	Vc	46	46	46	46	45	45	44	46	46	46	46	44				
					fz	0.007	0.011	0.014	0.019	0.022	0.027	0.035	0.037	0.043	0.049	0.056	0.064				
RPM	7280	4900	3640	2940	2380	1780	1400	1220	1050	910	810	700									
FEED	195	210	210	225	210	195	195	180	180	180	180	180									
8-9	Low alloy steel	0.7D	0.3D	Vc	39	38	37	37	38	39	38	38	38	38	38						
				fz	0.004	0.006	0.009	0.011	0.013	0.016	0.02	0.025	0.029	0.033	0.037	0.042					
RPM	6160	4060	2940	2380	2000	1540	1220	1020	870	755	670	600									
FEED	100	100	100	100	100	100	100	100	100	100	100	100									
10	High alloyed steel, and tool steel	0.7D	0.3D	Vc	46	46	46	46	45	45	44	46	46	46	46	44					
				fz	0.007	0.011	0.014	0.019	0.022	0.027	0.035	0.037	0.043	0.049	0.056	0.064					
RPM	7280	4900	3640	2940	2380	1780	1400	1220	1050	910	810	700									
FEED	195	210	210	225	210	195	195	180	180	180	180	180									
11.1	High alloyed steel, and tool steel	0.7D	0.3D	Vc	39	38	37	37	38	39	38	38	38	38	38						
				fz	0.004	0.006	0.009	0.011	0.013	0.016	0.02	0.025	0.029	0.033	0.037	0.042					
RPM	6160	4060	2940	2380	2000	1540	1220	1020	870	755	670	600									
FEED	100	100	100	100	100	100	100	100	100	100	100	100									
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.7D	0.3D	Vc	64	65	63	64	63	63	63	63	62	65	64	64				
					fz	0.008	0.012	0.021	0.03	0.04	0.067	0.084	0.1	0.122	0.133	0.151	0.151				
					RPM	10220	6860	5040	4060	3360	2520	2000	1680	1400	1290	1135	1020				
FEED	320	335	420	490	530	670	670	670	685	685	685	615									
N	21~22	Aluminum-wrought alloy	0.7D	0.3D	Vc	189	189	192	194	192	194	189	190	185	190	185					
					fz	0.005	0.007	0.01	0.014	0.017	0.026	0.033	0.046	0.055	0.053	0.06	0.068				
					RPM	30100	20020	15260	12320	10165	7700	6020	5040	4200	3780	3360	2940				
	FEED	590	590	590	700	700	800	800	925	925	800	800	800								
	23~25	Aluminum-cast, alloyed	0.7D	0.3D	Vc	189	189	192	194	192	194	189	190	185	190	185					
					fz	0.005	0.007	0.01	0.014	0.017	0.026	0.033	0.046	0.055	0.053	0.06	0.068				
RPM					30100	20020	15260	12320	10165	7700	6020	5040	4200	3780	3360	2940					
FEED	590	590	590	700	700	800	800	925	925	800	800	800									

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给

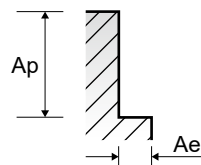


E5402 SERIES 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0				
P	1-2	Non-alloy steel	0.1D	1.5D	Vc	35	35	35	35	34	35	35	34	35	35	35	35	35	35	
					fz	0.011	0.018	0.024	0.031	0.038	0.048	0.061	0.075	0.084	0.107	0.136				
					RPM	5500	3700	2800	2200	1800	1400	1100	900	800	700	550				
	3-4		Vc	30	30	30	30	30	30	30	30	31	30	30						
			fz	0.011	0.019	0.025	0.032	0.038	0.05	0.063	0.075	0.086	0.108	0.135						
			RPM	4800	3200	2400	1900	1600	1200	950	800	700	600	480						
	5		Vc	25	25	25	25	25	25	25	25	25	25	25						
			fz	0.01	0.017	0.023	0.028	0.035	0.045	0.056	0.068	0.079	0.11	0.138						
			RPM	4000	2600	2000	1600	1300	1000	800	660	570	500	400						
	6		Vc	35	35	35	35	34	35	35	34	35	35	35						
			fz	0.011	0.018	0.024	0.031	0.038	0.048	0.061	0.075	0.084	0.107	0.136						
RPM		5500	3700	2800	2200	1800	1400	1100	900	800	700	550								
7	Vc	30	30	30	30	30	30	30	30	31	30	30								
	fz	0.011	0.019	0.025	0.032	0.038	0.05	0.063	0.075	0.086	0.108	0.135								
	RPM	4800	3200	2400	1900	1600	1200	950	800	700	600	480								
8-9	Vc	25	25	25	25	25	25	25	25	25	25	25								
	fz	0.01	0.017	0.023	0.028	0.035	0.045	0.056	0.068	0.079	0.11	0.138								
	RPM	4000	2600	2000	1600	1300	1000	800	660	570	500	400								
10	Vc	35	35	35	35	34	35	35	34	35	35	35								
	fz	0.011	0.018	0.024	0.031	0.038	0.048	0.061	0.075	0.084	0.107	0.136								
	RPM	5500	3700	2800	2200	1800	1400	1100	900	800	700	550								
11.1	Vc	25	25	25	25	25	25	25	25	25	25	25								
	fz	0.01	0.017	0.023	0.028	0.035	0.045	0.056	0.068	0.079	0.11	0.138								
	RPM	4000	2600	2000	1600	1300	1000	800	660	570	500	400								
M 14.1	Vc	50	50	50	50	49	50	50	49	48	50	50								
	fz	0.006	0.009	0.013	0.016	0.019	0.025	0.031	0.038	0.045	0.056	0.075								
	RPM	8000	5300	4000	3200	2600	2000	1600	1300	1100	1000	800								
K 15-20	Vc	41	40	40	39	40	40	41	38	40	40	40								
	fz	0.017	0.027	0.035	0.045	0.064	0.089	0.115	0.158	0.183	0.213	0.281								
	RPM	6500	4200	3200	2500	2100	1600	1300	1000	900	800	640								
N	21~22	Aluminum-wrought alloy	0.1D	1.5D	Vc	101	104	101	101	100	101	98	101	101	101					
					fz	0.015	0.022	0.03	0.038	0.048	0.064	0.08	0.098	0.111	0.128	0.159				
					RPM	16000	11000	8000	6400	5300	4000	3200	2600	2300	2000	1600				
	23~25		Vc	101	104	101	101	100	101	98	101	101	101	101						
			fz	0.015	0.022	0.03	0.038	0.048	0.064	0.08	0.098	0.111	0.128	0.159						
			RPM	16000	11000	8000	6400	5300	4000	3200	2600	2300	2000	1600						
	26~28		Vc	75	75	75	75	75	75	75	75	75	75	75						
			fz	0.015	0.023	0.03	0.038	0.049	0.065	0.081	0.098	0.115	0.13	0.163						
			RPM	12000	8000	6000	4800	4000	3000	2400	2000	1700	1500	1200						
	S 36-37		Vc	50	50	50	50	49	50	50	49	48	50	50						
			fz	0.006	0.009	0.013	0.016	0.019	0.025	0.031	0.038	0.045	0.056	0.075						
RPM		8000	5300	4000	3200	2600	2000	1600	1300	1100	1000	800								

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给

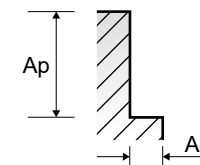


E5402 SERIES 4 FLUTE (TiAlN-COATED) - SIDE CUTTING
4刃 (TiAlN 涂层) - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0				
P	1-2	Non-alloy steel	0.1D	1.5D	Vc	48	49	49	48	48	49	48	49	49	48	48	49	48		
					fz	0.011	0.018	0.024	0.031	0.038	0.048	0.062	0.075	0.085	0.107	0.136				
					RPM	7700	5180	3920	3080	2520	1960	1540	1260	1120	980	770				
	3-4		Vc	42	42	42	42	42	42	42	42	43	42	42						
			fz	0.011	0.019	0.025	0.031	0.037	0.05	0.063	0.075	0.085	0.109	0.136						
			RPM	6720	4480	3360	2660	2240	1680	1330	1120	980	840	670						
	5		Vc	35	34	35	35	34	35	35	35	35	35	35						
			fz	0.01	0.017	0.022	0.028	0.034	0.045	0.056	0.068	0.078	0.111	0.138						
			RPM	5600	3640	2800	2240	1820	1400	1120	920	800	700	560						
	6		Vc	48	49	49	48	48	49	48	48	49	49	48						
			fz	0.011	0.018	0.024	0.031	0.038	0.048	0.062	0.075	0.085	0.107	0.136						
RPM		7700	5180	3920	3080	2520	1960	1540	1260	1120	980	770								
7	Vc	42	42	42	42	42	42	42	42	43	42	42								
	fz	0.011	0.019	0.025	0.031	0.037	0.05	0.063	0.075	0.085	0.109	0.136								
	RPM	6720	4480	3360	2660	2240	1680	1330	1120	980	840	670								
8-9	Vc	35	34	35	35	34	35	35	35	35	35	35								
	fz	0.01	0.017	0.022	0.028	0.034	0.045	0.056	0.068	0.078	0.111	0.138								
	RPM	5600	3640	2800	2240	1820	1400	1120	920	800	700	560								
10	Vc	48	49	49	48	48	49	48	48	49	49	48								
	fz	0.011	0.018	0.024	0.031	0.038	0.048	0.062	0.075	0.085	0.107	0.136								
	RPM	7700	5180	3920	3080	2520	1960	1540	1260	1120	980	770								
11.1	Vc	35	34	35	35	34	35	35	35	35	35	35								
	fz	0.01	0.017	0.022	0.028	0.034	0.045	0.056	0.068	0.078	0.111	0.138								
	RPM	5600	3640	2800	2240	1820	1400	1120	920	800	700	560								
M 14.1	Vc	70	70	70	70	69	70	70	69	68	70	70								
	fz	0.006	0.009	0.013	0.016	0.019	0.025	0.031	0.038	0.045	0.056	0.075								
	RPM	11200	7420	5600	4480	3640	2800	2240	1820	1540	1400	1120								
K 15-20	Vc	57	55	56	55	55	56	57	53	55	56	57								
	fz	0.017	0.027	0.035	0.045	0.064	0.089	0.115	0.157	0.184	0.212	0.281								
	RPM	9100	5880	4480	3500	2940	2240	1820	1400	1260	1120	900								
N	21~22	Aluminum-wrought alloy	0.1D	1.5D	Vc	141	145	141	141	140	141	137	141	141	141					
					fz	0.015	0.022	0.03	0.038	0.048	0.064	0.08	0.098	0.111	0.128	0.16				
					RPM	22400	15400	11200	8960	7420	5600	4480	3640	3220	2800	2240				
	23~25		Vc	141	145	141	141	140	141	137	141	141	141	141						
			fz	0.015	0.022	0.03	0.038	0.048	0.064	0.08	0.098	0.111	0.128	0.16						
			RPM	22400	15400	11200	8960	7420	5600	4480	3640	3220	2800	2240						
	26~28		Vc	106	106	106	106	106	106	106	106	106	106	106						
			fz	0.015	0.023	0.03	0.038	0.049	0.065	0.081	0.097	0.114	0.13	0.162						
			RPM	16800	11200	8400	6720	5600	4200	3360	2800	2380	2100	1680						
	S 36-37		Vc	70	70	70	70	69	70	70	69	68	70	70						
			fz	0.006	0.009	0.013	0.016	0.019	0.025	0.031	0.038	0.045	0.056	0.075						
RPM		11200	7420	5600	4480	3640	2800	2240	1820	1540	1400	1120								

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给





Global Cutting Tool Leader **YG-1**



MILLING



Leading Through Innovation



HSS PM60

ONLY ONE COATED PM60 END MILLS

- Perfect Solution of Carbide Chipping under Vibrations
- 在振动工况硬质合金崩刃的完美解决方案

SELECTION GUIDE 选用指南



SERIES 系列	GYG77 GYF97	GYG72 GYF99	GYG01
FLUTE 槽数	2	2	3
HELIX ANGLE 螺旋角度	30°	30°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	SQUARE	SQUARE
SIZE MIN 最小尺寸	R0.5	D1.0	D1.0
SIZE MAX 最大尺寸	R12.5	D25.0	D25.0
PAGE 页数	C526	C527	C528
	SHORT LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	SHORT LENGTH (Center Cut)
	Y-Coating	Y-Coating	Y-Coating

COATED PM60 ONLY ONE END MILLS

Perfect solution to protect Carbide chipping problems under vibrations
在振动工况硬质合金崩刃的完美解决方案



◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C536

ISO	VDI 3323	Material Description 工件材料	Composition / Structure / Heat Treatment 成分 / 结构 / 热处理	HB	HRc	GYG77 GYF97	GYG72 GYF99	GYG01
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎
	4		About 0.75% C Annealed	270	28	◎	◎	◎
	5		About 0.75% C Quenched & Tempered	300	32	◎	◎	◎
	6	Low alloy steel	Annealed	180	10	◎	◎	◎
	7		Quenched & Tempered	275	29	◎	◎	◎
	8		Quenched & Tempered	300	32	◎	◎	◎
	9		Quenched & Tempered	350	38	○	○	○
	10		High alloyed steel, and tool steel	Annealed	200	15	◎	◎
	11	Quenched & Tempered		325	35	○	○	○
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	◎	◎
	13		Martensitic Quenched & Tempered	240	23	◎	◎	◎
	14		Austenitic	180	10	◎	◎	◎
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎
	16		Pearlitic (Martensitic)	260	26	◎	◎	◎
	17	Nodular cast iron	Ferritic	160	3	◎	◎	◎
	18		Pearlitic	250	25	◎	◎	◎
	19	Malleable cast iron	Ferritic	130		◎	◎	◎
	20		Pearlitic	230	21	◎	◎	◎
N	21	Aluminum-wrought alloy	Not Curable	60				
	22		Curable Hardened	100				
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75				
	24		≤ 12% Si, Curable Hardened	90				
	25		> 12% Si, Not Curable	130				
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		○	○	○
	27		CuZn, CuSnZn (Brass)	90		○	○	○
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100		○	○	○
	29		Duroplastic, Fiber Reinforced Plastic					
	30		Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15			
	32		Cured	280	30			
	33		Annealed	250	25			
	34		Ni or Co Based Cured	350	38			
	35		Cast	320	34			
	36	Titanium Alloys	Pure Titanium	400 Rm				
37	Alpha + Beta Alloys Hardened		1050 Rm					
H	38	Hardened steel	Hardened	550	55			
	39		Hardened	630	60			
	40	Chilled Cast Iron	Cast	400	42	○	○	○
	41	Hardened Cast Iron	Hardened	550	55			

GYG74 GYF96	GYG52	GYG76 GYG02	GYF95	GYF94	GYF98	GYG03
4	4	4	Multi Flute	Multi Flute	Multi Flute	Multi Flute
30°	35°/37°	30°	4F: 44°/45° 5F: 44°/44.5°/45°	30°	30°	30°
SQUARE	SQUARE	SQUARE	CORNER RADIUS ROUGHING	ROUGHING	ROUGHING	ROUGHING
D1.0	D3.0	D2.0	D6.0	D6.0	D6.0	D6.0
D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0
C529	C530	C531	C532	C533	C534	C535
SHORT LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	LONG LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	SHORT LENGTH (Center Cut)	LONG LENGTH (Center Cut)	SHORT LENGTH (Center Cut)
Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating	Y-Coating



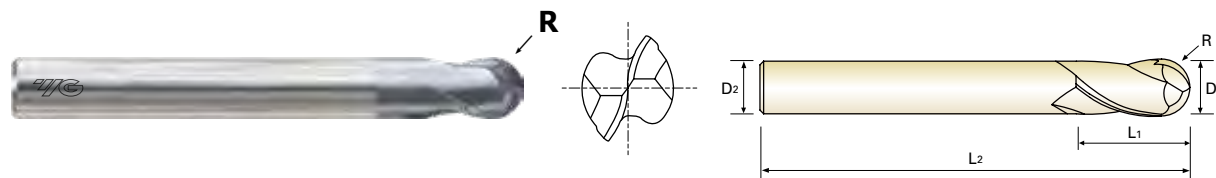
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◎	◎	◎	◎	◎	◎	◎	7
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○	○	○	○	○	○	○	27
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							35
							36
							37
							38
○	○	○	○	○	○	○	39
							40
							41

BALL NOSE = 球头 SHORT LENGTH = 短刃 CORNER RADIUS = 圆鼻 LONG LENGTH = 长刃 SQUARE = 平头 Center Cut = 过中心 ROUGHING = 粗加工 MULTIPLE HELIX = 不等螺旋



PLAIN SHANK **GYG77** SERIES
FLAT SHANK **GYF97** SERIES

PM60, 2 FLUTE BALL NOSE SHORT LENGTH
PM60, 2刃球头短刃



PM 60 2 30° ±0.02 PLAIN FLAT p.C536

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	
	PLAIN	FLAT					圆弧角
			R(±0.02)	D1	D2	L1	L2
GYG77010	GYF97010	R0.5	1.0	6	2.5	47	
GYG77020	GYF97020	R1.0	2.0	6	4	48	
GYG77030	GYF97030	R1.5	3.0	6	5	49	
GYG77040	GYF97040	R2.0	4.0	6	7	51	
GYG77050	GYF97050	R2.5	5.0	6	8	52	
GYG77060	GYF97060	R3.0	6.0	6	8	52	
GYG77070	GYF97070	R3.5	7.0	8	10	60	
GYG77080	GYF97080	R4.0	8.0	8	11	61	
GYG77090	GYF97090	R4.5	9.0	10	11	61	
GYG77100	GYF97100	R5.0	10.0	10	13	63	
GYG77120	GYF97120	R6.0	12.0	12	16	73	
GYG77140	GYF97140	R7.0	14.0	12	16	73	
GYG77160	GYF97160	R8.0	16.0	16	19	79	
GYG77180	GYF97180	R9.0	18.0	16	19	79	
GYG77200	GYF97200	R10.0	20.0	20	22	88	
GYG77250	GYF97250	R12.5	25.0	25	26	102	

Mill Dia.Tolerance (mm)	Shank Dia.Tolerance
直径公差	柄径公差
0 ~ -0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

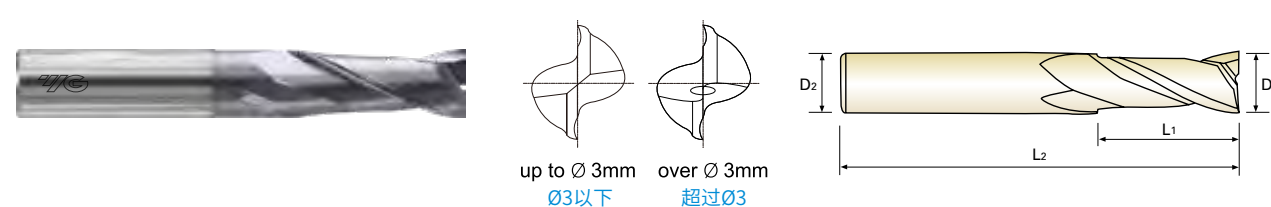
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	45	15	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N				S						H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													○



PLAIN SHANK **GYG72** SERIES
FLAT SHANK **GYF99** SERIES

PM60, 2 FLUTE SHORT LENGTH
PM60, 2刃短刃



PM 60 2 30° PLAIN FLAT p.C537

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	D73-115	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter		Shank Diameter	Length of Cut	Overall Length
	PLAIN	FLAT			
GYG72010	GYF99010	1.0	6	2.5	47
GYG72020	GYF99020	2.0	6	4	48
GYG72030	GYF99030	3.0	6	5	49
GYG72040	GYF99040	4.0	6	7	51
GYG72050	GYF99050	5.0	6	8	52
GYG72060	GYF99060	6.0	6	8	52
GYG72070	GYF99070	7.0	8	10	60
GYG72080	GYF99080	8.0	8	11	61
GYG72090	GYF99090	9.0	10	11	61
GYG72100	GYF99100	10.0	10	13	63
GYG72120	GYF99120	12.0	12	16	73
GYG72140	GYF99140	14.0	12	16	73
GYG72160	GYF99160	16.0	16	19	79
GYG72180	GYF99180	18.0	16	19	79
GYG72200	GYF99200	20.0	20	22	88
GYG72220	GYF99220	22.0	20	22	88
GYG72250	GYF99250	25.0	25	26	102

Mill Dia.Tolerance (mm)	Shank Dia.Tolerance
直径公差	柄径公差
0 ~ -0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

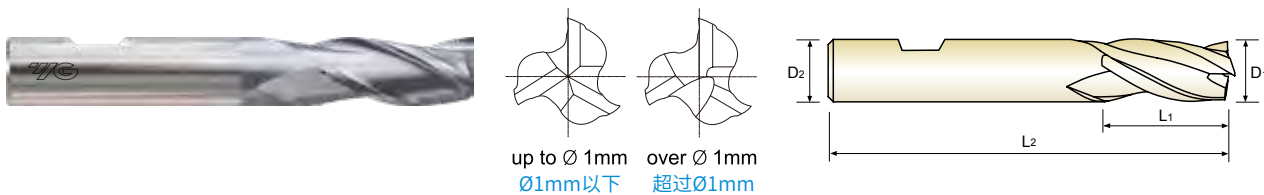
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	40	45	15	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N				S						H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													○



FLAT SHANK **GYG01** SERIES

PM60, 3 FLUTE SHORT LENGTH (Center Cut)
PM60, 3刃短刃 (中心切断)



PM 60
3
30°
FLAT
p.C538-539

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
GYG01010	1.0	6	3	47
GYG01020	2.0	6	7	51
GYG01030	3.0	6	8	52
GYG01040	4.0	6	11	55
GYG01050	5.0	6	13	57
GYG01060	6.0	6	13	57
GYG01070	7.0	8	16	66
GYG01080	8.0	8	19	69
GYG01090	9.0	10	19	69
GYG01100	10.0	10	22	72
GYG01120	12.0	12	26	83
GYG01140	14.0	12	26	83
GYG01160	16.0	16	32	92
GYG01180	18.0	16	32	92
GYG01200	20.0	20	38	104
GYG01220	22.0	20	38	104
GYG01250	25.0	25	45	121

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

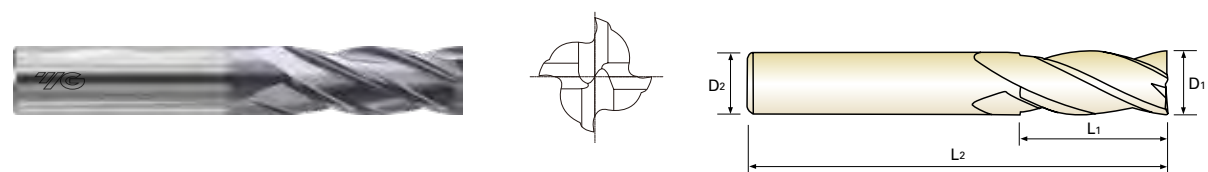
ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	35	38	42	45	48	52	55	58	62	65	68	72	75	78	82	85	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N				S						H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400
Recommend						○	○	○												○



PLAIN SHANK **GYG74** SERIES
 FLAT SHANK **GYF96** SERIES

PM60, 4 FLUTE SHORT LENGTH (Center Cut)
PM60, 4刃短刃 (中心切断)



PM 60
4
30°
PLAIN
FLAT
p.C540

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
GYG74010	1.0	6	3	49
GYG74020	2.0	6	7	51
GYG74030	3.0	6	8	52
GYG74040	4.0	6	11	55
GYG74050	5.0	6	13	57
GYG74060	6.0	6	13	57
GYG74070	7.0	8	16	66
GYG74080	8.0	8	19	69
GYG74090	9.0	10	19	69
GYG74100	10.0	10	22	72
GYG74120	12.0	12	26	83
GYG74140	14.0	12	26	83
GYG74160	16.0	16	32	92
GYG74180	18.0	16	32	92
GYG74200	20.0	20	38	104
GYG74220	22.0	20	38	104
GYG74250	25.0	25	45	121

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

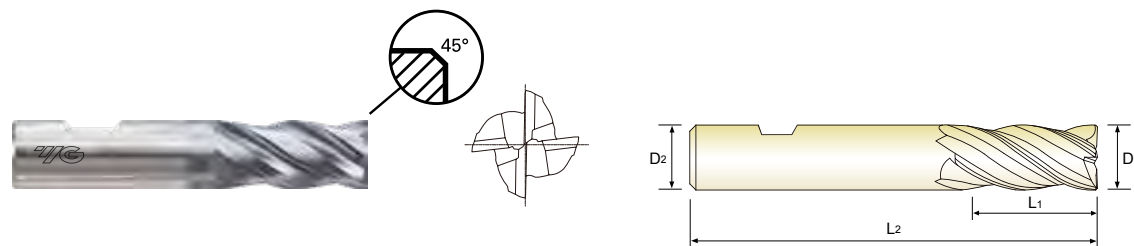
ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	35	38	42	45	48	52	55	58	62	65	68	72	75	78	82	85	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N				S						H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400
Recommend						○	○	○												○



FLAT SHANK **GYG52** SERIES

PM60, 4 FLUTE MULTIPLE HELIX SHORT LENGTH (Center Cut)
PM60, 4刃不等螺旋短刃 (中心切断)



PM 60
4
35°/37°
FLAT
C x 45°
p.C541

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
Recommended ToolHolder	-	ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer 导向
	直径 D1	柄径 D2	刃长 L1	全长 L2	
GYG52030	3.0	6	8	52	0.1
GYG52040	4.0	6	11	55	0.1
GYG52050	5.0	6	13	57	0.1
GYG52060	6.0	6	13	57	0.1
GYG52070	7.0	8	16	66	0.1
GYG52080	8.0	8	19	69	0.1
GYG52090	9.0	10	19	69	0.1
GYG52100	10.0	10	22	72	0.1
GYG52120	12.0	12	26	83	0.1
GYG52140	14.0	12	26	83	0.2
GYG52160	16.0	16	32	92	0.2
GYG52180	18.0	16	32	92	0.2
GYG52200	20.0	20	38	104	0.2
GYG52220	22.0	20	38	104	0.2
GYG52250	25.0	25	45	121	0.2

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h6



◎ : Excellent (优秀) ○ : Good (良好)

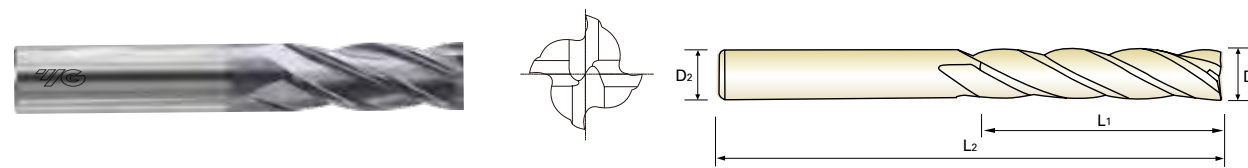
ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○												○	



PLAIN SHANK **GYG76** SERIES
 FLAT SHANK **GYG02** SERIES

PM60, 4 FLUTE LONG LENGTH (Center Cut)
PM60, 4刃长刃 (中心切断)



PM 60
4
30°
PLAIN
FLAT
p.C540

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
Recommended ToolHolder	-	ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	直径 D1	柄径 D2	刃长 L1	全长 L2
GYG76020	2.0	6	10	54
GYG76030	3.0	6	12	56
GYG76040	4.0	6	19	63
GYG76050	5.0	6	24	68
GYG76060	6.0	6	24	68
GYG76070	7.0	8	30	80
GYG76080	8.0	8	38	88
GYG76090	9.0	10	38	88
GYG76100	10.0	10	45	95
GYG76120	12.0	12	53	110
GYG76140	14.0	12	53	110
GYG76160	16.0	16	63	123
GYG76180	18.0	16	63	123
GYG76200	20.0	20	75	141
GYG76220	22.0	20	75	141
GYG76250	25.0	25	90	166

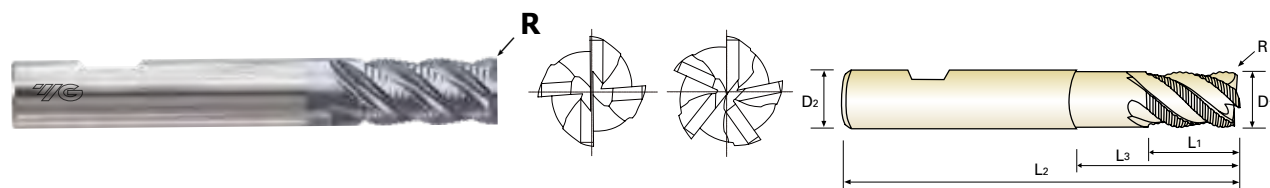
Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N				S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○												○	

PM60, MULTI FLUTE MULTIPLE HELIX SHORT LENGTH CORNER RADIUS ROUGHING - FINE (Center Cut)
PM60, 多刃不等螺旋短刃圆鼻粗加工 - 细牙 (中心切断)



PM 60
4-5
44°/44.5°/45°
HR
FLAT
p.C542

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	-	ER COLLET CHUCK	D73-115
SK SLIM CHUCK	-	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Corner Radius 圆弧角 R	Mill Diameter 直径 D1(js12)	Shank Diameter 柄径 D2(h6)	Length of Cut 刃长 L1	Length Below Shank 颈长 L3	Overall length 全长 L2	No. of Flute 槽数
GYF95060	R0.5	6.0	6	13	-	57	4
GYF95070	R0.5	7.0	10	16	-	66	4
GYF95080	R0.5	8.0	10	19	-	69	4
GYF95090	R0.5	9.0	10	19	-	69	4
GYF95100	R0.5	10.0	10	22	31	72	4
GYF95120	R0.5	12.0	12	26	37	83	4
GYF95140	R1.0	14.0	12	26	-	83	5
GYF95160	R1.0	16.0	16	32	44	92	5
GYF95180	R1.0	18.0	16	32	-	92	5
GYF95200	R1.0	20.0	20	38	54	104	5
GYF95250	R1.0	25.0	25	45	63	121	5

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

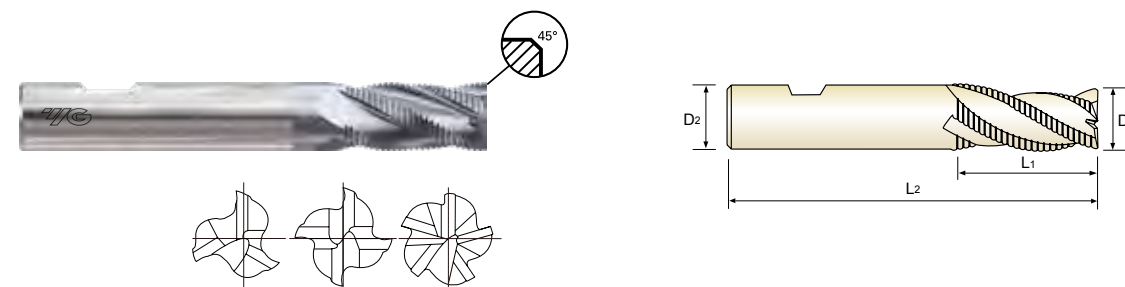
	Tolerance range in μm / 公差范围为		
	Nominal-Diameter in mm / 直径范围为		
	over 6 to 10	over 10 to 18	over 18 to 30
js12	±75	±90	±105
h6	0 - 9	0 - 11	0 - 13

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	63	68	73	78	83	88	93	98	103	108	113
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													○

PM60, MULTI FLUTE SHORT LENGTH ROUGHING - FINE (Center Cut)
PM60, 多刃短刃粗加工 - 细牙 (中心切断)



PM 60
3-5
30°
HR
FLAT
C x 45°
p.C543

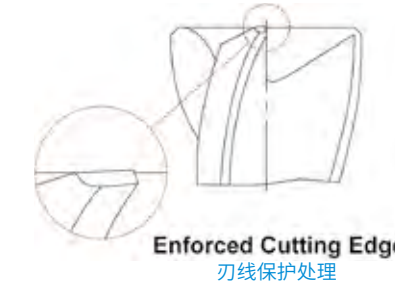
Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	-	ER COLLET CHUCK	D73-115
SK SLIM CHUCK	-	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter 直径 D1(js12)	Shank Diameter 柄径 D2(h6)	Length of Cut 刃长 L1	Overall Length 全长 L2	No. of Flute 槽数	Chamfer 导向
GYF94060	6.0	6	13	57	3	0.18
GYF94070	7.0	10	16	66	3	0.18
GYF94080	8.0	10	19	69	3	0.18
GYF94090	9.0	10	19	69	3	0.18
GYF94100	10.0	10	22	72	4	0.18
GYF94120	12.0	12	26	83	4	0.18
GYF94140	14.0	12	26	83	4	0.25
GYF94160	16.0	16	32	92	4	0.25
GYF94180	18.0	16	32	92	4	0.25
GYF94200	20.0	20	38	104	4	0.25
GYF94250	25.0	25	45	121	5	0.36

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

	Tolerance range in μm / 公差范围为		
	Nominal-Diameter in mm / 直径范围为		
	over 6 to 10	over 10 to 18	over 18 to 30
js12	±75	±90	±105
h6	0 - 9	0 - 11	0 - 13

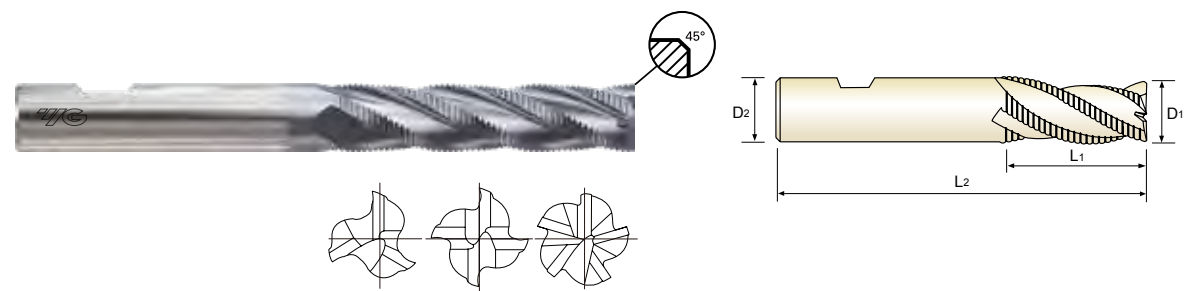


◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	63	68	73	78	83	88	93	98	103	108	113
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													○

PM60, MULTI FLUTE LONG LENGTH ROUGHING - FINE (Center Cut)
PM60, 多刃长刃粗加工 - 细牙 (中心切断)



PM 60
3-5
30°
HR
FLAT
C x 45°
p.C543

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	-	ER COLLET CHUCK	D73-115
SK SLIM CHUCK	-	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute 槽数	Chamfer 导向
	直径 D1(js12)	柄径 D2(h6)	刃长 L1	全长 L2		
GYF98060	6.0	6	24	68	3	0.18
GYF98070	7.0	10	30	80	3	0.18
GYF98080	8.0	10	38	88	3	0.18
GYF98090	9.0	10	38	88	3	0.18
GYF98100	10.0	10	45	95	4	0.18
GYF98120	12.0	12	53	110	4	0.18
GYF98140	14.0	12	53	110	4	0.25
GYF98160	16.0	16	63	123	4	0.25
GYF98180	18.0	16	63	123	4	0.25
GYF98200	20.0	20	75	141	4	0.25
GYF98250	25.0	25	90	166	5	0.36

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

	Tolerance range in μm / 公差范围为		
	Nominal-Diameter in mm / 直径范围为		
	over 6 to 10	over 10 to 18	over 18 to 30
js12	±75	±90	±105
h6	0 - 9	0 - 11	0 - 13

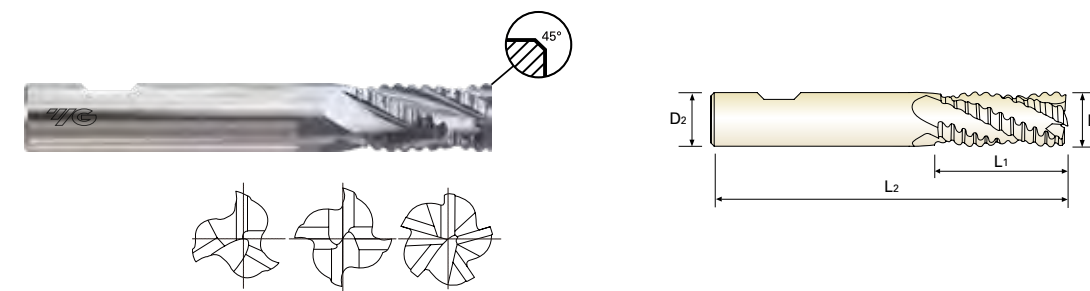


◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	52	54	56	58	60	62	64	66	68
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○												○	

PM60, MULTI FLUTE SHORT LENGTH ROUGHING - COARSE (Center Cut)
PM60, 多刃长刃粗加工 - 粗牙 (中心切断)



PM 60
3-5
30°
NR
FLAT
C x 45°
p.C543

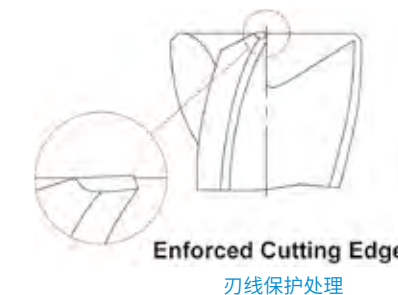
Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
ER COLLET CHUCK	-	ER COLLET CHUCK	D73-115
SK SLIM CHUCK	-	SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute 槽数	Chamfer 导向
	直径 D1(js12)	柄径 D2(h6)	刃长 L1	全长 L2		
GYG03060	6.0	6	13	57	3	0.25
GYG03070	7.0	10	16	66	3	0.25
GYG03080	8.0	10	19	69	3	0.25
GYG03090	9.0	10	19	69	3	0.36
GYG03100	10.0	10	22	72	4	0.36
GYG03120	12.0	12	26	83	4	0.56
GYG03140	14.0	12	26	83	4	0.6
GYG03160	16.0	16	32	92	4	0.6
GYG03180	18.0	16	32	92	4	0.6
GYG03200	20.0	20	38	104	4	0.6
GYG03250	25.0	25	45	121	5	0.6

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

	Tolerance range in μm / 公差范围为		
	Nominal-Diameter in mm / 直径范围为		
	over 6 to 10	over 10 to 18	over 18 to 30
js12	±75	±90	±105
h6	0 - 9	0 - 11	0 - 13



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	52	54	56	58	60	62	64	66	68
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○												○	

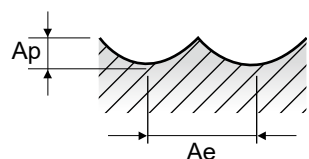


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GYG77, GYF97 SERIES 2 FLUTE BALL NOSE
2刃球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径								
						3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1	Non-alloy steel	0.5D	0.2D	Vc	83	90	100	101	104	103	102	90	
					fz	0.023	0.036	0.054	0.079	0.109	0.115	0.141	0.156	0.162
					RPM	8807	7162	5305	4019	3310	2759	2049	1623	1146
					FEED	405	516	573	635	722	634	578	506	371
	2		Vc	66	70	79	78	79	81	78	75	70		
			fz	0.020	0.032	0.046	0.067	0.095	0.097	0.123	0.140	0.140		
			RPM	7003	5570	4191	3104	2515	2149	1552	1194	891		
			FEED	280	357	386	416	478	417	382	334	250		
	3-4		Vc	44	45	52	54	53	54	54	52	44		
			fz	0.016	0.026	0.039	0.056	0.082	0.083	0.1	0.11	0.125		
			RPM	4669	3581	2759	2149	1687	1432	1074	828	560		
			FEED	149	186	215	241	277	238	215	182	140		
5	Vc	23	24	27	27	26	26	27	27	24				
	fz	0.014	0.023	0.035	0.047	0.073	0.071	0.090	0.099	0.100				
	RPM	2440	1910	1432	1074	828	690	537	430	306				
	FEED	68	88	100	101	121	98	97	85	61				
6	Vc	66	70	79	78	79	81	78	75	70				
	fz	0.020	0.032	0.046	0.067	0.095	0.097	0.123	0.140	0.140				
	RPM	7003	5570	4191	3104	2515	2149	1552	1194	891				
	FEED	280	357	386	416	478	417	382	334	250				
7	Vc	44	45	52	54	53	54	54	52	44				
	fz	0.016	0.026	0.039	0.056	0.082	0.083	0.1	0.11	0.125				
	RPM	4669	3581	2759	2149	1687	1432	1074	828	560				
	FEED	149	186	215	241	277	238	215	182	140				
8-9	Vc	23	24	27	27	26	26	27	27	24				
	fz	0.014	0.023	0.035	0.047	0.073	0.071	0.090	0.099	0.100				
	RPM	2440	1910	1432	1074	828	690	537	430	306				
	FEED	68	88	100	101	121	98	97	85	61				
10	Vc	66	70	79	78	79	81	78	75	70				
	fz	0.020	0.032	0.046	0.067	0.095	0.097	0.123	0.140	0.140				
	RPM	7003	5570	4191	3104	2515	2149	1552	1194	891				
	FEED	280	357	386	416	478	417	382	334	250				
11.1	Vc	23	24	27	26	26	27	27	27	24				
	fz	0.014	0.023	0.035	0.047	0.073	0.071	0.090	0.099	0.100				
	RPM	2440	1910	1432	1074	828	690	537	430	306				
	FEED	68	88	100	101	121	98	97	85	61				
11.2	Vc	16	17	19	19	18	19	19	19	16				
	fz	0.013	0.024	0.035	0.047	0.075	0.071	0.088	0.1	0.095				
	RPM	1698	1353	1008	756	573	477	378	302	204				
	FEED	44	65	71	71	86	67	60	39					
M 14.1	Vc	25	27	30	30	28	29	30	30	26				
	fz	0.013	0.023	0.036	0.049	0.072	0.075	0.093	0.099	0.098				
	RPM	2653	2149	1592	1194	891	769	597	477	331				
	FEED	69	99	115	117	128	115	111	95	65				
K 15-20	Vc	66	70	79	78	79	81	78	75	70				
	fz	0.02	0.032	0.046	0.067	0.095	0.097	0.123	0.14	0.14				
	RPM	7003	5570	4191	3104	2515	2149	1552	1194	891				
	FEED	280	357	386	416	478	417	382	334	250				
H 40	Vc	16	17	19	19	18	19	19	19	16				
	fz	0.013	0.024	0.035	0.047	0.075	0.071	0.088	0.1	0.095				
	RPM	1698	1353	1008	756	573	477	378	302	204				
	FEED	44	65	71	71	86	67	60	39					



GYG72, GYF99 SERIES 2 FLUTE - SLOTTING
2刃-槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径													
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	1.0D	0.5D	Vc	53	57	65	74	79	78	79	81	84	81	78	72	70	71
					fz	0.008	0.016	0.027	0.033	0.038	0.053	0.071	0.076	0.083	0.099	0.105	0.116	0.109	0.103
					RPM	8435	6048	5173	4711	4191	3104	2515	2149	1910	1611	1379	1146	1013	904
					FEED	135	194	279	311	319	329	357	327	317	319	290	266	221	186
	2		Vc	44	46	54	61	66	66	68	66	66	69	64	59	59	60		
			fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.083	0.085	0.103	0.106	0.106			
			RPM	7003	4881	4297	3883	3501	2626	2165	1751	1501	1373	1132	939	854	764		
			FEED	112	156	206	241	252	289	320	291	249	233	233	199	181	171		
	3-4		Vc	37	38	48	49	52	54	55	52	53	54	54	53	50	46		
			fz	0.008	0.017	0.025	0.035	0.042	0.056	0.079	0.091	0.098	0.1	0.1	0.107	0.104	0.119		
			RPM	5889	4032	3820	3119	2759	2149	1751	1379	1205	1074	955	844	723	586		
			FEED	94	137	191	218	232	241	277	251	236	215	191	181	150	139		
5	Vc	24	26	30	32	33	35	34	34	34	34	34	33	33	34				
	fz	0.011	0.017	0.023	0.029	0.037	0.051	0.069	0.079	0.086	0.09	0.1	0.104	0.099	0.105				
	RPM	3820	2759	2387	2037	1751	1393	1082	902	750	676	601	525	477	433				
	FEED	84	94	110	118	130	142	149	142	129	122	120	109	95	91				
6	Vc	44	46	54	61	66	66	68	66	66	69	64	59	59	60				
	fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.083	0.085	0.103	0.106	0.106	0.112				
	RPM	7003	4881	4297	3883	3501	2626	2165	1751	1501	1373	1132	939	854	764				
	FEED	112	156	206	241	252	289	320	291	249	233	233	199	181	171				
7	Vc	37	38	48	49	52	54	55	52	53	54	54	53	50	46				
	fz	0.008	0.017	0.025	0.035	0.042	0.056	0.079	0.091	0.098	0.1	0.1	0.107	0.104	0.119				
	RPM	5889	4032	3820	3119	2759	2149	1751	1379	1205	1074	955	844	723	586				
	FEED	94	137	191	218	232	241	277	251	236	215	191	181	150	139				
8	Vc	24	26	30	32	33	35	34	34	34	34	34	33	33	34				
	fz	0.011	0.017	0.023	0.029	0.037	0.051	0.069	0.079	0.086	0.09	0.1	0.104	0.099	0.105				
	RPM	3820	2759	2387	2037	1751	1393	1082	902	750	676	601	525	477	433				
	FEED	84	94	110	118	130	142	149	142	129	122	120	109	95	91				
9	Vc	15	20	24	25	26	27	26	26	26	26	27	27	27	24				
	fz	0.01	0.017	0.023	0.028	0.036	0.047	0.071	0.071	0.079	0.09	0.094	0.099	0.086	0.1				
	RPM	2387	2122	1910	1592	1379	1074	828	690	591	537	477	430	376	306				
	FEED	48	72	88	89	99	101	118	98	93	97	90	85	65	61				
10	Vc	44	46	54	61	66	66	68	66	66	69	64	59	59	60				
	fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.083	0.085	0.103	0.106	0.106	0.112				
	RPM	7003	4881	4297	3883	3501	2626	2165	1751	1501	1373	1132	939	854	764				
	FEED	112	156	206	241	252	289	320	291	249	233	233	199	181	171				
11.1	Vc	24	26	30	32	33	35	34	34	34	34	34	33	33	34				
	fz	0.011	0.017	0.023	0.029	0.037	0.051	0.069	0.079	0.086	0.09	0.1	0.104	0.099	0.105				
	RPM	3820	2759	2387	2037	1751	1393	1082	902	750	676	601	525	477	433				
	FEED	84	94	110	118	130	142	149	142	129	122	120	109	95	91				
11.2	Vc	11	14	17	18	18	19	19	18	19	19	19	19	19	16				
	fz	0.01	0.018	0.024	0.029	0.036	0.047	0.072	0.071	0.077	0.088	0.096	0.1	0.083	0.095				
	RPM	1751	1485	1353	1146	955	756	605	477	409	378	336	302	275	204				
	FEED	35	53	65	66	69	71	87	68	63	67	65	60	46	39				
M 14.1	Vc	17	22	27	28	29	30	29	29	29	29	30	30	29	26				
	fz	0.01	0.018	0.024	0.028	0.036	0.047	0.071	0.071	0.08	0.091	0.094	0.101	0.083	0.098				
	RPM	2706</																	

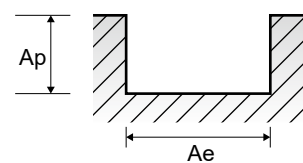


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GYG01 SERIES 3 FLUTE - SLOTTING
3刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	
P	1	Non-alloy steel	1.0D	0.5D	Vc	49	52	65	72	76	78	79	81	84	81	78	72	70	71	
					fz	0.004	0.007	0.011	0.014	0.023	0.031	0.04	0.051	0.052	0.06	0.07	0.08	0.091	0.107	
					RPM	7799	5517	5173	4584	4032	3104	2515	2149	1910	1611	1379	1146	1013	904	
	2		1.0D	0.5D	Vc	41	44	54	60	63	66	68	66	71	69	61	60	61	60	
					fz	0.003	0.007	0.011	0.013	0.023	0.032	0.039	0.053	0.055	0.06	0.072	0.081	0.089	0.11	
					RPM	6525	4669	4297	3820	3342	2626	2165	1751	1614	1373	1079	955	883	764	
	3-4		1.0D	0.5D	Vc	36	38	45	49	52	54	53	54	53	54	53	52	53	46	
					fz	0.003	0.005	0.009	0.012	0.021	0.028	0.038	0.047	0.053	0.056	0.063	0.067	0.083	0.107	
					RPM	5730	4032	3581	3119	2759	2149	1687	1432	1205	1074	955	844	723	586	
	5		1.0D	0.5D	Vc	23	25	29	32	33	35	34	34	35	34	34	33	33	34	
					fz	0.004	0.007	0.009	0.012	0.021	0.029	0.044	0.052	0.055	0.06	0.064	0.069	0.08	0.093	
					RPM	3661	2653	2308	2037	1751	1393	1082	902	796	676	601	525	477	433	
6	1.0D	0.5D	Vc	41	44	54	60	63	66	68	66	71	69	61	60	61	60			
			fz	0.003	0.007	0.011	0.013	0.023	0.032	0.039	0.053	0.055	0.06	0.072	0.081	0.089	0.11			
			RPM	6525	4669	4297	3820	3342	2626	2165	1751	1614	1373	1079	955	883	764			
7	1.0D	0.5D	Vc	36	38	45	49	52	54	53	54	53	54	53	50	46				
			fz	0.003	0.005	0.009	0.012	0.021	0.028	0.038	0.047	0.053	0.056	0.063	0.067	0.083	0.107			
			RPM	5730	4032	3581	3119	2759	2149	1687	1432	1205	1074	955	844	723	586			
8	1.0D	0.5D	Vc	23	25	29	32	33	35	34	34	35	34	34	33	33	34			
			fz	0.004	0.007	0.009	0.012	0.021	0.029	0.044	0.052	0.055	0.06	0.064	0.069	0.08	0.093			
			RPM	3661	2653	2308	2037	1751	1393	1082	902	796	676	601	525	477	433			
9	1.0D	0.3D	Vc	14	20	23	25	25	27	26	26	27	27	27	26	24				
			fz	0.005	0.008	0.012	0.014	0.023	0.031	0.045	0.052	0.056	0.063	0.066	0.074	0.088	0.111			
			RPM	2228	2122	1830	1592	1326	1074	828	690	591	537	477	430	376	306			
10	1.0D	0.5D	Vc	41	44	54	60	63	66	68	66	71	69	61	60	61	60			
			fz	0.003	0.007	0.011	0.013	0.023	0.032	0.039	0.053	0.055	0.06	0.072	0.081	0.089	0.11			
			RPM	6525	4669	4297	3820	3342	2626	2165	1751	1614	1373	1079	955	883	764			
11.1	1.0D	0.5D	Vc	23	25	29	32	33	35	34	34	35	34	34	33	33	34			
			fz	0.004	0.007	0.009	0.012	0.021	0.029	0.044	0.052	0.055	0.06	0.064	0.069	0.08	0.093			
			RPM	3661	2653	2308	2037	1751	1393	1082	902	796	676	601	525	477	433			
11.2	1.0D	0.3D	Vc	10	14	16	17	17	19	18	18	19	19	19	19	16				
			fz	0.005	0.009	0.012	0.014	0.024	0.031	0.044	0.051	0.056	0.063	0.064	0.072	0.086	0.111			
			RPM	1592	1485	1273	1082	902	756	573	477	409	378	336	302	275	204			
M	14.1	Stainless steel	1.0D	0.5D	Vc	41	44	54	60	63	66	68	66	71	69	61	60	61	60	
					fz	0.003	0.007	0.011	0.013	0.023	0.032	0.039	0.053	0.055	0.06	0.072	0.081	0.089	0.11	
					RPM	6525	4669	4297	3820	3342	2626	2165	1751	1614	1373	1079	955	883	764	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	Vc	41	44	54	60	63	66	68	66	71	69	61	60	61	60	
					fz	0.003	0.007	0.011	0.013	0.023	0.032	0.039	0.053	0.055	0.06	0.072	0.081	0.089	0.11	
					RPM	6525	4669	4297	3820	3342	2626	2165	1751	1614	1373	1079	955	883	764	
H	40	Chilled Cast Iron	1.0D	0.3D	Vc	10	14	16	17	17	19	18	18	19	19	19	19	16		
					fz	0.005	0.009	0.012	0.014	0.024	0.031	0.044	0.051	0.056	0.063	0.064	0.072	0.086	0.111	
					RPM	1592	1485	1273	1082	902	756	573	477	409	378	336	302	275	204	



GYG01 SERIES 3 FLUTE - SIDE CUTTING
3刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev./min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	
P	1	Non-alloy steel	0.1D	1.5D	Vc	62	66	78	89	95	97	94	95	95	92	94	95	94		
					fz	0.004	0.008	0.012	0.015	0.024	0.034	0.047	0.056	0.065	0.069	0.076	0.08	0.089	0.11	
					RPM	9868	7003	6207	5666	5040	3860	2992	2520	2160	1930	1627	1496	1375	1197	
	2		0.1D	1.5D	Vc	51	54	66	75	81	78	79	81	79	78	79	79	79	79	
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.094	0.109	
					RPM	8117	5730	5252	4775	4297	3104	2515	2149	1796	1552	1379	1257	1143	1006	
	3-4		0.1D	1.5D	Vc	41	43	53	55	59	60	60	63	61	60	61	59	62	60	
					fz	0.004	0.007	0.01	0.014	0.025	0.033	0.043	0.055	0.06	0.067	0.073	0.082	0.088	0.11	
					RPM	6525	4562	4218	3501	3130	2387	1910	1671	1387	1194	1079	939	897	764	
	5		0.1D	1.5D	Vc	29	31	35	38	41	39	38	41	41	40	40	39	39	39	
					fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.072	0.074	0.081	0.092	0.107	
					RPM	4615	3289	2785	2419	2175	1552	1210	1088	932	796	707	621	564	497	
6	0.1D	1.5D	Vc	51	54	66	75	81	78	79	81	79	78	79	79	79	79			
			fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.094	0.109			
			RPM	8117	5730	5252	4775	4297	3104	2515	2149	1796	1552	1379	1257	1143	1006			
7	0.1D	1.5D	Vc	41	43	53	55	59	60	60	63	61	60	61	59	62	60			
			fz	0.004	0.007	0.01	0.014	0.025	0.033	0.043	0.055	0.06	0.067	0.073	0.082	0.088	0.11			
			RPM	6525	4562	4218	3501	3130	2387	1910	1671	1387	1194	1079	939	897	764			
8	0.1D	1.5D	Vc	29	31	35	38	41	39	38	41	41	40	40	39	39	39			
			fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.072	0.074	0.081	0.092	0.107			
			RPM	4615	3289	2785	2419	2175	1552	1210	1088	932	796	707	621	564	497			
9	0.05D	1.5D	Vc	18	25	29	32	34	33	34	34	33	33	34	33	33	34			
			fz	0.006	0.01	0.013	0.015	0.022	0.035	0.047	0.056	0.064	0.071	0.077	0.082	0.09	0.112			
			RPM	2865	2653	2308	2037	1804	1313	1082	902	750	657	601	525	477	433			
10	0.1D	1.5D	Vc	51	54	66	75	81	78	79	81	79	78	79	79	79	79			
			fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.094	0.109			
			RPM	8117	5730	5252	4775	4297	3104	2515	2149	1796	1552	1379	1257	1143	1006			
11.1	0.1D	1.5D	Vc	29	31	35	38	41	39	38	41	41	40	40	39	39	39			
			fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.072	0.074	0.081	0.092	0.107			
			RPM	4615	3289	2785	2419	2175	1552	1210	1088	932	796	707	621	564	497			
11.2	0.05D	1.5D	Vc	13	17	20	22	24	23	24	23	23	23	23	23	24				
			fz	0.006	0.01	0.014	0.015	0.022	0.036	0.047	0.056	0.063	0.072	0.077	0.081	0.088	0.111			
			RPM	2069	1804	1592	1401	1273	915	764	610	523	458	424	366	333	306			
M	14.1	Stainless steel	0.1D	1.5D	Vc	20	27	32												

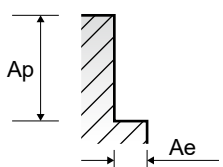


RECOMMENDED CUTTING CONDITIONS
推荐加工参数

GYG74, GYF96, GYG76, GYG02 SERIES 4 FLUTE - SIDE CUTTING
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径																
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0			
P	1	Non-alloy steel	0.1D	1.5D	Vc	69	75	80	83	88	93	87	90	95	97	102	94	87	94			
					fz	0.008	0.015	0.023	0.029	0.035	0.046	0.068	0.071	0.076	0.088	0.097	0.093					
					RPM	10982	7958	6366	5284	4669	3700	2769	2387	2160	1930	1804	1496	1259	1197			
	2		0.1D	1.5D	Vc	63	68	71	75	81	78	79	81	84	85	79	79	79	79			
					fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.088	0.084	0.09				
					RPM	10027	7215	5650	4775	4297	3104	2515	2149	1910	1671	1503	1257	1143	1006			
	3-4		0.1D	1.5D	Vc	46	50	54	55	59	60	63	58	60	61	59	57	60				
					fz	0.007	0.014	0.021	0.028	0.032	0.046	0.059	0.066	0.08	0.085	0.086	0.088	0.093	0.09			
					RPM	7321	5305	4297	3501	3130	2387	1910	1671	1319	1194	1079	939	825	764			
	5		0.1D	1.5D	Vc	31	31	35	38	41	42	38	40	42	41	43	40	39	39			
					fz	0.008	0.017	0.022	0.028	0.032	0.043	0.067	0.068	0.072	0.081	0.077	0.082	0.085	0.09			
					RPM	4934	3289	2785	2419	2175	1671	1210	1061	955	816	760	637	564	497			
6	0.1D	1.5D	Vc	63	68	71	75	81	78	79	81	84	85	79	79	79						
			fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.088	0.084	0.09						
			RPM	10027	7215	5650	4775	4297	3104	2515	2149	1910	1671	1503	1257	1143	1006					
7	0.1D	1.5D	Vc	46	50	54	55	59	60	63	58	60	61	59	57	60						
			fz	0.007	0.014	0.021	0.028	0.032	0.046	0.059	0.066	0.08	0.085	0.086	0.088	0.093	0.09					
			RPM	7321	5305	4297	3501	3130	2387	1910	1671	1319	1194	1079	939	825	764					
8	0.1D	1.5D	Vc	31	31	35	38	41	42	38	40	42	41	43	40	39	39					
			fz	0.008	0.017	0.022	0.028	0.032	0.043	0.067	0.068	0.072	0.081	0.077	0.082	0.085	0.09					
			RPM	4934	3289	2785	2419	2175	1671	1210	1061	955	816	760	637	564	497					
9	0.05D	1.5D	Vc	25	27	30	32	33	35	34	32	33	34	33	33	34						
			fz	0.006	0.013	0.019	0.023	0.031	0.04	0.056	0.064	0.067	0.076	0.075	0.08	0.081	0.087					
			RPM	3979	2865	2387	2037	1751	1393	1082	849	750	657	601	525	477	433					
10	0.1D	1.5D	Vc	63	68	71	75	81	78	79	81	84	85	79	79	79						
			fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.088	0.084	0.09						
			RPM	10027	7215	5650	4775	4297	3104	2515	2149	1910	1671	1503	1257	1143	1006					
11.1	0.1D	1.5D	Vc	31	31	35	38	41	42	38	40	42	41	43	40	39	39					
			fz	0.008	0.017	0.022	0.028	0.032	0.043	0.067	0.068	0.072	0.081	0.077	0.082	0.085	0.09					
			RPM	4934	3289	2785	2419	2175	1671	1210	1061	955	816	760	637	564	497					
11.2	0.05D	1.5D	Vc	17	19	21	22	23	24	23	23	23	24	23	23	24						
			fz	0.006	0.013	0.019	0.024	0.031	0.04	0.057	0.065	0.068	0.076	0.074	0.081	0.081	0.088					
			RPM	2706	2016	1671	1401	1220	955	764	610	523	458	424	366	333	306					
M	14.1	Stainless steel	0.1D	1.5D	Vc	27	30	33	35	36	38	37	36	37	37	36	37	37				
					fz	0.006	0.013	0.019	0.023	0.031	0.039	0.056	0.063	0.067	0.075	0.076	0.08	0.08	0.088			
					RPM	4297	3183	2626	2228	1910	1512	1178	955	841	736	654	573	535	471			
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	63	68	71	75	81	78	79	81	84	85	79	79	79				
					fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.088	0.084	0.09				
					RPM	10027	7215	5650	4775	4297	3104	2515	2149	1910	1671	1503	1257	1143	1006			
H	40	Chilled Cast Iron	0.05D	1.5D	Vc	17	19	21	22	23	24	23	23	23	24	23	23	24				
					fz	0.006	0.013	0.019	0.024	0.031	0.04	0.057	0.065	0.068	0.076	0.074	0.081	0.081	0.088			
					RPM	2706	2016	1671	1401	1220	955	764	610	523	458	424	366	333	306			



GYG52 SERIES 4 FLUTE - SLOTTING, SIDE CUTTING
4刃 - 槽铣削, 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Slotting 槽铣削		Side Cutting 侧铣削		Parameter 参数	Diameter (Ø) 直径															
			Ae(mm)	Ap(mm)	Ae(mm)	Ap(mm)		3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0				
P	1-2	Non-alloy steel	1.0D	0.5D	0.3D	1.5D	Vc	70	70	70	70	70	77	77	77	77	77	77	77	77	77		
							fz	0.005	0.008	0.012	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.065	0.063				
	3-4		0.1D	0.5D	0.3D	1.5D	Vc	64	63	63	64	64	70	70	70	70	70	70	70	70	70		
							fz	0.005	0.008	0.011	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.065	0.063				
	5		0.1D	0.5D	0.3D	1.5D	Vc	44	44	44	44	44	49	49	49	49	49	49	49	49	49	49	
							fz	0.005	0.008	0.011	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.066	0.065				
	6		0.1D	0.5D	0.3D	1.5D	Vc	70	70	70	70	70	77	77	77	77	77	77	77	77	77	77	
							fz	0.005	0.008	0.012	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.065	0.063				
	7		0.1D	0.5D	0.3D	1.5D	Vc	64	63	63	64	64	70	70	70	70	70	70	70	70	70	70	
							fz	0.005	0.008	0.011	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.065	0.063				
	8		0.1D	0.5D	0.3D	1.5D	Vc	44	44	44	44	44	49	49	49	49	49	49	49	49	49	49	
							fz	0.005	0.008	0.011	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.066	0.065				
9	0.1D	0.3D	0.15D	1.5D	Vc	27	27	27	27	27	30	29	29	29	29	29	29	29	29	29			
					fz	0.004	0.007	0.01	0.014	0.024	0.032	0.04	0.041	0.044	0.05	0.056	0.054						
10	0.1D	0.5D	0.3D	1.5D	Vc	70	70	70	70	70	77	77	77	77	77	77	77	77	77	77			
					fz	0.005	0.008	0.012	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.065	0.063						
11.1	0.1D	0.5D	0.3D	1.5D	Vc	44	44	44	44	44	49	49	49	49	49	49	49	49	49	49			
					fz	0.005	0.008	0.011	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.066	0.065						
11.2	0.1D	0.3D	0.15D	1.5D	Vc	27	27	27	27	27	30	29	29	29	29	29	29	29	29	29			
					fz	0.004	0.007	0.01	0.014	0.024	0.032	0.04	0.041	0.044	0.05	0.056	0.054						
M	14.1	Stainless steel	1.0D	0.5D	0.3D	1.5D	Vc	48	48	48	48	48	48	48	48	48	48	48	48	48	48		
							fz	0.005	0.008	0.013	0.018	0.029	0.048	0.056	0.06	0.063	0.071	0.077	0.078				
							RPM	5093	3820	3056	2546	1910	1528	1273	1091	955	849	764	611				
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	0.3D	1.5D	Vc	70	70	70	70	70	77	77	77	77	77	77	77	77	77		
							fz	0.005	0.008	0.012	0.016	0.028	0.039	0.047	0.049	0.053	0.059	0.065	0.063				
							RPM	7427	5570	4456	3714	2785	2451	2042	1751	1532	1362	1225	980				
H	40	Chilled Cast Iron	1.0D	0.3D	0.15D	1.5D	Vc	27	27	27													



ONLY ONE
COATED PM60 END MILLS

RECOMMENDED CUTTING CONDITIONS

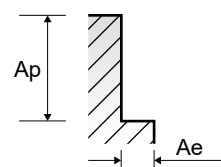
推荐加工参数

GYF95 SERIES

MULTI FLUTE ROUGHING - SIDE CUTTING
多刃粗加工-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0	
P	1	Non-alloy steel	0.5D	1.5D	Vc	76	87	86	87	89	87	85	87	90	
					fz	0.02	0.03	0.055	0.065	0.059	0.069	0.079	0.088	0.105	
					RPM	4032	3462	2737	2308	2024	1731	1503	1385	1146	
	2		Vc	60	69	68	65	66	69	72	68	68			
			fz	0.021	0.03	0.053	0.069	0.063	0.069	0.074	0.087	0.106			
			RPM	3183	2745	2165	1724	1501	1373	1273	1082	866			
	3-4		Vc	43	51	47	49	48	48	50	48	47			
			fz	0.018	0.028	0.046	0.063	0.061	0.069	0.075	0.086	0.107			
			RPM	2281	2029	1496	1300	1091	955	884	764	598			
	5		Vc	43	51	47	49	48	48	50	48	47			
			fz	0.018	0.028	0.046	0.063	0.061	0.069	0.075	0.086	0.107			
			RPM	2281	2029	1496	1300	1091	955	884	764	598			
6	Vc	35	38	40	40	40	40	40	40	41					
	fz	0.02	0.03	0.045	0.061	0.057	0.066	0.073	0.081	0.1					
	RPM	1857	1512	1273	1061	909	796	707	637	522					
7	Vc	149	181	229	259	259	263	258	258	261					
	fz	0.021	0.03	0.053	0.069	0.063	0.069	0.074	0.087	0.106					
	RPM	3183	2745	2165	1724	1501	1373	1273	1082	866					
8-9	Vc	43	51	47	49	48	48	50	48	47					
	fz	0.018	0.028	0.046	0.063	0.061	0.069	0.075	0.086	0.107					
	RPM	2281	2029	1496	1300	1091	955	884	764	598					
10	Vc	35	38	40	40	40	40	40	40	41					
	fz	0.02	0.03	0.045	0.061	0.057	0.066	0.073	0.081	0.1					
	RPM	1857	1512	1273	1061	909	796	707	637	522					
11.1	Vc	149	181	229	259	259	263	258	258	261					
	fz	0.021	0.03	0.053	0.069	0.063	0.069	0.074	0.087	0.106					
	RPM	3183	2745	2165	1724	1501	1373	1273	1082	866					
11.2	Vc	25	27	28	28	28	28	28	28	28					
	fz	0.02	0.029	0.044	0.06	0.056	0.065	0.072	0.08	0.1					
	RPM	1326	1074	891	743	637	557	495	446	357					
M 14.1	Vc	106	125	157	178	178	181	178	178	178					
	fz	0.019	0.03	0.045	0.064	0.059	0.069	0.075	0.084	0.104					
	RPM	2069	1711	1369	1141	1000	855	796	700	560					
K 15-20	Vc	157	205	246	292	295	295	298	294	291					
	fz	0.021	0.03	0.053	0.069	0.063	0.069	0.074	0.087	0.106					
	RPM	3183	2745	2165	1724	1501	1373	1273	1082	866					
H 40	Vc	267	329	459	476	473	474	471	471	459					
	fz	0.02	0.029	0.044	0.06	0.056	0.065	0.072	0.08	0.1					
	RPM	1326	1074	891	743	637	557	495	446	357					



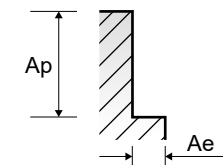
ONLY ONE
COATED PM60 END MILLS

GYF94, GYF98, GYG03 SERIES

MULTI FLUTE ROUGHING - SIDE CUTTING
多刃粗加工-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0	
P	1	Non-alloy steel	0.5D	1.5D	Vc	63	72	72	72	74	72	71	72	75	
					fz	0.027	0.041	0.055	0.065	0.074	0.087	0.099	0.111	0.105	
					RPM	3342	2865	2292	1910	1682	1432	1256	1146	955	
	2		Vc	50	57	57	54	55	57	61	57	57			
			fz	0.027	0.04	0.053	0.069	0.078	0.087	0.092	0.109	0.106			
			RPM	2653	2268	1814	1432	1251	1134	1079	907	726			
	3-4		Vc	36	42	40	41	40	40	41	40	39			
			fz	0.024	0.038	0.047	0.064	0.076	0.087	0.094	0.107	0.106			
			RPM	1910	1671	1273	1088	909	796	725	637	497			
	5		Vc	36	42	40	41	40	40	41	40	39			
			fz	0.024	0.038	0.047	0.064	0.076	0.087	0.094	0.107	0.106			
			RPM	1910	1671	1273	1088	909	796	725	637	497			
6	Vc	29	32	34	34	33	33	33	33	34					
	fz	0.027	0.04	0.044	0.06	0.071	0.081	0.091	0.101	0.1					
	RPM	1538	1273	1082	902	750	657	584	525	433					
7	Vc	125	153	190	216	213	213	212	212	216					
	fz	0.027	0.04	0.044	0.06	0.071	0.081	0.091	0.101	0.1					
	RPM	1538	1273	1082	902	750	657	584	525	433					
8-9	Vc	29	32	34	34	33	33	33	33	34					
	fz	0.027	0.04	0.044	0.06	0.071	0.081	0.091	0.101	0.1					
	RPM	1538	1273	1082	902	750	657	584	525	433					
10	Vc	125	153	190	216	213	213	212	212	216					
	fz	0.027	0.04	0.044	0.06	0.071	0.081	0.091	0.101	0.1					
	RPM	1538	1273	1082	902	750	657	584	525	433					
11.1	Vc	50	57	57	54	55	57	61	57	57					
	fz	0.027	0.04	0.053	0.069	0.078	0.087	0.092	0.109	0.106					
	RPM	2653	2268	1814	1432	1251	1134	1079	907	726					
11.2	Vc	29	32	34	34	33	33	33	33	34					
	fz	0.027	0.04	0.044	0.06	0.071	0.081	0.091	0.101	0.1					
	RPM	1538	1273	1082	902	750	657	584	525	433					
M 14.1	Vc	125	153	190	216	213	213	212	212	216					
	fz	0.027	0.04	0.044	0.06	0.071	0.081	0.091	0.101	0.1					
	RPM	1538	1273	1082	902	750	657	584	525	433					
K 15-20	Vc	94	105	138	146	149	150	148	148	153					
	fz	0.028	0.04	0.045	0.06	0.071	0.082	0.091	0.101	0.1					
	RPM	1114	875	764	610	523	458	407	366	306					
H 40	Vc	33	36	36	36	37	36	37	36	37					
	fz	0.025	0.039	0.045	0.064	0.074	0.085	0.093	0.106	0.102					
	RPM	1751	1432	1146	955	841	716	654	573	471					
K 15-20	Vc	131	168	206	244	249	244	243	243	240					
	fz	0.027	0.04	0.053	0.069	0.078	0.087	0.092	0.109	0.106					
	RPM	2653	2268	1814	1432	1251	1134	1079	907	726					
H 40	Vc	215	272	385	395	390	395	397	396	385					
	fz	0.021	0.03	0.045	0.064	0.059	0.069	0.075	0.084	0.104					
	RPM	2069	1711	1369	1141	1000	855	796	700	560					
H 40	Vc	60	69	68	65	66	69	72	68	68					
	fz	0.021	0.03	0.053	0.069	0.063	0.069	0.074	0.087	0.106					
	RPM	3183	2745	2165	1724	1501	1373	1273	1082	866					
H 40	Vc	267	329	459	476	473	474	471	471	459					
	fz	0.02	0.029	0.044	0.06	0.056	0.065	0.072	0.08	0.1					
	RPM	1326	1074	891	743	637	557	495	446	357					





Global Cutting Tool Leader **YG-1**



MILLING



Leading Through Innovation



HSS-PM

TANK-POWER END MILLS

- High Toughness for Stainless Steels, Carbon steels and Alloy Steels
- 适用于不锈钢，碳钢和合金钢的高韧性铣刀

SELECTION GUIDE

选用指南

HSS



SERIES 系列	E9940 GA940	E9A32 GAA32	E9936 GA936	E9A29 GAA29
FLUTE 槽数	2	2	2	2
HELIX ANGLE 螺旋角度	30°	30°	30°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	BALL NOSE	SQUARE	SQUARE
SIZE MIN 最小尺寸	R0.5	R1.0	D1.0	D1.0
SIZE MAX 最大尺寸	R12.5	R12.5	D25.0	D25.0
PAGE 页数	C548	C549	C550	C551

HSS-PM

TANK-POWER END MILLS

High Toughness, for Stainless Steels, Carbon steels, Alloy Steels
For General Application, Rough & Finish
适用于不锈钢, 碳钢, 合金钢
可用于普通加工, 粗&精加工的高韧性铣刀



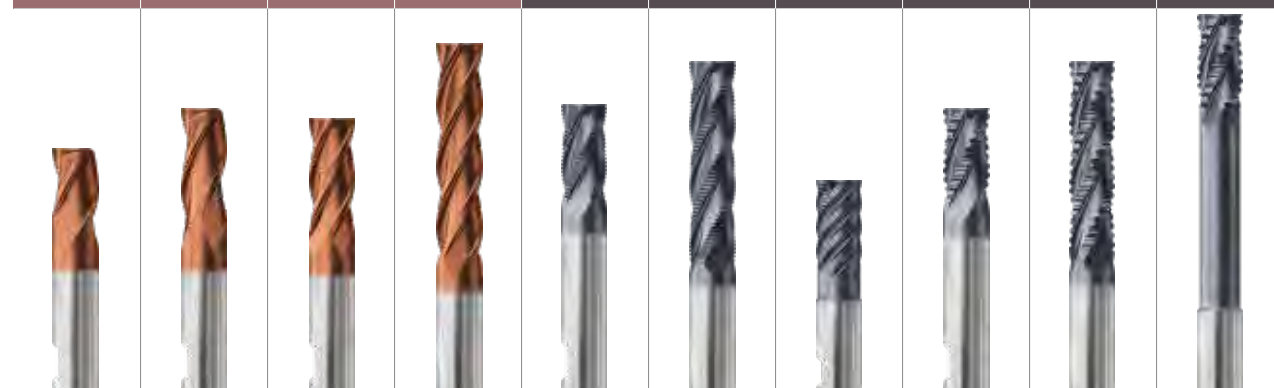
◎: Excellent (优秀) ○: Good (良好)

Recommended cutting conditions (推荐加工参数): p.C562

ISO	VDI 3323	Material Description 材料描述	Composition / Structure / Heat Treatment 成分 / 组织 / 热处理	HB	HRc	E9940 GA940	E9A32 GAA32	E9936 GA936	E9A29 GAA29
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎
	4		About 0.75% C Annealed	270	28	◎	◎	◎	◎
	5		About 0.75% C Quenched & Tempered	300	32	◎	◎	◎	◎
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎
	7		Quenched & Tempered	275	29	◎	◎	◎	◎
	8		Quenched & Tempered	300	32	◎	◎	◎	◎
	9		Quenched & Tempered	350	38	○	○	○	○
	10		High alloyed steel, and tool steel	Annealed	200	15	◎	◎	◎
	11	Quenched & Tempered		325	35	○	○	○	○
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	◎	◎	◎
	13		Martensitic Quenched & Tempered	240	23	◎	◎	◎	◎
	14		Austenitic	180	10	◎	◎	◎	◎
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎	◎
	16		Pearlitic (Martensitic)	260	26	◎	◎	◎	◎
	17	Nodular cast iron	Ferritic	160	3	◎	◎	◎	◎
	18		Pearlitic	250	25	◎	◎	◎	◎
	19	Malleable cast iron	Ferritic	130		◎	◎	◎	◎
	20		Pearlitic	230	21	◎	◎	◎	◎
N	21	Aluminum-wrought alloy	Not Curable	60					
	22		Curable Hardened	100					
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75					
	24		≤ 12% Si, Curable Hardened	90					
	25		> 12% Si, Not Curable	130					
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		○	○	○	○
	27		CuZn, CuSnZn (Brass)	90		○	○	○	○
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100		○	○	○	○
	29		Duroplastic, Fiber Reinforced Plastic						
	30	Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33		Ni or Co Based	Annealed	250	25			
	34			Cured	350	38			
	35			Cast	320	34			
	36	Titanium Alloys	Pure Titanium	400 Rm					
37	Alpha + Beta Alloys		Hardened	1050 Rm					
H	38	Hardened steel	Hardened	550	55				
	39		Hardened	630	60				
	40	Hardened Cast Iron	Cast	400	42				
	41		Hardened	550	55				

HSS

E9942 GA942	E9A30 GAA30	E9938 GA938	E9A31 GAA31	E9941 GA941	E9A35 GAA35	E9A26 GAA26	E9A33 GAA33	E9A34 GAA34	E9E43 GAE43
3	3	4	4	Multi Flute	Multi Flute	Multi Flute	Multi Flute	Multi Flute	Multi Flute
30°	30°	30°	30°	30°	30°	45°	30°	30°	30°
SQUARE	SQUARE	SQUARE	SQUARE	ROUGHING	ROUGHING	ROUGHING	ROUGHING	ROUGHING	ROUGHING
D1.0	D1.0	D1.0	D2.0	D6.0	D6.0	D4.0	D6.0	D6.0	D10.0
D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0
C552	C553	554	C555	C556	C557	C558	C559	C560	C561
STUB LENGTH	SHORT LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	SHORT LENGTH	LONG LENGTH	WITH NECK
TiAIN	TiAIN	TiAIN	TiAIN	X-Coating	X-Coating	X-Coating	X-Coating	X-Coating	X-Coating



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BALL NOSE = 球头 SHORT LENGTH = 短刃 SQUARE = 平头 LONG LENGTH = 长刃 ROUGHING = 粗加工 WITH NECK = 带颈部 MULTIPLE HELIX = 不等螺旋



UNCOATED **E9940** SERIES
 TIAN COATED **GA940** SERIES

HSS-PM, 2 FLUTE SHORT LENGTH BALL NOSE
粉末高速钢, 2刃 短刃 球头

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels. ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ Designed for milling of radius bottom slots, fillets and special contours. ▶ 适合底部圆弧槽、圆角和特殊轮廓的铣削
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting. ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层,



HSS PM DIN 327 2 30° R ±0.02 DIN 1835B p.C562-563

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	
	UNCOATED	TIAN					圆弧角
E9940010		GA940010	R0.5	1.0	6	2.5	47
E9940020		GA940020	R1.0	2.0	6	4	48
E9940030		GA940030	R1.5	3.0	6	5	49
E9940040		GA940040	R2.0	4.0	6	7	51
E9940050		GA940050	R2.5	5.0	6	8	52
E9940060		GA940060	R3.0	6.0	6	8	52
E9940070		GA940070	R3.5	7.0	10	10	60
E9940080		GA940080	R4.0	8.0	10	11	61
E9940090		GA940090	R4.5	9.0	10	11	61
E9940100		GA940100	R5.0	10.0	10	13	63
E9940120		GA940120	R6.0	12.0	12	16	73
E9940140		GA940140	R7.0	14.0	12	16	73
E9940160		GA940160	R8.0	16.0	16	19	79
E9940180		GA940180	R9.0	18.0	16	19	79
E9940200		GA940200	R10.0	20.0	20	22	88
E9940220		GA940220	R11.0	22.0	20	22	88
E9940250		GA940250	R12.5	25.0	25	26	102

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
直径公差	柄径公差
0 ~ -0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



UNCOATED **E9A32** SERIES
 TIAN COATED **GAA32** SERIES

HSS-PM, 2 FLUTE LONG LENGTH BALL NOSE
粉末高速钢, 2刃 长刃 球头

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels. ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ Designed for milling of radius bottom slots, fillets and special contours. ▶ 适合底部圆弧槽、圆角和特殊轮廓的铣削
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting. ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层,



HSS PM DIN 1889 2 30° R ±0.02 DIN 1835B p.C562-563

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Radius of Ball Nose		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	
	UNCOATED	TIAN					圆弧角
E9A32020		GAA32020	R1.0	2.0	6	7	54
E9A32030		GAA32030	R1.5	3.0	6	8	56
E9A32040		GAA32040	R2.0	4.0	6	11	63
E9A32050		GAA32050	R2.5	5.0	6	13	68
E9A32060		GAA32060	R3.0	6.0	6	13	68
E9A32070		GAA32070	R3.5	7.0	10	16	80
E9A32080		GAA32080	R4.0	8.0	10	19	88
E9A32090		GAA32090	R4.5	9.0	10	19	88
E9A32100		GAA32100	R5.0	10.0	10	22	95
E9A32120		GAA32120	R6.0	12.0	12	26	110
E9A32140		GAA32140	R7.0	14.0	12	26	110
E9A32160		GAA32160	R8.0	16.0	16	32	123
E9A32180		GAA32180	R9.0	18.0	16	32	123
E9A32200		GAA32200	R10.0	20.0	20	38	141
E9A32220		GAA32220	R11.0	22.0	20	38	141
E9A32250		GAA32250	R12.5	25.0	25	45	166

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
直径公差	柄径公差
0 ~ -0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

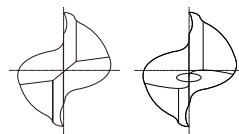
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



UNCOATED **E9936** SERIES
 TiAIN COATED **GA936** SERIES

HSS-PM, 2 FLUTE SHORT LENGTH
粉末高速钢, 2刃 短刃

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels. ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 2 Flute design for slotting. ▶ 为了槽铣削采用2槽设计
- ▶ Suitable for high speed cutting of difficult-to-cut materials. ▶ 适用于高速加工难切削材料
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting. ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层,



to \varnothing 3mm over \varnothing 3m
 \varnothing 3以下 超过 \varnothing 3



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
E9936010	1.0	6	2.5	47
E9936020	2.0	6	4	48
E9936030	3.0	6	5	49
E9936040	4.0	6	7	51
E9936050	5.0	6	8	52
E9936060	6.0	6	8	52
E9936070	7.0	10	10	60
E9936080	8.0	10	11	61
E9936090	9.0	10	11	61
E9936100	10.0	10	13	63
E9936120	12.0	12	16	73
E9936140	14.0	12	16	73
E9936160	16.0	16	19	79
E9936180	18.0	16	19	79
E9936200	20.0	20	22	88
E9936220	22.0	20	22	88
E9936250	25.0	25	26	102

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

	Tolerance range in μ m / 公差单位为				
	Nominal-Diameter in (直径单位为) mm				
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
e8	-14 -28	-20 -38	-25 -47	-32 -59	-40 -73
h6	0 -6	0 -8	0 -9	0 -11	0 -13

◎ : Excellent (优秀) ○ : Good (良好)

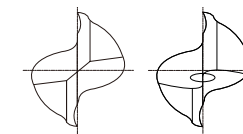
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



UNCOATED **E9A29** SERIES
 TiAIN COATED **GAA29** SERIES

HSS-PM, 2 FLUTE LONG LENGTH
粉末高速钢, 2刃 长刃

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels. ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 2 Flute design for slotting. ▶ 为了槽铣削采用2槽设计
- ▶ Suitable for high speed cutting of difficult-to-cut materials. ▶ 适用于高速加工难切削材料
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting. ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层,



to \varnothing 3mm over \varnothing 3m
 \varnothing 3以下 超过 \varnothing 3



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
E9A29010	1.0	6	3	47
E9A29020	2.0	6	7	51
E9A29030	3.0	6	8	52
E9A29040	4.0	6	11	55
E9A29050	5.0	6	13	57
E9A29060	6.0	6	13	57
E9A29070	7.0	10	16	66
E9A29080	8.0	10	19	69
E9A29090	9.0	10	19	69
E9A29100	10.0	10	22	72
E9A29120	12.0	12	26	83
E9A29140	14.0	12	26	83
E9A29160	16.0	16	32	92
E9A29180	18.0	16	32	92
E9A29200	20.0	20	38	104
E9A29220	22.0	20	38	104
E9A29250	25.0	25	45	121

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

	Tolerance range in μ m / 公差单位为				
	Nominal-Diameter in (直径单位为) mm				
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
e8	-14 -28	-20 -38	-25 -47	-32 -59	-40 -73
h6	0 -6	0 -8	0 -9	0 -11	0 -13

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

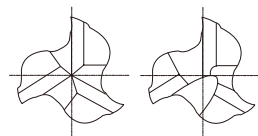


UNCOATED **E9942** SERIES
 TiAIN COATED **GA942** SERIES

HSS-PM, 3 FLUTE STUB LENGTH
粉末高速钢, 3刃 超短刃

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ Well balanced web design to minimize deflection and chattering.
- ▶ 3 flute design possess the advantage of 2 flute and 4 flute end mill.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.

- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 平衡良好的芯核设计, 最大限度地减少挠度和抖振
- ▶ 3槽设计兼具2槽4槽铣刀的优点
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层,



up to Ø 1mm over Ø 1mm
 Ø1mm以下 超过Ø1mm

HSS PM DIN 327 3 30° DIN 1835B p.C566-567

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	
					直径
UNCOATED	TiAIN	e8	h6		
E9942010	GA942010	1.0	6	2.5	47
E9942020	GA942020	2.0	6	4	48
E9942030	GA942030	3.0	6	5	49
E9942040	GA942040	4.0	6	7	51
E9942050	GA942050	5.0	6	8	52
E9942060	GA942060	6.0	6	8	52
E9942070	GA942070	7.0	10	10	60
E9942080	GA942080	8.0	10	11	61
E9942090	GA942090	9.0	10	11	61
E9942100	GA942100	10.0	10	13	63
E9942120	GA942120	12.0	12	16	73
E9942140	GA942140	14.0	12	16	73
E9942160	GA942160	16.0	16	19	79
E9942180	GA942180	18.0	16	19	79
E9942200	GA942200	20.0	20	22	88
E9942220	GA942220	22.0	20	22	88
E9942250	GA942250	25.0	25	26	102

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为					
Nominal-Diameter in mm / 直径单位为					
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

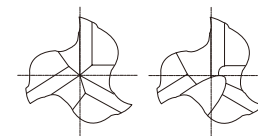


UNCOATED **E9A30** SERIES
 TiAIN COATED **GAA30** SERIES

HSS-PM, 3 FLUTE SHORT LENGTH
粉末高速钢, 3刃 短刃

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ Well balanced web design to minimize deflection and chattering.
- ▶ 3 flute design possess the advantage of 2 flute and 4 flute end mill.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.

- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 平衡良好的芯核设计, 最大限度地减少挠度和抖振
- ▶ 3槽设计兼具2槽4槽铣刀的优点
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层,



up to Ø 1mm over Ø 1mm
 Ø1mm以下 超过Ø1mm

HSS PM DIN 844 3 30° DIN 1835B p.C566-567

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	
					直径
UNCOATED	TiAIN	e8	h6		
E9A30010	GAA30010	1.0	6	3	47
E9A30020	GAA30020	2.0	6	7	51
E9A30030	GAA30030	3.0	6	8	52
E9A30040	GAA30040	4.0	6	11	55
E9A30050	GAA30050	5.0	6	13	57
E9A30060	GAA30060	6.0	6	13	57
E9A30070	GAA30070	7.0	10	16	66
E9A30080	GAA30080	8.0	10	19	69
E9A30090	GAA30090	9.0	10	19	69
E9A30100	GAA30100	10.0	10	22	72
E9A30120	GAA30120	12.0	12	26	83
E9A30140	GAA30140	14.0	12	26	83
E9A30160	GAA30160	16.0	16	32	92
E9A30180	GAA30180	18.0	16	32	92
E9A30200	GAA30200	20.0	20	38	104
E9A30220	GAA30220	22.0	20	38	104
E9A30250	GAA30250	25.0	25	45	121

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为					
Nominal-Diameter in mm / 直径单位为					
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



UNCOATED **E9941** SERIES

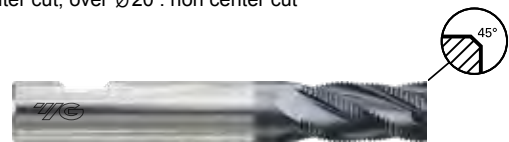
X-COATED **GA941** SERIES

HSS-PM, MULTI FLUTE SHORT LENGTH ROUGHING - FINE

粉末高速钢，多刃短刃粗加工 - 细牙

- ▶ Suitable for high-feed roughing milling.
- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ Providing excellent finished surfaces in many cases.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
- ▶ up to $\varnothing 20$: center cut, over $\varnothing 20$: non center cut

- ▶ 适合高速粗加工
- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 多数情况下，可实现精加工
- ▶ 采用YG-1最新研发的适合高速加工 TANK-POWER 涂层，
- ▶ $\varnothing 20$ 以下，底刃过中心， $\varnothing 20$ 以上，底刃不过中心



up to $\varnothing 9$ $\varnothing 10 \sim \varnothing 20$ over $\varnothing 20$
 $\varnothing 9$ 以下 $\varnothing 10 \sim \varnothing 20$ 超过 $\varnothing 20$

HSS PM DIN 844 HR 3-5



p.C572-573

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	Chamfer
UNCOATED	X-COATING	直径	柄径	刃长	全长	槽数	导向
		js12	h6				
E9941060	GA941060	6.0	6	13	57	3	0.18
E9941070	GA941070	7.0	10	16	66	3	0.18
E9941080	GA941080	8.0	10	19	69	3	0.18
E9941090	GA941090	9.0	10	19	69	3	0.18
E9941100	GA941100	10.0	10	22	72	4	0.18
E9941120	GA941120	12.0	12	26	83	4	0.18
E9941140	GA941140	14.0	12	26	83	4	0.25
E9941160	GA941160	16.0	16	32	92	4	0.25
E9941180	GA941180	18.0	16	32	92	4	0.25
E9941200	GA941200	20.0	20	38	104	4	0.25
E9941220	GA941220	22.0	20	38	104	5	0.36
E9941250	GA941250	25.0	25	45	121	5	0.36

Tolerances according to DIN 7160 & 7161 (标准精度)

按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为						
Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16



Enforced Cutting Edge
刃线保护处理

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



UNCOATED **E9A35** SERIES

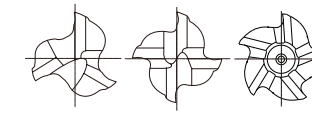
X-COATED **GAA35** SERIES

HSS-PM, MULTI FLUTE LONG LENGTH ROUGHING - FINE

粉末高速钢，多刃长刃粗加工 - 细牙

- ▶ Suitable for high-feed roughing milling.
- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ Providing excellent finished surfaces in many cases.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
- ▶ up to $\varnothing 20$: center cut, over $\varnothing 20$: non center cut

- ▶ 适合高速粗加工
- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 多数情况下，可实现精加工
- ▶ 采用YG-1最新研发的适合高速加工 TANK-POWER 涂层，
- ▶ $\varnothing 20$ 以下，底刃过中心， $\varnothing 20$ 以上，底刃不过中心



up to $\varnothing 9$ $\varnothing 10 \sim \varnothing 20$ over $\varnothing 20$
 $\varnothing 9$ 以下 $\varnothing 10 \sim \varnothing 20$ 超过 $\varnothing 20$

HSS PM DIN 844 HR 3-5



p.C572-573

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	Chamfer
UNCOATED	X-COATING	直径	柄径	刃长	全长	槽数	导向
		js12	h6				
E9A35060	GAA35060	6.0	6	24	68	3	0.18
E9A35070	GAA35070	7.0	10	30	80	3	0.18
E9A35080	GAA35080	8.0	10	38	88	3	0.18
E9A35090	GAA35090	9.0	10	38	88	3	0.18
E9A35100	GAA35100	10.0	10	45	95	4	0.18
E9A35120	GAA35120	12.0	12	53	110	4	0.18
E9A35140	GAA35140	14.0	12	53	110	4	0.25
E9A35160	GAA35160	16.0	16	63	123	4	0.25
E9A35180	GAA35180	18.0	16	63	123	4	0.25
E9A35200	GAA35200	20.0	20	75	141	4	0.25
E9A35220	GAA35220	22.0	20	75	141	5	0.36
E9A35250	GAA35250	25.0	25	90	166	5	0.36

Tolerances according to DIN 7160 & 7161 (标准精度)

按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为						
Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16



Enforced Cutting Edge
刃线保护处理

◎ : Excellent (优秀) ○ : Good (良好)

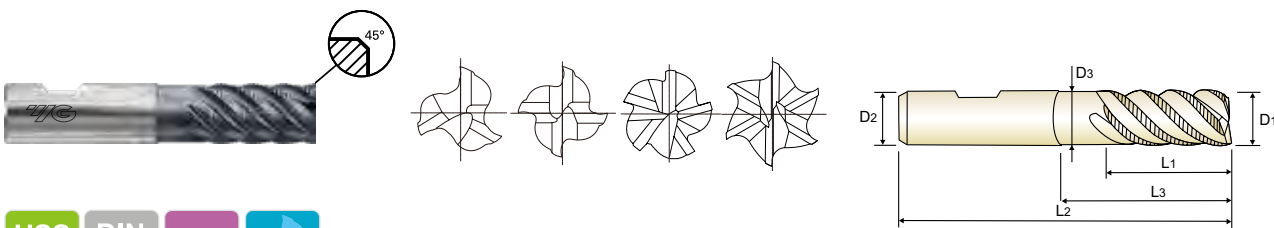
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



UNCOATED **E9A26** SERIES
X-COATED **GAA26** SERIES

HSS-PM, MULTI FLUTE 45°HELIX SHORT LENGTH ROUGHING - FINE
粉末高速钢, 多刃 45度螺旋 粗加工 - 细牙

- ▶ High chip removal and minimizing breakages of cutting edges. 高切屑去除率和最大限度地减少切削刃的破损
- ▶ Designed to machine carbon steels, alloyed steels, stainless steels. 适合加工碳钢、合金钢、不锈钢
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting. 采用YG-1最新研发的适合高速加工 TANK-POWER 涂层,



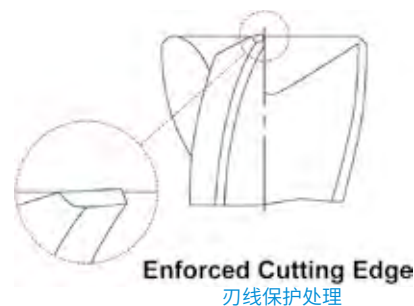
p.C574-575

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	No. of Flute	Chamfer
UNCOATED	X-COATING	D1(js12)	D2(h6)	L1	L3	L2	D3	槽数	导向
E9A26040	GAA26040	4.0	6	11	-	57	-	3	0.1
E9A26050	GAA26050	5.0	6	13	-	57	-	4	0.13
E9A26060	GAA26060	6.0	6	13	-	57	-	4	0.15
E9A26070	GAA26070	7.0	10	16	-	66	-	4	0.15
E9A26080	GAA26080	8.0	10	19	-	69	-	4	0.18
E9A26090	GAA26090	9.0	10	19	-	69	-	4	0.18
E9A26100	GAA26100	10.0	10	22	31	72	9.5	4	0.20
E9A26120	GAA26120	12.0	12	26	37	83	11.5	4	0.20
E9A26140	GAA26140	14.0	12	26	-	83	-	5	0.20
E9A26160	GAA26160	16.0	16	32	44	92	15	5	0.20
E9A26180	GAA26180	18.0	16	32	-	92	-	6	0.20
E9A26200	GAA26200	20.0	20	38	54	104	19	6	0.20
E9A26250	GAA26250	25.0	25	45	63	121	24	6	0.20

Tolerances according to DIN 7160 & 7161(标准精度)
按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为						
Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16



◎ : Excellent (优秀) ○ : Good (良好)

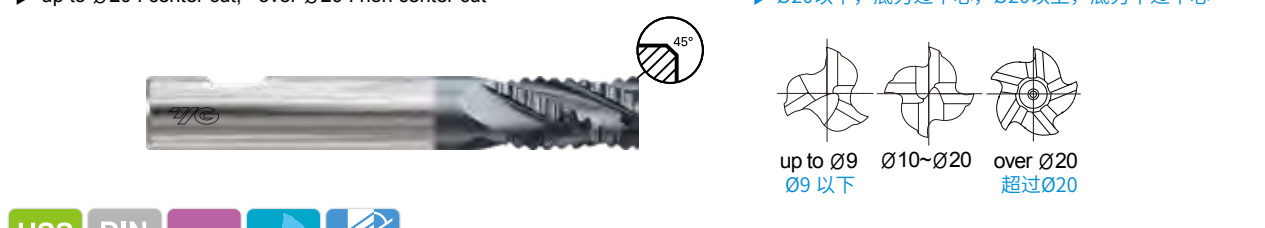
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



UNCOATED **E9A33** SERIES
X-COATED **GAA33** SERIES

HSS-PM, MULTI FLUTE SHORT LENGTH ROUGHING - COARSE
粉末高速钢, 多刃 短刃 粗加工 - 粗牙

- ▶ Suitable for high-feed roughing milling. 适合高速粗加工
- ▶ Designed to machine carbon steels, alloyed steels, stainless steels. 多数情况下, 可实现精加工
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting. 采用YG-1最新研发的适合高速加工 TANK-POWER 涂层,
- ▶ up to $\varnothing 20$: center cut, over $\varnothing 20$: non center cut $\varnothing 20$ 以下, 底刃过中心, $\varnothing 20$ 以上, 底刃不过中心



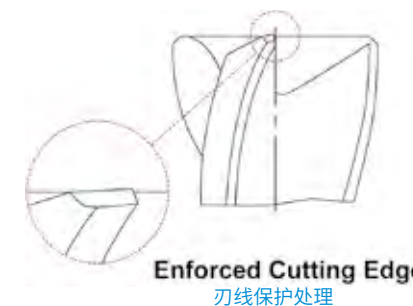
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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	Chamfer
UNCOATED	X-COATING	js12	h6	刃长	全长	槽数	导向
E9A33060	GAA33060	6.0	6	13	57	3	0.25
E9A33070	GAA33070	7.0	10	16	66	3	0.25
E9A33080	GAA33080	8.0	10	19	69	3	0.25
E9A33090	GAA33090	9.0	10	19	69	3	0.36
E9A33100	GAA33100	10.0	10	22	72	4	0.36
E9A33120	GAA33120	12.0	12	26	83	4	0.5
E9A33140	GAA33140	14.0	12	26	83	4	0.55
E9A33160	GAA33160	16.0	16	32	92	4	0.55
E9A33180	GAA33180	18.0	16	32	92	4	0.55
E9A33200	GAA33200	20.0	20	38	104	4	0.55
E9A33220	GAA33220	22.0	20	38	104	5	0.55
E9A33250	GAA33250	25.0	25	45	121	5	0.55

Tolerances according to DIN 7160 & 7161(标准精度)
按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为						
Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

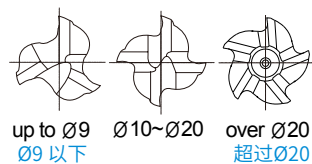


UNCOATED **E9A34** SERIES
X-COATING **GAA34** SERIES

HSS-PM, MULTI FLUTE LONG LENGTH ROUGHING - COARSE
粉末高速钢, 多刃 长刃 粗加工 - 粗牙

- ▶ Suitable for high-feed roughing milling.
- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
- ▶ up to $\varnothing 20$: center cut, over $\varnothing 20$: non center cut

- ▶ 适合高速粗加工
- ▶ 多数情况下, 可实现精加工
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层,
- ▶ $\varnothing 20$ 以下, 底刃过中心, $\varnothing 20$ 以上, 底刃不过中心



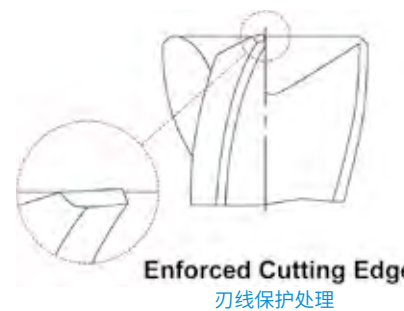
Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长	No. of Flute 槽数	Chamfer 导向	
							UNCOATED
E9A34060	GAA34060	6.0	6	24	68	3	0.25
E9A34070	GAA34070	7.0	10	30	80	3	0.25
E9A34080	GAA34080	8.0	10	38	88	3	0.25
E9A34090	GAA34090	9.0	10	38	88	3	0.36
E9A34100	GAA34100	10.0	10	45	95	4	0.36
E9A34120	GAA34120	12.0	12	53	110	4	0.5
E9A34140	GAA34140	14.0	12	53	110	4	0.55
E9A34160	GAA34160	16.0	16	63	123	4	0.55
E9A34180	GAA34180	18.0	16	63	123	4	0.55
E9A34200	GAA34200	20.0	20	75	141	4	0.55
E9A34220	GAA34220	22.0	20	75	141	5	0.55
E9A34250	GAA34250	25.0	25	90	166	5	0.55

Tolerances according to DIN 7160 & 7161(标准精度)
按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为						
Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

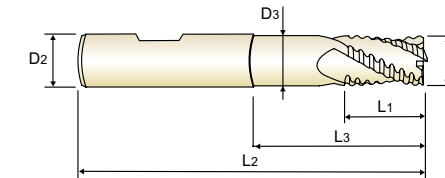


UNCOATED **E9E43** SERIES
X-COATING **GAE43** SERIES

HSS-PM, 4&5 FLUTE ROUGHING WITH NECK - COARSE
粉末高速钢, 4&5刃 粗加工 带颈部 - 粗牙

- ▶ High chip removal and minimizing breakages of cutting edges.
- ▶ Design to machine carbon steels, alloyed steels, stainless steels.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.

- ▶ 高切屑去除率和最大限度地减少切削刃的破损
- ▶ 适合加工碳钢、合金钢、不锈钢
- ▶ 采用YG-1最新研发的 适合高速加工 TANK-POWER 涂层,



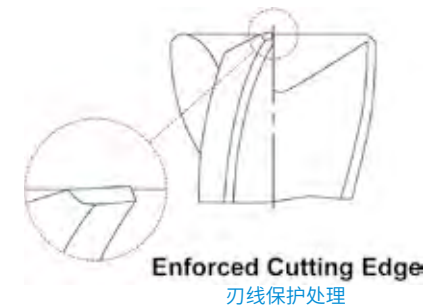
Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Length Below Shank 颈长	Overall Length 全长	Neck Diameter 颈径	No. of Flute 槽数	Chamfer 导向	
									UNCOATED
E9E43100	GAE43100	10.0	10	22	69	110	8.5	4	0.34
E9E43120	GAE43120	12.0	12	26	78	125	10.5	4	0.50
E9E43160	GAE43160	16.0	16	32	87	138	14	4	0.55
E9E43200	GAE43200	20.0	20	38	108	160	18	5	0.55
E9E43250	GAE43250	25.0	25	45	155	216	23	5	0.55

Tolerances according to DIN 7160 & 7161(标准精度)
按DIN7160&7161的标准公差

Tolerance range in μm / 公差单位为						
Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16



◎ : Excellent (优秀) ○ : Good (良好)

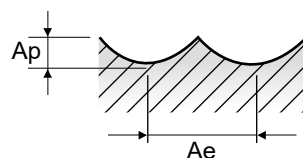
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

GA940 , GAA32 SERIES 2 FLUTE BALL NOSE
2刃球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径										
						3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0		
P	1	Non-alloy steel	0.5D	0.2D	Vc	70	75	85	85	85	85	85	85	85	85	75
					fz	0.023	0.036	0.055	0.079	0.109	0.115	0.141	0.156	0.163		
					RPM	7427	5968	4509	3382	2706	2255	1691	1353	955		
	FEED		342	430	496	534	590	519	477	422	311					
	2		Vc	55	60	65	65	65	70	65	65	60				
			fz	0.02	0.031	0.046	0.067	0.095	0.097	0.123	0.14	0.142				
			RPM	5836	4775	3448	2586	2069	1857	1293	1035	764				
	FEED		233	296	317	347	393	360	318	290	217					
	3-4		Vc	35	40	45	45	45	45	45	45	35				
			fz	0.016	0.027	0.039	0.056	0.082	0.083	0.101	0.11	0.122				
			RPM	3714	3183	2387	1790	1432	1194	895	716	446				
FEED	119	172	186	201	235	198	181	158	109							
5	Vc	20	20	25	20	20	20	20	25	20						
	fz	0.014	0.023	0.035	0.048	0.075	0.073	0.091	0.097	0.104						
	RPM	2122	1592	1326	796	637	531	398	398	255						
FEED	59	73	93	76	95	77	72	77	53							
6	Vc	55	60	65	65	65	70	65	65	60						
	fz	0.02	0.031	0.046	0.067	0.095	0.097	0.123	0.14	0.142						
	RPM	5836	4775	3448	2586	2069	1857	1293	1035	764						
FEED	233	296	317	347	393	360	318	290	217							
7	Vc	35	40	45	45	45	45	45	45	35						
	fz	0.016	0.027	0.039	0.056	0.082	0.083	0.101	0.11	0.122						
	RPM	3714	3183	2387	1790	1432	1194	895	716	446						
FEED	119	172	186	201	235	198	181	158	109							
8-9	Vc	20	20	25	20	20	20	20	25	20						
	fz	0.014	0.023	0.035	0.048	0.075	0.073	0.091	0.097	0.104						
	RPM	2122	1592	1326	796	637	531	398	398	255						
FEED	59	73	93	76	95	77	72	77	53							
10	Vc	55	60	65	65	65	70	65	65	60						
	fz	0.02	0.031	0.046	0.067	0.095	0.097	0.123	0.14	0.142						
	RPM	5836	4775	3448	2586	2069	1857	1293	1035	764						
FEED	233	296	317	347	393	360	318	290	217							
11.1	Vc	20	20	25	20	20	20	20	25	20						
	fz	0.014	0.023	0.035	0.048	0.075	0.073	0.091	0.097	0.104						
	RPM	2122	1592	1326	796	637	531	398	398	255						
FEED	59	73	93	76	95	77	72	77	53							
M 14.1	Vc	20	20	25	25	25	25	25	20	20						
	fz	0.014	0.023	0.036	0.048	0.073	0.074	0.092	0.1	0.1						
	RPM	2122	1592	1326	995	796	663	497	398	255						
FEED	59	73	95	116	98	92	80	51	51							
K 15-20	Vc	55	60	65	65	65	70	65	65	60						
	fz	0.02	0.031	0.046	0.067	0.095	0.097	0.123	0.14	0.142						
	RPM	5836	4775	3448	2586	2069	1857	1293	1035	764						
FEED	233	296	317	347	393	360	318	290	217							

※ The FEED, in long & extra long types, should be reduced by around 50%

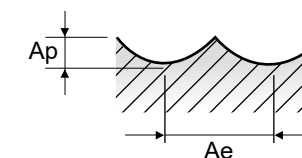


E9940 , E9A32 SERIES 2 FLUTE BALL NOSE
2刃球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径										
						3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0		
P	1	Non-alloy steel	0.5D	0.2D	Vc	45	50	55	60	55	55	60	50			
					fz	0.021	0.033	0.05	0.072	0.103	0.11	0.136	0.14	0.148		
					RPM	4775	3979	2918	2387	1751	1459	1094	955	637		
	FEED		201	263	292	344	361	321	298	267	188					
	2		Vc	35	40	45	45	45	45	45	40					
			fz	0.018	0.029	0.043	0.061	0.089	0.092	0.111	0.12	0.13				
			RPM	3714	3183	2387	1790	1432	1194	895	716	509				
	FEED		134	185	205	218	255	220	199	172	132					
	3-4		Vc	25	25	30	30	30	30	30	25					
			fz	0.015	0.024	0.034	0.052	0.07	0.076	0.092	0.099	0.103				
			RPM	2653	1989	1592	1194	955	796	597	477	318				
FEED	80	95	108	124	134	121	110	95	66							
5	Vc	10	15	15	15	15	15	15	15	15						
	fz	0.013	0.023	0.034	0.046	0.068	0.069	0.083	0.094	0.086						
	RPM	1061	1194	796	597	477	398	298	239	191						
FEED	28	55	54	55	65	55	50	45	33							
6	Vc	35	40	45	45	45	45	45	45	40						
	fz	0.018	0.029	0.043	0.061	0.089	0.092	0.111	0.12	0.13						
	RPM	3714	3183	2387	1790	1432	1194	895	716	509						
FEED	134	185	205	218	255	220	199	172	132							
7	Vc	25	25	30	30	30	30	30	25							
	fz	0.015	0.024	0.034	0.052	0.07	0.076	0.092	0.099	0.103						
	RPM	2653	1989	1592	1194	955	796	597	477	318						
FEED	80	95	108	124	134	121	110	95	66							
8-9	Vc	10	15	15	15	15	15	15	15	15						
	fz	0.013	0.023	0.034	0.046	0.068	0.069	0.083	0.094	0.086						
	RPM	1061	1194	796	597	477	398	298	239	191						
FEED	28	55	54	55	65	55	50	45	33							
10	Vc	35	40	45	45	45	45	45	45	40						
	fz	0.018	0.029	0.043	0.061	0.089	0.092	0.111	0.12	0.13						
	RPM	3714	3183	2387	1790	1432	1194	895	716	509						
FEED	134	185	205	218	255	220	199	172	132							
11.1	Vc	10	15	15	15	15	15	15	15	15						
	fz	0.013	0.023	0.034	0.046	0.068	0.069	0.083	0.094	0.086						
	RPM	1061	1194	796	597	477	398	298	239	191						
FEED	28	55	54	55	65	55	50	45	33							
M 14.1	Vc	15	15	15	15	15	15	15	15	15						
	fz	0.014	0.025	0.036	0.049	0.075	0.074	0.091	0.104	0.09						
	RPM	1592	1194	796	597	477	398	298	239	191						
FEED	45	60	57	58	72	59	54	50	34							
K 15-20	Vc	35	40	45	45	45	45	45	45	40						
	fz	0.018	0.029	0.043	0.061	0.089	0.092	0.111	0.12	0.13						
	RPM	3714	3183	2387	1790	1432	1194	895	716	509						
FEED	134	185	205	218	255	220	199	172	132							

※ The FEED, in long & extra long types, should be reduced by around 50%

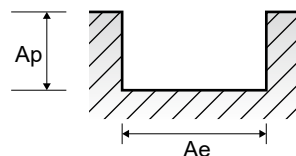


GA936 , GAA29 SERIES 2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	
P	1	Non-alloy steel	1.0D	0.5D	Vc	45	45	55	60	65	65	65	70	70	70	65	60	60	60	
					fz	0.008	0.016	0.027	0.033	0.038	0.053	0.071	0.076	0.083	0.098	0.104	0.116	0.11	0.103	
					RPM	7162	4775	4377	3820	3448	2586	2069	1857	1592	1393	1149	955	868	764	
	2		Vc	35	40	45	50	55	55	55	55	55	60	55	50	50	50	50		
			fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.084	0.085	0.103	0.106	0.106	0.111			
			RPM	5570	4244	3581	3183	2918	2188	1751	1459	1251	1194	973	796	723	637			
	3-4		Vc	30	30	40	40	45	45	45	45	45	45	45	45	40	40	40		
			fz	0.008	0.017	0.025	0.036	0.041	0.056	0.079	0.091	0.098	0.101	0.101	0.107	0.104	0.117			
			RPM	4775	3183	3183	2546	2387	1790	1432	1194	1023	895	796	716	579	509			
	5		Vc	45	45	55	60	65	65	65	70	70	70	65	60	60	60	60		
			fz	0.008	0.016	0.027	0.033	0.038	0.053	0.071	0.076	0.083	0.098	0.104	0.116	0.11	0.103			
RPM		7162	4775	4377	3820	3448	2586	2069	1857	1592	1393	1149	955	868	764					
6	Vc	35	40	45	50	55	55	55	55	60	55	50	50	50	50	50				
	fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.084	0.085	0.103	0.106	0.106	0.111					
	RPM	5570	4244	3581	3183	2918	2188	1751	1459	1251	1194	973	796	723	637					
7	Vc	30	30	40	40	45	45	45	45	45	45	45	45	40	40	40				
	fz	0.008	0.017	0.025	0.036	0.041	0.056	0.079	0.091	0.098	0.101	0.101	0.107	0.104	0.117					
	RPM	4775	3183	3183	2546	2387	1790	1432	1194	1023	895	796	716	579	509					
8	Vc	45	45	55	60	65	65	65	70	70	70	65	60	60	60	60				
	fz	0.008	0.016	0.027	0.033	0.038	0.053	0.071	0.076	0.083	0.098	0.104	0.116	0.11	0.103					
	RPM	7162	4775	4377	3820	3448	2586	2069	1857	1592	1393	1149	955	868	764					
9	Vc	35	40	45	50	55	55	55	55	60	55	50	50	50	50	50				
	fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.084	0.085	0.103	0.106	0.106	0.111					
	RPM	5570	4244	3581	3183	2918	2188	1751	1459	1251	1194	973	796	723	637					
10	Vc	35	40	45	50	55	55	55	55	60	55	50	50	50	50	50				
	fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.084	0.085	0.103	0.106	0.106	0.111					
	RPM	5570	4244	3581	3183	2918	2188	1751	1459	1251	1194	973	796	723	637					
11.1	Vc	45	45	55	60	65	65	65	70	70	70	65	60	60	60	60				
	fz	0.008	0.016	0.027	0.033	0.038	0.053	0.071	0.076	0.083	0.098	0.104	0.116	0.11	0.103					
	RPM	7162	4775	4377	3820	3448	2586	2069	1857	1592	1393	1149	955	868	764					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	Vc	35	40	45	50	55	55	55	55	60	55	50	50	50		
					fz	0.008	0.016	0.024	0.031	0.036	0.055	0.074	0.083	0.084	0.085	0.103	0.106	0.106	0.111	
					RPM	5570	4244	3581	3183	2918	2188	1751	1459	1251	1194	973	796	723	637	

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给

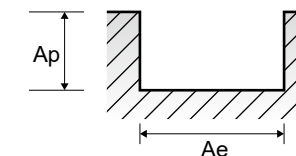


E9936 , E9A29 SERIES 2 FLUTE - SLOTTING
2刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	
P	1	Non-alloy steel	1.0D	0.5D	Vc	30	30	35	40	45	45	45	45	45	45	45	45	45		
					fz	0.007	0.015	0.024	0.031	0.035	0.047	0.064	0.071	0.073	0.089	0.094	0.102	0.096	0.093	
					RPM	4775	3183	2785	2546	2387	1790	1432	1194	1137	895	796	637	579	509	
	2		Vc	25	25	30	35	40	40	40	40	40	40	40	40	35	35	35		
			fz	0.007	0.015	0.023	0.028	0.034	0.05	0.069	0.075	0.082	0.09	0.094	0.093	0.094	0.099			
			RPM	3979	2653	2387	2228	2122	1592	1273	1061	796	796	619	557	506	446			
	3-4		Vc	20	20	25	30	30	30	30	30	30	30	30	30	30	30	25		
			fz	0.008	0.017	0.024	0.032	0.038	0.052	0.07	0.081	0.088	0.092	0.094	0.099	0.094	0.103			
			RPM	3183	2122	1989	1910	1592	1194	955	796	682	597	531	477	434	318			
	5		Vc	15	15	15	15	20	20	20	20	20	20	20	20	20	20	20		
			fz	0.01	0.016	0.023	0.03	0.033	0.047	0.067	0.07	0.076	0.086	0.081	0.092	0.093	0.094			
RPM		2387	1592	1194	955	1061	796	637	531	455	398	354	318	289	255					
6	Vc	25	25	30	35	40	40	40	40	40	40	40	40	35	35	35				
	fz	0.007	0.015	0.023	0.028	0.034	0.05	0.069	0.075	0.082	0.09	0.094	0.093	0.094	0.099					
	RPM	3979	2653	2387	2228	2122	1592	1273	1061	796	796	619	557	506	446					
7	Vc	20	20	25	30	30	30	30	30	30	30	30	30	30	30	25				
	fz	0.008	0.017	0.024	0.032	0.038	0.052	0.07	0.081	0.088	0.092	0.094	0.099	0.094	0.103					
	RPM	3183	2122	1989	1910	1592	1194	955	796	682	597	531	477	434	318					
8	Vc	15	15	15	15	20	20	20	20	20	20	20	20	20	20	20				
	fz	0.01	0.016	0.023	0.03	0.033	0.047	0.067	0.07	0.076	0.086	0.081	0.092	0.093	0.094					
	RPM	2387	1592	1194	955	1061	796	637	531	455	398	354	318	289	255					
9	Vc	10	10	15	15	15	15	15	15	15	15	15	15	15	15	15				
	fz	0.01	0.017	0.021	0.025	0.037	0.046	0.068	0.069	0.074	0.083	0.083	0.083	0.083	0.086					
	RPM	1592	1061	1194	955	796	597	477	398	341	298	265	239	217	191					
10	Vc	25	25	30	35	40	40	40	40	40	40	40	40	35	35	35				
	fz	0.007	0.015	0.023	0.028	0.034	0.05	0.069	0.075	0.082	0.09	0.094	0.093	0.094	0.099					
	RPM	3979	2653	2387	2228	2122	1592	1273	1061	796	796	619	557	506	446					
11.1	Vc	15	15	15	15	20	20	20	20	20	20	20	20	20	20	20				
	fz	0.01	0.016	0.023	0.03	0.033	0.047	0.067	0.07	0.076	0.086	0.081	0.092	0.093	0.094					
	RPM	2387	1592	1194	955	1061	796	637	531	455	398	354	318	289	255					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	Vc	25	25	30	35	40	40	40	40	40	40	40	40			
					fz	0.007	0.015	0.023	0.028	0.034	0.05	0.069	0.075	0.082	0.09	0.094	0.093	0.094	0.099	
					RPM	3979	2653	2387	2228	2122	1592	1273	1061	796	796	619	557	506	446	

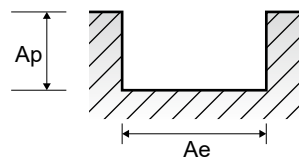
※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给



GA942 , GAA30 SERIES 3 FLUTE - SLOTTING
3刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

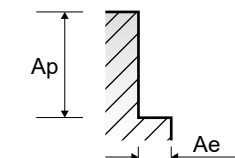
ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	
P	1	Non-alloy steel	1.0D	0.5D	Vc	40	45	55	60	65	65	65	70	70	70	65	60	60	60	
					fz	0.004	0.007	0.011	0.014	0.023	0.031	0.033	0.051	0.052	0.059	0.07	0.081	0.091	0.107	
					RPM	6366	4775	4377	3820	3448	2586	2069	1857	1592	1393	1149	955	868	764	
	2		Vc	35	35	45	50	55	55	55	55	60	60	50	50	50	50			
			fz	0.003	0.007	0.011	0.014	0.023	0.032	0.039	0.053	0.054	0.061	0.071	0.08	0.089	0.111			
			RPM	5570	3714	3581	3183	2918	2188	1751	1459	1364	1194	884	796	723	637			
	3-4		Vc	30	30	40	40	45	45	45	45	45	45	45	45	40	40			
			fz	0.003	0.005	0.009	0.012	0.02	0.028	0.038	0.047	0.053	0.056	0.063	0.067	0.083	0.109			
			RPM	4775	3183	3183	2546	2387	1790	1432	1194	1023	895	796	716	579	509			
	5		Vc	20	20	25	25	25	30	30	30	30	30	30	30	30	30			
			fz	0.004	0.007	0.009	0.012	0.021	0.03	0.043	0.052	0.056	0.061	0.063	0.07	0.079	0.094			
RPM		3183	2122	1989	1592	1326	1194	955	796	682	597	531	477	434	382					
6	Vc	35	35	45	50	55	55	55	60	60	50	50	50	50						
	fz	0.003	0.007	0.011	0.014	0.023	0.032	0.039	0.053	0.054	0.061	0.071	0.08	0.089	0.111					
	RPM	5570	3714	3581	3183	2918	2188	1751	1459	1364	1194	884	796	723	637					
7	Vc	30	30	40	40	45	45	45	45	45	45	45	45	40	40					
	fz	0.003	0.005	0.009	0.012	0.02	0.028	0.038	0.047	0.053	0.056	0.063	0.067	0.083	0.109					
	RPM	4775	3183	3183	2546	2387	1790	1432	1194	1023	895	796	716	579	509					
8	Vc	20	20	25	25	25	30	30	30	30	30	30	30	30	30					
	fz	0.004	0.007	0.009	0.012	0.021	0.03	0.043	0.052	0.056	0.061	0.063	0.07	0.079	0.094					
	RPM	3183	2122	1989	1592	1326	1194	955	796	682	597	531	477	434	382					
9	Vc	10	15	20	20	20	20	20	20	20	25	25	20	20						
	fz	0.005	0.008	0.012	0.014	0.023	0.032	0.045	0.053	0.057	0.064	0.067	0.074	0.09	0.113					
	RPM	1592	1592	1592	1273	1061	796	637	531	455	398	442	398	289	255					
10	Vc	35	35	45	50	55	55	55	60	60	50	50	50	50						
	fz	0.003	0.007	0.011	0.014	0.023	0.032	0.039	0.053	0.054	0.061	0.071	0.08	0.089	0.111					
	RPM	5570	3714	3581	3183	2918	2188	1751	1459	1364	1194	884	796	723	637					
11.1	Vc	20	20	25	25	25	30	30	30	30	30	30	30	30	30					
	fz	0.004	0.007	0.009	0.012	0.021	0.03	0.043	0.052	0.056	0.061	0.063	0.07	0.079	0.094					
	RPM	3183	2122	1989	1592	1326	1194	955	796	682	597	531	477	434	382					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	Vc	35	35	45	50	55	55	55	60	60	50	50	50			
					fz	0.003	0.007	0.011	0.014	0.023	0.032	0.039	0.053	0.054	0.061	0.071	0.08	0.089	0.111	
					RPM	5570	3714	3581	3183	2918	2188	1751	1459	1364	1194	884	796	723	637	



GA942 , GAA30 SERIES 3 FLUTE - SIDE CUTTING
3刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

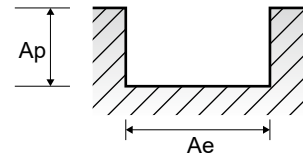
ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	
P	1	Non-alloy steel	0.1D	1.5D	Vc	50	55	65	75	80	80	80	80	80	80	80	80	80		
					fz	0.004	0.008	0.012	0.015	0.024	0.034	0.047	0.056	0.065	0.069	0.077	0.08	0.09	0.11	
					RPM	7958	5836	5173	4775	4244	3183	2546	2122	1819	1592	1326	1273	1157	1019	
	2		Vc	45	45	55	65	70	65	65	70	65	65	65	65	65	65			
			fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109			
			RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828			
	3-4		Vc	35	35	45	45	50	50	50	50	50	50	50	50	50	50			
			fz	0.004	0.007	0.01	0.014	0.024	0.033	0.044	0.055	0.061	0.067	0.073	0.081	0.088	0.111			
			RPM	5570	3714	3581	2865	2653	1989	1592	1459	1137	995	884	796	723	637			
	5		Vc	25	25	30	30	35	35	30	35	35	30	35	35	30	35			
			fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.071	0.075	0.08	0.092	0.107			
RPM		3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446					
6	Vc	45	45	55	65	70	65	65	70	65	65	65	65	65	65					
	fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109					
	RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828					
7	Vc	35	35	45	45	50	50	50	50	50	50	50	50	50	50					
	fz	0.004	0.007	0.01	0.014	0.024	0.033	0.044	0.055	0.061	0.067	0.073	0.081	0.088	0.111					
	RPM	5570	3714	3581	2865	2653	1989	1592	1459	1137	995	884	796	723	637					
8	Vc	25	25	30	30	35	35	30	35	35	30	35	35	30	35					
	fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.071	0.075	0.08	0.092	0.107					
	RPM	3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446					
9	Vc	15	20	25	25	30	30	30	30	30	30	30	30	30	30					
	fz	0.006	0.01	0.013	0.015	0.022	0.035	0.047	0.056	0.063	0.07	0.073	0.083	0.092	0.111					
	RPM	2387	2122	1989	1592	1592	1194	955	796	682	597	531	477	434	382					
10	Vc	45	45	55	65	70	65	65	70	65	65	65	65	65	65					
	fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109					
	RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828					
11.1	Vc	25	25	30	30	35	35	30	35	35	30	35	35	30	35					
	fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.071	0.075	0.08	0.092	0.107					
	RPM	3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	45	45	55	65	70	65	65	70	65	65	65	65			
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109	
					RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828	



E9942, E9A30 SERIES 3 FLUTE - SLOTTING
3刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

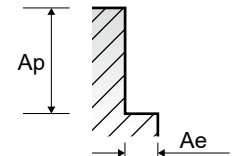
ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	
P	1	Non-alloy steel	1.0D	0.5D	Vc	30	30	35	40	45	45	45	45	45	45	40	40	40		
					fz	0.003	0.007	0.01	0.013	0.021	0.028	0.037	0.047	0.048	0.054	0.064	0.076	0.085	0.096	
					RPM	4775	3183	2785	2546	2387	1790	1432	1194	1023	895	796	637	579	509	
	2		Vc	25	25	30	35	35	40	40	40	40	40	35	35	35	35			
			fz	0.003	0.007	0.01	0.012	0.021	0.029	0.036	0.048	0.048	0.056	0.066	0.075	0.08	0.101			
			RPM	3979	2653	2387	2228	1857	1592	1273	1061	909	796	619	557	506	446			
	3-4		Vc	20	30	25	30	30	30	30	30	30	30	30	30	30	25			
			fz	0.003	0.003	0.008	0.01	0.018	0.026	0.035	0.043	0.049	0.052	0.06	0.059	0.077	0.098			
			RPM	3183	3183	1989	1910	1592	1194	955	796	682	597	531	477	434	318			
	5		Vc	15	15	15	15	20	20	20	20	20	20	20	20	20	20			
			fz	0.003	0.007	0.009	0.012	0.018	0.028	0.038	0.047	0.048	0.057	0.057	0.061	0.074	0.09			
RPM		2387	1592	1194	955	1061	796	637	531	455	398	354	318	289	255					
6	Vc	25	25	30	35	35	40	40	40	40	40	35	35	35	35					
	fz	0.003	0.007	0.01	0.012	0.021	0.029	0.036	0.048	0.048	0.056	0.066	0.075	0.08	0.101					
	RPM	3979	2653	2387	2228	1857	1592	1273	1061	909	796	619	557	506	446					
7	Vc	20	30	25	30	30	30	30	30	30	30	30	30	30	25					
	fz	0.003	0.003	0.008	0.01	0.018	0.026	0.035	0.043	0.049	0.052	0.06	0.059	0.077	0.098					
	RPM	3183	3183	1989	1910	1592	1194	955	796	682	597	531	477	434	318					
8	Vc	15	15	15	15	20	20	20	20	20	20	20	20	20	20					
	fz	0.003	0.007	0.009	0.012	0.018	0.028	0.038	0.047	0.048	0.057	0.057	0.061	0.074	0.09					
	RPM	2387	1592	1194	955	1061	796	637	531	455	398	354	318	289	255					
9	Vc	10	10	15	15	15	15	15	15	15	15	15	15	15	15					
	fz	0.005	0.008	0.012	0.013	0.02	0.03	0.042	0.049	0.053	0.061	0.062	0.068	0.085	0.108					
	RPM	1592	1061	1194	955	796	597	477	398	341	298	265	239	217	191					
10	Vc	25	25	30	35	35	40	40	40	40	40	35	35	35	35					
	fz	0.003	0.007	0.01	0.012	0.021	0.029	0.036	0.048	0.048	0.056	0.066	0.075	0.08	0.101					
	RPM	3979	2653	2387	2228	1857	1592	1273	1061	909	796	619	557	506	446					
11.1	Vc	15	15	15	15	20	20	20	20	20	20	20	20	20	20					
	fz	0.003	0.007	0.009	0.012	0.018	0.028	0.038	0.047	0.048	0.057	0.057	0.061	0.074	0.09					
	RPM	2387	1592	1194	955	1061	796	637	531	455	398	354	318	289	255					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	1.0D	0.5D	Vc	25	25	30	35	35	40	40	40	40	35	35	35			
					fz	0.003	0.007	0.01	0.012	0.021	0.029	0.036	0.048	0.048	0.056	0.066	0.075	0.08	0.101	
					RPM	3979	2653	2387	2228	1857	1592	1273	1061	909	796	619	557	506	446	



E9942, E9A30 SERIES 3 FLUTE - SIDE CUTTING
3刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径														
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	
P	1	Non-alloy steel	0.1D	1.5D	Vc	50	55	65	75	80	80	80	80	80	80	80	80			
					fz	0.004	0.008	0.012	0.015	0.024	0.034	0.047	0.056	0.065	0.069	0.077	0.08	0.09	0.11	
					RPM	7958	5836	5173	4775	4244	3183	2546	2122	1819	1592	1326	1273	1157	1019	
	2		Vc	45	45	55	65	70	65	65	70	65	65	65	65	65	65			
			fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109			
			RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828			
	3-4		Vc	35	35	45	45	50	50	50	50	50	50	50	50	50	50			
			fz	0.004	0.007	0.01	0.014	0.024	0.033	0.044	0.055	0.061	0.067	0.073	0.081	0.088	0.111			
			RPM	5570	3714	3581	2865	2653	1989	1592	1459	1137	995	884	796	723	637			
	5		Vc	25	25	30	30	35	35	30	35	35	30	35	35	30	35			
			fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.071	0.075	0.08	0.092	0.107			
RPM		3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446					
6	Vc	45	45	55	65	70	65	65	70	65	65	65	65	65	65					
	fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109					
	RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828					
7	Vc	35	35	45	45	50	50	50	50	50	50	50	50	50	50					
	fz	0.004	0.007	0.01	0.014	0.024	0.033	0.044	0.055	0.061	0.067	0.073	0.081	0.088	0.111					
	RPM	5570	3714	3581	2865	2653	1989	1592	1459	1137	995	884	796	723	637					
8	Vc	25	25	30	30	35	35	30	35	35	30	35	35	30	35					
	fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.071	0.075	0.08	0.092	0.107					
	RPM	3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446					
9	Vc	15	20	25	25	30	30	30	30	30	30	30	30	30	30					
	fz	0.006	0.01	0.013	0.015	0.022	0.035	0.047	0.056	0.063	0.07	0.073	0.083	0.092	0.111					
	RPM	2387	2122	1989	1592	1592	1194	955	796	682	597	531	477	434	382					
10	Vc	45	45	55	65	70	65	65	70	65	65	65	65	65	65					
	fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109					
	RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828					
11.1	Vc	25	25	30	30	35	35	30	35	35	30	35	35	30	35					
	fz	0.004	0.008	0.011	0.014	0.023	0.036	0.05	0.056	0.06	0.071	0.075	0.08	0.092	0.107					
	RPM	3979	2653	2387	1910	1857	1393	955	928	796	696	619	557	434	446					
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	45	45	55	65	70	65	65	65	65	65	65				
					fz	0.004	0.008	0.012	0.015	0.023	0.035	0.046	0.056	0.063	0.071	0.077	0.081	0.093	0.109	
					RPM	7162	4775	4377	4138	3714	2586	2069	1857	1478	1293	1149	1035	940	828	

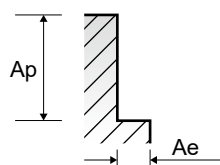


GA938 , GAA31 SERIES **4 FLUTE - SIDE CUTTING**
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø)														
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	
P	1	Non-alloy steel	0.1D	1.5D	Vc	60	60	65	70	75	80	70	75	80	80	85	80	75	80	
					fz	0.008	0.016	0.023	0.029	0.035	0.046	0.068	0.071	0.076	0.08	0.077	0.088	0.098	0.093	
					RPM	9549	6366	5173	4456	3979	3183	2228	1989	1819	1592	1503	1273	1085	1019	
	2		Vc	55	55	60	65	70	65	65	70	70	70	70	65	65	65			
			fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.091			
			RPM	8754	5836	4775	4138	3714	2586	2069	1857	1592	1393	1238	1035	940	828			
	3-4		Vc	40	40	45	45	50	50	50	50	50	50	50	50	45	45	50		
			fz	0.007	0.014	0.021	0.028	0.032	0.046	0.059	0.066	0.08	0.085	0.087	0.088	0.094	0.091			
			RPM	6366	4244	3581	2865	2653	1989	1592	1459	1137	995	884	796	651	637			
	5		Vc	25	25	30	30	35	35	35	35	35	35	35	35	30	35			
			fz	0.008	0.017	0.022	0.028	0.032	0.043	0.066	0.067	0.073	0.081	0.077	0.083	0.085	0.089			
RPM		3979	2653	2387	1910	1857	1393	955	928	796	619	557	434	446						
6	Vc	55	55	60	65	70	65	65	70	70	70	70	65	65	65					
	fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.091					
	RPM	8754	5836	4775	4138	3714	2586	2069	1857	1592	1393	1238	1035	940	828					
7	Vc	40	40	45	45	50	50	50	50	50	50	50	45	45	50					
	fz	0.007	0.014	0.021	0.028	0.032	0.046	0.059	0.066	0.08	0.085	0.087	0.088	0.094	0.091					
	RPM	6366	4244	3581	2865	2653	1989	1592	1459	1137	995	884	796	651	637					
8	Vc	25	25	30	30	35	35	35	35	35	35	35	35	30	35					
	fz	0.008	0.017	0.022	0.028	0.032	0.043	0.066	0.067	0.073	0.081	0.077	0.083	0.085	0.089					
	RPM	3979	2653	2387	1910	1857	1393	955	928	796	619	557	434	446						
9	Vc	20	25	25	25	30	30	30	30	30	30	30	30	30	30					
	fz	0.006	0.013	0.019	0.024	0.031	0.04	0.056	0.064	0.067	0.075	0.08	0.081	0.087						
	RPM	3183	2653	1989	1592	1326	1194	955	663	682	597	531	477	434	382					
10	Vc	55	55	60	65	70	65	65	70	70	70	70	65	65	65					
	fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.091					
	RPM	8754	5836	4775	4138	3714	2586	2069	1857	1592	1393	1238	1035	940	828					
11.1	Vc	25	25	30	30	35	35	35	35	35	35	35	35	30	35					
	fz	0.008	0.017	0.022	0.028	0.032	0.043	0.066	0.067	0.073	0.081	0.077	0.083	0.085	0.089					
	RPM	3979	2653	2387	1910	1857	1393	955	928	796	619	557	434	446						
K 15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	55	55	60	65	70	65	65	70	70	70	65	65	65			
				fz	0.007	0.015	0.021	0.026	0.031	0.046	0.063	0.067	0.072	0.077	0.08	0.088	0.084	0.091		
				RPM	8754	5836	4775	4138	3714	2586	2069	1857	1592	1393	1238	1035	940	828		

※ The FEED, in long & extra long types, should be reduced by around 50%

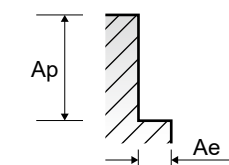


E9938 , E9A31 SERIES **4 FLUTE - SIDE CUTTING**
4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø)																
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0			
P	1	Non-alloy steel	0.1D	1.5D	Vc	40	40	45	45	50	55	50	50	55	50	50	55	55	55	55	55	55
					fz	0.007	0.014	0.021	0.026	0.032	0.043	0.061	0.069	0.071	0.07	0.07	0.079	0.092	0.085			
					RPM	6366	4244	3581	2865	2653	2188	1592	1326	1251	1094	973	875	723	700			
	2		Vc	35	40	40	40	45	45	45	45	45	45	45	45	45	45					
			fz	0.007	0.013	0.02	0.025	0.029	0.042	0.059	0.063	0.065	0.074	0.074	0.081	0.078	0.083					
			RPM	5570	4244	3183	2546	2387	1790	1432	1194	1137	895	884	716	651	573					
	3-4		Vc	25	30	30	30	35	35	35	35	35	35	35	35	30	35					
			fz	0.007	0.013	0.02	0.024	0.028	0.041	0.053	0.064	0.069	0.075	0.079	0.081	0.087	0.081					
			RPM	3979	3183	2387	1910	1857	1393	1114	928	796	696	619	557	434	446					
	5		Vc	20	20	20	20	25	25	25	25	25	25	25	25	20	20					
			fz	0.007	0.014	0.02	0.024	0.029	0.042	0.058	0.063	0.066	0.075	0.07	0.076	0.078	0.085					
RPM		3183	2122	1592	1273	1326	995	637	663	568	497	442	398	289	255							
6	Vc	35	40	40	40	45	45	45	45	45	45	45	45	45	45							
	fz	0.007	0.013	0.02	0.025	0.029	0.042	0.059	0.063	0.065	0.074	0.074	0.081	0.078	0.083							
	RPM	5570	4244	3183	2546	2387	1790	1432	1194	1137	895	884	716	651	573							
7	Vc	25	30	30	30	35	35	35	35	35	35	35	35	30	35							
	fz	0.007	0.013	0.02	0.024	0.028	0.041	0.053	0.064	0.069	0.075	0.079	0.081	0.087	0.081							
	RPM	3979	3183	2387	1910	1857	1393	1114	928	796	696	619	557	434	446							
8	Vc	20	20	20	20	25	25	25	25	25	25	25	25	20	20							
	fz	0.007	0.014	0.02	0.024	0.029	0.042	0.058	0.063	0.066	0.075	0.07	0.076	0.078	0.085							
	RPM	3183	2122	1592	1273	1326	995	637	663	568	497	442	398	289	255							
9	Vc	15	15	15	15	20	20	20	20	20	20	20	20	20	20							
	fz	0.006	0.012	0.018	0.022	0.028	0.038	0.052	0.058	0.061	0.067	0.07	0.071	0.074	0.083							
	RPM	2387	1592	1194	1273	1061	796	637	531	455	398	354	318	289	255							
10	Vc	35	40	40	40	45	45	45	45	45	45	45	45	45	45							
	fz	0.007	0.013	0.02	0.025	0.029	0.042	0.059	0.063	0.065	0.074	0.074	0.081	0.078	0.083							
	RPM	5570	4244	3183	2546	2387	1790	1432	1194	1137	895	884	716	651	573							
11.1	Vc	20	20	20	20	25	25	25	25	25	25	25	25	20	20							
	fz	0.007	0.014	0.02	0.024	0.029	0.042	0.058	0.063	0.066	0.075	0.07	0.076	0.078	0.085							
	RPM	3183	2122	1592	1273	1326	995	637	663	568	497	442	398	289	255							
K 15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.1D	1.5D	Vc	35	40	40	40	45	45	45	45	45	45	45	45						
				fz	0.007	0.013	0.02	0.025	0.029	0.042	0.059	0.063	0.065	0.074	0.074	0.081	0.078	0.083				
				RPM	5570	4244	3183	2546	2387	1790	1432	1194	1137	895	884	716	651	573				

※ The FEED, in long & extra long types, should be reduced by around 50%

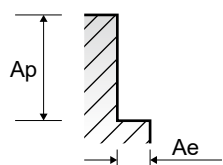


GA941, GAA35, GAA33, GAA34 SERIES MULTI FLUTE ROUGHING - SIDE CUTTING
多刃粗加工-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø)															
						6.0	8.0	10.0	12.0	22.0	25.0	18.0	20.0	22.0	25.0						
P	1	Non-alloy steel	0.5D	1.5D	Vc	55	60	60	60	60	60	60	60	60	60	60	60	60			
					fz	0.027	0.04	0.055	0.065	0.074	0.086	0.099	0.111	0.096	0.105	0.105	0.105	0.105	0.105	0.105	
					RPM	2918	2387	1910	1592	1364	1194	1061	955	868	764	764	764	764	764	764	
	FEED		236	286	420	414	404	411	420	424	417	401	401	401	401	401	401	401			
	2		Vc	40	50	45	45	45	50	50	50	45	45	45	45	45	45	45			
			fz	0.027	0.04	0.053	0.069	0.079	0.087	0.093	0.109	0.102	0.105	0.105	0.105	0.105	0.105	0.105	0.105		
			RPM	2122	1989	1432	1194	1023	995	884	796	651	573	573	573	573	573	573	573		
	FEED		172	239	304	329	323	346	329	347	332	301	301	301	301	301	301	301	301		
	3-4		Vc	30	35	35	35	35	35	35	35	30	35	35	35	35	35	35	35		
			fz	0.024	0.038	0.046	0.064	0.076	0.087	0.094	0.108	0.098	0.105	0.105	0.105	0.105	0.105	0.105	0.105		
			RPM	1592	1393	1114	928	796	696	619	557	434	446	446	446	446	446	446	446		
FEED	115	159	205	238	242	242	233	241	213	234	234	234	234	234	234	234	234				
5	Vc	25	25	30	30	30	30	30	30	30	30	30	30	30	30	30	30				
	fz	0.027	0.04	0.045	0.061	0.071	0.082	0.092	0.102	0.09	0.1	0.1	0.1	0.1	0.1	0.1	0.1				
	RPM	1326	995	955	796	682	597	531	477	434	382	382	382	382	382	382	382				
FEED	107	119	172	194	194	196	195	195	195	191	191	191	191	191	191	191	191				
6	Vc	40	50	45	45	45	50	50	50	45	45	45	45	45	45	45	45				
	fz	0.027	0.04	0.053	0.069	0.079	0.087	0.093	0.109	0.102	0.105	0.105	0.105	0.105	0.105	0.105	0.105				
	RPM	2122	1989	1432	1194	1023	995	884	796	651	573	573	573	573	573	573	573				
FEED	172	239	304	329	323	346	329	347	332	301	301	301	301	301	301	301	301				
7	Vc	30	35	35	35	35	35	35	35	30	35	35	35	35	35	35	35				
	fz	0.024	0.038	0.046	0.064	0.076	0.087	0.094	0.108	0.098	0.105	0.105	0.105	0.105	0.105	0.105	0.105				
	RPM	1592	1393	1114	928	796	696	619	557	434	446	446	446	446	446	446	446				
FEED	115	159	205	238	242	242	233	241	213	234	234	234	234	234	234	234	234				
8-9	Vc	25	25	30	30	30	30	30	30	30	30	30	30	30	30	30	30				
	fz	0.027	0.04	0.045	0.061	0.071	0.082	0.092	0.102	0.09	0.1	0.1	0.1	0.1	0.1	0.1	0.1				
	RPM	1326	995	955	796	682	597	531	477	434	382	382	382	382	382	382	382				
FEED	107	119	172	194	194	196	195	195	195	191	191	191	191	191	191	191	191				
10	Vc	40	50	45	45	45	50	50	50	45	45	45	45	45	45	45	45				
	fz	0.027	0.04	0.053	0.069	0.079	0.087	0.093	0.109	0.102	0.105	0.105	0.105	0.105	0.105	0.105	0.105				
	RPM	2122	1989	1432	1194	1023	995	884	796	651	573	573	573	573	573	573	573				
FEED	172	239	304	329	323	346	329	347	332	301	301	301	301	301	301	301	301				
11.1	Vc	25	25	30	30	30	30	30	30	30	30	30	30	30	30	30	30				
	fz	0.027	0.04	0.045	0.061	0.071	0.082	0.092	0.102	0.09	0.1	0.1	0.1	0.1	0.1	0.1	0.1				
	RPM	1326	995	955	796	682	597	531	477	434	382	382	382	382	382	382	382				
FEED	107	119	172	194	194	196	195	195	195	191	191	191	191	191	191	191	191				
M	14.1	Stainless steel	0.5D	1.5D	Vc	25	30	30	30	30	30	30	30	30	30	30	30				
					fz	0.025	0.039	0.045	0.064	0.074	0.085	0.093	0.107	0.095	0.103	0.103	0.103	0.103	0.103	0.103	
					RPM	1326	1194	955	796	682	597	531	477	434	382	382	382	382	382	382	382
FEED	99	140	172	204	202	203	197	204	206	197	197	197	197	197	197	197	197				
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	Vc	40	50	45	45	45	50	50	50	45	45	45	45				
					fz	0.027	0.04	0.053	0.069	0.079	0.087	0.093	0.109	0.102	0.105	0.105	0.105	0.105	0.105	0.105	0.105
					RPM	2122	1989	1432	1194	1023	995	884	796	651	573	573	573	573	573	573	573
FEED	172	239	304	329	323	346	329	347	332	301	301	301	301	301	301	301	301				

※ The FEED, in long & extra long types, should be reduced by around 50%



E9941, E9A35, E9A33, E9A34 SERIES MULTI FLUTE ROUGHING - SIDE CUTTING
多刃粗加工-侧铣削

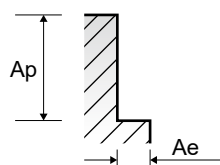
Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø)															
						6.0	8.0	10.0	12.0	22.0	25.0	18.0	20.0	22.0	25.0						
P	1	Non-alloy steel	0.5D	1.5D	Vc	35	40	40	40	40	40	40	40	40	40	40	40	40			
					fz	0.018	0.028	0.05	0.059	0.056	0.063	0.061	0.067	0.072	0.08	0.08	0.08	0.08	0.08	0.08	0.08
					RPM	1857	1592	1273	1061	909	796	707	637	579	509	509	509	509	509	509	509
	FEED		100	134	255	250	204	201	173	171	208	204	204	204	204	204	204	204	204		
	2		Vc	30	35	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
			fz	0.018	0.027	0.049	0.063	0.058	0.064	0.056	0.067	0.078	0.081	0.081	0.081	0.081	0.081	0.081	0.081	0.081	
			RPM	1592	1393	955	796	682	597	619	477	434	382	382	382	382	382	382	382	382	
	FEED		86	113	187	201	158	153	139	128	169	155	155	155	155	155	155	155	155		
	3-4		Vc	20	25	20	25	20	25	20	25	20	20	20	20	20	20	20	20	20	
			fz	0.017	0.028	0.044	0.058	0.055	0.062	0.057	0.065	0.073	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	
			RPM	1061	995	637	663	455	497	442	398	289	255	255	255	255	255	255	255	255	
FEED	54	84	112	154	100	123	101	103	106	102	102	102	102	102	102	102	102	102			
5	Vc	15	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20			
	fz	0.018	0.027	0.042	0.055	0.051	0.059	0.056	0.061	0.068	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076			
	RPM	796	796	637	531	455	398	354	318	289	255	255	255	255	255	255	255	255			
FEED	43	64	107	117	93	94	79	78	98	97	97	97	97	97	97	97	97	97			
6	Vc	30	35	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30			
	fz	0.018	0.027	0.049	0.063	0.058	0.064	0.056	0.067	0.078	0.081	0.081	0.081	0.081	0.081	0.081	0.081	0.081			
	RPM	1592	1393	955	796	682	597	619	477	434	382	382	382	382	382	382	382	382			
FEED	86	113	187	201	158	153	139	128	169	155	155	155	155	155	155	155	155	155			
7	Vc	20	25	20	25	20	25	20	25	20	20	20	20	20	20	20	20	20			
	fz	0.017	0.028	0.044	0.058	0.055	0.062	0.057	0.065	0.073	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08			
	RPM	1061	995	637	663	455	497	442	398	289	255	255	255	255	255	255	255	255			
FEED	54	84	112	154	100	123	101	103	106	102	102	102	102	102	102	102	102	102			
8-9	Vc	15	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20			
	fz	0.018	0.027	0.042	0.055	0.051	0.059	0.056	0.061	0.068	0.076	0.076	0.076	0.076	0.076	0.076	0.076	0.076			
	RPM	796	796	637	531	455	398	354	318	289											

GAA26 SERIES MULTI FLUTE ROUGHING - SIDE CUTTING
多刃粗加工-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

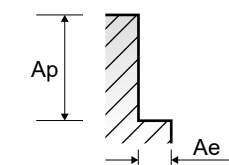
ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø)												
						6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0			
P	1	Non-alloy steel	0.5D	1.5D	Vc	55	60	60	60	60	60	60	60	60	60	60	60	60
					fz	0.021	0.03	0.055	0.065	0.059	0.069	0.066	0.074	0.08	0.088			
					RPM	2918	2387	1910	1592	1364	1194	1061	955	868	764			
	2		Vc	40	50	45	45	45	50	50	50	45	45	45				
			fz	0.02	0.03	0.053	0.069	0.063	0.069	0.062	0.072	0.085	0.088					
			RPM	2122	1989	1432	1194	1023	995	884	796	651	573					
	3-4		Vc	30	35	35	35	35	35	35	35	30	35	35				
			fz	0.018	0.029	0.046	0.064	0.061	0.07	0.063	0.072	0.082	0.087					
			RPM	1592	1393	1114	928	796	696	619	557	434	446					
	5		Vc	25	25	30	30	30	30	30	30	30	30	30				
			fz	0.02	0.03	0.045	0.061	0.057	0.065	0.061	0.068	0.075	0.083					
RPM		1326	995	955	796	682	597	531	477	434	382							
6	Vc	40	50	45	45	45	50	50	50	45	45	45						
	fz	0.02	0.03	0.053	0.069	0.063	0.069	0.062	0.072	0.085	0.088							
	RPM	2122	1989	1432	1194	1023	995	884	796	651	573							
7	Vc	30	35	35	35	35	35	35	35	30	35	35						
	fz	0.018	0.029	0.046	0.064	0.061	0.07	0.063	0.072	0.082	0.087							
	RPM	1592	1393	1114	928	796	696	619	557	434	446							
8-9	Vc	25	25	30	30	30	30	30	30	30	30	30						
	fz	0.02	0.03	0.045	0.061	0.057	0.065	0.061	0.068	0.075	0.083							
	RPM	1326	995	955	796	682	597	531	477	434	382							
10	Vc	40	50	45	45	45	50	50	50	45	45	45						
	fz	0.02	0.03	0.053	0.069	0.063	0.069	0.062	0.072	0.085	0.088							
	RPM	2122	1989	1432	1194	1023	995	884	796	651	573							
11.1	Vc	25	25	30	30	30	30	30	30	30	30	30						
	fz	0.02	0.03	0.045	0.061	0.057	0.065	0.061	0.068	0.075	0.083							
	RPM	1326	995	955	796	682	597	531	477	434	382							
M	14.1	Stainless steel	0.5D	1.5D	Vc	25	30	30	30	30	30	30	30	30	30	30		
					fz	0.019	0.029	0.045	0.064	0.059	0.068	0.062	0.071	0.079	0.085			
					RPM	1326	1194	955	796	682	597	531	477	434	382			
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	Vc	40	50	45	45	45	50	50	50	45	45	45		
					fz	0.02	0.03	0.053	0.069	0.063	0.069	0.062	0.072	0.085	0.088			
					RPM	2122	1989	1432	1194	1023	995	884	796	651	573			



E9A26 SERIES MULTI FLUTE ROUGHING - SIDE CUTTING
多刃粗加工-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø)												
						6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0			
P	1	Non-alloy steel	0.5D	1.5D	Vc	35	40	40	40	40	40	40	40	40	40	40	40	
					fz	0.018	0.028	0.05	0.059	0.056	0.063	0.061	0.067	0.072	0.08			
					RPM	1857	1592	1273	1061	909	796	707	637	579	509			
	2		Vc	30	35	30	30	30	30	35	30	30	30	30				
			fz	0.018	0.027	0.049	0.063	0.058	0.064	0.056	0.067	0.078	0.081					
			RPM	1592	1393	955	796	682	597	619	477	434	382					
	3-4		Vc	20	25	20	25	20	25	20	25	20	20	20				
			fz	0.017	0.028	0.044	0.058	0.055	0.062	0.057	0.065	0.073	0.08					
			RPM	1061	995	637	663	455	497	442	398	289	255					
	5		Vc	15	20	20	20	20	20	20	20	20	20	20				
			fz	0.018	0.027	0.042	0.055	0.051	0.059	0.056	0.061	0.068	0.076					
RPM		796	796	637	531	455	398	354	318	289	255							
6	Vc	30	35	30	30	30	30	35	30	30	30	30						
	fz	0.018	0.027	0.049	0.063	0.058	0.064	0.056	0.067	0.078	0.081							
	RPM	1592	1393	955	796	682	597	619	477	434	382							
7	Vc	20	25	20	25	20	25	20	25	20	20	20						
	fz	0.017	0.028	0.044	0.058	0.055	0.062	0.057	0.065	0.073	0.08							
	RPM	1061	995	637	663	455	497	442	398	289	255							
8-9	Vc	15	20	20	20	20	20	20	20	20	20	20						
	fz	0.018	0.027	0.042	0.055	0.051	0.059	0.056	0.061	0.068	0.076							
	RPM	796	796	637	531	455	398	354	318	289	255							
10	Vc	30	35	30	30	30	30	35	30	30	30	30						
	fz	0.018	0.027	0.049	0.063	0.058	0.064	0.056	0.067	0.078	0.081							
	RPM	1592	1393	955	796	682	597	619	477	434	382							
11.1	Vc	15	20	20	20	20	20	20	20	20	20	20						
	fz	0.018	0.027	0.042	0.055	0.051	0.059	0.056	0.061	0.068	0.076							
	RPM	796	796	637	531	455	398	354	318	289	255							
M	14.1	Stainless steel	0.5D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20	20		
					fz	0.02	0.03	0.045	0.065	0.06	0.069	0.064	0.073	0.081	0.086			
					RPM	1061	796	637	531	455	398	354	318	289	255			
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	Vc	30	35	30	30	30	30	35	30	30	30	30		
					fz	0.018	0.027	0.049	0.063	0.058	0.064	0.056	0.067	0.078	0.081			
					RPM	1592	1393	955	796	682	597	619	477	434	382			





Global Cutting Tool Leader **YG-1**



MILLING



Leading Through Innovation



HSS

GENERAL HSS END MILLS

- General Purpose / Coating Available
- 普通加工 / 可以提供涂层

SELECTION GUIDE
选用指南



SERIES 系列	E2480	E2401	E2406
FLUTE 槽数	2	2	2
HELIX ANGLE 螺旋角度	30°	30°	30°
CUTTING EDGE SHAPE 类型	BALL NOSE	SQUARE	SQUARE
SIZE MIN 最小尺寸	R0.5	D1.0	D3.0
SIZE MAX 最大尺寸	R25.0	D50.0	D50.0
PAGE 页数	C582-583	C584-586	C587-588

HSS
GENERAL HSS
END MILLS

General Purpose, Non-coated, Any Coating Available
普通加工, 非涂层, 任何涂层都可以提供



◎ : Excellent (优秀) ○ : Good (良好)

Recommended cutting conditions (推荐加工参数) : p.C600

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	
P	1	Non-alloy steel	About 0.15% C Annealed	125		
	2		About 0.45% C Annealed	190	13	
	3		About 0.45% C Quenched & Tempered	250	25	
	4		About 0.75% C Annealed	270	28	
	5		About 0.75% C Quenched & Tempered	300	32	
	6	Low alloy steel	Annealed	180	10	
	7		Quenched & Tempered	275	29	
	8		Quenched & Tempered	300	32	
	9		Quenched & Tempered	350	38	
	10		High alloyed steel, and tool steel	Annealed	200	15
	11			Quenched & Tempered	325	35
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	
	13		Martensitic Quenched & Tempered	240	23	
	14		Austenitic	180	10	
K	15	Grey cast iron	Pearlitic / ferritic	180	10	
	16		Pearlitic (Martensitic)	260	26	
	17	Nodular cast iron	Ferritic	160	3	
	18		Pearlitic	250	25	
	19	Malleable cast iron	Ferritic	130		
	20		Pearlitic	230	21	
N	21	Aluminum-wrought alloy	Not Curable	60		
	22		Curable Hardened	100		
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		
	24		≤ 12% Si, Curable Hardened	90		
	25		> 12% Si, Not Curable	130		
	26		Copper and Copper Alloys (Bronze / Brass)	110		
	27	Non Metallic Materials	CuZn, CuSnZn (Brass)	90		
	28		CuSn, lead-free copper and electrolytic copper	100		
	29		Duroplastic, Fiber Reinforced Plastic			
	30	Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15	
	32		Cured	280	30	
	33		Annealed	250	25	
	34		Ni or Co Based Cured	350	38	
	35		Cast	320	34	
	36	Titanium Alloys	Pure Titanium	400 Rm		
	37		Alpha + Beta Alloys Hardened	1050 Rm		
H	38	Hardened Cast Iron	Hardened	550	55	
	39		Hardened	630	60	
	40		Cast	400	42	
	41		Hardened	550	55	

E2412	E2659	E2750	E2760	E2759	E2753	EL612
4	4	4	4-6 (Multi Flute)	4-6 (Multi Flute)	3-6 (Multi Flute)	1
30°	30°	30°	30°	30°	30°	≈ 30°
SQUARE	SQUARE	SQUARE	SQUARE ROUGHING - COARSE	SQUARE ROUGHING - COARSE	SQUARE ROUGHING - FINE	SQUARE
D1.0	D3.0	D16.0	D6.0	D10.0	D6.0	D3.0
D50.0	D50.0	D50.0	D50.0	D50.0	D40.0	D10.0
C589-591	C592-593	C594	C595-596	C597	C598	C599
REGULAR LENGTH CENTER CUT	LONG LENGTH CENTER CUT	EXTRA LONG LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	-
Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated
HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSSCo8	HSS-E

BALL NOSE = 球头 SHORT LENGTH = 短刃 SQUARE = 平头 REGULAR LENGTH = 普通刃长 ROUGHING = 粗加工 LONG LENGTH = 长刃 MULTIPLE HELIX = 不等螺旋 COARSE = 粗牙 Center Cut = 过中心 FINE = 细牙 EXTRA LONG LENGTH = 加长刃 Uncoated = 非涂层



PLAIN SHANK **E2480** SERIES
PLAIN SHANK **EQ480** SERIES

HSSCo8, 2 FLUTE REGULAR LENGTH BALL NOSE HSSCo8, 2刃 普通刃长 球头

► The two flute ball End Mills are designed for milling of radius bottom slot, fillet and special contour. The end teeth are cut to center allowing these end mills to drill into material at the beginning of a slotting cut. The two flute design provides good chip ejection ability in slotting.

► 2个刃的球头铣刀是用来加工圆弧底面的立槽，带沟和特殊轮廓而设计的。底刃切削刃到中心允许这些铣刀在开立槽之前在材料上先钻孔。2刃设计为开立槽时提供了很好的排屑能力。



HSS Co8 2 30° ±0.02 PLAIN p.C600~601

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

EDP No.		Radius of Ball Nose 圆弧角	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAIN	R (±0.02)	直径	柄径	刃长	全长
E2480010	EQ480010	R0.5	1.0	6	2.5	50
E2480015	EQ480015	R0.75	1.5	6	4	50
E2480020	EQ480020	R1.0	2.0	6	5	50
E2480025	EQ480025	R1.25	2.5	6	6	60
E2480030	EQ480030	R1.5	3.0	6	8	60
E2480901	EQ480901	R2.0	4.0	6	8	70
E2480902	EQ480902	R2.5	5.0	6	10	80
E2480903	EQ480903	R3.0	6.0	6	12	90
E2480904	EQ480904	R3.5	7.0	8	14	90
E2480905	EQ480905	R4.0	8.0	8	14	100
E2480090	EQ480090	R4.5	9.0	10	18	100
E2480100	EQ480100	R5.0	10.0	10	18	100
E2480110	EQ480110	R5.5	11.0	12	22	100
E2480120	EQ480120	R6.0	12.0	12	22	110
E2480130	EQ480130	R6.5	13.0	12	26	110
E2480906	EQ480906	R7.0	14.0	12	26	110
E2480907	EQ480907	R7.5	15.0	12	30	110
E2480160	EQ480160	R8.0	16.0	16	30	140
E2480170	EQ480170	R8.5	17.0	16	34	140
E2480180	EQ480180	R9.0	18.0	16	34	140
E2480190	EQ480190	R9.5	19.0	16	38	140
E2480200	EQ480200	R10.0	20.0	20	38	160
E2480210	EQ480210	R10.5	21.0	20	45	170
E2480220	EQ480220	R11.0	22.0	20	45	170

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



PLAIN SHANK **E2480** SERIES
PLAIN SHANK **EQ480** SERIES

HSSCo8, 2 FLUTE REGULAR LENGTH BALL NOSE HSSCo8, 2刃 普通刃长 球头

► The two flute ball End Mills are designed for milling of radius bottom slot, fillet and special contour. The end teeth are cut to center allowing these end mills to drill into material at the beginning of a slotting cut. The two flute design provides good chip ejection ability in slotting.

► 2个刃的球头铣刀是用来加工圆弧底面的立槽，带沟和特殊轮廓而设计的。底刃切削刃到中心允许这些铣刀在开立槽之前在材料上先钻孔。2刃设计为开立槽时提供了很好的排屑能力。



HSS Co8 2 30° ±0.02 PLAIN p.C600~601

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

EDP No.		Radius of Ball Nose 圆弧角	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAIN	R (±0.02)	直径	柄径	刃长	全长
E2480230	EQ480230	R11.5	23.0	20	50	180
E2480908	EQ480908	R12.0	24.0	20	50	180
E2480240	EQ480240	R12.0	24.0	25	50	180
E2480250	EQ480250	R12.5	25.0	25	50	180
E2480260	EQ480260	R13.0	26.0	25	50	180
E2480270	EQ480270	R13.5	27.0	25	50	180
E2480280	EQ480280	R14.0	28.0	25	50	180
E2480300	EQ480300	R15.0	30.0	25	55	180
E2480320	EQ480320	R16.0	32.0	32	60	180
E2480350	EQ480350	R17.5	35.0	32	60	180
E2480400	EQ480400	R20.0	40.0	32	65	200
E2480500	EQ480500	R25.0	50.0	42	75	210

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	13	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



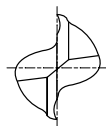
PLAIN SHANK **E2401** SERIES

PLAIN SHANK **EQ401** SERIES

HSSCo8, 2 FLUTE REGULAR LENGTH HSSCo8, 2刃 普通刃长

▶ These end mills are furnished as regular with right-hand cutting and right-hand helical flutes. These are designed for slotting, drilling, pocketing and general-purpose operation.

▶ 这些铁刀是右向螺旋角右向切削的正规铁刀，为开立槽，钻孔，型腔和普通用途加工而设计



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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TIAIN	直径	柄径	刃长	全长
E2401010	EQ401010	1.0	6	2.5	55
E2401015	EQ401015	1.5	6	4	55
E2401020	EQ401020	2.0	6	6	55
E2401025	EQ401025	2.5	6	7	55
E2401030	EQ401030	3.0	6	10	55
E2401035	EQ401035	3.5	8	12	60
E2401903	EQ401903	4.0	6	12	55
E2401040	EQ401040	4.0	8	12	60
E2401045	EQ401045	4.5	8	15	65
E2401905	EQ401905	5.0	6	15	60
E2401050	EQ401050	5.0	8	15	65
E2401055	EQ401055	5.5	8	15	65
E2401907	EQ401907	•6.0	6	15	60
E2401060	EQ401060	•6.0	8	15	65
E2401065	EQ401065	6.5	10	20	75
E2401070	EQ401070	7.0	10	20	75
E2401909	EQ401909	7.0	8	20	70
E2401075	EQ401075	7.5	10	20	75
E2401080	EQ401080	•8.0	10	21	75
E2401911	EQ401911	•8.0	8	20	70
E2401085	EQ401085	8.5	10	25	80
E2401090	EQ401090	9.0	10	25	80
E2401095	EQ401095	9.5	10	25	80
E2401100	EQ401100	10.0	10	26	80
E2401105	EQ401105	10.5	12	30	90
E2401110	EQ401110	11.0	12	30	90

▶ NEXT PAGE 下页

Mill Dia. Tolerance (mm) 直径公差					Shank Dia. Tolerance 柄径公差
•6	•8	•10	•12	Other size	h6
0 -0.035	0 -0.040	0 -0.040	0 -0.045	0 -0.030	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



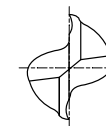
PLAIN SHANK **E2401** SERIES

PLAIN SHANK **EQ401** SERIES

HSSCo8, 2 FLUTE REGULAR LENGTH HSSCo8, 2刃 普通刃长

▶ These end mills are furnished as regular with right-hand cutting and right-hand helical flutes. These are designed for slotting, drilling, pocketing and general-purpose operation.

▶ 这些铁刀是右向螺旋角右向切削的正规铁刀，为开立槽，钻孔，型腔和普通用途加工而设计



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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TIAIN	直径	柄径	刃长	全长
E2401115	EQ401115	11.5	12	30	90
E2401120	EQ401120	•12.0	12	31	90
E2401130	EQ401130	13.0	12	35	95
E2401916	EQ401916	14.0	12	35	95
E2401140	EQ401140	14.0	16	35	100
E2401150	EQ401150	15.0	16	40	105
E2401160	EQ401160	16.0	16	40	105
E2401170	EQ401170	17.0	16	40	105
E2401180	EQ401180	18.0	16	40	105
E2401190	EQ401190	19.0	20	45	115
E2401200	EQ401200	20.0	20	45	115
E2401210	EQ401210	21.0	20	45	115
E2401220	EQ401220	22.0	20	45	115
E2401230	EQ401230	23.0	25	50	125
E2401240	EQ401240	24.0	25	50	125
E2401250	EQ401250	25.0	25	50	125
E2401260	EQ401260	26.0	25	50	125
E2401270	EQ401270	27.0	25	55	125
E2401280	EQ401280	28.0	25	55	125
E2401290	EQ401290	29.0	25	55	125
E2401300	EQ401300	30.0	25	55	125
E2401310	EQ401310	31.0	32	60	145
E2401320	EQ401320	32.0	32	60	145
E2401330	EQ401330	33.0	32	60	145
E2401340	EQ401340	34.0	32	60	145
E2401350	EQ401350	35.0	32	60	145

▶ NEXT PAGE 下页

Mill Dia. Tolerance (mm) 直径公差					Shank Dia. Tolerance 柄径公差
•6	•8	•10	•12	Other size	h6
0 -0.035	0 -0.040	0 -0.040	0 -0.045	0 -0.030	

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

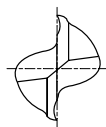


PLAIN SHANK **E2401** SERIES
PLAIN SHANK **EQ401** SERIES

HSSCo8, 2 FLUTE REGULAR LENGTH HSSCo8, 2刃 普通刃长

▶ These end mills are furnished as regular with right-hand cutting and right-hand helical flutes. These are designed for slotting, drilling, pocketing and general-purpose operation.

▶ 这些铁刀是右向螺旋角右向切削的正规铁刀，为开立槽，钻孔，型腔和普通用途加工而设计



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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAIN	直径	柄径	刃长	全长
E2401360	EQ401360	36.0	32	65	150
E2401370	EQ401370	37.0	32	65	150
E2401380	EQ401380	38.0	32	65	150
E2401390	EQ401390	39.0	32	65	150
E2401400	EQ401400	40.0	32	65	150
E2401420	EQ401420	42.0	42	70	160
E2401450	EQ401450	45.0	42	70	160
E2401460	EQ401460	46.0	42	75	160
E2401480	EQ401480	48.0	42	75	165
E2401500	EQ401500	50.0	42	75	165

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

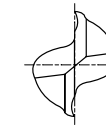


PLAIN SHANK **E2406** SERIES
PLAIN SHANK **EQ406** SERIES

HSSCo8, 2 FLUTE LONG LENGTH HSSCo8, 2刃 长刃

▶ Possible for deeper & wider cutting by using the much longer flutes.

▶ 通过使用更长的沟槽可以进行更深更宽的加工



p.C602~605

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAIN	直径	柄径	刃长	全长
E2406030	EQ406030	3.0	6	15	60
E2406901	EQ406901	4.0	6	20	65
E2406902	EQ406902	5.0	6	25	70
E2406050	EQ406050	5.0	8	25	75
E2406903	EQ406903	6.0	6	25	70
E2406060	EQ406060	6.0	8	25	75
E2406070	EQ406070	7.0	10	35	90
E2406080	EQ406080	8.0	10	35	90
E2406090	EQ406090	9.0	10	45	100
E2406100	EQ406100	10.0	10	45	100
E2406110	EQ406110	11.0	12	55	115
E2406120	EQ406120	12.0	12	55	115
E2406130	EQ406130	13.0	12	55	115
E2406140	EQ406140	14.0	16	55	120
E2406150	EQ406150	15.0	16	65	130
E2406160	EQ406160	16.0	16	65	130
E2406170	EQ406170	17.0	16	65	130
E2406180	EQ406180	18.0	16	65	130
E2406190	EQ406190	19.0	20	75	145
E2406200	EQ406200	20.0	20	75	145
E2406210	EQ406210	21.0	20	75	145
E2406220	EQ406220	22.0	20	75	145
E2406230	EQ406230	23.0	25	90	165
E2406240	EQ406240	24.0	25	90	165
E2406250	EQ406250	25.0	25	90	165
E2406260	EQ406260	26.0	25	90	165
E2406270	EQ406270	27.0	25	90	165
E2406280	EQ406280	28.0	25	90	165

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h6

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

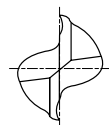


PLAIN SHANK **E2406** SERIES
PLAIN SHANK **EQ406** SERIES

HSSCo8, 2 FLUTE LONG LENGTH
HSSCo8, 2刃 长刃

▶ Possible for deeper & wider cutting by using the much longer flutes.

▶ 通过使用更长的沟槽可以进行更深更宽的加工



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	
					UNCOATED
E2406290	EQ406290	29.0	25	90	165
E2406300	EQ406300	30.0	25	90	165
E2406310	EQ406310	31.0	32	95	180
E2406320	EQ406320	32.0	32	95	180
E2406330	EQ406330	33.0	32	100	185
E2406340	EQ406340	34.0	32	100	185
E2406350	EQ406350	35.0	32	100	185
E2406360	EQ406360	36.0	32	105	190
E2406370	EQ406370	37.0	32	105	190
E2406380	EQ406380	38.0	32	105	190
E2406390	EQ406390	39.0	32	110	195
E2406400	EQ406400	40.0	32	110	195
E2406420	EQ406420	42.0	42	115	200
E2406450	EQ406450	45.0	42	120	205
E2406480	EQ406480	48.0	42	125	215
E2406500	EQ406500	50.0	42	125	215

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ -0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

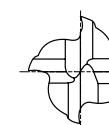


PLAIN SHANK **E2412** SERIES
PLAIN SHANK **EQ412** SERIES

HSSCo8, 4FLUTE REGULAR LENGTH (Center Cut)
HSSCo8, 4刃 普通刃长 (过中心)

▶ These end mills are furnished as regular with right-hand cutting and right-hand helical flutes. These are designed for slotting, drilling, pocketing and general-purpose operation.

▶ 这些铁刀是右向螺旋角右向切削的正规铁刀，为开立槽，钻孔，型腔和普通用途加工而设计



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	
					UNCOATED
E2412010	EQ412010	1.0	6	2.5	55
E2412015	EQ412015	1.5	6	4	55
E2412020	EQ412020	2.0	6	6	55
E2412025	EQ412025	2.5	6	7	55
E2412030	EQ412030	3.0	6	10	55
E2412035	EQ412035	3.5	8	12	60
E2412040	EQ412040	4.0	8	12	60
E2412045	EQ412045	4.5	8	15	65
E2412050	EQ412050	5.0	8	15	65
E2412055	EQ412055	5.5	8	15	65
E2412060	EQ412060	6.0	8	15	65
E2412065	EQ412065	6.5	10	20	75
E2412070	EQ412070	7.0	10	20	75
E2412075	EQ412075	7.5	10	20	75
E2412080	EQ412080	8.0	10	20	75
E2412085	EQ412085	8.5	10	25	80
E2412090	EQ412090	9.0	10	25	80
E2412095	EQ412095	9.5	10	25	80
E2412100	EQ412100	10.0	10	25	80
E2412105	EQ412105	10.5	12	30	90
E2412110	EQ412110	11.0	12	30	90
E2412115	EQ412115	11.5	12	30	90
E2412120	EQ412120	12.0	12	30	90
E2412130	EQ412130	13.0	12	35	95
E2412912	EQ412912	14.0	12	35	95
E2412140	EQ412140	14.0	16	35	100
E2412150	EQ412150	15.0	16	40	105
E2412160	EQ412160	16.0	16	40	105

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ +0.03	h6

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK **E2412** SERIES

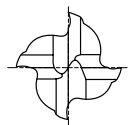
PLAIN SHANK **EQ412** SERIES

HSSCo8, 4FLUTE REGULAR LENGTH (Center Cut)

HSSCo8, 4刃 普通刃长 (过中心)

▶ These end mills are furnished as regular with right-hand cutting and right-hand helical flutes. These are designed for slotting, drilling, pocketing and general-purpose operation.

▶ 这些铁刀是向右螺旋角向右切削的正规铁刀，为开立槽，钻孔，型腔和普通用途加工而设计



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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAIN	直径	柄径	刃长	全长
E2412170	EQ412170	17.0	16	40	105
E2412180	EQ412180	18.0	16	40	105
E2412190	EQ412190	19.0	20	45	115
E2412200	EQ412200	20.0	20	45	115
E2412210	EQ412210	21.0	20	45	115
E2412220	EQ412220	22.0	20	45	115
E2412230	EQ412230	23.0	25	50	125
E2412240	EQ412240	24.0	25	50	125
E2412250	EQ412250	25.0	25	50	125
E2412260	EQ412260	26.0	25	50	125
E2412270	EQ412270	27.0	25	55	125
E2412280	EQ412280	28.0	25	55	125
E2412290	EQ412290	29.0	25	55	125
E2412300	EQ412300	30.0	25	55	125
E2412310	EQ412310	31.0	32	60	145
E2412320	EQ412320	32.0	32	60	145
E2412330	EQ412330	33.0	32	60	145
E2412340	EQ412340	34.0	32	60	145
E2412350	EQ412350	35.0	32	60	145
E2412360	EQ412360	36.0	32	65	150
E2412370	EQ412370	37.0	32	65	150
E2412380	EQ412380	38.0	32	65	150
E2412390	EQ412390	39.0	32	65	150
E2412400	EQ412400	40.0	32	65	150
E2412410	EQ412410	41.0	42	70	160
E2412420	EQ412420	42.0	42	70	160
E2412430	EQ412430	43.0	42	70	160
E2412440	EQ412440	44.0	42	70	160

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ + 0.03	h6

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	55	60	65	70	75	80	85	90	95
HB	125	190	250	270	300	180	275	300	350	350	200	240	180	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK **E2412** SERIES

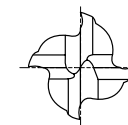
PLAIN SHANK **EQ412** SERIES

HSSCo8, 4FLUTE REGULAR LENGTH (Center Cut)

HSSCo8, 4刃 普通刃长 (过中心)

▶ These end mills are furnished as regular with right-hand cutting and right-hand helical flutes. These are designed for slotting, drilling, pocketing and general-purpose operation.

▶ 这些铁刀是向右螺旋角向右切削的正规铁刀，为开立槽，钻孔，型腔和普通用途加工而设计



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Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAIN	直径	柄径	刃长	全长
E2412450	EQ412450	45.0	42	70	160
E2412460	EQ412460	46.0	42	70	160
E2412470	EQ412470	47.0	42	75	165
E2412480	EQ412480	48.0	42	75	165
E2412490	EQ412490	49.0	42	75	165
E2412500	EQ412500	50.0	42	75	165

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ + 0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

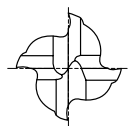
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	55	60	65	70	75	80	85	90	95
HB	125	190	250	270	300	180	275	300	350	350	200	240	180	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSSCo8, 4FLUTE LONG LENGTH (Center Cut)
HSSCo8, 4刃长刃 (过中心)

▶ Possible for deeper & wider cutting by using the much longer flutes.

▶ 通过使用更长的沟槽可以进行更深更宽的加工



p.C606~609

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAIN	直径	柄径	刃长	全长
E2659030	EQ659030	3.0	6	15	60
E2659040	EQ659040	4.0	8	20	70
E2659050	EQ659050	5.0	8	25	75
E2659060	EQ659060	6.0	8	25	75
E2659070	EQ659070	7.0	10	35	90
E2659080	EQ659080	8.0	10	35	90
E2659090	EQ659090	9.0	10	45	100
E2659100	EQ659100	10.0	10	45	100
E2659110	EQ659110	11.0	12	55	115
E2659120	EQ659120	12.0	12	55	115
E2659130	EQ659130	13.0	12	55	115
E2659140	EQ659140	14.0	16	55	120
E2659150	EQ659150	15.0	16	65	130
E2659160	EQ659160	16.0	16	65	130
E2659170	EQ659170	17.0	16	65	130
E2659180	EQ659180	18.0	16	65	130
E2659190	EQ659190	19.0	20	75	145
E2659200	EQ659200	20.0	20	75	145
E2659210	EQ659210	21.0	20	75	145
E2659220	EQ659220	22.0	20	75	145
E2659230	EQ659230	23.0	25	90	165
E2659240	EQ659240	24.0	25	90	165
E2659250	EQ659250	25.0	25	90	165
E2659260	EQ659260	26.0	25	90	165
E2659270	EQ659270	27.0	25	90	165
E2659280	EQ659280	28.0	25	90	165
E2659290	EQ659290	29.0	25	90	165
E2659300	EQ659300	30.0	25	90	165

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ +0.03	h6

▶ NEXT PAGE 下页

◎ : Excellent (优秀) ○ : Good (良好)

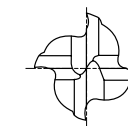
ISO Material Description	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron			Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	10	21	10	26	3	25	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230					
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S					H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron		Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550				
HB	60	100	75	90	130	110	90	100																	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSSCo8, 4FLUTE LONG LENGTH (Center Cut)
HSSCo8, 4刃长刃 (过中心)

▶ Possible for deeper & wider cutting by using the much longer flutes.

▶ 通过使用更长的沟槽可以进行更深更宽的加工



p.C606~609

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAIN	直径	柄径	刃长	全长
E2659310	EQ659310	31.0	32	95	180
E2659320	EQ659320	32.0	32	95	180
E2659330	EQ659330	33.0	32	100	185
E2659340	EQ659340	34.0	32	100	185
E2659350	EQ659350	35.0	32	100	185
E2659360	EQ659360	36.0	32	105	190
E2659370	EQ659370	37.0	32	105	190
E2659380	EQ659380	38.0	32	105	190
E2659390	EQ659390	39.0	32	110	195
E2659400	EQ659400	40.0	32	110	195
E2659420	EQ659420	42.0	42	115	200
E2659450	EQ659450	45.0	42	120	205
E2659460	EQ659460	46.0	42	125	215
E2659480	EQ659480	48.0	42	125	215
E2659500	EQ659500	50.0	42	125	215

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ +0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron			Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	10	21	10	26	3	25	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230					
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S					H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron		Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550				
HB	60	100	75	90	130	110	90	100																	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK **E2750** SERIES
PLAIN SHANK **EQ750** SERIES

HSSCo8, 4 FLUTE EXTRA LONG LENGTH
HSSCo8, 4刃 加长刃



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER D118-137		POWER MILLING CHUCK D161-176	
		ER COLLET CHUCK D73-115	
		SK SLIM CHUCK D183-201	

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TIAIN	直径	柄径	刃长	全长
E2750160	EQ750160	16.0	16	100	160
E2750180	EQ750180	18.0	16	100	180
E2750200	EQ750200	20.0	20	100	180
E2750901	EQ750901	20.0	20	120	200
E2750902	EQ750902	20.0	20	150	230
E2750220	EQ750220	22.0	20	120	200
E2750240	EQ750240	24.0	25	100	180
E2750903	EQ750903	24.0	25	150	250
E2750250	EQ750250	25.0	25	100	180
E2750904	EQ750904	25.0	25	120	220
E2750905	EQ750905	25.0	25	150	250
E2750260	EQ750260	26.0	25	150	250
E2750280	EQ750280	28.0	25	150	250
E2750300	EQ750300	30.0	25	120	200
E2750906	EQ750906	30.0	25	150	250
E2750907	EQ750907	30.0	25	200	280
E2750320	EQ750320	32.0	32	150	230
E2750908	EQ750908	32.0	32	200	280
E2750350	EQ750350	35.0	32	150	250
E2750909	EQ750909	35.0	32	200	300
E2750360	EQ750360	36.0	32	150	250
E2750380	EQ750380	38.0	32	150	250
E2750400	EQ750400	40.0	32	150	250
E2750910	EQ750910	40.0	32	200	300
E2750450	EQ750450	45.0	42	200	300
E2750500	EQ750500	50.0	42	200	300

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
0 ~ +0.03	h6

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	260	160	250	130	230		
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		

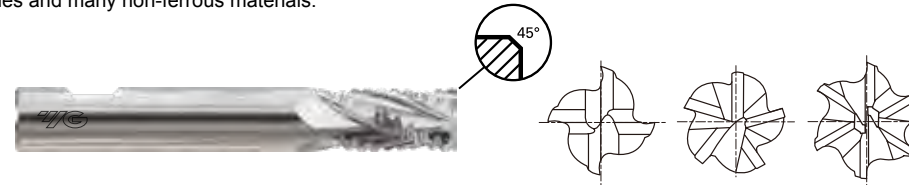
ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



FLAT SHANK **E2760** SERIES
FLAT SHANK **EQ760** SERIES

HSSCo8, MULTI FLUTE SHORT LENGTH ROUGHING-COARSE
HSSCo8, 多刃 短刃 粗加工 - 粗牙

► This general purpose rougher is designed for high production metal removal in a wide range of work piece material. It is recommended for cutting steel grades and many non-ferrous materials.
► 普通用途的粗加工刀具是在广泛的被加工材料上进行高生产率金属切削而设计的



Flat Shank	Page	Plain Shank	Page
END MILL HOLDER D118-137		POWER MILLING CHUCK D161-176	
		ER COLLET CHUCK D73-115	
		SK SLIM CHUCK D183-201	

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
UNCOATED	TIAIN	直径	柄径	刃长	全长	槽数
E2760060	EQ760060	6.0	8	15	60	4
E2760070	EQ760070	7.0	10	20	65	4
E2760080	EQ760080	8.0	10	20	65	4
E2760090	EQ760090	9.0	12	25	75	4
E2760100	EQ760100	10.0	12	25	75	4
E2760110	EQ760110	11.0	12	30	80	4
E2760120	EQ760120	12.0	12	30	80	4
E2760130	EQ760130	13.0	16	35	90	4
E2760140	EQ760140	14.0	16	35	90	4
E2760150	EQ760150	15.0	16	40	95	4
E2760160	EQ760160	16.0	16	40	95	4
E2760170	EQ760170	17.0	20	40	105	4
E2760180	EQ760180	18.0	20	40	105	4
E2760190	EQ760190	19.0	20	45	110	4
E2760200	EQ760200	20.0	20	45	110	4
E2760210	EQ760210	21.0	20	45	110	5
E2760220	EQ760220	22.0	20	45	110	5
E2760230	EQ760230	23.0	25	50	120	5
E2760240	EQ760240	24.0	25	50	120	5
E2760250	EQ760250	25.0	25	50	120	5
E2760260	EQ760260	26.0	25	50	120	6
E2760270	EQ760270	27.0	25	55	125	6
E2760280	EQ760280	28.0	25	55	125	6
E2760290	EQ760290	29.0	25	55	125	6
E2760300	EQ760300	30.0	25	55	125	6
E2760310	EQ760310	31.0	32	60	145	6

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.12	h6



◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	29	32	38	35	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	260	160	250	130	230		
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

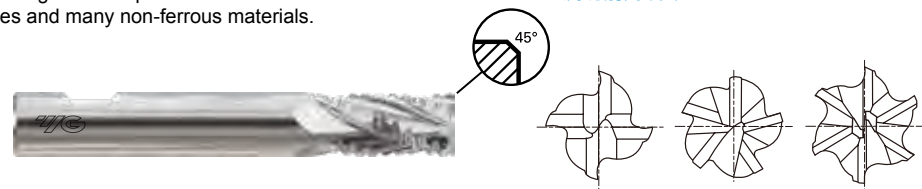


FLAT SHANK **E2760** SERIES
FLAT SHANK **EQ760** SERIES

HSSCo8, MULTI FLUTE SHORT LENGTH ROUGHING-COARSE
HSSCo8, 多刃短刃粗加工-粗牙

▶ This general purpose rougher is designed for high production metal removal in a wide range of work piece material. It is recommended for cutting steel grades and many non-ferrous materials.

▶ 普通用途的粗加工刀具为在广泛的被加工材料上进行高生产率金属切削而设计的



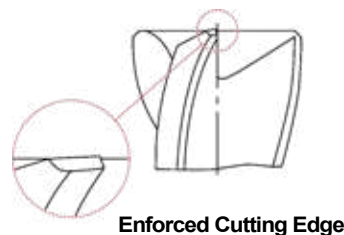
HSS Co8 NR 4-6 30° DIN 1835B p.C610~613

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	
						UNCOATED
E2760320	EQ760320	32.0	32	60	145	6
E2760330	EQ760330	33.0	32	60	145	6
E2760340	EQ760340	34.0	32	60	145	6
E2760350	EQ760350	35.0	32	60	145	6
E2760360	EQ760360	36.0	32	60	145	6
E2760370	EQ760370	37.0	32	65	150	6
E2760380	EQ760380	38.0	32	65	150	6
E2760390	EQ760390	39.0	32	65	150	6
E2760400	EQ760400	40.0	32	65	150	6
E2760420	EQ760420	42.0	32	65	155	6
E2760942	EQ760942	42.0	42	65	155	6
E2760450	EQ760450	45.0	32	70	160	6
E2760945	EQ760945	45.0	42	70	160	6
E2760480	EQ760480	48.0	32	70	160	6
E2760948	EQ760948	48.0	42	70	160	6
E2760500	EQ760500	50.0	32	70	160	6
E2760950	EQ760950	50.0	42	70	160	6

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.12	h6



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK **E2759** SERIES
PLAIN SHANK **EQ759** SERIES

HSSCo8, MULTI FLUTE LONG LENGTH ROUGHING-COARSE
HSSCo8, 多刃长刃粗加工-粗牙



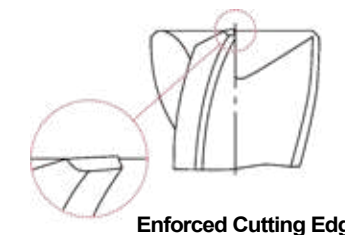
HSS Co8 NR 4-6 30° PLAIN p.C614~615

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	
						UNCOATED
E2759100	EQ759100	10.0	10	45	95	4
E2759120	EQ759120	12.0	12	53	110	4
E2759140	EQ759140	14.0	12	53	110	4
E2759160	EQ759160	16.0	16	63	123	4
E2759180	EQ759180	18.0	16	63	123	4
E2759200	EQ759200	20.0	20	75	141	4
E2759220	EQ759220	22.0	20	75	141	5
E2759250	EQ759250	25.0	25	90	166	5
E2759280	EQ759280	28.0	25	90	166	5
E2759300	EQ759300	30.0	25	90	166	6
E2759320	EQ759320	32.0	32	106	186	6
E2759350	EQ759350	35.0	32	106	186	6
E2759360	EQ759360	36.0	32	106	186	6
E2759400	EQ759400	40.0	32	125	205	6
E2759450	EQ759450	45.0	42	125	227	6
E2759500	EQ759500	50.0	42	150	252	6

Mill Dia.Tolerance (mm) 直径公差	Shank Dia.Tolerance 柄径公差
± 0.12	h6



◎ : Excellent (优秀) ○ : Good (良好)

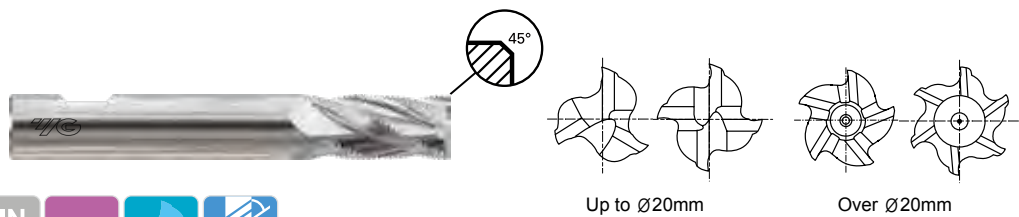
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	200	240	180	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



FLAT SHANK **E2753** SERIES
FLAT SHANK **EQ753** SERIES

HSSCo8, MULTI FLUTE SHORT LENGTH ROUGHING - FINE
HSSCo8, 多刃短刃粗加工 - 细牙



p.C616~619

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

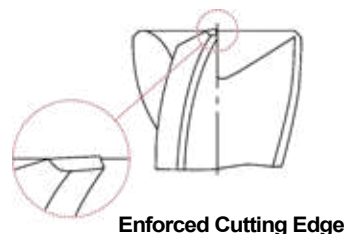
Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长	No. of Flute 槽数	Chamfer 导向
E2753060	6.0	6	13	57	3	0.18
E2753070	7.0	10	16	66	3	0.18
E2753080	8.0	10	19	69	3	0.18
E2753090	9.0	10	19	69	3	0.18
E2753100	10.0	10	22	72	4	0.18
E2753110	11.0	12	22	79	4	0.18
E2753120	12.0	12	26	83	4	0.18
E2753130	13.0	12	26	83	4	0.18
E2753140	14.0	12	26	83	4	0.25
E2753150	15.0	12	26	83	4	0.25
E2753160	16.0	16	32	92	4	0.25
E2753180	18.0	16	32	92	4	0.25
E2753200	20.0	20	38	104	4	0.25
E2753250	25.0	25	45	121	5	0.36
E2753280	28.0	25	45	121	6	0.36
E2753300	30.0	25	45	121	6	0.36
E2753320	32.0	32	53	133	6	0.51
E2753350	35.0	32	53	133	6	0.51
E2753400	40.0	32	63	155	6	0.56

- ▶ Other shank design on your request.
其他柄部按照您的要求设计
- ▶ TiN and TiCN Coatings are available on your request.
TiN涂层和TiCN涂层可根据您的要求加工

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

	Tolerance range in μm / 公差单位为					
	Nominal-Diameter in mm / 直径单位为					
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12	±50	±60	±75	±90	±105	±125
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16



◎ : Excellent (优秀) ○ : Good (良好)

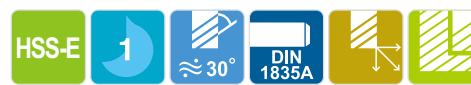
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72	74
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK **EL612** SERIES

HSS-E, 1 FLUTE for ALUMINUM
HSS-E, 1刃 铝用

for ALUMINUM
适用于加工铝

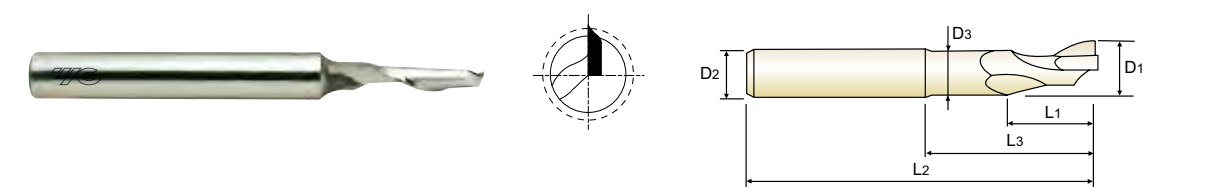


p.C619

Flat Shank	Page	Plain Shank	Page
END MILL HOLDER	D118-137	POWER MILLING CHUCK	D161-176
		ER COLLET CHUCK	D73-115
		SK SLIM CHUCK	D183-201

Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Overall Length 全长
EL612030	3.0	8	12	60
EL612040	4.0	8	12	60
EL612050	5.0	8	12	60
EL612060	6.0	8	14	60
EL612070	7.0	8	14	60
EL612080	8.0	8	14	80
EL612090	9.0	8	14	80
EL612100	10.0	8	14	80



Unit(单位) : mm

EDP No.	Mill Diameter 直径	Shank Diameter 柄径	Length of Cut 刃长	Length Below Shank 颈长	Overall Length 全长	Neck Diameter 颈径
EL612904	5.0	8	18	35	80	4.8
EL612909	5.0	8	40	-	100	-
EL612932	8.0	8	14	68	120	7.5

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

	Tolerance range in μm / 公差单位为					
	Nominal-Diameter in mm / 直径单位为					
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js14	±125	±150	±180	±215	±260	±310
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

◎ : Excellent (优秀) ○ : Good (良好)

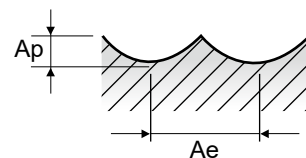
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72	74
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

E2480 SERIES 2 FLUTE BALL NOSE 2刃球头

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径												
						3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0				
P	1	Non-alloy steel	0.7D	0.3D	Vc	42	40	41	40	41	38	40	38	39				
					fz	0.011	0.018	0.031	0.050	0.069	0.085	0.094	0.117	0.130				
					RPM	4500	3200	2200	1600	1300	1000	800	600	500				
	2		Vc	32	30	32	30	31	30	30	31	31						
			fz	0.010	0.017	0.026	0.044	0.060	0.066	0.083	0.085	0.088						
			RPM	3400	2400	1700	1200	1000	800	600	500	400						
	3-4		Vc	19	18	19	18	17	18	19	17							
			fz	0.008	0.013	0.023	0.036	0.054	0.061	0.079	0.083	0.091						
			RPM	2000	1400	1000	700	560	450	350	300	220						
	5		Vc	13	13	13	13	12	13	13	13							
			fz	0.007	0.013	0.018	0.030	0.044	0.055	0.070	0.088	0.094						
RPM		1400	1000	700	500	400	320	250	200	160								
6	Vc	32	30	32	30	31	30	30	31	31								
	fz	0.010	0.017	0.026	0.044	0.060	0.066	0.083	0.085	0.088								
	RPM	3400	2400	1700	1200	1000	800	600	500	400								
7	Vc	19	18	19	18	17	18	19	17									
	fz	0.008	0.013	0.023	0.036	0.054	0.061	0.079	0.083	0.091								
	RPM	2000	1400	1000	700	560	450	350	300	220								
8-9	Vc	13	13	13	13	12	13	13	13									
	fz	0.007	0.013	0.018	0.030	0.044	0.055	0.070	0.088	0.094								
	RPM	1400	1000	700	500	400	320	250	200	160								
10	Vc	32	30	32	30	31	30	30	31	31								
	fz	0.010	0.017	0.026	0.044	0.060	0.066	0.083	0.085	0.088								
	RPM	3400	2400	1700	1200	1000	800	600	500	400								
11.1	Vc	13	13	13	13	12	13	13	13									
	fz	0.007	0.013	0.018	0.030	0.044	0.055	0.070	0.088	0.094								
	RPM	1400	1000	700	500	400	320	250	200	160								
N	21-22	Aluminum-wrought alloy	0.7D	0.3D	Vc	104	101	106	101	101	94	101	101	102				
					fz	0.010	0.016	0.025	0.044	0.056	0.068	0.075	0.088	0.096				
					RPM	11000	8000	5600	4000	3200	2500	2000	1600	1300				
23-25	Aluminum-cast, alloyed	0.7D	0.3D	Vc	104	101	106	101	101	94	101	101	102					
				fz	0.010	0.016	0.025	0.044	0.056	0.068	0.075	0.088	0.096					
				RPM	11000	8000	5600	4000	3200	2500	2000	1600	1300					

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给

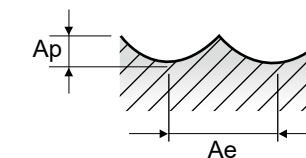


EQ480 SERIES 2 FLUTE BALL NOSE (TiAIN-COATED) 2刃球头 (TiAIN 涂层)

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径												
						3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0				
P	1	Non-alloy steel	0.7D	0.3D	Vc	59	57	58	57	57	53	55	53	55				
					fz	0.011	0.018	0.031	0.05	0.069	0.086	0.095	0.115	0.129				
					RPM	6300	4500	3100	2250	1800	1400	1100	850	700				
	2		Vc	45	42	45	43	44	41	43	44	43						
			fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091						
			RPM	4750	3350	2400	1700	1400	1100	850	700	550						
	3-4		Vc	26	25	26	25	25	25	25	24							
			fz	0.007	0.013	0.023	0.035	0.053	0.058	0.075	0.088	0.092						
			RPM	2800	1950	1400	1000	800	650	500	400	300						
	5		Vc	18	18	19	18	17	17	18	19	16						
			fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1						
RPM		1950	1400	1000	700	550	450	350	300	200								
6	Vc	45	42	45	43	44	41	43	44	43								
	fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091								
	RPM	4750	3350	2400	1700	1400	1100	850	700	550								
7	Vc	26	25	26	25	25	25	25	24									
	fz	0.007	0.013	0.023	0.035	0.053	0.058	0.075	0.088	0.092								
	RPM	2800	1950	1400	1000	800	650	500	400	300								
8-9	Vc	18	18	19	18	17	17	18	19	16								
	fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1								
	RPM	1950	1400	1000	700	550	450	350	300	200								
10	Vc	45	42	45	43	44	41	43	44	43								
	fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091								
	RPM	4750	3350	2400	1700	1400	1100	850	700	550								
11.1	Vc	18	18	19	18	17	17	18	19	16								
	fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1								
	RPM	1950	1400	1000	700	550	450	350	300	200								
N	21-22	Aluminum-wrought alloy	0.7D	0.3D	Vc	145	141	148	141	141	132	141	141	141				
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097				
					RPM	15400	11200	7850	5600	4500	3500	2800	2250	1800				
23-24	Aluminum-cast, alloyed	0.7D	0.3D	Vc	145	141	148	141	141	132	141	141	141					
				fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097					
				RPM	15400	11200	7850	5600	4500	3500	2800	2250	1800					

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给



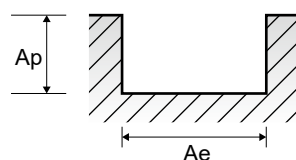
E2401, E2406 SERIES 2 FLUTE - SLOTTING 2刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径								
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0
P	1	Non-alloy steel	1.0D	0.5D	Vc	35	33	35	35	34	35	35	34	35
					fz	0.004	0.008	0.013	0.020	0.025	0.036	0.045	0.061	0.069
					RPM	5600	3500	2800	2200	1800	1400	1100	900	800
	2		Vc	28	30	28	28	30	28	28	30	31		
			fz	0.003	0.007	0.013	0.019	0.025	0.041	0.050	0.063	0.064		
			RPM	4500	3200	2200	1800	1600	1100	900	800	700		
	3-4		Vc	25	24	23	25	23	23	25	24	25		
			fz	0.004	0.008	0.013	0.019	0.025	0.039	0.050	0.063	0.071		
			RPM	4000	2500	1800	1600	1200	900	800	630	560		
	5		Vc	14	15	14	14	15	14	14	15	15		
			fz	0.003	0.006	0.014	0.019	0.025	0.040	0.050	0.063	0.071		
RPM		2200	1600	1100	900	800	560	450	400	350				
6	Vc	28	30	28	28	30	28	28	30	31				
	fz	0.003	0.007	0.013	0.019	0.025	0.041	0.050	0.063	0.064				
	RPM	4500	3200	2200	1800	1600	1100	900	800	700				
7	Vc	25	24	23	25	23	23	25	24	25				
	fz	0.004	0.008	0.013	0.019	0.025	0.039	0.050	0.063	0.071				
	RPM	4000	2500	1800	1600	1200	900	800	630	560				
8-9	Vc	14	15	14	14	15	14	14	15	15				
	fz	0.003	0.006	0.014	0.019	0.025	0.040	0.050	0.063	0.071				
	RPM	2200	1600	1100	900	800	560	450	400	350				
10	Vc	28	30	28	28	30	28	28	30	31				
	fz	0.003	0.007	0.013	0.019	0.025	0.041	0.050	0.063	0.064				
	RPM	4500	3200	2200	1800	1600	1100	900	800	700				
11.1	Vc	14	15	14	14	15	14	14	15	15				
	fz	0.003	0.006	0.014	0.019	0.025	0.040	0.050	0.063	0.071				
	RPM	2200	1600	1100	900	800	560	450	400	350				
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	75	104	101	99	106	101	97	94	97
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.065	0.076	0.080
					RPM	12000	11000	8000	6300	5600	4000	3100	2500	2200
23-25	Aluminum-cast, alloyed	1.0D	0.5D	Vc	75	104	101	99	106	101	97	94	97	
				fz	0.007	0.011	0.018	0.025	0.028	0.049	0.065	0.076	0.080	
				RPM	12000	11000	8000	6300	5600	4000	3100	2500	2200	

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给

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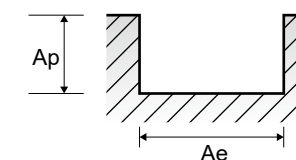


E2401, E2406 SERIES 2 FLUTE - SLOTTING 2刃 - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
					16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
P	1	1.0D	0.5D	Vc	35	36	35	35	35	35	33	35	35	35
				fz	0.079	0.079	0.089	0.100	0.100	0.100	0.100	0.097	0.107	
				RPM	700	630	560	500	450	400	350	310	280	
	2			Vc	28	28	28	31	31	29	28	28	28	
				fz	0.080	0.090	0.100	0.100	0.100	0.097	0.098	0.100	0.114	
				RPM	560	500	450	450	400	350	310	280	220	
	3-4			Vc	23	23	25	24	24	22	23	23		
				fz	0.078	0.088	0.088	0.100	0.097	0.098	0.100	0.111		
				RPM	450	400	400	350	310	280	250	200	180	
	5			Vc	14	14	14	15	14	14	14	14		
				fz	0.080	0.090	0.102	0.102	0.097	0.094	0.094	0.107	0.114	
RPM		280	250	220	220	180	160	160	140	110				
6	Vc	28	28	28	31	31	29	28	28	28				
	fz	0.080	0.090	0.100	0.100	0.100	0.097	0.098	0.100	0.114				
	RPM	560	500	450	450	400	350	310	280	220				
7	Vc	23	23	25	24	24	22	23	23					
	fz	0.078	0.088	0.088	0.100	0.097	0.098	0.100	0.111					
	RPM	450	400	400	350	310	280	250	200	180				
8-9	Vc	14	14	14	15	14	14	14	14					
	fz	0.080	0.090	0.102	0.102	0.097	0.094	0.094	0.107	0.114				
	RPM	280	250	220	220	180	160	160	140	110				
10	Vc	28	28	28	31	31	29	28	28	28				
	fz	0.080	0.090	0.100	0.100	0.100	0.097	0.098	0.100	0.114				
	RPM	560	500	450	450	400	350	310	280	220				
11.1	Vc	14	14	14	15	14	14	14	14					
	fz	0.080	0.090	0.102	0.102	0.097	0.094	0.094	0.107	0.114				
	RPM	280	250	220	220	180	160	160	140	110				
N	21-22	1.0D	0.5D	Vc	101	102	101	97	94	97	104	101	101	
				fz	0.088	0.097	0.100	0.107	0.117	0.123	0.123	0.120	0.122	0.125
				RPM	2000	1800	1600	1400	1200	1100	1100	1000	900	800
23-25	1.0D	0.5D	Vc	101	102	101	97	94	97	104	101	101		
			fz	0.088	0.097	0.100	0.107	0.117	0.123	0.123	0.120	0.122	0.125	
			RPM	2000	1800	1600	1400	1200	1100	1100	1000	900	800	

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给



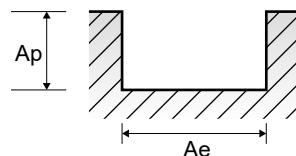
EQ401, EQ406 SERIES 2 FLUTE(TIAlN-COATED) - SLOTTING
2刃(TIAlN 涂层) - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径													
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0					
P	1	Non-alloy steel	1.0D	0.5D	Vc	49	46	49	49	47	49	49	47	48					
					fz	0.004	0.008	0.013	0.020	0.025	0.036	0.045	0.062	0.070					
					RPM	7850	4900	3900	3100	2500	1950	1550	1250	1100					
	2		Vc	40	42	39	39	42	39	39	41	44							
			fz	0.003	0.007	0.012	0.020	0.024	0.040	0.050	0.064	0.063							
			RPM	6300	4500	3100	2500	2250	1550	1250	1100	1000							
	3-4		Vc	35	33	31	35	32	31	35	34	35							
			fz	0.004	0.008	0.013	0.019	0.025	0.040	0.050	0.061	0.069							
			RPM	5600	3500	2500	2250	1700	1250	1100	900	800							
	5		Vc	19	21	19	20	21	20	20	21	22							
			fz	0.003	0.007	0.013	0.020	0.025	0.041	0.050	0.064	0.070							
RPM		3100	2250	1550	1250	1100	800	650	550	500									
6	Vc	40	42	39	39	42	39	39	41	44									
	fz	0.003	0.007	0.012	0.020	0.024	0.040	0.050	0.064	0.063									
	RPM	6300	4500	3100	2500	2250	1550	1250	1100	1000									
7	Vc	35	33	31	35	32	31	35	34	35									
	fz	0.004	0.008	0.013	0.019	0.025	0.040	0.050	0.061	0.069									
	RPM	5600	3500	2500	2250	1700	1250	1100	900	800									
8-9	Vc	19	21	19	20	21	20	20	21	22									
	fz	0.003	0.007	0.013	0.020	0.025	0.041	0.050	0.064	0.070									
	RPM	3100	2250	1550	1250	1100	800	650	550	500									
10	Vc	40	42	39	39	42	39	39	41	44									
	fz	0.003	0.007	0.012	0.020	0.024	0.040	0.050	0.064	0.063									
	RPM	6300	4500	3100	2500	2250	1550	1250	1100	1000									
11.1	Vc	19	21	19	20	21	20	20	21	22									
	fz	0.003	0.007	0.013	0.020	0.025	0.041	0.050	0.064	0.070									
	RPM	3100	2250	1550	1250	1100	800	650	550	500									
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	106	145	141	138	148	141	137	132	136					
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.064	0.076	0.079					
					RPM	16800	15400	11200	8800	7850	5600	4350	3500	3100					
23-25	Aluminum-cast, alloyed	1.0D	0.5D	Vc	106	145	141	138	148	141	137	132	136						
				fz	0.007	0.011	0.018	0.025	0.028	0.049	0.064	0.076	0.079						
				RPM	16800	15400	11200	8800	7850	5600	4350	3500	3100						

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给

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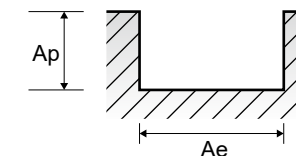


EQ401, EQ406 SERIES 2 FLUTE(TIAlN-COATED) - SLOTTING
2刃(TIAlN 涂层) - 槽铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径													
					16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0				
P	1	Non-alloy steel	1.0D	0.5D	Vc	50	51	50	48	51	48	47	50					
					fz	0.078	0.078	0.088	0.100	0.096	0.100	0.100	0.100	0.094	0.106			
					RPM	1000	900	800	700	650	550	500	500	450	400			
	2		Vc	40	40	41	45	43	44	42	40	40	38					
			fz	0.078	0.089	0.096	0.096	0.100	0.100	0.094	0.094	0.100	0.117					
			RPM	800	700	650	650	550	500	450	400	350	300					
	3-4		Vc	33	31	35	35	35	35	33	30	34	31					
			fz	0.077	0.091	0.091	0.100	0.094	0.094	0.100	0.108	0.092	0.110					
			RPM	650	550	550	500	450	400	350	300	250	250					
	5		Vc	20	20	19	21	20	18	19	20	17	19					
			fz	0.081	0.093	0.108	0.108	0.100	0.100	0.100	0.100	0.117	0.117					
RPM		400	350	300	300	250	200	200	200	150	150							
6	Vc	40	40	41	45	43	44	42	40	40	38							
	fz	0.078	0.089	0.096	0.096	0.100	0.100	0.094	0.094	0.100	0.117							
	RPM	800	700	650	650	550	500	450	400	350	300							
7	Vc	33	31	35	35	35	35	33	30	34	31							
	fz	0.077	0.091	0.091	0.100	0.094	0.094	0.100	0.108	0.092	0.110							
	RPM	650	550	550	500	450	400	350	300	250	250							
8-9	Vc	20	20	19	21	20	18	19	20	17	19							
	fz	0.081	0.093	0.108	0.108	0.100	0.100	0.100	0.100	0.117	0.117							
	RPM	400	350	300	300	250	200	200	200	150	150							
10	Vc	40	40	41	45	43	44	42	40	40	38							
	fz	0.078	0.089	0.096	0.096	0.100	0.100	0.094	0.094	0.100	0.117							
	RPM	800	700	650	650	550	500	450	400	350	300							
11.1	Vc	20	20	19	21	20	18	19	20	17	19							
	fz	0.081	0.093	0.108	0.108	0.100	0.100	0.100	0.100	0.117	0.117							
	RPM	400	350	300	300	250	200	200	200	150	150							
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	141	141	141	135	134	136	146	141	141	138			
					fz	0.088	0.098	0.100	0.108	0.115	0.123	0.123	0.120	0.124	0.127			
					RPM	2800	2500	2250	1950	1700	1550	1400	1550	1400	1100			
23-25	Aluminum-cast, alloyed	1.0D	0.5D	Vc	141	141	141	135	134	136	146	141	141	138				
				fz	0.088	0.098	0.100	0.108	0.115	0.123	0.123	0.120	0.124	0.127				
				RPM	2800	2500	2250	1950	1700	1550	1400	1550	1400	1100				

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给



E2412, E2659, E2750 SERIES 4 FLUTE - SIDE CUTTING 4刃 - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径																																							
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0																															
P	1	Non-alloy steel	0.1D	1.5D	Vc	35	33	35	35	34	35	35	34	35	fz	0.004	0.008	0.013	0.02	0.025	0.036	0.045	0.061	0.069	RPM	5600	3500	2800	2200	1800	1400	1100	900	800	FEED	80	110	140	180	180	200	200	220	220	
					Vc	28	30	28	28	30	28	28	30	28	31	fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057	RPM	4500	3200	2200	1800	1600	1100	900	800	700	FEED	55	80	100	125	145	160	160	180	160
					Vc	25	24	23	25	23	23	25	24	25	fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038	0.048	0.054	RPM	4000	2500	1800	1600	1200	900	800	630	560	FEED	45	60	65	90	105	120	120	120	120	
	2		0.1D	1.5D	Vc	14	15	14	14	15	14	14	15	15	fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036	0.047	0.054	RPM	2200	1600	1100	900	800	560	450	400	350	FEED	20	30	45	50	60	65	75	75	75	
					Vc	28	30	28	28	30	28	28	30	28	31	fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057	RPM	4500	3200	2200	1800	1600	1100	900	800	700	FEED	55	80	100	125	145	160	160	180	160
					Vc	25	24	23	25	23	23	25	24	25	fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038	0.048	0.054	RPM	4000	2500	1800	1600	1200	900	800	630	560	FEED	45	60	65	90	105	120	120	120	120	
	3-4		0.1D	1.5D	Vc	14	15	14	14	15	14	14	15	15	fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036	0.047	0.054	RPM	2200	1600	1100	900	800	560	450	400	350	FEED	20	30	45	50	60	65	75	75	75	
					Vc	28	30	28	28	30	28	28	30	28	31	fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057	RPM	4500	3200	2200	1800	1600	1100	900	800	700	FEED	55	80	100	125	145	160	160	180	160
					Vc	25	24	23	25	23	23	25	24	25	fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038	0.048	0.054	RPM	4000	2500	1800	1600	1200	900	800	630	560	FEED	45	60	65	90	105	120	120	120	120	
	5		0.1D	1.5D	Vc	14	15	14	14	15	14	14	15	15	fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036	0.047	0.054	RPM	2200	1600	1100	900	800	560	450	400	350	FEED	20	30	45	50	60	65	75	75	75	
					Vc	28	30	28	28	30	28	28	30	28	31	fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057	RPM	4500	3200	2200	1800	1600	1100	900	800	700	FEED	55	80	100	125	145	160	160	180	160
Vc		25			24	23	25	23	23	25	24	25	fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038	0.048	0.054	RPM	4000	2500	1800	1600	1200	900	800	630	560	FEED	45	60	65	90	105	120	120	120	120			
6	0.1D	1.5D	Vc	14	15	14	14	15	14	14	15	15	fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036	0.047	0.054	RPM	2200	1600	1100	900	800	560	450	400	350	FEED	20	30	45	50	60	65	75	75	75			
			Vc	28	30	28	28	30	28	28	30	28	31	fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057	RPM	4500	3200	2200	1800	1600	1100	900	800	700	FEED	55	80	100	125	145	160	160	180	160		
			Vc	25	24	23	25	23	23	25	24	25	fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038	0.048	0.054	RPM	4000	2500	1800	1600	1200	900	800	630	560	FEED	45	60	65	90	105	120	120	120	120			
7	0.1D	1.5D	Vc	14	15	14	14	15	14	14	15	15	fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036	0.047	0.054	RPM	2200	1600	1100	900	800	560	450	400	350	FEED	20	30	45	50	60	65	75	75	75			
			Vc	28	30	28	28	30	28	28	30	28	31	fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057	RPM	4500	3200	2200	1800	1600	1100	900	800	700	FEED	55	80	100	125	145	160	160	180	160		
			Vc	25	24	23	25	23	23	25	24	25	fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038	0.048	0.054	RPM	4000	2500	1800	1600	1200	900	800	630	560	FEED	45	60	65	90	105	120	120	120	120			
8-9	0.1D	1.5D	Vc	14	15	14	14	15	14	14	15	15	fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036	0.047	0.054	RPM	2200	1600	1100	900	800	560	450	400	350	FEED	20	30	45	50	60	65	75	75	75			
			Vc	28	30	28	28	30	28	28	30	28	31	fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057	RPM	4500	3200	2200	1800	1600	1100	900	800	700	FEED	55	80	100	125	145	160	160	180	160		
			Vc	25	24	23	25	23	23	25	24	25	fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038	0.048	0.054	RPM	4000	2500	1800	1600	1200	900	800	630	560	FEED	45	60	65	90	105	120	120	120	120			
10	0.1D	1.5D	Vc	14	15	14	14	15	14	14	15	15	fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036	0.047	0.054	RPM	2200	1600	1100	900	800	560	450	400	350	FEED	20	30	45	50	60	65	75	75	75			
			Vc	28	30	28	28	30	28	28	30	28	31	fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057	RPM	4500	3200	2200	1800	1600	1100	900	800	700	FEED	55	80	100	125	145	160	160	180	160		
			Vc	25	24	23	25	23	23	25	24	25	fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038	0.048	0.054	RPM	4000	2500	1800	1600	1200	900	800	630	560	FEED	45	60	65	90	105	120	120	120	120			
11.1	0.1D	1.5D	Vc	14	15	14	14	15	14	14	15	15	fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036	0.047	0.054	RPM	2200	1600	1100	900	800	560	450	400	350	FEED	20	30	45	50	60	65	75	75	75			
			Vc	28	30	28	28	30	28	28	30	28	31	fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057	RPM	4500	3200	2200	1800	1600	1100	900	800	700	FEED	55	80	100	125	145	160	160	180	160		
			Vc	25	24	23	25	23	23	25	24	25	fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038	0.048	0.054	RPM	4000	2500	1800	1600	1200	900	800	630	560	FEED	45	60	65	90	105	120	120	120	120			
21-22	0.1D	1.5D	Vc	75	104	101	99	106	101	97	94	97	fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	RPM	12000	11000	8000	6300	5600	4000	3100	2500	2200	FEED	240	380	440	470	470	580	600	570	530			
			Vc	75	104	101	99	106	101	97	94	97	fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	RPM	12000	11000	8000	6300	5600	4000	3100	2500	2200	FEED	240	380	440	470	470	580	600	570	530			
			Vc	75	104	101	99	106	101	97	94	97	fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	RPM	12000	11000	8000	6300	5600	4000	3100	2500	2200	FEED	240	380	440	470	470	580	600	570	530			
23-25	0.1D	1.5D	Vc	75	104	101	99	106	101	97	94	97	fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	RPM	12000	11000	8000	6300	5600	4000	3100	2500	2200	FEED	240	380	440	470	470	580	600	570	530			
			Vc	75	104	101	99	106	101	97	94	97	fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	RPM	12000	11000	8000	6300	5600	4000	3100	2500	2200	FEED	240	380	440	470	470	580	600	570	530			
			Vc	75	104	101	99	106	101	97	94	97	fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	RPM	12000	11000	8000	6300	5600	4000	3100	2500	2200	FEED	240	380	440	470	470	580	600	570	530			

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给

EQ412, EQ659, EQ750 SERIES

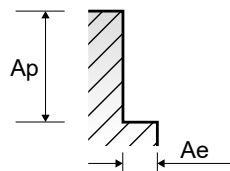
4 FLUTE (TiAlN-COATED) - SIDE CUTTING
4刃 (TiAlN 涂层) - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径												
						2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0				
P	1	Non-alloy steel	0.1D	1.5D	Vc	49	46	49	49	47	49	49	47	48				
					fz	0.004	0.008	0.013	0.020	0.025	0.036	0.045	0.062	0.070				
					RPM	7850	4900	3900	3100	2500	1950	1550	1250	1100				
	2		Vc	40	42	39	39	42	39	39	41	44						
			fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045	0.057	0.056						
			RPM	6300	4500	3100	2500	2250	1550	1250	1100	1000						
	3-4		Vc	35	33	31	35	32	31	35	34	35						
			fz	0.003	0.006	0.009	0.014	0.018	0.029	0.039	0.047	0.053						
			RPM	5600	3500	2500	2250	1700	1250	1100	900	800						
	5		Vc	19	21	19	20	21	20	20	21	22						
			fz	0.002	0.004	0.010	0.014	0.019	0.028	0.035	0.048	0.053						
RPM		3100	2250	1550	1250	1100	800	650	550	500								
6	Vc	40	42	39	39	42	39	39	41	44								
	fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045	0.057	0.056								
	RPM	6300	4500	3100	2500	2250	1550	1250	1100	1000								
7	Vc	35	33	31	35	32	31	35	34	35								
	fz	0.003	0.006	0.009	0.014	0.018	0.029	0.039	0.047	0.053								
	RPM	5600	3500	2500	2250	1700	1250	1100	900	800								
8-9	Vc	19	21	19	20	21	20	20	21	22								
	fz	0.002	0.004	0.010	0.014	0.019	0.028	0.035	0.048	0.053								
	RPM	3100	2250	1550	1250	1100	800	650	550	500								
10	Vc	40	42	39	39	42	39	39	41	44								
	fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045	0.057	0.056								
	RPM	6300	4500	3100	2500	2250	1550	1250	1100	1000								
11.1	Vc	19	21	19	20	21	20	20	21	22								
	fz	0.002	0.004	0.010	0.014	0.019	0.028	0.035	0.048	0.053								
	RPM	3100	2250	1550	1250	1100	800	650	550	500								
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	106	145	141	138	148	141	137	132	136				
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.060				
					RPM	16800	15400	11200	8800	7850	5600	4350	3500	3100				
23-25	Aluminum-cast, alloyed	0.1D	1.5D	Vc	106	145	141	138	148	141	137	132	136					
				fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.060					
				RPM	16800	15400	11200	8800	7850	5600	4350	3500	3100					

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给

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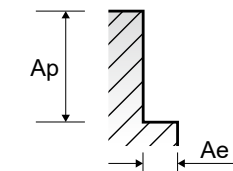
EQ412, EQ659, EQ750 SERIES

4 FLUTE (TiAlN-COATED) - SIDE CUTTING
4刃 (TiAlN 涂层) - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径												
					16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0			
P	1	0.1D	1.5D	Vc	50	51	50	48	51	48	47	50	51	50			
				fz	0.078	0.078	0.088	0.100	0.096	0.102	0.098	0.094	0.106				
				RPM	1000	900	800	700	650	550	500	450	400				
	2			Vc	40	40	41	45	43	44	42	40	40	38			
				fz	0.070	0.080	0.087	0.087	0.093	0.088	0.086	0.088	0.089	0.104			
				RPM	800	700	650	650	550	500	450	400	350	300			
	3-4			Vc	33	31	35	35	35	33	30	34	31				
				fz	0.056	0.066	0.066	0.073	0.069	0.069	0.075	0.075	0.085				
				RPM	650	550	550	500	450	400	350	300	250				
	5			Vc	20	20	19	21	20	18	19	20	17	19			
				fz	0.056	0.064	0.075	0.075	0.070	0.081	0.081	0.081	0.083	0.083			
RPM		400	350	300	300	250	200	200	200	150	150						
6	Vc	40	40	41	45	43	44	42	40	40	38						
	fz	0.070	0.080	0.087	0.087	0.093	0.088	0.086	0.088	0.089	0.104						
	RPM	800	700	650	650	550	500	450	400	350	300						
7	Vc	33	31	35	35	35	33	30	34	31							
	fz	0.056	0.066	0.066	0.073	0.069	0.069	0.075	0.075	0.071	0.085						
	RPM	650	550	550	500	450	400	350	300	250	250						
8-9	Vc	20	20	19	21	20	18	19	20	17	19						
	fz	0.056	0.064	0.075	0.075	0.070	0.081	0.081	0.081	0.083	0.083						
	RPM	400	350	300	300	250	200	200	200	150	150						
10	Vc	40	40	41	45	43	44	42	40	40	38						
	fz	0.070	0.080	0.087	0.087	0.093	0.088	0.086	0.088	0.089	0.104						
	RPM	800	700	650	650	550	500	450	400	350	300						
11.1	Vc	20	20	19	21	20	18	19	20	17	19						
	fz	0.056	0.064	0.075	0.075	0.070	0.081	0.081	0.081	0.083	0.083						
	RPM	400	350	300	300	250	200	200	200	150	150						
N	21-22	0.1D	1.5D	Vc	141	141	141	135	134	136	146	141	138				
				fz	0.066	0.074	0.074	0.081	0.087	0.090	0.090	0.092	0.095				
				RPM	2800	2500	2250	1950	1700	1550	1550	1400	1250	1100			
23-25	0.1D	1.5D	Vc	141	141	141	135	134	136	146	141	138					
			fz	0.066	0.074	0.074	0.081	0.087	0.090	0.090	0.092	0.095					
			RPM	2800	2500	2250	1950	1700	1550	1550	1400	1250	1100				

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给



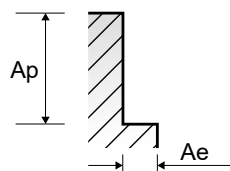
E2760 SERIES MULTI FLUTE ROUGHING - SIDE CUTTING
多刃粗加工-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径						
						6.0	8.0	10.0	12.0	14.0	16.0	18.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	34	35	35	34	35	35	36
					fz	0.011	0.019	0.034	0.05	0.056	0.064	0.071
					RPM	1800	1400	1100	900	800	700	630
	2		Vc	30	28	28	30	31	28	28		
			fz	0.009	0.017	0.033	0.044	0.05	0.063	0.07		
			RPM	1600	1100	900	800	700	560	500		
	3-4		Vc	23	23	25	24	25	23	23		
			fz	0.011	0.018	0.034	0.044	0.049	0.061	0.069		
			RPM	1200	900	800	630	560	450	400		
	5		Vc	15	14	14	15	14	14	14		
			fz	0.009	0.016	0.033	0.044	0.05	0.063	0.07		
RPM		800	560	450	400	350	280	250				
6	Vc	30	28	28	30	31	28	28				
	fz	0.009	0.017	0.033	0.044	0.05	0.063	0.07				
	RPM	1600	1100	900	800	700	560	500				
7	Vc	23	23	25	24	25	23	23				
	fz	0.011	0.018	0.034	0.044	0.049	0.061	0.069				
	RPM	1200	900	800	630	560	450	400				
8-9	Vc	15	14	14	15	14	14	14				
	fz	0.009	0.016	0.033	0.044	0.05	0.063	0.07				
	RPM	800	560	450	400	350	280	250				
10	Vc	30	28	28	30	31	28	28				
	fz	0.009	0.017	0.033	0.044	0.05	0.063	0.07				
	RPM	1600	1100	900	800	700	560	500				
11.1	Vc	15	14	14	15	14	14	14				
	fz	0.009	0.016	0.033	0.044	0.05	0.063	0.07				
	RPM	800	560	450	400	350	280	250				
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	85	78	79	75	79	80	79
					fz	0.011	0.019	0.035	0.05	0.058	0.07	0.084
					RPM	4500	3100	2500	2000	1800	1600	1400
23-25	Aluminum-cast, alloyed	0.5D	1.5D	Vc	85	78	79	75	79	80	79	
				fz	0.011	0.019	0.035	0.05	0.058	0.07	0.084	
				RPM	4500	3100	2500	2000	1800	1600	1400	

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给

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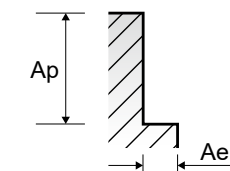


E2760 SERIES MULTI FLUTE ROUGHING - SIDE CUTTING
多刃粗加工-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
					20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0	50.0	
P	1	Non-alloy steel	0.5D	1.5D	Vc	35	35	35	35	33	35	35	35	35
					fz	0.08	0.088	0.098	0.088	0.1	0.1	0.113	0.119	0.152
					RPM	560	500	450	400	350	350	310	280	220
	2		Vc	28	31	31	31	29	28	28	28			
			fz	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157		
			RPM	450	450	400	350	310	280	250	220	180		
	3-4		Vc	25	24	24	25	24	22	23	23			
			fz	0.069	0.08	0.09	0.077	0.087	0.098	0.108	0.111	0.146		
			RPM	400	350	310	280	250	220	200	180	160		
	5		Vc	14	15	14	14	15	14	14	14			
			fz	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148		
RPM		220	220	180	160	160	140	120	110	90				
6	Vc	28	31	31	31	29	28	28	28					
	fz	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157				
	RPM	450	450	400	350	310	280	250	220	180				
7	Vc	25	24	24	25	24	22	23	23					
	fz	0.069	0.08	0.09	0.077	0.087	0.098	0.108	0.111	0.146				
	RPM	400	350	310	280	250	220	200	180	160				
8-9	Vc	14	15	14	14	15	14	14	14					
	fz	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148				
	RPM	220	220	180	160	160	140	120	110	90				
10	Vc	28	31	31	31	29	28	28	28					
	fz	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157				
	RPM	450	450	400	350	310	280	250	220	180				
11.1	Vc	14	15	14	14	15	14	14	14					
	fz	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148				
	RPM	220	220	180	160	160	140	120	110	90				
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	75	76	79	79	85	80	79	79	
					fz	0.104	0.085	0.09	0.094	0.098	0.104	0.112	0.119	0.123
					RPM	1200	1100	1000	900	900	800	700	630	500
23-25	Aluminum-cast, alloyed	0.5D	1.5D	Vc	75	76	79	79	85	80	79	79		
				fz	0.104	0.085	0.09	0.094	0.098	0.104	0.112	0.119	0.123	
				RPM	1200	1100	1000	900	900	800	700	630	500	

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给



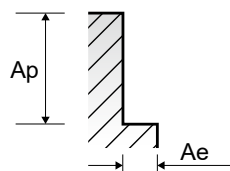
EQ760 SERIES MULTI FLUTE ROUGHING(TiAlN-COATED) - SIDE CUTTING
多刃粗加工(TiAlN 涂层)-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径						
						6.0	8.0	10.0	12.0	14.0	16.0	18.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	47	49	49	47	48	50	51
					fz	0.011	0.019	0.034	0.05	0.057	0.063	0.069
					RPM	2500	1950	1550	1250	1100	1000	900
	2		Vc	42	39	39	41	44	40	40		
			fz	0.009	0.017	0.034	0.044	0.049	0.061	0.07		
			RPM	2250	1550	1250	1100	1000	800	700		
	3-4		Vc	85	105	170	195	195	195	195		
			fz	32	31	35	34	35	33	31		
			RPM	0.011	0.018	0.035	0.043	0.048	0.06	0.07		
	5		Vc	21	20	20	21	22	20	20		
			fz	0.009	0.016	0.033	0.045	0.05	0.063	0.071		
RPM		1100	800	650	550	500	400	350				
6	Vc	42	39	39	41	44	40	40				
	fz	0.009	0.017	0.034	0.044	0.049	0.061	0.07				
	RPM	2250	1550	1250	1100	1000	800	700				
7	Vc	85	105	170	195	195	195	195				
	fz	32	31	35	34	35	33	31				
	RPM	0.011	0.018	0.035	0.043	0.048	0.06	0.07				
8-9	Vc	21	20	20	21	22	20	20				
	fz	0.009	0.016	0.033	0.045	0.05	0.063	0.071				
	RPM	1100	800	650	550	500	400	350				
10	Vc	42	39	39	41	44	40	40				
	fz	0.009	0.017	0.034	0.044	0.049	0.061	0.07				
	RPM	2250	1550	1250	1100	1000	800	700				
11.1	Vc	85	105	170	195	195	195	195				
	fz	21	20	20	21	22	20	20				
	RPM	0.009	0.016	0.033	0.045	0.05	0.063	0.071				
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	119	109	110	106	110	113	110
					fz	0.011	0.018	0.035	0.05	0.059	0.07	0.085
					RPM	6300	4350	3500	2800	2500	2250	1950
23-25	Aluminum-cast, alloyed	0.5D	1.5D	Vc	119	109	110	106	110	113	110	
				fz	0.011	0.018	0.035	0.05	0.059	0.07	0.085	
				RPM	6300	4350	3500	2800	2500	2250	1950	

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给

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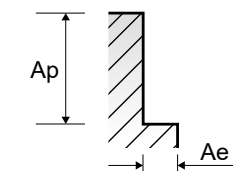


EQ760 SERIES MULTI FLUTE ROUGHING(TiAlN-COATED) - SIDE CUTTING
多刃粗加工(TiAlN 涂层)-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
					20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0	50.0	
P	1	0.5D	1.5D	Vc	50	48	51	48	47	50	51	50	47	
				fz	0.078	0.089	0.095	0.089	0.098	0.098	0.109	0.117	0.156	
				RPM	800	700	650	550	500	450	400	300		
	2			Vc	41	45	43	44	42	40	40	38	39	
				fz	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16	
				RPM	650	650	550	500	450	400	350	300	250	
	3-4			Vc	195	240	240	225	225	225	225	210	240	
				fz	35	35	35	35	33	30	34	31	35	
				RPM	0.07	0.078	0.087	0.075	0.086	0.1	0.1	0.113	0.148	
	5			Vc	19	21	20	19	21	20	19	16	19	
				fz	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153	
RPM		300	300	250	220	220	200	170	130	120				
6	Vc	41	45	43	44	42	40	40	38	39				
	fz	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16				
	RPM	650	650	550	500	450	400	350	300	250				
7	Vc	195	240	240	225	225	225	225	210	240				
	fz	35	35	35	35	33	30	34	31	35				
	RPM	0.07	0.078	0.087	0.075	0.086	0.1	0.1	0.113	0.148				
8-9	Vc	19	21	20	19	21	20	19	16	19				
	fz	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153				
	RPM	300	300	250	220	220	200	170	130	120				
10	Vc	100	120	120	120	120	120	120	110	110				
	fz	41	45	43	44	42	40	40	38	39				
	RPM	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16				
11.1	Vc	195	240	240	225	225	225	225	210	240				
	fz	19	21	20	19	21	20	19	16	19				
	RPM	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153				
N	21-22	0.5D	1.5D	Vc	107	107	110	110	118	111	113	110		
				fz	0.103	0.106	0.113	0.143	0.148	0.159	0.165	0.175		
				RPM	1700	1550	1400	1250	1250	1100	1000	900		
23-25	0.5D	1.5D	Vc	107	107	110	110	118	111	113	110			
			fz	0.103	0.106	0.113	0.143	0.148	0.159	0.165	0.175			
			RPM	1700	1550	1400	1250	1250	1100	1000	900			

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给



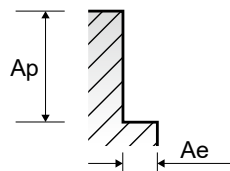
E2753 SERIES MULTI FLUTE ROUGHING - SIDE CUTTING
多刃粗加工-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径						
						6.0	8.0	10.0	12.0	14.0	16.0	18.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	35	35	35	35	35	35	35
					fz	0.015	0.025	0.034	0.05	0.056	0.064	0.071
					RPM	1857	1393	1114	928	796	696	619
	2		Vc	30	30	30	30	30	30	30		
			fz	0.013	0.023	0.033	0.044	0.05	0.063	0.07		
			RPM	1592	1194	955	796	682	597	531		
	3-4		Vc	25	25	25	25	25	25	25		
			fz	0.015	0.024	0.034	0.044	0.049	0.061	0.069		
			RPM	1326	995	796	663	568	497	442		
	5		Vc	15	15	15	15	15	15	15		
			fz	0.013	0.021	0.033	0.044	0.05	0.063	0.07		
RPM		796	597	477	398	341	298	265				
6	Vc	30	30	30	30	30	30	30				
	fz	0.013	0.023	0.033	0.044	0.05	0.063	0.07				
	RPM	1592	1194	955	796	682	597	531				
7	Vc	25	25	25	25	25	25	25				
	fz	0.015	0.024	0.034	0.044	0.049	0.061	0.069				
	RPM	1326	995	796	663	568	497	442				
8-9	Vc	15	15	15	15	15	15	15				
	fz	0.013	0.021	0.033	0.044	0.05	0.063	0.07				
	RPM	796	597	477	398	341	298	265				
10	Vc	30	30	30	30	30	30	30				
	fz	0.013	0.023	0.033	0.044	0.05	0.063	0.07				
	RPM	1592	1194	955	796	682	597	531				
11.1	Vc	15	15	15	15	15	15	15				
	fz	0.013	0.021	0.033	0.044	0.05	0.063	0.07				
	RPM	796	597	477	398	341	298	265				
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	85	80	80	75	80	80	
					fz	0.015	0.025	0.035	0.05	0.058	0.07	0.084
					RPM	4509	3183	2546	1989	1819	1592	1415
23-24	Aluminum-cast, alloyed	0.1D	1.5D	Vc	55	52	52	49	52	52		
				fz	0.015	0.025	0.035	0.05	0.058	0.07	0.084	
				RPM	2918	2069	1655	1300	1182	1035	920	

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给

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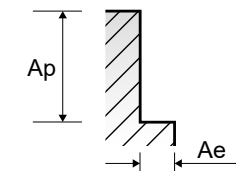


E2753 SERIES MULTI FLUTE ROUGHING - SIDE CUTTING
多刃粗加工-侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径										
					20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0	50.0		
P	1	Non-alloy steel	0.1D	1.5D	Vc	35	35	35	35	35	35	35	35	35	35
					fz	0.08	0.088	0.098	0.088	0.1	0.1	0.113	0.119	0.152	
					RPM	557	506	446	398	371	348	309	279	223	
	2		Vc	30	30	30	30	30	30	30	30	30	30	30	
			fz	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157			
			RPM	477	434	382	341	318	298	265	239	191			
	3-4		Vc	25	25	25	25	25	25	25	25	25	25	25	
			fz	0.069	0.08	0.09	0.077	0.087	0.098	0.108	0.111	0.146			
			RPM	398	362	318	284	265	199	221	199	159			
	5		Vc	15	15	15	15	15	15	15	15	15	15	15	
			fz	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148			
RPM		239	217	191	171	159	149	133	119	95					
6	Vc	30	30	30	30	30	30	30	30	30	30	30			
	fz	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157					
	RPM	477	434	382	341	318	298	265	239	191					
7	Vc	25	25	25	25	25	25	25	25	25	25	25			
	fz	0.069	0.08	0.09	0.077	0.087	0.098	0.108	0.111	0.146					
	RPM	398	362	318	284	265	199	221	199	159					
8-9	Vc	15	15	15	15	15	15	15	15	15	15	15			
	fz	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148					
	RPM	239	217	191	171	159	149	133	119	95					
10	Vc	30	30	30	30	30	30	30	30	30	30	30			
	fz	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157					
	RPM	477	434	382	341	318	298	265	239	191					
11.1	Vc	15	15	15	15	15	15	15	15	15	15	15			
	fz	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148					
	RPM	239	217	191	171	159	149	133	119	95					
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	75	75	80	80	85	80	80	80	80	
					fz	0.104	0.085	0.09	0.094	0.098	0.104	0.112	0.119	0.123	
					RPM	1194	1085	1019	909	902	796	707	637	509	
23-24	Aluminum-cast, alloyed	0.1D	1.5D	Vc	49	49	52	52	55	52	52	52	52		
				fz	0.104	0.085	0.09	0.094	0.098	0.104	0.112	0.119	0.123		
				RPM	780	709	662	591	584	517	460	414	331		

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给



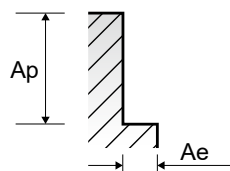
EQ753 SERIES MULTI FLUTE ROUGHING(TiAlN-COATED) - SIDE CUTTING
多刃粗加工(TiAlN 涂层) - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
						6.0	8.0	10.0	12.0	14.0	16.0	18.0			
P	1	Non-alloy steel	0.1D	1.5D	Vc	45	50	50	45	50	50	50	50	50	50
					fz	0.015	0.025	0.034	0.05	0.057	0.063	0.069	0.069	0.069	0.069
					RPM	2387	1989	1592	1194	1137	995	884	884	884	884
	2		Vc	40	40	40	40	45	40	40	40	40	40	40	
			fz	0.013	0.023	0.034	0.044	0.049	0.061	0.07	0.07	0.07	0.07	0.07	
			RPM	2122	1592	1273	1061	1023	796	707	707	707	707	707	
	3-4		Vc	30	30	35	35	35	35	30	30	30	30	30	
			fz	0.015	0.024	0.035	0.043	0.048	0.06	0.07	0.07	0.07	0.07	0.07	
			RPM	1592	1194	1114	928	796	696	531	531	531	531	531	
	5		Vc	20	20	20	20	20	20	20	20	20	20	20	
			fz	0.012	0.021	0.033	0.045	0.05	0.063	0.071	0.071	0.071	0.071	0.071	
RPM		1061	796	637	531	455	398	354	354	354	354	354			
6	Vc	40	40	40	40	45	40	40	40	40	40	40			
	fz	0.013	0.023	0.034	0.044	0.049	0.061	0.07	0.07	0.07	0.07	0.07			
	RPM	2122	1592	1273	1061	1023	796	707	707	707	707	707			
7	Vc	30	30	35	35	35	35	30	30	30	30	30			
	fz	0.015	0.024	0.035	0.043	0.048	0.06	0.07	0.07	0.07	0.07	0.07			
	RPM	1592	1194	1114	928	796	696	531	531	531	531	531			
8-9	Vc	20	20	20	20	20	20	20	20	20	20	20			
	fz	0.012	0.021	0.033	0.045	0.05	0.063	0.071	0.071	0.071	0.071	0.071			
	RPM	1061	796	637	531	455	398	354	354	354	354	354			
10	Vc	40	40	40	40	45	40	40	40	40	40	40			
	fz	0.013	0.023	0.034	0.044	0.049	0.061	0.07	0.07	0.07	0.07	0.07			
	RPM	2122	1592	1273	1061	1023	796	707	707	707	707	707			
11.1	Vc	20	20	20	20	20	20	20	20	20	20	20			
	fz	0.012	0.021	0.033	0.045	0.05	0.063	0.071	0.071	0.071	0.071	0.071			
	RPM	1061	796	637	531	455	398	354	354	354	354	354			
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	120	110	110	105	110	115	110	110		
					fz	0.015	0.025	0.035	0.05	0.059	0.07	0.085	0.085	0.085	
					RPM	6366	4377	3501	2785	2501	2288	1945	1945	1945	
23-24	Aluminum-cast, alloyed	0.1D	1.5D	Vc	78	72	72	68	72	75	72	72			
				fz	0.015	0.025	0.035	0.05	0.059	0.07	0.085	0.085			
				RPM	4138	2865	2292	1804	1637	1492	1273	1273			

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给

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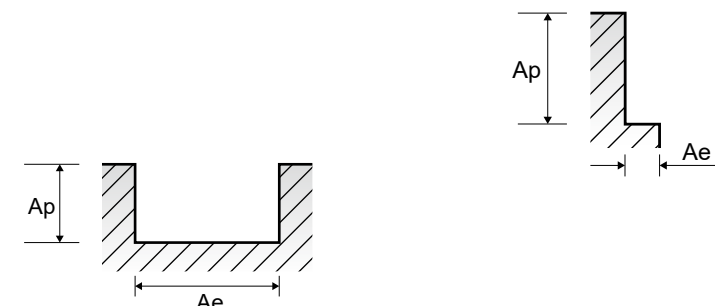


EQ753 SERIES MULTI FLUTE ROUGHING(TiAlN-COATED) - SIDE CUTTING
多刃粗加工(TiAlN 涂层) - 侧铣削

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)

ISO	VDI 3323	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径									
					20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0	50.0	
P	1	0.1D	1.5D	Vc	50	50	50	50	45	50	50	50	50	45
				fz	0.078	0.089	0.095	0.089	0.098	0.098	0.109	0.117	0.156	
				RPM	796	723	637	568	477	497	442	398	286	
	2			Vc	40	45	45	45	40	40	40	40	40	
				fz	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16	
				RPM	637	651	573	512	424	398	354	318	255	
	3-4			Vc	35	35	35	35	35	30	35	30	35	
				fz	0.07	0.078	0.087	0.075	0.086	0.1	0.1	0.113	0.148	
				RPM	557	506	446	398	371	298	309	239	223	
	5			Vc	20	20	20	20	20	20	20	15	20	
				fz	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153	
RPM		318	289	255	227	212	199	177	119	127				
6	Vc	40	45	45	45	40	40	40	40	40				
	fz	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16				
	RPM	637	651	573	512	424	398	354	318	255				
7	Vc	35	35	35	35	35	30	35	30	35				
	fz	0.07	0.078	0.087	0.075	0.086	0.1	0.1	0.113	0.148				
	RPM	557	506	446	398	371	298	309	239	223				
8-9	Vc	20	20	20	20	20	20	20	15	20				
	fz	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153				
	RPM	318	289	255	227	212	199	177	119	127				
10	Vc	40	45	45	45	40	40	40	40	40				
	fz	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16				
	RPM	637	651	573	512	424	398	354	318	255				
11.1	Vc	20	20	20	20	20	20	20	15	20				
	fz	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153				
	RPM	318	289	255	227	212	199	177	119	127				
N	21-22	0.1D	1.5D	Vc	105	105	110	110	120	110	115	115	110	
				fz	0.103	0.085	0.09	0.095	0.099	0.106	0.11	0.117	0.124	
				RPM	1671	1519	1401	1251	1273	1094	1017	915	700	
23-24	0.1D	1.5D	Vc	68	68	72	72	78	72	75	75	72		
			fz	0.103	0.085	0.09	0.095	0.099	0.106	0.11	0.117	0.124		
			RPM	1082	984	917	819	828	716	663	597	458		

※ The FEED, in long & extra long types, should be reduced by around 50%
长刃, 加长刃类型需要减少约50%进给



EL612 SERIES 1 FLUTE - SLOTTING
1刃-槽铣削

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)						
						3.0	4.0	5.0	6.0	7.0	8.0	10.0
N	21-22	Aluminum-wrought alloy	1.0D	0.5D (~Ø:0.2D)	Vc	188	226	220	207	220	214	220
					fz	0.055	0.053	0.054	0.055	0.055	0.053	0.054
					RPM	19947	17985	14006	10982	10004	8515	7003
23-24	Aluminum-cast, alloyed	1.0D	0.5D (~Ø:0.2D)	Vc	122	147	143	135	143	139	143	
				fz	0.055	0.053	0.054	0.055	0.055	0.053	0.054	
				RPM	12945	11698	9104	7162	6503	5531	4552	



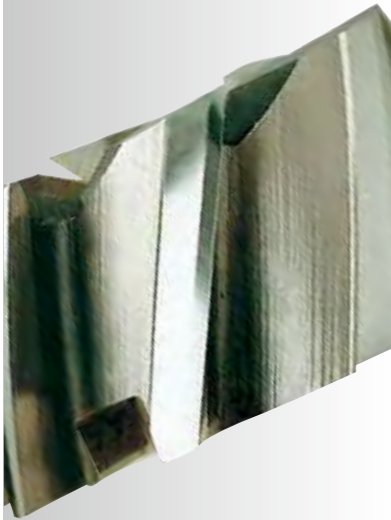
Global Cutting Tool Leader **YG-1**



MILLING



Leading Through Innovation



HSS

MILLING CUTTERS

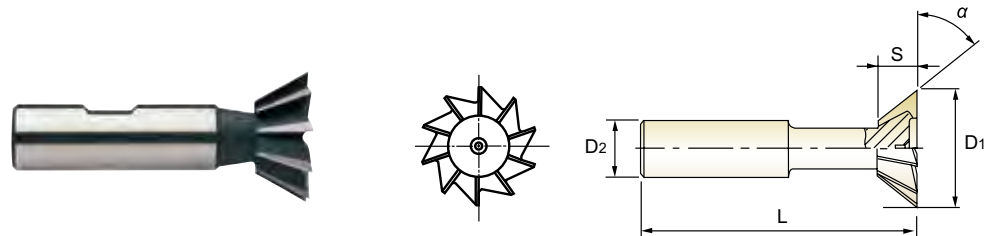
- General Works. Available Dovetail, Woodruff Keyseat, T-slot, Side Milling Cutters and HSS (8% cobalt) Corner Rounding, Shell End Mills
- 普通加工，可提供燕尾槽铣刀，月牙键槽铣刀，T型铣刀，三面刃铣刀，含钴8%的圆角铣刀和圆筒形端铣刀



PLAIN SHANK **ML012, ML022** SERIES
 FLAT SHANK **ML112, ML122** SERIES
 THREAD SHANK **ML212, ML222** SERIES

HSS-E, DOVETAIL CUTTERS TYPE "A", "C", "E"
HSS-E, 燕尾槽铣刀 A型, C型, E型

▶ Recommended for use in place of arbor and threaded hole type cutters to reduce set time and facilitate handling. ▶ 推荐使用机器心轴和螺纹孔盘铣刀来降低调试时间并且容易处理

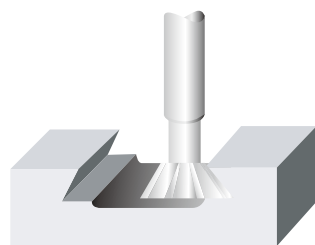


EDP No.			Cutter Diameter	Width of Face	Divergent Taper Angle	Shank Diameter	Overall Length	No. of Teeth
PLAIN	FLAT	THREAD	D1(js16)	S(js14)	$\alpha(\pm 15^\circ)$	D2(h6)	L(js18)	Z
ML01201601	ML11201601	-	16.0	4	45°	12	60	6
ML01202001	ML11202001	▲ ML21202001	20.0	5	45°	12	63	6
ML01202201	ML11202201	-	22.0	6	45°	12	67	6
ML01202501	ML11202501	▲ ML21202501	25.0	6.3	45°	16	67	8
ML01202801	ML11202801	-	28.0	7.5	45°	16	67	8
ML01203201	ML11203201	-	32.0	8	45°	16	71	10
ML01203801	ML11203801	-	38.0	10	45°	16	80	12
ML02201601	ML12201601	▲ ML22201601	16.0	6.3	60°	12	60	6
ML02202001	ML12202001	-	20.0	8	60°	12	63	6
ML02202201	ML12202201	-	22.0	9	60°	12	67	6
ML02202501	ML12202501	-	25.0	10	60°	16	67	8
ML02202801	ML12202801	-	28.0	11	60°	16	67	8
ML02203201	ML12203201	-	32.0	12.5	60°	16	71	10
ML02203801	ML12203801	-	38.0	16	60°	16	80	12
ML02204001	ML12204001	▲ ML22204001	40.0	13	60°	25	85	12
ML02205001	ML12205001	-	50.0	16	60°	25	100	16

▲ : Only available till stock runs out 只提供到消耗现库存

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

	Nominal-Diameter in mm / 直径单位为						
	over3to6	over6to10	over10to18	over18to30	over30to50	over50to80	over80to120
Tolerance range in mm / 公差单位为							
js16	± 0.375	± 0.45	± 0.55	± 0.65	± 0.80	± 0.95	± 1.10
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435
js18	± 0.90	± 1.10	± 1.35	± 1.65	± 1.95	± 2.30	± 2.70
Tolerance range in μm / 公差单位为							
h6	0 -8	0 -9	0 -11	0 -13	0 -16	0 -19	0 -22



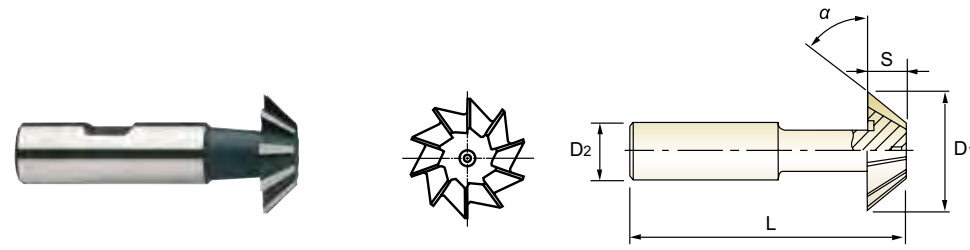
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK **ML032, ML042** SERIES
 FLAT SHANK **ML132, ML142** SERIES
 THREAD SHANK **ML232, ML242** SERIES

HSS-E, DOVETAIL CUTTERS TYPE "B", "D", "F"
HSS-E, 燕尾槽铣刀 B型, D型, F型

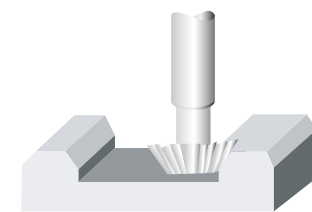


EDP No.			Cutter Diameter	Width of Face	Divergent Taper Angle	Shank Diameter	Overall Length	No. of Teeth
PLAIN	FLAT	THREAD	D1(js16)	S(js14)	$\alpha(\pm 15^\circ)$	D2(h6)	L(js18)	Z
ML03201601	ML13201601	-	16.0	4	45°	12	60	6
ML03202001	ML13202001	-	20.0	5	45°	12	63	6
ML03202201	ML13202201	-	22.0	6	45°	12	67	6
ML03202501	ML13202501	▲ ML23202501	25.0	6.3	45°	16	67	8
ML03202801	ML13202801	-	28.0	7.5	45°	16	67	8
ML03203201	ML13203201	-	32.0	8	45°	16	71	10
ML03203801	ML13203801	-	38.0	10	45°	16	80	12
ML04201601	ML14201601	-	16.0	6.3	60°	12	60	6
ML04202001	ML14202001	▲ ML24202001	20.0	8	60°	12	63	6
ML04202201	ML14202201	-	22.0	9	60°	12	67	6
ML04202501	ML14202501	-	25.0	10	60°	16	67	8
ML04202801	ML14202801	-	28.0	11	60°	16	67	8
ML04203201	ML14203201	-	32.0	12.5	60°	16	71	10
ML04203801	ML14203801	-	38.0	16	60°	16	80	12

▲ : Only available till stock runs out 只提供到消耗现库存

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

	Nominal-Diameter in mm / 直径单位为						
	over3to6	over6to10	over10to18	over18to30	over30to50	over50to80	over80to120
Tolerance range in mm / 公差单位为							
js16	± 0.375	± 0.45	± 0.55	± 0.65	± 0.80	± 0.95	± 1.10
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435
js18	± 0.90	± 1.10	± 1.35	± 1.65	± 1.95	± 2.30	± 2.70
Tolerance range in μm / 公差单位为							
h6	0 -8	0 -9	0 -11	0 -13	0 -16	0 -19	0 -22



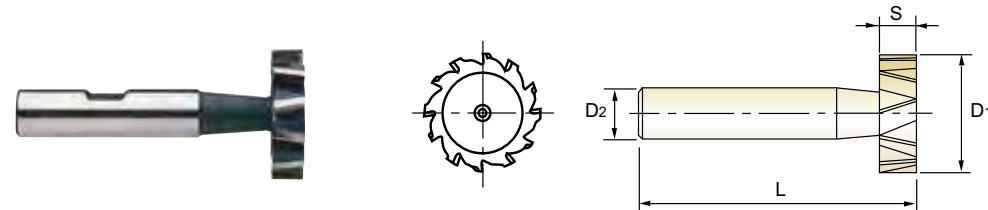
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK **ML062** SERIES
 FLAT SHANK **ML162** SERIES
 THREAD SHANK **ML262** SERIES

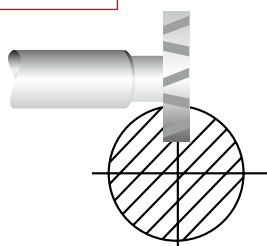
HSS-E, WOODRUFF KEYSEAT CUTTERS TYPE "B", "D", "F"
HSS-E, 月牙键槽铣刀 B型, D型, F型



EDP No.			Cutter Diameter	Width of Face	Shank Diameter	Overall Length	No. of Teeth
PLAIN	FLAT	THREAD	直径 D ₁ (h11)	刃幅 S(e8)	柄径 D ₂ (h6)	全长 L(js18)	刃数 Z
ML06210E01	ML16210E01	-	10.5	2	6	50	8
ML06210E02	ML16210E02	-	10.5	2.5	6	50	8
ML06210E03	ML16210E03	-	10.5	3	6	50	8
ML06213E01	ML16213E01	-	13.5	2	10	56	8
ML06213E02	ML16213E02	-	13.5	2.5	10	56	8
ML06213E03	ML16213E03	-	13.5	3	10	56	8
ML06213E04	ML16213E04	-	13.5	4	10	56	8
ML06216E01	ML16216E01	-	16.5	2.5	10	56	8
ML06216E02	ML16216E02	-	16.5	3	10	56	8
ML06216E03	ML16216E03	-	16.5	4	10	56	8
ML06216E04	ML16216E04	-	16.5	5	10	56	8
ML06219E01	ML16219E01	-	19.5	3	10	56	8
ML06219E02	ML16219E02	-	19.5	4	10	63	8
ML06219E03	ML16219E03	-	19.5	5	10	63	8
ML06219E04	ML16219E04	-	19.5	6	10	63	8
ML06222E01	ML16222E01	-	22.5	4	10	63	10
ML06222E02	ML16222E02	▲ ML26222E02	22.5	5	10	63	10
ML06222E03	ML16222E03	-	22.5	6	10	63	10
ML06222E04	ML16222E04	-	22.5	8	10	63	10
ML06225E01	ML16225E01	-	25.5	5	10	63	10

Tolerances according to DIN 7160 & 7161 ▲ : Only available till stock runs out 只提供到消耗现库存

	Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80
js18	± 0.90	± 1.10	± 1.35	± 1.65	± 1.95	± 2.30	± 2.70
h11	0	0	0	0	0	0	0
e8	-14	-20	-25	-32	-40	-50	-60
h6	0	0	0	0	0	0	0



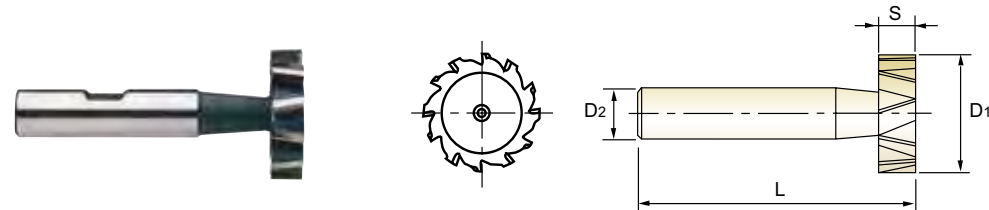
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK **ML062** SERIES
 FLAT SHANK **ML162** SERIES
 THREAD SHANK **ML262** SERIES

HSS-E, WOODRUFF KEYSEAT CUTTERS TYPE "B", "D", "F"
HSS-E, 月牙键槽铣刀 B型, D型, F型

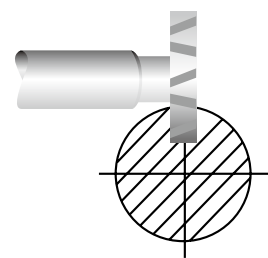


EDP No.			Cutter Diameter	Width of Face	Shank Diameter	Overall Length	No. of Teeth
PLAIN	FLAT	THREAD	直径 D ₁ (h11)	刃幅 S(e8)	柄径 D ₂ (h6)	全长 L(js18)	刃数 Z
ML06225E02	ML16225E02	-	25.5	6	10	63	10
ML06225E03	ML16225E03	-	25.5	7	10	63	10
ML06225E04	ML16225E04	-	25.5	8	10	63	10
ML06228E01	ML16228E01	▲ ML26228E01	28.5	5	10	63	10
ML06228E02	ML16228E02	-	28.5	6	10	63	10
ML06228E03	ML16228E03	-	28.5	7	10	63	10
ML06228E04	ML16228E04	-	28.5	8	10	63	10
ML06228E05	ML16228E05	▲ ML26228E05	28.5	10	12	71	10
ML06232E01	ML16232E01	-	32.5	5	12	71	12
ML06232E02	ML16232E02	-	32.5	6	12	71	12
ML06232E03	ML16232E03	▲ ML26232E03	32.5	7	12	71	12
ML06232E04	ML16232E04	-	32.5	8	12	71	12
ML06232E05	ML16232E05	▲ ML26232E05	32.5	10	12	71	12
ML06238E01	ML16238E01	-	38.5	7	12	71	12
ML06238E02	ML16238E02	-	38.5	8	12	71	12
ML06238E03	ML16238E03	-	38.5	9	12	71	12
ML06238E04	ML16238E04	-	38.5	10	12	71	12
ML06245E01	ML16245E01	-	45.5	10	12	71	14

▲ : Only available till stock runs out 只提供到消耗现库存

Tolerances according to DIN 7160 & 7161 按DIN7160&7161的标准公差

	Nominal-Diameter in mm / 直径单位为						
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50	over 50 to 80
js18	± 0.90	± 1.10	± 1.35	± 1.65	± 1.95	± 2.30	± 2.70
h11	0	0	0	0	0	0	0
e8	-14	-20	-25	-32	-40	-50	-60
h6	0	0	0	0	0	0	0



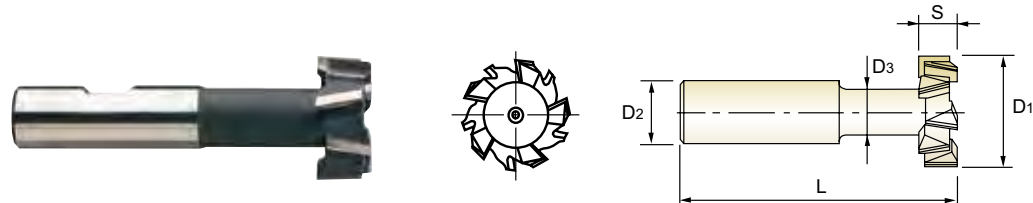
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



PLAIN SHANK **ML072** SERIES
 FLAT SHANK **ML172** SERIES
 THREAD SHANK **ML272** SERIES

HSS-E, T-SLOT CUTTERS TYPE "AA", "AB", "AD"
HSS-E, T型铣刀 AA型, AB型, AD型



HSS-E DIN 851 N 10° DIN 1835A DIN 1835B DIN 1835D p.C647

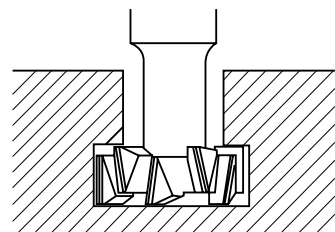
Unit(单位) : mm

EDP No.			Cutter Diameter	Width of Face	Shank Diameter	Neck Diameter	Overall Length	No. of Teeth
PLAIN	FLAT	THREAD	D ₁ (d11)	S(d11)	D ₂ (h6)	D ₃ (h12)	L(js18)	Z
ML07212E01	ML17212E01	-	12.5	6	10	5	57	6
ML07201601	ML17201601	-	16.0	8	10	6.5	62	6
ML07201801	ML17201801	-	18.0	8	12	8	70	6
ML07201901	ML17201901	-	19.0	9	12	8	71	6
ML07202101	ML17202101	-	21.0	9	12	10	74	6
ML07202201	ML17202201	-	22.0	10	12	10	75	6
ML07202501	ML17202501	-	25.0	11	16	12	82	6
ML07202801	ML17202801	▲ ML27202801	28.0	12	16	13	83	6
ML07203201	ML17203201	-	32.0	14	16	15	90	8
ML07203601	ML17203601	▲ ML27203601	36.0	16	25	17	103	8
ML07204001	ML17204001	▲ ML27204001	40.0	18	25	19	108	8

▲ : Only available till stock runs out 只提供到消耗现库存

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

	Nominal-Diameter in mm / 直径单位为						
	over3to6	over6to10	over10to18	over18to30	over30to50	over50to80	over80to120
Tolerance range in mm / 公差单位为							
h12	0	0	0	0	0	0	0
	-0.12	-0.15	-0.18	-0.21	-0.25	-0.30	-0.35
js18	±0.90	±1.10	±1.35	±1.65	±1.95	±2.30	±2.70
Tolerance range in μm / 公差单位为							
d11	-30	-40	-50	-65	-80	-100	-120
	-105	-130	-160	-195	-240	-290	-340
h6	0	0	0	0	0	0	0
	-8	-9	-11	-13	-16	-19	-22



◎ : Excellent (优秀) ○ : Good (良好)

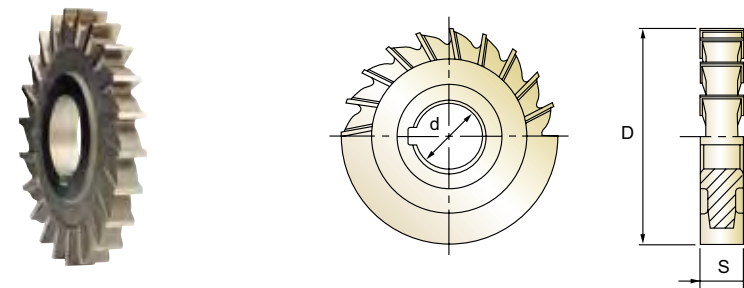
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



STRAIGHT TEETH **ML092** SERIES

HSS-E, SIDE AND FACE MILLING CUTTERS with STRAIGHT TEETH
HSS-E, 三面刃铣刀 直齿

▶ The tools are used for general purpose side and straddle milling where deep cut is not required. ▶ 刀具用在普通用途的侧铣和跨铣, 这种铣法不要求深切削



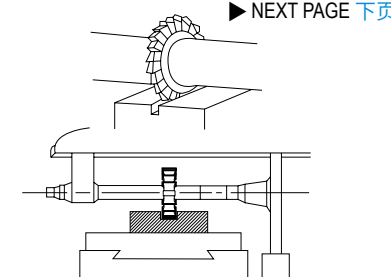
HSS-E DIN 885-B H p.C648

Unit(单位) : mm

EDP No.	Cutter Diameter	Width of Face	Internal Diameter	No. of Teeth
	D ₁ (js14)	S(k11)	d(H7)	Z
ML09205001	50.0	4	16	18
ML09205002	50.0	5	16	18
ML09205003	50.0	6	16	18
ML09205004	50.0	8	16	16
ML09205005	50.0	10	16	16
ML09206301	63.0	5	22	22
ML09206302	63.0	6	22	22
ML09206303	63.0	8	22	20
ML09206304	63.0	10	22	20
ML09206305	63.0	12	22	20
ML09208001	80.0	6	22	24
ML09208002	80.0	8	22	24
ML09208003	80.0	10	22	24
ML09208004	80.0	12	22	20
ML09208005	80.0	6	27	24
ML09208006	80.0	8	27	24
ML09208007	80.0	10	27	24
ML09208008	80.0	12	27	20
ML09210001	100.0	6	27	26
ML09210002	100.0	8	27	26

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

	Nominal-Diameter in mm / 直径单位为						
	over3to6	over6to10	over10to18	over18to30	over30to50	over50to80	over80to120
Tolerance range in mm / 公差单位为							
js14	±0.15	±0.18	±0.215	±0.26	±0.31	±0.37	±0.435
Tolerance range in μm / 公差单位为							
k11	+75	+90	+110	+130	+160	+190	+220
	0	0	0	0	0	0	0
H7	+12	+15	+18	+21	+25	+30	+35
	0	0	0	0	0	0	0

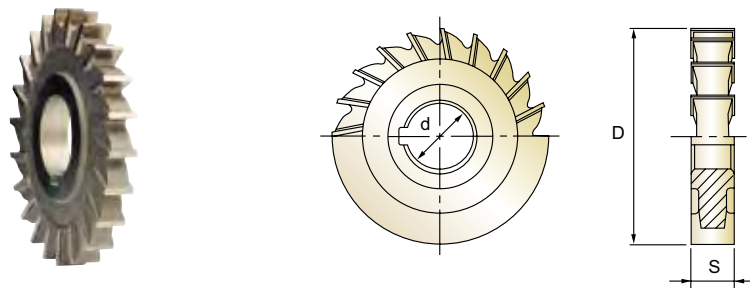


◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSS-E, SIDE AND FACE MILLING CUTTERS with STRAIGHT TEETH
HSS-E, 三面刃铣刀 直齿

▶ The tools are used for general purpose side and straddle milling where deep cut is not required. ▶ 刀具用在普通用途的侧铣和跨铣，这种铣法不要求深切削



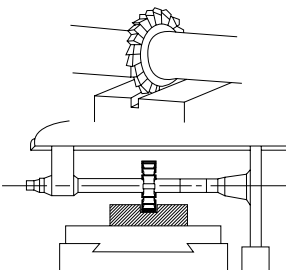
Unit(单位) : mm

EDP No.	Cutter Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D1(js14)	刃幅 S(k11)	内径 d(H7)	刃数 Z
ML09210003	100.0	10	27	22
ML09210004	100.0	6	32	26
ML09210005	100.0	8	32	26
ML09210006	100.0	10	32	22
ML09210007	100.0	12	32	22
ML09212501	125.0	8	32	30
ML09212502	125.0	10	32	30
ML09212503	125.0	12	32	24

Tolerances according to DIN 7160 & 7161

按DIN7160&7161的标准公差

Nominal-Diameter in mm / 直径单位为								
	over3 to 6	over6 to 10	over10 to 18	over18 to 30	over30 to 50	over50 to 80	over80 to 120	over120 to 180
Tolerance range in mm / 公差单位为								
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50
Tolerance range in μm / 公差单位为								
k11	+75 0	+90 0	+110 0	+130 0	+160 0	+190 0	+220 0	+250 0
H7	+12 0	+15 0	+18 0	+21 0	+25 0	+30 0	+35 0	+40 0

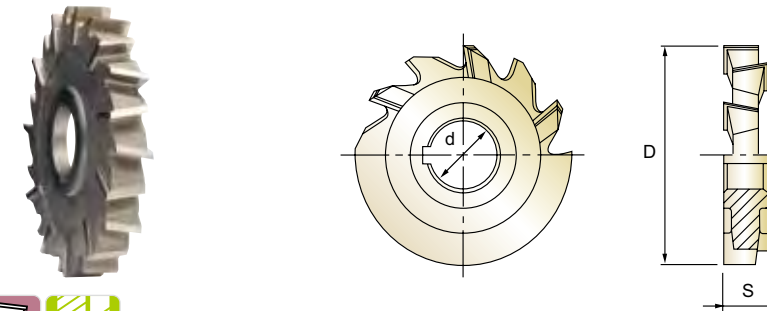


◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	42	45	48	52	55	58	60	62	65	68	70	72	74	76
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSS-E, SIDE AND FACE MILLING CUTTERS with STAGGERED TEETH
HSS-E, 三面刃铣刀 错齿

▶ The type of cutter is recommended for slotting operations. The alternate spiral effectively counteracts all tendency to chatter. ▶ 这种盘铣刀荐于开槽加工。交替的螺旋可有效的防治加工中的震动



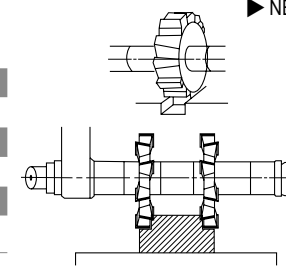
Unit(单位) : mm

EDP No.	Cutter Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D(js14)	刃幅 S(k11)	内径 d(H7)	刃数 Z
ML10205001	50.0	3	16	14
ML10205002	50.0	4	16	14
ML10205003	50.0	5	16	14
ML10205004	50.0	6	16	14
ML10205005	50.0	7	16	14
ML10205006	50.0	8	16	14
ML10205007	50.0	9	16	14
ML10205008	50.0	10	16	14
ML10206301	63.0	3	22	16
ML10206302	63.0	4	22	16
ML10206303	63.0	5	22	16
ML10206304	63.0	6	22	16
ML10206305	63.0	7	22	16
ML10206306	63.0	8	22	16
ML10206307	63.0	9	22	16
ML10206308	63.0	10	22	16
ML10206309	63.0	12	22	16
ML10206310	63.0	14	22	16
ML10206311	63.0	16	22	16
ML10206312	63.0	18	22	16

Tolerances according to DIN 7160 & 7161

按DIN7160&7161的标准公差

Nominal-Diameter in mm / 直径单位为									
	over3 to 6	over6 to 10	over10 to 18	over18 to 30	over30 to 50	over50 to 80	over80 to 120	over120 to 180	over180 to 250
Tolerance range in mm / 公差单位为									
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50	± 0.575
Tolerance range in μm / 公差单位为									
k11	+75 0	+90 0	+110 0	+130 0	+160 0	+190 0	+220 0	+250 0	+290 0
H7	+12 0	+15 0	+18 0	+21 0	+25 0	+30 0	+35 0	+40 0	+46 0



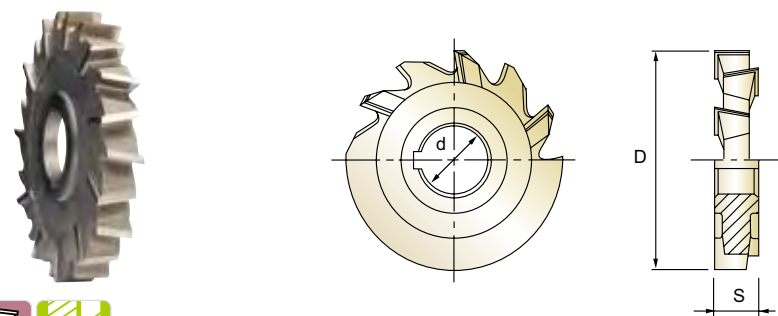
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	42	45	48	52	55	58	60	62	65	68	70	72	74	76
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSS-E, SIDE AND FACE MILLING CUTTERS with STAGGERED TEETH

HSS-E, 三面刃铣刀 错齿

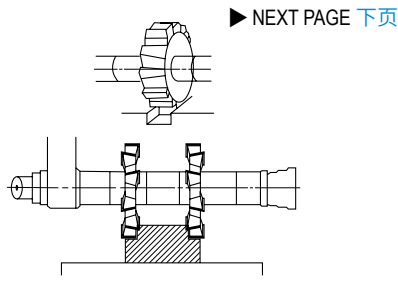
▶ The type of cutter is recommended for slotting operations. The alternate spiral effectively counteracts all tendency to chatter.
▶ 这种盘铣刀荐于开槽加工。交替的螺旋可有效的防治加工中的震动



EDP No.	Cutter Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D(js14)	刀幅 S(k11)	内径 d(H7)	刃数 Z
ML10208001	80.0	3	22	18
ML10208002	80.0	4	22	18
ML10208003	80.0	5	22	18
ML10208004	80.0	6	22	18
ML10208005	80.0	7	22	18
ML10208006	80.0	8	22	18
ML10208007	80.0	9	22	18
ML10208008	80.0	10	22	18
ML10208009	80.0	12	22	18
ML10208010	80.0	14	22	18
ML10208011	80.0	16	22	18
ML10208012	80.0	18	22	18
ML10208013	80.0	20	22	18
ML10208014	80.0	4	27	18
ML10208015	80.0	5	27	18
ML10208016	80.0	6	27	18
ML10208017	80.0	7	27	18
ML10208018	80.0	8	27	18
ML10208019	80.0	9	27	18
ML10208020	80.0	10	27	18

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

	Nominal-Diameter in mm / 直径单位为								
	over3to6	over6to10	over10to18	over18to30	over30to50	over50to80	over80to120	over120to180	over180to250
Tolerance range in mm / 公差单位为									
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50	± 0.575
Tolerance range in μm / 公差单位为									
k11	+75 0	+90 0	+110 0	+130 0	+160 0	+190 0	+220 0	+250 0	+290 0
H7	+12 0	+15 0	+18 0	+21 0	+25 0	+30 0	+35 0	+40 0	+46 0



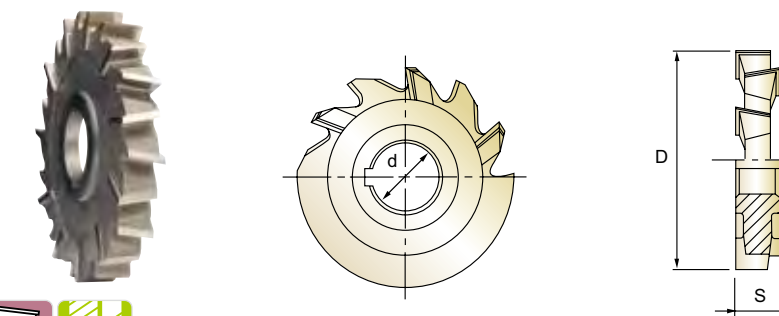
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSS-E, SIDE AND FACE MILLING CUTTERS with STAGGERED TEETH

HSS-E, 三面刃铣刀 错齿

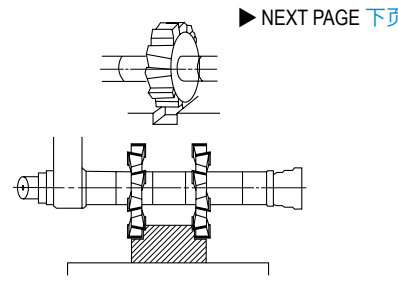
▶ The type of cutter is recommended for slotting operations. The alternate spiral effectively counteracts all tendency to chatter.
▶ 这种盘铣刀荐于开槽加工。交替的螺旋可有效的防治加工中的震动



EDP No.	Cutter Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D(js14)	刀幅 S(k11)	内径 d(H7)	刃数 Z
ML10208021	80.0	12	27	18
ML10208022	80.0	14	27	18
ML10208023	80.0	16	27	18
ML10208024	80.0	18	27	18
ML10208025	80.0	20	27	18
ML10210001	100.0	3	27	20
ML10210002	100.0	4	27	20
ML10210003	100.0	5	27	20
ML10210004	100.0	6	27	20
ML10210005	100.0	7	27	20
ML10210006	100.0	8	27	20
ML10210007	100.0	9	27	20
ML10210008	100.0	10	27	20
ML10210009	100.0	12	27	20
ML10210010	100.0	14	27	20
ML10210011	100.0	15	27	20
ML10210012	100.0	16	27	20
ML10210013	100.0	18	27	20
ML10210014	100.0	20	27	20
ML10210015	100.0	4	32	20

Tolerances according to DIN 7160 & 7161
按DIN7160&7161的标准公差

	Nominal-Diameter in mm / 直径单位为								
	over3to6	over6to10	over10to18	over18to30	over30to50	over50to80	over80to120	over120to180	over180to250
Tolerance range in mm / 公差单位为									
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50	± 0.575
Tolerance range in μm / 公差单位为									
k11	+75 0	+90 0	+110 0	+130 0	+160 0	+190 0	+220 0	+250 0	+290 0
H7	+12 0	+15 0	+18 0	+21 0	+25 0	+30 0	+35 0	+40 0	+46 0

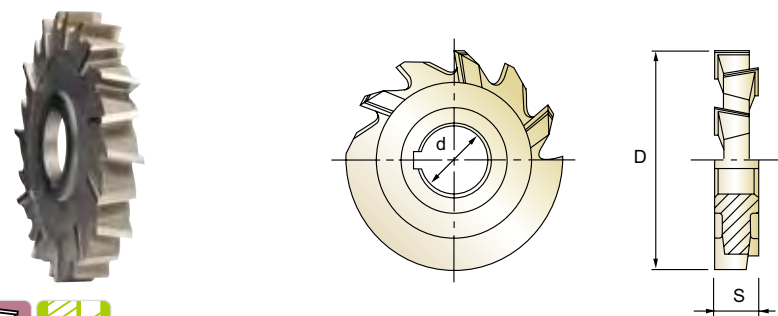


◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSS-E, SIDE AND FACE MILLING CUTTERS with STAGGERED TEETH
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HSS-E DIN 885-A H p.C649

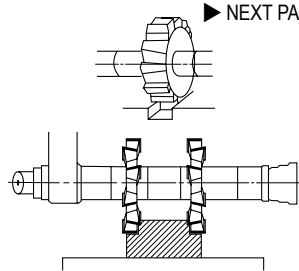
Unit(单位) : mm

EDP No.	Cutter Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D(js14)	刃幅 S(k11)	内径 d(H7)	刃数 Z
ML10210016	100.0	5	32	20
ML10210017	100.0	6	32	20
ML10210018	100.0	7	32	20
ML10210019	100.0	8	32	20
ML10210020	100.0	9	32	20
ML10210021	100.0	10	32	20
ML10210022	100.0	12	32	20
ML10210023	100.0	14	32	20
ML10210024	100.0	15	32	20
ML10210025	100.0	16	32	20
ML10210026	100.0	18	32	20
ML10210027	100.0	20	32	20
ML10212501	125.0	5	32	22
ML10212502	125.0	6	32	22
ML10212503	125.0	8	32	22
ML10212504	125.0	10	32	22
ML10212505	125.0	12	32	22
ML10212506	125.0	14	32	22
ML10212507	125.0	16	32	22
ML10212508	125.0	18	32	22

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

	Nominal-Diameter in mm / 直径单位为								
	over3to6	over6to10	over10to18	over18to30	over30to50	over50to80	over80to120	over120to180	over180to250
Tolerance range in mm / 公差单位为									
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50	± 0.575
Tolerance range in μm / 公差单位为									
k11	+75 0	+90 0	+110 0	+130 0	+160 0	+190 0	+220 0	+250 0	+290 0
H7	+12 0	+15 0	+18 0	+21 0	+25 0	+30 0	+35 0	+40 0	+46 0

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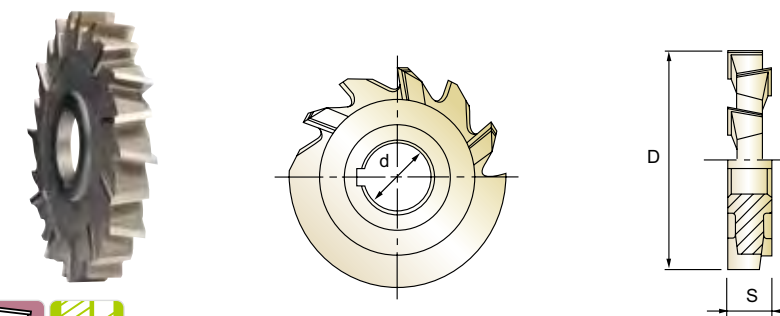


◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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HSS-E DIN 885-A H p.C649

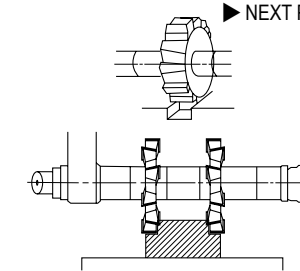
Unit(单位) : mm

EDP No.	Cutter Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D(js14)	刃幅 S(k11)	内径 d(H7)	刃数 Z
ML10212509	125.0	20	32	22
ML10216001	160.0	6	32	26
ML10216002	160.0	8	32	26
ML10216003	160.0	10	32	26
ML10216004	160.0	12	32	26
ML10216005	160.0	14	32	26
ML10216006	160.0	16	32	26
ML10216007	160.0	18	32	26
ML10216008	160.0	20	32	26
ML10216009	160.0	6	40	26
ML10216010	160.0	8	40	26
ML10216011	160.0	10	40	26
ML10216012	160.0	12	40	26
ML10216013	160.0	14	40	26
ML10216014	160.0	16	40	26
ML10216015	160.0	18	40	26
ML10216016	160.0	20	40	26
ML10220001	200.0	10	40	30
ML10220002	200.0	12	40	30
ML10220003	200.0	14	40	30

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

	Nominal-Diameter in mm / 直径单位为								
	over3to6	over6to10	over10to18	over18to30	over30to50	over50to80	over80to120	over120to180	over180to250
Tolerance range in mm / 公差单位为									
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50	± 0.575
Tolerance range in μm / 公差单位为									
k11	+75 0	+90 0	+110 0	+130 0	+160 0	+190 0	+220 0	+250 0	+290 0
H7	+12 0	+15 0	+18 0	+21 0	+25 0	+30 0	+35 0	+40 0	+46 0

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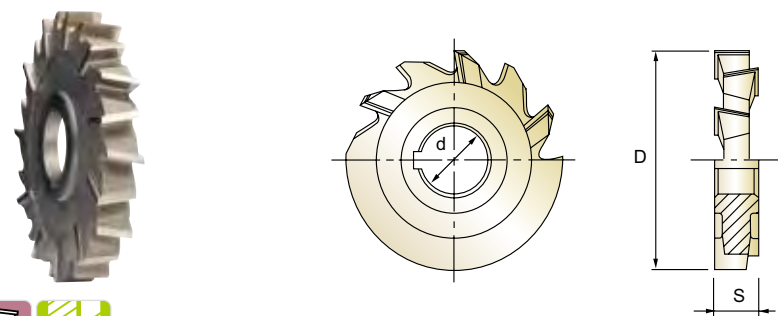


◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSS-E, SIDE AND FACE MILLING CUTTERS with STAGGERED TEETH
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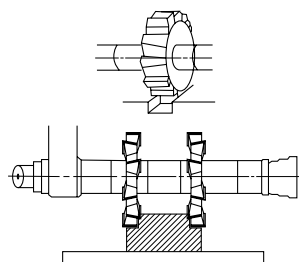
HSS-E **DIN 885-A** **H** **p.C649**

Unit(单位) : mm

EDP No.	Cutter Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D(js14)	刃幅 S(k11)	内径 d(H7)	刃数 Z
ML10220004	200.0	16	40	30
ML10220005	200.0	18	40	30
ML10220006	200.0	20	40	30
ML10220007	200.0	22	40	30
ML10220008	200.0	25	40	30

Tolerances according to DIN 7160 & 7161
 按DIN7160&7161的标准公差

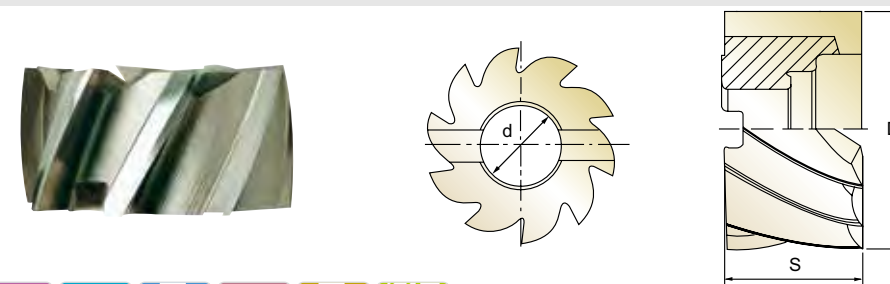
Nominal-Diameter in mm / 直径单位为									
	over3 to6	over6 to10	over10 to18	over18 to30	over30 to50	over50 to80	over80 to120	over120 to180	over180 to250
Tolerance range in mm / 公差单位为									
js14	±0.15	±0.18	±0.215	±0.26	±0.31	±0.37	±0.435	±0.50	±0.575
Tolerance range in μm / 公差单位为									
k11	+75 0	+90 0	+110 0	+130 0	+160 0	+190 0	+220 0	+250 0	+290 0
H7	+12 0	+15 0	+18 0	+21 0	+25 0	+30 0	+35 0	+40 0	+46 0



◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSSCo8, MULTI FLUTE SHELL END MILL
HSSCo8, 多刃 圆筒形端铣刀



HSS Co8 **DIN 841** **N** **6-10** **30°** **p.C650**

Unit(单位) : mm

EDP No.	Mill Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D	刃幅 S	内径 d	刃数 Z
E2675300	30.0	30	● 13	6
E2675350	35.0	35	● 16	6
E2675400	40.0	20	● 16	8
E2675402	40.0	40	● 16	8
E2675500	50.0	25	22	8
E2675502	50.0	50	22	8
E2675600	60.0	30	27	8
E2675601	60.0	60	27	8
E2675750	75.0	35	27	10
E2675751	75.0	75	27	10
E2675900	90.0	35	27	10
E2675902	110.0	35	32	10

● Tolerance of Internal Diameter = +0.018 ~ 0
 ▶ TIN-COATING, TiCN-COATING & TiAlN-COATING is available on your request. ● 内径公差=+0.018~0
▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

HSS Co8 **DIN 1880** **N** **8-14** **30°** **p.C650**

Unit(单位) : mm

EDP No.	Mill Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D	刃幅 S	内径 d	刃数 Z
E2675401	40.0	32	● 16	8
E2675501	50.0	36	22	8
E2675630	63.0	40	27	8
E2675800	80.0	45	27	10
E2675901	100.0	50	32	10
E2675903	125.0	56	40	12
E2675904	160.0	63	50	14

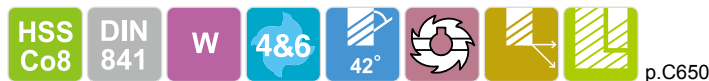
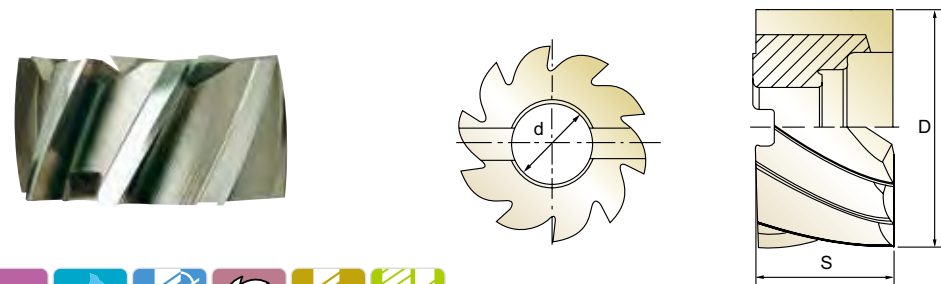
● Tolerance of Internal Diameter = +0.018 ~ 0
 ▶ TIN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.
 ● 内径公差=+0.018~0
 ▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

Mill Dia. Tolerance(mm) 直径公差	Width of Face Tolerance(mm) 刃幅公差	Internal Dia. Tolerance(mm) 内径公差
+0.25 -0.15	+0.5 -0	+0.02 -0

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSSCo8, MULTI FLUTE SHELL END MILL for ALUMINUM
HSSCo8, 多刃 圓筒形端铣刀



Unit(单位) : mm

EDP No.	Mill Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D	刃幅 S	内径 d	
E2676300	30.0	30	● 13	4
E2676400	40.0	20	● 16	4
E2676402	40.0	40	● 16	4
E2676500	50.0	25	22	6
E2676502	50.0	50	22	6
E2676600	60.0	30	27	6
E2676601	60.0	60	27	6
E2676750	75.0	75	27	6

● Tolerance of Internal Diameter = +0.018 ~ 0 ● 内径公差=+0.018~0
 ▶ TIN-COATING, TiCN-COATING & TiAlN-COATING is available on your request. ▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层



Unit(单位) : mm

EDP No.	Mill Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D	刃幅 S	内径 d	
E2676401	40.0	32	● 16	4
E2676501	50.0	36	22	6
E2676630	63.0	40	27	6
E2676800	80.0	45	27	6
E2676901	100.0	50	32	6

● Tolerance of Internal Diameter = +0.018 ~ 0 ● 内径公差=+0.018~0
 ▶ TIN-COATING, TiCN-COATING & TiAlN-COATING is available on your request. ▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

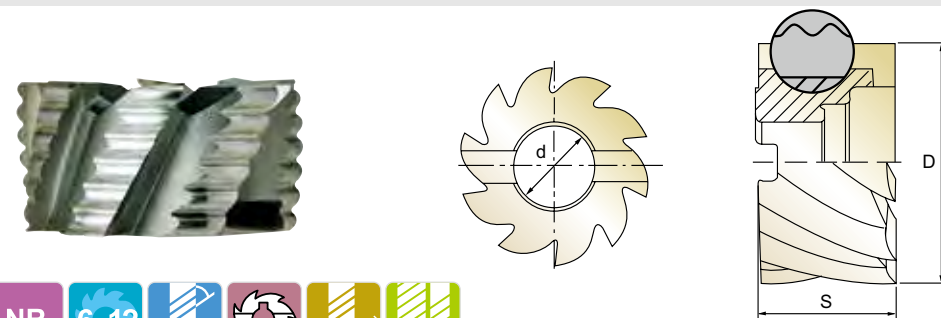
Mill Dia. Tolerance(mm) 直径公差	Width of Face Tolerance(mm) 刃幅公差	Internal Dia. Tolerance(mm) 内径公差
+0.25 -0.15	+0.5 -0	+0.02 -0

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M					K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel		Grey cast iron		Nodular cast iron			Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	13	25	28	32	38	42	48	52	58	63	68	73	78	83	88	93	98	103	108	113	118	123	128	133	138
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	260	160	250	130	230						
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S					H														
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550									
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSSCo8, MULTI FLUTE ROUGHING SHELL END MILL - COARSE
HSSCo8, 多刃 圓筒形端铣刀 粗加工 粗牙



Unit(单位) : mm

EDP No.	Mill Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D	刃幅 S	内径 d	
E2677401	40.0	40	● 16	6
E2677501	50.0	50	22	8
E2677600	60.0	30	27	8
E2677601	60.0	60	27	8
E2677750	75.0	35	27	10
E2677751	75.0	75	27	10
E2677900	90.0	35	27	10
E2677902	110.0	35	32	12

● Tolerance of Internal Diameter = +0.018 ~ 0 ● 内径公差=+0.018~0
 ▶ TIN-COATING, TiCN-COATING & TiAlN-COATING is available on your request. ▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层



Unit(单位) : mm

EDP No.	Mill Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D	刃幅 S	内径 d	
E2677400	40.0	32	● 16	6
E2677500	50.0	36	22	8
E2677630	63.0	40	27	8
E2677800	80.0	45	27	10
E2677901	100.0	50	32	10
E2677903	125.0	56	40	12
E2677904	160.0	63	50	12

● Tolerance of Internal Diameter = +0.018 ~ 0 ● 内径公差=+0.018~0
 ▶ TIN-COATING, TiCN-COATING & TiAlN-COATING is available on your request. ▶ 按客户要求可以提供TiN,TiCN,TiAlN涂层

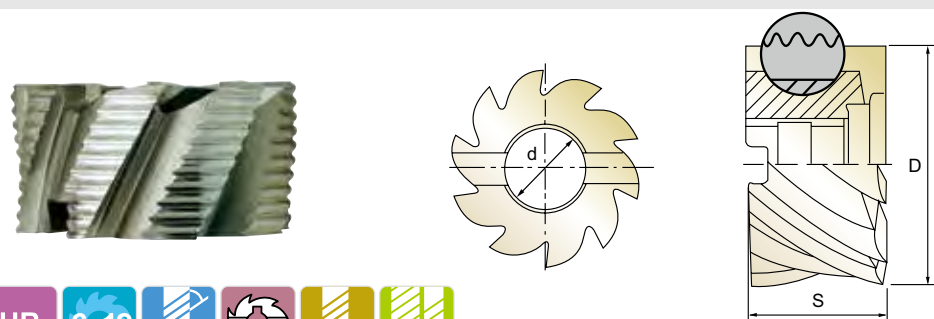
Mill Dia. Tolerance(mm) 直径公差	Width of Face Tolerance(mm) 刃幅公差	Internal Dia. Tolerance(mm) 内径公差
+0.25 -0.15	+0.5 -0	+0.02 -0

◎ : Excellent (优秀) ○ : Good (良好)

ISO Material Description	P										M					K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel		Grey cast iron		Nodular cast iron			Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	13	25	28	32	38	42	48	52	58	63	68	73	78	83	88	93	98	103	108	113	118	123	128	133	138
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	260	160	250	130	230						
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S					H														
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550									
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSSCo8, MULTI FLUTE ROUGHING SHELL END MILL - FINE
HSSCo8, 多刃 圆筒形端铣刀 粗加工 细牙



HSS Co8 DIN 841 HR 6-12 30° p.C651

Unit(单位) : mm

EDP No.	Mill Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D	刃幅 S	内径 d	
E2678401	40.0	40	● 16	6
E2678501	50.0	50	22	8
E2678600	60.0	30	27	8
E2678601	60.0	60	27	8
E2678750	75.0	35	27	10
E2678751	75.0	75	27	10
E2678900	90.0	35	27	10
E2678902	110.0	35	32	12

● Tolerance of Internal Diameter = +0.018 ~ 0
 ▶ TIN-COATING, TiCN-COATING & TiAIN-COATING is available on your request.
 ● 内径公差=+0.018~0
 ▶ 按客户要求可以提供TiN,TiCN,TiAIN涂层

HSS Co8 DIN 1880 HR 6-12 30° p.C651

Unit(单位) : mm

EDP No.	Mill Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D	刃幅 S	内径 d	
E2678400	40.0	32	● 16	6
E2678500	50.0	36	22	8
E2678630	63.0	40	27	8
E2678800	80.0	45	27	10
E2678901	100.0	50	32	10
E2678903	125.0	56	40	12
E2678904	160.0	63	50	12

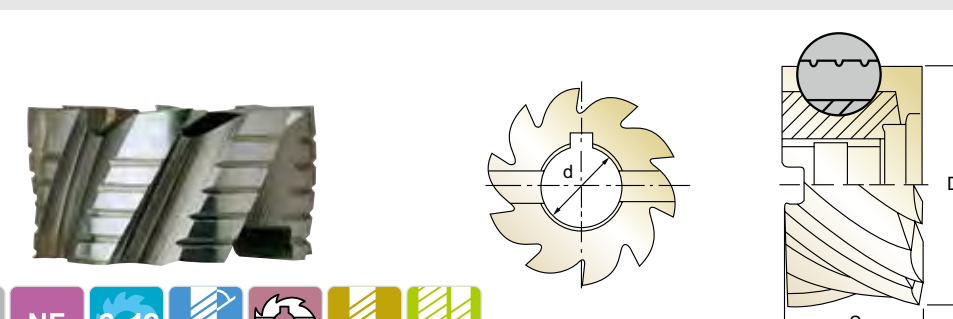
● Tolerance of Internal Diameter = +0.018 ~ 0
 ▶ TIN-COATING, TiCN-COATING & TiAIN-COATING is available on your request.
 ● 内径公差=+0.018~0
 ▶ 按客户要求可以提供TiN,TiCN,TiAIN涂层

Mill Dia. Tolerance(mm) 直径公差	Width of Face Tolerance(mm) 刃幅公差	Internal Dia. Tolerance(mm) 内径公差
+0.25 -0.15	+0.5 -0	+0.02 -0

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M					K																																		
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel					Grey cast iron	Nodular cast iron		Malleable cast iron																										
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSSCo8, MULTI FLUTE ROUGHING & FINISHING SHELL END MILL
HSSCo8, 多刃 圆筒形端铣刀 粗加工&精加工



HSS Co8 DIN 841 NF 6-12 30° p.C651

Unit(单位) : mm

EDP No.	Mill Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D	刃幅 S	内径 d	
E2679401	40.0	40	● 16	6
E2679501	50.0	50	22	8
E2679600	60.0	30	27	8
E2679601	60.0	60	27	8
E2679750	75.0	35	27	10
E2679751	75.0	75	27	10
E2679900	90.0	35	27	10
E2679902	110.0	35	32	12

● Tolerance of Internal Diameter = +0.018 ~ 0
 ▶ TIN-COATING, TiCN-COATING & TiAIN-COATING is available on your request.
 ● 内径公差=+0.018~0
 ▶ 按客户要求可以提供TiN,TiCN,TiAIN涂层

HSS Co8 DIN 1880 NF 6-12 30° p.C651

Unit(单位) : mm

EDP No.	Mill Diameter	Width of Face	Internal Diameter	No. of Teeth
	直径 D	刃幅 S	内径 d	
E2679400	40.0	32	● 16	6
E2679500	50.0	36	22	8
E2679630	63.0	40	27	8
E2679800	80.0	45	27	10
E2679901	100.0	50	32	10
E2679903	125.0	56	40	12
E2679904	160.0	63	50	12

● Tolerance of Internal Diameter = +0.018 ~ 0
 ▶ TIN-COATING, TiCN-COATING & TiAIN-COATING is available on your request.
 ● 内径公差=+0.018~0
 ▶ 按客户要求可以提供TiN,TiCN,TiAIN涂层

Mill Dia. Tolerance(mm) 直径公差	Width of Face Tolerance(mm) 刃幅公差	Internal Dia. Tolerance(mm) 内径公差
+0.25 -0.15	+0.5 -0	+0.02 -0

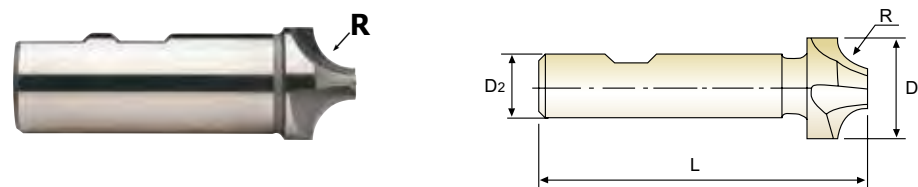
◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M					K																																		
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel					Grey cast iron	Nodular cast iron		Malleable cast iron																										
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

HSSCo8, 4 FLUTE CORNER ROUNDING CUTTERS

HSSCo8, 4刃 圆角铣刀

▶ These tools can be adapted for many screw machine applications as end forming tools to form a specific radius. ▶ 这种产品用在自动切削机上对产品的端部进行详细精确的圆弧加工



Unit(单位) : mm

EDP No.	Radius	Outside Diameter	Shank Diameter	Overall Length
	半径 R(H11)	外径 D	柄径 D2(h6)	全长 L
E2498010	R1.0	8.0	10	60
E2498015	R1.5	9.0	10	60
E2498020	R2.0	10.0	10	60
E2498025	R2.5	11.0	10	60
E2498030	R3.0	12.0	12	60
E2498035	R3.5	13.0	12	60
E2498040	R4.0	14.0	12	60
E2498045	R4.5	15.0	12	60
E2498050	R5.0	16.0	12	60
E2498055	R5.5	19.0	16	67
E2498060	R6.0	20.0	16	67
E2498065	R6.5	21.0	16	71
E2498070	R7.0	22.0	16	71
E2498075	R7.5	23.0	16	71
E2498080	R8.0	24.0	16	71
E2498085	R8.5	25.0	25	85
E2498090	R9.0	26.0	25	85
E2498095	R9.5	27.0	25	85

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Tolerances according to DIN 7160 & 7161

按DIN7160&7161的标准公差

	Nominal-Diameter in mm / 直径单位为					
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
H11	+60 0	+75 0	+90 0	+110 0	+130 0	+160 0
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

◎ : Excellent (优秀) ○ : Good (良好)

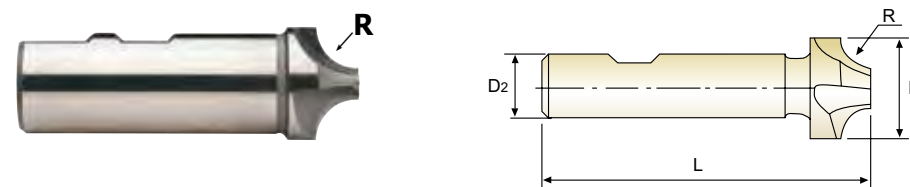
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron			Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

HSSCo8, 4 FLUTE CORNER ROUNDING CUTTERS

HSSCo8, 4刃 圆角铣刀

▶ These tools can be adapted for many screw machine applications as end forming tools to form a specific radius. ▶ 这种产品用在自动切削机上对产品的端部进行详细精确的圆弧加工



Unit(单位) : mm

EDP No.	Radius	Outside Diameter	Shank Diameter	Overall Length
	半径 R(H11)	外径 D	柄径 D2(h6)	全长 L
E2498100	R10.0	28.0	25	85
E2498105	R10.5	31.0	25	90
E2498110	R11.0	32.0	25	90
E2498120	R12.0	34.0	25	90
E2498125	R12.5	41.0	25	100
E2498130	R13.0	42.0	25	100
E2498140	R14.0	44.0	25	100
E2498150	R15.0	46.0	25	100
E2498160	R16.0	48.0	25	100
E2498180	R18.0	52.0	32	112
E2498200	R20.0	56.0	32	112

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Tolerances according to DIN 7160 & 7161

按DIN7160&7161的标准公差

	Nominal-Diameter in mm / 直径单位为					
	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
H11	+60 0	+75 0	+90 0	+110 0	+130 0	+160 0
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

◎ : Excellent (优秀) ○ : Good (良好)

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron			Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



RECOMMENDED CUTTING CONDITIONS

推荐加工参数

ML012, ML112, ML022, ML122, ML212, ML222 SERIES

DOVETAIL CUTTERS TYPE 'A', 'C', 'E'

燕尾槽铣刀A型, C型, E型

Vc (切削速度) = (m/min.)
 fz (每齿进给) = (mm/tooth)
 RPM (转速) = (rev/min.)
 FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径						
				16.0	20.0	25.0	32.0	40.0	50.0	63.0
P	1	Non-alloy steel	Vc	30	30	30	30	30	30	30
			fz	0.03	0.037	0.026	0.042	0.043	0.03	0.031
			RPM	597	477	382	298	239	191	152
	2		FEED	107	106	79	125	123	92	75
			Vc	15	15	15	15	15	15	15
			fz	0.031	0.036	0.031	0.041	0.043	0.026	0.031
	3-4		RPM	298	239	191	149	119	95	76
			FEED	56	52	47	61	62	40	38
			Vc	10	10	10	10	10	10	10
	5		fz	0.031	0.035	0.028	0.04	0.042	0.03	0.033
			RPM	199	159	127	99	80	64	51
FEED		37	33	29	40	40	31	27		
6	Vc	10	10	10	10	10	10	10		
	fz	0.021	0.02	0.02	0.02	0.022	0.02	0.023		
	RPM	199	159	127	99	80	64	51		
7	FEED	25	19	20	20	21	20	19		
	Vc	15	15	15	15	15	15	15		
	fz	0.031	0.036	0.031	0.041	0.043	0.026	0.031		
8-9	RPM	298	239	191	149	119	95	76		
	FEED	56	52	47	61	62	40	38		
	Vc	10	10	10	10	10	10	10		
10	fz	0.031	0.035	0.028	0.04	0.042	0.03	0.033		
	RPM	199	159	127	99	80	64	51		
	FEED	37	33	29	40	40	31	27		
11.1	Vc	10	10	10	10	10	10	10		
	fz	0.021	0.02	0.02	0.02	0.022	0.02	0.023		
	RPM	199	159	127	99	80	64	51		
N	FEED	25	19	20	20	21	20	19		
	Vc	95	85	90	90	95	85	90		
	fz	0.03	0.04	0.029	0.041	0.042	0.03	0.033		
21~25	RPM	1890	1353	1146	895	756	541	455		
	FEED	340	325	266	367	381	260	240		
	Vc	10	10	10	10	10	10	10		
11.1	fz	0.021	0.02	0.02	0.02	0.022	0.02	0.023		
	RPM	199	159	127	99	80	64	51		
	FEED	25	19	20	20	21	20	19		
21~25	Vc	95	85	90	90	95	85	90		
	fz	0.03	0.04	0.029	0.041	0.042	0.03	0.033		
	RPM	1890	1353	1146	895	756	541	455		
21~25	FEED	340	325	266	367	381	260	240		



RECOMMENDED CUTTING CONDITIONS

推荐加工参数

ML032, ML132, ML042, ML142, ML232, ML242 SERIES

DOVETAIL CUTTERS TYPE 'B', 'D', 'F'

燕尾槽铣刀B型, D型, F型

Vc (切削速度) = (m/min.)
 fz (每齿进给) = (mm/tooth)
 RPM (转速) = (rev/min.)
 FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径			
				16.0	20.0	25.0	32.0
P	1	Non-alloy steel	Vc	30	30	30	30
			fz	0.03	0.037	0.026	0.042
			RPM	597	477	382	298
	2		FEED	107	106	79	125
			Vc	15	15	15	15
			fz	0.031	0.036	0.031	0.041
	3-4		RPM	298	239	191	149
			FEED	56	52	47	61
			Vc	10	10	10	10
	5		fz	0.031	0.035	0.028	0.04
			RPM	199	159	127	99
FEED		37	33	29	40		
6	Vc	10	10	10	10		
	fz	0.021	0.02	0.02	0.02		
	RPM	199	159	127	99		
7	FEED	25	19	20	20		
	Vc	15	15	15	15		
	fz	0.031	0.036	0.031	0.041		
8-9	RPM	298	239	191	149		
	FEED	56	52	47	61		
	Vc	10	10	10	10		
10	fz	0.031	0.035	0.028	0.04		
	RPM	199	159	127	99		
	FEED	37	33	29	40		
11.1	Vc	10	10	10	10		
	fz	0.021	0.02	0.02	0.02		
	RPM	199	159	127	99		
21~25	FEED	25	19	20	20		
	Vc	95	85	90	90		
	fz	0.03	0.04	0.029	0.041		
21~25	RPM	1890	1353	1146	895		
	FEED	340	325	266	367		



RECOMMENDED CUTTING CONDITIONS

推荐加工参数

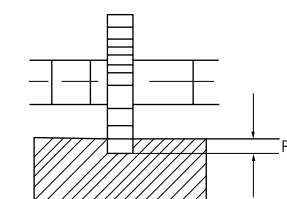
ML092 SERIES

SIDE AND FACE MILLING CUTTERS WITH STRAIGHT TEETH

三面刃铣刀直齿

Vc (切削速度) = (m/min.)
 fz (每齿进给) = (mm/tooth)
 RPM (转速) = (rev/min.)
 FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Parameter 参数	Diameter (Ø) 直径				
				50.0	63.0	80.0	100.0	125.0
P	1	Non-alloy steel	Vc	25	25	25	25	25
			fz	0.045	0.058	0.06	0.063	0.066
			RPM	159	126	99	80	64
	2		FEED	129	161	143	130	126
			Vc	20	20	20	20	20
			fz	0.04	0.036	0.041	0.038	0.05
	3-4		RPM	127	101	80	64	51
			FEED	92	80	78	63	76
			Vc	15	15	15	15	15
	5		fz	0.034	0.031	0.033	0.034	0.042
			RPM	95	76	60	48	38
FEED		58	52	47	42	48		
6	Vc	10	10	10	10	10		
	fz	0.031	0.029	0.03	0.03	0.036		
	RPM	64	51	40	32	25		
7	FEED	36	32	29	25	28		
	Vc	20	20	20	20	20		
	fz	0.04	0.036	0.041	0.038	0.05		
8-9	RPM	127	101	80	64	51		
	FEED	92	80	78	63	76		
	Vc	15	15	15	15	15		
10	fz	0.034	0.031	0.033	0.034	0.042		
	RPM	95	76	60	48	38		
	FEED	58	52	47	42	48		
11.1	Vc	10	10	10	10	10		
	fz	0.031	0.029	0.03	0.03	0.036		
	RPM	64	51	40	32	25		
N	FEED	36	32	29	25	28		
	Vc	100	100	100	100	100		
	fz	0.018	0.023	0.026	0.024	0.033		
21~25	RPM	637	505	398	318	255		
	FEED	206	256	248	199	252		
	Vc	100	100	100	100	100		
21~25	fz	0.023	0.031	0.035	0.031	0.036		
	RPM	637	505	398	318	255		
	FEED	205	251	251	197	202		



MILLING DEPTH P = WIDTH OF FACES

铣削深度=刀幅



RECOMMENDED CUTTING CONDITIONS

推荐加工参数

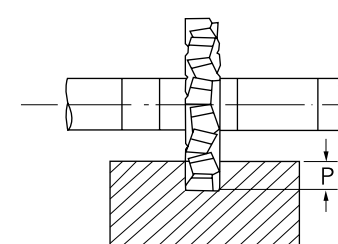
ML102 SERIES

SIDE AND FACE MILLING CUTTERS WITH STAGGERED TEETH

三面刃铣刀错齿

Vc (切削速度) = (m/min.)
 fz (每齿进给) = (mm/tooth)
 RPM (转速) = (rev/min.)
 FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description	Parameter 参数	Diameter (Ø) 直径						
				50.0	63.0	80.0	100.0	125.0	160.0	200.0
P	1	Non-alloy steel	Vc	25	25	25	25	25	25	25
			fz	0.058	0.08	0.081	0.081	0.072	0.081	0.079
			RPM	159	126	99	80	64	50	40
	2		FEED	129	162	145	129	101	105	94
			Vc	20	20	20	20	20	20	20
			fz	0.053	0.052	0.055	0.05	0.055	0.05	0.048
	3-4		RPM	127	101	80	64	51	40	32
			FEED	94	84	79	64	62	52	46
			Vc	15	15	15	15	15	15	15
	5		fz	0.044	0.043	0.044	0.044	0.045	0.044	0.041
			RPM	95	76	60	48	38	30	24
FEED		59	52	47	42	38	34	29		
6	Vc	10	10	10	10	10	10	10		
	fz	0.039	0.04	0.04	0.039	0.039	0.04	0.039		
	RPM	64	51	40	32	25	20	16		
7	FEED	35	32	29	25	22	21	19		
	Vc	20	20	20	20	20	20	20		
	fz	0.053	0.052	0.055	0.05	0.055	0.05	0.048		
8-9	RPM	127	101	80	64	51	40	32		
	FEED	94	84	79	64	62	52	46		
	Vc	15	15	15	15	15	15	15		
10	fz	0.044	0.043	0.044	0.044	0.045	0.044	0.041		
	RPM	95	76	60	48	38	30	24		
	FEED	59	52	47	42	38	34	29		
11.1	Vc	10	10	10	10	10	10	10		
	fz	0.039	0.04	0.04	0.039	0.039	0.04	0.039		
	RPM	64	51	40	32	25	20	16		
N	FEED	35	32	29	25	22	21	19		
	Vc	100	100	100	100	100	100	100		
	fz	0.023	0.031	0.035	0.031	0.036	0.029	0.031		
21~25	RPM	637	505	398	318	255	199	159		
	FEED	205	251	251	197	202	150	148		
	Vc	100	100	100	100	100	100	100		
21~25	fz	0.023	0.031	0.035	0.031	0.036	0.029	0.031		
	RPM	637	505	398	318	255	199	159		
	FEED	205	251	251	197	202	150	148		



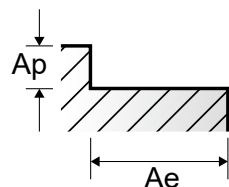
MILLING DEPTH P = WIDTH OF FACES

铣削深度=刀幅

E2675 SERIES MULTI FLUTE SHELL END MILL 多刃圆筒形端铣刀

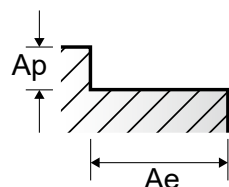
ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径						
						40.0	50.0	63.0	80.0	100.0	125.0	160.0
P	1-2	Non-alloy steel	0.75D	0.25D	Vc	30	30	30	30	30	30	30
					fz	0.07	0.078	0.092	0.1	0.115	0.12	0.131
					RPM	239	191	152	119	95	76	60
	FEED		134	119	112	119	110	110	109			
	3-4		Vc	25	25	25	25	25	30			
			fz	0.075	0.077	0.091	0.1	0.119	0.113	0.119		
			RPM	199	159	126	99	80	64	60		
	FEED		119	98	92	99	95	86	99			
	5		Vc	20	20	20	20	20	20			
			fz	0.071	0.078	0.09	0.094	0.117	0.108	0.116		
RPM		159	127	101	80	64	51	40				
FEED	90	79	73	75	74	66	65					
6	Vc	30	30	30	30	30	30					
	fz	0.07	0.078	0.092	0.1	0.115	0.12	0.131				
	RPM	239	191	152	119	95	76	60				
FEED	134	119	112	119	110	110	109					
7	Vc	25	25	25	25	25	30					
	fz	0.075	0.077	0.091	0.1	0.119	0.113	0.119				
	RPM	199	159	126	99	80	64	60				
FEED	119	98	92	99	95	86	99					
8	Vc	20	20	20	20	20	20					
	fz	0.071	0.078	0.09	0.094	0.117	0.108	0.116				
	RPM	159	127	101	80	64	51	40				
FEED	90	79	73	75	74	66	65					
9	Vc	10	10	10	10	10	10					
	fz	0.078	0.08	0.1	0.1	0.117	0.146	0.125				
	RPM	80	64	51	40	32	25	20				
FEED	50	41	40	40	37	45	35					
10	Vc	30	30	30	30	30	30					
	fz	0.07	0.078	0.092	0.1	0.115	0.12	0.131				
	RPM	239	191	152	119	95	76	60				
FEED	134	119	112	119	110	110	109					
11.1	Vc	20	20	20	20	20	20					
	fz	0.071	0.078	0.09	0.094	0.117	0.108	0.116				
	RPM	159	127	101	80	64	51	40				
FEED	90	79	73	75	74	66	65					

Vc (切削速度) = (m/min.)
fz (每齿进给) = (mm/tooth)
RPM (转速) = (rev/min.)
FEED (进给) = (mm/min.)



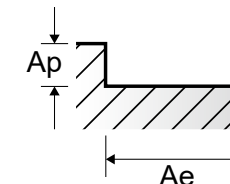
E2676 SERIES MULTI FLUTE SHELL END MILL for ALUMINUM 多刃圆筒形端铣刀 铝用

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径							
						30.0	40.0	50.0	60.0	63.0	75.0	80.0	100.0
N	21~25	Aluminum-wrought alloy, Aluminum-cast, alloyed	0.75D	0.25D	Vc	100	105	95	95	95	105	100	
					fz	0.05	0.06	0.069	0.1	0.115	0.13	0.128	0.151
					RPM	1061	836	605	504	480	446	398	318
					FEED	212	201	250	302	331	348	306	288



E2677, E2678 SERIES MULTI FLUTE ROUGHING SHELL END MILL 多刃圆筒形端铣刀粗加工

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径						
						40.0	50.0	63.0	80.0	100.0	125.0	160.0
P	1-2	Non-alloy steel	0.75D	0.25D	Vc	30	30	30	30	30	30	30
					fz	0.069	0.078	0.092	0.1	0.115	0.12	0.153
					RPM	239	191	152	119	95	76	60
	FEED		99	119	112	119	110	110	110			
	3-4		Vc	25	25	25	25	25	30			
			fz	0.071	0.077	0.091	0.1	0.119	0.113	0.139		
			RPM	199	159	126	99	80	64	60		
	FEED		85	98	92	99	95	86	100			
	5		Vc	20	20	20	20	20	20			
			fz	0.071	0.078	0.09	0.094	0.117	0.108	0.135		
			RPM	159	127	101	80	64	51	40		
FEED	68	79	73	75	74	66	64					
6	Vc	30	30	30	30	30	30					
	fz	0.069	0.078	0.092	0.1	0.115	0.12	0.153				
	RPM	239	191	152	119	95	76	60				
FEED	99	119	112	119	110	110	110					
7	Vc	25	25	25	25	25	30					
	fz	0.071	0.077	0.091	0.1	0.119	0.113	0.139				
	RPM	199	159	126	99	80	64	60				
FEED	85	98	92	99	95	86	100					
8	Vc	20	20	20	20	20	20					
	fz	0.071	0.078	0.09	0.094	0.117	0.108	0.135				
	RPM	159	127	101	80	64	51	40				
FEED	68	79	73	75	74	66	64					
9	Vc	10	10	10	10	10	10					
	fz	0.073	0.08	0.1	0.1	0.117	0.146	0.146				
	RPM	80	64	51	40	32	25	20				
FEED	35	41	40	40	37	45	35					
10	Vc	30	30	30	30	30	30					
	fz	0.069	0.078	0.092	0.1	0.115	0.12	0.153				
	RPM	239	191	152	119	95	76	60				
FEED	99	119	112	119	110	110	110					
11.1	Vc	20	20	20	20	20	20					
	fz	0.071	0.078	0.09	0.094	0.117	0.108	0.135				
	RPM	159	127	101	80	64	51	40				
FEED	68	79	73	75	74	66	64					



E2679 SERIES MULTI FLUTE ROUGHING & FINISHING SHELL END MILL 多刃圆筒形端铣刀粗加工&精加工

ISO	VDI 3323	Material Description 材料描述	Ae(mm) 切削宽度	Ap(mm) 切削深度	Parameter 参数	Diameter (Ø) 直径						
						40.0	50.0	63.0	80.0	100.0	125.0	160.0
P	1-2	Non-alloy steel	0.75D	0.25D	Vc	30	30	30	30	30	30	30
					fz	0.069	0.078	0.092	0.1	0.115	0.12	0.153
					RPM	239	191	152	119	95	76	60
	FEED		99	119	112	119	110	110	110			
	3-4		Vc	25	25	25	25	25	30			
			fz	0.071	0.077	0.091	0.1	0.119	0.113	0.139		
			RPM	199	159	126	99	80	64	60		
	FEED		85	98	92	99	95	86	100			
	5		Vc	20	20	20	20	20	20			
			fz	0.071	0.078	0.09	0.094	0.117	0.108	0.135		
			RPM	159	127	101	80	64	51	40		
FEED	68	79	73	75	74	66	64					
6	Vc	30	30	30	30	30	30					
	fz	0.069	0.078	0.092	0.1	0.115	0.12	0.153				
	RPM	239	191	152	119	95	76	60				
FEED	99	119	112	119	110	110	110					
7	Vc	25	25	25	25	25	30					
	fz	0.071	0.077	0.091	0.1	0.119	0.113	0.139				
	RPM	199	159	126	99	80	64	60				
FEED	85	98	92	99	95	86	100					
8	Vc	20	20	20	20	20	20					
	fz	0.071	0.078	0.09	0.094	0.117	0.108	0.135				
	RPM	159	127	101	80	64	51	40				
FEED	68	79	73	75	74	66	64					
9	Vc	10	10	10	10	10	10					
	fz	0.073	0.08	0.1	0.1	0.117	0.146	0.146				
	RPM	80	64	51	40	32	25	20				
FEED	35	41	40	40	37	45	35					
10	Vc	30	30	30	30	30	30					
	fz	0.069	0.078	0.092	0.1	0.115	0.12	0.153				
	RPM	239	191	152	119	95	76	60				
FEED	99	119	112	119	110	110	110					
11.1	Vc	20	20	20	20	20	20					
	fz	0.071	0.078	0.09	0.094	0.117	0.108	0.135				
	RPM	159	127	101	80	64	51	40				
FEED	68	79	73	75	74	66	64					



RECOMMENDED CUTTING CONDITIONS

推荐加工参数

E2498 SERIES

4 FLUTE CORNER ROUNDING CUTTERS

4刃 圓角铣刀

Vc (切削速度) = (m/min.)
 fz (每齿进给) = (mm/tooth)
 RPM (转速) = (rev./min.)
 FEED (进给) = (mm/min.)

ISO	VDI 3323	Material Description 材料描述	Parameter 参数	Diameter (Ø) 直径												
				8.0	9.0	10.0	11.0	12.0	14.0	16.0	20.0	24.0	28.0	34.0	48.0	
P	1	Non-alloy steel	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20
			fz	0.017	0.022	0.02	0.021	0.021	0.025	0.029	0.032	0.038	0.042	0.049	0.058	
			RPM	796	707	637	579	531	455	398	318	265	227	187	133	
	FEED		54	62	51	49	45	45	46	41	40	38	37	31		
	2		Vc	15	15	15	15	15	15	15	15	15	15	15	15	15
			fz	0.015	0.016	0.016	0.019	0.019	0.023	0.029	0.033	0.039	0.04	0.048	0.053	
			RPM	597	531	477	434	398	341	298	239	199	171	140	99	
	FEED		36	34	31	33	30	31	35	32	31	27	27	21		
	3-4		Vc	10	10	10	10	10	10	10	10	10	10	10	10	10
			fz	0.018	0.023	0.02	0.024	0.024	0.023	0.03	0.034	0.04	0.05	0.048	0.05	
			RPM	398	354	318	289	265	227	199	159	133	114	94	66	
	FEED		29	33	25	28	25	21	24	22	21	23	18	13		
6	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15		
	fz	0.015	0.016	0.016	0.019	0.019	0.023	0.029	0.033	0.039	0.04	0.048	0.053			
	RPM	597	531	477	434	398	341	298	239	199	171	140	99			
FEED	36	34	31	33	30	31	35	32	31	27	27	21				
7-8	Vc	10	10	10	10	10	10	10	10	10	10	10	10	10		
	fz	0.018	0.023	0.02	0.024	0.024	0.023	0.03	0.034	0.04	0.05	0.048	0.05			
	RPM	398	354	318	289	265	227	199	159	133	114	94	66			
FEED	29	33	25	28	25	21	24	22	21	23	18	13				
10	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15		
	fz	0.015	0.016	0.016	0.019	0.019	0.023	0.029	0.033	0.039	0.04	0.048	0.053			
	RPM	597	531	477	434	398	341	298	239	199	171	140	99			
FEED	36	34	31	33	30	31	35	32	31	27	27	21				
11.1	Vc	10	10	10	10	10	10	10	10	10	10	10	10	10		
	fz	0.018	0.023	0.02	0.024	0.024	0.023	0.03	0.034	0.04	0.05	0.048	0.05			
	RPM	398	354	318	289	265	227	199	159	133	114	94	66			
FEED	29	33	25	28	25	21	24	22	21	23	18	13				
N	21~25	Aluminum-wrought alloy, Aluminum-cast, alloyed	Vc	90	80	90	85	90	90	80	90	90	85	85	90	
			fz	0.018	0.021	0.02	0.023	0.022	0.025	0.031	0.034	0.038	0.045	0.05	0.058	
			RPM	3581	2829	2865	2460	2387	2046	1592	1432	1194	966	796	597	
			FEED	258	238	229	226	210	205	197	195	181	174	159	138	

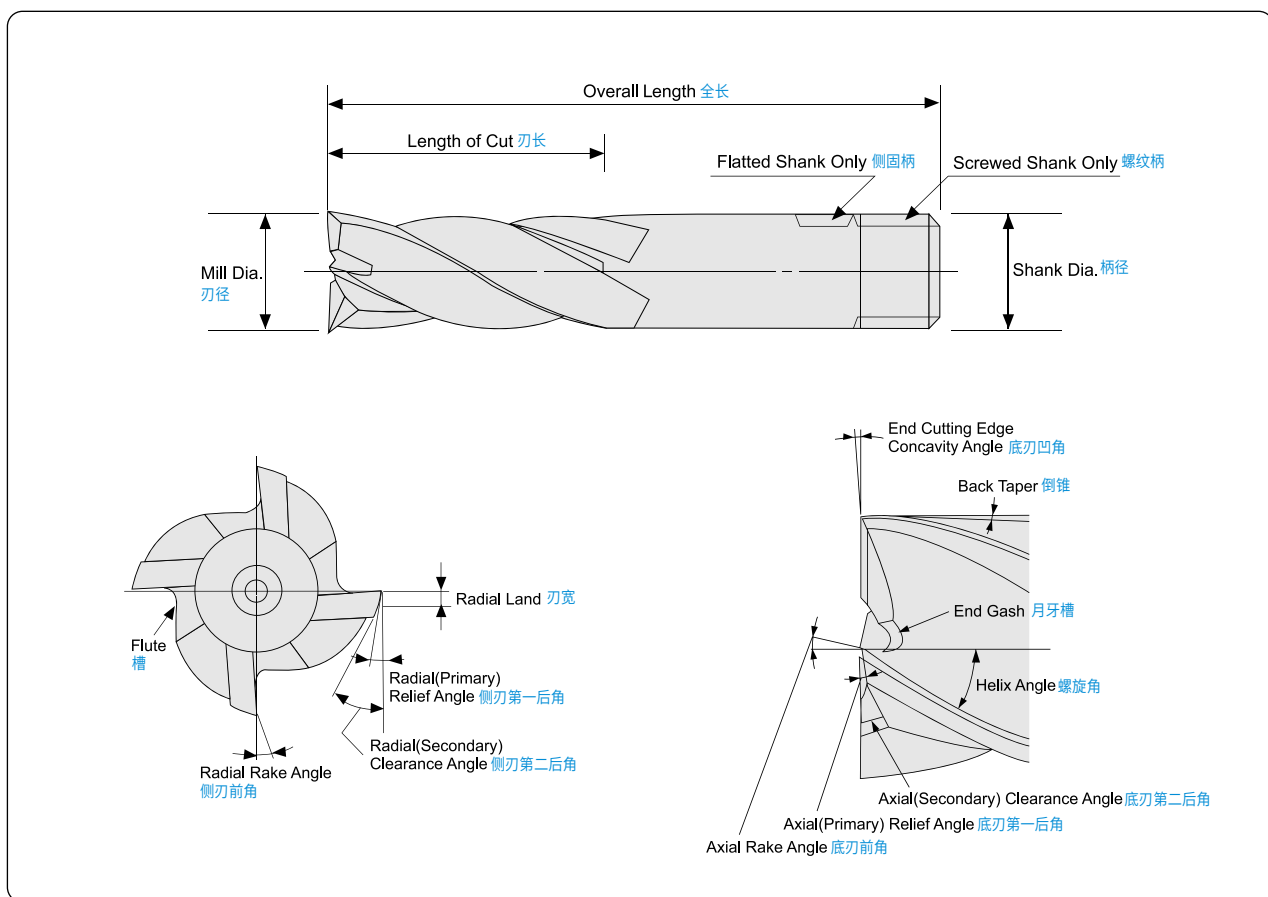


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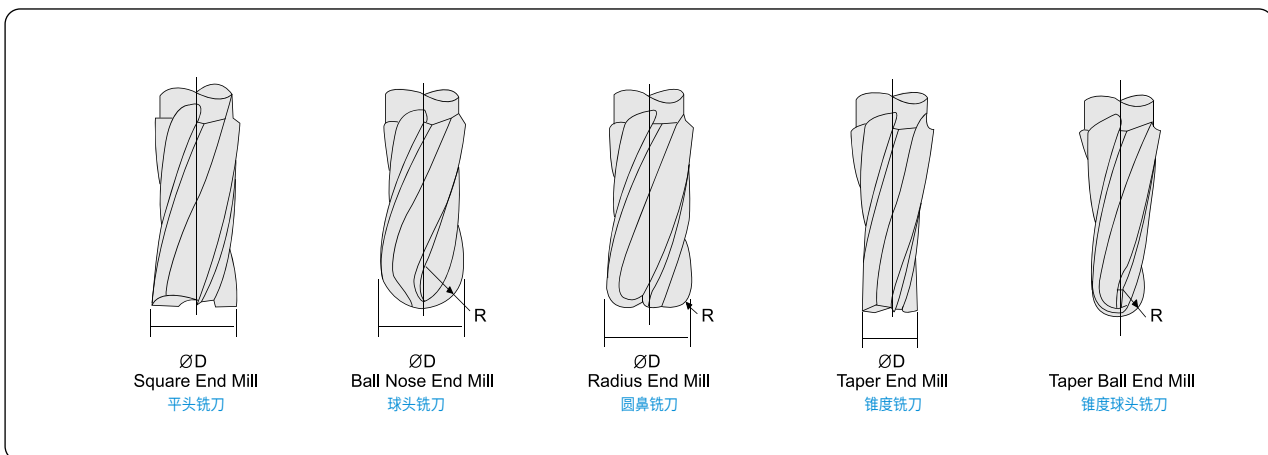


TECHNICAL DATA

1 NAMES OF END MILL PARTS
铣刀各部分名称

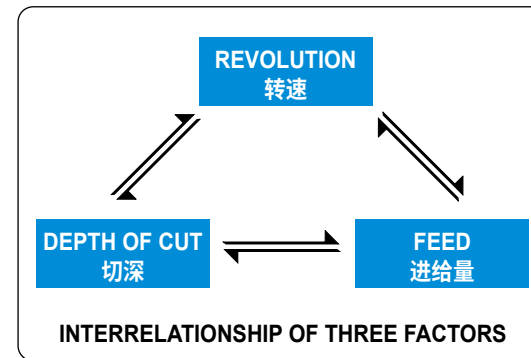


2 TYPES OF END MILL
铣刀类型



Speed, feed and depth of cut are the most important factors to consider for best results in milling. Improper feeds and speeds often cause low production, poor work quality and unnecessary damage to the cutter. This section covers the basic principles of speed and feed selection for milling cutters and end mills. It will serve as a guide in setting-up new milling jobs.

速度, 进给量和切削深度是确定切削效果最重要的因素。不合适的进给量和速度常常导致降低生产率, 工作质量差和刀具的破损。这部分包含了切削刀具的速度和进给量选择的基本原理。它将是铣削的向导



3 SPEEDS
速度

In milling, SPEED is measured in peripheral feet per minute.(revolution per minute times cutter circumference in feet) This is frequently referred to as "peripheral speed" "cutting speed" or "surface speed".

在铣削, 速度是指在圆周上每分钟的英尺数 (以英尺计算在刀具圆周上每分钟的转数), 这通常指的是“圆周速度”, “切削速度”或“表面速度”

$$N = \frac{1000V}{\pi D}$$

Revolutions per Minute 每分钟转数

V : Cutting Speed(m/min) / 切削速度
D : Diameter of Tool(mm) / 刀具直径
N : Revolution per minute(rev/min) / 每分钟转数
 π : 3.1416

They will have to be tempered to suit the conditons ON THE JOB. For example:
必须调节工作中适合条件。列如:

Use Lower Speed Ranges for
低线速度用在

- Hard materials / 高硬材料
- Tough materials / 大韧性材料
- Abrasive materials / 耐磨材料
- Heavy cuts / 重切削
- Minimum tool wear / 刀具磨损最小化
- Maximum cutter life / 刀具寿命最大化

Use Higher Speed Ranges for
高线速度用在

- Softer materials / 软质材料
- Better finishes / 更好表面质量
- Smaller diameter cutters / 更小刀具直径
- Light cuts / 轻切削
- Frail work pieces or set-ups / 大脆性工件
- Hand feed operations / 手动工作
- Maximum production rates / 产率最大化
- Non-metallics / 非铁金属

4 FEEDS
进给量

Feed is usually measured in millimeters per minute. It is the product of feed per tooth times revolution per minute times the number of teeth in the cutter. Due to variations in cutter sizes, numbers of teeth and revolutions per minute, all feed rates should be calculated from feed per tooth. Feed per tooth is the basis of all feed rates per minute, whether the cutters are large or small, fine or coarse tooth, and are run at high or low peripheral speed. Because feed per tooth affects chip thickness. It is a very important factor in cutter life.

Highest possible feed per tooth will usually give longer cutter life and greater production per grind. Excessive feeds may over load the cutter teeth and cause breakage or chipping of the cutting edges. The following factors should be kept in mind when using the recommended starting feed per tooth.

进给通常是通过每分钟的毫米数来测量的。它是“每齿进给乘以每分钟的转速再乘以刀具上的齿数”的产物。由于刀具尺寸, 刃数和每分钟转数的变化, 所有进给率应该通过每刃的进给来计算。无论刀具的大小, 粗牙和细牙, 高速或低速的圆周速度下运行, 每刃的进给是所有每分钟的进给率的基础因为每刃的进给影响铁屑的厚度。这是影响刀具寿命的一个非常重要的因素。尽可能高的每齿进给可以带来更长的刀具寿命和更高的产率。过分的进给可能导致刀具的切削刃超负荷并引起刀具的切削刃破损或崩刃。开始使用每齿进给时, 下面隐私必须牢记



Feed in millimeters per Minute / 每分钟进给的毫米数

$$F.M = F.R. \times R.P.M$$

F.R. : Feed per Revolutions in millimeters / 每转的进给毫米数

R.P.M. : Revolutions per Minutes / 每分钟转数

The following factors should be kept in mind when using the recommended stating feed per tooth.

开始使用每齿进给时，下面因素必须牢记

Use Higher Feeds For
高进给量用在

 Heavy, roughing cuts / 重切削, 粗加工
 Rigid set-ups / 刚性结构
 Easy-to-machine work materials / 易切削材料
 Rugged cutters / 粗加工刀具
 Slab milling cuts / 平面切削
 Low tensile strength materials / 低抗拉强度材料
 Coarse tooth cutters / 粗牙刀具
 Abrasive materials / 耐磨材料

Use Lower Feeds For
低进给量用在

 Light, and finishing cuts / 轻切削, 精加工
 Frail set-ups / 脆性结构
 Hard to machine work materials / 难切削材料
 Frail and small cutters / 细小刀具
 Deep slots / 深立槽加工
 High tensile strength materials / 高抗拉强度材料
 Fine tooth cutters / 细牙刀具

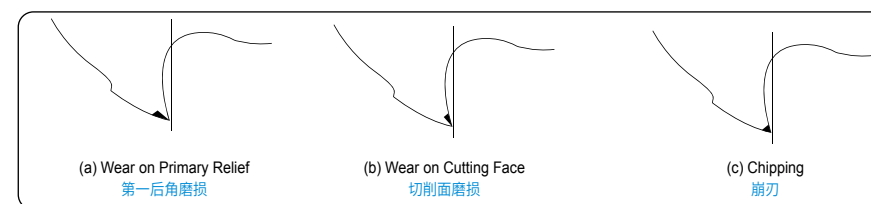
SPEED AND FEED CALCULATIONS FOR MILLING CUTTERS AND OTHER ROTATING TOOLS
在铣刀和其他旋转刀具的速度和进给量计算公式

TO FIND 求值	HAVING 已知条件	FORMULA 公式
Surface(or Periphery) Speed in meter per Minute=S.P.M. 切削速度	Diameter of Tool in millimeters 刀具直径 =D Revolutions per Minute 转速 =R.P.M.	$V = \frac{D \times 3.1416 \times R.P.M.}{1000}$
Revolutions per Minute=R.P.M. 转速	Surface Speed in meter per Minute 切削速度 =S.P.M Diameter of Tool in millimeters 刀具直径 =D	$R.P.M. = \frac{V \times 1000}{D \times 3.1416}$
Feed per Revolution in millimeters-F.R. 每转进给量	Feed in millimeters per Minute 每分钟进给量 =F.M. Revolution per Minute 转速 =R.P.M.	$F.R. = \frac{F.M.}{R.P.M.}$
Feed in millimeters per Minute-F.M. 每分钟进给量	Feed per Revolution in millimeters =F.R. Revolution per Minute 转速 =R.P.M.	$F.M. = F.R. \times R.P.M.$
Number of Cutting Teeth per Minute=T.M. 每分钟切削齿数	Number of Teeth in Tool 刀具齿数 =T Revolution per Minute 转速 =R.P.M.	$T.M = T \times R.P.M.$
Feed per tooth=F.T. 每齿进给	Number of Teeth in Tool 刀具齿数 =T Revolution per Minute 转速 =R.P.M.	$F.T. = \frac{F.R.}{T}$
Feed per Tooth=F.T. 每齿进给	Number of Teeth in Tool 刀具齿数 =T Feed in millimeters per Minute 每分钟进给量 =F.M. Speed in Revolution per Minute 转速 =R.P.M.	$F.T. = \frac{F.M.}{T \times R.P.M.}$


**5 CASE OF RESHARPENING
修磨分析**

When the product finish become worse, the cutting edge must get dulled, chips become smaller and the cutting sound gets louder. In such cases, a end mill must be resharpened. The following are the damages of end mills when the resharpening is required.

当产品的表面变差，切削刃变钝，切屑变小，切削声音变大，在这种情况下，铣刀必须要修磨。下面是铣刀需要修磨时的破损情况


 Fig. 1. Damages of Cutting Edge
图1.切削刃的破损

**6 SHARPEN AT PREDETERMINED WEAR LAND
按预定的磨损修磨**

Cutters should be sharpened as soon as the wear land(Fig. 2.) reaches a predetermined width. This width should permit sharpening without excessive loss of tool life. it may vary from a few hundredths to some tenth of a millimeter, depending on the type of cutter and the finish required on the product. This method is used on production runs where uneven amounts of stock is removed or where the material varies in machinability. It is also used on small quantity product lots.

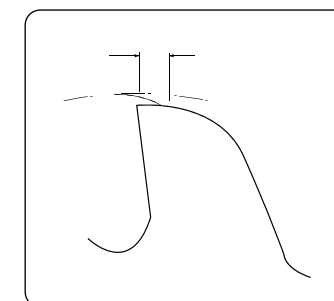
一旦磨损刃线(图2)到达预定程度，刀具需要修磨。

这个程度应该在刀具寿命不受到过分降低时允许修磨。

根据刀具的类型和所需要的表面粗糙度，它有从几十到几百的选择范围。

这个办法可用在加工不均一的切削余量或切削性能不同的材料上。

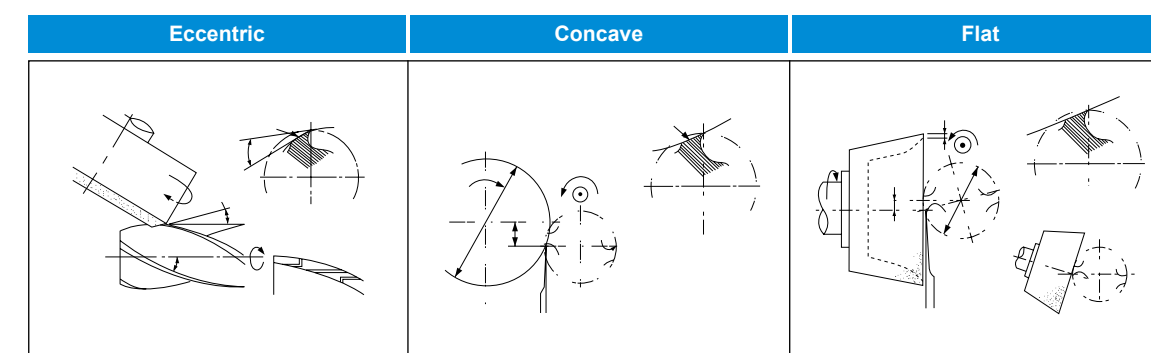
它也使用在小的数量生产批次上


 Fig. 2. Wear Land
图2.刃线磨损

**7 RESHARPENING PERIPHERAL CUTTING EDGE
外周切削刃修磨**
**1 RESHARPENING PERIPHERAL CUTTING EDGE
外周切削刃修**

The geometry of relief angle in an end mill consist of three methods as shown in Fig.3 concave, flat, and eccentric. Recently, most end mills have the eccentric relief(eccentric sharpening). In this method, since the relief is formed an eccentric are surface in cylindrical grinding method, the roughness of the finished surface of the relief improves and the strength of cutting edge increase at the same time.(Fig.4) As a result, the tool life is improved.

铣刀前角的几何形状由3种表示法：凹形，平面，和弧形，如图3所示。最近，大多数铣刀使用弧形前角(弧形磨尖)。在这种办法，自从弧形前角采用了外周磨削法，同时提高了前角的表面粗糙度并加强了切削刃的力度。(图4)从结果上看，提高了刀具寿命


 Fig. 3. Three Types of Primary Relief
图3.三种前角

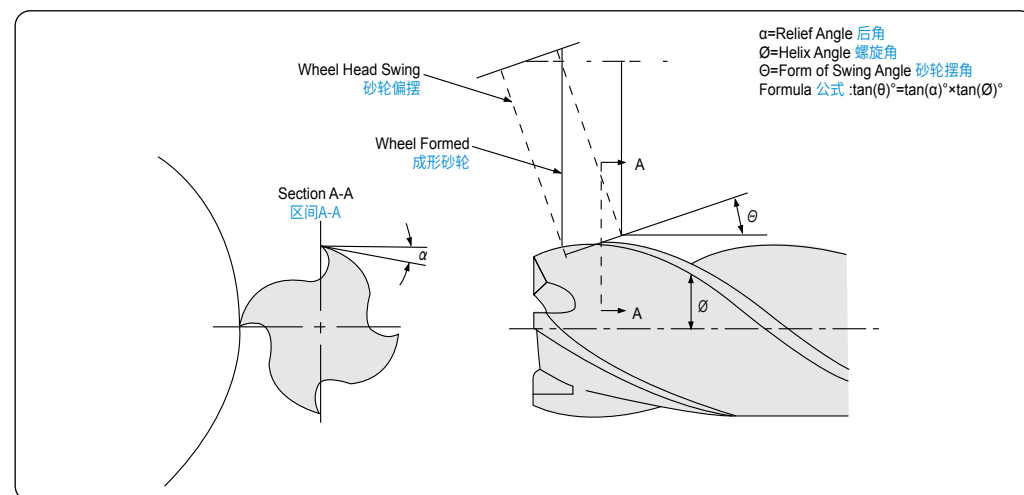


Fig. 4. Tothing of Eccentric Relief Angle
图4. 切削刃的后角

2 ANGLE OF WHEEL INCLINATION 砂轮倾斜角度

Eccentric relief is produced with a plain wheel positioned with its axis parallel or at a slight angle with the cutter axis. The degree of relief is varied by changing the angle of wheel inclination.

弧形前角是通过普通砂轮的位置与轴平行或刀具轴向偏移轻微的角度来产生的，通过改变砂轮的倾向的角度可以得到多种前角

Table 1. RECOMMENDED RELIEF ON END MILLS
表格 1. 推荐铣刀前角

Mill Diameter (mm)	Eccentric relief indicator drop for relief Angles shown		Checking Distance	Wheel Angles(Deg.) θ			Radial Relief Angles(α 1)	Clearance Angles(α 2)
	Min.	Max.		15° Helix	30° Helix	60° Helix		
-	-	-	-	*Angle	*Angle	*Angle	*Angle	*Angle
3.0	0.100	0.130	0.40	4° 24'	9° 25'	26° 28'	16° 02'	25°
6.0	0.090	0.125	0.50	3° 18'	7° 05'	20° 25'	12° 08'	25°
12.0	0.100	0.135	0.65	2° 46'	5° 46'	17° 23'	10° 15'	25°
25.0	0.095	0.140	0.80	2° 15'	4° 15'	14° 16'	8° 21'	25°
40.0	0.085	0.125	0.80	2° 01'	4° 33'	12° 48'	7° 29'	25°
50.0	0.085	0.125	0.80	2° 01'	4° 33'	12° 48'	7° 29'	25°

The actual radial relief angle is normally kept within the range shown but may be varied to suit the cutter material, the work material and the operating conditions.

实际径向前角通常保持在所示的范围之内，但是他可能根据情况适合刀具的材质，被加工材料和加工条件

* Angle is calculated from the basic mean at the radical angle.

角度是在径向前角基础上算出来的



8 RESHARPENING END TEETH 底刃修磨

The three necessary operations and one option feature, along with setup suggestions are shown in Fig.5 A to D in each drawing, the shaded area indicates the surface being ground.

三个必须加工和一个选择性特征连同调式建议一起在图5种A到D的每一个图中显示出来，阴影表示要修磨的面

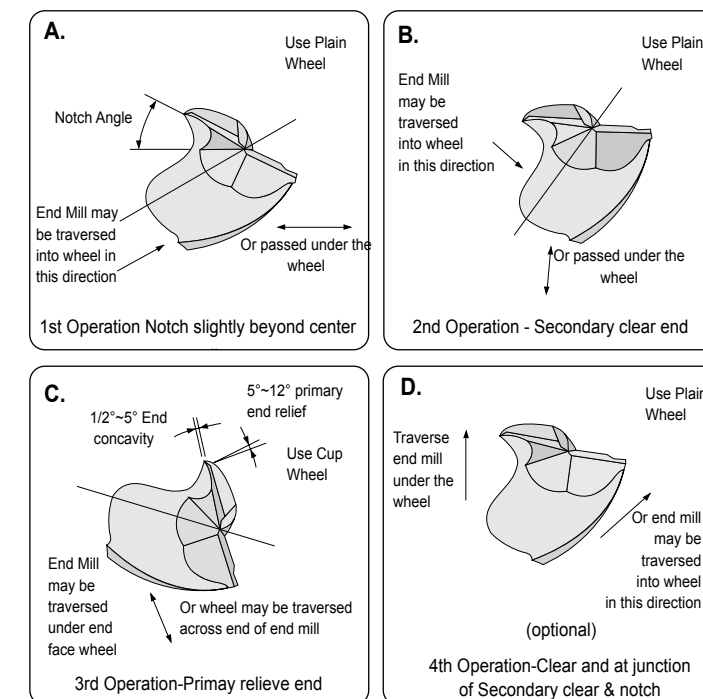


Fig 5. PROCEDURE FOR SHARPENING END OF 2 FLUTE SQUARE END MILLS

9 INSPECTION 检查

The inspection is calculated by using the formula shown in Table1.

Procedure To Check
Radial Relief Angles
With Indicators.

1. Mount the cutter to rotate freely with no end movement.
2. Adjust the sharp pointed indicator to bear at the very tip of the cutting edge, pointing in a radial line, shown in Fig.6
3. Roll the cutter the tabulated amount gives under "checking distance" using the second indicator as control.
4. Consult chart for amount of drop for the particular diameter and relief angle.

检查数值是通过表格1的公式计算出来的
使用指示器检查径向前角的过程

1. 把刀具按在可自由旋转无轴向移的装置上
2. 把百分表的探头调整在切削刃上，能显示出径向变化，如图6所示
3. 旋转刀具使第二个百分表指针变化，变化的数据在“检测长度”种可以找到
4. 根据表格和变化的数据可以得出特定直径和前角度

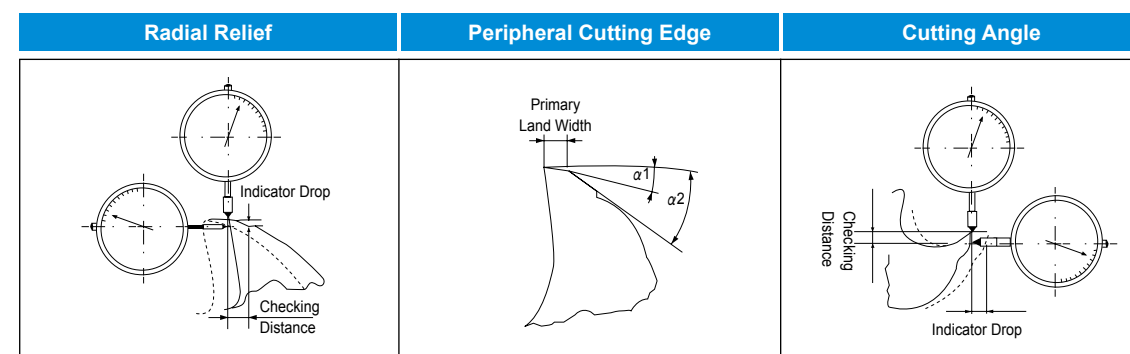


Fig. 6. Indicator Set-Up for Checking



10 TROUBLE SHOOTING IN MILLING PROBLEMLÖSUNG BEI FRÄSEN

Trouble	Occurrences of trouble	Countermeasures
问题	发生	方案
Breaking of tool 刀具破损	·At time of engaging with work material 与被加工材料接触时 ·When ending cut 结束切削时	1. Decrease feed rate. / 降低进给量 2. Decrease projection amount / 减少发射次数 3. Shorten cutting edge length to required minimum limit 缩短切削刃长到所需的最小值极限
	·During normal cutting 结束切削时	1. Decrease feed rate / 降低进给量 2. Control wear → replace tool early 控制磨损→及早的替换刀具 3. Replace chuck or collet / 更换刀柄或夹头 4. Decrease projection amount / 减少发射次数 5. Carry out honing / 钝化处理 6. If 4 flute, reduce to 2 flute(clogging of chipping) 4刃改为2刃 (切屑的堵塞) 7. If dry cutting change to wet cutting utilize cutting fluid. In case of wet cutting flow oil supplied from the front, change to from rear angle of side top. Use ample with rate. 把干切改为用切削油的湿切, 冷却液从前面供给时, 更改为顶部侧面角度, 使用充足的速度
	·When changing direction of feed 变换进给方向时	1. Utilize circular interpolation(in case of NC machine) or temporarily stop feed(Dowelling) 使用环形内插法 (数控设备) 或临时停止进给 (木钉) 2. Reduce feed rate before and after change of directions 改变方向前后降低进给速度 3. Replace chuck or collect / 更换刀柄或夹头
Fracture of cutting edge 切削刃的破裂	·Fracture of corners 拐角破裂	1. Carry out chamfering or nose with hand lapper. 用手动移动来完成倒角或圆鼻 2. Down cut → Up cut / 顺铣 → 逆铣
	·Fracture at boundary of depth of cut 切削深度的边界破裂	1. Down cut → Up cut / 顺铣 → 逆铣 2. Reduce cutting speed / 降低切削速度
	·Chipping at center part or overall 中心部分或全面崩刃	1. Carry out honing. Or enlarge. / 钝化处理 2. Change number of rotation(in case machine vibrates) 改变转数 (设备振动的情况) 3. Increase cutting speed / 增加切削速度 4. In ease of squeaking noise during cutting, increase feed. 切削时产生噪音, 增加进给量 5. If dry cutting use cutting fluid or blow air. 干铣时, 使用切削液或气流冷却 6. Replace chuck or collet / 更换刀柄或夹头 7. Reduce cutting speed / 降低切削速度
	·Large fracturing of cutting edge 切削刃巨大的破裂	1. Decrease feed rate / 降低进给量 2. If 4 flute reduce to 2 flute 4刃改为2刃 3. Carry out honing. Or enlarge / 钝化处理 4. Replace chuck or collet / 更换刀柄或夹头 5. Reduce cutting speed / 降低切削速度 6. If dry cutting, change to wet cutting. In case oil supply in wet cutting is from the front, change to rear at an angle or from side top. Use ample supply. 把干切改为用切削油的湿切, 冷却液从前面供给时, 更改为顶部侧面角度, 使用充足的速度



Trouble	Occurrences of trouble	Countermeasures
问题	发生	方案
Rapid tool wear 刀具磨损过快		1. Reduce cutting speed / 降低切削速度 2. Up cut → Down cut / 逆铣 → 顺铣 3. Increase feed / 增加进给 4. Utilize wet cutting or air / 利用湿切或气流 5. If reground tool, improve surface roughness of flank. 如果是修磨刀具, 提高侧翼的表面粗糙度
Inferior finished surface 表面粗糙度恶劣	·Surface is good but rough 表面好但是粗糙	1. Decrease feed / 降低进给量 2. In case using 2 flute, increase to 4 flute 2刃改为4刃
	·Small chip welding 小的冷焊	1. Increase cutting speed / 增加切削速度 2. Utilize wet cutting air blow(ample supply) 利用湿切或气流 (充足供应) 3. Carry out fine honing / 钝化处理 4. Up cut → Down cut / 逆铣 → 顺铣 5. Increase feed or enlarge finish allowance 增加进给或放大表面允许范围
	·With transverse streaks 横断条纹	1. Carry out fine honing / 钝化处理 2. Use water insoluble cutting fluid 使用水溶性切削液 3. Down cut → Up cut / 顺铣 → 逆铣
	·Signs of excessive cutting 过量载切的迹象	1. Reduce finishing depth of cut / 减少切深 2. Increase cutting speed / 增加切削速度 3. Reduce feed / 降低进给量
Poor machining accuracy 加工精度不好	·Finish dimensions are on minus side 最终尺寸是负值	1. Up cut → Down cut / 逆铣 → 顺铣 2. Reduce finishing depth of cut / 减少切削深度 3. Replace chuck or collet / 更换刀柄或夹头 4. Reduce projection amount / 减少发射次数 5. Increase cutting speed / 增加切削速度
Chattering 震纹	·Poor perpendicularity 垂直度不好	1. Reduce finishing depth of cut / 减少切深 2. Replace chuck or collet / 更换刀柄或夹头 3. Reduce projection amount / 减少发射次数 4. Increase cutting speed / 增加切削速度 5. 2Flute → 4 Flute / 2刃 → 4刃 6. Reduce feed / 降低进给量 7. Check wear rate → Replace tool 检查磨损速度 → 更换刀具
		1. Increase feed rate(in case over 0.05 mm/Zahn, try reducing) 提高进给量 (一旦超过0.05mm/Z, 尽量降低) 2. Change cutting speed / 改变切削速度 3. Replace chuck or collet / 更换刀柄或夹头 4. Reduce projection amount / 减少发射次数 5. Use 2 flute cutter for rough cutting and 4 flute for finishing 使用2刃刀具粗加工以及4刃刀具精加工 6. Down cut → Up cut / 顺铣 → 逆铣



11 COMPARISON CHART SCALE FOR HARDNESS
硬度对照图

Rockwell Hardness C Scale 150kg Brale (HRC)	Diamond Pyramid Hardness Number. Vickers (HV)	Brinell Hardness Standard 10mm Ball 29.42kN (HB)	Rockwell Hardness A Scale 60kg Brale (HRA)	Shore Scleroscope Hardness Number (HS)	Approx. Tensile Strength N/mm ²
68	940	-	85.6	97	-
67	900	-	85.5	95	-
66	865	-	84.5	92	-
65	832	-	83.9	91	-
64	800	-	83.4	88	-
63	772	-	82.8	87	-
62	746	-	82.3	85	-
61	720	-	81.8	83	-
60	697	-	81.2	81	-
59	674	-	80.7	80	-
58	653	-	80.1	78	-
57	633	-	79.6	76	-
56	613	-	79.0	75	-
55	595	-	78.5	74	2079
54	577	-	78.0	72	2010
53	560	-	77.4	71	1952
52	544	500	76.8	69	1883
51	528	487	76.3	68	1824
50	513	475	75.9	67	1755
49	498	464	75.2	66	1687
48	484	451	74.7	64	1639
47	471	442	74.1	63	1578
46	458	432	73.6	62	1530
45	446	421	73.1	60	1481
44	434	409	72.5	58	1432
43	423	400	72.0	57	1383
42	412	390	71.5	56	1334
41	402	381	70.9	55	1294
40	392	371	70.4	54	1245
39	382	362	69.9	52	1216
38	372	353	69.4	51	1177
37	363	344	68.9	50	1157
36	354	336	68.4	49	1118
35	345	327	67.9	48	1079
34	336	319	67.4	47	1059
33	327	311	66.8	46	1030
32	318	301	66.3	44	1000
31	310	294	65.8	43	981
30	302	286	65.3	42	952
29	294	279	64.7	41	932
28	285	271	64.3	41	912
27	279	264	63.8	40	883
26	272	258	63.3	38	863
25	266	253	62.8	38	843
24	260	247	62.4	37	824
23	254	243	62.0	36	804
22	248	237	61.5	35	785
21	243	231	61.0	35	775
20	238	226	60.5	34	755
[18]	230	219	-	33	736
[16]	222	212	-	32	706
[14]	213	203	-	31	677
[12]	204	194	-	29	647
[10]	196	187	-	28	618
[8]	188	179	-	27	598
[6]	180	171	-	26	579
[4]	173	165	-	25	549
[2]	166	158	-	24	530
[0]	160	152	-	24	520

EDP No.	Page	EDP No.	Page	EDP No.	Page	EDP No.	Page
ESB94	C25	SEM845	C219 - 227	EIE21	C431 - 435	GAA31	C555
ESD02	C26	SEME36	C228 - 229	EIE23	C436 - 437	E9941	C556
XMB110A	C32	SEME71	C230 - 233	EIE22	C438 - 440	GA941	C556
XMB120C	C32	SEME72	C234 - 239	EIE25	C441 - 442	E9A35	C557
XMB260T	C32	SEME73	C240 - 244	EIE26	C443 - 444	GAA35	C557
XMB130A	C33	SEME75	C245 - 246	SGED28	C449	E9A26	C558
XMM110V	C33	G9D75	C247	SGED27	C450 - 451	GAA26	C558
XMB110D	C33	G9D67	C247	SGED29	C452 - 453	E9A33	C559
XMR110A	C34 - 38	G9D76	C247	SGED31	C454	GAA33	C559
XMR120C	C34 - 38	G9D68	C247	SGED30	C455 - 456	E9A34	C560
XMR260T	C34 - 38	G9D77	C248	EMC56	C463	GAA34	C560
XMF110V	C39 - 43	G9D69	C248	EMC60	C464 - 468	E9E43	C561
XMR110D	C39 - 43	GAE53	C249	EMC61	C469 - 470	GAE43	C561
ZBC	C44	GMH31	C324	EMC62	C471 - 472	E2480	C582 - 583
ZBS	C45	GMH32	C325 - 326	EMC59	C473 - 478	E2401	C584 - 586
ZBT	C46	GMH37	C327	EMC52	C479	E2406	C587 - 588
ZRC	C47	GMH38	C328	EMC53	C480	E2412	C589 - 591
ZRS	C48	GMH33	C329	EMC54	C481	E2659	C592 - 593
ZRT	C48	GMH34	C330 - 331	EMC55	C482	E2750	C594
XSEMD98	C58	GMH35	C332	EMC57	C483	E2760	C595 - 596
XSEME59	C59	GMH36	C333	EMC58	C483	E2759	C597
XSEME60	C60	GMH39	C334	EMC69	C484	E2753	C598
XSEME01	C61 - 62	GM814	C335	G9A25	C485	EL612	C599
XSEME68	C63	GMG40	C352 - 353	G9B52	C486	ML012	C624
XSEME36	C64	GMG41	C352 - 353	G9A23	C487	ML022	C624
XSEME75	C65	GMG28	C354	G9B50	C488	ML112	C624
ZMC	C60	GMG29	C354	G9A24	C489	ML122	C624
ZMS	C67	GMG30	C355 - 356	G9B51	C490	ML122	C624
ZMT	C68	GMG31	C355 - 356	E5414	C507	ML212	C624
G8B59	C79	GMG24	C357	E5524	C508	ML222	C624
G8B54	C80	GMG25	C357	E5401	C509	ML032	C625
G8A46	C81 - 84	GMG26	C358	E5423	C510	ML042	C625
G8A54	C85	GMG27	C358	E5402	C511	ML132	C625
G8A28	C86 - 87	EHE54	C359	GYG77	C526	ML142	C625
G8A38	C88	EHE55	C359	GYF97	C526	ML142	C625
G8A53	C89	EMD88	C367	GYG72	C527	ML232	C625
G8A59	C90	EMD83	C368 - 369	GYF99	C527	ML242	C625
G8D62	C91	EHD84	C370	GYG01	C528	ML242	C625
G8A60	C92 - 96	EMD82	C371 - 372	GYG74	C529	ML062	C626 - 627
G8A36	C97 - 98	EMD92	C373 - 374	GYF96	C529	ML162	C626 - 627
G8A52	C99	GMH66	C384	GYG52	C530	ML262	C626 - 627
G8A50	C100	GMH65	C385 - 386	GYG76	C531	ML072	C628
G8A47	C101	GMF66	C387	GYG02	C531	ML172	C628
G8A37	C102	GMH67	C388	GYF95	C532	ML172	C628
G8B08	C103	GMH68	C389	GYF94	C533	ML272	C628
G8A39	C104	GMH69	C390	GYF98	C534	ML092	C629 - 630
G8A45	C105 - 108	GMH71	C391	GYG03	C535	ML102	C631 - 636
G8A01	C109	GMH70	C392	E9940	C548	E2675	C637
G8A02	C110	EMB72	C393	GA940	C548	E2676	C638
G8D63	C111	EMB73	C393	E9A32	C549	E2677	C639
G8D64	C112	E5H24	C402 - 404	GAA32	C549	E2678	C640
SEMD98	C140 - 145	JAH24	C402 - 404	E9936	C550	E2679	C641
SEM846	C146 - 155	E5H25	C405 - 407	GA936	C550	E2498	C642 - 643
SEM846	C156 - 158	JAH25	C405 - 407	E9A29	C551		
SEMD99	C159 - 166	E5H22	C408	GAA29	C551		
SEME61	C167 - 185	JAH22	C408	E9942	C552		
SEME01	C186 - 192	E5H23	C409	GA942	C552		
SEME64	C193 - 207	JAH23	C409	E9A30	C553		
SEME35	C208 - 210	E5D71	C415 - 416	GAA30	C553		
SEME35	C211	E5C72	C417	E9938	C554		
SEME35	C212	E5D70	C418 - 423	GA938	C554		
SEME70	C213 - 218	E5D73	C424 - 425	E9A31	C555		



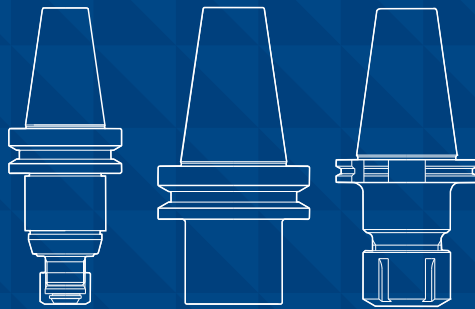
Global Cutting Tool Leader **YG-1**



MILLING



CUTTING TOOLS



TOOLING SYSTEM

YG YG-1 CO., LTD.

HYDRAULIC CHUCK

液压刀柄

Standard of Tools	DIN 69871-SK	DIN 69871-SK	DIN 69871-SK
Description	TOOL PRESETTING TYPE	POWER E HYDRO	SLIM
Page	D19	D20	D21
		NEW	

DIN 69871-SK	DIN 69871-SK	DIN 69893/ ISO 12164-1-HSK	DIN 69893/ ISO 12164-1-HSK	DIN 69893/ ISO 12164-1-HSK
ULTRA SHORT	MOLD & DIE	TOOL PRESETTING TYPE	POWER E HYDRO	SLIM
D22	D23	D24	D25	D26 - 28
			NEW	

DIN 69893/ ISO 12164-1-HSK	JIS B6339/ MAS 403-BT&CBT	JIS B6339/ MAS 403-BT&CBT	JIS B6339/ MAS 403-BT&CBT	JIS B6339/ MAS 403-BT&CBT
MOLD & DIE	TOOL PRESETTING TYPE	SLIM	POWER E HYDRO	MOLD & DIE
D29	D30 / D35	D31 - 32 / D37 - 38	D33, D36	D34, D40
			NEW	

JIS B6339/MAS 403-BT	DIN 69871-SK& DIN 228-MTB	HYDRAULIC CHUCK SET	TEST PIECE	COLLET
ULTRA SHORT	For GRINDER			REDUCTION SLEEVE
D39	D41	D42	D42	D43 - D46
		NEW	NEW	

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Guide Line to Icons

Standard of Tools	Taper Accuracy	G Value	RPM	Run-Out	Coolant System	
Collet	Bolt	Spanner	TapAdapter	ER Nut	ER Spanner	Parts

SHRINK FIT HOLDER

热缩刀柄

Standard of Tools	DIN 69871-SK	DIN 69871-SK	DIN 69871-SK
Description	EXTRA SLIM		COOLANT CHANNEL
Page	D50	D51 - 52	D53
	NEW		NEW

DIN 69871-SK	DIN 69893/ ISO 12164-1-HSK	DIN 69893/ ISO 12164-1-HSK	DIN 69893/ ISO 12164-1-HSK	DIN 69893/ ISO 12164-1-HSK
REINFORCED	EXTRA SLIM		COOLANT CHANNEL	REINFORCED
D54	D55	D56 - 58	D59	D60
NEW	NEW		NEW	

JIS B6339/ MAS 403-BT&CBT	JIS B6339/ MAS 403-BT&CBT	JIS B6339/ MAS 403-BT&CBT	JIS B6339/MAS403-BT	ISO 25
	COOLANT CHANNEL	EXTRA SLIM	REINFORCED	
D61 - 62 / D65 - 66	D63 / D67	D64	D68	D69
	NEW	NEW	NEW	

EXTENSION	SHRINK FIT HEATING MACHINE
D70 - 71	D72

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ER COLLET CHUCK

ER 夹头刀柄

Standard of Tools	DIN 69871-SK	DIN 69893/ ISO 12164-1-HSK	JIS B6339/ MAS 403-BT&CBT
Description			
Page	D75 - 78	D79 - 85	D86 - 93

ISO 20/25	DIN 228-MTA	DIN 228-MTB	STRAIGHT-K	NC
SLIM				CNC LATHE
D94	D95	D96	D97 - 100	D101

BRIDGEPORT-R8	GOST 25827-93	ER COLLET	SEALED ER COLLET	TAP ER COLLET	ER NUT, SEALING DISC&SPANNER
D101	D102	D103 - 105	D106 - 107	D108 - 109	D110 - 115

END MILL HOLDER & SIDE LOCK ARBOR

立铣刀刀柄 & 侧固式刀柄

Standard of Tools	DIN 69871-SK	DIN 69893/ ISO 12164-1-HSK	JIS B6339/ MAS 403-BT&CBT
Description	EMH	EMH	EMH & SLA
Page	D118 - 122	D123 - 126	D127 - 131

DIN 69871-SK	JIS B6339/ MAS 403-BT	GOST 25827-93	JIS B6339/ MAS 403-BT&CBT	JIS B6339/MAS 403-BT	PARTS
EMH	EMH	EMH	SLA	SLB	EMH & SLA
D132	D132	D133	D134 - 135	D136	D137

SHELL MILL ARBOR

端面铣刀刀柄

Standard of Tools	DIN 69871-SK	DIN 69893/ ISO 12164-1-HSK	JIS B6339/ MAS 403-BT&CBT
Description	SMA	SMA	SMA
Page	D140 - 142	D143 - 145	D146 - 151

GOST 25827-93	PARTS	DIN 69871-SK	DIN69893/ ISO 12164-1-HSK	JIS B6339/ MAS 403-BT&CBT
SMA		CMA	CMA	CMA
D152	D153 - 154	D155	D156	D157 - 158

DIN 2080-ISO	PARTS
CMA	
D159	D160

POWER MILLING CHUCK

强力刀柄

Standard of Tools	DIN 69871-SK	DIN 69893/ ISO 12164-1-HSK	JIS B6339/ MAS 403-BT&CBT
Description			
Page	D164 - 165	D166 - 167	D168 - 171

DIN 228-MTA/MTB	BRIDGEPORT-R8	STANDARD SET	Q.C SET	COLLET&SPANNER
D172	D173	D174	D175	D176

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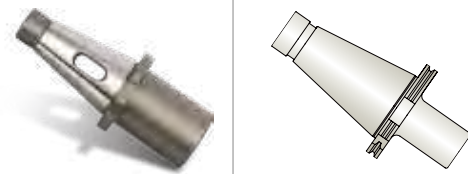
MORSE TAPER ARBOR

莫式锥柄变换刀柄

Standard of Tools	DIN 69871-SK	DIN 69893/ ISO 12164-1-HSK	JIS B6339/ MAS 403-BT
Description			MTA & MTB
Page	D178	D178	D179-180



ANSI B5.18-NT	GOST 25827-93
	MTA
D180	D181



SK SLIM CHUCK

端面铣刀刀柄

Standard of Tools	DIN 69871-SK	DIN 69893/ ISO 12164-1-HSK	JIS B6339/ MAS 403-BT&CBT
Description			
Page	D184 - 187	D188 - 190	D191 - 196



ISO 20/25	STRAIGHT-K	COLLET&NUT
D197	D198	D199 - 201



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SYNCHRO TAPPING CHUCK

端面铣刀刀柄

Standard of Tools	DIN 69871-SK	DIN 69893/ ISO 12164-1-HSK	JIS B6339/ MAS403-BT
Description	SYTER	SYTER	SYTER
Page	D204	D205	D206



STRAIGHT-K	DIN 69871-SK	DIN 69893/ ISO 12164-1-HSK	STRAIGHT-K
SYTER	SYTC	SYTC	SYTC
D207	D208	D209	D210



ONE STEP TAPPING CHUCK

同步攻丝刀柄

Standard of Tools	DIN 69871-SK	DIN 69893/ ISO 12164-1-HSK	JIS B6339/ MAS 403-BT	STRAIGHT-K
Description				
Page	D212	D212	D213	D213



TAPPING ER CHUCK

攻丝 ER 刀柄

Standard of Tools	DIN 69871-SK	DIN 69893/ ISO 12164-1-HSK	JIS B6339/ MAS 403-BT&CBT
Description			
Page	D217	D218	D219 - 220



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TAPPING CHUCK

攻丝刀柄

Standard of Tools	DIN 69871-SK	DIN 69893/ISO 12164-1-HSK	JIS B6339/MAS 403-BT
Description			
Page	D222	D223	D224
			

STRAIGHT-K	DIN 228-MTA	TAP ADAPTER
D225	D226	D227 - 228
		

FACE MILL ARBOR

平面铣刀刀柄

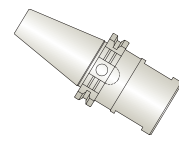
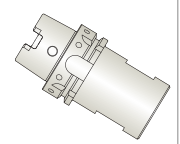
Standard of Tools	JIS B6339/MAS 403-BT&CBT	DIN 69893/ISO 12164-1-HSK	ANSI B5.18-NT
Description	FMA	FMA	FMA
Page	D230 - 231	D232	D233
			

DIN 228-MTA	JIS B6339/MAS 403-BT&CBT	JIS B6339/MAS 403-BT&CBT	DIN 69893/ISO 12164-1-HSK	PARTS
FMA	FMB	FMC	FMC	
D 233	D234 - 235	D236 - 237	D238	D239
				

COPY MILL ARBOR & INDEXABLE DRILL HOLDER

仿形铣刀柄 & 可转位钻头刀柄

Standard of Tools	DIN 69871-SK	DIN 69893/ISO 12164-HSK	JIS B6339/MAS 403-BT
Description			
Page	D242	D243	D244
	NEW 	NEW 	NEW 

DIN 69871-SK	DIN 69893/ISO 12164-HSK	JIS B6339/MAS 403-BT
D245	D245	D246
NEW 	NEW 	NEW 

NC DRILL CHUCK & OTHER TOOL HOLDERS

NC钻夹头刀柄 & 其他刀柄

Standard of Tools	DIN69871-SK	JIS B6339/MAS 403-BT&CBT	DIN 69893/ISO 12164-1-HSK
Description	NPU	NPU	NPU
Page	D 249	D 250 - 251	D 252
	NEW 		

STRAIGHT-K	JIS B6339/MAS 403-BT	JIS B6339/MAS 403-BT	DIN 69871-SK	DIN 69893/ISO 12164-1-HSK
	SCA	JTA	BLANK BAR	BLANK BAR
D 252	D 253	D 254	D 255	D 255
				

JIS B6339/MAS 403-BT	DIN 69871-SK	DIN 69893/ISO 12164-1-HSK	JIS B6339/MAS 403-BT
BLANK BAR	TEST BAR	TEST BAR	TEST BAR
D 255	D256	D 256	D256
	NEW 	NEW 	NEW 

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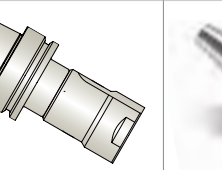




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BORING SYSTEM

镗孔刀柄系统

Standard of Tools	DIN 69871-SK	DIN 69893/ ISO 12164-HSK	JIS B6339/ MAS 403-BT
Description	FINE SMALL : BAH	FINE SMALL : BAH	FINE SMALL : BAH
Page	D261	D262	D263
			

FINE BORING HEAD	JIS B6339/ MAS 403-BT	DIN 69871-SK	EXTENSION & REDUCTION	JIS B6339/ MAS 403-BT
SMALL BORE	SMALL BORE : SAS	SMALL BORE : SAS	SMALL BORE	FINE BIG : FBH & PARTS
D264	D265	D266	D267 - 268	D269 - 270
				

DIN 69871-SK	DIN 69893/ ISO 12164-HSK	JIS B6339/ MAS 403-BT	TWIN HEAD & INSERT HOLDER	STRAIGHT-ST	DIN 69871-SK
TWIN SMALL : TBH	TWIN SMALL : TBH	TWIN SMALL : TBH	SMALL BORE	TWIN TBH	TWIN BIG : TBH
D271	D272	D273	D274	D275	D276
					

JIS B6339/ MAS 403-BT	JIS B6339-BT / DIN 69871-SK	JIS B6339/MAS 403-BT	STRAIGHT-ST	JIS B6339/ MAS 403-BT	SQUARE BITE
TWIN BIG : TBH	TWIN SAS & PARTS	MICRO BCA	MICRO BCA & PARTS	SQUARE BSA & BSB	
D277	D278 - 279	D280 - 281	D282 - 285	D286 - 287	D288
					

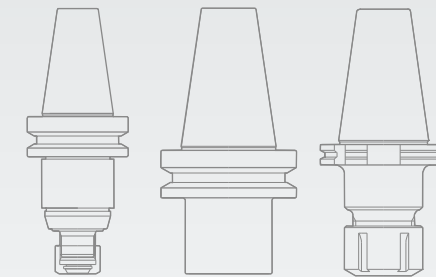
ACCESSORY & OTHERS

辅件 & 其他

PULL STUD BOLT & SPANNER	TOOL CLAMP	HEIGHT PRESETTER	COOLANT TUBE & SPANNER
D290 - 291	D292	D292	D293
			



Global Cutting Tool Leader **YG-1**



TOOLING SYSTEM

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Definition of Balancing and Unbalancing

动平衡及非动平衡定义

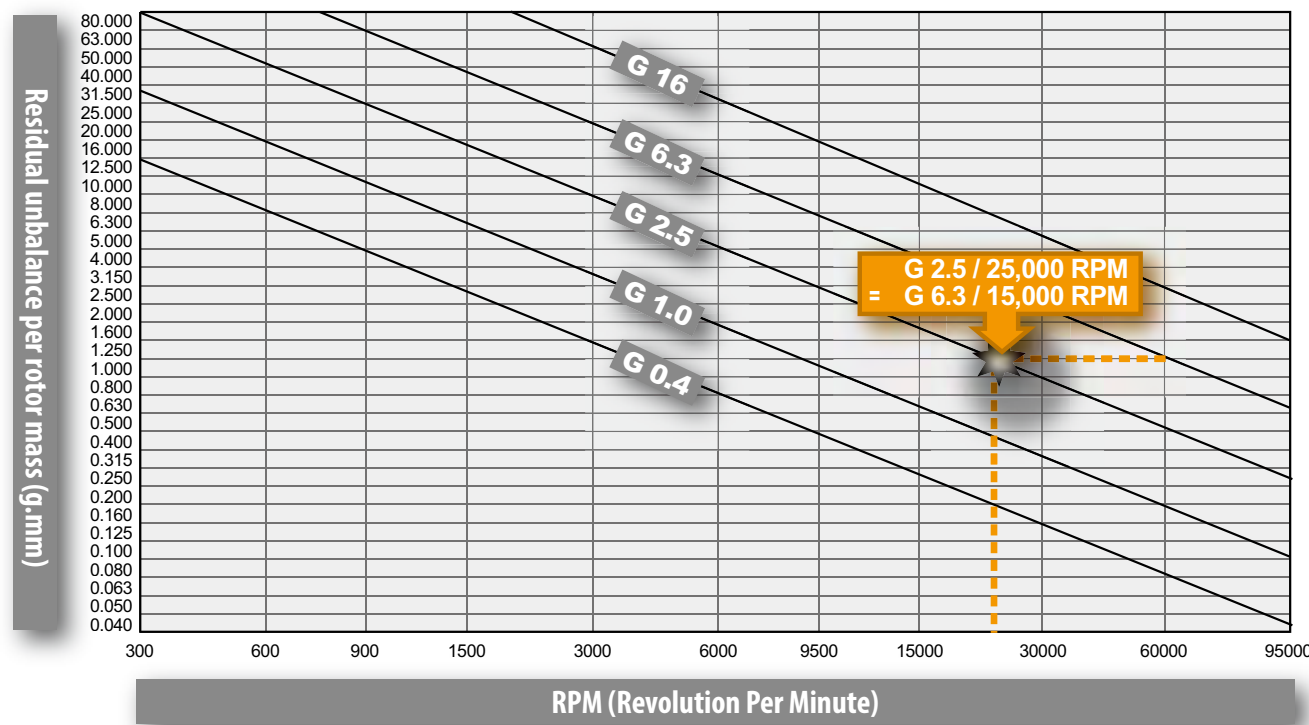
If the rotor(tool holder) is rotated around the axis, centrifugal forces generate in all parts. If these centrifugal forces are distributed symmetrically against the rotation axis, the centrifugal forces generating in the opposite direction are offset by one another, resulting in no forces to the rotation axis eventually. Therefore bearings are not vibrated. In this case tool holder is in the balanced state. On the contrary, if centrifugal forces are distributed asymmetrically against the rotation axis, or if the force of one part is greater than that of the opposite part, the forces equivalent to differences are added to the rotation axis, causing the rotor(tool holder) to vibrate. The imbalance of distribution of rotor mass is called "Unbalance". In other words, "Unbalance" is mass existing unevenly in the rotor(tool holder).

刀柄，以某轴为中心旋转时将会形成离心力 若分布在旋转轴上的刀柄各点离心力相互抵消 对旋转轴将无任何影响，此时旋转轴不会震动，
刀柄应属平衡状态 相反分布在旋转轴上的刀柄各点离心力偏向某处 将会影响旋转轴，使旋转轴产生震动 这种刀柄本体质量分布不均匀所产生的影响称非动态平衡状态 换句话说非动平衡就是刀柄本体上存在的质量不均匀所引起的缺陷。

Balancing Grade Quality According To ISO 1940

动平衡等级标准 - 遵循ISO 1940标准

(DIN ISO 1940)



Calculation of G

$$\frac{G \times m}{RPM} \times 9549 = U$$

G : Balancing grade or circumference speed

m : Rotor(Holder) weight ⇒ Unit : kg

9549 : Conversion constant

U : Degree of unbalance (Permissible unbalance) ⇒ Unit : g.mm

RPM : Revolutions Per Minute

Merits of Balanced Machining

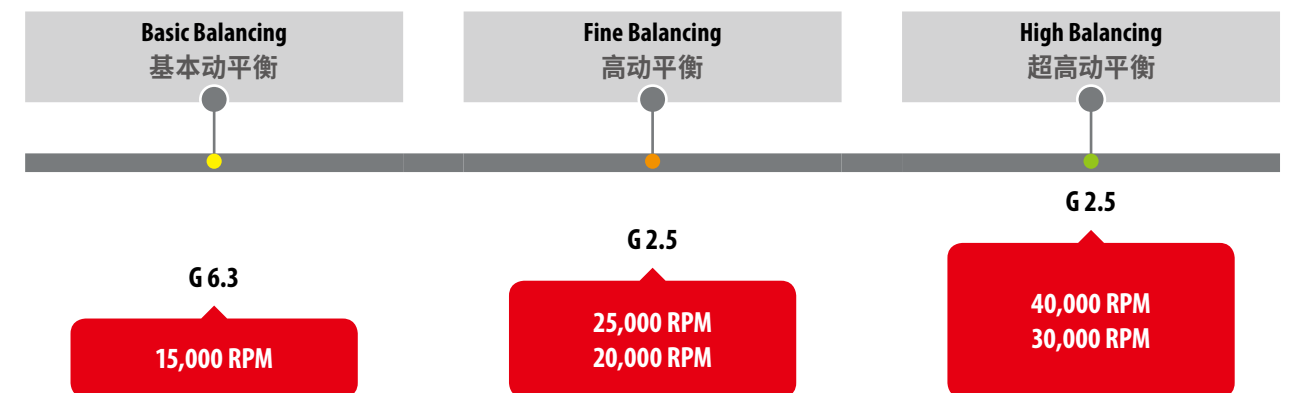
动平衡加工长处

Recently, rotating machines are more sophisticated and operated at High-Speed with the technical advance. Also, they require more efficiency and more stable functions which are stricter conditions than ever before. In High-Speed machining, one of the largest factors which degrade performance of machines is chattering. It causes workers to suffer displeasure, noise, and fatigue which are main problems affecting productivity. Balancing of the rotor(tool holder) is the essential and effective factor in order to prevent vibration of the machine. It is widely recognized as the indispensable process in manufacturing rotation machinery. YG-1 manufactures tool holders with various balancing grades meeting the needs of users.

随着旋转机械技术的进步，市场更加需要高精密及高速化，进一步提高设备能力和性能稳定。在高速加工中使设备降低性能的主要原因是震动所引起的不安及噪音以及老化。动平衡刀柄是防止设备震动的最基本因素，也是有效的措施以及不可分离的部分，因此广为人知。YG-1为满足客户的要求及条件生产多种等级的动平衡刀柄。

YG-1 Balancing Grade Standard

YG-1 动平衡等级标准



YG-1 Balancing Specification (for Balancing Design Products)

YG-1 动平衡事项 (采用动平衡设计产品)

PRODUCT 产品	SHANK 柄部	GRADE 等级	RPM
HYDRAULIC CHUCK 液压刀柄	BT/CBT 30/40/50 SK 30/40/50 HSK 32/40/50/63/80/100	G 2.5	25,000
SHRINK FIT HOLDER 热缩刀柄	BT/CBT 30/40/50 SK 30/40/50 HSK 25/32/40/50/63/80/100 ISO 25	G 2.5	25,000
OTHER CHUCKS & TOOL HOLDERS 其它刀柄	BT/CBT 30/40/50 SK 30/40/50 HSK 25/32/40/50/63/80/100 ISO 20/25	G 6.3 G 2.5	15,000 25,000

* HIGHER BALANCING GRADE PRODUCT COULD BE SUPPLIED UPON CUSTOMER'S REQUEST.

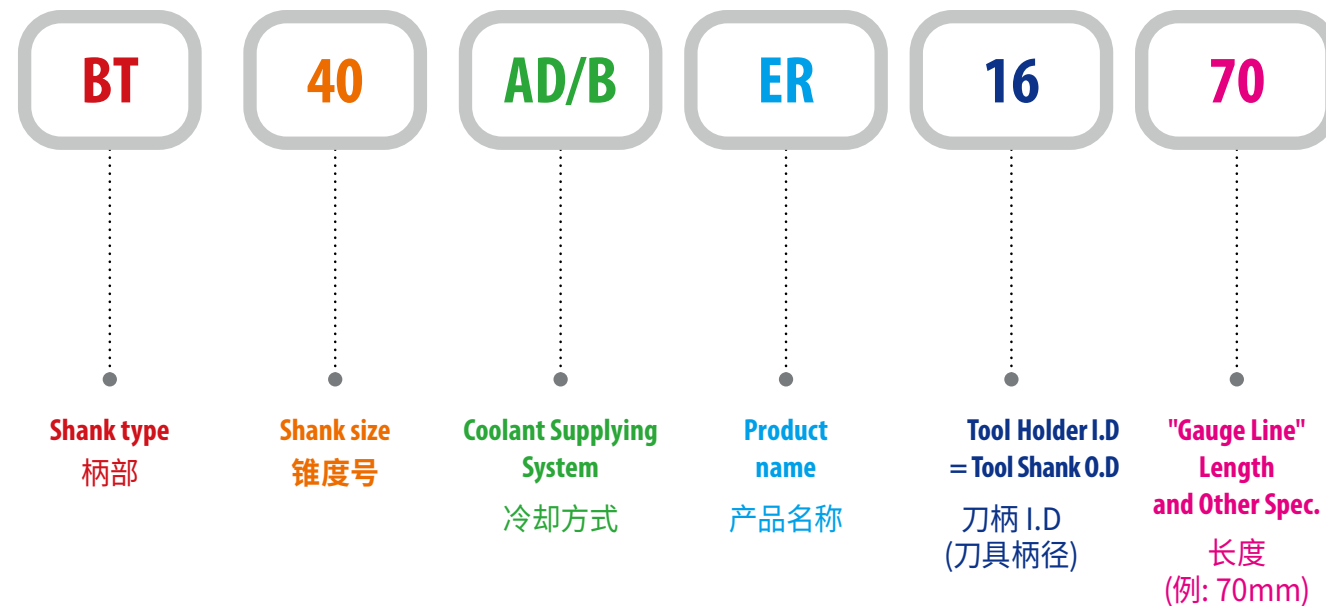
* 可以按照客户要求生产更高动平衡等级的产品

MODEL NUMBERING SYSTEM & SURFACE FINISH

[规格标记说明及表面处理]

Model Numbering System

产品编号说明



Surface Finish

表面处理



YG-1 TOOLING SYSTEM

HYDRAULIC CHUCK

液压刀柄



DIN 69871-SK

DIN 69893/ISO 12164-1-HSK

CBT (BT DUAL CONTACT)

JIS B6339/MAS 403-BT

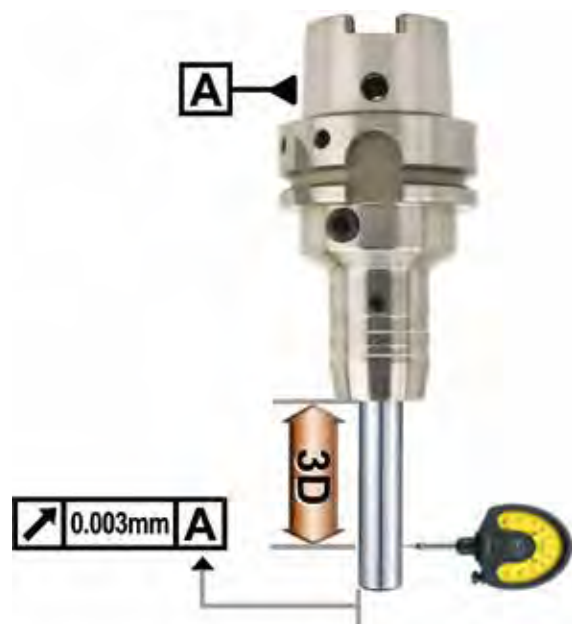
HYDRAULIC CHUCK (FOR GRINDER)

HYDRAULIC CHUCK SET

ACCESSORY

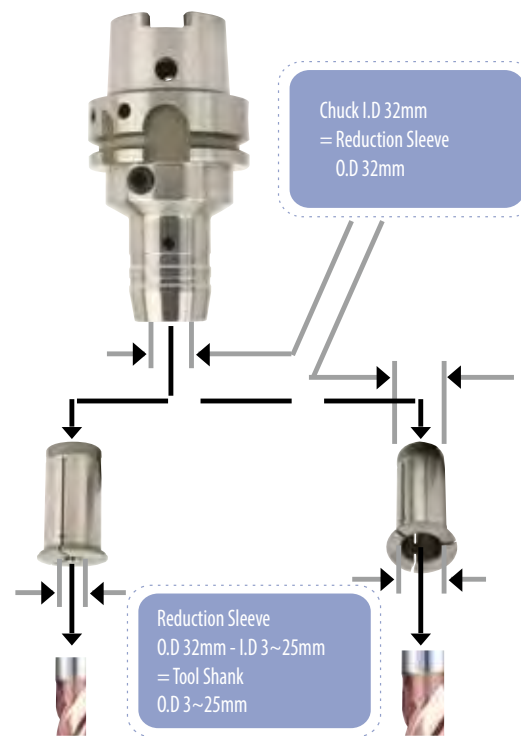
High precision T.I.R.:

≤ 0.003mm (Without Reduction Sleeve)
 高精度: 跳动公差(T.I.R)0.003mm以下



• Less than 0.003mm T.I.R =>
 Suitable for High-Speed precision machining
 跳动公差(T.I.R)0.003mm → 实现高速精密加工

Flexible use of cutting tools by using of reduction sleeves
 适用多种规格的刀具



Strong Torque Power 强劲的夹紧力

Hydraulic Chuck 液压刀柄 I.D(mm)	Tool Shank 刀具柄径 O.D(mm)	Applicable 适用 RPM	Minimum Clamping Depth 最低夹紧深度 (mm)		Min. Torque Power 最低夹紧力 (Nm)	
			Slim 细长型	Power E Hydro 强力加紧型	Slim 细长型	Power E Hydro 强力加紧型
6	6	40,000	27		16	
8	8	40,000	27		23	
10	10	40,000	32		45	
12	12	40,000	37	41	90	110
14	14	40,000	37		110	
16	16	40,000	42		185	
18	18	40,000	42		240	
20	20	40,000	42	48	330	520
25	25	25,000	48		400	
32	32	25,000	55	57	650	900

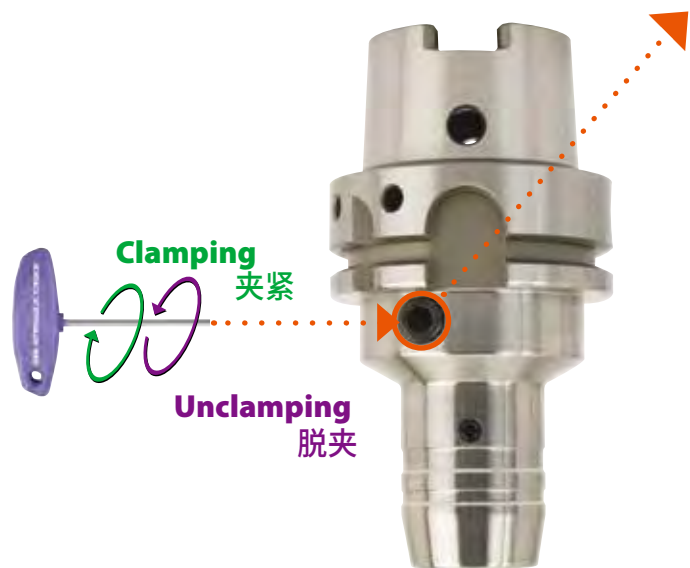
• Tool Holder I.D Tolerance : H6
 刀柄 ID 公差 : H6

• Operating Temperature : 20~25°C
 加工温度 : 20~50 °C

• Maximum pressure of coolant oil : 80bar
 切削油最大压力 : 80 bar

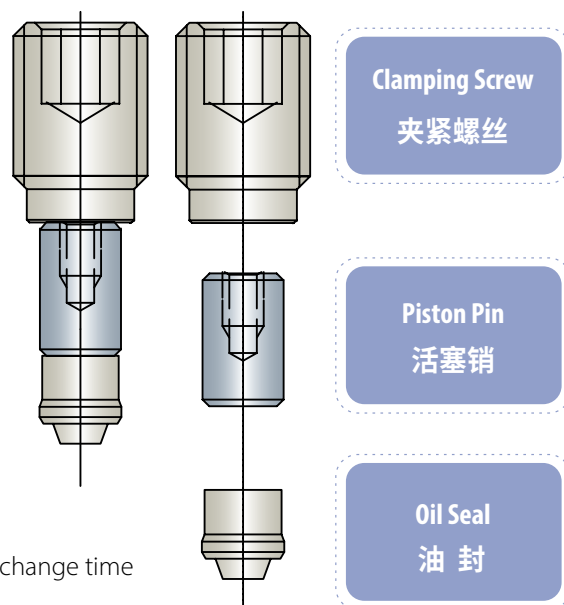


Easy Tool Change 便于刀具更换

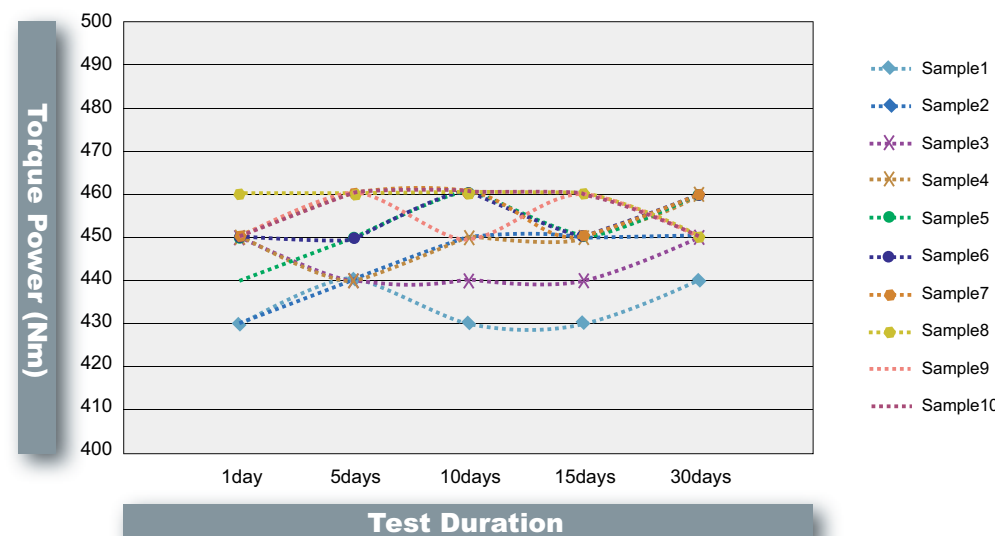


• Easy clamping and unclamping by use of T wrench => Reducing tool change time
 T型扳手便于夹紧, 松开 → 便捷的刀具更换可节约时间

CLAMPING SCREW 夹紧螺丝



Test of Torque Power and Hydraulic Oil Leakage 夹紧力及液压油泄漏检测



• Test Model : BT40AD/B-HC20-90 检测型号 : BT40AD/B-HC20-90

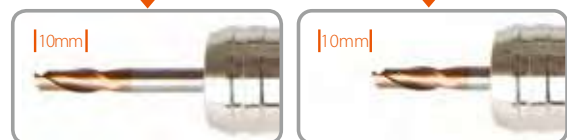
• No oil leakage for long period => Maintaining stable torque power 长期无泄漏 → 维持稳定的夹紧力

HYDRAULIC CHUCK (液压刀柄)

Radial tool length pre-setting type 长度调节型

- Easy to adjust pre-setting length of cutting tool (Saving time to pre-set cutting tool to one fifth compared with conventional Hydraulic Chuck)
- Precise adjustment of cutting tool length
- Designed to separate tool length adjustment screw from clamping screw

- 安装刀具时，便于调节长度 (相对一般液压刀柄，节省一半以上的时间)
- 以微米 (Micron=um) 单位，调节刀具长度
- 采用长度调节螺丝和夹紧螺丝分离设计。



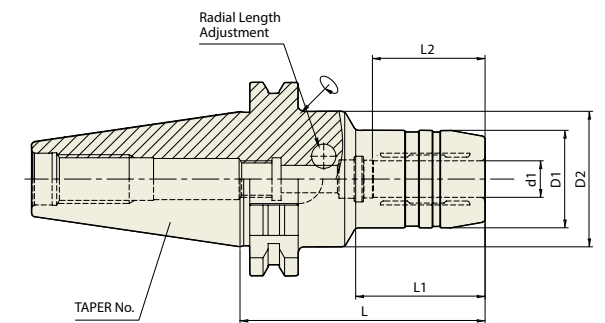
Adjustable range of cutting tool length : 0~10mm
刀具长度调节范围 : 0~10 mm

APPLICATION 应用		
Milling 铣削	High-Speed Cutting 高速切削	Fine Drilling 精细钻孔
Reaming 铰削	Tapping & Thread Milling 攻丝	Chamfering 倒角

HYDRAULIC CHUCK (Radial Tool Length Pre-Setting Type)

DIN 69871-SK

液压刀柄 (长度调节型)



Collet, Refer to page 43-46
变径套，请参阅43-46页

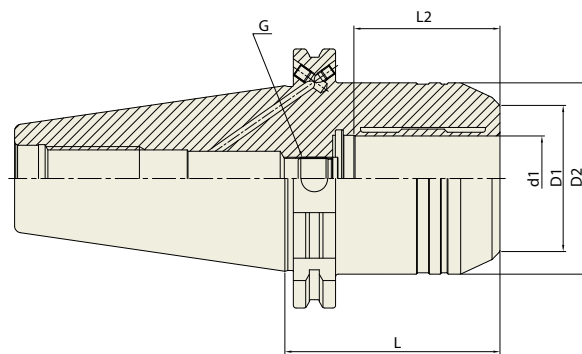
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	WEIGHT 重量(Kg)
30	SK30AD/B-HCR12-85	P2770001	12	32	44.5	85	40	37	0.90
	SK30AD/B-HCR20-85	P2770003	20	44	-	85	-	42	1.00
40	SK40AD/B-HCR12-80.5	P2554018	12	32	49.5	80.5	31.5	37	1.50
	SK40AD/B-HCR20-80.5	P2554019	20	42	49.5	80.5	34	42	1.60
50	SK40AD/B-HCR32-110	P2770004	32	63	80	110	50	55	2.20
	SK50AD/B-HCR12-80.5	P2770005	12	32	49.5	80.5	35	37	3.90
	SK50AD/B-HCR20-80.5	P2770006	20	42	44.5	80.5	44	42	4.00
	SK50AD/B-HCR32-100	P2770002	32	60	-	100	-	55	4.70

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

HYDRAULIC CHUCK (Power E Hydro)

DIN 69871-SK

液压刀柄 (Power E Hydro)



Collet, Refer to page 43-46
变径套, 请参阅43-46页

Unit (单位) : mm

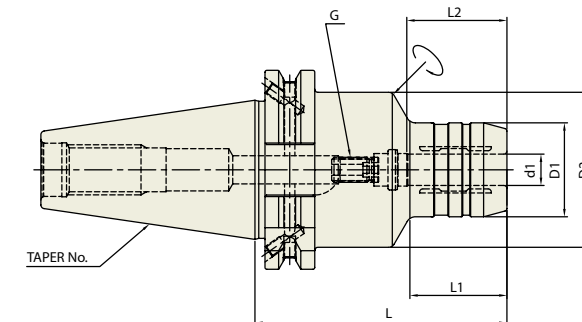
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	WEIGHT 重量(Kg)
40	SK40AD/B-HC12P-50	P2776651P	12	32	42	50	41	M8x1.0	1.00
	SK40AD/B-HC20P-64.5	P2534001P	20	38	49.5	64.5	48	M8x1.0	1.20
50	SK50AD/B-HC20P-64.5	P2756010P	20	38	49.5	64.5	48	M8x1.0	2.80
	SK50AD/B-HC32P-81	P2534002P	32	58.5	72	81	57	M8x1.0	3.90

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

HYDRAULIC CHUCK (SLIM)

DIN 69871-SK

液压刀柄 (细长型)



Collet, Refer to page 43-46
变径套, 请参阅43-46页

Unit (单位) : mm

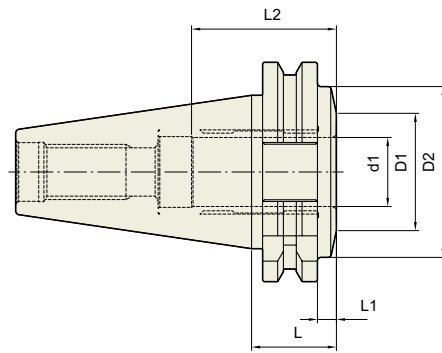
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	WEIGHT 重量(Kg)	
30	SK30AD/B-HC6-70	P2770101	6	26	45	70	20	27	M5x0.8	0.65	
	SK30AD/B-HC8-70	P2770110	8	28	45	70	20	27	M6x1.0	0.65	
	SK30AD/B-HC10-75	P2770102	10	30	45	75	21	32	M8x1.0	0.73	
	SK30AD/B-HC12-85	P2770111	12	32	45	85	40	37	M10x1.0	0.80	
	SK30AD/B-HC14-85	P2770112	14	34	45	85	22	37	M10x1.0	0.80	
	SK30AD/B-HC16-90	P2770113	16	38	45	90	50	42	M6x1.0	0.90	
	SK30AD/B-HC18-90	P2770114	18	40	45	90	50	42	M10x1.0	0.90	
	SK30AD/B-HC20-90	P2770115	20	42	45	90	50	42	M6x1.0	0.90	
	40	SK40AD/B-HC6-80.5	P2554017	6	26	49.5	80.5	30	27	M5x0.8	1.31
		SK40AD/B-HC6-110	P2554016	6	26	49.5	110	29.5	27	M5x0.8	1.76
SK40AD/B-HC8-80.5		P2554025	8	28	49.5	80.5	30	27	M6x1.0	1.34	
SK40AD/B-HC8-110		P2770117	8	28	49.5	110	30	27	M6x1.0	1.76	
SK40AD/B-HC10-80.5		P2554004	10	30	49.5	80.5	31	32	M8x1.0	1.34	
SK40AD/B-HC10-110		P2554009	10	30	49.5	110	31	32	M8x1.0	1.76	
SK40AD/B-HC12-80.5		P2554011	12	32	49.5	80.5	31.5	37	M10x1.0	1.34	
SK40AD/B-HC12-110		P2554010	12	32	49.5	110	31.5	37	M10x1.0	1.76	
SK40AD/B-HC16-80.5		P2554013	16	38	49.5	80.5	33	42	M12x1.0	1.34	
SK40AD/B-HC16-110		P2554012	16	38	49.5	110	33	42	M12x1.0	1.76	
SK40AD/B-HC20-80.5		P2554015	20	42	49.5	80.5	34	42	M16x1.0	1.35	
SK40AD/B-HC20-110		P2554014	20	42	49.5	110	34	42	M16x1.0	1.78	
SK40AD/B-HC25-80.5		P2770103	25	55	66	80.5	22	48	M16x1.0	1.75	
SK40AD/B-HC32-110		P2770126	32	63	80	80.5	25.5	55	M16x1.0	2.60	
50	SK50AD/B-HC6-80.5	P2770104	6	26	49.5	80.5	30	27	M5x0.8	3.00	
	SK50AD/B-HC8-80.5	P2770116	8	28	49.5	80.5	30	27	M6x1.0	3.00	
	SK50AD/B-HC10-80.5	P2770106	10	30	49.5	80.5	32	32	M8x1.0	3.00	
	SK50AD/B-HC12-80.5	P2770118	12	32	49.5	80.5	35	37	M10x1.0	3.05	
	SK50AD/B-HC16-80.5	P2770108	16	38	49.5	80.5	40	42	M12x1.0	3.10	
SK50AD/B-HC20-80.5	P2770119	20	42	49.5	80.5	40	42	M16x1.0	3.15		

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

HYDRAULIC CHUCK (ULTRA SHORT)

DIN 69871-SK

液压刀柄 (超短型)



Collet, Refer to page 43-46
变径套, 请参阅43-46页

Unit (单位) : mm

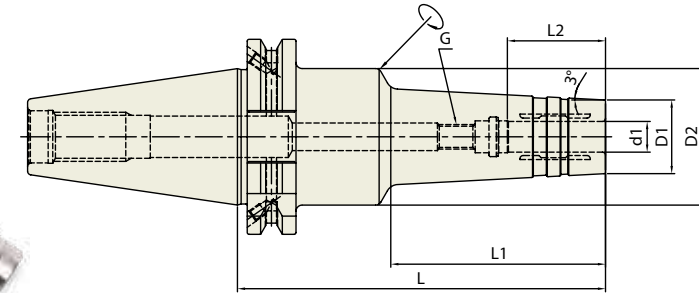
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	WEIGHT 重量(Kg)
40	SK40-HC20-24.6	P2770120	20	34	49.5	24.6	5.5	42	-	0.81
50	SK50-HC32-30.9	P2770121	32	44.5	70.5	30.9	11.85	55	-	2.63

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

HYDRAULIC CHUCK (For MOLD and DIE)

DIN 69871-SK

液压刀柄 (模具型)



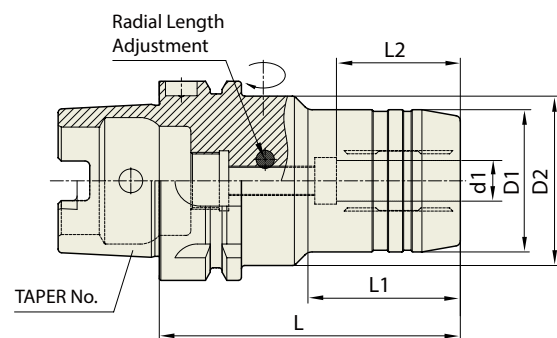
Collet, Refer to page 43-46
变径套, 请参阅43-46页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	WEIGHT 重量(Kg)
40	SK40AD/B-HMC6-120	P2770701	6	20	49.5	120	70	27	M5×0.8	1.40
	SK40AD/B-HMC6-150	P2770702	6	20	49.5	150	100	27	M5×0.8	1.65
	SK40AD/B-HMC8-120	P2770703	8	22	49.5	120	70	27	M6×1.0	1.40
	SK40AD/B-HMC8-150	P2770704	8	22	49.5	150	100	27	M6×1.0	1.65
	SK40AD/B-HMC10-120	P2770705	10	24	44.5	120	70	32	M8×1.0	1.40
	SK40AD/B-HMC10-150	P2770706	10	24	44.5	150	100	32	M8×1.0	1.65
	SK40AD/B-HMC12-120	P2770707	12	25	44.5	120	70	37	M10×1.0	1.40
	SK40AD/B-HMC12-150	P2770708	12	25	44.5	150	100	37	M10×1.0	1.65
	SK40AD/B-HMC16-120	P2770709	16	32	49.5	120	70	42	M12×1.0	1.45
	SK40AD/B-HMC16-150	P2770710	16	32	49.5	150	100	42	M12×1.0	1.70
50	SK40AD/B-HMC20-120	P2770711	20	34	49.5	120	70	42	M16×1.0	1.50
	SK40AD/B-HMC20-150	P2770712	20	34	49.5	150	100	42	M16×1.0	1.70
	SK50AD/B-HMC6-150	P2770713	6	20	44.5	150	100	27	M5×0.8	4.50
	SK50AD/B-HMC8-150	P2770714	8	22	44.5	150	100	27	M6×1.0	4.50
	SK50AD/B-HMC10-150	P2770715	10	24	44.5	150	100	32	M8×1.0	4.50
	SK50AD/B-HMC12-150	P2770716	12	25	44.5	150	100	37	M10×1.0	4.50
	SK50AD/B-HMC16-150	P2770717	16	32	44.5	150	100	42	M12×1.0	4.70
	SK50AD/B-HMC20-150	P2770718	20	34	44.5	150	100	42	M16×1.0	5.00

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

HYDRAULIC CHUCK (Radial Tool Length Pre-Setting Type) **DIN 69893/ ISO 12164-1-HSK FORM A**
液压刀柄 (长度调节型)

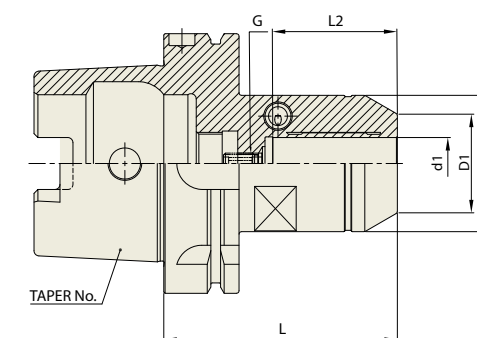
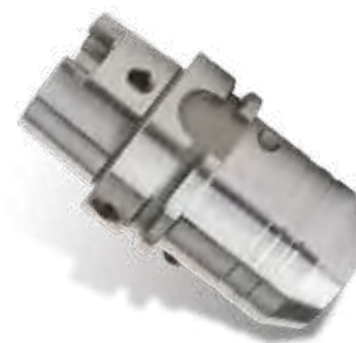


Collet, Refer to page 43-46
 变径套, 请参阅43-46页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	WEIGHT 重量(Kg)
40A	HSK40A-HCR6-80	P2770210	6	26	34	80	36	27	0.55
	HSK40A-HCR8-80	P2770211	8	28	34	80	36	27	0.55
	HSK40A-HCR10-85	P2770212	10	30	34	85	43	32	0.65
	HSK40A-HCR12-90	P2770213	12	32	34	90	48	37	0.70
50A	HSK50A-HCR6-80	P2770214	6	26	40	80	35	27	0.70
	HSK50A-HCR8-80	P2770215	8	28	40	80	36	27	0.70
	HSK50A-HCR10-85	P2770216	10	30	40	85	38	32	0.73
	HSK50A-HCR12-90	P2770217	12	32	40	90	40	37	0.80
	HSK50A-HCR14-90	P2770218	14	34	40	90	40	37	0.80
	HSK50A-HCR16-95	P2770219	16	38	53	95	36.5	42	1.00
	HSK50A-HCR18-95	P2770220	18	40	57	95	36.5	42	1.00
63A	HSK50A-HCR20-100	P2770221	20	42	60	100	39	42	1.10
	HSK63A-HCR6-80	P2770205	6	26	50	80	33	27	0.96
	HSK63A-HCR8-80	P2770206	8	28	50	80	33	27	0.98
	HSK63A-HCR10-85	P2770207	10	30	50	85	38	32	1.04
	HSK63A-HCR12-90	P2567011	12	32	50	90	40	37	1.06
	HSK63A-HCR14-90	P2770202	14	34	50	90	46	37	1.08
	HSK63A-HCR16-95	P2770209	16	38	50	95	51	42	1.18
	HSK63A-HCR18-95	P2770203	18	40	50	95	52	42	1.20
	HSK63A-HCR20-100	P2567012	20	42	50	100	51	42	1.22
	HSK63A-HCR25-120	P2770204	25	57	63	120	54.5	48	2.20
100A	HSK63A-HCR32-125	P2770201	32	64	75	125	57.5	55	2.60
	HSK100A-HCR6-85	P2770222	6	26	63	85	33	27	3.60
	HSK100A-HCR8-85	P2770223	8	28	63	85	33	27	3.60
	HSK100A-HCR10-90	P2770224	10	30	63	90	36	32	3.80
	HSK100A-HCR12-95	P2770225	12	32	63	95	40	37	3.80
	HSK100A-HCR14-95	P2770226	14	34	63	95	41	37	3.80
	HSK100A-HCR16-100	P2770227	16	38	63	100	46	42	3.90
	HSK100A-HCR18-100	P2770228	18	40	63	100	46	42	3.90
	HSK100A-HCR20-105	P2770229	20	42	75	105	51	42	4.20
	HSK100A-HCR25-115	P2770230	25	57	75	115	55.5	48	4.40
HSK100A-HCR32-120	P2770231	32	64	75	120	63.5	55	4.60	

HYDRAULIC CHUCK (POWER E HYDRO) **DIN 69893/ ISO 12164-1-HSK FORM A**
液压刀柄 (强力夹紧型)



Collet, Refer to page 43-46
 变径套, 请参阅43-46页

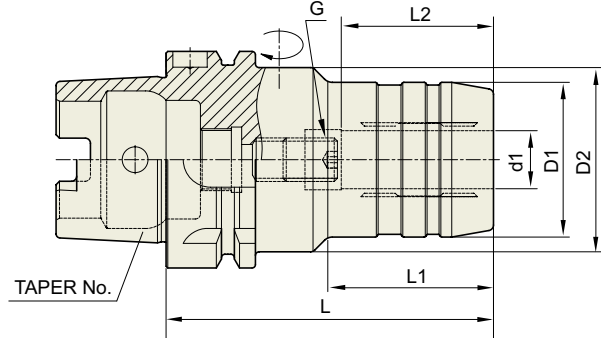
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	WEIGHT 重量(Kg)
63A	HSK63A-HC12P-80	P2770302P	12	32	42	80	41	M8x1.0	1.20
	HSK63A-HC20P-80	P2770301P	20	38	52.5	80	48	M8x1.0	1.30
100A	HSK100A-HC20P-90	P2770303P	20	38	52.5	90	48	M8x1.0	2.80
	HSK100A-HC32P-100	P2770304P	32	58.5	72	100	57	M8x1.0	3.70

HYDRAULIC CHUCK (SLIM)

DIN 69893/
ISO 12164-1-HSK FORM A

液压刀柄 (细长型)



Collet, Refer to page 43-46
变径套, 请参阅43-46页

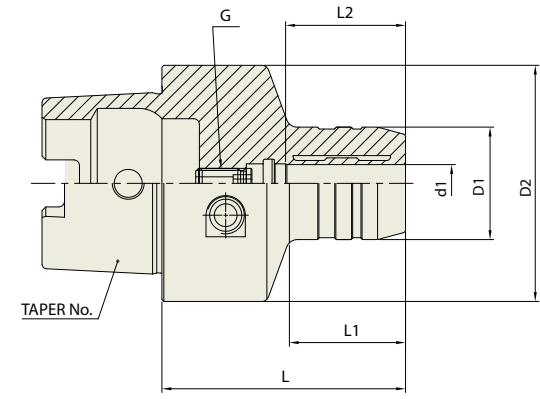
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	WEIGHT 重量(Kg)
32A	HSK32A-HC6-80	P2770413	6	26	40	80	29	27	M5x0.8	0.30
	HSK32A-HC8-80	P2770414	8	28	40	80	29	27	M6x1.0	0.30
	HSK32A-HC10-85	P2770415	10	30	40	85	35	32	M6x1.0	0.30
	HSK32A-HC12-90	P2770416	12	32	40	90	40	37	M6x1.0	0.30
40A	HSK40A-HC6-70	P2770401	6	26	34	70	36	27	M5x0.8	0.50
	HSK40A-HC8-70	P2770402	8	28	34	70	36	27	M6x1.0	0.50
	HSK40A-HC10-75	P2770403	10	30	34	75	42	32	M6x1.0	0.60
	HSK40A-HC12-80	P2770417	12	32	34	80	48	37	M6x1.0	0.65
50A	HSK50A-HC6-70	P2770404	6	26	40	70	28	27	M5x0.8	0.65
	HSK50A-HC8-70	P2770405	8	28	40	70	28	27	M6x1.0	0.65
	HSK50A-HC10-75	P2770406	10	30	40	75	34	32	M8x1.0	0.70
	HSK50A-HC12-85	P2770407	12	32	40	85	44	37	M10x1.0	0.75
	HSK50A-HC14-85	P2770408	14	34	40	85	43	37	M10x1.0	0.75
	HSK50A-HC16-90	P2770409	16	38	53	90	30	42	M12x1.0	0.90
63A	HSK63A-HC18-90	P2770418	18	40	57	90	30	42	M12x1.0	0.90
	HSK63A-HC20-90	P2770419	20	42	60	90	29	42	M16x1.0	1.00
	HSK63A-HC6-70	P2567001	6	26	50	70	24	27	M5x0.8	0.53
	HSK63A-HC8-70	P2567002	8	28	50	70	25	27	M6x1.0	0.55
80A	HSK63A-HC10-80	P2567003	10	30	50	80	35	32	M8x1.0	1.00
	HSK63A-HC12-85	P2567004	12	32	50	85	40	37	M10x1.0	1.03
	HSK63A-HC14-85	P2567005	14	34	50	85	40	37	M10x1.0	1.05
	HSK63A-HC16-90	P2567006	16	38	50	90	46	42	M12x1.0	1.15
	HSK63A-HC18-90	P2567007	18	40	50	90	47	42	M12x1.0	1.15
	HSK63A-HC20-90	P2567008	20	42	50	90	48	42	M16x1.0	1.20
	HSK63A-HC25-120	P2567009	25	57	63	120	59	48	M16x1.0	2.20
	HSK63A-HC32-125	P2567010	32	64	75	125	63	55	M16x1.0	2.40
100A	HSK80A-HC12-85	P2770462	12	32	50	85	40	37	M10x1.0	1.60
	HSK80A-HC20-95	P2770463	20	42	50	95	52	42	M16x1.0	1.80
	HSK80A-HC32-125	P2770464	32	64	75	125	63	55	M16x1.0	3.30
	HSK100A-HC6-75	P2770420	6	26	50	75	26	27	M5x0.8	3.20
100A	HSK100A-HC8-75	P2770421	8	28	50	75	26	27	M6x1.0	3.20
	HSK100A-HC10-90	P2770422	10	30	50	90	42	32	M8x1.0	3.40
	HSK100A-HC12-95	P2770410	12	32	50	95	47	37	M10x1.0	3.40
	HSK100A-HC14-95	P2770423	14	34	50	95	47	37	M10x1.0	3.40
	HSK100A-HC16-100	P2770411	16	38	50	100	53	42	M12x1.0	3.50
	HSK100A-HC18-100	P2770424	18	40	50	100	53	42	M12x1.0	3.60
	HSK100A-HC20-105	P2757010	20	42	50	105	59	42	M16x1.0	4.00
	HSK100A-HC25-110	P2770412	25	57	63	110	62	48	M16x1.0	4.20
HSK100A-HC32-110	P2757020	32	64	75	110	62	55	M16x1.0	4.30	

HYDRAULIC CHUCK (SLIM)

DIN 69893/
ISO 12164-1-HSK FORM C

液压刀柄 (细长型)



Collet, Refer to page 43-46
变径套, 请参阅43-46页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	WEIGHT 重量(Kg)
32C	HSK32C-HC6-65	P2770425	6	26	32	65	30	27	M5x0.8	0.30
	HSK32C-HC8-70	P2770426	8	28	32	70	34	27	M6x1.0	0.30
	HSK32C-HC10-75	P2770427	10	30	32	75	39	32	M6x1.0	0.30
	HSK32C-HC12-80	P2770428	12	32	32	80	-	37	M6x1.0	0.30
40C	HSK40C-HC6-60	P2770429	6	26	40	60	36	27	M5x0.8	0.55
	HSK40C-HC8-60	P2770430	8	28	40	60	36	27	M6x1.0	0.55
	HSK40C-HC10-65	P2770431	10	30	40	65	41	32	M6x1.0	0.65
	HSK40C-HC12-70	P2770432	12	32	40	70	47	37	M6x1.0	0.70
50C	HSK50C-HC6-60	P2770433	6	26	50	60	30	27	M5x0.8	0.65
	HSK50C-HC8-60	P2770434	8	28	50	60	30	27	M6x1.0	0.65
	HSK50C-HC10-65	P2770435	10	30	50	65	35	32	M8x1.0	0.70
	HSK50C-HC12-75	P2770436	12	32	50	75	44	37	M10x1.0	0.75
	HSK50C-HC14-75	P2770437	14	34	50	75	46	37	M10x1.0	0.75
	HSK50C-HC16-80	P2770438	16	38	50	80	51	42	M12x1.0	0.90
	HSK50C-HC18-80	P2770439	18	40	50	80	51	42	M12x1.0	0.90
	HSK50C-HC20-80	P2770440	20	42	50	80	48	42	M16x1.0	1.00
63C	HSK63C-HC6-60	P2770441	6	26	63	60	25	27	M5x0.8	0.96
	HSK63C-HC8-60	P2770442	8	28	63	60	25	27	M6x1.0	0.98
	HSK63C-HC10-65	P2770443	10	30	63	65	31	32	M8x1.0	1.04
	HSK63C-HC12-75	P2770444	12	32	63	75	41	37	M10x1.0	1.06
	HSK63C-HC14-75	P2770445	14	34	63	75	40	37	M10x1.0	1.08
	HSK63C-HC16-80	P2770446	16	38	63	80	48	42	M12x1.0	1.18
	HSK63C-HC18-80	P2770447	18	40	63	80	47	42	M12x1.0	1.20
	HSK63C-HC20-80	P2770448	20	42	63	80	49	42	M16x1.0	1.22
	HSK63C-HC25-95	P2770449	25	57	63	95	63	48	M16x1.0	2.20
	HSK63C-HC32-100	P2770450	32	63	63	100	-	55	M16x1.0	2.60

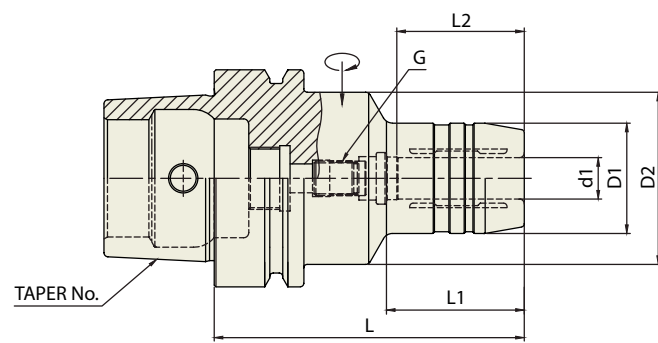
WIG HYDRAULIC CHUCK

HC

HYDRAULIC CHUCK (SLIM)

液压刀柄 (细长型)

DIN 69893/
ISO 12164-1-HSK FORM E & F



Collet, Refer to page 43-46
变径套, 请参阅43-46页

Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	WEIGHT 重量(Kg)
40E	HSK40E-HC6-70	P2770451	6	26	34	70	36	27	M5x0.8	0.55
	HSK40E-HC8-70	P2770452	8	28	34	70	36	27	M6x1.0	0.55
	HSK40E-HC10-75	P2770453	10	30	34	75	42	32	M6x1.0	0.65
	HSK40E-HC12-80	P2770454	12	32	34	80	48	37	M6x1.0	0.70
50E	HSK50E-HC6-70	P2770455	6	26	40	70	28	27	M5x0.8	0.65
	HSK50E-HC8-70	P2770456	8	28	40	70	28	27	M6x1.0	0.65
	HSK50E-HC10-75	P2770457	10	30	40	75	34	32	M8x1.0	0.70
	HSK50E-HC12-85	P2770458	12	32	40	85	44	37	M10x1.0	0.75
	HSK50E-HC16-90	P2770459	16	38	53	90	30	42	M12x1.0	0.90
63F	HSK50E-HC20-90	P2770460	20	42	60	90	29	42	M16x1.0	1.00
	HSK63F-HC20-85	P2770461	20	42	50	85	46	42	M12x1.0	1.20

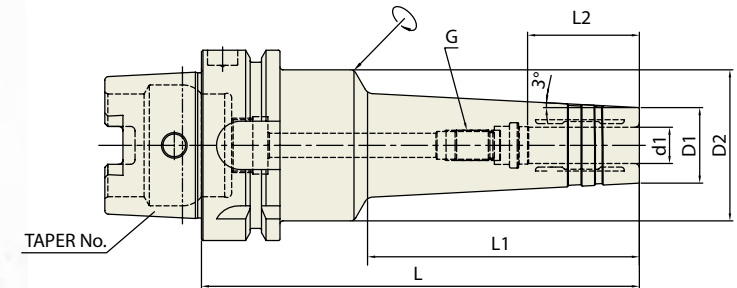
WIG HYDRAULIC CHUCK

HMC

HYDRAULIC CHUCK (For MOLD and DIE)

液压刀柄 (模具型)

DIN 69893/
ISO 12164-1-HSK FORM A



Collet, Refer to page 43-46
变径套, 请参阅43-46页

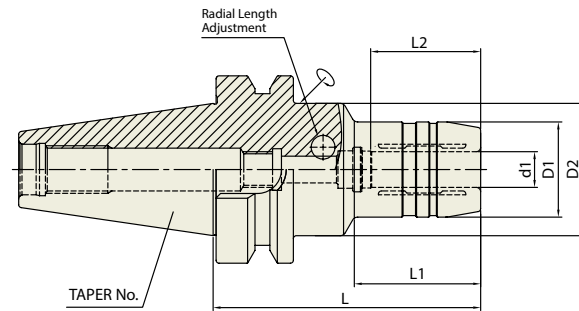
Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	WEIGHT 重量(Kg)
63A	HSK63A-HMC6-145	P2770801	6	20	50	145	90	27	M5x0.8	1.40
	HSK63A-HMC8-145	P2770802	8	22	50	145	90	27	M6x1.0	1.40
	HSK63A-HMC10-145	P2770803	10	24	50	145	90	32	M8x1.0	1.40
	HSK63A-HMC12-145	P2770804	12	25	50	145	90	37	M10x1.0	1.40
	HSK63A-HMC16-145	P2770805	16	32	50	145	90	42	M12x1.0	1.45
	HSK63A-HMC20-145	P2770806	20	34	50	145	90	42	M16x1.0	1.50
100A	HSK100A-HMC6-150	P2770812	6	20	50	150	90	27	M5x0.8	4.50
	HSK100A-HMC8-150	P2770807	8	22	50	150	90	27	M6x1.0	4.50
	HSK100A-HMC10-150	P2770808	10	24	50	150	90	32	M8x1.0	4.50
	HSK100A-HMC12-150	P2770809	12	25	50	150	90	37	M10x1.0	4.50
	HSK100A-HMC16-150	P2770810	16	32	50	150	90	42	M12x1.0	4.70
	HSK100A-HMC20-150	P2770811	20	34	50	150	90	42	M16x1.0	5.00

HYDRAULIC CHUCK (Radial Tool Length Pre-Setting Type)

CBT (BT DUAL CONTACT)

液压刀柄 (长度调节型)



Collet, Refer to page 43-46
变径套, 请参阅43-46页

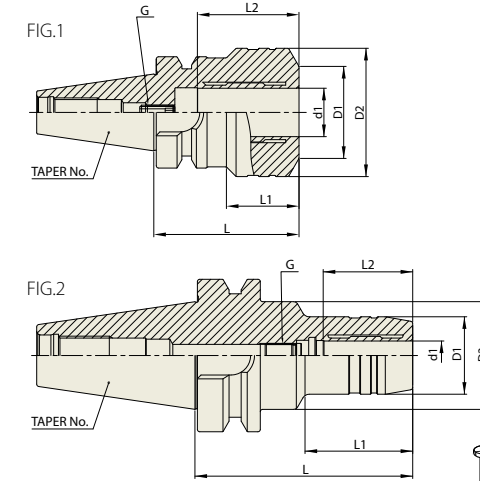
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	WEIGHT 重量(Kg)
30	CBT30-HCR12-85	P2770551	12	32	44.5	85	40	37	0.90
	CBT30-HCR20-85	P2770552	20	44	44	85	-	42	1.00
40	CBT40-HCR12-90	P2770553	12	32	44.5	90	42.5	37	1.50
	CBT40-HCR20-90	P2770554	20	42	44.5	90	47.5	42	1.60
	CBT40-HCR32-105	P2770555	32	60	60	105	-	55	2.20
50	CBT50-HCR12-95	P2770556	12	32	44.5	95	34	37	3.90
	CBT50-HCR20-100	P2770557	20	42	44.5	100	44	42	4.00
	CBT50-HCR32-115	P2770558	32	60	60	115	-	55	4.10

HYDRAULIC CHUCK (SLIM)

CBT (BT DUAL CONTACT)

液压刀柄 (细长型)



Collet, Refer to page 43-46
变径套, 请参阅43-46页

Unit (单位) : mm

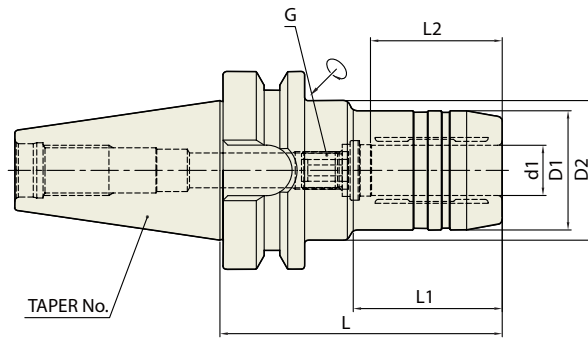
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	FIG.	WEIGHT 重量(Kg)
30	CBT30-HC6-45	P2770559	6	46	46	45	-	27	M5x0.8	1	1.50
	CBT30-HC8-45	P2770560	8	46	46	45	-	27	M6x1.0	1	1.50
	CBT30-HC10-45	P2770561	10	46	46	45	-	32	M8x1.0	1	1.50
	CBT30-HC12-45	P2770562	12	46	46	45	-	37	M10x1.0	1	1.50
	CBT30-HC16-45	P2770563	16	46	46	45	-	42	M10x1.0	1	1.50
	CBT30-HC20-60	P2770564	20	53	53	60	-	42	M10x1.0	1	2.10
	CBT30-HC6-70	P2770503	6	26	44.5	70	29.5	27	M5x0.8	2	0.65
	CBT30-HC8-70	P2770504	8	28	44.5	70	30	27	M6x1.0	2	0.65
	CBT30-HC10-75	P2770505	10	30	44.5	75	31	32	M8x1.0	2	0.73
	CBT30-HC12-85	P2770506	12	32	45	85	45	37	M10x1.0	2	0.80
	CBT30-HC14-85	P2770507	14	34	45	85	45	37	M10x1.0	2	0.80
	CBT30-HC16-90	P2770508	16	38	45	90	50	42	M10x1.0	2	0.90
	CBT30-HC18-90	P2770509	18	40	45	90	50	42	M10x1.0	2	0.90
	CBT30-HC20-90	P2770510	20	42	45	90	50	42	M6x1.0	2	0.90
40	CBT40-HC6-90	P2770511	6	26	44.5	90	43	27	M5x0.8	2	1.30
	CBT40-HC8-90	P2770512	8	28	44.5	90	44.5	27	M6x1.0	2	1.30
	CBT40-HC10-90	P2770513	10	30	44.5	90	44.5	32	M8x1.0	2	1.35
	CBT40-HC12-90	P2770501	12	32	44.5	90	44.5	37	M10x1.0	2	1.35
	CBT40-HC14-90	P2770514	14	34	44.5	90	44.5	37	M10x1.0	2	1.35
	CBT40-HC16-90	P2770515	16	38	44.5	90	47.5	42	M12x1.0	2	1.40
	CBT40-HC18-90	P2770516	18	40	44.5	90	47.5	42	M12x1.0	2	1.45
	CBT40-HC20-90	P2770502	20	42	44.5	90	47.5	42	M16x1.0	2	1.50
	CBT40-HC25-100	P2770517	25	50	60	100	47.5	48	M16x1.0	2	1.70
	CBT40-HC32-105	P2770518	32	60	60	105	-	55	M16x1.0	2	2.10

▶ NEXT PAGE

HYDRAULIC CHUCK (SLIM)

液压刀柄 (细长型)

CBT (BT DUAL CONTACT)



Collet, Refer to page 43-46
变径套, 请参阅43-46页

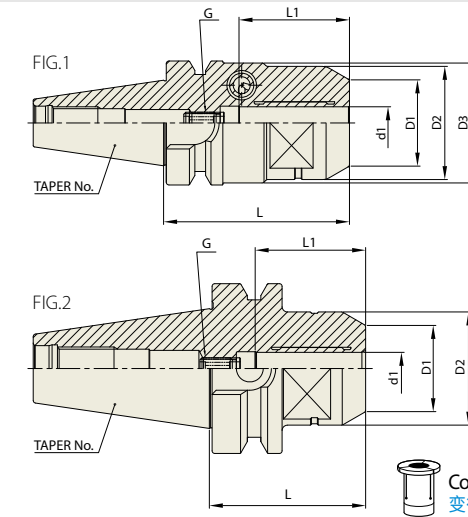
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	WEIGHT 重量(Kg)
50	CBT50-HC6-90	P2770519	6	26	44.5	90	34	27	M5×0.8	3.75
	CBT50-HC6-120	P2770520	6	26	44.5	120	34	27	M5×0.8	4.10
	CBT50-HC6-150	P2770521	6	26	44.5	150	34	27	M5×0.8	4.70
	CBT50-HC8-90	P2770522	8	28	44.5	90	34	27	M6×1.0	3.75
	CBT50-HC8-120	P2770523	8	28	44.5	120	34	27	M6×1.0	4.10
	CBT50-HC8-150	P2770524	8	28	44.5	150	34	27	M6×1.0	4.10
	CBT50-HC10-90	P2770525	10	30	44.5	90	34	32	M8×1.0	3.90
	CBT50-HC10-120	P2770526	10	30	44.5	120	34	32	M8×1.0	4.30
	CBT50-HC10-150	P2770527	10	30	44.5	150	34	32	M8×1.0	4.90
	CBT50-HC12-90	P2770528	12	32	44.5	90	34	37	M10×1.0	3.90
	CBT50-HC12-120	P2770529	12	32	44.5	120	34	37	M10×1.0	4.30
	CBT50-HC12-150	P2770530	12	32	44.5	150	34	37	M10×1.0	4.90
	CBT50-HC14-90	P2770531	14	34	44.5	90	34	37	M10×1.0	3.90
	CBT50-HC14-120	P2770532	14	34	44.5	120	34	37	M10×1.0	4.30
	CBT50-HC14-150	P2770533	14	34	44.5	150	34	37	M10×1.0	4.90
	CBT50-HC16-90	P2770534	16	38	44.5	90	34	42	M12×1.0	4.00
	CBT50-HC16-120	P2770535	16	38	44.5	120	34	42	M12×1.0	4.40
	CBT50-HC16-150	P2770536	16	38	44.5	150	34	42	M12×1.0	5.00
	CBT50-HC18-90	P2770537	18	40	44.5	90	34	42	M12×1.0	4.00
	CBT50-HC18-120	P2770538	18	40	44.5	120	34	42	M12×1.0	4.40
CBT50-HC18-150	P2770539	18	40	44.5	150	34	42	M12×1.0	5.00	
CBT50-HC20-90	P2770540	20	42	44.5	90	34	42	M16×1.0	4.00	
CBT50-HC20-120	P2770541	20	42	44.5	120	34	42	M16×1.0	4.40	
CBT50-HC20-150	P2770542	20	42	44.5	150	34	42	M16×1.0	5.00	
CBT50-HC25-105	P2770543	25	57	63	105	52	48	M16×1.0	4.40	
CBT50-HC25-150	P2770544	25	57	63	150	97	48	M16×1.0	5.60	
CBT50-HC32-115	P2770545	32	64	75	115	62	55	M16×1.0	4.70	
CBT50-HC32-150	P2770546	32	64	75	150	97	55	M16×1.0	6.00	

HYDRAULIC CHUCK (Power E Hydro)

液压刀柄 (Power E Hydro)

CBT (BT DUAL CONTACT)



Collet, Refer to page 43-46
变径套, 请参阅43-46页

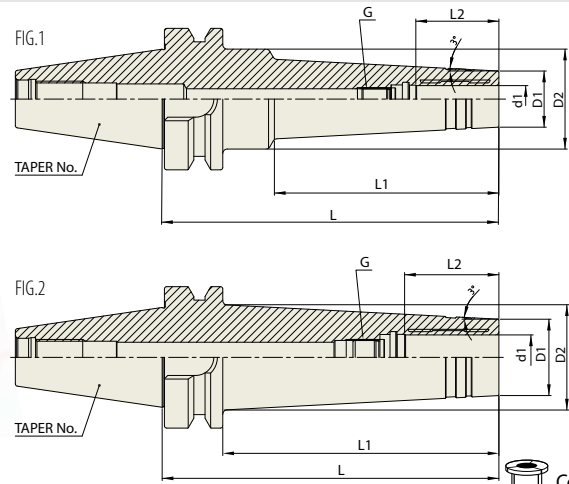
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	D3	L	L2	G	FIG.	WEIGHT 重量(Kg)
30	CBT30-HC12P-69	P2776606P	12	32	42	44.5	69	41	M8×1.0	1	0.80
	CBT30-HC20P-90	P2776607P	20	38	42	44.5	90	48	M8×1.0	1	0.90
40	CBT40-HC12P-58	P2776608P	12	32	42	-	58	41	M8×1.0	2	1.10
	CBT40-HC20P-72.5	P2776609P	20	38	49.25	-	72.5	48	M8×1.0	2	1.40

HYDRAULIC CHUCK (For MOLD and DIE)

液压刀柄 (模具型)

CBT (BT DUAL CONTACT)



Collet, Refer to page 43-46
变径套, 请参阅43-46页

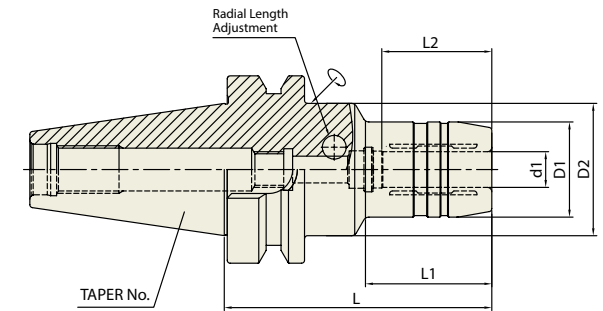
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	FIG.	WEIGHT 重量(Kg)
40	CBT40-HMC6-120	P2770921	6	20	44.5	120	70	27	M5×0.8	1	1.40
	CBT40-HMC6-150	P2770922	6	20	44.5	150	100	27	M5×0.8	1	1.65
	CBT40-HMC8-120	P2770923	8	22	44.5	120	70	27	M6×1.0	1	1.40
	CBT40-HMC8-150	P2770924	8	22	44.5	150	100	27	M6×1.0	1	1.65
	CBT40-HMC10-120	P2770925	10	24	44.5	120	70	32	M8×1.0	1	1.40
	CBT40-HMC10-150	P2770926	10	24	44.5	150	100	32	M8×1.0	1	1.65
	CBT40-HMC12-120	P2770927	12	25	44.5	120	70	37	M10×1.0	1	1.40
	CBT40-HMC12-150	P2770928	12	25	44.5	150	100	37	M10×1.0	1	1.65
	CBT40-HMC16-120	P2770929	16	32	44.5	120	70	42	M12×1.0	1	1.45
	CBT40-HMC16-150	P2770930	16	32	44.5	150	100	42	M12×1.0	1	1.70
	CBT40-HMC20-120	P2770931	20	34	43.8	120	93	42	M16×1.0	2	1.50
	CBT40-HMC20-150	P2770932	20	34	46.9	150	123	42	M16×1.0	2	1.80
50	CBT50-HMC6-150	P2770933	6	20	50	150	90	27	M5×0.8	1	4.70
	CBT50-HMC8-150	P2770934	8	22	50	150	90	27	M6×1.0	1	4.70
	CBT50-HMC10-150	P2770935	10	24	50	150	90	32	M8×1.0	1	4.70
	CBT50-HMC12-150	P2770936	12	25	50	150	90	37	M10×1.0	1	4.70
	CBT50-HMC16-150	P2770937	16	32	50	150	90	42	M12×1.0	1	4.90
	CBT50-HMC20-150	P2770938	20	34	50	150	90	42	M16×1.0	1	5.00

HYDRAULIC CHUCK (Radial Tool Length Pre-Setting Type)

液压刀柄 (长度调节型)

JIS B6339/ MAS 403-BT



Collet, Refer to page 43-46
变径套, 请参阅43-46页

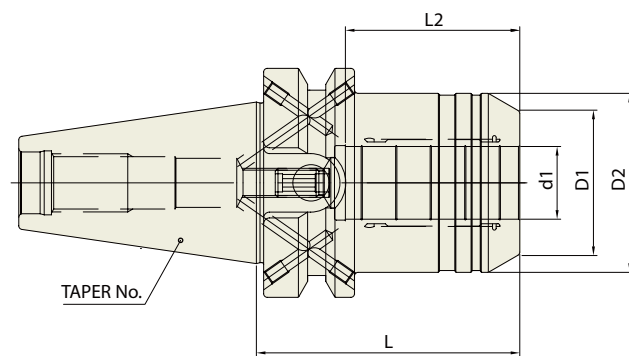
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	WEIGHT 重量(Kg)
30	BT30AD/B-HCR12-85	P2777102	12	32	44.5	85	40	37	0.90
	BT30AD/B-HCR20-85	P2777103	20	44	44	85	-	42	1.00
40	BT40AD/B-HCR12-90	P2777104	12	32	44.5	90	42.5	37	1.50
	BT40AD/B-HCR20-90	P2554008	20	42	44.5	90	47.5	42	1.60
50	BT40AD/B-HCR32-105	P2777105	32	60	60	105	-	55	2.20
	BT50AD/B-HCR12-95	P2777106A	12	32	44.5	95	34	37	3.90
	BT50AD/B-HCR20-100	P2777101	20	42	44.5	100	44	42	4.00
	BT50AD/B-HCR32-115	P2777107	32	60	60	115	-	55	4.10

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

HYDRAULIC CHUCK (Power E Hydro)
液压刀柄 (Power E Hydro)

JIS B6339/
MAS 403-BT



Collet, Refer to page 43-46
变径套, 请参阅43-46页

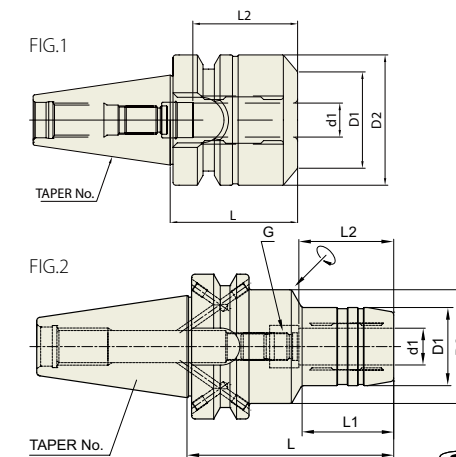
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	WEIGHT 重量(Kg)
30	BT30AD/B-HC12P-69	P2776610P	12	32	42	69	41	M8x1.0	0.80
	BT30AD/B-HC20P-90	P2776611P	20	38	42	90	48	M8x1.0	0.90
40	BT40AD/B-HC12P-58	P2776601P	12	32	42	58	41	M8x1.0	1.10
	BT40AD/B-HC20P-72.5	P2554001P	20	38	49.25	72.5	48	M8x1.0	1.40
50	BT50AD/B-HC20P-83.5	P2755010P	20	38	49.25	83.5	48	M8x1.0	3.90
	BT50AD/B-HC32P-90	P2558001P	32	58.5	72	90	57	M8x1.0	4.60

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

HYDRAULIC CHUCK (SLIM)
液压刀柄 (细长型)

JIS B6339/
MAS 403-BT



Collet, Refer to page 43-46
变径套, 请参阅43-46页

Unit (单位) : mm

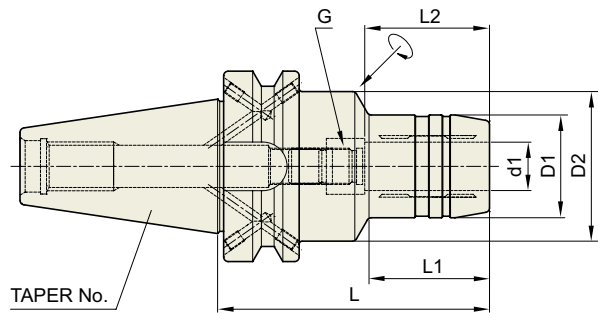
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	FIG.	WEIGHT 重量(Kg)	
30	BT30-HC6-45	P2770643A	6	46	46	45	-	27	M5x0.8	1	1.50	
	BT30-HC8-45	P2770644A	8	46	46	45	-	27	M6x1.0	1	1.50	
	BT30-HC10-45	P2770645A	10	46	46	45	-	32	M8x1.0	1	1.50	
	BT30-HC12-45	P2770646A	12	46	46	45	-	37	M10x1.0	1	1.50	
	BT30-HC16-45	P2770647A	16	46	46	45	-	42	M10x1.0	1	1.50	
	BT30-HC20-60	P2770648A	20	53	53	60	-	42	M10x1.0	1	2.10	
	BT30-HC6-70	P2770604A	6	26	44.5	70	29.5	27	M5x0.8	2	0.65	
	BT30-HC8-70	P2770605A	8	28	44.5	70	30	27	M6x1.0	2	0.65	
	BT30-HC10-75	P2770606A	10	30	44.5	75	31	32	M8x1.0	2	0.73	
	BT30-HC12-85	P2770607A	12	32	45	85	45	37	M10x1.0	2	0.80	
	BT30-HC14-85	P2770608A	14	34	45	85	45	37	M10x1.0	2	0.80	
	BT30-HC16-90	P2770601A	16	38	45	90	50	42	M10x1.0	2	0.90	
	BT30-HC18-90	P2770609A	18	40	45	90	50	42	M10x1.0	2	0.90	
	BT30-HC20-90	P2770602A	20	42	45	90	50	42	M6x1.0	2	0.90	
	40	BT40AD/B-HC6-90	P2554003	6	26	44.5	90	43	27	M5x0.8	2	1.30
		BT40AD/B-HC8-90	P2554021	8	28	44.5	90	44.5	27	M6x1.0	2	1.30
BT40AD/B-HC10-90		P2554005	10	30	44.5	90	44.5	32	M8x1.0	2	1.35	
BT40AD/B-HC12-90		P2554002	12	32	44.5	90	44.5	37	M10x1.0	2	1.35	
BT40AD/B-HC14-90		P2770610	14	34	44.5	90	44.5	37	M10x1.0	2	1.35	
BT40AD/B-HC16-90		P2554006	16	38	44.5	90	47.5	42	M12x1.0	2	1.40	
BT40AD/B-HC18-90		P2770611	18	40	44.5	90	47.5	42	M12x1.0	2	1.45	
BT40AD/B-HC20-90		P2554007	20	42	44.5	90	47.5	42	M16x1.0	2	1.50	
BT40AD/B-HC25-100		P2770641	25	50	60	100	47.5	48	M16x1.0	2	1.70	
BT40AD/B-HC32-105		P2770612	32	60	-	105	-	55	M16x1.0	2	2.10	

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

HYDRAULIC CHUCK (SLIM)

液压刀柄 (细长型)

JIS B6339/
MAS 403-BT



Collet, Refer to page 43-46
变径套, 请参阅43-46页

Unit (单位) : mm

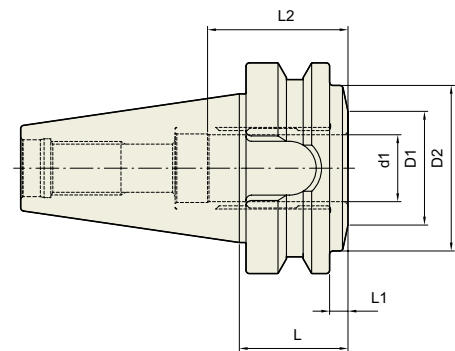
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	WEIGHT 重量(Kg)
50	BT50AD/B-HC6-90	P2770613	6	26	44.5	90	34	27	M5×0.8	3.75
	BT50AD/B-HC6-120	P2770614	6	26	44.5	120	34	27	M5×0.8	4.10
	BT50AD/B-HC6-150	P2770615	6	26	44.5	150	34	27	M5×0.8	4.70
	BT50AD/B-HC8-90	P2770616	8	28	44.5	90	34	27	M6×1.0	3.75
	BT50AD/B-HC8-120	P2770617	8	28	44.5	120	34	27	M6×1.0	4.10
	BT50AD/B-HC8-150	P2770618	8	28	44.5	150	34	27	M6×1.0	4.10
	BT50AD/B-HC10-90	P2770619	10	30	44.5	90	34	32	M8×1.0	3.90
	BT50AD/B-HC10-120	P2770620	10	30	44.5	120	34	32	M8×1.0	4.30
	BT50AD/B-HC10-150	P2770621	10	30	44.5	150	34	32	M8×1.0	4.90
	BT50AD/B-HC12-90	P2770622	12	32	44.5	90	34	37	M10×1.0	3.90
	BT50AD/B-HC12-120	P2770623	12	32	44.5	120	34	37	M10×1.0	4.30
	BT50AD/B-HC12-150	P2770624	12	32	44.5	150	34	37	M10×1.0	4.90
	BT50AD/B-HC14-90	P2770625	14	34	44.5	90	34	37	M10×1.0	3.90
	BT50AD/B-HC14-120	P2770626	14	34	44.5	120	34	37	M10×1.0	4.30
	BT50AD/B-HC14-150	P2770627	14	34	44.5	150	34	37	M10×1.0	4.90
	BT50AD/B-HC16-90	P2770628	16	38	44.5	90	34	42	M12×1.0	4.00
	BT50AD/B-HC16-120	P2770629	16	38	44.5	120	34	42	M12×1.0	4.40
	BT50AD/B-HC16-150	P2770630	16	38	44.5	150	34	42	M12×1.0	5.00
	BT50AD/B-HC18-90	P2770631	18	40	44.5	90	34	42	M12×1.0	4.00
	BT50AD/B-HC18-120	P2770632	18	40	44.5	120	34	42	M12×1.0	4.40
BT50AD/B-HC18-150	P2770633	18	40	44.5	150	34	42	M12×1.0	5.00	
BT50AD/B-HC20-90	P2770634	20	42	44.5	90	34	42	M16×1.0	4.00	
BT50AD/B-HC20-120	P2770635	20	42	44.5	120	34	42	M16×1.0	4.40	
BT50AD/B-HC20-150	P2770636	20	42	44.5	150	34	42	M16×1.0	5.00	
BT50AD/B-HC25-105	P2770637	25	57	63	105	52	48	M16×1.0	4.40	
BT50AD/B-HC25-150	P2770638	25	57	63	150	97	48	M16×1.0	5.60	
BT50AD/B-HC32-115	P2770639	32	64	75	115	62	55	M16×1.0	4.70	
BT50AD/B-HC32-150	P2770640	32	64	75	150	97	55	M16×1.0	6.00	

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

HYDRAULIC CHUCK (ULTRA SHORT)

液压刀柄 (超短型)

JIS B6339/
MAS 403-BT



Collet, Refer to page 43-46
变径套, 请参阅43-46页

Unit (单位) : mm

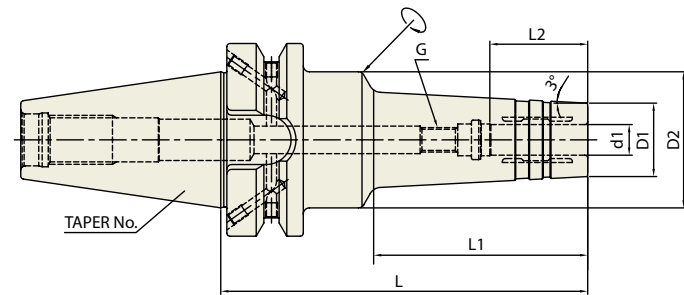
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	WEIGHT 重量(Kg)
40	BT40-HC20-32.5	P2770642	20	34	49.5	32.5	5.5	42	-	0.99
50	BT50-HC32-50	P2770650	32	49	70.5	50	12	55	-	3.73

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

HYDRAULIC CHUCK (For MOLD and DIE)

液压刀柄 (模具型)

JIS B6339/
MAS 403-BT



Collet, Refer to page 43-46
变径套, 请参阅43-46页

Unit (单位) : mm

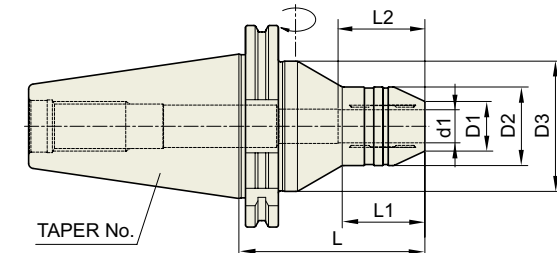
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	WEIGHT 重量(Kg)
40	BT40AD/B-HMC6-120	P2770903	6	20	44.5	120	70	27	M5×0.8	1.40
	BT40AD/B-HMC6-150	P2770904	6	20	44.5	150	100	27	M5×0.8	1.65
	BT40AD/B-HMC8-120	P2770905	8	22	44.5	120	70	27	M6×1.0	1.40
	BT40AD/B-HMC8-150	P2770906	8	22	44.5	150	100	27	M6×1.0	1.65
	BT40AD/B-HMC10-120	P2770907	10	24	44.5	120	70	32	M8×1.0	1.40
	BT40AD/B-HMC10-150	P2770908	10	24	44.5	150	100	32	M8×1.0	1.65
	BT40AD/B-HMC12-120	P2770901	12	25	44.5	120	70	37	M10×1.0	1.40
	BT40AD/B-HMC12-150	P2770909	12	25	44.5	150	100	37	M10×1.0	1.65
	BT40AD/B-HMC16-120	P2770910	16	32	44.5	120	70	42	M12×1.0	1.45
	BT40AD/B-HMC16-150	P2770911	16	32	44.5	150	100	42	M12×1.0	1.70
	BT40AD/B-HMC20-120	P2770902	20	34	43.8	120	93	42	M16×1.0	1.50
	BT40AD/B-HMC20-150	P2770912	20	34	46.9	150	123	42	M16×1.0	1.80
50	BT50AD/B-HMC6-150	P2770913	6	20	50	150	90	27	M5×0.8	4.70
	BT50AD/B-HMC8-150	P2770914	8	22	50	150	90	27	M6×1.0	4.70
	BT50AD/B-HMC10-150	P2770915	10	24	50	150	90	32	M8×1.0	4.70
	BT50AD/B-HMC12-150	P2770916	12	25	50	150	90	37	M10×1.0	4.70
	BT50AD/B-HMC16-150	P2770917	16	32	50	150	90	42	M12×1.0	4.90
	BT50AD/B-HMC20-150	P2770918	20	34	50	150	90	42	M16×1.0	5.00

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

HYDRAULIC CHUCK (For GRINDER)

液压刀柄 (研磨机专用)

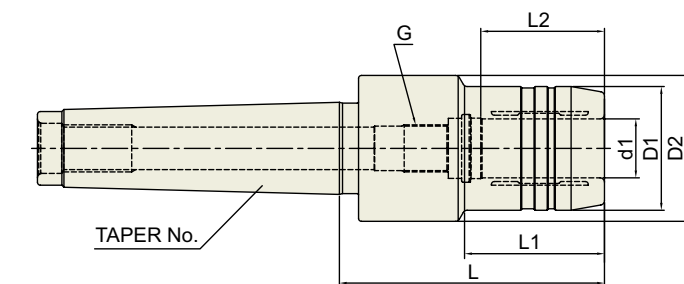
DIN 69871-SK



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	D3	L	L1	L2	WEIGHT 重量(Kg)
50	SK50-HC6G-90	P2770951	6	14	30	63	90	30	27	3.00
	SK50-HC8G-90	P2770952	8	16	30	63	90	30	27	3.00
	SK50-HC10G-90	P2770953	10	18	30	63	90	30	32	3.00
	SK50-HC12G-90	P2770954	12	21	33	63	90	35	37	3.05
	SK50-HC14G-90	P2770955	14	22	35	63	90	35	37	3.10
	SK50-HC16G-90	P2770956	16	24	38	63	90	40	42	3.10
	SK50-HC18G-90	P2770957	18	26	40	63	90	40	42	3.10
	SK50-HC20G-110	P2770958	20	29	42	63	110	40	42	3.30
	SK50-HC25G-110	P2770959	25	34	50	70	110	45	48	3.60
	SK50-HC32G-110	P2770960	32	42	56	80	110	50	55	4.20

DIN 228-MTB



Unit (单位) : mm

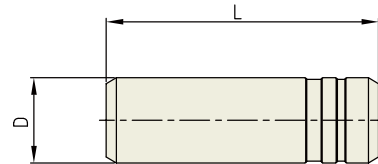
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	G	WEIGHT 重量(Kg)
4	MTB4-HC20-90	P2770961	20	42	49.5	90	47.5	42	M16×1.0	1.30
	MTB4-HC32-90	P2770962	32	72	72	90	-	55	-	1.40
5	MTB5-HC20-90	P2770963	20	42	49.5	90	47.5	42	M16×1.0	2.20
	MTB5-HC32-90	P2770964	32	72	72	90	-	55	-	2.40

HYDRAULIC CHUCK SET
液压刀柄套装



MODEL No. 型号	HYDRAULIC CHUCK 液压刀柄	EDP No.	REDUCTION SLEEVE	WRENCH 扳手
HCSS40-20	SK40AD/B-HC20P-64.5	P2770971	HK20-6.8.10.12.16 (5pcs)	φ5mm
HCSB40-20	BT40AD/B-HC20P-72.5	P2770972	HK20-6.8.10.12.16 (5pcs)	φ5mm
HCSH40-20	HSK63A-HC20P-80	P2770973	HK20-6.8.10.12.16 (5pcs)	φ5mm

TEST PIECE
测试棒



TECHNICAL DATA

Unit : mm

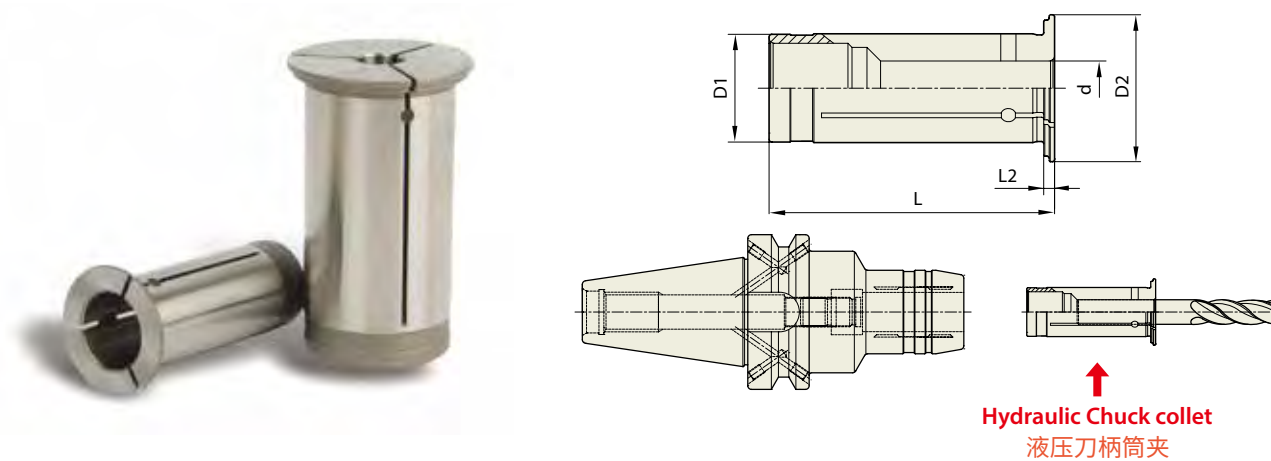
DESCRIPTIONS	EDP No.	D	L
TP6	P2801201	6	70
TP8	P2801202	8	70
TP10	P2801203	10	80
TP12	P2801204	12	80
TP14	P2801205	14	80
TP16	P2801206	16	90
TP18	P2801207	18	90
TP20	P2801208	20	100
TP25	P2801209	25	100
TP32	P2801210	32	100

POWER E HYDRO

Unit : mm

DESCRIPTIONS	EDP No.	D	L
TP12P	P2801211	12	80
TP20P	P2801212	20	100
TP32P	P2801213	32	100

HYDRAULIC CHUCK COLLET (Reduction Sleeve : Open Type)
液压变径套 (开放型)



Unit (单位) : mm

MODEL No. 型号	EDP No.	d	D1	D2	L	L2	
HK12	3	P2569022	3	12	19	47	2
	4	P2569023	4	12	19	47	2
	5	P2569024	5	12	19	47	2
	6	P2569025	6	12	19	47	2
	7	P2771001	7	12	19	47	2
	8	P2569026	8	12	19	47	2
HK20	3	P2569001	3	20	27	52.5	2
	4	P2569002	4	20	27	52.5	2
	5	P2569003	5	20	27	52.5	2
	6	P2569004	6	20	27	52.5	2
	7	P2771002	7	20	27	52.5	2
	8	P2569005	8	20	27	52.5	2
	9	P2771003	9	20	27	52.5	2
	10	P2569006	10	20	27	52.5	2
	11	P2771004	11	20	27	52.5	2
	12	P2569007	12	20	27	52.5	2
HK32	6	P2569010	6	32	39	63.5	3
	8	P2569011	8	32	39	63.5	3
	10	P2569012	10	32	39	63.5	3
	12	P2569013	12	32	39	63.5	3
	14	P2569014	14	32	39	63.5	3
	16	P2569015	16	32	39	63.5	3
	18	P2569016	18	32	39	63.5	3
	20	P2569017	20	32	39	63.5	3
	25	P2569018	25	32	39	63.5	3

► Inch type products are available.
英制产品可供选

► Other special sizes of Hydraulic Chuck collets could be produced and supplied.
可生产及供应非标准尺寸的液压刀柄

**Feature
特征**

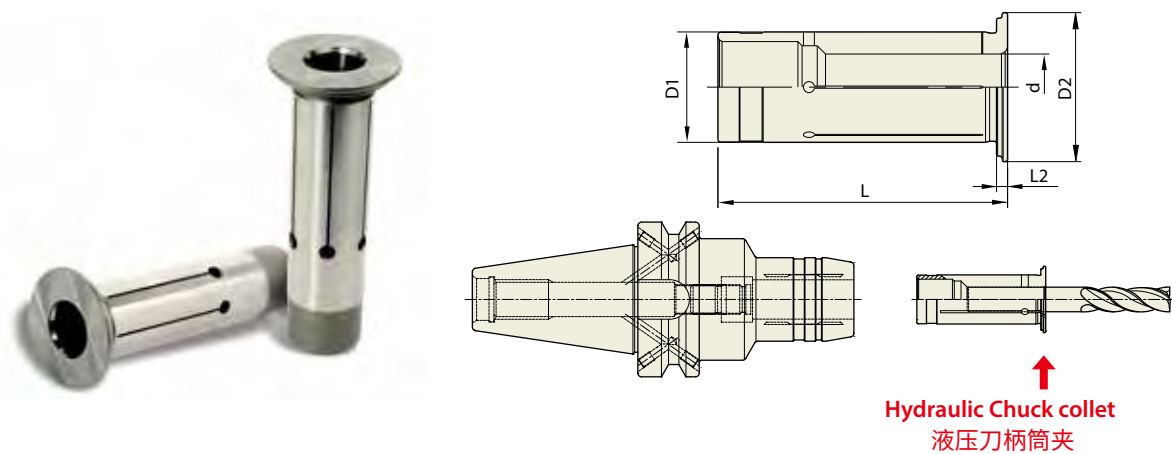
HK Hydraulic Chuck collet (reduction sleeve) is cut into trisection by high precision cutting to guarantee precise I.D and strong clamping power.
HK液压刀柄变径套(变径套)采用高精度线切割加工保证精度及强劲的夹紧力

**Chucking Method
夹持方法**

Please assemble cutting tool with collet firstly, and then insert collet into Hydraulic Chuck.
装夹刀具时, 请先用夹头装配刀具, 然后将夹头插入液压刀柄中

HYDRAULIC CHUCK COLLET (Reduction Sleeve : Closed Type)

液压变径套 (封闭型)



Unit (单位) : mm

MODEL No. 型号	EDP No.	d	D1	D2	L	L2		
HS12	3	P2771101	3	12	19	47	2	
	4	P2771102	4	12	19	47	2	
	5	P2771103	5	12	19	47	2	
	6	P2771104	6	12	19	47	2	
	7	P2771105	7	12	19	47	2	
	8	P2771106	8	12	19	47	2	
	HS20	3	P2771107	3	20	27	52.5	2
		4	P2771108	4	20	27	52.5	2
5		P2771109	5	20	27	52.5	2	
6		P2771110	6	20	27	52.5	2	
7		P2771111	7	20	27	52.5	2	
8		P2771112	8	20	27	52.5	2	
9		P2771113	9	20	27	52.5	2	
10		P2771114	10	20	27	52.5	2	
11		P2771115	11	20	27	52.5	2	
12		P2771116	12	20	27	52.5	2	
13		P2771117	13	20	27	52.5	2	
14		P2771118	14	20	27	52.5	2	
15		P2771119	15	20	27	52.5	2	
16		P2771120	16	20	27	52.5	2	
17		P2771130	17	20	27	52.5	2	
HS32		6	P2771121	6	32	39	63.5	3
		8	P2771122	8	32	39	63.5	3
	10	P2771123	10	32	39	63.5	3	
	12	P2771124	12	32	39	63.5	3	
	14	P2771125	14	32	39	63.5	3	
	16	P2771126	16	32	39	63.5	3	
	18	P2771127	18	32	39	63.5	3	
	20	P2771128	20	32	39	63.5	3	
	25	P2771129	25	32	39	63.5	3	

► Inch type products are available.
英制产品可供选

► Other special sizes of Hydraulic Chuck collets could be produced and supplied.
可生产及供应非标准尺寸的液压刀柄

**Feature
特征**

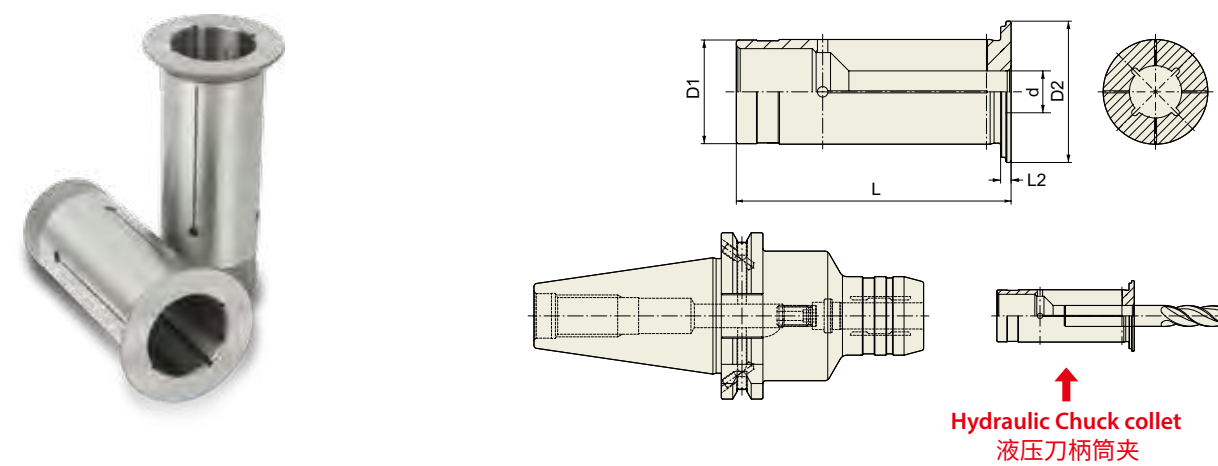
HS Hydraulic Chuck collet (reduction sleeve) is cut by high precision wire-cutting to guarantee precise I.D and strong clamping power.
HS 液压刀柄夹套(变径套)采用高精度线切割加工保证精度及强劲的夹紧力

**Chucking Method
夹持方法**

Please assemble cutting tool with collet firstly, and then insert collet into Hydraulic Chuck.
装夹刀具时, 请先用夹头装配刀具, 然后将夹头插入液压刀柄中

HYDRAULIC CHUCK COLLET (Reduction Sleeve : Coolant Flush Type)

液压变径套 (冷却冲洗型)



Unit (单位) : mm

MODEL No. 型号	EDP No.	d	D1	D2	L	L2		
HF12	3	P2771201	3	12	19	47	2	
	4	P2771202	4	12	19	47	2	
	5	P2771203	5	12	19	47	2	
	6	P2771204	6	12	19	47	2	
	7	P2771205	7	12	19	47	2	
	8	P2771206	8	12	19	47	2	
	HF20	3	P2771207	3	20	27	52.5	2
		4	P2771208	4	20	27	52.5	2
5		P2771209	5	20	27	52.5	2	
6		P2771210	6	20	27	52.5	2	
7		P2771211	7	20	27	52.5	2	
8		P2771212	8	20	27	52.5	2	
9		P2771213	9	20	27	52.5	2	
10		P2771214	10	20	27	52.5	2	
11		P2771215	11	20	27	52.5	2	
12		P2771216	12	20	27	52.5	2	
13		P2771217	13	20	27	52.5	2	
14		P2771218	14	20	27	52.5	2	
15		P2771219	15	20	27	52.5	2	
16		P2771220	16	20	27	52.5	2	
HF32		6	P2771221	6	32	39	63.5	3
		8	P2771222	8	32	39	63.5	3
		10	P2771223	10	32	39	63.5	3
	12	P2771224	12	32	39	63.5	3	
	14	P2771225	14	32	39	63.5	3	
	16	P2771226	16	32	39	63.5	3	
	18	P2771227	18	32	39	63.5	3	
	20	P2771228	20	32	39	63.5	3	
	25	P2771229	25	32	39	63.5	3	

► Inch type products are available.
英制产品可供选

► Other special sizes of Hydraulic Chuck collets could be produced and supplied.
可生产及供应非标准尺寸的液压刀柄

**Feature
特征**

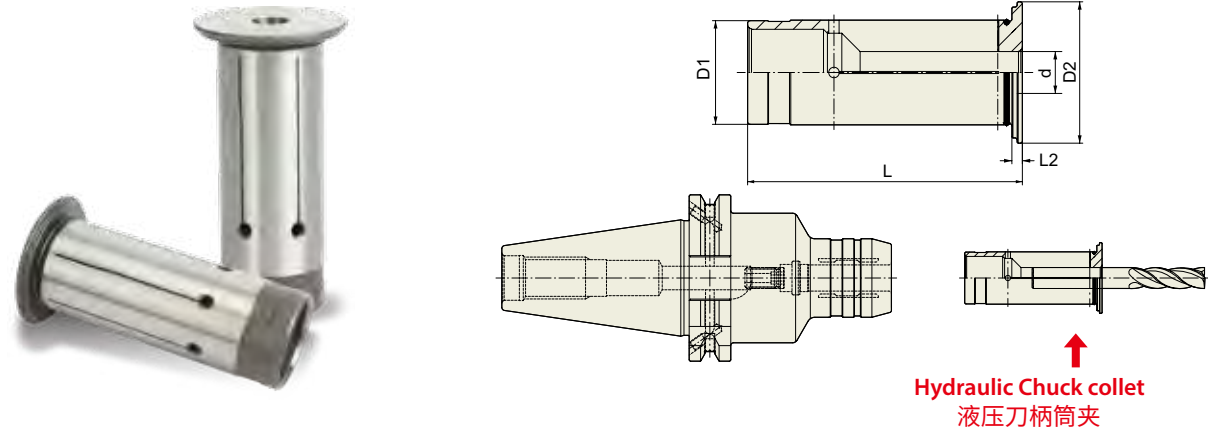
HF Hydraulic Chuck collet (reduction sleeve) is for internal coolant flush.
HF 液压刀柄筒夹(变径套)用于内部冷却

**Chucking Method
夹持方法**

Please assemble cutting tool with collet firstly, and then insert collet into Hydraulic Chuck.
装夹刀具时, 请先用夹头装配刀具, 然后将夹头插入液压刀柄中

HYDRAULIC CHUCK COLLET (Reduction Sleeve : for High Pressure Coolant)

液压变径套 (高压冷却型)



Unit (单位) : mm

MODEL No. 型号	EDP No.	d	D1	D2	L	L2		
HR12	3	P2777601	3	12	19	47	2	
	4	P2777602	4	12	19	47	2	
	5	P2777603	5	12	19	47	2	
	6	P2777604	6	12	19	47	2	
	7	P2777605	7	12	19	47	2	
	8	P2777606	8	12	19	47	2	
	HR20	3	P2777607	3	20	27	52.5	2
		4	P2777608	4	20	27	52.5	2
5		P2777609	5	20	27	52.5	2	
6		P2777610	6	20	27	52.5	2	
7		P2777611	7	20	27	52.5	2	
8		P2777612	8	20	27	52.5	2	
9		P2777613	9	20	27	52.5	2	
10		P2777614	10	20	27	52.5	2	
11		P2777615	11	20	27	52.5	2	
12		P2777616	12	20	27	52.5	2	
13		P2777617	13	20	27	52.5	2	
14		P2777618	14	20	27	52.5	2	
HR32	15	P2777619	15	20	27	52.5	2	
	16	P2777620	16	20	27	52.5	2	
	6	P2777621	6	32	39	63.5	3	
	8	P2777622	8	32	39	63.5	3	
	10	P2777623	10	32	39	63.5	3	
	12	P2777624	12	32	39	63.5	3	
	14	P2777625	14	32	39	63.5	3	
	16	P2777626	16	32	39	63.5	3	
	18	P2777627	18	32	39	63.5	3	
	20	P2777628	20	32	39	63.5	3	
	25	P2777629	25	32	39	63.5	3	

► Inch type products are available.
英制产品可供选

► Other special sizes of Hydraulic Chuck collets could be produced and supplied.
可生产及供应非标准尺寸的液压刀柄

Feature 特征 HR Hydraulic Chuck collet (reduction sleeve) is for high pressure coolant supply.
HR 液压刀柄筒夹(变径套)用于内部冷却

Chucking Method 夹持方法 Please assemble cutting tool with collet firstly, and then insert collet into Hydraulic Chuck.
装夹刀具时, 请先用夹头装配刀具, 然后将夹头插入液压刀柄中



YG-1 TOOLING SYSTEM

SHRINK FIT HOLDER

热缩刀柄



DIN 69871-SK

DIN 69893/ISO 12164-1-HSK

CBT (BT DUAL CONTACT)

JIS B6339/MAS 403-BT

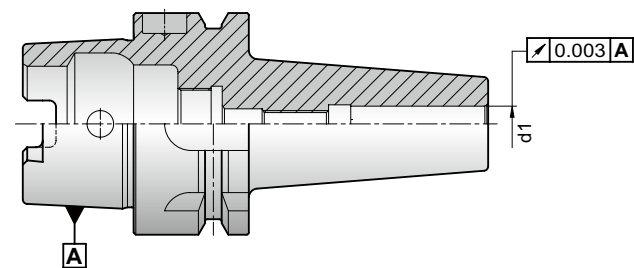
ISO 25

STRAIGHT (EXTENSION)

SHRINK FIT HEATING MACHINE

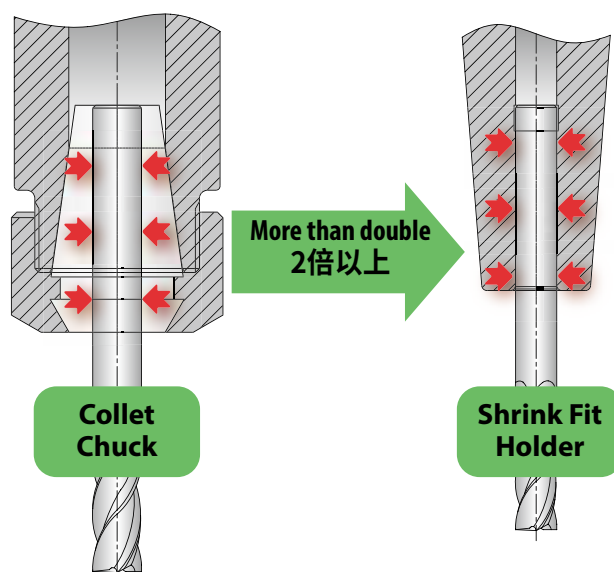
SHRINK FIT HOLDER (热缩刀柄)

High Precision I.D Run-out : $\leq 0.003\text{mm}$
 高精度跳动公差(T.I.R) $0.003\text{mm} \leq$ 以下



- Less than 0.003mm of Tool Holder accuracy at I.D
- 刀柄内径精密度达0.003mm以下
适用于高速精密加工

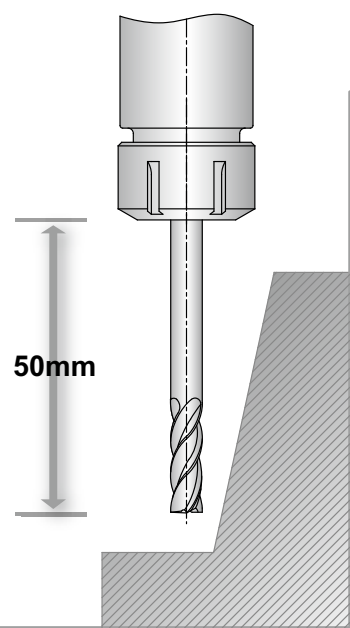
Strong and Consistent Torque Power
 超强及均匀的夹紧力



- Achieving strong torque power by integration of chuck and tool
- 刀柄和刀具一体化实现强劲的夹紧力

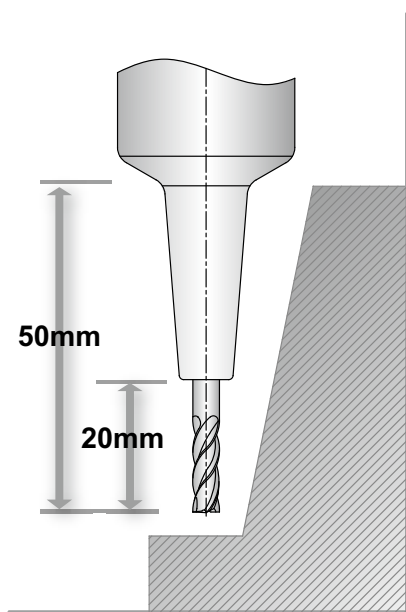
Deep hole Machining
 深孔加工

Collet Chuck
 ER刀柄



Shrink Fit Holder
 热缩式刀柄

More favorable in
 deep hole machining



- Suitable for High-Speed precision deep hole machining
- 适合高速/精密深孔加工

SHRINK FIT HOLDER (热缩刀柄)

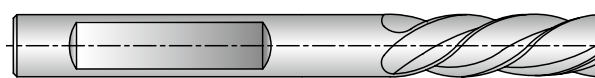
APPLICATION 应用		
Rough Milling 粗铣	Finish Milling 精铣	High-Speed Cutting 高速切削
Drilling 钻孔	Reaming 铰削	Countersinking 倒角

Shank Type of Cutting Tool
 适用刀具的柄部类型

Straight shank 直柄



One weldon flat shaft type 侧固式柄



- One Weldon flat shaft type tool is usable, but there is a possibility that the I.D of shrink fit holder may be deformed.
- 可使用侧固式柄刀具但, 可能引起侧固槽内径变形.

Material of Cutting Tool
 适用刀具材质

CARBIDE TOOL
 硬质合金
 刀具

OK

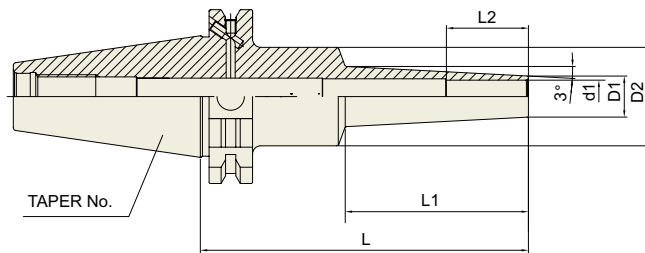
HSS TOOL
 高速钢刀具

NO

SHRINK FIT HOLDER (EXTRA SLIM)

DIN 69871-SK

热缩刀柄 (超细型)



Unit (单位) : mm

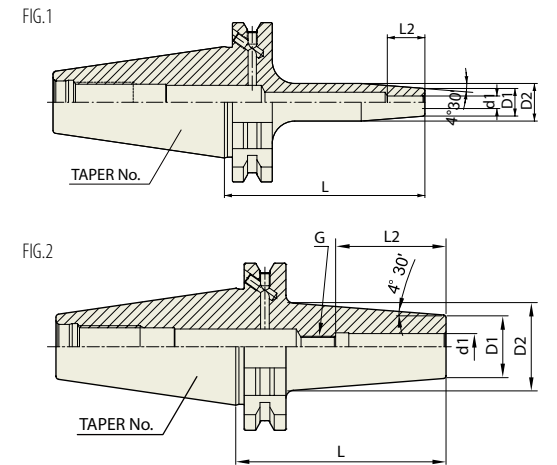
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	WEIGHT 重量(Kg)
30	SK30-SFHS3-60	P2771332S	3	6	20	60	22	9	-
	SK30-SFHS3-80	P2771333S	3	6	20	80	42	9	-
	SK30-SFHS4-60	P2771334S	4	7	20	60	22	12	-
	SK30-SFHS4-80	P2771335S	4	7	20	80	42	12	-
	SK30-SFHS6-60	P2771336S	6	9	20	60	22	18	-
	SK30-SFHS6-80	P2771337S	6	9	20	80	42	18	-
40	SK40AD/B-SFHS3-95	P2771338S	3	6	26	95	42	9	0.89
	SK40AD/B-SFHS3-120	P2771339S	3	6	26	120	67	9	0.91
	SK40AD/B-SFHS4-95	P2771340S	4	7	26	95	42	12	0.90
	SK40AD/B-SFHS4-120	P2771341S	4	7	26	120	67	12	0.92
	SK40AD/B-SFHS6-95	P2771342S	6	9	26	95	42	18	0.90
	SK40AD/B-SFHS6-120	P2771343S	6	9	26	120	67	18	0.93
	SK40AD/B-SFHS8-95	P2771344S	8	11	36	95	42	24	0.90
	SK40AD/B-SFHS8-120	P2771345S	8	11	36	120	67	24	1.01
	SK40AD/B-SFHS10-95	P2771346S	10	13	36	95	42	30	0.91
	SK40AD/B-SFHS10-120	P2771347S	10	13	36	120	67	30	1.02
	SK40AD/B-SFHS12-95	P2771348S	12	15	36	95	42	30	0.99
	SK40AD/B-SFHS12-120	P2771349S	12	15	36	120	67	30	1.02
	SK50AD/B-SFHS3-110	P2771350S	3	6	26	110	42	9	2.77
	SK50AD/B-SFHS3-160	P2771351S	3	6	26	160	97	9	2.79
50	SK50AD/B-SFHS4-110	P2771352S	4	7	26	110	42	12	2.75
	SK50AD/B-SFHS4-160	P2771353S	4	7	26	160	97	12	2.80
	SK50AD/B-SFHS6-110	P2771354S	6	9	26	110	42	18	2.74
	SK50AD/B-SFHS6-160	P2771355S	6	9	26	160	97	18	2.85
	SK50AD/B-SFHS8-110	P2771356S	8	11	36	110	42	24	2.84
	SK50AD/B-SFHS8-160	P2771357S	8	11	36	160	97	24	2.92
	SK50AD/B-SFHS10-110	P2771358S	10	13	36	110	42	30	2.85
	SK50AD/B-SFHS10-160	P2771359S	10	13	36	160	97	30	2.93
	SK50AD/B-SFHS12-110	P2771360S	12	15	36	110	42	30	2.85
	SK50AD/B-SFHS12-160	P2771361S	12	15	36	160	97	30	2.96

►CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

SHRINK FIT HOLDER

DIN 69871-SK

热缩刀柄



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	FIG.	WEIGHT 重量(Kg)	
30	SK30AD/B-SFH3-60	P2771308	3	11	15	60	10	-	1	0.40	
	SK30AD/B-SFH4-60	P2771309	4	11	15	60	12	-	1	0.40	
	SK30AD/B-SFH5-60	P2771310	5	11	15	60	15	-	1	0.40	
	SK30AD/B-SFH6-60	P2771311	6	21	27	60	36	M5×0.8	2	0.40	
	SK30AD/B-SFH8-60	P2771312	8	21	27	60	36	M6×1.0	2	0.40	
	SK30AD/B-SFH10-80	P2771313	10	24	32	80	42	M8×1.0	2	0.40	
	SK30AD/B-SFH12-80	P2771314	12	24	32	80	47	M10×1.0	2	0.42	
	SK30AD/B-SFH14-80	P2771315	14	27	34	80	47	M10×1.0	2	-	
	SK30AD/B-SFH16-80	P2771316	16	27	34	80	50	M12×1.0	2	0.42	
	SK30AD/B-SFH18-80	P2771317	18	33	42	80	50	M12×1.0	2	-	
	SK30AD/B-SFH20-90	P2771318	20	33	42	90	52	M16×1.0	2	0.44	
	40	SK40AD/B-SFH3-80	P2771301	3	11	15	80	10	-	1	1.00
		SK40AD/B-SFH4-80	P2771302	4	11	15	80	12	-	1	1.00
		SK40AD/B-SFH5-80	P2771303	5	11	15	80	15	-	1	1.00
SK40AD/B-SFH6-80		P2554058	6	21	27	80	36	M5×0.8	2	1.10	
SK40AD/B-SFH6-160		P2771304	6	21	27	160	36	M5×0.8	2	1.15	
SK40AD/B-SFH8-80		P2600009	8	21	27	80	36	M6×1.0	2	1.11	
SK40AD/B-SFH8-160		P2771305	8	21	27	160	36	M6×1.0	2	1.15	
SK40AD/B-SFH10-80		P2554052	10	24	32	80	42	M8×1.0	2	1.10	
SK40AD/B-SFH10-160		P2771306	10	24	32	160	42	M8×1.0	2	1.15	
SK40AD/B-SFH12-80		P2600008	12	24	32	80	47	M10×1.0	2	1.10	
SK40AD/B-SFH12-160		P2771307	12	24	32	160	47	M10×1.0	2	1.15	
SK40AD/B-SFH14-80		P2771319	14	27	34	80	47	M10×1.0	2	1.20	
SK40AD/B-SFH14-160		P2771320	14	27	34	160	47	M10×1.0	2	1.50	
SK40AD/B-SFH16-80		P2554054	16	27	34	80	50	M12×1.0	2	1.20	
SK40AD/B-SFH16-160	P2554053	16	27	34	160	50	M12×1.0	2	1.50		
SK40AD/B-SFH18-80	P2771321	18	33	42	80	50	M12×1.0	2	1.30		
SK40AD/B-SFH18-160	P2771322	18	33	42	160	50	M12×1.0	2	1.60		
SK40AD/B-SFH20-80	P2554056	20	33	42	80	52	M16×1.0	2	1.40		
SK40AD/B-SFH20-160	P2554055	20	33	42	160	52	M16×1.0	2	1.70		
SK40AD/B-SFH25-90	P2771323	25	44	53	90	58	M16×1.0	2	1.70		
SK40AD/B-SFH25-160	P2771324	25	44	53	160	58	M16×1.0	2	2.00		

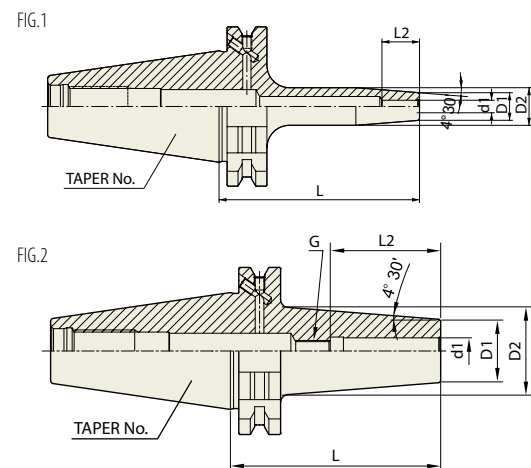
►CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

►Without balancing screw.
未组装配平衡螺钉

SHRINK FIT HOLDER

DIN 69871-SK

热缩刀柄



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	FIG.	WEIGHT 重量(Kg)
50	SK50AD/B-SFH3-80	P2771325	3	11	15	100	10	-	1	1.50
	SK50AD/B-SFH4-80	P2771326	4	11	15	100	12	-	1	1.50
	SK50AD/B-SFH5-80	P2771327	5	11	15	100	15	-	1	1.50
	SK50AD/B-SFH6-80	P2771328	6	21	27	80	36	M5x0.8	2	1.50
	SK50AD/B-SFH6-160	P2771329	6	21	27	160	36	M5x0.8	2	2.00
	SK50AD/B-SFH8-80	P2760010	8	21	27	80	36	M6x1.0	2	1.50
	SK50AD/B-SFH8-160	P2760015	8	21	27	160	36	M6x1.0	2	2.00
	SK50AD/B-SFH10-80	P2761010	10	24	32	80	42	M8x1.0	2	1.50
	SK50AD/B-SFH10-160	P2761015	10	24	32	160	42	M8x1.0	2	2.00
	SK50AD/B-SFH12-80	P2762010	12	24	32	80	47	M10x1.0	2	1.50
	SK50AD/B-SFH12-160	P2762015	12	24	32	160	47	M10x1.0	2	2.00
	SK50AD/B-SFH14-80	P2763010	14	27	34	80	47	M10x1.0	2	1.60
	SK50AD/B-SFH14-160	P2763015	14	27	34	160	47	M10x1.0	2	2.10
	SK50AD/B-SFH16-80	P2764010	16	27	34	80	50	M12x1.0	2	1.60
	SK50AD/B-SFH16-160	P2764015	16	27	34	160	50	M12x1.0	2	2.10
	SK50AD/B-SFH18-80	P2765010	18	33	42	80	50	M12x1.0	2	1.60
	SK50AD/B-SFH18-160	P2765015	18	33	42	160	50	M12x1.0	2	2.00
	SK50AD/B-SFH20-80	P2766010	20	33	42	80	52	M16x1.0	2	1.80
	SK50AD/B-SFH20-160	P2766015	20	33	42	160	52	M16x1.0	2	2.20
	SK50AD/B-SFH25-90	P2771330	25	44	53	90	58	M16x1.0	2	2.00
SK50AD/B-SFH25-160	P2771331	25	44	53	160	58	M16x1.0	2	2.40	

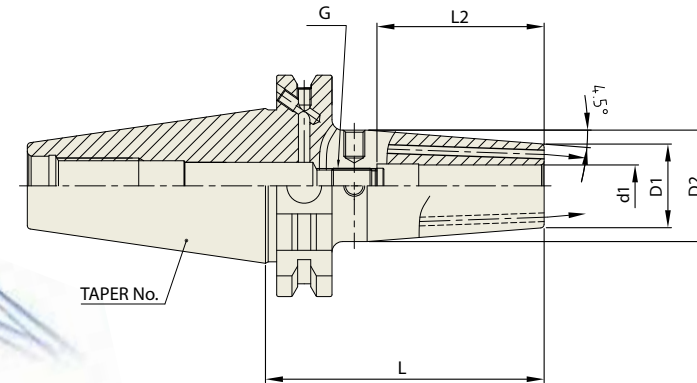
►CAT(ANSI B5.50) taper and Inch type products are available. CAT(ANSI B5.50)锥柄及英制产品可供选择

►Without balancing screw. 未组装动平衡螺钉

SHRINK FIT HOLDER (COOLANT CHANNEL)

DIN 69871-SK

热缩刀柄 (冷却液喷射型)



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	FIG.	WEIGHT 重量(Kg)
40	SK40AD/B-SFH6C-80	P2801301C	6	21	27	80	36	M5x0.8	1.10	
	SK40AD/B-SFH6C-160	P2801302C	6	21	27	160	36	M5x0.8	1.15	
	SK40AD/B-SFH8C-80	P2801303C	8	21	27	80	36	M6x1.0	1.11	
	SK40AD/B-SFH8C-160	P2801304C	8	21	27	160	36	M6x1.0	1.15	
	SK40AD/B-SFH10C-80	P2801305C	10	24	32	80	42	M8x1.0	1.10	
	SK40AD/B-SFH10C-160	P2801306C	10	24	32	160	42	M8x1.0	1.15	
	SK40AD/B-SFH12C-80	P2801307C	12	24	32	80	47	M10x1.0	1.10	
	SK40AD/B-SFH12C-160	P2801308C	12	24	32	160	47	M10x1.0	1.15	
	SK40AD/B-SFH14C-80	P2801309C	14	27	34	80	47	M10x1.0	1.20	
	SK40AD/B-SFH14C-160	P2801310C	14	27	34	160	47	M10x1.0	1.50	
	SK40AD/B-SFH16C-80	P2801311C	16	27	34	80	50	M12x1.0	1.20	
	SK40AD/B-SFH16C-160	P2801312C	16	27	34	160	50	M12x1.0	1.50	
	SK40AD/B-SFH18C-80	P2801313C	18	33	42	80	50	M12x1.0	1.30	
	SK40AD/B-SFH18C-160	P2801314C	18	33	42	160	50	M12x1.0	1.60	
	SK40AD/B-SFH20C-80	P2801315C	20	33	42	80	52	M16x1.0	1.40	
	SK40AD/B-SFH20C-160	P2801316C	20	33	42	160	52	M16x1.0	1.70	
	SK40AD/B-SFH25C-90	P2801317C	25	44	53	90	58	M16x1.0	1.70	
	SK40AD/B-SFH25C-160	P2801318C	25	44	53	160	58	M16x1.0	2.00	
	50	SK50AD/B-SFH6C-80	P2801319C	6	21	27	80	36	M5x0.8	1.50
		SK50AD/B-SFH6C-160	P2801320C	6	21	27	160	36	M5x0.8	2.00
SK50AD/B-SFH8C-80		P2801321C	8	21	27	80	36	M6x1.0	1.50	
SK50AD/B-SFH8C-160		P2801322C	8	21	27	160	36	M6x1.0	2.00	
SK50AD/B-SFH10C-80		P2801323C	10	24	32	80	42	M8x1.0	1.50	
SK50AD/B-SFH10C-160		P2801324C	10	24	32	160	42	M8x1.0	2.00	
SK50AD/B-SFH12C-80		P2801325C	12	24	32	80	47	M10x1.0	1.60	
SK50AD/B-SFH12C-160		P2801326C	12	24	32	160	47	M10x1.0	2.10	
SK50AD/B-SFH14C-80		P2801327C	14	27	34	80	47	M10x1.0	1.60	
SK50AD/B-SFH14C-160		P2801328C	14	27	34	160	47	M10x1.0	2.10	
SK50AD/B-SFH16C-80		P2801329C	16	27	34	80	50	M12x1.0	1.60	
SK50AD/B-SFH16C-160		P2801330C	16	27	34	160	50	M12x1.0	2.10	
SK50AD/B-SFH18C-80		P2801331C	18	33	42	80	50	M12x1.0	1.60	
SK50AD/B-SFH18C-160		P2801332C	18	33	42	160	50	M12x1.0	2.00	
SK50AD/B-SFH20C-80		P2801333C	20	33	42	80	52	M16x1.0	1.80	
SK50AD/B-SFH20C-160		P2801334C	20	33	42	160	52	M16x1.0	2.20	
SK50AD/B-SFH25C-90		P2801335C	25	44	53	90	58	M16x1.0	2.00	
SK50AD/B-SFH25C-160		P2801336C	25	44	53	160	58	M16x1.0	2.40	

►CAT(ANSI B5.50) taper and Inch type products are available. CAT(ANSI B5.50)锥柄及英制产品可供选择

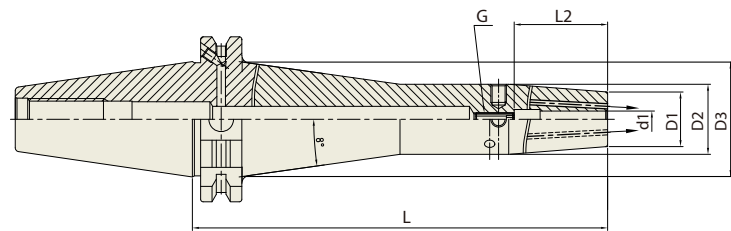
►Without balancing screw. 未组装动平衡螺钉

►Resealable Coolant Channel type is available upon request. 可重新密封的冷却剂通道类型可根据需要提供

SHRINK FIT HOLDER (REINFORCED)

DIN 69871-SK

热缩刀柄 (加固)



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	D3	L	L2	G	WEIGHT 重量(Kg)
40	SK40AD/B-SFH6C TW-160	P2801401TW	6	21	27	44.1	160	36	M5x0.8	1.56
	SK40AD/B-SFH8C TW-160	P2801402TW	8	21	27	44.1	160	36	M6x1.0	1.56
	SK40AD/B-SFH10C TW-160	P2801403TW	10	24	32	49.1	160	42	M8x1.0	1.78
	SK40AD/B-SFH12C TW-160	P2801404TW	12	24	32	49.1	160	47	M10x1.0	1.77
	SK40AD/B-SFH14C TW-160	P2801405TW	14	27	34	51.1	160	47	M10x1.0	1.74
	SK40AD/B-SFH16C TW-160	P2801406TW	16	27	34	51.1	160	50	M12x1.0	1.72
50	SK50AD/B-SFH6C TW-160	P2801407TW	6	21	27	44.1	160	36	M5x0.8	3.32
	SK50AD/B-SFH8C TW-160	P2801408TW	8	21	27	44.1	160	36	M6x1.0	3.32
	SK50AD/B-SFH10C TW-160	P2801409TW	10	24	32	49.1	160	42	M8x1.0	3.54
	SK50AD/B-SFH12C TW-160	P2801410TW	12	24	32	49.1	160	47	M10x1.0	3.54
	SK50AD/B-SFH14C TW-160	P2801411TW	14	27	34	51.1	160	47	M10x1.0	3.50
	SK50AD/B-SFH16C TW-160	P2801412TW	16	27	34	51.1	160	50	M12x1.0	3.48
	SK50AD/B-SFH20C TW-160	P2801413TW	20	33	42	59.1	160	52	M16x1.0	3.88

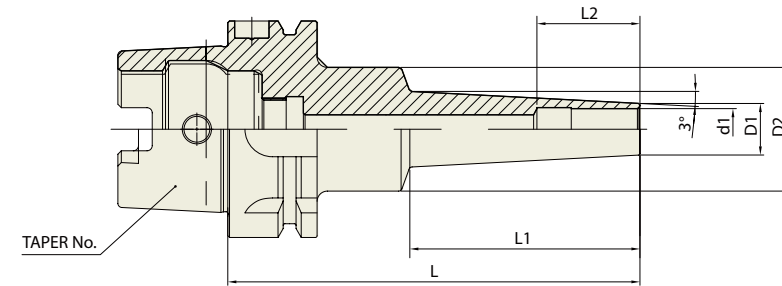
▶CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

▶Without balancing screw.
未组装配平衡螺钉

SHRINK FIT HOLDER (EXTRA SLIM)

DIN 69893/
ISO 12164-1-HSK FORM A

热缩刀柄 (超细型)



Unit (单位) : mm

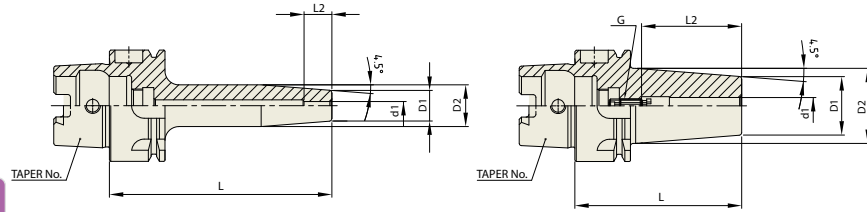
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	WEIGHT 重量(Kg)
40A	HSK40A-SFHS3-60	P2779801S	3	6	20	60	22	9	-
	HSK40A-SFHS3-90	P2779802S	3	6	20	80	42	9	-
	HSK40A-SFHS4-60	P2779803S	4	7	20	60	22	12	-
	HSK40A-SFHS4-90	P2779804S	4	7	20	80	42	12	-
	HSK40A-SFHS6-60	P2779805S	6	9	20	60	22	18	-
	HSK40A-SFHS6-90	P2779806S	6	9	20	80	42	18	-
50A	HSK50A-SFHS3-95	P2779807S	3	6	26	95	42	9	-
	HSK50A-SFHS3-120	P2779808S	3	6	26	120	67	9	-
	HSK50A-SFHS4-95	P2779809S	4	7	26	95	42	12	-
	HSK50A-SFHS4-120	P2779810S	4	7	26	120	67	12	-
	HSK50A-SFHS6-95	P2779811S	6	9	26	95	42	18	-
	HSK50A-SFHS6-120	P2779812S	6	9	26	120	67	18	-
	HSK50A-SFHS8-95	P2779813S	8	11	36	95	42	24	-
	HSK50A-SFHS8-120	P2779814S	8	11	36	120	67	24	-
	HSK50A-SFHS10-95	P2779815S	10	13	36	95	42	30	-
	HSK50A-SFHS10-120	P2779816S	10	13	36	120	67	30	-
63A	HSK63A-SFHS3-95	P2779817S	3	6	26	95	42	9	0.75
	HSK63A-SFHS3-120	P2779818S	3	6	26	120	67	9	0.77
	HSK63A-SFHS4-95	P2779819S	4	7	26	95	42	12	0.75
	HSK63A-SFHS4-120	P2779820S	4	7	26	120	67	12	0.78
	HSK63A-SFHS6-95	P2779821S	6	9	26	95	42	18	0.76
	HSK63A-SFHS6-120	P2779822S	6	9	26	120	97	18	0.78
	HSK63A-SFHS8-95	P2779823S	8	11	36	95	42	24	0.75
	HSK63A-SFHS8-160	P2779824S	8	11	36	160	97	24	0.97
	HSK63A-SFHS10-95	P2779825S	10	13	36	95	42	30	0.76
	HSK63A-SFHS10-160	P2779826S	10	13	36	160	97	30	1.00
	HSK63A-SFHS12-95	P2779827S	12	15	36	95	42	30	0.83
	HSK63A-SFHS12-160	P2779828S	12	15	36	160	97	30	1.04
	HSK100A-SFHS3-95	P2779829S	3	6	26	95	42	9	2.12
	HSK100A-SFHS3-120	P2779830S	3	6	26	120	67	9	2.14
HSK100A-SFHS4-95	P2779831S	4	7	26	95	42	12	2.12	
HSK100A-SFHS4-120	P2779832S	4	7	26	120	67	12	2.14	
HSK100A-SFHS6-95	P2779833S	6	9	26	95	42	18	2.12	
HSK100A-SFHS6-120	P2779834S	6	9	26	120	67	18	2.15	
HSK100A-SFHS8-95	P2779835S	8	11	36	95	42	24	2.18	
HSK100A-SFHS8-160	P2779836S	8	11	36	160	97	24	2.33	
HSK100A-SFHS10-95	P2779837S	10	13	36	95	42	30	2.19	
HSK100A-SFHS10-160	P2779838S	10	13	36	160	97	30	2.34	
HSK100A-SFHS12-95	P2779839S	12	15	36	95	42	30	2.20	
HSK100A-SFHS12-160	P2779840S	12	15	36	160	97	30	2.38	

▶CAT(ANSI B5.50) taper and Inch type products are available. CAT(ANSI B5.50)锥柄及英制产品可供选择

SHRINK FIT HOLDER

DIN 69893/
ISO 12164-1-HSK FORM A

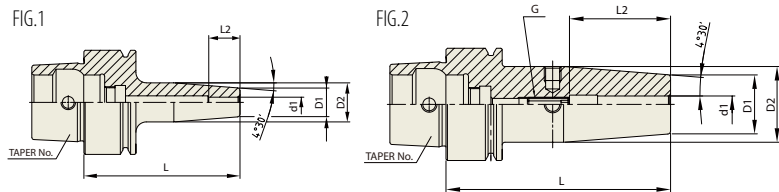
热缩刀柄



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	FIG.	WEIGHT 重量(Kg)
40A	HSK40A-SFH3-60	P2771408	3	11	15	60	10	-	1	0.30
	HSK40A-SFH3-80	P2771409	3	11	15	80	10	-	1	0.40
	HSK40A-SFH4-60	P2771410	4	11	15	60	12	-	1	0.30
	HSK40A-SFH4-80	P2771411	4	11	15	80	12	-	1	0.40
	HSK40A-SFH5-60	P2771412	5	11	15	60	15	-	1	0.30
	HSK40A-SFH5-80	P2771413	5	11	15	80	15	-	1	0.40
	HSK40A-SFH6-60	P2771414	6	21	27	60	36	M5×0.8	2	0.40
	HSK40A-SFH6-80	P2771415	6	21	27	80	36	M5×0.8	2	0.50
	HSK40A-SFH8-70	P2771416	8	21	27	70	36	M6×1.0	2	0.40
	HSK40A-SFH8-90	P2771417	8	21	27	90	36	M6×1.0	2	0.50
40A	HSK40A-SFH10-70	P2771418	10	24	32	70	42	M8×1.0	2	0.50
	HSK40A-SFH10-90	P2771419	10	24	32	90	42	M8×1.0	2	0.60

▶Without balancing screw. 未组装动平衡螺钉



DIN 69893/
ISO 12164-1-HSK FORM E



Unit (单位) : mm

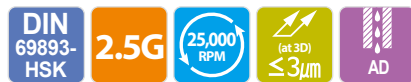
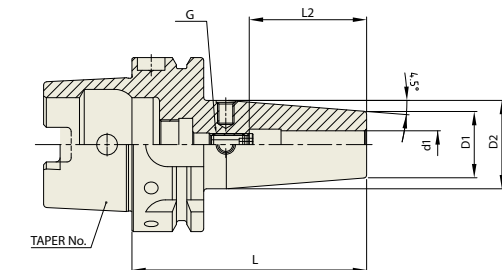
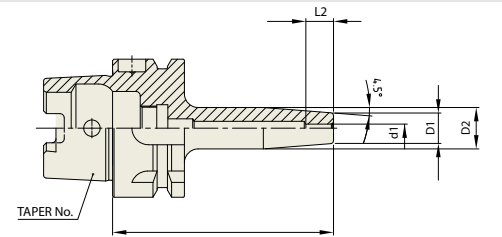
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	FIG.	WEIGHT 重量(Kg)
25E	HSK25E-SFH3-45	P2771420	3	11	15	45	10	-	1	-
	HSK25E-SFH4-45	P2771421	4	11	15	45	12	-	1	-
	HSK25E-SFH5-45	P2771422	5	11	15	45	15	-	1	-
	HSK25E-SFH6-45	P2771423	6	12	17	45	18	-	2	-
	HSK25E-SFH8-45	P2771424	8	14	18	45	30	-	2	-
	HSK25E-SFH10-50	P2771425	10	16	20	50	37	-	2	-
32E	HSK32E-SFH3-60	P2771426	3	11	15	60	10	-	1	-
	HSK32E-SFH4-60	P2771427	4	11	15	60	12	-	1	-
	HSK32E-SFH5-60	P2771428	5	11	15	60	15	-	1	-
	HSK32E-SFH6-70	P2771429	6	12	17	70	18	-	2	-
	HSK32E-SFH8-70	P2771430	8	14	18	70	30	-	2	-
	HSK32E-SFH10-80	P2771431	10	16	20	80	37	-	2	-
40E	HSK40E-SFH3-60	P2771432	3	11	15	60	10	-	1	0.30
	HSK40E-SFH3-80	P2771433	3	11	15	80	10	-	1	0.40
	HSK40E-SFH4-60	P2771434	4	11	15	60	12	-	1	0.30
	HSK40E-SFH4-80	P2771435	4	11	15	80	12	-	1	0.40
	HSK40E-SFH5-60	P2771436	5	11	15	60	15	-	1	0.30
	HSK40E-SFH5-80	P2771437	5	11	15	80	15	-	1	0.40
	HSK40E-SFH6-60	P2771438	6	21	27	60	36	M5×0.8	2	0.40
	HSK40E-SFH6-80	P2771439	6	21	27	80	36	M5×0.8	2	0.50
	HSK40E-SFH8-70	P2771440	8	21	27	70	36	M6×1.0	2	0.40
	HSK40E-SFH8-90	P2771441	8	21	27	90	36	M6×1.0	2	0.50
40E	HSK40E-SFH10-70	P2771442	10	24	32	70	42	M8×1.0	2	0.50
	HSK40E-SFH10-90	P2771443	10	24	32	90	42	M8×1.0	2	0.60

▶Without balancing screw. 未组装动平衡螺钉

SHRINK FIT HOLDER

DIN 69893/
ISO 12164-1-HSK FORM A

热缩刀柄



Unit (单位) : mm

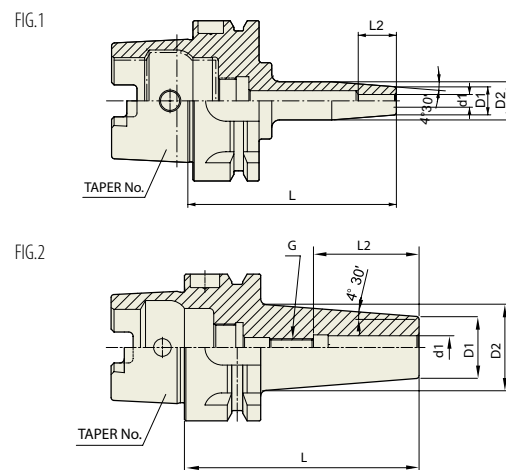
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	FIG.	WEIGHT 重量(Kg)
50A	HSK50A-SFH3-80	P2771444	3	11	15	80	10	-	1	0.54
	HSK50A-SFH4-80	P2771445	4	11	15	80	12	-	1	0.55
	HSK50A-SFH5-80	P2771446	5	11	15	80	15	-	1	0.56
	HSK50A-SFH6-80	P2776901	6	21	27	80	36	M5×0.8	2	0.57
	HSK50A-SFH8-80	P2771447	8	21	27	80	36	M6×1.0	2	0.58
	HSK50A-SFH10-85	P2771448	10	24	32	85	42	M8×1.0	2	0.65
	HSK50A-SFH12-90	P2771449	12	24	32	90	47	M10×1.0	2	0.67
	HSK50A-SFH14-90	P2771450	14	27	34	90	47	M10×1.0	2	0.72
	HSK50A-SFH16-95	P2771451	16	27	34	95	50	M12×1.0	2	0.73
	HSK50A-SFH18-95	P2771452	18	33	42	95	50	M12×1.0	2	0.90
50A	HSK50A-SFH20-100	P2771453	20	33	42	100	52	M16×1.0	2	0.92
	HSK63A-SFH3-80	P2771401	3	11	15	80	10	-	1	0.70
	HSK63A-SFH4-80	P2771402	4	11	15	80	12	-	1	0.70
	HSK63A-SFH5-80	P2771403	5	11	15	80	15	-	1	0.70
	HSK63A-SFH6-80	P2565057	6	21	27	80	36	M5×0.8	2	0.83
	HSK63A-SFH6-160	P2771404	6	21	27	160	36	M5×0.8	2	1.00
	HSK63A-SFH8-80	P2600007	8	21	27	80	36	M6×1.0	2	0.83
	HSK63A-SFH8-160	P2771405	8	21	27	160	36	M6×1.0	2	1.00
	HSK63A-SFH10-85	P2565052	10	24	32	85	42	M8×1.0	2	0.83
	HSK63A-SFH10-160	P2771406	10	24	32	160	42	M8×1.0	2	1.00
63A	HSK63A-SFH12-90	P2600003	12	24	32	90	47	M10×1.0	2	0.83
	HSK63A-SFH12-160	P2771407	12	24	32	160	47	M10×1.0	2	1.00
	HSK63A-SFH14-90	P2771454	14	27	34	90	47	M10×1.0	2	0.91
	HSK63A-SFH14-160	P2771455	14	27	34	160	47	M10×1.0	2	1.30
	HSK63A-SFH16-95	P2565054	16	27	34	95	50	M12×1.0	2	0.98
	HSK63A-SFH16-160	P2565053	16	27	34	160	50	M12×1.0	2	1.40
	HSK63A-SFH18-95	P2771456	18	33	42	95	50	M12×1.0	2	0.98
	HSK63A-SFH18-160	P2771457	18	33	42	160	50	M12×1.0	2	1.40
	HSK63A-SFH20-100	P2600005	20	33	42	100	52	M16×1.0	2	1.00
	HSK63A-SFH20-160	P2565055	20	33	42	160	52	M16×1.0	2	1.40
63A	HSK63A-SFH25-115	P2771458	25	44	53	115	58	M16×1.0	2	1.40
	HSK63A-SFH25-160	P2771459	25	44	53	160	58	M16×1.0	2	1.80

▶Without balancing screw.
未组装动平衡螺钉

SHRINK FIT HOLDER

热缩刀柄

DIN 69893/
ISO 12164-1-HSK FORM A



Unit (单位) : mm

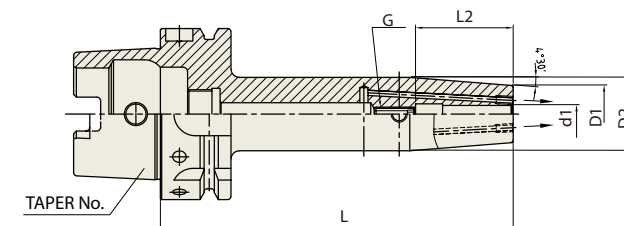
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	FIG.	WEIGHT 重量(Kg)
80A	HSK80A-SFH6-85	P2771460	6	21	27	85	36	M5x0.8	1	
	HSK80A-SFH8-85	P2771461	8	21	27	85	36	M6x1.0	1	
	HSK80A-SFH10-90	P2771462	10	24	32	90	41	M8x1.0	2	
	HSK80A-SFH12-95	P2771463	12	24	32	95	46	M10x1.0	2	
	HSK80A-SFH14-95	P2771464	14	27	34	95	46	M10x1.0	2	
	HSK80A-SFH16-100	P2771465	16	27	34	100	49	M12x1.0	2	
	HSK80A-SFH18-100	P2771466	18	33	42	100	49	M12x1.0	2	
	HSK80A-SFH20-105	P2771467	20	33	42	105	51	M16x1.0	2	
	HSK80A-SFH25-115	P2771468	25	44	53	115	57	M16x1.0	2	
	HSK100A-SFH3-85	P2771469	3	11	15	85	10	-	1	1.30
HSK100A-SFH4-85	P2771470	4	11	15	85	12	-	1	1.30	
HSK100A-SFH5-85	P2771471	5	11	15	85	15	-	1	1.30	
HSK100A-SFH6-85	P2777301	6	21	27	85	36	M5x0.8	1	1.30	
HSK100A-SFH6-160	P2771472	6	21	27	160	36	M5x0.8	1	1.80	
HSK100A-SFH8-85	P2777302	8	21	27	85	36	M6x1.0	1	1.30	
HSK100A-SFH8-160	P2771473	8	21	27	160	36	M6x1.0	1	1.80	
HSK100A-SFH10-90	P2777303	10	24	32	90	42	M8x1.0	1	1.30	
HSK100A-SFH10-160	P2771474	10	24	32	160	42	M8x1.0	1	1.80	
HSK100A-SFH12-95	P2777304	12	24	32	95	47	M10x1.0	1	1.30	
HSK100A-SFH12-160	P2771475	12	24	32	160	47	M10x1.0	1	1.80	
HSK100A-SFH14-95	P2771476	14	27	34	95	47	M10x1.0	1	1.40	
HSK100A-SFH14-160	P2771477	14	27	34	160	47	M10x1.0	1	1.90	
HSK100A-SFH16-100	P2771478	16	27	34	100	50	M12x1.0	1	1.40	
HSK100A-SFH16-160	P2771479	16	27	34	160	50	M12x1.0	1	1.90	
HSK100A-SFH18-100	P2771480	18	33	42	100	50	M12x1.0	2	1.50	
HSK100A-SFH18-160	P2771481	18	33	42	160	50	M12x1.0	2	2.00	
HSK100A-SFH20-100	P2771482	20	33	42	100	52	M16x1.0	2	1.50	
HSK100A-SFH20-160	P2771483	20	33	42	160	52	M16x1.0	2	2.00	
HSK100A-SFH25-115	P2771484	25	44	53	115	58	M16x1.0	2	1.80	
HSK100A-SFH25-160	P2771485	25	44	53	160	58	M16x1.0	2	2.30	

►Without balancing screw.
未组装平衡螺钉

SHRINK FIT HOLDER (COOLANT CHANNEL)

热缩刀柄 (冷却液喷射型)

DIN 69893/
ISO 12164-1-HSK FORM A



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	WEIGHT 重量(Kg)
63A	HSK63A-SFH6C-80	P2862013C	6	21	27	80	36	M5x0.8	0.83
	HSK63A-SFH6C-160	P2862014C	6	21	27	160	36	M5x0.8	1.00
	HSK63A-SFH8C-80	P2862015C	8	21	27	80	36	M6x1.0	0.83
	HSK63A-SFH8C-160	P2862016C	8	21	27	160	36	M6x1.0	1.00
	HSK63A-SFH10C-85	P2862017C	10	24	32	85	42	M8x1.0	0.83
	HSK63A-SFH10C-160	P2862018C	10	24	32	160	42	M8x1.0	1.00
	HSK63A-SFH12C-90	P2862019C	12	24	32	90	47	M10x1.0	0.83
	HSK63A-SFH12C-160	P2862020C	12	24	32	160	47	M10x1.0	1.00
	HSK63A-SFH14C-90	P2862021C	14	27	34	90	47	M10x1.0	0.91
	HSK63A-SFH14C-160	P2862022C	14	27	34	160	47	M10x1.0	1.30
HSK63A-SFH16C-95	P2862023C	16	27	34	95	50	M12x1.0	0.98	
HSK63A-SFH16C-160	P2862024C	16	27	34	160	50	M12x1.0	1.40	
HSK63A-SFH18C-95	P2862025C	18	33	42	95	50	M12x1.0	0.98	
HSK63A-SFH18C-160	P2862026C	18	33	42	160	50	M12x1.0	1.40	
HSK63A-SFH20C-100	P2862027C	20	33	42	100	52	M16x1.0	1.00	
HSK63A-SFH20C-160	P2862028C	20	33	42	160	52	M16x1.0	1.40	
HSK63A-SFH25C-115	P2862029C	25	44	53	115	58	M16x1.0	1.40	
HSK63A-SFH25C-160	P2862030C	25	44	53	160	58	M16x1.0	1.80	
HSK100A-SFH6C-85	P2862031C	6	21	27	85	36	M5x0.8	1.30	
HSK100A-SFH6C-160	P2862032C	6	21	27	160	36	M5x0.8	1.80	
HSK100A-SFH8C-85	P2862033C	8	21	27	85	36	M6x1.0	1.30	
HSK100A-SFH8C-160	P2862034C	8	21	27	160	36	M6x1.0	1.80	
HSK100A-SFH10C-90	P2862035C	10	24	32	90	42	M8x1.0	1.30	
HSK100A-SFH10C-160	P2862036C	10	24	32	160	42	M8x1.0	1.80	
HSK100A-SFH12C-95	P2862037C	12	24	32	95	47	M10x1.0	1.30	
HSK100A-SFH12C-160	P2862038C	12	24	32	160	47	M10x1.0	1.80	
HSK100A-SFH14C-95	P2862039C	14	27	34	95	47	M10x1.0	1.40	
HSK100A-SFH14C-160	P2862040C	14	27	34	160	47	M10x1.0	1.90	
HSK100A-SFH16C-100	P2862041C	16	27	34	100	50	M12x1.0	1.40	
HSK100A-SFH16C-160	P2862042C	16	27	34	160	50	M12x1.0	1.90	
HSK100A-SFH18C-100	P2862043C	18	33	42	100	50	M12x1.0	1.50	
HSK100A-SFH18C-160	P2862044C	18	33	42	160	50	M12x1.0	2.00	
HSK100A-SFH20C-100	P2862045C	20	33	42	100	52	M16x1.0	1.50	
HSK100A-SFH20C-160	P2862046C	20	33	42	160	52	M16x1.0	2.00	
HSK100A-SFH25C-115	P2862047C	25	44	53	115	58	M16x1.0	1.80	
HSK100A-SFH25C-160	P2862048C	25	44	53	160	58	M16x1.0	2.30	

►CAT(ANSI B5.50) taper and Inch type products are available. CAT(ANSI B5.50)锥柄及英制产品可供选择

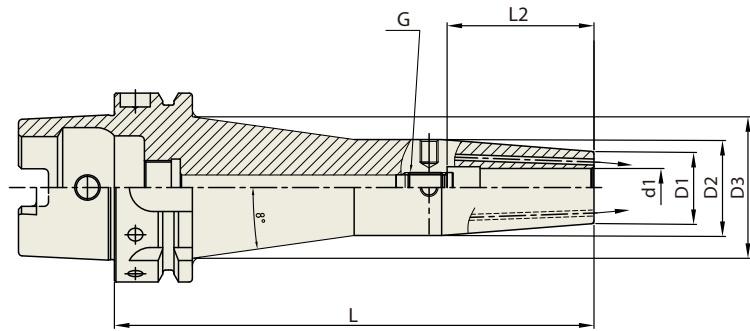
►Without balancing screw. 未组装平衡螺钉

►Resealable Coolant Channel type is available upon request. 可重新密封的冷却剂通道类型可根据需要提供

SHRINK FIT HOLDER (REINFORCED)

DIN 69893/
ISO 12164-1-HSK FORM A

热缩刀柄 (加固)



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	D3	L	L2	G	WEIGHT 重量(Kg)
63A	HSK63A-SFH6C TW-160	P2801501TW	6	21	27	42.2	160	36	M5x0.8	1.36
	HSK63A-SFH8C TW-160	P2801502TW	8	21	27	42.2	160	36	M6x1.0	1.35
	HSK63A-SFH10C TW-160	P2801503TW	10	24	32	47.2	160	42	M8x1.0	1.56
	HSK63A-SFH12C TW-160	P2801504TW	12	24	32	47.2	160	47	M10x1.0	1.55
	HSK63A-SFH14C TW-160	P2801505TW	14	27	34	49.2	160	47	M10x1.0	1.52
	HSK63A-SFH16C TW-160	P2801506TW	16	27	34	49.2	160	50	M12x1.0	1.64
100A	HSK100A-SFH6C TW-160	P2801507TW	6	21	27	41.3	160	36	M5x0.8	2.73
	HSK100A-SFH8C TW-160	P2801508TW	8	21	27	41.3	160	36	M6x1.0	2.72
	HSK100A-SFH10C TW-160	P2801509TW	10	24	32	46.3	160	42	M8x1.0	2.92
	HSK100A-SFH12C TW-160	P2801510TW	12	24	32	46.3	160	47	M10x1.0	2.90
	HSK100A-SFH14C TW-160	P2801511TW	14	27	34	48.3	160	47	M10x1.0	3.05
	HSK100A-SFH16C TW-160	P2801512TW	16	27	34	48.3	160	50	M12x1.0	3.03
	HSK100A-SFH18C TW-160	P2801513TW	18	33	42	56.3	160	50	M12x1.0	3.39
	HSK100A-SFH20C TW-160	P2801514TW	20	33	42	56.3	160	52	M16x1.0	3.36

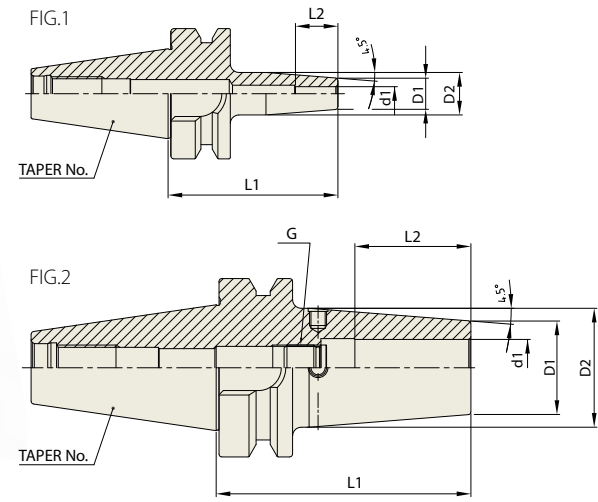
►CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

►Without balancing screw.
未组装机平衡螺钉

SHRINK FIT HOLDER

CBT
(BT DUAL CONTACT)

热缩刀柄



Unit (单位) : mm

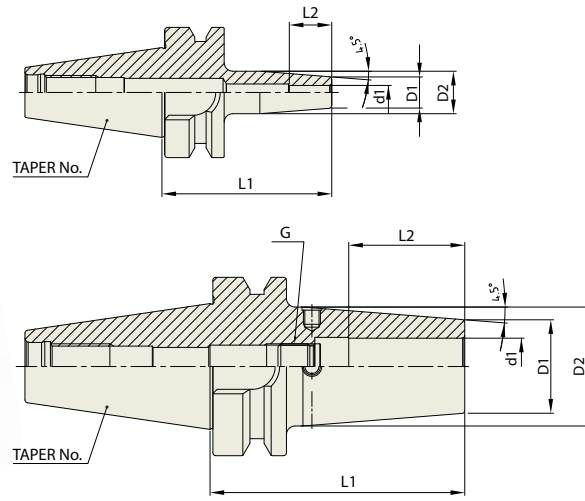
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	FIG.	WEIGHT 重量(Kg)
30	CBT30-SFH3-60	P2771505	3	11	15	60	10	-	1	0.40
	CBT30-SFH4-60	P2771506	4	11	15	60	12	-	1	0.40
	CBT30-SFH5-60	P2771507	5	11	15	60	15	-	1	0.40
	CBT30-SFH6-60	P2771508	6	21	27	60	36	M5x0.8	2	0.40
	CBT30-SFH8-60	P2771509	8	21	27	60	36	M6x1.0	2	0.40
	CBT30-SFH10-80	P2771510	10	24	32	80	41	M8x1.0	2	0.40
	CBT30-SFH12-80	P2771511	12	24	32	80	48	M10x1.0	2	0.42
	CBT30-SFH14-80	P2771512	14	27	34	80	48	M10x1.0	2	
	CBT30-SFH16-80	P2771513	16	27	34	80	51	M12x1.0	2	0.42
	CBT30-SFH18-80	P2771514	18	27	34	80	51	M12x1.0	2	
40	CBT40-SFH20-90	P2771515	20	33	42	90	53	M16x1.0	2	0.44
	CBT40-SFH3-90	P2771516	3	11	15	90	10	-	1	1.00
	CBT40-SFH4-90	P2771517	4	11	15	90	12	-	1	1.00
	CBT40-SFH5-90	P2771518	5	11	15	90	23	-	1	1.00
	CBT40-SFH6-90	P2771519	6	21	27	90	36	M5x0.8	2	1.10
	CBT40-SFH6-160	P2771520	6	21	27	160	36	M5x0.8	2	1.15
	CBT40-SFH8-90	P2771501	8	21	27	90	36	M6x1.0	2	1.11
	CBT40-SFH8-160	P2771521	8	21	27	160	36	M6x1.0	2	1.15
	CBT40-SFH10-90	P2771502	10	24	32	90	41	M8x1.0	2	1.10
	CBT40-SFH10-160	P2771522	10	24	32	160	41	M8x1.0	2	1.15
	CBT40-SFH12-90	P2771503	12	24	32	90	47	M10x1.0	2	1.10
	CBT40-SFH12-160	P2771523	12	24	32	160	47	M10x1.0	2	1.15
	CBT40-SFH14-90	P2771524	14	27	34	90	47	M10x1.0	2	1.20
	CBT40-SFH14-160	P2771525	14	27	34	160	47	M10x1.0	2	1.50
	CBT40-SFH16-90	P2771526	16	27	34	90	50	M12x1.0	2	1.20
	CBT40-SFH16-160	P2771527	16	27	34	160	50	M12x1.0	2	1.50
	CBT40-SFH18-90	P2771528	18	33	42	90	50	M12x1.0	2	1.30
	CBT40-SFH18-160	P2771529	18	33	42	160	50	M12x1.0	2	1.60
CBT40-SFH20-90	P2771504	20	33	42	90	52	M16x1.0	2	1.40	
CBT40-SFH20-160	P2771530	20	33	42	160	52	M16x1.0	2	1.70	
CBT40-SFH25-100	P2771531	25	44	53	100	58	M16x1.0	2	1.70	
CBT40-SFH25-160	P2771532	25	44	53	160	58	M16x1.0	2	2.00	

►Without balancing screw.
未组装机平衡螺钉

SHRINK FIT HOLDER

热缩刀柄

CBT
(BT DUAL CONTACT)



Unit (单位) : mm

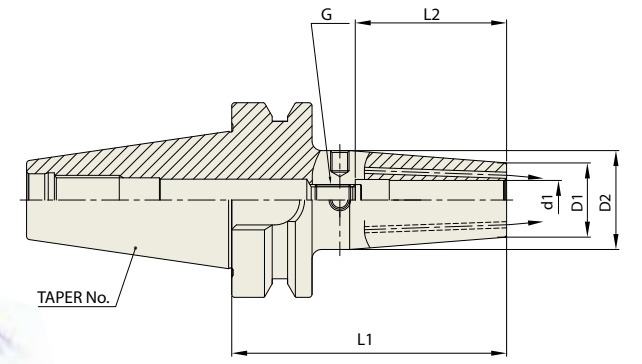
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	FIG.	WEIGHT 重量(Kg)
50	CBT50-SFH3-100	P2771533	3	11	15	100	10	-	1	1.50
	CBT50-SFH4-100	P2771534	4	11	15	100	12	-	1	1.50
	CBT50-SFH5-100	P2771535	5	11	15	100	15	-	1	1.50
	CBT50-SFH6-100	P2771536	6	21	27	100	36	M5x0.8	2	1.50
	CBT50-SFH6-160	P2771537	6	21	27	160	36	M5x0.8	2	2.00
	CBT50-SFH8-100	P2771538	8	21	27	100	36	M6x1.0	2	1.50
	CBT50-SFH8-160	P2771539	8	21	27	160	36	M6x1.0	2	2.00
	CBT50-SFH10-100	P2771540	10	24	32	100	42	M8x1.0	2	1.50
	CBT50-SFH10-160	P2771541	10	24	32	160	42	M8x1.0	2	2.00
	CBT50-SFH12-100	P2771542	12	24	32	100	47	M10x1.0	2	1.50
	CBT50-SFH12-160	P2771543	12	24	32	160	47	M10x1.0	2	2.00
	CBT50-SFH14-100	P2771544	14	27	34	100	47	M10x1.0	2	1.60
	CBT50-SFH14-160	P2771545	14	27	34	160	47	M10x1.0	2	2.10
	CBT50-SFH16-100	P2771546	16	27	34	100	50	M12x1.0	2	1.60
	CBT50-SFH16-160	P2771547	16	27	34	160	50	M12x1.0	2	2.10
	CBT50-SFH18-100	P2771548	18	33	42	100	50	M12x1.0	2	1.60
	CBT50-SFH18-160	P2771549	18	33	42	160	50	M12x1.0	2	2.00
	CBT50-SFH20-100	P2771550	20	33	42	100	52	M16x1.0	2	1.80
	CBT50-SFH20-160	P2771551	20	33	42	160	52	M16x1.0	2	2.20
	CBT50-SFH25-100	P2771552	25	44	53	100	58	M16x1.0	2	2.00
CBT50-SFH25-160	P2771553	25	44	53	160	58	M16x1.0	2	2.40	

▶Without balancing screw. 未组装动平衡螺钉

SHRINK FIT HOLDER (COOLANT CHANNEL)

热缩刀柄 (冷却液喷射型)

CBT
(BT DUAL CONTACT)



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	WEIGHT 重量(Kg)
40	CBT40-SFH6C-90	P2862049C	6	21	27	90	36	M5x0.8	1.10
	CBT40-SFH6C-160	P2862050C	6	21	27	160	36	M5x0.8	1.15
	CBT40-SFH8C-90	P2862051C	8	21	27	90	36	M6x1.0	1.11
	CBT40-SFH8C-160	P2862052C	8	21	27	160	36	M6x1.0	1.15
	CBT40-SFH10C-90	P2862053C	10	24	32	90	41	M8x1.0	1.10
	CBT40-SFH10C-160	P2862054C	10	24	32	160	41	M8x1.0	1.15
	CBT40-SFH12C-90	P2862055C	12	24	32	90	47	M10x1.0	1.10
	CBT40-SFH12C-160	P2862056C	12	24	32	160	47	M10x1.0	1.15
	CBT40-SFH14C-90	P2862057C	14	27	34	90	47	M10x1.0	1.20
	CBT40-SFH14C-160	P2862058C	14	27	34	160	47	M10x1.0	1.50
	CBT40-SFH16C-90	P2862059C	16	27	34	90	50	M12x1.0	1.20
	CBT40-SFH16C-160	P2862060C	16	27	34	160	50	M12x1.0	1.50
	CBT40-SFH18C-90	P2862061C	18	33	42	90	50	M12x1.0	1.30
	CBT40-SFH18C-160	P2862062C	18	33	42	160	50	M12x1.0	1.60
	CBT40-SFH20C-90	P2862063C	20	33	42	90	52	M16x1.0	1.40
	CBT40-SFH20C-160	P2862064C	20	33	42	160	52	M16x1.0	1.70
	CBT40-SFH25C-100	P2862065C	25	44	53	100	58	M16x1.0	1.70
	CBT40-SFH25C-160	P2862066C	25	44	53	160	58	M16x1.0	2.00
	CBT50-SFH6C-100	P2862067C	6	21	27	100	36	M5x0.8	1.50
	CBT50-SFH6C-160	P2862068C	6	21	27	160	36	M5x0.8	2.00
CBT50-SFH8C-100	P2862069C	8	21	27	100	36	M6x1.0	1.50	
CBT50-SFH8C-160	P2862070C	8	21	27	160	36	M6x1.0	2.00	
CBT50-SFH10C-100	P2862071C	10	24	32	100	42	M8x1.0	1.10	
CBT50-SFH10C-160	P2862072C	10	24	32	160	42	M8x1.0	1.15	
CBT50-SFH12C-100	P2862073C	12	24	32	100	47	M10x1.0	1.60	
CBT50-SFH12C-160	P2862074C	12	24	32	160	47	M10x1.0	2.10	
CBT50-SFH14C-100	P2862075C	14	27	34	100	47	M10x1.0	1.60	
CBT50-SFH14C-160	P2862076C	14	27	34	160	47	M10x1.0	2.10	
CBT50-SFH16C-100	P2862077C	16	27	34	100	50	M12x1.0	1.60	
CBT50-SFH16C-160	P2862078C	16	27	34	160	50	M12x1.0	2.10	
CBT50-SFH18C-100	P2862079C	18	33	42	100	50	M12x1.0	1.60	
CBT50-SFH18C-160	P2862080C	18	33	42	160	50	M12x1.0	2.00	
CBT50-SFH20C-100	P2862081C	20	33	42	100	52	M16x1.0	1.80	
CBT50-SFH20C-160	P2862082C	20	33	42	160	52	M16x1.0	2.20	
CBT50-SFH25C-100	P2862083C	25	44	53	100	58	M16x1.0	2.00	
CBT50-SFH25C-160	P2862084C	25	44	53	160	58	M16x1.0	2.40	

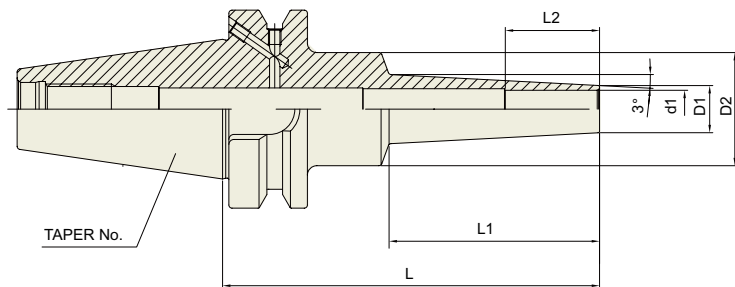
▶Without balancing screw. 未组装动平衡螺钉

▶Two Coolant Bores are a standard design for Coolant Channel type. 两个冷却孔是冷却通道类型的标准设计
▶Resealable Coolant Channel type is available upon request. 可重新密封的冷却剂通道类型可根据需要提供

SHRINK FIT HOLDER (EXTRA SLIM)

热缩刀柄 (超细型)

JIS B6339/
MAS 403-BT



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L1	L2	WEIGHT 重量(Kg)
30	BT30-SFHS3-60	P2779851S	3	6	20	60	22	9	
	BT30-SFHS3-80	P2779852S	3	6	20	80	42	9	
	BT30-SFHS3-120	P2779853S	3	6	20	120	67	9	
	BT30-SFHS4-60	P2779854S	4	7	20	60	22	12	
	BT30-SFHS4-80	P2779855S	4	7	20	80	42	12	
	BT30-SFHS4-120	P2779856S	4	7	20	120	67	12	
	BT30-SFHS6-60	P2779857S	6	9	20	60	22	18	
	BT30-SFHS6-80	P2779858S	6	9	20	80	42	18	
	BT30-SFHS6-120	P2779859S	6	9	20	120	67	18	
	BT40AD/B-SFHS3-95	P2779860S	3	6	26	95	42	9	
BT40AD/B-SFHS3-120	P2779861S	3	6	26	120	67	9		
BT40AD/B-SFHS3-160	P2779862S	3	6	26	160	97	9		
BT40AD/B-SFHS4-95	P2779863S	4	7	26	95	42	12		
BT40AD/B-SFHS4-120	P2779864S	4	7	26	120	67	12		
BT40AD/B-SFHS4-160	P2779865S	4	7	26	160	97	12		
BT40AD/B-SFHS6-95	P2779866S	6	9	26	95	42	18		
BT40AD/B-SFHS6-120	P2779867S	6	9	26	120	67	18		
BT40AD/B-SFHS6-160	P2779868S	6	9	26	160	97	18		
BT40AD/B-SFHS8-95	P2779869S	8	11	36	95	42	24		
BT40AD/B-SFHS8-120	P2779870S	8	11	36	120	67	24		
BT40AD/B-SFHS8-160	P2779871S	8	11	36	160	97	24		
BT40AD/B-SFHS10-95	P2779872S	10	13	36	95	42	30		
BT40AD/B-SFHS10-120	P2779873S	10	13	36	120	67	30		
BT40AD/B-SFHS10-160	P2779874S	10	13	36	160	97	30		
BT40AD/B-SFHS12-95	P2779875S	12	15	36	95	42	30		
BT40AD/B-SFHS12-120	P2779876S	12	15	36	120	67	30		
BT40AD/B-SFHS12-160	P2779877S	12	15	36	160	97	30		
BT50AD/B-SFHS3-110	P2779878S	3	6	26	110	42	9		
BT50AD/B-SFHS3-160	P2779879S	3	6	26	160	97	9		
BT50AD/B-SFHS4-110	P2779880S	4	7	26	110	42	12		
BT50AD/B-SFHS4-160	P2779881S	4	7	26	160	97	12		
BT50AD/B-SFHS6-110	P2779882S	6	9	26	110	42	18		
BT50AD/B-SFHS6-160	P2779883S	6	9	26	160	97	18		
BT50AD/B-SFHS8-110	P2779884S	8	11	36	110	42	24		
BT50AD/B-SFHS8-160	P2779885S	8	11	36	160	97	24		
BT50AD/B-SFHS10-110	P2779886S	10	13	36	110	42	30		
BT50AD/B-SFHS10-160	P2779887S	10	13	36	160	97	30		
BT50AD/B-SFHS12-110	P2779888S	12	15	36	110	42	30		
BT50AD/B-SFHS12-160	P2779889S	12	15	36	160	97	30		

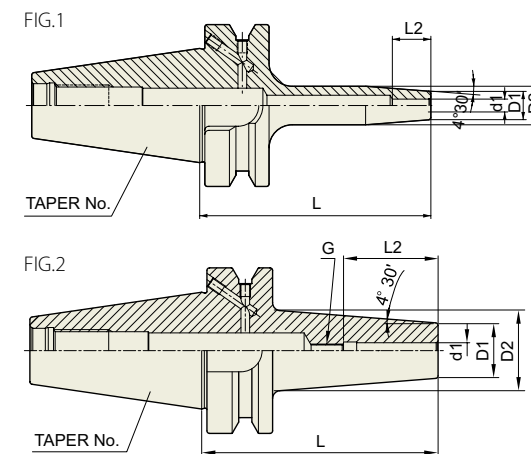
▶ CBT(BT DUAL CONTACT) Holder available.
CBT(BT 两面接触)刀柄 可用

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

SHRINK FIT HOLDER

热缩刀柄

JIS B6339/
MAS 403-BT



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	FIG.	WEIGHT 重量(Kg)
30	BT30AD/B-SFH3-60	P2776703	3	11	15	60	10	-	1	0.40
	BT30AD/B-SFH4-60	P2776702	4	11	15	60	12	-	1	0.40
	BT30AD/B-SFH5-60	P2776704	5	11	15	60	15	-	1	0.40
	BT30AD/B-SFH6-60	P2776701	6	21	27	60	36	M5×0.8	2	0.40
	BT30AD/B-SFH8-60	P2776705	8	21	27	60	36	M6×1.0	2	0.40
	BT30AD/B-SFH10-80	P2776706	10	24	32	80	42	M8×1.0	2	0.40
	BT30AD/B-SFH12-80	P2776707	12	24	32	80	47	M10×1.0	2	0.42
	BT30AD/B-SFH14-80	P2776708	14	27	34	80	47	M10×1.0	2	
	BT30AD/B-SFH16-80	P2776709	16	27	34	80	50	M12×1.0	2	0.42
	BT30AD/B-SFH18-80	P2776710	18	33	42	80	50	M12×1.0	2	
BT40AD/B-SFH3-90	P2776712	3	11	15	90	10	-	1	1.00	
BT40AD/B-SFH4-90	P2776713	4	11	15	90	12	-	1	1.00	
BT40AD/B-SFH5-90	P2776714	5	11	15	90	15	-	1	1.00	
BT40AD/B-SFH6-90	P2771601	6	21	27	90	36	M5×0.8	2	1.10	
BT40AD/B-SFH6-160	P2771602	6	21	27	160	36	M5×0.8	2	1.15	
BT40AD/B-SFH8-90	P2771603	8	21	27	90	36	M6×1.0	2	1.11	
BT40AD/B-SFH8-160	P2771604	8	21	27	160	36	M6×1.0	2	1.15	
BT40AD/B-SFH10-90	P2771605	10	24	32	90	42	M8×1.0	2	1.10	
BT40AD/B-SFH10-160	P2771606	10	24	32	160	42	M8×1.0	2	1.15	
BT40AD/B-SFH12-90	P2771607	12	24	32	90	47	M10×1.0	2	1.10	
BT40AD/B-SFH12-160	P2771608	12	24	32	160	47	M10×1.0	2	1.15	
BT40AD/B-SFH14-90	P2771611	14	27	34	90	47	M10×1.0	2	1.20	
BT40AD/B-SFH14-160	P2771612	14	27	34	160	47	M10×1.0	2	1.50	
BT40AD/B-SFH16-90	P2771609	16	27	34	90	50	M12×1.0	2	1.20	
BT40AD/B-SFH16-160	P2771610	16	27	34	160	50	M12×1.0	2	1.50	
BT40AD/B-SFH18-90	P2771613	18	33	42	90	50	M12×1.0	2	1.30	
BT40AD/B-SFH18-160	P2771614	18	33	42	160	50	M12×1.0	2	1.60	
BT40AD/B-SFH20-90	P2771615	20	33	42	90	52	M16×1.0	2	1.40	
BT40AD/B-SFH20-160	P2771616	20	33	42	160	52	M16×1.0	2	1.70	
BT40AD/B-SFH25-100	P2771617	25	44	53	100	58	M16×1.0	2	1.70	
BT40AD/B-SFH25-160	P2771618	25	44	53	160	58	M16×1.0	2	2.00	

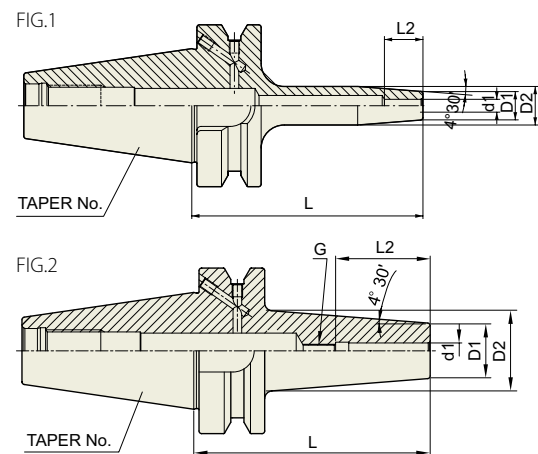
▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

▶ Without balancing screw.
未组装配平衡螺钉

SHRINK FIT HOLDER

热缩刀柄

JIS B6339/
MAS 403-BT



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	FIG.	WEIGHT 重量(Kg)
50	BT50AD/B-SFH3-100	P2771619	3	11	15	100	10	-	1	1.50
	BT50AD/B-SFH4-100	P2771620	4	11	15	100	12	-	1	1.50
	BT50AD/B-SFH5-100	P2771621	5	11	15	100	15	-	1	1.50
	BT50AD/B-SFH6-100	P2771622	6	21	27	100	36	M5x0.8	2	1.50
	BT50AD/B-SFH6-160	P2771623	6	21	27	160	36	M5x0.8	2	2.00
	BT50AD/B-SFH8-100	P2771624	8	21	27	100	36	M6x1.0	2	1.50
	BT50AD/B-SFH8-160	P2771625	8	21	27	160	36	M6x1.0	2	2.00
	BT50AD/B-SFH10-100	P2771626	10	24	32	100	42	M8x1.0	2	1.50
	BT50AD/B-SFH10-160	P2771627	10	24	32	160	42	M8x1.0	2	2.00
	BT50AD/B-SFH12-100	P2771628	12	24	32	100	47	M10x1.0	2	1.50
	BT50AD/B-SFH12-160	P2771629	12	24	32	160	47	M10x1.0	2	2.00
	BT50AD/B-SFH14-100	P2771630	14	27	34	100	47	M10x1.0	2	1.60
	BT50AD/B-SFH14-160	P2771631	14	27	34	160	47	M10x1.0	2	2.10
	BT50AD/B-SFH16-100	P2771632	16	27	34	100	50	M12x1.0	2	1.60
	BT50AD/B-SFH16-160	P2771633	16	27	34	160	50	M12x1.0	2	2.10
	BT50AD/B-SFH18-100	P2771634	18	33	42	100	50	M12x1.0	2	1.60
	BT50AD/B-SFH18-160	P2771635	18	33	42	160	50	M12x1.0	2	2.00
	BT50AD/B-SFH20-100	P2771636	20	33	42	100	52	M16x1.0	2	1.80
	BT50AD/B-SFH20-160	P2771637	20	33	42	160	52	M16x1.0	2	2.20
	BT50AD/B-SFH25-100	P2771638	25	44	53	100	58	M16x1.0	2	2.00
BT50AD/B-SFH25-160	P2771639	25	44	53	160	58	M16x1.0	2	2.40	

▶CAT(ANSI B5.50) taper and Inch type products are available.

CAT(ANSI B5.50)锥柄及英制产品可供选择

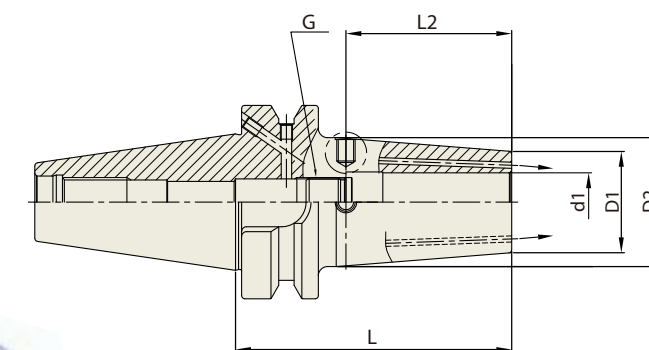
▶Without balancing screw.

未组装动平衡螺钉

SHRINK FIT HOLDER (COOLANT CHANNEL)

热缩刀柄 (冷却液喷射型)

JIS B6339/
MAS 403-BT



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	G	WEIGHT 重量(Kg)	
40	BT40AD/B-SFH6C-90	P2862085C	6	21	27	90	36	M5x0.8	1.10	
	BT40AD/B-SFH6C-160	P2862086C	6	21	27	160	36	M5x0.8	1.15	
	BT40AD/B-SFH8C-90	P2862087C	8	21	27	90	36	M6x1.0	1.11	
	BT40AD/B-SFH8C-160	P2862088C	8	21	27	160	36	M6x1.0	1.15	
	BT40AD/B-SFH10C-90	P2862089C	10	24	32	90	41	M8x1.0	1.10	
	BT40AD/B-SFH10C-160	P2862090C	10	24	32	160	41	M8x1.0	1.15	
	BT40AD/B-SFH12C-90	P2862091C	12	24	32	90	47	M10x1.0	1.10	
	BT40AD/B-SFH12C-160	P2862092C	12	24	32	160	47	M10x1.0	1.15	
	BT40AD/B-SFH14C-90	P2862093C	14	27	34	90	47	M10x1.0	1.20	
	BT40AD/B-SFH14C-160	P2862094C	14	27	34	160	47	M10x1.0	1.50	
	BT40AD/B-SFH16C-90	P2862095C	16	27	34	90	50	M12x1.0	1.20	
	BT40AD/B-SFH16C-160	P2862096C	16	27	34	160	50	M12x1.0	1.50	
	BT40AD/B-SFH18C-90	P2862097C	18	33	42	90	50	M12x1.0	1.30	
	BT40AD/B-SFH18C-160	P2862098C	18	33	42	160	50	M12x1.0	1.60	
	BT40AD/B-SFH20C-90	P2862099C	20	33	42	90	52	M16x1.0	1.40	
	BT40AD/B-SFH20C-160	P2862100C	20	33	42	160	52	M16x1.0	1.70	
	BT40AD/B-SFH25C-100	P2862101C	25	44	53	100	58	M16x1.0	1.70	
	BT40AD/B-SFH25C-160	P2862102C	25	44	53	160	58	M16x1.0	2.00	
	50	BT50AD/B-SFH6C-100	P2862103C	6	21	27	100	36	M5x0.8	1.50
		BT50AD/B-SFH6C-160	P2862104C	6	21	27	160	36	M5x0.8	2.00
BT50AD/B-SFH8C-100		P2862105C	8	21	27	100	36	M6x1.0	1.50	
BT50AD/B-SFH8C-160		P2862106C	8	21	27	160	36	M6x1.0	2.00	
BT50AD/B-SFH10C-100		P2862107C	10	24	32	100	42	M8x1.0	1.10	
BT50AD/B-SFH10C-160		P2862108C	10	24	32	160	42	M8x1.0	1.15	
BT50AD/B-SFH12C-100		P2862109C	12	24	32	100	47	M10x1.0	1.60	
BT50AD/B-SFH12C-160		P2862110C	12	24	32	160	47	M10x1.0	2.10	
BT50AD/B-SFH14C-100		P2862111C	14	27	34	100	47	M10x1.0	1.60	
BT50AD/B-SFH14C-160		P2862112C	14	27	34	160	47	M10x1.0	2.10	
BT50AD/B-SFH16C-100		P2862113C	16	27	34	100	50	M12x1.0	1.60	
BT50AD/B-SFH16C-160		P2862114C	16	27	34	160	50	M12x1.0	2.10	
BT50AD/B-SFH18C-100		P2862115C	18	33	42	100	50	M12x1.0	1.60	
BT50AD/B-SFH18C-160		P2862116C	18	33	42	160	50	M12x1.0	2.00	
BT50AD/B-SFH20C-100		P2862117C	20	33	42	100	52	M16x1.0	1.80	
BT50AD/B-SFH20C-160		P2862118C	20	33	42	160	52	M16x1.0	2.20	
BT50AD/B-SFH25C-100		P2862119C	25	44	53	100	58	M16x1.0	2.00	
BT50AD/B-SFH25C-160		P2862120C	25	44	53	160	58	M16x1.0	2.40	

▶CAT(ANSI B5.50) taper and Inch type products are available. CAT(ANSI B5.50)锥柄及英制产品可供选择

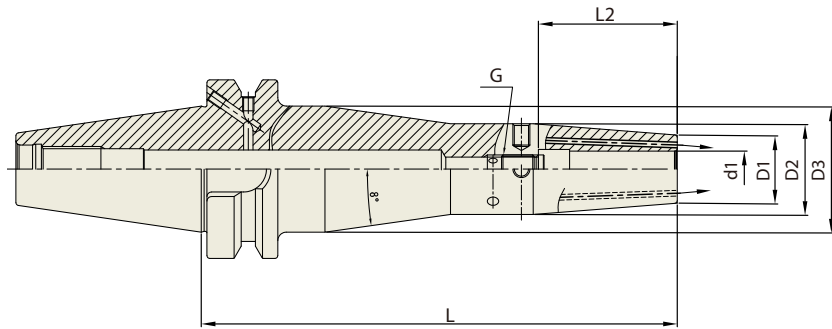
▶Without balancing screw. 未组装动平衡螺钉

▶Resealable Coolant Channel type is available upon request. 可重新密封的冷却剂通道类型可根据需要提供

SHRINK FIT HOLDER (REINFORCED)

JIS B6339/
MAS 403-BT

热缩刀柄 (加固)



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	D3	L	L2	G	WEIGHT 重量(Kg)
40	BT40AD/B-SFH6C TW-160	P2801601TW	6	21	27	41.9	160	36	M5x0.8	1.64
	BT40AD/B-SFH8C TW-160	P2801602TW	8	21	27	41.9	160	36	M6x1.0	1.63
	BT40AD/B-SFH10C TW-160	P2801603TW	10	24	32	46.9	160	42	M8x1.0	1.84
	BT40AD/B-SFH12C TW-160	P2801604TW	12	24	32	46.9	160	47	M10x1.0	1.83
	BT40AD/B-SFH14C TW-160	P2801605TW	14	27	34	48.9	160	47	M10x1.0	1.80
	BT40AD/B-SFH16C TW-160	P2801606TW	16	27	34	48.9	160	50	M12x1.0	1.92
50	BT50AD/B-SFH6C TW-160	P2801607TW	6	21	27	38.8	160	36	M5x0.8	4.12
	BT50AD/B-SFH8C TW-160	P2801608TW	8	21	27	38.8	160	36	M6x1.0	4.57
	BT50AD/B-SFH10C TW-160	P2801609TW	10	24	32	43.8	160	42	M8x1.0	4.76
	BT50AD/B-SFH12C TW-160	P2801610TW	12	24	32	43.8	160	47	M10x1.0	4.74
	BT50AD/B-SFH14C TW-160	P2801611TW	14	27	34	45.8	160	47	M10x1.0	4.70
	BT50AD/B-SFH16C TW-160	P2801612TW	16	27	34	45.8	160	50	M12x1.0	4.69
	BT50AD/B-SFH20C TW-160	P2801613TW	20	33	42	53.8	160	52	M16x1.0	5.17

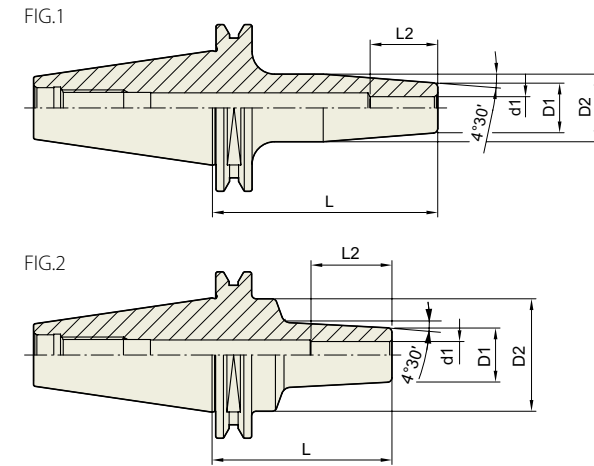
►CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

►Without balancing screw.
未组装机平衡螺钉

SHRINK FIT HOLDER

ISO 25

热缩刀柄



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	D2	L	L2	FIG.	WEIGHT 重量(Kg)
25	ISO25-SFH3-50	P2771651	3	11	15	50	10	1	
	ISO25-SFH4-50	P2771652	4	11	15	50	12	1	
	ISO25-SFH5-50	P2771653	5	11	15	50	15	1	
	ISO25-SFH6-40	P2771654	6	12	17	40	18	2	
	ISO25-SFH8-50	P2771655	8	14	18	50	30	2	
	ISO25-SFH10-50	P2771656	10	16	20	50	37	2	

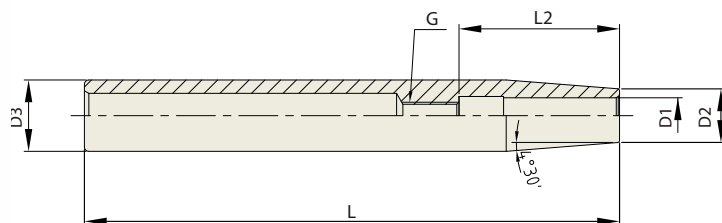
►Higher balancing grade is available upon request.
可根据要求提供高动平衡等级

►To be supplied with assembling of pull stud bolt.
可供应拉丁组装机产品

SHRINK FIT HOLDER (EXTENSION)

STRAIGHT

热缩刀柄 (延长杆)



Unit (单位) : mm

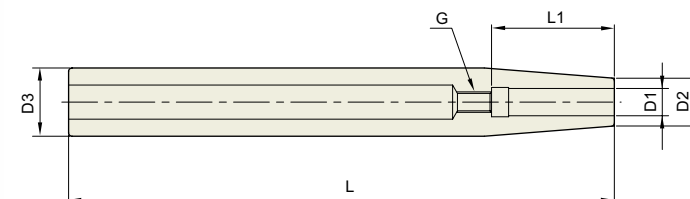
TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	D3	L	L1	G	WEIGHT 重量(Kg)
12	ST12-SFH3-120	P2767010	3	8	12	120	10	-	0.05
	ST12-SFH4-120	P2767015	4	8	12	120	12	-	0.05
	ST12-SFH5-120	P2771701	5	10	12	120	15	-	0.08
	ST12-SFH6-120	P2771709	6	10	12	120	36	M5×0.8	0.07
16	ST16-SFH3-120	P2767110	3	10	16	120	10	-	0.14
	ST16-SFH4-120	P2767115	4	10	16	120	12	-	0.14
	ST16-SFH5-120	P2771702	5	10	16	120	15	-	0.14
	ST16-SFH6-120	P2771710	6	10	16	120	36	M5×0.8	0.14
	ST16-SFH8-120	P2771711	8	12	16	120	36	M6×1.0	0.12
20	ST20-SFH3-120	P2771703	3	10	20	120	10	-	0.21
	ST20-SFH4-120	P2771704	4	10	20	120	12	-	0.21
	ST20-SFH5-120	P2771705	5	10	20	120	15	-	0.20
	ST20-SFH6-120	P2771712	6	10	20	120	36	M5×0.8	0.20
	ST20-SFH8-120	P2771713	8	12	20	120	36	M6×1.0	0.19
	ST20-SFH10-120	P2771714	10	14	20	120	43	M8×1.0	0.20
	ST20-SFH12-120	P2771715	12	16	20	120	48	M10×1.0	0.18

►Inch type products are available.
可供应英制产品

SHRINK FIT HOLDER (EXTENSION)

STRAIGHT

热缩刀柄 (延长杆)



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	D3	L	L1	G	WEIGHT 重量(Kg)
12	ST12-SFH3-160	P2767020	3	8	12	160	10	-	0.07
	ST12-SFH4-160	P2767025	4	8	12	160	12	-	0.07
	ST12-SFH5-160	P2771706	5	10	12	160	15	-	0.10
	ST12-SFH6-160	P2767030	6	10	12	160	36	M5×0.8	0.13
16	ST16-SFH3-160	P2767120	3	10	16	160	10	-	0.20
	ST16-SFH4-160	P2767125	4	10	16	160	12	-	0.20
	ST16-SFH5-160	P2771707	5	10	16	160	15	-	0.20
	ST16-SFH6-160	P2767130	6	10	16	160	36	M5×0.8	0.19
	ST16-SFH8-160	P2767135	8	12	16	160	36	M6×1.0	0.16
20	ST20-SFH3-160	P2767210	3	10	20	160	10	-	0.30
	ST20-SFH4-160	P2767215	4	10	20	160	12	-	0.30
	ST20-SFH5-160	P2771708	5	10	20	160	15	-	0.29
	ST20-SFH6-160	P2767220	6	10	20	160	36	M5×0.8	0.29
	ST20-SFH8-160	P2767225	8	12	20	160	36	M6×1.0	0.27
	ST20-SFH10-160	P2767230	10	14	20	160	43	M8×1.0	0.27
	ST20-SFH12-160	P2767235	12	16	20	160	48	M10×1.0	0.23
	ST25-SFH3-160	P2771716	3	10	25	160	10	-	0.41
25	ST25-SFH4-160	P2771717	4	10	25	160	12	-	0.39
	ST25-SFH5-160	P2771718	5	15	25	160	15	-	0.50
	ST25-SFH6-160	P2771719	6	20	25	160	36	M5×0.8	0.55
	ST25-SFH8-160	P2771720	8	20	25	160	36	M6×1.0	0.51
	ST25-SFH10-160	P2771721	10	20	25	160	43	M8×1.0	0.50
	ST25-SFH12-160	P2771722	12	20	25	160	48	M10×1.0	0.44
	ST25-SFH14-160	P2771723	14	20	25	160	48	M10×1.0	0.40
	ST25-SFH16-160	P2771724	16	22	25	160	51	M12×1.0	0.39
32	ST32-SFH6-160	P2771725	6	20	32	160	36	M5×0.8	0.92
	ST32-SFH8-160	P2771726	8	20	32	160	36	M6×1.0	0.88
	ST32-SFH10-160	P2771727	10	24	32	160	43	M8×1.0	0.83
	ST32-SFH12-160	P2771728	12	24	32	160	48	M10×1.0	0.78
	ST32-SFH14-160	P2771729	14	27	32	160	48	M10×1.0	0.78
	ST32-SFH16-160	P2771730	16	27	32	160	51	M12×1.0	0.76
	ST32-SFH18-160	P2771731	18	27	32	160	51	M12×1.0	0.63
ST32-SFH20-160	P2771732	20	27	32	160	53	M16×1.0	0.60	

►Inch type products are available.
可供应英制产品

YIG SHRINK FIT HOLDER

SFH

SHRINK FIT HEATING MACHINE
热缩刀柄加热器

TECHINCAL INFORMATION
技术信息

FEATURE

- ▶ Electromagnetic induction heating system
- ▶ Automatic voltage adjustment : AC 100V~240V
- ▶ Small size and light weight
- ▶ Easy to operate

特征&优点

- ▶ 电磁感应加热系统
- ▶ 对应AC100V~240V电压
- ▶ 体积小及重量轻
- ▶ 便于操作

SPECIFICATION

CHARACTERISTICS 特点	SPECIFICATION 主要配置
MODEL No. 型号	SF-3300
EDP No.	P2781003
Power 电源	100V~240V AC, 50/60Hz, Max. 3.6KW
Dimension 大小	380(W) x 350(D) x 720(H)mm
Weight 重量	22Kg
Holder Support 刀柄柄部	SK, HSK, BT



YG-1 TOOLING SYSTEM

ER COLLET CHUCK

ER夹头刀柄



- DIN 69871-SK
- DIN 69893/ISO 12164-1-HSK
- CBT (BT DUAL CONTACT)
- JIS B6339/MAS 403-BT
- ISO 20/25
- DIN 228-MTA/MTB
- STRAIGHT-K
- NC AND BRIDGEPORT-R8
- GOST 25827-93
- ACCESSORY & PART
- ER COLLET / TAP ER COLLET / ER NUT & SEALING DISK / SPANNER

ER COLLET CHUCK (ER夹头刀柄)

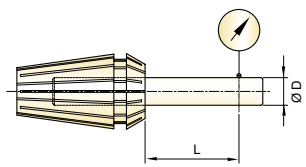


FEATURE 特征

- Powerful chucking, high precision and easy operation
- Precise machining is stably maintained without chattering in High-Speed rotation.
- Due to nut designed with small bore, interference with work piece can be minimized and it enables speedy operation.
- Various nuts can be selected and used according to usage.
- Unlike single taper, double taper has long chucking part providing excellent torque power.

- 强劲的夹持力, 高精密度, 简便的操作性.
- 高速旋转, 无振动, 实现稳定的精密加工.
- 螺母小径设计, 降低干涉, 在高速加工时更加稳定.
- 多种规格的螺母, 方便客户选用.
- 双锥, 相对单锥夹持部位较长, 加持力更加优秀.

HIGH PRECISION 高精密度



- By using high precision collet, excellent T.I.R can be achievable.
- With fine cutting of 16 sections, it has excellent contractile force, which makes higher precision can be achieved.

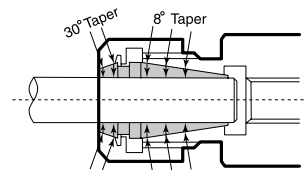
- 使用超精密筒夹降低振动(ER-UF)
- 微切16等分提高夹持伸缩力, 更加提高精密密度.

D	L	Max.T.I.R(STD.) 最大.T.I.R(标准)
Ø1 ~ Ø1.6	6	0.015
Ø1.6 ~ Ø3	10	0.015
Ø3 ~ Ø6	16	0.015
Ø6 ~ Ø10	25	0.015
Ø10 ~ Ø18	40	0.020
Ø18 ~ Ø26	50	0.020
Ø26 ~ Ø34	60	0.020

STRONG TORQUE POWER 强劲的夹持力

- Longer clamping part of double taper collet provides stronger torque power.
- Stronger torque power can be achieved if ball bearing nut is used.

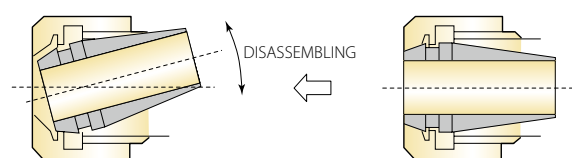
- 双锥筒夹比单锥筒夹夹持面更广, 故此夹持力更加优秀.
- 另外, 使用滚珠轴承螺母进一步提高夹持力.



EASY ASSEMBLING AND DISASSEMBLING 简便的操作性

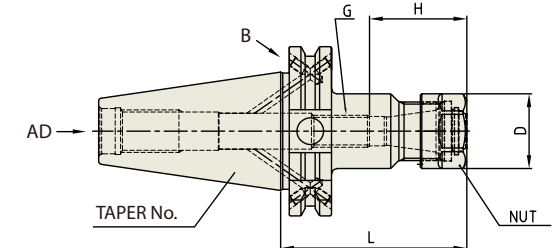
- For assembling or disassembling of collet, first gently insert groove part of collet into eccentric portion inside nut, and fasten it to same direction as screw or loosen it reversely.
- 首先, 从螺母的偏心部位把筒夹卡住, 之后螺母和筒夹一体根据螺纹的方向在刀柄上组装.

- Notice : In case of Ø12.2mm tool, don't use Ø12~11mm collet. But use collet with Ø12.5~11.5mm. (In case of general cutting process, Ø13~12mm collet is usable)
- 注意 : Ø12.2mm钻头, 绝不能使用在Ø12~11mm筒夹应使用 Ø12.5~11.5mm筒夹(若不进行精密加工可使用 Ø13~12mm筒夹)



ER COLLET CHUCK ER夹头刀柄

DIN 69871-SK



DIN 69871-SK



2.5G

25,000 RPM

AD/B



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页



ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

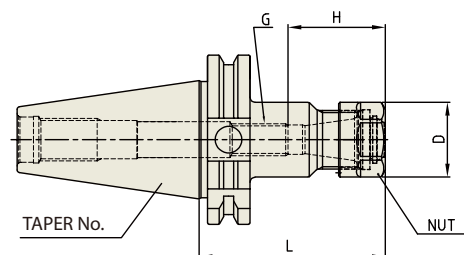
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
40	SK40AD/B-ER11-70	P2774812	0.5 - 7.0	70	19	M6	45	ER11	0.90
	SK40AD/B-ER11-100	P2774826	0.5 - 7.0	100	19	M6	45	ER11	0.95
	SK40AD/B-ER16-70	P2774801	0.5 - 10.0	70	28	M12	36	ER16	0.44
	SK40AD/B-ER16-100	P2774804	0.5 - 10.0	100	28	M12	36	ER16	0.56
	SK40AD/B-ER16-130	P2774827	0.5 - 10.0	130	28	M12	36	ER16	0.69
	SK40AD/B-ER16-160	P2774828	0.5 - 10.0	160	28	M12	36	ER16	0.81
	SK40AD/B-ER20-70	P2774813	0.5 - 13.0	70	34	M12	44.5	ER20	0.47
	SK40AD/B-ER20-100	P2774820	0.5 - 13.0	100	34	M12	44.5	ER20	0.64
	SK40AD/B-ER20-130	P2774829	0.5 - 13.0	130	34	M12	44.5	ER20	0.80
	SK40AD/B-ER20-160	P2774830	0.5 - 13.0	160	34	M12	44.5	ER20	1.00
	SK40AD/B-ER25-70	P2774802	1.0 - 16.0	70	42	M12	52	ER25	0.56
	SK40AD/B-ER25-100	P2774805	1.0 - 16.0	100	42	M12	52	ER25	0.84
	SK40AD/B-ER25-130	P2774831	1.0 - 16.0	130	42	M12	52	ER25	1.14
	SK40AD/B-ER25-160	P2774832	1.0 - 16.0	160	42	M12	52	ER25	1.44
	SK40AD/B-ER32-70	P2774803	1.0 - 20.0	70	50	M12	60	ER32	0.51
	SK40AD/B-ER32-100	P2774806	1.0 - 20.0	100	50	M12	60	ER32	0.88
	SK40AD/B-ER32-130	P2774833	1.0 - 20.0	130	50	M12	60	ER32	1.21
	SK40AD/B-ER32-160	P2774834	1.0 - 20.0	160	50	M12	60	ER32	1.54
	SK40AD/B-ER40-80	P2774814	2.0 - 30.0	80	63	M12	53	ER40	0.65
	SK40AD/B-ER40-100	P2774835	2.0 - 30.0	100	63	M12	75	ER40	0.90
SK40AD/B-ER40-130	P2774836	2.0 - 30.0	130	63	M12	75	ER40	1.34	
SK40AD/B-ER40-160	P2774837	2.0 - 30.0	160	63	M12	75	ER40	1.77	
50	SK50AD/B-ER16-70	P2774815	0.5 - 10.0	70	28	M12	36	ER16	2.71
	SK50AD/B-ER16-100	P2774821	0.5 - 10.0	100	28	M12	45	ER16	2.82
	SK50AD/B-ER16-130	P2774838	0.5 - 10.0	130	28	M12	36	ER16	2.92
	SK50AD/B-ER16-160	P2774839	0.5 - 10.0	160	28	M12	36	ER16	3.01
	SK50AD/B-ER20-70	P2774816	0.5 - 13.0	70	34	M12	44.5	ER20	2.78
	SK50AD/B-ER20-100	P2774822	0.5 - 13.0	100	34	M12	50	ER20	2.88
	SK50AD/B-ER20-130	P2774840	0.5 - 13.0	130	34	M12	50	ER20	3.02
	SK50AD/B-ER20-160	P2774841	0.5 - 13.0	160	34	M12	50	ER20	3.16
	SK50AD/B-ER25-70	P2774817	1.0 - 16.0	70	42	M12	65	ER25	2.75
	SK50AD/B-ER25-100	P2774823	1.0 - 16.0	100	42	M12	52	ER25	3.06
	SK50AD/B-ER25-130	P2774842	1.0 - 16.0	130	42	M12	42	ER25	3.32
	SK50AD/B-ER25-160	P2774843	1.0 - 16.0	160	42	M12	42	ER25	3.57
	SK50AD/B-ER32-70	P2774818	1.0 - 20.0	70	50	M12	60	ER32	2.84
	SK50AD/B-ER32-100	P2774824	1.0 - 20.0	100	50	M12	60	ER32	3.29
	SK50AD/B-ER32-130	P2774844	1.0 - 20.0	130	50	M12	73	ER32	3.67
	SK50AD/B-ER32-160	P2774845	1.0 - 20.0	160	50	M12	73	ER32	4.06
	SK50AD/B-ER40-80	P2774819	2.0 - 30.0	80	63	M12	69	ER40	3.10
	SK50AD/B-ER40-100	P2774825	2.0 - 30.0	100	63	M12	75	ER40	3.56
	SK50AD/B-ER40-130	P2774846	2.0 - 30.0	130	63	M12	75	ER40	4.22
	SK50AD/B-ER40-160	P2774847	2.0 - 30.0	160	63	M12	75	ER40	4.88

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

ER COLLET CHUCK
ER夹头刀柄

DIN 69871-SK



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

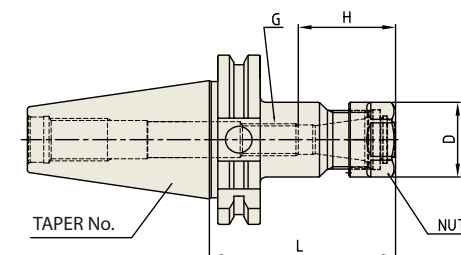
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
30	SK30-ER11-55	P2527001	0.5 - 7.0	55	19	M6	45	ER11	0.43
	SK30-ER16-55	P2527002	0.5 - 10.0	55	28	M12	45	ER16	0.44
	SK30-ER20-55	P2527003	0.5 - 13.0	55	34	M12	50	ER20	0.44
	SK30-ER25-55	P2527004	1.0 - 16.0	55	42	M12	65	ER25	0.42
	SK30-ER32-60	P2527005	1.0 - 20.0	60	50	M12	65	ER32	0.46
40	SK40-ER11-70	P2527006	0.5 - 7.0	70	19	M6	45	ER11	0.90
	SK40-ER11-100	P2527027	0.5 - 7.0	100	19	M6	45	ER11	0.95
	SK40-ER16-70	P2776417	0.5 - 10.0	70	28	M12	45	ER16	0.44
	SK40-ER16-100	P2527018	0.5 - 10.0	100	28	M12	45	ER16	0.56
	SK40-ER16-130	P2527028	0.5 - 10.0	130	28	M12	45	ER16	0.69
	SK40-ER16-160	P2527029	0.5 - 10.0	160	28	M12	45	ER16	0.81
	SK40-ER20-70	P2776418	0.5 - 13.0	70	34	M12	50	ER20	0.47
	SK40-ER20-100	P2527019	0.5 - 13.0	100	34	M12	50	ER20	0.64
	SK40-ER20-130	P2527030	0.5 - 13.0	130	34	M12	50	ER20	0.80
	SK40-ER20-160	P2527031	0.5 - 13.0	160	34	M12	50	ER20	1.00
	SK40-ER25-70	P2776419	1.0 - 16.0	70	42	M12	65	ER25	0.56
	SK40-ER25-100	P2776429	1.0 - 16.0	100	42	M12	65	ER25	0.84
	SK40-ER25-130	P2527032	1.0 - 16.0	130	42	M12	65	ER25	1.14
	SK40-ER25-160	P2527033	1.0 - 16.0	160	42	M12	65	ER25	1.44
	SK40-ER32-70	P2776420	1.0 - 20.0	70	50	M12	65	ER32	0.51
SK40-ER32-100	P2776430	1.0 - 20.0	100	50	M12	65	ER32	0.88	
SK40-ER32-130	P2527034	1.0 - 20.0	130	50	M12	65	ER32	1.21	
SK40-ER32-160	P2527035	1.0 - 20.0	160	50	M12	65	ER32	1.54	
SK40-ER40-80	P2527011	2.0 - 30.0	80	63	M12	69	ER40	0.65	
SK40-ER40-100	P2527036	2.0 - 30.0	100	63	M12	69	ER40	0.90	
SK40-ER40-130	P2527037	2.0 - 30.0	130	63	M12	69	ER40	1.34	
SK40-ER40-160	P2527038	2.0 - 30.0	160	63	M12	69	ER40	1.77	

► CAT(ANSI B5.50) taper and Inch type products are available.
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ER COLLET CHUCK
ER夹头刀柄

DIN 69871-SK



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

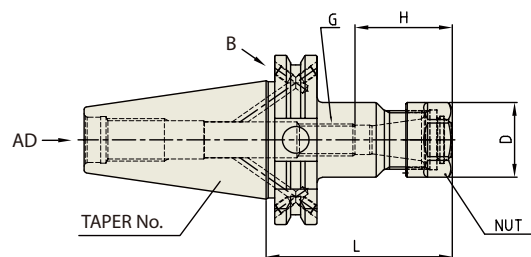
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
50	SK50-ER16-70	P2527012	0.5 - 10.0	70	28	M12	45	ER16	2.71
	SK50-ER16-100	P2527022	0.5 - 10.0	100	28	M12	45	ER16	2.82
	SK50-ER16-130	P2527039	0.5 - 10.0	130	28	M12	45	ER16	2.92
	SK50-ER16-160	P2527040	0.5 - 10.0	160	28	M12	45	ER16	3.01
	SK50-ER20-70	P2776423	0.5 - 13.0	70	34	M12	50	ER20	2.78
	SK50-ER20-100	P2527023	0.5 - 13.0	100	34	M12	40.5	ER20	2.88
	SK50-ER20-130	P2527041	0.5 - 13.0	130	34	M12	50	ER20	3.02
	SK50-ER20-160	P2527042	0.5 - 13.0	160	34	M12	50	ER20	3.16
	SK50-ER25-70	P2776424	1.0 - 16.0	70	42	M12	65	ER25	2.75
	SK50-ER25-100	P2527024	1.0 - 16.0	100	42	M12	65	ER25	3.06
	SK50-ER25-130	P2527043	1.0 - 16.0	130	42	M12	65	ER25	3.32
	SK50-ER25-160	P2527044	1.0 - 16.0	160	42	M12	65	ER25	3.57
	SK50-ER32-70	P2776425	1.0 - 20.0	70	50	M12	65	ER32	2.84
	SK50-ER32-100	P2527025	1.0 - 20.0	100	50	M12	65	ER32	3.29
	SK50-ER32-130	P2527045	1.0 - 20.0	130	50	M12	65	ER32	3.67
	SK50-ER32-160	P2527046	1.0 - 20.0	160	50	M12	65	ER32	4.06
	SK50-ER40-80	P2527016	2.0 - 30.0	80	63	M12	75	ER40	3.10
	SK50-ER40-100	P2527026	2.0 - 30.0	100	63	M12	75	ER40	3.56
	SK50-ER40-130	P2527047	2.0 - 30.0	130	63	M12	75	ER40	4.22
	SK50-ER40-160	P2527048	2.0 - 30.0	160	63	M12	75	ER40	4.88

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

ER COLLET CHUCK
ER夹头刀柄

DIN 69871-SK



DIN 69871-SK **AT3** **6.3G** **15,000 RPM** **AD/B**
 ER Collet, Refer to page 103-109 ER 变径套, 请参阅 103页~109页
 ER nut, Sealing disk and Spanner refer to page 110-115 ER螺母, 密封圈, 扳手 请参考110~115页

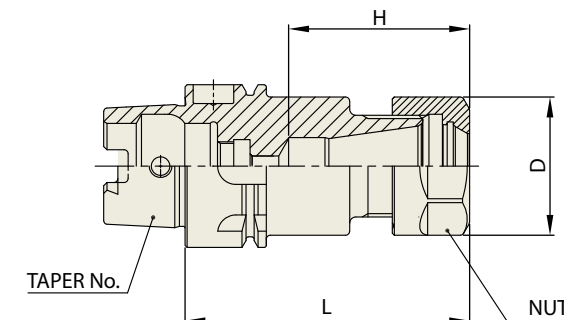
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
40	SK40AD/B-ER11-70	P2537006	0.5 - 7.0	70	19	M6	45	ER11	0.90
	SK40AD/B-ER11-100	P2771802	0.5 - 7.0	100	19	M6	45	ER11	0.95
	SK40AD/B-ER16-70	P2537033	0.5 - 10.0	70	28	M12	36	ER16	0.44
	SK40AD/B-ER16-100	P2537017	0.5 - 10.0	100	28	M12	36	ER16	0.56
	SK40AD/B-ER16-130	P2771803	0.5 - 10.0	130	28	M12	36	ER16	0.69
	SK40AD/B-ER16-160	P2771804	0.5 - 10.0	160	28	M12	36	ER16	0.81
	SK40AD/B-ER20-70	P2537034	0.5 - 13.0	70	34	M12	44.5	ER20	0.47
	SK40AD/B-ER20-100	P2537018	0.5 - 13.0	100	34	M12	44.5	ER20	0.64
	SK40AD/B-ER20-130	P2771805	0.5 - 13.0	130	34	M12	44.5	ER20	0.80
	SK40AD/B-ER20-160	P2771806	0.5 - 13.0	160	34	M12	44.5	ER20	1.00
	SK40AD/B-ER25-70	P2537009	1.0 - 16.0	70	42	M12	52	ER25	0.56
	SK40AD/B-ER25-100	P2537019	1.0 - 16.0	100	42	M12	52	ER25	0.84
	SK40AD/B-ER25-130	P2771807	1.0 - 16.0	130	42	M12	52	ER25	1.14
	SK40AD/B-ER25-160	P2771808	1.0 - 16.0	160	42	M12	52	ER25	1.44
	SK40AD/B-ER32-70	P2537032	1.0 - 20.0	70	50	M12	60	ER32	0.51
	SK40AD/B-ER32-100	P2537020	1.0 - 20.0	100	50	M12	60	ER32	0.88
	SK40AD/B-ER32-130	P2771809	1.0 - 20.0	130	50	M12	60	ER32	1.21
	SK40AD/B-ER32-160	P2771810	1.0 - 20.0	160	50	M12	60	ER32	1.54
	SK40AD/B-ER40-80	P2537011	2.0 - 30.0	80	63	M12	53	ER40	0.65
	SK40AD/B-ER40-100	P2771811	2.0 - 30.0	100	63	M12	75	ER40	0.90
SK40AD/B-ER40-130	P2771812	2.0 - 30.0	130	63	M12	75	ER40	1.34	
SK40AD/B-ER40-160	P2771813	2.0 - 30.0	160	63	M12	75	ER40	1.77	
50	SK50AD/B-ER16-70	P2537012	0.5 - 10.0	70	28	M12	36	ER16	2.71
	SK50AD/B-ER16-100	P2537021	0.5 - 10.0	100	28	M12	45	ER16	2.82
	SK50AD/B-ER16-130	P2771814	0.5 - 10.0	130	28	M12	36	ER16	2.92
	SK50AD/B-ER16-160	P2771815	0.5 - 10.0	160	28	M12	36	ER16	3.01
	SK50AD/B-ER20-70	P2771801	0.5 - 13.0	70	34	M12	44.5	ER20	2.78
	SK50AD/B-ER20-100	P2537022	0.5 - 13.0	100	34	M12	50	ER20	2.88
	SK50AD/B-ER20-130	P2771816	0.5 - 13.0	130	34	M12	50	ER20	3.02
	SK50AD/B-ER20-160	P2771817	0.5 - 13.0	160	34	M12	50	ER20	3.16
	SK50AD/B-ER25-70	P2600030	1.0 - 16.0	70	42	M12	65	ER25	2.75
	SK50AD/B-ER25-100	P2537023	1.0 - 16.0	100	42	M12	52	ER25	3.06
	SK50AD/B-ER25-130	P2771818	1.0 - 16.0	130	42	M12	42	ER25	3.32
	SK50AD/B-ER25-160	P2771819	1.0 - 16.0	160	42	M12	42	ER25	3.57
	SK50AD/B-ER32-70	P2537035	1.0 - 20.0	70	50	M12	60	ER32	2.84
	SK50AD/B-ER32-100	P2537024	1.0 - 20.0	100	50	M12	60	ER32	3.29
	SK50AD/B-ER32-130	P2771820	1.0 - 20.0	130	50	M12	73	ER32	3.67
	SK50AD/B-ER32-160	P2771821	1.0 - 20.0	160	50	M12	73	ER32	4.06
	SK50AD/B-ER40-80	P2537016	2.0 - 30.0	80	63	M12	69	ER40	3.10
	SK50AD/B-ER40-100	P2537025	2.0 - 30.0	100	63	M12	75	ER40	3.56
	SK50AD/B-ER40-130	P2771822	2.0 - 30.0	130	63	M12	75	ER40	4.22
	SK50AD/B-ER40-160	P2771823	2.0 - 30.0	160	63	M12	75	ER40	4.88

► CAT(ANSI B5.50) taper and Inch type products are available.
 CAT(ANSI B5.50)锥柄及英制产品可供选择

ER COLLET CHUCK
ER夹头刀柄

DIN 69893/
ISO 12164-1-HSK FORM A

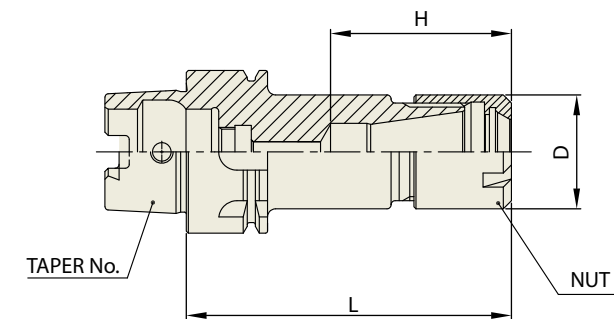


DIN 69893-HSK **2.5G** **25,000 RPM** **AD**
 ER Collet, Refer to page 103-109 ER 变径套, 请参阅 103页~109页
 ER nut, Sealing disk and Spanner refer to page 110-115 ER螺母, 密封圈, 扳手 请参考110~115页

◆ Standard Type

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
32A	HSK32A-ER11-50	P2774908	0.5 - 7.0	50	19	28.6	ER11	0.18
	HSK32A-ER16-60	P2774909	0.5 - 10.0	60	28	36.6	ER16	0.21
40A	HSK40A-ER11-60	P2774910	0.5 - 7.0	60	19	28.6	ER11	0.40
	HSK40A-ER16-60	P2774911	0.5 - 10.0	60	28	36.6	ER16	0.50
	HSK40A-ER20-70	P2774912	0.5 - 13.0	70	34	44.5	ER20	0.80



◆ Slim Type

Unit (单位) : mm

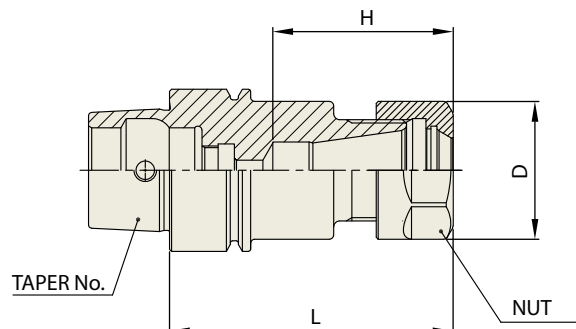
TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
32A	HSK32A-ER8M-40	P2774913	0.5 - 5.0	40	12	21	ER8M/ER8	0.18
	HSK32A-ER11M-40	P2774914	0.5 - 7.0	40	16	23	ER11M/ER11	0.18
	HSK32A-ER16M-60	P2774915	0.5 - 10.0	60	22	38	ER16M/ER16	0.21
	HSK32A-ER20M-60	P2774916	0.5 - 13.0	60	28	39.5	ER20M/ER20	0.21
40A	HSK40A-ER11M-75	P2774917	0.5 - 7.0	75	16	29.5	ER11M/ER11	0.40
	HSK40A-ER16M-80	P2774918	0.5 - 10.0	80	22	38	ER16M/ER16	0.50
	HSK40A-ER20M-80	P2774919	0.5 - 13.0	80	28	44.5	ER20M/ER20	0.70
	HSK40A-ER25M-80	P2774920	1.0 - 16.0	80	35	52	ER25M/ER25	0.80

WIG ER COLLET CHUCK

ER

ER COLLET CHUCK
ER夹头刀柄

DIN 69893/
ISO 12164-1-HSK FORM E



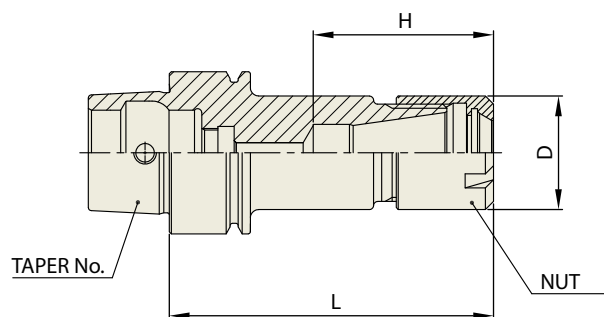
ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

◆ Standard Type

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
25E	HSK25E-ER11-40	P2774921	0.5 - 7.0	40	19	23.5	ER11	0.15
	HSK25E-ER16-50	P2774922	0.5 - 10.0	50	28	32.5	ER16	0.18
32E	HSK32E-ER11-50	P2774923	0.5 - 7.0	50	19	28.6	ER11	0.18
	HSK32E-ER16-60	P2774924	0.5 - 10.0	60	28	36.6	ER16	0.21
40E	HSK40E-ER11-60	P2774925	0.5 - 7.0	60	19	28.6	ER11	0.40
	HSK40E-ER16-60	P2774926	0.5 - 10.0	60	28	36.6	ER16	0.50
	HSK40E-ER20-70	P2774927	0.5 - 13.0	70	34	44.5	ER20	0.80



◆ Slim Type

Unit (单位) : mm

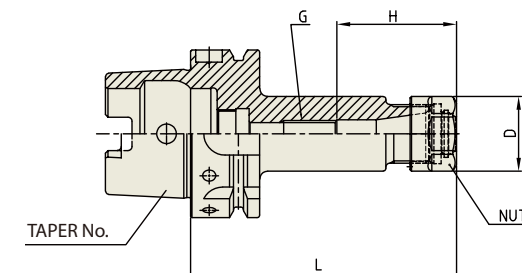
TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
25E	HSK25E-ER8M-35	P2774928	0.5 - 5.0	35	12	21	ER8M / ER8	0.15
	HSK25E-ER11M-40	P2774929	0.5 - 7.0	40	16	24.5	ER11M / ER11	0.18
32E	HSK32E-ER8M-40	P2774930	0.5 - 5.0	40	12	21	ER8M / ER8	0.15
	HSK32E-ER11M-40	P2774931	0.5 - 7.0	40	16	23	ER11M / ER11	0.18
	HSK32E-ER16M-60	P2774932	0.5 - 10.0	60	22	38	ER16M / ER16	0.21
	HSK32E-ER20M-60	P2774933	0.5 - 13.0	60	28	39.5	ER20M / ER20	0.21
40E	HSK40E-ER11M-75	P2774934	0.5 - 7.0	75	16	29.5	ER11M / ER11	0.40
	HSK40E-ER16M-80	P2774935	0.5 - 10.0	80	22	38	ER16M / ER16	0.50
	HSK40E-ER20M-80	P2774936	0.5 - 13.0	80	28	44.5	ER20M / ER20	0.70
	HSK40E-ER25M-80	P2774937	1.0 - 16.0	80	35	52	ER25M / ER25	0.80

WIG ER COLLET CHUCK

ER

ER COLLET CHUCK
ER夹头刀柄

DIN 69893/
ISO 12164-1-HSK FORM A



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

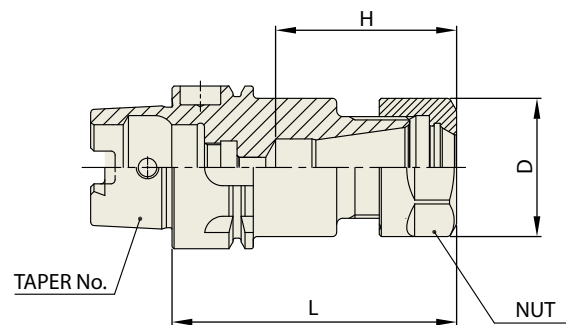
◆ Standard Type

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
50A	HSK50A-ER16-100	P2774938	0.5 - 10.0	100	28	M12	45	ER16	0.70
	HSK50A-ER20-100	P2774939	0.5 - 13.0	100	35	M12	50	ER20	0.90
	HSK50A-ER25-100	P2774940	1.0 - 16.0	100	42	M12	50	ER25	1.20
	HSK50A-ER32-100	P2774941	1.0 - 20.0	100	50	M12	47	ER32	1.50
63A	HSK63A-ER16-100	P2774901	0.5 - 10.0	100	28	M12	45	ER16	1.20
	HSK63A-ER20-100	P2774942	0.5 - 13.0	100	35	M12	50	ER20	1.50
	HSK63A-ER25-100	P2774902	1.0 - 16.0	100	42	M12	57	ER25	1.80
	HSK63A-ER32-100	P2774903	1.0 - 20.0	100	50	M12	47	ER32	2.00
80A	HSK63A-ER40-120	P2774904	2.0 - 30.0	120	63	M12	69	ER40	2.30
	HSK80A-ER16-100	P2774943	0.5 - 10.0	100	28	M12	45	ER16	1.77
	HSK80A-ER25-100	P2774944	1.0 - 16.0	100	42	M12	47	ER20	1.79
100A	HSK80A-ER32-100	P2774945	1.0 - 20.0	100	50	M12	53	ER25	1.95
	HSK100A-ER16-100	P2774905	0.5 - 10.0	100	28	M12	45	ER16	2.60
	HSK100A-ER20-100	P2774946	0.5 - 13.0	100	35	M12	50	ER20	2.70
	HSK100A-ER25-100	P2774906	1.0 - 16.0	100	42	M12	57	ER25	2.90
100A	HSK100A-ER32-100	P2774907	1.0 - 20.0	100	50	M12	56.5	ER32	3.10
	HSK100A-ER40-120	P2774947	2.0 - 30.0	120	63	M12	69	ER40	3.30

ER COLLET CHUCK
ER夹头刀柄

DIN 69893/
ISO 12164-1-HSK FORM A



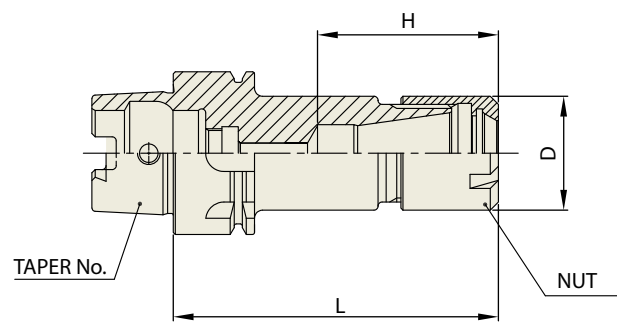
ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

◆ Standard Type

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
32A	HSK32A-ER11-50	P2771908	0.5 - 7.0	50	19	28.6	ER11	0.81
	HSK32A-ER16-60	P2771909	0.5 - 10.0	60	28	36.6	ER16	0.21
40A	HSK40A-ER11-60	P2771901	0.5 - 7.0	60	19	28.6	ER11	0.40
	HSK40A-ER16-60	P2771902	0.5 - 10.0	60	28	36.6	ER16	0.50
	HSK40A-ER20-70	P2771903	0.5 - 13.0	70	34	44.5	ER20	0.80



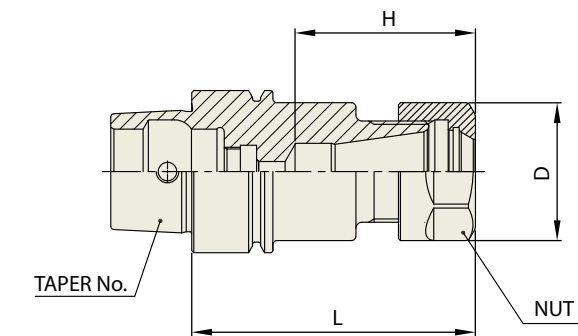
◆ Slim Type

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
32A	HSK32A-ER8M-40	P2771910	0.5 - 5.0	40	12	21	ER8M/ER8	0.15
	HSK32A-ER11M-40	P2771911	0.5 - 7.0	40	16	23	ER11M/ER11	0.15
	HSK32A-ER16M-60	P2771912	0.5 - 10.0	60	22	38	ER16M/ER16	0.21
	HSK32A-ER20M-60	P2771913	0.5 - 13.0	60	28	39.5	ER20M/ER20	0.20
40A	HSK40A-ER11M-75	P2771914	0.5 - 7.0	75	16	29.5	ER11M/ER11	0.40
	HSK40A-ER16M-80	P2771915	0.5 - 10.0	80	22	38	ER16M/ER16	0.50
	HSK40A-ER20M-80	P2771916	0.5 - 13.0	80	28	44.5	ER20M/ER20	0.70
	HSK40A-ER25M-80	P2771917	1.0 - 16.0	80	35	52	ER25M/ER25	0.80

ER COLLET CHUCK
ER夹头刀柄

DIN 69893/
ISO 12164-1-HSK FORM E



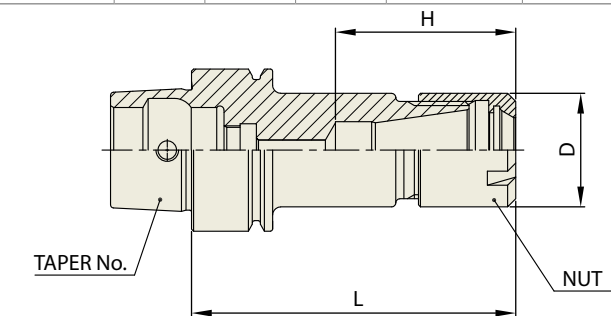
ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

◆ Standard Type

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
25E	HSK25E-ER11-40	P2771935	0.5 - 7.0	40	19	23.5	ER11	0.16
	HSK25E-ER16-50	P2771936	0.5 - 10.0	50	28	32.5	ER16	0.16
32E	HSK32E-ER11-50	P2771918	0.5 - 7.0	50	19	28.6	ER11	0.18
	HSK32E-ER16-60	P2771919	0.5 - 10.0	60	28	36.6	ER16	0.21
40E	HSK40E-ER11-60	P2771920	0.5 - 7.0	60	19	28.6	ER11	0.40
	HSK40E-ER16-60	P2771921	0.5 - 10.0	60	28	36.6	ER16	0.50
	HSK40E-ER20-70	P2771922	0.5 - 13.0	70	34	44.5	ER20	0.80



◆ Slim Type

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
25E	HSK25E-ER8M-35	P2771937	0.5 - 5.0	35	12	21	ER8M / ER8	0.10
	HSK25E-ER11M-40	P2771938	0.5 - 7.0	40	16	24.5	ER11M / ER11	0.10
32E	HSK32E-ER8M-40	P2774948	0.5 - 5.0	40	12	21	ER8M / ER8	0.15
	HSK32E-ER11M-40	P2774949	0.5 - 7.0	40	16	23	ER11M / ER11	0.15
	HSK32E-ER16M-60	P2774950	0.5 - 10.0	60	22	38	ER16M / ER16	0.21
	HSK32E-ER20M-60	P2774951	0.5 - 13.0	60	28	39.5	ER20M / ER20	0.20
40E	HSK40E-ER11M-75	P2771904	0.5 - 7.0	75	16	29.5	ER11M / ER11	0.40
	HSK40E-ER16M-80	P2771905	0.5 - 10.0	80	22	38	ER16M / ER16	0.50
	HSK40E-ER20M-80	P2771906	0.5 - 13.0	80	28	44.5	ER20M / ER20	0.70
	HSK40E-ER25M-80	P2771907	1.0 - 16.0	80	35	52	ER25M / ER25	0.80

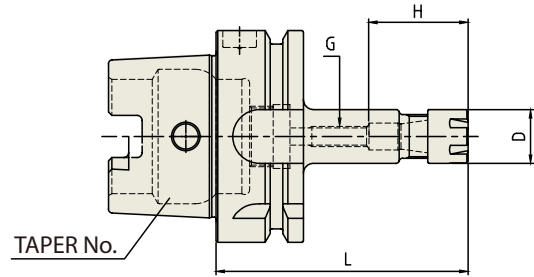
WIG ER COLLET CHUCK

ER

ER COLLET CHUCK (SLIM)

DIN 69893/
ISO 12164-1-HSK FORM A

ER夹头刀柄 (细长型)



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
50A	HSK50A-ER11M-75	P2802501	0.5 - 7.0	75	16	M6	29.5	XSQ-R11M / ER11	0.30
	HSK50A-ER16M-85	P2802502	0.5 - 10.0	85	22	M10	38	XSQ-R16M / ER16	0.40
	HSK50A-ER20M-90	P2802503	0.5 - 13.0	90	28	M12	44.5	XSQ-R20M / ER20	0.80
	HSK50A-ER25M-105	P2802504	1.0 - 16.0	105	35	M12	52	XSQ-R25M / ER25	1.20
63A	HSK63A-ER11M-75	P2802505	0.5 - 7.0	75	16	M6	29.5	XSQ-R11M / ER11	0.80
	HSK63A-ER16M-85	P2802506	0.5 - 10.0	85	22	M10	38	XSQ-R16M / ER16	1.00
	HSK63A-ER20M-95	P2802507	0.5 - 13.0	95	28	M12	44.5	XSQ-R20M / ER20	1.20
	HSK63A-ER25M-105	P2802508	1.0 - 16.0	105	35	M12	52	XSQ-R25M / ER25	1.40
100A	HSK100A-ER11M-85	P2802509	0.5 - 7.0	85	16	M6	29.5	XSQ-R11M / ER11	2.40
	HSK100A-ER16M-95	P2802510	0.5 - 10.0	95	22	M10	38	XSQ-R16M / ER16	2.70
	HSK100A-ER20M-100	P2802511	0.5 - 13.0	100	28	M12	44.5	XSQ-R20M / ER20	3.00
	HSK100A-ER25M-120	P2802512	1.0 - 16.0	120	35	M12	52	XSQ-R25M / ER25	3.20

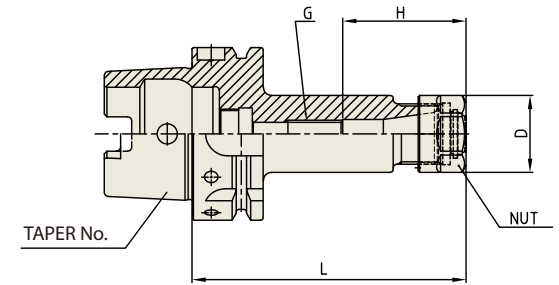
WIG ER COLLET CHUCK

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ER COLLET CHUCK

DIN 69893/
ISO 12164-1-HSK FORM A

ER夹头刀柄



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

Unit (单位): mm

◆ Standard Type

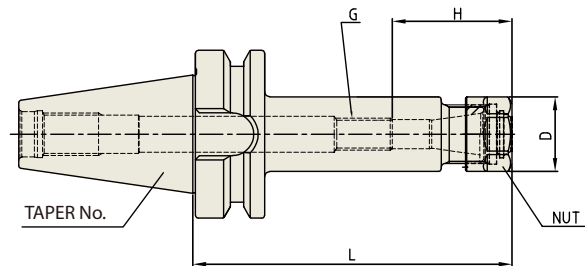
TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
50A	HSK50A-ER16-100	P2771927	0.5 - 10.0	100	28	M12	45	ER16	0.70
	HSK50A-ER20-100	P2771928	0.5 - 13.0	100	35	M12	50	ER20	0.90
	HSK50A-ER25-100	P2771929	1.0 - 16.0	100	42	M12	50	ER25	1.20
	HSK50A-ER32-100	P2771930	1.0 - 20.0	100	50	M12	47	ER32	1.50
63A	HSK63A-ER16-100	P2564001	0.5 - 10.0	100	28	M12	45	ER16	1.20
	HSK63A-ER20-100	P2564005	0.5 - 13.0	100	35	M12	50	ER20	1.50
	HSK63A-ER25-100	P2564002	1.0 - 16.0	100	42	M12	57	ER25	1.80
	HSK63A-ER32-100	P2564003	1.0 - 20.0	100	50	M12	47	ER32	2.00
80A	HSK63A-ER40-120	P2564004	2.0 - 30.0	120	63	M12	69	ER40	2.30
	HSK80A-ER16-100	P2771932	0.5 - 10.0	100	28	M12	45	ER16	1.77
	HSK80A-ER25-100	P2771933	1.0 - 16.0	100	42	M12	47	ER20	1.79
	HSK80A-ER32-100	P2771934	1.0 - 20.0	100	50	M12	53	ER25	1.95
100A	HSK100A-ER16-100	P2564011	0.5 - 10.0	100	28	M12	45	ER16	2.60
	HSK100A-ER20-100	P2564015	0.5 - 13.0	100	35	M12	50	ER20	2.70
	HSK100A-ER25-100	P2564012	1.0 - 16.0	100	42	M12	57	ER25	2.90
	HSK100A-ER32-100	P2564013	1.0 - 20.0	100	50	M12	56.5	ER32	3.10
	HSK100A-ER40-120	P2564014	2.0 - 30.0	120	63	M12	69	ER40	3.30

YG ER COLLET CHUCK

ER

ER COLLET CHUCK
ER夹头刀柄

CBT
(BT DUAL CONTACT)



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
30	CBT30-ER11-70	P2776802	0.5 - 7.0	70	19	M6	45	ER11	0.50
	CBT30-ER11-100	P2776803	0.5 - 7.0	100	19	M6	45	ER11	0.50
	CBT30-ER16-70	P2776804	0.5 - 10.0	70	28	M12	45	ER16	1.00
	CBT30-ER16-100	P2776805	0.5 - 10.0	100	28	M12	45	ER16	1.10
	CBT30-ER20-80	P2776806	0.5 - 13.0	80	34	M12	50	ER20	1.20
	CBT30-ER20-100	P2776807	0.5 - 13.0	100	34	M12	50	ER20	1.30
	CBT30-ER25-70	P2776808	1.0 - 16.0	70	42	M12	65	ER25	1.20
	CBT30-ER25-100	P2776809	1.0 - 16.0	100	42	M12	65	ER25	1.30
	CBT30-ER32-60	P2776801	1.0 - 20.0	60	50	M12	65	ER32	1.40
	CBT30-ER32-90	P2776810	1.0 - 20.0	90	50	M12	65	ER32	1.90
40	CBT40-ER11-75	P2772004	0.5 - 7.0	75	19	M6	45	ER11	1.00
	CBT40-ER11-100	P2772005	0.5 - 7.0	100	19	M6	45	ER11	1.10
	CBT40-ER16-75	P2772006	0.5 - 10.0	75	28	M12	45	ER16	1.10
	CBT40-ER16-100	P2772001	0.5 - 10.0	100	28	M12	45	ER16	1.20
	CBT40-ER16-120	P2772007	0.5 - 10.0	120	28	M12	45	ER16	1.40
	CBT40-ER20-75	P2772008	0.5 - 13.0	75	34	M12	50	ER20	1.40
	CBT40-ER20-100	P2772009	0.5 - 13.0	100	34	M12	50	ER20	1.80
	CBT40-ER20-135	P2772010	0.5 - 13.0	135	34	M12	50	ER20	2.20
	CBT40-ER25-75	P2772011	1.0 - 16.0	75	42	M12	65	ER25	1.40
	CBT40-ER25-100	P2772002	1.0 - 16.0	100	42	M12	65	ER25	1.80
	CBT40-ER25-135	P2772012	1.0 - 16.0	135	42	M12	65	ER25	2.20
	CBT40-ER25-150	P2772013	1.0 - 16.0	150	42	M12	65	ER25	2.40
	CBT40-ER32-60	P2772014	1.0 - 20.0	60	50	M12	65	ER32	1.80
	CBT40-ER32-100	P2772003	1.0 - 20.0	100	50	M12	65	ER32	2.20
	CBT40-ER32-120	P2772015	1.0 - 20.0	120	50	M12	65	ER32	2.40
	CBT40-ER32-150	P2772016	1.0 - 20.0	150	50	M12	65	ER32	2.60
	CBT40-ER40-80	P2772017	2.0 - 30.0	80	63	M12	75	ER40	1.50

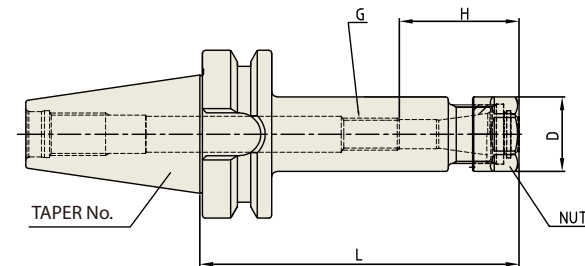
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YG ER COLLET CHUCK

ER

ER COLLET CHUCK
ER夹头刀柄

CBT
(BT DUAL CONTACT)



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

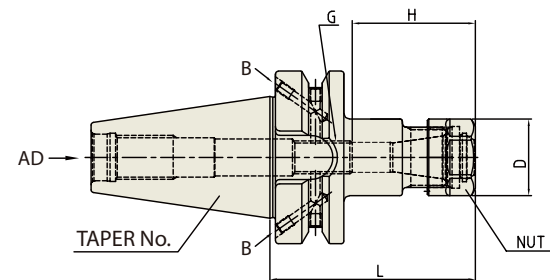
ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
50	CBT50-ER16-100	P2772018	0.5 - 10.0	100	28	M12	45	ER16	4.20
	CBT50-ER16-120	P2772019	0.5 - 10.0	120	28	M12	45	ER16	4.40
	CBT50-ER16-165	P2772020	0.5 - 10.0	165	28	M12	45	ER16	4.60
	CBT50-ER20-100	P2772021	0.5 - 13.0	100	34	M12	50	ER20	4.60
	CBT50-ER20-135	P2772022	0.5 - 13.0	135	34	M12	50	ER20	4.80
	CBT50-ER20-165	P2772023	0.5 - 13.0	165	34	M12	50	ER20	5.00
	CBT50-ER25-100	P2772024	1.0 - 16.0	100	42	M12	65	ER25	4.70
	CBT50-ER25-135	P2772025	1.0 - 16.0	135	42	M12	65	ER25	4.80
	CBT50-ER25-165	P2772026	1.0 - 16.0	165	42	M12	65	ER25	5.00
	CBT50-ER32-100	P2772027	1.0 - 20.0	100	50	M12	65	ER32	5.20
50	CBT50-ER32-135	P2772028	1.0 - 20.0	135	50	M12	65	ER32	5.70
	CBT50-ER32-165	P2772029	1.0 - 20.0	165	50	M12	65	ER32	5.80
	CBT50-ER40-100	P2772030	2.0 - 30.0	100	63	M12	75	ER40	5.60
	CBT50-ER40-150	P2772031	2.0 - 30.0	150	63	M12	75	ER40	6.10
	CBT50-ER50-100	P2772032	4.0 - 34.0	100	78	M16	85	ER50	5.80
	CBT50-ER50-150	P2772033	4.0 - 34.0	150	78	M16	85	ER50	6.30

ER COLLET CHUCK
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ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

Unit (单位) : mm

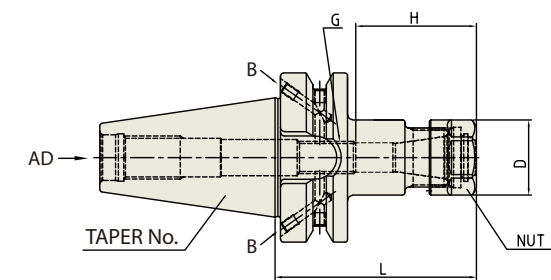
TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
30	BT30-ER11-70	P2776501A	0.5 - 7.0	70	19	M6	45	ER11	0.50
	BT30-ER11-100	P2776502A	0.5 - 7.0	100	19	M6	45	ER11	0.50
	BT30-ER16-70	P2776503A	0.5 - 10.0	70	28	M12	45	ER16	1.00
	BT30-ER16-100	P2776506A	0.5 - 10.0	100	28	M12	45	ER16	1.10
	BT30-ER20-80	P2776507A	0.5 - 13.0	80	34	M12	50	ER20	1.20
	BT30-ER20-100	P2776508A	0.5 - 13.0	100	34	M12	50	ER20	1.30
	BT30-ER25-70	P2776509A	1.0 - 16.0	70	42	M12	65	ER25	1.20
	BT30-ER25-100	P2776510A	1.0 - 16.0	100	42	M12	65	ER25	1.30
	BT30-ER32-60	P2776511A	1.0 - 20.0	60	50	M12	65	ER32	1.40
	BT30-ER32-90	P2776512A	1.0 - 20.0	90	50	M12	65	ER32	1.90
40	BT40AD/B-ER11-75	P2776513	0.5 - 7.0	75	19	M6	45	ER11	1.00
	BT40AD/B-ER11-100	P2776514	0.5 - 7.0	100	19	M6	45	ER11	1.10
	BT40AD/B-ER16-75	P2776504	0.5 - 10.0	75	28	M12	45	ER16	1.10
	BT40AD/B-ER16-100	P2553021	0.5 - 10.0	100	28	M12	45	ER16	1.20
	BT40AD/B-ER16-120	P2776515	0.5 - 10.0	120	28	M12	45	ER16	1.40
	BT40AD/B-ER20-75	P2776516	0.5 - 13.0	75	34	M12	50	ER20	1.40
	BT40AD/B-ER20-100	P2553017	0.5 - 13.0	100	34	M12	50	ER20	1.80
	BT40AD/B-ER20-135	P2776517	0.5 - 13.0	135	34	M12	50	ER20	2.20
	BT40AD/B-ER25-75	P2600012	1.0 - 16.0	75	42	M12	65	ER25	1.40
	BT40AD/B-ER25-100	P2553018	1.0 - 16.0	100	42	M12	65	ER25	1.80
	BT40AD/B-ER25-135	P2776518	1.0 - 16.0	135	42	M12	65	ER25	2.20
	BT40AD/B-ER25-150	P2776519	1.0 - 16.0	150	42	M12	65	ER25	2.40
	BT40AD/B-ER32-60	P2553501	1.0 - 20.0	60	50	M12	65	ER32	1.80
	BT40AD/B-ER32-100	P2776505	1.0 - 20.0	100	50	M12	65	ER32	2.20

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

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ER COLLET CHUCK
ER夹头刀柄

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ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
50	BT50AD/B-ER16-100	P2776522	0.5 - 10.0	100	28	M12	45	ER16	4.20
	BT50AD/B-ER16-120	P2776523	0.5 - 10.0	120	28	M12	45	ER16	4.40
	BT50AD/B-ER16-165	P2776524	0.5 - 10.0	165	28	M12	45	ER16	4.60
	BT50AD/B-ER20-100	P2776525	0.5 - 13.0	100	34	M12	50	ER20	4.60
	BT50AD/B-ER20-135	P2776526	0.5 - 13.0	135	34	M12	50	ER20	4.80
	BT50AD/B-ER20-165	P2776527	0.5 - 13.0	165	34	M12	50	ER20	5.00
	BT50AD/B-ER25-100	P2776528	1.0 - 16.0	100	42	M12	65	ER25	4.70
	BT50AD/B-ER25-135	P2776529	1.0 - 16.0	135	42	M12	65	ER25	4.80
	BT50AD/B-ER25-165	P2776530	1.0 - 16.0	165	42	M12	65	ER25	5.00
	BT50AD/B-ER32-100	P2600026	1.0 - 20.0	100	50	M12	65	ER32	5.20
	BT50AD/B-ER32-135	P2776531	1.0 - 20.0	135	50	M12	65	ER32	5.70
	BT50AD/B-ER32-165	P2776532	1.0 - 20.0	165	50	M12	65	ER32	5.80
	BT50AD/B-ER40-100	P2600027	2.0 - 30.0	100	63	M12	75	ER40	5.60
	BT50AD/B-ER40-150	P2776533	2.0 - 30.0	150	63	M12	75	ER40	6.10
	BT50AD/B-ER50-100	P2776534	4.0 - 34.0	100	78	M16	85	ER50	5.80
	BT50AD/B-ER50-150	P2776535	4.0 - 34.0	150	78	M16	85	ER50	6.30

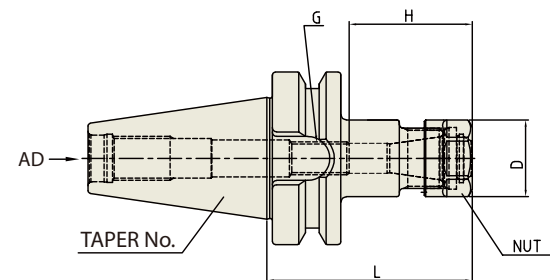
▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

YIG ER COLLET CHUCK

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ER COLLET CHUCK
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ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
30	BT30-ER11-70	P2772107	0.5 - 7.0	70	19	M6	45	ER11	0.50
	BT30-ER11-100	P2772108	0.5 - 7.0	100	19	M6	45	ER11	0.50
	BT30-ER16-70	P2772109	0.5 - 10.0	70	28	M12	45	ER16	1.00
	BT30-ER16-100	P2772110	0.5 - 10.0	100	28	M12	45	ER16	1.10
	BT30-ER20-80	P2772111	0.5 - 13.0	80	34	M12	50	ER20	1.20
	BT30-ER20-100	P2772112	0.5 - 13.0	100	34	M12	50	ER20	1.30
	BT30-ER25-70	P2772106	1.0 - 16.0	70	42	M12	65	ER25	1.20
	BT30-ER25-100	P2772113	1.0 - 16.0	100	42	M12	65	ER25	1.30
	BT30-ER32-60	P2772144	1.0 - 20.0	60	50	M12	65	ER32	1.40
	BT30-ER32-90	P2772115	1.0 - 20.0	90	50	M12	65	ER32	1.90
40	BT40-ER11-75	P2772116	0.5 - 7.0	75	19	M6	45	ER11	1.00
	BT40-ER11-100	P2772117	0.5 - 7.0	100	19	M6	45	ER11	1.10
	BT40-ER16-75	P2772101	0.5 - 10.0	75	28	M12	45	ER16	1.10
	BT40-ER16-100	P2772118	0.5 - 10.0	100	28	M12	45	ER16	1.20
	BT40-ER16-120	P2772119	0.5 - 10.0	120	28	M12	45	ER16	1.40
	BT40-ER20-75	P2772102	0.5 - 13.0	75	34	M12	50	ER20	1.40
	BT40-ER20-100	P2772120	0.5 - 13.0	100	34	M12	50	ER20	1.80
	BT40-ER20-135	P2772121	0.5 - 13.0	135	34	M12	50	ER20	2.20
	BT40-ER25-75	P2772103	1.0 - 16.0	75	42	M12	65	ER25	1.40
	BT40-ER25-100	P2772122	1.0 - 16.0	100	42	M12	65	ER25	1.80
	BT40-ER25-135	P2772123	1.0 - 16.0	135	42	M12	65	ER25	2.20
	BT40-ER25-150	P2772124	1.0 - 16.0	150	42	M12	65	ER25	2.40
	BT40-ER32-60	P2772104	1.0 - 20.0	60	50	M12	65	ER32	1.80
	BT40-ER32-100	P2772125	1.0 - 20.0	100	50	M12	65	ER32	2.20
	BT40-ER32-120	P2772105	1.0 - 20.0	120	50	M12	65	ER32	2.40
	BT40-ER32-150	P2772126	1.0 - 20.0	150	50	M12	65	ER32	2.60
	BT40-ER40-80	P2772127	2.0 - 30.0	80	63	M12	75	ER40	1.50

▶ CAT(ANSI B5.50) taper and Inch type products are available.
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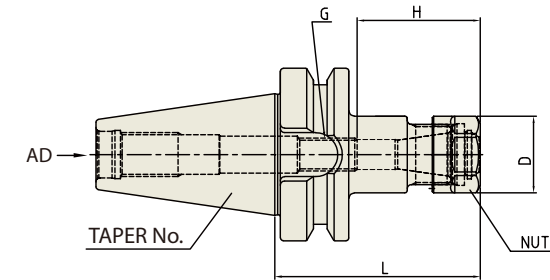
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YIG ER COLLET CHUCK

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ER COLLET CHUCK
ER夹头刀柄

JIS B6339/
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ER Collet, Refer to page 103-109
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ER螺母, 密封圈, 扳手 请参考110~115页

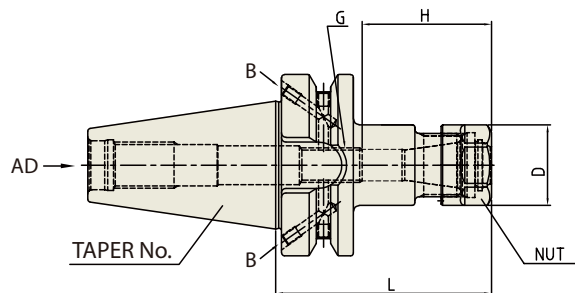
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
50	BT50-ER16-100	P2772128	0.5 - 10.0	100	28	M12	45	ER16	4.20
	BT50-ER16-120	P2772129	0.5 - 10.0	120	28	M12	45	ER16	4.40
	BT50-ER16-165	P2772130	0.5 - 10.0	165	28	M12	45	ER16	4.60
	BT50-ER20-100	P2772131	0.5 - 13.0	100	34	M12	50	ER20	4.60
	BT50-ER20-135	P2772132	0.5 - 13.0	135	34	M12	50	ER20	4.80
	BT50-ER20-165	P2772133	0.5 - 13.0	165	34	M12	50	ER20	5.00
	BT50-ER25-100	P2772134	1.0 - 16.0	100	42	M12	65	ER25	4.70
	BT50-ER25-135	P2772135	1.0 - 16.0	135	42	M12	65	ER25	4.80
	BT50-ER25-165	P2772136	1.0 - 16.0	165	42	M12	65	ER25	5.00
	BT50-ER32-100	P2772137	1.0 - 20.0	100	50	M12	65	ER32	5.20
50	BT50-ER32-135	P2772138	1.0 - 20.0	135	50	M12	65	ER32	5.70
	BT50-ER32-165	P2772139	1.0 - 20.0	165	50	M12	65	ER32	5.80
	BT50-ER40-100	P2772140	2.0 - 30.0	100	63	M12	75	ER40	5.60
	BT50-ER40-150	P2772141	2.0 - 30.0	150	63	M12	75	ER40	6.10
	BT50-ER50-100	P2772142	4.0 - 34.0	100	78	M16	85	ER50	5.80
	BT50-ER50-150	P2772143	4.0 - 34.0	150	78	M16	85	ER50	6.30

▶ CAT(ANSI B5.50) taper and Inch type products are available.
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ER COLLET CHUCK
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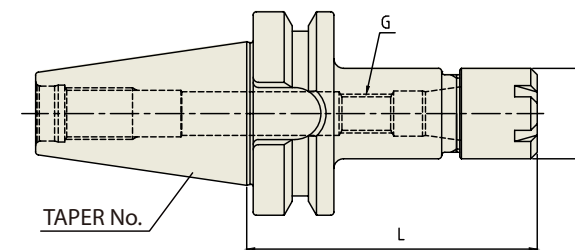
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
40	BT40AD/B-ER11-75	P2776551	0.5 - 7.0	75	19	M6	45	ER11	1.00
	BT40AD/B-ER11-100	P2776552	0.5 - 7.0	100	19	M6	45	ER11	1.10
	BT40AD/B-ER16-75	P2776553	0.5 - 10.0	75	28	M12	45	ER16	1.10
	BT40AD/B-ER16-100	P2776554	0.5 - 10.0	100	28	M12	45	ER16	1.20
	BT40AD/B-ER16-120	P2776555	0.5 - 10.0	120	28	M12	45	ER16	1.40
	BT40AD/B-ER20-75	P2776556	0.5 - 13.0	75	34	M12	50	ER20	1.40
	BT40AD/B-ER20-100	P2776557	0.5 - 13.0	100	34	M12	50	ER20	1.80
	BT40AD/B-ER20-135	P2776558	0.5 - 13.0	135	34	M12	50	ER20	2.20
	BT40AD/B-ER25-75	P2776559	1.0 - 16.0	75	42	M12	65	ER25	1.40
	BT40AD/B-ER25-100	P2776560	1.0 - 16.0	100	42	M12	65	ER25	1.80
	BT40AD/B-ER25-135	P2776561	1.0 - 16.0	135	42	M12	65	ER25	2.20
	BT40AD/B-ER25-150	P2776562	1.0 - 16.0	150	42	M12	65	ER25	2.40
	BT40AD/B-ER32-60	P2776563	1.0 - 20.0	60	50	M12	65	ER32	1.80
	BT40AD/B-ER32-100	P2776564	1.0 - 20.0	100	50	M12	65	ER32	2.20
50	BT50AD/B-ER16-100	P2776565	0.5 - 10.0	100	28	M12	45	ER16	4.20
	BT50AD/B-ER16-120	P2776566	0.5 - 10.0	120	28	M12	45	ER16	4.40
	BT50AD/B-ER16-165	P2776567	0.5 - 10.0	165	28	M12	45	ER16	4.60
	BT50AD/B-ER20-100	P2776568	0.5 - 13.0	100	34	M12	50	ER20	4.60
	BT50AD/B-ER20-135	P2776569	0.5 - 13.0	135	34	M12	50	ER20	4.80
	BT50AD/B-ER20-165	P2776570	0.5 - 13.0	165	34	M12	50	ER20	5.00
	BT50AD/B-ER25-100	P2776571	1.0 - 16.0	100	42	M12	65	ER25	4.70
	BT50AD/B-ER25-135	P2776572	1.0 - 16.0	135	42	M12	65	ER25	4.80
	BT50AD/B-ER25-165	P2776573	1.0 - 16.0	165	42	M12	65	ER25	5.00
	BT50AD/B-ER32-100	P2776574	1.0 - 20.0	100	50	M12	65	ER32	5.20
	BT50AD/B-ER32-135	P2776575	1.0 - 20.0	135	50	M12	65	ER32	5.70
	BT50AD/B-ER32-165	P2776576	1.0 - 20.0	165	50	M12	65	ER32	5.80
	BT50AD/B-ER40-100	P2776577	2.0 - 30.0	100	63	M12	75	ER40	5.60
	BT50AD/B-ER40-150	P2776578	2.0 - 30.0	150	63	M12	75	ER40	6.10
BT50AD/B-ER50-100	P2776579	4.0 - 34.0	100	78	M16	85	ER50	5.80	
BT50AD/B-ER50-150	P2776580	4.0 - 34.0	150	78	M16	85	ER50	6.30	

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

ER COLLET CHUCK
ER夹头刀柄

JIS B6339/
MAS 403-BT



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	G	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
30	BT30-ER11M-50	P2802601	0.5 - 7.0	50	16	M6	29.5	XSQ-R11M / ER11	0.50
	BT30-ER11M-75	P2802602	0.5 - 7.0	75	16	M6	29.5	XSQ-R11M / ER11	0.50
	BT30-ER11M-100	P2802603	0.5 - 7.0	100	16	M6	29.5	XSQ-R11M / ER11	0.60
	BT30-ER16M-50	P2802604	0.5 - 10.0	50	22	M10	38	XSQ-R16M / ER16	0.50
	BT30-ER16M-75	P2802605	0.5 - 10.0	75	22	M10	38	XSQ-R16M / ER16	0.50
	BT30-ER16M-100	P2802606	0.5 - 10.0	100	22	M10	38	XSQ-R16M / ER16	0.60
	BT30-ER20M-50	P2802607	0.5 - 13.0	50	28	M12	44.5	XSQ-R20M / ER20	0.50
	BT30-ER20M-75	P2802608	0.5 - 13.0	75	28	M12	44.5	XSQ-R20M / ER20	0.60
	BT30-ER20M-100	P2802609	0.5 - 13.0	100	28	M12	44.5	XSQ-R20M / ER20	0.70
	BT30-ER25M-50	P2802610	1.0 - 16.0	50	35	M12	52	XSQ-R25M / ER25	0.60
	BT30-ER25M-75	P2802611	1.0 - 16.0	75	35	M12	52	XSQ-R25M / ER25	0.70
	BT30-ER25M-100	P2802612	1.0 - 16.0	100	35	M12	52	XSQ-R25M / ER25	0.80
	BT40-ER11M-60	P2802613	0.5 - 7.0	60	16	M6	29.5	XSQ-R11M / ER11	1.00
	BT40-ER11M-90	P2802614	0.5 - 7.0	90	16	M6	29.5	XSQ-R11M / ER11	1.10
40	BT40-ER11M-135	P2802615	0.5 - 7.0	135	16	M6	29.5	XSQ-R11M / ER11	1.20
	BT40-ER16M-60	P2802616	0.5 - 10.0	60	22	M10	38	XSQ-R16M / ER16	1.10
	BT40-ER16M-90	P2802617	0.5 - 10.0	90	22	M10	38	XSQ-R16M / ER16	1.20
	BT40-ER16M-135	P2802618	0.5 - 10.0	135	22	M10	38	XSQ-R16M / ER16	1.40
	BT40-ER20M-60	P2802619	0.5 - 13.0	60	28	M12	44.5	XSQ-R20M / ER20	1.10
	BT40-ER20M-90	P2802620	0.5 - 13.0	90	28	M12	44.5	XSQ-R20M / ER20	1.50
	BT40-ER20M-150	P2802621	0.5 - 13.0	150	28	M12	44.5	XSQ-R20M / ER20	1.80
	BT40-ER25M-60	P2802622	1.0 - 16.0	60	35	M12	52	XSQ-R25M / ER25	1.20
	BT40-ER25M-90	P2802623	1.0 - 16.0	90	35	M12	52	XSQ-R25M / ER25	1.40
	BT40-ER25M-150	P2802624	1.0 - 16.0	150	35	M12	52	XSQ-R25M / ER25	1.80
	BT50-ER11M-90	P2802625	0.5 - 7.0	90	16	M6	29.5	XSQ-R11M / ER11	3.80
	BT50-ER11M-120	P2802626	0.5 - 7.0	120	16	M6	29.5	XSQ-R11M / ER11	3.90
	BT50-ER11M-165	P2802627	0.5 - 7.0	165	16	M6	29.5	XSQ-R11M / ER11	4.00
	BT50-ER16M-90	P2802628	0.5 - 10.0	90	22	M10	38	XSQ-R16M / ER16	3.80
BT50-ER16M-120	P2802629	0.5 - 10.0	120	22	M10	38	XSQ-R16M / ER16	4.00	
50	BT50-ER16M-165	P2802630	0.5 - 10.0	165	22	M10	38	XSQ-R16M / ER16	4.20
	BT50-ER20M-75	P2802631	0.5 - 13.0	75	28	M12	44.5	XSQ-R20M / ER20	3.80
	BT50-ER20M-105	P2802632	0.5 - 13.0	105	28	M12	44.5	XSQ-R20M / ER20	3.90
	BT50-ER20M-165	P2802633	0.5 - 13.0	165	28	M12	44.5	XSQ-R20M / ER20	4.50
	BT50-ER25M-75	P2802634	1.0 - 16.0	75	35	M12	52	XSQ-R25M / ER25	3.90
	BT50-ER25M-105	P2802635	1.0 - 16.0	105	35	M12	52	XSQ-R25M / ER25	4.10
	BT50-ER25M-165	P2802636	1.0 - 16.0	165	35	M12	52	XSQ-R25M / ER25	4.40

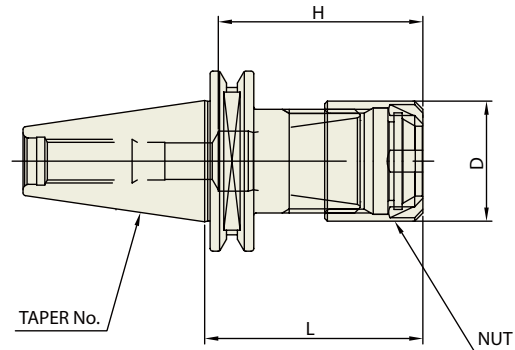
▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

WIG ER COLLET CHUCK

ER

ER COLLET CHUCK
ER夹头刀柄

ISO 20/25
(SLIM TYPE)



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
20	ISO20-ER16M-35	P2776541	0.5 - 10.0	35	22	37.5	ER16M / ER16	-
25	ISO25-ER16M-35	P2776542	0.5 - 10.0	35	22	37.5	ER16M / ER16	-
	ISO25-ER20M-36	P2776543	0.5 - 13.0	36	28	-	ER20M / ER20	-

► Higher balancing grade is available upon request.
可根据要求提供高动平衡等级

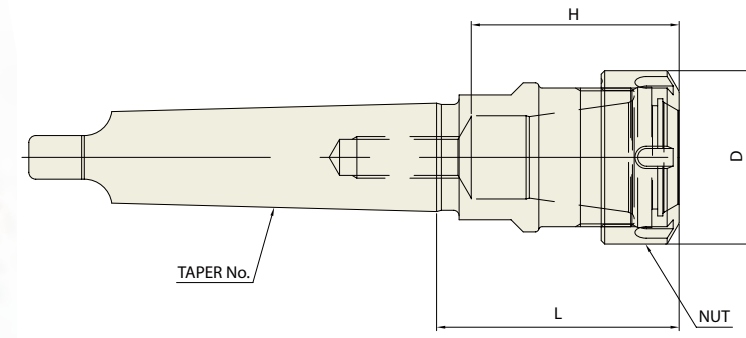
► To be supplied with assembling of pull stud bolt.
可供应拉了组装型产品

WIG ER COLLET CHUCK

ER

ER COLLET CHUCK
ER夹头刀柄

DIN 228-MTA



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

Unit (单位) : mm

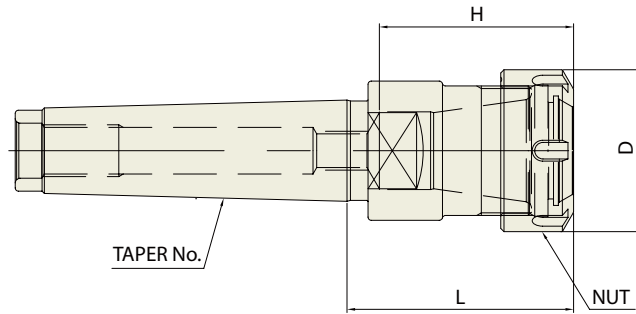
TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
1	MTA1-ER11	P2772241	0.5 - 7.0	42.1	19	28.6	ER11	0.30
	MTA1-ER16	P2772242	0.5 - 10.0	43.9	28	36.6	ER16	0.35
2	MTA2-ER20	P2772243	0.5 - 13.0	50	34	40.5	ER20	0.50
	MTA2-ER25	P2772244	1.0 - 16.0	50	42	41	ER25	0.60
3	MTA3-ER25	P2772245	1.0 - 16.0	60	42	52	ER25	0.60
	MTA3-ER32	P2772246	1.0 - 20.0	70	50	47	ER32	0.65
4	MTA4-ER20	P2772247	0.5 - 13.0	60	34	50	ER20	1.00
	MTA4-ER25	P2772248	1.0 - 16.0	60	42	52	ER25	1.10
	MTA4-ER32	P2772249	1.0 - 20.0	65	50	48	ER32	1.30
5	MTA4-ER40	P2772250	2.0 - 30.0	80	63	69	ER40	1.50
	MTA5-ER32	P2772251	1.0 - 20.0	70	50	60	ER32	2.20
	MTA5-ER40	P2772252	2.0 - 30.0	80	63	69	ER40	2.40
	MTA5-ER50	P2772253	4.0 - 34.0	80	78	69	ER50	2.80

YIG ER COLLET CHUCK

ER

ER COLLET CHUCK
ER夹头刀柄

DIN 228-MTB



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

Unit (单位) : mm

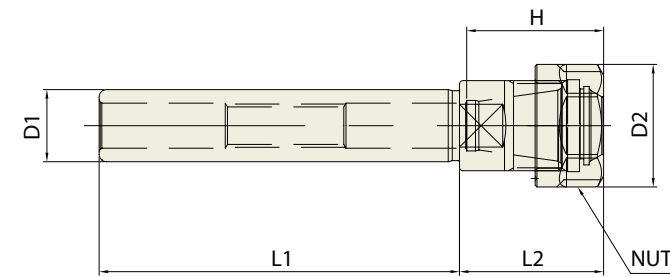
TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
1	MTB1-ER16	P2772254	0.5 - 10.0	43.9	28	36.6	ER16	0.35
2	MTB2-ER20	P2772255	0.5 - 13.0	50	34	40.5	ER20	0.50
	MTB2-ER25	P2772256	1.0 - 16.0	50	42	41	ER25	0.60
3	MTB3-ER25	P2772257	1.0 - 16.0	60	42	52	ER25	0.60
	MTB3-ER32	P2772258	1.0 - 20.0	70	50	47	ER32	0.65
4	MTB4-ER32	P2772259	1.0 - 20.0	65	50	48	ER32	1.10
	MTB4-ER40	P2772260	2.0 - 30.0	80	63	69	ER40	1.30
5	MTB5-ER32	P2772261	1.0 - 20.0	70	50	60	ER32	2.00
	MTB5-ER40	P2772262	2.0 - 30.0	80	63	69	ER40	2.20
	MTB5-ER50	P2772263	4.0 - 34.0	80	78	69	ER50	2.60

YIG ER COLLET CHUCK

ER

ER COLLET CHUCK
ER夹头刀柄

STRAIGHT-K



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

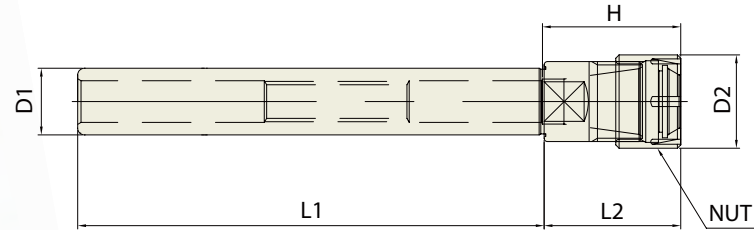
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	D1	D2	L1	L2	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
16	K16-ER11-100	P2772201	0.5 - 7.0	16	19	100	32	27	ER11	0.15
	K16-ER16-100	P2772219	0.5 - 10.0	16	28	100	36	32.6	ER16	0.18
20	K20-ER16-100	P2772202	0.5 - 10.0	20	28	100	36	35.6	ER16	0.25
	K20-ER20-100	P2772203	0.5 - 13.0	20	34	100	40	38	ER20	0.29
	K20-ER25-100	P2772220	1.0 - 16.0	20	42	100	50	44	ER25	0.35
25	K25-ER20-100	P2772221	0.5 - 13.0	25	34	100	40	71.6	ER20	0.40
	K25-ER25-100	P2772204	1.0 - 16.0	25	42	100	50	43.1	ER25	0.45
32	K32-ER16-100	P2772222	0.5 - 10.0	32	28	100	36	-	ER16	0.50
	K32-ER20-100	P2772223	0.5 - 13.0	32	34	100	40	71.6	ER20	0.66
	K32-ER25-100	P2772224	1.0 - 16.0	32	42	100	50	71.1	ER25	0.75
	K32-ER32-100	P2772225	1.0 - 20.0	32	50	100	58	78	ER32	1.00

EXTENSION ER COLLET CHUCK

STRAIGHT-K (SLIM TYPE)

ER夹头刀柄 (细长型)



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

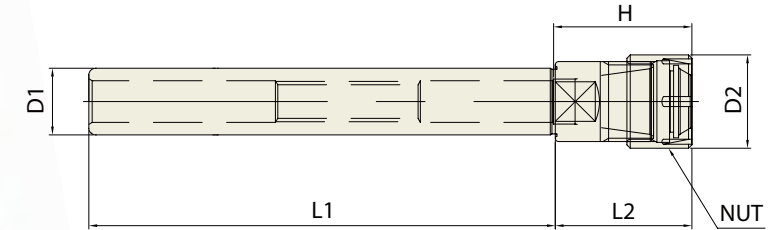
Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	D1	D2	L1	L2	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
12	K12-ER8M-70	P2772205	0.5 - 5.0	12	12	70	25	38	ER8M / ER8	0.10
	K12-ER8M-100	P2780001	0.5 - 5.0	12	12	100	25	38	ER8M / ER8	0.13
	K12-ER8M-150	P2780002	0.5 - 5.0	12	12	150	25	38	ER8M / ER8	0.17
	K12-ER8M-200	P2780003	0.5 - 5.0	12	12	200	25	38	ER8M / ER8	0.21
	K12-ER8M-250	P2780004	0.5 - 5.0	12	12	250	25	38	ER8M / ER8	0.26
	K12-ER8M-300	P2780005	0.5 - 5.0	12	12	300	25	38	ER8M / ER8	0.3
16	K16-ER11M-100	P2780006	0.5 - 7.0	16	16	100	32	29.5	ER11M / ER11	0.18
	K16-ER11M-140	P2772206	0.5 - 7.0	16	16	140	32	29.5	ER11M / ER11	0.23
	K16-ER11M-200	P2780007	0.5 - 7.0	16	16	200	32	29.5	ER11M / ER11	0.37
	K16-ER11M-250	P2780008	0.5 - 7.0	16	16	250	32	29.5	ER11M / ER11	0.45
	K16-ER11M-300	P2780009	0.5 - 7.0	16	16	300	32	29.5	ER11M / ER11	0.52
	K16-ER16M-100	P2780010	0.5 - 10.0	16	22	100	32	38	ER16M / ER16	0.18
	K16-ER16M-140	P2780011	0.5 - 10.0	16	22	140	32	38	ER16M / ER16	0.23
	K16-ER16M-200	P2780012	0.5 - 10.0	16	22	200	32	38	ER16M / ER16	0.37
	K16-ER16M-250	P2780013	0.5 - 10.0	16	22	250	32	38	ER16M / ER16	0.45
20	K20-ER16M-300	P2780014	0.5 - 10.0	16	22	300	32	38	ER16M / ER16	0.52
	K20-ER16M-100	P2780015	0.5 - 10.0	20	22	100	41	-	ER16M / ER16	0.22
	K20-ER16M-140	P2772207	0.5 - 10.0	20	22	140	41	-	ER16M / ER16	0.28
	K20-ER16M-200	P2780016	0.5 - 10.0	20	22	200	41	-	ER16M / ER16	0.54
	K20-ER16M-250	P2780017	0.5 - 10.0	20	22	250	41	-	ER16M / ER16	0.66
	K20-ER16M-300	P2780018	0.5 - 10.0	20	22	300	41	-	ER16M / ER16	0.78
	K20-ER20M-100	P2780019	0.5 - 13.0	20	28	100	41	41.5	ER20M / ER20	0.25
	K20-ER20M-140	P2772208	0.5 - 13.0	20	28	140	41	41.5	ER20M / ER20	0.32
	K20-ER20M-200	P2780020	0.5 - 13.0	20	28	200	41	41.5	ER20M / ER20	0.54
	K20-ER20M-250	P2780021	0.5 - 13.0	20	28	250	41	41.5	ER20M / ER20	0.66
K20-ER20M-300	P2780022	0.5 - 13.0	20	28	300	41	41.5	ER20M / ER20	0.78	

EXTENSION ER COLLET CHUCK

STRAIGHT-K (SLIM TYPE)

ER夹头刀柄 (细长型)



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

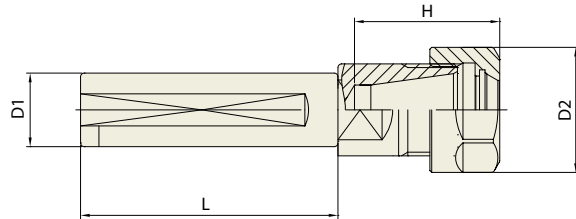
Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	D1	D2	L1	L2	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
25	K25-ER16M-100	P2780023	0.5 - 10.0	25	22	100	41	-	ER16M / ER16	0.38
	K25-ER16M-140	P2772209	0.5 - 10.0	25	22	140	41	-	ER16M / ER16	0.50
	K25-ER16M-200	P2780024	0.5 - 10.0	25	22	200	41	-	ER16M / ER16	0.80
	K25-ER16M-250	P2780025	0.5 - 10.0	25	22	250	41	-	ER16M / ER16	1.00
	K25-ER16M-300	P2780026	0.5 - 10.0	25	22	300	41	-	ER16M / ER16	1.19
	K25-ER20M-140	P2772210	0.5 - 13.0	25	28	140	41	79	ER20M / ER20	0.52
	K25-ER20M-200	P2780027	0.5 - 13.0	25	28	200	41	79	ER20M / ER20	0.84
	K25-ER20M-250	P2780028	0.5 - 13.0	25	28	250	41	79	ER20M / ER20	1.03
	K25-ER20M-300	P2780029	0.5 - 13.0	25	28	300	41	79	ER20M / ER20	1.23
	K25-ER25M-140	P2772211	1.0 - 16.0	25	35	140	45	82	ER25M / ER25	0.50
	K25-ER25M-200	P2780030	1.0 - 16.0	25	35	200	45	82	ER25M / ER25	0.84
	K25-ER25M-250	P2780031	1.0 - 16.0	25	35	250	45	82	ER25M / ER25	1.04
32	K25-ER25M-300	P2780032	1.0 - 16.0	25	35	300	45	82	ER25M / ER25	1.23
	K32-ER20M-150	P2780033	0.5 - 13.0	32	28	150	41	41.5	ER20M / ER25	0.84
	K32-ER20M-200	P2780034	0.5 - 13.0	32	28	200	41	41.5	ER20M / ER25	1.31
	K32-ER20M-250	P2780035	0.5 - 13.0	32	28	250	41	41.5	ER20M / ER25	1.62
	K32-ER20M-300	P2780036	0.5 - 13.0	32	28	300	41	41.5	ER20M / ER25	1.94
	K32-ER25M-150	P2780037	1.0 - 16.0	32	35	150	41	41.5	ER25M / ER25	1.01
	K32-ER25M-200	P2780038	1.0 - 16.0	32	35	200	41	41.5	ER25M / ER25	1.32
	K32-ER25M-250	P2780039	1.0 - 16.0	32	35	250	41	41.5	ER25M / ER25	1.64
	K32-ER25M-300	P2780040	1.0 - 16.0	32	35	300	41	41.5	ER25M / ER25	1.95
K32-ER25M-350	P2780041	1.0 - 16.0	32	35	350	41	41.5	ER25M / ER25	2.27	

TENSION ER CHUCK (For TAPPING)

STRAIGHT-K

伸缩式ER夹头刀柄 (攻丝用)



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

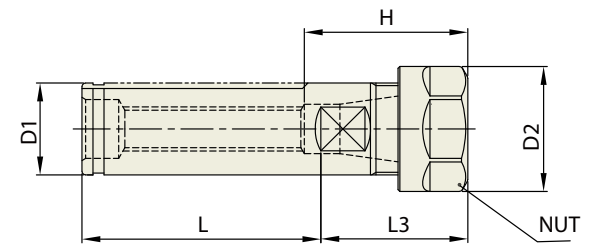
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	D1	D2	L	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
20	K20-ERT16-70	P2772212	0.5 - 10.0	20	28	70	31.7	ER16	0.40
25	K25-ERT16-80	P2772213	0.5 - 10.0	25	28	80	31.7	ER16	0.45
	K25-ERT20-80	P2772214	0.5 - 13.0	25	34	80	35.5	ER20	0.50
32	K32-ERT16-80	P2772215	0.5 - 10.0	32	28	80	31.7	ER16	0.70
	K32-ERT20-80	P2772216	0.5 - 13.0	32	34	80	35.5	ER20	0.80
	K32-ERT25-80	P2772217	1.0 - 16.0	32	42	80	42	ER25	1.00
	K32-ERT32-80	P2772218	1.0 - 20.0	32	50	80	48	ER32	1.20

ER COLLET CHUCK

NC- for CNC LATHE

ER夹头刀柄



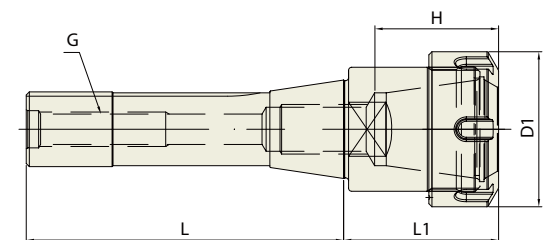
ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

◆ STANDARD

Unit : mm

TAPER No.	MODEL No.	EDP No.	CLAMPING RANGE	D1	D2	L	L1	H	NUT / COLLET	WEIGHT (kg)
25	NC25-ER11	P2772310	0.5 - 7.0	25	19	65	32	28.6	ER11	0.30
	NC25-ER16	P2772311	0.5 - 10.0	25	28	65	36	35.6	ER16	0.45
	NC25-ER20	P2772301	0.5 - 13.0	25	34	65	40	44.5	ER20	0.50
	NC25-ER25	P2772302	1.0 - 16.0	25	42	65	40	41	ER25	0.55
32	NC32-ER20	P2772303	0.5 - 13.0	32	34	60	39.5	44.5	ER20	0.60
	NC32-ER25	P2772304	1.0 - 16.0	32	42	70	40	41	ER25	0.70
	NC32-ER32	P2772305	1.0 - 20.0	32	50	70	45	47	ER32	0.75
40	NC40-ER32	P2772306	1.0 - 20.0	40	50	75	45	60	ER32	1.25
	NC40-ER40	P2772307	2.0 - 30.0	40	63	75	55	53	ER40	1.30



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

■ BRIDGEPORT-R8

Unit (单位) : mm

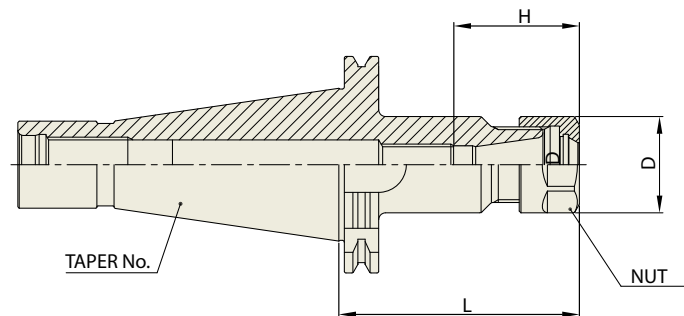
TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	G	D1	L	L1	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
R8	R8-ER32	P2772308	1.0 - 20.0	U7/16	50	102.4	50	40	ER32	1.00
	R8-ER40	P2772309	2.0 - 30.0	U7/16	63	102.4	75	51	ER40	1.20

YG ER COLLET CHUCK

ER

ER COLLET CHUCK
ER夹头刀柄

GOST 25827-93



ER Collet, Refer to page 103-109
ER 变径套, 请参阅 103页~109页

ER nut, Sealing disk and Spanner refer to page 110-115
ER螺母, 密封圈, 扳手 请参考110~115页

Unit : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	D	L	H	NUT / COLLET 螺母 / 筒夹	WEIGHT 重量(Kg)
40	GOST40-ER16-70	P2780101	0.5 - 10.0	28	70	45	ER16	
	GOST40-ER16-100	P2780102	0.5 - 10.0	28	100	45	ER16	
	GOST40-ER25-70	P2780103	1.0 - 16.0	42	70	65	ER25	
	GOST40-ER25-100	P2780104	1.0 - 16.0	42	120	65	ER25	
	GOST40-ER32-70	P2780105	1.0 - 20.0	50	70	65	ER32	
	GOST40-ER32-100	P2780106	1.0 - 20.0	50	100	65	ER32	
50	GOST50-ER16-90	P2780107	0.5 - 10.0	28	90	45	ER16	
	GOST50-ER16-150	P2780108	0.5 - 10.0	28	150	45	ER16	
	GOST50-ER25-90	P2780109	1.0 - 16.0	42	90	65	ER25	
	GOST50-ER25-150	P2780110	1.0 - 16.0	42	150	65	ER25	
	GOST50-ER32-90	P2780111	1.0 - 20.0	50	90	65	ER32	
	GOST50-ER32-150	P2780112	1.0 - 20.0	50	150	65	ER32	
	GOST50-ER40-90	P2780113	2.0 - 30.0	63	90	65	ER40	

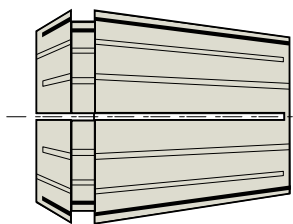
YG ER COLLET CHUCK

GER

ER COLLET - GER (High Precision)
ER筒夹 - GER (高精)

GER 8		
CLAMPING RANGE 夹持范围	CODE No. 编号	EDP No.
1.0 - 0.5	108010	P2772557
1.5 - 1.0	108015	P2772558
2.0 - 1.5	108020	P2772559
2.5 - 2.0	108025	P2772560
3.0 - 2.5	108030	P2772561
3.5 - 3.0	108035	P2772562
4.0 - 3.5	108040	P2772563
4.5 - 4.0	108045	P2772564
5.0 - 4.5	108050	P2772565

GER 11		
CLAMPING RANGE 夹持范围	CODE No. 编号	EDP No.
1.0 - 0.5	111010	P2772401
1.5 - 1.0	111015	P2772402
2.0 - 1.5	111020	P2772403
2.5 - 2.0	111025	P2772404
3.0 - 2.5	111030	P2772405
3.5 - 3.0	111035	P2772406
4.0 - 3.5	111040	P2772407
4.5 - 4.0	111045	P2772408
5.0 - 4.5	111050	P2772409
5.5 - 5.0	111055	P2772410
6.0 - 5.5	111060	P2772411
6.5 - 6.0	111065	P2772412
7.0 - 6.5	111070	P2772413



* T.I.R : ≤0.005mm at 3D

Unit (单位) : mm

GER 16		
CLAMPING RANGE 夹持范围	CODE No. 编号	EDP No.
1.0 - 0.5	116010	P2772414
2.0 - 1.0	116020	P2772415
3.0 - 2.0	116030	P2772416
4.0 - 3.0	116040	P2772417
5.0 - 4.0	116050	P2772418
6.0 - 5.0	116060	P2772419
7.0 - 6.0	116070	P2772420
8.0 - 7.0	116080	P2772421
9.0 - 8.0	116090	P2772422
10.0 - 9.0	116100	P2772423
1.5 - 1.0	116015	P2772424
2.5 - 2.0	116025	P2772425

GER 25		
CLAMPING RANGE 夹持范围	CODE No. 编号	EDP No.
2.0 - 1.0	125020	P2772441
3.0 - 2.0	125030	P2772442
4.0 - 3.0	125040	P2772443
5.0 - 4.0	125050	P2772444
6.0 - 5.0	125060	P2772445
7.0 - 6.0	125070	P2772446
8.0 - 7.0	125080	P2772447
9.0 - 8.0	125090	P2772448
10.0 - 9.0	125100	P2772449
11.0 - 10.0	125110	P2772450
12.0 - 11.0	125120	P2772451
13.0 - 12.0	125130	P2772452
14.0 - 13.0	125140	P2772453
15.0 - 14.0	125150	P2772454
16.0 - 15.0	125160	P2772455
1.0 - 1.5	125010	P2772456
1.5 - 1.0	125015	P2772457
2.5 - 2.0	125025	P2772458

GER 32		
CLAMPING RANGE 夹持范围	CODE No. 编号	EDP No.
3.0 - 2.0	132030	P2772459
4.0 - 3.0	132040	P2772460
5.0 - 4.0	132050	P2772461
6.0 - 5.0	132060	P2772462
7.0 - 6.0	132070	P2772463
8.0 - 7.0	132080	P2772464
9.0 - 8.0	132090	P2772465
10.0 - 9.0	132100	P2772466
11.0 - 10.0	132110	P2772467
12.0 - 11.0	132120	P2772468
13.0 - 12.0	132130	P2772469
14.0 - 13.0	132140	P2772470
15.0 - 14.0	132150	P2772471
16.0 - 15.0	132160	P2772472
17.0 - 16.0	132170	P2772473
18.0 - 17.0	132180	P2772474
19.0 - 18.0	132190	P2772475
20.0 - 19.0	132200	P2772476
2.0 - 1.0	132020	P2772477
2.5 - 2.0	132025	P2772478

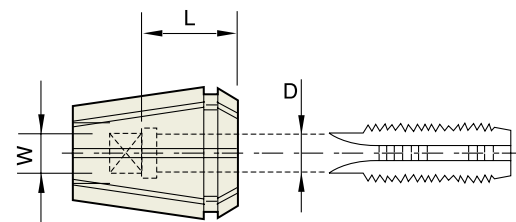
GER 40		
CLAMPING RANGE 夹持范围	CODE No. 编号	EDP No.
4.0 - 3.0	140040	P2772479
5.0 - 4.0	140050	P2772480
6.0 - 5.0	140060	P2772481
7.0 - 6.0	140070	P2772482
8.0 - 7.0	140080	P2772483
9.0 - 8.0	140090	P2772484
10.0 - 9.0	140100	P2772485
11.0 - 10.0	140110	P2772486
12.0 - 11.0	140120	P2772487
13.0 - 12.0	140130	P2772488
14.0 - 13.0	140140	P2772489
15.0 - 14.0	140150	P2772490
16.0 - 15.0	140160	P2772491
17.0 - 16.0	140170	P2772492
18.0 - 17.0	140180	P2772493
19.0 - 18.0	140190	P2772494
20.0 - 19.0	140200	P2772495
21.0 - 20.0	140210	P2772496
22.0 - 21.0	140220	P2772497
23.0 - 22.0	140230	P2772498
24.0 - 23.0	140240	P2772499
25.0 - 24.0	140250	P2772500
26.0 - 25.0	140260	P2772501
3.0 - 2.0	140030	P2772502
27.0 - 26.0	140270	P2772503
28.0 - 27.0	140280	P2772504
29.0 - 28.0	140290	P2772505
30.0 - 29.0	140300	P2772506

GER 20		
CLAMPING RANGE 夹持范围	CODE No. 编号	EDP No.
2.0 - 1.0	120020	P2772426
3.0 - 2.0	120030	P2772427
4.0 - 3.0	120040	P2772428
5.0 - 4.0	120050	P2772429
6.0 - 5.0	120060	P2772430
7.0 - 6.0	120070	P2772431
8.0 - 7.0	120080	P2772432
9.0 - 8.0	120090	P2772433
10.0 - 9.0	120100	P2772434
11.0 - 10.0	120110	P2772435
12.0 - 11.0	120120	P2772436
13.0 - 12.0	120130	P2772437
1.0 - 0.5	120010	P2772438
1.5 - 1.0	120015	P2772439
2.5 - 2.0	120025	P2772440

TAP ER COLLET (JIS)

丝锥ER筒夹(JIS)

Below standard
Tap ER Collet conforms to **JIS**



Unit (单位) : mm

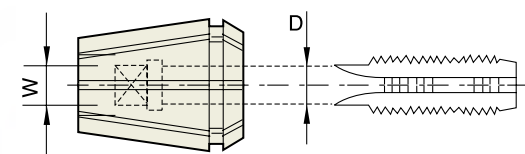
TAP	RDT 16				RDT 20				RDT 25				RDT 32				RDT 40				
	D (∅)	W (□)	L	EDP No.	D (∅)	W (□)	L	EDP No.	D (∅)	W (□)	L	EDP No.	D (∅)	W (□)	L	EDP No.	D (∅)	W (□)	L	EDP No.	
M2	3.0	2.5	15	P2772501																	
M3	4.0	3.2	15	P2772502	4.0	3.2	15	P2772507	4.0	3.2	15	P2772513									
M4	5.0	4.0	15	P2772503	5.0	4.0	15	P2772508	5.0	4.0	15	P2772514	5.0	4.0	15	P2772521					
M5	5.5	4.5	15	P2772504	5.5	4.5	15	P2772509	5.5	4.5	15	P2772515	5.5	4.5	15	P2772522					
M6	6.0	4.5	15	P2772505	6.0	4.5	15	P2772510	6.0	4.5	15	P2772516	6.0	4.5	15	P2772523					
M8	6.2	5.0	15	P2772506	6.2	5.0	20	P2772511	6.2	5.0	20	P2772517	6.2	5.0	20	P2772524	6.2	5.0	20	P2772530	
M10					7.0	5.5	20	P2772512	7.0	5.5	20	P2772518	7.0	5.5	20	P2772525	7.0	5.5	20	P2772531	
M12									8.5	6.5	20	P2772519	8.5	6.5	20	P2772526	8.5	6.5	25	P2772532	
M14									10.5	8.0	20	P2772520	10.5	8.0	20	P2772527	10.5	8.0	25	P2772533	
M16													12.5	10.0	20	P2772528	12.5	10.0	25	P2772534	
M18													14.0	11.0	20	P2772529	14.0	11.0	25	P2772535	
M20																	15.0	12.0	28	P2772536	
M22																	17.0	13.0	28	P2772537	
M24																	19.0	15.0	28	P2772538	

▶Inch type collets available.
可供应英制产品

TAP ER COLLET (DIN)

丝锥ER筒夹(DIN)

Below standard
Tap ER Collet conforms to **DIN**



Unit (单位) : mm

DIN STANDARD			RD 11TC			RD 16TC			RD 20TC			RD 25TC			RD 32TC			RD 40TC			RD 50TC		
DIN 374/376	DIN 352/2181	DIN 371	D (∅)	W (□)	EDP No.	D (∅)	W (□)	EDP No.	D (∅)	W (□)	EDP No.	D (∅)	W (□)	EDP No.	D (∅)	W (□)	EDP No.	D (∅)	W (□)	EDP No.	D (∅)	W (□)	EDP No.
M5	M3	M3	3.5	2.7	P2772501D	3.5	2.7	P2772507D	3.5	2.7	P2772514D	3.5	2.7	P2772524D	3.5	2.7	P2772538D	3.5	2.7	P2772552D			
M5.5	M3.5	M3.5	4.0	3.0	P2772502D	4.0	3.0	P2772508D	4.0	3.0	P2772515D	4.0	3.0	P2772525D	4.0	3.0	P2772539D	4.0	3.0	P2772553D			
M6	M4	M4	4.5	3.4	P2772503D	4.5	3.4	P2772509D	4.5	3.4	P2772516D	4.5	3.4	P2772526D	4.5	3.4	P2772540D	4.5	3.4	P2772554D			
M5	-	-	5.0	4.0	P2772504D	5.0	4.0	P2772510D	5.0	4.0	P2772517D	5.0	4.0	P2772527D	5.0	4.0	P2772541D	5.0	4.0	P2772555D			
M7	-	-	5.5	4.3	P2772505D	5.5	4.3	P2772511D	5.5	4.3	P2772518D	5.5	4.3	P2772528D	5.5	4.3	P2772542D	5.5	4.3	P2772556D			
M8	M4.5-M8	M4.5-M8	6.0	4.9	P2772506D	6.0	4.9	P2772512D	6.0	4.9	P2772519D	6.0	4.9	P2772529D	6.0	4.9	P2772543D	6.0	4.9	P2772557D			
M9+M10	M9+M10	M7				7.0	5.5	P2772513D	7.0	5.5	P2772520D	7.0	5.5	P2772530D	7.0	5.5	P2772544D	7.0	5.5	P2772558D			
M11	M11	M8							8.0	6.2	P2772521D	8.0	6.2	P2772531D	8.0	6.2	P2772545D	8.0	6.2	P2772559D	8.0	6.2	P2772569D
M12	M12	M9							9.0	7.0	P2772522D	9.0	7.0	P2772532D	9.0	7.0	P2772546D	9.0	7.0	P2772560D	9.0	7.0	P2772570D
-	-	M10							10.0	8.0	P2772523D	10.0	8.0	P2772533D	10.0	8.0	P2772547D	10.0	8.0	P2772561D	10.0	8.0	P2772571D
M13+M14	M13+M14	-										11.0	9.0	P2772534D	11.0	9.0	P2772548D	11.0	9.0	P2772562D	11.0	9.0	P2772572D
M15-M17	M15-M17	-										12.0	9.0	P2772535D	12.0	9.0	P2772549D	12.0	9.0	P2772563D	12.0	9.0	P2772573D
M18+M19	M18+M19	-										14.0	11.0	P2772536D	14.0	11.0	P2772550D	14.0	11.0	P2772564D	14.0	11.0	P2772574D
M20+M21	M20+M21	-										16.0	12.0	P2772537D	16.0	12.0	P2772551D	16.0	12.0	P2772565D	16.0	12.0	P2772575D
M22-M26	M22-M26	-																18.0	14.5	P2772566D	18.0	14.5	P2772576D
M27+M28	M27+M28	-																20.0	16.0	P2772567D	20.0	16.0	P2772577D
M29-M32	M29-M32	-																22.0	18.0	P2772568D	22.0	18.0	P2772578D
M33	M33	-																			25.0	20.0	P2772579D
M34-M38	M34-M38	-																			28.0	22.0	P2772580D
M39-M42	M39-M42	-																			32.0	24.0	P2772581D

▶Inch type collets available.
可供应英制产品

ER NUT**ER 螺母****DIN 6499/ISO 15488**

■ SQ-ER (Standard 标准型 : Hex. 六角形)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
SQ-ER11	P2700006	M14×0.75	19.0	12.0
SQ-ER16	P2700001	M22×1.50	28.0	18.0
SQ-ER20	P2700002	M25×1.50	34.0	19.5



■ SQ-ER (Standard 标准型 : Round 圆型)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
SQ-ER25	P2700003	M32×1.50	42.0	20.5
SQ-ER32	P2700004	M40×1.50	50.0	23.0
SQ-ER40	P2700005	M50×1.50	63.0	26.0
SQ-ER50	P2700007	M64×2.00	78.0	35.0



■ XSQ-R (Standard 标准型 : Hex. 六角形)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
XSQ-R11	P2777002	M14×0.75	19.0	12.0
XSQ-R16	P2777003	M22×1.50	28.0	18.0
XSQ-R20	P2777004	M25×1.50	34.0	19.5



■ XSQ-RU (Standard 标准型 : Round 圆型)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
XSQ-RU25	P2777005	M32×1.50	42.0	20.5
XSQ-RU32	P2777006	M40×1.50	50.0	23.0
XSQ-RU40	P2777007	M50×1.50	63.0	26.0
XSQ-RU50	P2777008	M64×2.00	78.0	35.0

ER NUT**ER 螺母****DIN 6499/ISO 15488**

■ XSQ-RT (Sealing Disk Type 密封型 : Hex. 六角形)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
XSQ-RT16	P2777009	M22×1.50	28.0	22.5
XSQ-RT20	P2777010	M25×1.50	34.0	24.0



■ XSQ-RUT (Sealing Disk Type 密封型 : Round 圆型)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
XSQ-RUT16	P2777011	M22×1.50	32.0	22.5
XSQ-RUT20	P2777012	M25×1.50	35.0	24.0
XSQ-RUT25	P2777013	M32×1.50	42.0	25.0
XSQ-RUT32	P2777014	M40×1.50	50.0	27.5
XSQ-RUT40	P2777015	M50×1.50	63.0	30.5



■ XSQ-RSU (Sleeve Bearing Type 套筒轴承型)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
XSQ-RSU16	P2777016	M22×1.50	32.0	18.0
XSQ-RSU20	P2777017	M25×1.50	35.0	20.0
XSQ-RSU25	P2777018	M32×1.50	42.0	20.5
XSQ-RSU32	P2777019	M40×1.50	50.0	23.0
XSQ-RSU40	P2777020	M50×1.50	63.0	26.0



■ XSQ-RST (Sleeve Bearing 套筒轴承型 / Sealing Disk Type 密封型 : Hex. 六角形)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
XSQ-RST16	P2777021	M22×1.50	28.0	22.5
XSQ-RST20	P2777022	M25×1.50	34.0	24.5



■ XSQ-RSUT (Sleeve Bearing 套筒轴承型 / Sealing Disk Type 密封型 : Round 圆型)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
XSQ-RSUT16	P2777023	M22×1.50	32.0	22.5
XSQ-RSUT20	P2777024	M25×1.50	35.0	24.5
XSQ-RSUT25	P2777025	M32×1.50	42.0	25.0
XSQ-RSUT32	P2777026	M40×1.50	50.0	27.5
XSQ-RSUT40	P2777027	M50×1.50	63.0	30.5

ER NUT**ER 螺母**
■ XSQ-RKU (Ball Bearing Type 球轴承类型)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
XSQ-RKU16	P2777028	M22×1.50	32.0	18.0
XSQ-RKU20	P2777029	M25×1.50	35.0	20.0
XSQ-RKU25	P2777030	M32×1.50	42.0	21.5
XSQ-RKU32	P2777031	M40×1.50	50.0	23.0
XSQ-RKU40	P2777032	M50×1.50	63.0	26.0


■ XSQ-RKUT (Ball Bearing / Sealing Disk Type 密封型)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
XSQ-RKUT16	P2777033	M22×1.50	32.0	22.5
XSQ-RKUT20	P2777034	M25×1.50	35.0	24.5
XSQ-RKUT25	P2777035	M32×1.50	42.0	25.0
XSQ-RKUT32	P2777036	M40×1.50	50.0	27.5
XSQ-RKUT40	P2777037	M50×1.50	63.0	30.5


■ XSQ-RM (Mini Nut : Standard Type Mini螺母:标准型)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
XSQ-R08M	P2777038	M10×0.75	12.0	11.0
XSQ-R11M	P2777039	M13×0.75	16.0	12.0
XSQ-R16M	P2777040	M19×1.00	22.0	18.0
XSQ-R20M	P2777041	M24×1.00	28.0	19.5
XSQ-R25M	P2777042	M30×1.00	35.0	20.5


■ XSQ-RTM (Mini Nut : Sealing Disk Type Mini螺母:密封型)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
XSQ-RT16M	P2777043	M19×1.00	22.0	22.5
XSQ-RT20M	P2777044	M24×1.00	28.0	24.0
XSQ-RT25M	P2777045	M30×1.00	35.0	25.0

ER NUT & SEALING DISK SET**ER 螺母 & 密封型套装**
■ XSQ-RA (External Thread Type 外螺纹类型)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
XSQ-RA11	P2777046	M18×1.00	18.0	6.0
XSQ-RA16	P2777047	M24×1.00	24.0	8.0
XSQ-RA20	P2777048	M28×1.50	28.0	11.0
XSQ-RA25	P2777049	M32×1.50	32.0	12.5
XSQ-RA32	P2777050	M40×1.50	40.0	14.0


■ XSQ-RAT (External Thread 外螺纹密封型/ Sealing Disk Type 密封型)

Unit (单位) : mm

MODEL No. 型号	EDP No.	THREAD	Dia. 直径	LENGTH
XSQ-RA11S*	P2777051	M18×1.00	18.0	8.0
XSQ-RAT16	P2777052	M24×1.00	24.0	11.0
XSQ-RAT20	P2777053	M28×1.50	28.0	12.5
XSQ-RAT25	P2777054	M32×1.50	32.0	14.0
XSQ-RAT32	P2777001	M40×1.50	40.0	17.5

* Without sealing disk 无密封


■ SEALING DISK SET 密封型套装

Unit (单位) : mm

MODEL No. 型号	EDP No.	Dia. 直径	THICKNESS 厚度	SEALING DISKS / SET 密封盘/套装
DS16S2	P2777061	13.0	4.0	7pcs / set
DS20S2	P2777062	16.0	4.0	10pcs / set
DS25S2	P2777063	21.0	4.0	13pcs / set
DS32S2	P2777064	27.0	4.0	17pcs / set
DS40S2	P2777065	33.5	4.0	23pcs / set
DS50S2	P2777066	31.0	4.0	22pcs / set

SEALING DISK

密封圈



SEALING DISK 密封型

Unit (单位) : mm

MODEL No. 型号	EDP No.	Dia. 直径	INNER DIA. 内径 (Step : 0.5mm)	THICKNESS 厚度
DS/ER16-3	P2780501	13.0	3.0	4.0
DS/ER16-3.5	P2780502	13.0	3.5	4.0
DS/ER16-4	P2780503	13.0	4.0	4.0
DS/ER16-4.5	P2780504	13.0	4.5	4.0
DS/ER16-5	P2780505	13.0	5.0	4.0
DS/ER16-6	P2780506	13.0	6.0	4.0
DS/ER16-6.5	P2780507	13.0	6.5	4.0
DS/ER16-7	P2780508	13.0	7.0	4.0
DS/ER16-8	P2780509	13.0	8.0	4.0
DS/ER16-9	P2780510	13.0	9.0	4.0
DS/ER16-10	P2780511	13.0	10.0	4.0
DS/ER20-3	P2780512	16.0	3.0	4.0
DS/ER20-4	P2780513	16.0	4.0	4.0
DS/ER20-4.5	P2780514	16.0	4.5	4.0
DS/ER20-5	P2780515	16.0	5.0	4.0
DS/ER20-5.5	P2780516	16.0	5.5	4.0
DS/ER20-6	P2780517	16.0	6.0	4.0
DS/ER20-6.5	P2780518	16.0	6.5	4.0
DS/ER20-7	P2780519	16.0	7.0	4.0
DS/ER20-7.5	P2780520	16.0	7.5	4.0
DS/ER20-8	P2780521	16.0	8.0	4.0
DS/ER20-8.5	P2780522	16.0	8.5	4.0
DS/ER20-9	P2780523	16.0	9.0	4.0
DS/ER20-10	P2780524	16.0	10.0	4.0
DS/ER20-11	P2780525	16.0	11.0	4.0
DS/ER20-12	P2780526	16.0	12.0	4.0
DS/ER20-13	P2780527	16.0	13.0	4.0
DS/ER25-3	P2780528	21.0	3.0	4.0
DS/ER25-3.5	P2780529	21.0	3.5	4.0
DS/ER25-4	P2780530	21.0	4.0	4.0
DS/ER25-4.5	P2780531	21.0	4.5	4.0
DS/ER25-5	P2780532	21.0	5.0	4.0
DS/ER25-5.5	P2780533	21.0	5.5	4.0
DS/ER25-6	P2780534	21.0	6.0	4.0
DS/ER25-6.5	P2780535	21.0	6.5	4.0
DS/ER25-7	P2780536	21.0	7.0	4.0
DS/ER25-7.5	P2780537	21.0	7.5	4.0
DS/ER25-8	P2780538	21.0	8.0	4.0
DS/ER25-8.5	P2780539	21.0	8.5	4.0
DS/ER25-9	P2780540	21.0	9.0	4.0
DS/ER25-9.5	P2780541	21.0	9.5	4.0
DS/ER25-10	P2780542	21.0	10.0	4.0
DS/ER25-10.5	P2780543	21.0	10.5	4.0
DS/ER25-11	P2780544	21.0	11.0	4.0
DS/ER25-11.5	P2780545	21.0	11.5	4.0
DS/ER25-12	P2780546	21.0	12.0	4.0
DS/ER25-12.5	P2780547	21.0	12.5	4.0
DS/ER25-13	P2780548	21.0	13.0	4.0
DS/ER25-13.5	P2780549	21.0	13.5	4.0
DS/ER25-14	P2780550	21.0	14.0	4.0
DS/ER25-14.5	P2780551	21.0	14.5	4.0

MODEL No. 型号	EDP No.	Dia. 直径	INNER DIA. 内径 (Step : 0.5mm)	THICKNESS 厚度
DS/ER25-15	P2780552	21.0	15.0	4.0
DS/ER25-15.5	P2780553	21.0	15.5	4.0
DS/ER25-16	P2780554	21.0	16.0	4.0
DS/ER32-3	P2780555	27.0	3.0	4.0
DS/ER32-4	P2780556	27.0	4.0	4.0
DS/ER32-5	P2780557	27.0	5.0	4.0
DS/ER32-6	P2780558	27.0	6.0	4.0
DS/ER32-7	P2780559	27.0	7.0	4.0
DS/ER32-8	P2780560	27.0	8.0	4.0
DS/ER32-9	P2780561	27.0	9.0	4.0
DS/ER32-10	P2780562	27.0	10.0	4.0
DS/ER32-10.5	P2780563	27.0	10.5	4.0
DS/ER32-11	P2780564	27.0	11.0	4.0
DS/ER32-11.5	P2780565	27.0	11.5	4.0
DS/ER32-12	P2780566	27.0	12.0	4.0
DS/ER32-12.5	P2780567	27.0	12.5	4.0
DS/ER32-13	P2780568	27.0	13.0	4.0
DS/ER32-13.5	P2780569	27.0	13.5	4.0
DS/ER32-14	P2780570	27.0	14.0	4.0
DS/ER32-14.5	P2780571	27.0	14.5	4.0
DS/ER32-15	P2780572	27.0	15.0	4.0
DS/ER32-16	P2780573	27.0	16.0	4.0
DS/ER32-17	P2780574	27.0	17.0	4.0
DS/ER32-18	P2780575	27.0	18.0	4.0
DS/ER32-19	P2780576	27.0	19.0	4.0
DS/ER32-20	P2780577	27.0	20.0	4.0
DS/ER40-3	P2780578	33.5	3.0	4.0
DS/ER40-4	P2780579	33.5	4.0	4.0
DS/ER40-5	P2780580	33.5	5.0	4.0
DS/ER40-6	P2780581	33.5	6.0	4.0
DS/ER40-7	P2780582	33.5	7.0	4.0
DS/ER40-8	P2780583	33.5	8.0	4.0
DS/ER40-9	P2780584	33.5	9.0	4.0
DS/ER40-10	P2780585	33.5	10.0	4.0
DS/ER40-11	P2780586	33.5	11.0	4.0
DS/ER40-12	P2780587	33.5	12.0	4.0
DS/ER40-13	P2780588	33.5	13.0	4.0
DS/ER40-14	P2780589	33.5	14.0	4.0
DS/ER40-15	P2780590	33.5	15.0	4.0
DS/ER40-16	P2780591	33.5	16.0	4.0
DS/ER40-17	P2780592	33.5	17.0	4.0
DS/ER40-18	P2780593	33.5	18.0	4.0
DS/ER40-19	P2780594	33.5	19.0	4.0
DS/ER40-20	P2780595	33.5	20.0	4.0
DS/ER40-21	P2780596	33.5	21.0	4.0
DS/ER40-22	P2780597	33.5	22.0	4.0
DS/ER40-23	P2780598	33.5	23.0	4.0
DS/ER40-24	P2780599	33.5	24.0	4.0
DS/ER40-25	P2780600	33.5	25.0	4.0
DS/ER40-26	P2780601	33.5	26.0	4.0

ER SPANNER/WRENCH

ER扳手



FIG.1



FIG.2



FOR ER / SKN NUT 适用于 ER/SKN 螺母

Unit (单位) : mm

MODEL No. 型号	EDP No.	A	B	APPLICABLE NUT 适用螺母
ER11SP	P2772601	-	-	ER11, SKN6 (FIG.1)
ER16SP	P2772602	50	160	ER16, SKN10 (FIG.1)
ER20SP	P2772603	55	180	ER20 (FIG.1)
ER25SP	P2772604	65	210	ER25, SKN16 (FIG.2)
ER32SP	P2772605	75	250	ER32 (FIG.2)
ER40SP	P2772606	90	290	ER40 (FIG.2)
ER50SP	P2772612	110	350	ER50 (FIG.2)

►Design and shape could be changed without prior notice.
设计及形状变更时不给予提前通知

FOR ER Mini NUT 适用于 ER Mini 螺母

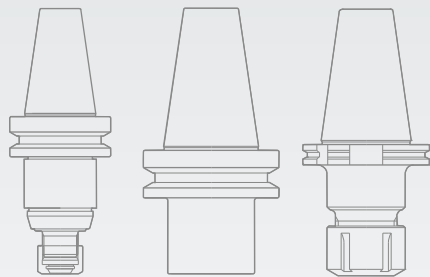
Unit (单位) : mm

MODEL No. 型号	EDP No.	A	B	APPLICABLE NUT 适用螺母
GE8M	P2772608	12.4	70	ER8M
GE11M	P2772609	16.8	90	ER11M
GE16M	P2772610	22.5	110	ER16M
GE20M	P2772611	29.0	120	ER20M
GE25M	P2772607	36.0	130	ER25M

►Design and shape could be changed without prior notice.
设计及形状变更时不给予提前通知



Global Cutting Tool Leader **YG-1**



TOOLING SYSTEM

YG-1 TOOLING SYSTEM

END MILL HOLDER & SIDE LOCK ARBOR

立铣刀刀柄 & 侧固式刀柄



END MILL HOLDER

DIN 69871-SK
DIN 69893/ISO 12164-1-HSK
JIS B6339/MAS 403-BT
SHORT TYPE (SK&BT)
GOST 25827-93

SIDE LOCK ARBOR

CBT (BT DUAL CONTACT)
JIS B6339/MAS 403-BT

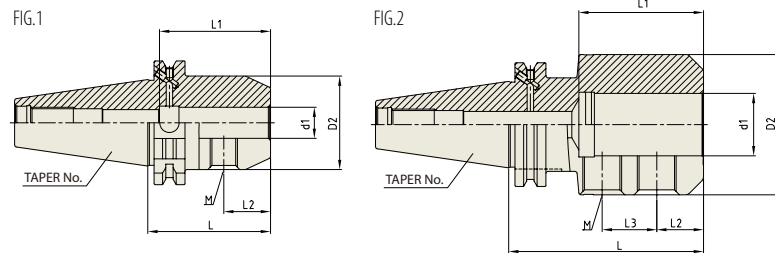
PART

END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER 立铣刀刀柄

DIN 69871-SK



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
30	SK30-EMH6-50	P2779025A	6	25	50	35	18	-	M6	1	0.73
	SK30-EMH8-50	P2779026A	8	28	50	35	18	-	M8	1	0.83
	SK30-EMH10-50	P2779027A	10	35	50	42	20	-	M10	1	0.90
	SK30-EMH12-50	P2779028A	12	42	50	47	22.5	-	M12	1	0.90
	SK30-EMH16-63	P2779029A	16	48	63	50	24	-	M14	1	1.10
40	SK40AD/B-EMH6-50	P2779030	6	25	50	35	18	-	M6	1	0.86
	SK40AD/B-EMH8-50	P2779031	8	28	50	35	18	-	M8	1	0.89
	SK40AD/B-EMH10-50	P2779032	10	35	50	39	20	-	M10	1	0.95
	SK40AD/B-EMH12-50	P2779033	12	42	50	46	22.5	-	M12	1	1.03
	SK40AD/B-EMH16-63	P2779034	16	48	63	57	24	-	M14	1	1.26
	SK40AD/B-EMH20-63	P2779035	20	52	63	54	25	-	M16	1	1.28
	SK40AD/B-EMH25-100	P2779036	25	65	100	60	24	25	M18	2	2.28
	SK40AD/B-EMH32-100	P2779037	32	72	100	64	24	28	M20	2	2.50
	SK50AD/B-EMH6-63	P2779038	6	25	50	35	18	-	M6	1	2.70
	SK50AD/B-EMH8-63	P2779039	8	28	50	35	18	-	M8	1	2.70
50	SK50AD/B-EMH10-63	P2779040	10	35	50	39	20	-	M10	1	2.90
	SK50AD/B-EMH12-63	P2779041	12	42	63	46	22.5	-	M12	1	2.90
	SK50AD/B-EMH16-63	P2779042	16	48	63	49	24	-	M14	1	3.00
	SK50AD/B-EMH20-63	P2779043	20	52	63	52	25	-	M16	1	3.05
	SK50AD/B-EMH25-80	P2779044	25	65	80	60	24	25	M18	2	3.73
	SK50AD/B-EMH32-100	P2779045	32	72	100	64	24	28	M20	2	4.53
	SK50AD/B-EMH40-100	P2779046	40	80	100	74	30	32	M20	2	4.77
	SK50AD/B-EMH50-125	P2779047	50	100	125	84	35	35	M24	2	7.03

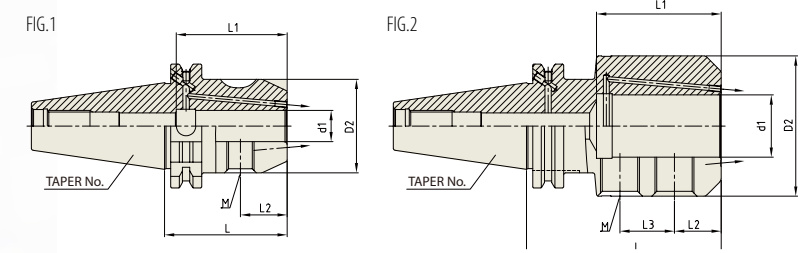
- ▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择
- ▶ Standard End Mill Holder is for a cutting tool with Weldon shank and End Mill Holder for a cutting tool with Whistle notch is available upon request.
标准立铣刀座适用于带Weldon刀柄的刀具，立铣刀座适用于带哨子切口的刀具，可根据客户要求提供
- ▶ Combi-style holder with ball jointed clamping screw which can be used with cutting tools with Weldon and Whistle notch shank is available.
Weldon和斜度侧固式切削刀具可兼用 ball 及 夹紧螺丝 组装的 Combi 形状的刀柄 可供应

END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER (COOLANT CHANNEL) 立铣刀刀柄 (冷却液喷射型)

DIN 69871-SK



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
40	SK40AD/B-EMH6C-50	P2779048	6	25	50	35	18	-	M6	1	0.86
	SK40AD/B-EMH8C-50	P2779049	8	28	50	35	18	-	M8	1	0.89
	SK40AD/B-EMH10C-50	P2779050	10	35	50	39	20	-	M10	1	0.95
	SK40AD/B-EMH12C-50	P2779051	12	42	50	46	22.5	-	M12	1	1.03
	SK40AD/B-EMH14C-50	P2779052	14	44	50	48	22.5	-	M12	1	1.26
	SK40AD/B-EMH16C-63	P2779053	16	48	63	57	24	-	M14	1	1.28
	SK40AD/B-EMH18C-63	P2779054	18	50	63	54	24	-	M14	1	1.35
	SK40AD/B-EMH20C-63	P2779055	20	52	63	54	25	-	M16	1	1.28
	SK40AD/B-EMH25C-100	P2779056	25	65	100	60	24	25	M18	2	2.28
	SK40AD/B-EMH32C-100	P2779057	32	72	100	64	24	28	M20	2	2.50
50	SK50AD/B-EMH6C-63	P2779058	6	25	50	35	18	-	M6	1	2.70
	SK50AD/B-EMH8C-63	P2779059	8	28	50	35	18	-	M8	1	2.70
	SK50AD/B-EMH10C-63	P2779060	10	35	50	39	20	-	M10	1	2.90
	SK50AD/B-EMH12C-63	P2779061	12	42	63	46	22.5	-	M12	1	2.90
	SK50AD/B-EMH14C-63	P2779062	14	44	63	45	22.5	-	M12	1	2.90
	SK50AD/B-EMH16C-63	P2779063	16	48	63	49	24	-	M14	1	3.00
	SK50AD/B-EMH18C-63	P2779064	18	50	63	46	24	-	M14	1	3.00
	SK50AD/B-EMH20C-63	P2779065	20	52	63	52	25	-	M16	1	3.05
	SK50AD/B-EMH25C-80	P2779066	25	65	80	60	24	25	M18	2	3.73
	SK50AD/B-EMH32C-100	P2779067	32	72	100	64	24	28	M20	2	4.53
	SK50AD/B-EMH40C-120	P2779068	40	80	100	74	30	32	M20	2	4.77
	SK50AD/B-EMH50C-125	P2779069	50	100	125	84	35	35	M24	2	7.03

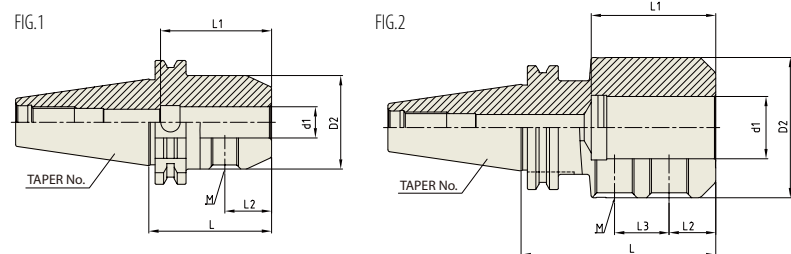
- ▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择
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- ▶ Combi-style holder with ball jointed clamping screw which can be used with cutting tools with Weldon and Whistle notch shank is available.
Weldon和斜度侧固式切削刀具可兼用 ball 及 夹紧螺丝 组装的 Combi 形状的刀柄 可供应

YMG END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER 立铣刀刀柄

DIN 69871-SK



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
30	SK30-EMH6-50	P2521004	6	25	50	35	18	-	M6	1	0.73
	SK30-EMH8-50	P2521005	8	28	50	35	18	-	M8	1	0.83
	SK30-EMH10-50	P2521006	10	35	50	42	20	-	M10	1	0.90
	SK30-EMH12-50	P2521007	12	42	50	47	22.5	-	M12	1	0.90
	SK30-EMH16-63	P2521008	16	48	63	50	24	-	M14	1	1.10
40	SK40-EMH6-50	P2521009	6	25	50	35	18	-	M6	1	0.86
	SK40-EMH8-50	P2521010	8	28	50	35	18	-	M8	1	0.89
	SK40-EMH10-50	P2521011	10	35	50	39	20	-	M10	1	0.95
	SK40-EMH12-50	P2521012	12	42	50	46	22.5	-	M12	1	1.03
	SK40-EMH16-63	P2521013	16	48	63	57	24	-	M14	1	1.26
	SK40-EMH20-63	P2521014	20	52	63	54	25	-	M16	1	1.28
	SK40-EMH25-100	P2521015	25	65	100	60	24	25	M18	2	2.28
	SK40-EMH32-100	P2521016	32	72	100	64	24	28	M20	2	2.50
	SK50-EMH6-63	P2521017	6	25	50	35	18	-	M6	1	2.70
	SK50-EMH8-63	P2521018	8	28	50	35	18	-	M8	1	2.70
50	SK50-EMH10-63	P2521019	10	35	50	39	20	-	M10	1	2.90
	SK50-EMH12-63	P2521020	12	42	63	46	22.5	-	M12	1	2.90
	SK50-EMH16-63	P2521021	16	48	63	49	24	-	M14	1	3.00
	SK50-EMH20-63	P2521022	20	52	63	52	25	-	M16	1	3.05
	SK50-EMH25-80	P2521023	25	65	80	60	24	25	M18	2	3.73
	SK50-EMH32-100	P2521024	32	72	100	64	24	28	M20	2	4.53
	SK50-EMH40-100	P2521025	40	80	100	74	30	32	M20	2	4.77
	SK50-EMH50-125	P2521026	50	100	125	84	35	35	M24	2	7.03

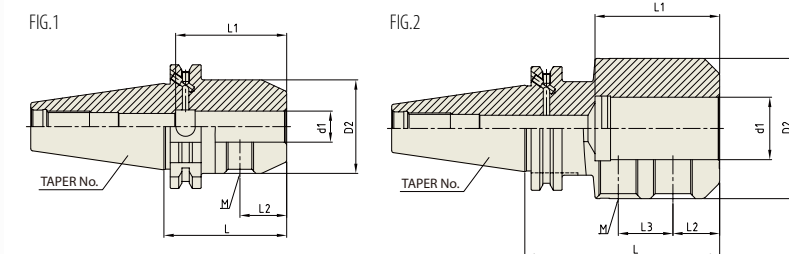
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YMG END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER 立铣刀刀柄

DIN 69871-SK



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
40	SK40AD/B-EMH6-50	P2531009	6	25	50	35	18	-	M6	1	0.86
	SK40AD/B-EMH8-50	P2531010	8	28	50	35	18	-	M8	1	0.89
	SK40AD/B-EMH10-50	P2531011	10	35	50	39	20	-	M10	1	0.95
	SK40AD/B-EMH12-50	P2531012	12	42	50	46	22.5	-	M12	1	1.03
	SK40AD/B-EMH16-63	P2531013	16	48	63	57	24	-	M14	1	1.28
50	SK40AD/B-EMH20-63	P2531014	20	52	63	54	25	-	M16	1	1.28
	SK40AD/B-EMH25-100	P2531015	25	65	100	60	24	25	M18	2	2.28
	SK40AD/B-EMH32-100	P2531016	32	72	100	64	24	28	M20	2	2.50
	SK50AD/B-EMH6-63	P2531017	6	25	50	35	18	-	M6	1	2.70
	SK50AD/B-EMH8-63	P2531018	8	28	50	35	18	-	M8	1	2.70
	SK50AD/B-EMH10-63	P2531019	10	35	50	39	20	-	M10	1	2.90
	SK50AD/B-EMH12-63	P2531020	12	42	63	46	22.5	-	M12	1	2.90
	SK50AD/B-EMH16-63	P2531021	16	48	63	49	24	-	M14	1	3.00
	SK50AD/B-EMH20-63	P2531022	20	52	63	52	25	-	M16	1	3.05
	SK50AD/B-EMH25-80	P2531023	25	65	80	60	24	25	M18	2	3.73
50	SK50AD/B-EMH32-100	P2531024	32	72	100	64	24	28	M20	2	4.53
	SK50AD/B-EMH40-100	P2531025	40	80	100	74	30	32	M20	2	4.77
	SK50AD/B-EMH50-125	P2531026	50	100	125	84	35	35	M24	2	7.03

- ▶ CAT(ANSI B5.50) taper and Inch type products are available.
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Weldon和斜度侧固式切削刀具可兼用 ball 及夹紧螺丝 组装的 Combi 形状的刀柄 可供应

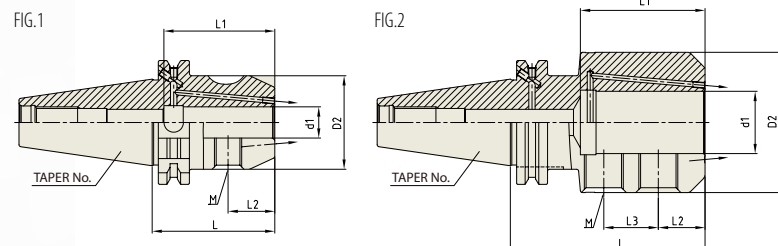
END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER (COOLANT CHANNEL)

DIN 69871-SK

立铣刀刀柄 (冷却液喷射型)



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
40	SK40AD/B-EMH6C-50	P2779001	6	25	50	35	18	-	M6	1	0.86
	SK40AD/B-EMH8C-50	P2779002	8	28	50	35	18	-	M8	1	0.89
	SK40AD/B-EMH10C-50	P2779003	10	35	50	39	20	-	M10	1	0.95
	SK40AD/B-EMH12C-50	P2779004	12	42	50	46	22.5	-	M12	1	1.03
	SK40AD/B-EMH14C-50	P2779005	14	44	50	48	22.5	-	M12	1	1.26
	SK40AD/B-EMH16C-63	P2779006	16	48	63	57	24	-	M14	1	1.28
	SK40AD/B-EMH18C-63	P2779007	18	50	63	54	24	-	M14	1	1.35
	SK40AD/B-EMH20C-63	P2779008	20	52	63	54	25	-	M16	1	1.28
	SK40AD/B-EMH25C-100	P2779009	25	65	100	60	24	25	M18	2	2.28
	SK40AD/B-EMH32C-100	P2779010	32	72	100	64	24	28	M20	2	2.50
50	SK50AD/B-EMH6C-63	P2779011	6	25	50	35	18	-	M6	1	2.70
	SK50AD/B-EMH8C-63	P2779012	8	28	50	35	18	-	M8	1	2.70
	SK50AD/B-EMH10C-63	P2779013	10	35	50	39	20	-	M10	1	2.90
	SK50AD/B-EMH12C-63	P2779014	12	42	63	46	22.5	-	M12	1	2.90
	SK50AD/B-EMH14C-63	P2779015	14	44	63	45	22.5	-	M12	1	2.90
	SK50AD/B-EMH16C-63	P2779016	16	48	63	49	24	-	M14	1	3.00
	SK50AD/B-EMH18C-63	P2779017	18	50	63	46	24	-	M14	1	3.00
	SK50AD/B-EMH20C-63	P2779018	20	52	63	52	25	-	M16	1	3.05
	SK50AD/B-EMH25C-80	P2779019	25	65	80	60	24	25	M18	2	3.73
	SK50AD/B-EMH32C-100	P2779020	32	72	100	64	24	28	M20	2	4.53
	SK50AD/B-EMH40C-120	P2779021	40	80	100	74	30	32	M20	2	4.77
	SK50AD/B-EMH50C-125	P2779022	50	100	125	84	35	35	M24	2	7.03

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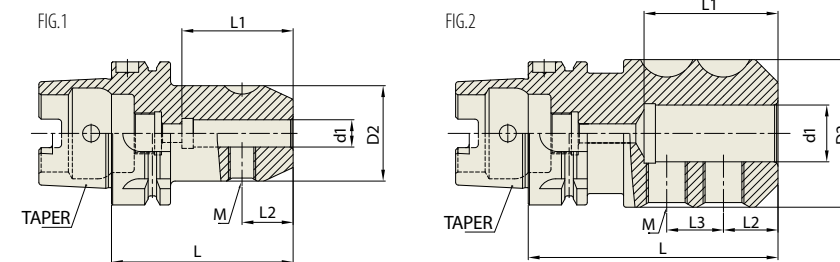
END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER

DIN 69893/
ISO 12164-1-HSK FORM A

立铣刀刀柄



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
40A	HSK40A-EMH6-60	P2775522	6	25	60	38	18	-	M6	1	0.30
	HSK40A-EMH8-60	P2775523	8	28	60	38	18	-	M8	1	0.30
	HSK40A-EMH10-60	P2775524	10	35	60	42	20	-	M10	1	0.30
	HSK40A-EMH12-70	P2775525	12	42	70	47	22.5	-	M12	1	0.40
	HSK40A-EMH14-70	P2775526	14	44	70	47	22.5	-	M12	1	0.40
	HSK40A-EMH16-80	P2775527	16	48	80	50	24	-	M14	1	0.60
50A	HSK50A-EMH6-65	P2775528	6	25	65	38	18	-	M6	1	0.70
	HSK50A-EMH8-65	P2775529	8	28	65	38	18	-	M8	1	0.80
	HSK50A-EMH10-65	P2775530	10	35	65	42	20	-	M10	1	0.80
	HSK50A-EMH12-80	P2775531	12	42	80	47	22.5	-	M12	1	1.20
	HSK50A-EMH14-80	P2775532	14	44	80	47	22.5	-	M12	1	1.30
	HSK50A-EMH16-80	P2775533	16	48	80	50	24	-	M14	1	1.30
63A	HSK50A-EMH18-80	P2775534	18	50	80	50	24	-	M14	1	1.40
	HSK50A-EMH20-80	P2775535	20	52	80	52	25	-	M16	1	1.50
	HSK63A-EMH6-65	P2775501	6	25	65	35	18	-	M6	1	0.80
	HSK63A-EMH8-65	P2775502	8	28	65	38	18	-	M8	1	0.80
	HSK63A-EMH10-65	P2775503	10	35	65	42	20	-	M10	1	0.90
	HSK63A-EMH12-80	P2775504	12	42	80	47	22.5	-	M12	1	1.10
	HSK63A-EMH14-80	P2775505	14	44	80	47	22.5	-	M12	1	1.20
	HSK63A-EMH16-80	P2775506	16	48	80	50	24	-	M14	1	1.30
	HSK63A-EMH18-80	P2775507	18	50	80	50	24	-	M14	1	1.40
	HSK63A-EMH20-80	P2775508	20	52	80	52	25	-	M16	1	1.50
100A	HSK63A-EMH25-110	P2775509	25	65	110	60	24	25	M16	2	2.30
	HSK63A-EMH32-110	P2775510	32	72	110	64	24	28	M16	2	2.60
	HSK100A-EMH6-80	P2775511	6	25	80	35	18	-	M6	1	0.80
	HSK100A-EMH8-80	P2775512	8	28	80	35	18	-	M8	1	0.80
	HSK100A-EMH10-80	P2775513	10	35	80	39	20	-	M10	1	0.90
	HSK100A-EMH12-80	P2775514	12	42	80	47	22.5	-	M12	1	1.10
	HSK100A-EMH14-80	P2775515	14	44	80	47	22.5	-	M12	1	1.20
	HSK100A-EMH16-100	P2775516	16	48	80	50	24	-	M14	1	1.30
	HSK100A-EMH18-100	P2775517	18	50	80	50	24	-	M14	1	1.40
	HSK100A-EMH20-100	P2775518	20	52	80	52	25	-	M16	1	1.50
	HSK100A-EMH25-100	P2775519	25	65	110	60	24	25	M16	2	2.30
	HSK100A-EMH32-100	P2775520	32	72	110	64	24	28	M16	2	2.60
	HSK100A-EMH40-120	P2775521	40	80	120	74	30	32	M16	2	2.60

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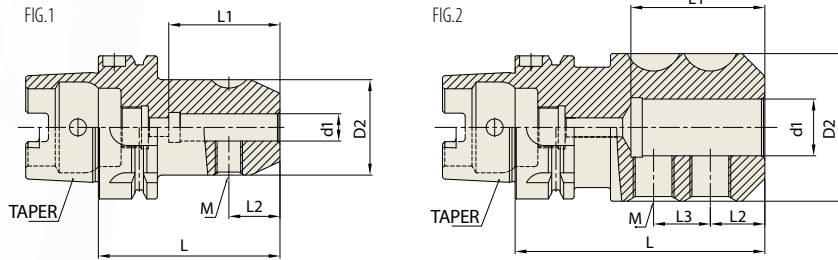
END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER (COOLANT CHANNEL)

DIN 69893/
ISO 12164-1-HSK FORM A

立铣刀刀柄 (冷却液喷射型)



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
40A	HSK40A-EMH6C-60	P2777222	6	25	60	38	18	-	M6	1	0.30
	HSK40A-EMH8C-60	P2777223	8	28	60	40	18	-	M8	1	0.30
	HSK40A-EMH10C-60	P2777224	10	35	60	42	20	-	M10	1	0.30
	HSK40A-EMH12C-70	P2777225	12	42	70	47	22.5	-	M12	1	0.40
	HSK40A-EMH14C-70	P2777226	14	44	70	47	22.5	-	M12	1	0.40
	HSK40A-EMH16C-80	P2777227	16	48	80	50	24	-	M14	1	0.60
50A	HSK50A-EMH6C-65	P2777228	6	25	65	38	18	-	M6	1	0.70
	HSK50A-EMH8C-65	P2777229	8	28	65	38	18	-	M8	1	0.80
	HSK50A-EMH10C-65	P2777230	10	35	65	42	20	-	M10	1	0.80
	HSK50A-EMH12C-80	P2777231	12	42	80	47	22.5	-	M12	1	1.20
	HSK50A-EMH14C-80	P2777232	14	44	80	47	22.5	-	M12	1	1.30
	HSK50A-EMH16C-80	P2777233	16	48	80	50	24	-	M14	1	1.30
63A	HSK63A-EMH6C-65	P2777201	6	25	65	35	18	-	M6	1	0.80
	HSK63A-EMH8C-65	P2777202	8	28	65	40	18	-	M8	1	0.80
	HSK63A-EMH10C-65	P2777203	10	35	65	40.5	20	-	M10	1	0.90
	HSK63A-EMH12C-80	P2777204	12	42	80	49	22.5	-	M12	1	1.10
	HSK63A-EMH14C-80	P2777206	14	44	80	49	22.5	-	M12	1	1.20
	HSK63A-EMH16C-80	P2777205	16	48	80	52	24	-	M14	1	1.30
100A	HSK100A-EMH6C-80	P2777211	6	25	80	35	18	-	M6	1	0.80
	HSK100A-EMH8C-80	P2777212	8	28	80	35	18	-	M8	1	0.80
	HSK100A-EMH10C-80	P2777213	10	35	80	35.5	20	-	M10	1	0.90
	HSK100A-EMH12C-80	P2777214	12	42	80	49	22.5	-	M12	1	1.10
	HSK100A-EMH14C-80	P2777215	14	44	80	49	22.5	-	M12	1	1.20
	HSK100A-EMH16C-100	P2777216	16	48	80	52	24	-	M14	1	1.30
100A	HSK100A-EMH18C-100	P2777217	18	50	80	52	24	-	M14	1	1.40
	HSK100A-EMH20C-100	P2777218	20	52	80	53	25	-	M16	1	1.50
	HSK100A-EMH25C-100	P2777219	25	65	110	59	24	25	M16	2	2.30
	HSK100A-EMH32C-100	P2777220	32	72	110	63	24	28	M16	2	2.60
	HSK100A-EMH40C-120	P2777221	40	80	120	73	30	32	M16	2	2.60

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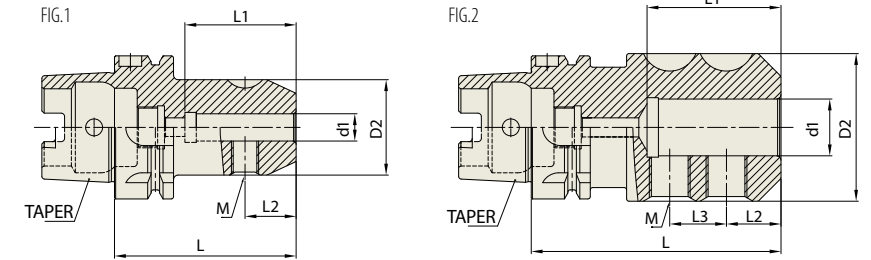
END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER

DIN 69893/
ISO 12164-1-HSK FORM A

立铣刀刀柄



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
40A	HSK40A-EMH6-60	P2563011	6	25	60	38	18	-	M6	1	0.30
	HSK40A-EMH8-60	P2563012	8	28	60	38	18	-	M8	1	0.30
	HSK40A-EMH10-60	P2563013	10	35	60	42	20	-	M10	1	0.30
	HSK40A-EMH12-70	P2563014	12	42	70	47	22.5	-	M12	1	0.40
	HSK40A-EMH14-70	P2563015	14	44	70	47	22.5	-	M12	1	0.40
	HSK40A-EMH16-80	P2563016	16	48	80	50	24	-	M14	1	0.60
50A	HSK50A-EMH6-65	P2563017	6	25	65	38	18	-	M6	1	0.70
	HSK50A-EMH8-65	P2563018	8	28	65	38	18	-	M8	1	0.80
	HSK50A-EMH10-65	P2563019	10	35	65	42	20	-	M10	1	0.80
	HSK50A-EMH12-80	P2563020	12	42	80	47	22.5	-	M12	1	1.20
	HSK50A-EMH14-80	P2563031	14	44	80	47	22.5	-	M12	1	1.30
	HSK50A-EMH16-80	P2563032	16	48	80	50	24	-	M14	1	1.30
63A	HSK63A-EMH6-65	P2563001	6	25	65	35	18	-	M6	1	0.80
	HSK63A-EMH8-65	P2563002	8	28	65	38	18	-	M8	1	0.80
	HSK63A-EMH10-65	P2563003	10	35	65	42	20	-	M10	1	0.90
	HSK63A-EMH12-80	P2563004	12	42	80	47	22.5	-	M12	1	1.10
	HSK63A-EMH14-80	P2563005	14	44	80	47	22.5	-	M12	1	1.20
	HSK63A-EMH16-80	P2563006	16	48	80	50	24	-	M14	1	1.30
100A	HSK100A-EMH6-80	P2563041	6	25	80	35	18	-	M6	1	0.80
	HSK100A-EMH8-80	P2563042	8	28	80	35	18	-	M8	1	0.80
	HSK100A-EMH10-80	P2563043	10	35	80	39	20	-	M10	1	0.90
	HSK100A-EMH12-80	P2563044	12	42	80	47	22.5	-	M12	1	1.10
	HSK100A-EMH14-80	P2563045	14	44	80	47	22.5	-	M12	1	1.20
	HSK100A-EMH16-100	P2563046	16	48	80	50	24	-	M14	1	1.30
100A	HSK100A-EMH18-100	P2563047	18	50	80	50	24	-	M14	1	1.40
	HSK100A-EMH20-100	P2563048	20	52	80	52	25	-	M16	1	1.50
	HSK100A-EMH25-100	P2563049	25	65	110	60	24	25	M16	2	2.30
	HSK100A-EMH32-100	P2563050	32	72	110	64	24	28	M16	2	2.60
	HSK100A-EMH40-120	P2563051	40	80	120	74	30	32	M16	2	2.60

▶ Standard End Mill Holder is for a cutting tool with Weldon shank and End Mill Holder for a cutting tool with Whistle notch is available upon request.
 标准立铣刀座适用于带Weldon刀柄的刀具，立铣刀座适用于带哨子切口的刀具，可根据客户要求提供
 ▶ Combi-style holder with ball jointed clamping screw which can be used with cutting tools with Weldon and Whistle notch shank is available.
 Weldon和斜度侧固式切削刀具可兼用 ball 及 夹紧螺丝 组装的 Combi 形状的刀柄 可供应

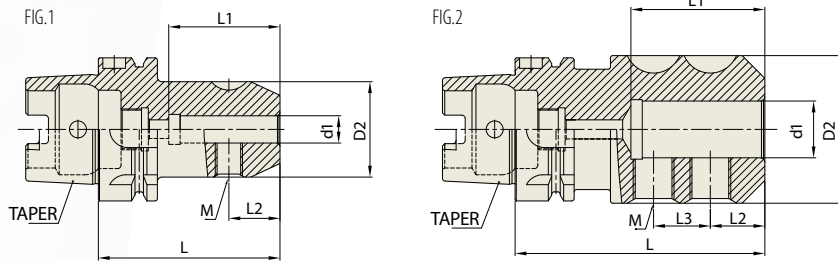
W/G END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER (COOLANT CHANNEL)

DIN 69893/
ISO 12164-1-HSK FORM A

立铣刀刀柄 (冷却液喷射型)



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
40A	HSK40A-EMH6C-60	P2563061	6	25	60	38	18	-	M6	1	0.30
	HSK40A-EMH8C-60	P2563062	8	28	60	40	18	-	M8	1	0.30
	HSK40A-EMH10C-60	P2563063	10	35	60	42	20	-	M10	1	0.30
	HSK40A-EMH12C-70	P2563064	12	42	70	47	22.5	-	M12	1	0.40
	HSK40A-EMH14C-70	P2563065	14	44	70	47	22.5	-	M12	1	0.40
	HSK40A-EMH16C-80	P2563066	16	48	80	50	24	-	M14	1	0.60
50A	HSK50A-EMH6C-65	P2563067	6	25	65	38	18	-	M6	1	0.70
	HSK50A-EMH8C-65	P2563068	8	28	65	38	18	-	M8	1	0.80
	HSK50A-EMH10C-65	P2563069	10	35	65	42	20	-	M10	1	0.80
	HSK50A-EMH12C-80	P2563070	12	42	80	47	22.5	-	M12	1	1.20
	HSK50A-EMH14C-80	P2563071	14	44	80	47	22.5	-	M12	1	1.30
	HSK50A-EMH16C-80	P2563072	16	48	80	50	24	-	M14	1	1.30
63A	HSK50A-EMH18C-80	P2563073	18	50	80	50	24	-	M14	1	1.40
	HSK50A-EMH20C-80	P2563074	20	52	80	52	25	-	M16	1	1.50
	HSK63A-EMH6C-65	P2563021	6	25	65	35	18	-	M6	1	0.80
	HSK63A-EMH8C-65	P2563022	8	28	65	40	18	-	M8	1	0.80
	HSK63A-EMH10C-65	P2563023	10	35	65	40.5	20	-	M10	1	0.90
	HSK63A-EMH12C-80	P2563024	12	42	80	49	22.5	-	M12	1	1.10
100A	HSK63A-EMH14C-80	P2563025	14	44	80	49	22.5	-	M12	1	1.20
	HSK63A-EMH16C-80	P2563026	16	48	80	52	24	-	M14	1	1.30
	HSK63A-EMH18C-80	P2563027	18	50	80	52	24	-	M14	1	1.40
	HSK63A-EMH20C-80	P2563028	20	52	80	53	25	-	M16	1	1.50
	HSK63A-EMH25C-110	P2563029	25	65	110	59	24	25	M16	2	2.30
	HSK63A-EMH32C-110	P2563030	32	72	110	63	24	28	M16	2	2.60
100A	HSK100A-EMH6C-80	P2563059	6	25	80	35	18	-	M6	1	0.80
	HSK100A-EMH8C-80	P2563060	8	28	80	35	18	-	M8	1	0.80
	HSK100A-EMH10C-80	P2563052	10	35	80	35.5	20	-	M10	1	0.90
	HSK100A-EMH12C-80	P2563053	12	42	80	49	22.5	-	M12	1	1.10
	HSK100A-EMH14C-80	P2563054	14	44	80	49	22.5	-	M12	1	1.20
	HSK100A-EMH16C-100	P2563055	16	48	80	52	24	-	M14	1	1.30
	HSK100A-EMH18C-100	P2563056	18	50	80	52	24	-	M14	1	1.40
	HSK100A-EMH20C-100	P2563057	20	52	80	53	25	-	M16	1	1.50
	HSK100A-EMH25C-100	P2563058	25	65	110	59	24	25	M16	2	2.30
	HSK100A-EMH32C-100	P2772801	32	72	110	63	24	28	M16	2	2.60
	HSK100A-EMH40C-120	P2772802	40	80	120	73	30	32	M16	2	2.60

▶ Standard End Mill Holder is for a cutting tool with Weldon shank and End Mill Holder for a cutting tool with Whistle notch is available upon request.
标准立铣刀座适用于带Weldon刀柄的刀具，立铣刀座适用于带哨子切口的刀具，可根据客户要求提供

▶ Combi-style holder with ball jointed clamping screw which can be used with cutting tools with Weldon and Whistle notch shank is available.
Weldon和斜度侧固式切削刀具可兼用 ball 及夹紧螺丝组装的 Combi 形状的刀柄 可供应

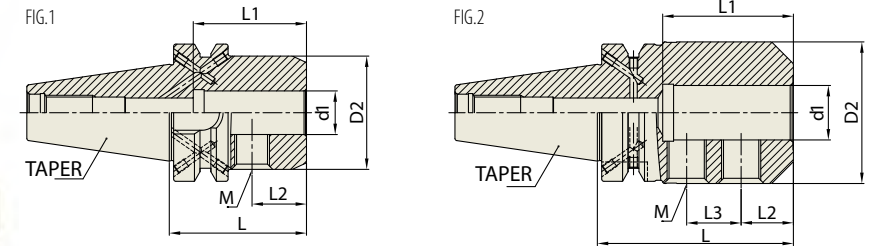
W/G END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER

JIS B6339/
MAS 403-BT

立铣刀刀柄



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
30	BT30-EMH6-50	P2772951A	6	25	50	35	18	-	M6	1	0.47
	BT30-EMH8-50	P2772952A	8	28	50	35	18	-	M8	1	0.49
	BT30-EMH10-50	P2772953A	10	35	50	35.5	20	-	M10	1	0.55
	BT30-EMH12-55	P2772954A	12	42	50	36	22.5	-	M12	1	0.67
	BT30-EMH14-55	P2772955A	14	44	55	36	22.5	-	M12	1	0.68
	BT30-EMH16-63	P2772956A	16	48	63	46	24	-	M14	1	0.83
40	BT30-EMH18-63	P2772958A	18	50	63	46	24	-	M14	1	0.85
	BT30-EMH20-70	P2772957A	20	52	70	48	25	-	M16	1	0.98
	BT40AD/B-EMH6-50	P2773031	6	25	50	35	18	-	M6	1	1.00
	BT40AD/B-EMH8-50	P2773032	8	28	50	35	18	-	M8	1	1.00
	BT40AD/B-EMH10-63	P2773033	10	35	63	39	20	-	M10	1	1.10
	BT40AD/B-EMH12-63	P2773034	12	42	63	44	22.5	-	M12	1	1.30
50	BT40AD/B-EMH14-63	P2773035	14	44	63	49	22.5	-	M12	1	1.40
	BT40AD/B-EMH16-63	P2773036	16	48	63	52	24	-	M14	1	1.70
	BT40AD/B-EMH18-63	P2773037	18	50	63	50	24	-	M14	1	1.70
	BT40AD/B-EMH20-63	P2773038	20	52	63	52	25	-	M16	1	1.80
	BT40AD/B-EMH25-90	P2773039	25	65	90	60	24	25	M18	2	1.80
	BT40AD/B-EMH32-100	P2773040	32	72	100	64	24	28	M20	2	2.00
50	BT50AD/B-EMH6-63	P2773041	6	25	63	35	18	-	M6	1	3.30
	BT50AD/B-EMH8-63	P2773042	8	28	63	35	18	-	M8	1	3.60
	BT50AD/B-EMH10-65	P2773043	10	35	65	39	20	-	M10	1	3.80
	BT50AD/B-EMH12-80	P2773044	12	42	80	46	22.5	-	M12	1	3.80
	BT40AD/B-EMH14-80	P2773045	14	44	80	46	22.5	-	M12	1	4.00
	BT50AD/B-EMH16-80	P2773046	16	48	80	49	24	-	M14	1	4.00
	BT50AD/B-EMH18-80	P2773047	18	50	80	49	24	-	M14	1	4.20
	BT50AD/B-EMH20-80	P2773048	20	52	80	52	25	-	M16	1	4.20
	BT50AD/B-EMH25-100	P2773049	25	65	100	60	24	25	M18	2	4.60
	BT50AD/B-EMH32-105	P2773050	32	72	105	64	24	28	M20	2	4.70
	BT50AD/B-EMH40-120	P2773051	40	80	120	73	30	32	M20	2	4.90

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

▶ Standard End Mill Holder is for a cutting tool with Weldon shank and End Mill Holder for a cutting tool with Whistle notch is available upon request.
标准立铣刀座适用于带Weldon刀柄的刀具，立铣刀座适用于带哨子切口的刀具，可根据客户要求提供

▶ Combi-style holder with ball jointed clamping screw which can be used with cutting tools with Weldon and Whistle notch shank is available.
Weldon和斜度侧固式切削刀具可兼用 ball 及夹紧螺丝组装的 Combi 形状的刀柄 可供应

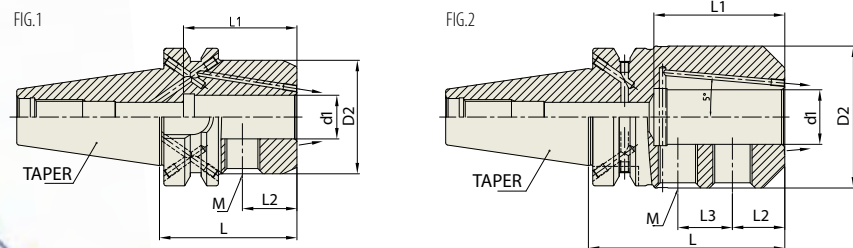
W/G END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER (COOLANT CHANNEL)

立铣刀刀柄 (冷却液喷射型)

JIS B6339/
MAS 403-BT



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
40	BT40AD/B-EMH6C-50	P2772991	6	25	50	35	18	-	M6	1	1.00
	BT40AD/B-EMH8C-50	P2772992	8	28	50	35	18	-	M8	1	1.00
	BT40AD/B-EMH10C-63	P2772993	10	35	63	39	20	-	M10	1	1.10
	BT40AD/B-EMH12C-63	P2772994	12	42	63	44	22.5	-	M12	1	1.30
	BT40AD/B-EMH14C-63	P2772995	14	44	63	49	22.5	-	M12	1	1.40
	BT40AD/B-EMH16C-63	P2772996	16	48	63	52	24	-	M14	1	1.70
	BT40AD/B-EMH18C-63	P2772997	18	50	63	50	24	-	M14	1	1.70
	BT40AD/B-EMH20C-63	P2772998	20	52	63	52	25	-	M16	1	1.80
	BT40AD/B-EMH25C-90	P2772999	25	65	90	60	24	25	M18	2	1.80
	BT40AD/B-EMH32C-100	P2773000	32	72	100	64	24	28	M20	2	2.00
50	BT50AD/B-EMH6C-63	P2773012	6	25	63	35	18	-	M6	1	3.30
	BT50AD/B-EMH8C-63	P2773013	8	28	63	35	18	-	M8	1	3.60
	BT50AD/B-EMH10C-65	P2773014	10	35	65	39	20	-	M10	1	3.80
	BT50AD/B-EMH12C-80	P2773015	12	42	80	46	22.5	-	M12	1	3.80
	BT40AD/B-EMH14C-80	P2773016	14	44	80	46	22.5	-	M12	1	4.00
	BT50AD/B-EMH16C-80	P2773017	16	48	80	49	24	-	M14	1	4.00
	BT50AD/B-EMH18C-80	P2773018	18	50	80	49	24	-	M14	1	4.20
	BT50AD/B-EMH20C-80	P2773019	20	52	80	52	25	-	M16	1	4.20
	BT50AD/B-EMH25C-100	P2773020	25	65	100	60	24	25	M18	2	4.60
	BT50AD/B-EMH32C-105	P2773021	32	72	105	64	24	28	M20	2	4.70
	BT50AD/B-EMH40C-120	P2773022	40	80	120	73	30	32	M20	2	4.90

- ▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择
- ▶ Standard End Mill Holder is for a cutting tool with Weldon shank and End Mill Holder for a cutting tool with Whistle notch is available upon request.
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- ▶ Combi-style holder with ball jointed clamping screw which can be used with cutting tools with Weldon and Whistle notch shank is available.
Weldon和斜度侧固式切削刀具可兼用 ball 及 夹紧螺丝 组装的 Combi 形状的刀柄 可供应

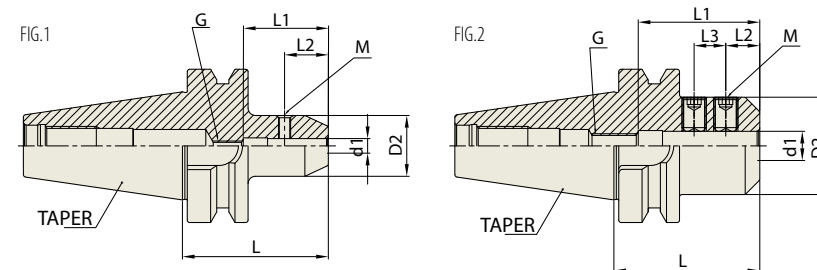
W/G END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER

立铣刀刀柄

JIS B6339/
MAS 403-BT



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
30	BT30-EMH6-50	P2776227A	6	25	50	35	18	-	M6	1	0.47
	BT30-EMH8-50	P2776228A	8	28	50	35	18	-	M8	1	0.49
	BT30-EMH10-50	P2776229A	10	35	50	35.5	20	-	M10	1	0.55
	BT30-EMH12-55	P2776230A	12	42	50	36	22.5	-	M12	1	0.67
	BT30-EMH14-55	P2776231A	14	44	55	36	22.5	-	M12	1	0.68
	BT30-EMH16-63	P2776201A	16	48	63	46	24	-	M14	1	0.83
	BT30-EMH18-63	P2776232A	18	50	63	46	24	-	M14	1	0.85
	BT30-EMH20-70	P2776202A	20	52	70	48	25	-	M16	1	0.98
	BT40-EMH6-50	P2773061	6	25	50	35	18	-	M6	1	1.00
	BT40-EMH8-50	P2773062	8	28	50	35	18	-	M8	1	1.00
40	BT40-EMH10-63	P2773063	10	35	63	39	20	-	M10	1	1.10
	BT40-EMH12-63	P2773064	12	42	63	44	22.5	-	M12	1	1.30
	BT40-EMH14-63	P2773065	14	44	63	49	22.5	-	M12	1	1.40
	BT40-EMH16-63	P2773066	16	48	63	52	24	-	M14	1	1.70
	BT40-EMH18-63	P2773067	18	50	63	50	24	-	M14	1	1.70
	BT40-EMH20-63	P2773068	20	52	63	52	25	-	M16	1	1.80
	BT40-EMH25-90	P2773069	25	65	90	60	24	25	M18	2	1.80
	BT40-EMH32-100	P2773070	32	72	100	64	24	28	M20	2	2.00
	BT50-EMH6-63	P2773071	6	25	63	35	18	-	M6	1	3.30
	BT50-EMH8-63	P2773072	8	28	63	35	18	-	M8	1	3.60
50	BT50-EMH10-65	P2773073	10	35	65	39	20	-	M10	1	3.80
	BT50-EMH12-80	P2773074	12	42	80	46	22.5	-	M12	1	3.80
	BT50-EMH14-80	P2773075	14	44	80	46	22.5	-	M12	1	4.00
	BT50-EMH16-80	P2773076	16	48	80	49	24	-	M14	1	4.00
	BT50-EMH18-80	P2773077	18	50	80	49	24	-	M14	1	4.20
	BT50-EMH20-80	P2773078	20	52	80	52	25	-	M16	1	4.20
	BT50-EMH25-100	P2773079	25	65	100	60	24	25	M18	2	4.60
	BT50-EMH32-105	P2773080	32	72	105	64	24	28	M20	2	4.70
	BT50-EMH40-120	P2773081	40	80	120	73	30	32	M20	2	4.90

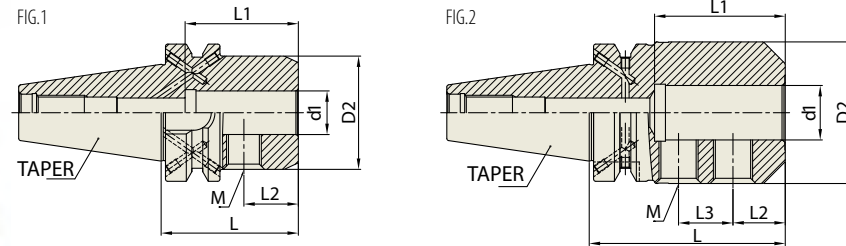
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- ▶ Combi-style holder with ball jointed clamping screw which can be used with cutting tools with Weldon and Whistle notch shank is available.
Weldon和斜度侧固式切削刀具可兼用 ball 及 夹紧螺丝 组装的 Combi 形状的刀柄 可供应

YG END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER
立铣刀刀柄

JIS B6339/
MAS 403-BT



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
40	BT40AD/B-EMH6-50	P2780301	6	25	50	35	18	-	M6	1	1.00
	BT40AD/B-EMH8-50	P2780302	8	28	50	35	18	-	M8	1	1.00
	BT40AD/B-EMH10-63	P2780303	10	35	63	39	20	-	M10	1	1.10
	BT40AD/B-EMH12-63	P2780304	12	42	63	44	22.5	-	M12	1	1.30
	BT40AD/B-EMH14-63	P2780305	14	44	63	49	22.5	-	M12	1	1.40
	BT40AD/B-EMH16-63	P2780306	16	48	63	52	24	-	M14	1	1.70
	BT40AD/B-EMH18-63	P2780307	18	50	63	50	24	-	M14	1	1.70
	BT40AD/B-EMH20-63	P2780308	20	52	63	52	25	-	M16	1	1.80
	BT40AD/B-EMH25-90	P2780309	25	65	90	60	24	25	M18	2	1.80
	BT40AD/B-EMH32-100	P2780310	32	72	100	64	24	28	M20	2	2.00
50	BT50AD/B-EMH6-63	P2780311	6	25	63	35	18	-	M6	1	3.30
	BT50AD/B-EMH8-63	P2780312	8	28	63	35	18	-	M8	1	3.60
	BT50AD/B-EMH10-65	P2780313	10	35	65	39	20	-	M10	1	3.80
	BT50AD/B-EMH12-80	P2780314	12	42	80	46	22.5	-	M12	1	3.80
	BT50AD/B-EMH14-80	P2780315	14	44	80	46	22.5	-	M12	1	4.00
	BT50AD/B-EMH16-80	P2780316	16	48	80	49	24	-	M14	1	4.00
	BT50AD/B-EMH18-80	P2780317	18	50	80	49	24	-	M14	1	4.20
	BT50AD/B-EMH20-80	P2780318	20	52	80	52	25	-	M16	1	4.20
	BT50AD/B-EMH25-100	P2780319	25	65	100	60	24	25	M18	2	4.60
	BT50AD/B-EMH32-105	P2780320	32	72	105	64	24	28	M20	2	4.70
	BT50AD/B-EMH40-120	P2780321	40	80	120	73	30	32	M20	2	4.90

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

► Standard End Mill Holder is for a cutting tool with Weldon shank and End Mill Holder for a cutting tool with Whistle notch is available upon request.
标准立铣刀座适用于带Weldon刀柄的刀具，立铣刀座适用于带哨子切口的刀具，可根据客户要求提供

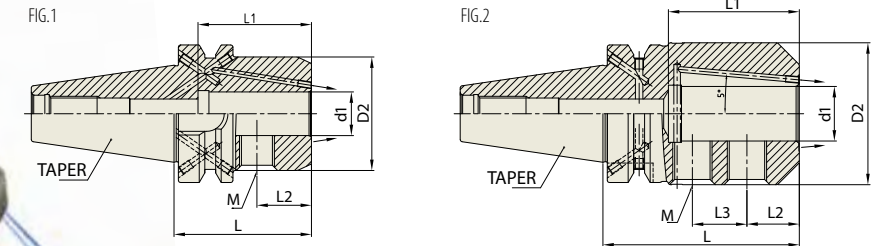
► Combi-style holder with ball jointed clamping screw which can be used with cutting tools with Weldon and Whistle notch shank is available.
Weldon和斜度侧固式切削刀具可兼用 ball 及 夹紧螺丝 组装的 Combi 形状的刀柄 可供应

YG END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER (COOLANT CHANNEL)
立铣刀刀柄 (冷却液喷射型)

JIS B6339/
MAS 403-BT



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
40	BT40AD/B-EMH6C-50	P2778001	6	25	50	35	18	-	M6	1	1.00
	BT40AD/B-EMH8C-50	P2778002	8	28	50	35	18	-	M8	1	1.00
	BT40AD/B-EMH10C-63	P2778003	10	35	63	39	20	-	M10	1	1.10
	BT40AD/B-EMH12C-63	P2778004	12	42	63	44	22.5	-	M12	1	1.30
	BT40AD/B-EMH14C-63	P2778005	14	44	63	49	22.5	-	M12	1	1.40
	BT40AD/B-EMH16C-63	P2778006	16	48	63	52	24	-	M14	1	1.70
	BT40AD/B-EMH18C-63	P2778007	18	50	63	50	24	-	M14	1	1.70
	BT40AD/B-EMH20C-63	P2778008	20	52	63	52	25	-	M16	1	1.80
	BT40AD/B-EMH25C-90	P2778009	25	65	90	60	24	25	M18	2	1.80
	BT40AD/B-EMH32C-100	P2778010	32	72	100	64	24	28	M20	2	2.00
50	BT50AD/B-EMH6C-63	P2778011	6	25	63	35	18	-	M6	1	3.30
	BT50AD/B-EMH8C-63	P2778012	8	28	63	35	18	-	M8	1	3.60
	BT50AD/B-EMH10C-65	P2778013	10	35	65	39	20	-	M10	1	3.80
	BT50AD/B-EMH12C-80	P2778014	12	42	80	46	22.5	-	M12	1	3.80
	BT50AD/B-EMH14C-80	P2778015	14	44	80	46	22.5	-	M12	1	4.00
	BT50AD/B-EMH16C-80	P2778016	16	48	80	49	24	-	M14	1	4.00
	BT50AD/B-EMH18C-80	P2778017	18	50	80	49	24	-	M14	1	4.20
	BT50AD/B-EMH20C-80	P2778018	20	52	80	52	25	-	M16	1	4.20
	BT50AD/B-EMH25C-100	P2778019	25	65	100	60	24	25	M18	2	4.60
	BT50AD/B-EMH32C-105	P2778020	32	72	105	64	24	28	M20	2	4.70
	BT50AD/B-EMH40C-120	P2778021	40	80	120	73	30	32	M20	2	4.90

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

► Standard End Mill Holder is for a cutting tool with Weldon shank and End Mill Holder for a cutting tool with Whistle notch is available upon request.
标准立铣刀座适用于带Weldon刀柄的刀具，立铣刀座适用于带哨子切口的刀具，可根据客户要求提供

► Combi-style holder with ball jointed clamping screw which can be used with cutting tools with Weldon and Whistle notch shank is available.
Weldon和斜度侧固式切削刀具可兼用 ball 及 夹紧螺丝 组装的 Combi 形状的刀柄 可供应

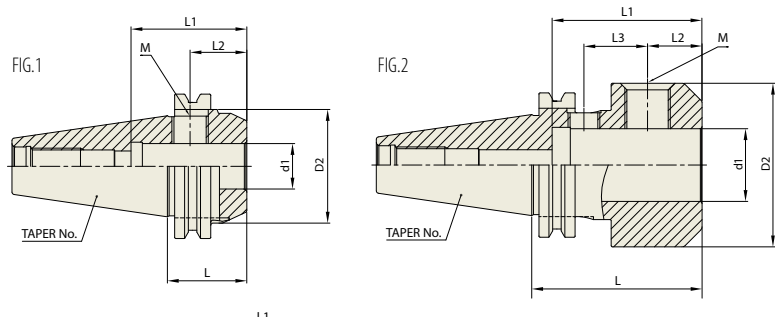
YG END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER (SHORT TYPE)

DIN 69871-SK

立铣刀刀柄 (短型)

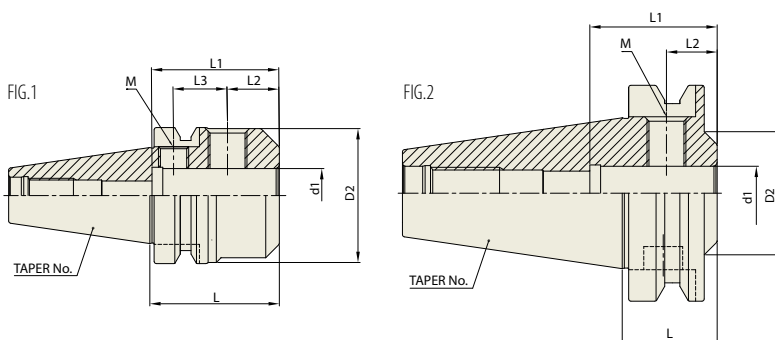


Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
40	SK40-EMH16-35	P2521001	16	48	35	51	24	-	M14	1	0.80
	SK40-EMH20-35	P2521027	20	50	35	51	25	-	M16	1	0.90
	SK40-EMH25-60	P2521003	25	50	60	59	24	25	M18/M14	2	1.20
50	SK40-EMH32-75	P2521030	32	72	75	66	24	28	M20/M14	2	1.80
	SK50-EMH25-60	P2521031	25	65	60	60	23.5	25.4	M18/M14	2	3.35
	SK50-EMH32-60	P2521032	32	72	60	63	24	24.9	M20/M14	2	3.50



JIS B6339/MAS 403-BT



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
40	BT40-EMH25-60	P2773085	25	62	60	59	24	25	M18	1	1.50
	BT40-EMH32-65	P2773086	32	62	65	63	24	28	M20	1	1.45
50	BT50-EMH25-44	P2773087	25	57	44	59	24	-	M18	2	3.30
	BT50-EMH32-60	P2773088	32	72	60	63	24	28	M20/M14	1	3.60

▶ Standard End Mill Holder is for a cutting tool with Weldon shank and End Mill Holder for a cutting tool with Whistle notch is available upon request.
标准立铣刀座适用于带Weldon刀柄的刀具，立铣刀座适用于带哨子切口的刀具，可根据客户要求提供

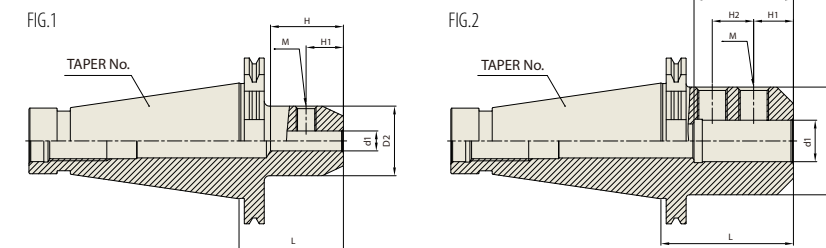
YG END MILL HOLDER & SIDE LOCK ARBOR

EMH

END MILL HOLDER

GOST 25827-93

立铣刀刀柄



Unit (单位) : mm

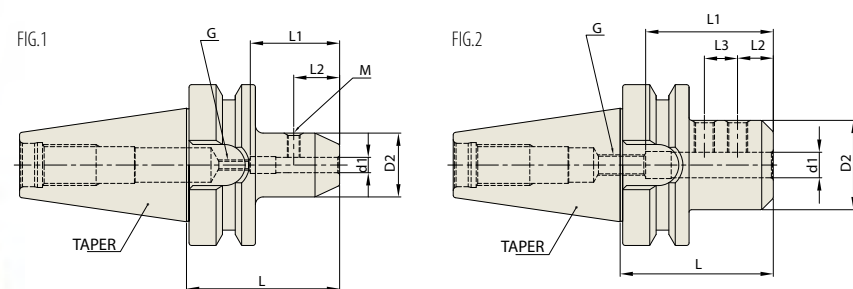
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	H	H1	H2	M	FIG.	WEIGHT 重量(Kg)	
40	GOST40-EMH6-50	P2780361	6	25	50	35	18	-	M6	1		
	GOST40-EMH8-50	P2780362	8	28	50	35	18	-	M8	1		
	GOST40-EMH10-50	P2780363	10	35	50	35.5	20	-	M10	1		
	GOST40-EMH12-50	P2780364	12	42	50	36	22.5	-	M12	1		
	GOST40-EMH14-63	P2780365	14	44	63	36	22.5	-	M12	1		
	GOST40-EMH16-63	P2780366	16	48	63	46	24	-	M14	1		
	GOST40-EMH18-63	P2780367	18	50	63	46	24	-	M14	1		
	GOST40-EMH20-63	P2780368	20	52	63	48	25	-	M16	1		
	GOST40-EMH25-80	P2780369	25	65	80	55	24	25	M18	2		
	GOST40-EMH32-80	P2780370	32	72	80	57	24	28	M20	2		
	50	GOST50-EMH6-63	P2780371	6	25	63	35	18	-	M6	1	
		GOST50-EMH8-63	P2780372	8	28	63	35	18	-	M8	1	
GOST50-EMH10-63		P2780373	10	35	63	35.5	20	-	M10	1		
GOST50-EMH12-63		P2780374	12	42	63	36	22.5	-	M12	1		
GOST50-EMH14-63		P2780375	14	44	63	36	22.5	-	M12	1		
GOST50-EMH16-63		P2780376	16	48	63	46	24	-	M14	1		
GOST50-EMH18-63		P2780377	18	50	63	46	24	-	M14	1		
GOST50-EMH20-63		P2780378	20	52	63	48	25	-	M16	1		
GOST50-EMH25-80		P2780379	25	65	80	55	24	25	M18	2		
GOST50-EMH32-80		P2780380	32	72	80	63	24	28	M20	2		
GOST50-EMH40-90	P2780381	40	80	90	68	30	32	M20	2			

WIG END MILL HOLDER & SIDE LOCK ARBOR

SLA

SIDE LOCK ARBOR
侧固式刀柄

CBT
(BT DUAL CONTACT)



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	FIG.	WEIGHT 重量(Kg)
30	CBT30-SLA6-60	P2772918	6	25	60	35	18	-	M5	1	0.70
	CBT30-SLA8-60	P2772919	8	28	60	35	18	-	M6	1	0.80
	CBT30-SLA10-60	P2772920	10	35	60	40	14	13	M8	2	0.90
	CBT30-SLA12-60	P2772921	12	40	60	50	14	13	M10	2	1.10
	CBT30-SLA14-60	P2772922	14	40	60	50	14	13	M10	2	1.20
	CBT30-SLA16-75	P2772923	16	40	75	70	25	20	M12	2	1.30
	CBT30-SLA20-75	P2772924	20	50	75	70	25	20	M12	2	1.40
	CBT30-SLA25-75	P2772925	25	50	75	70	25	20	M14	2	1.50
	CBT30-SLA32-105	P2772926	32	60	105	80	25	25	M16	2	1.60
	CBT40-SLA6-60	P2772927	6	25	60	35	18	-	M5	1	1.10
40	CBT40-SLA8-60	P2772928	8	28	60	35	18	-	M6	1	1.10
	CBT40-SLA10-60	P2772929	10	35	60	50	14	13	M8	2	1.20
	CBT40-SLA12-60	P2772930	12	40	60	50	14	13	M10	2	1.40
	CBT40-SLA16-90	P2772931	16	40	90	70	25	20	M12	2	1.50
	CBT40-SLA20-90	P2772901	20	50	90	70	25	20	M12	2	1.80
	CBT40-SLA25-90	P2772902	25	50	90	70	25	20	M14	2	1.70
	CBT40-SLA32-90	P2772903	32	60	90	80	25	25	M16	2	1.90
	CBT40-SLA40-90	P2772904	40	63	90	80	25	25	M16	2	1.80
	CBT40-SLA42-90	P2772905	42	63	90	80	25	25	M16	2	1.80
	CBT50-SLA6-90	P2772906	6	25	90	40	18	-	M5	1	3.70
50	CBT50-SLA8-90	P2772907	8	28	90	40	18	-	M6	1	3.90
	CBT50-SLA10-90	P2772908	10	35	90	50	15	15	M8	2	4.10
	CBT50-SLA12-90	P2772909	12	40	90	55	15	15	M10	2	4.30
	CBT50-SLA14-90	P2772910	14	40	90	55	15	15	M10	2	4.30
	CBT50-SLA16-105	P2772911	16	40	105	70	25	20	M12	2	4.40
	CBT50-SLA20-105	P2772912	20	50	105	70	25	20	M12	2	4.80
	CBT50-SLA25-105	P2772913	25	50	105	70	25	20	M14	2	4.70
	CBT50-SLA32-105	P2772914	32	60	105	80	25	25	M14	2	4.00
	CBT50-SLA40-105	P2772915	40	63	105	80	25	25	M16	2	4.50
	CBT50-SLA42-105	P2772916	42	63	105	80	25	25	M16	2	4.70
CBT50-SLA50.8-121	P2772917	50.8	95	121	87	33.9	35.8	M20	2	5.00	

▶ Standard End Mill Holder is for a cutting tool with Weldon shank and End Mill Holder for a cutting tool with Whistle notch is available upon request.

标准立铣刀座适用于带Weldon刀柄的刀具，立铣刀座适用于带哨子切口的刀具，可根据客户要求提供

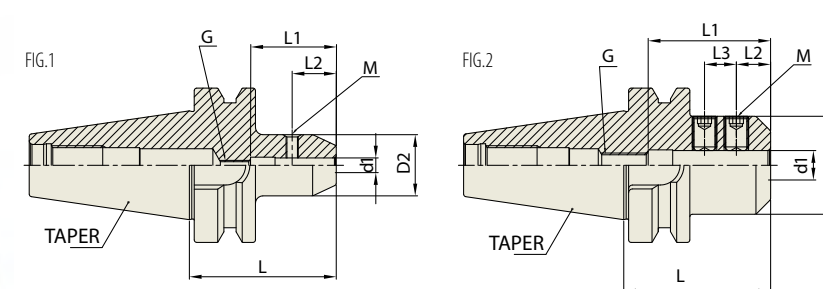
▶ Side Lock Arbor is Non-Balancing.
侧固式刀柄不带平衡

WIG END MILL HOLDER & SIDE LOCK ARBOR

SLA

SIDE LOCK ARBOR
侧固式刀柄

JIS B6339/
MAS 403-BT



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	L3	M	G	FIG.	WEIGHT 重量(Kg)
30	BT30-SLA 6-60	P2780201	6	25	60	35	18	-	M5	M5	1	0.70
	BT30-SLA 8-60	P2780202	8	28	60	35	18	-	M6	M6	1	0.80
	BT30-SLA10-60	P2780203	10	35	60	40	14	13	M8	M8	2	0.90
	BT30-SLA12-60	P2780204	12	40	60	50	14	13	M10	M10	2	1.10
	BT30-SLA14-60	P2780205	14	40	60	50	14	13	M10	M10	2	1.20
	BT30-SLA16-75	P2780206	16	40	75	70	25	20	M12	M12	2	1.30
	BT30-SLA20-75	P2780207	20	50	75	70	25	20	M12	M12	2	1.40
	BT30-SLA25-75	P2780208	25	50	75	70	25	20	M14	M12	2	1.50
	BT30-SLA32-105	P2780209	32	60	105	80	25	25	M16	M12	2	1.60
	BT40-SLA6-60	P2780210	6	25	60	35	18	-	M5	M5	1	1.10
40	BT40-SLA8-60	P2780211	8	28	60	35	18	-	M6	M6	1	1.10
	BT40-SLA10-60	P2780212	10	35	60	50	14	13	M8	M8	2	1.20
	BT40-SLA12-60	P2780213	12	40	60	50	14	13	M10	M10	2	1.40
	BT40-SLA16-90	P2780214	16	40	90	70	25	20	M12	M12	2	1.50
	BT40-SLA20-90	P2780215	20	50	90	70	25	20	M12	M12	2	1.80
	BT40-SLA25-90	P2780216	25	50	90	70	25	20	M14	M12	2	1.70
	BT40-SLA32-90	P2780217	32	60	90	80	25	25	M16	M12	2	1.90
	BT40-SLA40-90	P2780218	40	63	90	80	25	25	M16	M12	2	1.80
	BT40-SLA42-90	P2780219	42	63	90	80	25	25	M16	M12	2	1.80
	BT50-SLA6-90	P2780220	6	25	90	40	18	-	M5	M5	1	3.70
50	BT50-SLA8-90	P2780221	8	28	90	40	18	-	M6	M6	1	3.90
	BT50-SLA10-90	P2780222	10	35	90	50	15	15	M8	M8	2	4.10
	BT50-SLA12-90	P2780223	12	40	90	55	15	15	M10	M10	2	4.30
	BT50-SLA14-90	P2780224	14	40	90	55	15	15	M10	M12	2	4.30
	BT50-SLA16-105	P2780225	16	40	105	70	25	20	M12	M12	2	4.40
	BT50-SLA20-105	P2780226	20	50	105	70	25	20	M12	M12	2	4.80
	BT50-SLA25-105	P2780227	25	50	105	70	25	20	M14	M12	2	4.70
	BT50-SLA32-105	P2780228	32	60	105	80	25	25	M16	M12	2	4.00
	BT50-SLA40-105	P2780229	40	63	105	80	25	25	M16	M12	2	4.50
	BT50-SLA42-105	P2780230	42	63	105	80	25	25	M16	M12	2	4.70
BT50-SLA50.8-121	P2780231	50.8	95	121	87	33.9	35.8	M20	-	2	5.00	

▶ CAT(ANSI B5.50) taper and Inch type products are available.

CAT(ANSI B5.50)锥柄及英寸产品可供选择

▶ Standard End Mill Holder is for a cutting tool with Weldon shank and End Mill Holder for a cutting tool with Whistle notch is available upon request.
标准立铣刀座适用于带Weldon刀柄的刀具，立铣刀座适用于带哨子切口的刀具，可根据客户要求提供

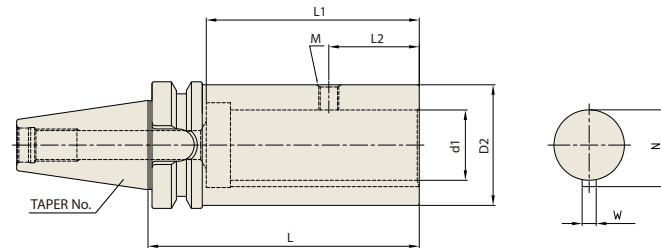
▶ Side Lock Arbor is Non-Balancing.
侧固式刀柄不带平衡

YIG END MILL HOLDER & SIDE LOCK ARBOR

SLB

SIDE LOCK ARBOR
侧固式刀柄

JIS B6339/
MAS 403-BT



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	L1	L2	M	N	W	WEIGHT 重量(Kg)
40	BT40-SLB26-105	P2778051	26	50	105	85	40	M10	28.2	5	1.30
	BT40-SLB35-135	P2778052	35	60	135	105	55	M10	37.6	6	2.20
	BT40-SLB35T-135	P2778053	35	60	135	105	55	M10	38.2	7	2.20
50	BT50-SLB26-105	P2778054	26	50	105	85	40	M10	28.2	5	1.30
	BT50-SLB35-135	P2778055	35	60	135	106	55	M10	37.6	6	2.20
	BT50-SLB35T-135	P2778056	35	60	135	106	55	M10	38.2	7	2.20
	BT50-SLB48-165	P2778057	12	42	80	129	65	M10	51	8	3.80

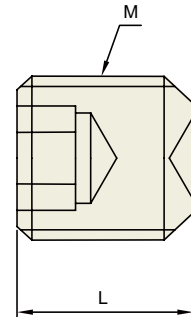
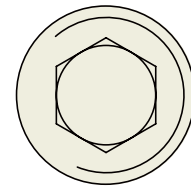
▶Standard design of side lock arbor is for cutting tools with straight shank having flat face.
标准侧固式刀柄设计 可使用带有平面的 直柄切削刀具

▶Side Lock Arbor is Non-Balancing.
侧固式刀柄不带动平衡

YIG END MILL HOLDER & SIDE LOCK ARBOR

PART

SIDE LOCK BOLT (for END MILL HOLDER & SIDE LOCK ARBOR)
侧固螺丝 (立铣刀刀柄&侧固式刀柄用)

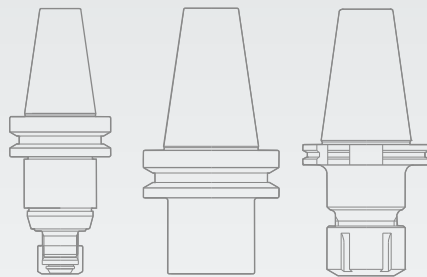


Unit (单位) : mm

SLA & EMH ID	EMH		EDP No.	SLA	
	M	L		M	L
6	M6 x 1.0	10.5	P2778088	M5 x 0.8	8
8	M8 x 1.25	10.5	P2778089	M6 x 1.0	10
10	M10 x 1.5	12.5	P2778090	M8 x 1.25	12
12	M12 x 1.75	16.5	P2778091	M10 x 1.5	14
14	M12 x 1.75	15.0	P2778092	M10 x 1.5	14
16	M14 x 2.0	16.5	P2778093	M12 x 1.75	12
18	M14 x 2.0	16.5	P2778093	-	-
20	M16 x 2.0	16.5	P2778094	M12 x 1.75	16
25	M18 x 2.0	20.5	P2778095	M14 x 2.0	14
32	M20 x 2.0	20.5	P2778096	M16 x 2.0	16
40	M20 x 2.0	20.5	P2778096	M16 x 2.0	16
42	-	-	-	M16 x 2.0	16
50	M24 x 2.0	25.5	P2778098	-	-
50.8	-	-	-	M20 x 2.5	25



Global Cutting Tool Leader **YG-1**



TOOLING SYSTEM

YG-1 TOOLING SYSTEM

SHELL MILL ARBOR

端面铣刀刀柄



SHELL MILL ARBOR

DIN 69871-SK

DIN 69893/ISO 12164-1-HSK

CBT (BT DUAL CONTACT)

JIS B6339/MAS 403-BT

GOST 25827-93

PARTS

COMBI SHELL MILL ARBOR

DIN 69871-SK

DIN 69893/ISO 12164-1-HSK

CBT (BT DUAL CONTACT)

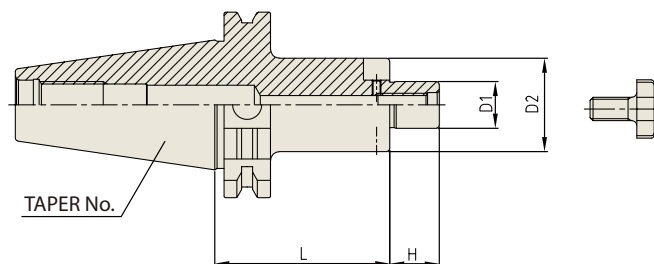
JIS B6339/MAS 403-BT

DIN 2080-ISO

PARTS

SHELL MILL ARBOR
端面铣刀刀柄

DIN 69871-SK



Parts, Refer to page 153-154
配件, 请参阅第153-154页

◆ **STANDARD**

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)
30	SK30-SMA16-50	P2778901	16	32	50	17	M8x16L	0.85
	SK30-SMA22-50	P2778902	22	40	50	19	M10x18L	0.90
	SK30-SMA27-50	P2778903	27	48	50	21	M12x22L	1.03
40	SK40-SMA16-60	P2778904	16	32	60	17	M8x16L	0.35
	SK40-SMA22-60	P2778905	22	40	60	19	M10x18L	1.45
	SK40-SMA27-60	P2778906	27	48	60	21	M12x22L	1.70
	SK40-SMA32-60	P2778907	32	58	60	24	M16x26L	1.80
	SK40-SMA40-60	P2778908	40	70	60	27	M20x30L	3.10
	SK50-SMA16-75	P2778909	16	32	75	17	M8x16L	2.80
50	SK50-SMA22-75	P2778910	22	40	75	19	M10x18L	3.10
	SK50-SMA27-75	P2778911	27	48	75	21	M12x22L	3.40
	SK50-SMA32-75	P2778912	32	58	75	24	M16x26L	3.80
	SK50-SMA40-75	P2778913	40	70	75	27	M20x30L	4.50
	SK50-SMA50-75	P2778914	50	90	75	30	M24x36L	5.90

◆ **EXTENDED**

Unit (单位) : mm

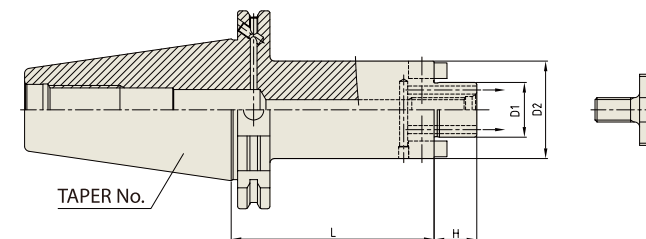
TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)
40	SK40-SMA16-120	P2778915	16	32	120	17	M8x16L	1.70
	SK40-SMA22-120	P2778916	22	40	120	19	M10x18L	1.80
	SK40-SMA27-120	P2778917	27	48	120	21	M12x22L	2.40
	SK40-SMA32-120	P2778918	32	58	120	24	M16x26L	3.70
50	SK50-SMA16-120	P2778919	16	32	120	17	M8x16L	3.90
	SK50-SMA22-120	P2778920	22	40	120	19	M10x18L	4.40
	SK50-SMA27-120	P2778921	27	48	120	21	M12x22L	4.70
	SK50-SMA32-120	P2778922	32	58	120	24	M16x26L	5.00
	SK50-SMA40-120	P2778923	40	70	120	27	M20x30L	6.05

▶ Without "Coolant Through".
没有“冷却剂”

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

SHELL MILL ARBOR (COOLANT CHANNEL)
端面铣刀刀柄 (冷却液喷射型)

DIN 69871-SK



Parts, Refer to page 153-154
配件, 请参阅第153-154页

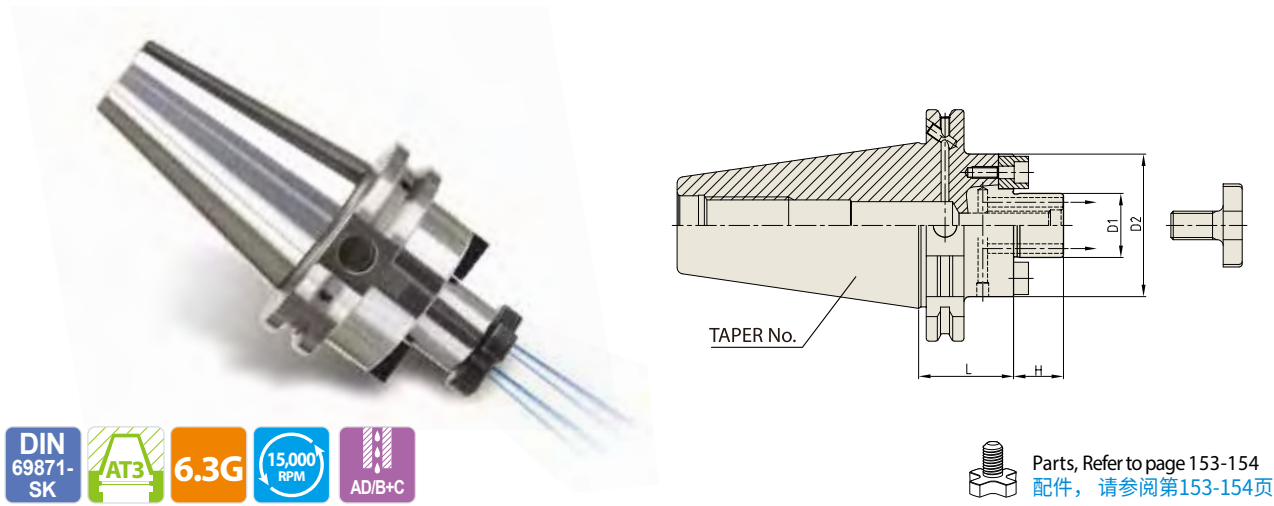
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)
40	SK40AD/B-SMA16C-60	P2801004C	16	32	60	17	M8x16L	0.35
	SK40AD/B-SMA16C-120	P2801015C	16	32	120	17	M8x16L	0.70
	SK40AD/B-SMA22C-44	P2803003C	22	40	44	19	M10x18L	1.03
	SK40AD/B-SMA22C-100	P2803004C	22	40	100	19	M10x18L	1.60
	SK40AD/B-SMA22C-120	P2801016C	22	40	120	19	M10x18L	1.90
	SK40AD/B-SMA27C-44	P2803006C	27	48	44	21	M12x22L	1.16
	SK40AD/B-SMA27C-100	P2803007C	27	48	100	21	M12x22L	1.97
	SK40AD/B-SMA27C-120	P2801017C	27	48	120	21	M12x22L	2.23
	SK40AD/B-SMA32C-60	P2801007C	32	58	60	24	M16x26L	1.64
	SK40AD/B-SMA32C-120	P2801018C	32	58	120	24	M16x26L	2.00
	SK40AD/B-SMA40C-60	P2803011C	40	70	60	27	M20x30L	1.83
	SK40AD/B-SMA40C-120	P2803012C	40	70	120	27	M20x30L	2.10
50	SK50AD/B-SMA16C-75	P2801009C	16	32	75	17	M8x16L	2.20
	SK50AD/B-SMA16C-120	P2801019C	16	32	120	17	M8x16L	2.50
	SK50AD/B-SMA22C-44	P2803015C	22	40	44	19	M10x18L	2.84
	SK50AD/B-SMA22C-75	P2801010C	22	40	75	19	M10x18L	3.10
	SK50AD/B-SMA22C-100	P2803017C	22	40	100	19	M10x18L	3.37
	SK50AD/B-SMA22C-120	P2801020C	22	40	120	19	M10x18L	3.60
	SK50AD/B-SMA22C-160	P2803019C	22	40	160	19	M10x18L	3.93
	SK50AD/B-SMA27C-75	P2801011C	27	48	75	21	M12x22L	3.40
	SK50AD/B-SMA27C-100	P2803021C	27	48	100	21	M12x22L	3.74
	SK50AD/B-SMA27C-120	P2801021C	27	48	120	21	M12x22L	4.00
	SK50AD/B-SMA27C-160	P2803023C	27	48	160	21	M12x22L	4.42
	SK50AD/B-SMA32C-75	P2801012C	32	58	75	24	M16x26L	3.80
	SK50AD/B-SMA32C-100	P2803025C	32	58	100	24	M16x26L	4.28
	SK50AD/B-SMA32C-120	P2801022C	32	58	120	24	M16x26L	4.40
	SK50AD/B-SMA32C-160	P2803027C	32	58	160	24	M16x26L	5.45
	SK50AD/B-SMA40C-75	P2801013C	40	70	75	27	M20x30L	4.50
	SK50AD/B-SMA40C-100	P2803029C	40	70	100	27	M20x30L	5.11
	SK50AD/B-SMA40C-120	P2801023C	40	70	120	27	M20x30L	5.30
	SK50AD/B-SMA40C-160	P2803031C	40	70	160	27	M20x30L	6.78

▶ With "Coolant Through" by coolant channels.
与“冷却剂通过”由冷却剂通道

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

SHELL MILL ARBOR (COOLANT CHANNEL & LARGE FACE) **DIN 69893/ ISO 12164-1-HSK FORM A**
端面铣刀刀柄 (冷却液喷射型 & LARGE FACE)

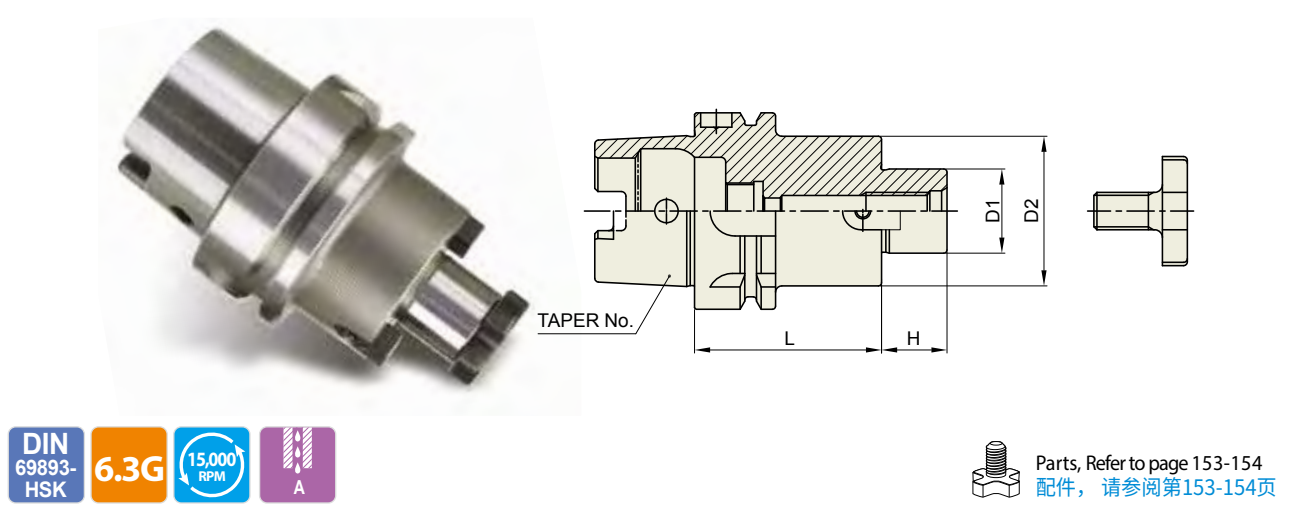


Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)
40	SK40AD/B-SMA16CE-35	P2803101CE	16	38	35	17	M8x16L	0.94
	SK40AD/B-SMA16CE-100	P2803102CE	16	38	100	17	M8x16L	1.50
	SK40AD/B-SMA22CE-35	P2803103CE	22	48	35	19	M10x18L	1.05
	SK40AD/B-SMA22CE-100	P2803104CE	22	48	100	19	M10x18L	1.95
	SK40AD/B-SMA27CE-45	P2803105CE	27	60	45	21	M12x22L	1.33
	SK40AD/B-SMA27CE-100	P2803106CE	27	60	100	21	M12x22L	2.59
	SK40AD/B-SMA32CE-50	P2803107CE	32	78	50	24	M16x26L	1.72
	SK40AD/B-SMA40CE-50	P2803108CE	40	89	50	27	M20x30L	1.99
50	SK50AD/B-SMA16CE-100	P2803109CE	16	38	100	17	M8x16L	3.27
	SK50AD/B-SMA22CE-35	P2803110CE	22	48	35	19	M10x18L	2.83
	SK50AD/B-SMA22CE-100	P2803111CE	22	48	100	19	M10x18L	3.72
	SK50AD/B-SMA22CE-160	P2803112CE	22	48	160	19	M10x18L	4.54
	SK50AD/B-SMA27CE-40	P2803113CE	27	60	40	21	M12x22L	3.09
	SK50AD/B-SMA27CE-100	P2803114CE	27	60	100	21	M12x22L	4.35
	SK50AD/B-SMA27CE-160	P2803115CE	27	60	160	21	M12x22L	5.62
	SK50AD/B-SMA32CE-50	P2803116CE	32	78	50	24	M16x26L	3.82
	SK50AD/B-SMA32CE-100	P2803117CE	32	78	100	24	M16x26L	5.64
	SK50AD/B-SMA32CE-160	P2803118CE	32	78	160	24	M16x26L	7.81
	SK50AD/B-SMA40CE-50	P2803119CE	40	89	50	27	M20x30L	4.27
	SK50AD/B-SMA40CE-100	P2803120CE	40	89	100	27	M20x30L	6.61
SK50AD/B-SMA40CE-160	P2803121CE	40	89	160	27	M20x30L	9.43	

- ▶With "Coolant Through" by coolant channels.
与“冷却剂通过”由冷却剂通道
- ▶CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

SHELL MILL ARBOR **DIN 69893/ ISO 12164-1-HSK FORM A**
端面铣刀刀柄



Parts, Refer to page 153-154
配件, 请参阅第153-154页

Unit (单位) : mm

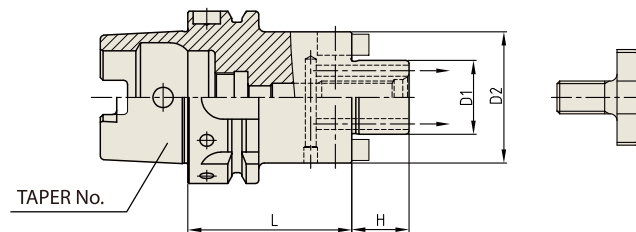
TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)
40A	HSK40A-SMA16-50	P2778201	16	32	50	17	M8x16L	0.40
	HSK40A-SMA22-50	P2778202	22	40	50	19	M10x18L	0.50
	HSK40A-SMA27-60	P2778203	27	48	60	21	M12x22L	0.60
50A	HSK50A-SMA16-50	P2778204	16	32	50	17	M8x16L	0.50
	HSK50A-SMA22-60	P2778205	22	40	60	19	M10x18L	0.57
	HSK50A-SMA27-60	P2778206	27	48	60	21	M12x22L	0.75
63A	HSK50A-SMA32-60	P2778207	32	58	60	24	M16x26L	0.90
	HSK63A-SMA16-50	P2566001	16	32	50	17	M8x16L	0.81
	HSK63A-SMA22-50	P2566002	22	40	50	19	M10x18L	0.93
	HSK63A-SMA27-60	P2566003	27	48	60	21	M12x22L	1.22
100A	HSK63A-SMA32-60	P2566004	32	58	60	24	M16x26L	1.46
	HSK63A-SMA40-60	P2566005	40	70	60	27	M20x30L	1.80
	HSK100A-SMA16-50	P2566011	16	32	50	17	M8x16L	2.14
	HSK100A-SMA22-50	P2566012	22	40	50	19	M10x18L	2.25
	HSK100A-SMA27-50	P2566013	27	48	50	21	M12x22L	2.40
	HSK100A-SMA32-50	P2566014	32	58	50	24	M16x26L	2.60
	HSK100A-SMA40-60	P2566015	40	70	60	27	M20x30L	3.25
	HSK100A-SMA50-70	P2778209	50	90	70	30	M24x36L	5.40

- ▶Without "Coolant Through".
没有“冷却剂”

SHELL MILL ARBOR (COOLANT CHANNEL)

DIN 69893/
ISO 12164-1-HSK FORM A

端面铣刀刀柄 (冷却液喷射型)



Parts, Refer to page 153-154
配件, 请参阅第153-154页

Unit (单位) : mm

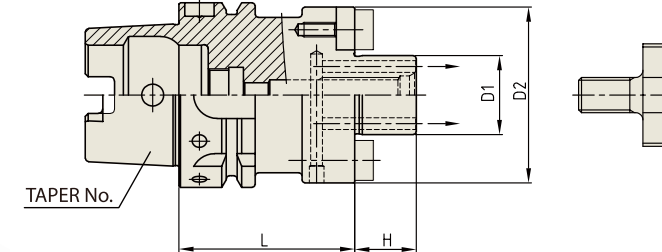
TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)
63A	HSK63A-SMA16C-50	P2566001C	16	32	50	17	M8x16L	0.80
	HSK63A-SMA22C-50	P2566002C	22	40	50	19	M10x18L	0.92
	HSK63A-SMA22C-100	P2801101C	22	40	100	19	M10x18L	1.40
	HSK63A-SMA22C-160	P2803202C	22	40	160	19	M10x18L	1.97
	HSK63A-SMA27C-60	P2566003C	27	48	60	21	M12x22L	1.19
	HSK63A-SMA27C-100	P2801102C	27	48	100	21	M12x22L	1.74
	HSK63A-SMA27C-160	P2803204C	27	48	160	21	M12x22L	2.55
	HSK63A-SMA32C-60	P2566004C	32	58	63	24	M16x26L	1.50
	HSK63A-SMA32C-100	P2801103C	32	58	100	24	M16x26L	2.72
	HSK63A-SMA40C-60	P2566005C	40	70	60	27	M20x30L	1.66
100A	HSK100A-SMA16C-50	P2566011C	16	32	50	17	M8x16L	2.25
	HSK100A-SMA22C-50	P2566012C	22	40	50	19	M10x18L	2.25
	HSK100A-SMA22C-100	P2801105C	22	40	100	19	M10x18L	2.72
	HSK100A-SMA22C-160	P2803206C	22	40	160	19	M10x18L	3.28
	HSK100A-SMA27C-50	P2566013C	27	48	50	21	M12x22L	2.40
	HSK100A-SMA27C-100	P2801106C	27	48	100	21	M12x22L	3.12
	HSK100A-SMA27C-160	P2803207C	27	48	160	21	M12x22L	4.01
	HSK100A-SMA32C-50	P2566014C	32	58	50	24	M16x26L	2.55
	HSK100A-SMA32C-100	P2801107C	32	58	100	24	M16x26L	3.49
	HSK100A-SMA32C-160	P2803208C	32	58	160	24	M16x26L	4.66
	HSK100A-SMA40C-60	P2566015C	40	70	60	27	M20x30L	3.10
	HSK100A-SMA40C-100	P2801108C	40	70	100	27	M20x30L	4.19
	HSK100A-SMA40C-160	P2803209C	40	70	160	27	M20x30L	5.88

►With "Coolant Through" by coolant channels.
与“冷却剂通过”由冷却剂通道

SHELL MILL ARBOR (COOLANT CHANNEL & LARGE FACE)

DIN 69893/
ISO 12164-1-HSK FORM A

端面铣刀刀柄 (冷却液喷射型 & LARGE FACE)



Parts, Refer to page 153-154
配件, 请参阅第153-154页

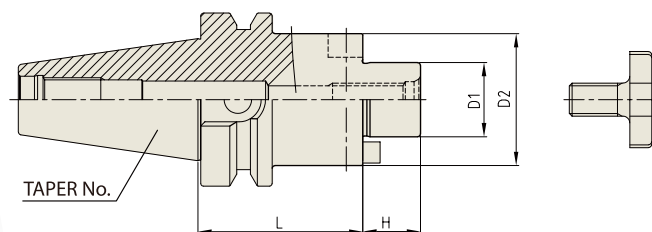
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)	
63A	HSK63A-SMA16CE-50	P2803301CE	16	38	50	17	M8x16L	0.86	
	HSK63A-SMA16CE-100	P2803302CE	16	38	100	17	M8x16L	1.29	
	HSK63A-SMA16CE-145	P2803303CE	16	38	145	17	M8x16L	1.68	
	HSK63A-SMA22CE-50	P2803304CE	22	48	50	19	M10x18L	1.02	
	HSK63A-SMA22CE-100	P2803305CE	22	48	100	19	M10x18L	1.71	
	HSK63A-SMA22CE-160	P2803306CE	22	48	160	19	M10x18L	2.54	
	HSK63A-SMA27CE-60	P2803307CE	27	60	60	21	M12x22L	1.39	
	HSK63A-SMA27CE-100	P2803308CE	27	60	100	21	M12x22L	2.25	
	HSK63A-SMA27CE-160	P2803309CE	27	60	160	21	M12x22L	3.54	
	HSK63A-SMA32CE-60	P2803310CE	32	78	63	24	M16x26L	1.70	
	HSK63A-SMA32CE-100	P2803311CE	32	78	100	24	M16x26L	3.40	
	HSK63A-SMA40CE-60	P2803312CE	40	89	60	27	M20x30L	1.99	
	100A	HSK100A-SMA16CE-100	P2803313CE	16	38	100	17	M8x16L	2.63
		HSK100A-SMA22CE-50	P2803314CE	22	48	50	19	M10x18L	2.34
HSK100A-SMA22CE-100		P2803315CE	22	48	100	19	M10x18L	3.02	
HSK100A-SMA22CE-160		P2803316CE	22	48	160	19	M10x18L	3.85	
HSK100A-SMA27CE-50		P2803317CE	27	60	50	21	M12x22L	2.54	
HSK100A-SMA27CE-100		P2803318CE	27	60	100	21	M12x22L	3.60	
HSK100A-SMA27CE-160		P2803319CE	27	60	160	21	M12x22L	4.90	
HSK100A-SMA32CE-50		P2803320CE	32	78	50	24	M16x26L	2.90	
HSK100A-SMA32CE-100		P2803321CE	32	78	100	24	M16x26L	4.68	
HSK100A-SMA32CE-160		P2803322CE	32	78	160	24	M16x26L	6.86	
HSK100A-SMA40CE-60		P2803323CE	40	89	60	27	M20x30L	3.68	
HSK100A-SMA40CE-100		P2803324CE	40	89	100	27	M20x30L	5.51	
HSK100A-SMA40CE-160		P2803325CE	40	89	160	27	M20x30L	8.32	

►With "Coolant Through" by coolant channels.
与“冷却剂通过”由冷却剂通道

SHELL MILL ARBOR
端面铣刀刀柄

CBT
(BT DUAL CONTACT)



Parts, Refer to page 153-154
配件, 请参阅第153-154页

STANDARD

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)
30	CBT30-SMA16-50	P2778701	16	32	30	17	M8x16L	0.58
	CBT30-SMA22-50	P2778702	22	40	30	19	M10x18L	0.70
	CBT30-SMA27-50	P2778703	27	48	30	21	M12x22L	0.85
40	CBT40-SMA16-60	P2778704	16	32	60	17	M8x16L	1.17
	CBT40-SMA22-60	P2778705	22	40	60	19	M10x18L	1.31
	CBT40-SMA27-60	P2778706	27	48	60	21	M12x22L	1.48
	CBT40-SMA32-60	P2778707	32	58	60	24	M16x26L	1.72
	CBT40-SMA40-60	P2778708	40	70	60	27	M20x30L	2.00
	CBT50-SMA16-75	P2778709	16	32	75	17	M8x16L	3.75
50	CBT50-SMA22-75	P2778710	22	40	75	19	M10x18L	3.90
	CBT50-SMA27-75	P2778711	27	48	75	21	M12x22L	4.09
	CBT50-SMA32-75	P2778712	32	58	75	24	M16x26L	4.35
	CBT50-SMA40-75	P2778713	40	70	75	27	M20x30L	4.77
	CBT50-SMA50-75	P2778714	50	90	75	30	M24x36L	5.63

EXTENDED

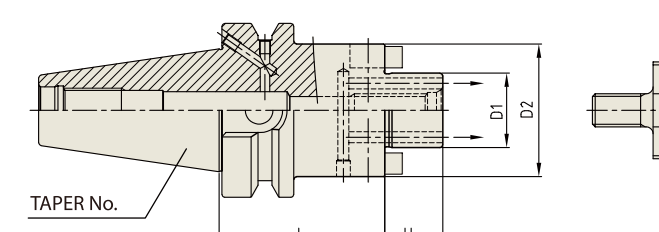
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)
40	CBT40-SMA16-120	P2778715	16	32	120	17	M8x16L	1.50
	CBT40-SMA22-120	P2778716	22	40	120	19	M10x18L	1.85
	CBT40-SMA27-120	P2778717	27	48	120	21	M12x22L	2.27
	CBT40-SMA32-120	P2778718	32	58	120	24	M16x26L	2.90
50	CBT50-SMA16-120	P2778719	16	32	120	17	M8x16L	4.03
	CBT50-SMA22-120	P2778720	22	40	120	19	M10x18L	4.25
	CBT50-SMA27-120	P2778721	27	48	120	21	M12x22L	4.56
	CBT50-SMA32-120	P2778722	32	58	120	24	M16x26L	5.22
	CBT50-SMA40-120	P2778723	40	70	120	27	M20x30L	6.04

▶ Without "Coolant Through".
没有“冷却剂”

SHELL MILL ARBOR (COOLANT CHANNEL)
端面铣刀刀柄 (冷却液喷射型)

CBT
(BT DUAL CONTACT)



Parts, Refer to page 153-154
配件, 请参阅第153-154页

Unit (单位) : mm

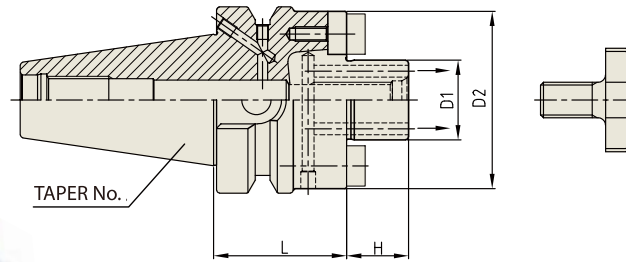
TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)
40	CBT40AD/B-SMA16C-60	P2801047C	16	32	60	17	M8x16L	1.20
	CBT40AD/B-SMA16C-120	P2801058C	16	32	120	17	M8x16L	1.20
	CBT40AD/B-SMA22C-60	P2801048C	22	40	60	19	M10x18L	1.27
	CBT40AD/B-SMA22C-120	P2801059C	22	40	120	19	M10x18L	1.84
	CBT40AD/B-SMA27C-60	P2801049C	27	48	60	21	M12x22L	1.44
	CBT40AD/B-SMA27C-120	P2801060C	27	48	120	21	M12x22L	2.26
50	CBT50AD/B-SMA16C-60	P2803407C	16	32	60	17	M8x16L	3.00
	CBT50AD/B-SMA16C-120	P2801062C	16	32	120	17	M8x16L	3.30
	CBT50AD/B-SMA22C-75	P2801053C	22	40	75	19	M10x18L	3.83
	CBT50AD/B-SMA22C-120	P2801063C	22	40	120	19	M10x18L	4.24
	CBT50AD/B-SMA27C-75	P2801054C	27	48	75	21	M12x22L	4.03
	CBT50AD/B-SMA27C-120	P2801064C	27	48	120	21	M12x22L	4.64
	CBT50AD/B-SMA32C-75	P2801055C	32	58	75	24	M16x26L	4.31
	CBT50AD/B-SMA32C-120	P2801065C	32	58	120	24	M16x26L	5.19
	CBT50AD/B-SMA40C-75	P2801056C	40	70	75	27	M20x30L	4.75
	CBT50AD/B-SMA40C-120	P2801066C	40	70	120	27	M20x30L	6.02

▶ With "Coolant Through" by coolant channels.
与“冷却剂通过”由冷却剂通道

SHELL MILL ARBOR (COOLANT CHANNEL & LARGE FACE)

端面铣刀刀柄 (冷却液喷射型 & LARGE FACE)

CBT (BT DUAL CONTACT)



Parts, Refer to page 153-154
配件, 请参阅第153-154页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)
30	CBT30-SMA16CE-40	P2803501CE	16	38	40	17	M8x16L	0.55
	CBT30-SMA22CE-40	P2803502CE	22	48	40	19	M10x18L	0.69
	CBT30-SMA27CE-40	P2803503CE	27	60	40	21	M12x22L	0.85
	CBT30-SMA32CE-45	P2803504CE	32	78	45	24	M16x26L	1.32
40	CBT40AD/B-SMA16CE-50	P2803505CE	22	38	50	17	M10x18L	1.14
	CBT40AD/B-SMA22CE-45	P2803506CE	22	48	45	19	M10x18L	1.22
	CBT40AD/B-SMA27CE-45	P2803507CE	27	60	45	21	M12x22L	1.39
	CBT40AD/B-SMA32CE-50	P2803508CE	32	78	50	24	M16x26L	1.80
50	CBT40AD/B-SMA40CE-50	P2803509CE	40	89	50	27	M20x30L	2.05
	CBT50AD/B-SMA22CE-55	P2803510CE	22	48	55	19	M10x18L	3.72
	CBT50AD/B-SMA27CE-55	P2803511CE	27	60	55	21	M12x22L	3.89
	CBT50AD/B-SMA32CE-55	P2803512CE	32	78	55	24	M16x26L	4.21
	CBT50AD/B-SMA40CE-55	P2803513CE	40	89	55	27	M20x30L	4.52

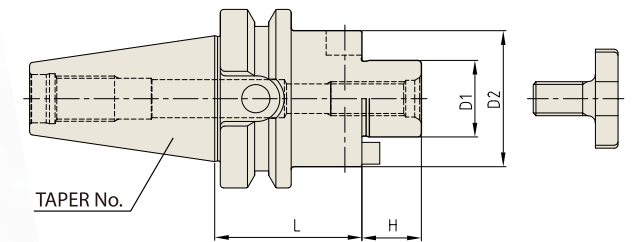
▶ With "Coolant Through" by coolant channels.
与“冷却剂通过”由冷却剂通道

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

SHELL MILL ARBOR

端面铣刀刀柄

**JIS B6339/
MAS 403-BT**



Parts, Refer to page 153-154
配件, 请参阅第153-154页

Unit (单位) : mm

◆ STANDARD

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)
30	BT30-SMA16-50	P2778801	16	32	50	17	M8x16L	0.58
	BT30-SMA22-50	P2778802	22	40	50	19	M10x18L	0.70
	BT30-SMA27-50	P2778803	27	48	50	21	M12x22L	0.85
40	BT40-SMA16-60	P2778804	16	32	60	17	M8x16L	1.17
	BT40-SMA22-60	P2778805	22	40	60	19	M10x18L	1.31
	BT40-SMA27-60	P2778806	27	48	60	21	M12x22L	1.48
	BT40-SMA32-60	P2778807	32	58	60	24	M16x26L	1.72
50	BT40-SMA40-60	P2778808	40	70	60	27	M20x30L	2.00
	BT50-SMA16-75	P2778809	16	32	75	17	M8x16L	3.75
	BT50-SMA22-75	P2778810	22	40	75	19	M10x18L	3.90
	BT50-SMA27-75	P2778811	27	48	75	21	M12x22L	4.09
	BT50-SMA32-75	P2778812	32	58	75	24	M16x26L	4.35
	BT50-SMA40-75	P2778813	40	70	75	27	M20x30L	4.77
	BT50-SMA50-75	P2778814	50	90	75	30	M24x36L	5.63

◆ EXTENDED

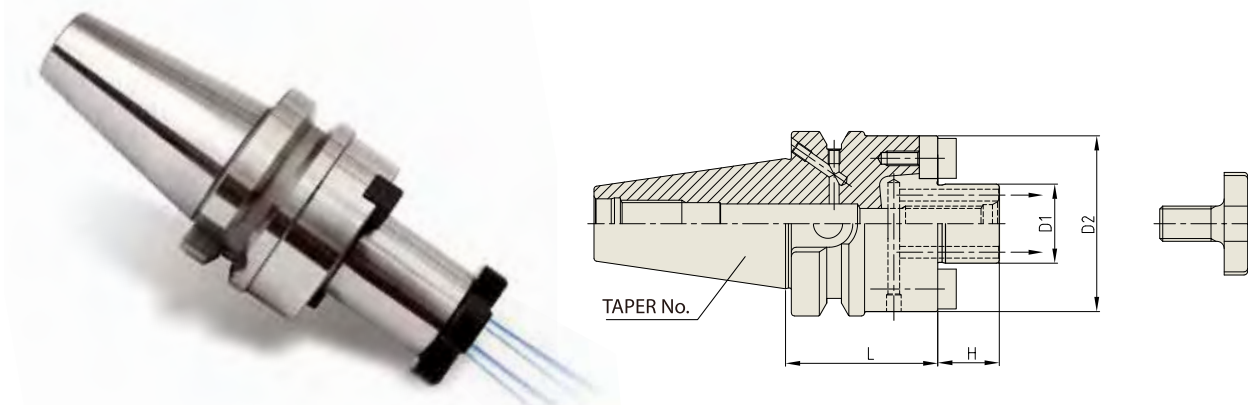
TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)
40	BT40-SMA16-120	P2778815	16	32	120	17	M8x16L	1.50
	BT40-SMA22-120	P2778816	22	40	120	19	M10x18L	1.85
	BT40-SMA27-120	P2778817	27	48	120	21	M12x22L	2.27
	BT40-SMA32-120	P2778818	32	58	120	24	M16x26L	2.90
50	BT50-SMA16-120	P2778819	16	32	120	17	M8x16L	4.03
	BT50-SMA22-120	P2778820	22	40	120	19	M10x18L	4.25
	BT50-SMA27-120	P2778821	27	48	120	21	M12x22L	4.56
	BT50-SMA32-120	P2778822	32	58	120	24	M16x26L	5.22
	BT50-SMA40-120	P2778823	40	70	120	27	M20x30L	6.04

▶ Without "Coolant Through".
没有“冷却剂”

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

SHELL MILL ARBOR (COOLANT CHANNEL)
端面铣刀刀柄 (冷却液喷射型)

JIS B6339/
MAS 403-BT



Parts, Refer to page 153-154
配件, 请参阅第153-154页

Unit (单位) : mm

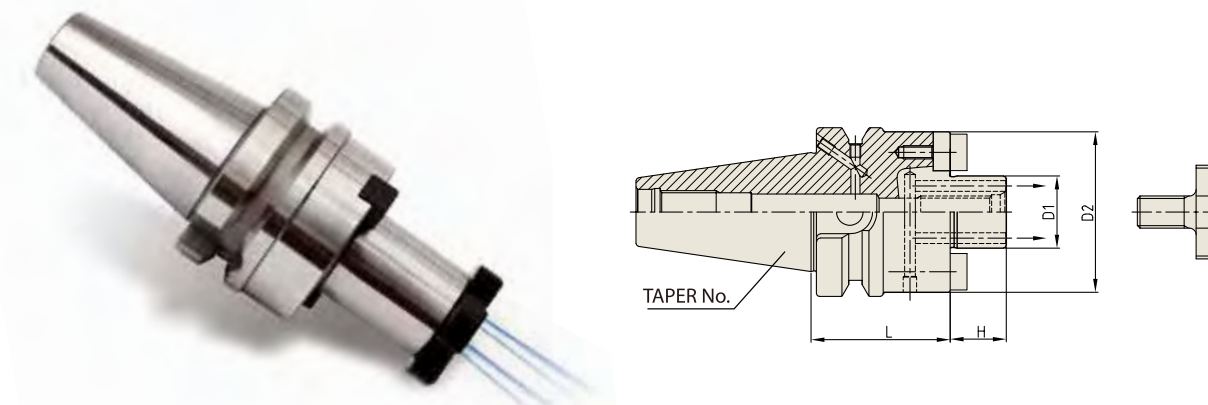
TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)
30	BT30-SMA16C-40	P2803601C	16	32	40	17	M8x16L	0.55
	BT30-SMA22C-40	P2803602C	22	40	40	19	M10x18L	0.61
	BT30-SMA22C-100	P2803603C	22	40	100	19	M10x18L	1.18
	BT30-SMA27C-40	P2803604C	27	48	40	21	M12x22L	0.86
	BT30-SMA27C-100	P2803605C	27	48	100	21	M12x22L	1.67
40	BT40AD/B-SMA16C-60	P2801024C	16	32	60	17	M8x16L	1.00
	BT40AD/B-SMA22C-60	P2801025C	22	40	60	19	M10x18L	1.20
	BT40AD/B-SMA22C-100	P2803607C	22	40	100	19	M10x18L	1.65
	BT40AD/B-SMA27C-60	P2801026C	27	48	60	21	M12x22L	1.34
	BT40AD/B-SMA27C-100	P2803608C	27	48	100	21	M12x22L	1.99
	BT40AD/B-SMA32C-60	P2801027C	32	58	60	24	M16x26L	1.55
	BT40AD/B-SMA40C-70	P2803610C	40	70	60	27	M20x30L	1.97
	BT50AD/B-SMA16C-75	P2801029C	16	32	75	17	M8x16L	3.00
	BT50AD/B-SMA16C-120	P2801039C	16	32	120	17	M8x16L	3.40
	BT50AD/B-SMA22C-75	P2801030C	22	40	75	19	M10x18L	3.72
50	BT50AD/B-SMA22C-100	P2803614C	22	40	100	19	M10x18L	4.06
	BT50AD/B-SMA22C-120	P2801040C	22	40	120	19	M10x18L	4.40
	BT50AD/B-SMA22C-160	P2803616C	22	40	160	19	M10x18L	4.61
	BT50AD/B-SMA27C-75	P2801031C	27	48	75	21	M12x22L	3.87
	BT50AD/B-SMA27C-100	P2803618C	27	48	100	21	M12x22L	4.37
	BT50AD/B-SMA27C-120	P2801041C	27	48	120	21	M12x22L	4.68
	BT50AD/B-SMA27C-160	P2803620C	27	48	160	21	M12x22L	5.18
	BT50AD/B-SMA32C-75	P2801032C	32	58	75	24	M16x26L	4.08
	BT50AD/B-SMA32C-100	P2803622C	32	58	100	24	M16x26L	4.80
	BT50AD/B-SMA32C-120	P2801042C	32	58	120	24	M16x26L	5.40
	BT50AD/B-SMA32C-160	P2803624C	32	58	160	24	M16x26L	5.98
	BT50AD/B-SMA40C-75	P2801033C	40	70	75	27	M20x30L	4.41
	BT50AD/B-SMA40C-100	P2803626C	40	70	100	27	M20x30L	5.45
	BT50AD/B-SMA40C-120	P2801043C	40	70	120	27	M20x30L	6.00
	BT50AD/B-SMA40C-160	P2803628C	40	70	160	27	M20x30L	7.15

► With "Coolant Through" by coolant channels.
与“冷却剂通过”由冷却剂通道

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

SHELL MILL ARBOR (COOLANT CHANNEL & LARGE FACE)
端面铣刀刀柄 (冷却液喷射型 & LARGE FACE)

JIS B6339/
MAS 403-BT



Parts, Refer to page 153-154
配件, 请参阅第153-154页

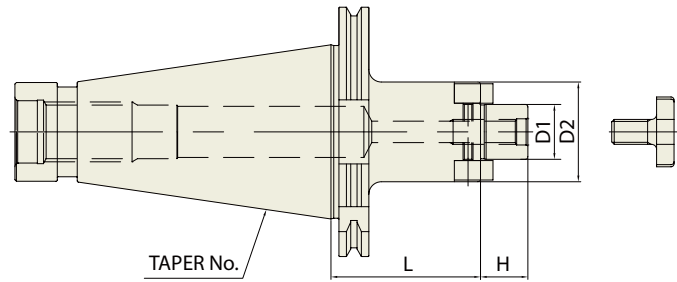
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	BOLT	WEIGHT 重量(Kg)
40	BT40AD/B-SMA16CE-45	P2803701CE	16	38	45	17	M8x16L	1.09
	BT40AD/B-SMA16CE-100	P2803702CE	16	38	100	17	M8x16L	1.57
	BT40AD/B-SMA22CE-45	P2803703CE	22	48	45	19	M10x18L	1.22
	BT40AD/B-SMA22CE-100	P2803704CE	22	48	100	19	M10x18L	1.97
	BT40AD/B-SMA27CE-45	P2803705CE	27	60	45	21	M12x22L	1.39
	BT40AD/B-SMA27CE-100	P2803706CE	27	60	100	21	M12x22L	2.58
	BT40AD/B-SMA32CE-50	P2803707CE	32	78	50	24	M16x26L	1.80
	BT40AD/B-SMA40CE-50	P2803708CE	40	89	50	27	M20x30L	2.05
	BT50AD/B-SMA22CE-55	P2803709CE	22	48	55	19	M10x18L	3.72
	BT50AD/B-SMA22CE-100	P2803710CE	22	48	100	19	M10x18L	4.33
50	BT50AD/B-SMA22CE-160	P2803711CE	22	48	160	19	M10x18L	5.14
	BT50AD/B-SMA27CE-55	P2803712CE	27	60	55	21	M12x22L	3.89
	BT50AD/B-SMA27CE-100	P2803713CE	27	60	100	21	M12x22L	4.86
	BT50AD/B-SMA27CE-160	P2803714CE	27	60	160	21	M12x22L	6.15
	BT50AD/B-SMA32CE-55	P2803715CE	32	78	63	24	M16x26L	4.21
	BT50AD/B-SMA32CE-100	P2803716CE	32	78	100	24	M16x26L	5.87
	BT50AD/B-SMA32CE-160	P2803717CE	32	78	160	24	M16x26L	8.08
	BT50AD/B-SMA40CE-55	P2803718CE	40	89	63	27	M20x30L	4.52
	BT50AD/B-SMA40CE-100	P2803719CE	40	89	100	27	M20x30L	6.68
	BT50AD/B-SMA40CE-160	P2803720CE	40	89	160	27	M20x30L	9.57

► With "Coolant Through" by coolant channels.
与“冷却剂通过”由冷却剂通道

SHELL MILL ARBOR
端面铣刀刀柄

GOST 25827-93



Parts, Refer to page 153-154
配件, 请参阅第153-154页

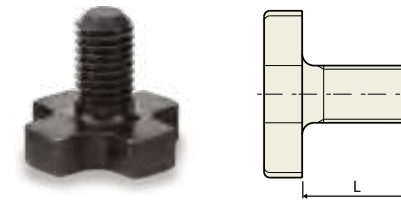
Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D1	D2	L	H	WEIGHT 重量(Kg)
40	GOST40-SMA16-40	P2780401	16	32	40	17	
	GOST40-SMA16-100	P2780402	16	32	100	17	
	GOST40-SMA22-40	P2780403	22	40	40	19	
	GOST40-SMA22-100	P2780404	22	40	100	19	
	GOST40-SMA27-45	P2780405	27	48	45	21	
	GOST40-SMA32-45	P2780406	32	58	45	24	
50	GOST50-SMA16-40	P2780407	16	32	40	17	
	GOST50-SMA16-100	P2780408	16	32	100	17	
	GOST40-SMA22-40	P2780409	22	40	40	19	
	GOST40-SMA22-100	P2780410	22	40	100	19	
	GOST40-SMA27-45	P2780411	27	48	45	21	
	GOST40-SMA27-120	P2780412	27	48	120	21	
	GOST40-SMA32-45	P2780413	32	58	45	24	
	GOST40-SMA32-130	P2780414	32	58	130	24	
	GOST40-SMA40-55	P2780415	40	70	55	27	
	GOST40-SMA40-150	P2780416	40	70	150	27	
GOST40-SMA50-60	P2780417	50	90	60	30		

►Without "Coolant Through".
没有“冷却剂”

BOLT & KEY (For SHELL MILL ARBOR)

螺丝&传动销 (端面铣刀刀柄用)



■ **COLLAR BOLT 安装十字螺丝**

M (COLLAR BOLT) 安装十字螺丝	EDP No.	L (Length)	SMA SPIGOT Dia.
M8x1.25	P2514051	16	16
M10x1.5	P2514052	18	22
M12x1.75	P2514053	22	27
M16x2.0	P2514054	26	32
M20x2.5	P2514055	30	40
M24x3.0	P2514056	36	50



■ **DRIVE KEY 传动销**

DRIVE KEY 传动销	EDP No.	SMA SPIGOT Dia.
8x7x2.8	P2778857	16
10x7.8x15.5	P2778858	22
12x9x18.5	P2778859	27
14x11.5x20.5	P2778860	32
16x13.5x23.5	P2778861	40
18x18x28.5	P2778862	50

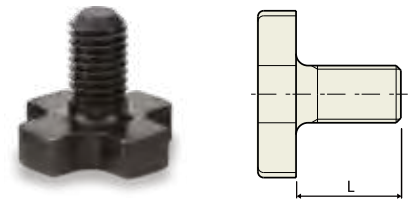


■ **KEY BOLT 传动销安装螺丝**

KEY BOLT 传动销安装螺丝	EDP No.	SMA SPIGOT Dia.
M3x0.5x10L	P2778875	16
M4x0.7x10L	P2778864	22
M5x0.8x12L	P2778865	27
M6x1.0x15L	P2778866	32
M6x1.0x15L	P2778866	40
M6x1.0x20L	P2778868	50

BOLT & KEY (For SHELL MILL ARBOR - ENLARGED)

螺丝&传动销 (端面铣刀刀柄用)



■ **COLLAR BOLT 安装十字螺丝**

M (COLLAR BOLT) 安装十字螺丝	EDP No.	L (Length)	SMA SPIGOT Dia.
M8 x 1.25	P2514051	16	16
M10 x 1.5	P2514052	18	22
M12 x 1.75	P2514053	22	27
M16 x 2.0	P2514054	26	32
M20 x 2.5	P2514055	30	40
M24 x 3.0	P2514056	36	50

■ **DRIVE KEY 传动销**



DRIVE KEY 传动销	EDP No.	SMA SPIGOT Dia.
8 x 10 x 9.7	P2778876	16
10 x 11.2 x 10.8	P2778877	22
12 x 12.6 x 13.6	P2778878	27
14 x 14 x 21	P2778879	32
16 x 16 x 21	P2778880	40

■ **KEY BOLT 传动销安装螺丝**

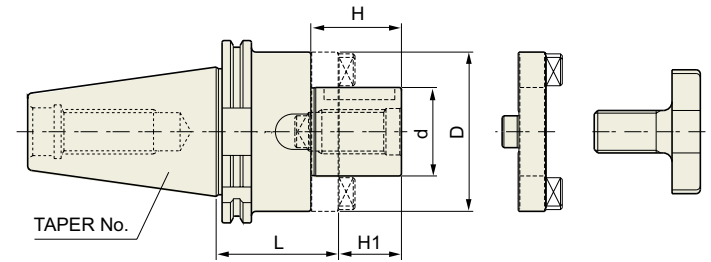


KEY BOLT 传动销安装螺丝	EDP No.	SMA SPIGOT Dia.
M3 x 0.5 x 12L	P2778881	16
M4 x 0.7 x 12L	P2778882	22
M5 x 0.8 x 15L	P2778883	27
M6 x 1.0 x 15L	P2778866	32
M6 x 1.0 x 15L	P2778866	40

COMBI-SHELL MILL ARBOR

DIN 69871-SK

COMBI-端面铣刀刀柄



parts, Refer to page 160
配件, 请参阅第160页

◆ **STANDARD**

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d	L	D	H1	H	PART No.	WEIGHT 重量(Kg)
30	SK30-CMA16-50	P2524001	16	50	32	17	27	27, 33, 39	0.58
	SK30-CMA22-50	P2524002	22	50	40	19	31	28, 34, 40	0.71
	SK30-CMA27-55	P2524003	27	55	48	21	33	29, 35, 41	0.78
40	SK40-CMA16-55	P2524004	16	55	32	17	27	27, 33, 39	1.03
	SK40-CMA22-55	P2524005	22	55	40	19	31	28, 34, 40	1.17
	SK40-CMA27-55	P2524006	27	55	48	21	33	29, 35, 41	1.37
	SK40-CMA32-60	P2524007	32	60	58	24	38	30, 36, 42	1.60
50	SK40-CMA40-60	P2524008	40	60	70	27	41	31, 37, 43	2.31
	SK50-CMA16-55	P2524009	16	55	32	17	27	27, 33, 39	2.81
	SK50-CMA22-55	P2524010	22	55	40	19	31	28, 34, 40	2.91
	SK50-CMA27-55	P2524011	27	55	48	21	33	29, 35, 41	3.15
	SK50-CMA32-55	P2524012	32	55	58	24	38	30, 36, 42	3.41
	SK50-CMA40-55	P2524013	40	55	70	27	41	31, 37, 43	3.78
	SK50-CMA50-70	P2524014	50	70	90	30	46	32, 38, 44	5.35

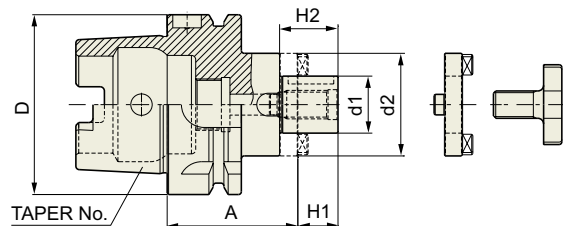
◆ **EXTENDED**

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d	L	D	H1	H	PART No.	WEIGHT 重量(Kg)
40	SK40-CMA16-100	P2524015	16	100	32	17	27	27, 33, 39	1.27
	SK40-CMA22-100	P2524016	22	100	40	19	31	28, 34, 40	1.59
	SK40-CMA27-100	P2524017	27	100	48	21	33	29, 35, 41	1.94
	SK40-CMA32-100	P2524018	32	100	58	24	38	30, 36, 42	2.40
50	SK50-CMA16-100	P2524019	16	100	32	17	27	27, 33, 39	3.07
	SK50-CMA22-100	P2524020	22	100	40	19	31	28, 34, 40	3.38
	SK50-CMA27-100	P2524021	27	100	48	21	33	29, 35, 41	3.76
	SK50-CMA32-100	P2524022	32	100	58	24	38	30, 36, 42	4.23
	SK50-CMA40-100	P2524023	40	100	70	27	41	31, 37, 43	5.06

► Without "Coolant Through".
没有“冷却剂”

COMBI-SHELL MILL ARBOR
COMBI-端面铣刀刀柄

DIN 69893/
ISO 12164-1-HSK FORM A



parts, Refer to page 160
配件, 请参阅第160页

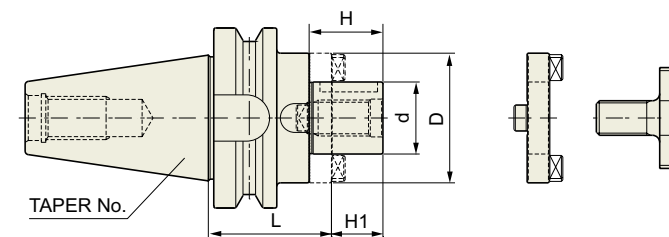
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	d1	d2	A	H1	H2	PART No.	WEIGHT 重量(Kg)
50A	HSK50A-CMA16-50	P2562006	50	16	32	50	17	27	27, 33, 39	0.56
	HSK50A-CMA22-50	P2562007	50	22	40	50	19	31	28, 34, 40	0.66
	HSK50A-CMA27-65	P2562008	50	27	48	65	21	33	29, 35, 41	0.96
	HSK50A-CMA32-65	P2562009	50	32	58	65	24	38	30, 36, 42	1.15
63A	HSK63A-CMA16-60	P2562001	63	16	32	60	17	27	27, 33, 39	0.88
	HSK63A-CMA22-60	P2562002	63	22	40	60	19	31	28, 34, 40	1.02
	HSK63A-CMA27-60	P2562003	63	27	48	60	21	33	29, 35, 41	1.20
	HSK63A-CMA32-60	P2562004	63	32	53	60	24	38	30, 36, 42	1.43
100A	HSK63A-CMA40-70	P2562005	63	40	70	70	27	41	31, 37, 43	1.93
	HSK100A-CMA16-60	P2562011	100	16	32	60	17	27	27, 33, 39	2.22
	HSK100A-CMA22-60	P2562012	100	22	40	60	19	31	28, 34, 40	2.34
	HSK100A-CMA27-60	P2562013	100	27	48	60	21	33	29, 35, 41	2.56
	HSK100A-CMA32-60	P2562014	100	32	58	60	24	38	30, 36, 42	2.69
	HSK100A-CMA40-70	P2562015	100	40	70	70	27	41	31, 37, 43	3.39
	HSK100A-CMA50-80	P2562010	100	50	90	80	30	46	32, 38, 44	4.50

► Without "Coolant Through".
没有“冷却剂”

COMBI-SHELL MILL ARBOR
COMBI-端面铣刀刀柄

CBT
(BT DUAL CONTACT)



parts, Refer to page 160
配件, 请参阅第160页

Unit (单位) : mm

◆ STANDARD

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d	L	D	H1	H	PART No.	WEIGHT 重量(Kg)
30	CBT30-CMA16-50	P2775601	16	50	32	17	27	27, 33, 39	0.61
	CBT30-CMA22-50	P2775602	22	50	40	19	31	28, 34, 40	0.70
	CBT30-CMA27-55	P2775624	27	55	48	21	33	29, 35, 41	0.92
40	CBT40-CMA16-55	P2775604	16	55	32	17	27	27, 33, 39	1.14
	CBT40-CMA22-55	P2775605	22	55	40	19	31	28, 34, 40	1.26
	CBT40-CMA27-55	P2775606	27	55	48	21	33	29, 35, 41	1.42
	CBT40-CMA32-60	P2775607	32	60	58	24	38	30, 36, 42	1.72
50	CBT40-CMA40-70	P2775625	40	70	70	27	41	31, 37, 43	2.46
	CBT50-CMA16-70	P2775609	16	70	32	17	27	27, 33, 39	3.74
	CBT50-CMA22-70	P2775610	22	70	40	19	31	28, 34, 40	3.86
	CBT50-CMA27-70	P2775611	27	70	48	21	33	29, 35, 41	4.04
	CBT50-CMA32-70	P2775612	32	70	58	24	38	30, 36, 42	4.28
	CBT50-CMA40-70	P2775613	40	70	70	27	41	31, 37, 43	4.62
	CBT50-CMA50-70	P2775614	50	70	90	30	46	32, 38, 44	5.48

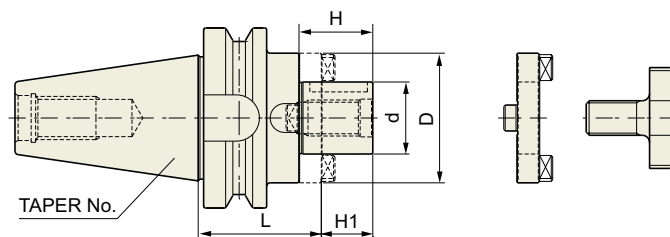
◆ EXTENDED

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d	L	D	H1	H	PART No.	WEIGHT 重量(Kg)
40	CBT40-CMA16-100	P2775615	16	100	32	17	27	27, 33, 39	1.41
	CBT40-CMA22-100	P2775616	22	100	40	19	31	28, 34, 40	1.68
	CBT40-CMA27-100	P2775617	27	100	48	21	33	29, 35, 41	2.02
	CBT40-CMA32-100	P2775618	32	100	58	24	38	30, 36, 42	2.51
50	CBT50-CMA16-100	P2775619	16	100	32	17	27	27, 33, 39	3.92
	CBT50-CMA22-100	P2775620	22	100	40	19	31	28, 34, 40	4.15
	CBT50-CMA27-100	P2775621	27	100	48	21	33	29, 35, 41	4.45
	CBT50-CMA32-100	P2775622	32	100	58	24	38	30, 36, 42	4.86
	CBT50-CMA40-100	P2775623	40	100	70	27	41	31, 37, 43	5.47

► Without "Coolant Through".
没有“冷却剂”

COMBI-SHELL MILL ARBOR
COMBI-端面铣刀刀柄

JIS B6339/
MAS 403-BT



parts, Refer to page 160
配件, 请参阅第160页

◆ STANDARD

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d	L	D	H1	H	PART No.	WEIGHT 重量(Kg)
30	BT30-CMA16-50	P2544001	16	50	32	17	27	27, 33, 39	0.61
	BT30-CMA22-50	P2544002	22	50	40	19	31	28, 34, 40	0.70
	BT30-CMA27-55	P2544003	27	55	48	21	33	29, 35, 41	0.92
40	BT40-CMA16-55	P2544004	16	55	32	17	27	27, 33, 39	1.14
	BT40-CMA22-55	P2544005	22	55	40	19	31	28, 34, 40	1.26
	BT40-CMA27-55	P2544006	27	55	48	21	33	29, 35, 41	1.42
	BT40-CMA32-60	P2544007	32	60	58	24	38	30, 36, 42	1.72
	BT40-CMA40-70	P2544024	40	70	70	27	41	31, 37, 43	2.46
	BT50-CMA16-70	P2544009	16	70	32	17	27	27, 33, 39	3.74
50	BT50-CMA22-70	P2544010	22	70	40	19	31	28, 34, 40	3.86
	BT50-CMA27-70	P2544011	27	70	48	21	33	29, 35, 41	4.04
	BT50-CMA32-70	P2544012	32	70	58	24	38	30, 36, 42	4.28
	BT50-CMA40-70	P2544013	40	70	70	27	41	31, 37, 43	4.62
	BT50-CMA50-70	P2544014	50	70	90	30	46	32, 38, 44	5.48

◆ EXTENDED

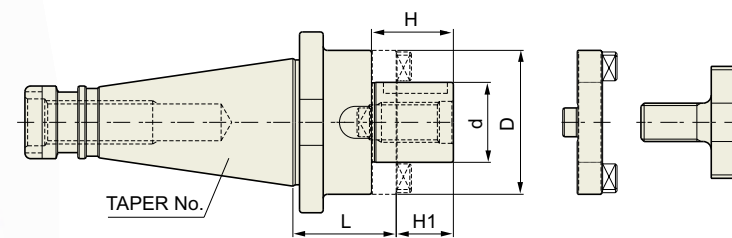
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d	L	D	H1	H	PART No.	WEIGHT 重量(Kg)
40	BT40-CMA16-100	P2544015	16	100	32	17	27	27, 33, 39	1.41
	BT40-CMA22-100	P2544016	22	100	40	19	31	28, 34, 40	1.68
	BT40-CMA27-100	P2544017	27	100	48	21	33	29, 35, 41	2.02
	BT40-CMA32-100	P2544018	32	100	58	24	38	30, 36, 42	2.51
50	BT50-CMA16-100	P2544019	16	100	32	17	27	27, 33, 39	3.92
	BT50-CMA22-100	P2544020	22	100	40	19	31	28, 34, 40	4.15
	BT50-CMA27-100	P2544021	27	100	48	21	33	29, 35, 41	4.45
	BT50-CMA32-100	P2544022	32	100	58	24	38	30, 36, 42	4.86
	BT50-CMA40-100	P2544023	40	100	70	27	41	31, 37, 43	5.47

▶ Without "Coolant Through".
没有“冷却剂”

COMBI-SHELL MILL ARBOR
COMBI-端面铣刀刀柄

DIN 2080-ISO



parts, Refer to page 160
配件, 请参阅第160页

◆ STANDARD

Unit (单位) : mm

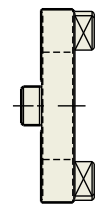
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d	L	D	H1	H	PART No.	WEIGHT 重量(Kg)
30	ISO30-CMA16-35	P2514001	16	35	32	17	27	27, 33, 39	0.52
	ISO30-CMA22-35	P2514002	22	35	40	19	31	28, 34, 40	0.63
	ISO30-CMA27-35	P2514003	27	35	48	21	33	29, 35, 41	0.72
40	ISO40-CMA16-52	P2514004	16	52	32	17	27	27, 33, 39	0.99
	ISO40-CMA22-52	P2514005	22	52	40	19	31	28, 34, 40	1.15
	ISO40-CMA27-52	P2514006	27	52	48	21	33	29, 35, 41	1.37
	ISO40-CMA32-52	P2514007	32	52	58	24	38	30, 36, 42	1.65
	ISO40-CMA40-52	P2514008	40	52	70	27	41	31, 37, 43	1.94
	ISO50-CMA16-55	P2514009	16	55	32	17	27	27, 33, 39	2.79
50	ISO50-CMA22-55	P2514010	22	55	40	19	31	28, 34, 40	2.95
	ISO50-CMA27-55	P2514011	27	55	48	21	33	29, 35, 41	3.17
	ISO50-CMA32-55	P2514012	32	55	58	24	38	30, 36, 42	3.49
	ISO50-CMA40-55	P2514013	40	55	70	27	41	31, 37, 43	3.85
	ISO50-CMA50-55	P2514014	50	55	90	30	46	32, 38, 44	4.88

◆ EXTENDED

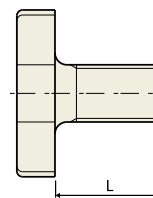
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d	L	D	H1	H	PART No.	WEIGHT 重量(Kg)
40	ISO40-CMA16-125	P2514015	16	125	32	17	27	27, 33, 39	1.41
	ISO40-CMA22-125	P2514016	22	125	40	19	31	28, 34, 40	1.78
	ISO40-CMA27-125	P2514017	27	125	48	21	33	29, 35, 41	2.35
	ISO40-CMA32-125	P2514018	32	125	58	24	38	30, 36, 42	3.07
50	ISO50-CMA16-125	P2514019	16	125	32	17	27	27, 33, 39	3.21
	ISO50-CMA22-125	P2514020	22	125	40	19	31	28, 34, 40	3.60
	ISO50-CMA27-125	P2514021	27	125	48	21	33	29, 35, 41	4.11
	ISO50-CMA32-125	P2514022	32	125	58	24	38	30, 36, 42	4.85
	ISO50-CMA40-125	P2514023	40	125	70	27	41	31, 37, 43	5.26

▶ Without "Coolant Through".
没有“冷却剂”

DRIVE RING, BOLT & KEY (For COMBI-SHELL MILL ARBOR)**DRIVE RING, 螺丝&传动销** (COMBI-端面铣刀刀柄用)■ **CLUTCH DRIVE RING 传动环**

No.	CLUTCH DRIVE RING 传动环	EDP No.	CMA SPIGOT Dia.
27	#16	P2514063	16
28	#22	P2514064	22
29	#27	P2514065	27
30	#32	P2514066	32
31	#40	P2514067	40
32	#50	P2514068	50

■ **COLLAR BOLT 十字螺丝**

No.	COLLAR BOLT 十字螺丝	EDP No.	L (Length)	CMA SPIGOT Dia.
33	M8×1.25	P2514051	16	16
34	M10×1.5	P2514052	18	22
35	M12×1.75	P2514053	22	27
36	M16×2.0	P2514054	26	32
37	M20×2.5	P2514055	30	40
38	M24×3.0	P2514056	36	50

■ **KEY 传动销**

No.	KEY 传动销	EDP No.	CMA SPIGOT Dia.
39	4×4×20	P2514057	16
40	6×6×25	P2514058	22
41	7×7×25	P2514059	27
42	8×7×28	P2514060	32
43	10×8×32	P2514061	40
44	12×8×36	P2514062	50



YG-1 TOOLING SYSTEM

POWER MILLING CHUCK

强力刀柄

**DIN 69871-SK**

HIGH-SPEED TYPE / STANDARD TYPE

DIN 69893/ISO 12164-1-HSK

HIGH-SPEED TYPE / STANDARD TYPE

CBT (BT DUAL CONTACT)**JIS B6339/MAS 403-BT**

HIGH-SPEED TYPE / STANDARD TYPE

DIN 228-MTA/MTB, R8**MILLING CHUCK SET**

STANDARD MILLING CHUCK SET

Q.C MILLING CHUCK SET

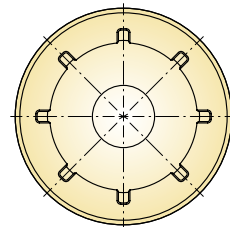
ACCESSORY

END MILL COLLET (K, CK, MT, JT), SPANNER

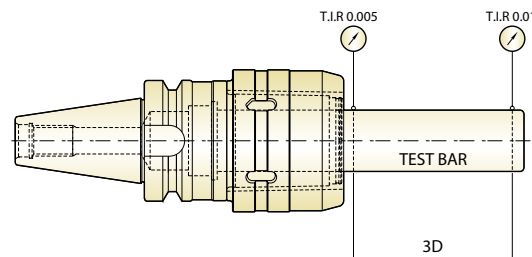
POWER MILLING CHUCK (强力刀柄)



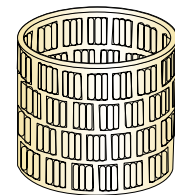
- Rigidity is strengthened through slot made at inside milling chuck, which prevents deformation of milling chuck. Smooth cutting is achieved by maximizing end mill clamping power.
- Enough thickness of clamping part prevents chattering and ensures durability.
- 在强力刀柄内孔加工内槽, 且保持刀柄本体的刚性. 切削加工时强力刀柄无变形并实现强劲的夹持力, 实现舒畅的切削.
- 充分把握夹持部位的厚度, 防止震动保障内固性.



- High precision can be achieved through accurate roundness of clamping part, deburred surface and rigidity (deviation of concentricity: below 2, roughness: below RZ B1.0~1.5)
- Maintaining T.I.R not exceeding 0.01mm at 3D from nose part
- 加工部位真圆度及表面震动和刚性实现高精度加工. (真圆度2以内, 光照度RZ B1.0~1.5以内)
- 3D T.I.R 跳动 不超过 0.01mm



- 160% more of bearings are used in needle roller than other make's chucks, which provides strong clamping power and high durability by dispersing surface pressure even in case strong load is applied.
- 滚针套上使用的滚针比其它公司多160%故此夹紧时, 滚针套利于分散强力的面压, 从而体现强劲的缔结力和优秀的内固性.



- In order to improve durability, YG-1 milling chuck is passed through following processes.
 - "Normalizing" treatment for unifying material composition and removal internal stress.
 - Ultralow temperature (-90°C) treatment called "Sub-Zero treatment" after carburizing heat treatment for prior removal of any deformation of milling chuck after use for long periods of time.
- 新世纪的强力刀柄为了提高耐久性进行以下工序
 - 为了材质结构的均匀化及内部应力去除 进行正火处理
 - 为了长时间使用后 去除变形 进行超低温-90°(SUB-ZERO)处理

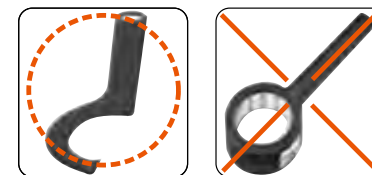
POWER MILLING CHUCK (强力刀柄)

High-Speed POWER MILLING CHUCK
高速强力刀柄

- Achieving optimum cutting for High-Speed heavy duty cutting and finishing with strong torque power
- Perfect clamping from 3mm depth of I.D entrance
- Achieving stability when exchanging and setting tools by stable fastening and unfastening torque

- 强劲的夹紧力实现高速重切削及最佳的精切削
- 内径入口部3mm以下完美夹持
- 稳定的螺母夹紧及脱紧扭矩, 在更换安装刀具时实现稳定性能

To use ordinary spanner
使用经济型扳手



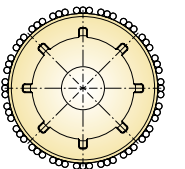
- No need for expensive Ratchet spanner => Using ordinary spanner
- 无需使用高价棘轮扳手, 使用一般常用扳手.

Balancing grade 动平衡等级

- G 6.3 / 20,000 RPM => Optimizing cutting effect during High-Speed heavy duty cutting and finishing
- G6.3 20,000rpm => 高速重切削及最佳的精切削

Lots of needle bearings
大量滚针轴承

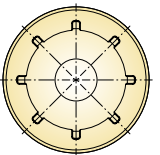
- Strong load during clamping
- Dispersing surface pressure through needle bearing



- 夹紧时通过大量滚针群分散强力的负荷
- 使用开放式滚针套筒, 夹紧时分散定压

Slot design at inside milling chuck
强力刀柄内部槽设计

- Strengthening body rigidity
- Preventing deformation during cutting
- Maximizing torque power
- Preventing chattering and ensuring durability



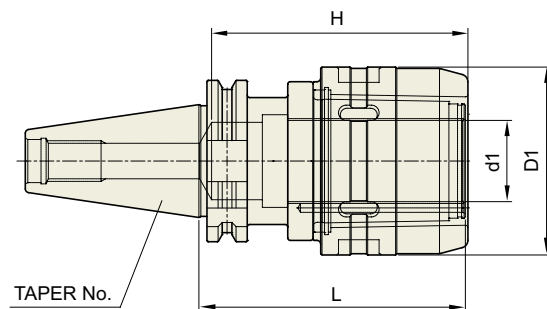
- 保证本体刚性
- 切削时防止变形
- 夹紧力最大化
- 防止震动及耐久性保障

Strong Torque Power 强劲的夹紧力

Milling chuck 强力刀柄规格 (I.D)	Standard 公差(锥柄)	Tolerance 公差标准 (Taper shank)	Run-out(跳动) (3 x D)	Clamping torque 夹紧力矩
C20	AT3	ISO 30 (0~+0.002) ISO 40 (0~+0.003) ISO 50 (0~+0.004)	0.01mm at 3D	980Nm
C25				1,760Nm
C32				3,430Nm
C42				4,900Nm

HIGH-SPEED POWER MILLING CHUCK
高速强力刀柄

DIN 69871-SK



Collet, spanner, refer to page 176
筒夹及扳手, 请参阅第176页

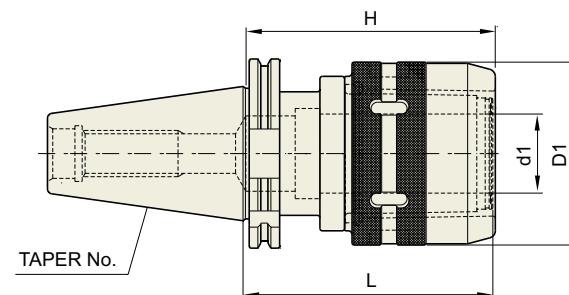
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	H	WEIGHT 重量(Kg)
30	SK30-C20-80HS	P2773005	20	54	80	70	1.15
	SK30-C25-80HS	P2773006	25	62.5	70	80	1.48
40	SK40-C20-105HS	P2526022	20	54	105	70	1.77
	SK40-C25-105HS	P2773001	25	62.5	105	80	2.10
	SK40-C32-105HS	P2526023	32	74	105	100	2.40
	SK40-C32-135HS	P2773007	32	74	135	100	3.10
	SK50-C20-105HS	P2773002	20	54	105	70	3.40
50	SK50-C25-105HS	P2773003	25	62.5	105	80	3.80
	SK50-C32-105HS	P2773004	32	74	105	100	4.30
	SK50-C32-135HS	P2526024	32	74	135	100	4.90
	SK50-C32-165HS	P2526025	32	74	165	100	5.60
	SK50-C42-115HS	P2773008	42	92	115	110	4.60
	SK50-C42-135HS	P2773009	42	92	135	110	5.60
	SK50-C42-165HS	P2773010	42	92	165	110	6.10

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

POWER MILLING CHUCK
强力刀柄

DIN 69871-SK



Collet, spanner, refer to page 176
筒夹及扳手, 请参阅第176页

Unit (单位) : mm

◆ STUB

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	H	WEIGHT 重量(Kg)
30	SK30-C20-80	P2526001	20	54	80	70	1.15
	SK30-C25-80	P2526002	25	62.5	70	80	1.48
40	SK40-C20-90	P2526003	20	54	90	70	1.60
	SK40-C32-90	P2526004	32	72	90	100	2.00
50	SK50-C20-80	P2526005	20	54	80	70	3.22
	SK50-C25-90	P2526006	25	62.5	90	80	3.61
	SK50-C32-90	P2526007	32	72	90	100	3.87

◆ STANDARD

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	H	WEIGHT 重量(Kg)
40	SK40-C20-105	P2526008	20	54	105	70	1.77
	SK40-C25-105	P2526009	25	62.5	105	80	2.01
	SK40-C32-105	P2526010	32	72	105	100	2.42
50	SK50-C20-105	P2526011	20	54	105	70	3.39
	SK50-C25-105	P2526012	25	62.5	105	80	3.78
	SK50-C32-105	P2526013	32	72	105	100	4.31
	SK50-C42-115	P2526014	42	92	115	110	4.53

◆ EXTENDED

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	H	WEIGHT 重量(Kg)
40	SK40-C32-135	P2526015	32	72	135	100	3.11
50	SK50-C32-135	P2526018	32	72	135	100	4.94
	SK50-C42-135	P2526017	42	92	135	110	5.62

◆ EXTRA EXTENDED

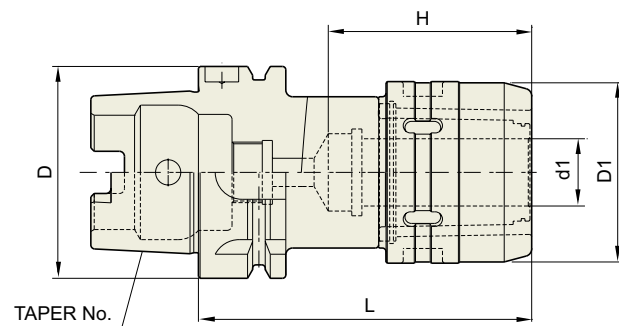
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	H	WEIGHT 重量(Kg)
50	SK50-C32-165	P2526020	32	72	165	100	5.59
	SK50-C42-165	P2526016	42	92	165	110	6.10

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

HIGH-SPEED POWER MILLING CHUCK

DIN 69893/
ISO 12164-1-HSK FORM A

高速强力刀柄



Collet, spanner, refer to page 176
筒夹及扳手, 请参阅第176页

Unit (单位): mm

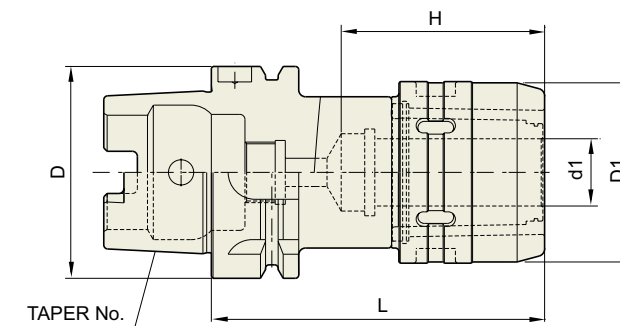
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	H	WEIGHT 重量(Kg)
50A	HSK50A-C20-100HS	P2773102	20	54	100	70	1.30
63A	HSK63A-C20-105HS	P2562016	20	54	105	70	1.50
	HSK63A-C25-120HS	P2773103	25	62.5	120	80	2.20
	HSK63A-C32-130HS	P2562017	32	74	130	100	2.70
100A	HSK100A-C20-110HS	P2773104	20	54	110	70	3.50
	HSK100A-C25-130HS	P2773105	25	62.5	130	80	3.80
	HSK100A-C32-135HS	P2773101	32	74	135	100	4.20
	HSK100A-C42-135HS	P2773106	42	74	135	100	5.30

►CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

POWER MILLING CHUCK

DIN 69893/
ISO 12164-1-HSK FORM A

强力刀柄



Collet, spanner, refer to page 176
筒夹及扳手, 请参阅第176页

Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D	D1	L	H	WEIGHT 重量(Kg)
50A	HSK50A-C20-100	P2773151	20	50	54	100	70	1.30
63A	HSK63A-C20-105	P2773152	20	63	54	105	70	1.50
	HSK63A-C32-130	P2600032	32	63	72	130	100	2.70
100A	HSK100A-C20-110	P2773153	20	100	54	110	70	3.50
	HSK100A-C32-135	P2773154	32	100	72	135	100	4.20
	HSK100A-C42-135	P2773155	42	100	92	135	100	5.30

◆ ACCESSORY 配件

END MILL COLLET	MODEL No. 型号
	K20-6, 8, 10, 12, 16
	K32-6, 8, 10, 12, 16, 20, 25
	K42-6, 8, 10, 12, 16, 20, 25, 32

►Special size of Ø3, Ø4 or Ø5 can be produced and supplied upon request.
特殊尺寸 Ø3, Ø4 or Ø5 可定制

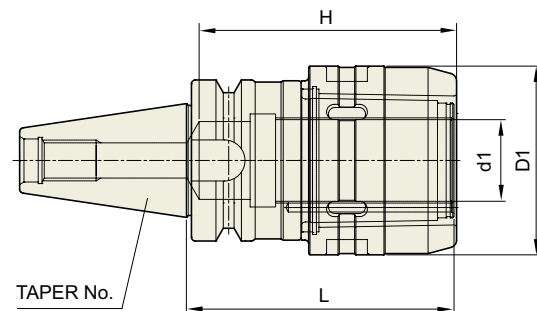
END MILL COLLET	MODEL No. 型号
	CK20-6, 8, 10, 12, 16
	CK25-6, 8, 10, 12, 16, 20
	CK32-6, 8, 10, 12, 16, 20, 25
	CK42-6, 8, 10, 12, 16, 20, 25, 32

SPANNER	MODEL No. 型号
	C20 SP
	C25 SP
	C32 SP
	C42 SP

HIGH-SPEED POWER MILLING CHUCK

高速强力刀柄

CBT
(BT DUAL CONTACT)



Collet, spanner, refer to page 176
筒夹及扳手, 请参阅第176页

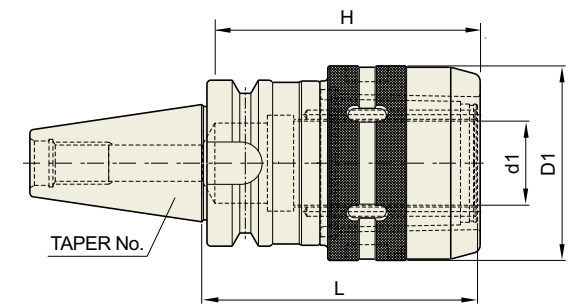
Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	H	WEIGHT 重量(Kg)
30	CBT30-C20-75HS	P2773251	20	54	75	70	1.50
	CBT30-C25-80HS	P2773252	25	62.5	80	70	2.00
40	CBT40-C20-80HS	P2773253	20	54	80	70	2.00
	CBT40-C20-105HS	P2773254	20	54	105	70	2.10
	CBT40-C25-105HS	P2773255	25	62.5	105	80	2.50
	CBT40-C32-90HS	P2773256	32	74	90	100	3.00
	CBT40-C32-105HS	P2773257	32	74	105	100	3.10
	CBT40-C32-135HS	P2773258	32	74	135	100	3.30
	CBT50-C20-105HS	P2773259	20	54	105	70	4.50
50	CBT50-C20-135HS	P2773260	20	54	135	70	4.90
	CBT50-C20-165HS	P2773261	20	54	165	70	5.40
	CBT50-C25-105HS	P2773262	25	62.5	105	80	5.20
	CBT50-C25-135HS	P2773263	25	62.5	135	80	5.80
	CBT50-C25-165HS	P2773264	25	62.5	165	80	6.20
	CBT50-C32-105HS	P2773265	32	74	105	100	6.00
	CBT50-C32-135HS	P2773266	32	74	135	100	6.70
	CBT50-C32-165HS	P2773267	32	74	165	100	7.40
	CBT50-C42-115HS	P2773268	42	92	115	110	6.70
	CBT50-C42-135HS	P2773269	42	92	135	110	7.60
	CBT50-C42-165HS	P2773270	42	92	165	110	8.30

POWER MILLING CHUCK

强力刀柄

CBT
(BT DUAL CONTACT)



Collet, spanner, refer to page 176
筒夹及扳手, 请参阅第176页

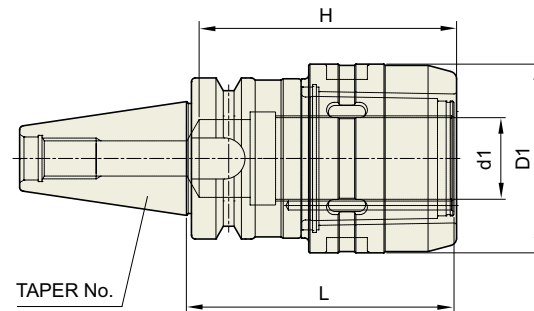
Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	H	WEIGHT 重量(Kg)
30	CBT30-C20-75	P2773204	20	54	75	70	1.50
	CBT30-C25-80	P2773205	25	62.5	80	70	2.00
40	CBT40-C20-80	P2773201	20	54	80	70	2.00
	CBT40-C20-105	P2773206	20	54	105	70	2.10
	CBT40-C25-105	P2773207	25	62.5	105	80	2.50
	CBT40-C32-90	P2773202	32	72	90	100	3.00
	CBT40-C32-105	P2773203	32	72	105	100	3.10
	CBT40-C32-135	P2773208	32	72	135	100	3.30
	CBT50-C20-105	P2773209	20	54	105	70	4.50
50	CBT50-C20-135	P2773210	20	54	135	70	4.90
	CBT50-C20-165	P2773211	20	54	165	70	5.40
	CBT50-C25-105	P2773212	25	62.5	105	80	5.20
	CBT50-C25-135	P2773213	25	62.5	135	80	5.80
	CBT50-C25-165	P2773214	25	62.5	165	80	6.20
	CBT50-C32-105	P2773215	32	72	105	100	6.00
	CBT50-C32-115	P2773216	32	72	115	100	6.20
	CBT50-C32-135	P2773217	32	72	135	100	6.70
	CBT50-C32-165	P2773218	32	72	165	100	7.40
	CBT50-C42-115	P2773219	42	92	115	110	6.70
	CBT50-C42-135	P2773220	42	92	135	110	7.60
CBT50-C42-165	P2773221	42	92	165	110	8.30	

HIGH-SPEED POWER MILLING CHUCK

JIS B6339/MAS 403-BT

高速强力刀柄



Collet, spanner, refer to page 176
筒夹及扳手, 请参阅第176页

Unit (单位): mm

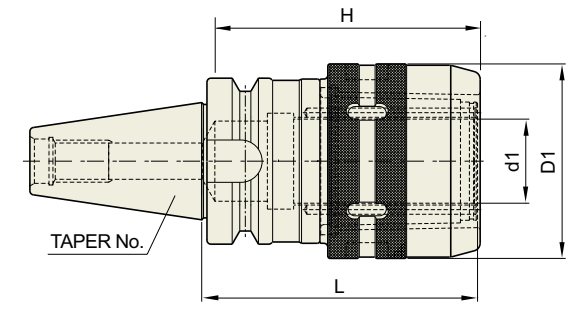
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	H	WEIGHT 重量(Kg)
30	BT30-C20-75HS	P2546101	20	54	75	70	1.50
	BT30-C25-80HS	P2546102	25	62.5	80	70	2.00
40	BT40-C20-80HS	P2546103	20	54	80	70	2.00
	BT40-C20-105HS	P2546104	20	54	105	70	2.10
	BT40-C25-105HS	P2546105	25	62.5	105	80	2.50
	BT40-C32-90HS	P2546106	32	74	90	100	3.00
	BT40-C32-105HS	P2546107	32	74	105	100	3.10
	BT40-C32-135HS	P2546108	32	74	135	100	3.30
	BT50-C20-105HS	P2546109	20	54	105	70	4.50
	BT50-C20-135HS	P2546110	20	54	135	70	4.90
50	BT50-C20-165HS	P2546111	20	54	165	70	5.40
	BT50-C25-105HS	P2546112	25	62.5	105	80	5.20
	BT50-C25-135HS	P2546113	25	62.5	135	80	5.80
	BT50-C25-165HS	P2546114	25	62.5	165	80	6.20
	BT50-C32-105HS	P2546115	32	74	105	100	6.00
	BT50-C32-135HS	P2546116	32	74	135	100	6.70
	BT50-C32-165HS	P2546117	32	74	165	100	7.40
	BT50-C42-115HS	P2546118	42	92	115	110	6.70
	BT50-C42-135HS	P2546119	42	92	135	110	7.60
	BT50-C42-165HS	P2546120	42	92	165	110	8.30

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

POWER MILLING CHUCK

JIS B6339/MAS 403-BT

强力刀柄



Collet, spanner, refer to page 176
筒夹及扳手, 请参阅第176页

Unit (单位): mm

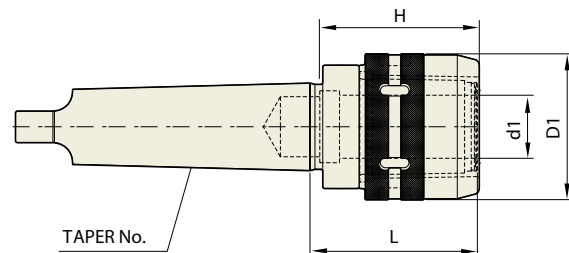
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	H	WEIGHT 重量(Kg)
30	BT30-C20-75	P2546001	20	54	75	70	1.50
	BT30-C25-80	P2546002	25	62.5	80	70	2.00
40	BT40-C20-80	P2546003	20	54	80	70	2.00
	BT40-C20-105	P2546004	20	54	105	70	2.10
	BT40-C25-105	P2546005	25	62.5	105	80	2.50
	BT40-C32-90	P2546006	32	72	90	100	3.00
	BT40-C32-105	P2546007	32	72	105	100	3.10
	BT40-C32-135	P2546008	32	72	135	100	3.30
	BT50-C20-105	P2546009	20	54	105	70	4.50
	BT50-C20-135	P2546010	20	54	135	70	4.90
50	BT50-C20-165	P2546011	20	54	165	70	5.40
	BT50-C25-105	P2546012	25	62.5	105	80	5.20
	BT50-C25-135	P2546013	25	62.5	135	80	5.80
	BT50-C25-165	P2546014	25	62.5	165	80	6.20
	BT50-C32-105	P2546015	32	72	105	100	6.00
	BT50-C32-115	P2546016	32	72	115	100	6.20
	BT50-C32-135	P2546017	32	72	135	100	6.70
	BT50-C32-165	P2546018	32	72	165	100	7.40
	BT50-C42-115	P2546019	42	92	115	110	6.70
	BT50-C42-135	P2546020	42	92	135	110	7.60
BT50-C42-165	P2546121	42	92	165	110	8.30	

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

POWER MILLING CHUCK

DIN 228-MTA

强力刀柄



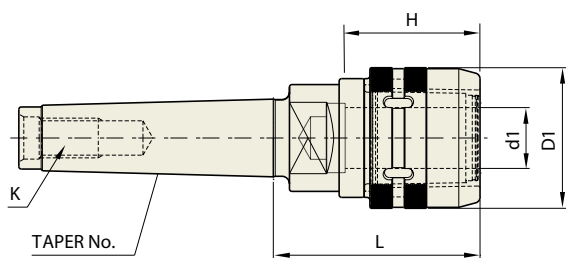
Collet, spanner, refer to page 176
筒夹及扳手, 请参阅第176页

Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	H	WEIGHT 重量(Kg)
4	MTA4-C32	P2546122	32	72	98	85	2.57
5	MTA5-C32	P2546123	32	72	85	100	3.06
	MTA5-C42	P2546124	42	92	114	100	3.45
6	MTA6-C42	P2546125	42	92	99	110	4.14

►In case of MT6, it is required to inform machine model number and company name for selection of cutter groove.
在MT6的情况下, 需要通知机床型号和公司名称来选择切屑槽

DIN 228-MTB



Collet, spanner, refer to page 176
筒夹及扳手, 请参阅第176页

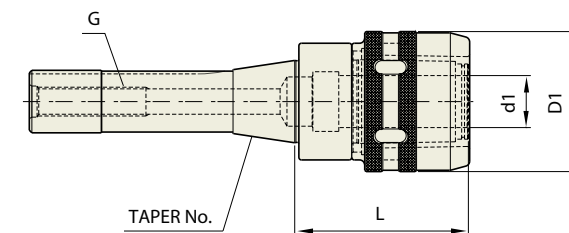
Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	H	K	WEIGHT 重量(Kg)
3	MTB3-C20	P2546126	20	54	74	65	M12	2.10
4	MTB4-C32	P2546127	32	72	98	80	M16	2.57
5	MTB5-C32	P2546128	32	72	85	100	M20	3.06
	MTB5-C42	P2546129	42	92	114	100	M20	3.45

POWER MILLING CHUCK

BRIDGEPORT-R8

强力刀柄



Collet, spanner, refer to page 176
筒夹及扳手, 请参阅第176页

Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	G	WEIGHT 重量(Kg)
R8	R8-C20	P2546130	20	54	69	U7/16-20	1.40

MILLING CHUCK STANDARD SET
强力刀柄套装

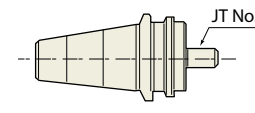
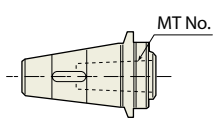
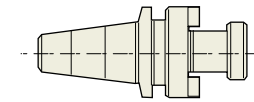
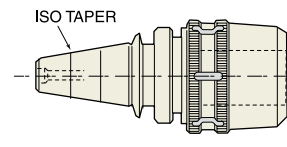
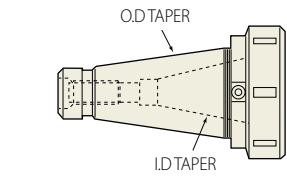


TAPER 锥度号	STANDARD SET MODEL No. 标准套装型号	EDP No.	MILLING CHUCK 强力刀柄	END MILL COLLET 铣刀筒夹	SPANNER
SK	SSK40-C20	P2526031	SK40-C20-105	K20-6, 8, 10, 12, 16 (5pcs)	C20 SP
	SSK40-C32	P2773301	SK40-C32-105	K32-6, 8, 10, 12, 16, 20, 25 (7pcs)	C32 SP
	SSK50-C32	P2773302	SK50-C32-105	K32-6, 8, 10, 12, 16, 20, 25 (7pcs)	C32 SP
	SSK50-C42	P2773303	SK50-C42-115	K42-6, 8, 10, 12, 16, 20, 25, 32 (8pcs)	C42 SP
BT	SBT40-C20	P2546021	BT40-C20-105	K20-6, 8, 10, 12, 16 (5pcs)	C20 SP
	SBT40-C32	P2546022	BT40-C32-105	K32-6, 8, 10, 12, 16, 20, 25 (7pcs)	C32 SP
	SBT50-C32	P2546023	BT50-C32-105	K32-6, 8, 10, 12, 16, 20, 25 (7pcs)	C32 SP
ISO	SBT50-C42	P2546024	BT50-C42-115	K42-6, 8, 10, 12, 16, 20, 25, 32 (8pcs)	C42 SP
	SISO40-C20	P2516021	ISO40-C20-78	K20-6, 8, 10, 12, 16 (5pcs)	C20 SP
	SISO40-C32	P2516022	ISO40-C32-78	K32-6, 8, 10, 12, 16, 20, 25 (7pcs)	C32 SP
	SISO50-C32	P2516023	ISO50-C32-85	K32-6, 8, 10, 12, 16, 20, 25 (7pcs)	C32 SP
NT	SISO50-C42	P2516024	ISO50-C42-102	K42-6, 8, 10, 12, 16, 20, 25, 32 (8pcs)	C42 SP
	SNT40-C32	P2773304	NT40-C32	K32-6, 8, 10, 12, 16, 20, 25 (7pcs)	C32 SP
	SNT50-C32	P2773305	NT50-C32	K32-6, 8, 10, 12, 16, 20, 25 (7pcs)	C32 SP
	SNT50-C42	P2773306	NT50-C42	K42-6, 8, 10, 12, 16, 20, 25, 32 (8pcs)	C42 SP

QUICK CHANGE MILLING CHUCK SET
快速更换 强力刀柄套装



TAPER 锥度号	Q.C MILLING HOLDER SET MODEL No. Q.C强力刀柄套装型号	EDP No.	Q.C MASTER HOLDER Q.C基础刀柄	Q.C MILLING CHUCK Q.C强力刀柄	END MILL COLLETS 铣刀筒夹	Q.C FACE MILL ARBOR Q.C面铣刀杆	Q.C DRILL CHUCK BAR Q.C钻头	DRILL CHUCK ARBOR 钻头	Q.C TAPER SLEEVE Q.C锥柄套	SPANNER 扳手
NT40	SMH40-T35-32A	P2773307	MH40-T35	QT35-32	K32-(6-25)(7pcs)	QT35-4R	-	K32-J6	-	MH40 SP
	SMH40-T35-32B	P2773308	MH40-T35	QT35-32	K32-(6-25)(7pcs)	QT35-4R	QT35-J6	-	QT35-MT2, 3, 4	MH40 SP
	SMH50-T45-32A	P2773309	MH50-T45	QT45-32	K32-(6-25)(7pcs)	QT45-5R	-	K32-J6	-	MH50 SP
NT50	SMH50-T45-32B	P2773310	MH50-T45	QT45-32	K32-(6-25)(7pcs)	QT45-5R	QT45-J6	-	QT45-MT2, 3, 4	MH50 SP
	SMH50-T45-42A	P2773311	MH50-T45	QT45-42	K42-(6-32)(8pcs)	QT45-5R	-	K42-J6	-	MH50 SP
	SMH50-T45-42B	P2773312	MH50-T45	QT45-42	K42-(6-32)(8pcs)	QT45-5R	QT45-J6	-	QT45-MT2, 3, 4	MH50 SP



◆ Q.C MASTER HOLDER

MODEL No. 型号	EDP No.	O.D TAPER 外径锥度	I.D TAPER 内径锥度	DRAW THREADS
MH40-T35	P2773313	NT40	NT35	U5/8-11(M16-2)
MH50-T45	P2773314	NT50	NT45	U1-8 (M24-3)

◆ Q.C MILLING CHUCK

Q.C MASTER HOLDER Q.C基础刀柄	MODEL No. 型号	EDP No.
MH40	QT35-C32	P2773315
MH50	QT45-C32	P2773316
MH50	QT45-C42	P2773317

◆ Q.C FACE MILL ARBOR

Q.C MASTER HOLDER Q.C基础刀柄	MODEL No. 型号	EDP No.
MH40	QT35-3R	P2773318
	QT35-4R	P2773319
	QT35-5R	P2773320
MH50	QT45-3R	P2773321
	QT45-4R	P2773322
	QT45-5R	P2773323
	QT45-6R	P2773324

◆ Q.C TAPER SLEEVE

Q.C MASTER HOLDER Q.C基础刀柄	MODEL No. 型号	EDP No.
MH40	QT35-MT1	P2773325
	QT35-MT2	P2773326
	QT35-MT3	P2773327
MH50	QT45-MT1	P2773328
	QT45-MT2	P2773329
	QT45-MT3	P2773330
	QT45-MT4	P2773331

◆ Q.C DRILL CHUCK ARBOR

Q.C MASTER HOLDER Q.C基础刀柄	MODEL No. 型号	EDP No.	DRILL (Ø) 钻头 (Ø)
MH40	QT35-J6	P2773332	1-13mm
MH50	QT45-J6	P2773333	1-13mm

COLLET & SPANNER

筒夹&扳手



■ END MILL COLLET (KTYPE) 铣刀筒夹(K型)

MODEL No. 型号	EDP No.
K20-6	P2506401
K20-8	P2506402
K20-10	P2506403
K20-12	P2506404
K20-16	P2506405
K25-6	P2506601
K25-8	P2506602
K25-10	P2506603
K25-12	P2506604
K25-16	P2506605
K25-20	P2506606
K32-6	P2506411
K32-8	P2506412
K32-10	P2506413
K32-12	P2506414
K32-16	P2506415
K32-20	P2506416
K32-25	P2506417
K42-6	P2506511
K42-8	P2506512
K42-10	P2506513
K42-12	P2506514
K42-16	P2506515
K42-20	P2506516
K42-25	P2506517
K42-32	P2506518

■ END MILL COLLET (CKTYPE) 铣刀筒夹(CK型)

MODEL No. 型号	EDP No.
CK20-6	P2506731
CK20-8	P2506732
CK20-10	P2506733
CK20-12	P2506734
CK20-16	P2506735
CK25-6	P2506736
CK25-8	P2506737
CK25-10	P2506738
CK25-12	P2506739
CK25-16	P2506740
CK25-20	P2506741
CK32-6	P2506742
CK32-8	P2506743
CK32-10	P2506744
CK32-12	P2506745
CK32-16	P2506746
CK32-20	P2506747
CK32-25	P2506748
CK42-6	P2506749
CK42-8	P2506750
CK42-10	P2506751
CK42-12	P2506752
CK42-16	P2506753
CK42-20	P2506754
CK42-25	P2506755
CK42-32	P2506756

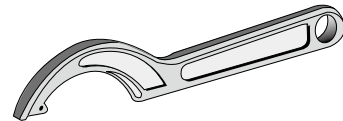
■ MT COLLET MT式筒夹

MODEL No. 型号	EDP No.
K20-MT1	P2506519
K20-MT2	P2506520
K25-MT1	P2506521
K25-MT2	P2506522
K25-MT3	P2506534
K32-MT1	P2506523
K32-MT2	P2506524
K32-MT3	P2506525
K42-MT1	P2506526
K42-MT2	P2506527
K42-MT3	P2506528
K42-MT4	P2506529



■ DRILL CHUCK ARBOR 钻头夹式

MODEL No. 型号	EDP No.
K20-JTA6	P2506530
K25-JTA6	P2506531
K32-JTA6	P2506532
K42-JTA6	P2506533



■ SPANNER 扳手

MODEL No. 型号	EDP No.
C20 SP	P2773401
C25 SP	P2773402
C32 SP	P2600033
C42 SP	P2773403

YG-1 TOOLING SYSTEM

MORSE TAPER ARBOR

莫氏锥柄变换刀



DIN 69871-SK

DIN 69893/ISO 12164-1-HSK

JIS B6339/MAS 403-BT

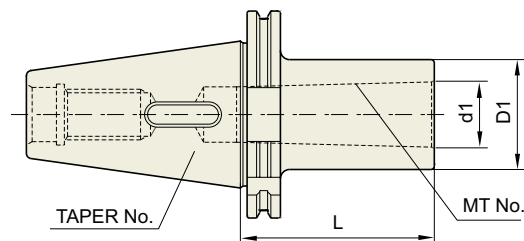
ANSI B5.18-NT

GOST 25827-93

MORSE TAPER ARBOR

DIN 69871-SK

莫氏锥柄变换刀柄

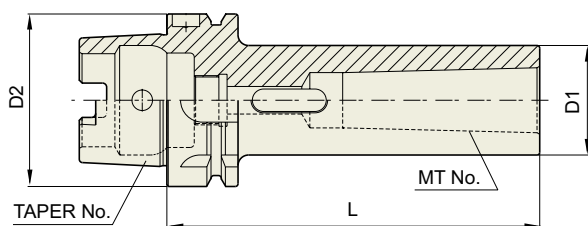


◆ STANDARD

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	MT No.	d1	D1	L	WEIGHT 重量(Kg)
30	SK30-MTA1-50	P2522001	1	12.065	25	50	0.72
	SK30-MTA2-60	P2522002	2	17.78	32	60	0.87
	SK30-MTA3-80	P2522003	3	23.825	40	80	1.02
40	SK40-MTA1-50	P2522004	1	12.065	25	50	1.49
	SK40-MTA2-50	P2522005	2	17.78	32	50	1.62
	SK40-MTA3-70	P2522006	3	23.825	40	70	1.65
	SK40-MTA4-95	P2522007	4	31.267	48	95	1.90
50	SK50-MTA1-45	P2522008	1	12.065	25	45	2.60
	SK50-MTA2-60	P2522009	2	17.78	32	60	2.66
	SK50-MTA3-65	P2522010	3	23.825	40	65	2.75
	SK50-MTA4-95	P2522011	4	31.267	48	95	3.00
	SK50-MTA5-105	P2522012	5	44.399	63	105	3.30

DIN 69893/
ISO 12164-1-HSK FORM A



Unit (单位) : mm

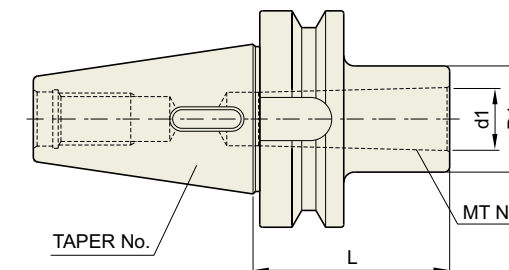
TAPER No. 锥度号	MODEL No. 型号	EDP No.	MT No.	D1	D2	L	WEIGHT 重量(Kg)
50A	HSK50A-MTA1-100	P2565005	1	25	50	100	0.67
	HSK50A-MTA2-120	P2565006	2	32	50	120	0.78
	HSK50A-MTA3-140	P2565007	3	40	50	140	0.91
63A	HSK63A-MTA1-100	P2565001	1	25	63	100	0.87
	HSK63A-MTA2-120	P2565002	2	32	63	120	1.28
	HSK63A-MTA3-140	P2565003	3	40	63	140	1.44
	HSK63A-MTA4-160	P2565004	4	48	63	160	1.86
100A	HSK100A-MTA1-110	P2565011	1	25	100	110	2.12
	HSK100A-MTA2-120	P2565012	2	32	100	120	2.41
	HSK100A-MTA3-150	P2565013	3	40	100	150	2.82
	HSK100A-MTA4-170	P2565014	4	48	100	170	3.63
	HSK100A-MTA5-200	P2565015	5	63	100	200	4.80

▶ CAT(ANSI B5.50) taper and Inch type products are available. CAT(ANSI B5.50)锥柄及英制产品可供选择

MORSE TAPER ARBOR

JIS B6339/
MAS 403-BT

莫氏锥柄变换刀柄



Unit (单位) : mm

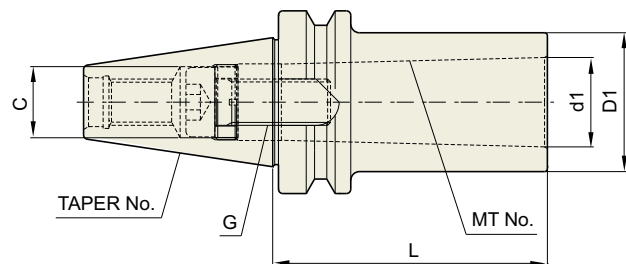
TAPER No. 锥度号	MODEL No. 型号	EDP No.	MT No.	L	d1	D1	WEIGHT 重量(Kg)
30	BT30-MTA1-45	P2542001	1	45	12.065	25	0.40
	BT30-MTA2-60	P2542002	2	60	17.780	32	0.50
	BT30-MTA2-120	P2542003	2	120	17.780	32	0.60
	BT30-MTA3-75	P2542004	3	75	23.825	40	0.70
40	BT40-MTA1-45	P2542005	1	45	12.065	25	1.00
	BT40-MTA1-120	P2542006	1	120	12.065	25	1.30
	BT40-MTA2-60	P2542013	2	60	17.780	32	1.00
	BT40-MTA2-120	P2542009	2	120	17.780	32	1.40
	BT40-MTA3-75	P2542014	3	75	23.825	40	1.20
	BT40-MTA3-135	P2542010	3	135	23.825	40	1.80
	BT40-MTA4-95	P2542007	4	95	31.267	50	1.10
	BT40-MTA4-165	P2542011	4	165	31.267	50	2.40
	BT50-MTA1-45	P2542008	1	45	12.065	25	4.00
	BT50-MTA1-120	P2542017	1	120	12.065	25	4.30
50	BT50-MTA1-180	P2542018	1	180	12.065	25	4.30
	BT50-MTA2-45	P2542015	2	45	17.780	32	4.00
	BT50-MTA2-135	P2542019	2	135	17.780	32	4.40
	BT50-MTA2-180	P2542020	2	180	17.780	32	4.60
	BT50-MTA3-45	P2542021	3	45	23.825	40	3.90
	BT50-MTA3-150	P2542022	3	150	23.825	40	4.70
	BT50-MTA3-180	P2542016	3	180	23.825	40	4.90
	BT50-MTA4-75	P2542023	4	75	31.267	50	4.00
	BT50-MTA4-105	P2542024	4	105	31.267	50	4.50
	BT50-MTA4-180	P2542025	4	180	31.267	50	5.40
	BT50-MTA5-105	P2542012	5	105	44.399	65	4.50
BT50-MTA5-210	P2542026	5	210	44.399	65	7.20	
BT50-MTA5-270	P2542027	5	270	44.399	65	7.50	

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

MORSE TAPER ARBOR

JIS B6339/
MAS 403-BT

莫氏锥柄变换刀柄

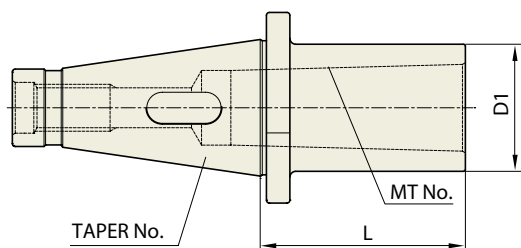


Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	MT No.	L	d1	D1	C	G	WEIGHT 重量(Kg)
30	BT30-MTB1-45	P2542028	1	45	12.065	25	10	M6×1.0	0.80
	BT30-MTB2-45	P2542029	2	45	17.780	32	-	M10×1.5	0.80
40	BT40-MTB1-45	P2600019	1	45	12.065	25	10	M6×1.0	1.00
	BT40-MTB2-45	P2600020	2	45	17.780	32	13.5	M10×1.5	1.10
	BT40-MTB3-60	P2543016	3	60	23.825	40	-	M12×1.75	1.10
	BT40-MTB4-85	P2600021	4	85	31.267	50	-	M16×2.0	1.30
50	BT50-MTB1-45	P2543008	1	45	12.065	25	10	M6×1.0	3.90
	BT50-MTB2-45	P2542030	2	45	17.780	32	16	M10×1.5	3.90
	BT50-MTB3-60	P2542031	3	60	23.825	40	18	M12×1.75	3.90
	BT50-MTB4-75	P2542032	4	75	31.267	50	20.5	M16×2.0	3.90



ANSI B5.18-NT



Unit (单位) : mm

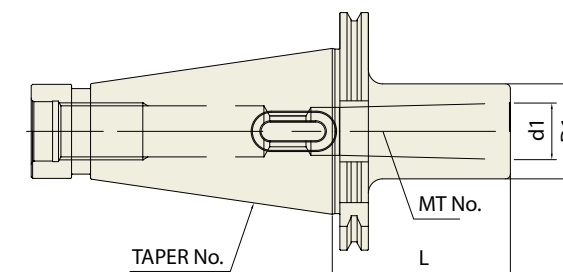
TAPER No. 锥度号	MODEL No. 型号	EDP No.	MT No.	RANGE OF DRILL		D1	L	DRAW THREAD	WEIGHT 重量(Kg)
				Min. 最小	Max. 最大				
40	NT40-MTA1-30	P2542051	1	2.0	14.0	25	30	U5/8-11(M16×2)	0.90
	NT40-MTA2-30	P2542052	2	14.1	23.0	32	30	U5/8-11(M16×2)	1.00
	NT40-MTA3-35	P2542053	3	23.1	32.0	40	45	U5/8-11(M16×2)	1.00
	NT40-MTA4-90	P2542054	4	32.1	50.0	50	90	U5/8-11(M16×2)	1.20
50	NT50-MTA1-30	P2542055	1	2.0	14.0	25	30	U1-8(M24×3)	3.50
	NT50-MTA2-30	P2542056	2	14.1	23.0	32	30	U1-8(M24×3)	3.50
	NT50-MTA3-30	P2542057	3	23.1	32.0	40	30	U1-8(M24×3)	3.50
	NT50-MTA4-45	P2542058	4	32.1	50.0	50	45	U1-8(M24×3)	3.50
	NT50-MTA5-105	P2542059	5	50.1	75.0	60	105	U1-8(M24×3)	4.00

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

MORSE TAPER ARBOR

GOST 25827-93

莫氏锥柄变换刀柄

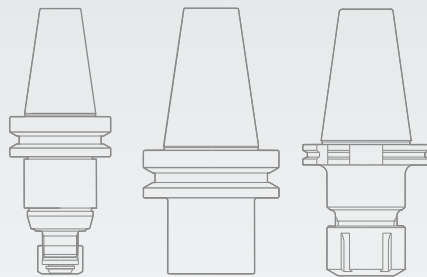


Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	MT No.	d1	D1	L	WEIGHT 重量(Kg)
40	GOST40-MTA1-115	P2780451	1	12.065	25	115	
	GOST40-MTA2-125	P2780452	2	17.78	32	125	
	GOST40-MTA3-145	P2780453	3	23.825	40	145	
	GOST40-MTA4-165	P2780454	4	31.267	48	165	
50	GOST50-MTA2-135	P2780455	2	17.78	32	135	
	GOST50-MTA3-155	P2780456	3	23.825	40	155	
	GOST50-MTA4-180	P2780457	4	31.267	48	180	
	GOST50-MTA5-215	P2780458	5	44.399	63	215	



Global Cutting Tool Leader **YG-1**



TOOLING SYSTEM

YG-1 TOOLING SYSTEM

SK SLIM CHUCK

SK刀柄



DIN 69871-SK

DIN 69893/ISO 12164-1-HSK

CBT (BT DUAL CONTACT)

JIS B6339/MAS 403-BT

ISO 20/25

STRAIGHT K (EXTENSION)

ACCESSORY & PARTS
SK COLLET / SK NUT / SPANNER

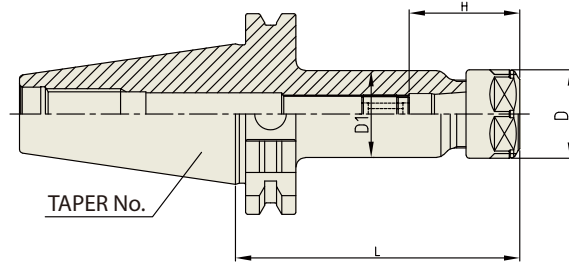


SKA

SK SLIM CHUCK

DIN 69871-SK

SK刀柄



Collet, Nut and spanner, refer to page 199-201
筒夹及扳手, 螺帽, 请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)	
30	SK30-SKA06-60	P2802801	1.8 ~ 6.0	60	20	19.5	31	SKC6	-	
	SK30-SKA06-90	P2802802	1.8 ~ 6.0	90	20	19.5	31	SKC6	-	
	SK30-SKA10-60	P2802803	1.75 ~ 10.0	60	28	27.5	35	SKC10	-	
	SK30-SKA10-90	P2802804	1.75 ~ 10.0	90	28	27.5	35	SKC10	-	
	SK30-SKA13-60	P2802805	2.75 ~ 13.0	60	33	33	43.6	SKC13	-	
	SK30-SKA13-90	P2802806	2.75 ~ 13.0	90	33	33	43.6	SKC13	-	
	SK30-SKA16-60	P2802807	2.75 ~ 16.0	60	40	40	52	SKC16	-	
	SK30-SKA16-90	P2802808	2.75 ~ 16.0	90	40	40	52	SKC16	-	
	SK30-SKA20-60	P2802809	3.5 ~ 20.0	60	48.5	48.5	59.6	SKC20	-	
	SK30-SKA20-90	P2802810	3.5 ~ 20.0	90	48.5	48.5	59.6	SKC20	-	
	SK30-SKA25-90	P2802811	16.0 ~ 25.4	90	55	55	63.4	SKC25	-	
	40	SK40-SKA06-90	P2802812	1.8 ~ 6.0	90	20	19.5	31	SKC6	-
		SK40-SKA06-120	P2802813	1.8 ~ 6.0	120	20	19.5	31	SKC6	-
		SK40-SKA06-150	P2802814	1.8 ~ 6.0	150	20	19.5	31	SKC6	-
		SK40-SKA10-90	P2802815	1.75 ~ 10.0	90	28	27.5	35	SKC10	-
SK40-SKA10-120		P2802816	1.75 ~ 10.0	120	28	27.5	35	SKC10	-	
SK40-SKA10-150		P2802817	1.75 ~ 10.0	150	28	27.5	35	SKC10	-	
SK40-SKA13-90		P2802818	2.75 ~ 13.0	90	33	33	43.6	SKC13	-	
SK40-SKA13-120		P2802819	2.75 ~ 13.0	120	33	33	43.6	SKC13	-	
SK40-SKA13-150		P2802820	2.75 ~ 13.0	150	33	33	43.6	SKC13	-	
SK40-SKA16-90		P2802821	2.75 ~ 16.0	90	40	40	52	SKC16	-	
SK40-SKA16-120		P2802822	2.75 ~ 16.0	120	40	40	52	SKC16	-	
SK40-SKA16-150		P2802823	2.75 ~ 16.0	150	40	40	52	SKC16	-	
SK40-SKA20-90		P2802824	3.5 ~ 20.0	90	48.5	48.5	59.6	SKC20	-	
SK40-SKA20-120		P2802825	3.5 ~ 20.0	120	48.5	48.5	59.6	SKC20	-	
SK40-SKA20-150		P2802826	3.5 ~ 20.0	150	48.5	48.5	59.6	SKC20	-	
SK40-SKA25-90	P2802827	16.0 ~ 25.4	90	55	55	63.4	SKC25	-		
SK40-SKA25-120	P2802828	16.0 ~ 25.4	120	55	55	63.4	SKC25	-		
SK40-SKA25-150	P2802829	16.0 ~ 25.4	150	55	55	63.4	SKC25	-		

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

► NEXT PAGE

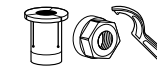
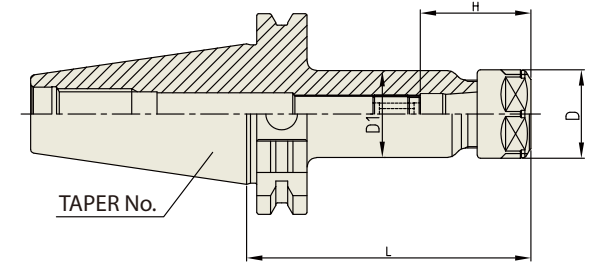


SKA

SK SLIM CHUCK

DIN 69871-SK

SK刀柄



Collet, Nut and spanner, refer to page 199-201
筒夹及扳手, 螺帽, 请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)
50	SK50-SKA06-105	P2802830	1.8 ~ 6.0	105	20	19.5	31	SKC6	-
	SK50-SKA06-135	P2802831	1.8 ~ 6.0	135	20	19.5	31	SKC6	-
	SK50-SKA06-165	P2802832	1.8 ~ 6.0	165	20	19.5	31	SKC6	-
	SK50-SKA06-195	P2802833	1.8 ~ 6.0	195	20	19.5	31	SKC6	-
	SK50-SKA10-105	P2802834	1.75 ~ 10.0	105	28	27.5	35	SKC10	-
	SK50-SKA10-135	P2802835	1.75 ~ 10.0	135	28	27.5	35	SKC10	-
	SK50-SKA10-165	P2802836	1.75 ~ 10.0	165	28	27.5	35	SKC10	-
	SK50-SKA10-195	P2802837	1.75 ~ 10.0	195	28	27.5	35	SKC10	-
	SK50-SKA13-105	P2802838	2.75 ~ 13.0	105	33	33	43.6	SKC13	-
	SK50-SKA13-135	P2802839	2.75 ~ 13.0	135	33	33	43.6	SKC13	-
	SK50-SKA13-165	P2802840	2.75 ~ 13.0	165	33	33	43.6	SKC13	-
	SK50-SKA13-195	P2802841	2.75 ~ 13.0	195	33	33	43.6	SKC13	-
	SK50-SKA16-105	P2802842	2.75 ~ 16.0	105	40	40	52	SKC16	-
	SK50-SKA16-135	P2802843	2.75 ~ 16.0	135	40	40	52	SKC16	-
	SK50-SKA16-165	P2802844	2.75 ~ 16.0	165	40	40	52	SKC16	-
	SK50-SKA16-195	P2802845	2.75 ~ 16.0	195	40	40	52	SKC16	-
	SK50-SKA20-105	P2802846	3.5 ~ 20.0	105	48.5	48.5	59.6	SKC20	-
	SK50-SKA20-135	P2802847	3.5 ~ 20.0	135	48.5	48.5	59.6	SKC20	-
	SK50-SKA20-165	P2802848	3.5 ~ 20.0	165	48.5	48.5	59.6	SKC20	-
	SK50-SKA20-195	P2802849	3.5 ~ 20.0	195	48.5	48.5	59.6	SKC20	-
	SK50-SKA25-105	P2802850	16.0 ~ 25.4	105	55	55	63.4	SKC25	-
	SK50-SKA25-135	P2802851	16.0 ~ 25.4	135	55	55	63.4	SKC25	-
	SK50-SKA25-165	P2802852	16.0 ~ 25.4	165	55	55	63.4	SKC25	-
	SK50-SKA25-195	P2802853	16.0 ~ 25.4	195	55	55	63.4	SKC25	-

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

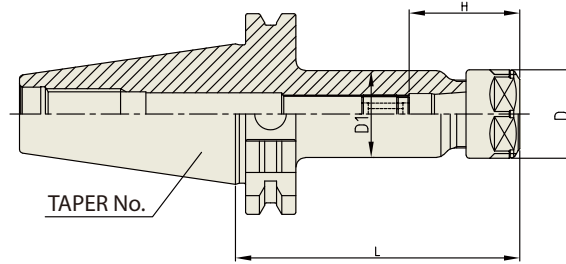


SKA

SK SLIM CHUCK

DIN 69871-SK

SK刀柄



Collet, Nut and spanner, refer to page 199-201
筒夹及扳手, 螺帽, 请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)
40	SK40AD/B-SKA06-60	P2802901	1.8 - 6.0	60	20	19.5	31	SKC6	-
	SK40AD/B-SKA06-90	P2802902	1.8 - 6.0	90	20	19.5	31	SKC6	-
	SK40AD/B-SKA06-120	P2802903	1.8 - 6.0	120	20	19.5	31	SKC6	-
	SK40AD/B-SKA06-150	P2802904	1.8 - 6.0	150	20	19.5	31	SKC6	-
	SK40AD/B-SKA10-90	P2802905	1.8 - 10.0	90	28	27.5	35	SKC10	-
	SK40AD/B-SKA10-120	P2802906	1.8 - 10.0	120	28	27.5	35	SKC10	-
	SK40AD/B-SKA10-150	P2802907	1.8 - 10.0	150	28	27.5	35	SKC10	-
	SK40AD/B-SKA13-90	P2802908	2.75 - 13.0	90	33	33	43.6	SKC13	-
	SK40AD/B-SKA13-120	P2802909	2.75 - 13.0	120	33	33	43.6	SKC13	-
	SK40AD/B-SKA13-150	P2802910	2.75 - 13.0	150	33	33	43.6	SKC13	-
	SK40AD/B-SKA16-90	P2802911	2.75 - 16.0	90	40	40	52	SKC16	-
	SK40AD/B-SKA16-120	P2802912	2.75 - 16.0	120	40	40	52	SKC16	-
	SK40AD/B-SKA16-150	P2802913	2.75 - 16.0	150	40	40	52	SKC16	-
	SK40AD/B-SKA20-90	P2802914	3.5 - 20.0	90	48.5	48.5	59.6	SKC20	-
	SK40AD/B-SKA20-120	P2802915	3.5 - 20.0	120	48.5	48.5	59.6	SKC20	-
	SK40AD/B-SKA20-150	P2802916	3.5 - 20.0	150	48.5	48.5	59.6	SKC20	-
	SK40AD/B-SKA25-90	P2802917	16.0 - 25.4	90	55	55	63.4	SKC25	-
	SK40AD/B-SKA25-120	P2802918	16.0 - 25.4	120	55	55	63.4	SKC25	-
	SK40AD/B-SKA25-150	P2802919	16.0 - 25.4	150	55	55	63.4	SKC25	-

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

► NEXT PAGE

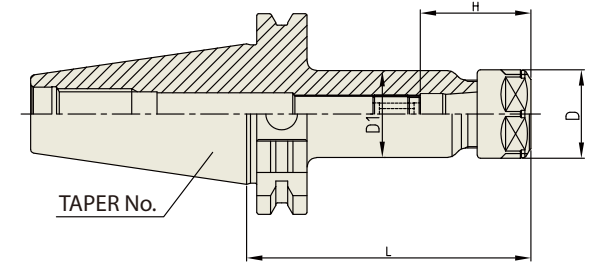


SKA

SK SLIM CHUCK

DIN 69871-SK

SK刀柄



Collet, Nut and spanner, refer to page 199-201
筒夹及扳手, 螺帽, 请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)
50	SK50AD/B-SKA06-105	P2802920	1.8 - 6.0	105	20	19.5	31	SKC6	-
	SK50AD/B-SKA06-135	P2802921	1.8 - 6.0	135	20	19.5	31	SKC6	-
	SK50AD/B-SKA06-165	P2802922	1.8 - 6.0	165	20	19.5	31	SKC6	-
	SK50AD/B-SKA06-195	P2802923	1.8 - 6.0	195	20	19.5	31	SKC6	-
	SK50AD/B-SKA10-105	P2802924	1.75 - 10.0	105	28	27.5	35	SKC10	-
	SK50AD/B-SKA10-135	P2802925	1.75 - 10.0	135	28	27.5	35	SKC10	-
	SK50AD/B-SKA10-165	P2802926	1.75 - 10.0	165	28	27.5	35	SKC10	-
	SK50AD/B-SKA10-195	P2802927	1.75 - 10.0	195	28	27.5	35	SKC10	-
	SK50AD/B-SKA13-105	P2802928	2.75 - 13.0	105	33	33	43.6	SKC13	-
	SK50AD/B-SKA13-135	P2802929	2.75 - 13.0	135	33	33	43.6	SKC13	-
	SK50AD/B-SKA13-165	P2802930	2.75 - 13.0	165	33	33	43.6	SKC13	-
	SK50AD/B-SKA13-195	P2802931	2.75 - 13.0	195	33	33	43.6	SKC13	-
	SK50AD/B-SKA16-105	P2802932	2.75 - 13.0	105	40	40	52	SKC16	-
	SK50AD/B-SKA16-135	P2802933	2.75 - 13.0	135	40	40	52	SKC16	-
	SK50AD/B-SKA16-165	P2802934	2.75 - 13.0	165	40	40	52	SKC16	-
	SK50AD/B-SKA16-195	P2802935	2.75 - 13.0	195	40	40	52	SKC16	-
	SK50AD/B-SKA20-105	P2802936	3.5 - 20.0	105	48.5	48.5	59.6	SKC20	-
	SK50AD/B-SKA20-135	P2802937	3.5 - 20.0	135	48.5	48.5	59.6	SKC20	-
	SK50AD/B-SKA20-165	P2802938	3.5 - 20.0	165	48.5	48.5	59.6	SKC20	-
	SK50AD/B-SKA20-195	P2802939	3.5 - 20.0	195	48.5	48.5	59.6	SKC20	-
SK50AD/B-SKA25-105	P2802940	16.0 - 25.4	105	55	55	63.4	SKC25	-	
SK50AD/B-SKA25-135	P2802941	16.0 - 25.4	135	55	55	63.4	SKC25	-	
SK50AD/B-SKA25-165	P2802942	16.0 - 25.4	165	55	55	63.4	SKC25	-	
SK50AD/B-SKA25-195	P2802943	16.0 - 25.4	195	55	55	63.4	SKC25	-	

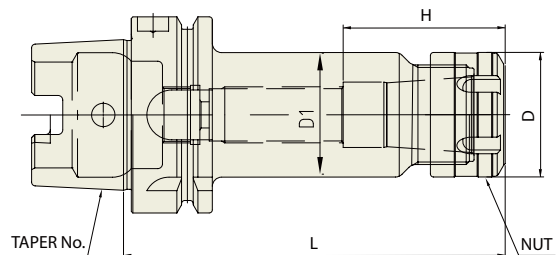
► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择



SKA

SK SLIM CHUCK
SK刀柄

DIN 69893/
ISO 12164-1-HSK FORM A



Collet, Nut and spanner, refer to page 199-201
筒夹及扳手, 螺帽, 请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)
32A	HSK32A-SKA06-50	P2775860	1.8 - 6.0	50	20	19.5	31	SKC6	0.50
	HSK32A-SKA10-60	P2775861	1.75 - 10.0	60	28	26	35	SKC10	0.70
40A	HSK40A-SKA06-60	P2775862	1.8 - 6.0	60	20	19.5	31	SKC6	0.70
	HSK40A-SKA10-60	P2775863	1.75 - 10.0	60	28	27.5	35	SKC10	0.90
50A	HSK40A-SKA13-80	P2775864	2.75 - 13.0	80	33	33	43.6	SKC13	1.00
	HSK50A-SKA06-80	P2775865	1.8 - 6.0	80	20	19.5	31	SKC6	0.90
63A	HSK50A-SKA10-100	P2775866	1.75 - 10.0	100	28	27.5	35	SKC10	1.10
	HSK50A-SKA13-100	P2775867	2.75 - 13.0	100	33	33	43.6	SKC13	1.20
80A	HSK63A-SKA06-100	P2775868	1.8 - 6.0	100	20	19.5	31	SKC6	1.40
	HSK63A-SKA10-100	P2775869	1.75 - 10.0	100	28	27.5	35	SKC10	1.60
100A	HSK63A-SKA13-100	P2775870	2.75 - 13.0	100	33	33	43.6	SKC13	1.70
	HSK63A-SKA16-120	P2775871	2.75 - 16.0	120	40	40	52	SKC16	1.70
100A	HSK63A-SKA20-120	P2775872	3.5 - 20.0	120	48.5	48.5	59.6	SKC20	2.10
	HSK63A-SKA25-150	P2775873	16.0 - 25.4	150	55	55	63.4	SKC25	2.40
100A	HSK80A-SKA06-120	P2775893	1.8 - 6.0	120	20	19.5	31	SKC6	1.60
	HSK80A-SKA10-120	P2775875	1.75 - 10.0	120	28	27.5	35	SKC10	1.72
100A	HSK80A-SKA13-120	P2775876	2.75 - 13.0	120	33	33	43.6	SKC13	1.79
	HSK80A-SKA16-120	P2775877	2.75 - 16.0	120	40	40	52	SKC16	1.96
100A	HSK80A-SKA20-130	P2775878	3.5 - 20.0	130	48.5	48.5	59.6	SKC20	2.39
	HSK80A-SKA25-150	P2775879	16.0 - 25.4	150	55	55	63.4	SKC25	2.82
100A	HSK100A-SKA06-120	P2775880	1.8 - 6.0	120	20	19.5	31	SKC6	4.00
	HSK100A-SKA10-150	P2775881	1.75 - 10.0	150	28	27.5	35	SKC10	4.50
100A	HSK100A-SKA13-150	P2775882	2.75 - 13.0	150	33	33	43.6	SKC13	4.60
	HSK100A-SKA16-150	P2775883	2.75 - 16.0	150	40	40	52	SKC16	5.10
100A	HSK100A-SKA20-150	P2775884	3.5 - 20.0	150	48.5	48.5	59.6	SKC20	5.40
	HSK100A-SKA25-160	P2775885	16.0 - 25.4	160	55	55	63.4	SKC25	5.50

DIN 69893/
ISO 12164-1-HSK FORM E

Collet, Nut and spanner, refer to page 199-201
筒夹及扳手, 螺帽, 请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)
25E	HSK25E-SKA06-45	P2775886	1.8 - 6.0	45	20	19.5	31	SKC6	-
	HSK25E-SKA10-50	P2775887	1.75 - 10.0	50	28	21.5	35	SKC10	-
32E	HSK32E-SKA06-50	P2775888	1.8 - 6.0	50	20	19.5	31	SKC6	0.50
	HSK32E-SKA10-60	P2775889	1.75 - 10.0	60	28	26	35	SKC10	0.70
40E	HSK40E-SKA06-60	P2775890	1.8 - 6.0	60	20	19.5	31	SKC6	0.70
	HSK40E-SKA10-60	P2775891	1.75 - 10.0	60	28	27.5	35	SKC10	0.90
40E	HSK40E-SKA13-80	P2775892	2.75 - 13.0	80	33	33	43.6	SKC13	1.00

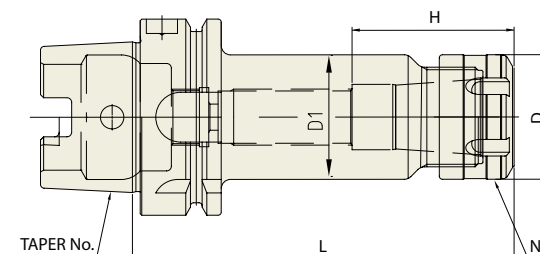
▶ CAT(ANSI B5.50) taper and Inch type products are available. CAT(ANSI B5.50)锥柄及英制产品可供选择



SKA

SK SLIM CHUCK
SK刀柄

DIN 69893/
ISO 12164-1-HSK FORM A



Collet, Nut and spanner, refer to page 199-201
筒夹及扳手, 螺帽, 请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)
32A	HSK32A-SKA06-50	P2773502	1.8 - 6.0	50	20	19.5	31	SKC6	0.50
	HSK32A-SKA10-60	P2773503	1.75 - 10.0	60	28	26	35	SKC10	0.70
40A	HSK40A-SKA06-60	P2773504	1.8 - 6.0	60	20	19.5	31	SKC6	0.70
	HSK40A-SKA10-60	P2773505	1.75 - 10.0	60	28	27.5	35	SKC10	0.90
50A	HSK40A-SKA13-80	P2773506	2.75 - 13.0	80	33	33	43.6	SKC13	1.00
	HSK50A-SKA06-80	P2773507	1.8 - 6.0	80	20	19.5	31	SKC6	0.90
63A	HSK50A-SKA10-100	P2773508	1.75 - 10.0	100	28	27.5	35	SKC10	1.10
	HSK50A-SKA13-100	P2773509	2.75 - 13.0	100	33	33	43.6	SKC13	1.20
80A	HSK63A-SKA06-100	P2730492	1.8 - 6.0	100	20	19.5	31	SKC6	1.40
	HSK63A-SKA10-100	P2730494	1.75 - 10.0	100	28	27.5	35	SKC10	1.60
100A	HSK63A-SKA13-100	P2773510	2.75 - 13.0	100	33	33	43.6	SKC13	1.70
	HSK63A-SKA16-120	P2730510	2.75 - 16.0	120	40	40	52	SKC16	1.70
100A	HSK63A-SKA20-120	P2730515	3.5 - 20.0	120	48.5	48.5	59.6	SKC20	2.10
	HSK63A-SKA25-150	P2773501	16.0 - 25.4	150	55	55	63.4	SKC25	2.40
100A	HSK80A-SKA06-120	P2773550	1.8 - 6.0	120	20	19.5	31	SKC6	-
	HSK80A-SKA10-120	P2773512	1.75 - 10.0	120	28	27.5	35	SKC10	-
100A	HSK80A-SKA13-120	P2773513	2.75 - 13.0	120	33	33	43.6	SKC13	-
	HSK80A-SKA16-120	P2773514	2.75 - 16.0	120	40	40	52	SKC16	-
100A	HSK80A-SKA20-130	P2773515	3.5 - 20.0	130	48.5	48.5	59.6	SKC20	-
	HSK80A-SKA25-150	P2773516	16.0 - 25.4	150	55	55	63.4	SKC25	-
100A	HSK100A-SKA06-120	P2773517	1.8 - 6.0	120	20	19.5	31	SKC6	4.00
	HSK100A-SKA10-150	P2773518	1.75 - 10.0	150	28	27.5	35	SKC10	4.50
100A	HSK100A-SKA13-150	P2773519	2.75 - 13.0	150	33	33	43.6	SKC13	4.60
	HSK100A-SKA16-150	P2773520	2.75 - 16.0	150	40	40	52	SKC16	5.10
100A	HSK100A-SKA20-150	P2773521	3.5 - 20.0	150	48.5	48.5	59.6	SKC20	5.40
	HSK100A-SKA25-160	P2773522	16.0 - 25.4	160	55	55	63.4	SKC25	5.50

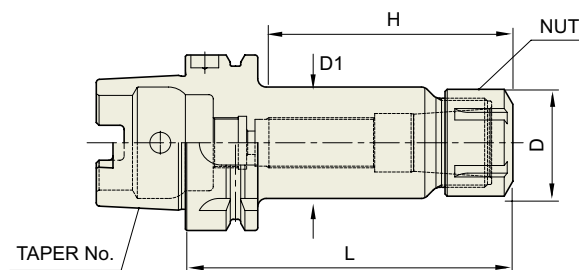
▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择



SKA

SK SLIM CHUCK
SK刀柄

DIN 69893/
ISO 12164-1-HSK FORM E



Collet, Nut and spanner, refer to page 199-201
筒夹及扳手, 螺帽, 请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)
25E	HSK25E-SKA06-45	P2773523	1.8 - 6.0	45	20	19.5	31	SKC6	-
	HSK25E-SKA10-50	P2773524	1.75 - 10.0	50	28	21.5	35	SKC10	-
32E	HSK32E-SKA06-50	P2773525	1.8 - 6.0	50	20	19.5	31	SKC6	0.50
	HSK32E-SKA10-60	P2773526	1.75 - 10.0	60	28	26	35	SKC10	0.70
40E	HSK40E-SKA06-60	P2773527	1.8 - 6.0	60	20	19.5	31	SKC6	0.70
	HSK40E-SKA10-60	P2773528	1.75 - 10.0	60	28	27.5	35	SKC10	0.90
	HSK40E-SKA13-80	P2773529	2.75 - 13.0	80	33	33	43.6	SKC13	1.00

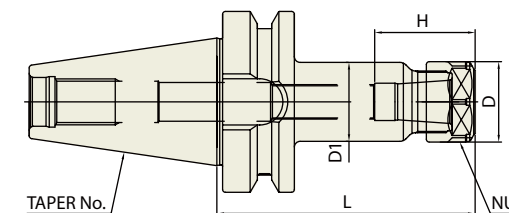
► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择



SKA

SK SLIM CHUCK
SK刀柄

CBT
(BT DUAL CONTACT)



Collet, Nut and spanner, refer to page 199-201
筒夹及扳手, 螺帽, 请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)	
30	CBT30-SKA06-60	P2775701	1.8 - 6.0	60	20	19.5	31	SKC6	0.70	
	CBT30-SKA06-90	P2775702	1.8 - 6.0	90	20	19.5	31	SKC6	0.80	
	CBT30-SKA10-60	P2775703	1.75 - 10.0	60	28	27.5	35	SKC10	0.90	
	CBT30-SKA10-90	P2775704	1.75 - 10.0	90	28	27.5	35	SKC10	1.00	
	CBT30-SKA13-60	P2775705	2.75 - 13.0	60	33	33	43.6	SKC13	1.00	
	CBT30-SKA13-90	P2775706	2.75 - 13.0	90	33	33	43.6	SKC13	1.10	
	CBT30-SKA16-60	P2775707	2.75 - 16.0	60	40	40	52	SKC16	1.10	
	CBT30-SKA16-90	P2775708	2.75 - 16.0	90	40	40	52	SKC16	1.20	
	CBT30-SKA20-60	P2775709	3.5 - 20.0	60	48.5	40	59.6	SKC20	1.30	
	CBT30-SKA20-90	P2775710	3.5 - 20.0	90	48.5	40	59.6	SKC20	1.40	
	CBT30-SKA25-90	P2775711	16.0 - 25.4	90	55	45	63.4	SKC25	1.50	
	40	CBT40-SKA06-90	P2775712	1.8 - 6.0	90	20	19.5	31	SKC6	1.10
		CBT40-SKA06-120	P2775713	1.8 - 6.0	120	20	19.5	31	SKC6	1.40
		CBT40-SKA06-150	P2775714	1.8 - 6.0	150	20	19.5	31	SKC6	1.50
		CBT40-SKA10-90	P2775715	1.75 - 10.0	90	28	27.5	35	SKC10	1.20
CBT40-SKA10-120		P2775716	1.75 - 10.0	120	28	27.5	35	SKC10	1.40	
CBT40-SKA10-150		P2775717	1.75 - 10.0	150	28	27.5	35	SKC10	1.60	
CBT40-SKA13-90		P2775718	2.75 - 13.0	90	33	33	43.6	SKC13	1.40	
CBT40-SKA13-120		P2775719	2.75 - 13.0	120	33	33	43.6	SKC13	1.60	
CBT40-SKA13-150		P2775720	2.75 - 13.0	150	33	33	43.6	SKC13	1.80	
CBT40-SKA16-90		P2775721	2.75 - 16.0	90	40	40	52	SKC16	1.50	
CBT40-SKA16-120		P2775722	2.75 - 16.0	120	40	40	52	SKC16	1.70	
CBT40-SKA16-150		P2775723	2.75 - 16.0	150	40	40	52	SKC16	1.90	
CBT40-SKA20-90		P2775724	3.5 - 20.0	90	48.5	48.5	59.6	SKC20	1.60	
CBT40-SKA20-120		P2775725	3.5 - 20.0	120	48.5	48.5	59.6	SKC20	2.00	
CBT40-SKA20-150		P2775726	3.5 - 20.0	150	48.5	48.5	59.6	SKC20	2.40	
CBT40-SKA25-90	P2775727	16.0 - 25.4	90	55	55	63.4	SKC25	1.80		
CBT40-SKA25-120	P2775728	16.0 - 25.4	120	55	55	63.4	SKC25	2.00		
CBT40-SKA25-150	P2775729	16.0 - 25.4	150	55	55	63.4	SKC25	2.30		

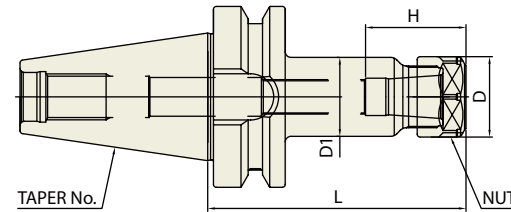
► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择



SKA

SK SLIM CHUCK
SK刀柄

CBT
(BT DUAL CONTACT)



Collet, Nut and spanner, refer to page 199-201
筒夹及扳手, 螺帽, 请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)
50	CBT50-SKA06-105	P2775730	1.8 - 6.0	105	20	19.5	31	SKC6	3.80
	CBT50-SKA06-135	P2775731	1.8 - 6.0	135	20	19.5	31	SKC6	3.90
	CBT50-SKA06-165	P2775732	1.8 - 6.0	165	20	19.5	31	SKC6	4.00
	CBT50-SKA06-195	P2775733	1.8 - 6.0	195	20	19.5	31	SKC6	4.20
	CBT50-SKA10-105	P2775734	1.75 - 10.0	105	28	27.5	35	SKC10	4.20
	CBT50-SKA10-135	P2775735	1.75 - 10.0	135	28	27.5	35	SKC10	4.40
	CBT50-SKA10-165	P2775736	1.75 - 10.0	165	28	27.5	35	SKC10	4.60
	CBT50-SKA10-195	P2775737	1.75 - 10.0	195	28	27.5	35	SKC10	4.80
	CBT50-SKA13-105	P2775738	2.75 - 13.0	105	33	33	43.6	SKC13	4.50
	CBT50-SKA13-135	P2775739	2.75 - 13.0	135	33	33	43.6	SKC13	4.70
	CBT50-SKA13-165	P2775740	2.75 - 13.0	165	33	33	43.6	SKC13	4.90
	CBT50-SKA13-195	P2775741	2.75 - 13.0	195	33	33	43.6	SKC13	5.20
	CBT50-SKA16-105	P2775742	2.75 - 16.0	105	40	40	52	SKC16	4.70
	CBT50-SKA16-135	P2775743	2.75 - 16.0	135	40	40	52	SKC16	4.90
	CBT50-SKA16-165	P2775744	2.75 - 16.0	165	40	40	52	SKC16	5.10
	CBT50-SKA16-195	P2775745	2.75 - 16.0	195	40	40	52	SKC16	5.50
	CBT50-SKA20-105	P2775746	3.5 - 20.0	105	48.5	48.5	59.6	SKC20	4.30
	CBT50-SKA20-135	P2775747	3.5 - 20.0	135	48.5	48.5	59.6	SKC20	4.60
CBT50-SKA20-165	P2775748	3.5 - 20.0	165	48.5	48.5	59.6	SKC20	5.00	
CBT50-SKA20-195	P2775749	3.5 - 20.0	195	48.5	48.5	59.6	SKC20	5.40	
CBT50-SKA25-105	P2775750	16.0 - 25.4	105	55	55	63.4	SKC25	5.20	
CBT50-SKA25-135	P2775751	16.0 - 25.4	135	55	55	63.4	SKC25	5.40	
CBT50-SKA25-165	P2775752	16.0 - 25.4	165	55	55	63.4	SKC25	5.60	
CBT50-SKA25-195	P2775753	16.0 - 25.4	195	55	55	63.4	SKC25	6.00	

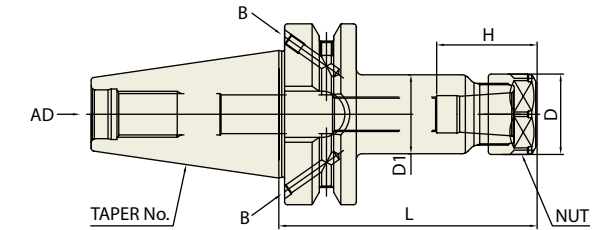
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SK刀柄

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MAS 403-BT



Collet, Nut and spanner, refer to page 199-201
筒夹及扳手, 螺帽, 请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)
30	BT30-SKA06-60	P2775754A	1.8 - 6.0	60	20	19.5	31	SKC6	0.70
	BT30-SKA06-90	P2775755A	1.8 - 6.0	90	20	19.5	31	SKC6	0.80
	BT30-SKA10-60	P2775756A	1.75 - 10.0	60	28	27.5	35	SKC10	0.90
	BT30-SKA10-90	P2775757A	1.75 - 10.0	90	28	27.5	35	SKC10	1.00
	BT30-SKA13-60	P2775758A	2.75 - 13.0	60	33	33	43.6	SKC13	1.00
	BT30-SKA13-90	P2775759A	2.75 - 13.0	90	33	33	43.6	SKC13	1.10
	BT30-SKA16-60	P2775760A	2.75 - 16.0	60	40	40	52	SKC16	1.10
	BT30-SKA16-90	P2775761A	2.75 - 16.0	90	40	40	52	SKC16	1.20
	BT30-SKA20-60	P2775762A	3.5 - 20.0	60	40	48.5	59.6	SKC20	1.30
	BT30-SKA20-90	P2775763A	3.5 - 20.0	90	40	48.5	59.6	SKC20	1.40
	BT30-SKA25-90	P2775764A	16.0 - 25.4	90	45	55	63.4	SKC25	1.50
	BT40AD/B-SKA06-90	P2775765	1.8 - 6.0	90	20	19.5	31	SKC6	1.10
	BT40AD/B-SKA06-120	P2775766	1.8 - 6.0	120	20	19.5	31	SKC6	1.40
	BT40AD/B-SKA06-150	P2775767	1.8 - 6.0	150	20	19.5	31	SKC6	1.50
	BT40AD/B-SKA10-90	P2775768	1.75 - 10.0	90	28	27.5	35	SKC10	1.20
	BT40AD/B-SKA10-120	P2775769	1.75 - 10.0	120	28	27.5	35	SKC10	1.40
	BT40AD/B-SKA10-150	P2775770	1.75 - 10.0	150	28	27.5	35	SKC10	1.60
	BT40AD/B-SKA13-90	P2775771	2.75 - 13.0	90	33	33	43.6	SKC13	1.40
BT40AD/B-SKA13-120	P2775772	2.75 - 13.0	120	33	33	43.6	SKC13	1.60	
BT40AD/B-SKA13-150	P2775773	2.75 - 13.0	150	33	33	43.6	SKC13	1.80	
BT40AD/B-SKA16-90	P2775774	2.75 - 16.0	90	40	40	52	SKC16	1.50	
BT40AD/B-SKA16-120	P2775775	2.75 - 16.0	120	40	40	52	SKC16	1.70	
BT40AD/B-SKA16-150	P2775776	2.75 - 16.0	150	40	40	52	SKC16	1.90	
BT40AD/B-SKA20-90	P2775777	3.5 - 20.0	90	48.5	48.5	59.6	SKC20	1.60	
BT40AD/B-SKA20-120	P2775778	3.5 - 20.0	120	48.5	48.5	59.6	SKC20	2.00	
BT40AD/B-SKA20-150	P2775779	3.5 - 20.0	150	48.5	48.5	59.6	SKC20	2.40	
BT40AD/B-SKA25-90	P2775780	16.0 - 25.4	90	55	55	63.4	SKC25	1.80	
BT40AD/B-SKA25-120	P2775781	16.0 - 25.4	120	55	55	63.4	SKC25	2.00	
BT40AD/B-SKA25-150	P2775782	16.0 - 25.4	150	55	55	63.4	SKC25	2.30	

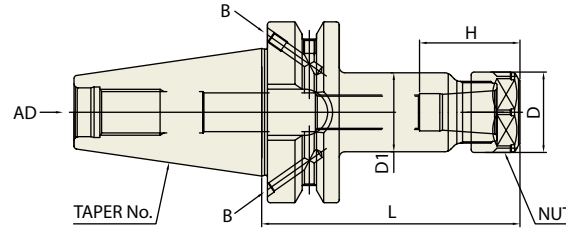
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Collet, Nut and spanner, refer to page 199-201
筒夹及扳手, 螺帽, 请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)
50	BT50AD/B-SKA06-105	P2775783	1.8 - 6.0	105	20	19.5	31	SKC6	3.80
	BT50AD/B-SKA06-135	P2775784	1.8 - 6.0	135	20	19.5	31	SKC6	3.90
	BT50AD/B-SKA06-165	P2775785	1.8 - 6.0	165	20	19.5	31	SKC6	4.00
	BT50AD/B-SKA06-195	P2775786	1.8 - 6.0	195	20	19.5	31	SKC6	4.20
	BT50AD/B-SKA10-105	P2775787	1.75 - 10.0	105	28	27.5	35	SKC10	4.20
	BT50AD/B-SKA10-135	P2775788	1.75 - 10.0	135	28	27.5	35	SKC10	4.40
	BT50AD/B-SKA10-165	P2775789	1.75 - 10.0	165	28	27.5	35	SKC10	4.60
	BT50AD/B-SKA10-195	P2775790	1.75 - 10.0	195	28	27.5	35	SKC10	4.80
	BT50AD/B-SKA13-105	P2775791	2.75 - 13.0	105	33	33	43.6	SKC13	4.50
	BT50AD/B-SKA13-135	P2775792	2.75 - 13.0	135	33	33	43.6	SKC13	4.70
	BT50AD/B-SKA13-165	P2775793	2.75 - 13.0	165	33	33	43.6	SKC13	4.90
	BT50AD/B-SKA13-195	P2775794	2.75 - 13.0	195	33	33	43.6	SKC13	5.20
	BT50AD/B-SKA16-105	P2775795	2.75 - 16.0	105	40	40	52	SKC16	4.70
	BT50AD/B-SKA16-135	P2775796	2.75 - 16.0	135	40	40	52	SKC16	4.90
	BT50AD/B-SKA16-165	P2775797	2.75 - 16.0	165	40	40	52	SKC16	5.10
	BT50AD/B-SKA16-195	P2775798	2.75 - 16.0	195	40	40	52	SKC16	5.50
	BT50AD/B-SKA20-105	P2775799	3.5 - 20.0	105	48.5	48.5	59.6	SKC20	4.30
	BT50AD/B-SKA20-135	P2775800	3.5 - 20.0	135	48.5	48.5	59.6	SKC20	4.60
BT50AD/B-SKA20-165	P2775801	3.5 - 20.0	165	48.5	48.5	59.6	SKC20	5.00	
BT50AD/B-SKA20-195	P2775802	3.5 - 20.0	195	48.5	48.5	59.6	SKC20	5.40	
BT50AD/B-SKA25-105	P2775803	16.0 - 25.4	105	55	55	63.4	SKC25	5.20	
BT50AD/B-SKA25-135	P2775804	16.0 - 25.4	135	55	55	63.4	SKC25	5.40	
BT50AD/B-SKA25-165	P2775805	16.0 - 25.4	165	55	55	63.4	SKC25	5.60	
BT50AD/B-SKA25-195	P2775806	16.0 - 25.4	195	55	55	63.4	SKC25	6.00	

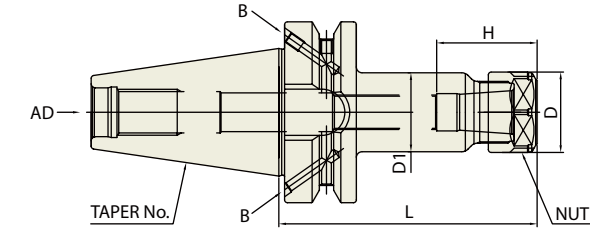
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Collet, Nut and spanner, refer to page 199-201
筒夹及扳手, 螺帽, 请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)	
30	BT30-SKA06-60	P2775807	1.8 - 6.0	60	20	19.5	31	SKC6	0.70	
	BT30-SKA06-90	P2775808	1.8 - 6.0	90	20	19.5	31	SKC6	0.80	
	BT30-SKA10-60	P2775809	1.75 - 10.0	60	28	27.5	35	SKC10	0.90	
	BT30-SKA10-90	P2775810	1.75 - 10.0	90	28	27.5	35	SKC10	1.00	
	BT30-SKA13-60	P2775811	2.75 - 13.0	60	33	33	43.6	SKC13	1.00	
	BT30-SKA13-90	P2775812	2.75 - 13.0	90	33	33	43.6	SKC13	1.10	
	BT30-SKA16-60	P2775813	2.75 - 16.0	60	40	40	52	SKC16	1.10	
	BT30-SKA16-90	P2775814	2.75 - 16.0	90	40	40	52	SKC16	1.20	
	BT30-SKA20-60	P2775815	3.5 - 20.0	60	48.5	48.5	59.6	SKC20	1.30	
	BT30-SKA20-90	P2775816	3.5 - 20.0	90	48.5	48.5	59.6	SKC20	1.40	
	BT30-SKA25-90	P2775817	16.0 - 25.4	90	55	55	63.4	SKC25	1.50	
	40	BT40-SKA06-90	P2775818	1.8 - 6.0	90	20	19.5	31	SKC6	1.10
		BT40-SKA06-120	P2775819	1.8 - 6.0	120	20	19.5	31	SKC6	1.40
		BT40-SKA06-150	P2775820	1.8 - 6.0	150	20	19.5	31	SKC6	1.50
		BT40-SKA10-90	P2775821	1.75 - 10.0	90	28	27.5	35	SKC10	1.20
		BT40-SKA10-120	P2775822	1.75 - 10.0	120	28	27.5	35	SKC10	1.40
		BT40-SKA10-150	P2775823	1.75 - 10.0	150	28	27.5	35	SKC10	1.60
		BT40-SKA13-90	P2775824	2.75 - 13.0	90	33	33	43.6	SKC13	1.40
BT40-SKA13-120		P2775825	2.75 - 13.0	120	33	33	43.6	SKC13	1.60	
BT40-SKA13-150		P2775826	2.75 - 13.0	150	33	33	43.6	SKC13	1.80	
BT40-SKA16-90		P2775827	2.75 - 16.0	90	40	40	52	SKC16	1.50	
BT40-SKA16-120		P2775828	2.75 - 16.0	120	40	40	52	SKC16	1.70	
BT40-SKA16-150		P2775829	2.75 - 16.0	150	40	40	52	SKC16	1.90	
BT40-SKA20-90		P2775830	3.5 - 20.0	90	48.5	48.5	59.6	SKC20	1.60	
BT40-SKA20-120		P2775831	3.5 - 20.0	120	48.5	48.5	59.6	SKC20	2.00	
BT40-SKA20-150		P2775832	3.5 - 20.0	150	48.5	48.5	59.6	SKC20	2.40	
BT40-SKA25-90		P2775833	16.0 - 25.4	90	55	55	63.4	SKC25	1.80	
BT40-SKA25-120		P2775834	16.0 - 25.4	120	55	55	63.4	SKC25	2.00	
BT40-SKA25-150		P2775835	16.0 - 25.4	150	55	55	63.4	SKC25	2.30	

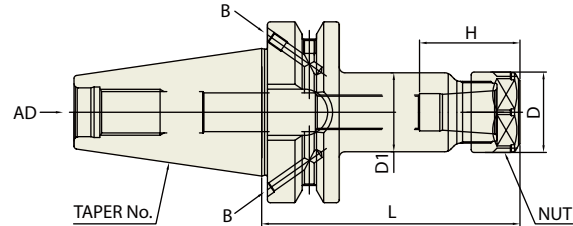
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SKA

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Collet, Nut and spanner, refer to page 199-201
筒夹及扳手，螺帽，请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)
50	BT50-SKA06-105	P2775836	1.8 - 6.0	105	20	19.5	31	SKC6	3.80
	BT50-SKA06-135	P2775837	1.8 - 6.0	135	20	19.5	31	SKC6	3.90
	BT50-SKA06-165	P2775838	1.8 - 6.0	165	20	19.5	31	SKC6	4.00
	BT50-SKA06-195	P2775839	1.8 - 6.0	195	20	19.5	31	SKC6	4.20
	BT50-SKA10-105	P2775840	1.75 - 10.0	105	28	27.5	35	SKC10	4.20
	BT50-SKA10-135	P2775841	1.75 - 10.0	135	28	27.5	35	SKC10	4.40
	BT50-SKA10-165	P2775842	1.75 - 10.0	165	28	27.5	35	SKC10	4.60
	BT50-SKA10-195	P2775843	1.75 - 10.0	195	28	27.5	35	SKC10	4.80
	BT50-SKA13-105	P2775844	2.75 - 13.0	105	33	33	43.6	SKC13	4.50
	BT50-SKA13-135	P2775845	2.75 - 13.0	135	33	33	43.6	SKC13	4.70
	BT50-SKA13-165	P2775846	2.75 - 13.0	165	33	33	43.6	SKC13	4.90
	BT50-SKA13-195	P2775847	2.75 - 13.0	195	33	33	43.6	SKC13	5.20
	BT50-SKA16-105	P2775848	2.75 - 16.0	105	40	40	52	SKC16	4.70
	BT50-SKA16-135	P2775849	2.75 - 16.0	135	40	40	52	SKC16	4.90
	BT50-SKA16-165	P2775850	2.75 - 16.0	165	40	40	52	SKC16	5.10
	BT50-SKA16-195	P2775851	2.75 - 16.0	195	40	40	52	SKC16	5.50
	BT50-SKA20-105	P2775852	3.5 - 20.0	105	48.5	48.5	59.6	SKC20	4.30
	BT50-SKA20-135	P2775853	3.5 - 20.0	135	48.5	48.5	59.6	SKC20	4.60
	BT50-SKA20-165	P2775854	3.5 - 20.0	165	48.5	48.5	59.6	SKC20	5.00
	BT50-SKA20-195	P2775855	3.5 - 20.0	195	48.5	48.5	59.6	SKC20	5.40
	BT50-SKA25-105	P2775856	16.0 - 25.4	105	55	55	63.4	SKC25	5.20
	BT50-SKA25-135	P2775857	16.0 - 25.4	135	55	55	63.4	SKC25	5.40
	BT50-SKA25-165	P2775858	16.0 - 25.4	165	55	55	63.4	SKC25	5.60
	BT50-SKA25-195	P2775859	16.0 - 25.4	195	55	55	63.4	SKC25	6.00

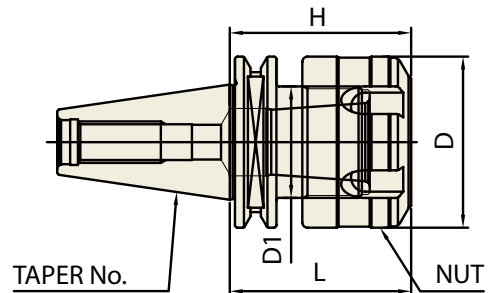
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SKA

SK SLIM CHUCK
SK刀柄

ISO 20/25



Unit (单位) : mm

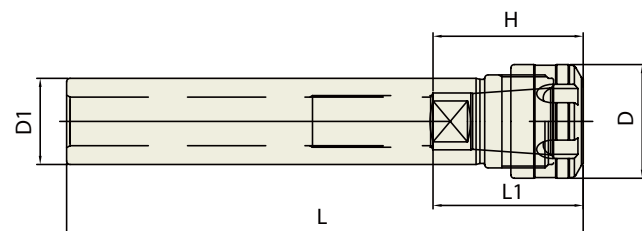
TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	D	D1	H	COLLET	WEIGHT 重量(Kg)
20	ISO20-SKA10-35	P2773530	1.75 - 10.0	35	33	21.5	35	SKC10	0.50
25	ISO25-SKA10-35	P2773531	1.75 - 10.0	35	33	21.5	35	SKC10	0.70

► Higher balancing grade is available upon request.
可根据要求提供高动平衡等级

► To be supplied with assembling of pull stud bolt.
可供应拉丁组装型产品

SK SLIM CHUCK
SK刀柄

STRAIGHT-K

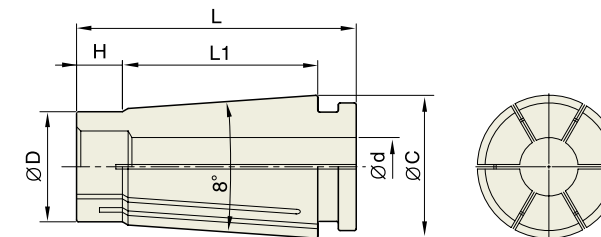


Collet, Nut and spanner, refer to page 199-201
筒夹及扳手, 螺帽, 请参阅第199-201页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	L	L1	D	D1	H	COLLET	WEIGHT 重量(Kg)
20	K20-SKA06-100	P2773532	1.8 - 6.0	100	21 - 35	20	20	31	SKC6	0.20
	K20-SKA06-140	P2773533	1.8 - 6.0	140	21 - 35	20	20	31	SKC6	0.30
	K20-SKA10-100	P2773534	1.75 - 10.0	100	30 - 50	28	20	35	SKC10	0.20
	K20-SKA10-140	P2773535	1.75 - 10.0	140	30 - 50	28	20	35	SKC10	0.30
25	K25-SKA06-100	P2773536	1.8 - 6.0	100	21 - 35	20	25	31	SKC6	0.30
	K25-SKA06-140	P2773537	1.8 - 6.0	140	21 - 35	20	25	31	SKC6	0.50
	K25-SKA10-100	P2773538	1.75 - 10.0	100	30 - 50	28	25	35	SKC10	0.30
	K25-SKA10-150	P2773539	1.75 - 10.0	150	30 - 50	28	25	35	SKC10	0.50
32	K25-SKA13-100	P2773540	2.75 - 13.0	100	31 - 65	33	25	43.6	SKC13	0.40
	K25-SKA13-150	P2773541	2.75 - 13.0	150	31 - 65	33	25	43.6	SKC13	0.60
	K32-SKA10-100	P2773542	1.75 - 10.0	100	30 - 50	28	32	35	SKC10	0.50
	K32-SKA10-150	P2773543	1.75 - 10.0	150	30 - 50	28	32	35	SKC10	0.70
	K32-SKA13-100	P2773544	2.75 - 13.0	100	31 - 65	33	32	43.6	SKC13	1.00
	K32-SKA13-150	P2773545	2.75 - 13.0	150	31 - 65	33	32	43.6	SKC13	1.20
	K32-SKA16-100	P2773546	2.75 - 16.0	100	40 - 70	40	32	52	SKC16	1.00
	K32-SKA16-150	P2773547	2.75 - 16.0	150	40 - 70	40	32	52	SKC16	1.20
32	K32-SKA20-100	P2773548	3.5 - 20.0	100	47 - 80	48.5	32	59.6	SKC20	1.10
	K32-SKA20-150	P2773549	3.5 - 20.0	150	47 - 80	48.5	32	59.6	SKC20	1.30

SK COLLET
SK筒夹



◇ T.I.R : ≤0.005mm at 3D

Unit (单位) : mm

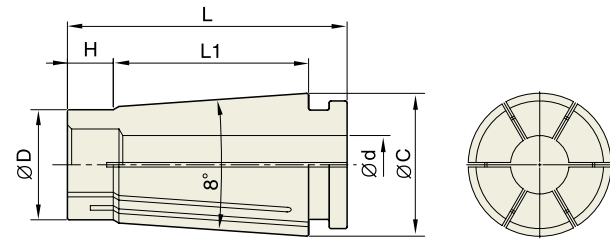
TYPE 型号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围 (d)	TYPE	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围 (d)	TYPE	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围 (d)
SKC6	SKC6-2	P2730780	1.8 - 2.0	SKC10	SKC10-2	P2730790	1.75 - 2.0	SKC13	SKC13-3	P2773656	2.75 - 3.0
	SKC6-2.5	P2773601	2.3 - 2.5		SKC10-2.5	P2773605	2.25 - 2.5		SKC13-3.5	P2773657	3.0 - 3.5
	SKC6-3	P2730782	2.8 - 3.0		SKC10-3	P2730791	2.75 - 3.0		SKC13-4	P2773658	3.5 - 4.0
	SKC6-3.5	P2773602	3.0 - 3.5		SKC10-3.5	P2773606	3.0 - 3.5		SKC13-4.5	P2773659	4.0 - 4.5
	SKC6-4	P2730784	3.5 - 4.0		SKC10-4	P2730792	3.5 - 4.0		SKC13-5	P2773660	4.5 - 5.0
	SKC6-4.5	P2773603	4.0 - 4.5		SKC10-4.5	P2773607	4.0 - 4.5		SKC13-5.5	P2773661	5.0 - 5.5
	SKC6-5	P2730786	4.5 - 5.0		SKC10-5	P2730793	4.5 - 5.0		SKC13-6	P2773662	5.5 - 6.0
	SKC6-5.5	P2773604	5.0 - 5.5		SKC10-5.5	P2773608	5.0 - 5.5		SKC13-6.5	P2773663	6.0 - 6.5
	SKC6-6	P2730788	5.5 - 6.0		SKC10-6	P2730794	5.5 - 6.0		SKC13-7	P2773664	6.5 - 7.0
	SKC10	SKC10-6.5	P2773609		6.0 - 6.5	SKC13	SKC13-7.5		P2773665	7.0 - 7.5	SKC13
SKC10-7		P2730795	6.5 - 7.0	SKC10-7.5	P2773610		7.0 - 7.5	SKC13-8.5	P2773667	8.0 - 8.5	
SKC10-7.5		P2773611	8.0 - 8.5	SKC10-8	P2730796		7.5 - 8.0	SKC13-9	P2773668	8.5 - 9.0	
SKC10-8		P2730797	8.5 - 9.0	SKC10-8.5	P2773612		9.0 - 9.5	SKC13-9.5	P2773669	9.0 - 9.5	
SKC10-8.5		P2773611	8.0 - 8.5	SKC10-9	P2730797		8.5 - 9.0	SKC13-10	P2773670	9.5 - 10.0	
SKC10-9		P2730797	8.5 - 9.0	SKC10-9.5	P2773612		9.0 - 9.5	SKC13-10.5	P2773671	10.0 - 10.5	
SKC10-9.5		P2773612	9.0 - 9.5	SKC10-10	P2730798		9.5 - 10.0	SKC13-11	P2773672	10.5 - 11.0	
SKC13-11.5		P2773673	11.0 - 11.5	SKC13-12	P2773674		11.5 - 12.0	SKC13-12.5	P2773675	12.0 - 12.5	
SKC13-12.5		P2773675	12.0 - 12.5	SKC13-13	P2773676		12.5 - 13.0				

■ SKC COLLET DIMENSION SKC夹头尺寸

Unit (单位) : mm

TYPE 型号	D	L	L1	H	C	WEIGHT 重量(Kg)
SKC6	7.5	25.7	17.6	3.8	10	0.03
SKC10	12	32	21.3	5	15	0.04
SKC13	15.4	39	28.3	5.5	20	
SKC16	18.8	46	32	8	24	0.06
SKC20	22.5	54.2	41	8	29	
SKC25	28.9	58.2	43	8.5	35	0.10

SK COLLET
SK筒夹

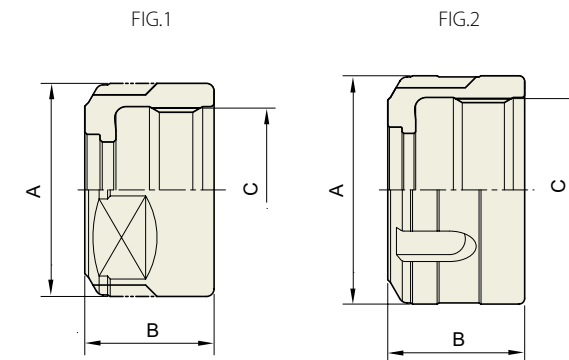


◇ T.I.R : ≤0.005mm at 3D

Unit (单位) : mm

TYPE 型号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围 (d)	TYPE 型号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围 (d)	TYPE 型号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围 (d)
SKC16	SKC16-3	P2730810	2.75 - 3.0	SKC20	SKC20-4	P2730830	3.5 - 4.0	SKC25	SKC25-16.5	P2773677	16.0 - 16.5
	SKC16-3.5	P2773613	3.0 - 3.5		SKC20-4.5	P2773632	4.0 - 4.5		SKC25-17	P2773678	16.5 - 17.0
	SKC16-4	P2730812	3.5 - 4.0		SKC20-5	P2773633	4.5 - 5.0		SKC25-17.5	P2773679	17.0 - 17.5
	SKC16-4.5	P2773614	4.0 - 4.5		SKC20-5.5	P2773634	5.0 - 5.5		SKC25-18	P2773680	17.5 - 18.0
	SKC16-5	P2773615	4.5 - 5.0		SKC20-6	P2730832	5.5 - 6.0		SKC25-18.5	P2773681	18.0 - 18.5
	SKC16-5.5	P2773616	5.0 - 5.5		SKC20-6.5	P2773635	6.0 - 6.5		SKC25-19	P2773682	18.5 - 19.0
	SKC16-6	P2730814	5.5 - 6.0		SKC20-7	P2773636	6.5 - 7.0		SKC25-19.5	P2773683	19.0 - 19.5
	SKC16-6.5	P2773617	6.0 - 6.5		SKC20-7.5	P2773637	7.0 - 7.5		SKC25-20	P2773684	19.5 - 20.0
	SKC16-7	P2773618	6.5 - 7.0		SKC20-8	P2730834	7.5 - 8.0		SKC25-20.5	P2773685	20.0 - 20.5
	SKC16-7.5	P2773619	7.0 - 7.5		SKC20-8.5	P2773638	8.0 - 8.5		SKC25-21	P2773686	20.5 - 21.0
	SKC16-8	P2730816	7.5 - 8.0		SKC20-9	P2773639	8.5 - 9.0		SKC25-21.5	P2773687	21.0 - 21.5
	SKC16-8.5	P2773620	8.0 - 8.5		SKC20-9.5	P2773640	9.0 - 9.5		SKC25-22	P2773688	21.5 - 22.0
	SKC16-9	P2773621	8.5 - 9.0		SKC20-10	P2730836	9.5 - 10.0		SKC25-22.5	P2773689	22.0 - 22.5
	SKC16-9.5	P2773622	9.0 - 9.5		SKC20-10.5	P2773641	10.0 - 10.5		SKC25-23	P2773690	22.5 - 23.0
	SKC16-10	P2730818	9.5 - 10.0		SKC20-11	P2773642	10.5 - 11.0		SKC25-23.5	P2773691	23.0 - 23.5
	SKC16-10.5	P2773623	10.0 - 10.5		SKC20-11.5	P2773643	11.0 - 11.5		SKC25-24	P2773692	23.5 - 24.0
SKC16-11	P2773624	10.5 - 11.0	SKC20-12	P2730838	11.5 - 12.0	SKC25-24.5	P2773693	24.0 - 24.5			
SKC16-11.5	P2773625	10.0 - 11.5	SKC20-12.5	P2773644	12.0 - 12.5	SKC25-25	P2773694	24.5 - 25.0			
SKC16-12	P2730820	11.5 - 12.0	SKC20-13	P2773645	12.5 - 13.0	SKC25-25.4	P2773695	25.0 - 25.4			
SKC16-12.5	P2773626	12.0 - 12.5	SKC20-13.5	P2773646	13.0 - 13.5						
SKC16-13	P2773627	12.5 - 13.0	SKC20-14	P2730840	13.5 - 14.0						
SKC16-13.5	P2773628	13.0 - 13.5	SKC20-14.5	P2773647	14.0 - 14.5						
SKC16-14	P2773822	13.5 - 14.0	SKC20-15	P2773648	14.5 - 15.0						
SKC16-14.5	P2773629	14.0 - 14.5	SKC20-15.5	P2773649	15.0 - 15.5						
SKC16-15	P2773630	14.5 - 15.0	SKC20-16	P2730842	15.5 - 16.0						
SKC16-15.5	P2773631	15.0 - 15.5	SKC20-16.5	P2773650	16.0 - 16.5						
SKC16-16	P2730824	15.5 - 16.0	SKC20-17	P2773651	16.5 - 17.0						
			SKC20-17.5	P2773652	17.0 - 17.5						
			SKC20-18	P2730844	17.5 - 18.0						
			SKC20-18.5	P2773653	18.0 - 18.5						
			SKC20-19	P2773654	18.5 - 19.0						
			SKC20-19.5	P2773655	19.0 - 19.5						
			SKC20-20	P2730846	19.5 - 20.0						

SK NUT
SK螺母



Unit (单位) : mm

TYPE 型号	EDP No.	A	B	C	FIG.	WEIGHT 重量(Kg)
SKN06	P2773581	20	15	M15.5X1.0	1	0.02
SKN10	P2773582	28	17	M21.5X1.0	1	0.04
SKN13	P2773583	33	21	M27X1.0	2	0.05
SKN16	P2773584	40	24	M32X1.5	2	0.06
SKN20	P2773585	48.5	24	M40X1.0	2	0.08
SKN25	P2773586	55	30	M42X1.5	2	0.10

SK SPANNER
SK扳手

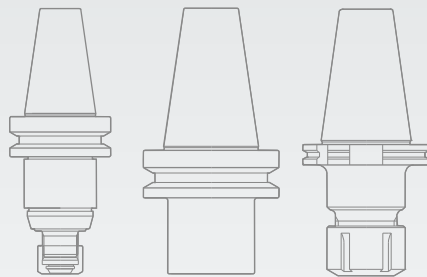


MODEL No. 型号	EDP No.
TSK6	P2773588
TSK10	P2773589
TSK13	P2773590
TSK16	P2773591
TSK20	P2773587
TSK25	P2773592

► Design and shape could be changed without prior notice.
设计及形状如有更改, 恕不另行通知



Global Cutting Tool Leader **YG-1**



TOOLING SYSTEM

YG-1 TOOLING SYSTEM

SYNCHRO TAPPING CHUCK

同步攻丝刀柄



SYNCHRO TAPPING CHUCK (ERTYPE)

DIN 69871-SK

DIN 69893/ISO 12164-1-HSK

JIS B6339/MAS 403-BT

STRAIGHT-K

SYNCHRO TAPPING CHUCK (QUICKCHANGETYPE)

DIN 69871-SK

DIN 69893/ISO 12164-1-HSK

STRAIGHT-K

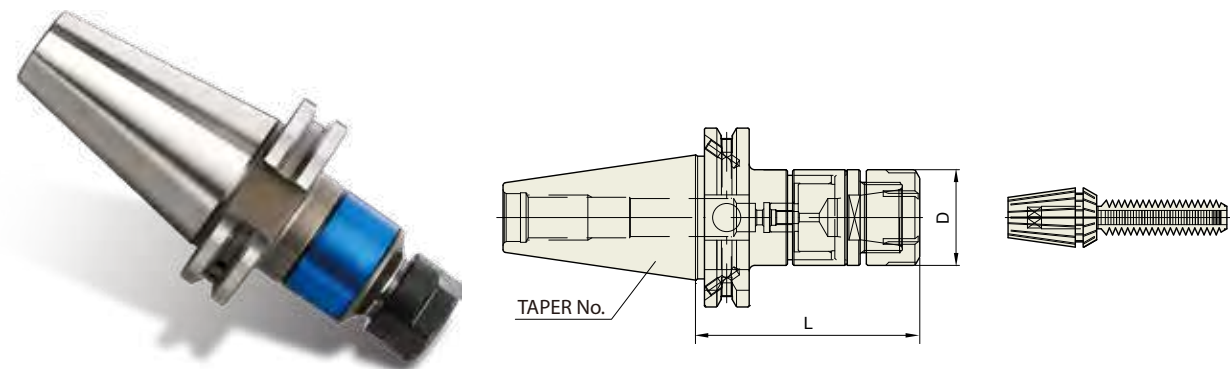
WIG SYNCHRO TAPPING CHUCK

SYTER

SYNCHRO TAPPING CHUCK (ER TYPE)

DIN 69871-SK

同步攻丝刀柄 (ER型)



ER collet refer to page 103-107 / Tap ER collet refer to page 108-109
ER筒夹, 参阅第103~107页 / 丝锥ER筒夹, 请参阅第108~109页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	TAP SIZE	NUT 螺母	D	L	WEIGHT 重量(Kg)
40	SK40AD/B-SYTER12-79	P2773701	M3-M12	ER16	28	79	1.00
	SK40AD/B-SYTER16-85	P2773702	M3-M16	ER20	34	85	1.08
	SK40AD/B-SYTER20-90	P2773703	M3-M20	ER25	42	90	1.08
	SK40AD/B-SYTER27-100	P2773704	M4-M27	ER32	50	100	1.37
	SK40AD/B-SYTER33-120	P2773705	M4-M33	ER40	63	120	2.16
50	SK50AD/B-SYTER12-79	P2773706	M3-M12	ER16	28	79	2.83
	SK50AD/B-SYTER16-85	P2773707	M3-M16	ER20	34	85	2.86
	SK50AD/B-SYTER20-90	P2773708	M3-M20	ER25	42	90	2.87
	SK50AD/B-SYTER27-100	P2773709	M4-M27	ER32	50	100	3.04
	SK50AD/B-SYTER33-105	P2773710	M4-M33	ER40	63	105	3.93

- Feature :
- To compensate for synchronization errors to extend tap life and to improve thread quality
 - To compensate for pitch tolerances of taps
 - For machine with synchronized spindle

- 特征:
- 延长丝锥寿命, 为了攻丝品质改善 补偿同步误差
 - 保障丝锥的螺距公差
 - 适用于同步攻丝的设备

►CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

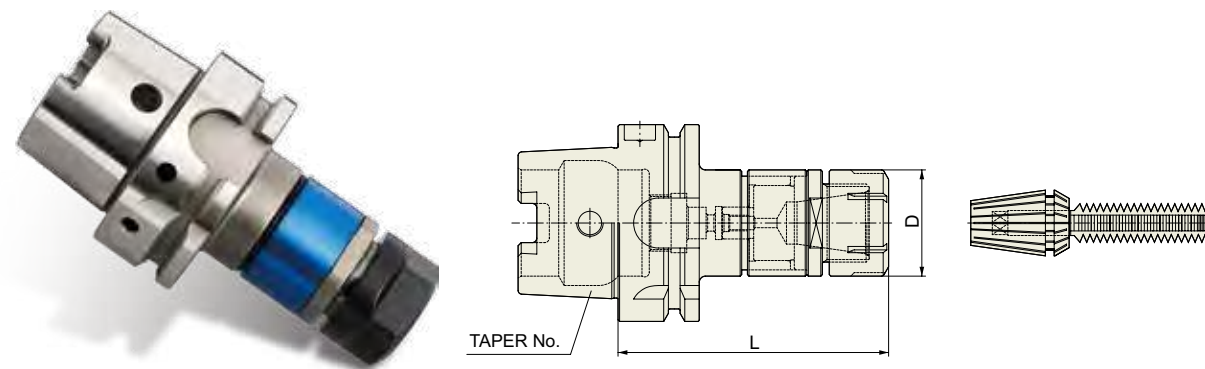
WIG SYNCHRO TAPPING CHUCK

SYTER

SYNCHRO TAPPING CHUCK (ER TYPE)

**DIN 69893/
ISO 12164-1-HSK FORM A**

同步攻丝刀柄 (ER型)



ER collet refer to page 103-107 / Tap ER collet refer to page 108-109
ER筒夹, 参阅第103~107页 / 丝锥ER筒夹, 请参阅第108~109页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	TAP SIZE	NUT 螺母	D	L	WEIGHT 重量(Kg)
63A	HSK63A-SYTER16-90	P2773801	M3-M16	ER20	34	90	0.95
	HSK63A-SYTER20-94	P2773802	M3-M20	ER25	42	94	0.95
	HSK63A-SYTER27-105	P2773803	M4-M27	ER32	50	105	1.34

- Feature :
- To compensate for synchronization errors to extend tap life and to improve thread quality
 - To compensate for pitch tolerances of taps
 - For machine with synchronized spindle

- 特征:
- 延长丝锥寿命, 为了攻丝品质改善 补偿同步误差
 - 保障丝锥的螺距公差
 - 适用于同步攻丝的设备

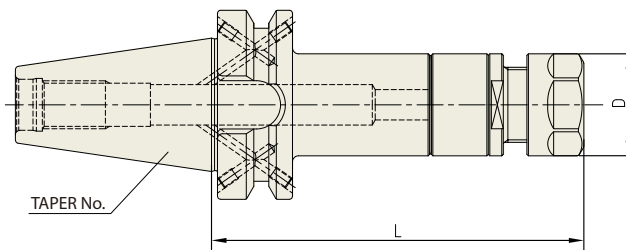
WIG SYNCHRO TAPPING CHUCK

SYTER

SYNCHRO TAPPING CHUCK (ER TYPE)

同步攻丝刀柄 (ER型)

JIS B6339/
MAS 403-BT



ER collet refer to page 103-107 / Tap ER collet refer to page 108-109
ER筒夹, 参阅第103~107页 / 丝锥ER筒夹, 请参阅第108~109页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	TAP SIZE	NUT 螺母	D	L	WEIGHT 重量(Kg)
40	BT40AD/B-SYTER12-79	P2776301	M2-M8	ER16	28	79	1.14
	BT40AD/B-SYTER16-85	P2776302	M3-M10	ER20	34	85	1.17
	BT40AD/B-SYTER20-90	P2776303	M3-M14	ER25	42	90	1.17
	BT40AD/B-SYTER27-100	P2776304	M4-M18	ER32	50	100	1.45
	BT40AD/B-SYTER33-125	P2776305	M8-M24	ER40	63	125	2.40
50	BT50AD/B-SYTER12-100	P2776306	M2-M8	ER16	28	100	3.79
	BT50AD/B-SYTER16-100	P2776307	M3-M10	ER20	34	100	3.79
	BT50AD/B-SYTER20-100	P2776308	M3-M14	ER25	42	100	3.75
	BT50AD/B-SYTER27-110	P2776309	M4-M18	ER32	50	110	3.99
	BT50AD/B-SYTER33-125	P2776310	M8-M24	ER40	63	125	4.75

- Feature :
- To compensate for synchronization errors to extend tap life and to improve thread quality
 - To compensate for pitch tolerances of taps
 - For machine with synchronized spindle

- 特征:
- 延长丝锥寿命, 为了攻丝品质改善 补偿同步误差
 - 保障丝锥的螺距公差
 - 适用于同步攻丝的设备

►CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

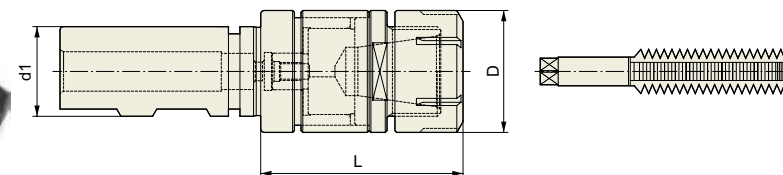
WIG SYNCHRO TAPPING CHUCK

SYTER

SYNCHRO TAPPING CHUCK (ER TYPE)

同步攻丝刀柄 (ER型)

STRAIGHT-K



ER collet refer to page 103-107 / Tap ER collet refer to page 108-109
ER筒夹, 参阅第103~107页 / 丝锥ER筒夹, 请参阅第108~109页

Unit (单位) : mm

MODEL No. 型号	EDP No.	TAP SIZE	NUT / COLLET 螺母 / 筒夹	D	L	d1	WEIGHT 重量(Kg)
K20-SYTER16	P2773901	M3-M16	ER20	34	58	20	0.33
K25-SYTER16	P2773902	M3-M16	ER20	34	61	25	0.44
K25-SYTER27	P2773903	M4-M27	ER32	50	69	25	0.60

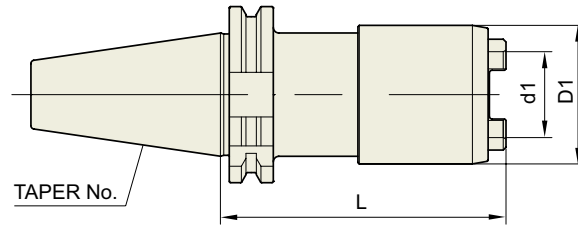
- Feature :
- To compensate for synchronization errors to extend tap life and to improve thread quality
 - To compensate for pitch tolerances of taps
 - For machine with synchronized spindle

- 特征:
- 延长丝锥寿命, 为了攻丝品质改善 补偿同步误差
 - 保障丝锥的螺距公差
 - 适用于同步攻丝的设备

SYNCHRO TAPPING CHUCK (QUICK CHANGE TYPE)

DIN69871-SK

同步攻丝刀柄 (快速更换型)



Tap Adapter, Refer to page 227-228
锥筒夹 请参阅第227页~228页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	TAP SIZE	MATCHING INSERTS	d1	D1	L	WEIGHT 重量(Kg)
30	SK30-SYTC12-65	P2774207	M3-M12	1	19	36	65	0.50
	SK30-SYTC20-89	P2774208	M6-M24	2	31	50	89	1.00
40	SK40-SYTC12-65	P2774201	M3-M12	1	19	36	65	1.10
	SK40-SYTC20-79	P2774202	M6-M24	2	31	50	79	1.50
	SK40-SYTC33-115	P2774203	M18-M38	3	48	74	115	3.30
50	SK50-SYTC12-65	P2774204	M3-M12	1	19	36	65	3.00
	SK50-SYTC20-79	P2774205	M6-M24	2	31	50	79	3.30
	SK50-SYTC33-115	P2774206	M18-M38	3	48	74	115	5.20

- Feature :
- To compensate for synchronization errors to extend tap life and to improve thread quality
 - To compensate for pitch tolerances of taps
 - For machine with synchronized spindle

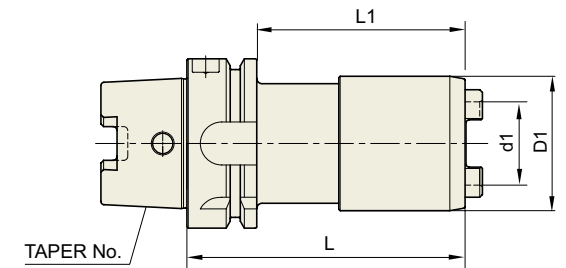
- 特征:
- 延长丝锥寿命, 为了攻丝品质改善 补偿同步误差
 - 保障丝锥的螺距公差
 - 适用于同步攻丝的设备

►CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

SYNCHRO TAPPING CHUCK (QUICK CHANGE TYPE)

**DIN 69893/
ISO 12164-1-HSK FORM A**

同步攻丝刀柄 (快速更换型)



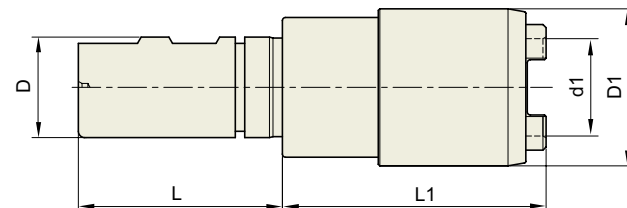
Tap Adapter, Refer to page 227-228
锥筒夹 请参阅第227页~228页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	TAP SIZE	MATCHING INSERTS	d1	D1	L	L1	WEIGHT 重量(Kg)
32A	HSK32A-SYTC12-75	P2774314	M3-M12	1	19	36	75	55	0.32
50A	HSK50A-SYTC12-72	P2774315	M3-M12	1	19	36	72	46	0.54
	HSK50A-SYTC20-91	P2774316	M6-M24	2	31	50	91	65	0.70
63A	HSK63A-SYTC12-75	P2774301	M3-M12	1	19	36	75	49	0.82
	HSK63A-SYTC12-80	P2774302	M3-M12	1	19	36	80	54	0.85
	HSK63A-SYTC12-120	P2774303	M3-M12	1	19	36	120	94	1.08
	HSK63A-SYTC12-152	P2774304	M3-M12	1	19	36	152	126	1.27
	HSK63A-SYTC12-180	P2774305	M3-M12	1	19	36	180	154	1.44
	HSK63A-SYTC20-89	P2774306	M6-M24	2	31	50	89	63	0.84
	HSK63A-SYTC33-121	P2774307	M18-M38	3	48	74	121	95	1.45
100A	HSK100A-SYTC12-75	P2774308	M3-M12	1	19	36	75	43	2.20
	HSK100A-SYTC12-160	P2774309	M3-M12	1	19	36	160	131	2.60
	HSK100A-SYTC20-94	P2774310	M6-M24	2	31	50	94	65	2.39
	HSK100A-SYTC20-160	P2774311	M6-M24	2	31	50	160	131	2.99
	HSK100A-SYTC33-127	P2774312	M18-M38	3	48	74	127	98	3.11
	HSK100A-SYTC33-160	P2774313	M18-M38	3	48	74	160	131	4.03

- Feature :
- To compensate for synchronization errors to extend tap life and to improve thread quality
 - To compensate for pitch tolerances of taps
 - For machine with synchronized spindle

- 特征:
- 延长丝锥寿命, 为了攻丝品质改善 补偿同步误差
 - 保障丝锥的螺距公差
 - 适用于同步攻丝的设备



 Tap Adapter, Refer to page 227-228
锥筒夹 请参阅第227页~228页

Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	TAP SIZE	MATCHING INSERTS	d1	D1	L	L1	D	WEIGHT 重量(Kg)
20	K20-SYTC12-46	P2774401	M3-M12	1	19	36	50	46	20	0.28
	K20-SYTC12-107.5	P2774406	M3-M12	1	19	36	50	107.5	20	0.65
25	K25-SYTC12-46	P2774402	M3-M12	1	19	36	56	46	25	0.37
	K25-SYTC20-74	P2774403	M6-M24	2	31	50	56	74	25	0.69
	K25-SYTC33-107.5	P2774404	M18-M38	3	48	74	56	107.5	25	1.32
32	K32-SYTC12-74	P2774405	M3-M12	1	31	50	60	74	32	0.71

►Feature:

- To compensate for synchronization errors to extend tap life and to improve thread quality
- To compensate for pitch tolerances of taps
- For machine with synchronized spindle

特征:

- 延长丝锥寿命, 为了攻丝品质改善 补偿同步误差
- 保障丝锥的螺距公差
- 适用于同步攻丝的设备

ONE STEP TAPPING CHUCK

一步式攻丝刀柄



DIN 69871-SK

DIN 69893/ISO 12164-1-HSK

STRAIGHT-KW

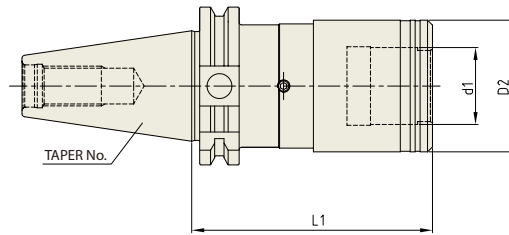
JIS B6339/MAS 403-BT

WIG ONE STEP TAPPING CHUCK

OTC

ONE STEP TAPPING CHUCK
一步式攻丝刀柄

DIN69871-SK

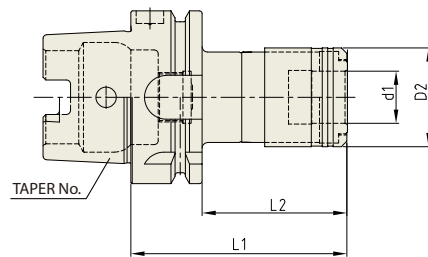


Tap Adapter, Refer to page 227-228
锥筒夹 请参阅第227页~228页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	WEIGHT 重量(Kg)
40	SK40-OTC-M3 ~ M12	P2802351	19	36	59	1.10
	SK40-OTC-M6 ~ M20	P2802352	31	53	97	1.50
	SK40-OTC-M24 ~ M33	P2802353	48	78	149	3.30
50	SK50-OTC-M3 ~ M12	P2802354	19	36	59	3.00
	SK50-OTC-M6 ~ M20	P2802355	31	53	83	3.30
	SK50-OTC-M24 ~ M33	P2802356	48	78	138	5.20

**DIN 69893/
ISO 12164-1-HSK**



Tap Adapter, Refer to page 227-228
锥筒夹 请参阅第227页~228页

Unit (单位) : mm

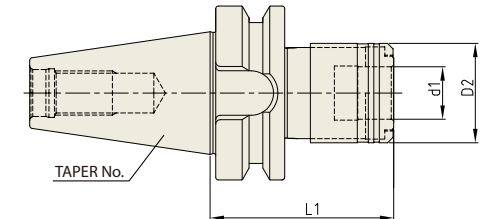
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L1	L2	WEIGHT 重量(Kg)
63A	HSK63A-OTC-M3 ~ M12	P2802401	19	36	77	51	-
	HSK63A-OTC-M8 ~ M20	P2802402	31	53	110	84	-
	HSK63A-OTC-M14 ~ M36	P2802403	48	78	155	129	-
100A	HSK100A-OTC-M3 ~ M12	P2802404	19	36	85.5	56.5	-
	HSK100A-OTC-M6 ~ M20	P2802405	31	53	119.5	90.5	-
	HSK100A-OTC-M14 ~ M36	P2802406	48	78	161	132	-

WIG ONE STEP TAPPING CHUCK

OTC

ONE STEP TAPPING CHUCK
一步式攻丝刀柄

JIS B6339/
MAS 403-BT

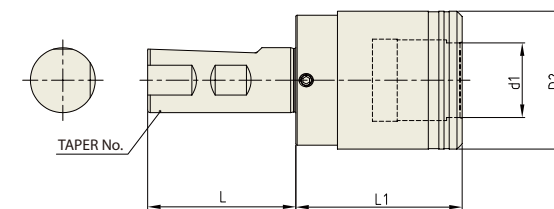


Tap Adapter, Refer to page 227-228
锥筒夹 请参阅第227页~228页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L	WEIGHT 重量(Kg)
40	BT40-OTC-M3 ~ M12	P2802451	19	36	66.5	1.10
	BT40-OTC-M6 ~ M20	P2802452	31	53	93.5	1.50
	BT40-OTC-M24 ~ M33	P2802453	48	78	162.5	3.30
50	BT50-OTC-M3 ~ M12	P2802454	19	36	85	3.00
	BT50-OTC-M6 ~ M20	P2802455	31	53	101.5	3.30
	BT50-OTC-M24 ~ M33	P2802456	48	78	141	5.20

STRAIGHT-KW



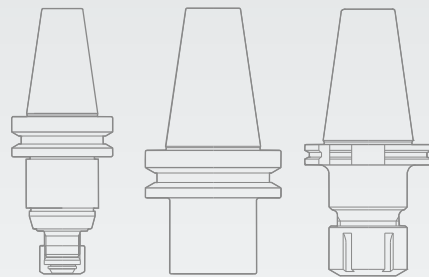
Tap Adapter, Refer to page 227-228
锥筒夹 请参阅第227页~228页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D2	L1	L2	WEIGHT 重量(Kg)
20	KW20-OTC-M3 ~ M12	P2802457	19	36	51	40	0.80
25	KW25-OTC-M3 ~ M12	P2802458	19	36	57	40	3.00
	KW25-OTC M6 ~ M20	P2802459	31	53	57	64	3.30
32	KW32-OTC-M3 ~ M12	P2802460	19	36	60	39	3.00
	KW32-OTC-M8 ~ M20	P2802461	31	53	60.5	63	3.30
	KW32-OTC-M14 ~ M36	P2802462	48	78	61	124	-



Global Cutting Tool Leader **YG-1**



TOOLING SYSTEM

YG-1 TOOLING SYSTEM

TAPPING ER CHUCK

丝锥ER刀柄



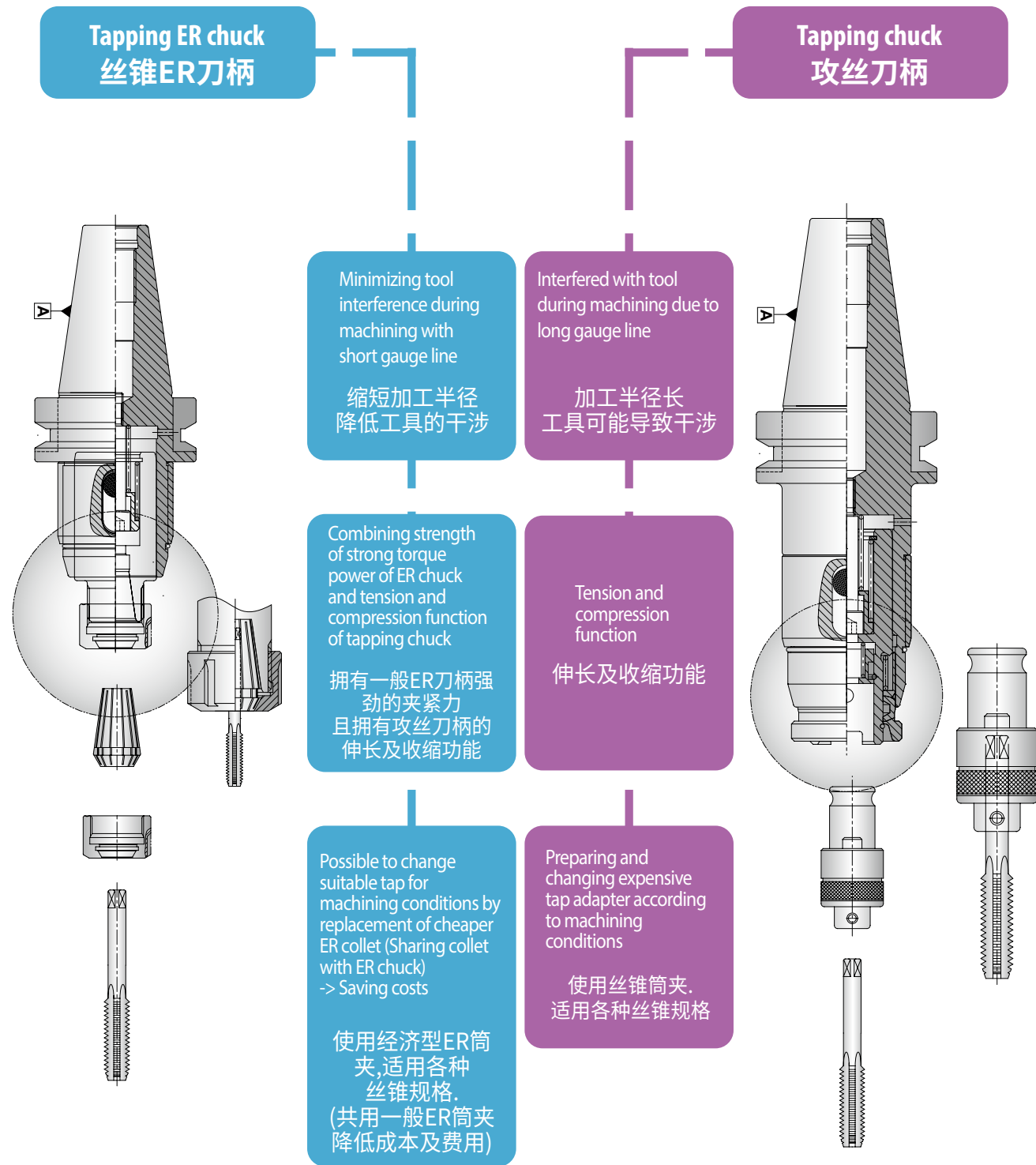
DIN 69871-SK

DIN 69893/ISO 12164-1-HSK

CBT (BT DUAL CONTACT)

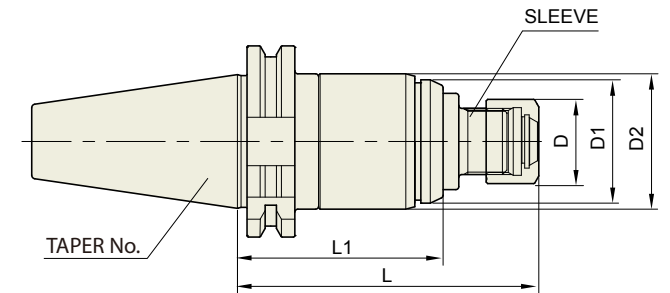
JIS B6339/MAS 403-BT

TAPPING ER CHUCK



TAPPING ER CHUCK
丝锥ER刀柄

DIN 69871-SK



ER collet refer to page 103-107 / Tap ER collet refer to page 108-109
ER筒夹, 参阅第103~107页 / 丝锥ER筒夹, 请参阅第108~109页

Unit (单位) : mm

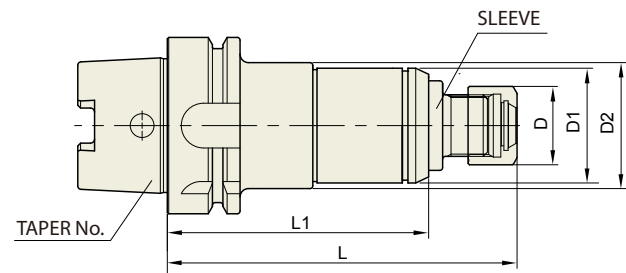
TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	D1	D2	L	L1	NUT 螺母	WEIGHT 重量(Kg)
40	SK40-TER16-100	P2774001	28	41	45	100	68.4	ER16	1.65
	SK40-TER16-150	P2774002	28	41	45	150	118.4	ER16	1.85
	SK40-TER32-130	P2774003	50	58	63	130	92	ER32	2.10
50	SK40-TER32-150	P2774004	50	58	63	150	112	ER32	2.30
	SK50-TER16-115	P2774005	28	41	45	115	79.4	ER16	4.30
	SK50-TER16-150	P2774006	28	41	45	150	114.4	ER16	4.50
	SK50-TER32-120	P2774007	50	58	63	120	83	ER32	4.65
	SK50-TER32-150	P2774008	50	58	63	150	113	ER32	4.85

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

- HYDRAULIC CHUCK
- SHRINK FIT HOLDER
- ER COLLET CHUCK
- END MILL HOLDER & SIDE LOCK ARBOR
- SHELL MILL ARBOR
- POWER MILLING CHUCK
- MORSE TAPER ARBOR
- SK SLIM CHUCK
- SYNCHRO TAPPING CHUCK
- ONE STEP TAPPING CHUCK
- TAPPING ER CHUCK
- TAPPING CHUCK
- FACE MILL ARBOR
- COPY MILL ARBOR & INDEXABLE DRILL HOLDER
- NC DRILL CHUCK & OTHER TOOL HOLDERS
- BORING SYSTEM
- ACCESSORY & OTHERS

TAPPING ER CHUCK
丝锥ER刀柄

DIN 69893/
ISO 12164-1-HSK FORM A



DIN 69893-HSK A

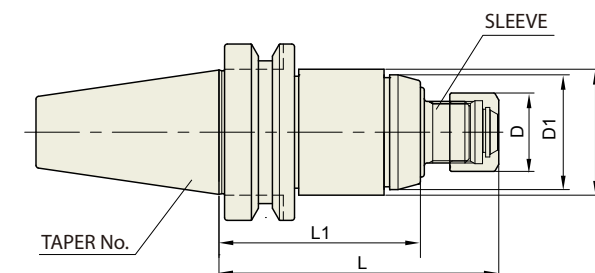
ER collet refer to page 103-107 / Tap ER collet refer to page 108-109
ER筒夹, 参阅第103~107页 / 丝锥ER筒夹, 请参阅第108~109页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	D1	D2	L	L1	NUT 螺母	WEIGHT 重量(Kg)
50A	HSK50A-TER16-125	P2774107	28	41	45	125	93.4	ER16	1.20
	HSK50A-TER16-150	P2774108	28	41	45	150	118.4	ER16	1.30
63A	HSK63A-TER16-125	P2774101	28	41	45	125	93.4	ER16	1.70
	HSK63A-TER16-150	P2774102	28	41	45	150	118.4	ER16	1.85
	HSK63A-TER32-150	P2774103	50	58	63	150	112	ER32	2.10
	HSK63A-TER32-180	P2774109	50	58	63	180	142	ER32	2.30
100A	HSK100A-TER16-130	P2774104	28	41	45	130	98.4	ER16	4.00
	HSK100A-TER16-150	P2774105	28	41	45	150	118.4	ER16	4.20
	HSK100A-TER32-150	P2774106	50	58	63	150	112	ER32	4.40
	HSK100A-TER32-180	P2774110	50	58	63	180	142	ER32	4.60

TAPPING ER CHUCK
丝锥ER刀柄

CBT
(BT DUAL CONTACT)



CBT AT3 A

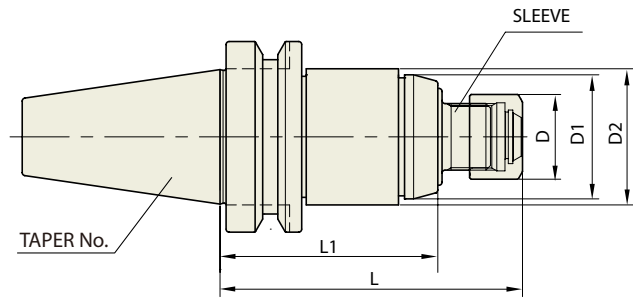
ER collet refer to page 103-107 / Tap ER collet refer to page 108-109
ER筒夹, 参阅第103~107页 / 丝锥ER筒夹, 请参阅第108~109页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	D1	D2	L	L1	NUT 螺母	WEIGHT 重量(Kg)
40	CBT40-TER16-100	P2774151	28	41	45	100	68.4	ER16	1.45
	CBT40-TER16-150	P2774152	28	41	45	150	118.4	ER16	2.00
	CBT40-TER32-110	P2774153	50	58	63	110	72	ER32	2.20
	CBT40-TER32-150	P2774154	50	58	63	150	112	ER32	2.70
50	CBT50-TER16-115	P2774155	28	41	45	115	79.4	ER16	3.95
	CBT50-TER16-150	P2774156	28	41	45	150	114.4	ER16	4.35
	CBT50-TER32-120	P2774157	50	58	63	120	83	ER32	4.70
	CBT50-TER32-150	P2774158	50	58	63	150	113	ER32	5.20

TAPPING ER CHUCK
丝锥ER刀柄

JIS B6339/
MAS 403-BT



ER collet refer to page 103-107 / Tap ER collet refer to page 108-109
ER筒夹, 参阅第103~107页 / 丝锥ER筒夹, 请参阅第108~109页

Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	D1	D2	L	L1	NUT 螺母	WEIGHT 重量(Kg)
40	BT40-TER16-100	P2774159	28	41	45	100	68.4	ER16	1.45
	BT40-TER16-150	P2774160	28	41	45	150	118.4	ER16	2.00
	BT40-TER32-110	P2774161	50	58	63	110	72	ER32	2.20
	BT40-TER32-150	P2774162	50	58	63	150	112	ER32	2.70
50	BT50-TER16-115	P2774163	28	41	45	115	79.4	ER16	3.95
	BT50-TER16-150	P2774164	28	41	45	150	114.4	ER16	4.35
	BT50-TER32-120	P2774165	50	58	63	120	83	ER32	4.70
	BT50-TER32-150	P2774166	50	58	63	150	113	ER32	5.20

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

YG-1 TOOLING SYSTEM

TAPPING CHUCK

攻丝刀柄



DIN 69871-SK

DIN 69893/ISO 12164-1-HSK

JIS B6339/MAS 403-BT

STRAIGHT-K

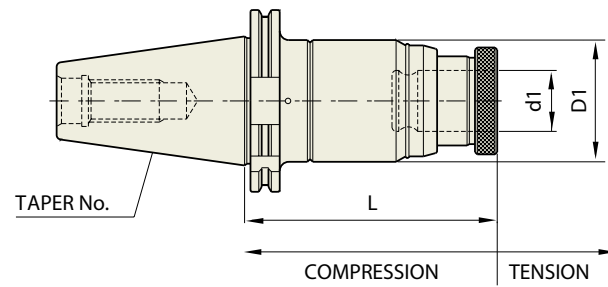
DIN 228-MTA

ACCESSORY

TAP ADAPTER

TAPPING CHUCK
攻丝刀柄

DIN 69871-SK



Tap Adapter, Refer to page 227-228
锥筒夹 请参阅第227页~228页

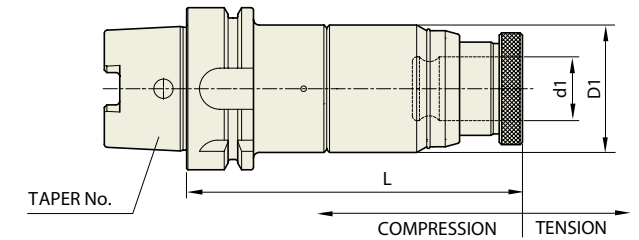
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	TAP SIZE	LENGTH COMPENSATION		d1	D1	L	WEIGHT 重量(Kg)
				Comp.	Ten.				
40	SK40-TC12-90	P2520001	M3-M12	5	15	19	45	90	1.30
	SK40-TC12-130	P2520006	M3-M12	5	15	19	45	130	1.80
	SK40-TC24-120	P2520002	M6-M24	5	20	31	63	120	2.50
	SK40-TC24-142	P2520007	M6-M24	5	20	31	63	142	2.80
50	SK50-TC12-130	P2520003	M3-M12	5	15	19	45	130	4.30
	SK50-TC12-175	P2520008	M3-M12	5	15	19	45	175	5.50
	SK50-TC24-142	P2520004	M6-M24	5	20	31	63	142	5.30
	SK50-TC24-187	P2520009	M6-M24	5	20	31	63	187	7.80
	SK50-TC38-175	P2520005	M18-M38	10	25	48	98	175	7.50

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

TAPPING CHUCK
攻丝刀柄

DIN 69893/
ISO 12164-1-HSK FORM A



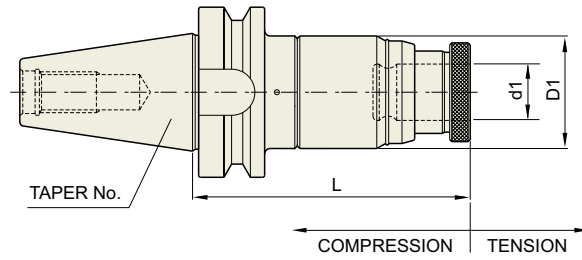
Tap Adapter, Refer to page 227-228
锥筒夹 请参阅第227页~228页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	TAP SIZE	LENGTH COMPENSATION		d1	D1	L	WEIGHT 重量(Kg)
				Comp.	Ten.				
50A	HSK50A-TC12-120	P2774506	M3-M12	5	15	19	45	120	0.80
63A	HSK63A-TC12-120	P2774501	M3-M12	5	15	19	45	120	1.00
	HSK63A-TC12-150	P2774507	M3-M12	5	15	19	45	150	1.70
	HSK63A-TC24-142	P2774502	M6-M24	5	20	31	63	142	2.40
	HSK63A-TC24-172	P2774508	M6-M24	5	20	31	63	172	2.70
100A	HSK100A-TC12-130	P2774503	M3-M12	5	15	19	45	130	4.30
	HSK100A-TC12-175	P2774509	M3-M12	5	15	19	45	175	4.80
	HSK100A-TC12-220	P2774510	M3-M12	5	15	19	45	220	5.30
	HSK100A-TC24-142	P2774504	M6-M24	5	20	31	63	142	5.20
	HSK100A-TC24-187	P2774511	M6-M24	5	20	31	63	187	6.60
	HSK100A-TC38-200	P2774505	M18-M38	10	25	48	98	200	8.00

TAPPING CHUCK
攻丝刀柄

JIS B6339/
MAS 403-BT



Tap Adapter, Refer to page 227-228
锥筒夹 请参阅第227页~228页

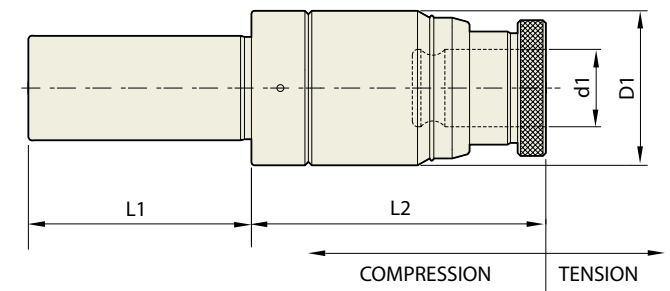
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	TAP SIZE	LENGTH COMPENSATION		d1	D1	L	WEIGHT 重量(Kg)
				Comp.	Ten.				
30	BT30-TC12-105	P2778401	M3-M12	5	15	19	45	105	1.00
	BT40-TC12-90	P2540011	M3-M12	5	15	19	45	95	1.50
40	BT40-TC12-130	P2778403	M3-M12	5	15	19	45	130	1.60
	BT40-TC24-100	P2540002	M6-M24	5	20	31	63	100	2.10
	BT40-TC24-142	P2778405	M6-M24	5	20	31	63	142	2.90
	BT50-TC12-130	P2540003	M3-M12	5	15	19	45	130	4.20
50	BT50-TC12-175	P2778407	M3-M12	5	15	19	45	175	4.80
	BT50-TC12-220	P2778408	M3-M12	5	15	19	45	220	5.10
	BT50-TC24-142	P2540004	M6-M24	5	20	31	63	142	5.80
	BT50-TC24-187	P2778410	M6-M24	5	20	31	63	187	6.00
	BT50-TC38-175	P2540005	M18-M38	10	25	48	98	175	8.30

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

TAPPING CHUCK
攻丝刀柄

STRAIGHT-K



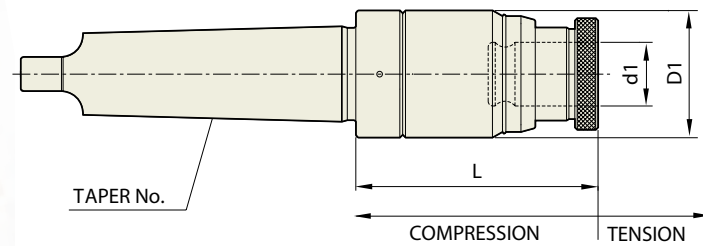
Tap Adapter, Refer to page 227-228
锥筒夹 请参阅第227页~228页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	TAP SIZE	LENGTH COMPENSATION		d1	D1	L1	L2	WEIGHT 重量(Kg)
				Comp.	Ten.					
32	K32-TC12-100	P2774551	M3-M12	5	15	19	45	60	100	0.90
	K32-TC24-120	P2774552	M6-M24	5	20	31	63	60	120	1.40
42	K42-TC12-100	P2774553	M3-M12	5	15	19	45	70	100	1.10
	K42-TC24-120	P2774554	M6-M24	5	20	31	63	70	120	1.60

TAPPING CHUCK
攻丝刀柄

DIN 228-MTA



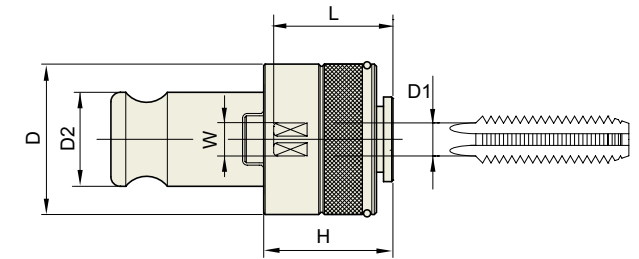
Tap Adapter, Refer to page 227-228
锥筒夹 请参阅第227页~228页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	TAP SIZE	LENGTH COMPENSATION		d1	D1	L	WEIGHT 重量(Kg)
				Comp.	Ten.				
3	MTA3-TC12-90	P2774555	M3-M12	5	15	19	45	90	1.00
	MTA3-TC24-115	P2774556	M6-M24	5	20	31	63	115	2.00
4	MTA4-TC12-105	P2774557	M3-M12	5	15	19	45	105	1.20
	MTA4-TC24-115	P2774558	M6-M24	5	20	31	63	115	2.20
5	MTA5-TC12-145	P2774559	M3-M12	5	15	19	45	145	1.50
	MTA5-TC24-175	P2774560	M6-M24	5	20	31	63	175	2.60

TAP ADAPTER (JIS)
丝锥筒夹(JIS)

Below standard
Tap Adapter conforms to **JIS**



Unit (单位) : mm

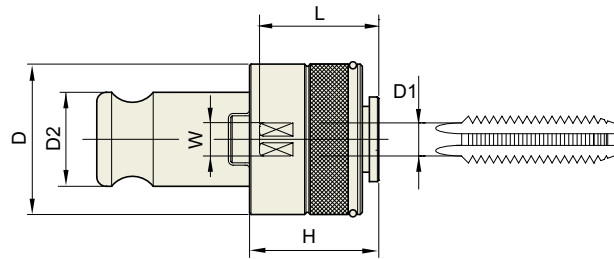
TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	D1 (Ø)	D2	H	W (口)	L	WEIGHT 重量(Kg)
TCS12	TCS12-M3	P2774651	32	4	19	25	3.2	24	0.18
	TCS12-M4	P2774652	32	5	19	25	4.	24	0.18
	TCS12-M5	P2774653	32	5.5	19	25	4.5	24	0.18
	TCS12-M6, U1/4	P2774654	32	6	19	25	4.5	24	0.18
	TCS12-M8	P2774655	32	6.2	19	25	5	25	0.18
	TCS12-M10, U3/8	P2774656	32	7	19	25	5.5	25	0.18
TCS24	TCS12-M12	P2774657	32	8.5	19	25	6.5	26	0.18
	TCS24-M6	P2774658	52	6	31	33	4.5	38	0.60
	TCS24-M8	P2774659	52	6.2	31	33	5	38	0.60
	TCS24-M10	P2774660	52	7	31	33	5.5	38	0.60
	TCS24-M12	P2774661	52	8.5	31	33	6.5	39	0.60
	TCS24-M14, U3/4	P2774662	52	10.5	31	33	8	41	0.60
	TCS24-M16	P2774663	52	12.5	31	33	10	43	0.60
	TCS24-M18, P3/8	P2774664	52	14	31	33	11	43	0.60
	TCS24-M20	P2774665	52	15	31	33	12	43.5	0.60
	TCS24-M22, U7/8	P2774666	52	17	31	33	13	46	0.60
TCS38	TCS24-M24, PF5/8	P2774667	52	19	31	33	15	46	0.60
	TCS38-M18	P2774668	72	14	48	45	11	43	1.80
	TCS38-M20	P2774669	72	15	48	45	12	43.5	1.80
	TCS38-M22	P2774670	72	17	48	45	13	45	1.80
	TCS38-M24	P2774671	72	19	48	45	15	45	1.80
	TCS38-M27, U1	P2774672	72	20	48	45	15	62	1.80
	TCS38-M30, PT3/4	P2774673	72	23	48	45	17	64	1.80
	TCS38-M33	P2774674	72	25	48	45	19	66	1.80
	TCS38-M36	P2774675	72	28	48	45	21	68	1.80
	TCS38-M38	P2774676	72	28	48	45	21	68	1.80

► Feature : Quick Change Type with Built-in Torque Safety Device
特点：具有内置扭矩安全装置的快速更换型

► For Pipe Type Tap, please discuss separately.
PIPE TAPE TAP用 需要另行 协商

TAP ADAPTER (DIN)
丝锥筒夹(DIN)

Below standard
Tap Adapter conforms to **DIN**



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	D1 (Ø)	D2	H	W (口)	L	DIN No.	WEIGHT 重量(Kg)
TSC12D	TCS12D-2821	P2774601	32	2.8	19	25	2.1	24	371	0.20
	TCS12D-3527	P2774602	32	3.5	19	25	2.7	24	371	0.20
	TCS12D-4534	P2774603	32	4.5	19	25	3.4	24	371	0.20
	TCS12D-43	P2774604	32	4	19	25	3	24	371	0.20
	TCS12D-5543	P2774605	32	5.5	19	25	4.3	25	376	0.20
	TCS12D-649	P2774606	32	6	19	25	4.9	25	371	0.20
	TCS12D-755	P2774607	32	7	19	25	5.5	25	376	0.20
	TCS12D-862	P2774608	32	8	19	25	6.2	25	371	0.20
	TCS12D-97	P2774609	32	9	19	25	7	26	376	0.20
	TCS12D-108	P2774610	32	10	19	25	8	26	371	0.20
TCS24D	TCS24D-649	P2774612	52	6	31	33	4.9	38	371	0.60
	TCS24D-755	P2774613	52	7	31	33	5.5	38	376	0.60
	TCS24D-862	P2774614	52	8	31	33	6.2	38	371	0.60
	TCS24D-97	P2774615	52	9	31	33	7	38	376	0.60
	TCS24D-108	P2774616	52	10	31	33	8	39	371	0.60
	TCS24D-119	P2774617	52	11	31	33	9	41	376	0.60
	TCS24D-129	P2774618	52	12	31	33	9	43	376	0.60
	TCS24D-1411	P2774619	52	14	31	33	11	43	376	0.60
	TCS24D-1612	P2774620	52	16	31	33	12	46	376	0.60
	TCS24D-18145	P2774621	52	18	31	33	14.5	46	376	0.60
TCS38D	TCS38D-119	P2774622	72	11	48	45	9	43	376	1.80
	TCS38D-129	P2774623	72	12	48	45	9	43	376	1.80
	TCS38D-1411	P2774624	72	14	48	45	11	45	376	1.80
	TCS38D-1612	P2774625	72	16	48	45	12	45	376	1.80
	TCS38D-18145	P2774626	72	18	48	45	14.5	62	376	1.80
	TCS38D-2016	P2774627	72	20	48	45	16	64	376	1.80
	TCS38D-2218	P2774628	72	22	48	45	18	66	376	1.80
	TCS38D-2520	P2774629	72	25	48	45	20	68	376	1.80
TCS38D-2822	P2774630	72	28	48	45	22	68	376	1.80	

► Feature : Quick Change Type with Built-in Torque Safety Device
特点: 具有内置扭矩安全装置的快速更换型

► For Pipe Type Tap, please discuss separately.
PIPE TAPE TAP用 需要另行 协商

YG-1 TOOLING SYSTEM

**FACE MILL
ARBOR**

平面铣刀刀柄



CBT (BT DUAL CONTACT)

FMA

JIS B6339/MAS 403-BT

FMA

DIN 69893/ISO 12164-1-HSK

FMA

ANSI B5.18-NT

FMA

DIN 228-MTA

CBT (BT DUAL CONTACT)

FMB / FMC

JIS B6339/MAS 403-BT

FMB / FMC

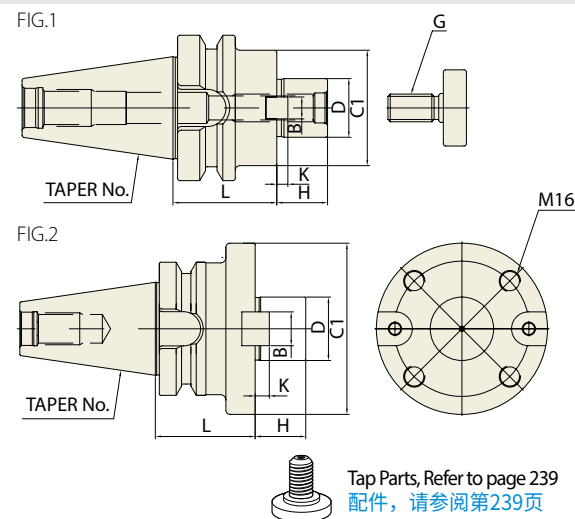
DIN 69893/ISO 12164-1-HSK

FMC

PARTS

FACE MILL ARBOR
平面铣刀刀柄

CBT
(BT DUAL CONTACT)



Tap Parts, Refer to page 239
配件, 请参阅第239页

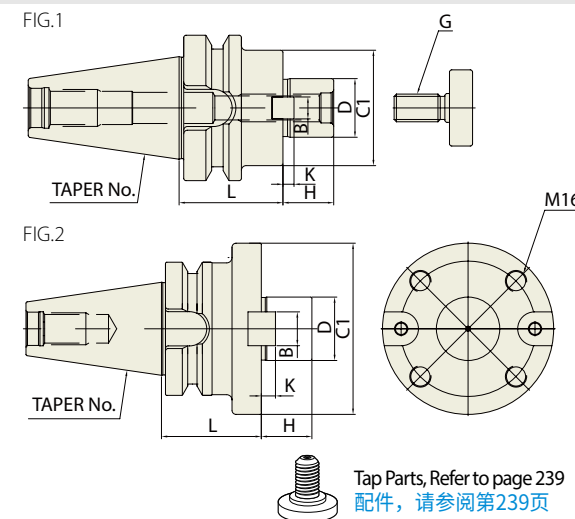
Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	C1	H	B	K	G	FIG.	WEIGHT 重量(Kg)
30	CBT30-FMA25.4-45	P2779201	25.4	45	50	22	9.5	5	M12	1	1.10
	CBT30-FMA31.75-45	P2779202	31.75	45	60	30	12.7	7	M16	1	1.20
40	CBT40-FMA25.4-45	P2779203	25.4	45	50	22	9.5	5	M12	1	1.50
	CBT40-FMA25.4-90	P2779204	25.4	90	50	22	9.5	5	M12	1	3.10
	CBT40-FMA31.75-45	P2779205	31.75	45	60	30	12.7	7	M16	1	1.90
	CBT40-FMA31.75-75	P2779206	31.75	75	60	30	12.7	7	M16	1	2.70
	CBT40-FMA38.1-60	P2779207	38.1	60	80	34	15.9	9	M20	1	2.90
	CBT40-FMA38.1-105	P2779213	38.1	105	80	34	15.9	9	M20	1	6.00
50	CBT50-FMA25.4-45	P2779208	25.4	45	50	22	9.5	5	M12	1	3.70
	CBT50-FMA25.4-90	P2779209	25.4	90	50	22	9.5	5	M12	1	4.60
	CBT50-FMA25.4-150	P2779210	25.4	150	50	22	9.5	5	M12	1	5.50
	CBT50-FMA31.75-45	P2779211	31.75	45	60	30	12.7	7	M16	1	4.50
	CBT50-FMA31.75-75	P2779212	31.75	75	60	30	12.7	7	M16	1	5.30
	CBT50-FMA31.75-105	P2779213	31.75	105	60	30	12.7	7	M16	1	5.80
	CBT50-FMA31.75-150	P2779214	31.75	150	60	30	12.7	7	M16	1	6.30
	CBT50-FMA38.1-45	P2779215	38.1	45	80	34	15.9	9	M20	1	4.30
	CBT50-FMA38.1-75	P2779216	38.1	75	80	34	15.9	9	M20	1	5.60
	CBT50-FMA38.1-105	P2779217	38.1	105	80	34	15.9	9	M20	1	6.00
	CBT50-FMA38.1-150	P2779218	38.1	150	80	34	15.9	9	M20	1	6.50
	CBT50-FMA50.8-45	P2779219	50.8	45	100	36	19.05	10	M24	1	4.90
CBT50-FMA50.8-75	P2779220	50.8	75	100	36	19.05	10	M24	1	6.80	
CBT50-FMA47.625-75	P2779221	47.625	75	128.57	38	25.4	12.5	-	2	7.70	

▶ Without "Coolant Through".
没有“冷却剂”

FACE MILL ARBOR
平面铣刀刀柄

JIS B6339/
MAS 403-BT



Tap Parts, Refer to page 239
配件, 请参阅第239页

Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	C1	H	B	K	G	FIG.	WEIGHT 重量(Kg)
30	BT30-FMA25.4-45	P2779222	25.4	45	50	22	9.5	5	M12	1	1.10
	BT30-FMA31.75-45	P2779223	31.75	45	60	30	12.7	7	M16	1	1.20
40	BT40-FMA25.4-45	P2779224	25.4	45	50	22	9.5	5	M12	1	1.50
	BT40-FMA25.4-90	P2779225	25.4	90	50	22	9.5	5	M12	1	3.10
	BT40-FMA31.75-45	P2779226	31.75	45	60	30	12.7	7	M16	1	1.90
	BT40-FMA31.75-75	P2779227	31.75	75	60	30	12.7	7	M16	1	2.70
	BT40-FMA38.1-60	P2779228	38.1	60	80	34	15.9	9	M20	1	2.90
	BT40-FMA38.1-105	P2779234	38.1	105	80	34	15.9	9	M20	1	6.00
50	BT50-FMA25.4-45	P2779229	25.4	45	50	22	9.5	5	M12	1	3.70
	BT50-FMA25.4-90	P2779230	25.4	90	50	22	9.5	5	M12	1	4.60
	BT50-FMA25.4-150	P2779231	25.4	150	50	22	9.5	5	M12	1	5.50
	BT50-FMA31.75-45	P2779232	31.75	45	60	30	12.7	7	M16	1	4.50
	BT50-FMA31.75-75	P2779233	31.75	75	60	30	12.7	7	M16	1	5.30
	BT50-FMA31.75-105	P2779234	31.75	105	60	30	12.7	7	M16	1	5.80
	BT50-FMA31.75-150	P2779235	31.75	150	60	30	12.7	7	M16	1	6.30
	BT50-FMA38.1-45	P2779236	38.1	45	80	34	15.9	9	M20	1	4.30
	BT50-FMA38.1-75	P2779237	38.1	75	80	34	15.9	9	M20	1	5.60
	BT50-FMA38.1-105	P2779238	38.1	105	80	34	15.9	9	M20	1	6.00
	BT50-FMA38.1-150	P2779239	38.1	150	80	34	15.9	9	M20	1	6.50
	BT50-FMA50.8-45	P2779240	50.8	45	100	36	19.05	10	M24	1	4.90
BT50-FMA50.8-75	P2779241	50.8	75	100	36	19.05	10	M24	1	6.80	
BT50-FMA47.625-75	P2779242	47.625	75	128.57	38	25.4	12.5	-	2	7.70	

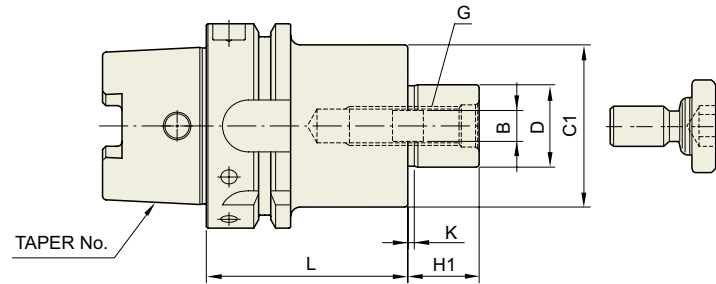
▶ Without "Coolant Through".
没有“冷却剂”

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

FACE MILL ARBOR

平面铣刀刀柄

DIN 69893/
ISO 12164-1-HSK FORM A



Tap Parts, Refer to page 239
配件, 请参阅第239页

Unit (单位) : mm

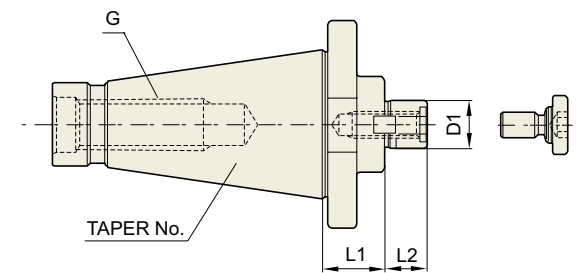
TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	C1	L	H1	B	K	G	WEIGHT 重量(Kg)
40A	HSK40A-FMA25.4-50	P2779243	25.4	50	50	22	9.5	5	M12	0.61
50A	HSK50A-FMA25.4-60	P2779244	25.4	50	60	22	9.5	5	M12	0.90
63A	HSK63A-FMA25.4-45	P2779245	25.4	50	45	22	9.5	5	M12	1.03
	HSK63A-FMA31.75-50	P2779246	31.75	60	50	30	12.7	7	M16	1.26
100A	HSK100A-FMA25.4-45	P2779247	25.4	50	45	22	9.5	5	M12	2.31
	HSK100A-FMA31.75-50	P2779248	31.75	60	50	30	12.7	7	M16	2.61
	HSK100A-FMA38.1-55	P2779249	38.1	80	55	34	15.9	9	M20	3.22
	HSK100A-FMA50.8-60	P2779250	50.8	100	60	36	19.05	10	M24	4.06

► Without "Coolant Through".
没有“冷却剂”

FACE MILL ARBOR

平面铣刀刀柄

ANSI B5.18-NT

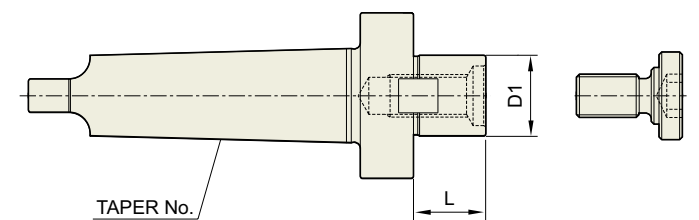


Tap Parts, Refer to page 239
配件, 请参阅第239页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CUTTER (Ø) 刀盘	D1	L1	L2	DRAW THREAD 拉伸螺纹	OLD MODEL No. 型号	WEIGHT 重量(Kg)
40	NT40-FMA25.4	P2779251	3"(75)	25.4	30	22	U5/8-11(M16x2)	NT40-3R	1.45
	NT40-FMA31.75	P2779252	4"(100)	31.75	30	30	U5/8-11(M16x2)	NT40-4R	1.75
	NT40-FMA38.1	P2779253	5"(125)	38.1	30	34	U5/8-11(M16x2)	NT40-5R	1.93
	NT40-FMA50.8	P2779254	6"(150)	50.8	30	36	U5/8-11(M16x2)	NT40-6R	2.55
50	NT50-FMA25.4	P2779255	3"(75)	25.4	30	22	U1-8(M24x3)	NT50-3R	3.30
	NT50-FMA31.75	P2779256	4"(100)	31.75	30	30	U1-8(M24x3)	NT50-4R	3.40
	NT50-FMA38.1	P2779257	5"(125)	38.1	30	34	U1-8(M24x3)	NT50-5R	3.60
	NT50-FMA50.8	P2779258	6"(150)	50.8	30	36	U1-8(M24x3)	NT50-6R	3.90
	NT50-FMA47.625	P2779259	8"(200)	47.625	45	38	U1-8(M24x3)	NT50-8R	4.90

DIN 228-MTA



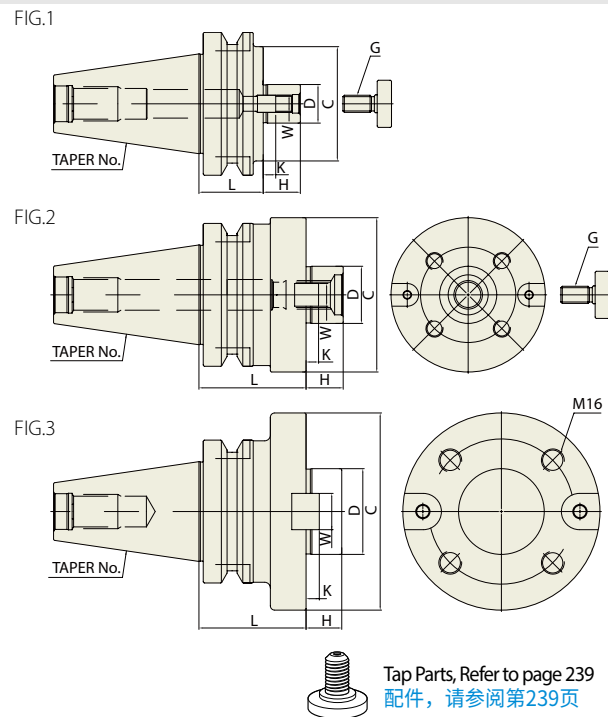
Tap Parts, Refer to page 239
配件, 请参阅第239页

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CUTTER (Ø) 刀盘	D1	L	WEIGHT 重量(Kg)
5	MTA5-FMA25.4	P2779260	3"(75)	25.4	22	1.60
	MTA5-FMA31.75	P2779261	4"(100)	31.75	30	1.90
	MTA5-FMA38.1	P2779262	5"(125)	38.1	34	2.20
6	MTA6-FMA25.4	P2779263	3"(75)	25.4	22	3.50
	MTA6-FMA31.75	P2779264	4"(100)	31.75	30	3.80
	MTA6-FMA38.1	P2779265	5"(125)	38.1	34	4.10
	MTA6-FMA50.8	P2779266	6"(150)	50.8	36	4.60
	MTA6-FMA47.625	P2779267	8"(200)	47.625	38	5.40

FACE MILL ARBOR
平面铣刀刀柄

CBT
(BT DUAL CONTACT)



Tap Parts, Refer to page 239
配件, 请参阅第239页

◆ METRIC TYPE

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	C	H	W	K	G	FIG.	WEIGHT 重量(Kg)
30	CBT30-FMB27-45	P2779316	27	45	80	26	12	6	M12	1	2.10
	CBT40-FMB27-60	P2779269	27	60	80	26	12	6	M12	1	2.50
40	CBT40-FMB27-90	P2779270	27	90	80	26	12	6	M12	1	4.70
	CBT40-FMB40-60	P2779271	40	60	85	26	16	8.5	M20	1	7.40
50	CBT50-FMB27-45	P2779272	27	45	80	26	12	6	M12	1	4.00
	CBT50-FMB27-90	P2779273	27	90	80	26	12	6	M12	1	5.80
	CBT50-FMB27-150	P2779274	27	150	80	26	12	6	M12	1	8.20
	CBT50-FMB40-45	P2779275	40	45	85	26	16	8.5	M20	1	4.70
	CBT50-FMB40-75	P2779276	40	75	85	26	16	8.5	M20	1	6.10
	CBT50-FMB40-105	P2779277	40	105	85	26	16	8.5	M20	1	8.10
	CBT50-FMB40F-75	P2779278	40	75	110	26	16	8.5	M20	2	6.60
	CBT50-FMB60-75	P2779279	60	75	140	25	25.4	12.5	-	3	7.90

◆ INCH TYPE

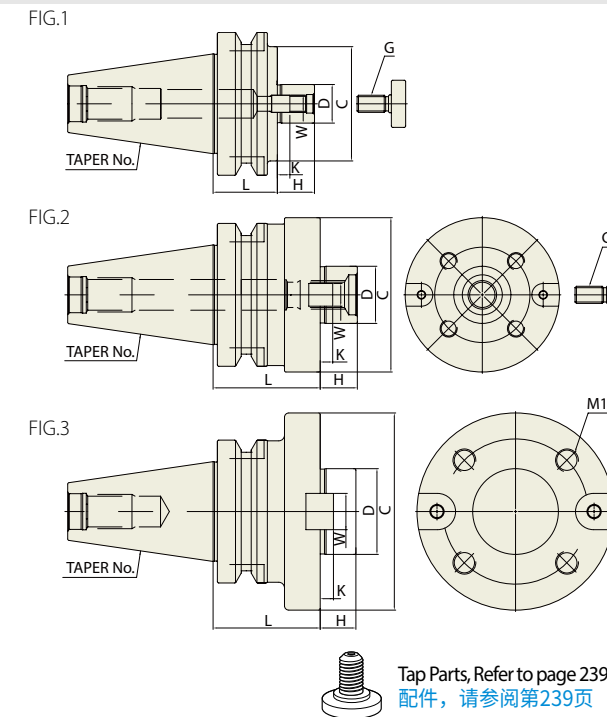
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	C	H	W	K	G	FIG.	WEIGHT 重量(Kg)
30	CBT30-FMB25.4-45	P2779314	25.4	45	80	26	9.5	5	M12	1	2.10
	CBT40-FMB25.4-60	P2779281	25.4	60	80	26	9.5	5	M12	1	2.50
40	CBT40-FMB25.4-90	P2779282	25.4	90	80	26	9.5	5	M12	1	4.70
	CBT40-FMB38.1-60	P2779283	38.1	60	85	26	15.9	9	M20	1	7.40
50	CBT50-FMB25.4-45	P2779284	25.4	45	80	26	9.5	5	M12	1	4.00
	CBT50-FMB25.4-90	P2779285	25.4	90	80	26	9.5	5	M12	1	5.80
	CBT50-FMB25.4-150	P2779286	25.4	150	80	26	9.5	5	M12	1	8.20
	CBT50-FMB38.1-45	P2779287	38.1	45	85	26	15.9	9	M20	1	4.70
	CBT50-FMB38.1-75	P2779288	38.1	75	85	26	15.9	9	M20	1	6.10
	CBT50-FMB38.1-105	P2779289	38.1	105	85	26	15.9	9	M20	1	8.70
	CBT50-FMB38.F-75	P2779290	38.1	75	110	26	15.9	9	M20	2	6.60

▶ Without "Coolant Through".
没有“冷却剂”

FACE MILL ARBOR
平面铣刀刀柄

**JIS B6339/
MAS 403-BT**



Tap Parts, Refer to page 239
配件, 请参阅第239页

◆ METRIC TYPE

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	C	H	W	K	G	FIG.	WEIGHT 重量(Kg)
30	BT30-FMB27-45	P2779291	27	45	80	26	12	6	M12	1	2.10
	BT40-FMB27-60	P2779292	27	60	80	26	12	6	M12	1	2.50
40	BT40-FMB27-90	P2779293	27	90	80	26	12	6	M12	1	4.70
	BT40-FMB40-60	P2779294	40	60	85	26	16	8.5	M20	1	7.40
50	BT50-FMB27-45	P2779295	27	45	80	26	12	6	M12	1	4.00
	BT50-FMB27-90	P2779296	27	90	80	26	12	6	M12	1	5.80
	BT50-FMB27-150	P2779297	27	150	80	26	12	6	M12	1	8.20
	BT50-FMB40-45	P2779298	40	45	85	26	16	8.5	M20	1	4.70
	BT50-FMB40-75	P2779299	40	75	85	26	16	8.5	M20	1	6.10
	BT50-FMB40-105	P2779300	40	105	85	26	16	8.5	M20	1	8.10
	BT50-FMB40F-75	P2779301	40	75	110	26	16	8.5	M20	2	6.60
	BT50-FMB60-75	P2779302	60	75	140	25	25.4	12.5	-	3	7.90

◆ INCH TYPE

Unit (单位) : mm

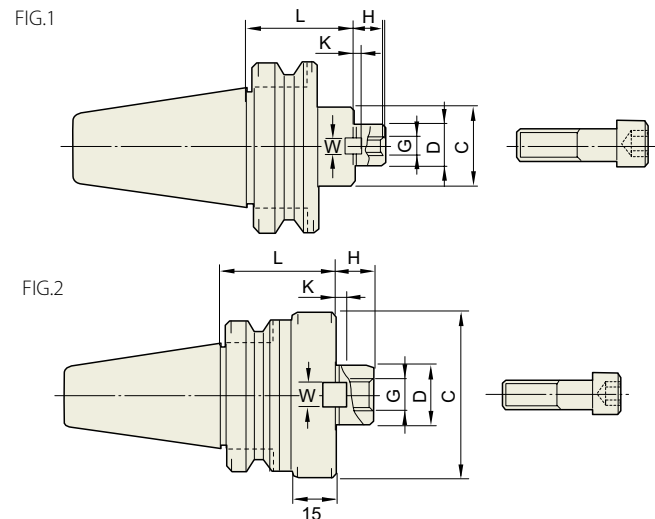
TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	C	H	W	K	G	FIG.	WEIGHT 重量(Kg)
30	BT30-FMB25.4-45	P2779315	25.4	45	80	26	9.5	5	M12	1	2.10
	BT40-FMB25.4-60	P2779304	25.4	60	80	26	9.5	5	M12	1	2.50
40	BT40-FMB25.4-90	P2779305	25.4	90	80	26	9.5	5	M12	1	4.70
	BT40-FMB38.1-60	P2779306	38.1	60	85	26	15.9	9	M20	1	7.40
50	BT50-FMB25.4-45	P2779307	25.4	45	80	26	9.5	5	M12	1	4.00
	BT50-FMB25.4-90	P2779308	25.4	90	80	26	9.5	5	M12	1	5.80
	BT50-FMB25.4-150	P2779309	25.4	150	80	26	9.5	5	M12	1	8.20
	BT50-FMB38.1-45	P2779310	38.1	45	85	26	15.9	9	M20	1	4.70
	BT50-FMB38.1-75	P2779311	38.1	75	85	26	15.9	9	M20	1	6.10
	BT50-FMB38.1-105	P2779312	38.1	105	85	26	15.9	9	M20	1	8.70
	BT50-FMB38.F-75	P2779313	38.1	75	110	26	15.9	9	M20	2	6.60

▶ Without "Coolant Through".
没有“冷却剂”

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

FACE MILL ARBOR
平面铣刀刀柄

CBT
(BT DUAL CONTACT)



Tap Parts, Refer to page 239
配件, 请参阅第239页

◆ METRIC TYPE

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	C	H	W	K	G	FIG.	WEIGHT 重量(Kg)
30	CBT30-FMC22-45	P2776131	22	45	45	18	10	5	M10	2	0.80
40	CBT40-FMC22-45	P2776132	22	45	45	18	10	5	M10	1	1.30
	CBT40-FMC27-60	P2776133	27	60	70	20	12	6	M12	2	1.50
50	CBT40-FMC32-60	P2776134	32	60	85	22	14	7	M16	2	2.30
	CBT50-FMC22-60	P2776135	22	60	45	18	10	5	M10	1	4.20
	CBT50-FMC22-105	P2776136	22	105	45	18	10	5	M10	1	4.70
	CBT50-FMC22-150	P2776137	22	150	45	18	10	5	M10	1	5.30
	CBT50-FMC27-45	P2776138	27	45	70	20	12	6	M12	1	4.10
	CBT50-FMC27-90	P2776139	27	90	70	20	12	6	M12	1	5.50
	CBT50-FMC27-150	P2776140	27	150	70	20	12	6	M12	1	7.30
	CBT50-FMC32-60	P2776141	32	60	85	22	14	7	M16	1	4.20
	CBT50-FMC32-105	P2776142	32	105	85	22	14	7	M16	1	5.50
	CBT50-FMC32-150	P2776143	32	150	85	22	14	7	M16	1	7.00

◆ INCH TYPE

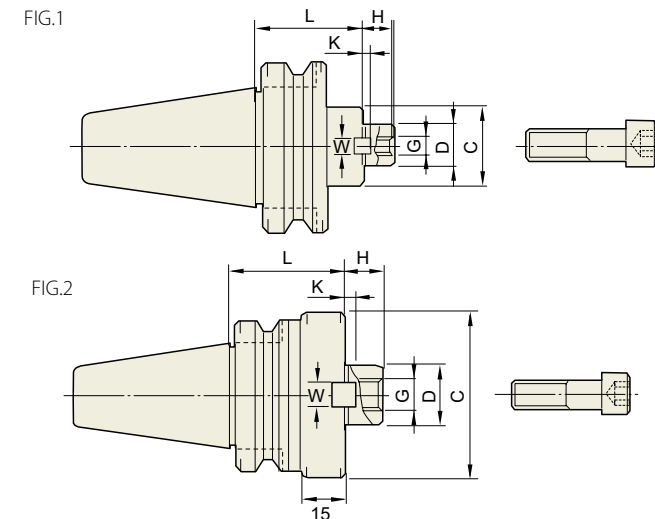
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	C	H	W	K	G	FIG.	WEIGHT 重量(Kg)
30	CBT30-FMC25.4-45	P2776144	25.4	45	70	20	9.5	6	M12	2	1.10
40	CBT40-FMC25.4-60	P2776145	25.4	60	70	20	9.5	6	M12	2	1.50
	CBT40-FMC25.4-90	P2776146	25.4	90	70	20	9.5	6	M12	2	2.20
	CBT40-FMC38.1-60	P2776147	38.1	60	85	22	15.9	7	M16	2	2.30
	CBT40-FMC38.1-75	P2776148	38.1	75	85	22	15.9	7	M16	2	2.60
50	CBT50-FMC25.4-45	P2776149	25.4	45	70	20	9.5	6	M12	1	4.10
	CBT50-FMC25.4-90	P2776150	25.4	90	70	20	9.5	6	M12	1	5.50
	CBT50-FMC25.4-150	P2776151	25.4	150	70	20	9.5	6	M12	1	7.30
	CBT50-FMC38.1-45	P2776152	38.1	45	85	22	15.9	7	M16	1	4.20
	CBT50-FMC38.1-75	P2776153	38.1	75	85	22	15.9	7	M16	1	5.50
	CBT50-FMC38.1-105	P2776154	38.1	105	85	22	15.9	7	M16	1	7.00

▶ Without "Coolant Through".
没有“冷却剂”

FACE MILL ARBOR
平面铣刀刀柄

JIS B6339/
MAS 403-BT



Tap Parts, Refer to page 239
配件, 请参阅第239页

◆ METRIC TYPE

Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	C	H	W	K	G	FIG.	WEIGHT 重量(Kg)
30	BT30-FMC22-45	P2776101	22	45	45	18	10	5	M10	2	0.80
40	BT40-FMC22-45	P2776102	22	45	45	18	10	5	M10	1	1.30
	BT40-FMC27-60	P2776103	27	60	70	20	12	6	M12	2	1.50
	BT40-FMC32-60	P2776104	32	60	85	22	14	7	M16	2	2.30
50	BT50-FMC22-60	P2776105	22	60	45	18	10	5	M10	1	4.20
	BT50-FMC22-105	P2776106	22	105	45	18	10	5	M10	1	4.70
	BT50-FMC22-150	P2776107	22	150	45	18	10	5	M10	1	5.30
	BT50-FMC27-45	P2776108	27	45	70	20	12	6	M12	1	4.10
	BT50-FMC27-90	P2776109	27	90	70	20	12	6	M12	1	5.50
	BT50-FMC27-150	P2776110	27	150	70	20	12	6	M12	1	7.30
	BT50-FMC32-60	P2776111	32	60	85	22	14	7	M16	1	4.20
	BT50-FMC32-105	P2776112	32	105	85	22	14	7	M16	1	5.50
	BT50-FMC32-150	P2776113	32	150	85	22	14	7	M16	1	7.00

◆ INCH TYPE

Unit (单位) : mm

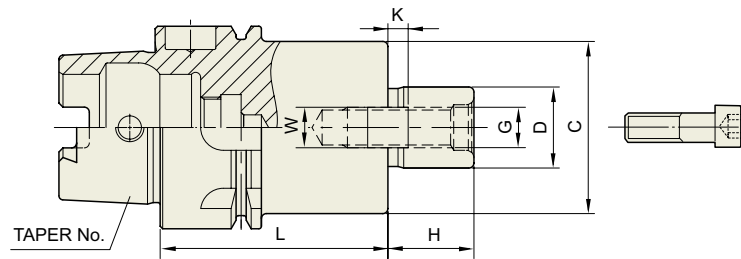
TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	C	H	W	K	G	FIG.	WEIGHT 重量(Kg)
30	BT30-FMC25.4-45	P2776114	25.4	45	70	20	9.5	6	M12	2	1.10
40	BT40-FMC25.4-60	P2776115	25.4	60	70	20	9.5	6	M12	2	1.50
	BT40-FMC25.4-90	P2776116	25.4	90	70	20	9.5	6	M12	2	2.20
	BT40-FMC38.1-60	P2776117	38.1	60	85	22	15.9	7	M16	2	2.30
	BT40-FMC38.1-75	P2776118	38.1	75	85	22	15.9	7	M16	2	2.60
	BT50-FMC25.4-45	P2776119	25.4	45	70	20	9.5	6	M12	1	4.10
50	BT50-FMC25.4-90	P2776120	25.4	90	70	20	9.5	6	M12	1	5.50
	BT50-FMC25.4-150	P2776121	25.4	150	70	20	9.5	6	M12	1	7.30
	BT50-FMC38.1-45	P2776122	38.1	45	85	22	15.9	7	M16	1	4.20
	BT50-FMC38.1-75	P2776123	38.1	75	85	22	15.9	7	M16	1	5.50
	BT50-FMC38.1-105	P2776124	38.1	105	85	22	15.9	7	M16	1	7.00

▶ Without "Coolant Through".
没有“冷却剂”

▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

FACE MILL ARBOR
平面铣刀刀柄

DIN 69893/
ISO 12164-1-HSK FORM A



Tap Parts, Refer to page 239
配件, 请参阅第239页

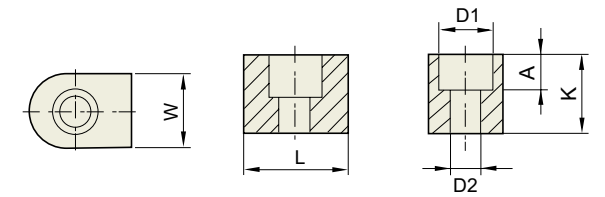
Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	C	L	H	W	K	G	WEIGHT 重量(Kg)
40A	HSK40A-FMC16-45	P2774707	16	34	45	17	8	4	M8	0.43
	HSK40A-FMC22-50	P2774708	22	45	50	18	10	5	M10	0.56
	HSK40A-FMC27-60	P2774709	27	68	60	20	12	7	M12	1.02
50A	HSK50A-FMC16-40	P2774710	16	34	40	17	8	4	M8	0.54
	HSK50A-FMC22-50	P2774711	22	45	50	18	10	5	M10	0.73
	HSK50A-FMC27-60	P2774712	27	70	60	20	12	6	M12	1.20
63A	HSK63A-FMC22-45	P2774701	22	45	45	18	10	5	M10	0.97
	HSK63A-FMC27-60	P2774702	27	70	60	20	12	6	M12	1.57
	HSK63A-FMC32-60	P2774703	32	85	60	22	14	7	M16	1.81
100A	HSK100A-FMC22-50	P2774704	22	45	50	18	10	5	M10	2.33
	HSK100A-FMC27-60	P2774705	27	70	60	20	12	6	M12	3.02
	HSK100A-FMC32-60	P2774706	32	85	60	22	14	7	M16	3.41

▶Without "Coolant Through".
没有“冷却剂”

KEY & BOLT (For FACE MILL ARBOR)

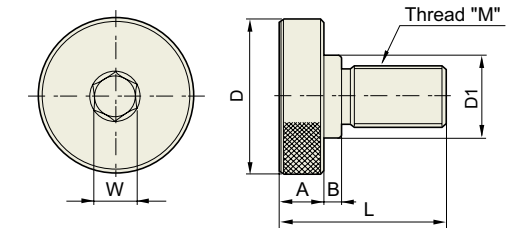
传动销&螺丝 (平面铣刀刀柄用)



KEY 传动销

Unit (单位): mm

KEY	EDP No.	W	K	L	D1	D2	A	APPLICABLE ARBOR 适用刀柄
8 × 7 × 12.8	P2778857	8	7	12.8	5.8	3.2	3.2	SMA16
10 × 7.8 × 15.5	P2778858	10	7.8	15.5	7.5	4.2	4.3	SMA22
9.52 × 9.52 × 10.2	P2774753	9.52	9.52	10.2	7.5	4.5	5.2	FMA25.4 / FMB25.4
9.5 × 12 × 11	P2774754	9.5	12	11	7.5	4.2	5	FMC25.4
12 × 9 × 18.5	P2778859	12	9	18.5	9	5.3	5.5	SMA27
10 × 10 × 11	P2774756	10	10	11	7.5	4.2	5	FMC22
14 × 11.5 × 20.5	P2778860	14	11.5	20.5	10.5	6.5	6.5	SMA32
12 × 13 × 18	P2774758	12	13	18	9	5.3	8	FMB27 / FMC27
16 × 13.5 × 23.5	P2778861	16	13.5	23.5	10.5	6.5	6.5	SMA40
12.7 × 12.7 × 12.7	P2774760	12.7	12.7	12.7	7.5	4.5	5.2	FMA31.75
15.87 × 15.87 × 18.5	P2774761	15.87	15.87	18.5	10.3	6.6	7.5	FMA38.1 / FMB40 / FMB40F
14 × 15 × 20	P2774762	14	15	20	10.5	6.3	8	FMC32
18 × 18 × 28.5	P2778862	18	18	28.5	10.5	6.5	10	SMA50
19 × 18 × 22	P2774764	19	18	22	10.5	6.3	7	FMA50.8



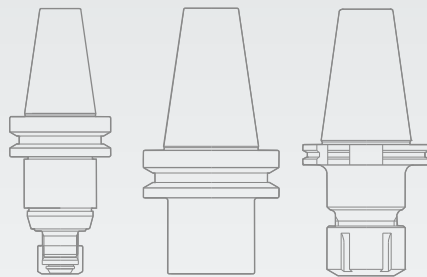
MOUNTING BOLT 安装螺丝

Unit (单位): mm

MOUNTING BOLT	EDP No.	M	D	D1	L	A	B	W	APPLICABLE ARBOR 适用刀柄
MB8	P2774765	8 × 1.25	20	15	23	7	2	6	FMC16
MB10	P2774766	10 × 1.5	28	18	29	9	2	8	FMC22
MB12	P2774767	12 × 1.75	33	23	32	10	2	10	FMC27 / FMB27 / FMA25.4
MB16	P2774768	16 × 2.0	40	23	42	10	6	12	FMC32 / FMA31.75
MB20	P2774769	20 × 2.5	50	27	54	14	6	14	FMC40 / FMA38.1 / FMB40 / FMB40F
MB24	P2774770	24 × 3.0	65	37	62	14	10	17	FMA50.8



Global Cutting Tool Leader **YG-1**



TOOLING SYSTEM

YG-1 TOOLING SYSTEM

COPY MILL ARBOR & INDEXABLE DRILL HOLDER

仿形铣刀柄 & 可转位钻头刀柄



COPY MILL ARBOR

DIN 69871-SK

DIN 69893/ISO 12164-1-HSK

JIS B6339/MAS 403-BT

INDEXABLE DRILL HOLDER

DIN 69871-SK

DIN 69893/ISO 12164-1-HSK

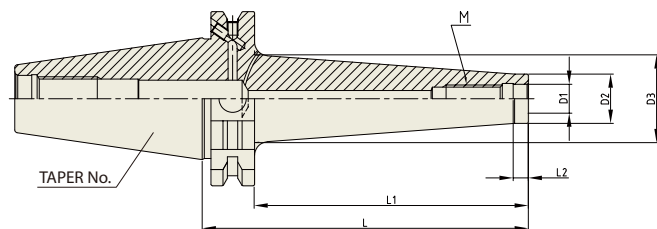
JIS B6339/MAS 403-BT

YG COPY MILL ARBOR & INDEXABLE DRILL HOLDER

M

COPY MILL ARBOR
仿形铣刀柄

DIN 69871-SK



Unit (单位) : mm

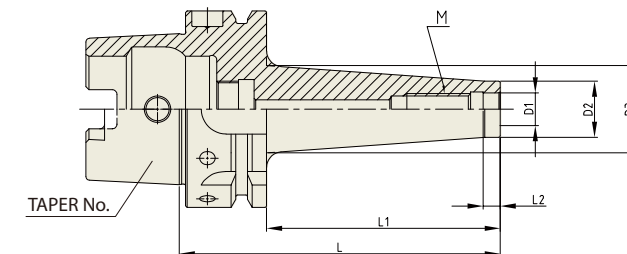
TAPER No. 锥度号	MODEL No. (M-L1) 型号	EDP No.	D1	D2	D3	L	L1	L2	WEIGHT 重量(Kg)
40	SK40AD/B-M6-25	P2801701	6.5	10	13	44	25	5	0.80
	SK40AD/B-M8-25	P2801702	8.5	13	15	44	25	5	0.80
	SK40AD/B-M8-50	P2801703	8.5	13	23	69	50	5	0.86
	SK40AD/B-M8-75	P2801704	8.5	13	23	94	75	5	0.90
	SK40AD/B-M8-100	P2801705	8.5	13	25	119	100	5	0.97
	SK40AD/B-M10-5	P2801706	10.5	18	18	24	5	5	0.77
	SK40AD/B-M10-25	P2801707	10.5	18	20	44	25	5	0.79
	SK40AD/B-M10-50	P2801708	10.5	18	23	69	50	5	0.85
	SK40AD/B-M10-75	P2801709	10.5	18	28	94	75	5	0.87
	SK40AD/B-M10-100	P2801710	10.5	18	32	119	100	5	1.12
	SK40AD/B-M10-150	P2801711	10.5	18	36.5	169	150	5	1.38
	SK40AD/B-M12-5	P2801712	12.5	21	21	24	5	5	0.77
	SK40AD/B-M12-25	P2801713	12.5	21	24	44	25	5	0.82
	SK40AD/B-M12-50	P2801714	12.5	21	24	69	50	5	0.85
	SK40AD/B-M12-75	P2801715	12.5	21	31	94	75	5	1.02
	SK40AD/B-M12-100	P2801716	12.5	21	33	119	100	5	1.09
	SK40AD/B-M12-150	P2801717	12.5	21	40	169	150	5	1.53
	SK40AD/B-M16-5	P2801718	17	29	29	24	5	5	0.77
	SK40AD/B-M16-25	P2801719	17	29	29	44	25	5	0.85
	SK40AD/B-M16-50	P2801720	17	29	34	69	50	5	1.00
SK40AD/B-M16-75	P2801721	17	29	34	94	75	5	0.99	
SK40AD/B-M16-100	P2801722	17	29	36	119	100	5	1.34	
SK40AD/B-M16-150	P2801723	17	29	42.5	169	150	5	1.84	
50	SK50AD/B-M8-50	P2801724	8.5	13	23	69	50	5	2.69
	SK50AD/B-M10-50	P2801725	10.5	18	23	69	50	5	2.71
	SK50AD/B-M10-100	P2801726	10.5	18	32	119	100	10	2.88
	SK50AD/B-M10-150	P2801727	10.5	18	36.5	169	150	10	3.17
	SK50AD/B-M12-50	P2801728	12.5	21	24	69	50	5	2.67
	SK50AD/B-M12-100	P2801729	12.5	21	33	119	100	10	2.93
	SK50AD/B-M12-150	P2801730	12.5	21	40	169	150	10	3.33
	SK50AD/B-M16-50	P2801731	17	29	34	69	50	5	2.79
	SK50AD/B-M16-100	P2801732	17	29	36	119	100	10	3.00
	SK50AD/B-M16-150	P2801733	17	29	42.5	169	150	10	3.60

YG COPY MILL ARBOR & INDEXABLE DRILL HOLDER

M

COPY MILL ARBOR
仿形铣刀柄

DIN 69893/
ISO 12164-1-HSK FORM A



Unit (单位) : mm

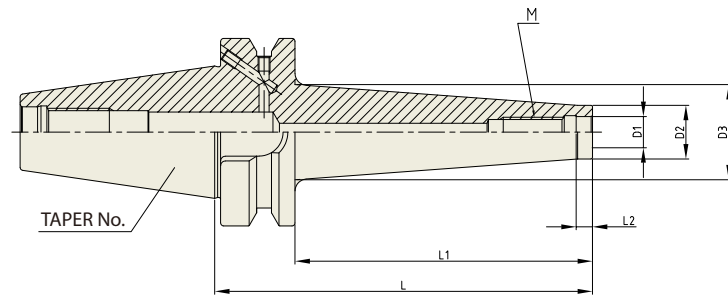
TAPER No. 锥度号	MODEL No. (M-L1) 型号	EDP No.	D1	D2	D3	L	L1	L2	WEIGHT 重量(Kg)
63A	HSK63A-M5-25	P2801801	5.5	10	13	51	25	5	0.77
	HSK63A-M6-25	P2801802	6.5	10	13	51	25	5	0.77
	HSK63A-M8-25	P2801803	8.5	13	15	51	25	5	0.81
	HSK63A-M8-50	P2801804	8.5	13	23	76	50	5	1.09
	HSK63A-M8-75	P2801805	8.5	13	23	101	75	5	1.29
	HSK63A-M10-25	P2801806	10.5	18	20	51	25	5	0.90
	HSK63A-M10-50	P2801807	10.5	18	23	76	50	5	1.20
	HSK63A-M10-75	P2801808	10.5	18	28	101	75	5	1.33
	HSK63A-M10-100	P2801809	10.5	18	32	126	100	5	1.45
	HSK63A-M10-150	P2801810	10.5	18	36.5	176	150	5	1.60
	HSK63A-M12-25	P2801811	12.5	21	24	51	25	5	0.98
	HSK63A-M12-50	P2801812	12.5	21	24	76	50	5	1.29
	HSK63A-M12-75	P2801813	12.5	21	31	101	75	5	1.92
	HSK63A-M12-100	P2801814	12.5	21	33	126	100	5	2.48
	HSK63A-M12-150	P2801815	12.5	21	40	176	150	5	4.19
	HSK63A-M16-25	P2801816	17	29	29	51	25	5	0.78
	HSK63A-M16-50	P2801817	17	29	34	76	50	5	1.85
	HSK63A-M16-75	P2801818	17	29	34	101	75	5	2.46
	HSK63A-M16-100	P2801819	17	29	36	126	100	5	3.23
	HSK63A-M16-150	P2801820	17	29	42.5	176	150	5	5.39
100A	HSK100A-M8-50	P2801821	8.5	13	23	79	50	5	2.33
	HSK100A-M10-50	P2801822	10.5	18	23	79	50	5	2.35
	HSK100A-M10-100	P2801823	10.5	18	32	129	100	10	2.59
	HSK100A-M10-150	P2801824	10.5	18	36.5	179	150	10	2.90
	HSK100A-M12-50	P2801825	12.5	21	24	79	50	5	2.37
	HSK100A-M12-100	P2801826	12.5	21	33	129	100	10	2.64
	HSK100A-M12-150	P2801827	12.5	21	40	179	150	10	3.05
	HSK100A-M16-50	P2801828	17	29	34	79	50	5	2.48
	HSK100A-M16-100	P2801829	17	29	36	129	100	10	2.81
	HSK100A-M16-150	P2801830	17	29	42.5	179	150	10	3.32

YIG COPY MILL ARBOR & INDEXABLE DRILL HOLDER

M

COPY MILL ARBOR 仿形铣刀柄

JIS B6339/
MAS 403-BT



Unit (单位) : mm

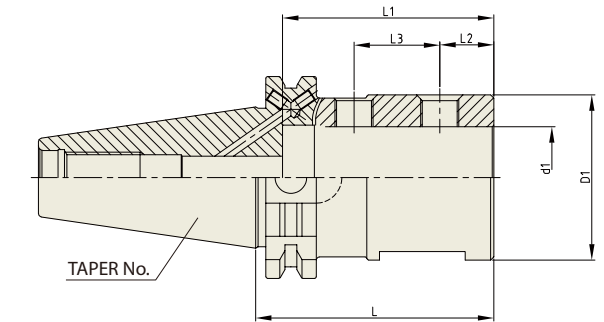
TAPER No. 锥度号	MODEL No. (M-L1) 型号	EDP No.	D1	D2	D3	L	L1	L2	WEIGHT 重量(Kg)
40	BT40AD/B-M6-25	P2801901	6.5	10	13	52	25	5	0.94
	BT40AD/B-M6-50	P2801902	6.5	10	20	77	50	5	0.99
	BT40AD/B-M6-75	P2801903	6.5	10	23	102	75	5	1.04
	BT40AD/B-M8-25	P2801904	8.5	13	15	52	25	5	0.95
	BT40AD/B-M8-50	P2801905	8.5	13	23	77	50	5	1.01
	BT40AD/B-M8-75	P2801906	8.5	13	23	102	75	5	1.05
	BT40AD/B-M10-25	P2801907	10.5	18	20	52	25	5	0.97
	BT40AD/B-M10-50	P2801908	10.5	18	23	77	50	5	1.04
	BT40AD/B-M10-75	P2801909	10.5	18	32	102	75	5	1.28
	BT40AD/B-M12-25	P2801910	12.5	21	15	52	25	5	0.98
	BT40AD/B-M12-75	P2801911	12.5	21	23	102	75	5	1.22
	BT40AD/B-M12-125	P2801912	12.5	21	23	152	125	5	1.50
50	BT40AD/B-M16-25	P2801913	17	29	29	52	25	5	1.01
	BT40AD/B-M16-75	P2801914	17	29	34	102	75	5	1.32
	BT40AD/B-M16-125	P2801915	17	29	40	152	125	5	1.75
	BT50AD/B-M8-50	P2801916	8.5	13	23	88	50	5	3.51
	BT50AD/B-M10-50	P2801917	10.5	18	23	88	50	5	3.54
	BT50AD/B-M10-100	P2801918	10.5	18	32	138	100	10	3.77
	BT50AD/B-M12-50	P2801919	12.5	21	24	88	50	10	3.55
	BT50AD/B-M12-100	P2801920	12.5	21	33	138	100	10	3.82
	BT50AD/B-M16-50	P2801921	17	29	29	88	50	10	3.63
	BT50AD/B-M16-100	P2801922	17	29	36	138	100	10	3.98
	BT50AD/B-M16-150	P2801923	17	29	42.5	188	150	10	4.48

YIG COPY MILL ARBOR & INDEXABLE DRILL HOLDER

SL

INDEXABLE DRILL HOLDER 可转位钻头刀柄

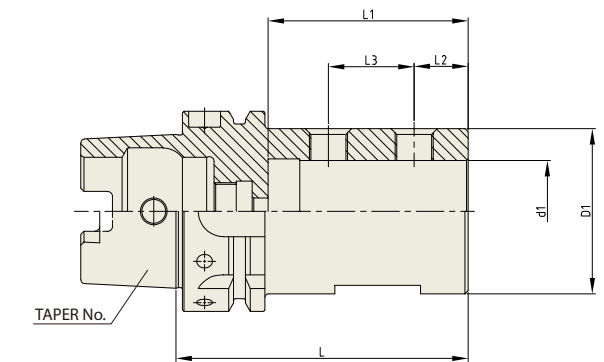
DIN 69871-SK



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	L1	L2	L3	WEIGHT 重量(Kg)
40	SK40AD/B-SL20-65	P2802001	20	40	65	56	15	20	1.07
	SK40AD/B-SL25-70	P2802002	25	45	70	61.5	17	23	1.15
	SK40AD/B-SL32-75	P2802003	32	52	75	66.5	17	27	1.27
	SK40AD/B-SL40-115	P2802004	40	60	115	73	22	28	2.10
50	SK50AD/B-SL20-70	P2802005	20	40	70	54	15	20	3.00
	SK50AD/B-SL25-70	P2802006	25	45	70	64	17	23	3.04
	SK50AD/B-SL32-75	P2802007	32	52	75	68	17	27	3.14
	SK50AD/B-SL40-80	P2802008	40	60	80	77.0	22	28	3.26

DIN 69893/
ISO 12164-1-HSK FORM A



Unit (单位) : mm

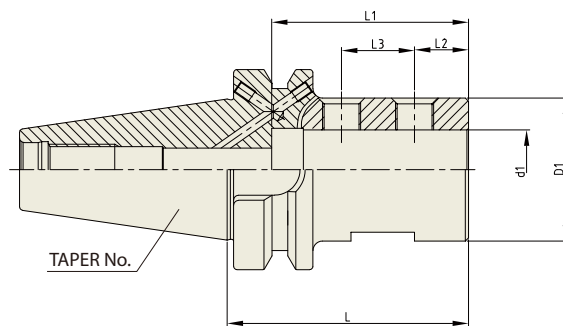
TAPER No. 锥度号	MODEL No. 型号	EDP No.	d1	D1	L	L1	L2	L3	WEIGHT 重量(Kg)
63A	HSK63A-SL20-80	P2802051	20	40	80	54	15	20	1.04
	HSK63A-SL25-90	P2802052	25	45	90	59	17	23	1.21
	HSK63A-SL32-90	P2802053	32	52	90	63	17	27	1.30
	HSK63A-SL40-105	P2802054	40	60	105	73	22	28	1.58
100A	HSK100A-SL20-90	P2802055	20	40	90	54	15	20	2.71
	HSK100A-SL25-95	P2802056	25	45	95	59	17	23	2.84
	HSK100A-SL32-100	P2802057	32	52	100	63	17	27	3.03
	HSK100A-SL40-110	P2802058	40	60	110	73	22	28	3.32

YG COPY MILL ARBOR & INDEXABLE DRILL HOLDER

SL

INDEXABLE DRILL HOLDER
可转位钻头刀柄

JIS B6339/
MAS 403-BT



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. (M-L1) 型号	EDP No.	d1	D1	L	L1	L2	L3	WEIGHT 重量(Kg)
40	BT40AD/B-SL20-72	P2802101	20	40	72	54	15	20	1.09
	BT40AD/B-SL25-76	P2802102	25	45	76	62	17	23	1.11
	BT40AD/B-SL32-80	P2802103	32	52	80	67	17	27	1.17
	BT40AD/B-SL40-100	P2802104	40	60	100	73	22	28	1.67
50	BT50AD/B-SL20-90	P2802105	20	40	90	54	15	20	3.74
	BT50AD/B-SL25-90	P2802106	25	45	90	59	17	23	3.81
	BT50AD/B-SL32-90	P2802107	32	52	90	70	17	27	3.90
	BT50AD/B-SL40-100	P2802108	40	60	100	80	22	28	4.12

YG-1 TOOLING SYSTEM

NC DRILL CHUCK & OTHER TOOL HOLDERS

NC 钻夹头刀柄及其他辅件



NC DRILL CHUCK

CBT (BT DUAL CONTACT) JIS B6339/MAS 403-BT
DIN 69893/ISO 12164-1-HSK STRAIGHT-K
DIN 69871-SK

SIDE CUTTER ARBOR

JIS B6339/MAS 403-BT

JACOBS TAPER ADAPTER

JIS B6339/MAS 403-BT

BLANK BAR

DIN 69871-SK JIS B6339/MAS 403-BT
DIN 69893/ISO 12164-1-HSK FORM A

TEST BAR

DIN69871-SK JIS B6339/MAS 403-BT
DIN69893/ISO 12164-1-HSK

NC DRILL CHUCK

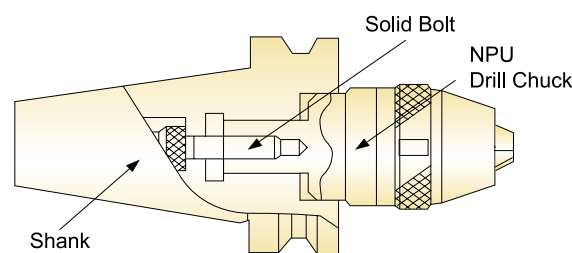


FEATURE 特征

YG-1 Drill Chuck is completely tightened with solid bolt, and there is no danger of falling during rotating or cutting.

SSK 钻夹头用实心螺栓完全拧紧
在旋转或切割过程中忽略坠落的危险

HIGH PRECISION 高精密度



• Drill chuck with excellent high precision (T.I.R 0.05) and shank are integrated, which guarantees excellent T.I.R

• 高精度 (T.I.R 0.05) 的NC钻夹头与柄部为一体型, 保证了优秀的T.I.R

Strong Chucking Power 强劲的夹持力

Drill may be damaged due to reverse thrust during perforation, but with YG-1 Drill Chuck strongly tightened with wrench, there is no possibility of damage to drill.

在穿孔过程中, 钻头可能由于反向推力易损坏, 但SSK钻夹头用扳手强力拧紧防止损坏钻头

Safety 安全性

YG-1 NC Drill Chuck with strong rigidity contributes to factory automation by unmanned operation by preventing accident from occurring during operation.

- Falling of drill occurring by sudden stopping
- Falling of drill occurring by rapid rotation
- Damage to drill caused by reverse thrust during perforation process

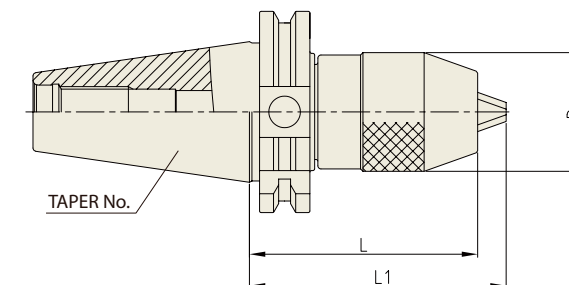
钻头刀柄的一体化设计避免各种作业事故, 广泛使用在自动化工厂.

- 避免极速停止导致的掉刀.
- 避免急速旋转的导致的掉刀.
- 贯通作业中, 避免反弹力破损钻头.



NC DRILL CHUCK NC钻夹头刀柄

DIN 69871-SK



Unit (单位): mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	D	L (Min.)	L1 (Max.)	WEIGHT 重量(Kg)
40	SK40-NPU8-80	P2802201	0.3 ~ 8	36.5	80	80.7	-
	SK40-NPU8-110	P2802202	0.3 ~ 8	36.5	110	115.7	-
	SK40-NPU8-150	P2802203	0.3 ~ 8	36.5	150	155.7	-
	SK40-NPU13-95	P2802204	1 ~ 13	50	95	100.7	-
	SK40-NPU13-130	P2802205	1 ~ 13	50	130	130.7	-
	SK40-NPU8-150	P2802206	1 ~ 13	50	150	155.7	-
50	SK50-NPU8-80	P2802207	0.3 ~ 8	36.5	80	80.7	-
	SK50-NPU8-110	P2802208	0.3 ~ 8	36.5	110	115.7	-
	SK50-NPU8-150	P2802209	0.3 ~ 8	36.5	150	155.7	-
	SK50-NPU13-95	P2802210	1 ~ 13	50	95	100.7	-
	SK50-NPU13-130	P2802211	1 ~ 13	50	130	130.7	-
	SK50-NPU8-150	P2802212	1 ~ 13	50	150	155.7	-

► CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

HYDRAULIC CHUCK

SHRINK FIT HOLDER

ER COLLET CHUCK

END MILL HOLDER & SIDE LOCK ARBOR

SHELL MILL ARBOR

POWER MILLING CHUCK

MORSE TAPER ARBOR

SK SLIM CHUCK

SYNCHRO TAPPING CHUCK

ONE STEP TAPPING CHUCK

TAPPING ER CHUCK

TAPPING CHUCK

FACE MILL ARBOR

COPY MILL ARBOR & INDEXABLE DRILL HOLDER

NC DRILL CHUCK & OTHER TOOL HOLDERS

BORING SYSTEM

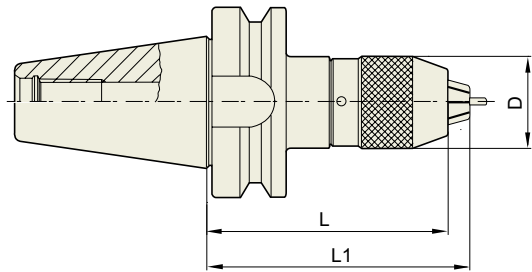
ACCESSORY & OTHERS

WIG NC DRILL CHUCK & OTHER TOOL HOLDERS

NPU

NC DRILL CHUCK
NC钻夹头刀柄

CBT
(BT DUAL CONTACT)



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	D	L (Min.)	L1 (Max.)	WEIGHT 重量(Kg)
30	CBT30-NPU8-75	P2776066	0.3 - 8	36.5	75	80.7	0.80
	CBT30-NPU13-105	P2776067	1 - 13	50.4	105	115	1.80
40	CBT40-NPU8-80	P2776068	0.3 - 8	36.5	80	85.7	1.50
	CBT40-NPU8-110	P2776054	0.3 - 8	36.5	110	115.7	1.80
	CBT40-NPU8-150	P2776055	0.3 - 8	36.5	150	155.7	2.60
	CBT40-NPU13-95	P2776069	1 - 13	50.4	95	100.7	2.10
	CBT40-NPU13-130	P2776057	1 - 13	50.4	130	140	2.70
	CBT40-NPU13-150	P2776058	1 - 13	50.4	150	160	3.40
	CBT50-NPU8-90	P2776059	0.3 - 8	36.5	90	95.7	4.20
	CBT50-NPU8-110	P2776060	0.3 - 8	36.5	110	115.7	4.50
50	CBT50-NPU8-170	P2776061	0.3 - 8	36.5	170	180.7	5.20
	CBT50-NPU13-105	P2776070	1 - 13	50.4	105	115	4.80
	CBT50-NPU13-130	P2776063	1 - 13	50.4	130	140	5.20
	CBT50-NPU13-150	P2776064	1 - 13	50.4	150	160	5.50
	CBT50-NPU13-190	P2776065	1 - 13	50.4	190	200	5.90

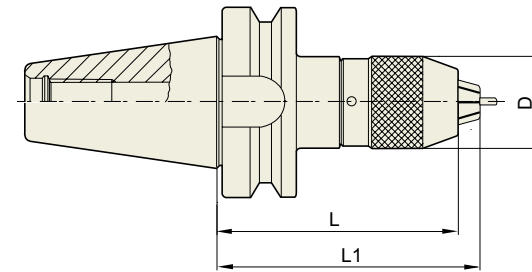
▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

WIG NC DRILL CHUCK & OTHER TOOL HOLDERS

NPU

NC DRILL CHUCK
NC钻夹头刀柄

**JIS B6339/
MAS403-BT**



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	D	L (Min.)	L1 (Max.)	WEIGHT 重量(Kg)
30	BT30-NPU8-75	P2776016	0.3 - 8	36.5	75	80.7	0.80
	BT30-NPU13-105	P2776017	1 - 13	50.4	105	115	1.80
40	BT40-NPU8-80	P2776018	0.3 - 8	36.5	80	85.7	1.50
	BT40-NPU8-110	P2776006	0.3 - 8	36.5	110	115.7	1.80
	BT40-NPU8-150	P2776007	0.3 - 8	36.5	150	155.7	2.60
	BT40-NPU13-95	P2776019	1 - 13	50.4	95	100.7	2.10
	BT40-NPU13-130	P2776008	1 - 13	50.4	130	140	2.70
	BT40-NPU13-150	P2776003	1 - 13	50.4	150	160	3.40
	BT50-NPU8-90	P2776009	0.3 - 8	36.5	90	95.7	4.20
	BT50-NPU8-110	P2776010	0.3 - 8	36.5	110	115.7	4.50
50	BT50-NPU8-170	P2776011	0.3 - 8	36.5	170	180.7	5.20
	BT50-NPU13-105	P2776020	1 - 13	50.4	105	115	4.80
	BT50-NPU13-130	P2776013	1 - 13	50.4	130	140	5.20
	BT50-NPU13-150	P2776014	1 - 13	50.4	150	160	5.50
	BT50-NPU13-190	P2776015	1 - 13	50.4	190	200	5.90

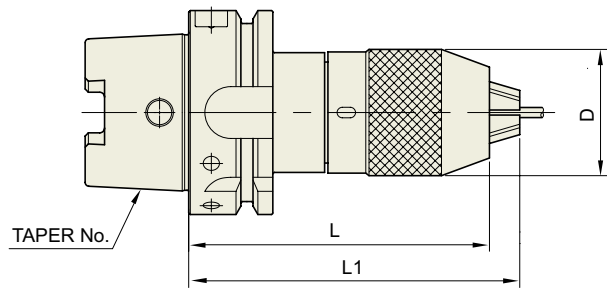
▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

WIG NC DRILL CHUCK & OTHER TOOL HOLDERS

NPU

NC DRILL CHUCK
NC钻夹头刀柄

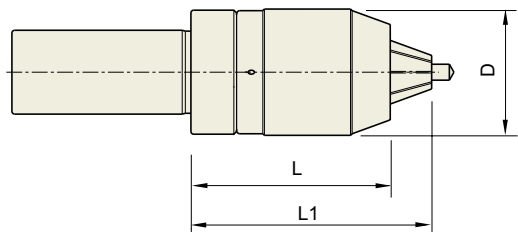
DIN 69893/
ISO 12164-1-HSK FORM A



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	CAPACITY	D	L (Min.)	L1 (Max.)	WEIGHT 重量(Kg)
40A	HSK40A-NPU 8-120	P2775202	0.3 - 8	36.5	120	125.7	1.00
	HSK50A-NPU 8-120	P2775203	0.3 - 8	36.5	120	125.7	1.20
50A	HSK50A-NPU13-150	P2775201	1 - 13	50.4	150	160	2.10
	HSK63A-NPU 8-125	P2775204	0.3 - 8	36.5	125	130.7	2.10
63A	HSK63A-NPU13-150	P2775205	1 - 13	50.4	150	150	3.00
	HSK100A-NPU 8-130	P2775206	0.3 - 8	36.5	130	135.7	4.80
100A	HSK100A-NPU13-150	P2775207	1 - 13	50.4	150	160	5.50

STRAIGHT-K



Unit (单位) : mm

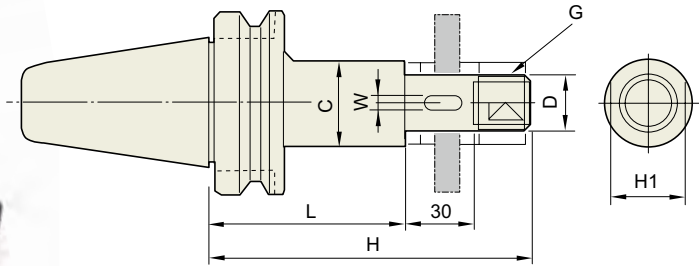
TAPER No. 锥度号	MODEL No. 型号	EDP No.	CLAMPING RANGE 夹持范围	D	L (Min.)	L1 (Max.)	d	WEIGHT 重量(Kg)
32	K32-NPU8-75	P2776021	0.3 - 8	36.5	75	80.7	32	0.70
	K32-NPU13-100	P2775252	1 - 13	50.4	100	110	32	1.50
42	K42-NPU8-70	P2775253	0.3 - 8	36.5	70	75.7	42	0.80
	K42-NPU13-100	P2775254	1 - 13	50.4	100	110	42	1.60

WIG NC DRILL CHUCK & OTHER TOOL HOLDERS

SCA

SIDE CUTTER ARBOR
侧铣刀刀柄

JIS B6339/
MAS403-BT



Unit (单位) : mm

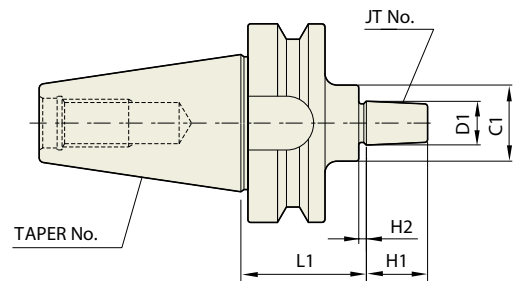
TAPER No. 锥度号	MODEL No. 型号	EDP No.	H	H1	C	W	G	D	L	WEIGHT 重量(Kg)
30	BT30-SCA12.7-60	P2779141	105	17	20	-	M12	12.7	60	1.00
	BT30-SCA15.875-60	P2779142	106	23	26	3.18	M14	15.875	60	1.10
	BT30-SCA22.225-60	P2779143	110	29	34	3.18	M20	22.225	60	1.20
	BT30-SCA25.4-60	P2779144	115	32	40	6.35	M24	25.4	60	1.30
40	BT40-SCA12.7-75	P2779145	120	17	20	-	M12	12.7	75	1.20
	BT40-SCA12.7-105	P2779146	150	17	20	-	M12	12.7	105	1.30
	BT40-SCA15.875-75	P2779147	121	23	26	3.18	M14	15.875	75	1.40
	BT40-SCA15.875-120	P2779148	151	23	26	3.18	M14	15.875	120	1.50
	BT40-SCA22.225-75	P2779149	126	29	34	3.18	M20	22.225	75	1.70
	BT40-SCA22.225-120	P2779150	171	29	34	3.18	M20	22.225	120	2.00
	BT40-SCA25.4-75	P2779151	130	32	40	6.35	M24	25.4	75	2.00
	BT40-SCA25.4-120	P2779152	175	32	40	6.35	M24	25.4	120	2.40
50	BT40-SCA31.75-90	P2779153	150	41	46	7.92	M30	31.75	90	2.60
	BT50-SCA12.7-75	P2779154	120	17	20	-	M12	12.7	75	4.10
	BT50-SCA12.7-105	P2779155	150	17	20	-	M12	12.7	105	4.20
	BT50-SCA15.875-90	P2779156	136	23	26	3.18	M14	15.875	90	4.20
	BT50-SCA15.875-120	P2779157	166	23	26	3.18	M14	15.875	120	4.20
	BT50-SCA22.225-90	P2779158	144	29	34	3.18	M20	22.225	90	4.40
	BT50-SCA22.225-135	P2779159	186	29	34	3.18	M20	22.225	135	4.70
	BT50-SCA25.4-90	P2779160	145	32	40	6.35	M24	25.4	90	4.50
	BT50-SCA25.4-135	P2779161	190	32	40	6.35	M24	25.4	135	4.90
	BT50-SCA31.75-90	P2779162	150	41	46	7.92	M30	31.75	90	4.70
	BT50-SCA31.75-135	P2779163	195	41	46	7.92	M30	31.75	135	5.20
	BT50-SCA38.1-90	P2779164	156	46	55	9.52	M36	38.1	90	4.90
BT50-SCA38.1-135	P2779165	201	46	55	9.52	M36	38.1	135	5.90	

WIG NC DRILL CHUCK & OTHER TOOL HOLDERS

JTA

JACOBS TAPER ADAPTER
雅各布锥柄变换刀柄

JIS B6339/
MAS 403-BT



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	JT No.	D1	L1	H1	H2	C1	WEIGHT 重量(Kg)
30	BT30-JTA1-45	P2779101	1	9.754	45	14	3	30	0.90
	BT30-JTA2-45	P2779102	2	14.199	45	20	4	30	1.00
	BT30-JTA6-45	P2779103	6	17.17	45	24	4	30	1.00
40	BT40-JTA1-45	P2779104	1	9.754	45	14	3	30	1.10
	BT40-JTA1-90	P2779105	1	9.754	90	14	3	30	1.10
	BT40-JTA2S-45	P2779106	2(SHORT)	13.94	45	18	3	30	1.40
	BT40-JTA2S-90	P2779107	2(SHORT)	13.94	90	18	3	30	1.40
	BT40-JTA2-45	P2779108	2	14.199	45	20	4	30	1.10
	BT40-JTA2-90	P2779109	2	14.199	90	20	4	30	1.40
	BT40-JTA33-45	P2779110	33	15.85	45	24	4	30	1.10
	BT40-JTA33-90	P2779111	33	15.85	90	24	4	30	1.40
	BT40-JTA6-45	P2779112	6	17.17	45	24	4	30	1.10
	BT40-JTA6-90	P2779113	6	17.17	90	24	4	30	1.40
50	BT40-JTA3-45	P2779114	3	20.599	45	28	5	35	1.20
	BT40-JTA3-90	P2779115	3	20.599	90	28	5	35	1.50
	BT50-JTA1-45	P2779116	1	9.754	45	14	3	30	4.00
	BT50-JTA1-105	P2779117	1	9.754	105	14	3	30	4.40
	BT50-JTA2S-45	P2779118	2(SHORT)	13.94	45	18	3	30	4.00
	BT50-JTA2S-105	P2779119	2(SHORT)	13.94	105	18	3	30	4.40
	BT50-JTA2-45	P2779120	2	14.199	45	20	4	30	4.00
	BT50-JTA2-105	P2779121	2	14.199	105	20	4	30	4.40
	BT50-JTA33-45	P2779122	33	15.85	45	24	4	30	4.00
	BT50-JTA33-105	P2779123	33	15.85	105	24	4	30	4.40
	BT50-JTA6-45	P2779124	6	17.17	45	24	4	30	4.00
	BT50-JTA6-105	P2779125	6	17.17	105	24	4	30	4.40
	BT50-JTA3-45	P2779126	3	20.599	45	28	5	35	4.00
	BT50-JTA3-105	P2779127	3	20.599	105	28	5	35	4.60

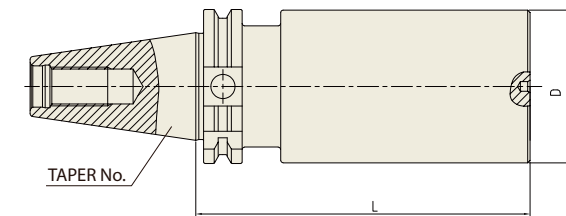
▶ CAT(ANSI B5.50) taper and Inch type products are available.
CAT(ANSI B5.50)锥柄及英制产品可供选择

WIG NC DRILL CHUCK & OTHER TOOL HOLDERS

BL

BLANK BAR

DIN 69871-SK

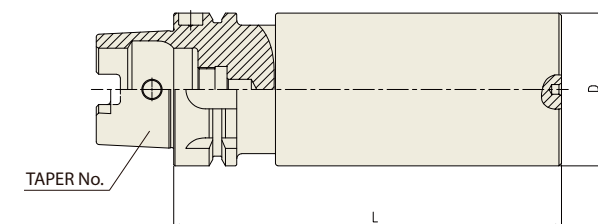


Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	WEIGHT 重量(Kg)
40	SK40A-BL63-250	P2779196	63	160	6.18
50	SK50A-BL97-315	P2779197	97	315	18.67



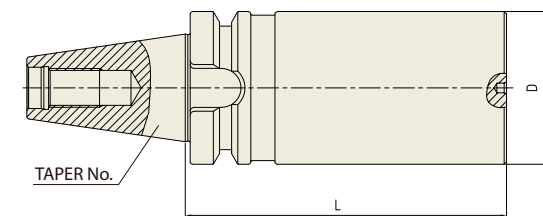
DIN 69893/
ISO12164-1-HSK FORM A



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	WEIGHT 重量(Kg)
63A	HSK63A-BL63-160	P2779198	63	160	3.91
100A	HSK100A-BL97-250	P2779199	97	250	17.70

JIS B6339/
MAS 403-BT



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	WEIGHT 重量(Kg)
BT40	BT40-BL63-250	P2779191	63	160	6.37
BT50	BT50-BL97-315	P2779351	97	250	19.60

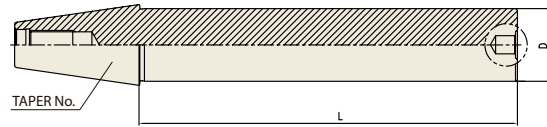


NC DRILL CHUCK & OTHER TOOL HOLDERS

TB

TEST BAR

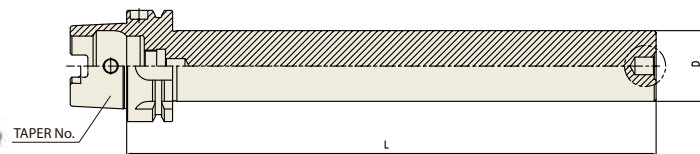
DIN 69871-SK



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	WEIGHT 重量(Kg)
40	SK40A-TB40-300	P2802301	40	300	3.45
50	SK50A-TB50-300	P2802302	50	300	6.44

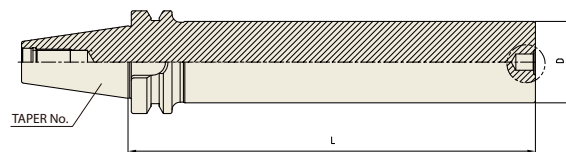
**DIN 69893/
ISO12164-1-HSK FORM A**



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	WEIGHT 重量(Kg)
63A	HSK63A-TB40-300	P2802303	40	300	2.90
100A	HSK100A-TB50-300	P2802304	50	300	6.17

**JIS B6339/
MAS 403-BT**



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L	WEIGHT 重量(Kg)
40	BT40-TB50-300	P2802305	40	300	4.59
50	BT50-TB30-200	P2802306	30	200	4.34
	BT50-TB50-300	P2802307	50	300	6.88

YG-1 TOOLING SYSTEM

BORING SYSTEM

镗孔刀柄系统



FINE BORING BAR

BORING BAR SET / BASIC HOLDER / EXTENSION BAR / FINE BORING HEAD

TWIN BORING BAR

BORING BAR SET / STRAIGHT TWIN EDGE BORING BAR / BASIC HOLDER
TWIN BORE HEAD / INSERT HOLDER / REDUCTION / EXTENSION BAR

MICRO BORING BAR : JIS B6339/MAS 403-BT

BT / ST (BCA) / MICRO UNIT PARTS

SQUARE BORING BAR : JIS B6339/MAS 403-BT

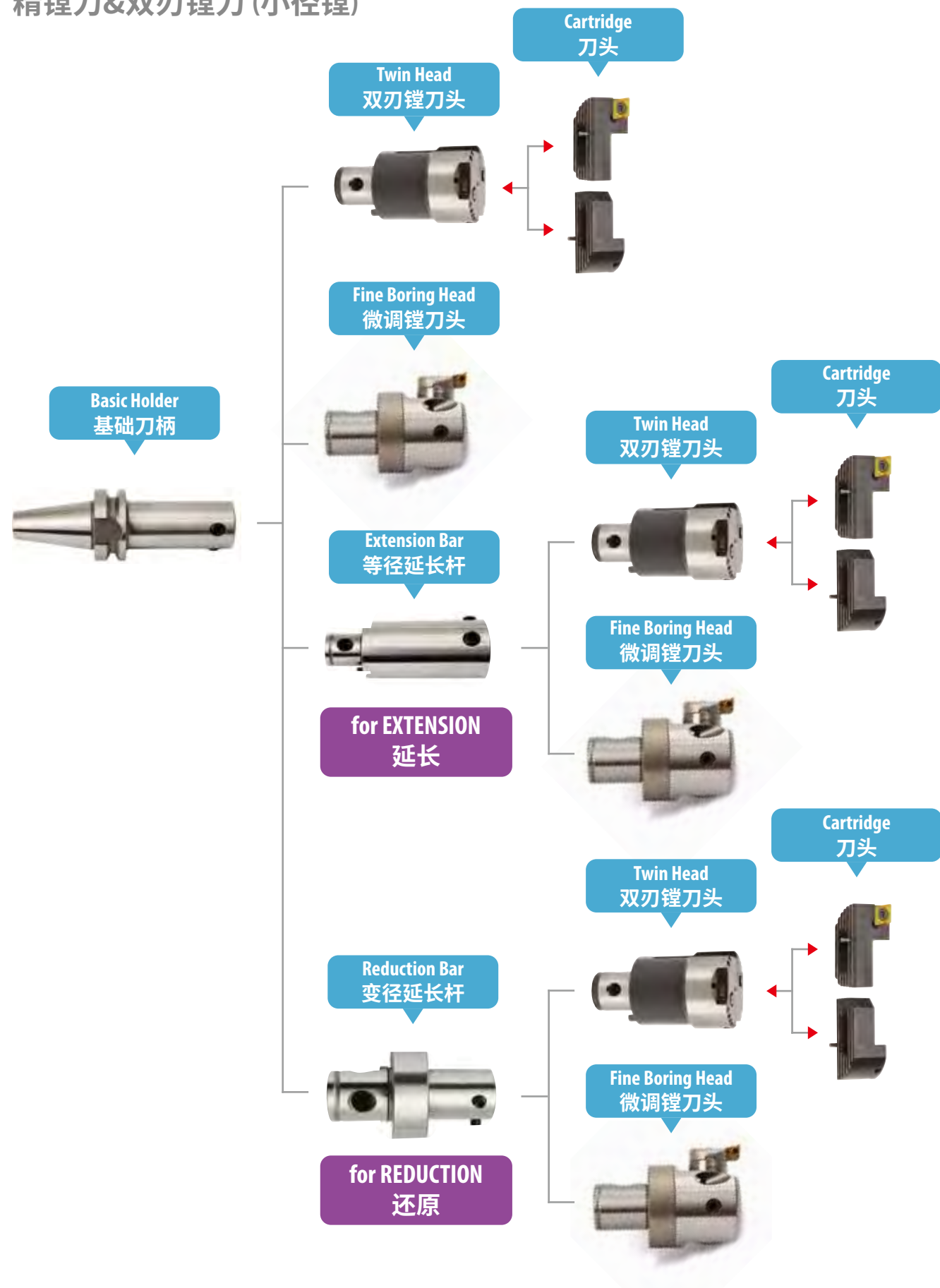
BT (BSA) / BT (BSB) / SQUARE BITE (SBC)

BIG MICRO CUT BORING BAR : JIS B6339/MAS 403-BT

BT (BRA) / (RING ADAPTER, RING HEAD)

FINE & TWIN Boring Bar (Small Bore)

精镗刀&双刃镗刀 (小径镗)



FINE & TWIN Boring Bar (Small Bore)

精镗刀&双刃镗刀 (小径镗)

Fine Boring Range : 20mm~153mm
微调镗孔范围



FEATURE

- Excellent roughness of boring surface by precise boring
- Precise boring range adjustment by adjustment Dial with 1/100mm unit
- Ease to adjust length by employing modular system to use extension bar with various size
- Double rigid fixing of extension bar with
 - Side locking
 - Fixing pin inside
- Design to use insert conforming to ISO standard
- Basic Holder, Extension Bar and Reduction Bar interchangeable between Fine Boring Bar and Twin Edge Boring Bar

特征

- 根据精密的镗孔，加工出优秀的表面粗糙度
- 以1/100mm 单位 调节盘 调节精密的 镗孔范围
- 设计为可使用多种规格的等径延长杆模块式方式，方便调节长度
- 延长杆的 2重固定
 - 侧面锁紧
 - 内附定位销
- 使用标准ISO规格的刀片
- 微调镗刀柄与双刃镗刀之间可互换基本刀柄、等径延长杆及变径延长杆

Twin Boring Range : 25mm~156mm
双刃镗孔范围



FEATURE

- Easy to replace head
- Extension Bar : Adjusting length according to machining conditions
- Reduction Bar : Adjusting boring range according to machining conditions
- Precision of extension, reduction, and repeatability of assembling and disassembling of Boring Head ; $\leq 0.002\text{mm}$
- Using insert conforming to ISO standard
- Basic Holder, Extension Bar and Reduction Bar interchangeable between Fine Boring Bar and Twin Edge Boring Bar

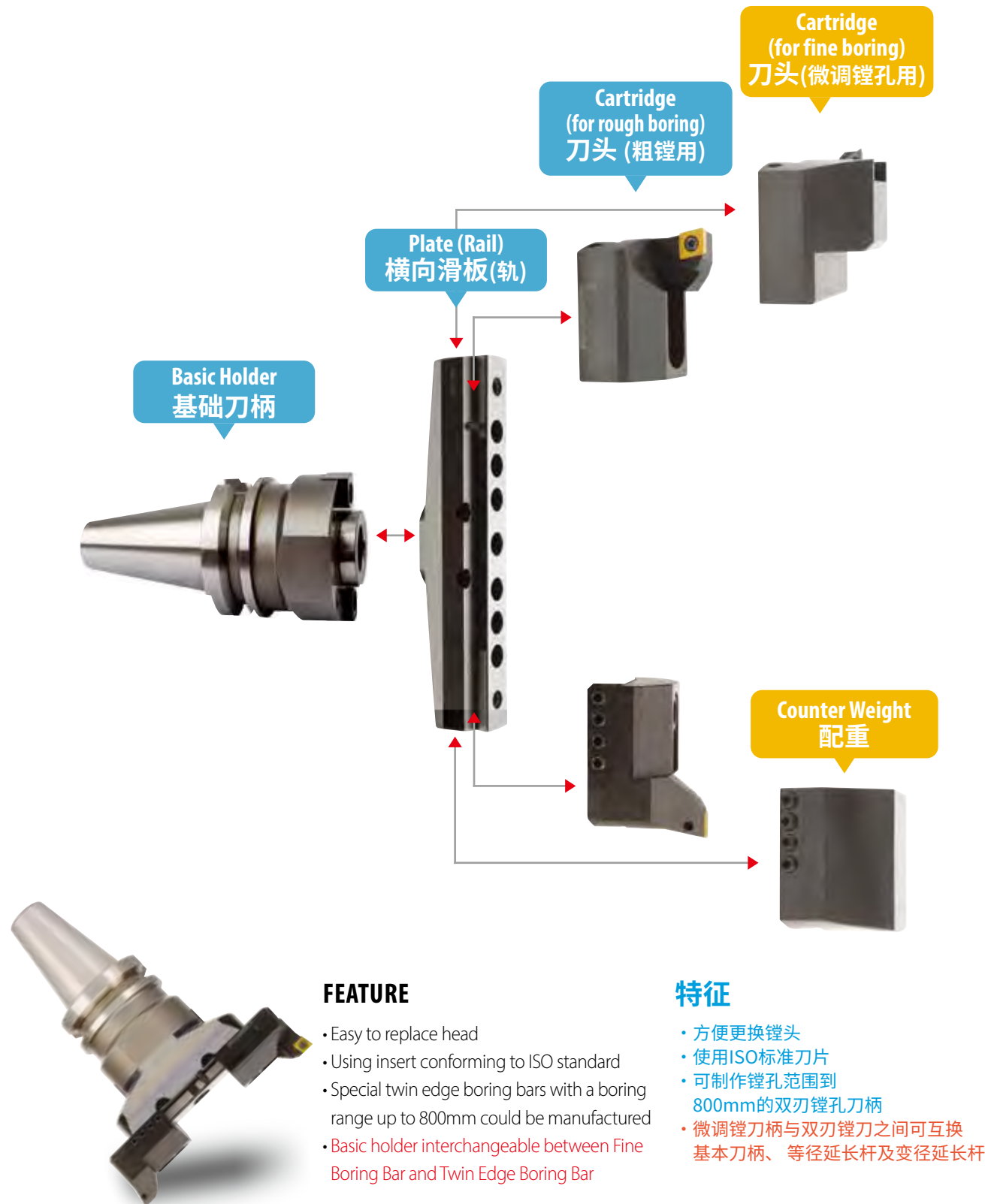
特征

- 更换镗头方便
- 等径延长杆：根据作业条件调整长度
- 变径延长杆：根据作业条件调整加工范围
- 加长及变径杆，镗头反复组装精度0.002mm以下
- 使用刀片：ISO规格
- 微调镗刀柄与双刃镗刀之间可互换基本刀柄、等径延长杆及变径延长杆

FINE and TWIN EDGE BORING (Big Bore)

精镗刀&双刃镗刀 (大径)

Boring Range : 153mm~576mm (FINE BORING BAR 微调镗孔)
 镗孔范围 156mm~576mm (TWIN EDGE BORING BAR 双刃镗孔范围)



FEATURE

- Easy to replace head
- Using insert conforming to ISO standard
- Special twin edge boring bars with a boring range up to 800mm could be manufactured
- Basic holder interchangeable between Fine Boring Bar and Twin Edge Boring Bar

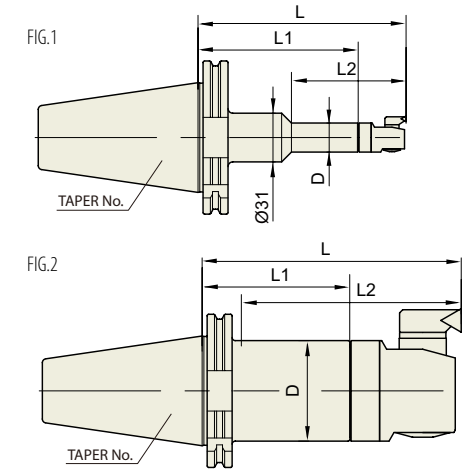
特征

- 方便更换镗头
- 使用ISO标准刀片
- 可制作镗孔范围到800mm的双刃镗孔刀柄
- 微调镗刀柄与双刃镗刀之间可互换基本刀柄、等径延长杆及变径延长杆

FINE BORING BAR (SMALL BORE)

DIN 69871-SK

微调镗孔刀柄 (小径)



Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	BORE RANGE (FRONT) 镗孔范围 (正面)	D	L	L1	L2	FIG.	WEIGHT 重量(Kg)
40	SK40-BAH1-105	P2777767	20 - 26	19	104.5	72	73	2	
	SK40-BAH2-80	P2777768	25 - 33	24	78	42.5	48	2	
	SK40-BAH2-120	P2777769	25 - 33	24	118	82.5	88	2	
	SK40-BAH3-85	P2777770	32 - 42	31	84	44	53	2	
	SK40-BAH3-135	P2777771	32 - 42	31	134	94	103	2	
	SK40-BAH4-90	P2777772	41 - 54	39	90	43	58	2	
	SK40-BAH4-135	P2777773	41 - 54	39	135	88	103	2	
	SK40-BAH5-105	P2777774	53 - 70	50	105	48	73	2	
	SK40-BAH5-135	P2777775	53 - 70	50	135	79	103	2	
	SK40-BAH6-135	P2777776	68 - 100	64	135	64	103	2	
50	SK50-BAH1-135	P2777777	20 - 26	19	134.5	102	73	1	
	SK50-BAH2-90	P2777778	25 - 33	24	88	52.5	66	2	
	SK50-BAH2-150	P2777779	25 - 33	24	148	112.5	126	2	
	SK50-BAH3-95	P2777780	32 - 42	31	94	54	71	2	
	SK50-BAH3-165	P2777781	32 - 42	31	164	124	141	2	
	SK50-BAH4-105	P2777782	41 - 54	39	105	58	81	2	
	SK50-BAH4-165	P2777783	41 - 54	39	165	118	141	2	
	SK50-BAH4-225	P2777784	41 - 54	39	225	178	201	2	
	SK50-BAH5-120	P2777785	53 - 70	50	120	63	96	2	
	SK50-BAH5-165	P2777786	53 - 70	50	165	105	141	2	
	SK50-BAH5-240	P2777787	53 - 70	50	240	183	216	2	
	SK50-BAH5-285	P2777788	53 - 70	50	285	228	261	2	
	SK50-BAH6-165	P2777789	68 - 100	64	165	94	141	2	
	SK50-BAH6-240	P2777790	68 - 100	64	240	169	216	2	
	SK50-BAH6-300	P2777791	68 - 100	64	300	229	276	2	
	SK50-BAH7-210	P2777792	100 - 153	90	210	93	191	2	
	SK50-BAH7-360	P2777793	100 - 153	90	360	243	341	2	

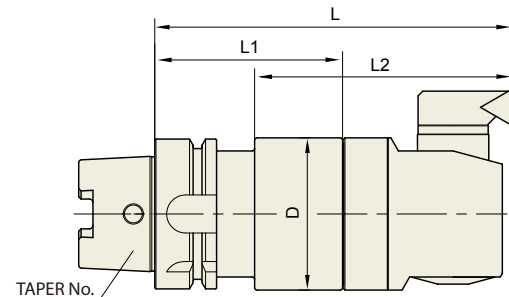
► Basic Holder, Extension Bar and Reduction Bar interchangeable between Fine Boring Bar and Twin Edge Boring Bar.
 微调镗刀柄与双刃镗刀之间可互换基本刀柄、等径延长杆及变径延长杆

- HYDRAULIC CHUCK
- SHRINK FIT HOLDER
- ER COLLET CHUCK
- END MILL HOLDER & SIDE LOCK ARBOR
- SHELL MILL ARBOR
- POWER MILLING CHUCK
- MORSE TAPER ARBOR
- SK SLIM CHUCK
- SYNCHRO TAPPING CHUCK
- ONE STEP TAPPING CHUCK
- TAPPING ER CHUCK
- TAPPING CHUCK
- FACE MILL ARBOR
- COPY MILL ARBOR & INDEXABLE DRILL HOLDER
- NC DRILL CHUCK & OTHER TOOL HOLDERS
- BORING SYSTEM
- ACCESSORY & OTHERS

FINE BORING BAR (SMALL BORE)

**DIN 69893/
ISO 12164-1-HSK FORM A**

微调镗孔刀柄 (小径)



Unit (单位) : mm

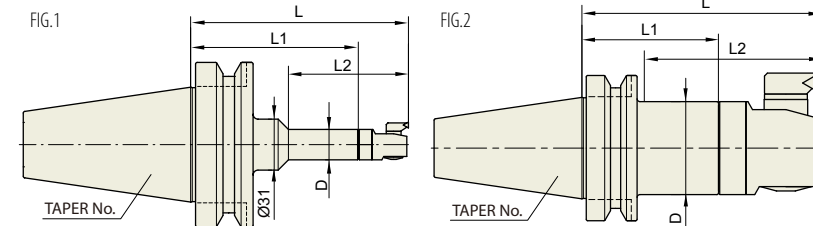
TAPER No. 锥度号	MODEL No. 型号	EDP No.	BORE RANGE (FRONT) 镗孔范围 (正面)	D	L	L1	L2	WEIGHT 重量(Kg)
40A	HSK40A-BAH1-72.5	P2777736	20 - 26	19	105	72.5	73	
	HSK40A-BAH2-39.5	P2777737	25 - 33	24	75	39.5	44	
	HSK40A-BAH2-84.5	P2777738	25 - 33	24	120	84.5	89	
	HSK40A-BAH3-45	P2777739	32 - 42	31	85	45	57	
	HSK40A-BAH3-80	P2777740	32 - 42	31	120	80	92	
	HSK40A-BAH4-53	P2777741	41 - 54	39	100	53	-	
50A	HSK40A-BAH4-73	P2777742	41 - 54	39	120	73	-	
	HSK50A-BAH1-72.5	P2777743	20 - 26	19	105	72.5	65	
	HSK50A-BAH2-84.5	P2777744	25 - 33	24	117	84.5	80	
	HSK50A-BAH3-80	P2777745	32 - 42	31	120	80	82	
	HSK50A-BAH4-73	P2777746	41 - 54	39	120	73	76	
	HSK50A-BAH5-83	P2777747	53 - 70	50	140	83	-	
63A	HSK63A-BAH1-77.5	P2777748	20 - 26	19	110	77.5	73	
	HSK63A-BAH2-89.5	P2777749	25 - 33	24	125	89.5	88	
	HSK63A-BAH3-100	P2777750	32 - 42	31	140	100	103	
	HSK63A-BAH4-93	P2777751	41 - 54	39	140	93	103	
	HSK63A-BAH5-83	P2777752	53 - 70	50	140	83	105	
	HSK63A-BAH6-79	P2777753	68 - 100	64	150	79	-	
100A	HSK100A-BAH1-102.5	P2777754	20 - 26	19	135	102.5	73	
	HSK100A-BAH2-114.5	P2777755	25 - 33	24	150	114.5	107	
	HSK100A-BAH3-125	P2777756	32 - 42	31	165	125	122	
	HSK100A-BAH4-118	P2777757	41 - 54	39	165	118	122	
	HSK100A-BAH4-178	P2777758	41 - 54	39	225	178	182	
	HSK100A-BAH5-108	P2777759	53 - 70	50	165	108	122	
	HSK100A-BAH5-183	P2777760	53 - 70	50	240	183	197	
	HSK100A-BAH5-228	P2777761	53 - 70	50	285	228	242	
	HSK100A-BAH6-94	P2777762	68 - 100	64	165	94	122	
	HSK100A-BAH6-169	P2777763	68 - 100	64	240	169	197	
	HSK100A-BAH6-229	P2777764	68 - 100	64	300	229	257	
	HSK100A-BAH7-123	P2777765	100 - 153	90	210	123	181	
	HSK100A-BAH7-273	P2777766	100 - 153	90	360	273	331	

►Basic Holder, Extension Bar and Reduction Bar interchangeable between Fine Boring Bar and Twin Edge Boring Bar.
微调镗孔刀柄与双刃镗刀之间可互换基本刀柄、等径延长杆及变径延长杆

FINE BORING BAR (SMALL BORE)

**JIS B6339/
MAS 403-BT**

微调镗孔刀柄 (小径)



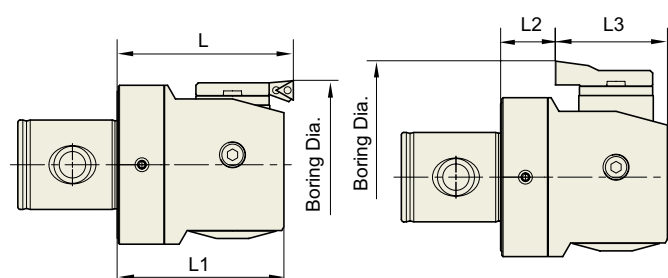
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	BORE RANGE (FRONT) 镗孔范围 (正面)	D	L	L1	L2	FIG.	WEIGHT 重量(Kg)
30	BT30-BAH1-105	P2777701	20 - 26	19	104.5	72	73	1	
	BT30-BAH2-75	P2777702	25 - 33	24	73	37.5	48	2	
	BT30-BAH2-120	P2777703	25 - 33	24	118	82.5	93	2	
	BT30-BAH3-80	P2777704	32 - 42	31	79	39	53	2	
	BT30-BAH3-120	P2777705	32 - 42	31	119	79	93	2	
	BT30-BAH4-85	P2777706	41 - 54	39	85	38	58	2	
40	BT30-BAH4-120	P2777707	41 - 54	39	120	73	93	2	
	BT30-BAH5-120	P2777708	53 - 70	50	120	63	93	2	
	BT40-BAH1-105	P2777709	20 - 26	19	104.5	72	73	2	
	BT40-BAH2-80	P2777710	25 - 33	24	78	42.5	48	2	
	BT40-BAH2-120	P2777711	25 - 33	24	118	82.5	88	2	
	BT40-BAH3-85	P2777712	32 - 42	31	84	44	53	2	
50	BT40-BAH3-135	P2777713	32 - 42	31	134	94	103	2	
	BT40-BAH4-90	P2777714	41 - 54	39	90	43	58	2	
	BT40-BAH4-135	P2777715	41 - 54	39	135	88	103	2	
	BT40-BAH5-105	P2777716	53 - 70	50	105	48	73	2	
	BT40-BAH5-135	P2777717	53 - 70	50	135	79	103	2	
	BT40-BAH6-135	P2777718	68 - 100	64	135	64	103	2	
50	BT50-BAH1-135	P2777719	20 - 26	19	134.5	102	73	1	
	BT50-BAH2-90	P2777720	25 - 33	24	88	52.5	47	2	
	BT50-BAH2-150	P2777721	25 - 33	24	148	112.5	107	2	
	BT50-BAH3-95	P2777722	32 - 42	31	94	54	52	2	
	BT50-BAH3-165	P2777723	32 - 42	31	164	124	122	2	
	BT50-BAH4-105	P2777724	41 - 54	39	105	58	62	2	
	BT50-BAH4-165	P2777725	41 - 54	39	165	118	122	2	
	BT50-BAH4-225	P2777726	41 - 54	39	225	178	182	2	
	BT50-BAH5-120	P2777727	53 - 70	50	120	63	77	2	
	BT50-BAH5-165	P2777728	53 - 70	50	165	108	122	2	
	BT50-BAH5-240	P2777729	53 - 70	50	240	183	197	2	
	BT50-BAH5-285	P2777730	53 - 70	50	285	228	242	2	
	BT50-BAH6-165	P2777731	68 - 100	64	165	94	122	2	
	BT50-BAH6-240	P2777732	68 - 100	64	240	169	197	2	
BT50-BAH6-300	P2777733	68 - 100	64	300	229	257	2		
BT50-BAH7-180	P2777734	100 - 153	90	180	93	142	2		
BT50-BAH7-330	P2777735	100 - 153	90	330	243	292	2		

►Basic Holder, Extension Bar and Reduction Bar interchangeable between Fine Boring Bar and Twin Edge Boring Bar.
微调镗孔刀柄与双刃镗刀之间可互换基本刀柄、等径延长杆及变径延长杆

BORING HEAD (For FINE BORING BAR-SMALL BORE)

微调镗头 (微调镗刀-小径用)



Unit (单位) : mm

MODEL No. 型号	EDP No.	CARTRIDGE	FRONT BORE 前孔			BACK BORE 后孔			INSERT 刀片	WEIGHT 重量(Kg)
			BORE RANGE 镗孔范围	L	L1	BORE RANGE 镗孔范围	L2	L3		
FBH20	P2777869	FBH1-1	20 - 26	32.5	29.5	-	10.5	19	TP08	
FBH25	P2777870	FBH2-1	25 - 33	35.5	32.5	-	10.5	19	TP08	
FBH32	P2777871	FBH3-1	32 - 42	40	35	-	10	25	TP08	
FBH41	P2777872	FBH4-1	41 - 54	47	43	-	14	29	TP11	
FBH53	P2777873	FBH5-1	53 - 70	57	53	52 - 70	19	34	TP11	
FBH68	P2777874	FBH6-1	68 - 100	71	67.2	80 - 100	22	45.2	TP11	
FBH100	P2777875	FBH6-1	100 - 153	71	67.2	112 - 153	22	45.2	TP11	
FBH100-2	P2777876	FBH6-1	100 - 153	87	83.2	112 - 153	38	45.2	TP11	

FBH BITE

FBH 刀片



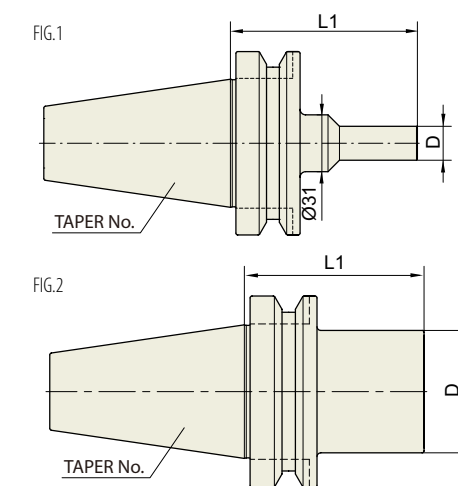
Unit (单位) : mm

MODEL No. 型号	EDP No.	INSERT 刀片	BORE RANGE 镗孔范围	CAMP BOLT	BORING HEAD 镗头
FBH20-B	P2802701	TPGT08	20 - 26	FTNA 0204	FBH20
FBH25-B	P2802702	TPGT08	25 - 33	FTNA 0204	FBH25
FBH32-B	P2802703	TPGT08	32 - 42	FTNA 0204	FBH32
FBH41-B	P2802704	TPGT1103	41 - 54	FTNA 0307	FBH41
FBH53-B	P2802705	TPGT1103	53 - 70	FTNA 0307	FBH53
FBH68-B	P2802706	TPGT1103	68 - 100	FTNA 0307	FBH68
FBH100-B	P2802707	TPGT1103	100 - 153	FTNA 0307	FBH100
FBH100-2B	P2802708	TPGT1103	100 - 560	FTNA 0307	FBH100

BASIC HOLDER (For FINE and TWIN EDGE BORING BAR - SMALL BORE)

基础刀柄 (微调镗孔刀柄及 双刃镗刀-小径用)

JIS B6339/
MAS 403-BT



Unit (单位) : mm

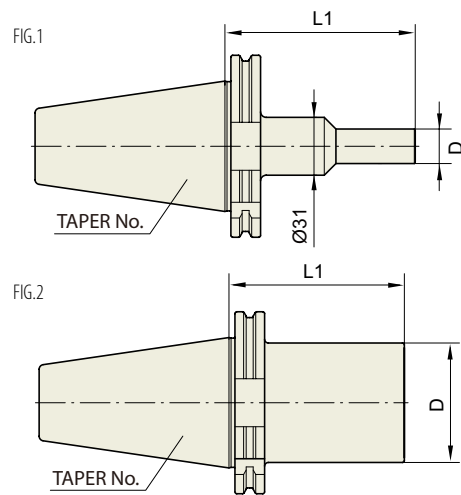
JIS
B6339-
BT



TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L1	FIG.	WEIGHT 重量(Kg)
30	BT30-SAS19-72	P2777794	19	72	1	
	BT30-SAS24-37.5	P2777795	24	37.5	2	
	BT30-SAS24-82.5	P2777796	24	82.5	2	
	BT30-SAS31-39	P2777797	31	39	2	
	BT30-SAS31-79	P2777798	31	79	2	
	BT30-SAS39-38	P2777799	39	38	2	
	BT30-SAS39-73	P2777800	39	73	2	
40	BT30-SAS50-63	P2777801	50	63	2	
	BT40-SAS19-72	P2777802	19	72	2	
	BT40-SAS24-42.5	P2777803	24	42.5	2	
	BT40-SAS24-82.5	P2777804	24	82.5	2	
	BT40-SAS31-44	P2777805	31	44	2	
	BT40-SAS31-94	P2777806	31	94	2	
	BT40-SAS39-43	P2777807	39	43	2	
	BT40-SAS39-88	P2777808	39	88	2	
	BT40-SAS50-48	P2777809	50	48	2	
	BT40-SAS50-79	P2777810	50	79	2	
50	BT40-SAS64-64	P2777811	64	64	2	
	BT50-SAS19-102	P2777812	19	102	1	
	BT50-SAS24-52.5	P2777813	24	52.5	2	
	BT50-SAS24-112.5	P2777814	24	112.5	2	
	BT50-SAS31-54	P2777815	31	54	2	
	BT50-SAS31-124	P2777816	31	124	2	
	BT50-SAS39-58	P2777817	39	58	2	
	BT50-SAS39-118	P2777818	39	118	2	
	BT50-SAS39-178	P2777819	39	178	2	
	BT50-SAS50-63	P2777820	50	63	2	
	BT50-SAS50-108	P2777821	50	108	2	
	BT50-SAS50-183	P2777822	50	183	2	
	BT50-SAS50-228	P2777823	50	228	2	
BT50-SAS64-94	P2777824	64	94	2		
BT50-SAS64-169	P2777825	64	169	2		
BT50-SAS64-229	P2777826	64	229	2		
BT50-SAS90-93	P2777827	90	93	2		
BT50-SAS90-243	P2777828	90	243	2		

BASIC HOLDER (For FINE and TWIN EDGE BORING BAR - SMALL BORE) DIN 69871-SK

基础刀柄 (微调镗孔刀柄 及 双刃镗刀-小径用)

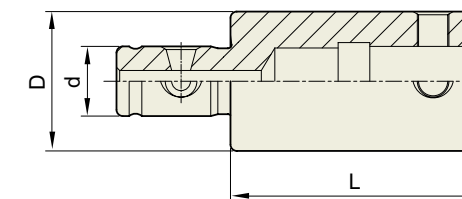


Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D	L1	FIG.	WEIGHT 重量(Kg)	
40	SK40-SAS19-72	P2777829	19	72	2		
	SK40-SAS24-42.5	P2777830	24	42.5	2		
	SK40-SAS24-82.5	P2777831	24	82.5	2		
	SK40-SAS31-44	P2777832	31	44	2		
	SK40-SAS31-94	P2777833	31	94	2		
	SK40-SAS39-43	P2777834	39	43	2		
	SK40-SAS39-88	P2777835	39	88	2		
	SK40-SAS50-48	P2777836	50	48	2		
	SK40-SAS50-79	P2777837	50	79	2		
	SK40-SAS64-64	P2777838	64	64	2		
	50	SK50-SAS19-102	P2777839	19	102	1	
		SK50-SAS24-52.5	P2777840	24	52.5	2	
		SK50-SAS24-112.5	P2777841	24	112.5	2	
		SK50-SAS31-54	P2777842	31	54	2	
SK50-SAS31-124		P2777843	31	124	2		
SK50-SAS39-58		P2777844	39	58	2		
SK50-SAS39-118		P2777845	39	118	2		
SK50-SAS39-178		P2777846	39	178	2		
SK50-SAS50-63		P2777847	50	63	2		
SK50-SAS50-105		P2777848	50	105	2		
SK50-SAS50-183		P2777849	50	183	2		
SK50-SAS50-228		P2777850	50	228	2		
SK50-SAS64-94		P2777851	64	94	2		
SK50-SAS64-169		P2777852	64	169	2		
SK50-SAS64-229		P2777853	64	229	2		
SK50-SAS90-93		P2777854	90	93	2		
SK50-SAS90-243		P2777855	90	243	2		

EXTENSION BAR (For FINE and TWIN EDGE BORING BAR - SMALL BORE)

等径延长杆 (微调镗孔刀柄 及 双刃镗刀-小径用)

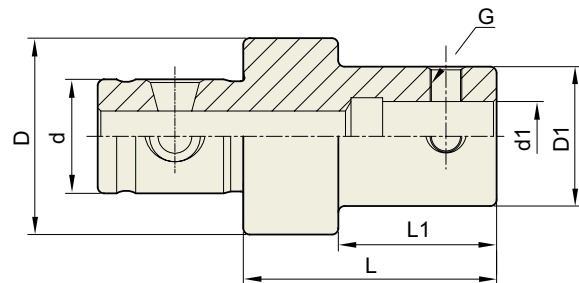


Unit (单位) : mm

MODEL No. 型号	EDP No.	d	D	L	WEIGHT 重量(Kg)
E-BAH1-20	P2777856	11	19	20	
E-BAH1-30	P2777857	11	19	30	
E-BAH2-30	P2777858	14	24	30	
E-BAH2-45	P2777859	14	24	45	
E-BAH3-30	P2777860	18	31	30	
E-BAH3-45	P2777861	18	31	45	
E-BAH4-45	P2777862	22	39	45	
E-BAH4-60	P2777863	22	39	60	
E-BAH5-60	P2777864	28	50	60	
E-BAH5-90	P2777865	28	50	90	
E-BAH6-60	P2777866	36	64	60	
E-BAH6-100	P2777867	36	64	100	
E-BAH7-105	P2777868	46	90	105	

REDUCTION BAR (For FINE and TWIN EDGE BORING BAR-SMALL BORE)

变径延长杆 (微调镗孔刀柄及双刃镗刀-小径用)



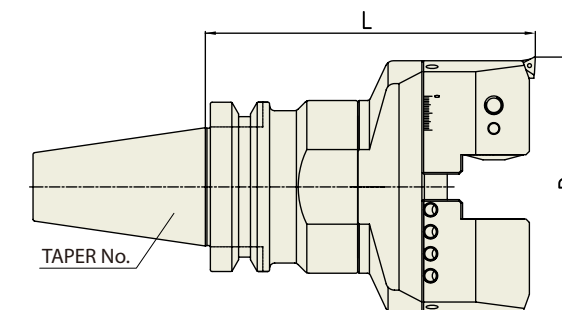
Unit (单位) : mm

MODEL No. 型号	EDP No.	d	d1	D	D1	L	L1	G	WEIGHT 重量(Kg)
R-SAS24-19-30	P2777912	14	11	24	19	30	20	M5	
R-SAS31-19-30	P2777913	18	11	31	19	30	20	M5	
R-SAS31-24-30	P2777914	18	14	31	24	30	20	M5	
R-SAS39-19-45	P2777915	22	11	39	19	45	25	M5	
R-SAS39-24-45	P2777916	22	14	39	24	45	25	M5	
R-SAS39-31-45	P2777917	22	18	39	31	45	25	M8	
R-SAS50-19-60	P2777918	28	11	50	19	60	35	M5	
R-SAS50-24-60	P2777919	28	14	50	24	60	35	M5	
R-SAS50-31-60	P2777920	28	18	50	31	60	35	M8	
R-SAS50-39-60	P2777921	28	22	50	39	60	35	M8	
R-SAS64-19-60	P2777922	36	11	64	19	60	35	M5	
R-SAS64-24-60	P2777923	36	14	64	24	60	35	M5	
R-SAS64-31-60	P2777924	36	18	64	31	60	35	M8	
R-SAS64-39-60	P2777925	36	22	64	39	60	35	M8	
R-SAS64-50-60	P2777926	36	28	64	50	60	35	M10	
R-SAS90-19-105	P2777927	46	11	90	19	105	75	M5	
R-SAS90-24-105	P2777928	46	14	90	24	105	75	M5	
R-SAS90-31-105	P2777929	46	18	90	31	105	75	M8	
R-SAS90-39-105	P2777930	46	22	90	39	105	75	M8	
R-SAS90-50-105	P2777931	46	28	90	50	105	75	M10	
R-SAS90-64-105	P2777932	46	36	90	64	105	75	M16	

FINE BORING BAR (BIG BORE)

微调镗孔刀柄 (大径)

**JIS B6339/
MAS 403-BT**



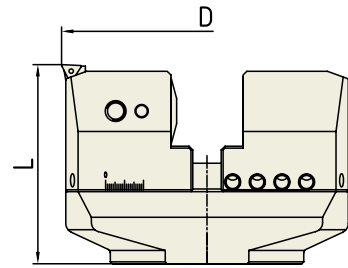
Unit (单位) : mm

MODEL No. 型号	EDP No.	D (BORE RANGE 镗孔范围)		BODY (BASIC HOLDER) 基础刀柄	BORING HEAD 镗头	WEIGHT 重量(Kg)
		Min. 最小	Max. 最大			
BT50-FBH153-195	P2777877	153	216	BT50-SAS102-90	FBH153S	
BT50-FBH153-265	P2777878			BT50-SAS102-160		
BT50-FBH153-315	P2777879			BT50-SAS102-210		
BT50-FBH153-365	P2777880			BT50-SAS102-260		
BT50-FBH216-195	P2777881	216	276	BT50-SAS102-90	FBH216S	
BT50-FBH216-265	P2777882			BT50-SAS102-160		
BT50-FBH216-315	P2777883			BT50-SAS102-210		
BT50-FBH216-365	P2777884			BT50-SAS102-260		
BT50-FBH276-195	P2777885	276	336	BT50-SAS102-90	FBH276S	
BT50-FBH276-265	P2777886			BT50-SAS102-160		
BT50-FBH276-315	P2777887			BT50-SAS102-210		
BT50-FBH276-365	P2777888			BT50-SAS102-260		
BT50-FBH336-195	P2777889	336	396	BT50-SAS102-90	FBH336S	
BT50-FBH336-265	P2777890			BT50-SAS102-160		
BT50-FBH336-315	P2777891			BT50-SAS102-210		
BT50-FBH336-365	P2777892			BT50-SAS102-260		
BT50-FBH396-195	P2777893	396	456	BT50-SAS102-90	FBH396S	
BT50-FBH396-265	P2777894			BT50-SAS102-160		
BT50-FBH396-315	P2777895			BT50-SAS102-210		
BT50-FBH396-365	P2777896			BT50-SAS102-260		
BT50-FBH456-195	P2777897	456	516	BT50-SAS102-90	FBH456S	
BT50-FBH456-265	P2777898			BT50-SAS102-160		
BT50-FBH456-315	P2777899			BT50-SAS102-210		
BT50-FBH456-365	P2777900			BT50-SAS102-260		
BT50-FBH516-195	P2777901	516	576	BT50-SAS102-90	FBH516S	
BT50-FBH516-265	P2777902			BT50-SAS102-160		
BT50-FBH516-315	P2777903			BT50-SAS102-210		
BT50-FBH516-365	P2777904			BT50-SAS102-260		

► Basic holder interchangeable between Fine Boring Bar and Twing Edge Boring Bar.
基本刀柄可在微调镗孔刀柄和双刃镗孔刀柄之间互换

BORING HEAD (For FINE BORING BAR-BIG BORE)

精镗头 (微调镗孔刀柄-大径用)



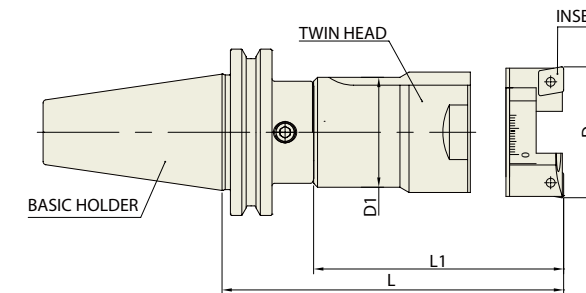
MODEL No. 型号	EDP No.	D (BORE RANGE 镗孔范围)		L (HEIGHT 高度)	WEIGHT 重量(Kg)
		Min. 最小	Max. 最大		
FBH153S	P2777905	153	216	105	
FBH216S	P2777906	216	276	105	
FBH276S	P2777907	276	336	105	
FBH336S	P2777908	336	396	105	
FBH396S	P2777909	396	456	105	
FBH456S	P2777910	456	516	105	
FBH516S	P2777911	516	576	105	

SPARE PART							
BORING HEAD 镗头	PLATE 滑板	CARTRIDGE 刀片架	CLAMP BOLT 夹紧螺栓	COUNTER WEIGHT 配重	WRENCH 扳手	CLAMP SCREW 夹紧螺钉	T-WRENCH T形扳手
FBH153S	PLA153	FTP11	M10*30L	FBB153	L-W 5	FTNA0307	T7
FBH216S	PLA216						
FBH276S	PLA276						
FBH336S	PLA336						
FBH396S	PLA396						
FBH456S	PLA456						
FBH516S	PLA516						

TWIN EDGE BORING BAR (SMALL BORE)

DIN 69871-SK

双刃镗孔刀柄 (小径)



Unit (单位) : mm

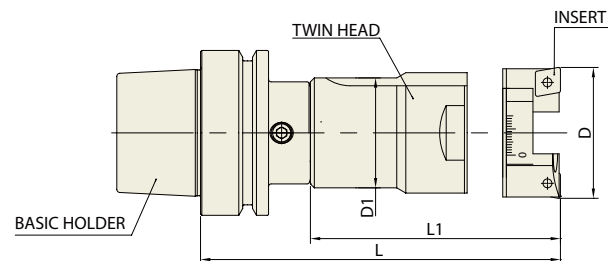
MODEL No. 型号	EDP No.	D (BORE RANGE) 镗孔范围	L	BASIC HOLDER 基础刀柄	TWIN HEAD 双刃镗头	D1	L1	INSERT 刀片	WEIGHT 重量(Kg)
		Min. - Max. 最小 - 最大							
SK40-TBH25-122	P2779663	25 - 34	122	SK40-SAS19-72	TBH25-50	22	50	CCMT060204	
SK40-TBH34-104	P2779664	34 - 50	104	SK40-SAS31-44	TBH34-60	31	60	CCMT060204	
SK40-TBH34-154	P2779665	34 - 50	154	SK40-SAS31-94	TBH34-60	31	60	CCMT060204	
SK40-TBH50-123	P2779666	50 - 76	123	SK40-SAS39-43	TBH50-80	42	80	CCMT09T308	
SK40-TBH50-168	P2779667	50 - 76	168	SK40-SAS39-88	TBH50-80	42	80	CCMT09T308	
SK40-TBH76-174	P2779668	76 - 116	174	SK40-SAS64-64	TBH76-110	65	110	CCMT120408	
SK50-TBH25-152	P2779669	25 - 34	152	SK50-SAS19-102	TBH25-50	22	50	CCMT060204	
SK50-TBH34-114	P2779670	34 - 50	114	SK50-SAS31-54	TBH34-60	31	60	CCMT060204	
SK50-TBH34-184	P2779671	34 - 50	184	SK50-SAS31-124	TBH34-60	31	60	CCMT060204	
SK50-TBH50-138	P2779672	50 - 76	138	SK50-SAS39-58	TBH50-80	42	80	CCMT09T308	
SK50-TBH50-198	P2779673	50 - 76	198	SK50-SAS39-118	TBH50-80	42	80	CCMT09T308	
SK50-TBH50-258	P2779674	50 - 76	258	SK50-SAS39-178	TBH50-80	42	80	CCMT09T308	
SK50-TBH76-204	P2779675	76 - 116	204	SK50-SAS64-94	TBH76-110	65	110	CCMT120408	
SK50-TBH76-279	P2779676	76 - 116	279	SK50-SAS64-169	TBH76-110	65	110	CCMT120408	
SK50-TBH76-339	P2779677	76 - 116	339	SK50-SAS64-229	TBH76-110	65	110	CCMT120408	
SK50-TBH116-198	P2779678	116 - 156	198	SK50-SAS90-93	TBH116-105	90	105	CCMT120408	
SK50-TBH116-348	P2779679	116 - 156	348	SK50-SAS90-243	TBH116-105	90	105	CCMT120408	

► Basic holder interchangeable between Fine Boring Bar and Twin Edge Boring Bar.
基本刀柄可在微调镗孔刀柄和双刃镗孔刀柄之间互换

TWIN EDGE BORING BAR (SMALL BORE)

DIN 69893/
ISO 12164-1-HSK FORM A

双刃镗孔刀柄 (小径)



Unit (单位) : mm

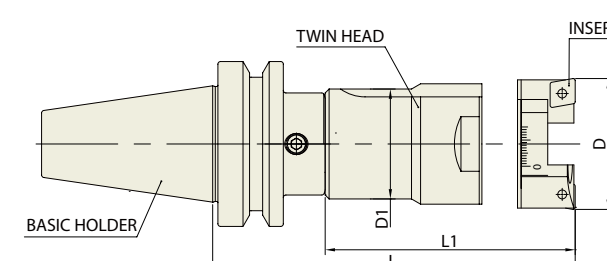
MODEL No. 型号	EDP No.	D (BORE RANGE) 镗孔范围		L	BASIC HOLDER 基础刀柄	TWIN HEAD 双刃镗头	D1	L1	INSERT 刀片	WEIGHT 重量 (Kg)
		Min. - Max. 最小 - 最大								
HSK40A-TBH25-122.5	P2779642	25 - 34		122.5	HSK40A-SAS19-72.5	TBH25-50	22	50	CCMT060204	
HSK40A-TBH34-105	P2779643	34 - 50		105	HSK40A-SAS31-45	TBH34-60	31	60	CCMT060204	
HSK40A-TBH34-140	P2779644	34 - 50		140	HSK40A-SAS31-80	TBH34-60	31	60	CCMT060204	
HSK40A-TBH50-133	P2779645	50 - 76		133	HSK40A-SAS39-53	TBH50-80	42	80	CCMT09T308	
HSK40A-TBH50-153	P2779646	50 - 76		153	HSK40A-SAS39-73	TBH50-80	42	80	CCMT09T308	
HSK50A-TBH25-122.5	P2779647	25 - 34		122.5	HSK50A-SAS19-72.5	TBH25-50	22	50	CCMT060204	
HSK50A-TBH34-140	P2779648	34 - 50		140	HSK50A-SAS31-80	TBH34-60	31	60	CCMT060204	
HSK50A-TBH50-153	P2779649	50 - 76		153	HSK50A-SAS39-73	TBH50-80	42	80	CCMT09T308	
HSK63A-TBH25-127.5	P2779650	25 - 34		127.5	HSK63A-SAS19-77.5	TBH25-50	22	50	CCMT060204	
HSK63A-TBH34-160	P2779651	34 - 50		160	HSK63A-SAS31-100	TBH34-60	31	60	CCMT060204	
HSK63A-TBH50-173	P2779652	50 - 76		173	HSK63A-SAS39-93	TBH50-80	42	80	CCMT09T308	
HSK63A-TBH76-189	P2779653	76 - 116		189	HSK63A-SAS64-79	TBH76-110	65	110	CCMT120408	
HSK100A-TBH19-152.5	P2779654	25 - 34		152.5	HSK100A-SAS19-102.5	TBH25-50	22	50	CCMT060204	
HSK100A-TBH34-185	P2779655	34 - 50		185	HSK100A-SAS31-125	TBH34-60	31	60	CCMT060204	
HSK100A-TBH50-198	P2779656	50 - 76		198	HSK100A-SAS39-118	TBH50-80	42	80	CCMT09T308	
HSK100A-TBH50-258	P2779657	50 - 76		258	HSK100A-SAS39-178	TBH50-80	42	80	CCMT09T308	
HSK100A-TBH76-204	P2779658	76 - 116		204	HSK100A-SAS64-94	TBH76-110	65	110	CCMT120408	
HSK100A-TBH76-279	P2779659	76 - 116		279	HSK100A-SAS64-169	TBH76-110	65	110	CCMT120408	
HSK100A-TBH76-339	P2779660	76 - 116		339	HSK100A-SAS64-229	TBH76-110	65	110	CCMT120408	
HSK100A-TBH116-228	P2779661	116 - 156		228	HSK100A-SAS90-123	TBH116-105	90	105	CCMT120408	
HSK100A-TBH116-378	P2779662	116 - 156		378	HSK100A-SAS90-273	TBH116-105	90	105	CCMT120408	

▶ Basic holder interchangeable between Fine Boring Bar and Twing Edge Boring Bar.
基本刀柄可在微调镗孔刀柄和双刃镗孔刀柄之间互换

TWIN EDGE BORING BAR (SMALL BORE)

JIS B6339/
MAS 403-BT

双刃镗孔刀柄 (小径)



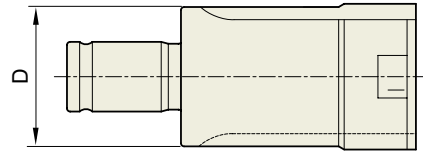
Unit (单位) : mm

MODEL No. 型号	EDP No.	D (BORE RANGE) 镗孔范围		L	BASIC HOLDER 基础刀柄	TWIN HEAD 双刃镗头	D1	L1	INSERT 刀片	WEIGHT 重量 (Kg)
		Min. - Max. 最小 - 最大								
BT30-TBH25-122	P2779620	25 - 34		122	BT30-SAS19-72	TBH25-50	22	50	CCMT060204	
BT30-TBH34-99	P2779621	34 - 50		99	BT30-SAS31-39	TBH34-60	31	60	CCMT060204	
BT30-TBH34-139	P2779622	34 - 50		139	BT30-SAS31-79	TBH34-60	31	60	CCMT060204	
BT30-TBH50-118	P2779623	50 - 76		118	BT30-SAS39-38	TBH50-80	42	80	CCMT09T308	
BT30-TBH50-153	P2779624	50 - 76		153	BT30-SAS39-73	TBH50-80	42	80	CCMT09T308	
BT40-TBH25-122	P2779625	25 - 34		122	BT40-SAS19-72	TBH25-50	22	50	CCMT060204	
BT40-TBH34-104	P2779626	34 - 50		104	BT40-SAS31-44	TBH34-60	31	60	CCMT060204	
BT40-TBH34-154	P2779627	34 - 50		154	BT40-SAS31-94	TBH34-60	31	60	CCMT060204	
BT40-TBH50-123	P2779628	50 - 76		123	BT40-SAS39-43	TBH50-80	42	80	CCMT09T308	
BT40-TBH50-168	P2779629	50 - 76		168	BT40-SAS39-88	TBH50-80	42	80	CCMT09T308	
BT40-TBH76-174	P2779630	76 - 116		174	BT40-SAS64-64	TBH76-110	65	110	CCMT120408	
BT50-TBH25-152	P2779631	25 - 34		152	BT50-SAS19-102	TBH25-50	22	50	CCMT060204	
BT50-TBH34-114	P2779632	34 - 50		114	BT50-SAS31-54	TBH34-60	31	60	CCMT060204	
BT50-TBH34-184	P2779633	34 - 50		184	BT50-SAS31-124	TBH34-60	31	60	CCMT060204	
BT50-TBH50-138	P2779634	50 - 76		138	BT50-SAS39-58	TBH50-80	42	80	CCMT09T308	
BT50-TBH50-198	P2779635	50 - 76		198	BT50-SAS39-118	TBH50-80	42	80	CCMT09T308	
BT50-TBH50-258	P2779636	50 - 76		258	BT50-SAS39-178	TBH50-80	42	80	CCMT09T308	
BT50-TBH76-204	P2779637	76 - 116		204	BT50-SAS64-94	TBH76-110	65	110	CCMT120408	
BT50-TBH76-279	P2779638	76 - 116		279	BT50-SAS64-169	TBH76-110	65	110	CCMT120408	
BT50-TBH76-339	P2779639	76 - 116		339	BT50-SAS64-229	TBH76-110	65	110	CCMT120408	
BT50-TBH116-198	P2779640	116 - 156		198	BT50-SAS90-93	TBH116-105	90	105	CCMT120408	
BT50-TBH116-348	P2779641	116 - 156		348	BT50-SAS90-243	TBH116-105	90	105	CCMT120408	

▶ Basic holder interchangeable between Fine Boring Bar and Twing Edge Boring Bar.
基本刀柄可在微调镗孔刀柄和双刃镗孔刀柄之间互换

BORING HEAD (For TWIN EDGE BORING BAR-SMALL BORE)

镗头 (双刃镗孔刀柄-小径用)

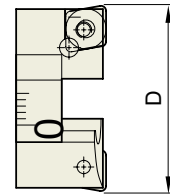
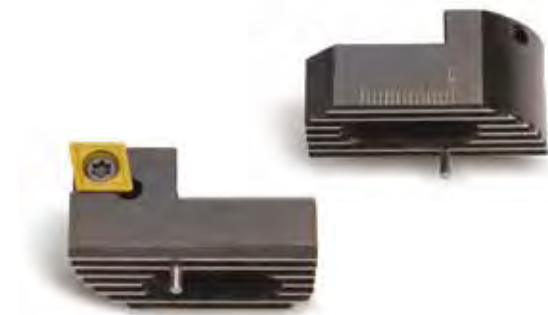


Unit (单位) : mm

MODEL No. 型号	EDP No.	D	WEIGHT 重量(Kg)
SAS22-TBH25-50	P2779529	22	
SAS31-TBH34-60	P2779530	31	
SAS42-TBH50-80	P2779531	42	
SAS65-TBH76-110	P2779532	65	
SAS84-TBH116-145	P2779533	84	

INSERT HOLDER (CARTRIDGE For TWIN EDGE BORING BAR-SMALL BORE)

刀片架 (双刃镗孔刀柄-小径用)



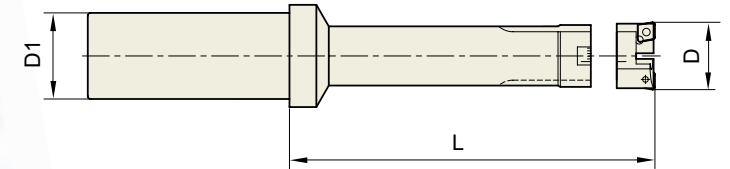
Unit (单位) : mm

MODEL No. 型号	EDP No.	D (BORE RANGE)	WEIGHT 重量(Kg)
		Min. - Max.	
TBH25-CC06	P2779534	25 - 34	
TBH34-CC06	P2779535	34 - 50	
TBH50-CC09	P2779536	50 - 76	
TBH76-CC12	P2779537	76 - 116	
TBH116-CC12	P2779538	116 - 156	

TWIN EDGE BORING BAR

双刃镗孔刀柄

STRAIGHT-ST



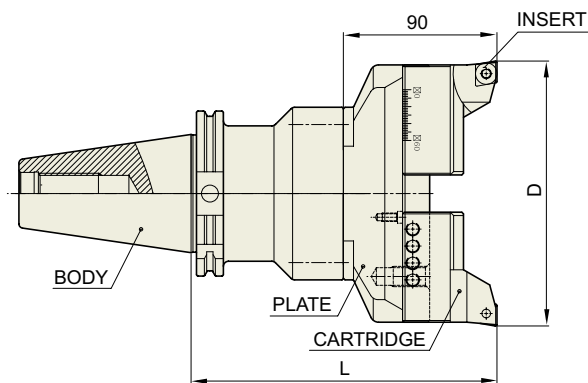
Unit (单位) : mm

TYPE	MODEL No. 型号	EDP No.	D (BORE RANGE) 镗孔范围	L	D1	INSERT 刀片	WEIGHT 重量(Kg)
			Min. - Max. 最小 - 最大				
32	ST32-TBH25-125	P2779559	25 - 34	125	32	CCMT060200	
	ST32-TBH34-130	P2779560	34 - 50	130	32	CCMT060200	
	ST32-TBH50-155	P2779561	50 - 76	155	32	CCMT09T300	
40	ST40-TBH76-185	P2779562	76 - 116	185	40	CCMT120400	
42	ST42-TBH76-185	P2779563	76 - 116	185	42	CCMT120400	

TWIN EDGE BORING BAR (BIG BORE)

DIN 69871-SK

双刃镗孔刀柄 (大径)



Unit (单位) : mm

MODEL No. 型号	EDP No.	D (BORE RANGE) 镗孔范围		L	BODY 基础刀柄	PLATE 滑板	INSERT 刀片	WEIGHT 重量(Kg)
		Min. - Max. 最小 - 最大						
SK50-TBH156-180	P2779585	156 - 216		180	SK50-SAS102-90	PLA156	CCMT120400	
SK50-TBH156-230	P2779586	156 - 216		230	SK50-SAS102-140	PLA156	CCMT120400	
SK50-TBH156-280	P2779587	156 - 216		280	SK50-SAS102-190	PLA156	CCMT120400	
SK50-TBH216-180	P2779588	216 - 276		180	SK50-SAS102-90	PLA216	CCMT120400	
SK50-TBH216-230	P2779589	216 - 276		230	SK50-SAS102-140	PLA216	CCMT120400	
SK50-TBH216-280	P2779590	216 - 276		280	SK50-SAS102-190	PLA216	CCMT120400	
SK50-TBH276-180	P2779591	276 - 336		180	SK50-SAS102-90	PLA276	CCMT120400	
SK50-TBH276-230	P2779592	276 - 336		230	SK50-SAS102-140	PLA276	CCMT120400	
SK50-TBH276-280	P2779593	276 - 336		280	SK50-SAS102-190	PLA276	CCMT120400	
SK50-TBH336-180	P2779594	336 - 396		180	SK50-SAS102-90	PLA336	CCMT120400	
SK50-TBH336-230	P2779595	336 - 396		230	SK50-SAS102-140	PLA336	CCMT120400	
SK50-TBH336-280	P2779596	336 - 396		280	SK50-SAS102-190	PLA336	CCMT120400	
SK50-TBH396-180	P2779597	396 - 456		180	SK50-SAS102-90	PLA396	CCMT120400	
SK50-TBH396-230	P2779598	396 - 456		230	SK50-SAS102-140	PLA396	CCMT120400	
SK50-TBH396-280	P2779599	396 - 456		280	SK50-SAS102-190	PLA396	CCMT120400	
SK50-TBH456-180	P2779600	456 - 516		180	SK50-SAS102-90	PLA456	CCMT120400	
SK50-TBH456-230	P2779601	456 - 516		230	SK50-SAS102-140	PLA456	CCMT120400	
SK50-TBH456-280	P2779602	456 - 516		280	SK50-SAS102-190	PLA456	CCMT120400	
SK50-TBH516-180	P2779603	516 - 576		180	SK50-SAS102-90	PLA516	CCMT120400	
SK50-TBH516-230	P2779604	516 - 576		230	SK50-SAS102-140	PLA516	CCMT120400	
SK50-TBH516-280	P2779605	516 - 576		280	SK50-SAS102-190	PLA516	CCMT120400	

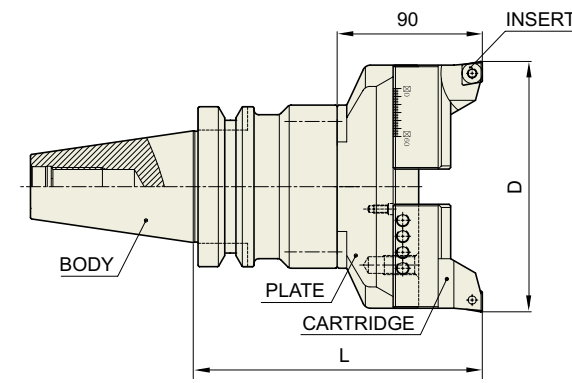
► Upon request, special twin edge boring bars with a boring range up to 800mm could be manufactured and supplied.
根据要求, 可定制和提供非常规标准的双刃镗刀, 镗孔范围可达800毫米

► Basic holder interchangeable between Fine Boring Bar and Twing Edge Boring Bar.
基本刀柄可在微调镗孔刀柄和双刃镗孔刀柄之间互换

TWIN EDGE BORING BAR (BIG BORE)

**JIS B6339/
MAS 403-BT**

双刃镗孔刀柄 (大径)



Unit (单位) : mm

MODEL No. 型号	EDP No.	D (BORE RANGE) 镗孔范围		L	BODY 基础刀柄	PLATE 滑板	INSERT 刀片	WEIGHT 重量(Kg)
		Min. - Max. 最小 - 最大						
BT50-TBH156-180	P2779564	156 - 216		180	BT50-SAS102-90	PLA156	CCMT120400	
BT50-TBH156-230	P2779565	156 - 216		230	BT50-SAS102-140	PLA156	CCMT120400	
BT50-TBH156-280	P2779566	156 - 216		280	BT50-SAS102-190	PLA156	CCMT120400	
BT50-TBH216-180	P2779567	216 - 276		180	BT50-SAS102-90	PLA216	CCMT120400	
BT50-TBH216-230	P2779568	216 - 276		230	BT50-SAS102-140	PLA216	CCMT120400	
BT50-TBH216-280	P2779569	216 - 276		280	BT50-SAS102-190	PLA216	CCMT120400	
BT50-TBH276-180	P2779570	276 - 336		180	BT50-SAS102-90	PLA276	CCMT120400	
BT50-TBH276-230	P2779571	276 - 336		230	BT50-SAS102-140	PLA276	CCMT120400	
BT50-TBH276-280	P2779572	276 - 336		280	BT50-SAS102-190	PLA276	CCMT120400	
BT50-TBH336-180	P2779573	336 - 396		180	BT50-SAS102-90	PLA336	CCMT120400	
BT50-TBH336-230	P2779574	336 - 396		230	BT50-SAS102-140	PLA336	CCMT120400	
BT50-TBH336-280	P2779575	336 - 396		280	BT50-SAS102-190	PLA336	CCMT120400	
BT50-TBH396-180	P2779576	396 - 456		180	BT50-SAS102-90	PLA396	CCMT120400	
BT50-TBH396-230	P2779577	396 - 456		230	BT50-SAS102-140	PLA396	CCMT120400	
BT50-TBH396-280	P2779578	396 - 456		280	BT50-SAS102-190	PLA396	CCMT120400	
BT50-TBH456-180	P2779579	456 - 516		180	BT50-SAS102-90	PLA456	CCMT120400	
BT50-TBH456-230	P2779580	456 - 516		230	BT50-SAS102-140	PLA456	CCMT120400	
BT50-TBH456-280	P2779581	456 - 516		280	BT50-SAS102-190	PLA456	CCMT120400	
BT50-TBH516-180	P2779582	516 - 576		180	BT50-SAS102-90	PLA516	CCMT120400	
BT50-TBH516-230	P2779583	516 - 576		230	BT50-SAS102-140	PLA516	CCMT120400	
BT50-TBH516-280	P2779584	516 - 576		280	BT50-SAS102-190	PLA516	CCMT120400	

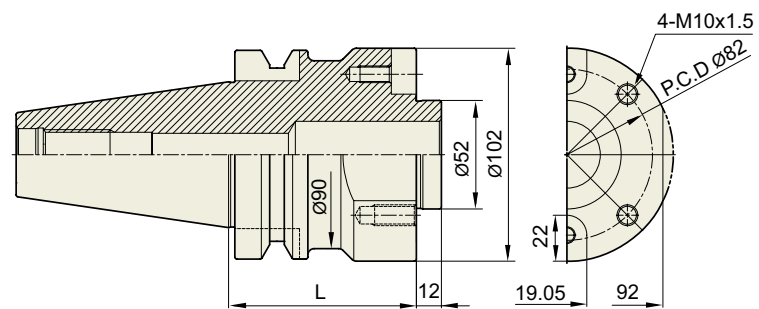
► Upon request, special twin edge boring bars with a boring range up to 800mm could be manufactured and supplied.
根据要求, 可定制和提供非常规标准的双刃镗刀, 镗孔范围可达800毫米

► Basic holder interchangeable between Fine Boring Bar and Twing Edge Boring Bar.
基本刀柄可在微调镗孔刀柄和双刃镗孔刀柄之间互换

TWIN EDGE BORING BAR (BIG BORE)

基础刀柄 (微调镗孔刀柄及双刃镗孔刀柄-大径)

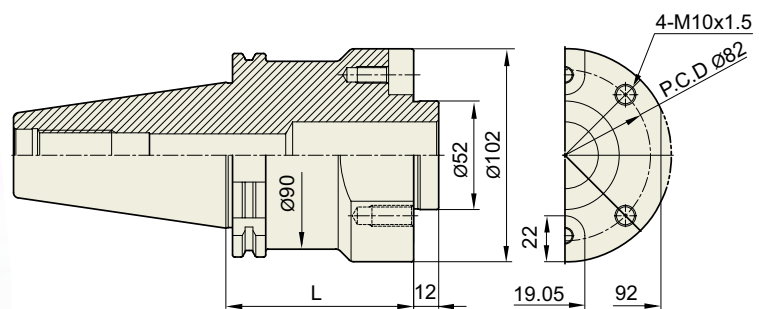
JIS B6339/
MAS 403-BT



Unit (单位) : mm

MODEL No. 型号	EDP No.	L	WEIGHT 重量(Kg)
BT50-SAS102-90	P2779606	90	
BT50-SAS102-140	P2779607	140	
BT50-SAS102-190	P2779608	190	

DIN 69871-SK



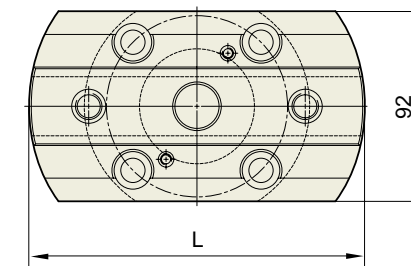
Unit (单位) : mm

MODEL No. 型号	EDP No.	L	WEIGHT 重量(Kg)
SK50-SAS102-90	P2779609	90	
SK50-SAS102-140	P2779610	140	
SK50-SAS102-190	P2779611	190	

► Basic holder interchangeable between Fine Boring Bar and Twing Edge Boring Bar.
基本刀柄可在微调镗孔刀柄和双刃镗孔刀柄之间互换

PLATE (For TWIN EDGE BORING BAR-BIG BORE)

滑板 (双刃镗孔刀柄-大径用)

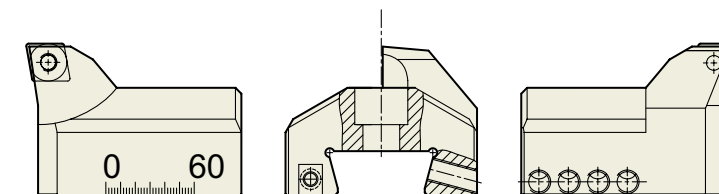
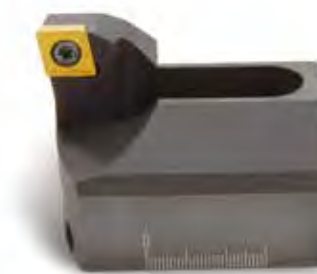


Unit (单位) : mm

PLATE	EDP No.	D	WEIGHT 重量(Kg)
PLA156	P2779612	152	
PLA216	P2779613	212	
PLA276	P2779614	272	
PLA336	P2779615	332	
PLA396	P2779616	392	
PLA456	P2779617	452	
PLA516	P2779618	512	

INSERT HOLDER (CARTRIDGE For TWIN EDGE BORING BAR-BIG BORE)

刀片架 (双刃镗孔刀柄-大径用)

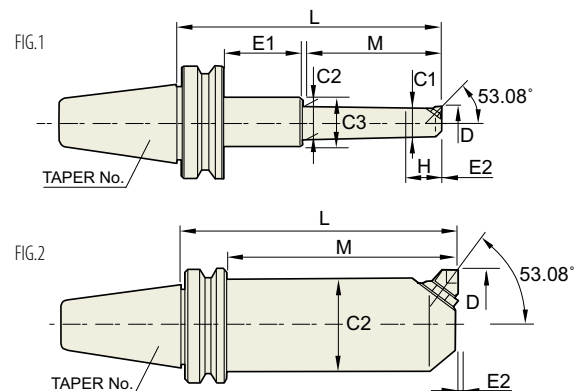


Unit (单位) : mm

CARTRIDGE (For Rough Cutting)	EDP No.	WEIGHT 重量(Kg)
CN120	P2779619	

MICRO BORING BAR
微切削镗孔刀柄

JIS B6339/
MAS 403-BT

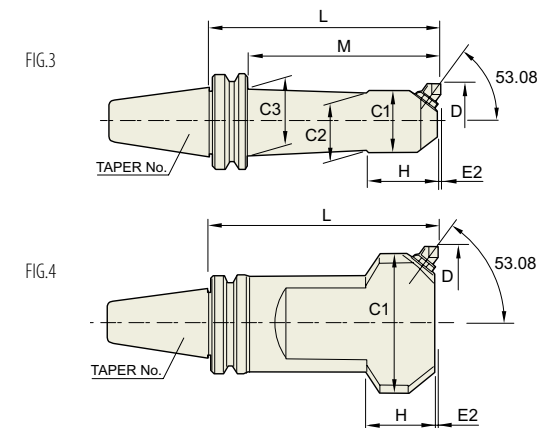


Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D (BORE RANGE) 镗孔范围		L	M	C1	C2	C3	H	E1	E2	UNIT	INSERT 刀片	FIG.	WEIGHT 重量(Kg)
			Min. - Max. 最小 - 最大													
30	BT30-BCA13.5-105	P2779701	13.5 - 16		105	68	12	13.0	44	15	5	0.2	M1B2E/F	BRAZED TYPE	1	
	BT30-BCA14.5-105	P2779702	14.5 - 17		105	68	13	14.0	44	15	5	0.2	M1B2E/F	BRAZED TYPE	1	
	BT30-BCA16-105	P2779703	16 - 22.5		105	73	14	15	-	18	-	0.2	M1A2E/F	BRAZED TYPE	3	
	BT30-BCA19-120	P2779704	19 - 23		120	85	16	18	44	23	3	0.2	M2B2CC	CCGT0401	1	0.70
	BT30-BCA23-135	P2779705	23 - 29		135	105	19	22	-	24	-	0.2	M3B2TC	TBGT0601	3	0.70
	BT30-BCA29-150	P2779706	29 - 41		150	115	25	28	44	30	8	0.2	M3A2TC	TBGT0601	1	0.90
	BT30-BCA29-195	P2779707	29 - 41		195	115	25	28	44	30	53	0.2	M3A2TC	TBGT0601	1	
	BT30-BCA38-150	P2779708	38 - 49		150	115	33	35	55	41	8	0.2	M5B2TC	TCGT1102	1	1.40
	BT30-BCA38-210	P2779709	38 - 49		210	175	33	37	55	41	8	0.2	M5B2TC	TCGT1102	1	
	BT30-BCA46-150	P2779710	46 - 66		150	115	38	41	55	45	8	0.2	M5A2TC	TCGT1102	1	2.10
	BT30-BCA46-210	P2779711	46 - 66		210	175	38	45	55	45	8	0.2	M5A2TC	TCGT1102	1	
	BT30-BCA62-165	P2779712	62 - 87		165	135	51	-	-	-	-	0.2	M7A2TC	TCGT16T3	2	
40	BT40-BCA13.5-105	P2779713	13.5 - 16		105	68	12	13.0	44	15	5	0.2	M1B2E/F	BRAZED TYPE	1	
	BT40-BCA14.5-105	P2779714	14.5 - 17		105	68	13	14.0	44	15	5	0.2	M1B2E/F	BRAZED TYPE	1	
	BT40-BCA16-105	P2779715	16 - 22.5		105	73	14	15	-	18	-	0.2	M1A2E/F	BRAZED TYPE	3	
	BT40-BCA19-120	P2779716	19 - 23		120	85	16	18	44	23	3	0.2	M2B2CC	CCGT0401	1	1.50
	BT40-BCA23-135	P2779717	23 - 29		135	105	19	22	-	24	-	0.2	M3B2TC	TBGT0601	3	1.50
	BT40-BCA29-150	P2779718	29 - 41		150	115	25	28	44	30	8	0.2	M3A2TC	TBGT0601	1	1.50
	BT40-BCA29-195	P2779719	29 - 41		195	115	25	28	44	30	53	0.2	M3A2TC	TBGT0601	1	2.00
	BT40-BCA38-150	P2779720	38 - 49		150	115	33	35	55	41	8	0.2	M5B2TC	TCGT1102	1	1.80
	BT40-BCA38-210	P2779721	38 - 49		210	175	33	37	55	41	8	0.2	M5B2TC	TCGT1102	1	2.20
	BT40-BCA46-150	P2779722	46 - 66		150	115	38	41	55	45	8	0.2	M5A2TC	TCGT1102	1	2.10
	BT40-BCA46-210	P2779723	46 - 66		210	175	38	45	55	45	8	0.2	M5A2TC	TCGT1102	1	2.30
	BT40-BCA62-165	P2779724	62 - 87		165	135	51	-	-	-	-	0.2	M7A2TC	TCGT16T3	2	2.90
BT40-BCA62-210	P2779725	62 - 87		210	180	51	-	-	-	-	0.2	M7A2TC	TCGT16T3	2	3.60	
BT40-BCA83-150	P2779726	83 - 108		150	120	63	-	-	-	-	0.2	M7A2TC	TCGT16T3	2		
BT40-BCA83-210	P2779727	83 - 108		210	180	63	-	-	-	-	0.2	M7A2TC	TCGT16T3	2		
BT40-BCA98-150	P2779728	98 - 142		150	120	83	-	-	85	-	0.2	M10A2TC	TCGT16T3	4		

MICRO BORING BAR
微切削镗孔刀柄

JIS B6339/
MAS 403-BT



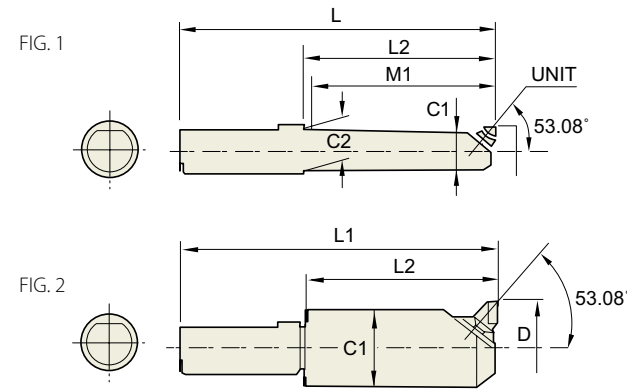
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D (BORE RANGE) 镗孔范围		L	M	C1	C2	C3	H	E1	E2	UNIT	INSERT 刀片	FIG.	WEIGHT 重量(Kg)
			Min. - Max. 最小 - 最大													
50	BT50-BCA13.5-120	P2779729	13.5 - 16		120	67	12	13	44	15	10	0.2	M1B2E/F	-	1	
	BT50-BCA13.5-195	P2779730	13.5 - 16		195	67	12	13	44	15	85	0.2	M1B2E/F	-	1	
	BT50-BCA14.5-120	P2779731	14.5 - 17		120	67	13	14	44	15	10	0.2	M1B2E/F	-	1	
	BT50-BCA14.5-195	P2779732	14.5 - 17		195	67	13	14	44	15	85	0.2	M1B2E/F	-	1	
	BT50-BCA16-120	P2779733	16 - 22.5		120	73	14	15	44	18	4	0.2	M1A2E/F	-	1	
	BT50-BCA16-195	P2779734	16 - 22.5		195	73	14	15	44	18	79	0.2	M1A2E/F	-	1	
	BT50-BCA19-135	P2779735	19 - 23		135	86	16	18	44	23	6	0.2	M2B2CC	CCGT0401	1	3.80
	BT50-BCA19-210	P2779736	19 - 23		210	86	16	18	44	23	81	0.2	M2B2CC	CCGT0401	1	
	BT50-BCA23-150	P2779737	23 - 29		150	105	19	22	44	24	2	0.2	M3B2TC	TBGT0601	1	3.90
	BT50-BCA23-225	P2779738	23 - 29		225	105	19	22	44	24	77	0.2	M3B2TC	TBGT0601	1	
	BT50-BCA29-165	P2779739	29 - 41		165	115	25	28	44	30	7	0.2	M3A2TC	TBGT0601	1	4.50
	BT50-BCA29-225	P2779740	29 - 41		225	165	25	28	44	30	67	0.2	M3A2TC	TBGT0601	1	
	BT50-BCA38-165	P2779741	38 - 49		165	115	33	35	55	41	7	0.2	M5B2TC	TCGT1102	1	
	BT50-BCA38-225	P2779742	38 - 49		225	172	33	37	55	41	10	0.2	M5B2TC	TCGT1102	1	5.00
	BT50-BCA46-165	P2779743	46 - 66		165	115	38	41	55	45	7	0.2	M5A2TC	TCGT1102	1	5.20
	BT50-BCA46-225	P2779744	46 - 66		225	182	38	-	-	45	-	0.2	M5A2TC	TCGT1102	3	
	BT50-BCA46-255	P2779745	46 - 66		255	206	38	-	55	45	6	0.2	M5A2TC	TCGT1102	1	5.70
	BT50-BCA62-180	P2779746	62 - 87		180	137	51	-	-	-	-	0.2	M7A2TC	TCGT16T3	2	7.00
	BT50-BCA62-240	P2779747	62 - 87		240	184	51	57	70	60	13	0.2	M7A2TC	TCGT16T3	1	7.60
	BT50-BCA62-330	P2779748	62 - 87		330	280	51	60	70	60	7	0.2	M7A2TC	TCGT16T3	1	9.50
	BT50-BCA83-165	P2779749	83 - 108		165	122	63	-	-	-	-	0.2	M7A2TC	TCGT16T3	2	
	BT50-BCA83-240	P2779750	83 - 108		240	190	63	62	90	95	7	0.2	M7A2TC	TCGT16T3	1	
	BT50-BCA83-345	P2779751	83 - 108		345	295	63	62	90	95	7	0.2	M7A2TC	TCGT16T3	1	
	BT50-BCA98-165	P2779752	98 - 142		165	122	83	-	-	-	-	0.2	M10A2TC	TCGT16T3	2	
BT50-BCA98-240	P2779753	98 - 142		240	197	83	-	-	-	-	0.2	M10A2TC	TCGT16T3	2		
BT50-BCA98-345	P2779754	98 - 142		345	302	83	92	-	85	-	0.2	M10A2TC	TCGT16T3	3		
BT50-BCA132-210	P2779755	132 - 176		210	-	108	-	-	65	-	0.2	M10A2TC	TCGT16T3	4		
BT50-BCA132-315	P2779756	132 - 176		315	-	108	-	-	65	-	0.2	M10A2TC	TCGT16T3	4		
BT50-BCA166-225	P2779757	166 - 210		225	-	142	-	-	70	-	0.2	M10A2TC	TCGT16T3	4		
BT50-BCA166-315	P2779758	166 - 210		315	-	142	-	-	70	-	0.2	M10A2TC	TCGT16T3	4		
BT50-BCA200-210	P2779759	200 - 244		210	-	176	-	-	75	-	0.2	M10A2TC	TCGT16T3	4		

MICRO BORING BAR

STRAIGHT-ST

微切削镗孔刀柄



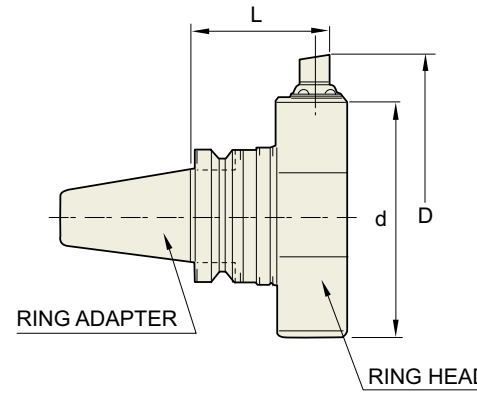
Unit (单位) : mm

TYPE	MODEL No. 型号	EDP No.	D (BORE RANGE) 镗孔范围		L1	L2	M1	C1	C2	UNIT	FIG.	WEIGHT 重量(Kg)
			Min. - Max. 最小 - 最大									
32	ST32-BCA13.5-75	P2779760	13.5 - 16		135	75	67	12	13	M1B2E/F	1	0.50
	ST32-BCA14.5-75	P2779761	14.5 - 17		145	75	67	12	14	M1B2E/F	1	0.50
	ST32-BCA16-90	P2779762	16 - 22.5		160	90	82	14	15	M1A2E/F	1	0.50
	ST32-BCA19-90	P2779763	19 - 23.0		160	90	82	16	18	M2B-2CC	1	0.50
	ST32-BCA23-120	P2779764	23 - 29.0		190	120	110	19	22	M3B-2TC	1	1.00
	ST32-BCA29-120	P2779765	29 - 41.0		190	120	110	25	28	M3A-2TC	1	1.00
	ST32-BCA38-120	P2779766	38 - 49.0		190	120	115	33	35	M5B-2TC	2	1.50
	ST32-BCA46-120	P2779767	46 - 66		190	120	115	38	-	M5A-2TC	2	1.50
	ST32-BCA62-120	P2779768	62 - 87.0		190	120	115	51	-	M7A-2TC	2	2.50
42	ST42-BCA13.5-85	P2779769	13.5 - 16		165	85	67	12	13	M1B2E/F	1	1.00
	ST42-BCA14.5-85	P2779770	14.5 - 17		165	85	67	12	14	M1B2E/F	1	1.00
	ST42-BCA16-100	P2779771	16 - 22.5		180	100	82	14	15	M1A2E/F	1	1.00
	ST42-BCA19-100	P2779772	19 - 23.0		180	100	82	16	18	M2B2E/F	1	1.00
	ST42-BCA23-120	P2779773	23 - 29.0		200	120	110	19	22	M3B-2TC	1	1.50
	ST42-BCA29-120	P2779774	29 - 41.0		200	120	110	25	28	M3A-2TC	1	1.50
	ST42-BCA38-130	P2779775	38 - 49.0		210	130	125	33	35	M5B-2TC	1	1.50
	ST42-BCA46-135	P2779776	46 - 66.0		215	135	130	38	44	M5A-2TC	1	1.50
	ST42-BCA62-135	P2779777	62 - 87.0		215	135	130	51	-	M7A-2TC	2	2.50
ST42-BCA83-150	P2779778	83 - 108		230	150	145	63	-	M7A-2TC	2	3.00	

BIG SIZE MICRO CUT BORING BAR

JIS B6339/
MAS 403-BT

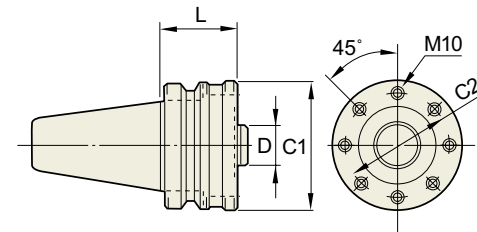
大径微切削镗孔刀柄



BORING RING HOLDER 镗孔环刀柄

Unit (单位) : mm

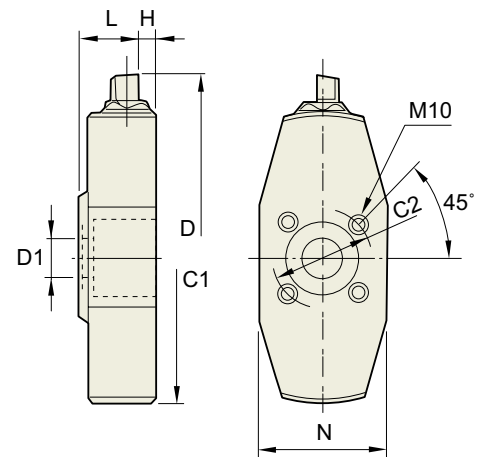
MODEL No. 型号	EDP No.	d	D	L
BT50-BRA140-105	P2779779	140	197	105
BT50-BRA140-165	P2779780	140	197	165
BT50-BRA191-105	P2779781	191	248	105
BT50-BRA191-165	P2779782	191	248	165
BT50-BRA242-105	P2779783	242	299	105
BT50-BRA242-165	P2779784	242	299	165
BT50-BRA293-105	P2779785	293	350	105
BT50-BRA293-165	P2779786	293	350	165
BT50-BRA344-105	P2779787	344	401	105
BT50-BRA344-165	P2779788	344	401	165
BT50-BRA395-105	P2779789	395	452	105
BT50-BRA395-165	P2779790	395	452	165



RING ADAPTER 夹头

Unit (单位) : mm

MODEL No. 型号	EDP No.	D (h6)	L	C1	C2
BT50-RAA32-60	P2779791	32	60	102	82
BT50-RAA32-120	P2779792	32	120	102	82

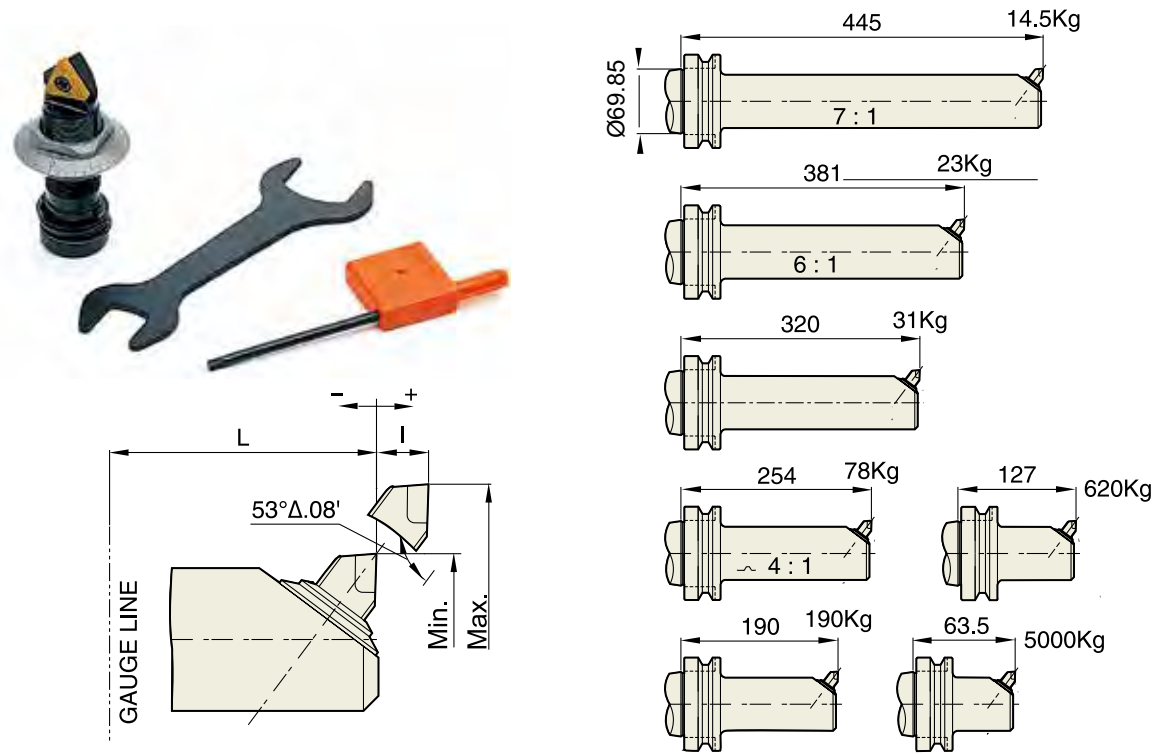


RING HEAD 镗头

Unit (单位) : mm

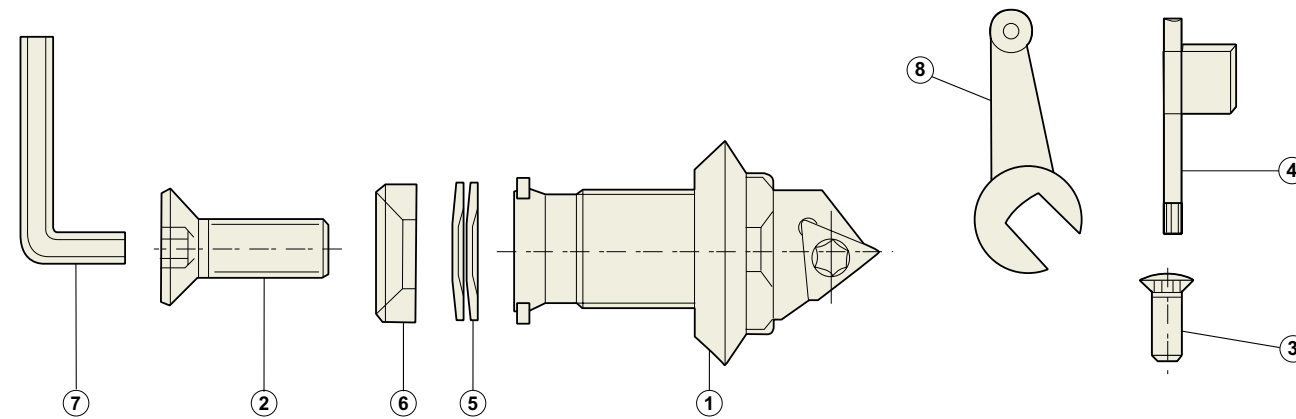
MODEL No. 型号	EDP No.	D1 (h7)	D (BORE RANGE) 镗孔范围		L	C1	C2	H	N	UNIT
			Min. - Max. 最小 - 最大							
RH32-BCA140	P2779793	32	140 - 197		45	102	82	14	-	M10A2TC
RH32-BCA191	P2779794	32	191 - 248		45	136	82	14	-	M10A2TC
RH32-BCA242	P2779795	32	242 - 299		45	184	82	14	103	M10A2TC
RH32-BCA293	P2779796	32	293 - 350		45	234	82	14	103	M10A2TC
RH32-BCA344	P2779797	32	344 - 401		45	284	82	14	103	M10A2TC
RH32-BCA395	P2779798	32	395 - 452		45	36	82	14	103	M10A2TC

Strength of BORING BAR and Comparison Table of MICRO UNITS
镗孔刀柄刚性及微切削刀头比较表

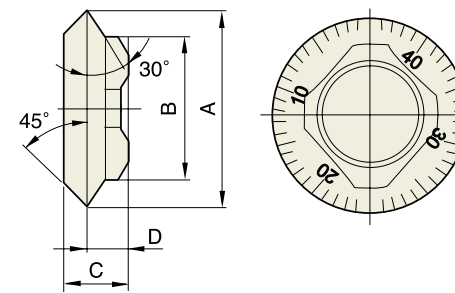


BORING BAR MODEL No. 镗孔刀柄型号	BRAZED TYPE B EF		SCREW ON TYPE 螺旋型			INSERT SPEC. 刀片规格
	Min. 最小	Max. 最大	Min. 最小	Max. 最大	ΔL	
BCA19	M2B2	M2B2	-	-	-	CCGT0401
	19	23	-	-	-1.9	CCGT0401
BCA23	M3B2	M3B2	M3B2TC	M3B2TC	M3B2TC	TBGT060102
	23	29	24.9	30.9	-1.9	TBGT060102
BCA29	M3A2	M3A2	M3A2TC	M3A2TC	M3A2TC	TBGT060102
	29	41.8	30.9	43.8	-1.9	TBGT060102
BCA38	M5B2	M5B2	M5B2TC	M5B2TC	M5B2TC	TCGT110204
	38	49.2	40.9	52.1	-1.9	TCGT110204
BCA46	M5A2	M5A2	M5A2TC	M5A2TC	M5A2TC	TCGT110204
	46	66.6	48.9	69.5	-1.9	TCGT110204
BCA62	M7A2	M7A2	M7A2TC	M7A2TC	M7A2TC	TCGT16T304
	62	87.4	62	87.4	0	TCGT16T304
BCA83	M7A2	M7A2	M7A2TC	M7A2TC	M7A2TC	TCGT16T304
	83	108.4	83	108.4	0	TCGT16T304
BCA98	M10A2	M10A2	M10A2TC	M10A2TC	M10A2TC	TCGT16T304
	98	142.4	98	142.4	0	TCGT16T304
BCA132	M10A2	M10A2	M10A2TC	M10A2TC	M10A2TC	TCGT16T304
	132	176.4	132	176.4	0	TCGT16T304
BCA166	M10A2	M10A2	M10A2TC	M10A2TC	M10A2TC	TCGT16T304
	166	210.4	166	210.4	0	TCGT16T304
BCA200	M10A2	M10A2	M10A2TC	M10A2TC	M10A2TC	TCGT16T304
	200	244.4	200	244.4	0	TCGT16T304

MICRO UNIT SPARE PART
微切削刀头配件



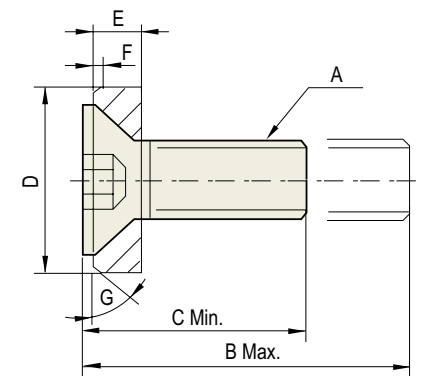
PART NAME 零件名称	ORDER No. 订单No.	M1A-B	M2A-B	M3A-B	M5A-B	M5A-B	M7A-B	M10A-B
1 DIAL NUT 刻度盘螺母 DIAL NUT 刻度盘螺母	Slant Angle 斜角 Right Angle 直角	1-40	2-40	3-40	5-40	5-40	7-80	10-80
2 CARTRIDGE BOLT 刀片架螺栓 CARTRIDGE BOLT 刀片架螺栓	M-A M-B	F-M3-0.5-8	F-M3-0.5-12	F-M4-0.7-15	F-M6-1.0-25	F-M6-1.0-25	F-M10-1.5-30	M12-1.75-50
3 INSERT SCREW 刀片螺钉		S1845L5	S1845L5	S2045L6	S2555L6	S2555L6	S4095L6	S4095L6
4 T-WRENCH T形扳手		T6	T6	T6	T8	T8	T15	T15
5 SPRING WASHER 弹簧垫圈			CB-2	CB-3	CB-5	CB-5	CB-7	CB-10
6 MOUNTING WASHER 安装垫圈			2306	3306	5306	5306	7306	10306
7 L-WRENCH L形扳手		WR-2	WR-2	WR-2.5	WR-4	WR-4	WR-6	WR-8
8 SPANNER 扳手		GS12	GS12	GS35	GS35	GS35	GS710	GS710



GRADUATED DIAL UNIT 刻度盘

Unit (单位): mm

SIZE	A	B	C	D
M1	9.53	6.99	4.45	2.54
M2	12.7	9.53	5.08	3.30
M3	15.88	11.3	5.59	3.56
M5	25.4	19.05	8.76	4.83
M7	34.93	25.40	11.68	7.11
M10	44.45	34.93	13.84	7.49



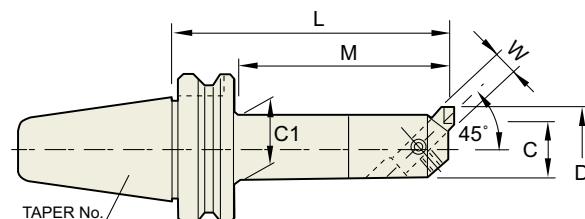
LOCK SCREW AND WASHER 锁紧螺钉和垫圈

Unit (单位): mm

SIZE	A	B	C	D	E	F	G
M1	M3	8	6	-	-	-	-
M2	M3	12	10	7.82	1.83	0.5	45°
M3	M4	15	12	10.9	2.46	1.0	45°
M5	M6	25	20	15.7	4.32	0.8	37°
M7	M10	30	25	23.7	6.35	1.30	37°
M10	M12	50	35	31.6	7.92	2.5	37°

SQUARE BORING BAR (45°)
直角镗孔刀柄 (45°)

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MAS 403-BT

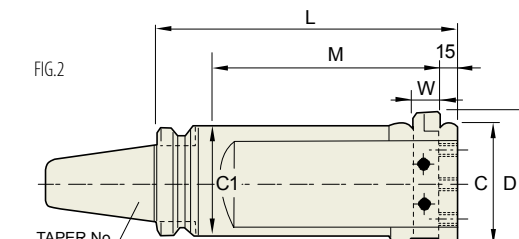
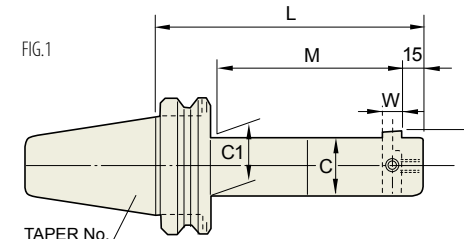


Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	D (BORE RANGE) 镗孔范围		L	C	C1	W	M	WEIGHT (Kg)
			Min. - Max. 最小 - 最大							
30	BT30-BSA25-120	P2775401	25 - 38		120	20	22	8	90	1.00
	BT30-BSA30-135	P2775402	30 - 42		135	24	26	8	105	1.10
	BT30-BSA38-150	P2775403	38 - 52		150	30	33	10	120	1.40
	BT30-BSA42-150	P2775404	42 - 56		150	34	37	10	125	1.60
	BT30-BSA50-150	P2775405	50 - 65		150	40	44	13	125	1.80
40	BT40-BSA25-135	P2775406	25 - 38		135	20	22	8	108	1.30
	BT40-BSA30-165	P2775407	30 - 42		165	24	26	8	138	1.50
	BT40-BSA38-180	P2775408	38 - 52		180	30	33	10	153	1.80
	BT40-BSA42-210	P2775409	42 - 56		210	34	37	10	183	2.30
	BT40-BSA50-180	P2775410	50 - 65		180	40	44	13	153	2.40
	BT40-BSA50-225	P2775411	50 - 65		225	40	44	13	198	2.90
	BT40-BSA62-180	P2775412	62 - 90		180	50	54	16	153	3.20
	BT40-BSA62-240	P2775413	62 - 90		240	50	54	16	213	4.20
	BT40-BSA72-180	P2775414	72 - 110		180	60	63	19	153	4.40
	BT40-BSA72-240	P2775415	72 - 110		240	60	63	19	213	5.70
50	BT40-BSA90-180	P2775416	90 - 125		180	75	63	19	153	5.40
	BT50-BSA25-135	P2775417	25 - 38		135	20	22	8	95	4.40
	BT50-BSA30-165	P2775418	30 - 42		165	24	26	8	125	4.60
	BT50-BSA38-180	P2775419	38 - 52		180	30	33	10	140	4.80
	BT50-BSA42-210	P2775420	42 - 56		210	34	37	10	170	5.00
	BT50-BSA50-180	P2775421	50 - 65		180	40	44	13	140	5.40
	BT50-BSA50-240	P2775422	50 - 65		240	40	44	13	200	5.70
	BT50-BSA62-195	P2775423	62 - 90		195	50	54	16	155	6.10
	BT50-BSA62-270	P2775424	62 - 90		270	50	54	16	230	7.50
	BT50-BSA72-195	P2775425	72 - 110		195	60	66	19	155	6.90
	BT50-BSA72-285	P2775426	72 - 110		285	60	66	19	245	9.30
	BT50-BSA90-210	P2775427	90 - 125		210	75	80	19	170	9.20
	BT50-BSA90-300	P2775428	90 - 125		300	75	80	19	260	12.30
	BT50-BSA105-195	P2775429	105 - 160		195	90	90	25	157	10.50
	BT50-BSA105-285	P2775430	105 - 160		285	90	90	25	247	14.80

SQUARE BORING BAR (90°)
直角镗孔刀柄 (90°)

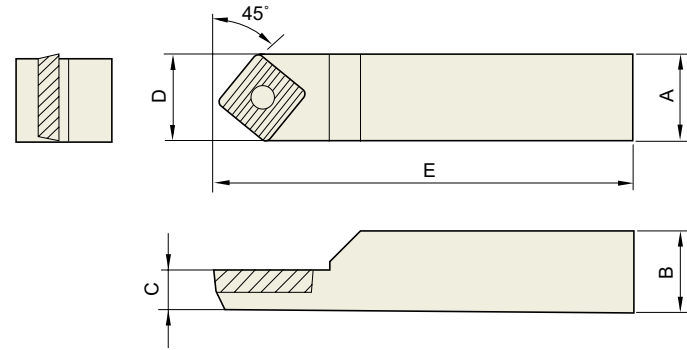
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MAS 403-BT



Unit (单位) : mm

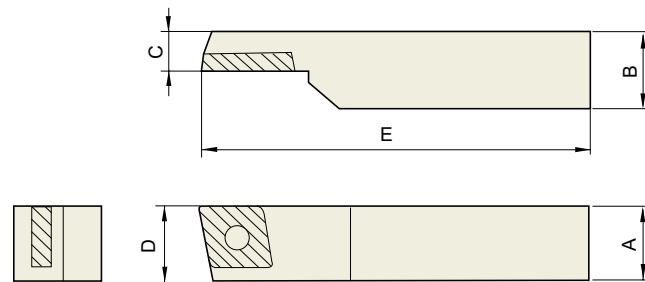
TAPER No. 锥度号	MODEL No. 型号	EDP No.	D (BORE RANGE) 镗孔范围		L	C	C1	W	M	WEIGHT 重量(Kg)	FIG.
			Min. - Max. 最小 - 最大								
30	BT30-BSB25-120	P2775431	25 - 50		120	20	22	8	90	1.10	1
	BT30-BSB38-150	P2775432	38 - 70		150	30	33	10	120	1.50	1
	BT30-BSB50-150	P2775433	50 - 90		150	40	44	13	125	2.20	1
40	BT40-BSB25-135	P2775434	25 - 50		135	20	22	8	108	1.30	1
	BT40-BSB38-180	P2775435	38 - 70		180	30	33	10	153	1.90	1
	BT40-BSB50-180	P2775436	50 - 90		180	40	44	13	153	2.60	1
	BT40-BSB50-225	P2775437	50 - 90		225	40	44	13	198	3.10	1
	BT40-BSB62-180	P2775438	62 - 115		180	50	56	16	153	3.40	1
	BT40-BSB62-225	P2775439	62 - 115		225	50	56	16	198	4.10	1
	BT40-BSB72-180	P2775440	72 - 135		180	60	66	19	153	4.70	1
	BT40-BSB72-225	P2775441	72 - 135		225	60	66	19	198	5.60	1
	BT40-BSB90-180	P2775442	90 - 150		180	75	80	19	153	5.70	1
	BT40-BSB90-225	P2775443	90 - 150		225	75	80	19	198	6.60	1
50	BT50-BSB25-135	P2775444	25 - 50		135	20	22	8	95	4.10	1
	BT50-BSB38-180	P2775445	38 - 70		180	30	33	10	140	4.80	1
	BT50-BSB50-180	P2775446	50 - 90		180	40	44	13	140	5.50	1
	BT50-BSB50-240	P2775447	50 - 50		240	40	44	13	200	5.70	1
	BT50-BSB62-195	P2775448	62 - 115		195	50	56	16	155	6.40	1
	BT50-BSB62-270	P2775449	62 - 115		270	50	56	16	230	7.90	1
	BT50-BSB72-195	P2775450	72 - 135		195	60	66	19	155	7.30	1
	BT50-BSB72-285	P2775451	72 - 135		285	60	66	19	245	9.60	1
	BT50-BSB90-210	P2775452	90 - 150		210	75	80	19	170	9.60	1
	BT50-BSB90-300	P2775453	90 - 150		300	75	80	19	260	12.60	1
	BT50-BSB105-195	P2775454	105 - 190		195	90	-	25	155	11.10	2
	BT50-BSB105-285	P2775455	105 - 190		285	90	94	25	245	15.40	2

SQUARE BITE
四角刀片



Unit (单位) : mm

CLASSIFICATION 分类	EDP No.	A	B	C	D	E	SCREW 螺钉	WRENCH 扳手	INSERT 刀片
SIZE 尺寸									
SBC08-45	P2775456	08	08	6.3	8.39	70	SSB-2506	T7	CCMT0602
SBC10-45	P2775457	10	10	7	10.39	70	SSB-2506	T7	CCMT0602
SBC13-45	P2775458	13	13	10	13.6	80	SSB-4009	T15	CCMT09T3
SBC16-45	P2775459	16	16	11	16.68	100	SSB-5012	T15	CCMT1204
SBC19-45	P2775460	19	19	11	19.68	100	SSB-5012	T15	CCMT1204
SBC25-45	P2775461	25	25	12.5	25.68	120	SSB-5012	T15	CCMT1204



Unit (单位) : mm

CLASSIFICATION 分类	EDP No.	A	B	C	D	E	SCREW 螺钉	WRENCH 扳手	INSERT 刀片
SIZE 尺寸									
SBC08-90	P2775462	08	08	6.3	8.4	70	SSB-2506	T7	CCMT0602
SBC10-90	P2775463	10	10	7	10.4	70	SSB-2506	T7	CCMT0602
SBC13-90	P2775464	13	13	10	13.6	80	SSB-4009	T15	CCMT09T3
SBC16-90	P2775465	16	16	11	16.7	100	SSB-5012	T15	CCMT1204
SBC19-90	P2775466	19	19	11	19.7	100	SSB-5012	T15	CCMT1204
SBC25-90	P2775467	25	25	12.5	25.7	120	SSB-5012	T15	CCMT1204

YG-1 TOOLING SYSTEM

ACCESSORY & OTHERS

辅件 & 其他



PULL STUD BOLT
PULL STUD BOLT & SPANNER

TOOL CLAMP

HEIGHT PRESETTER

COOLANT TUBE & SPANNER

TECHNICAL DATA : SHANK STANDARD

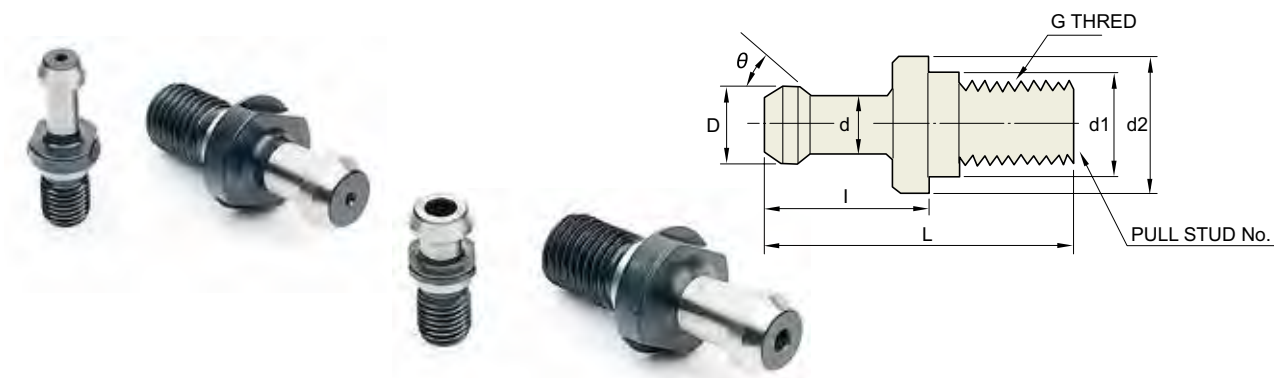
DIN 69871-SK / JIS B6339/MAS 403-BT / DIN 69893/ISO 12164-1-HSK

ANSI/ASME B5.50-CAT

DIN 228 (MORSE TAPER) : TANG / SCREW TYPE



PULL STUD BOLT & SPANNER
PS拉钉&PS拉钉扳手



■ PULL STUD BOLT PS拉钉

Unit (单位) : mm

MODEL No. 型号	EDP No.	D	d2	d1	d	L	l	G	O	TYPE
PS-1	P2775051	15	23	17	10	60	35	M16	45°	BT40-I STANDARD TYPE
PS-2	P2775052	15	23	17	10	60	35	M16	60°	BT40-II STANDARD TYPE
PS-805	P2775101	19	23	17	14	54	29	M16	75°	BT40
PS-806	P2775102	19	23	17	14	54	29	M16	75°	BT40 (Through Hole)
PS-5	P2775053	23	38	25	17	85	45	M24	45°	BT50-I STANDARD TYPE
PS-6	P2775054	23	38	25	17	85	45	M24	60°	BT50-II STANDARD TYPE
PS-16	P2775055	11	16.5	12.5	7	43	23	M12	45°	BT30-I STANDARD TYPE
PS-17	P2775056	11	16.5	12.5	7	43	23	M12	60°	BT30-II STANDARD TYPE
PS-0	P2506706	23	38	25	17	85	45	M24	90°	for BT50 OKK
PS-08	P2506703	15	23	17	10	60	35	M16	90°	for BT40 OKK
PS-P	P2775057	24	36	25	18	71	31	M24	90°	for BT50 MITISUI SEIKI
PS-P5	P2775058	15	23	17	10	50	25	M16	90°	for BT40 MITISUI SEIKI
PS-G41	P2775059	29	37	25	21	65.2	25.2	M24	45°	for BT50 MAZAK
PS-G51	P2775060	18.8	22	17	12.45	44.1	19.1	M16	45°	for BT40 MAZAK
PS-S2	P2775061	25	39	25	18	95	55	M24	60°	for SHIN NIPPON KOKI
PS-F1	P2775062	23	39	25	18	104	64	M24	45°	for MITSUBISHI
PS-B1	P2775063	22	38	25	16	112	72	M24	60°	for OKUMA
PSS-1	P2506707	19	23	17	14	54	26	M16	75°	for SK40
PSS-5	P2506708	28	36	25	21	74	34	M24	75°	for SK50

▶ Upon requests, other pull stud bolts with special dimensions could be produced and supplied.

根据要求, 可供应通孔型(H type)拉钉

▶ Through hole type ("H" Type) is available upon request.

根据要求, 可供应特殊规格的产品



■ PULL STUD BOLT SPANNER PS拉钉扳手

Unit (单位) : mm

MODEL No. 型号	EDP No.	D	L	WEIGHT 重量(Kg)	TYPE
PSWB-30	P2775064	27	210	0.30	BT30
PSWB-40	P2775065	37	230	0.40	BT40
PSWB-50	P2775066	49	280	0.78	BT50

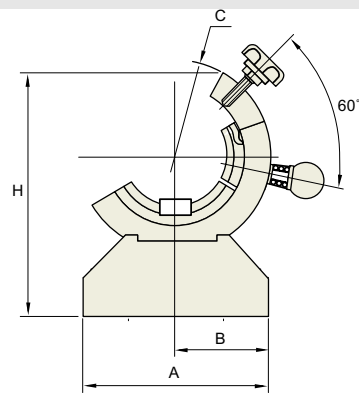
PULL STUD BOLT
PS拉钉

■ APPLICATION TABLE OF PULL STUD BOLT PS拉钉应用表

MACHINE MANUFACTURER 设备制造商	MACHINE MODEL No. 设备型号	TAPER No. 锥度号	PS BOLT	MACHINE MANUFACTURER 设备制造商	MACHINE MODEL No. 设备型号	TAPER No. 锥度号	PS BOLT
DOOSAN	T 4000	BT30	PS-16	SEMCC	Any Mill LCV30A/B	BT30	PS-17
	DT 360D	BT30	PS-16		Any Mill LCV55S	BT50	PS-6
	DNM 400 /500 / 650	BT40	PSS-1		Any Mill LCV650S	BT50	PS-5
	DNM 750 /40	BT40	PSS-1		Any Mill ICV66	BT50	PS-5
	DNM 750 /50	BT50	PS-5		Any Mill ICV80	BT50	PS-5
	Mynx 6500	BT50	PS-5		DMC-3000	BT50	PS-0
	Mynx 7500	BT50	PS-5		PCH40	BT40	PS-1
	VM 5400/6500	BT40	PSS-1		PCH50	BT50	PS-5
	VM 750	BT50	PS-5		SIRIUS-1	BT30	PS-16
	VM 960	BT50	PS-5		SIRIUS-550	BT40	PS-1
	VM 1260	BT50	PS-5		SIRIUS-UL/ULG	BT40	PS-1
	VC 430	BT40	PSS-1		SIRIUS-7040	BT50	PS-0
	VC 510	BT40	PSS-1		SIRIUS-650/650N	BT50	PS-0
	DVM 500	BT40	PSS-1		SIRIUS-850/850N	BT50	PS-0
	DVM 5650	BT40	PSS-1		SIRIUS-700	BT50	PS-0
NX 4500	BT40	PSS-1	SIRIUS-12580	BT50	PS-0		
NX 5500	BT40	PSS-1	TCH-45	BT40	PS-1		
NX 6500	BT40	PSS-1	TCH-50	BT50	PS-6		
NHM 5000	BT50	PS-5	TCH-80	BT50	PS-6		
NHM 6300	BT50	PS-5	TCH-80TS	BT50	PS-6		
NHM 8000	BT50	PS-5	FX-500H	BT40	PS-2		
NHM 1000	BT50	PS-5	TNV-40A	BT40	PS-1		
NHM 1250	BT50	PS-5	TNV-80A	BT40	PS-1		
NHP 5000	BT50	PS-5	TNV-650V	BT50	PS-6		
NHP 6300	BT50	PS-5	TM-1/2	BT40	PS-1		
HC 400	BT40	PSS-1	VF-4SS/3SS/2SS	BT40	PS-1		
HC 500	BT40	PSS-1	VF-2TR	BT40	PS-1		
i-CUT 380T/420T	BT30	PS-16	VF-5/50TR	BT50	PS-5		
i-CUT 400T/M	BT30	PS-16	VF-9/50	BT50	PS-5		
F 400/500/650	BT40	PS-1	VF-8/50	BT50	PS-5		
F 500/650	BT50	PS-5		BT40	PS-G51		
F 510M/550M/660M	BT40	PS-1		BT50	PS-G41		
F 510B	BT40	PS-1		BT40	PS-08		
F 600B/750B/960B	BT50	PS-5		BT50	PS-51		
KH 50G/63G	BT50	PS-5					
KH 80G/1000	BT40	PS-1					
HS 5000	BT40	PS-1					
HS 5000/6300/8000	BT50	PS-5					

WIA

TOOL CLAMP
工具夹持器



• Flange Clamping Design

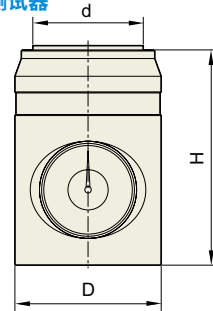
Unit (单位) : mm

TAPER No. 锥度号	MODEL No. 型号	EDP No.	A	B	C	H	WEIGHT 重量(Kg)
BT30	TCP30	P2775067	125	65	108	135	3.00
BT40	TCP40	P2775068	160	80	138	180	7.60
BT50	TCP50	P2775069	180	90	165	205	8.60
SK30	TSK30	P2775070	125	65	108	135	3.00
SK40	TSK40	P2775071	160	80	138	180	7.60
SK50	TSK50	P2775072	180	90	165	205	8.60
HSK32	THSK32	P2775073	125	65	108	135	-
HSK40	THSK40	P2775074	-	-	-	-	-
HSK50	THSK50	P2775075	-	-	-	-	-
HSK63	THSK63	P2775076	160	80	138	180	-
HSK100	THSK100	P2775077	180	90	165	205	-

▶ Tool clamp for CAT teppa available.
可提供CAT teppa工具夹

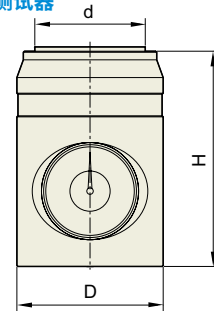
HEIGHT PRESETTER
高度压力测试器

MAGNETIC HEIGHT PRESETTER
磁性高度压力测试器



• Both vertical and horizontal type usable Vertical (垂直), horizontal(水平)均可使用
• Slim design Vertical (垂直)专用

HEIGHT PRESETTER
高度测试器

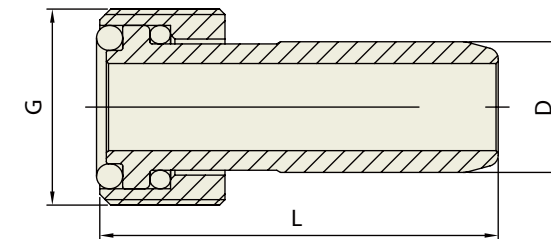


• Exclusively for vertical Vertical(垂直)专用

Unit (单位) : mm

MODEL No. 型号	EDP No.	D	H	d	DIAL
MHP-100 (magnetic)	P2591001	76	100	33	0.01
HP-100	P2775901	68	100 / - 0.01	33	0.01

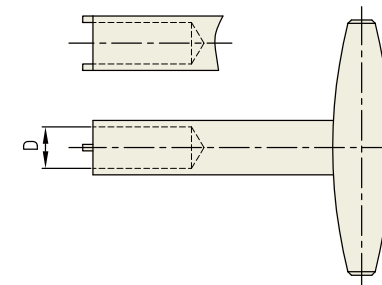
COOLANT TUBE
冷却管



Unit (单位) : mm

TAPER No. 锥度号	EDP No.	G	D	WEIGHT 重量(Kg)
32A	P2775078	M10	6	
40A	P2775079	M12	8	
50A	P2775080	M16	10	
63A	P2775081	M18	12	
80A	P2775106	M20	14	
100A	P2775082	M24	16	

COOLANT TUBE SPANNER
冷却管扳手



Unit : mm

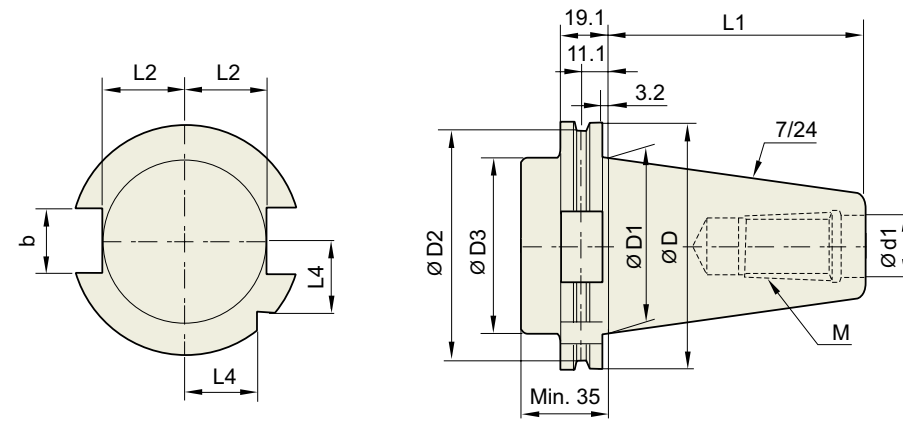
TAPER No.	EDP No.	D
HSK32	P2775103	6
HSK40	P2775104	8
HSK50	P2775089	10
HSK63	P2775087	12
HSK80	P2775105	14
HSK100	P2775090	16

▶ Design and shape could be changed without prior notice.
设计及形状如有更改, 恕不另行通知

TECHNICAL DATA : SHANK STANDARD

DIN 69871-SK

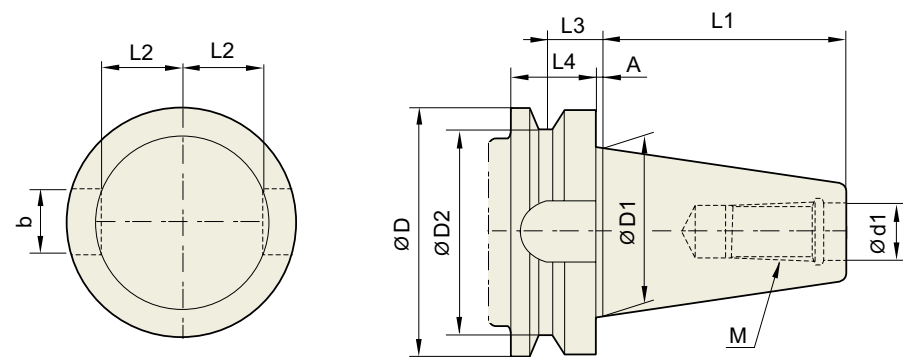
技术资料：标准柄部



Unit (单位) : mm

TAPER No. 锥度号	ØD	ØD1	ØD2	ØD3	Ød1	L1	L2	L3	L4	b	M
SK30	50	31.75	44.3	45	13	47.8	16.4	19	15	16.1	M12×1.75
SK40	63.55	44.45	56.25	50	17	68.4	22.8	25	18.5	16.1	M16×2.0
SK50	97.5	69.85	91.25	80	25	101.75	35.5	37.7	30	25.7	M24×3.0

**JIS B6339/
MAS 403-BT**



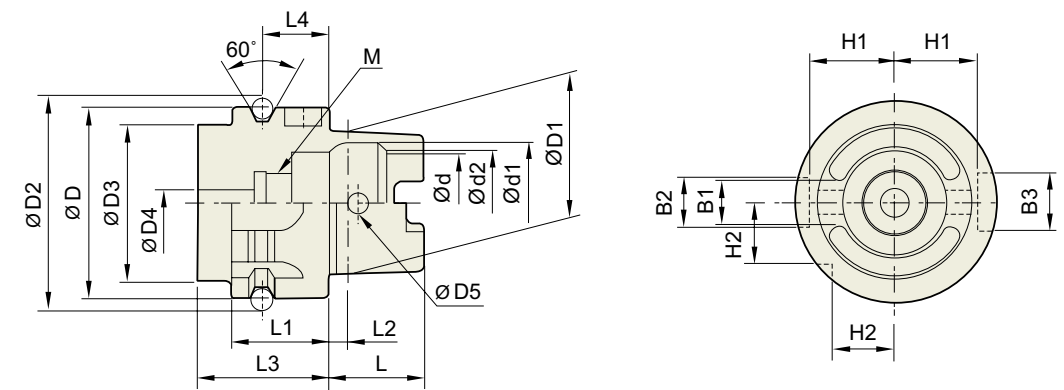
Unit (单位) : mm

TAPER No. 锥度号	ØD	ØD1	ØD2	Ød13.	L1	L2	L3	L4	A	b	M
BT30	46	31.75	38	12.5	48.4	16.3	13.6	20	2	16.1	M12×1.75
BT40	63	44.45	53	17	65.4	22.6	16.6	25	2	16.1	M16×2
BT50	100	69.85	85	25	101.8	35.4	23.2	35	3	25.7	M24×3
BT60	155	107.95	135	31	161.8	60.1	28.2	45	3	25.7	M30×3.5

TECHNICAL DATA : SHANK STANDARD

DIN 69893/
ISO12164-1-HSK

技术资料：标准柄部



Unit (单位) : mm

TAPER No. 锥度号	ØD	ØD1	ØD2	ØD3	ØD4	ØD5	L	L1	L2	L3	L4
HSK32A	32	24	37.00	26	4.2	4.0	16	20	3.2	35	16
HSK40A	40	30	45.00	34	5.0	4.6	20	20	4.0	35	16
HSK50A	50	38	59.30	42	6.8	6.0	25	26	5.0	42	18
HSK63A	63	48	72.30	53	8.4	7.5	32	26	6.3	42	18
HSK80A	80	60	88.8	68	10.2	8.5	40	26	8	42	18
HSK100A	100	75	109.75	85	12.0	12.0	50	29	10.0	45	20

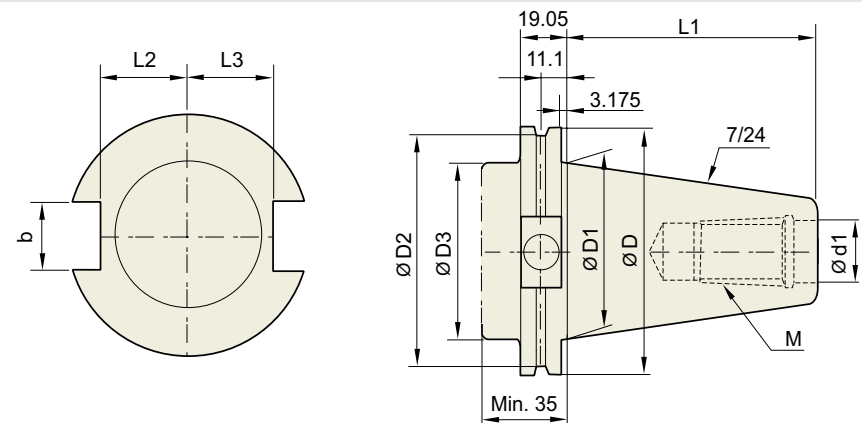
Unit (单位) : mm

TAPER No. 锥度号	Ød	Ød1	Ød2	B1	B2	B3	H1	H2	L4
HSK32A	17	20.5	19	7.05	7	9	13.0	9.5	M10×1.0
HSK40A	21	25.5	23	8.05	9	11	17.0	12.0	M12×1.0
HSK50A	26	32.0	29	10.54	12	14	21.0	15.5	M16×1.0
HSK63A	34	40.0	37	12.54	16	18	26.5	20.0	M18×1.0
HSK80A	42	50	46	16.04	18	20	34	25	M20×1.5
HSK100A	53	63.0	58	20.02	20	22	44.0	31.5	M24×1.5

TECHNICAL DATA : SHANK STANDARD

ANSI/
ASME B5.50-CAT (OLD : 1978)

技术资料：标准柄部



Unit (单位) : mm

TAPER No. 锥度号	ØD	ØD1	ØD2	ØD3	Ød1	L1	L2	L3	b	M
CAT30	50	31.75	44.3	31.75	13	47.625	16.25	18.67	16.1	UNC1/2-13
CAT40	63.55	44.45	56.25	44.45	17	68.25	22.60	25	16.1	UNC5/8-11
CAT50	97.5	69.85	91.25	70.1	25	101.6	35.3	37.7	25.7	UNC1-18
CAT60	155	107.95	132.56	108	32	161.93	54	59.3	25.7	UNC1,1/4-7

**ANSI/
ASME B5.50-CAT (NEW : Revision 2009)**

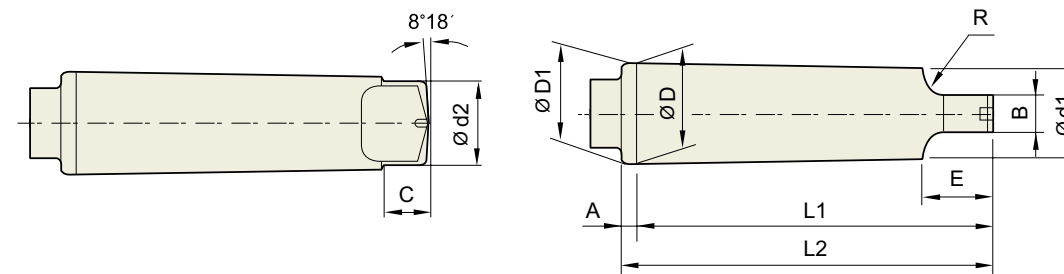
Unit (单位) : mm

TAPER No. 锥度号	ØD	ØD1	ØD2	ØD3	Ød1	L1	L2	L3	b	P	M
CAT30	46.02	31.75	38.89	46.02	13	47.625	16.25	18.67	16.1	-	UNC1/2-13
CAT40	63.5	44.45	56.36	63.5	17	68.25	22.6	25	16.1	-	UNC5/8-11
CAT50	98.43	69.85	91.29	98.43	25	101.6	35.3	37.7	25.7	-	UNC1-18
CAT60	139.7	107.95	132.56	139.7	32	161.93	54	59.3	25.7	-	UNC1 1/4-7

TECHNICAL DATA : SHANK STANDARD

DIN 228 (MORSE TAPER)
TANG TYPE (MTA)

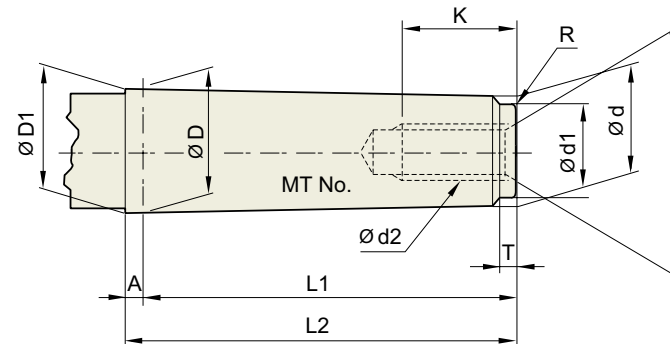
技术资料：标准柄部



Unit (单位) : mm

TAPER No. 锥度号	TAPER RATIO (Rad)	TAPER ANGLE (α)	ØD	A3	ØD1	Ød1	L1	L2	Ød2	B	C	E	R
MT0	1/19.212	1°29'27"	9.045	3	9.045	6.104	56.5	59.5	6.0	3.9	6.5	10.5	4
MT1	1/20.047	1°25'43"	12.065	3.5	12.065	8.972	62.0	65.5	8.7	5.2	8.5	13.5	5
MT2	1/20.020	1°25'50"	17.780	5	17.780	14.034	75.0	80.0	13.5	6.3	10	16	6
MT3	1/19.922	1°26'16"	23.825	5	23.825	19.107	94.0	99.0	18.5	7.9	13	20	7
MT4	1/19.254	1°29'15"	31.267	6.5	31.267	25.164	117.5	124.0	24.5	11.9	16	24	8
MT5	1/19.002	1°30'26"	44.399	6.5	44.399	36.531	149.5	156.0	35.7	15.9	19	29	10
MT6	1/19.180	1°29'36"	63.348	8	63.348	52.399	210.0	218.0	51.0	19.0	27	40	13
MT7	1/19.231	1°29'22"	83.058	10	83.058	68.186	286.0	296.0	66.8	28.6	35	54	19

**DIN 228 (MORSE TAPER)
SCREW TYPE (MTB)**

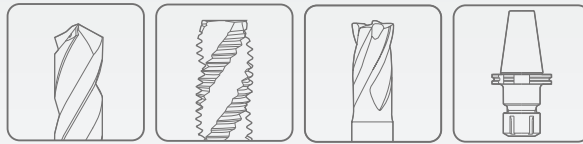


Unit (单位) : mm

TAPER No. 锥度号	TAPER RATIO (Rad)	TAPER ANGLE (α)	ØD	A	ØD1	d	L1	L2	Ød1	d2	K	T	R
MT0	1/19.212	1°29'27"	9.045	3	9.201	6.442	50	53	6.4	-	-	4	0.2
MT1	1/20.047	1°25'43"	12.065	3.5	12.230	9.396	53.5	57	9.4	M6	16	5	0.2
MT2	1/20.020	1°25'50"	17.780	5	18.030	14.583	64	69	14.6	M10	24	5	0.2
MT3	1/19.922	1°26'16"	23.825	5	24.076	19.759	81	86	19.8	M12	28	7	0.6
MT4	1/19.254	1°29'15"	31.267	6.5	31.605	25.943	102.5	109	25.9	M16	32	9	1
MT5	1/19.002	1°30'26"	44.399	6.5	44.741	37.584	129.5	136	37.6	M20	40	9	2.5
MT6	1/19.180	1°29'36"	63.348	8	63.765	53.859	182	190	53.9	M24	50	12	4
MT7	1/19.231	1°29'22"	83.058	10	83.578	70.058	250	260	70.0	M33	80	18.5	5



Global Cutting Tool Leader **YG-1**



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