LI-HSUN®

Fast End Mill,Drill Re-Sharpening

麗勳企業有限公司

LI-HSUN INDUSTRIAL CO.,LTD.

CE

快速銑刀研磨機

FAST END MILL RE-SHARPENING

GH-413 / GH-1225

EASY 簡單

ACCURATE 精確

FAST 快速

4 Flutes　3 Flutes　2 Flutes

二、四刃專用
for 2 and 4 Flute End Mill

三刃專用
for 3 Flute End Mill

GH-413專利號碼

ZL 200720150355.4
ZL 200720140706.3
Japan第3138310號
M321829號
M325182號
US7,473,163B1號
Nr 202007015258.2

單位/Unit: cm

Patent M321829

型號 Model	研磨範圍 Capacity	馬達 Motor / 轉速 Speed	重量 Weight	包裝尺寸 L X W X H
GH-413	4mm - 13mm	450 w / 6000 rpm	17kgs	310 x 260 x 290
GH-1225	12mm - 25mm	1000 w / 4500rpm	30kgs	360 x 290 x 340

先端角 Axial angles	銑刀端面角 6° Third angle 6°	銑刀後斜角 20° Primary angle 20°	銑刀底溝角 30° Second angle 30°
電源 Power	AC 110 V / AC 220 V 50 / 60 HZ		

標準配件 STANDARD ACCESSORIES ※SDC鎢鋼專用(Carbide) CBN高速鋼專用(High Speed)

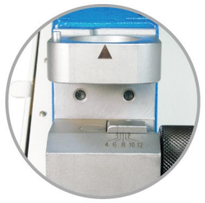
電源線	Cable	1 SET
保險絲	Fuse	2 PCS
六角扳手	Hex. key wrench	1 PCS 4mm
鑽石砂輪	Diamond wheel	GH-413 SDC300# (4mm~5mm, carbide end mill) Carbide
		GH-413 SDC300# (6mm~13mm, carbide end mill) Carbide
		GH-1225 CBN150# (12mm~25mm, High Speed end mill) HSS
		GH-1225 SDC150# (12mm~25mm, carbide end mill) Carbide
夾頭	ER chuck	2, 4 flutes chuck *1 set 3 flutes chuck *1 set
筒夾	ER collet	GH-413 4 ~ 13mm(10pcs) / GH-1225 12,16,18,20,22,25mm(6pcs)

特別配件 OPTION ACCESSORIES

鑽石砂輪	Diamond wheel	GH-413 CBN300# (4mm~5mm, High Speed end mill) HSS
		GH-413 CBN270# (6mm~13mm, High Speed end mill) HSS
		GH-413 CBN270# (4mm~13mm, High Speed end mill) 2 flutes HSS
		GH-413 SDC300# (4mm~13mm, carbide end mill) 2 flutes Carbide
		GH-1225 CBN150# (12mm~25mm, High Speed end mill) 2 flutes HSS
		GH-1225 SDC150# (12mm~25mm, carbide end mill) 2 flutes Carbide

GH TYPE 銑刀研磨機

PRECISION END MILL GRINDER



放大圖 Magnified Part

定位座
Alignment Base

定位檔塊
Alignment Block

固定檔塊
(硬化處理，避免校正刀座磨損)
Fixed Block
(Harden treatment to protect the alignment base)

定位調整扭
Alignment Knob

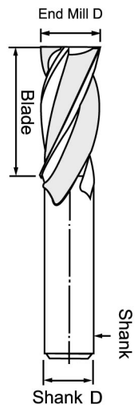
2. 研磨後斜角 20°
NO.2 FOR SCREW RADIAL ANGLE 20°

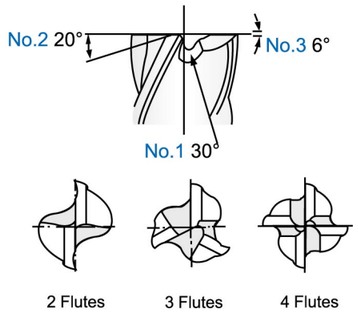
3. 平面角 6°此橢圓形孔允許夾具軸向移動研磨所有端銑刀面
NO.3 FOR CUTTING ANGLE 6. THIS OVAL SHAPED HOLE ALLOWS HOLDER UNIT TO MOVE ON AXIS TO GRIND ALL SURFACE OF END MILL.

1. 供端銑刀底溝角 30°
NO.1 FOR END MILL FLAT SLOT ANGLE 30°

研磨2.3及4刃端銑刀，精密、效率、易操作，縮短製程時間，研磨直徑
GH413- 4-13mm,GH1225-12-25mm
For End Mill Re-sharpening, 2,3 and 4 Flutes Precision, Efficiency, Easy Operation, Short Processing Time, Grinding Diameter from GH413- 4-13mm,GH1225-12-25mm.

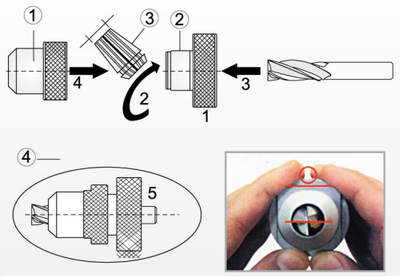
1.高效率、高品質研磨滑程(滑率)，好的研磨效果。
High Efficiency, High Quality Grinding Slip, Good Grinding Results.
2.品質保證 0.02mm。
Quality Assurance: 0.02mm.
3.容易操作，供緊急的方便用具，快速。
Easy Operation, and Fast for Convenience.





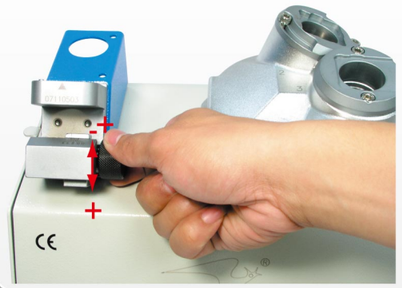
操作程序 OPERATIONS

A 端銑刀夾具組與"筒夾"及"端銑刀"之組裝 Setup the end mill to the ER collet holder



＊請依上列圖示1.2.3.4.之步組裝。"不鎖緊"
1.首先確認銑刀直徑及刃數，再選擇適當之筒夾與刀具組。
2.將筒夾以適當角度放入夾具並鎖緊螺帽。
3.銑刀裝入筒夾內，並伸出約35mm左右。
4.校刀前請先以目測方式找出過中心刀刃，並大約與基準槽平行，以便進行校刀定位。
＊Please follow steps 1, 2,3,4 to set up the end mill to the holder (without tightening).
1. Determine diameter and flute of your end mill, and then select the proper collet and collet holder.
2. Insert collet into collet holder and tighten nut slightly.
3. Insert end mill into collet holder and nuts out 35mm or so from the collet holder.
4. Place the flute with edge over center point and have it to be parallel with the benchmark notch.

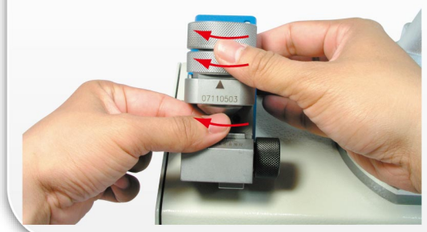
B 校正定位 -NO.1 Align end mill - NO.1



＊請依照銑刀直徑尺寸，旋轉定位調整鈕，轉至檔塊刻度線數字(如銑刀為10mm即刻度調整至10 mm)
＊Set alignment knob to the prpoer number according to the diameter of the end mill. (e.x. End mill dia. 10mm, set the scale to 10 mm.)

＊過中心刀刃應與基準槽下之基準線平行。
＊The flute with edge over center point should be parallel with the benchmark line.

C 校正定位 -NO.2 Align end mill - NO.2

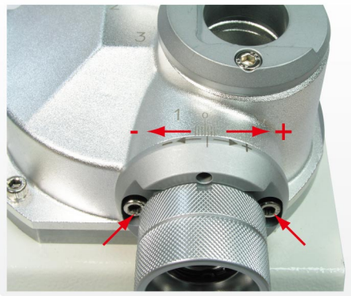


1.將ER夾具組基準槽，對準定位座上三角標誌後直放。
2.鬆開夾具組螺帽使夾具組下降至定位座，然後由右至左旋轉到底，同時將銑刀過中心刀刃，以順時鐘方向旋轉至頂住定位檔塊為止。
3.ER螺帽以順時鐘方向旋轉，將銑刀輕輕夾緊後，以逆時鐘方向取出，請再次確認過中心刀刃與筒夾邊是否平行後，再用力鎖緊，若無平行，請重覆定位步驟。
1. Point holder's benchmark notch at triangle mark of alignment base and insert it to the base.
2. Loosen holder, lower the holder to the base, and screw the nut clockwise. At the same time, rotate the flute with edge over center point clockwise until it touches the alignment block.
3. Tighten the ER nut until the end mill is supported but free to turn. Pull out the holder counterclockwise, tighten up the holder after confirmed the flute is parallel with the notch. If it's not parallel, please repeat the alignment steps. The benchmark notch.

D 刀口研磨切削 Primary edge re-sharpening

1. 起重馬達。
2. 將ER夾具組基準槽對準刀口研磨座NO.1之研磨孔之凹槽。
3. 輕輕接觸砂輪，緩慢推進研磨到底為止。
4. 換至下一個刀刃，並重覆上述二個動作，一直到所有刀刃研磨完成為止。
1. Switch on machine.
2. Point ER holder at the notch of primary edge re-sharpening port NO.1.
3. Insert the holder into the port NO.1 with a slight push motion for grinding.
4. Change to another flute, repeat the above steps until the sharpening for all flutes' edges is complete.

E 刀口大小倒角調整 Relief settings



1.若需調整刀口平面大小，請用 4mm 六角板手鬆開刀口研磨座NO.1兩側螺絲。
2.順時鐘方向（+）旋轉可加大刀口平面，逆時鐘方向（−）可縮小刀口平面，調整所須之大小後再行鎖緊即可。

1. If the relief needs to be adjusted, please use provided 4mm hex. wrench to loosen the screws in the sharpener NO.1.
2. Rotate clockwise (+) to increase, rotate counterclockwise (−) to decrease. Tighten after relief setting.

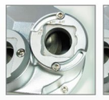
F 後斜角研磨切削-1（4刃） Secondary clearance angle sharpening -1 (for 4 flutes)

磨4刃後斜角放大圖
(for 4 flute)

1.將ER夾具對準螺絲頭，裝入後斜角研磨座NO.2之研磨孔，輕輕將夾具放入凹槽內並做緩慢推進研磨至無聲即可。
2.將ER夾具取出轉至下一個未研磨之後斜角，並重復上述動作，一直到所有後斜角研磨完成為止。

1. Pointing ER holder at screw secondary clearance angle sharpening port NO.2, insert it into the port with a slight push motion to sharpen until grinding noise disappears.
2. Change to another flute, repeat the above steps until the sharpening for all flutes' edges is complete.

G 後斜角研磨切削-2（2、3刃） Secondary clearance angle sharpening -2 (for 2 and 3 flutes)



磨2刃後斜角放大圖
(for 2 flute)

磨3刃後斜角放大圖
(for 3 flute)

1.若需將二刃與三刃後斜角完全磨除，可鬆開斜角座螺絲，左右轉動後磨除；請注意二刃與三刃左右轉動幅度不同，二刃端銑刀可左右旋轉幅度可到底，三刃端銑刀可左右旋轉幅度只可至後斜角研磨座中間標誌處，（過中心刀刃）即可。
2.所有研磨起點都需從四刃原點開始旋轉。

1. If you need to sharpen the secondary clearance angle completely, loosen the screws in the secondary clearance angle port, and then rotate left and right repeatedly for clearance.

Attn: The rotation ranges for 2 flutes and 3 flutes are different. For 2 flutes, rotate the holder left and right in whole rotation; for 3 flutes, on the sharpening port NO.2, rotate the benchmark notch side only.

2. The grinding should start from the flute pointed at the benchmark notch.

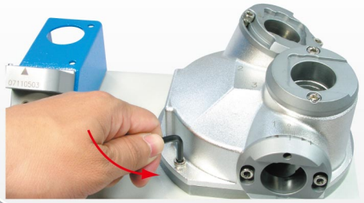
H 刀刃研磨切削 End gash sharpening

1.將ER夾具組對準螺絲頭及ㄈ型之凹槽NO.3之研磨孔裝入，並輕輕接觸砂輪做緩慢進給研磨。
為求刀刃研磨平均，請以右手壓住ER夾具組，左手做左右移動研磨至無聲即可。
2.將ER夾具組取出，換至下一個未研磨刀刃並重覆上述動作，一直到所有刀刃研磨完成為止。
3.取出ER夾具組，查看端銑刀研磨是否完成。

1. Pointing ER holder at upper screw of end gash sharpening port NO.3, insert it into the port with a slight push motion. For precise and average grinding, hold tight the upper part of the ER holder with one hand and move the lower port at both sides with another hand to sharpen until grinding noise disappears.
2. Take out the holder with end mill and change to another flute, repeat the above steps until the sharpening for all flutes' end gashes is complete.
3. Take out the end mill from the holder and inspect it.

砂輪的更換 REPLACING THE WHEEL

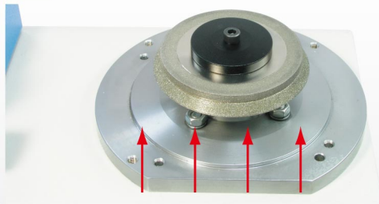
A 拿取砂輪蓋 Removing the wheel cover



1.確定拔掉電源線以確保安全。
2.再用4mm的六角板手將磨刀機上蓋周圍之三支螺絲以反時鐘方向將螺絲鬆開。

1. Unplug the machine.
2. Loosen the three screws in the wheel cover counterclockwise with 4mm Allen key.

B 清除本體粉屑 Cleaning the grinding dust



1.取出上蓋後，用風槍將粉末清除乾淨，再用乾布將表面擦拭清潔。
2.若剛使用中更換，請靜待3分鐘後，待砂輪之溫度已降至常溫在清除。

1. Make sure the temperature of the wheel goes down to normal temperature.
2. Open the upper cover, clean the grinding dust with pressurized air and wipe outside with dry cloth.

C 拿取砂輪墊片 Removing the washer

1.以左手握住砂輪，右手用4mm六角板手以反時鐘方向轉開。
2.拿起砂輪墊片，並將4mm螺絲及墊片置於旁邊固定的位置。
3.拿起銑刀機上之鑽石砂輪。

1. Hold the wheel with left hand and loosen the screw counterclockwise with 4mm Allen key with right hand.
2. Take out the black washer.
3. Take out the wheel from the motor hub slightly.

D 換裝砂輪 Replacing the wheel

1.再更換新的砂輪。
2.再輕放回砂輪主軸內，並鎖回螺絲及砂輪蓋，即完成。
* 馬達主軸相當精密，如裝配不良將導致主軸損傷，而影響砂輪之位置。

1. Take a new proper wheel.
2. To re-install the wheel, reverse steps taken to remove wheel.
* The motor hub is very precise, it will be damaged by excessive force and affect the position of wheel acccordingly.

注意事項 Caution

1.研磨前請確認研磨端銑刀材質，鎢鋼端銑刀材質請使用SDC鑽石砂輪；若材質為高速鋼端銑刀，請將砂輪更換為CBN鑽石砂輪。
2.請依照端銑刀刃數，選擇適當夾具組；GH-413 / 1225 可研磨2. 3. 4. 刃端銑刀。
3.端銑刀定位步驟是研磨過程中，最重要的一環，請確實完成定位動作。
4.本機台正常使用範圍內保固一年（虛耗零件及砂輪除外），本機台設有產品序號，有維修問題請告知產品序號。
5.研磨4~5mm銑刀，因砂輪直徑較小，研磨刀口時，需要特別緩慢進給。
6.馬達請勿持續運轉超過1小時。

1. Determine the material of end mill before grinding. Please use SDC diamond wheel for carbide end mill; please use CBN diamond wheel for HSS end mill.
2. Determine the flute of the end mill and use the proper collet holder; GH-413 / 1225 is suitable for 2, 3, and 4 flute end mill.
3. Aligning end mill is the most important among the steps, make sure to complete this step before grinding.
4. This machine is guaranteed for one year under normal operation (expendable parts and wheels are exceptions), please inform the serial no. when the machine needs to be repaired.
5. For end mill 4~5mm, be sure to use a very slight push motion while grinding the primary edge due the outer diameter of wheel is smaller.
6. The motor cannot run continuously over 1 hour.

鑽頭研磨機

FAST DRILL RE-SHARPENING

DM-213

DM-213專利號碼

ZL 200520111362.4
M 279443
Nr 202008009443.7

FG-213L

左旋鑽頭專用
Counterclockwise drills

更換鑽石砂輪步驟
Procedures for changing the grinding wheel

1. 將本機右側旋扭(B1)鬆開，並將側蓋(B2)掀開。
2. 用4mm六角扳手逆時鐘方向將螺絲(B3)鬆開。
3. 更換新鑽石砂輪、再將螺絲鎖上即可。
4. 將側蓋(B2)蓋好，並將旋扭(B1)鎖緊。

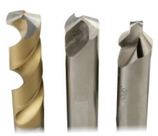
1. Loosen the side knob (B1) and open the side cover (B2).
2. Use a 4mm hexagon wrench to loosen the screw (B3), unscrew it counter clockwise.
3. Replace with a new diamond grinding wheel and tighten the screw after the wheel is installed.
4. Be sure to close the side cover (B2) properly and to fasten the side knob (B1).

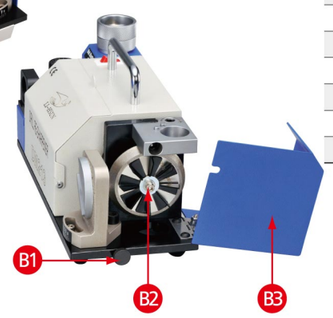
注意！ Attention:

1. 鑽石砂輪螺絲(B3)未鎖緊，側蓋(B2)未蓋好旋扭(B1)未鎖緊前，不可將電源打開，以免發生危險。
2. 本機裝置有斷電系統，砂輪保護蓋掀開時就會自動斷電，以保護操作人員之安全。

Please DO NOT switch on the machine BEFORE

(1) The diamond wheel screw (B3) is tightly screwed.
(2) The side cover (B2) is properly closed.
(3) The right knob (B1) is fully fastened.
1. Incase of any hazard occurring, please make sure that the above measures are followed strictly.
2. The machine has an automatic Power-off device to ensure operator's safety. Power supply will be cut-off immediately when the cover is opened.





專利項目 Patented Features

1. 雙軸承研磨座。
2. 鑽頭鎖緊設計裝置有軸承。
3. 可調靜點座。

1. Double-bearing grinding unit (reduces wear).
2. Drill tightened design with bearing device.
3. Adjustable trimming angle.

標準附件 Standard Accessories

DM-213
1. ER筒夾 2.5mm-13mm(12pcs).
2. CBN鑽石砂輪 #200x1 PCS（高速鋼鑽頭專用).
3. 六角扳手 4mm , 5mm 各 1 PCS

1. ER Collets, 2.5mm-13mm (12pcs).
2. CBN Dimand wheel #200x1 PCS (High Speed drill).
3. 4mm, 5mm Hexagon (Hex.) wrench x 1 pc each.

特殊附件 Optional Accessories

DM-213
1. SDC鑽石砂輪 #400 (鎢鋼鑽頭專用).
2. CBN鑽石砂輪 #400 (高速鋼 4mm 以下專用).
3. ER筒夾 3.5mm～12.5mm(10pcs).

1. SDC #400 Diamond wheel (carbide drill).
2. CBN #400 Diamond wheel (< 4mm, High Speed drill).
3. ER Collets, 3.5～12.5mm (10pcs).

單位：mm

型號	Model	DM-213 / FG-213L
研磨範圍	Drill Diameter	2 mm - 13 mm
先端角範圍	Point Angle	85°～ 140°
電源	Power Supply	AC110 / AC220 50 / 60HZ
馬達	Motor	90 W
轉速	R.P.M	6000 RPM
重量	Weight	10 kg
包裝尺寸	L X W X H	305 x 172 x 180

鑽頭研磨機

FAST DRILL RE-SHARPENING

DM-1226

更換鑽石砂輪步驟
Procedures for changing the grinding wheel

1. 將本機右側旋扭(B1)鬆開，並將側蓋(B2)掀開。
2. 用4mm六角扳手逆時鐘方向將螺絲(B3)鬆開。
3. 更換新鑽石砂輪、再將螺絲鎖上即可。
4. 將側蓋(B2)蓋好，並將旋扭(B1)鎖緊。

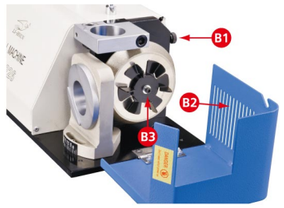
1. Loosen the side knob (B1) and open the side cover (B2).
2. Use a 4mm hexagon wrench to loosen the screw (B3), unscrew it counter clockwise.
3. Replace with a new diamond grinding wheel and tighten the screw after the wheel is installed.
4. Be sure to close the side cover (B2) properly and to fasten the side knob (B1).

注意！ Attention:

1. 鑽石砂輪螺絲(B3)未鎖緊，側蓋(B2)未蓋好旋扭(B1)未鎖緊前，不可將電源打開，以免發生危險。
2. 本機裝置有斷電系統，砂輪保護蓋掀開時就會自動斷電，以保護操作人員之安全。

Please DO NOT switch on the machine BEFORE

(1) The diamond wheel screw (B3) is tightly screwed.
(2) The side cover (B2) is properly closed.
(3) The right knob (B1) is fully fastened.
1. Incase of any hazard occurring, please make sure that the above measures are followed strictly.
2. The machine has an automatic power-off device to ensure operator's safety. Power supply will be cut-off immediately when the cover is opened.



DM-320

專利項目 Patented Features

1. 雙軸承研磨座。
2. 鑽頭鎖緊設計裝置有軸承。
3. 可調靜點座。

1. Double-bearing grinding unit (reduces wear).
2. Drill tightened design with bearing device.
3. Adjustable trimming angle.

標準附件 Standard Accessories

DM-1226
1. ER筒夾 12mm-26mm(15pcs).
2. CBN鑽石砂輪 #150x1 PCS (高速鋼鑽頭專用)
3. 六角扳手 4mm,6mm 各 1 PCS

1. ER Collets, 12mm-26mm (15 pcs).
2. CBN Dimand wheel #150x1 PCS (High Speed drill).
3. 4mm, 6mm Hexagon (Hex.) wrench x 1 pc each.

DM-320
1.ER統夾3mm-20mm(18pcs)
2.CBN鑽石砂輪#150*1PCS(高速鋼鑽頭專用)
3.六角扳手4mm,6mm各1PCS

1.ER collet,3mm-20mm(18pcs)
2.CBN Dimand wheel#150*1 PCS(High Speed drill).
3. 4mm, 6mm Hexagon (Hex.) wrench x 1 pc each.

特殊附件 Optional Accessories

DM-1226
1. SDC鑽石砂輪 #200 (鎢鋼鉆頭專用).
2. ER筒夾 8～11mm, 27～30mm (8 pcs).

1. SDC #200 Diamond wheel (carbide drill).
2. ER Collets, 8～11mm, 27～30mm (8 pcs).

DM-320
1.SDC鑽石砂輪#200(鎢鋼鉆頭專用)

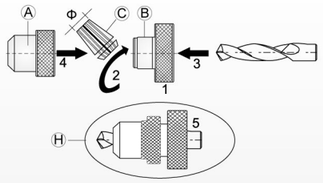
1.SDC#200 Diamond wheel (carbide drill).

單位：mm

型號	Model	DM-1226	DM-320
研磨範圍	Drill Diameter	12 mm - 26 mm	3 mm - 20 mm
先端角範圍	Point Angle	85°～ 140°	85°～ 140°
電源	Power Supply	AC110 / AC220 50 / 60HZ	AC110 / AC220 50 / 60HZ
馬達	Motor	450 W	450 W
轉速	R.P.M	4000 RPM	4300 RPM
重量	Weight	25 kg	21 kg
包裝尺寸	L X W X H	470 x 260 x 235	480 x 260 x 240

操作程序 OPERATIONS

A 鑽頭研磨前的準備步驟 Procedures for changing the grinding wheel



1.首先確認鑽頭直徑，再選擇筒夾(C)。
2.將以選筒夾以適當角度崁入筒夾迫緊帽內(B)。
3.鑽頭裝入筒夾內，並伸出約35mm左右，但不可鎖緊。
4.筒夾環(A)套入筒夾(C)並鎖入筒夾迫緊帽(B)然後輕輕鎖入並保持鑽頭可用手旋轉。
5.以上步驟即完成鑽頭研磨前準備(H)。

1. Choose the collect accordingly to the drill diameter.
2. Slot the chosen collet holder (B) at an appropriate angle.
3. Insert the drill into the connected collet and collet holder set, leave a 35mm extension of the drill's original body length, but do not tightened the drill too tight.
4. Connect the collet nut (A) to the unit of collet (C) which is locked to the collet holder (B), and tighten the set, yet make sure the drill is not firmly tightened, but still able to be tumed.
5. Complete the above steps, so the collet chuck set (H) is ready for drilling.

B 鑽頭長度及角度定位 Setting the drill length and position its movement for drilling

1.**先將刻度環**(C1)**向右轉到底後再向左轉至所要研磨之鑽頭尺寸。**
2.**將**ER**夾具組**(1)，**裝入長度設定座**(C2)**內，並將直銷崁入凹槽內。**
3.**將**ER**夾具組**(2)**向右旋轉至頂住直銷，同時將鑽頭向右旋轉至頂住鑽頭刀刃為止。**
4.ER**螺帽**(3)**向右旋轉將鑽頭夾緊。**
5.**將**ER**夾具組取出確認鑽頭刀刃與**ER**夾具之凹槽是否平行，如沒有平行要重新設定一次。**
6.**注意：當舊鑽頭使用少於**1/4，**刻度環順調大**1~2m/m.

1. Reset the scale ring (C1): Tum the ring all the way clockwise, and then turn it anti-clockwise to the required drilling size indicated on C1.
2. Insert collet chuck set (see 1) into preset length bracket (C2) and make sure the pin is locked to the slot.
3. Turn the collet chuck set clockwise until it touches against the pin (see 2), and turn the drill clockwise till it touches against the drill cutting edge.
4. Screw the ER collet holder (see 3) clockwise to tighten the drill.
5. Take out the collet chuck set to check if the drill cutting edge is parallel to the slot of ER clamping nut. If it's not parallel, please repeat the above steps.
6. Attention: For used drill, with less than 1/4 (three quarters) of its original length left, it is advisable to adjust the 1~2mm scale up on the Scale Ring.

C 鑽頭先端角研磨 Point angle grinding for drill

1.將ER夾具組(1)再裝入端角研磨座，並將凹槽設置定位點。
2.將ER夾具組之鑽頭(2)輕輕接觸砂輪，並以順時鐘、逆時鐘方向旋轉研磨至無聲音即可。
3.將ER夾具取出轉180°A依上述1.2.步驟重複研磨一次，即可完成鑽頭兩邊先端角之研磨。

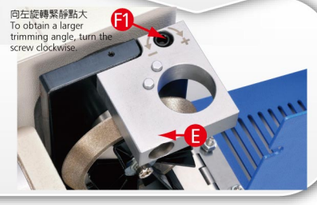
1. Insert the collet chuck set into Point Angle Bracket (see 1), and set the slot into the pin.
2. Make the collet chuck set touching the wheel lightly (see 2), turn clockwise and reverse until the grinding sound disappears.
3. Take out the collet chuck set, rotate it 180 degree, and repeat step 1 and 2 to finish the grinding for the two drill chisel edge angles.

D 鑽頭中心靜點研磨 Center point trimming grinding for drill

1. 將ER夾具組(1)再裝入靜點座(2)並將凹槽設置定位點。
2. 將ER夾具組(1)輕輕接觸砂輪直放到底後，做左右旋轉研磨至無聲即可。
3. 將ER夾具取出轉180°依上述1.2.步驟重複研磨一次即可。

1. Insert collet chuck set (see 1) into the grinding unit and insert the slot into the pin (see 2).
2. Place collet chuck set (see 1) upright and insert it into the top bracket to lightly touch the wheel. Turn it clockwise and reverse until grinding noise disappears.
3. Take out collet chuck set, rotate it 180° degree and repeat step 1 and 2 to finish up the grinding.

E 靜點座調整 Adjustment for trimming angle



1. 靜點倒角大小，(F1)螺絲可調 (+)為倒角較大,(-)為倒角較小。

1. To obtain a larger trimming angle-turn the F1 Screw anti-clockwise (+),(-).

CM-316 簡易型切斷機

CUTTING-OFF

CM-316專利號碼
ZL 200920147543.0
M362076

單位/Unit: cm

型號 Model	切斷範圍 Capacity	馬達 Motor / 轉速 Speed	重量 Weight	包裝尺寸 L X W X H
CM-316	3mm - 16mm	600 w / 6000 rpm	13.5kgs	340 x 210 x 210
電源 Power		AC 110 V / AC 220 V 50 / 60 HZ		

標準配件 STANDARD ACCESSORIES

電 源 線	Power wires	1 SET
保 險 絲	Fuse	2 SET
六角板手	Hex. wrench	4mm / 5mm / 10mm one each
握把	Handle	1 SET
鑽石砂輪	Diamond wheel	SDC80# 1 SET

特別配件 OPTION ACCESSORIES

鑽石砂輪	Diamond wheel	CBN80#

SG TYPE 短刃鑽頭研磨機

FAST DRILL RE-SHARPENING

SG313專利號碼

ZL 200820153366.2
Japan第3151952號
M356596
Nr 202008013817.5

單位/Unit: cm

型號 Model	研磨範圍 Capacity	馬達 Motor / 轉速 Speed	重量 Weight	包裝尺寸 L X W X H
SG-313	3mm - 13mm	200 w / 4200 rpm	13kgs	345 x 175 x 200
先端角 Axial angles	140 °	電源 Power	AC 110 V / AC 220 V 50 / 60 HZ	

標準配件 STANDARD ACCESSORIES

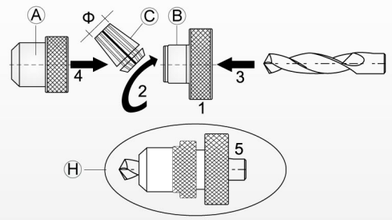
電 源 線 Power wires	1 SET
保 險 絲 Fuse	1 SET
六角板手 Hex. wrench	4mm / 5mm one each
鑽石砂輪 Diamond wheel	CBN250#
鑽石砂輪 Diamond wheel	CBN400# (5mm down)
ER20夾頭 ER20 collet chuck	1 SET
ER20筒夾 ER20 collet	3~13 mm(11pcs)

特別配件 OPTION ACCESSORIES

ER20筒夾 ER20 collet	3.5 , 4.5, 5.5, 6.5, 7.5, 8.5, 9.5, 10.5, 11.5, 12.5 mm
鑽石砂輪 Diamond wheel	SDC250#

操作程序 OPERATIONS

A 鑽頭研磨前準備步驟 Preparation before drill grinding



1.首先確認鑽頭直徑,再選擇筒夾(C)尺寸。
2.將已選筒夾以適當角度崁入筒夾鎖緊帽內(B)。
3.鑽頭裝裝入筒夾內, 並伸出約35mm左右,但不可鎖緊。
4.筒夾環(A)套入筒夾(C)並鎖入筒夾迫緊帽(B)然後輕輕鎖入並保持鑽頭可用手旋轉。
5.以上步驟即完成鑽頭研磨前準備H。

1. Check drill diameter, then select proper size of collet (C).
2. Fit the selected collet into the collet holder (B) with a proper angle.
3. Insert the drill into the collet, and have it protruded about 35mm. At this time do not tighten the drill securely.
4. Fit the nut (A) into the collet (C), then tighten it to the nut (B). Slightly tighten it and allow the drill to be turned by hand.
5. Complete above steps to finish preparation before grinding a drill.

B 更換鑽石砂輪步驟 Procedures for changing the grinding wheel

1.將本機台(B1)螺絲全鬆開取下並將砂輪蓋(B2)掀開。
2.用4mm六角板手逆時針方向將螺絲 (B3) 鬆開。
3.更換新鑽石砂輪再將螺絲鎖上即可。
4.將砂輪蓋(B2)蓋上並將(B1)螺絲鎖緊。
注意:鑽石砂輪螺絲(B3)未鎖緊,砂輪蓋B2未蓋上。螺絲(B1)未鎖緊前不可將電源打開以免發生危險。

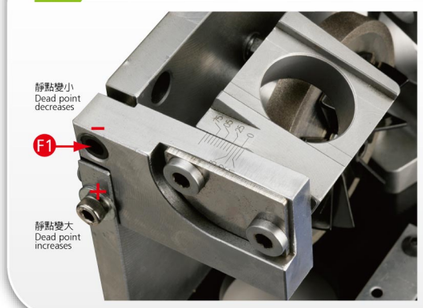
1. Loosen screw (B1), then open the grinding wheel guard (B2).
2. Use a 4mm hex. wrench to loosen the screw (B3) by turning it counter clockwise.
3. Replace with a new diamond wheel, and tighten the screw.
4. Close the grinding wheel guard (B2), and tighten the screw (B1).
NOTE: Do not turn power on under the following conditions. Failure to comply may result in serious injury.

C 鑽頭長度及角度定位 Setting drill length and angle

1.先將刻度環(C1)向右轉到底後再向左轉至所要研磨之鑽頭尺寸。
2.將ER夾具組(1)裝入長度設定座(C2)內並將直銷崁入凹槽內。
3.將ER夾具組(1)向右旋轉至頂住直銷同時將鑽頭(2)向右旋轉至頂住鑽頭刀刃為止。
4.ER螺帽(3)向右旋轉將鑽頭夾緊。
5.將ER夾具組(H)取出確認鑽頭刀刃與ER夾頭之凹槽是否平行如果沒有平行要重新設定一次。
6.注意(舊鑽頭少於3/4時期刻度環順調大1-2格)。

1. Turn the graduated collar (C1) clockwise to the end, then turn it counter clockwise to the size of drill to be ground.
2. Insert the ER collet chuck (1) into the length setting unit (C2), and make sure the pin is locked to the slot.
3. Turn the collet chuck (1) clockwise until it touches the pin. Turn the drill (2) clockwise until it touches the drill cutting edge.
4. Turn the ER nut (3) clockwise to tighten the drill.
5. Take out the collet chuck (H). Check to see if the drill cutting edge is parallel to the slot of ER collet chuck. If not, make setting again.
6. NOTE: If a drill is used to less than 3/4 of its original length, the graduated collar should be turned over 1-2 graduation.

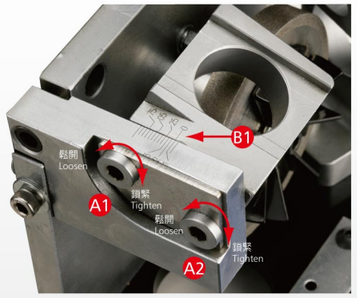
D 鑽頭靜點調整 Primary adjusting dead point re-sharpening



1.靜點要調大, 將(F1)螺絲以順時針方向(+)旋轉調整。
2.靜點要調小,將(F1)螺絲以逆時針方向(-)旋轉調整。

1.To increase dead point, turn the screw (F1) clockwise (+).
2.To reduce dead point, turn the screw (F1) counter clockwise (-).

E 鑽頭排屑溝寬度調整 Adjusting width of chip exhausting slot



1. 先確認鑽頭尺寸。
2. 核對排屑槽寬度。
3. 將(A1)和(A2)螺絲鬆開。
4. 將靜點座B1上的刻度移動至所需之尺寸。
5. 再把(A1)和(A2)螺絲鎖緊固定即可作研磨。

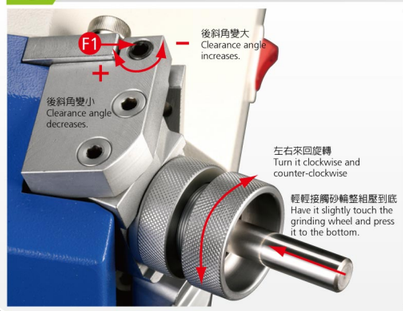
1. Check drill sizes.
2. Check width of chip exhausting slots.
3. Loosen the screws (A1) and (A2).
4. Move the graduation of dead point unit B1 to your desired size.
5. Tighten the screws (A1) and (A2), then you can perform grinding operation.

F 鑽頭中心靜點研磨 Grinding dead point of drill

1.將ER夾具組 (H) 前端直銷對準凹槽插入。
2.將ER夾具組之鑽頭輕輕接觸砂輪並作緩慢進給壓到底後再作左右旋轉研磨至無聲即可。
3.將ER夾具組 (H) 取出轉180°再依上述1.2步驟重複研磨一次即可完成鑽頭靜點研磨。

1. Align the straight pin at the front end of the ER collet chuck (H) with the slot then insert it.
2. Have the drill in the ER collet chuck slightly touch the grinding wheel. Perform slow feed for pressing it to the bottom. Turn it clockwise and counter clockwise until grinding sound disappears.
3. Take out the collet chuck (H). Rotate it 180°. Repeat step 1 and 2 for repetitive grinding to finish the dad point grinding.

G 鑽頭長度及角度定位 Grinding clearance angle



1.將ER夾具組 (H) 前端直銷對準後斜角研磨座之凹槽裝入。
2.將ER夾具組上之鑽頭輕輕接觸砂輪並作緩慢進給到底後再左右旋轉研磨至無聲即可。
3.將ER夾具組 (H) 取出轉180°再依上述1.2步驟重複研磨一次即可完成後斜角研磨。

1. Align the straight pin at the front end of the ER collet chuck (H) with the slot on the clearance angle grinding unit.
2. Have the drill in the ER collet chuck slightly touch the grinding wheel. Perform slow feed for pressing it to the bottom. Turn it clockwise and counter clockwise until grinding sound disappears.
3. Take out the collet chuck (H). Rotate it 180°. Repeat step 1 and 2 for repetitive grinding to finish the clearance angle grinding.

H 鑽頭刀刃研磨 Grinding end edge

1.將ER夾具組 (H) 前端直銷對準刀刃研磨座之凹槽插入。
2.將ER夾具組之鑽頭輕輕接觸砂輪並作緩慢進給到底後再作左右旋轉研磨至無聲即可。
3.將ER夾具組H取出轉180°再依上述1.2步驟重複研磨一次即可完成刀刃研磨。

1. Align the straight pin at the front end of the ER collet chuck H with the slot on the end edge grinding unit.
2. Have the drill in the ER collet chuck slightly touch the grinding wheel. Perform slow feed for pressing it to the bottom. Turn it clockwise and counter-clockwise until the grinding sound disappears.
3. Take out the collet chuck (H). Rotate it 180°. Repeat step 1 and 2 for repetitive grinding to finish the clearance angle grinding to finish the end edge grinding.

MD TYPE 3斜度-長刃銑刀型鑽頭研磨機

3 SLANT FAST DRILL RE-SHARPENING

MD213專利號碼
ZL 200900174158.5
M369817

單位/Unit: cm

型號 Model	研磨範圍 Capacity	馬達 Motor / 轉速 Speed	重量 Weight	包裝尺寸 L X W X H
MD-213	3mm - 13mm	200 w / 5500 rpm	10 kgs	305 x 172 x 180
先端角 Axial angles	140 °	電源 Power	AC 110 V / AC 220 V 50 / 60 HZ	

標準配件 STANDARD ACCESSORIES

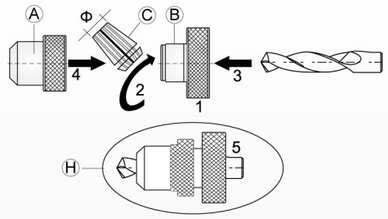
電 源 線	Power wires	1 SET
保 險 絲	Fuse	1 SET
六角板手	Hex. wrench	4mm / 5mm one each
鑽石砂輪	Diamond wheel	CBN200#
鑽石砂輪	Diamond wheel	SDC400#
ER20夾頭	ER20 collet chuck	1 SET
ER20筒夾	ER20 collet	2~13 mm(12pcs)

特別配件 OPTION ACCESSORIES

ER20筒夾	ER20 collet	3.5 , 4.5, 5.5, 6.5, 7.5, 8.5, 9.5, 10.5, 11.5, 12.5 mm

操作程序 OPERATIONS

A 鑽頭研磨前準備步驟 Preparation before drill grinding



1.首先確認鑽頭直徑,再選擇筒夾(C)尺寸。
2.將已選筒夾以適當角度崁入筒夾鎖緊帽內(B)。
3.鑽頭裝裝入筒夾內, 並伸出約35mm左右,但不可鎖緊。
4.筒夾環(A)套入筒夾(C)並鎖入筒夾迫緊帽(B)然後輕輕鎖入並保持鑽頭可用手旋轉。
5.以上步驟即完成鑽頭研磨前準備(H)。

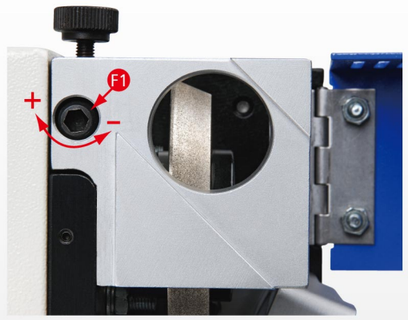
1. Check drill diameter, then select proper size of collet (C).
2. Fit the selected collet into the collet holder (B) with a proper angle.
3. Insert the drill into the collet, and have it protrude about 35mm. At this time do not tighten the drill securely.
4. Fit the nut (A) into the collet (C), then tighten it to the nut (B). Slightly tighten it and allow the drill to be turned by hand.
5. Complete above steps to finish preparation before grinding a drill.

B 鑽頭長度及角度定位 Setting drill length and angle

1.先將刻度環(C1)向右轉到底後再向左轉至所要研磨之鑽頭尺寸。
2.將ER夾具組(H)裝入長度設定座(C2)內並將直銷崁入凹槽內。
3.將ER夾具組(H)向右旋轉至頂住直銷，同時將鑽頭向右旋轉至頂住鑽頭刀刃為止。
4.ER螺帽(B)向右旋轉將鑽頭夾緊。
5.將ER夾具組(H)取出確認鑽頭刀刃與ER夾頭之凹糟是否平行，如果沒有平行要重新設定一次。
6.注意(舊鑽頭少於3/4時期刻度環順調大1-2格)。

1. Turn the graduated collar (C1) clockwise to the end, then turn it counter clockwise to the size of drill to be ground.
2. Insert the ER collet chuck (H) into the length setting unit (C2), and make sure the pin is locked to the slot.
3. Turn the collet chuck (H) clockwise until it touches the pin. Turn the drill clockwise until it touches the drill cutting edge.
4. Turn the ER nut (B) clockwise to tighten the drill.
5. Take out the collet chuck (H). Check to see if the drill cutting edge is parallel to the slot of ER collet chuck. If not, make setting again.
6. NOTE: If a drill is used to less than 3/4 of its original length, the graduated collar should be turned over 1-2 graduation.

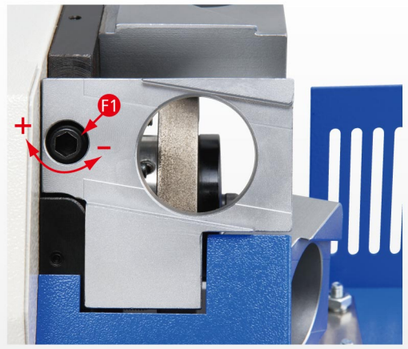
C 鑽頭中心靜點研磨、調整 Grinding and primary adjusting dead point of drill



1.將ER夾具組 (H) 前端直銷對準凹槽插入。
2.將ER夾具組之鑽頭輕接觸砂輪並作緩慢進給壓到底後研磨至無聲即可。
3.將ER夾具組 (H) 取出轉180°再依上述1.2步驟重複研磨一次即可完成鑽頭靜點研磨。
4.靜點倒角要調大, 將(F1)螺絲向左(+)微調至所需之大小。
5.靜點倒角要調小,將(F1)螺絲向右(-)微調至所需之大小。

1. Align the straight pin at the front end of the ER collet chuck (H) with the slot then insert it.
2. Have the drill in the ER collet chuck slightly touch the grinding wheel. Perform slow feed for pressing it to the bottom. Until grinding sound disappears.
3. Take out the collet chuck (H). Rotate it 180°. Repeat step 1 and 2 for repetitive grinding to finish the dad point grinding.
4. To increase dead point, turn the screw (F1) left clockwise to adjustment (+).
5. To reduce dead point, turn the screw (F1) right clockwise to adjustment (-).

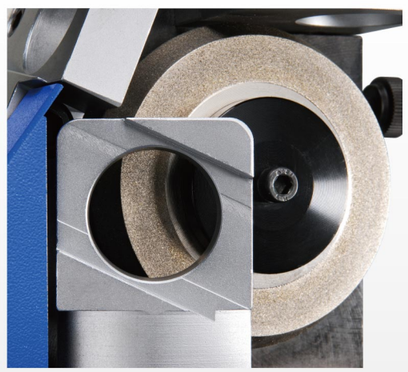
D 鑽頭後斜角研磨、調整 Grinding and primary adjusting secondary clearance angle of drill



1.將ER夾具組 (H) 前端直銷對準後斜角凹槽插入。
2.將ER夾具組之鑽頭輕接觸砂輪並作緩慢進給壓到底後研磨至無聲即可。
3.將ER夾具組 (H) 取出轉180°再依上述1.2步驟重複研磨一次即可完成後斜角研磨。
4.靜點倒角要調大, 將(F1)螺絲向左(+)微調至所需之大小。
5.靜點倒角要調小,將(F1)螺絲向右(-)微調至所需之大小。

1. Align the straight pin at the front end of the ER collet chuck (H) with the slot then insert it in secondary clearance angle set.
2. Have the drill in the ER collet chuck slightly touch the grinding wheel. Perform slow feed for pressing it to the bottom. Until grinding sound disappears.
3. Take out the collet chuck (H). Rotate it 180°. Repeat step 1 and 2 for repetitive grinding to finish the Secondary clearance angle grinding.
4. To increase dead point, turn the screw (F1) left clockwise to adjustment (+).
5. To reduce dead point, turn the screw (F1) right clockwise to adjustment (-).

E 鑽頭刀刃研磨 Grinding end edge



1.將ER夾具組 (H) 前端直銷對準刀刃研磨座之凹槽插入。
2.將ER夾具組之鑽頭輕輕接觸砂輪並作緩慢進給到底後研磨至無聲即可。
3.將ER夾具組H取出轉180°再依上述1.2步驟重複研磨一次即可完成刀刃研磨。

1. Align the straight pin at the front end of the ER collet chuck H with the slot on the end edge grinding unit.
2. Have the drill in the ER collet chuck slightly touch the grinding wheel. Perform slow feed for pressing it to the bottom. Until the grinding sound disappears.
3. Take out the collet chuck (H). Rotate it 180°. Repeat step 1 and 2 for repetitive grinding to finish the clearance angle grinding to finish the end edge grinding.

薄扳鑽頭研磨機

PORTABLE SHEET DRILL RE-SHARPENING

PD-316

專利在案 Patent pending

* 只要一個砂輪就可磨兩個角度
One wheel is capable of grinding two angles.

更換鑽石砂輪步驟
Procedures for changing the grinding wheel

1. 將本機右側旋扭(B1)鬆開，並將側蓋(B2)掀開。
2. 用4mm六角扳手逆時鐘方向將螺絲(B3)鬆開。
3. 更換新鑽石砂輪、再將螺絲鎖上即可。
4. 將側蓋(B2)蓋好，並將旋扭(B1)鎖緊。

1. Loosen the side knob (B1) and open the side cover (B2).
2. Use a 4mm hexagon wrench to loosen the screw (B3), unscrew it counter clockwise.
3. Replace with a new diamond grinding wheel and tighten the screw after the wheel is installed.
4. Be sure to close the side cover (B2) properly and to fasten the side knob (B1).

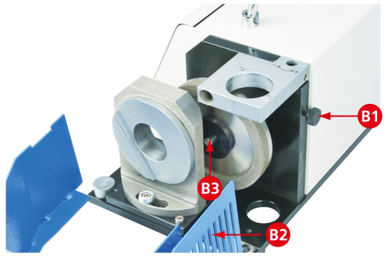
注意！ Attention:

1. 鑽石砂輪螺絲(B3)未鎖緊，側蓋(B2)未蓋好旋扭(B1)未鎖緊前，不可將電源打開，以免發生危險。
2. 本機裝置有斷電系統，砂輪保護蓋掀開時就會自動斷電，以保護操作人員之安全。

Please DO NOT switch on the machine BEFORE

(1) The diamond wheel screw (B3) is tightly screwed.
(2) The side cover (B2) is properly closed.
(3) The right knob (B1) is fully fastened.

1. Incase of any hazard occurring, please make sure that the above measures are followed strictly.
2. The machine has an automatic power-off device to ensure operator's safety. Power supply will be cut-off immediately when the cover is opened.



專利項目 Patented Features

1. 雙軸承研磨座。
2. 鑽頭鎖緊設計裝置有軸承。
3. 可調靜點座。

1. Double-bearing grinding unit (reduces wear).
2. Drill tightened design with bearing device.
3. Adjustable trimming angle.

標準附件 Standard Accessories

PD-316
1. ER筒夾 3mm-16mm (15pcs).
2. CBN鑽石砂輪 #300x1 PCS (高速鋼鑽頭專用)
3. 六角扳手 4mm,6mm 各 1 PCS

1. ER Collets, 3mm-16mm (15 pcs).
2. CBN Dimand wheel #300x1 PCS (High Speed drill).
3. 4mm, 6mm Hexagon (Hex.) wrench x 1 pc each.

特殊附件 Optional Accessories

PD-316
1.SDC鑽石砂輪#300(鎢鋼鉆頭專用)

1.SDC# 300 Diamond wheel (carbide drill).

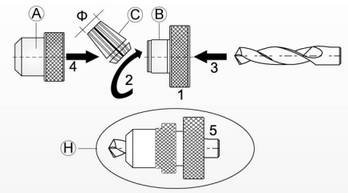
單位：mm

型號	Model	PD-316
研磨範圍	Drill Diameter	3mm-16mm
電源	Power Supply	AC110 / AC220 50 / 60HZ
馬達	Motor	450 W
轉速	R.P.M	4300 RPM
重量	Weight	21 kg
包裝尺寸	L X W X H	480 x 260 x 240

操作程序 OPERATIONS

A 鑽頭研磨前的準備步驟 Procedures for changing the grinding wheel

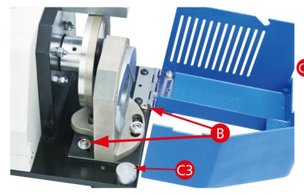
1.首先確認鑽頭直徑，再選擇筒夾(C)。
2.將以選筒夾以適當角度崁入筒夾迫緊帽內(B)。
3.鑽頭裝入筒夾內，並伸出約35mm左右，但不可鎖緊。
4.筒夾環(A)套入筒夾(C)並鎖入筒夾迫緊帽(B)然後輕輕鎖入並保持鑽頭可用手旋轉。
5.以上步驟即完成鑽頭研磨前準備(H)。



1. Choose the collect accordingly to the drill diameter.
2. Slot the chosen collet holder (B) at an appropriate angle.
3. Insert the drill into the connected collet and collet holder set, leave a 35mm extension of the drill's original body length, but do not tightened the drill too tight.
4. Connect the collet nut (A) to the unit of collet (C) which is locked to the collet holder (B), and tighten the set, yet make sure the drill is not firmly tightened, but still able to be tumed.
5. Complete the above steps, so the collet chuck set (H) is ready for drilling.

B 鑽頭長度及角度定位 Setting the drill length and position its movement for drilling

1.先將刻度環(C1)向右轉到底後再向左轉至所要研磨之鑽頭尺寸。
2.將ER夾具組(1)，裝入長度設定座(C2)內，並將直銷崁入凹槽內。
3.將ER夾具組(2)向右旋轉至頂住直銷，同時將鑽頭向右旋轉至頂住鑽頭刀刃為止。
4.ER螺帽(3)向右旋轉將鑽頭夾緊。
5.將ER夾具組取出確認鑽頭刀刃與ER夾具之凹槽是否平行，如沒有平行要重新設定一次。
6.C1刻度環為要研磨尺寸，C3調至跟C1相同的尺寸。2支螺絲鬆開(B)C3即可旋轉尺寸。當鑽頭尺寸多少，調至所需尺寸即可完成。之後再將B之兩支螺絲鎖緊。
7.注意：當舊鑽頭使用少於1/4，刻度環順調大1~2m/m。



1. Reset the scale ring (C1): Tum the ring all the way clockwise, and then turn it anti-clockwise to the required drilling size indicated on C1.
2. Insert collet chuck set (see 1) into preset length bracket (C2) and make sure the pin is locked to the slot.
3. Turn the collet chuck set clockwise until it touches against the pin (see 2), and turn the drill clockwise till it touches against the drill cutting edge.
4. Screw the ER collet holder (see 3) clockwise to tighten the drill.
5. Take out the collet chuck set to check if the drill cutting edge is parallel to the slot of ER clamping nut. If it's not parallel, please repeat the above steps.
6. Set the Gauge C1 for the desired grinding dimension, adjust the Gauge C3 same as C1.Loosen the two screws**(B)** to release Gauge C3 for the desired dimension, and then tighten the two screws B.
7. Attention: For used drill, with less than 1/4 (three quarters) of its original length left, it is advisable to adjust the 1~2mm scale up on the Scale Ring.

C 鑽頭先端角研磨 Point angle grinding for drill

1.將ER夾具組(1)再裝入端角研磨座，並將凹槽設置定位點。
2.將ER夾具組之鑽頭(2)輕輕接觸砂輪，並以順時鐘、逆時鐘方向旋轉研磨至無聲音即可。
3.將ER夾具取出轉180°A依上述1.2.步驟重複研磨一次，即可完成鑽頭兩邊先端角之研磨。

1. Insert the collet chuck set into Point Angle Bracket (see 1), and set the slot into the pin.
2. Make the collet chuck set touching the wheel lightly (see 2), turn clockwise and reverse until the grinding sound disappears.
3. Take out the collet chuck set, rotate it 180 degree, and repeat step 1 and 2 to finish the grinding for the two drill chisel edge angles.

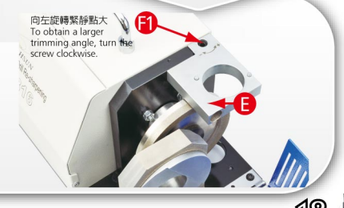
D 鑽頭中心靜點研磨 Center point trimming grinding for drill

1. 將ER夾具組(1)再裝入靜點座(2)並將凹槽設置定位點。
2. 將ER夾具組(1)輕輕接觸砂輪直放到底後，做左右旋轉研磨至無聲即可。
3. 將ER夾具取出轉180°依上述1.2.步驟重複研磨一次即可。

1. Insert collet chuck set (see 1) into the grinding unit and insert the slot into the pin (see 2).
2. Place collet chuck set (see 1) upright and insert it into the top bracket to lightly touch the wheel. Turn it clockwise and reverse until grinding noise disappears.
3. Take out collet chuck set, rotate it 180° degree and repeat step 1 and 2 to finish up the grinding.

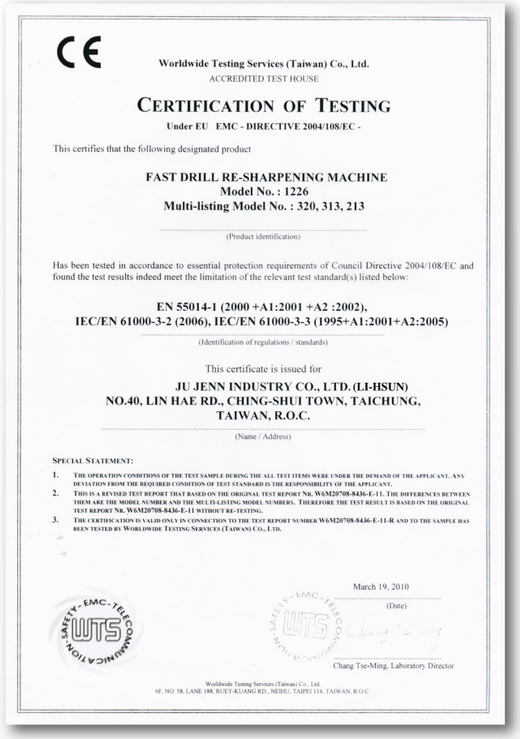
E 靜點座調整 Adjustment for trimming angle

1. 靜點倒角大小，(F1)螺絲可調 (+)為倒角較大,(-)為倒角較小。



1. To obtain a larger trimming angle-turn the F1 Screw anti-clockwise (+),(-).

專利證書 PATENT CERTIFICATE



CE

Worldwide Testing Services (Taiwan) Co., Ltd.
ACCREDITED TEST HOUSE

CERTIFICATION OF TESTING
Under EU EMC - DIRECTIVE 2004/108/EC -

This certifies that the following designated product

FAST DRILL RE-SHARPENING MACHINE
Model No. : 1226
Multi-listing Model No. : 320, 313, 213

(Product identification)

Has been tested in accordance to essential protection requirements of Council Directive 2004/108/EC and found the test results indeed meet the limitation of the relevant test standard(s) listed below:

EN 55014-1 (2000 +A1:2001 +A2 :2002),
IEC/EN 61000-3-2 (2006), IEC/EN 61000-3-3 (1995+A1:2001+A2:2005)

(Identification of regulations / standards)

This certificate is issued for

JU JENN INDUSTRY CO., LTD.(LI-HSUN)
NO.40, LIN HAE RD., CHING-SHUI TOWN, TAICHUNG,
TAIWAN, R.O.C.

(Name / Address)

SPECIAL STATEMENT:

1. THE OPERATION CONDITIONS OF THE TEST SAMPLE DURING THE ALL TEST ITEMS WERE UNDER THE DEMAND OF THE APPLICANT. ANY DEVIATION FROM THE REQUIRED CONDITION OF TEST STANDARD IS THE RESPONSIBILITY OF THE APPLICANT.
2. THIS IS A REVISED TEST REPORT THAT BASED ON THE ORIGINAL TEST REPORT NR. W6M20708-8436-E-11. THE DIFFERENCES BETWEEN THEM ARE THE MODEL NUMBER AND THE MULTI-LISTING MODEL NUMBERS. THEREFORE THE TEST RESULT IS BASED ON THE ORIGINAL TEST REPORT NR. W6M20708-8436-E-11 WITHOUT RE-TESTING.
3. THE CERTIFICATION IS VALID ONLY IN CONNECTION TO THE TEST REPORT NUMBER W6M20708-8436-E-11-R AND TO THE SAMPLE HAS BEEN TESTED BY WORLDWIDE TESTING SERVICES (TAIWAN) CO., LTD.

March 19, 2010
(Date)

Chang Tse-Ming, Laboratory Director

Worldwide Testing Services (Taiwan) Co., Ltd.
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.

CE

Worldwide Testing Services (Taiwan) Co., Ltd.
ACCREDITED TEST HOUSE

CERTIFICATION OF TESTING
Under EU EMC - DIRECTIVE 2004/108/EC -

This certifies that the following designated product

FAST END MILL RE-SHARPENING MACHINE
Model No. : 1225
Multi-listing Model No. : 413, 316

(Product identification)

Has been tested in accordance to essential protection requirements of Council Directive 2004/108/EC and found the test results indeed meet the limitation of the relevant test standard(s) listed below:

EN 55014-1 (2000 +A1:2001 +A2 :2002),
IEC/EN 61000-3-2 (2006), IEC/EN 61000-3-3 (1995+A1:2001+A2:2005)

(Identification of regulations / standards)

This certificate is issued for

JU JENN INDUSTRY CO., LTD. (LI-HSUN)
NO.40, LIN HAE RD., CHING-SHUI TOWN, TAICHUNG,
TAIWAN, R.O.C.

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March 19, 2010
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SGS Reference No: EZ/2010/30017C

Page 1 of 1

VERIFICATION OF COMPLIANCE

Verification Report No.	:	EZ/2010/30017C
Representative Model	:	1225
Series Model(s)	:	413 and 316
Product Name	:	Fast End Mill Re-Sharpening Machine
Applicant	:	JU JENN INDUSTRY CO.,LTD.
Address of Applicant	:	No.40,Lin Hae Rd., Ching-Shui Town, Taichung, Taiwan, R.O.C.
TCF Number	:	JUJENN-2010-B1
Date of Issue	:	June 9, 2010
Date of Expiry	:	June 9, 2015
Applicable Standards	:	EN ISO 12100-1:2003+A1:2009, EN ISO 12100-2:2003+A1:2009, EN ISO 14121-1: 2007, ISO / TR 14121-2: 2007, EN 61209-1: 2009

Conclusion
Based upon a review of the worksheets and the Technical Construction File, the apparatus is deemed to meet the requirements of the above standards and hence fulfill the requirements of:

Machinery Directive 2006/42/EC

Note : This verification is only valid for the equipment and configuration described and in conjunction with the technical data detailed above.
The CE mark as shown below can be used, under the responsibility of the manufacture, after completion an EC Declaration of Conformity and compliances with all relevant EC Directives.

Authorized Signatory:

CE

SGS TAIWAN LTD.
Jason Lin
Technical Manager

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SGS Reference No: EZ/2010/30016C

Page 1 of 1

VERIFICATION OF COMPLIANCE

Verification Report No.	:	EZ/2010/30016C
Representative Model	:	1226
Series Model(s)	:	320, 313 and 213
Product Name	:	Fast Drill Re-Sharpening Machine
Applicant	:	JU JENN INDUSTRY CO.,LTD.
Address of Applicant	:	No.40,Lin Hae Rd., Ching-Shui Town, Taichung, Taiwan, R.O.C.
TCF Number	:	JUJENN-2010-A1
Date of Issue	:	June 9, 2010
Date of Expiry	:	June 9, 2015
Applicable Standards	:	EN ISO 12100-1:2003+A1:2009, EN ISO 12100-2:2003+A1:2009, EN ISO 14121-1: 2007, ISO / TR 14121-2: 2007, EN 61209-1: 2009

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Technical Manager

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各國專利 PATENT

Country國別	Patent Item 專利名稱	Patent No.專利號碼
China大陸	CH-213鑽頭磨機 CH-213 Drilling Head Grinding Machine	ZL 2005 2 0111362.4
Taiwan台灣	CH-213鑽頭磨機 CH-213 Drilling Head Grinding Machine	新型M279443號
Germany德國	CH-213鑽頭磨機 CH-213 Drilling Head Grinding Machine	Nr 20 2008 099 443.7
China大陸	GH-313磨銑刀機 GH-313 Milling Head Grinding Machine	ZL 2007 2 0150335.4
China大陸	GH-313磨銑刀機 GH-313 Milling Head Grinding Machine	ZL 2007 2 0140706.3
Japan日本	GH-313磨銑刀機 GH-313 Milling Head Grinding Machine	登錄第3138310號
Taiwan台灣	GH-313磨銑刀機 GH-313 Milling Head Grinding Machine	新型M321829號
Taiwan台灣	GH-313磨銑刀機 GH-313 Milling Head Grinding Machine	新型M325182號
USD美國	GH-313磨銑刀機 GH-313 Milling Head Grinding Machine	專利號數 US7,473,163B1號
Germany德國	GH-313磨銑刀機 GH-313 Milling Head Grinding Machine	Nr 202007 015 258.2
China大陸	SG鑽頭研磨機 SG Drilling Head Grinding Machine	ZL 2008 2 0153366.2
Japan日本	SG鑽頭研磨機 SG Drilling Head Grinding Machine	登錄第3151952號
Taiwan台灣	SG鑽頭研磨機 SG Drilling Head Grinding Machine	新型M356569號
Germany德國	SG鑽頭研磨機 SG Drilling Head Grinding Machine	Nr 20 2008 013 817.5
China大陸	三斜面銑刀型鑽頭研磨機 3-Slant Milling Tool Type Drilling Head Grinding Machine	ZL 2009 0 0174158.5
Taiwan台灣	三斜面銑刀型鑽頭研磨機 3-Slant Milling Tool Type Drilling Head Grinding Machine	新型M369817號
China大陸	圓棒裁斷機 Round Bar Cutting Machine	ZL 2009 20147543.0
Taiwan台灣	圓棒裁斷機 Round Bar Cutting Machine	新型M362076號