

DRILL SERIES

SAFEWAY TECHNOLOGY



Best aid

SAFEWAY

鑽頭研磨機 Drill Grinding Machine

ISO9001

SA-1300 / 2000 / 2500

SA-1302 / 2002 / 2502 (雙砂輪 Twin Wheel)

特性：

- 一台機械同時裝置有兩只砂輪，一只為CBN砂輪，可用於高速鋼(HSS)鑽頭，一只為鑽石砂輪，可用於碳化鎢鑽頭，免除常換砂輪的困擾。
- 操作簡單，研磨精確，經濟實惠。
- 手提式設計，攜帶方便，室內、室外均可使用。
- 採用鑽石砂輪設計，砂輪壽命極長，研磨角度精確。
- 隱藏式筒夾盒設計，方便管理筒夾。
- 採用高效率AC馬達，頻率穩定，壽命佳。

FEATURES:

- Two wheels build in one machine. (Twin wheel)
One side (CBN wheel) is suitable for HSS, The other side (Diamond wheel) is suitable for carbide drill.
- Easy operation, precision grinding and cost saving.
- Hand held for easy movement and can operate inside and outside of the room.
- Use Diamond Wheel for long lasting service life and precise grinding angle.
- Built-in collet bracket for easy management collets



SA-1302 (ø3~ø13)
(ø2 特別附件 Optional)



SA-1300 (ø3~ø13)
(ø2 特別附件 Optional)



SA-2002 (ø3~ø20)
(ø2 特別附件 Optional)



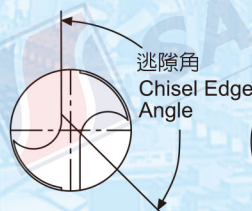
SA-2000 (ø3~ø20)
(ø2 特別附件 Optional)



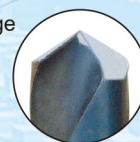
SA-2502 (ø13~ø26)
(ø27~ø30 特別附件 Optional)



SA-2500 (ø13~ø26)
(ø27~ø30 特別附件 Optional)



逃隙角
Chisel Edge
Angle



先端角
Point
Angle

簡單EASY

精確ACCURATE

快速FAST



ISO9001



SAFEWAY

ISO-9001

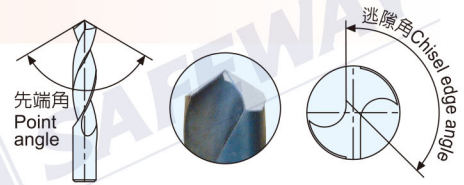
鑽頭研磨機 DRILL GRINDING MACHINE

- 型號 MODEL
- 078201300 SA-1300-110V
 - 078221300 SA-1300-240V
 - 078242500 SA-2500-110V
 - 078262500 SA-2500-240V
 - 078272000 SA-2000-110V
 - 078282000 SA-2000-240V

簡單
Easy

精確
Accurate

快速
Fast



SA-1300 (ø3~ø13)
(Ø2 特別附件 Optional)



SA-2000 (ø3~ø20)
(Ø2 特別附件 Optional)



SA-2500 (ø13~ø26)
(Ø27~Ø30 特別附件 Optional)

單位 Unit : mm

訂購編號 ORDER NO.	型號 MODEL	直徑範圍 DIA. CAPACITY	角度範圍 ANGLE CAPACITY	電源 POWER	淨重 N.W.	毛重 G.W.	保險絲(慢斷型) FUSE	鑽石砂輪 WHEEL	筒夾型式 COLLET	外型尺寸 DIMENSION	備註 REMARK
078201300	SA-1300	Ø3~Ø13mm (Ø2 Optional)	90°~144° (Ø6~Ø13) 118°~135° (Ø2~Ø6)	單相 Single	10kg	11kg	6A	CBN#200	ER-20	320x220x200	
078221300				單相 Single			3A				
078272000	SA-2000	Ø3~Ø20mm (Ø2 Optional)	90°~144° (Ø6~Ø20) 118°~135° (Ø2~Ø6)	單相 Single	16kg	17kg	8A	CBN#200	ER-25	415x240x220	
078282000				單相 Single			4A				
078242500	SA-2500	Ø13~Ø26mm (Ø27~Ø30 Optional)	90°~144° (Ø13~Ø26) 118°~135° (Ø27~Ø30)	單相 Single	26kg	27kg	8A	CBN#140	ER-40	490x270x250	
078262500				單相 Single			4A				

鑽頭研磨機(鑽石砂輪) DRILL GRINDING MACHINE (TWIN WHEEL)

- 型號 MODEL
- 078201302 SA-1302-110V
 - 078221302 SA-1302-240V
 - 078242502 SA-2502-110V
 - 078262502 SA-2502-240V
 - 078272002 SA-2002-110V
 - 078282002 SA-2002-240V



SA-1302 (ø3~ø13)
(Ø2 特別附件 Optional)



SA-2002 (ø3~ø20)
(Ø2 特別附件 Optional)



SA-2502 (ø13~ø26)
(Ø27~Ø30 特別附件 Optional)

單位 Unit : mm

訂購編號 ORDER NO.	型號 MODEL	直徑範圍 DIA. CAPACITY	角度範圍 ANGLE CAPACITY	電源 POWER	淨重 N.W.	毛重 G.W.	保險絲(慢斷型) FUSE	鑽石砂輪 WHEEL	筒夾型式 COLLET	外型尺寸 DIMENSION	備註 REMARK
078201302	SA-1302	Ø3~Ø13mm (Ø2 Optional)	90°~144° (Ø6~Ø13) 118°~135° (Ø2~Ø6)	單相 Single	12kg	13kg	6A	CBN #200	ER-20	350x250x220	
078221302				單相 Single			3A	鑽石砂輪400			
078272002	SA-2002	Ø3~Ø20mm (Ø2 Optional)	90°~144° (Ø6~Ø20) 118°~135° (Ø2~Ø6)	單相 Single	18kg	19kg	8A	CBN #200	ER-25	360x280x230	
078282002				單相 Single			4A	鑽石砂輪400			
078242502	SA-2502	Ø13~Ø26mm (Ø27~Ø30 Optional)	90°~144° (Ø13~Ø26) 118°~135° (Ø27~Ø30)	單相 Single	29kg	30kg	8A	CBN #140	ER-40	420x310x270	
078262502				單相 Single			4A	鑽石砂輪300			



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A. 筒夾 COLLET

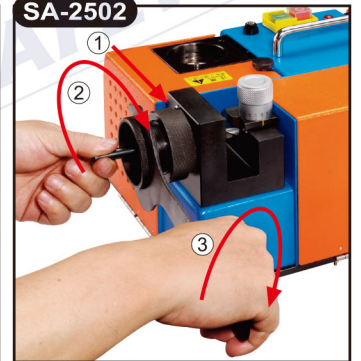


型號 MODEL	筒夾 COLLET	標準附件 STANDARD	特殊附件 OPTIONAL	型號 MODEL	筒夾 COLLET	標準附件 STANDARD	特殊附件 OPTIONAL
SA-1300	ER20	Ø3~Ø13	Ø2.5	SA-1302	ER20	Ø3~Ø13	Ø2.5
SA-2000	ER25	Ø3~Ø20	Ø2.5	SA-2002	ER25	Ø3~Ø20	Ø2.5
SA-2500	ER40	Ø13~Ø26	Ø27~Ø30	SA-2502	ER40	Ø13~Ø26	Ø27~Ø30

B. 長度及方位設定 Position & Length Pre-setting

- ① 整組順時鐘方向輕輕頂住直銷。
- ② 鑽頭輕輕頂到底且順時鐘方向輕輕頂住停止檔。
- ③ 順時鐘方向將筒夾螺帽鎖緊。(SA-2502必須使用把手鎖緊)

- ① Against pin by clockwise direction.
- ② The drill to the bottom and clockwise direction to the stopper by turn lightly.
- ③ Clockwise direction tighten by hand (SA-2502 by handle)



C. 先端角研磨 Point Angle

- ① 整組慢慢送入，鑽頭輕輕接觸砂輪。
- ② 整組順時鐘及逆時鐘方向慢慢來回旋轉。

- ① The drill touch the wheel lightly.
- ② Clockwise & count clockwise by turn slowly.

SA-1300, 2000, 2500



SA-1302, 2002, 2502



SA-1302, 2002, 2502



D. 逃隙角研磨 Chisel Edge Angle

- ① 整組慢慢壓到底輕輕接觸砂輪。
- ② 整組順時鐘、逆時鐘來回慢慢旋轉。

- ① The drill to the bottom and touch the wheel lightly.
- ② Clockwise & count clockwise direceion by turn slowly.

SA-1300, 2000, 2500



SA-1302, 2002, 2502



SA-1302, 2002, 2502





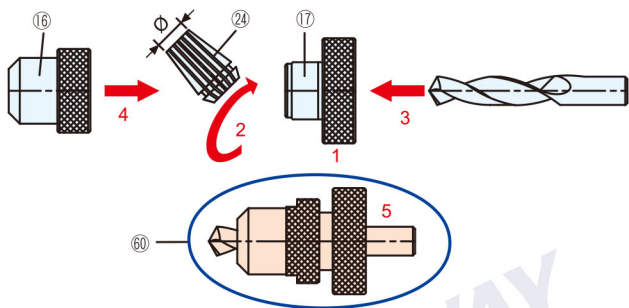
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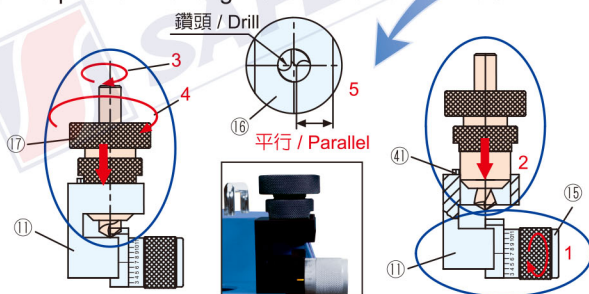
鑽頭研磨機 / 操作說明 DRILL GRINDING MACHINE / OPERATION

A. 如何完成鑽頭研磨前準備 / How to prepare for drill grinding



B. 如何完成鑽頭長度及方位設定之準備

How to position the length and movement of the drill



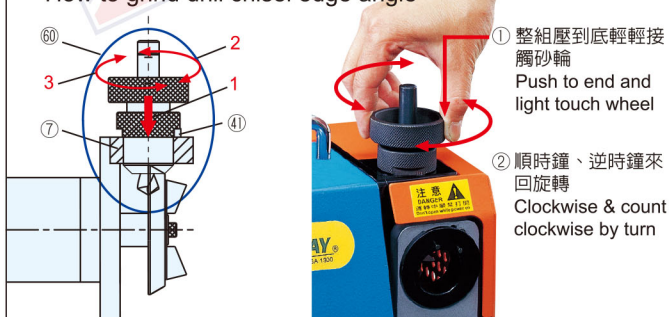
C. 如何研磨鑽頭先端角

How to grind point angle



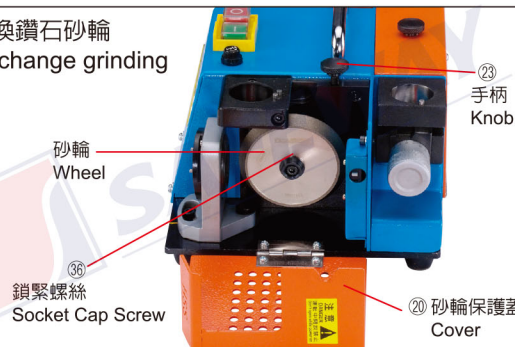
D. 如何研磨鑽頭逃隙角

How to grind drill chisel edge angle



E. 如何更換鑽石砂輪

How to change grinding wheel



A. 如何完成鑽頭研磨前準備

1. 首先確認鑽頭直徑，再選擇筒夾 ⑭ 直徑。
2. 將已選筒夾以適當角度嵌入筒夾迫緊帽內 ⑮。
3. 鑽頭插入筒夾內，並伸出約35mm左右，但不可鎖緊。
4. 筒夾環 ⑮ 套入筒夾 ⑭ 並鎖入筒夾迫緊帽 ⑮ 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 ⑯。

B. 如何完成鑽頭長度及方位設定之準備

1. 首先將刻度環 ⑮ 調到所須研磨鑽頭直徑一樣。
2. 將整組已準備好之鑽頭夾頭組 ⑯ (如A1-A4步驟)插入長度設定座 ⑮ 內，並將直銷 ⑮ 嵌入凹槽內。
3. 將整組鑽頭夾頭組 ⑯ 順時鐘方向旋轉至頂住直銷 ⑮ 同時將鑽頭順時鐘方向旋轉至頂住鑽頭刀刃為止。
4. 筒夾迫緊環 ⑮ 順時鐘方向將鑽頭鎖緊。
5. 將整組鑽頭夾頭組 ⑯ 取出，確認鑽頭先端刀刃與筒夾環凹槽是否平行，如沒有平行，要重新設定一次。

注意：如鑽頭螺旋型式不一，請自行設定平行後，再將刻度環 ⑮ 數字調整與鑽頭直徑數字一樣。

C. 如何研磨鑽頭先端角

1. 將整組鑽頭夾頭組 ⑯ 再插入先端角研磨座 ⑮，並將凹槽嵌入直銷 ⑮ 內。
2. 將整組鑽頭夾頭組 ⑯ 輕輕接觸砂輪，並順時鐘、逆時鐘方向旋轉約5-6次研磨，直到沒有研磨聲音為止即可。
3. 將鑽頭夾頭組 ⑯ 取出，轉180°，再依上述1、2步驟重複研磨一次，即可完成鑽頭兩刀先端角。

D. 如何研磨鑽頭逃隙角

1. 將整組鑽頭夾頭組 ⑯ 再插入逃隙角研磨座 ⑮，並將凹槽嵌入直銷 ⑮ 內。
2. 將整組鑽頭夾頭組 ⑯ 輕輕接觸砂輪，並順時鐘、逆時鐘方向旋轉約5-6次研磨，直到沒有研磨聲音為止即可。
3. 將整組鑽頭夾頭組 ⑯ 取出，轉180°，再依上述1、2步驟重複研磨一次，即可完成鑽頭兩刀逃隙角。

E. 如何更換鑽石砂輪

1. 將本機右側旋扭 ⑮ 鬆開，並將側蓋 ⑮ 掀開。
 2. 用4 mm六角扳手逆時鐘方向將螺絲 ⑮ 鬆開。
 3. 更換新鑽石砂輪，再將螺絲鎖上即可。
 4. 將側蓋 ⑮ 蓋好，並將旋扭 ⑮ 鎖緊。
- 注意：鑽石砂輪螺絲 ⑮ 未鎖緊，側蓋 ⑮ 未蓋好，旋扭 ⑮ 未鎖緊前，不可將電源打開，以免發生危險。

A. How to prepare for drill grinding:

1. Make sure of the drill diameter to choose the right Collet ⑭.
2. Lock collet into Collet Holder ⑮ properly.
3. Insert drill into collet with 35 mm extension, no tight locking.
4. Insert Collet Nut ⑮ into Collet ⑭ to lock Collet Holder ⑮. Operate slightly to turn the drill by hand.
5. Drill grinding preparation ends for Collet Chuck Set ⑯.

B. How to position the length and movement of the drill:

1. Adjust Scale ⑮ in line with the dia. of drill.
2. Put the whole set into Length Pre-Setting Bracket ⑮ (According to Step A1 - A4) and insert Pin ⑮ into the slot.
3. Turn Collet Chuck Set ⑯ clockwise to support against Pin ⑮ and turn drill clockwise until it touches drill cutting edge.
4. Tight Collet Holder ⑮ clockwise.
5. Take out of Collet Chuck Set ⑯ and make sure the cutting edge and collet holder slots are paralleled with each other. If not, the whole process must be repeated. Attention: if drill spiral is different, please reset the parallel and adjust Scale Ring ⑮ in line with diameter of drill.

C. How to grind point angle:

1. Put Collet Chuck Set ⑯ into Point Angle Bracket ⑮ and then insert the slot into the pin ⑮.
2. Push Collet Chuck Set ⑯ to light touch the wheel and turn clockwise and reverse about 5-6 times until grinding noise disappears.
3. Take out Collet Chuck Set ⑯ and turn it 180 degree. Repeat Step 1 and 2 to finish point angle grinding.

D. How to grind drill chisel edge angle:

1. Put Collet Chuck Set ⑯ into Chisel Edge Angle Bracket ⑮ and then insert the slot into the pin ⑮.
2. Push Collet Chuck Set ⑯ to light touch the wheel and turn clockwise and reverse about 5-6 times until grinding noise disappears.
3. Take out Collet Chuck Set ⑯ and turn it 180 degree. Repeat Step 1 and 2 to finish grinding drill chisel edge angle on two drill chisel edge.

E. How to change grinding wheel:

1. Loose Knob ⑮ and open Cover ⑮.
 2. Loose Screw ⑮ with 4mm hexagonal wrench.
 3. Change the grinding wheel and install it back.
 4. Make sure Cover ⑮ is tightened with Knob ⑮.
- Attention : If Screw ⑮ is not tightened properly, the Cover ⑮ will not be fastened enough. It is dangerous to switch on the machine before the Knob ⑮ being tightened fully.



標準附件 STANDARD ACCESSORIES:

1. 筒夾 COLLETS :

SA-1300, 1302: ER-20 $\phi 3, \phi 4, \phi 5, \phi 6, \phi 7, \phi 8, \phi 9, \phi 10, \phi 11, \phi 12, \phi 13$ x 11 pcs

SA-2000, 2002: ER-25 $\phi 3, \phi 4, \phi 5, \phi 6, \phi 7, \phi 8, \phi 9, \phi 10, \phi 11, \phi 12, \phi 13, \phi 14, \phi 15, \phi 16, \phi 17, \phi 18, \phi 19, \phi 20$ x 18 pcs

SA-2500, 2502: ER-40 $\phi 13, \phi 14, \phi 15, \phi 16, \phi 17, \phi 18, \phi 19, \phi 20, \phi 21, \phi 22, \phi 23, \phi 24, \phi 25, \phi 26$ x 14 pcs

2. 砂輪 WHEEL :

■ CBN #200 x 1 pc (SA-1300, SA-2000) (HSS鑽頭用 for HSS drill)

■ CBN #140 x 1 pc (SA-2500) (HSS鑽頭用 for HSS drill)

■ CBN #200 x 1 pc (HSS鑽頭用 for HSS drill) ,

鑽石砂輪 Diamond wheel #400 x 1 pc (碳化鎢鑽頭用 for Carbide drill) (SA-1302, SA-2002)

■ CBN #140 x 1 pc (HSS鑽頭用 for HSS drill) ,

鑽石砂輪 Diamond wheel #300 x 1 pc (碳化鎢鑽頭用 for Carbide drill) (SA-2502)

3. 4 mm 六角扳手 Hex. wrench x 1 pc

特殊附件 OPTIONAL ACCESSORIES:

1. 筒夾 COLLETS :

SA-1300, 1302: ER-20 $\phi 3.5, \phi 4.5, \phi 5.5, \phi 6.5, \phi 7.5, \phi 8.5, \phi 9.5, \phi 10.5, \phi 11.5, \phi 12.5$ x 10 pcs

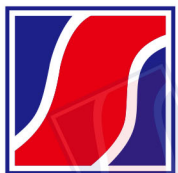
SA-2000, 2002: ER-25 $\phi 3.5, \phi 4.5, \phi 5.5, \phi 6.5, \phi 7.5, \phi 8.5, \phi 9.5, \phi 10.5, \phi 11.5, \phi 12.5, \phi 13.5, \phi 14.5, \phi 15.5, \phi 16.5, \phi 17.5, \phi 18.5, \phi 19.5$ x 17 pcs

SA-2500, 2502: ER-40 $\phi 13.5, \phi 14.5, \phi 15.5, \phi 16.5, \phi 17.5, \phi 18.5, \phi 19.5, \phi 20.5, \phi 21.5, \phi 22.5, \phi 23.5, \phi 24.5, \phi 25.5$ x 13 pcs ($\phi 27, \phi 28, \phi 29, \phi 30$)

2. 砂輪 WHEEL (Diamond For Carbide drill) :

鑽石砂輪 Diamond wheel #400 x 1 pc (SA-1300, SA-2000)

鑽石砂輪 Diamond wheel #300 x 1 pc (SA-2500)



Best aid

SAFEWAY

<http://www.safeway-vise.com>

協威機械工業股份有限公司
SAFEWAY MACHINERY INDUSTRY CORPORATION

台中市梧棲區435台中港關連工業區自立一街196號
No.196, Tzu-Li 1st St., Kuan-Lien Industrial Park,
Wu Chi, Taichung City 435, Taiwan
TEL: 886-4-26308857 FAX: 886-4-26308868
E-mail: safeway@ms7.hinet.net
<http://www.safeway-vise.com>