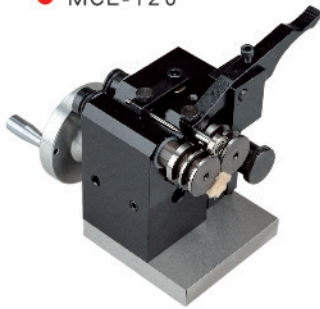




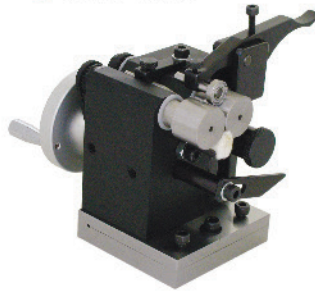
31010

小型沖子研磨器 PUNCH GRINDER

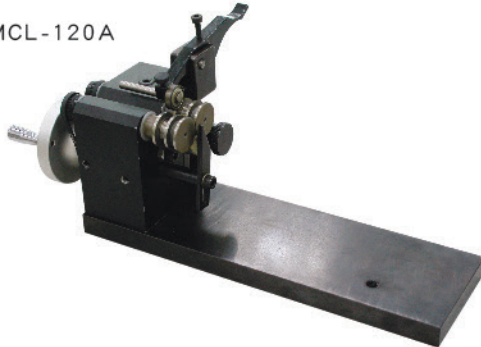
● MCL-120



● MCL-120B



● MCL-120A



- 適用於超小型精密沖針之研磨加工。
- 利用簡單的按壓滾輪，不需要校正中心，可方便的精密研磨加工。
- 沖針外徑較小時，可適當的調整壓力臂上之螺絲，避免壓力過大，防止沖針變形。

■ 規格:

- 滾輪夾持範圍：φ0.5-φ6MM
- 滾輪夾持可最短長度：10MM
- 滾輪偏擺精度3 μ 內

■ 標準配件:

1. 六角板手3mm × 1支
2. 六角板手4mm × 1支

- Applicable for dia φ 1.5 - φ 6mm ultra-small precision grinding process workpiece.
- Using pressing rollers, no correction center, can be easily precision grinding.
- Smaller diameter, appropriate to adjust screw of pressure arm, to avoid too much pressure to prevent deformation workpiece.

■ Specifications:

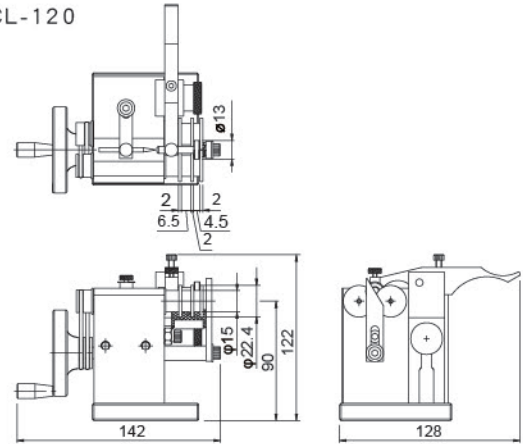
- Roller clamping range: φ 0.5- φ 6mm
- Roller clamping length: 10mm
- Roller swing precision within 3 μ

■ Accessory:

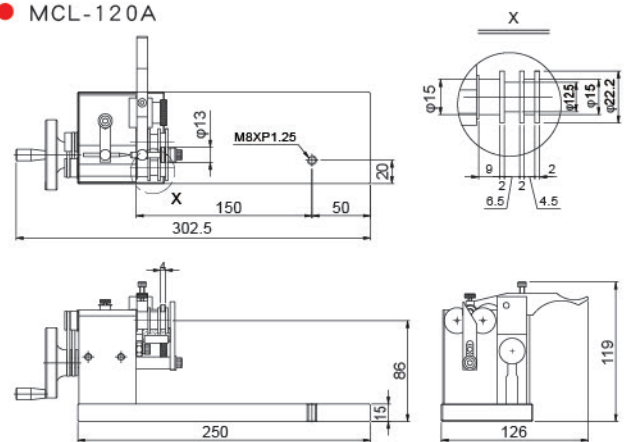
1. 3mm Hexagon type spanner--- 1 piece
2. 4mm Hexagon type spanner--- 1 piece

訂購編號 Order No.	型號 Model	重量(kg) Weight
31010	MCL-120	2.5
31010-05	MCL-120A	4.2
31010-10	MCL-120B	2.6
31010-15	MCL-120C	4.3

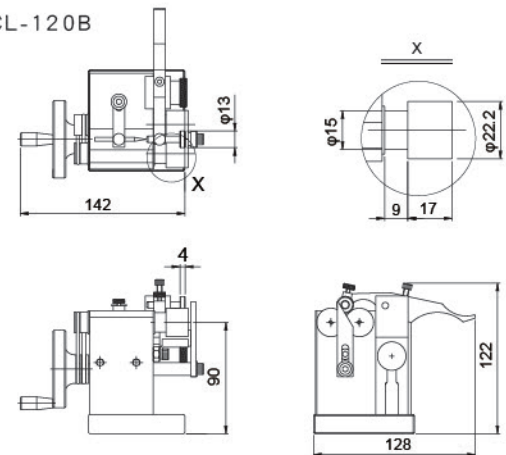
● MCL-120



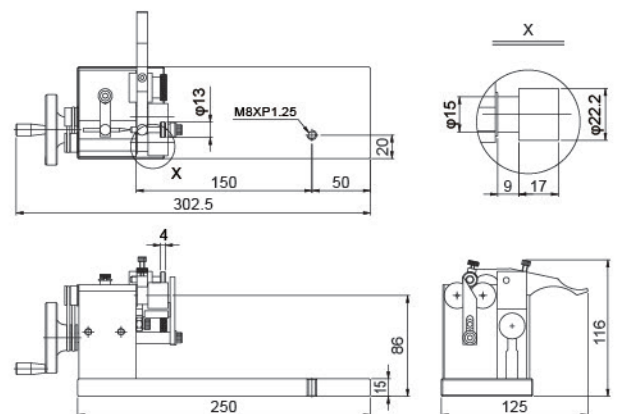
● MCL-120A



● MCL-120B



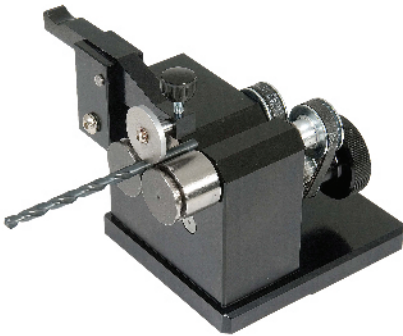
● MCL-120C



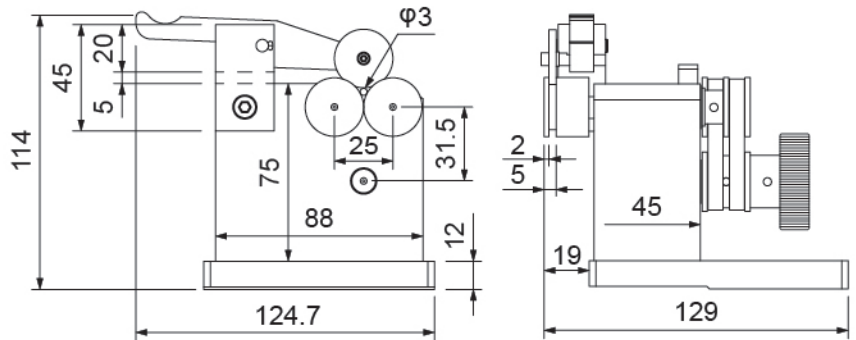
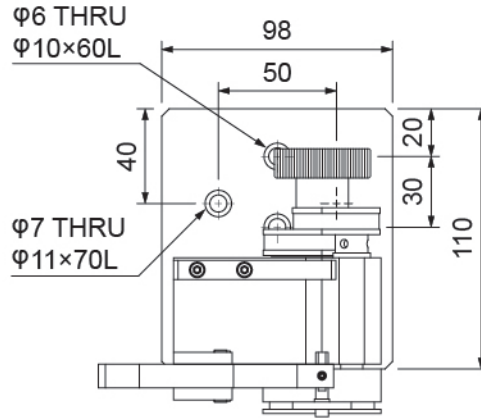
31011-05

小型沖子研磨器 PUNCH GRINDER

● MCL-3DC



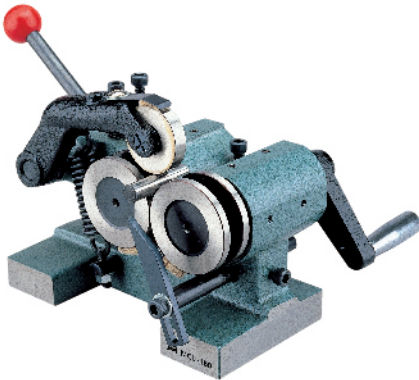
- 適合小型精之沖針作精密研磨加工。
- 適用夾持範圍：φ3~φ15MM。
- Suitable for small pin for precision grinding.
- Applicable gripping range: φ3 - φ15MM.



31015

沖子研磨機 PUNCH GRINDER

● MCL-150



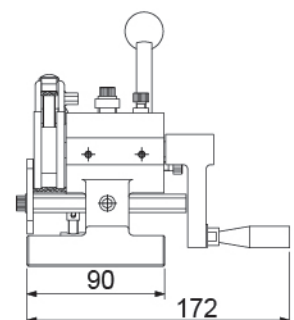
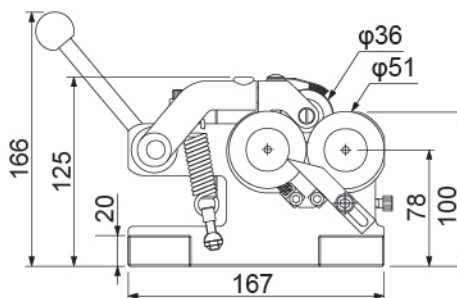
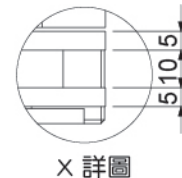
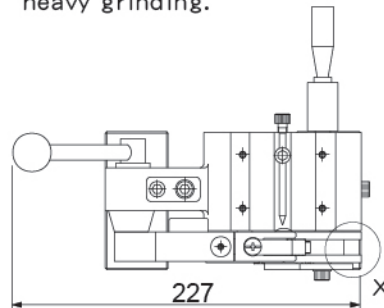
■ 規格:

- 滾輪夾持範圍: φ 1.5~φ 25mm
- 伸出研磨長度:5~35mm以內
- 研磨精度:0.005mm以內
- 重量:6kg

■ Specifications:

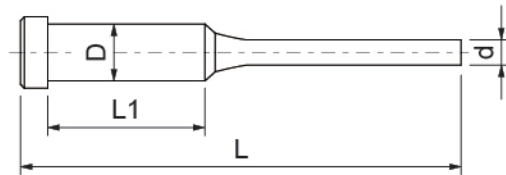
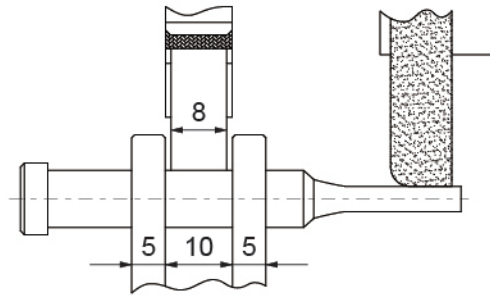
- Grinding Diameter: φ 1.5~ φ 25mm
- Outside Grinding Length:5~35mm
- Accuracy:0.005mm
- Weight:6kg

- 手搖沖子研磨器可裝置在平面磨床上使用，挾持圓形沖頭時無須調整，即可得同心圓。
- 可調整旋轉按壓滾輪左右方向，使工件前進或後退，再做研磨。
- 配合加工不同尺寸的沖子，在壓力臂上之壓力螺絲可調查壓力大小，使其加工更穩固。
- Punch grinder is a tool which can be put on the surface of grinding machine for grinding punches. It can do cylindrical grinding automatically.
- The rollers can be used to adjust the workpiece before grinding.
- Use screw pressure for firm holding as shown in the picture for heavy grinding.

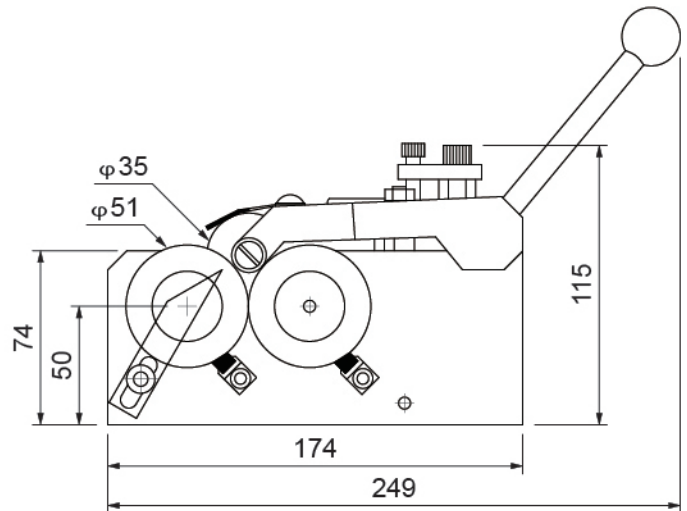
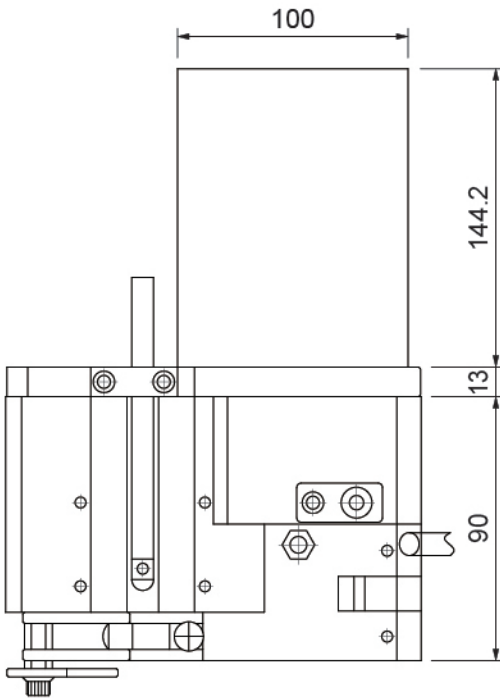




● MCL-250



- D : ϕ 1.5 ~ ϕ 25mm
- d : ϕ 0.5 ~ ϕ 25mm
- L : Max. 120mm
- L1 : Min. 22mm



- 電動沖子研磨器是由馬達帶動，可避免手搖疲勞現象。
- 雙滾輪設計，挾持圓形沖頭時無須調整校正中心。
- 可配合正弦磁台使用，研磨各種斜度。
- Electric Punch grinder is driven by motor, to avoid hand fatigue.
- No center alignment necessary. Just put workpiece on rollers.
- It can be used with magnetic sine plate to grind various angle profile punch.

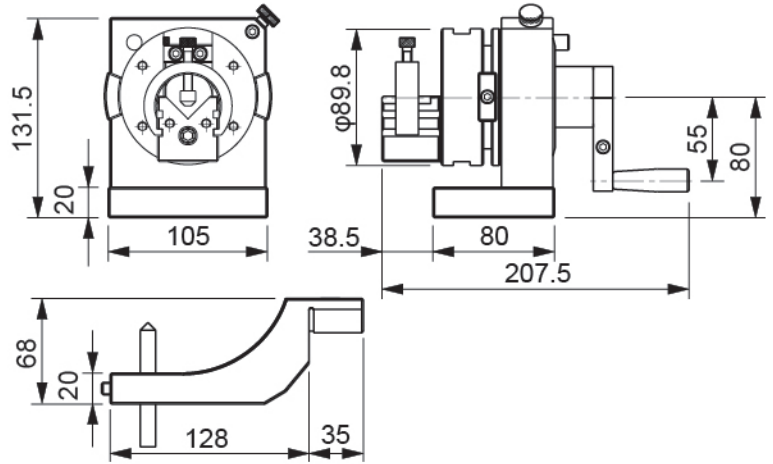
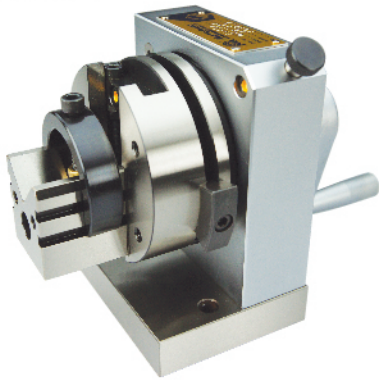
- 規格:
- 滾輪挾持範圍: ϕ 1.5 ~ ϕ 25mm
- 工件長度: 20 ~ 120mm
- 伸出研磨長度: 5 ~ 35mm 以內
- 研磨精度: 0.005mm 以內

- Specifications:
- Grinding Diameter: ϕ 1.5 ~ ϕ 25mm
- Length Of Workpiece: 20 ~ 120mm
- Outside Grinding Length: 5 ~ 35mm
- Accuracy: 0.005mm

訂購編號 Order No.	型號 Model	馬達 Motor	重量(kg) Weight
31025-11	MCL-250*110V	110V/60Hz 129R.P.M	11
31025-22	MCL-250*220V	220V/50Hz 108R.P.M	11



● MCL-350



- 沖子研磨器是研磨標準沖子頭刀口(PPOINT)之工具。
- 其特點本體有中心穿孔，可供較長的沖頭及稍延伸而過，而得以挾持加工。
- 無論圓形，圓弧形，多角形外，各種角度之沖子刀口，按等份角度分割，不需中途取下，就可完成你所需要的角度或圓弧。
- 配合弓柄，即可做為修整砂輪的的凹凸R和角度。

■規格:

- 分割24等份.分度15度.±10"
- 旋轉中心高:80mm
- 主體可穿過部位最大直徑:30mm
- V型塊挾持範圍直徑:φ3~φ30mm
- V型塊活動範圍:上24mm/下16mm
- 凸R修整範圍:48mm
- 凹R修整範圍:100mm
- 最大迴旋直徑:200mm
- 夾持圓棒偏擺度2μ內
- 夾持圓棒偏擺度(50mm長)6μ內
- 重量:9.5kg

■標準配件:

1. C型夾1只
2. 弓柄1支
3. 10×80L鑽石筆1支
4. 4mmT型板手1支
5. 六角板手3mm×1支,5mm×1支

■選購配件:

1. 31036 MCL-350-1角度修整器

- Punch grinder is the tool to grind the blade of standard Punch Head.
- Feature: There's through whole on the body for a longer punches extension and shoot over. To be held hostage by processing.
- Whether round, arc-shaped, polygonal, the various angles of the punch blade, you can divided the angle by equal parts to complete the required angle or arc without taking off the blade on working.
- With the bow, the wheel can be dressed convex and concave angle.

■Specifications:

- Indexing Div: 24(Every 15°)±10 seconds
- Center height: 80mm
- The max diameter can pass through: 30mm
- V-block Clamp range: φ3-φ30mm
- The activities of V-block:Up 24mm/Down 16mm
- The dressing range of convex angle: 48mm
- The dressing range of concave angle: 100mm
- Maximum swing diameter: 200mm
- The deflection with round rod: under 2μ
- The deflection with 50mm round rod: under 6μ
- Weight:9.5kg

■Accessory:

1. C type clip--- 1 piece
2. Dressing arm handle-- 1 piece
3. 10×80L Diamond pen-- 1 piece
4. 4mm T type spanner-- 1 piece
5. Hexagon type spanner-- 3mm*1 piece.5mm*1 piece

■Optional accessory:

1. 31036 MCL-350-1 ANGLE DRESSER



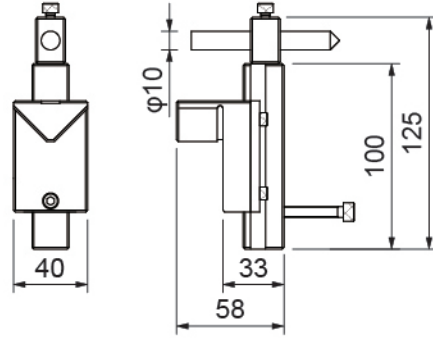
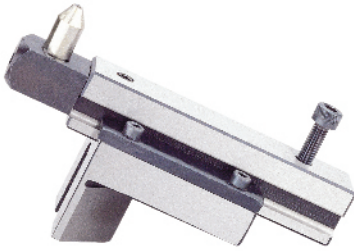
沖頭研磨 Punch Forming	修整砂輪外徑 Grinding wheel radius dressing	修整砂輪角度 Grinding wheel angular dressing	適用各種形狀砂輪之修整 Grinding wheel dressing application
			適用各種形狀沖頭之修整 Punch forming application



31036

角度修整器 ANGLE DRESSER

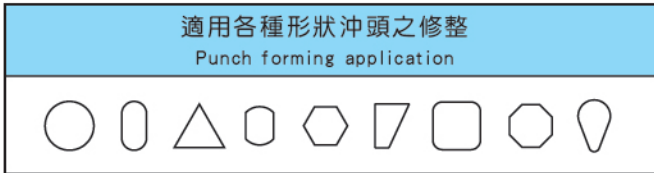
● MCL-350-1



■ 使用範例 Example :



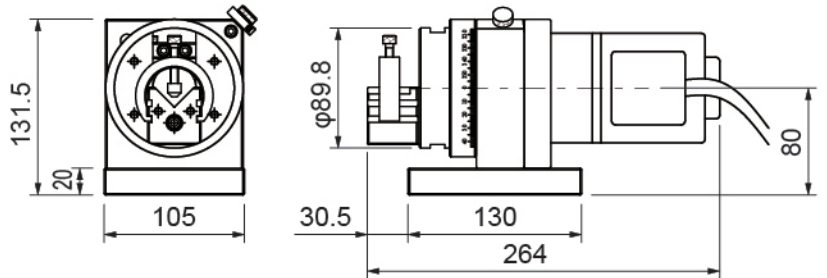
- 專為修整砂輪設計，搭配MCL-350.MCL-450一起使用，可將砂輪修整成所需形狀。
- Specially designed for dressing wheel, collocation use with MCL-350/MCL450, trimmed to required shape of wheel.



31038

電動沖子研磨機 MOTOR PUNCH FORMER

● MCL-350AB



- 此款研磨器藉由馬達帶動，不需人工手搖操作，可節省加工時間。

- Motor punch former driven by motor, without hand manual operation, saving processing time.

■ 規格:

- V型塊夾持範圍.直徑3-30mm
- V型塊活動範圍:上24mm/下16mm
- 最大迴旋直徑200mm
- 夾持圓棒偏擺度2 μ 內
- 夾持圓棒偏擺度(50mm長)6 μ 內

■ Specifications:

- V-block Clamp range: φ 3- φ 30mm
- The activities of V-block:Up 24mm/Down 16mm
- Maximum swing diameter: 200mm
- The deflection with round rod: under 2 μ
- The deflection with 50mm round rod: under 6 μ

■ 標準配件:

1. C型夾1只
2. 4mmT型板手1支
3. 六角板手3mm×1支,5mm×1支

■ Accessory:

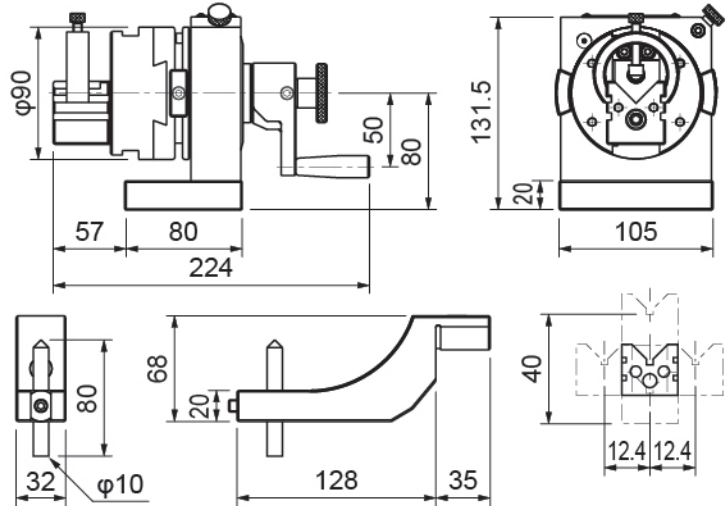
1. C type clip-- 1 piece
2. 4mm T type spanner-- 1 piece
3. Hexagon type spanner-- 3mm*1 piece.5mm*1 piece

單位:mm

訂購編號 Order No.	型號 Model	電源 Power	轉速 Speed
31038-15	MCL-350AB×110V	AC 110V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M
31038-20	MCL-350AB×220V	AC 220V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M



● MCL-450



- 雙向沖子研磨器，除了有MCL-350的功能外，其特點為增加左右雙向滑板功能。
- 操作時將把手後面之壓花握把向後旋轉出來，轉動把手就可簡單的增加其左右雙向功能。
- 圓形、圓弧形、多角外形，各種異形狀的沖子刀口，按等份角度調整分割，不需中途取下即可完成所需的角或圓弧。
- 加工各種角度之沖子刀口，使用平砂輪，也可配合需要按等份角度迴轉，並調整X軸(左右) Y軸(上下)方向等，大部份沖子只要一次固定，不需中途取下就可完成，成型研磨。
- 標準配件成型臂及鑽石筆，可容易修整砂輪凹凸R，及各種成形角度，不需再有其他修整器。

■規格:

- 分割24等份.分度15度.±10"
- 旋轉中心高:80mm
- V型塊夾持範圍直徑:φ3~φ30mm
- V型塊活動範圍:上24mm/下16mm
- V型塊左右活動範圍:各12.4mm
- 凸R修整範圍:48mm
- 凹R修整範圍:100mm
- 最大迴旋直徑:200mm
- 夾持圓棒偏擺度2μ內
- 夾持圓棒偏擺度(50mm長)6μ內
- 重量:10kg

■標準配件:

1. C型夾1只
2. 弓柄1支
3. 10×80L鑽石筆1支
4. 4mmT型板手1支
5. 六角板手3mm×1支,5mm×1支

■選購配件:

1. 31036 MCL-350-1角度修整器

- MCL-450 punch former, in addition functions of MCL-350, which feature an increase of two-way slide function.
- Behind handle the embossing grip backward rotation out, turn the handle easy to increase two-way function.
- Circular, arc-shaped, polygonal shape ' other various shapes of punch, divided by equal parts angle adjustment, do not need remove to complete the shape.
- Processing various angles of punch, use flat wheel, also can used with equal parts required by rotation, adjustment direction X-axle(both sides) Y-axle(up/down), do not need remove to complete the shape.
- Standard accessories dressing arm and diamond pen, easy to dressing wheel, do not need any other dresser.

■Specifications:

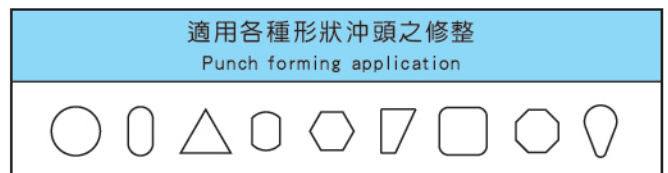
- Indexing Div: 24(Every 15°)±10 seconds
- Center height: 80mm
- V-block Clamp range: φ3-φ30mm
- The activities of V-block:Up 24mm/Down 16mm
- Both sides activities of V-block: 12.4mm each
- The dressing range of convex angle: 48mm
- The dressing range of concave angle: 100mm
- Maximum swing diameter: 200mm
- The deflection with round rod: under 2μ
- The deflection with 50mm round rod: under 6μ
- Weight:10kg

■Standard Accessory:

1. C type clip-- 1 piece
2. Dressing arm handle-- 1 piece
3. 10×80L Diamond pen-- 1 piece
4. 4mm T type spanner-- 1 piece
5. Hexagon type spanner-- 3mm*1 piece.5mm*1 piece

■Optional accessory:

1. 31036 MCL-350-1 ANGLE DRESSER

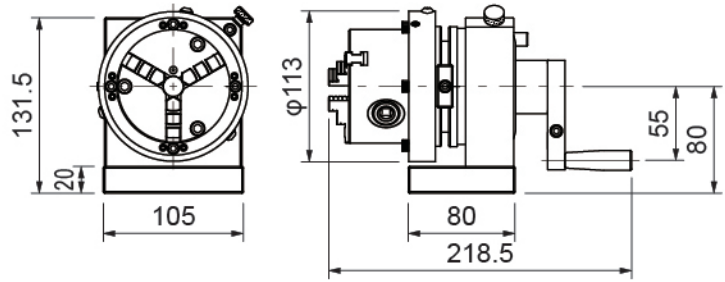
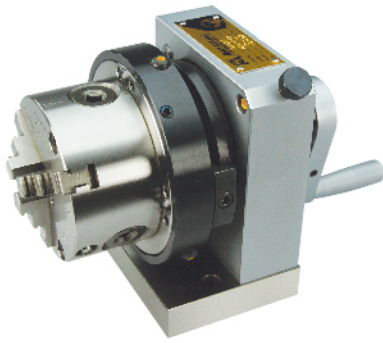




31055

三爪研磨機 3-JAW PUNCH FORMER

● MCL-550



- 三爪研磨器易於挾持工件，拆卸容易，使用方便快速。
- 因三爪夾頭累積公差，挾持不同尺寸工件時會有差異，故設計有水平及同心度調整功能，使用者可自行調整。

■規格:

- 旋轉中心高度:80mm
- 分割24等份、分度15度.±10"
- 三爪主體可穿過部位最大直徑:16mm
- 三爪主體外徑:85mm、長度:60mm
- 外徑把握: φ2-φ70mm
- 內徑把握: φ24-φ64mm
- 重量:10kg

■標準配件:

1. 三爪把手1只
2. 反爪1組
3. 六角板手3mm *1支、4mm *1支

- 3-Jaws punch former easy to clamping workpiece, easy to using and disassembly.
- Due to jaw chuck cumulative tolerance, for different size of workpiece the tolerance will different, adjustment design function user can adjust the horizontal and center.

■Specifications:

- Swivel center high: 80mm
- Indexing Div: 24(Every 15°)±10"
- The body max diameter pass through: 16mm
- 3-Jaws outer diameter: 85mm、length: 60mm
- Outer clamping gripping diameter: φ2-φ70mm
- Internal clamping gripping diameter: φ24-φ64mm
- Weight:10kg

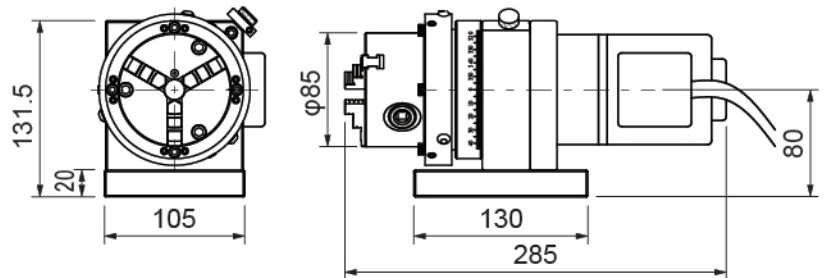
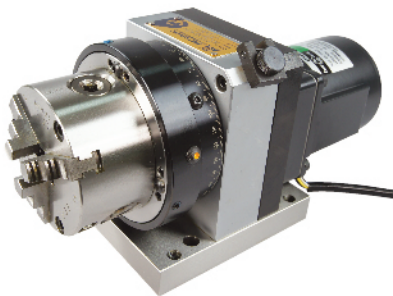
■Standard Accessories:

1. T-Handle
2. Contrary jaw
3. Hexagon Spanner 3mm X1pcs、4mm X1pcs

31058

電動三爪研磨機 3-JAW MOTOR PUNCH FORMER

● MCL-550AB



- 此款研磨器藉由馬達帶動，不需人工手搖操作，可節省加工時間。

■規格:

- 旋轉中心高度:80mm
- 分割24等份、分度15度.±10"
- 三爪主體可穿過部位最大直徑:16mm
- 三爪主體外徑:85mm、長度:60mm
- 外徑把握: φ2-φ70mm
- 內徑把握: φ24-φ64mm

■標準配件:

1. 三爪把手1只
2. 反爪1組
3. 六角板手3mm *1支、4mm *1支

- Motor punch former driven by motor, without hand manual operation, saving processing time.

■Specifications:

- Swivel center high: 80mm
- Indexing Div: 24(Every 15°)±10"
- The body max diameter pass through: 16mm
- 3-Jaws outer diameter: 85mm、length: 60mm
- Outer clamping gripping diameter: φ2-φ70mm
- Internal clamping gripping diameter: φ24-φ64mm

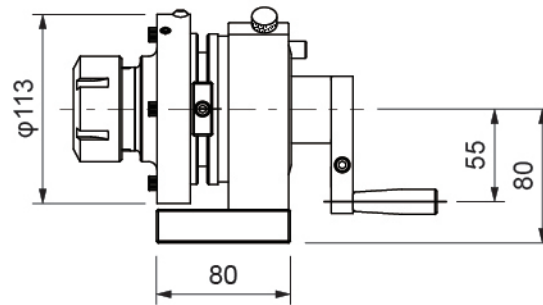
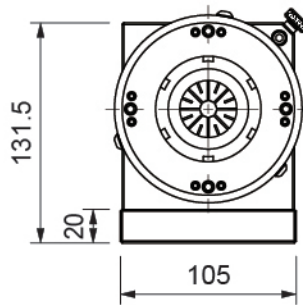
■Standard Accessories:

1. T-Handle
2. Contrary jaw
3. Hexagon Spanner 3mm X1pcs、4mm X1pcs 單位:mm

訂購編號 Order No.	型號 Model	電源 Power	轉速 Speed
31058-15	MCL-550AB×110V	AC 110V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M
31058-20	MCL-550AB×220V	AC 220V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M



- 前置ER筒夾頭有ER32、ER40、ER50三種規格。
- 設計有水平及同心度調整功能，使用者可自行調整。
- 筒夾詳細規格請參考訂購編號37066-37070。
- ER collet have ER32、ER40、ER50 standards.
- Adjustment design function user can adjust the horizontal and center.
- ER collet specifications please refer order no. 37066-37070.



■規格:

- 旋轉中心高度:80mm
- 分割24等份、分度15度.±10"
- ER32筒夾挾持範圍: φ 2-20mm
- ER40筒夾挾持範圍: φ 3-26mm
- ER50筒夾挾持範圍: φ 10-34mm
- 主體可穿過部位最大直徑:16mm
- 重量:10.5kg

■標準配件:

- 勾型板手1支
- 六角板手3mm*1支、4mm*1支
- ER筒夾1套

■Specifications:

- Swivel center high 80mm
- Indexing Div: 24(Every 15°)±10 seconds
- ER32 collet clamping range: φ 2-20mm
- ER40 collet clamping range: φ 3-26mm
- ER50 collet clamping range: φ 10-34mm
- The body max diameter pass through: 16mm
- Weight:10.5kg

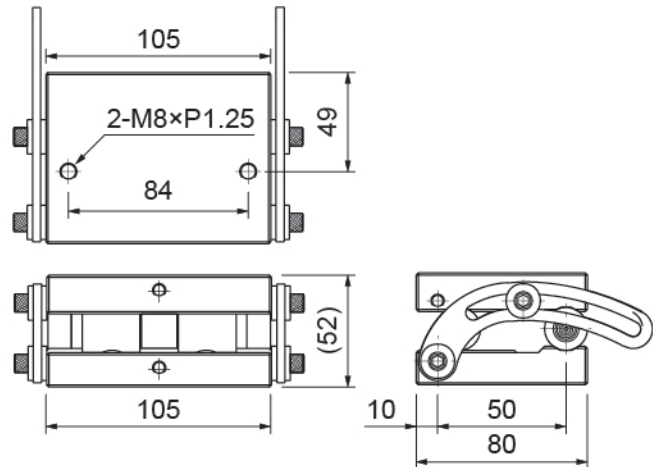
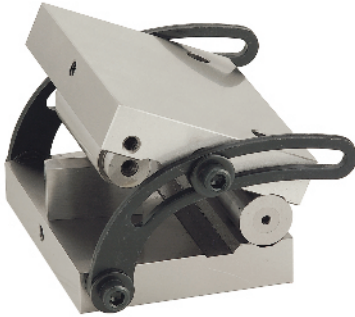
■Standard Accessories:

- Hooking Spanner × 1pcs
- Hexagon Spanner 3mm × 1pcs、4mm × 1pcs
- ER collet 1 set

單位:mm

訂購編號 Order No.	型號 Model	筒夾 ER Collet	可夾持範圍 Clamping Range	內附筒夾規格 Collet Set Size	重量(kg) Weight
31065-32	MCL-650-ER32	ER32	φ2~φ20	φ6 . φ8 . φ10 . φ12 . φ16 . φ20	10
31065-40	MCL-650-ER40	ER40	φ3~φ26	φ6 . φ8 . φ10 . φ12 . φ16 . φ20 . φ25	10.5
31065-50	MCL-650-ER50	ER50	φ10~φ34	φ12 . φ14 . φ16 . φ20 . φ26 . φ32	11

● MCL-C3 X 4



● 此款正弦座可配合沖子研磨器MCL-350.450.550.650 使用，固定於底座，輔助其正弦角度之功能。

● The sine plate can be set with punch former for swiveling mechanism. It makes your work more efficiency. The unit is suitable for MCL-350.450.550.650 series.

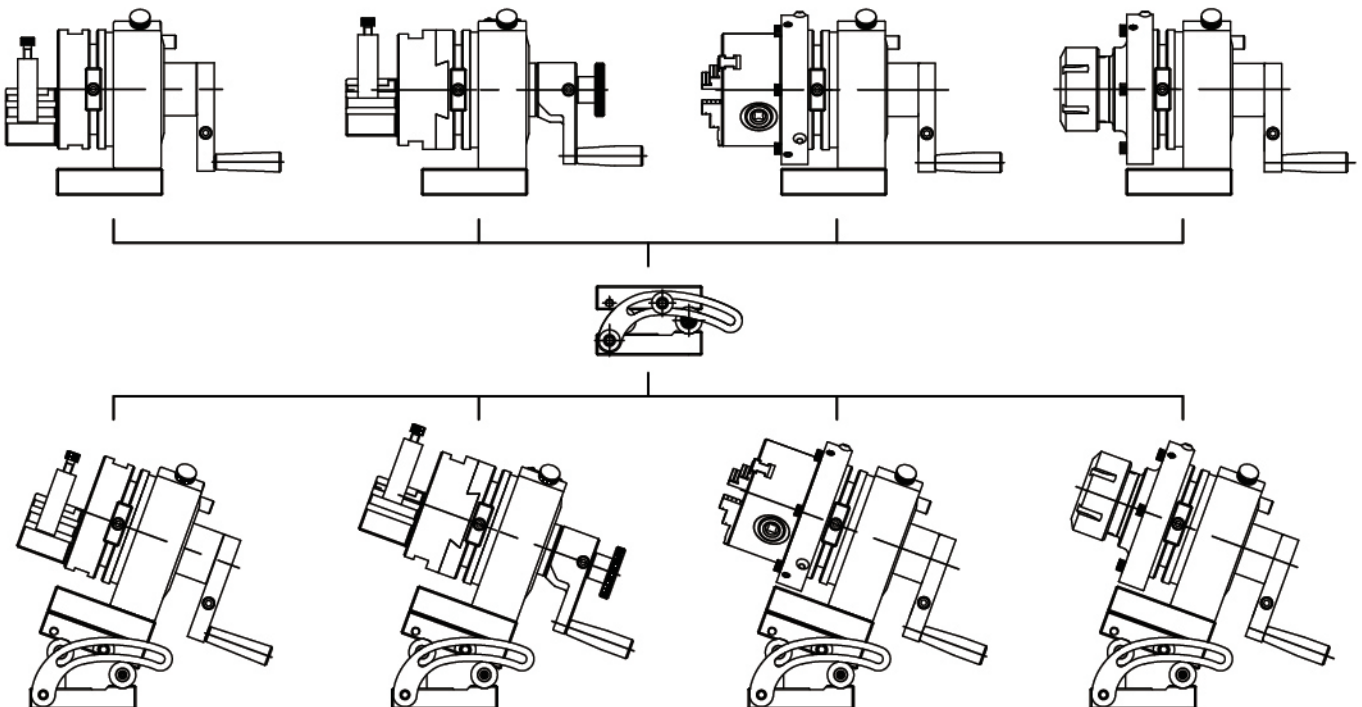
■ 規格:

■ Specifications:

- 材質：S50C
- 硬度：HRC55° ~57°
- 正弦中心距離：50mm / 4 μ 內
- 角度調整範圍：0~50度
- 平行精度：4 μ 內

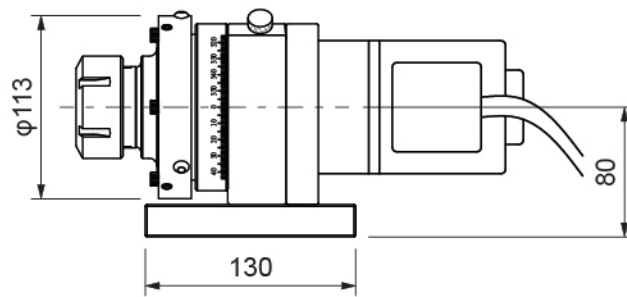
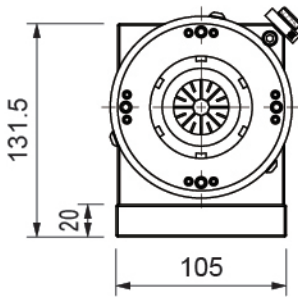
- Material：S50C
- Hardness：HRC55° ~57°
- The distance of Sine center：50mm / 4 μ
- The adjusted range：0° ~50°
- Parallelism is within 4 μ

*** 正弦座應用示範 FOR EXAMPLE ***





- 此款研磨器藉由馬達帶動，不需人工手搖操作，可節省加工時間。
- Motor punch former driven by motor, without hand manual operation, saving processing time.



■規格:

- 旋轉中心高度:80mm
- 分割24等份、分度15度.±10"
- ER32筒夾挾持範圍: φ 2-20mm
- ER40筒夾挾持範圍: φ 3-26mm
- ER50筒夾挾持範圍: φ 10-34mm

■Specifications:

- Swivel center high 80mm
- Indexing Div: 24(Every 15°)±10 seconds
- ER32 collet clamping range: φ 2-20mm
- ER40 collet clamping range: φ 3-26mm
- ER50 collet clamping range: φ 10-34mm

■標準配件:

- 勾型板手1支
- 六角板手3mm*1支、4mm*1支
- ER筒夾1套

■Standard Accessories:

- Hooking Spanner ×1pcs
- Hexagon Spanner 3mm ×1pcs、4mm ×1pcs
- ER collet 1 set

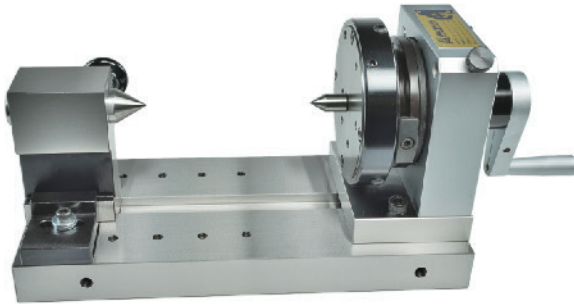
單位:mm

訂購編號 Order No.	型號 Model	電源 Power	轉速 Speed	可夾持範圍 Clamping Range	內附筒夾規格 Collet Set Size
31068-15	MCL-650-ER32AB×110V	50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	φ2~φ20	φ6.φ8.φ10.φ12.φ16.φ20
31068-20	MCL-650-ER32AB×220V	50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	φ2~φ20	φ6.φ8.φ10.φ12.φ16.φ20
31068-35	MCL-650-ER40AB×110V	50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	φ3~φ26	φ6.φ8.φ10.φ12.φ16.φ20.φ25
31068-40	MCL-650-ER40AB×220V	50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	φ3~φ26	φ6.φ8.φ10.φ12.φ16.φ20.φ25
31068-55	MCL-650-ER50AB×110V	50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	φ10~φ34	φ12.φ14.φ16.φ20.φ26.φ32
31068-60	MCL-650-ER50AB×220V	50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	φ10~φ34	φ12.φ14.φ16.φ20.φ26.φ32



31069

頂針沖子研磨器 PUNCH FORMER (CENTERING TYPE)

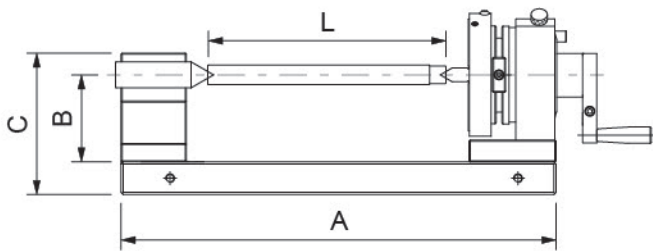


■規格:

- 旋轉中心高度:80mm
- 分割24等份、分度15度.±10"
- 平行度:0.002/100mm
- 真圓度:0.002/100mm

■標準配件:

1. $\phi 18 \times 120L$ 校正棒 *1支
2. 板手5mm *1支



■Specifications:

- Swivel center high: 80mm
- Indexing Div: 24(Every 15°)±10"
- Parallelism: 0.002/100mm
- Roundness: 0.002/100mm

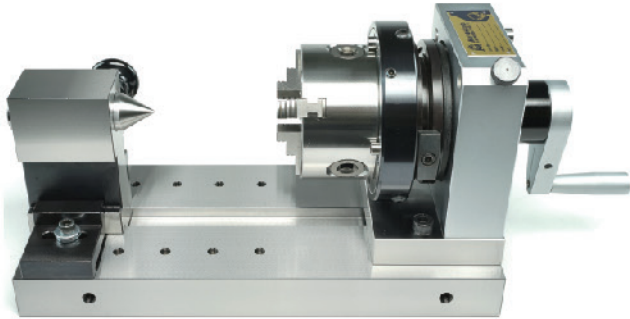
■Standard Accessories:

1. $\phi 18 \times 120L$ PIN × 1pcs

- 利用兩端頂針夾持來加工沖子，可得到相同之同心度，亦可作為測量工件同心度之用。
- Both sides of live center to clamping punch to achieve concentricity and stabilize the processing also achieve higher accuracy.

單位:mm

訂購編號 Order No.	型號 Model	A	B	C	L	重量(kg) Weight
31069-30	PF300	300	80	130	0~120	19
31069-40	PF400	400	80	130	0~220	22
31069-50	PF500	500	80	130	0~320	25
31069-60	PF600	600	80	130	0~420	28.5



■規格:

- 旋轉中心高度:80mm
- 分割24等份、分度15度.±10°
- 三爪主體外徑:85mm、長度:60mm
- 外徑把握: $\phi 2-\phi 70\text{mm}$
- 內徑把握: $\phi 24-\phi 64\text{mm}$
- 平行度:0.002/100mm
- 真圓度:0.002/100mm

■標準配件:

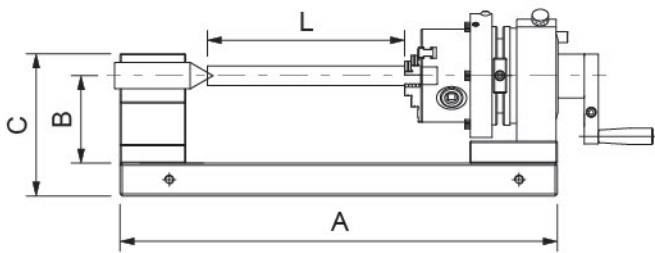
1. 三爪把手 *1支
2. 反爪1組
3. $\phi 18 \times 120\text{L}$ 校正棒 *1支

■Specifications:

- Swivel center high: 80mm
- Indexing Div: 24(Every 15°)±10°
- 3-Jaws outer diameter: 85mm、length: 60mm
- Outer clamping gripping diameter: $\phi 2-\phi 70\text{mm}$
- Internal clamping gripping diameter: $\phi 24-\phi 64\text{mm}$
- Parallelism: 0.002/100mm
- Roundness: 0.002/100mm

■Standard Accessories:

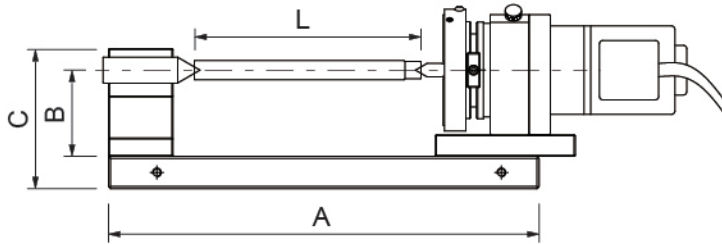
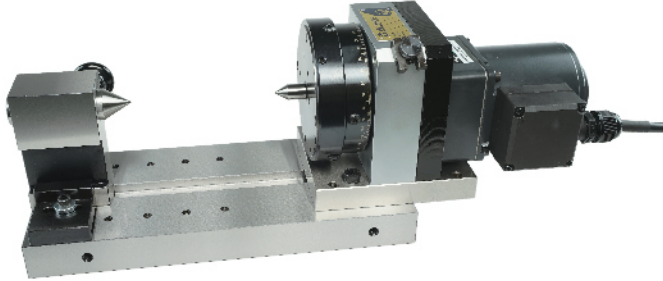
1. T-Handle×1pcs
2. Contrary jaw×1set
3. $\phi 18 \times 120\text{L PIN}$ ×1pcs



- 三爪研磨器易於挾持工件，拆卸容易，使用方便快速。
- 因三爪夾頭累積公差，挾持不同尺寸工件時會有差異，故設計有水平及同心度調整功能，使用者可自行調整。
- 3-Jaws punch former easy to clamping workpiece, easy to using and disassembly.
- Due to jaw chuck cumulative tolerance, for different size of workpiece the tolerance will different, adjustment design function user can adjust the horizontal and center.

單位:mm

訂購編號 Order No.	型號 Model	A	B	C	L	重量(kg) Weight
31070-30	PFJ300	300	80	130	0~90	19
31070-40	PFJ400	400	80	130	0~190	22
31070-50	PFJ500	500	80	130	0~290	25
31070-60	PFJ600	600	80	130	0~390	28.5



■規格:

- 旋轉中心高度:80mm
- 分割24等份、分度15度.±10"
- 平行度:0.002/100mm
- 真圓度:0.002/100mm

■標準配件:

1. $\phi 18 \times 120L$ 校正棒 *1支
2. 板手5mm *1支

■Specifications:

- Swivel center high: 80mm
- Indexing Div: 24(Every 15°)±10"
- Parallelism: 0.002/100mm
- Roundness: 0.002/100mm

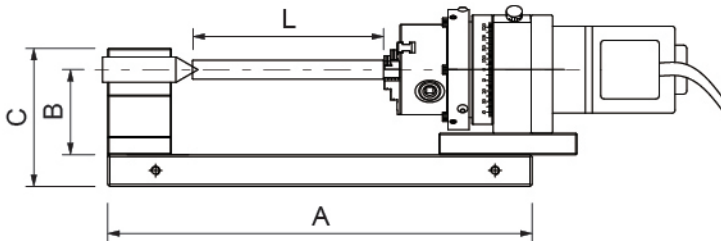
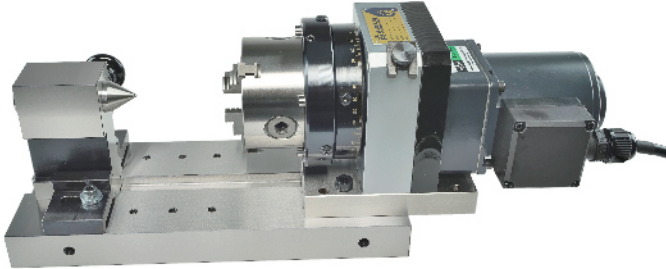
■Standard Accessories:

1. $\phi 18 \times 120L$ PIN ×1pcs
2. Spanner 5mm ×1pcs

- 利用兩端頂針夾持來加工沖子，可得到相同之同心度，亦可作為測量工件同心度之用。
- 此款研磨器藉由馬達帶動，不需人工手搖操作，可節省加工時間。
- Both sides of live center to clamping punch to achieve concentricity and stabilize the processing also achieve higher accuracy.
- Motor punch former driven by motor, without hand manual operation, saving processing time.

單位:mm

訂購編號 Order No.	型號 Model	A	B	C	L	電源 Power	轉速 Speed	重量(kg) Weight
31071-30	HWF-CM300×110V	300	80	130	0~120	AC 110V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	22
31071-32	HWF-CM300×220V	300	80	130	0~120	AC 220V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	22
31071-40	HWF-CM400×110V	400	80	130	0~220	AC 110V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	25
31071-42	HWF-CM400×220V	400	80	130	0~220	AC 220V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	25
31071-50	HWF-CM500×110V	500	80	130	0~320	AC 110V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	28
31071-52	HWF-CM500×220V	500	80	130	0~320	AC 220V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	28
31071-60	HWF-CM600×110V	600	80	130	0~420	AC 110V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	31.5
31071-62	HWF-CM600×220V	600	80	130	0~420	AC 220V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	31.5



■規格:

- 旋轉中心高度:80mm
- 分割24等份、分度15度.± 10"
- 三爪主體外徑:85mm、長度:60mm
- 外徑把握: $\phi 2-\phi 70$ mm
- 內徑把握: $\phi 24-\phi 64$ mm
- 平行度:0.002/100mm
- 真圓度:0.002/100mm

■標準配件:

1. 三爪把手 *1支
2. 反爪1組
3. $\phi 18 \times 120$ L 校正棒 *1支
4. 板手5mm *1支

■ Specifications:

- Swivel center high: 80mm
- Indexing Div: 24(Every 15°)± 10"
- 3-Jaws outer diameter: 85mm、length: 60mm
- Outer clamping gripping diameter: $\phi 2-\phi 70$ mm
- Internal clamping gripping diameter: $\phi 24-\phi 64$ mm
- Parallelism: 0.002/100mm
- Roundness: 0.002/100mm

■ Standard Accessories:

1. T-Handle X 1pcs
2. Contrary jaw X 1set
3. $\phi 18 \times 120$ L PIN X 1pcs
4. Spanner 5mm X 1pcs

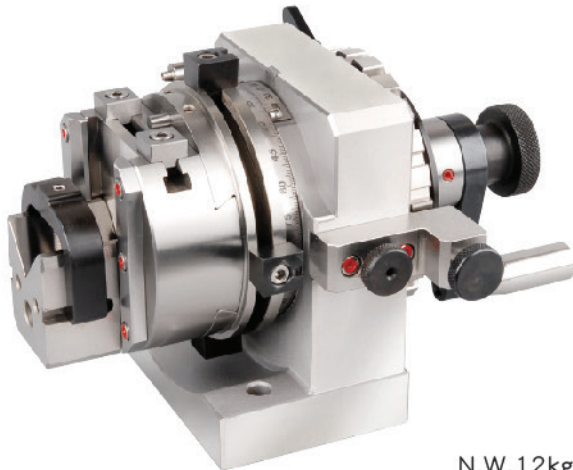
- 三爪研磨器易於挾持工件，拆卸容易，使用方便快速。
- 因三爪夾頭累積公差，挾持不同尺寸工件時會有差異，故設計有水平及同心度調整功能，使用者可自行調整。
- 此款研磨器藉由馬達帶動，不需人工手搖操作，可節省加工時間。
- 3-Jaws punch former easy to clamping workpiece, easy to using and disassembly.
- Due to jaw chuck cumulative tolerance, for different size of workpiece the tolerance will different, adjustment design function user can adjust the horizontal and center.
- Motor punch former driven by motor, without hand manual operation, saving processing time.

單位:mm

訂購編號 Order No.	型號 Model	A	B	C	L	電源 Power	轉速 Speed	重量(kg) Weight
31072-30	HWF-CJM300×110V	300	80	130	0~90	AC 110V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	22
31072-32	HWF-CJM300×220V	300	80	130	0~90	AC 220V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	22
31072-40	HWF-CJM400×110V	400	80	130	0~190	AC 110V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	25
31072-42	HWF-CJM400×220V	400	80	130	0~190	AC 220V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	25
31072-50	HWF-CJM500×110V	500	80	130	0~290	AC 110V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	28
31072-52	HWF-CJM500×220V	500	80	130	0~290	AC 220V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	28
31072-60	HWF-CJM600×110V	600	80	130	0~390	AC 110V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	31.5
31072-62	HWF-CJM600×220V	600	80	130	0~390	AC 220V 50/60Hz 單相 SINGLE PHASE	16~233 R.P.M	31.5

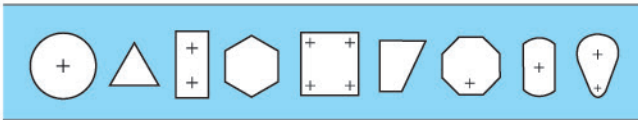


● PG45



N.W.12kg

■ V型塊非不鏽鋼製作。
V block is not made of stainless steel.



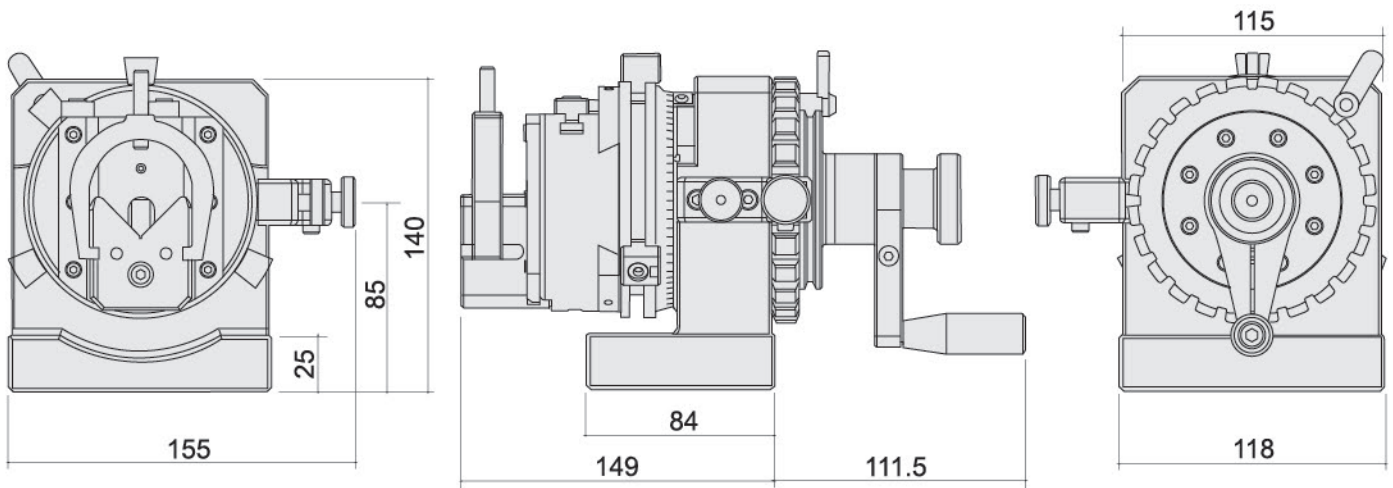
■規格:

- 中心高：85 ± 0.5mm
- V型槽夾持直徑：φ 3~38mm
- V型塊調整量：38mm
- 滑動盤橫向移動量：± 18mm
- 分割24等份、分度15度. ± 5"
- 夾持偏擺精度（50mm）：0.005mm

■Specifications:

- Center height: 85 ± 0.5mm
- Clamping dia. range of V-block: φ 3-38mm
- Travel of V-block: 38mm
- Slide plate horizontal movement: ± 18mm
- Indexer tooth q'ty and accuracy:
24(Every 15°) ± 5"
- Clamping accuracy (50mm): 0.005mm

- PG45精級雙向沖子成型器（防水型）具較佳之結構強度與耐用性，具防水特性，適用於成形平面磨床，對於各種形狀的沖頭可精確及快速的進行磨削加工，並可用於放電加工機床所使用的電極進行加工。
- 本產品由于有上下左右調整的功能，特別適用於橢圓形沖頭的加工。
- 本機V型設計壓板能穩固及精確的固定工件，並有上下微調功能，要校正中心，極為容易。
- 採用高精密雙組軸承的主軸設計，以達到高精度及穩定性。並有傳統型數倍以上的壽命。
- 限位擋塊設計有定位槽，對於多邊形沖頭可快速及精確的定位。
- 主體為不鏽鋼材質製作，不銹且易於保養。
- Precision punch former has stronger compact structure as well as longer durability. Suitable for applying on surface grinding machine and EDM machines. It is capable of forming miscellaneous shapes of punches.
- Trough hole design longer punch & ejector pins to be clamped in processing.
- V-block clamping design can accurately stabilize the workpieces and with fine-tuning function makes easier for setting center.
- Adopting high precision double bearing to achieve higher stability and accuracy, with times longer lifecycle than the conventional ones.
- Stopper design in position slot and easier for precisely stabilize polygonal punches.
- Made of stainless steel, rustless and maintain easy.



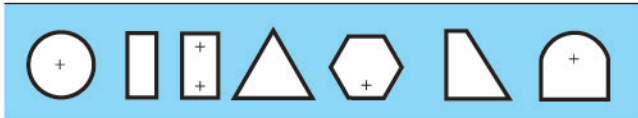


● PG35



■ V型塊非不鏽鋼製作。
V block is not made of stainless steel.

N.W.10kg



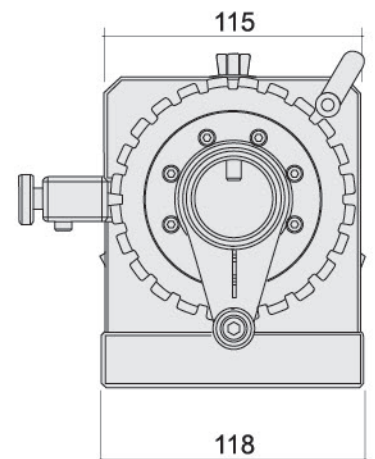
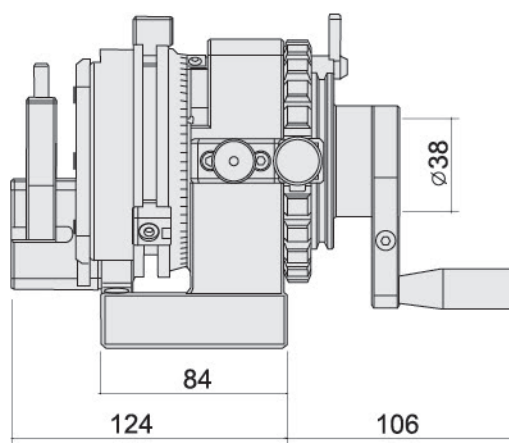
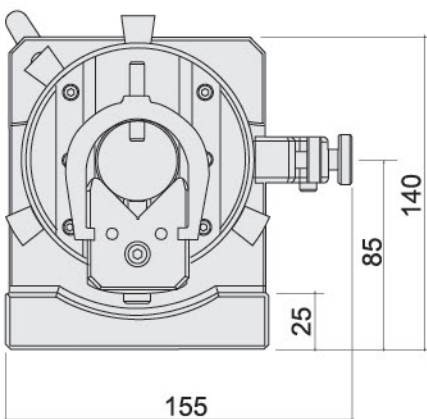
■規格:

- 中心高：85 ± 0.5mm
- V型槽夾持直徑：φ 3~38mm
- V型塊調整量：30mm
- 分割24等份、分度15度. ± 5"
- 貫穿孔直徑：φ 36mm
- 夾持偏擺精度（50mm）：0.005mm

■Specifications:

- Center height: 85 ± 0.5mm
- Clamping dia. range of V-block: φ 3-38mm
- Travel of V-block: 30mm
- Indexer tooth q' ty and accuracy: 24(Every 15°) ± 5"
- Through hole diameters: φ 36mm
- Clamping accuracy (50mm): 0.005mm

- PG35精級單向沖子成型器（防水型）具較佳之結構強度與耐用性，具防水特性，適用於成形平面磨床，對於各種形狀的沖頭可精確及快速的進行磨削加工，並可用於放電加工機床所使用的電極進行加工。
- PG35沖子成型器特別有中心貫穿孔，可供過長的沖頭及射梢使其延伸而得以夾持加工。
- 本機V型設計壓板能穩固及精確的固定工件，並有上下微調功能，要校正中心，極為容易。
- 採用高精度雙組軸承的主軸設計，以達到高精度及穩定性，並有傳統型數倍以上的壽命。
- 限位擋塊設計有定位槽，對於多邊形沖頭可快速及精確的定位。
- 不銹鋼材質製作，不銹且易於保養。
- Precision punch former has stronger compact structure as well as longer durability. Suitable for applying on surface grinding machine and EDM machines. It is capable of forming miscellaneous shapes of punches.
- Trough hole design longer punch & ejector pins to be clamped in processing.
- V-block clamping design can accurately stabilize the workpieces and with fine-tuning function makes easier for setting center.
- Adopting high precision double bearing to achieve higher stability and accuracy, with times longer lifecycle stabilise polygonal punches.
- Stopper design in position slot and easier for precisely stabilize polygonal punches.
- Made of stainless steel, rustless and maintain easy.





● PG60

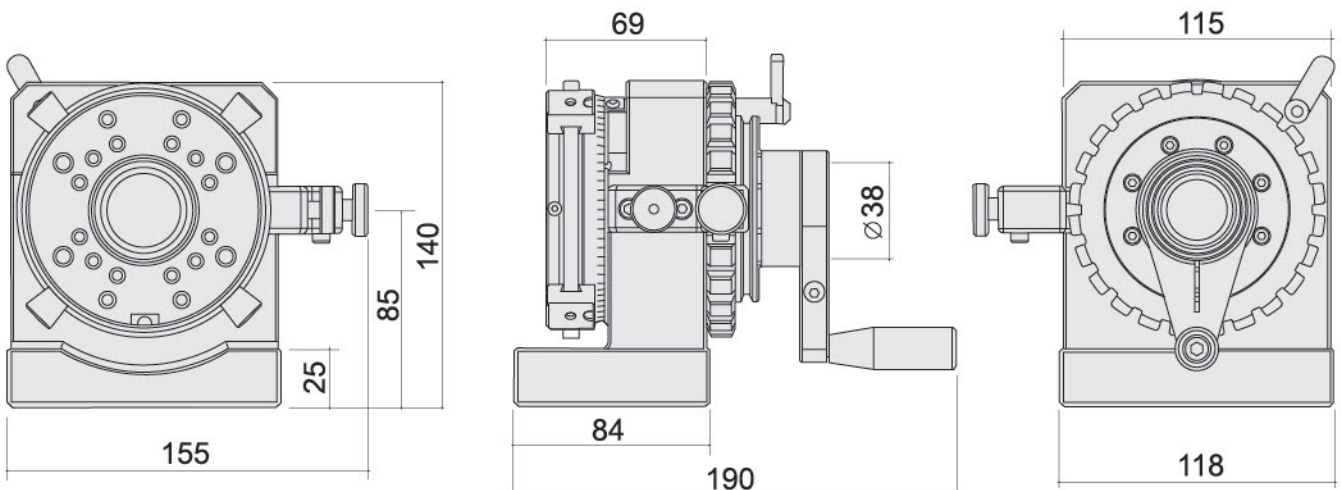


N.W.7.8kg

- 模組化。
- 高剛性。
- 高精確度。
- 高穩定性。
- 強大的夾緊力。
- 多種夾持器尺寸。
- 靈活、方便、快捷。
- 獨特設計，且為不銹鋼淬火製成，
- 表面進行特殊處理，使用壽命提高數倍。

- Modulisation.
- High rigidity, accuracy and stability.
- Strong clamping force.
- Various clamping size.
- Flexible, fast and convenient.
- Unique design with special surface treatment, longer lifecycle.

- PG60多功能沖子成型器-主體（防水型）具較佳結構之強度與耐用性，具防水特性。不銹鋼材質，不銹且易於保養。
- 採用高精密雙組軸承的主軸設計，以達到高精度及穩定性。並且不銹，並有傳統型數倍以上的壽命，具有模組化功能。
- 可接合替換各種形式的用途：如SC40、SC04、SC05三爪夾頭，ER20、ER32、ER50等各式的筒夾，以及3R24、3R28、EQC50、EQC100定位夾具。
- 依加工需求，本機可組合搭配選購多種配件互換使用，已達到節約成本。
- Brand new type punch former with higher rigidity and durability, Stainless steel body made it waterproof and easy for maintenance.
- Adopting high precision double bearings to achieve high accuracy and stability as well as longer lifecycle.
- Modulation make its multi-functional, applying 3-jaw chuck, ER collets, 3R and Erowa positioning chuck.
- Various components can be procured to achieve cost efficiency.





● PG55



N.W.8.8kg

■ 三爪夾頭非不鏽鋼製作。
3-Jaw is not made of stainless steel.

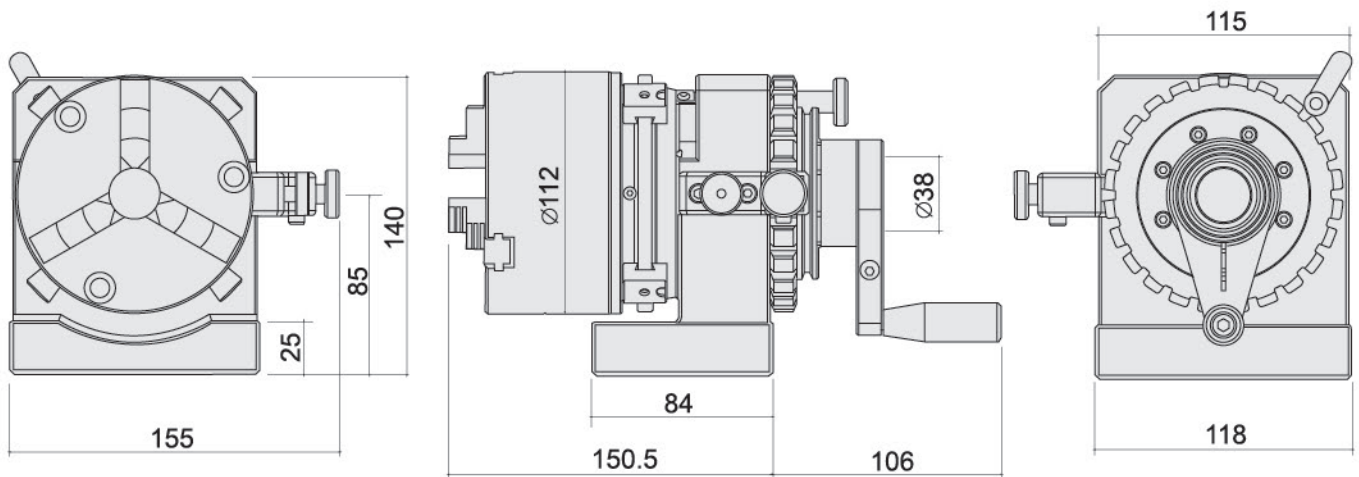
■ 規格:

- 中心高度：85 ± 0.5mm
- 分割24等份、分度15度. ± 5"
- 貫穿孔直徑：φ 32mm
- 三爪孔徑：φ 32mm
- 主座回轉精度：0.003mm
- 三爪卡盤重複夾持精度：0.015mm
- 最小夾持直徑：外徑 φ 3mm. 內徑 φ 32mm
- 最大夾持直徑：外徑 φ 90mm. 內徑 φ 84mm

■ Specifications:

- Center height: 85 ± 0.5mm
- Indexer tooth quantity and accuracy: 24、15 φ ± 5"
- Through hole diameters: φ 32mm
- Hole dia. of 3-jaw chuck: φ 32mm
- Min. clamping range: Outer Dia. φ 3mm / Internal Dia. φ 32mm
- Max. clamping range: Outer Dia. φ 90mm / Internal Dia. φ 84mm
- Rotational accuracy: 0.003mm
- Repeat accuracy: 0.015mm

- PG55精密三爪沖子成型器（防水型）具較佳結構之強度與耐用性，具防水特性。
- PG55沖子成型器為方便使用，特別加上三爪夾頭，可快速的將工件夾持使用。因三爪夾頭的累積公差夾持不同大小工件時會有所差異，所以設計有水平及真圓的調整功能供使用者自行調整，所以本機較適用於大批量的生產使用。
- 附有反爪配件可供較大外徑工件的夾持。
- 採用高精度雙組軸承的主軸設計，以達到高精度及穩定性。並有傳統型數倍以上的壽命。
- 不銹鋼材質製作，不銹且易於保養。
- Is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- 3-jaw chuck provide rapid clamping and it suitable for mass production workpiece with round shaped can precisely and rapidly clamped.
- Due to accumulated tolerance when clamping different sizes of workpiece, special design in adjustment of horizontal and roundness for user own application.
- Jaw attachment can clamp workpiece with larger diameters.
- Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.





● PG70



N.W.10kg

■ 三爪夾頭非不鏽鋼製作。
3-Jaw is not made of stainless steel.

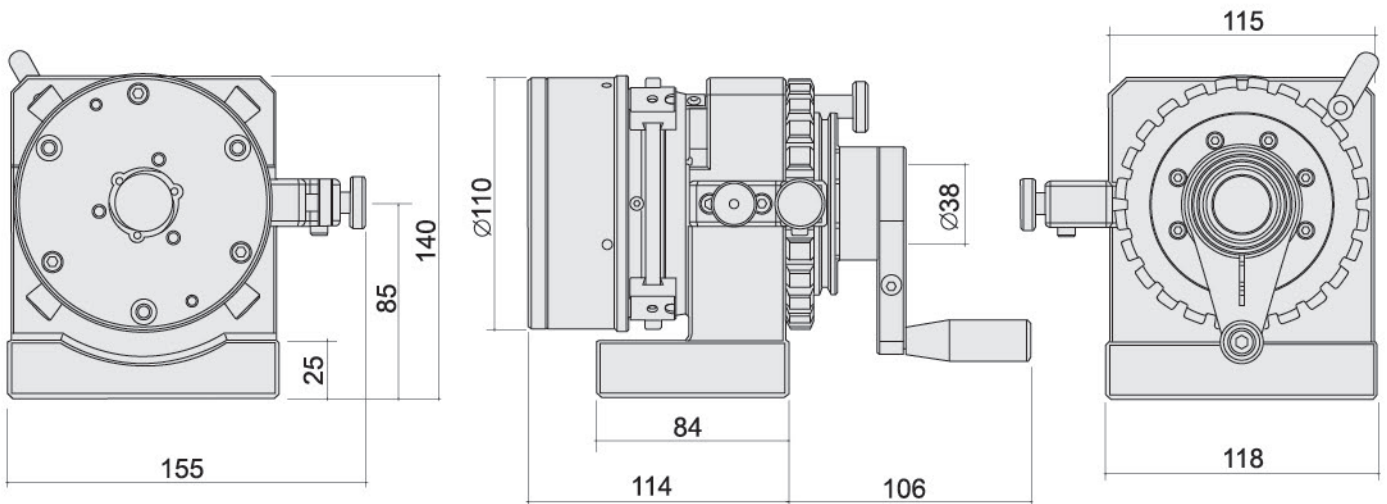
■ 規格:

- 中心高度：85±0.5mm
- 分割24等份、分度15度.±5"
- 貫穿孔直徑：φ25mm
- 三爪孔徑：φ25mm
- 最小夾持範圍：φ1mm
- 最大夾持範圍：φ25mm
- 主座回轉精度：0.003mm
- 三爪卡盤重複夾持精度：0.003mm

■ Specifications:

- Center height: 85 ± 0.5mm
- Indexer tooth quantity and accuracy: 24、15° ± 5"
- Through hole diameters: Ø25mm
- Hole dia. of 3-jaw chuck: Ø25mm
- Min. clamping range: Ø1mm
- Max. clamping range: Ø25mm
- Rotational accuracy: 0.003mm
- Repeat accuracy: within 0.003mm

- PG70超精密三爪沖子成型器（防水型）具較佳之結構強度與耐用性，具防水特性。超精密SC40夾頭精確夾持圓形零件。
- PG70沖子成型器為方便使用，特別加上特殊設計三爪夾頭，可快速的將工件夾持使用。所以較適用於大批量的生產使用。
- 附有扭力扳手可供操作者方便使用。
- 採用高精密雙組軸承的主軸設計，以達到高精度及穩定性。並有傳統型數倍以上的壽命。
- 不銹鋼材質製作，不銹且易於保養。
- Is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- Special designed 3-jaw chuck provide rapid clamping and it suitable for mass production workpiece with round shaped can precisely and rapidly clamped.
- Torque wrench is included for user-friendly purpose.
- Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.





● PG75



N.W.14.8kg

■ 三爪夾頭非不銹鋼製作。
3-Jaw is not made of stainless steel.

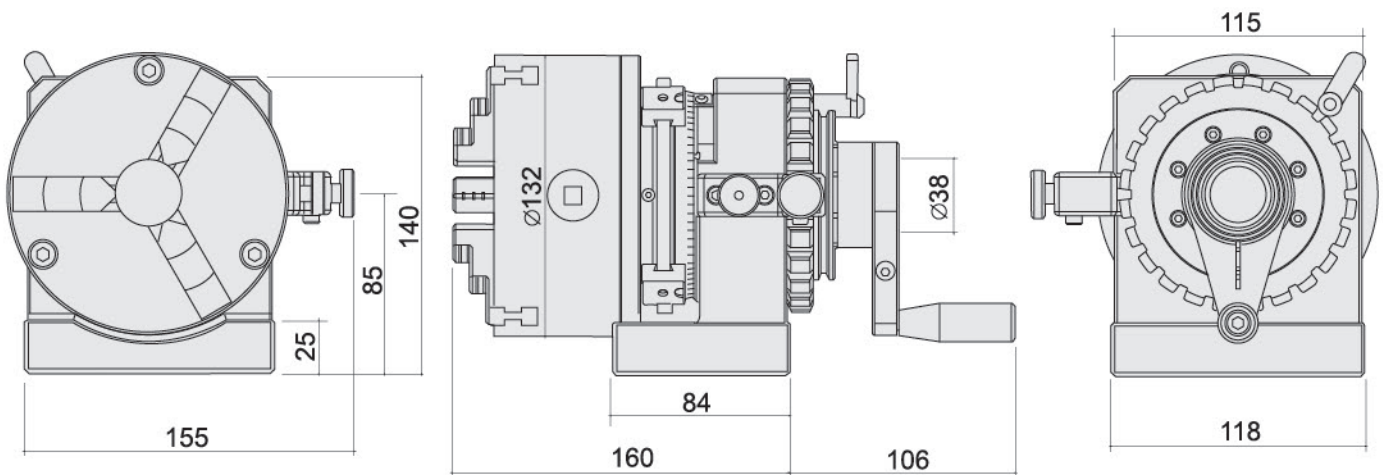
■ 規格:

- 中心高度：85±0.5mm
- 分割24等份、分度15度.±5"
- 貫穿孔直徑：φ32mm
- 三爪孔徑：φ32mm
- 最小夾持範圍：外徑φ3mm,內徑φ35mm
- 最大夾持範圍：外徑φ110mm,內徑φ110mm
- 主座回轉精度：0.003mm
- 三爪卡盤重複夾持精度：0.015mm

■ Specifications:

- Center height: 85 ±0.5mm
- Indexer tooth q' ty and accuracy: 24、15 φ ±5"
- Through hole diameters: φ32mm
- Hole dia. of 3-jaw chuck: φ32mm
- Min. clamping range: Outer Dia. φ3mm / Internal Dia. φ35mm
- Max. clamping range: Outer Dia. φ110mm / Internal Dia. φ110mm
- Rotational accuracy: 0.003mm
- Repeat accuracy: within 0.015mm

- PG75精密三爪沖子成型器(防水型)具較佳結構之強度與耐用性,具防水特性。
- PG75沖子成型器為方便使用,特別加上三爪夾頭,可快速的將工件夾持使用。因三爪夾頭的累積公差夾持不同大小工件時會有所差異,
- 所以設計有水平及真圓的調整功能供使用者自行調整,所以本機較適用於大批量的生產使用。
- 附有反爪配件可供較大外徑工件的夾持。
- 採用高精度雙組軸承的主軸設計,以達到高精度
- 及穩定性。並有傳統型數倍以上的壽命。
- 不銹鋼材質製作,不銹且易於保養。
- Is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- 3-jaw chuck provide rapid clamping and it suitable for mass production workpiece with round shaped can precisely and rapidly clamped.
- Due to accumulated tolerance when clamping different sizes of workpiece, special design in adjustment of horizontal and roundness for user own application.
- Jaw attachment can clamp workpiece with larger diameters.
- Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.





● PG65



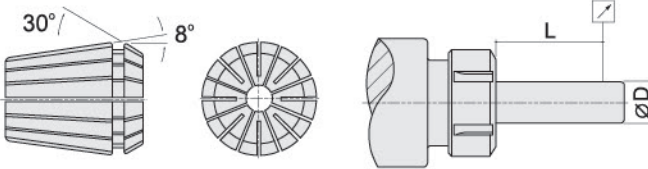
■規格:

- 中心高度：85±0.5mm
- 分割24等份、分度15度.±5"
- 貫穿孔直徑：φ36mm
- 主座回轉精度：0.003mm

■Specifications:

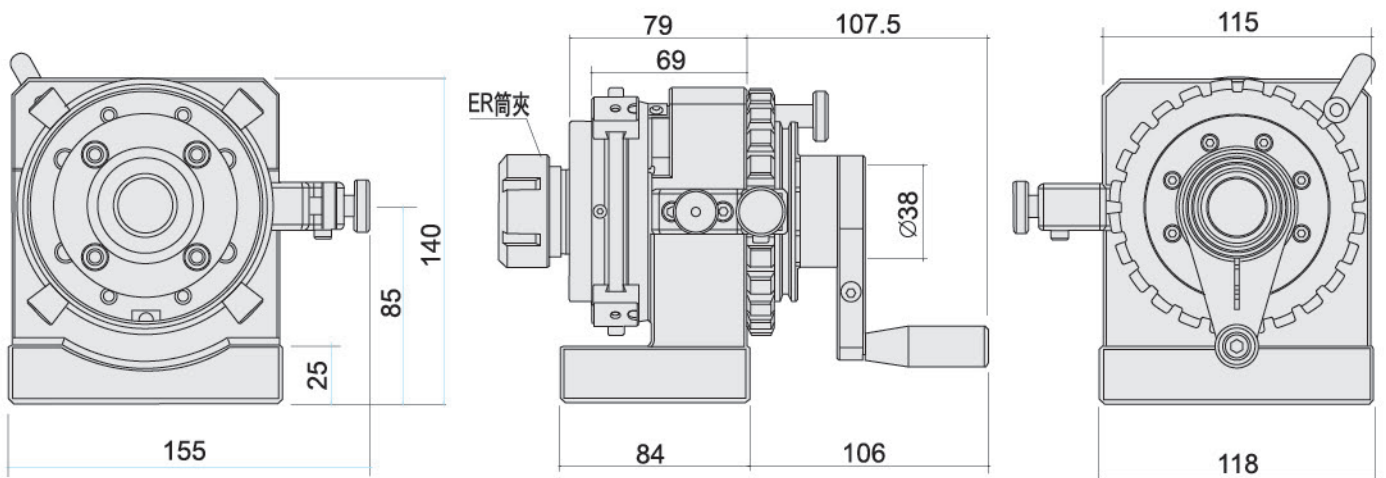
- Center height: 85 ±0.5mm
- Indexer tooth q'ty and accuracy: 24、15 φ ±5"
- Through hole diameters: φ36mm
- Repeat accuracy: within 0.003mm

■ 筒夾及筒夾螺母非不鏽鋼製作。
ER Collet & ER nut are not made of stainless steel.



L	D	精度 Accuracy
6	1.0-1.6	0.01
10	1.6-3.0	0.01
16	3.0-7.0	0.01
25	7.0-10.0	0.01
40	10.0-18.0	0.01
50	18.0-24.0	0.01
60	24.0-34.0	0.01

- PG65精密級ER沖子成型器（防水型）具較佳結構之強度與耐用性，具防水特性。
- 筒夾式沖子成型器附有ER筒夾，筒夾可伸縮使用範圍1mm。
- 筒夾夾持範圍：最小夾持φ2mm，最大夾持φ34mm。
- 本機最快速且穩固的夾持工件，加工時可更穩定的使用，且不必調整中心度即可使用。
- 採用高精度雙組軸承的主軸設計，以達到高精度及穩定性。並有傳統型數倍以上的壽命。
- 本機可接合替換各式的筒夾：如ER20、ER32、ER50等。
- 主體採用不銹鋼材質製作，不銹且易於保養。
- Is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- With ER collets, the flexible range of collet is 1mm.
- Capable collet clamping range: Min. Ø2mm, Max. Ø34mm.
- Can rapidly clamp the workpiece and achieving higher stability during processing, no need to adjust the center accuracy.
- Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.
- The model is compatible with various ER collets such as ER20, ER32, ER50 ect...



訂購編號 Order No.	型號 Model	筒夾規格 ER Collet Spec.	重量(kg) Weight
31110-20	PG65-SER20	2, 4, 6, 8, 10	8.3
31110-32	PG65-SER32	4, 8, 12, 16, 20	8.3
31110-50	PG65-SER50	12, 18, 20, 30, 34	8.4



● PG80



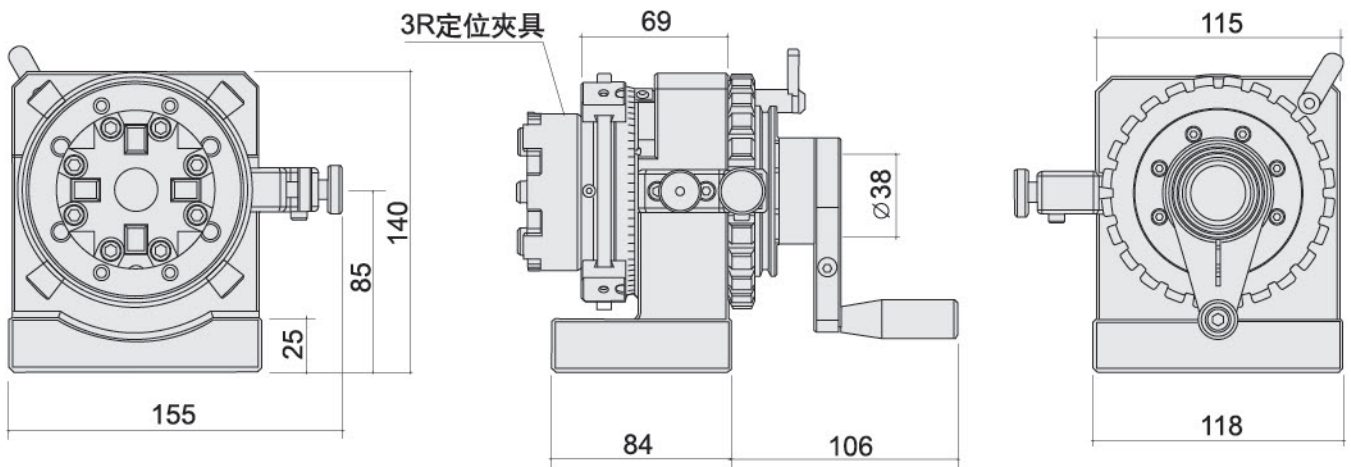
■規格:

- 中心高度：85 ±0.5mm
- 分割24等份、分度15度.±5"
- 主座回轉精度：0.003mm
- 重複定位精度：0.003mm

■Specifications:

- Center height: 85 ±0.5mm
- Indexer tooth quantity and accuracy: 24(Every 15°)±5"
- Rotational accuracy: 0.003mm
- Repeat accuracy: 0.003mm

- PG80精密級3R沖子成型器（防水型）具較佳結構之強度與耐用性，具防水特性。
- 前端設計有可替換式結構，可根據使用者的需求，自行選配，以達到多重的效果。
- 採用高精度雙組軸承的主軸設計，以達到高精度及穩定性。並有傳統型數倍以上的壽命。
- 不銹鋼材質製作，不銹且易於保養。
- 可以和EROWA定位夾具互通使用，達到模組化。
- Is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- With interchangeable design, components can be chose according to users' demand.
- Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.
- The model is also works with system ERWA positioning chuck to achieve modulation.



訂購編號 Order No.	型號 Model	定位夾具規格 Positioning Chuck Spec	重量(kg) Weight
31120-05	PG80-3R24	3R24	8.4
31120-10	PG80-3R28	3R28	8.8

● PG85-EQC100



■規格:

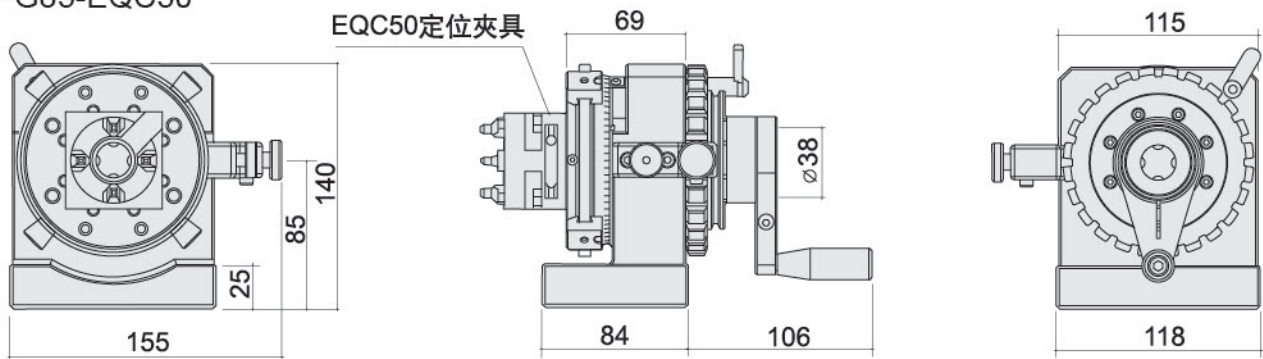
- 中心高度：85 ±0.5mm
- 分割24等份、分度15度.±5"
- 主座回轉精度：0.003mm
- 重複定位精度：0.003mm

■Specifications:

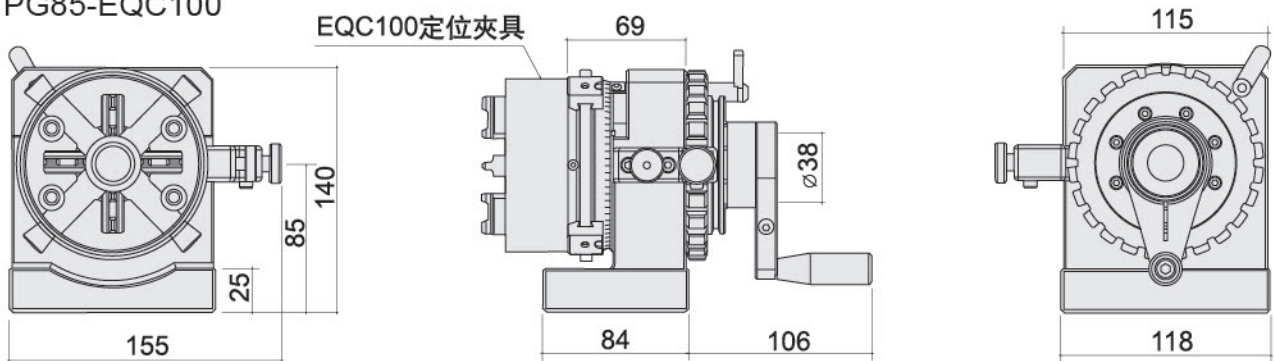
- Center height: 85 ±0.5mm
- Indexer tooth quantity and accuracy: 24(Every 15°) ±5"
- Rotational accuracy: 0.003mm
- Repeat accuracy: 0.003mm

- PG85精密級EQC沖子成型器（防水型）具較佳結構之強度與耐用性，具防水特性。
- 前端設計有可替換式結構，可根據使用者的需求，自行選配，以達到多重的效果。
- 採用高精度雙組軸承的主軸設計，以達到高精度及穩定性。並有傳統型數倍以上的壽命。
- 不銹鋼材質製作，不銹且易於保養。
- 可以和3R定位夾具互通使用，達到模組化。
- Is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- With interchangeable design, components can be chose according to users' demand.
- Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.
- The model is also works with system 3R positioning chuck to achieve modulation.

● PG85-EQC50



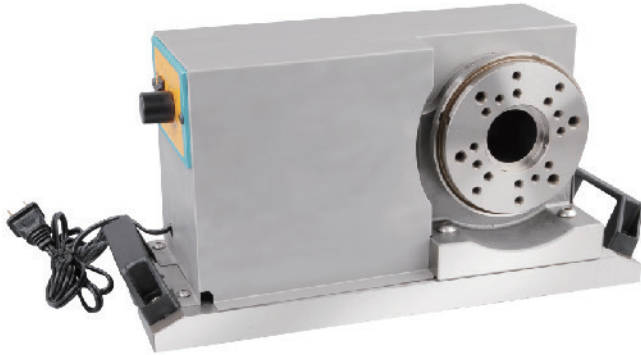
● PG85-EQC100



訂購編號 Order No.	型號 Model	定位夾具規格 Positioning Chunk Spec	重量(kg) Weight
31125-05	PG85-EQC50	EQC50	8.4
31125-10	PG85-EQC100	EQC100	9.8



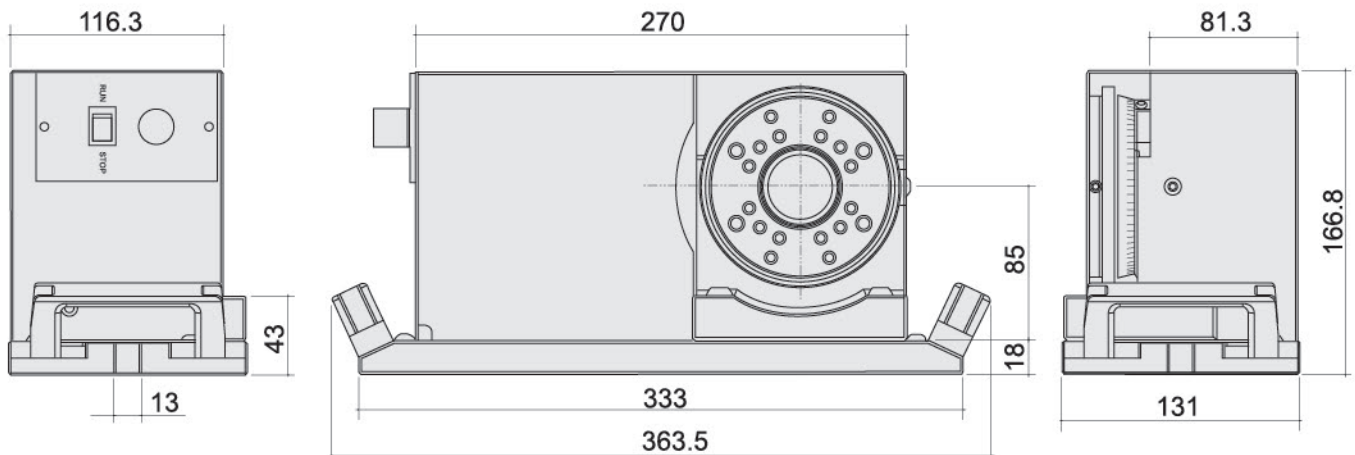
● PGA600



- 模組化。
- 高剛性。
- 高精確度。
- 高穩定性。
- 強大的夾緊力。
- 多種夾持器尺寸。
- 靈活、方便、快捷。
- 獨特設計，且為不銹鋼淬火製成，
- 表面進行特殊處理，使用壽命提高數倍。

- Modulisation.
- High rigidity, accuracy and stability.
- Strong clamping force.
- Various clamping size.
- Flexible, fast and convenient.
- Unique design with special surface treatment, longer lifecycle.

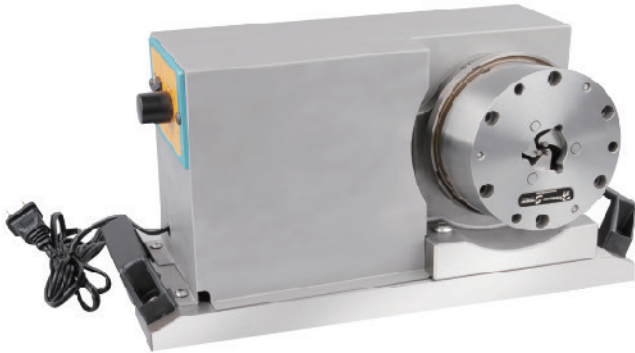
- PGA600電動多功能沖子成型器-主體（防水型）具較佳之結構強度與耐用性，具防水特性。不銹鋼材質製作，不銹且易於保養。由馬達帶動，可避免手搖而產生疲勞現象。
- 採用高精密軸心組配，以達到高精度、高剛性及穩定性。並有傳統型數倍以上的壽命。
- 可接合各種形式的用途：如SC40、SC04三爪夾頭，ER20、ER32、ER50等各式的筒夾。
- 可以和3R定位夾具互通使用，達到模組化。
- 依加工需求，本機可組合搭配選購多種配件互換使用，已達到節約成本。
- Is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- Motorised function prevent human fatigue when processing.
- With interchangeable design, components can be chosen according to users' demand such as 3-jaw chuck, ER collets.
- Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.
- Depending on any demands in processing, optional accessories available to achieve cost effective.



訂購編號 Order No.	型號 Model	馬達 Motor	重量(kg) Weight
31135-11	PGA600×110V	110V / 60Hz 50~550 R.P.M	24
31135-22	PGA600×220V	220V / 50Hz 50~550 R.P.M	24



● PGA700



■ 三爪夾頭非不鏽鋼製作。
3-Jaw is not made of stainless steel.

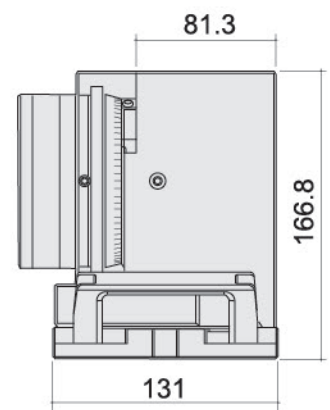
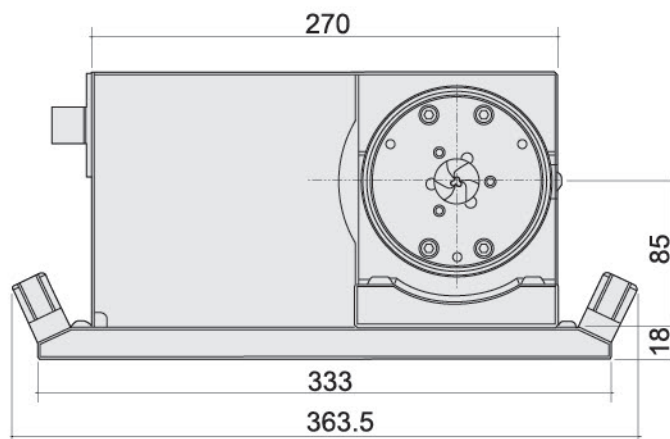
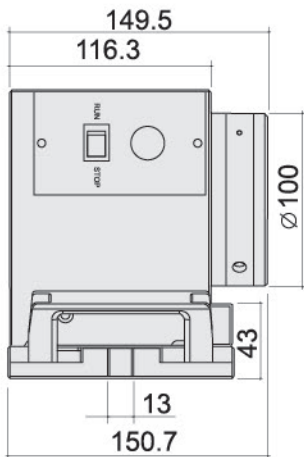
■ 規格:

- 中心高度：85±0.5mm
- 貫穿孔直徑：φ36mm
- 三爪孔徑：φ25mm
- 最小夾持範圍：φ1mm
- 最大夾持範圍：φ25mm
- 主座回轉精度：0.003mm
- 三爪卡盤重複夾持精度：0.003mm內

■ Specifications:

- Center height: 85 ± 0.5mm
- Through hole diameters: φ36mm
- Hole dia. of 3-jaw chuck: φ25mm
- Min. clamping range: φ1mm
- Max. clamping range: φ25mm
- Rotational accuracy: 0.003mm
- Repeat accuracy: within 0.003mm

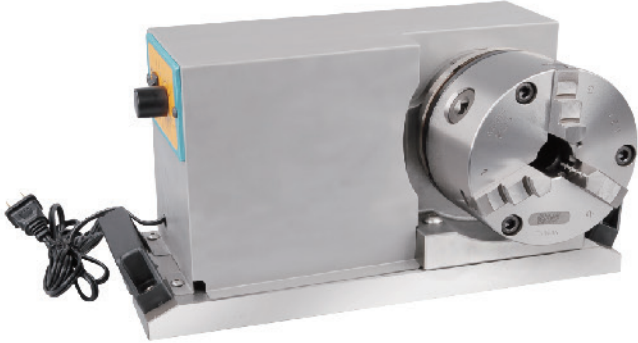
- PGA700超精密三爪沖子成型器（防水型）具較佳之結構強度與耐用性，具防水特性。由馬達帶動，可避免手搖而產生疲勞現象。可在短時間內研磨沖子成圓形。超精密SC40夾頭精確夾持圓形零件。
- PGA700沖子成型器為方便使用，特別加上特殊設計三爪夾頭，可快速的將工件夾持使用。所以較適用於大批量的生產使用。
- 附有扭力扳手可供操作者方便使用。
- 採用高精密雙組軸承的主軸設計，以達到高精度、高剛性及穩定性。並有傳統型數倍以上的壽命。
- 不銹鋼材質製作，不銹且易於保養。
- Is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- Special designed precision 3-jaw chuck provide rapid clamping and it suitable for mass production, workpiece with round shaped can precisely and rapidly clamped.
- Motorised function prevent human fatigue when processing.
- Torque wrench is included for user-friendly purpose.
- Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.



訂購編號 Order No.	型號 Model	定位夾具規格 Positioning Chunk Spec.	馬達 Motor	重量(kg) Weight
31140-11	PGA700×110V	SC40	110V / 60Hz 50~550 R.P.M	31
31140-22	PGA700×220V	SC40	220V / 50Hz 50~550 R.P.M	31



- PGA550 (防水型 Waterproof)



■ 三爪夾頭非不鏽鋼製作。
3-Jaw is not made of stainless steel.

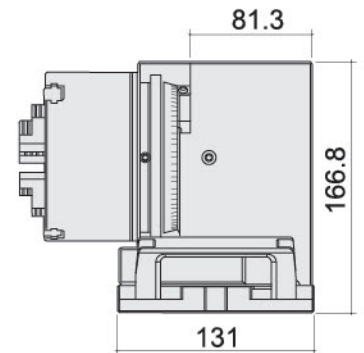
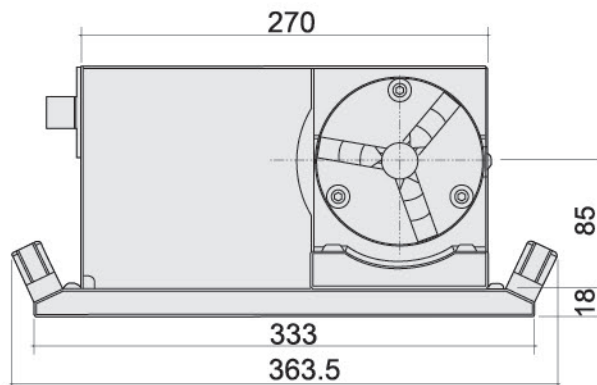
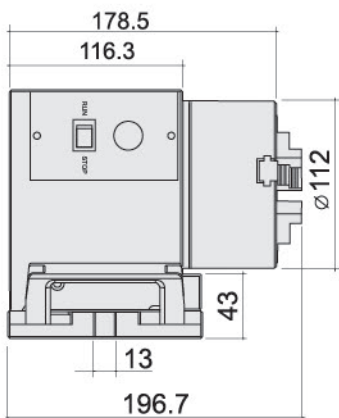
■ 規格:

- 中心高度：85 ± 0.5mm
- 貫穿孔直徑：φ 36mm
- 三爪孔徑：φ 32mm
- 最小夾持範圍：外徑 φ 3mm, 內徑 φ 32mm
- 最大夾持範圍：外徑 φ 90mm, 內徑 φ 84mm
- 主座回轉精度：0.003mm
- 三爪卡盤重複夾持精度：0.015mm

■ Specifications:

- Center height: 85 ± 0.5mm
- Through hole diameters: φ 36mm
- Hole dia. of 3-jaw chuck: φ 32mm
- Min. clamping range: Outer Dia. φ 3mm / Internal Dia. φ 35mm
- Max. clamping range: Outer Dia. φ 110mm / Internal Dia. φ 110mm
- Rotational accuracy: 0.003mm
- Repeat accuracy: within 0.015mm

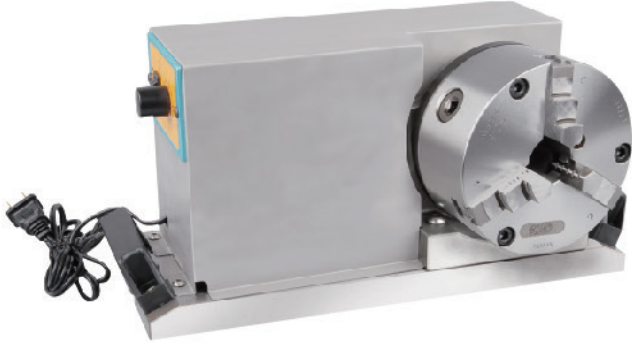
- PGA550精密級三爪沖子成型器（防水型）具較佳之結構強度與耐用性，具防水特性，不銹鋼材質製作，不銹且易於保養。由馬達帶動，可避免手搖而產生疲勞現象。可在短時間內研磨沖子成圓形。
- PGA550沖子成型器為方便使用，特別加上三爪夾頭，可快速的將工件夾持使用。因三爪夾頭的累積公差夾持不同大小工件時會有所差異，所以設計有水平及真圓的調整功能供使用者自行調整，所以本機較適用於大批量的生產使用。
- 附有反爪配件可供較大外徑工件的夾持。
- 採用高精密雙組軸承的主軸設計，以達到高精度及穩定性。並有傳統型數倍以上的壽命。
- Is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- Special designed precision 3-jaw chuck provide rapid clamping and it suitable for mass production, work piece with round shaped can precisely and rapidly clamped.
- Motorised function prevent human fatigue when processing.
- Further attachment jaw provides capability of clamping larger workpiece.
- Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.



訂購編號 Order No.	型號 Model	定位夾具規格 Positioning Chuck Spec.	馬達 Motor	重量(kg) Weight
31145-11	PGA550-SC04×110V	SC04	110V / 60Hz 50~550 R.P.M	25
31145-22	PGA550-SC04×220V	SC04	220V / 50Hz 50~550 R.P.M	25



● PGA750



■ 三爪夾頭非不鏽鋼製作。
3-Jaw is not made of stainless steel.

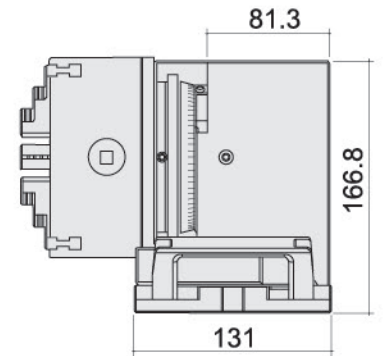
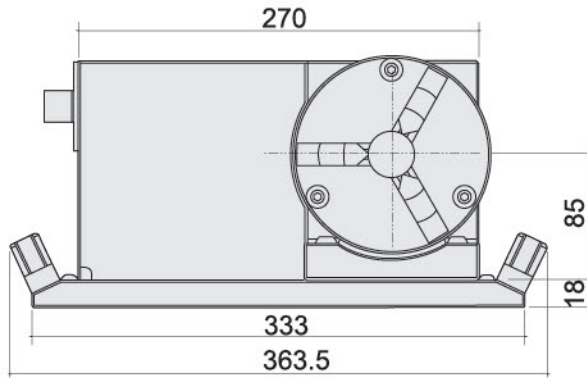
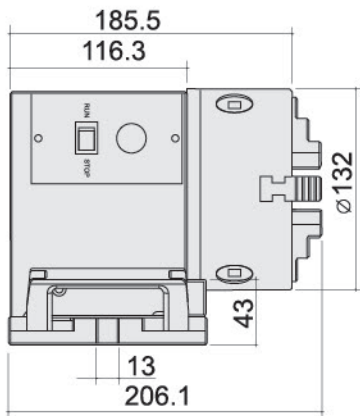
■ 規格:

- 中心高度：85 ± 0.5mm
- 貫穿孔直徑：φ 36mm
- 三爪孔徑：φ 32mm
- 最小夾持範圍：外徑 φ 3mm, 內徑 φ 35mm
- 最大夾持範圍：外徑 φ 110mm, 內徑 φ 110mm
- 主座回轉精度：0.003mm
- 三爪卡盤重複夾持精度：0.015mm

■ Specifications:

- Center height: 85 ± 0.5mm
- Through hole diameters: φ 36mm
- Hole dia. of 3-jaw chuck: φ 32mm
- Min. clamping range: Outer Dia. φ 3mm / Internal Dia. φ 35mm
- Max. clamping range: Outer Dia. φ 110mm / Internal Dia. φ 110mm
- Rotational accuracy: 0.003mm
- Repeat accuracy: within 0.015mm

- PGA750精密級電動三爪沖子成型器（防水型）具較佳之結構強度與耐用性，具防水特性。由馬達帶動，可避免手搖而產生疲勞現象。可在短時間內研磨沖子成圓形。
- PGA750沖子成型器為方便使用，特別加上三爪夾頭，可快速的將工件夾持使用。因三爪夾頭的累積公差夾持不同大小工件時會有所差異，所以設計有水平及真圓的調整功能供使用者自行調整，所以本機較適用於大批量的生產使用。
- 附有反爪配件可供較大外徑工件的夾持。
- 採用高精度雙組軸承的主軸設計，以達到高精度及穩定性。並有傳統型數倍以上的壽命。
- 不銹鋼材質製作，不銹且易於保養。
- Is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- Special designed precision 3-jaw chuck provide rapid clamping and it suitable for mass production, work piece with round shaped can precisely and rapidly clamped.
- Motorised function prevent human fatigue when processing.
- Further attachment jaw provides capability of clamping larger workpiece.
- Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.



訂購編號 Order No.	型號 Model	定位夾具規格 Positioning Chunk Spec.	馬達 Motor	重量(kg) Weight
31150-11	PGA750×110V	SC05	110V / 60Hz 50~550 R.P.M	31.5
31150-22	PGA750×220V	SC05	220V / 50Hz 50~550 R.P.M	31.5



● PGB550



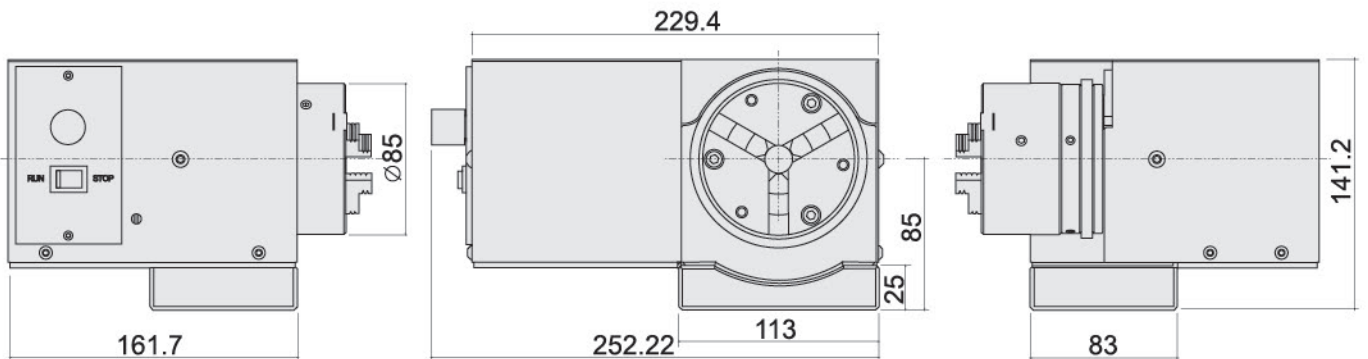
■規格:

- 中心高度：85 ± 0.5mm
- 貫穿孔直徑：φ 16mm
- 三爪孔徑：φ 16mm
- 最小夾持範圍：外徑 φ 2mm, 內徑 φ 24mm
- 最大夾持範圍：外徑 φ 70mm, 內徑 φ 64mm
- 主座回轉精度：0.003mm
- 三爪卡盤重複夾持精度：0.015mm

■Specifications:

- Center height: 85 ± 0.5mm
- Through hole diameters: φ 16mm
- Hole dia. of 3-jaw chuck: φ 16mm
- Min. clamping range: Outer Dia. φ 3mm / Internal Dia. φ 24mm
- Max. clamping range: Outer Dia. φ 70mm / Internal Dia. φ 64mm
- Rotational accuracy: 0.003mm
- Repeat accuracy: within 0.015mm

- PGB550精密級三爪電動沖子成型器具較佳結構強度與耐用性，由馬達帶動，可避免手搖而產生疲勞現象。可在短時間內研磨沖子成圓形。
- PGB550沖子成型器為方便使用，特別加上三爪夾頭，可快速的將工件夾持使用。因三爪夾頭的累積公差夾持不同大小工件時會有所差異，所以設計有水平及真圓的調整功能供使用者自行調整，所以較適用於大批量的生產使用。
- 附有反爪配件可供較大外徑工件的夾持。
- 採用高精度雙組軸承的主軸設計，以達到高精度及穩定性。並有傳統型數倍以上的壽命。
- Have stronger structure leading lasting durability.
- 3-jaw chuck provide rapid clamping and it suitable for mass production, workpiece with round shaped can precisely and rapidly clamped.
- Due to accumulated tolerance when clamping different sizes of workpiece, special design in adjustment of horizontal and roundness for user own application.
- Jaw attachment can clamp workpiece with larger diameters.
- Motorised function prevent human fatigue when processing.
- Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.



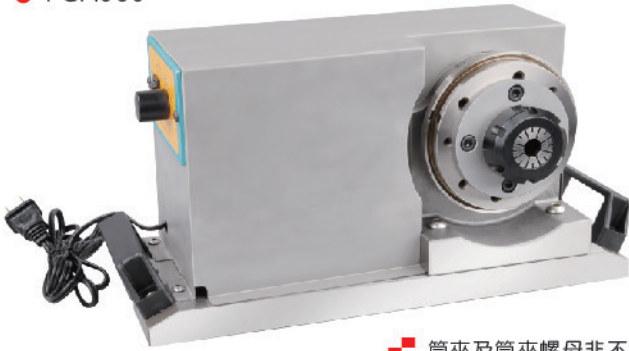
訂購編號 Order No.	型號 Model	定位夾具規格 Positioning Chuck Spec.	馬達 Motor	重量(kg) Weight
31155-11	PGB550-SC03×110V	SC03	110V / 60Hz 50~550 R.P.M	17
31155-22	PGB550-SC03×220V	SC03	220V / 50Hz 50~550 R.P.M	17



31160

精密級電動ER沖子成型器 PRECISION MOTOR ER COLLET PUNCH FORMER

● PGA650



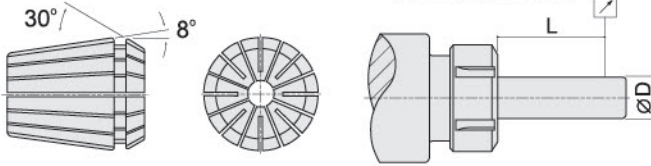
■規格:

- 中心高度：85 ± 0.5mm
- 主座回轉精度：0.003mm

■Specifications:

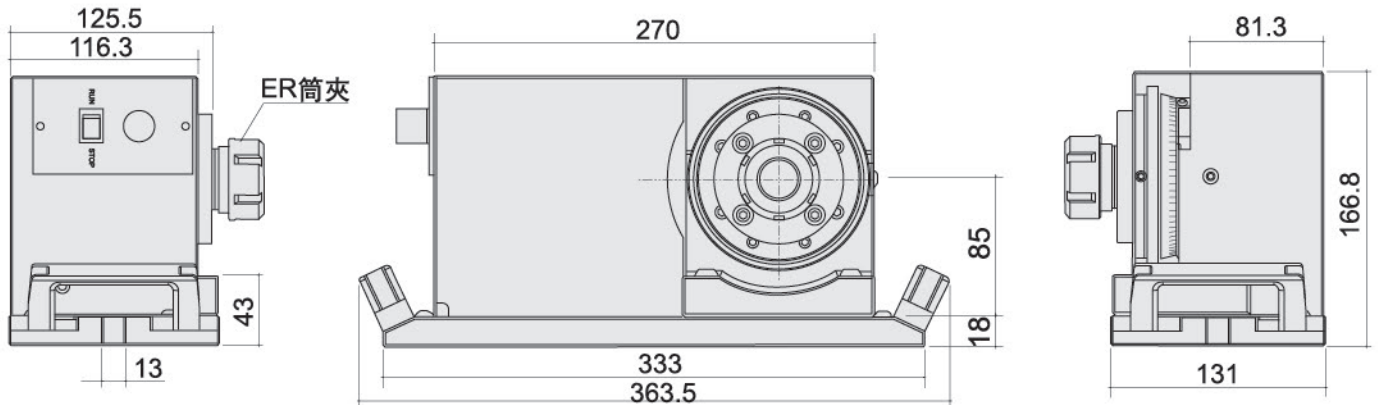
- Center height: 85 ± 0.5mm
- Repeat accuracy: within 0.003mm

■ 筒夾及筒夾螺母非不鏽鋼製作。
ER Collet & ER nut are not made of stainless steel.



L	D	精度 Accuracy
6	1.0-1.6	0.01
10	1.6-3.0	0.01
16	3.0-7.0	0.01
25	7.0-10.0	0.01
40	10.0-18.0	0.01
50	18.0-24.0	0.01
60	24.0-34.0	0.01

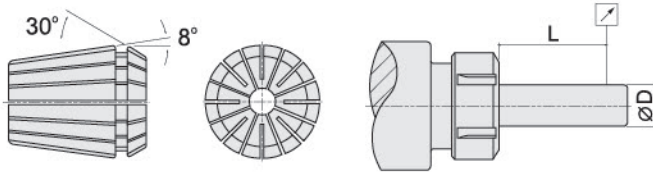
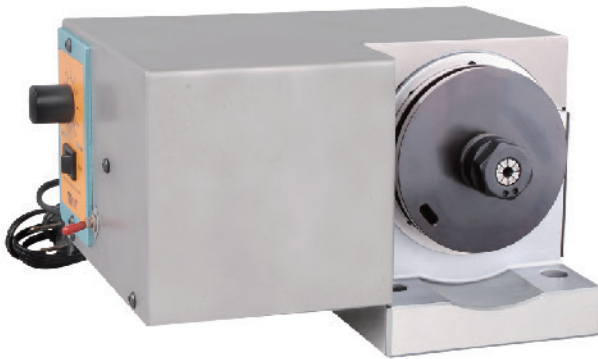
- PGA650精密級電動ER沖子成型器（防水型）具較佳之結構強度與耐用性，具防水特性。由馬達帶動，可避免手搖而產生疲勞現象。可在短時間內研磨沖子成圓形。
- 筒夾式沖子成型器附有ER筒夾，筒夾可伸縮使用範圍1mm。
- 筒夾夾持範圍：最小夾持 ϕ 2mm，最大夾持 ϕ 34mm。
- 本機可快速且穩固的夾持工件，加工時可更穩定的使用，且不必調整中心度即可使用。
- 採用高精度雙組軸承的主軸設計，以達到高精度及穩定性。並有傳統型數倍以上的壽命。
- 本機可接合替換各式的筒夾：如ER20、ER32、ER50等。
- 不銹鋼材質製作，不銹且易於保養。
- Is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- With ER collets, the flexible range of collet is 1mm.
- Capable collet clamping range: Min. ϕ 2mm, Max. ϕ 34mm.
- Can rapidly clamp the workpiece and achieving higher stability during processing, no need to adjust the center accuracy.
- Motorised function prevent human fatigue when processing.
- Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.



訂購編號 Order No.	型號 Model	筒夾規格 ER Collet Spec.	馬達 Motor	重量(kg) Weight
31160-05	PGA650-SER20×110V	2、4、6、8、10	110V / 60Hz 50~550 R.P.M	24.9
31160-10	PGA650-SER20×220V	2、4、6、8、10	220V / 50Hz 50~550 R.P.M	24.9
31160-15	PGA650-SER32×110V	4、8、12、16、20	110V / 60Hz 50~550 R.P.M	24.8
31160-20	PGA650-SER32×220V	4、8、12、16、20	220V / 50Hz 50~550 R.P.M	24.8
31160-25	PGA650-SER50×110V	12、18、20、30、34	110V / 60Hz 50~550 R.P.M	25.7
31160-30	PGA650-SER50×220V	12、18、20、30、34	220V / 50Hz 50~550 R.P.M	25.7



● PGB650



■ 規格:

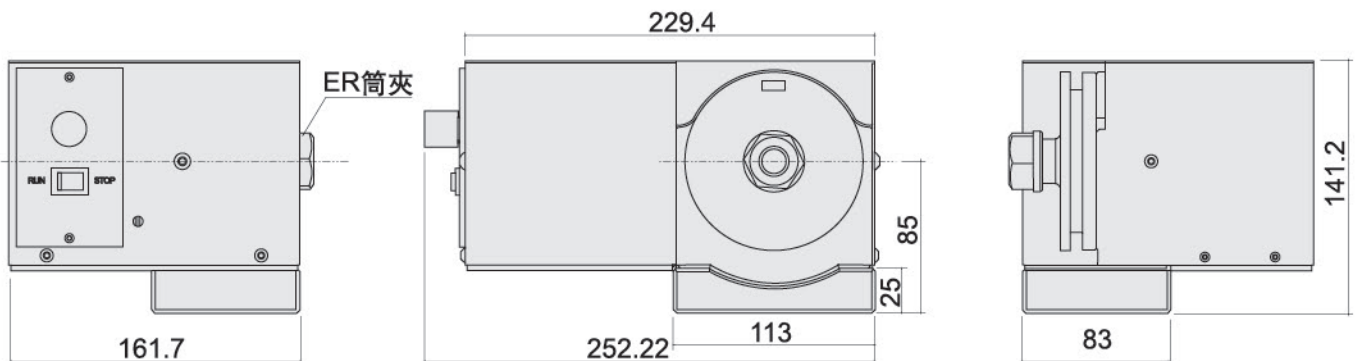
- 中心高度：85 ± 0.5mm
- 主座回轉精度：0.003mm

■ Specifications:

- Center height: 85 ± 0.5mm
- Repeat accuracy: within 0.003mm

L	D	精度 Accuracy
6	1.0-1.6	0.01
10	1.6-3.0	0.01
16	3.0-7.0	0.01
25	7.0-10.0	0.01
40	10.0-18.0	0.01
50	18.0-24.0	0.01
60	24.0-34.0	0.01

- PGB650筒夾ER電動沖子成型器具較佳之結構強度與耐用性。由馬達帶動，可避免手搖而產生疲勞現象。可在短時間內研磨沖子成圓形。
- 筒夾式沖子成型器附有ER筒夾，筒夾可伸縮使用範圍1mm。
- 筒夾夾持範圍：最小夾持 ϕ 2mm，最大夾持 ϕ 26mm。
- 本機可快速且穩固的夾持工件，加工時可更穩定的使用，且不必調整中心度即可使用。
- 採用高精度雙組軸承的主軸設計，以達到高精度及穩定性。並有傳統型數倍以上的壽命。
- 本機可接合替換各式的筒夾：如ER20、ER32、ER40等。
- Has stronger structure leading lasting durability.
- Motorised function prevent human fatigue when processing.
- With ER collets, the flexible range of collet is 1mm.
- Capable collet clamping range: Min. ϕ 2mm, Max. ϕ 26mm.
- Can rapidly clamp the workpiece and achieving higher stability during processing, no need to adjust the center accuracy.
- Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.
- This model is compatible with various ER collets.



訂購編號 Order No.	型號 Model	筒夾規格 ER Collet Spec.	馬達 Motor	重量(kg) Weight
31165-05	PGB650-SER20×110V	2、4、6、8、10	110V / 60Hz 50~550 R.P.M	17
31165-10	PGB650-SER20×220V	2、4、6、8、10	220V / 50Hz 50~550 R.P.M	17
31165-15	PGB650-SER32×110V	4、8、12、16、20	110V / 60Hz 50~550 R.P.M	18
31165-20	PGB650-SER32×220V	4、8、12、16、20	220V / 50Hz 50~550 R.P.M	18
31165-25	PGB650-SER40×110V	6、10、16、20、25	110V / 60Hz 50~550 R.P.M	19
31165-30	PGB650-SER40×220V	6、10、16、20、25	220V / 50Hz 50~550 R.P.M	19