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*A Specialized Manufacturer of Deep Hole Drilling Machine*

深孔加工機械專業製造廠



鋒鑽機械股份有限公司  
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經銷商：



鋒鑽機械股份有限公司

深孔加工機械專業製造廠

A Specialized Manufacturer of Deep Hole  
Drilling Machine



**CNC 深孔加工機**  
**CNC Deep Hole Drilling Machine**

槍鑽系列 Gun Drilling Series

砲鑽系列 BTA Drilling Series

ASCENDER MACHINERY INC.



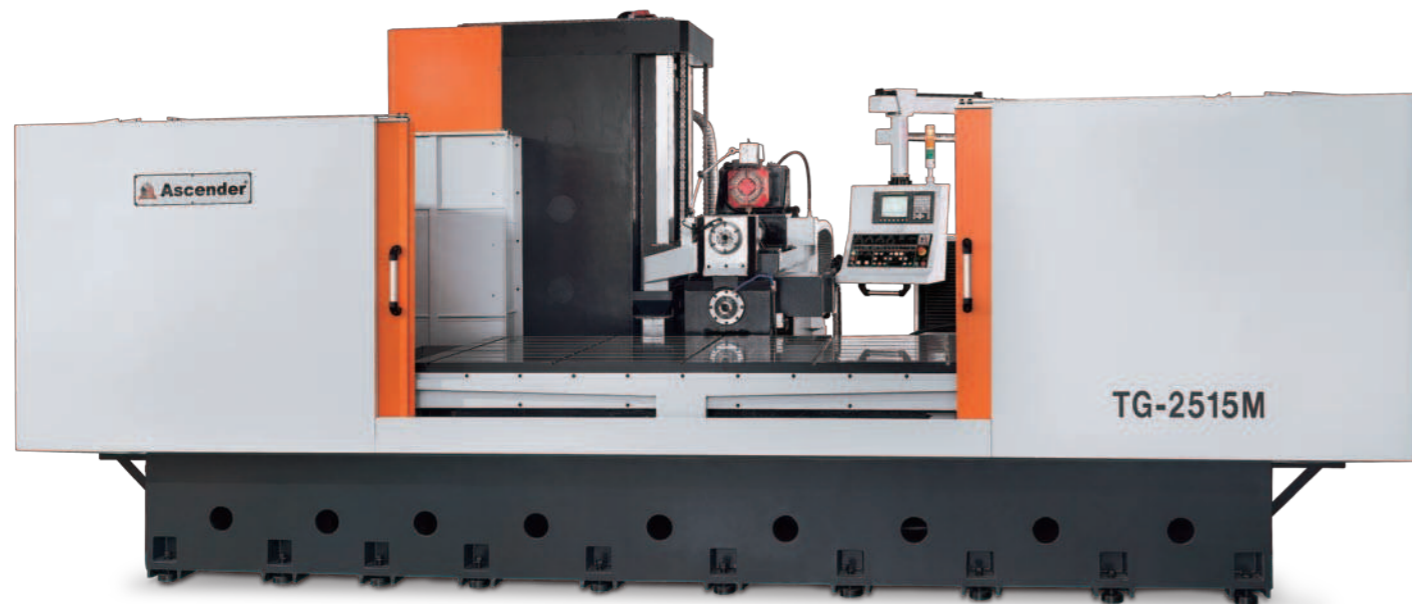
# Gun Drilling Series 槍鑽系列

## TG Series (Bed Type) TG 系列 - 床型

**TG-2015M 全罩 (選購)**  
Fully Enclosed Splash Guard (optional)



**TG-2515M 半罩 (選購)**  
Semi-Enclosed Splash Guard (optional)



TG - 20 15 M

銑頭裝置 Milling Head  
Y軸行程 Y-axis Travel  
X軸行程 X-axis Travel

TG 槍鑽系列 - 三軸位移孔加工  
TG Gun Drilling Series - Three Axes Feed Machining

**TG-2015M**



全機種標準配備：  
• 紙帶過濾機  
• 浸置式切削油溫冷卻機

Standard Equipment:  
• Paper filter  
• Oil Cooler

選購配件 / Optional Accessories :

銑頭 Milling Head		W軸進給 W-axis feed		
主軸錐度 Spindle Taper	BT-40	W軸馬達 W-axis Motor	AC servo 3.5kw	
主軸馬達 Spindle Motor	11kw	鈹金	Guard Cover	Full or half

- 可依客戶工件需求及加工條件訂製機械規格。
- Available to offer customized machine specifications according to customers' workpiece requirements and machining conditions.

# Gun Drilling Series 槍鑽系列

## TG Series (Bed Type) TG 系列 - 床型

# Gun Drilling Series 槍鑽系列

## TG Series (Knee Type) TG 系列 - 膝型



### SPECIFICATION

Model	TG-1000	TG-1500	TG-2010	TG-2015	TG-2510	TG-2515	
加工孔徑 Drilling dia. (mm)	ø3~30 (opt. ø4~40)						
加工深度 Drilling depth. (mm)	1,000		1,500 (opt. 2,000)				
工作台面積 Working table size (mm)	1,200 x 1,000	1,700 x 1,000	2,200 x 1500		2,700 x 1,500		
工作台承載能力 Table loading capacity (kg)	8,000		15,000				
T 形槽溝 T-shape slot (mm)	18 x 6 x 160		22 x 8 x 180				
X 軸行程 X - axis travel (mm)	1,000	1,500	2,000		2,500		
Y 軸行程 Y - axis travel (mm)	800		1,000	1,500	1,000	1,500	
Z 軸行程 Z - axis travel (mm)	1,650		2,200 (opt. 2,800)				
控制器 Controller	三菱 MITSUBISHI ( 選配: 發那科 Opt: FANUC )						
主軸轉速 Spindle speed (rpm)	10~8,000						
主軸馬達 Spindle motor (kW)	7.5						
X/Y/Z 軸馬達 X / Y / Z - axis motor (kW)	4.5 / 3.5 / 2		7 / 4.5 / 2				
快速進給 Rapid traverse rate	X, Y - axis 6,000 mm/min , Z-axis 10,000 mm/min						
切削油箱容量 Coolant tank capacity	1400 L						
高壓切削液馬達 Hi-pressure coolant pump	7.5 HP						
低壓切削液馬達 Low-pressure coolant pump	10 HP						
切削油冷卻機 Cooler capacity	7,500~9,000 kcal/hr						
鼓式紙帶過濾機 Drum type paper filter	200 L/min						
機械重量 New weight (kgs)	12,000	14,000	20,000	23,000	25,000	28,000	
佔地面積 Required space (mm)	(長L)	5,000	5,500	6,500	6,500	7,000	7,000
	(寬W)	4,000	4,000	5,500	5,500	5,500	5,500
	(高H)	2,950	2,950	3,300	3,800	3,300	3,800

小型工件、少量生產中深孔加工通用機型  
A model suitable for moderately deep hole machining for small parts with small lot production.

### TG-600



### SPECIFICATION

Model	TG-600
加工孔徑 Drilling dia.	ø3~25 mm
加工深度 Drilling depth.	600 mm
工作台面積 Working table size	600 x 900 mm
工作台承載能力 Table loading capacity	500 kg
T 形槽溝 T-shape slot	18 x 5 x 110 mm
X 軸行程 X - axis travel	600 mm
Y 軸行程 Y - axis travel	350 mm
Z 軸行程 Z - axis travel	1,150 mm
控制器 Controller	三菱 MITSUBISHI ( 選配: 發那科 Opt: FANUC )
主軸轉速 Spindle speed	8,000 rpm
主軸馬達 Spindle motor	5.5 kW
X/Y/Z 軸馬達 X / Y / Z - axis motor	2.0 / 3.0 / 1.5 kW
快速進給 Rapid traverse rate	X, Y - axis 6,000 mm/min , Z-axis 10,000 mm/min
切削油箱容量 Coolant tank capacity	1,000 L
切削液馬達 Coolant pump	15 HP
切削油冷卻機 Cooler capacity	7,500~9,000 kcal/hr
鼓式紙帶過濾機 Drum type paper filter	200 L/min
機械重量 New weight	7,850 kgs
佔地面積 (長x寬x高) Required space (LxWxH)	4,000 x 3,650 x 2,665 mm

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# Gun Drilling Series 槍鑽系列

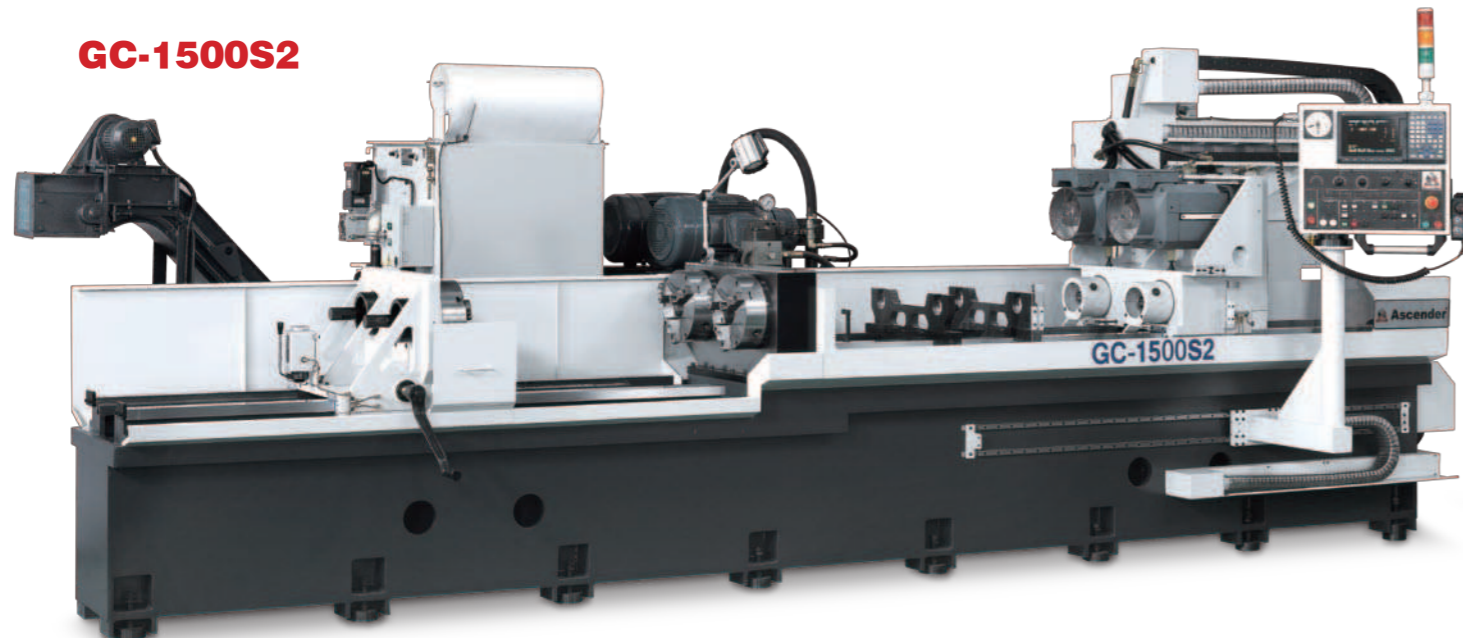
## GC Series (Center Hole) GC 系列 - 中心孔

- 高效率單軸、雙軸、4軸式槍鑽深孔加工機。
  - 適合於中心孔加工之應用。
  - 適用於模具配件、車輛零件、液壓元件...等各式圓棒類工件加工。
- High efficiency single spindle, double spindles and 4 spindles gun drilling machine.
  - Suitable for center hole machining.
  - Suitable for various cylindrical parts machining, such as mold accessories, automotive parts and hydraulic parts, etc.

**GC-2000S**



**GC-1500S2**



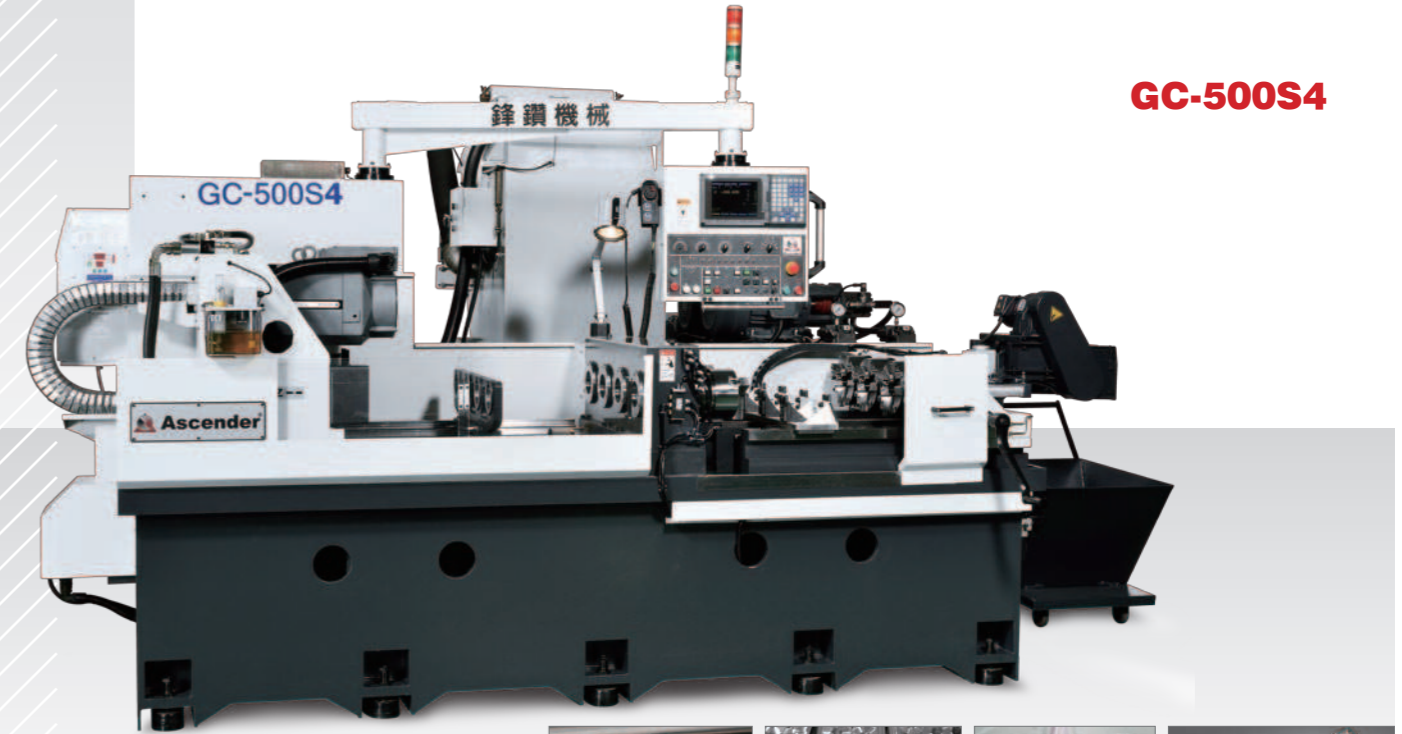
**GC - 500 S4 D**

D: 雙轉 D: Double rotation

S: 單軸 S2: 雙軸 S4: 四軸  
S: Single spindle S2: Double spindles S4: Four spindles

加工深度: 500/1000/1500/2000 mm  
Machining depth: 500/1000/1500/2000 mm

GC 槍鑽系列 - 中心孔加工  
GC Gun Drilling Series - Center Hole Machining



**GC-500S4**



### SPECIFICATION

Model	GC-500S4	GC-1000S2	GC-1000S2D	GC-1500S2	GC-1500S2D	GC-2000S	GC-2000SD
加工孔徑 Drilling dia.	ø3~25 mm	ø3~30 mm (Opt. ø4~40 mm)					
加工深度 Drilling depth	500 mm	1,000 mm		1,500 mm		2,000 mm	
Z軸行程 Z-axis travel	1,200 mm	1,600 mm		2,200 mm		2,800 mm	
控制系統 Controller	三菱 MITSUBISHI ( 選配: 發那科 Opt: FANUC )						
主軸轉速 Spindle speed	10~8,000 rpm						
主軸馬達 Spindle motor	7.5 kw						
Z軸馬達 Z-axis motor	3.5 kw					2.0 kw	

全機種標準配備:

- 紙帶過濾機
- 浸置式切削油溫冷卻機

Standard Equipment:

- Paper filter
- Oil Cooler

- 可依客戶工件需求及加工條件訂製機械規格。鑽孔徑ø2~ø45 mm
- Available to offer customized machine specifications according to customers' workpiece requirements and machining conditions. Drilling diameter ø2~ø45 mm.
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# Gun Drilling Accessories (optional)

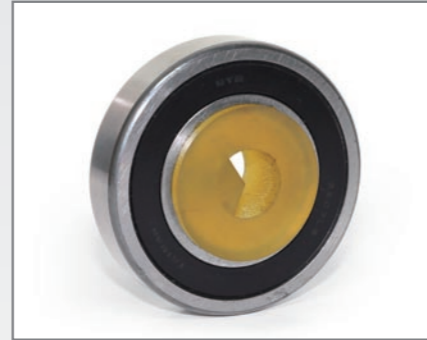
## 槍鑽系列配件 (選配)



中心架導套  
STEADY REST GUIDE BUSH

SPECIFICATION:

- $\phi 3 \sim 7.9$  mm with bearing 6202
- $\phi 8 \sim 17.5$  mm with bearing 6205
- $\phi 17.6 \sim 26.5$  mm with bearing 6207
- $\phi 26.6 \sim 40$  mm with bearing 6209



前支撐導套  
FRONT GUIDE BUSH

SPECIFICATION:

- $\phi 3 \sim 5$  mm with bearing 628
- $\phi 5.1 \sim 7.9$  mm with bearing 6202
- $\phi 8 \sim 17.5$  mm with bearing 6205
- $\phi 17.6 \sim 26.5$  mm with bearing 6207
- $\phi 26.6 \sim 40$  mm with bearing 6209



刀導套  
GUIDE BUSH

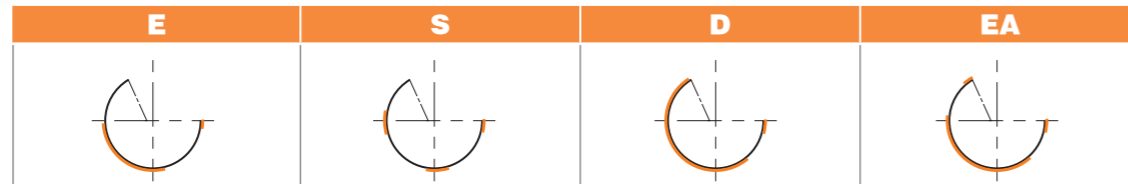
SPECIFICATION:

- $\phi 3 \sim 30$  mm
- $\phi 31 \sim 40$  mm

## Gun Drilling Tool Type 槍鑽刀具型式:



- |   |  |  |  |
|---|--|--|--|
| <ul style="list-style-type: none"> <li>• 適用於所有材料</li> <li>• Suitable for all materials</li> </ul> | <ul style="list-style-type: none"> <li>• 不鏽鋼材料</li> <li>• 難加工材料</li> <li>• Stainless steel</li> <li>• Hard-to-cut materials</li> </ul> | <ul style="list-style-type: none"> <li>• 鋁</li> <li>• 高尺寸精度場合</li> <li>• Aluminum</li> <li>• High accuracy required</li> </ul> | <ul style="list-style-type: none"> <li>• 鋼、鑄鐵、及軟材料</li> <li>• Steel, cast iron and soft materials</li> </ul> |
|---|--|--|--|



- |   |   |   |   |
|---|---|---|---|
| <ul style="list-style-type: none"> <li>• 所有材料和塑料</li> <li>• 推薦用於高速鑽</li> <li>• All materials and plastics</li> <li>• Recommended for high speed drilling</li> </ul> | <ul style="list-style-type: none"> <li>• 鋼</li> <li>• 高精度場合</li> <li>• 完好的表面質量</li> <li>• 適合加工短孔</li> <li>• Steel</li> <li>• High accuracy required</li> <li>• Good surface finish</li> <li>• Short hole</li> </ul> | <ul style="list-style-type: none"> <li>• 鑄鐵及球墨鑄鐵</li> <li>• 鑄件零件高精度孔場合</li> <li>• Cast iron and ductile iron</li> <li>• High accuracy hole machining for cast iron parts</li> </ul> | <ul style="list-style-type: none"> <li>• 交叉孔加工- 鋼和鋁</li> <li>• 從斜面鑽入及鑽出</li> <li>• Cross-hole machining for steel and aluminum</li> <li>• Bevel surface drilling in and out.</li> </ul> |
|---|---|---|---|



## Drilling Tool Grinder

### 槍鑽磨刀頭



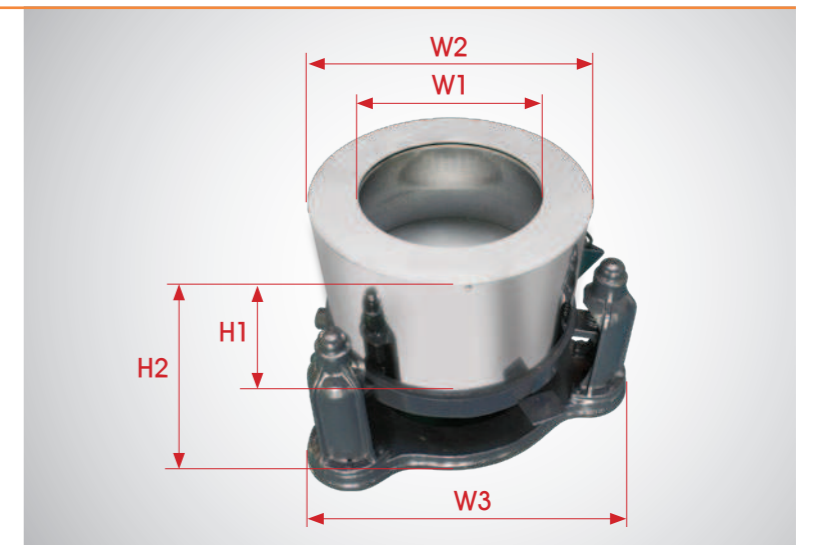
- 底座為選購附件
- Stand is an optional equipment.



		Unit: 60 Hz
鑽頭研磨尺寸	Grinding drill size	$\phi 2 \sim 32$ mm, $\phi 6 \sim 45$ mm
電機功率	Motor	0.25 kw
砂輪尺寸	Grinding wheel size	$\phi 125$ mm(5")
砂輪轉速	Grinding wheel speed	3450 rpm
重量	Weight	160 kg
外形尺寸	Machine dimensions	720 x 610 x 880 mm

## De-Oiling Machine

### 脫油機



Model		HP-20	HP-22
寬度	Width	W1: $\phi 410$ mm W3: $\phi 1100$ mm	W1: $\phi 450$ mm W3: $\phi 1170$ mm
	馬力	Motor	1 HP / 1,000 R.P.M
容量	Capacity	23 L	28 L
皮帶	Belt	A52	A54

# BTA Drilling Series 砲鑽系列

## AMB Series AMB 系列

- 大孔徑加工系列機種。
- 最大加工孔徑：ø250 mm
- 本系列提供 500~6000 mm 加工深度。

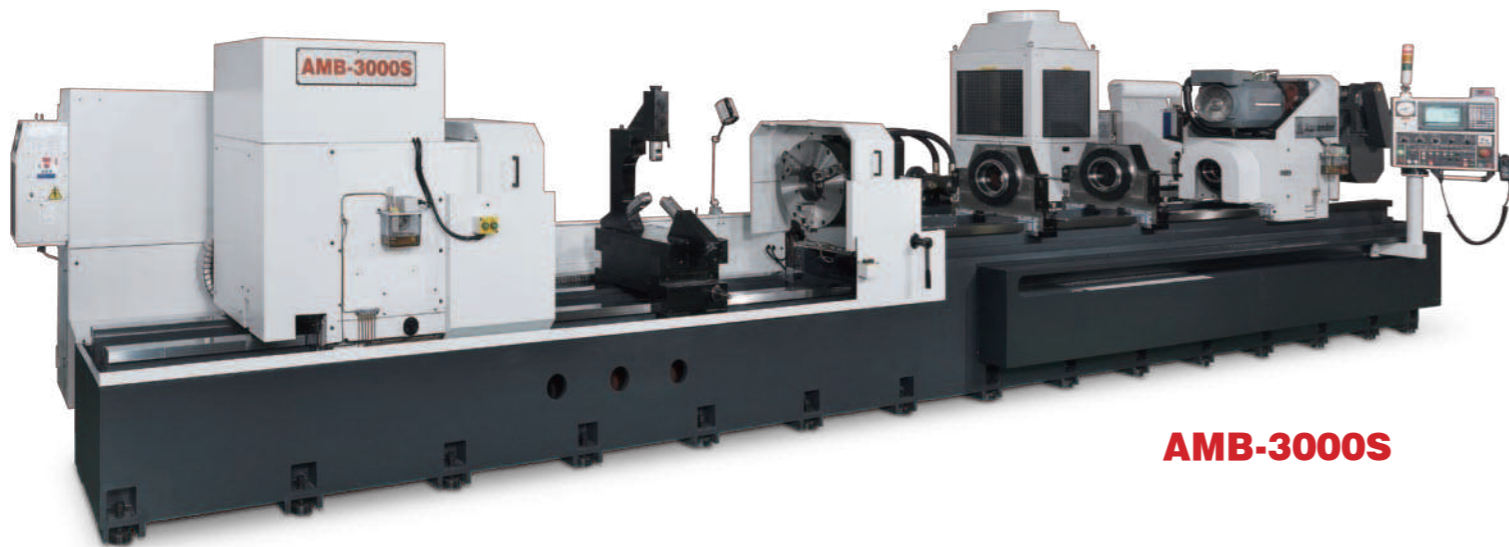
### 適用加工行業

- 石油探勘零件
- 電力能源工業
- 鋼鐵材料加工
- 航太工業
- 油壓設備零件
- 國防工業
- 造船工業零件
- 汽車零件

- Large Hole processing machines
- Max. machining diameter : ø250 mm
- Drilling depth : 500 ~ 6000 mm

### Suitable for processing industry :

- Exploration parts
- Electrical energy industry
- Steel processing
- Aerospace industry
- Hydraulic equipment parts
- Defense industry
- Shipbuilding industrial parts
- Auto parts



**AMB-3000S**



實體鑽  
Solid drilling



實體鑽  
Solid drilling



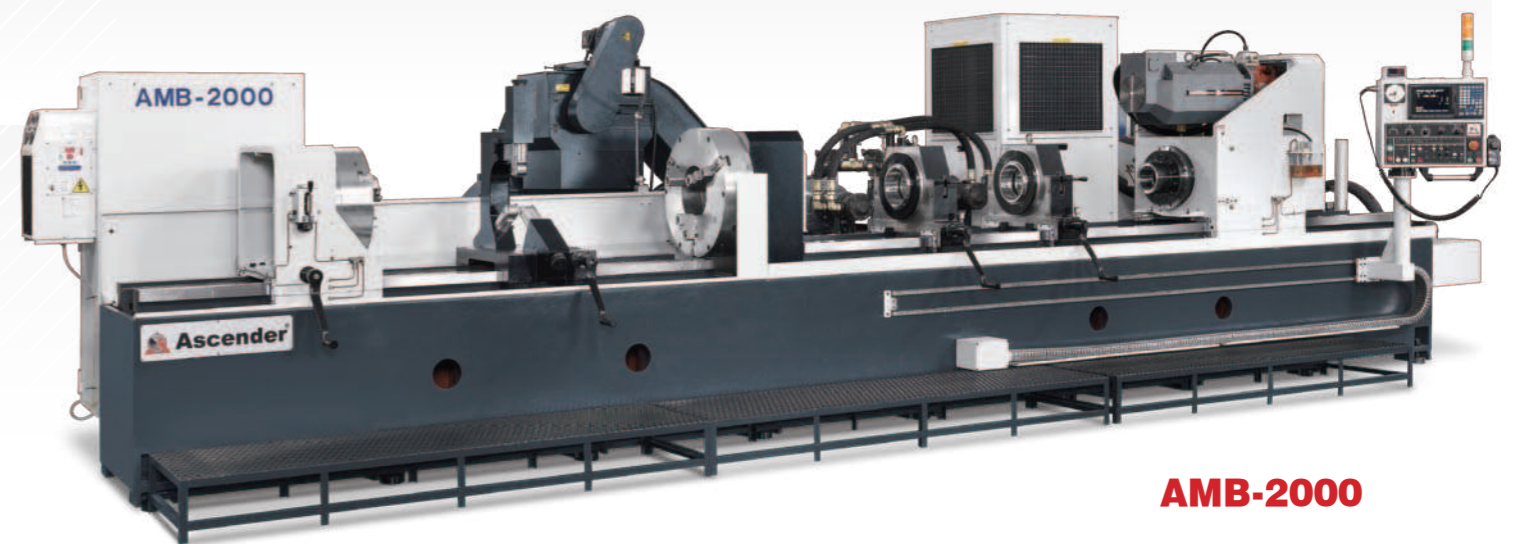
擴孔鑽  
Counterboring  
drilling



留芯鑽  
Trepanning  
drilling



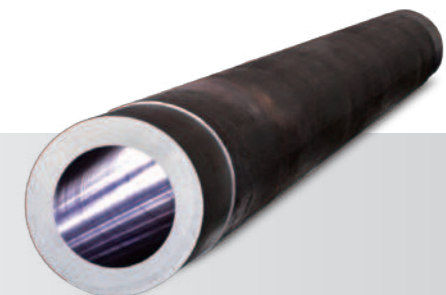
**AMB-500S2**



**AMB-2000**



O.D.120 mm BTA 刀具  
O.D.120 mm BTA Tool



I.D.120 mm 工件樣品  
I.D.120 mm Workpiece Sample

### 全機種標準配備：

- 紙帶過濾機
- 浸置式切削油溫冷卻機

### Standard Equipment:

- Paper filter
- Oil Cooler

# BTA Series Accessories (optional)

## BTA 系列配件 (選配)

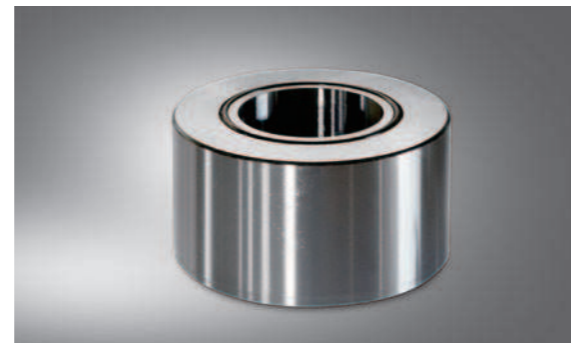
# Trepanning Machines (Slant Structure Design)

## 留芯鑽 (斜背式機體設計)

選購配件/ Optional Accessories :



前支撐導套 Front Guide Bush



刀導套 Tools Guide Bush



刀管夾具 Clamp Power Lock



中心架筒夾 Steady Rest Collet

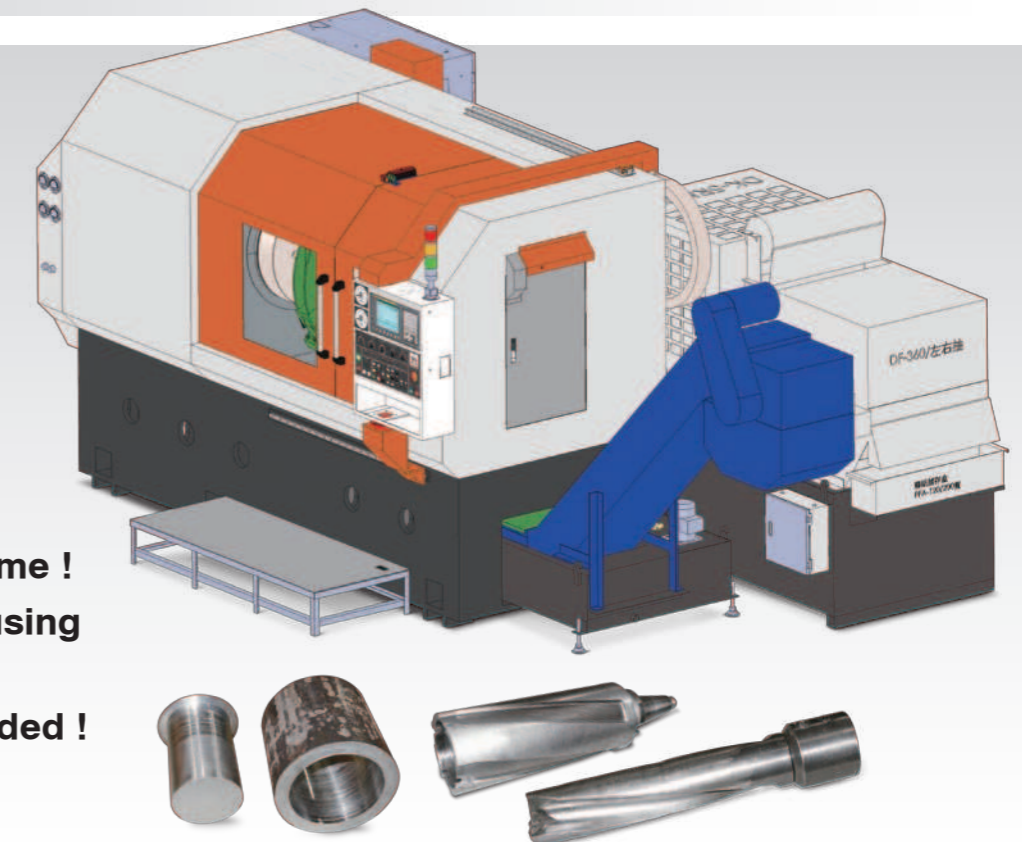
### SPECIFICATION

Model	AMB-500S2	AMB-1000	AMB-2000	AMB-3000S
加工孔徑 Drilling dia.	ø20~50 mm	ø30~120 mm		ø30~150 mm
加工深度 Drilling depth	500 mm	1,000 mm	2,000 mm	3,000 mm
控制系統 Controller	三菱 MITSUBISHI (選配: 發那科 Opt: FANUC)			
刀具主軸馬達 Tool spindle motor	18 kw	37.5 kw	37.5 kw	45 kw
刀具主軸轉速 Tool spindle speed	10~1,500 rpm	10~1,200 rpm		
工件主軸馬達 Workpiece spindle motor	-	-	-	26 kw
Z軸馬達 Z-axis motor	4.5 kw	7.0 kw		

- 可依客戶工件需求及加工條件訂製機械規格。鑽孔徑最大ø250 mm
- Available to offer customized machine specifications according to customers' workpiece requirements and machining conditions. Maximum drilling diameter ø250 mm.
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縮短加工時間！  
提高材料再利用率！  
創造高附加價值！

Shorten Machining Time !  
Increase Material Reusing Rate !  
Create High Value Added !



### SPECIFICATION

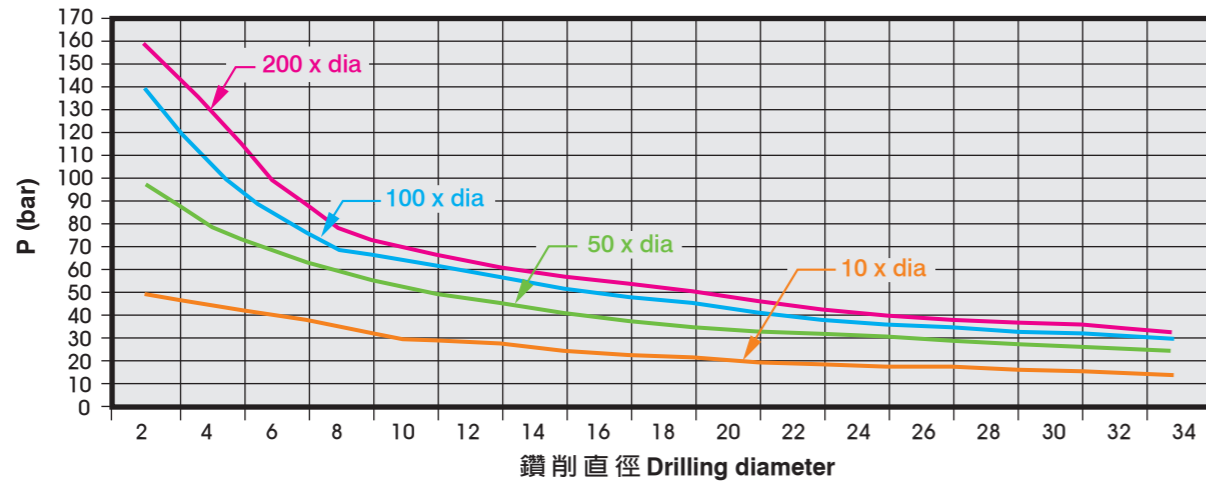
Model	AMT-600
實體鑽 Diameter (Blind hole)	ø150 mm (Max.)
留芯鑽 Diameter (Core-stay / Trepanning)	ø60~ø300 mm
鑽孔最大深度(單邊) Depth (Unilateral)	300 mm
工件最大夾持徑 Max. workpiece holding	ø450 mm
油壓夾頭 3-jaw solid power chuck	18"
控制系統 Controller	三菱 MITSUBISHI (選配: 發那科 Opt: FANUC)
主軸轉速 Spindle speed	50~600 rpm
主軸錐度 Spindle taper	BT-50
主軸馬達 Spindle motor	37 kw
Z軸最大行程 Tavel of Z-axes	620 mm
Z軸馬達 Motor of Z-axes	7.0 kw
切削液馬達 Coolant pump	15 HP
泵浦流出量 Pump output	150 L/min
最大壓力 Max. pressure	10 kg/cm <sup>2</sup>
切削主油箱容量 Coolant tank	1000 Liter
排屑副油箱容量 Coolant tank of chip conveyor	350 Liter
鼓式紙帶過濾機 Drum type paper filter	200 Liter/min
切削液冷卻機 Cooler capacity	7500~9000 kcal/hr
外觀尺寸 Machine dimensions	5500 x 3300 x 2200 mm

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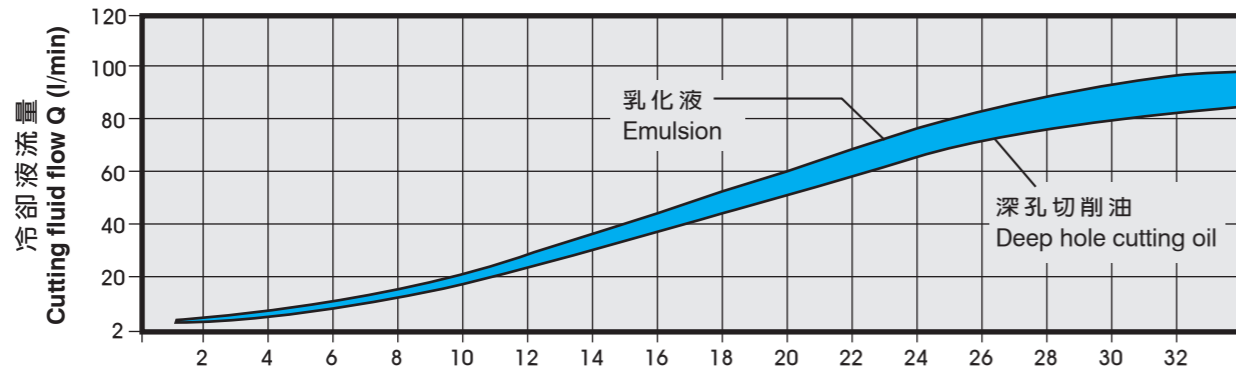
# Technical Information 技術資料

## Gun Drilling Series 槍鑽系列

切削液壓力推薦表 / Table of Recommended Cutting Fluid Pressure :  
 使用深孔切削油時不同鑽孔深度條件下冷卻液壓力推薦表  
 A table of recommended coolant pressure for various drilling depths when deep hole cutting oil is used.



切削液流量推薦表 / Table of Recommended Cutting Fluid Flow :



切削材料，切削速度推薦表 / Table of recommended cutting speeds for cutting materials:

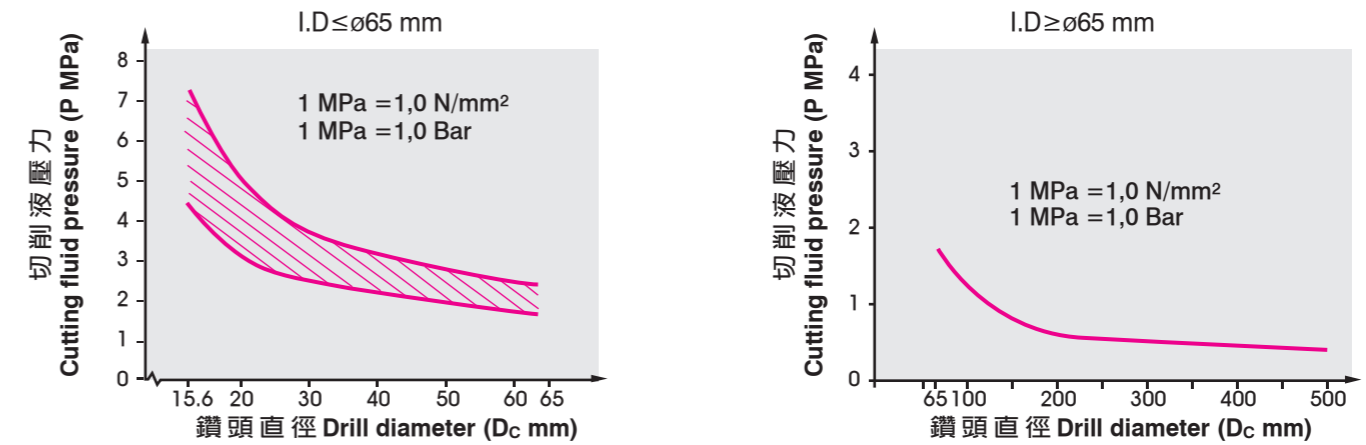
ISO / 材料 Material	布氏硬度 HB	切削速度 $V_c$ m/min
<b>鋼 Steel</b>		
非合金 Unalloyed	非淬硬 Non-hardened 0.1~0.25% C	90~200
	非淬硬 Non-hardened 0.25~0.55% C	125~225
	非淬硬 Non-hardened 0.55~0.80% C	150~250
低合金 Low alloy	非淬硬 Non-hardened	150~260
	調質 Hardened and tempered	220~450
高合金 High alloy	退火 Annealed	150~250
	淬火工具鋼 Hardened tool steels	250~350
鑄鋼 Castings	非合金 Unalloyed	90~225
	低合金 Low alloy (合金元素 alloying elements < 5%)	150~250
<b>不鏽鋼 Stainless steel</b>		
軋制 / 鍛造 Rolled / forged	鐵素體，馬氏體 Ferritic, martensitic	150~270
	非淬硬 Non-hardened	
軋制 / 鍛造 Rolled / forged	奧氏體 Austenitic	150~275

# Technical Information 技術資料

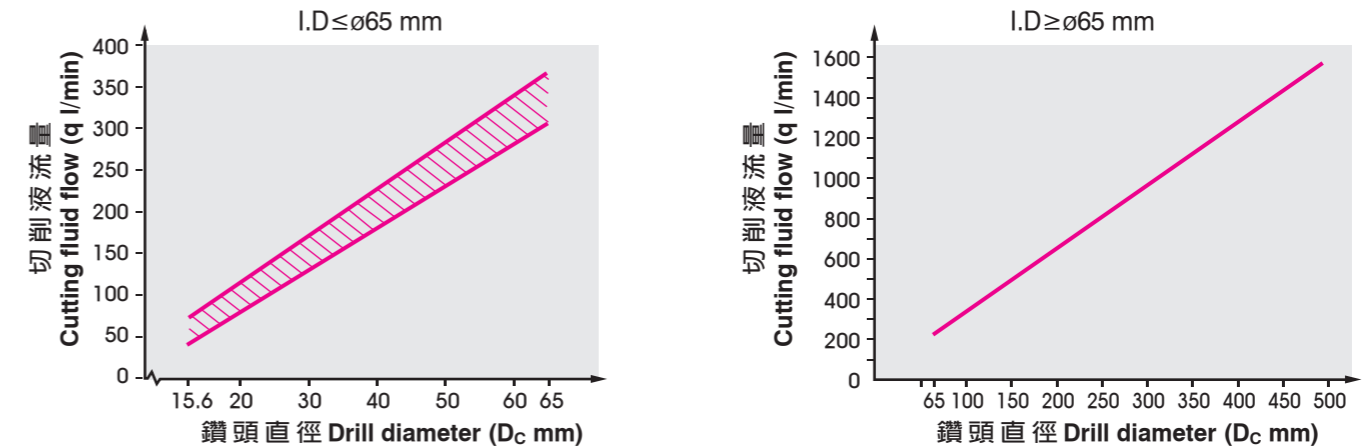
## BTA Drilling Series 砲鑽系列



切削液壓力推薦表 / Table of Recommended Cutting Fluid Pressure :



切削液流量推薦表 / Table of Recommended Cutting Fluid Flow :



切削材料，切削速度推薦表 / Table of recommended cutting speeds for cutting materials:

ISO / 材料 Material	布氏硬度 HB	切削速度 $V_c$ m/min
<b>鑄鐵 Cast iron</b>		
可鍛鑄鐵 Malleable	鐵素體 Ferritic / 珠光體 Pearlitic	110~145 / 150~270
灰口鑄鐵 Grey	低拉伸強度 Low tensile strength	150~220
	高拉伸強度 High tensile strength	200~330
球墨鑄鐵 Nodular	鐵素體 Ferritic / 珠光體 Pearlitic	125~230 / 200~300
<b>有色金屬 Non ferrous metals</b>		
鋁合金 Aluminium alloys	鑄造非時效 Cast, non again	40~100
銅和銅合金 Copper and copper alloys	易切合金 Free cutting alloys Pb > 1%	70~160
	黃銅，加鉛青銅 Brass and leaded bronzes Pb ≤ 1%	50~200
<b>耐熱優質合金 Heat resistans super alloys</b>		
鐵基 Iron base	退火或固溶處理 Annealed or solution treated	180~230
鎳基 Nickel base	退火或固溶處理 Annealed or solution treated	140~300
鈷基 Cobalt base	退火或固溶處理 Annealed or solution treated	180~230
鈦 Titanium	$\alpha$ ，近 $\alpha$ 與 $\alpha + \beta$ 退火處理的 $\beta$ 合金 Alfa, near alfa and alfa+beta alloys annealed	Rm <sup>3</sup> 600~1100