



## PERFECT JET

TRAVELING COLUMN VERTICAL/HORIZONTAL MACHINE CENTER

VERTICAL MACHINE CENTER

DEEP HOLE DRILLING & BORING MACHINE

FLOOR TYPE BORING & MILLING MACHINE

CNC & CONVENTIONAL BED-TYPE MACHINE

DOUBLE COLUMNS MACHINING CENTER

CUSTOMIZED MACHINE



## PERFECT JET

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品正機械PJM

PING JENG MACHINERY INDUSTRY CO., LTD

深孔鉗鑽加工機

DEEP HOLE DRILLING (BORING) MACHINE

# Profile



*Mission: Sincerity Progress Harmony*

*Vision: Cultivate Good Karma in the business, Benefit All People*

## History of Timeline

1981~Ping Jeng Company starts in Taichung, Taiwan.  
Capital 2.1 million.Launch :RD-600&600BL

1982~As costumer needs to produce Bed Type Milling Machine:BM-2Vand Radial Drill Machine: CNC-RAMILL-VI.

1983~Launch: BM-3V&BM-4V ◦

1984~Launch:BM-3MV&BM-4MV ◦

1985~Launch:BM-3DS&4DS

1986~Launch:CNC-MGD-500&1000 ◦

1987~Launch:CNC-MGD-1015&1020

1988~Launch:CNC-MGD-1520&1525 , TRAK-3S(BM-22VDA)

1989~Launch:DH-1500&3000&6000. Cooperate with American well-known NC Company and entered the U.S. market with CNC Milling Machine successfully. Capital increasing to 19.8 million.

1990~Launch:CNC-MGD-613&813 , TRAK-5S(BM-24VDA)

1991~Launch:CNC-MGD-816&820

1992~Launch:CNC-MGD-1016&1020 , TRAK-2S(BM-21VCA)

1993~Launch:CNC-51-VI/GA/GF(BM-1687).  
Expand European market & start to develop Box Ways machining centers. CE -TUV of Germany Authentication approved for CNC Milling Machines. Capital increasing to 30 million.

1994~Launch:CNC-61-VI/GA/GD(BM-2087)

1995~Launch:CNC-71-VI/GA/GD(BM-2587) , CNC-81-VI/GA/GD(BM-3087)

1996~Launch:MCV-64BT

1997~MCV-85B&85G

1998~MCV-100B&100G

1999~Launch:MCV-168G&168B.All plants destroyed by 921 earthquake and almost forced to close down the business; after financing and capital increasing to 68 million, and enable to reconstruct the plants.

2000~Launch:MCV-86&116B. Merge a machinery company and acquire related technical staffs and some outstanding European agents.

1 Develop Linear Guide Way machine center.

2001~Launch:MCV-127B &147B&147G

2002~Launch:MB-4R372 -4axes ROUTING. & MCV-M8 & M6

2003~Launch:CNC-24MA(740) CNC-34/36/46MB (1050-1350)·MCV-M10.

Attend EMO and international exhibitions actively to expand global market.

2004~Launch:CNC-12ME(QCM) , MCV-M11. CE-TUV of Germany Authentication approved for all machine tools and successfully expanded Turkey and East Europe.

2005~ Launch:MB-1207/1210· MCV-M5. As Europe market need to R&D the Moving Column machining centers serial. New CIS & Logo – PERFECT JET & implement ERP management and target management.

2006~Launch:MHD-2678 , DH-3100 , MCV-M7

2007~Launch:MV-107P&107U· MV-64P&64U  
Italy well-known machinery dealer ask to be the exclusive agent for Moving Column serial and sign up 10 machines per year quota.

2008~Launch:MV-86P&86U, MB-1220.

2009~Launch:MCV-2010G, MV-308. R&D Submicron high precision machining center, and joint program of Ministry of Economic Affairs.

2010~Launch:MV-308-5X, MCV-188G.



As European Auto parts and Aero parts market needs, to develop 5-axis swiveling head MV-308-5x and gain the Patent.



2011~Launch:MH-1500D, MH-800P, MCV-435 v . MCV-435 v is launched in TIMTOS Exhibition and wins Grand Award and IENA in Germany invention competition for Grand Champion Award also. Capital increasing to 168 million.

2012~Launch:MH-1213, MH-500P, MH-630P, MCV-2510B/G

2013~Launch:BM-1620, CNC-GD-4axes, CNC-GD-6axes, CNC-GD-8axes

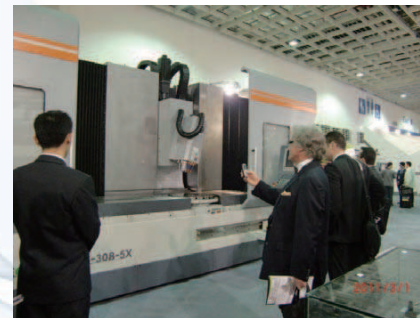
All machines are developed in-house. We have an outstanding R&D team who is dedicated to researching and developing new machines many years with expertise. Using AUTOCAN R14 software and AUTODESK3D/INVENTOR SERIES.

## COMPANY SCOPE:

Land Area:30000m<sup>2</sup>·Factory Area:16000 m<sup>2</sup> , Office Area:22000 m<sup>2</sup> ,Capital increasing to 168 million.

Perfect World, Perfect Jet, Perfect Efficiency:

Creating job opportunity and supporting educational constitution are the main principles of Ping Jeng. To build a better society, Ping Jeng keeps doing its best to benefit the community for now and the future.



## Patent



## Geographic Location 地理位置 全視圖



# DEEP HOLE DRILLING (BORING) MACHINE

深孔鏜加工機



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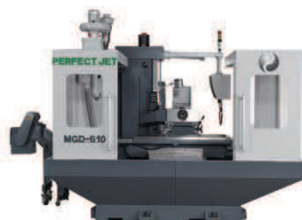
**Designed and Built with Excellent Quality, Efficiency and Accuracy**



DH-6000SC



DH-3100SC



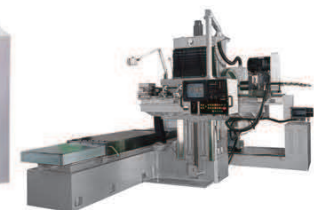
MGD-610



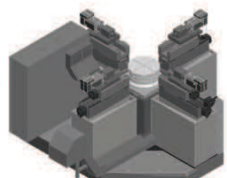
MGD-610L



MGD-1525 (全罩)



MGD-1525 (裸機)



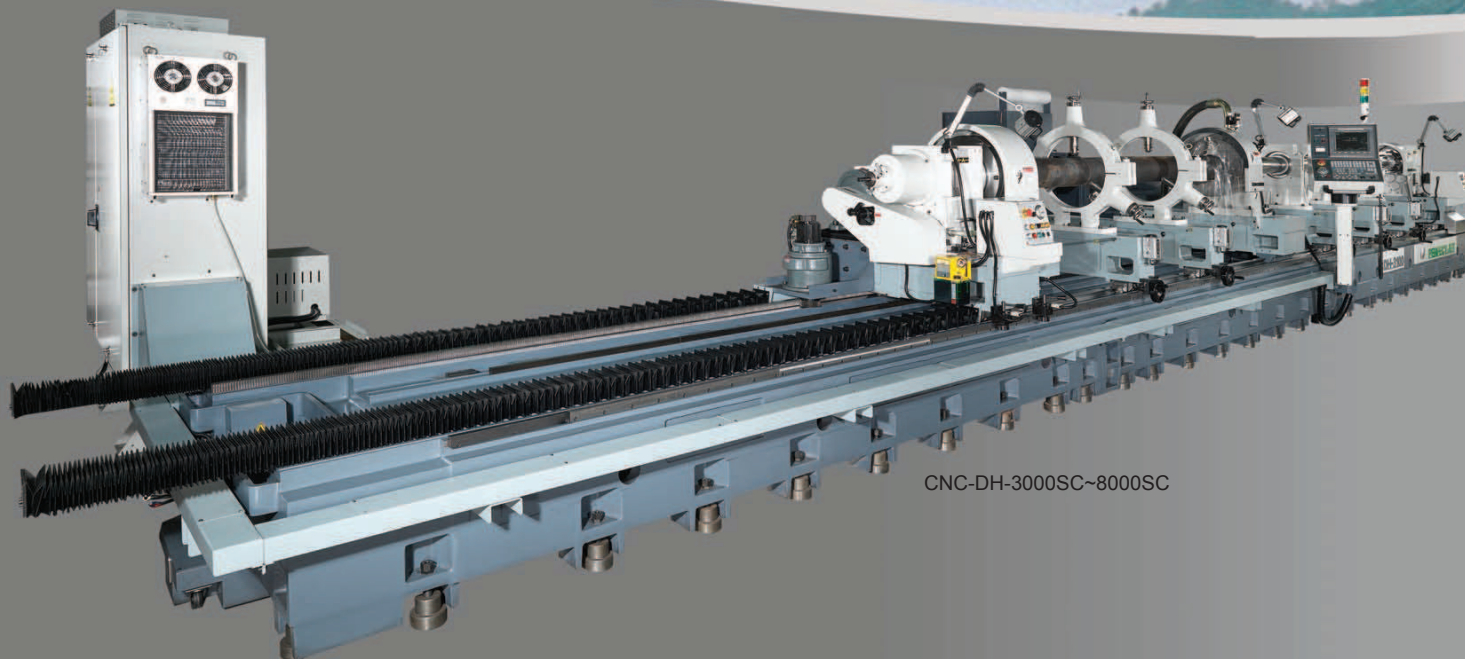
PGD-4X 4軸

# DEEP HOLE DRILLING (BORING) MACHINE

深孔鏜鑽加工機



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CNC-DH-3000SC~8000SC



CNC-DH-3100SC~8100SC

刀具軸：齒輪模數6.5  
Main spindle: gear modulus  
高速  
High range 300-1200rpm  
低速  
Low range 60-300rpm  
馬力：  
Spindle power:  
60HP-100HP-200HP



Modulus

## SPECIFICATIONS: 規格3100SC/6000SC

|                            | MODEL: MGD                   | Unit    | DH-3100SC                 | DH-6000SC |
|----------------------------|------------------------------|---------|---------------------------|-----------|
| Tool<br>刀具<br>Travel<br>行程 | Drilling depth               | mm      | 3000                      | 6000      |
|                            | Working piece length         | mm      | 6000                      |           |
|                            | Spindle nose to way/swiving  | mm      | 900/1300                  |           |
|                            | Base way                     | mm      | 1400                      |           |
|                            | Z way sapn (Ball screw)      | mm      | 1150/863                  |           |
|                            | Counter rotary chuck with    |         | 840                       |           |
| Spindle<br>主軸              | Counter rotary working piece |         | 16(OP.6-18)Inverter       |           |
|                            | Spindle taper tooling        |         | BTA                       |           |
|                            | Spindle Transmission         |         | GEAR Hi/Low               |           |
|                            | Spindle speed                | rpm     | 60-1000(OP.1250) Inverter |           |
| Controller<br>控制器          | CNC controller               |         | PC Controller             |           |
|                            | Spindle motor                | KW      | 45(OP.75,150)             |           |
|                            | Z motor 1:4 gear box         | KW      | 5                         |           |
|                            | Counter rotary chuck         | m       | 600X2 (OP.800X2)          |           |
|                            | working axis motor           | kw      | 3.75                      |           |
| Feed<br>進給                 | working piece weight         | KG      | 10000                     |           |
|                            | Rapid feed rate Z            | m/min   | 10                        |           |
|                            | Cutting feed rate            | m/min   | 0.5-5                     |           |
| Capacity<br>加工能力           | Min. input increment         | mm      | 0.01                      |           |
|                            | Max. drilling dia.           | mm      | φ38-φ250(OP. UP)          |           |
|                            | Max. tool weight             | KG      | 2000                      |           |
|                            | Max. tool length             | mm      | 5017                      | 8017      |
| Other<br>其他                | High pressure pump           | KW      | 20X2                      |           |
|                            | High pressure (BAR)          | kg/cm2  | 5-80                      |           |
|                            | High pressure Oil delivery   | l/min   | 210-840                   |           |
|                            | Oil tank                     | L       | 2000LX4=4000L+4000L       |           |
|                            | Lubrication capacity         | l/w     | 2L/105WX2                 | 2L/105WX1 |
|                            | Air conditioner              | watt/hr | 250/200CHR                |           |
|                            | Pneumatic unit               | kg/cm2  | 6                         |           |
|                            | Power                        | KVA     | 150                       |           |
| Dimension<br>尺寸            | N.W./G.W. (Approximate)      | Ton     | 36/40                     | 50/55     |
|                            | Floor space (LxWxH)          | M       | 17X7X2.5                  | 20X7X2.5  |

Specifications subject to change without notice. 規格、設計及機械物理等變更，恕不另行通知

# DEEP HOLE DRILLING (BORING) MACHINE

深孔鏜鉗加工機

CNC-DH-3000SC~8000SC



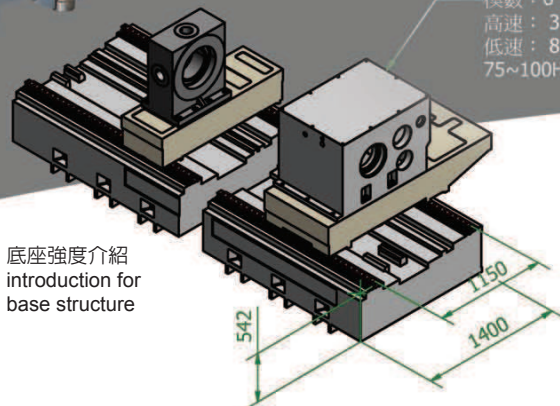
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刀桿支撐座省力輕便操作只要0.3KG之力量可移動  
Tools holder can be easily moved by 0.3KG force

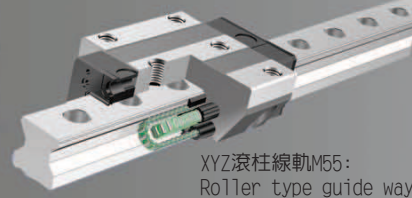


工件軸快速移動是用排齒與伺服馬達  
Using bevel gear and servo motor  
to move jaw holder rapidly

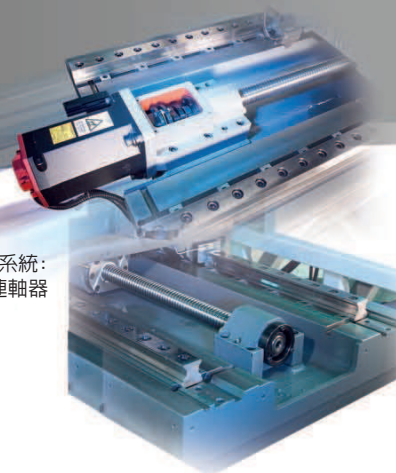


底座強度介紹  
introduction for  
base structure

模數: 6  
高速: 335~1300 rpm  
低速: 85~335 rpm  
75~100HP



XYZ滾柱線軌M55:  
Roller type guide way



強勁的進給系統:  
Z軸採鋼性連軸器  
直接轉動



Standard Accessories: 標準配件

1. Direct drive Z 直結傳動
2. M.P.G.. Z 手動輪
3. Chip auger+cart 捲屑機+鐵屑車
4. Gew spindle 1,000/1,250rpm 齒輪主軸轉速
5. Paper filter & magnetic separator 紙帶、磁鐵過濾機
6. Wool filter 羊毛氈過濾器
7. Automatic lubrication system 自動潤滑系統
8. Coolant system 冷卻系統(2件)
9. Air gun 風槍
10. Halogen working lamp & alarm light 三色警示燈、工作燈
11. RS-232 interface+10M cable RS-232 介面+10米傳輸線
12. Air conditioner 冷氣機(電器箱)
13. M30 auto power off 自動斷電系統
14. Leveling pads & adjusting screws 水平墊塊與水平螺栓
15. Tool box with adjusting tools 工具箱與調整工具
16. Operating manual & part list 操作手冊與零件表

Optional Accessories: 選購配件

1. Upgrade spindle motor 加大刀具馬達
2. Gundrills 鑽頭
3. Start bush 主軸導套
4. Whip guide 擋油黑膠套
5. Moving whip guide 支撐白膠套
6. Drill grinder 磨刀機
7. Oil cooler 油溫冷凍機
8. Voltage regulator 穩壓器
9. Transformer 變壓器

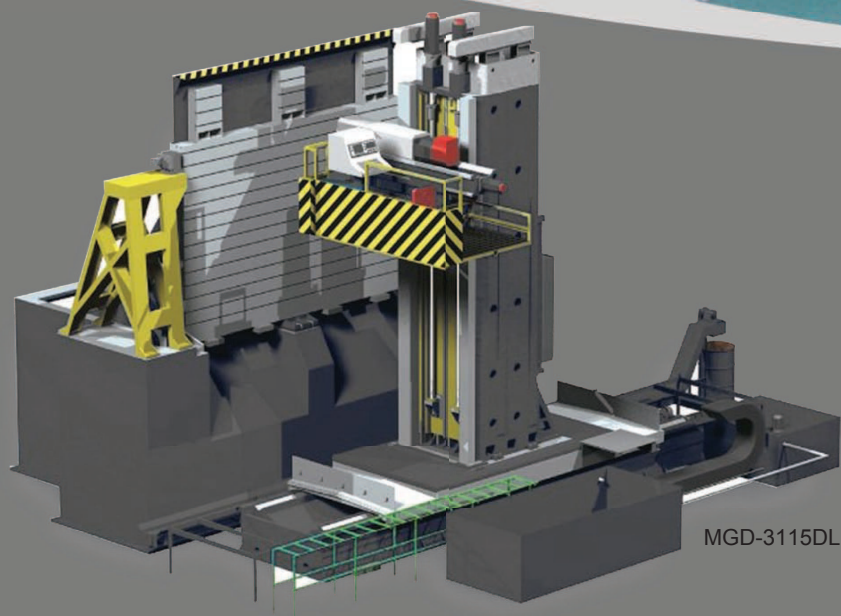
# DEEP HOLE DRILLING (BORING) MACHINE

深孔鏜鉗加工機

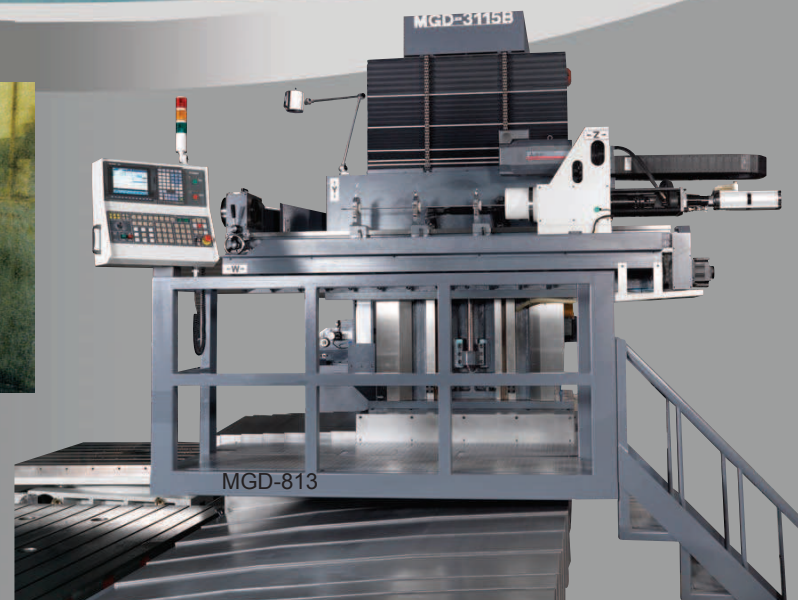
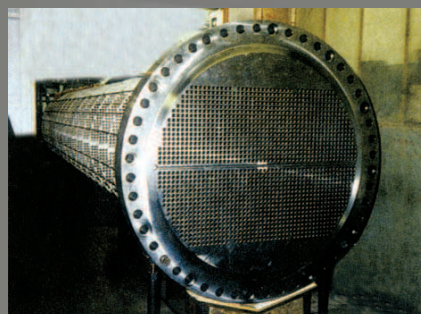
MGD-3115B/DL系列



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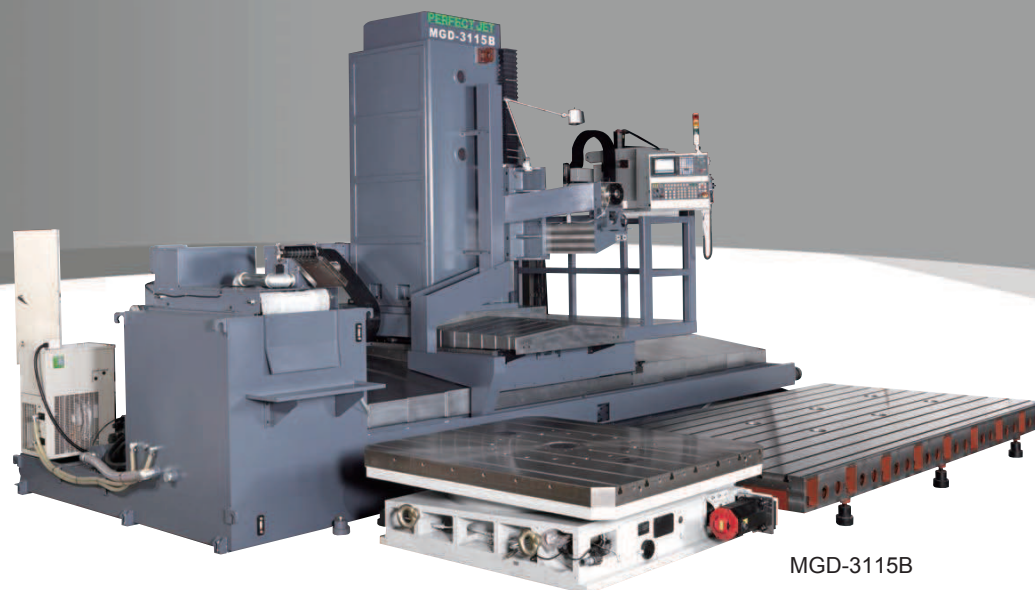
MGD-3115DL



MGD-813



MGD-3115B



MGD-3115B

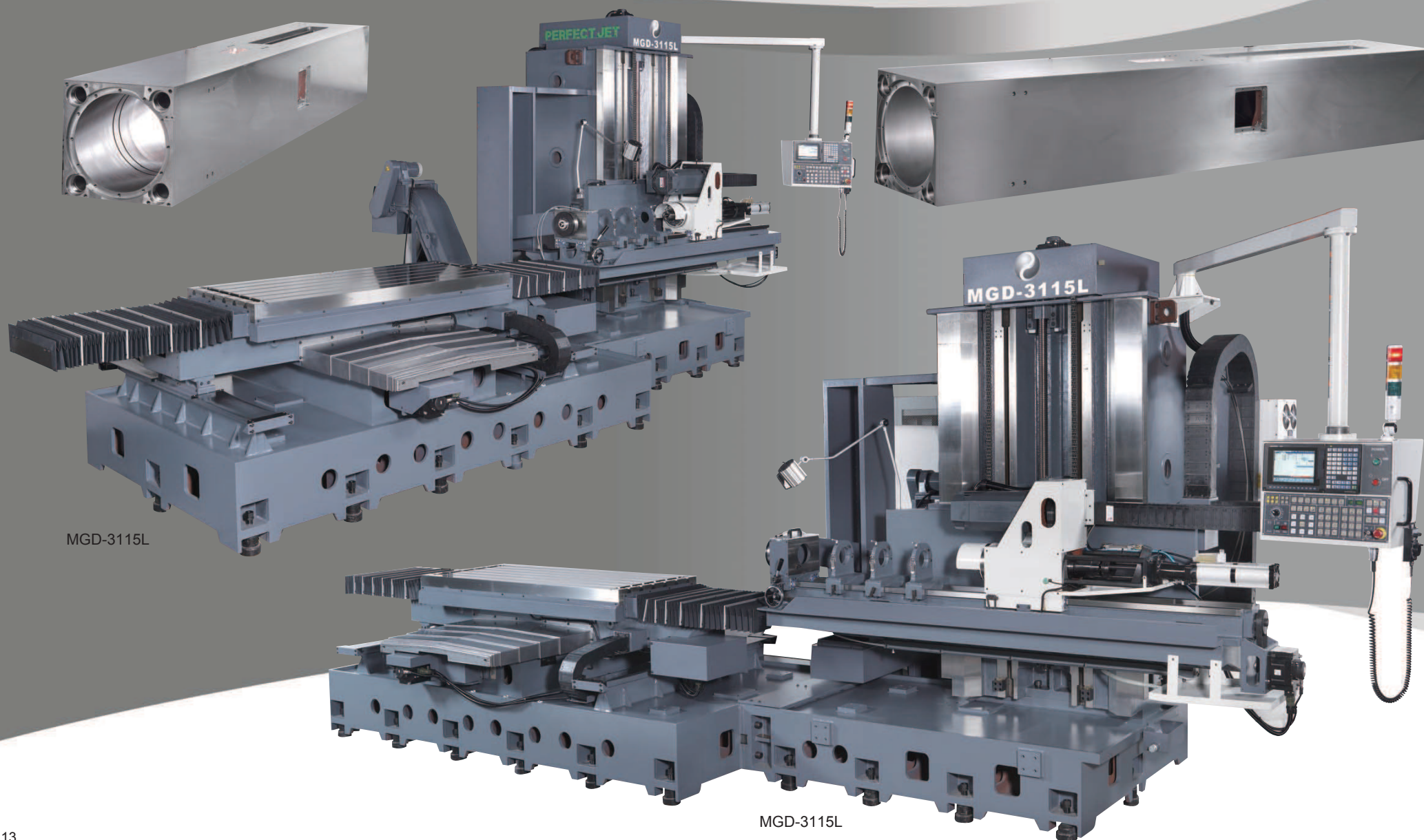
# DEEP HOLE DRILLING (BORING) MACHINE

深孔鏜鉗加工機

MGD-3115 L/G系列



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MGD-3115L

MGD-3115L

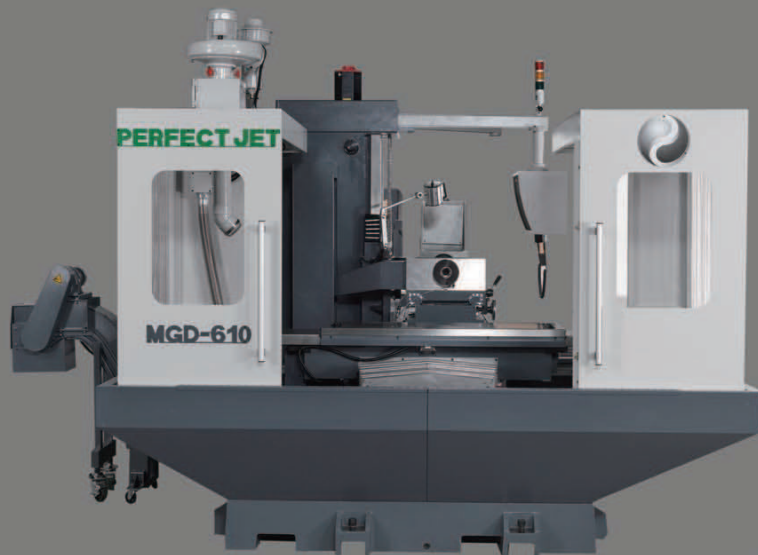
# DEEP HOLE DRILLING (BORING) MACHINE

深孔鏜鉗加工機

MGD-610/1016



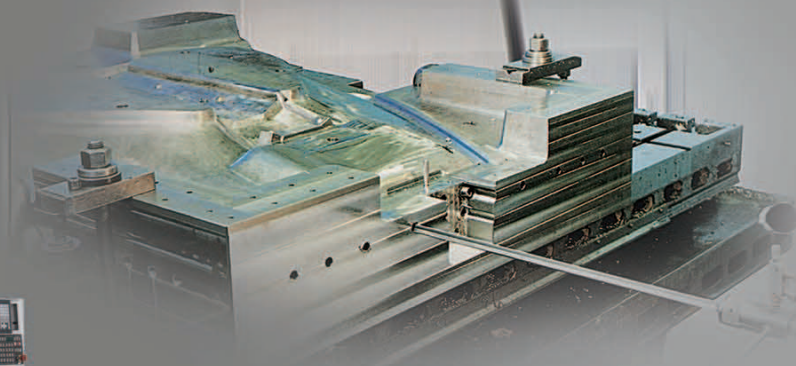
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MGD-610



MGD-610L



MGD-610



MGD-1016

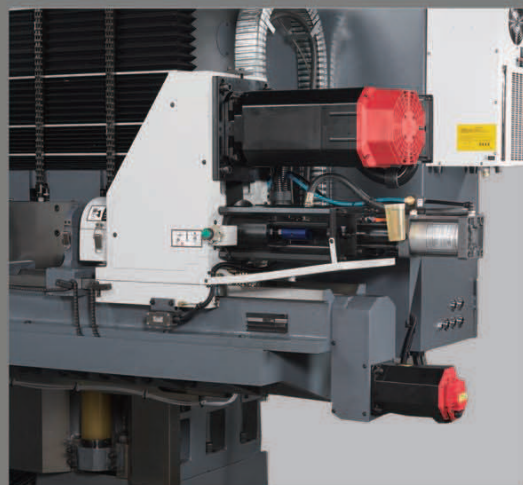
# DEEP HOLE DRILLING (BORING) MACHINE

## 深孔鏜加工機

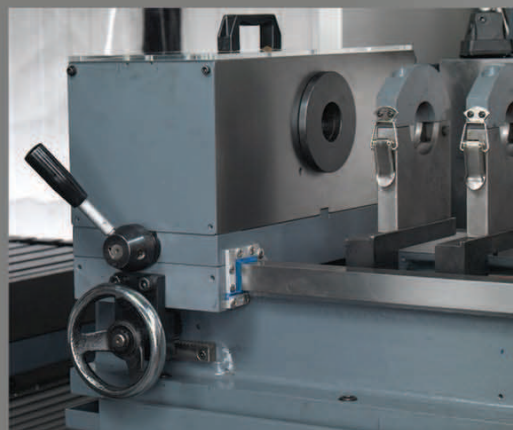
MGD-1528/1533/1520(L)系列



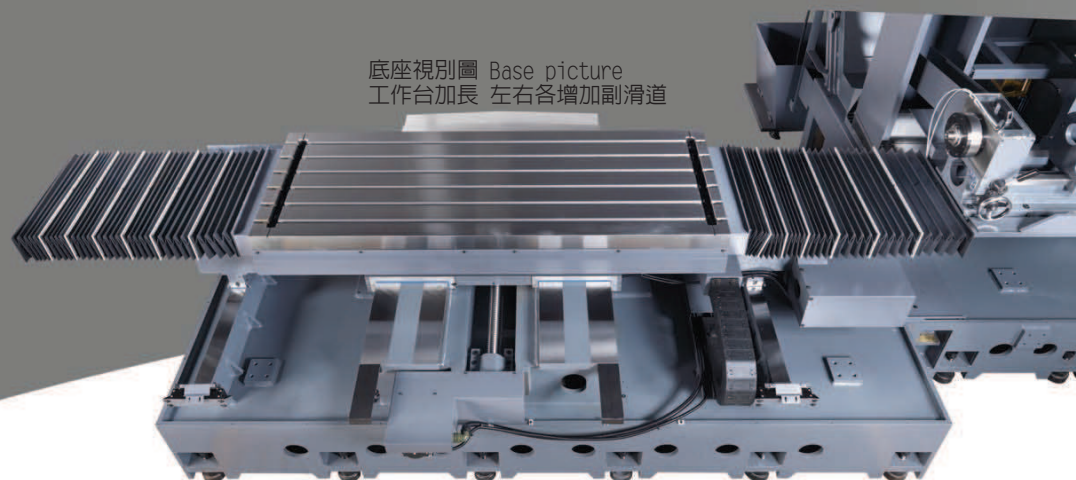
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主軸自動拉刀 Spindle power draw bar  
Z軸皮帶傳動 Z axis Belt drive

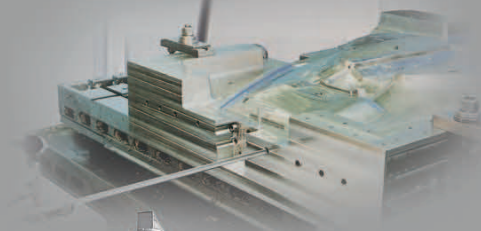


洩油座左右移動能防止之外洩  
Drain set can move left & right to prevent oil leaking



底座視別圖 Base picture  
工作台加長 左右各增加副滑道

MGD-1528/1533



MGD-1520/1520L

# DEEP HOLE DRILLING (BORING) MACHINE

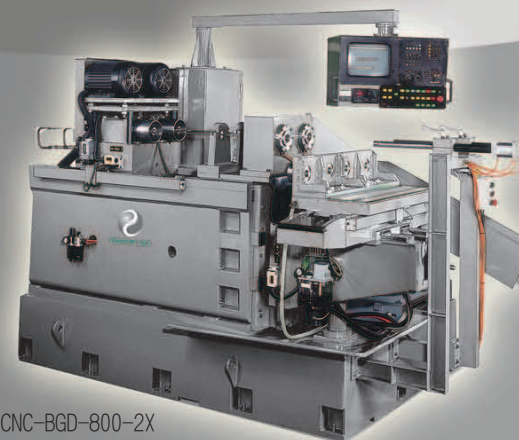
深孔鏜鑽加工機



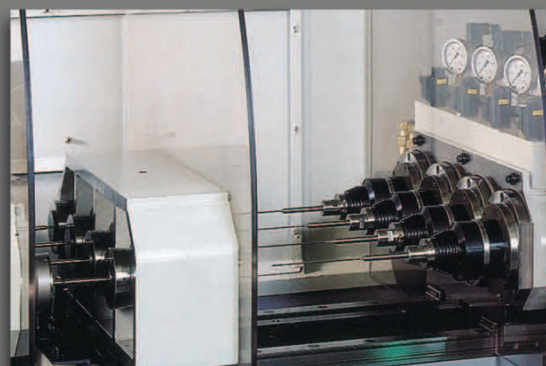
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CNC-BGD-300-6X



CNC-BGD-800-2X



4 axes

CNC-BGD-300-4X



CNC-BGD-300-6X

| SPECIFICATIONS 規格 CNC-800-2X/300-6X |                              |                    |                     |                |
|-------------------------------------|------------------------------|--------------------|---------------------|----------------|
|                                     | MODEL-MGD                    | Unit               | BGD-800-2X          | BGD-300-6X     |
| Tool<br>刀具<br>Travel<br>行程          | Drilling depth               | mm                 | 800                 | 300            |
|                                     | Working piece length         | mm                 | 800                 | 300            |
|                                     | Working piece $\phi$         | mm                 | 1000                | 2000           |
|                                     | Spring C-C <sup>3</sup>      | mm                 | 250 $\pm$ 0.1       | 180 $\pm$ 0.1  |
|                                     | Z way suport(W)              | mm                 | 800X300             | 300            |
| Spindle<br>主軸                       | C counter rotary chuck with  |                    | OP                  |                |
|                                     | Counter rotary working piece |                    | OP                  |                |
|                                     | Spindle taper tooling        |                    | DIN40:69871         |                |
|                                     | Spindle Transmission         |                    | BELT                |                |
| Controller<br>控制器                   | Spindle speed                | rpm                | 8000                |                |
|                                     | CNC controller               |                    | PC BASE             |                |
|                                     | Spindle motor                | KW                 | 5.5X1               | 5.5X3          |
|                                     | Z/X motor                    | KW                 | 1.5X2.5             | 3.0X3.0        |
|                                     | Counter rotary chuck         | m                  | $\phi$ 100-200      | $\phi$ 100-150 |
| Feed<br>進給                          | working piece                | kg                 | 2                   | 6              |
|                                     | working piece weight         | KG                 | 200                 | 300            |
|                                     | Rapid feed rate Z            | m/min              | 10                  | 12             |
|                                     | Cutting feed rate            | m/min              | 1-5                 |                |
| Magazine<br>刀庫                      | Min. input increment         | mm                 | 0.01                |                |
|                                     | Max. drilling dia.           | mm                 | $\phi$ 4- $\phi$ 16 |                |
|                                     | Max. tool length             | mm                 | 1000                | 600            |
|                                     | High pressure pump           | KW                 | 7.5X1               | 7.5X3          |
|                                     | High pressure (BAR)          | kg/cm <sup>2</sup> | 5-130               | 2-65           |
| Others<br>其它                        | High pressure Oil delivery   | l/min              | 5-70                |                |
|                                     | Oil tank                     | L                  | 600X2=1200          |                |
|                                     | Lubrication capacity         | l/hr               | 4/105               |                |
|                                     | Air conditioner/cool oil     | watt/hr            | 250/2000            |                |
|                                     | Pneumatic unit               | kg/cm <sup>2</sup> | 6                   |                |
| Dimension<br>尺寸                     | Power                        | KVA                | 20                  | 50             |
|                                     | N.W./G.W.(Approximate)       | Ton                | 8/10                | 5/6            |
|                                     | Floor space(LxWxH)           | M                  | 4X2.5X2.3           | 5X4.3X2.1      |

Specifications subject to change without notice 規格、設計及機械物理等變更，恕不另行通知

## Standard Accessories: 標準配件

1. Belt drive XY皮帶傳動 Direct drive Z 軸直結傳動
2. M.P.G.. XYZ 手動輪
3. Chip conveyor & cart 排屑機+鐵屑車
4. Belt Spindle 8,000/10,000rpm 皮帶主軸轉速
5. Paper filter & magnetic separator 紙帶、磁鐵過濾機
6. Wool filter 羊毛氈過濾器
7. Automatic lubrication system 自動潤滑系統
8. Coolant system 冷卻系統
9. Air gun 風槍
10. Halogen working lamp & alarm light 三色警示燈、工作燈
11. RS-232 interface+10M cable RS-232 介面+10米傳輸線
12. Air conditioner 冷氣機
13. M30 auto power off 自動斷電系統
14. Leveling pads & adjusting screws 水平墊塊與水平螺絲
15. Tool box with adjusting tools 工具箱與調整工具
16. Operating manual & part list 操作手冊與零件表

## Optional Accessories: 選購配件

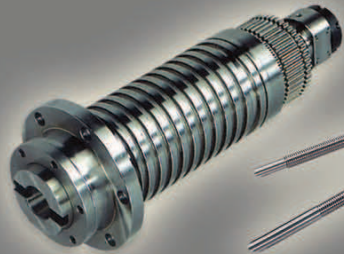
1. Upgrade spindle motor 加大刀具馬達
2. Gundrills  $\phi$ 4— $\phi$ 25( $\phi$ 32)mm 鑽頭
3. Start bush  $\phi$ 4— $\phi$ 25( $\phi$ 32)mm 主軸導套
4. Whip guide  $\phi$ 4— $\phi$ 25( $\phi$ 32)mm 擋油黑膠套
5. Moving whip guide  $\phi$ 4— $\phi$ 25( $\phi$ 32)mm 支撐白膠套
6. Drill grinder 磨刀機
7. Oil cooler 油溫冷凍機
8. Voltage regulator 穩壓器
9. Transformer 變壓器

# DEEP HOLE DRILLING (BORING) MACHINE

## 深孔鏜鑽加工機

### Standard Accessories

標準配備槍鑽MGD系列



Spindle 主軸8000/10000rpm



X/Y/Z/W ballscrew with double nuts 四軸鋼珠螺桿雙帽



Shank move left-right to prevent oil leaking  
洩油座左右移動能防止外屑



Chain type chip conveyor  
鍊條式排屑機



Equipped with high reliability  
lubrication pump and solenoid  
valves  
三點組合空壓空制器



Powerful wash down nozzles  
and air gun are conveniently  
built in 風槍水槍



Air conditioner on  
Electric cabinet  
電氣箱冷卻機



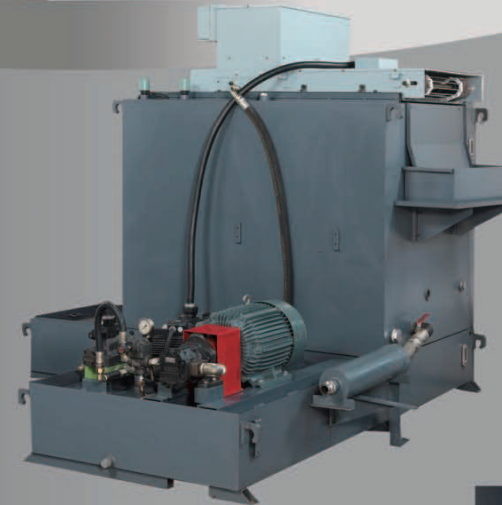
Dual vertical coolant pumps  
直立式泵浦

### Optional Accessories

選用配備



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High pressure pump 7.5kw  
高壓泵浦可提供馬力  
Pressure 0-130kg/cm<sup>2</sup>  
壓力0-130kg/cm<sup>2</sup> : Delivery 0-130kg/cm<sup>2</sup>  
流量5-70L/min

Coolant oil tank  
切削液油箱600x2=1200Liter



1. Magnetic separator 磁鐵過濾機 (0.02mm)  
2. Paper filter 紙帶過濾機 (0.02~0.005mm)



3. Wool filter 羊毛氈過濾機 (0.005mm)



Oil mist collector  
油霧回收機



Rotary table 0.001°  
旋轉工作台任一角度0.001

# DEEP HOLE DRILLING (BORING) MACHINE

## 深孔鏜鑽加工機



PERFECT JET

| SPECIFICATIONS:規格                                                    |                                 |        | MGD-610/1016/1528(L)  |      |                     |                   |                    |          | MGD-1520/1520L        |                     |                      | MGD-3115DL(B/L/G)   |                    |                   |
|----------------------------------------------------------------------|---------------------------------|--------|-----------------------|------|---------------------|-------------------|--------------------|----------|-----------------------|---------------------|----------------------|---------------------|--------------------|-------------------|
|                                                                      | MODEL:MGD                       | Unit   | 610                   | 610L | 1016                | 1016L             | 1528               | 1528L    | 1520                  | 1520L               | 3115DL               | 3115B               | 3115L              |                   |
| Travel<br>行程                                                         | X/Y/Z axis(W)                   | mm     | 1300X600X600(500)     |      | 1600X1000X1000(300) |                   | 2500X1000X1500X300 |          | 2000X1000X1500        | 2500X1000X1000(300) | 4x4x0.7x0.8m         | 3x1.0x1.5x0.7m      | 0.6x1.0x1.5x1.6m   |                   |
|                                                                      |                                 | mm     | 1300X600X800(500)     |      | 2000X1000X1000(300) |                   | 3000X1000X1500X300 |          |                       |                     |                      |                     |                    |                   |
|                                                                      | Spindle nose to table surface   | mm     | 0-650                 |      |                     | 50-1050           |                    |          | 100-1100              |                     | 50-4500              | 50-1050             | 110-1110           |                   |
|                                                                      | spindlecenter to column surface | mm     | 0-500                 |      |                     | 0-300             |                    |          |                       |                     | 0-700                |                     | 344                |                   |
|                                                                      | X/Y/Z way span ( W )            | mm     | 306X646X234(620)      |      |                     | 460X646X234(1000) |                    |          | 656x800x234           |                     | 856x800x234          | 1500x1500x650       | 1500x800x234x640   | 1000x1200x234x460 |
|                                                                      | Position/Repeatability accuracy | mm     | ± 0.01                |      |                     |                   |                    |          |                       |                     |                      |                     |                    |                   |
| Ball bar accuracy                                                    | mm                              | ≥ 0.01 |                       |      |                     |                   |                    |          |                       |                     |                      |                     |                    |                   |
| Spindle<br>主軸                                                        | Spindle taper                   |        | DIN40:69871 (OP BT50) |      |                     |                   |                    |          | DIN40:69871 (OP BT50) |                     | BT-50                | DIN50               | DIN50              |                   |
|                                                                      | Spindle driving                 |        | Belt 1:1(OP 1:1.25)   |      |                     |                   |                    |          | Belt 1:1 (OP 1:1.25)  |                     | GEAR                 | BELT 1:1(OP 1:1.25) | BELT 1:1(OP 1:1.5) |                   |
|                                                                      | Spindle speed                   | rpm    | 8000(OP10000)         |      |                     |                   |                    |          | 8000(OP.10000)        |                     | 6000                 | 8000(OP.10000)      | 8000(OP.5000)      |                   |
| Controller<br>控制器                                                    | CNC controller                  |        | As customer's choice  |      |                     |                   |                    |          | As customer's choice  |                     | As customer's choice |                     |                    |                   |
|                                                                      | Spindle motor                   | KW     | 5.5/7.5               |      | 7.5/11 (OP. 11/15)  |                   |                    |          | 11/15(op 15/18.5)     |                     | 30                   | 11/15(OP.15/18.5)   | 11/15(OP.15/18.5)  |                   |
|                                                                      | X/Y/Z /W motor                  | KW     | 2.0/3.5B/1.5/2.0      |      | 2.5/2.0B/2.0/3.0    |                   | 3.0/5.5B/2.5/3.5   |          | 7.0/6.0B/2.0          | 8.0/6.0B/2.0        | 9/4B+4B/4/4          | 9/9B/2/7            | 3/4B/2/3           |                   |
| Table<br>工作台                                                         | Table size(WxL)                 | mm     | 400X1500              |      | 700X1900            | 700X2300          | 700X2800           | 700X3300 | 1200X2300             | 1200X2800           | 4.5X3.0 m            | 4.2X2.1 m           | 1.9X0.7 m          |                   |
|                                                                      | T-slots(Width x No. x Pitch)    | mm     | 16X5X63               |      | 18X6X105            |                   |                    |          | 22X38X8               | 22X38X8             | 28X14X250            | 22X11X185           | 18x6x105           |                   |
|                                                                      | Table load                      | KG     | 1500                  |      | 4000                |                   | 8000               |          | 9000                  | 10000               | 45000                | 30,000              | 4,000              |                   |
| Feed<br>進給                                                           | Rapid feed rate X/Y/Z/W         | M/min  | 10/10/10/10           |      | 15/15/10/15         |                   |                    |          | 15                    |                     | 10                   | 15                  | 15/15/7.5/15       |                   |
|                                                                      | Cutting feed rate               | M/min  | 1-5                   |      |                     |                   |                    |          | 1-5                   |                     | 1-5                  |                     |                    |                   |
|                                                                      | Min. input increment            | mm     | 0.01                  |      |                     |                   |                    |          | 0.01                  |                     | 0.01                 |                     |                    |                   |
| Magazine<br>刀庫                                                       | Max. tool dia./tool adjacent    | mm     | φ 4.0~ φ 25(OP. φ 32) |      |                     |                   |                    |          | φ 4~ φ 25(OP φ 32)    |                     | φ 100                | φ 4- φ 25 ( φ 32 )  | φ 4- φ 25 ( φ 32 ) |                   |
|                                                                      | Max. tool weight DIN40          | KG     | 7 (OP.BT#50: 12)      |      |                     |                   |                    |          | 7 (OP BT#50 :12)      |                     | 12                   | 12                  | 12                 |                   |
|                                                                      | Max. tool length                | mm     | 1020                  | 1220 | 1530                |                   | 2150               |          | 2150                  | 1000                | 2150                 | 2150                |                    |                   |
|                                                                      | Pull stud                       | degree | 45                    |      |                     |                   |                    |          | 45                    |                     | 45                   |                     |                    |                   |
|                                                                      | Tool changing time              | sec    | 8                     |      |                     |                   |                    |          | 8                     |                     | 8                    |                     |                    |                   |
| Others<br>其它                                                         | High pressure pump Motor        | kg     | 10                    |      |                     |                   |                    |          | 10                    |                     | 10                   | 10                  | 10                 |                   |
|                                                                      | High pressure                   | kg/cm2 | 0-130                 |      |                     |                   |                    |          | 0-130                 |                     | 0-90                 | 0-130               | 0-130              |                   |
|                                                                      | Hight pressure Oil delivery     | l/min  | 5~70                  |      |                     |                   |                    |          | 5-70                  |                     | 5-125                | 5-70                | 5-70               |                   |
|                                                                      | Oil tank                        | L      | 600 x 2 = 1200        |      |                     |                   |                    |          | 600x2=1200            |                     | 2000x2=4000          | 600x2=1200          | 600+1200           |                   |
|                                                                      | Lubrication capacity            | l/w    | 4 / 80W               |      |                     |                   |                    |          | 4/80W                 |                     | 4/80                 |                     | 4+4L/80w           |                   |
|                                                                      | Air conditioner                 | wait   | 250                   |      |                     |                   |                    |          | 250                   |                     | 250                  |                     |                    |                   |
|                                                                      | Pneumatic unit                  | kg/cm2 | 6                     |      |                     |                   |                    |          | 6                     |                     | 6                    |                     |                    |                   |
|                                                                      | Power                           | KVA    | 35                    |      | 40                  |                   | 50                 |          | 50                    | 60                  | 75                   | 50                  | 50                 |                   |
| Dimension<br>尺寸                                                      | N.W./G.W.(Approximate)          | Ton    | 11/13                 |      | 13/15.5             |                   | 15/18              | 18/21    | 18/20                 | 20/22.5             | 136/145              | 36/40               |                    |                   |
|                                                                      | Floor space(LxWxH)              | M      | 4.5x3.5x3.5           |      | 6.0x4.5x3.5         |                   | 8.5x6.0x3.8        |          | 6.5/6.5/4.0           | 7.5/6.5/4.0         | 13/10/8              | 6/6/5               |                    |                   |
| Specifications subject to change without notice.規格、設計及機械物理等變更，恕不另行通知 |                                 |        |                       |      |                     |                   |                    |          |                       |                     |                      |                     |                    |                   |

### Standard Accessories: 標準配件

1. Belt drive XYZ(W) 皮帶傳動
2. M.P.G.. XYZ(W) 手動輪
3. Chip conveyor & cart 排屑機 + 鐵屑車
4. Belt Spindle 8,000/10,000rpm 皮帶主軸轉速
5. Paper filter & magnetic separator 紙帶、磁鐵過濾機
6. Wool filter 羊毛過濾器
7. Counter-weight 配重裝置
8. Automatic lubrication system 自動潤滑系統
9. Coolant system 冷卻系統
10. Air gun 風槍
11. Halogen working lamp & alarm light 三色警示燈、工作燈
12. RS-232 interface+10M cable RS-232 介面 +10米傳輸線
13. Air conditioner 電器箱冷氣機
14. M30 auto power off 自動斷電系統
15. Leveling pads & adjusting screws 水平墊塊與水平螺栓
16. Tool box with adjusting tools 工作箱與調整工具
17. Operating manual & part list 操作手冊與零件表
18. Tapping 攻牙

### Optional Accessories: 選購配件

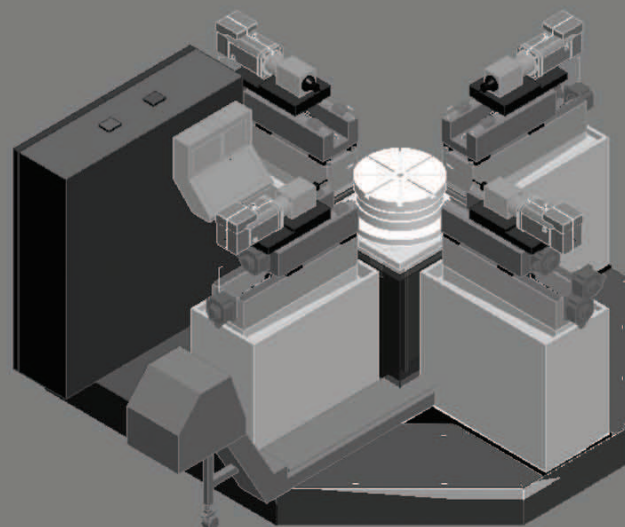
1. Fully splash guard & Pendant operation cabinet 全罩及懸吊式操作箱
2. Upgrade spindle motor 主軸馬達加大
3. Gundrills φ 4—φ 25(φ 32)mm 鑽頭
4. Start bush φ 4—φ 25(φ 32)mm 主軸導套
5. Whip guide φ 4—φ 25(φ 32)mm 擋油黑膠套
6. Moving whip guide φ 4—φ 25(φ 32)mm 支撐白膠套
7. Drill grinder 磨刀機
8. Oil cooler 油溫冷凍機
9. Voltage regulator 穩壓器
10. Transformer 變壓器

# DEEP HOLE DRILLING MACHINE

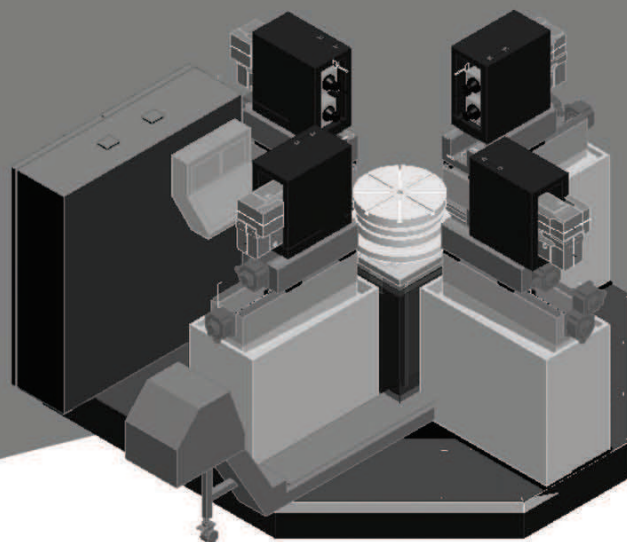
高速度、高精度深孔槍鑽



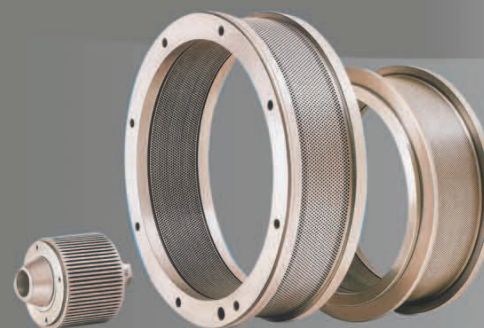
PERFECT JET



PGD-4X



PGD-8X



Pellet Die造粒網模



CNC36 倒角機

| SPECIFICATIONS: 規格 CNC-PGD-4X/8X |                             |         |               |               |
|----------------------------------|-----------------------------|---------|---------------|---------------|
|                                  | MODEL:MGD                   | Unit    | PGD-4X        | PGD-8X        |
| Tool<br>刀具<br>Travel<br>行程       | Drilling depth              | mm      | 400           | 400           |
|                                  | Working piece diameter      | mm      | φ 350- φ 1400 | φ 700- φ 1400 |
|                                  | Spindle nose to way/swiving | mm      | 400           | 400           |
|                                  | Base length                 | mm      | 3600          | 3600          |
|                                  | Z way sapn(W)               | mm      | 250x400       | Y:620 Z:470   |
|                                  | C ounter rotary chuck with  |         | φ 500         | φ 630         |
| Spindle<br>主軸                    | Counter rotary angle        |         | 任一角度±0.01°    |               |
|                                  | Spindle taper tooling       |         | ER-16         |               |
|                                  | Spindle Transmission        |         | Built-in      |               |
|                                  | Spindle speed               | rpm     | 2000-30000    |               |
| Controller<br>控制器                | CNC controller              |         | PC BASE       |               |
|                                  | Spindle motor               | KW      | 3.75          |               |
|                                  | Z /X /W                     | KW      | 4/2/2         |               |
|                                  | working piece weight        | KG      | 1000          |               |
| Feed<br>進給                       | Rapid feed rate Z           | m/min   | 10            |               |
|                                  | Cutting feed rate           | m/min   | 1-5           |               |
|                                  | Min. input increment        | mm      | 0.01          |               |
|                                  | Max. drilling dia.          | mm      | φ 1- φ 12     |               |
| Magazine<br>刀庫                   | Max. tool weight            | KG      | 0.5           |               |
|                                  | Max. tool length            | mm      | 150           |               |
|                                  | High pressure pump          | KW      | 7.5x2         |               |
|                                  | High pressure ( BAR )       | kg/cm2  | 5-150 / 2-75  |               |
| Others<br>其它                     | High pressure Oil delivery  | l/min   | 5-50          |               |
|                                  | Oil tank                    | L       | 600x2=1200    |               |
|                                  | Lubrication capacity        | l/w     | 4/250x1       |               |
|                                  | Air conditioner/cool oil    | watt/hr | 250/2000      |               |
| Dimension<br>尺寸                  | Pneumatic unit              | kg/cm2  | 6             |               |
|                                  | Power                       | KVA     | 50            |               |
|                                  | N.W./G.W.(Approximate)      | Ton     | 13/15         |               |
|                                  | Floor space(LxWxD)          | M       | 2.5x3.0x1.8   |               |

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## Optional Accessories: 選購配件

1. Upgrade spindle motor 加大刀具馬達
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## DEEP HOLE DRILLING SYSTEMS OUR PROGRAMM OF DELIVERY 深孔鑽需求條件

### Deep Hole Drilling Units

鑽孔內徑的大小 (槍鑽)

Boring range:  $\phi 1.0 \sim \phi 3.0$ ;  $\phi 3.0 \sim \phi 3.8$  鑽孔範圍

Boring depth: 30.....120.....320.....3000mm 鑽孔深度

### Deep Hole Drilling Machines

UNITIZED CONSTRUCTION FOR

Boring range:  $\phi 38 \sim \phi 100$  鑽孔範圍, 在  $\phi 38$ mm 以上的內孔含鑽孔範圍 (砲鑽)

Boring depth: 300.....2000.....3000.....6000mm 鑽孔深度

MOVEMENT RANGES(X...Y...Z...U...V)

### Deep Hole Drilling Machines

SINGLE-SPINDLE DEEP HOLE DRILLING MACHINES WITH LONG BEDS

Boring range:  $\phi 38 \sim \phi 250$  鑽孔範圍,  $\phi 500 \sim \phi 1000$  內孔要有多大的床身

Boring depth: 3000.....6000.....15000mm 鑽孔深度

### Coolant Equipment

Exactly suitable to the respective machine and cutting operations(air conditioner)

油箱冷卻機 1500w, 8PS, 2000卡路里小時

### CLAMPING ATTACHMENTS Loading equipments

for component handling 根據工件大小再決定夾具的大小

## DEEP HOLE DRILLING TOOLS 深孔鑽、鏜銑刀具

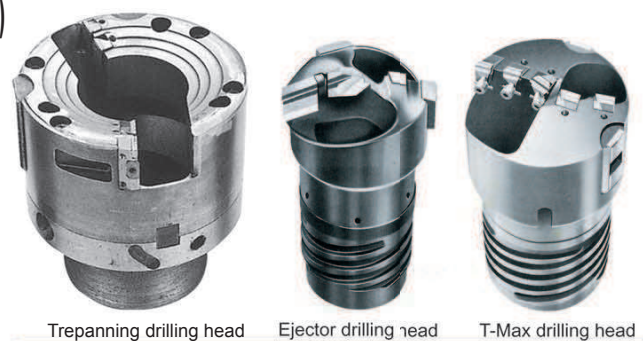
MGD gun-type tools



BTA- deep hole drilling tools

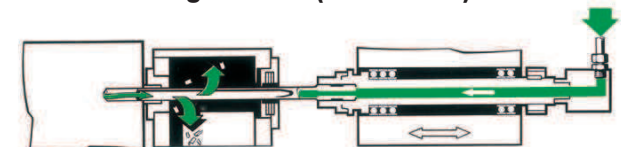


Ejector



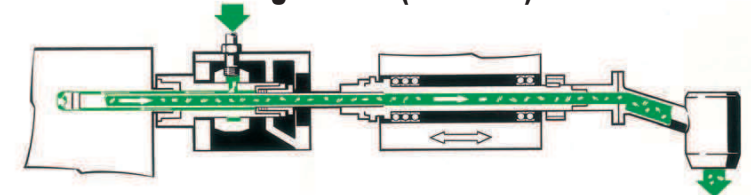
## DEEP HOLE DRILLING METHODS 高速鑽孔深奧法門

### Gundrilling method(MGDTYPE)



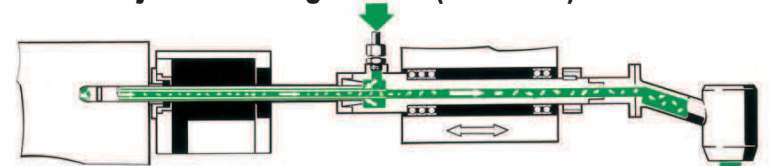
Coolant supply inside of drill spindle and drill shank. Coolant leaves at the drill tip. It streams back together with the chips in the V-shaped flute of the drill shank. Coolant and chips pass through the drillbush into the drillbush carrier. 高壓冷卻液從鑽頭主軸及刀夾內部注入。冷卻液會在刀頭頂端離開，並從V型刀刀的刀夾跟鐵屑一起回流。冷卻液和鐵屑流過支撐套進入支撐套座一起排出。

### BTA-drilling method(DHTYPE)



Coolant supply through the oil pressure head behind the drillbush. Coolant flows through the drillbush and then outside of the tool tube in the hole to the drill tip. It streams back together with the chips inside the tube and through the bore spindle. Chips and coolant leave through an outlet at the end of the spindle. 高壓冷卻液從支撐套後面注入。冷卻液流經支撐套及刀套的外部，進入鑽孔及刀頭頂端；和鐵屑回流到刀套內部及主軸內孔中。冷卻液及鐵屑流到主軸內部到尾端，並離開。

### Ejector-drilling method(DH TYPE)

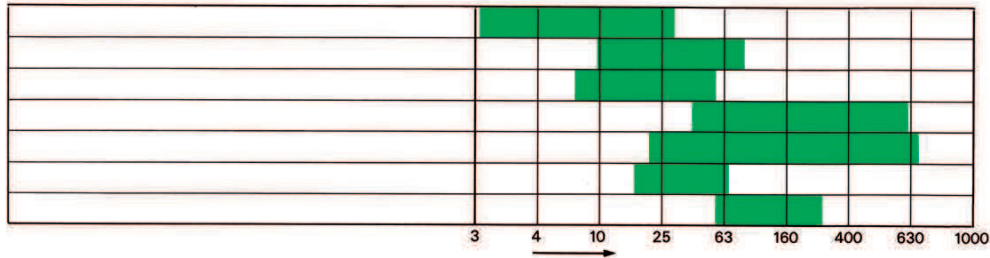


Coolant supply at the spindle nose. Coolant streams between two drill tubes to the drill tip and then back inside the inner tube together with the chips. Part of the coolant is directed in the inner tube through special jets before reaching the drill tip, thus accelerating the backflow of the chips. Coolant and chips leave through an outlet at the end of the bore spindle. 高壓冷卻液從主軸鼻端注入，並從刀套至刀頭回流；進入刀套內部和鐵屑一起流回。在刀具頂端偵測前，部份的冷卻液會被引至特殊的噴孔流入刀套內部；加速鐵屑的回流速度。冷卻液及鐵屑流到主軸外部到尾端，離開。

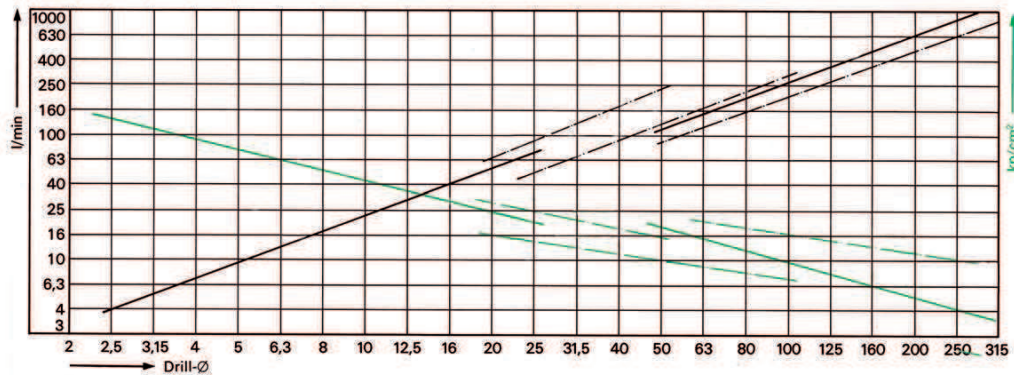
# GUIDE VALUE GRAPHS

刀具:進給:油壓容量:高壓力:數具圖表

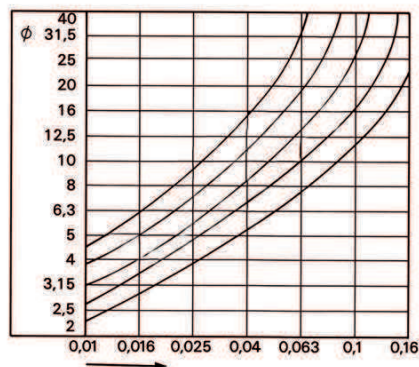
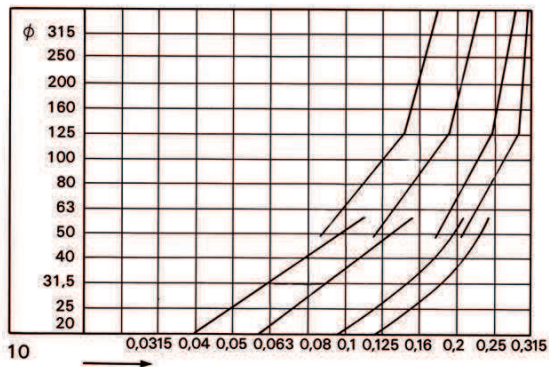
鑽孔大小與刀具應用分析表



鑽孔大小:流量:高壓力應用分析表



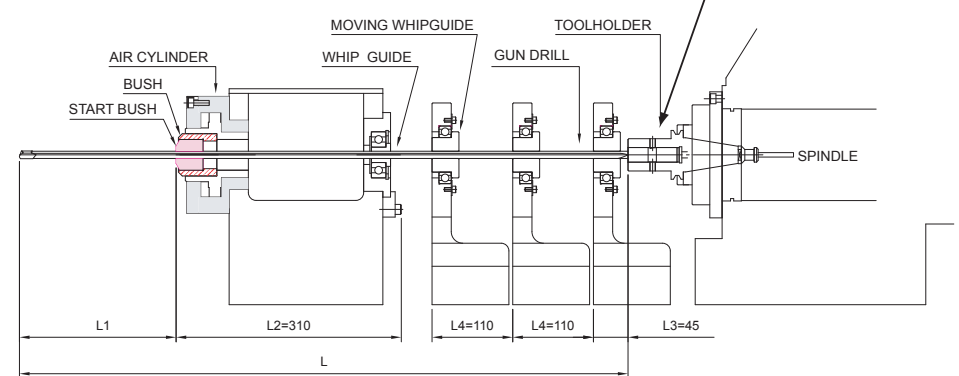
鑽孔與進給量應用分析表



# DIMENSIONS REQUIRED FOR CALCULATING LENGTH

DIMENSIONS REQUIRED FOR CALCULATING LENGTH

刀桿內孔支撐大小鑽針分類 φ10 φ16 φ25 φ32 φ38



$L = L1 + L2 + L3 + (N-1) \times L4$

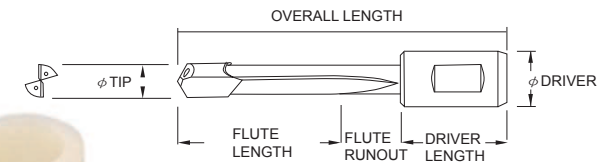
L=GUN DRILL LENGTH

N=NUMBER OF THE MOVING WHIPGUIDES

MOVING WHIPGUIDE

鑽針高速旋轉防震白膠套

| WHIPGUIDE                                                                            | DIAMETER |
|--------------------------------------------------------------------------------------|----------|
|  | φ 3~φ 35 |



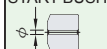
WHIP GUIDE

支撐座後方止洩油黑膠套

| BEARING TYPE | 628   | 6202     | 6204      | 6205      | 6207      | 6209      |
|--------------|-------|----------|-----------|-----------|-----------|-----------|
| GUIDE BUSH   | φ 3~5 | φ 5.1~10 | φ 10.1~15 | φ 15.1~20 | φ 20.1~25 | φ 25.1~35 |

START BUSH

鑽針支撐錠

| START BUSH                                                                            | DIAMETER   | DIAMETER    |
|---------------------------------------------------------------------------------------|------------|-------------|
|  | φ 3~φ 30   | φ 30.1~φ 35 |
|  | φ 40x φ 55 | φ 45x φ 55  |

