



GREAT PRECISION
高精密 · 定樑式轉盤龍門磨床
**Fixed Crossrail Double Column Type
Rotary Table Grinder**

**RUGGED AND STRESS-FREE CAST IRON
COMPONENTS**

龍門磨床為達到高精密、重切削、高效率的研磨成果，採用定樑式門軌設計，全部鑄件皆採用高強度鑄鐵且經過徹底的應力消除退火處理，而且定樑及門柱特別強化設計，以確保機械精度壽命的維持。門軌並採用獨特的大型硬軌及滾柱軸承之複合式設計，不但能達到重切削、高精度且可以做精密的微進給。

The GREAT Fixed Crossrail & Double Column Rotary Table Grinder is constructed by rugged and stress-free cast iron components such as base, table, column, crossrail and wheel head, which provides the high precision and heavy duty grinding. Suitable for precious grinding of large size mold base or wide plate material.

GS DR HV-1500 PNC

橫式主軸頭

- 高剛性砂輪主軸由6個大型超精密(CP4)斜角滾珠軸承支持，並施予適當的預壓及密封式永久性潤滑，不需另作潤滑保養。且主軸採彈筒式設計，更換保養容易。
- 主軸頭座上下及左右進給均由AC伺服馬達配合大型精密滾珠螺桿，可做自動或用電子手輪(MPG)手動精密進給。

HORIZONTAL SPINDLE HEAD

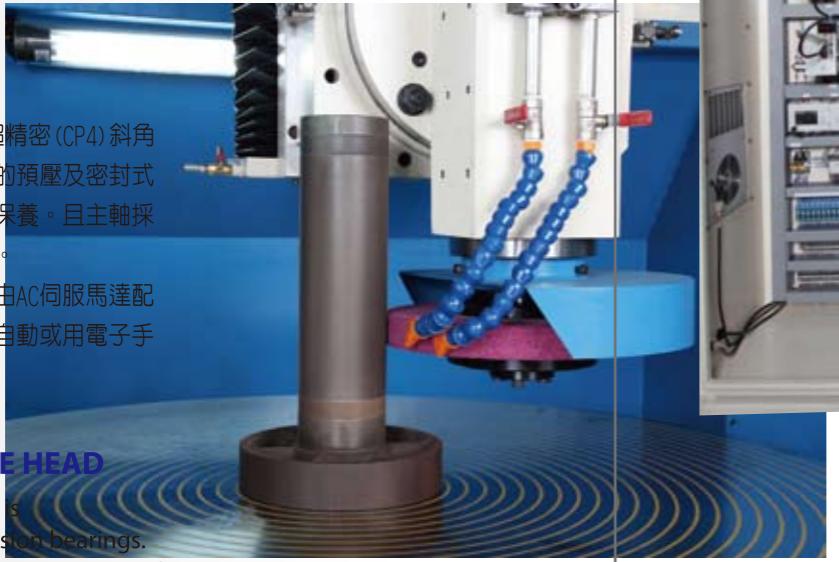
- The horizontal spindle unit is supported by 6 super precision bearings.
- The saddle slideways are coated with low friction Turcite B and combine with roller chain bearings. Accurate Vertical and horizontal feed of grinding head is controlled by AC servo motors and precise ball screws, which can be achieved the smooth movement and a minimum increment in Y & Z axes.

液靜壓潤滑系統及精密研磨劇花床台

- 床台及工作台軌道，經過高精密研磨及劇花處理，配合高效率的液靜壓特殊潤滑系統，工作台與床台軌道幾乎完全不接觸，工作台在高速或低速運行皆非常滑順，且液靜壓系統對工作台運轉有安全互鎖保護設計，不論研磨精度或使用壽命皆可數倍提昇，且可降低系統所需動力達30%以上，液靜壓系統並有獨立之多道高精密過濾系統，及偵測警報裝置，以確保液靜壓系統之正常運作。

PRECISION SLIDEWAYS AND HYDROSTATIC LUBRICATION SYSTEM

- The machine base and table ways are precision ground and hand scraped.
- The slideways are lubricated with hydrostatic system, and interlock with the table driving system for safety operation and long life.
- The hydrostatic lubrication has lowest friction practically even at low speed and maximum load, so that the low power is needed only to drive the table and work pieces.
- The hydrostatic system oil is filtered by an independent high precision filter system, to ensure the hydrostatic system is running in the best condition.



Precision Surface Grinder

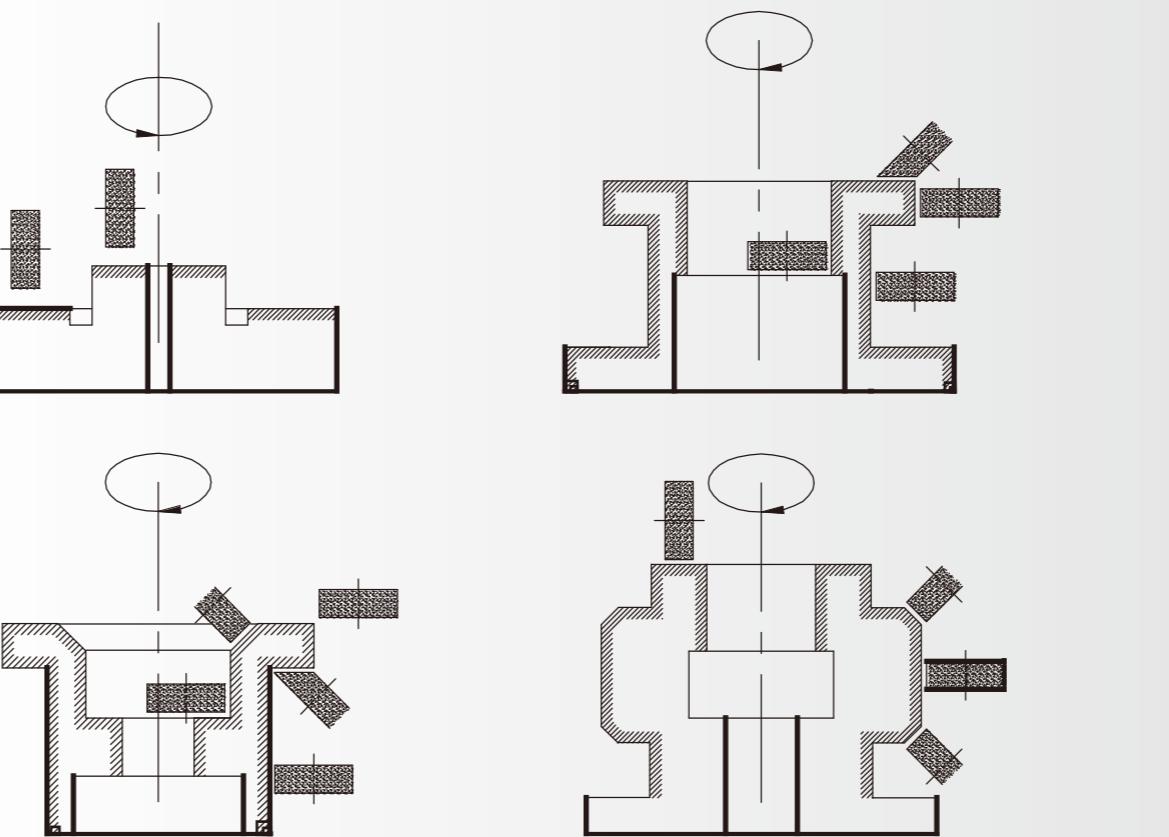
萬能立軸頭裝置【特別附件】

- 龍門磨床可選擇裝置萬能立軸頭，以作軌道側面、下方、斜面或鳩尾軌道研磨。
- 萬能立軸頭之上下及左右進給均以伺服馬達(Servo Motor)配合精密滾珠螺桿做精密進給。
- 立軸頭旋轉是由伺服馬達經由高精密減速機驅動角度達 $\pm 75^\circ$ ，可由觸控面板上設定或電子手輪(MPG)，做自動或手輪旋轉控制。
- 立軸頭旋轉角度之設定及讀取解析度可達千分之一度(0.001°)，精密準確，可做精密角度之研磨。
- 立軸頭角度控制電子手輪進給每刻度備有0.001°, 0.01°或0.1°三種模式可供選擇，可做最適當而有效率的操控。

UNIVERSAL SPINDLE HEAD [OPTION]

- Universal spindle head rotation is driven by AC servo motor, It is indexed, precisely and automatically, steplessly.
- The rotation angle of universal spindle head can be set directly on the touch screen control panel.
- The swivelling range of head is ± 75 degree, and the minimum setting and read-out angle is 0.001 degree.
- Accurate vertical and horizontal feed of the grinding head is controlled by AC servo motors and precise ball screws.

研磨範例 GRINDING EXAMPLE



懸吊式可移動控制箱

- 精密龍門磨床控制系統採用最符合人體工學的可移動懸吊式控制箱設計，操作方便迅速。
- 控制系統為最容易操作的人機觸控控制面板，配合雙軸三菱(MITSUBISHI)伺服馬達與精密滾珠螺桿，簡單明瞭的多種圖形及對話式操控軟體，操作人員易懂易學。
- 控制箱並有分離式電子手輪，使手動操作更為方便。
- 電器箱同時備有隔離式冷卻器。

PENDANT CONTROL BOX

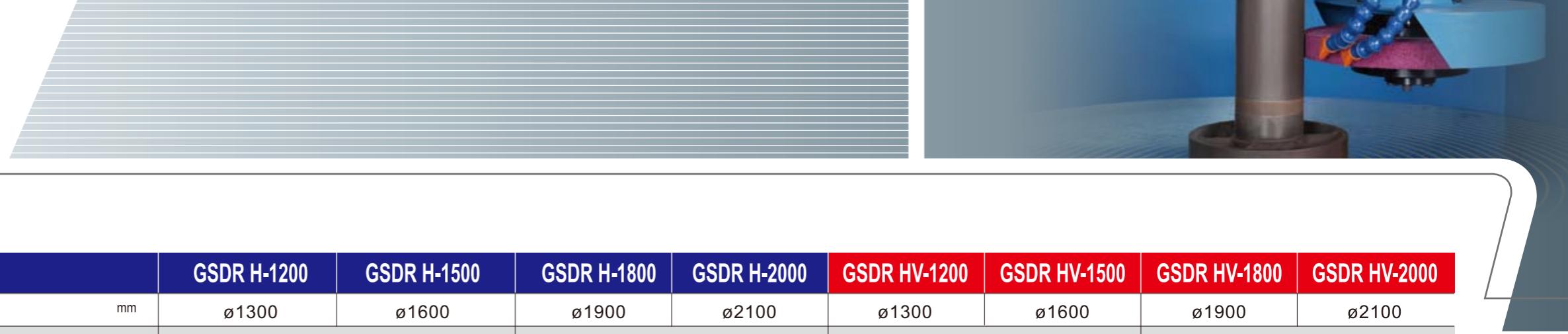
- The NC control panel is built into a pendant control box, from which all operations of the machine are controlled.
- These include all manual operations such as grinding head feed, table driving and automatical grind cycle setting. The manual pulse generators (M.P.G) are moveable, which easily to operate.
- There are some software of standard grinding modes such as surface grinding, plunge grinding, etc., are built with figure into the touch screen control panel. It is a great convenience for operations.
- Electric cabinet is equipped with air cooler.



Soft Ware In Touch Control Panel



Electric Cabinet



規 格 表 SPECIFICATIONS

型式 MODEL	(PNC)		GSDR H-1200	GSDR H-1500	GSDR H-1800	GSDR H-2000	GSDR HV-1200	GSDR HV-1500	GSDR HV-1800	GSDR HV-2000
最大研磨直徑 Maximum grinding diameter	mm	ø1300	ø1600	ø1900	ø2100	ø1300	ø1600	ø1900	ø2100	ø2100
主軸中心至台面距離 Distance between spindle center and table	mm	225-1000		225-1200		225-1000		225-1200		
轉盤直徑 Table Dianeter	mm	ø1200	ø1500	ø1800	ø2000	ø1200	ø1500	ø1800	ø2000	
最大工作物高 Maximum height of work piece	mm	800	800	1000	1000	800	800	1000	1000	
主軸頭座上下行程 Horizontal head vertical travel	mm	800	800	1000	1000	800	800	1000	1000	
工作轉盤轉速 Rotary table speed	R.P.M	5 - 40		4 - 30		5 - 40		4 - 30		
前後連續速度 Cross feed speed continuous	M/min	0.3~1.5					0.3~1.5			
前後進給每轉 Cross feed per revolution(M.P.G)	mm	0.1、1、5					0.1、1、5 / 0.1、0.5、1 (Universal spindle)			
前後進給每刻度 Cross feed per division(M.P.G)	mm	0.001、0.01、0.05					0.001、0.01、0.05 / 0.001、0.005、0.01 (Universal spindle)			
上下快速進給速度 Rapid down feed(Servo motor)	mm/min	500					500 / 25~500 (Universal spindle)			
上下進給手輪每轉 Down feed per revolution(M.P.G)	mm					0.1、0.5、1				
上下進給手輪每刻度 Down feed per division(M.P.G)	mm					0.001、0.005、0.01				
上下自動進刀 Auto down feed	mm					0.001、0.099				
主軸砂輪尺寸(外徑×內徑×寬) Horizontal grinding wheel size (O.D × I.D × width)	mm				ø510 × ø203.2 × 75 / ø510 × ø203.2 × 100(option)					
主軸馬達馬力 Horizontal spindle motor power (4 poles)	KW/HP				15KW(20HP) / 18.5KW(25HP)(option)					
主軸砂輪轉速 Horizontal spindle speed	RPM				1150					
立軸旋轉角度 Universal head swiveling angle(degree)	(°)	-					±75°			
立軸馬達馬力 Universal spindle motor power(60HZ/4poles)	KW/HP						7.5KW(10HP) / 11KW(15HP)(option)			
立軸砂輪轉速 Universal spindle speed(60HZ/50HZ)	R.P.M						1000 - 3000 (with inverter)			
立軸砂輪尺寸(外徑×內徑×寬) Universal grinding wheel size (O.D × I.D × width)	mm						ø355 × ø127 × 38 / ø355 × ø127 × 50 (option)			
立軸角度手動旋轉每刻度 Universal head swiveling angle (degree)(M.P.G)	(°)						0.001、0.01、0.1 / division			
立軸頭座上下行程 Universal head vertical travel	mm					800	800	1000	1000	
淨重 N.W.	Kgs	17200	20200	29000	36500	20000	23000	32000	39500	
工作物最大重量(含磁鐵) Maximum weight of work piece (include chuck)	Kgs	4000	5500	7500	9000	4000	5500	7500	9000	

☆本公司擁有修改規格及結構變更設計之權力。Manufacturer reserves the right to change or improve specification without notice.

標準附件 STANDARD ACCESSORIES

■ 砂輪 Grinding wheel	■ 液靜壓系統 Hydrostatic system
■ 法蘭 Wheel flange	
■ 冷卻系統 Coolant equipment	
■ 工具及工具箱 Tools with box	
■ 平衡軸 Balancing arbor	
■ 砂輪拔取器 Wheel extractor	
■ 電子手輪 Manual Pulse Generator	

Hydrostatic system

特別附件 OPTIONAL ACCESSORIES

■ 立軸裝置 Universal spindle grinding equipment	■ 石英工作燈 Halogen machine lamp
■ 電磁鐵 Electro magnetic chuck	■ 紙帶式濾清機 Band filter coolant clarifier
■ 備用法蘭 Spare wheel flange	■ 橫軸頭主軸變頻器 Horizontal spindle inverter
■ 平衡台 Balancing base	■ 磁式濾清機 Magnetic dust separator
■ 立式小砂輪接頭 Small wheel adaptor (for universal spindle)	■ 立軸變頻器 Universal spindle inverter