



本公司專營切削加工專用機，設計團隊累積20年以上的開發經驗，其中又以研磨加工機床為專精，磨床為高精密機械，除了機械結構需要良好的剛性，各組成零件精度及組立精度都需要以更高的規格檢驗，除此之外，我們有優良的電控及程式撰寫團隊，配合多年的研磨經驗，能夠生產出符合操作需求的研磨加工模組程式，讓客戶面對不同的生產物件均能達到效率以及精度的要求。

曙光機械本著持續研發精進的精神，除了目前所生產的立式圓筒磨床系列，立式成型磨床系列，仍持續不斷的開發其它車、銑、磨等客製化機械，依照客戶及市場需求創造更多與眾不同的機型，以達成高效率及高精度的目標。

Our company is in the business of special purpose machines for cutting and machining, Our research & design team has experience of R&D for more than 20 years.

Among our team, we possess professional expertise in grinding machining technology and systems.

Grinding machines require high precision; other than good stiffness on the machine structure, the precision for each component and assembly must be maintained to a higher specification.

In addition, we have an excellent team for CNC, software and programming.

With grinding experience for many years, we are able to help our customers by producing grinding machining modular programs that meet their operational demands to achieve efficiency and precision required for the various work pieces produced.

Dawn Machinery focuses on the spirit of continuously developing and advancing. our core business units by listening to the voice of our customers. Aside from carrying on the development of other customized machinery for lathe, milling, and grinding, we are also focusing on producing current product lines of vertical grinder series and vertical forming grinder series. We follow customers' needs and market demands to create numerous models to achieve the goal of high efficiency with high precision.

DAWN MACHINERY



## 曙光機械有限公司 DAWN MACHINERY CO., LTD.

公司: 516台灣彰化縣埔鹽鄉南新村好金路61號

No.61, Haojin Rd., Puyan Township, Changhua County 516, Taiwan

TEL:886-4-8658875 FAX:886-4-8659786

E-mail:dawn.machine@msa.hinet.net

http://www.dawn-machinery.com.tw

工廠: 516台灣彰化縣埔鹽鄉光明路2段187-18號A棟

Building A, No. 187-18, Sec 2 Guangming Rd., Puyan Township,  
Changhua County 516, Taiwan

TEL:886-4-8659610 FAX:886-4-8653980

## 立式圓筒磨床

Vertical Universal Grinder



## 立式圓筒磨床 Vertical Universal Grinder

高精度，高穩定度，最佳的操作空間  
立式擺放不受重力影響

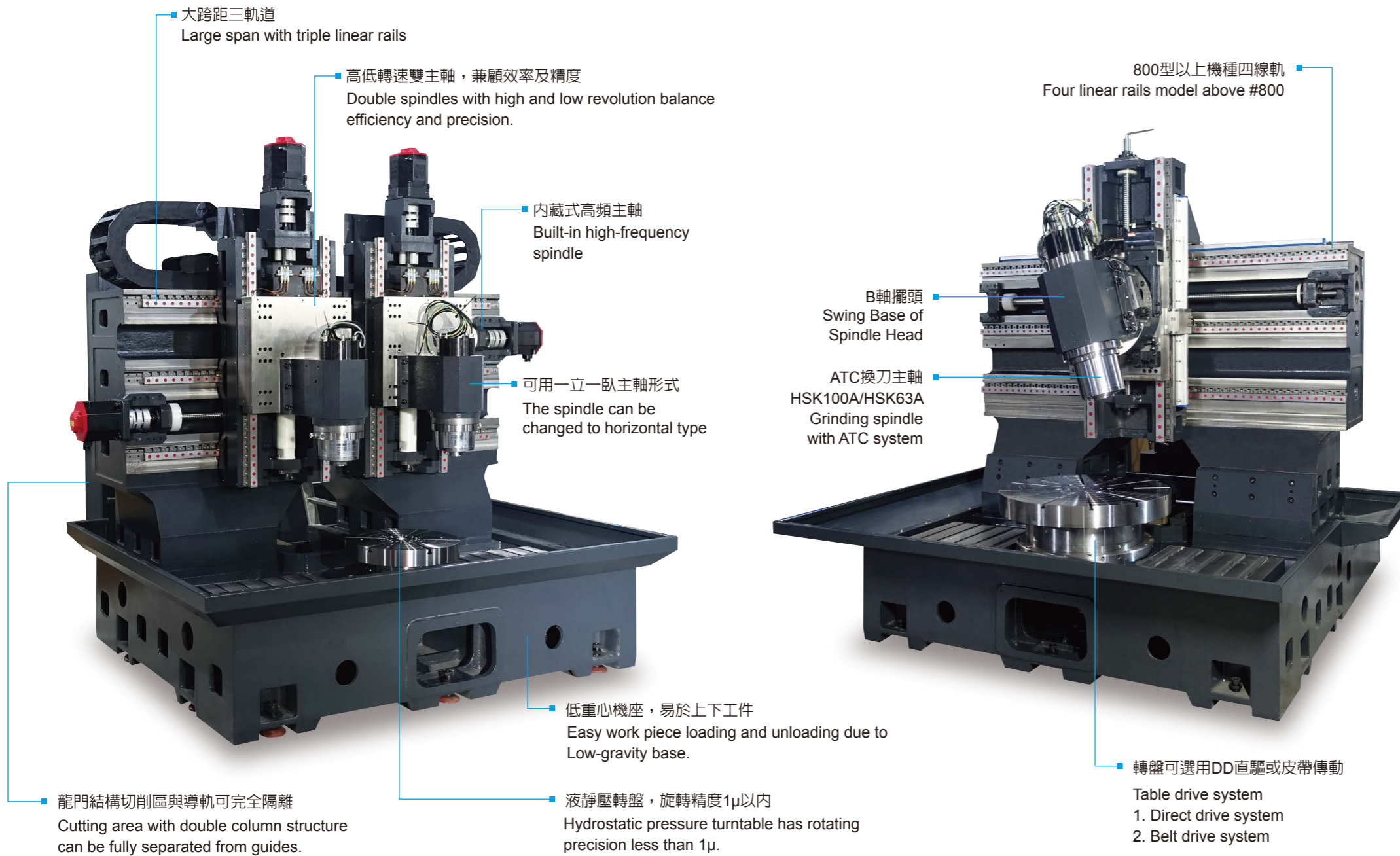
The vertical design provides high precision, high stability, small machine footprint, and heavy work pieces are not impacted by gravity when clamping.



DN-602



DN-303

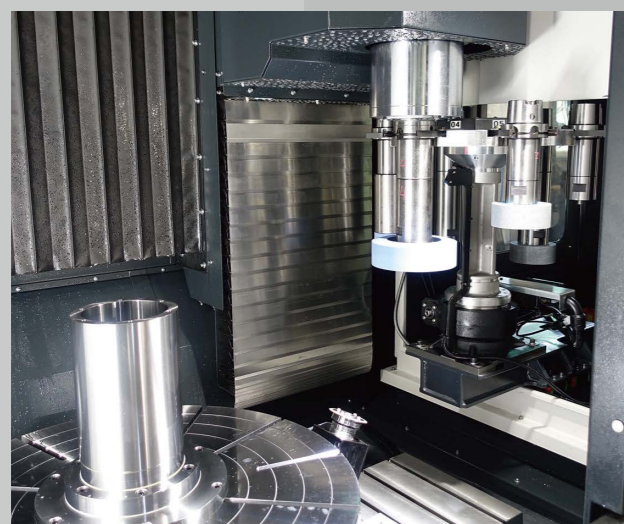


### 特點

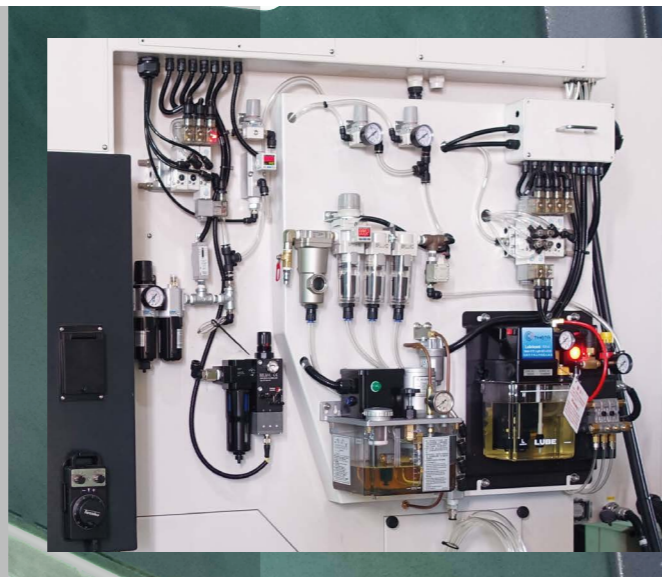
- 適合重型、非圓外型工件做內外徑及端面研磨。
- 較重工件可用吊掛方式固定於夾具上。
- 龍門門結構，機械剛性佳。
- 全罩式板金，油霧回收裝置，研磨油霧不外洩。
- 可任意搭配單主軸，或雙主軸，換刀或不換刀結構。
- 發那科或西門子控制器15"大螢幕觸控對話畫面。
- 對話式程式設計，操作淺顯易懂，操作者不用寫程式。
- 雙主軸機型可搭配高低轉速砂輪，或一立一臥主軸擺放，高效率使用。

### Features

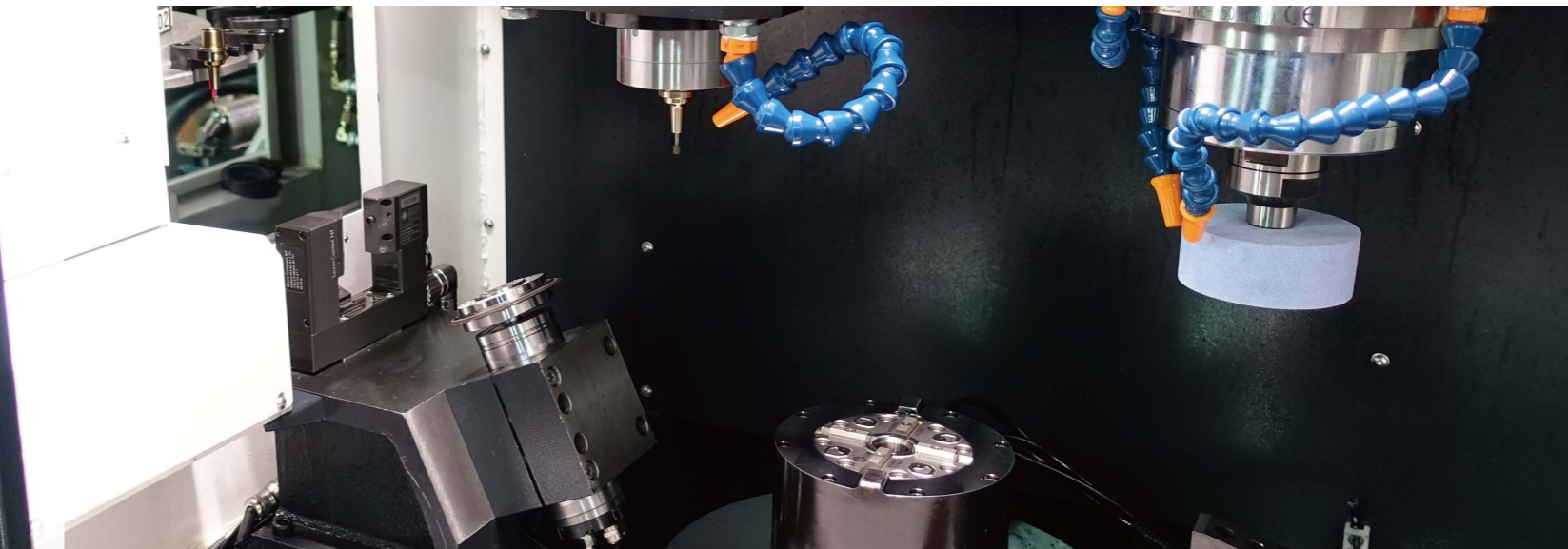
- Suitable for grinding inside and outside diameters as well as the end surface of heavy or non circular work pieces.
- Heavier work pieces can be more easily loaded to the machine by overhead hoist.
- Double column designed structure provides better machine stiffness.
- Fully enclosed covers and oil mist reclaiming device prevent leakage of grinding oil and mist.
- Options of SINGLE-spindle or DOUBLE-spindle, with or without tool changer.
- Fanuc controller with 10-inch screen, convenient touch panel.
- Conversational programming function makes the control operation and program creation easier to understand.
- Double-spindle model can be equipped with grinding wheels for both high and low RPM's, also, both large and small grinding wheels can be used.



刀塔換刀機構  
Tool changing system



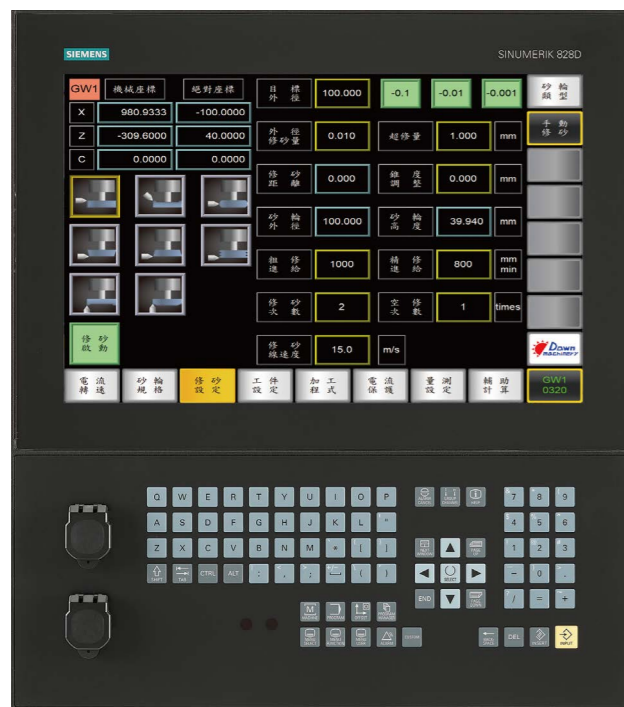
空油壓集中管理  
Air and oil system all in one design



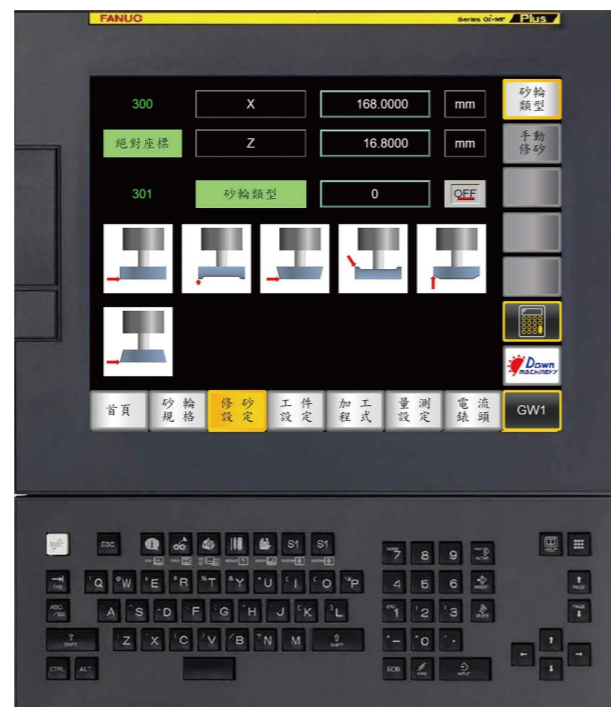
自動換刀、動力修砂、原點夾具  
Tool changing system / Powered type grinding wheel dressers / Zero clamp system

控制器&對話畫面

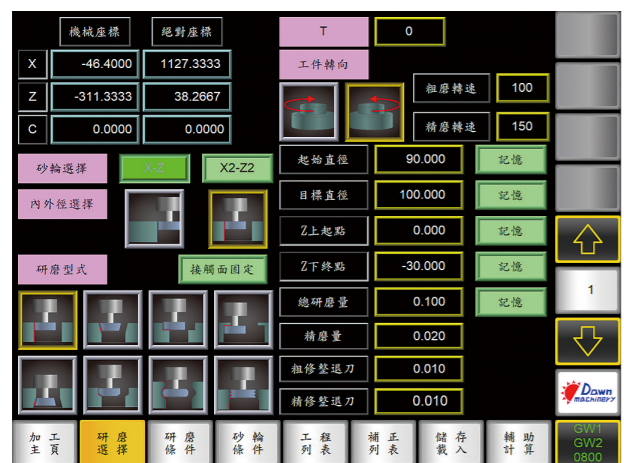
# CONTROLLER



西門子828D+15"觸控整合式畫面  
SIEMENS Integrated Operation HMI



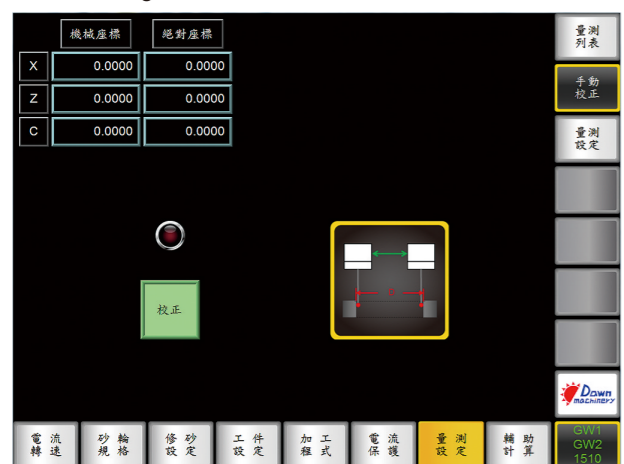
發那科0i +15"觸控整合式畫面  
FANUC Integrated Operation HMI



研磨選擇  
Grind setting



研磨條件  
Grind Condition



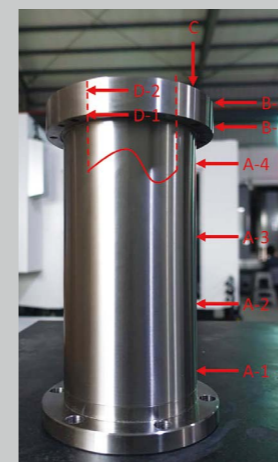
量測設定  
Measure setting



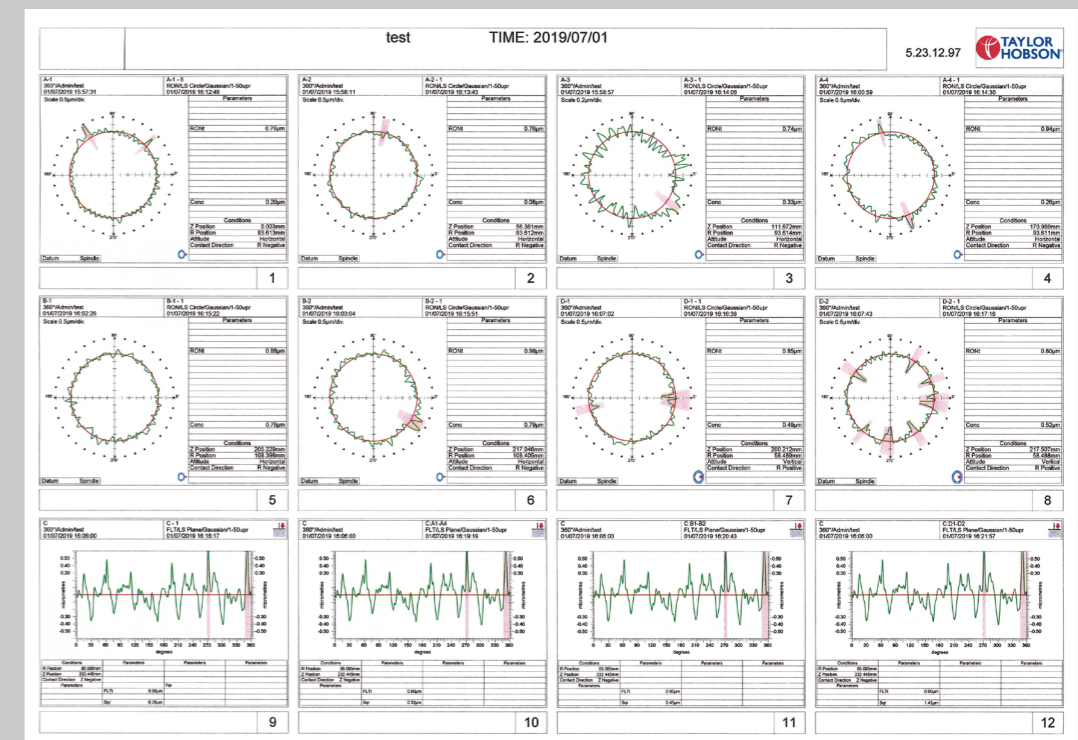
工程列表  
Process List

檢測

# TESTING



主軸套管研磨範例  
Spindle housing grinding example

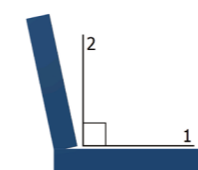


研磨範例量測報告  
Measure report (measure by TAYLOR HOBSON Roundness measurement machine)

RENISHAW 垂直度結果

量測數據	
檔案名稱	dn500-h3
量測日期	2019-06-27 16:56:07
從檔案製作報告	dn500-h3_2019-06-27_17-38-31.11_Renishaw_EANO.XML
報告製作日期	2019-06-27 17:38:36
操作人員	Renishaw
量測程式	垂直度量測
量測裝置	mm
序號顯示/檢測器	135346 / 0
溫度	不適用

距離	
距離 1	900 mm
距離 2	600 mm
點數 1	19
點數 2	25



垂直度結果	
角度	0.007/600 mm 在公差範圍之
公差	自訂公差 0.002/600 mm

機械幾何誤差檢驗報告  
Machine geometric error measurement



RENISHAW直線度 / 平行度 / 垂直度雷射檢驗儀  
Parallelism / Straightness / Perpendicularity (RENISHAW)



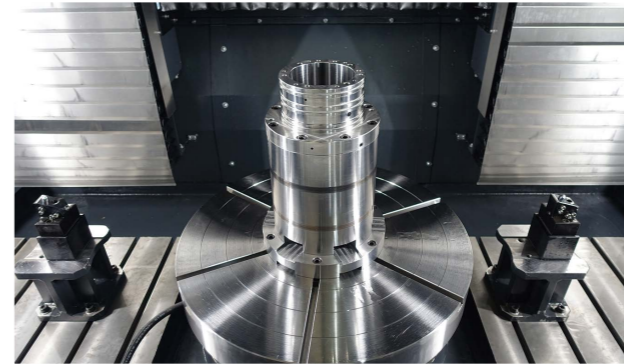
定位精度雷射檢驗  
Position error measurement

範例

EXAMPLE



齒輪內外徑端面研磨  
Gear ID, OD and flat grinding



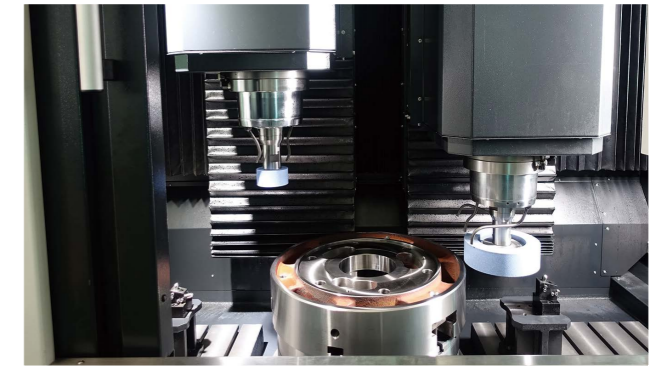
主軸套管研磨  
Spindle ID and OD grinding



標準棒研磨  
Standard test bar grinding



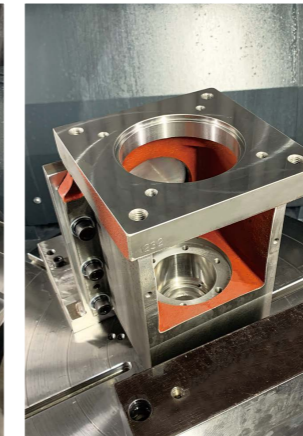
內藏主軸套管研磨  
Built-in spindle grinding



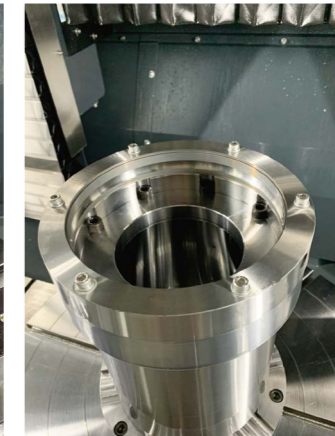
卡盤內外徑端面研磨  
Chuck ID, OD and flat grinding



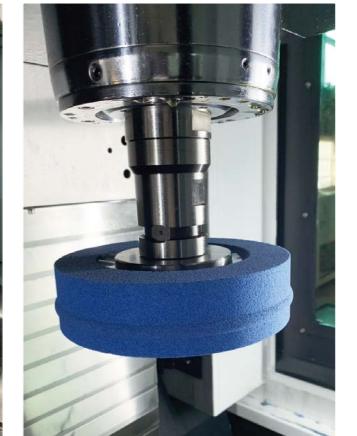
第四軸盤面研磨  
Table grinding



馬達軸承座研磨  
Motor base grinding



軸承球軌成型研磨  
Bearing race shape grinding



成型修砂  
Shape grinding

項目 Item	型號 Model No.	DN-300	DN-500 / DN-600	DN-800	DN-1200	DN-1600
加工能力 Machining capacity	旋徑-可研磨外徑 Swing diameter- outside diameter that can be ground	Ø310	Ø510 / Ø610	Ø810	Ø1210	Ø1610
	工件長度含治具 Length of the work piece including the fixture mm	350	450	500	600	700
	外徑可研磨長度 Length of the outside diameter that can be ground mm	300	400	450	550	600
	內徑可研磨長度 Length of the inside diameter that can be ground mm	200	350	400	450	500
砂輪軸 Grinding wheel spindle *註2	刀柄形式 Type of tool holder	HSK-A63	HSK-A63 / HSK-A100			
	功率 Power (S1/S6-40%) kw	18/23	18/23 / 25/28			
	最高轉速 Max. speed rpm	1500~15000	1500~15000 / 1000~10000			
	砂輪徑 Diameter of grinding wheel	Ø30~ Ø205	Ø30~ Ø205 / Ø50~ Ø255			
工作台 Work Table	轉盤直徑 Diameter of turntable mm	Ø300	Ø500/Ø600	Ø800	Ø1200	Ø1600
	工作台轉速 Revolution of worktable rpm	500	300/250	200	100	80
	工作台載重 Max. load on table KG	350	300/400	800	5000	6000
X軸 X-axis	行程 Travel mm	700	1200	1400	1800	2200
	最小設定單位 Min. unit of measurement mm	Ø0.0001mm	Ø0.0001mm	Ø0.0001mm	Ø0.0001mm	Ø0.0001mm
	光學尺 Optical scale	FAGOR				
Z軸 Z-axis	行程 Travel mm	360	700	800	900	1000
	最小設定單位 Min. unit of measurement mm	0.0001mm	0.0001mm	0.0001mm	0.0001mm	0.0001mm
	光學尺 Optical scale	選配 Option FAGOR				
NC	FANUC	0i-15" 觸控整合式對話畫面		SIMENS Integrated Operation HMI		
	SIMENS	828D 15" 觸控整合式對話畫面		FANUC Integrated Operation HMI		
刀塔 Turret	伺服刀塔 Tool Changing System	HSK63A-6T	HSK-A63-6T / HSK100A-6T			

**標準配件**

- 油霧回收機
- 紙帶過濾機
- 磁鐵過濾機
- 外徑刀把4把
- 鑽石筆修刀4支
- 工具箱1只

**STANDARD ACCESSORIES**

- Oil mist reclaiming device
- Paper type filter
- Magnetic separator
- 4 x outer diameter handles
- 4 Diamond dresser pens
- 1 x tool box

**選擇配件**

- 動力修砂套件
- 線上檢測
- 自動門裝置
- 電磁盤
- 油壓三爪
- 原點夾具
- 主軸監控
- 防撞偵測

**OPTIONAL ACCESSORIES**

- Powered-type grinding wheel dressers
- Online testing
- Automatic gate device
- Magnetic disc
- Power Chucks
- Zero clamp system
- Spindle monitoring
- Collision avoidance detection

\*註: 1.以上為單主軸帶刀塔機型,可另指定雙主軸或一立一臥主軸或其他配置。  
2.主軸轉速可依客戶需求做變更。

\*Note: 1. The spindle type can be customized.  
2. The spindle rotation speed can be customized.

