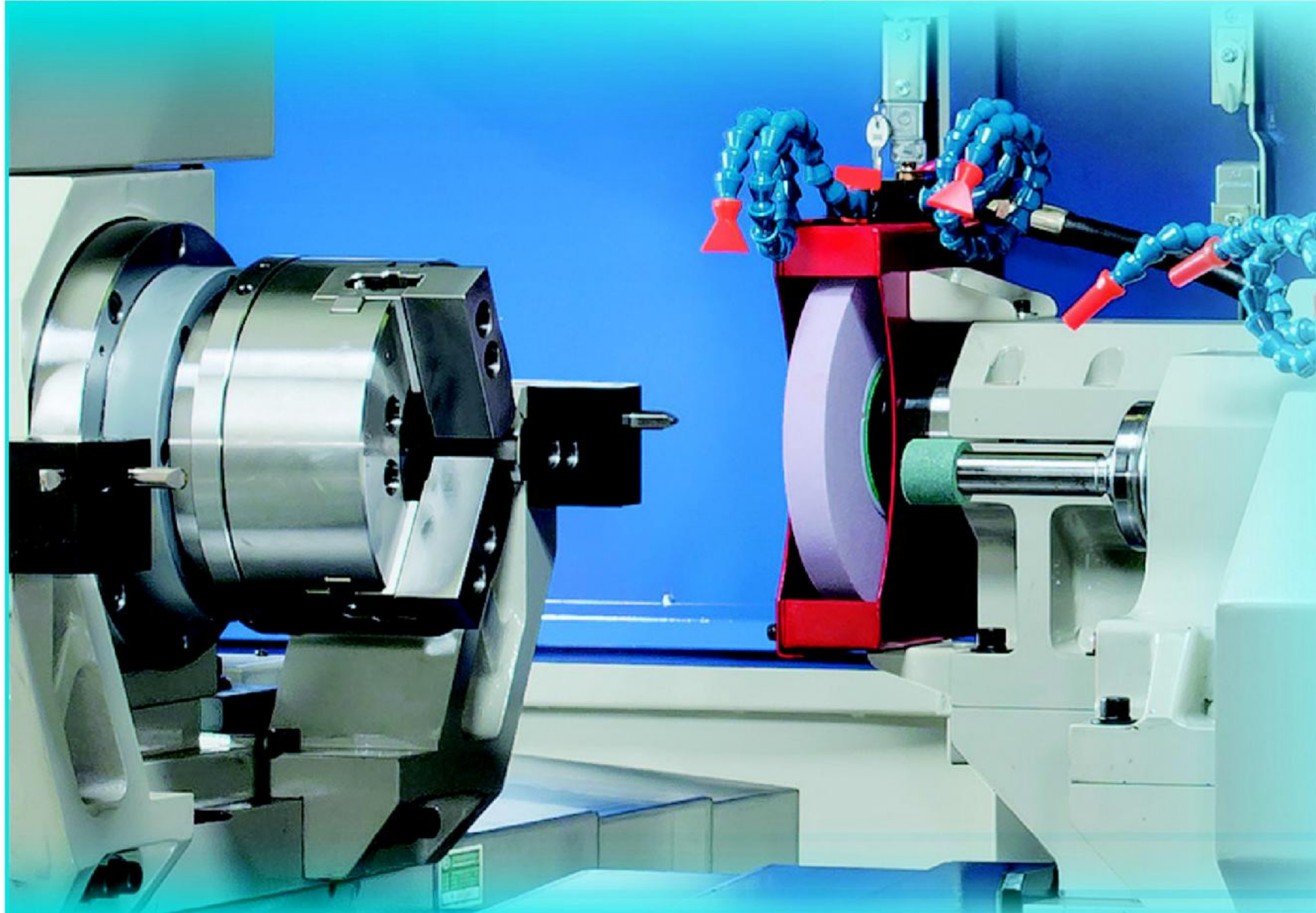


嘉尼赫®  
JAINNHER®



**CNC DOUBLE SPINDLE  
GRINDING MACHINE**



**CNC 雙主軸內外圓磨床**



# CNC DOUBLE SPINDLE GRINDING MACHINE

嘉尼赫®  
JAINNHER®

CNC 雙主軸內外圓磨床



## 應用範圍

本機專門設計用於汽機車等運輸產業、能源產業、工具機精密零組件、氣/油壓元件、精密量測儀器、電子/光學儀器等需要高精度零件之研磨。

## Applicable Industries

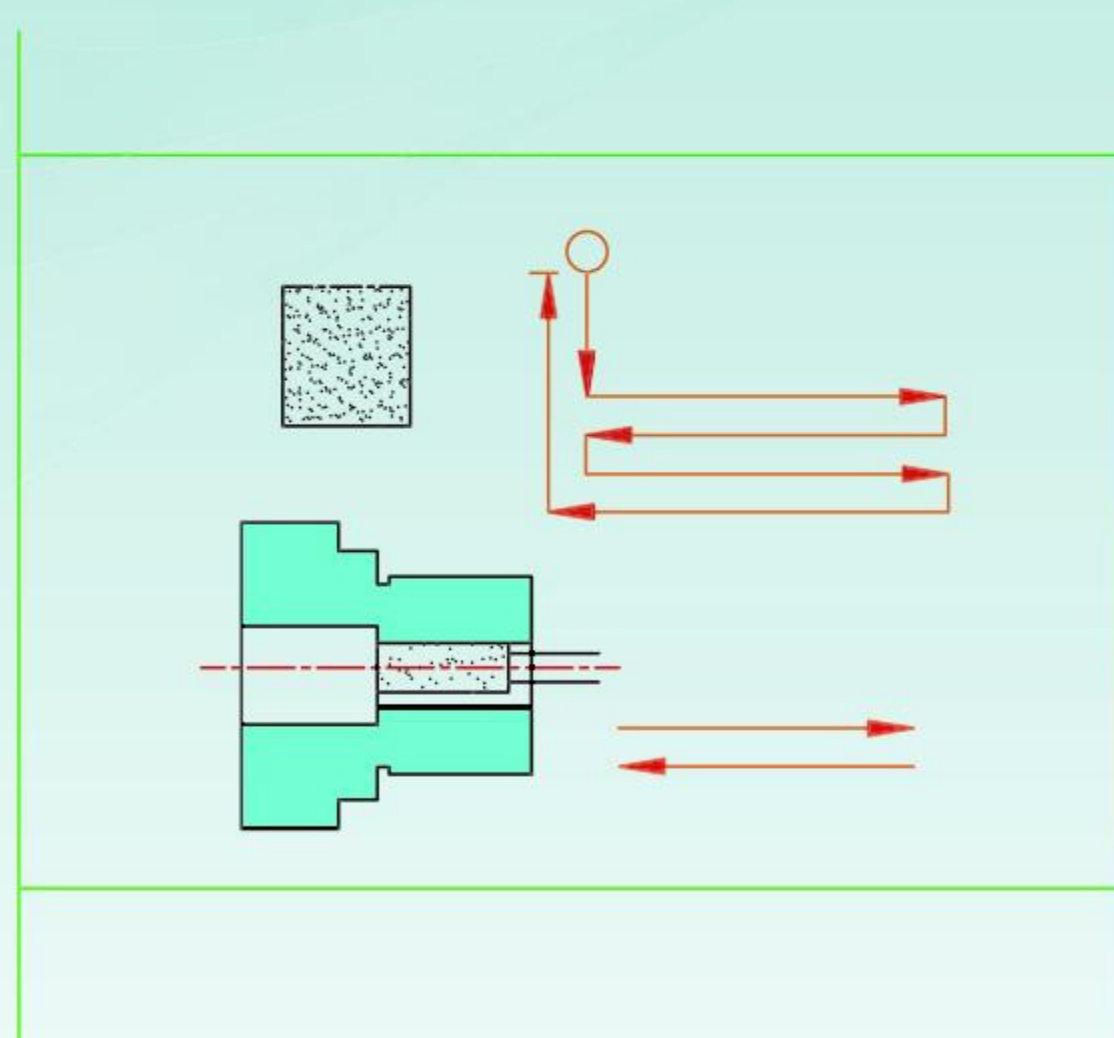
- Motor vehicles and other transportation
- Energy, precision machine tool components
- Air / hydraulic components, precision measuring instruments
- Electronic / optical instruments

## Advanced Design Concepts !

- 機身床台採用油水分離及高剛性箱型結構設計，剛性強，且潤滑循環油系統及研磨冷卻液系統均在機體分開回收、以消除震動及熱源，增加回油效率，加強冷卻效果，提高穩定性。
- This machine adopts oil-water separation and high-rigid box structure designed, non assembling tolerance, high rigidity. The lubrication oil and coolant is separated to collect from outside the machine, in order to eliminate vibratory and heat, increase the efficiency of oil collection, to enhance the cooling effect and increase stability.
- 本機功能設計採電腦伺服三軸傳動(XYZ)或兩軸(XY, XZ)同動，亦可選購三軸(XYC, XZC, BCY)、四軸(XYZC)或五軸同動(XYZCB)，達到高精度及工件複雜的研磨加工需求。
- The main structure is X, Y, Z axis feeding system, they are work head, internal grinding head and external grinding head, the feature is X, Y, Z 3 axes servo transmission or 2 axes(X, Y \ X, Z) move simultaneously or can choose 3 axes (X, Y, C \ X, Z, C \ B, C, Y) or 4 axes (X, Y, Z, C) or 5 axes (X, Y, Z, C, B) move simultaneously, in order to reach high precision and complicated workpiece grinding process requirement.
- X、Y、Z軸進給採用高精密級線性滾柱滑軌及雙預拉滾珠螺桿。其重覆性定位精度是經由伺服馬達、高精密滾珠螺桿、線性滾柱滑軌、斜角滾珠軸承、連軸器及自動強制機油循環潤滑而成。各軸之鞍座滑板移動採高精密線性滾柱滑軌設計、精度壽命持久。且所有滑動件及轉動件均採用自動機油循環潤滑，以確保機台使用壽命及最佳精度。
- X, Y, Z axis feeding system uses high precision roller linear guide-way and double pre-tensioned ball screws. The repeated positioning accuracy is through servo motor, high precision ball screw, roller linear guide-way, angular contact ball bearing, coupling and automatic forced lubrication system. All axes slider adopt high precision roller linear guide-way, high precision and long service life features. All sliding and rotating parts uses automatic forced lubrication, to ensure optimal machine life and accuracy.

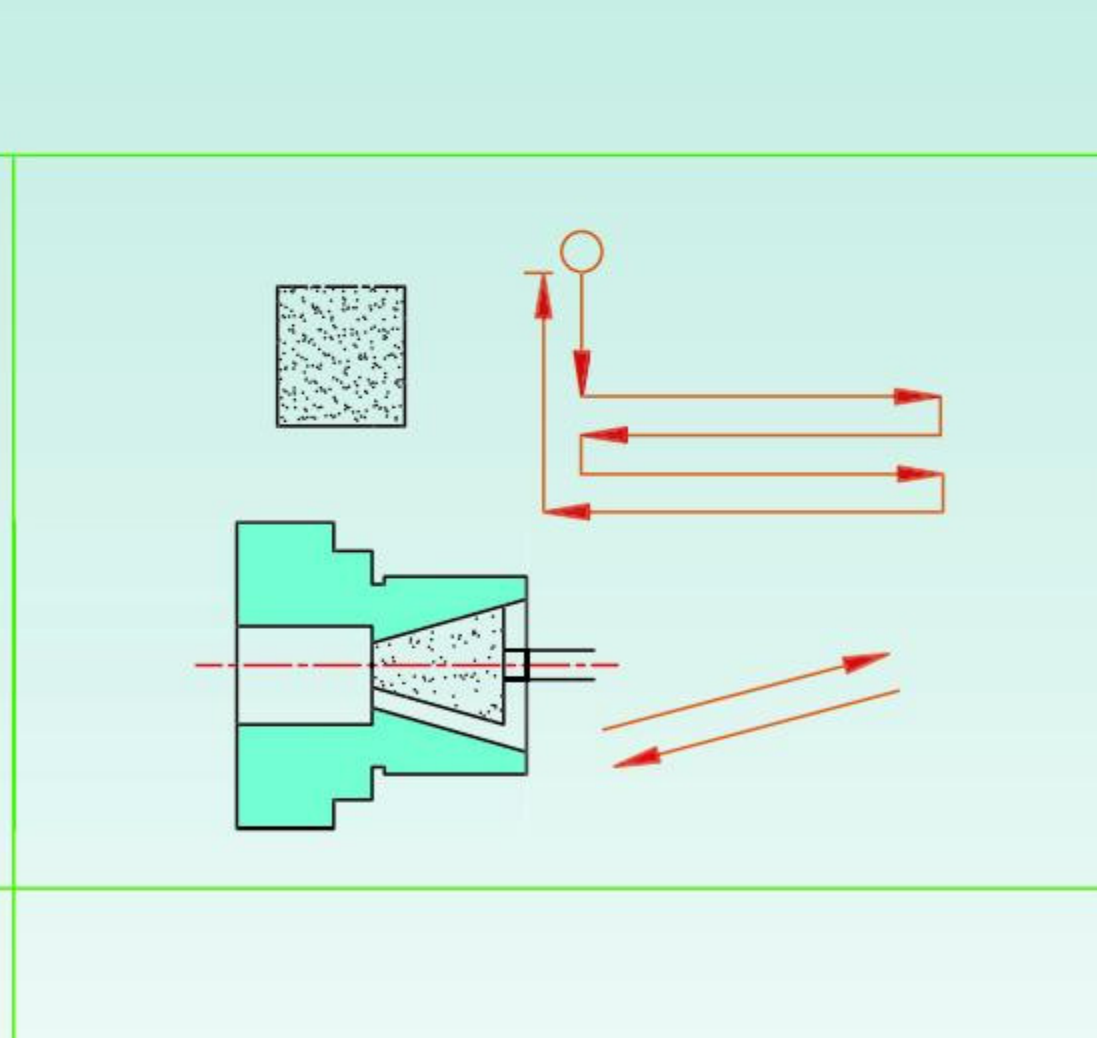
### 直進式內外研磨

Plunge type Internal  
External grinding



### 直進式外徑研磨 成型砂內孔研磨

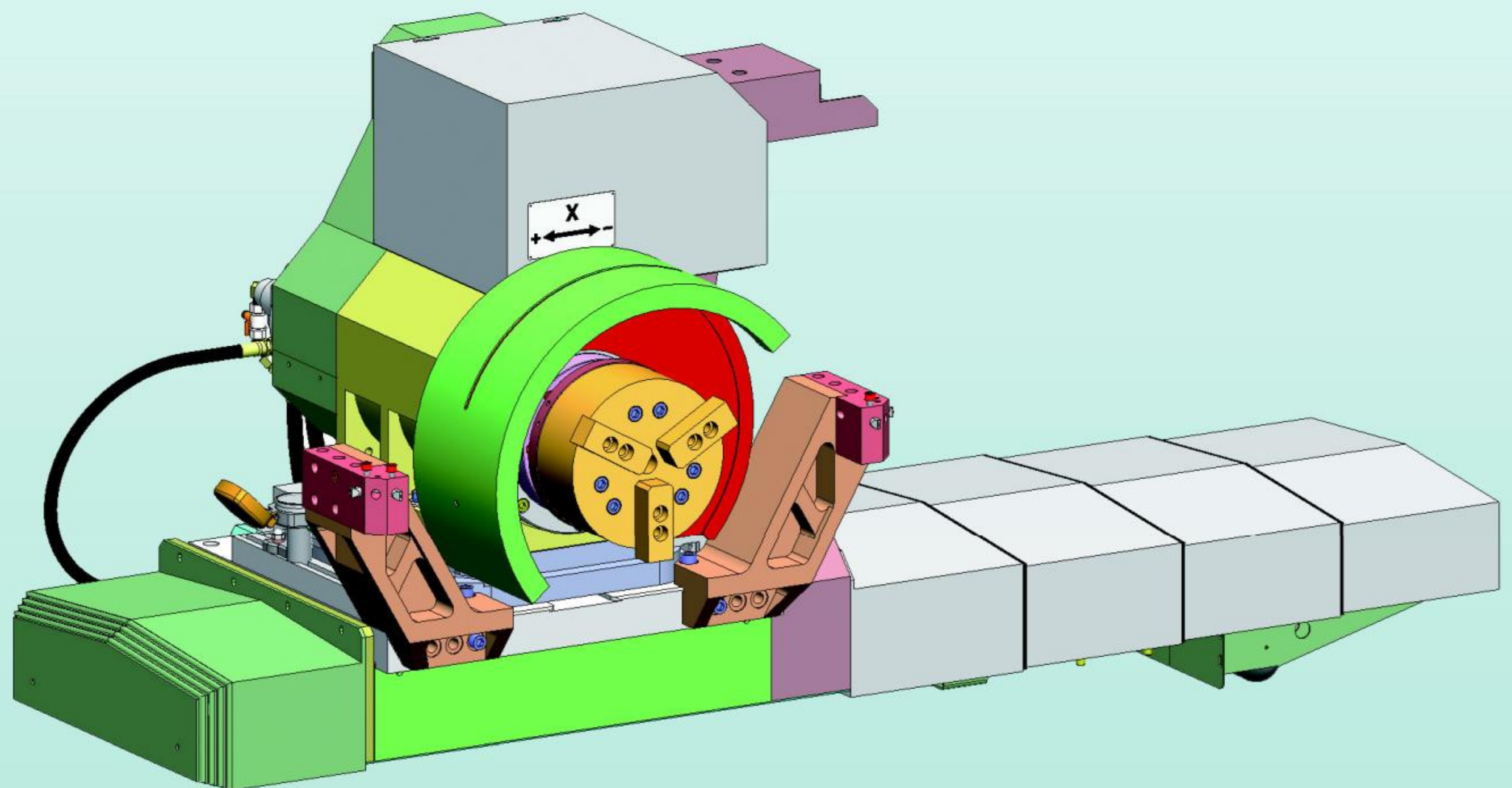
Plung type External grinding  
Forming wheel Internal grinding



**Cost Efficiency! Outstanding!**

**嘉尼赫®  
JAINNHER®**

## 本機結構特性



### 工作主軸頭

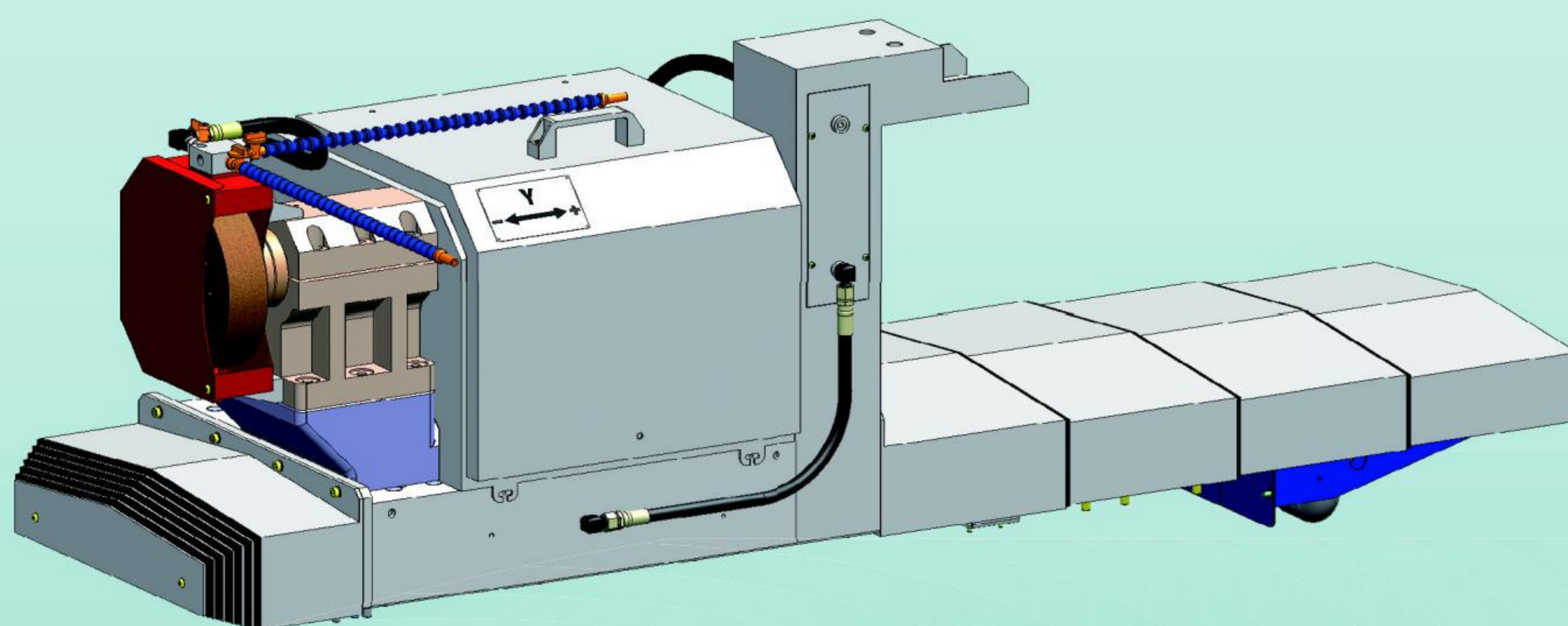
- 主軸箱採用軸套設計配有P4精密級NN雙列滾柱及斜角滾珠軸承。
- 工作頭可作+15° 逆時針方向旋轉及-15° 順時針方向旋轉，做內外徑錐度研磨，亦可選擇
  - a: 手動轉動角度型，磨內外徑圓柱及錐度。
  - b: 電腦自動轉動型(B軸) (XYZB) (opt)，磨內外徑及內徑複錐度。
  - c: 角度定位控制型(C軸) (XYC, XZC) (opt)，磨凸輪及偏心孔。
- 以縮短加工時間、提高工件研磨精度及擴展工件研磨領域。

### Work Head Spindle

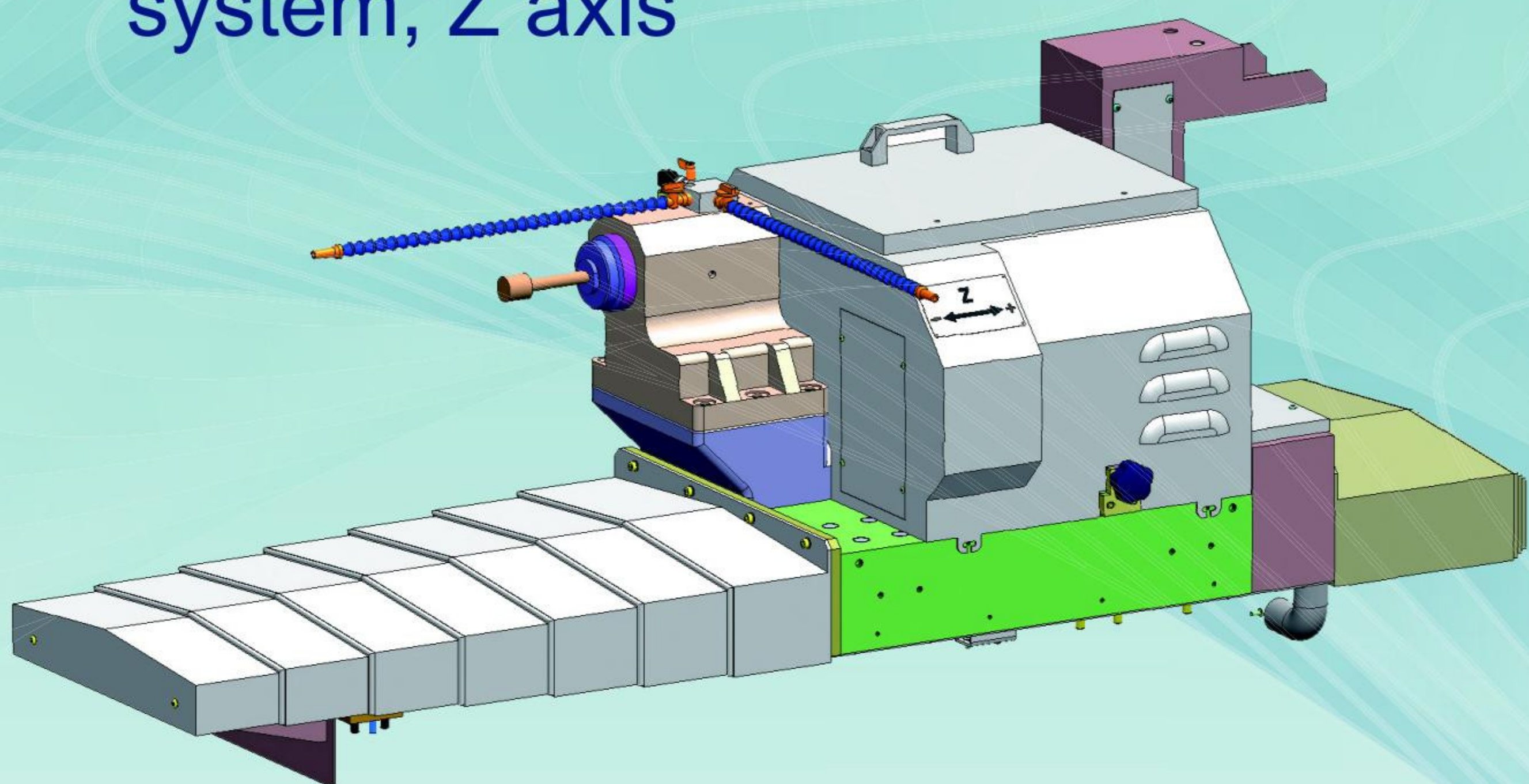
- The cartridge spindle in work head is supported by P4-class precision double roller and angular contact ball bearing.
- The work head can be adjusted angle +15° and -15°, it is suitable for internal and external taper grinding. Or can choose
  - a. Manual rotating angle type, for grinding internal and external of cylindrical and taper
  - b. Automatic rotating type (B axis) (X,Y,Z,B) (optional), for grinding internal and external
  - c. Angle positioning control type (C axis) (X,Y,C、X,Z,C) (optional), for grinding cam or eccentric hole
- It is to shorten grinding time, improve grinding accuracy and expansion grinding field.

- Y,Z 軸皆採用UP級線性滾柱滑軌與強制機油潤滑循環系統及油溫冷卻系統。
- Y, Z axis adopts UP class roller linear guide-way, automatic forced lubrication system and oil cooler system.
- 直結式伺服馬達傳動( $\beta 12$ )、C1級雙預拉滾珠螺桿( $\phi 40XP10$ )與P4級斜角滾珠軸承、 $0.05\mu\text{m}$ 高解析度光學尺(193F-640)(opt)。
- Direct drive servo motor transmission, C1 class double pre-tensioned ball screws and P4 class angle contact ball bearing and  $0.05\mu\text{m}$  high-resolution linear scale.
- 內外徑砂輪主軸馬達高轉速高精度低震動設計。
- External, internal wheel use high speed, high precision and low vibration motor.
- Y,Z 軸砂輪主軸可選購內藏式主軸、轉速高震動小工件研磨精度高(opt)。
- Y, Z axis wheel spindle can be chose optional build-in type spindle, high speed and small vibration can be reached high accuracy workpiece after grinding.

### Y軸外徑砂輪頭鞍座左右進給 External grinding horizontal feeding system, Y axis

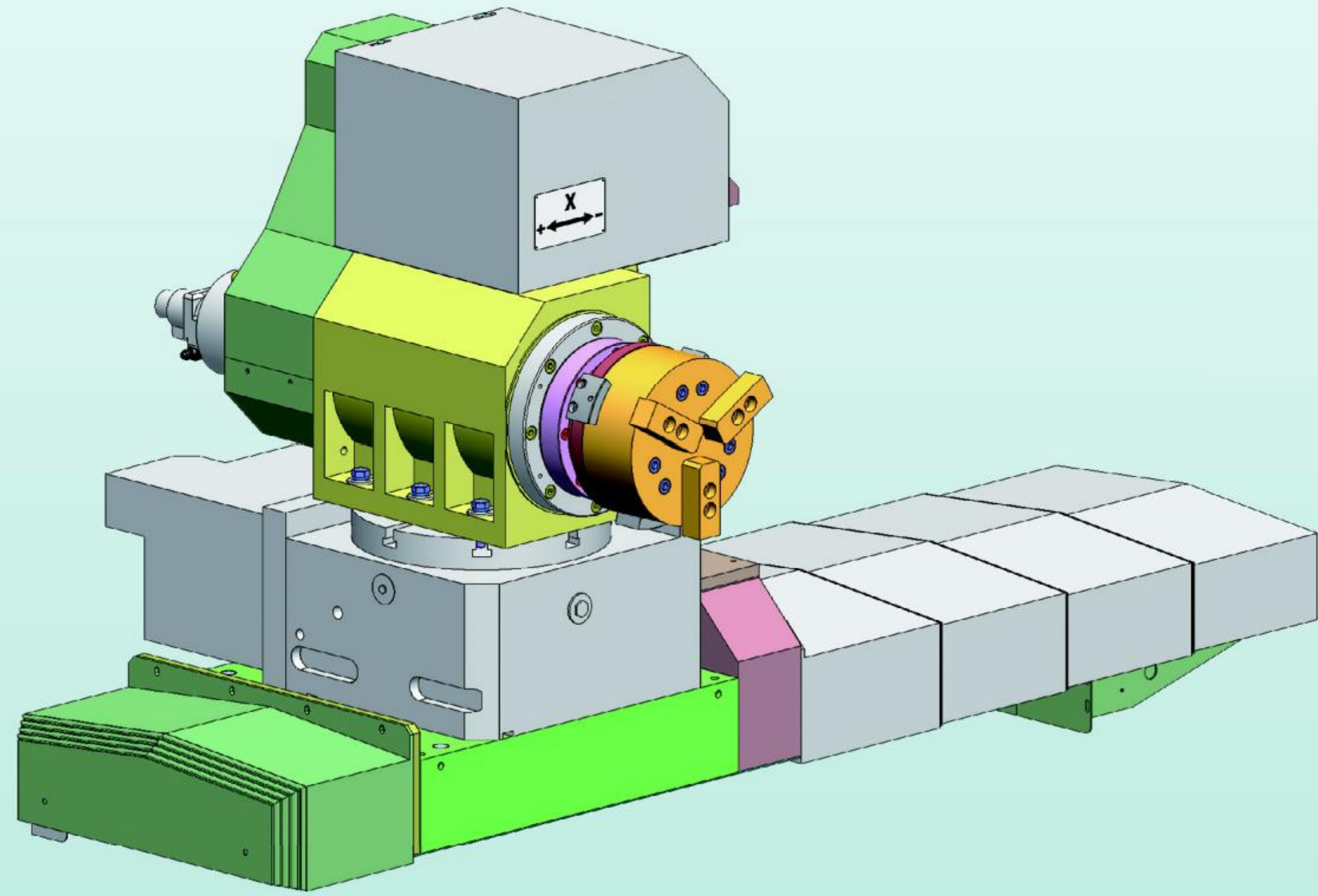


### Z軸內徑砂輪頭鞍座左右進給 Internal grinding horizontal feeding system, Z axis



## Extra Power Function!

嘉尼赫®  
JAINNHER®



### B軸

工作頭可加裝B軸(電腦自動轉動型) (opt)，可研磨內外徑及內徑複錐度。

- 此電腦分度盤為高精密度分度盤，雙導程、雙培林設計，耐重切削。
  - 咬合面達35%~45%耐重切削及連續加工
  - 耐磨性佳，1~2年不用調背隙
  - 精度控制0.003度內
  - 重覆定位精度可達0.001度。
- This is high accuracy rotary table with the design of double leads and bearings, it is suitable for heavy grinding procedure and continuous process.
  - Occlusion area reaches 35% ~ 45%.
  - Good abrasion resistance, no need to adjust backlash within 2 years.
  - Control accuracy within 0.003°.
  - Repeated positioning accuracy can be reached 0.001°.

### State-of-the-Art CNC Control



此磨床，除用FANUC(Oi-Mate TD)控制器，MACRO (巨集程式)操作介面，搭配8.4"彩色液晶螢幕，將帶給您大幅提昇產能以及優異的研磨精度。

This CNC machine is equipped with a FANUC(Oi-Mate TD) control, It employs macro (macro programs) operation interface combined with the use of an 8.4" colorful LCD screen, greatly upgrading production and providing outstanding grinding accuracy.

## 標準配件 Standard Accessories



1. 砂輪主軸  
Grinding wheel spindle



2. 三爪夾頭  
3-jaw chuck



3. 水平墊塊  
Levelling plate



4. 水箱  
Coolant tank



5. 工具箱及工具  
Tool box and tools



6. X軸光學尺  
Linear scale (X-axis)

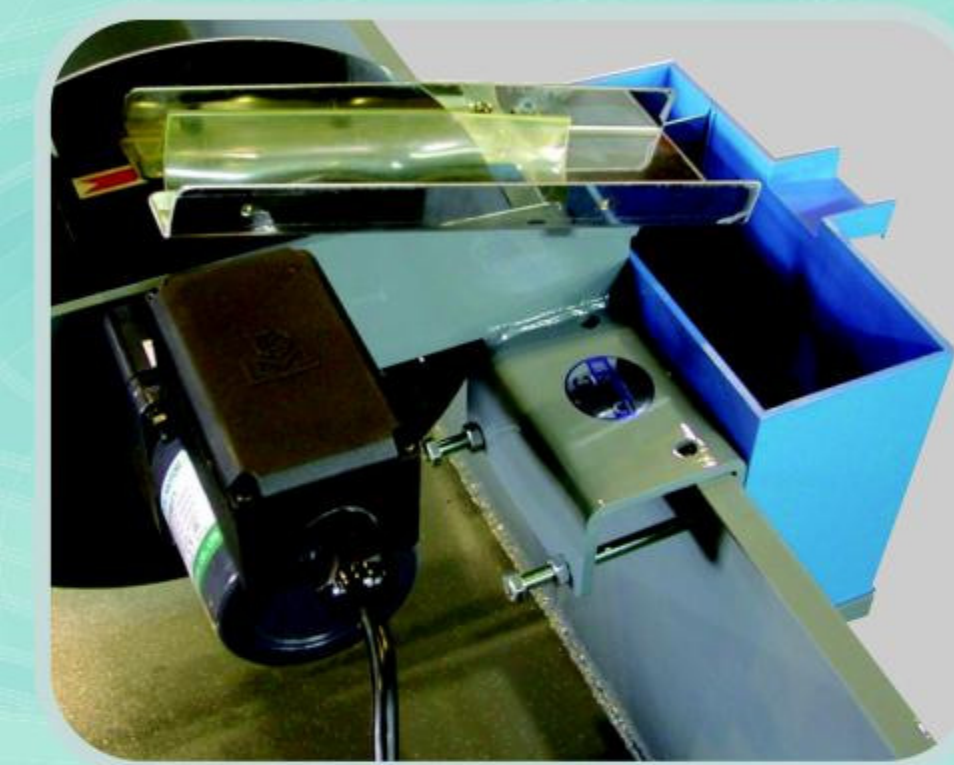
## 選購配件 Optional Accessories



1. 紙帶過濾機  
Paper filter



2. 鐵屑分離機  
Magnetic separator



3. 油水分離機  
Oil Skimmer



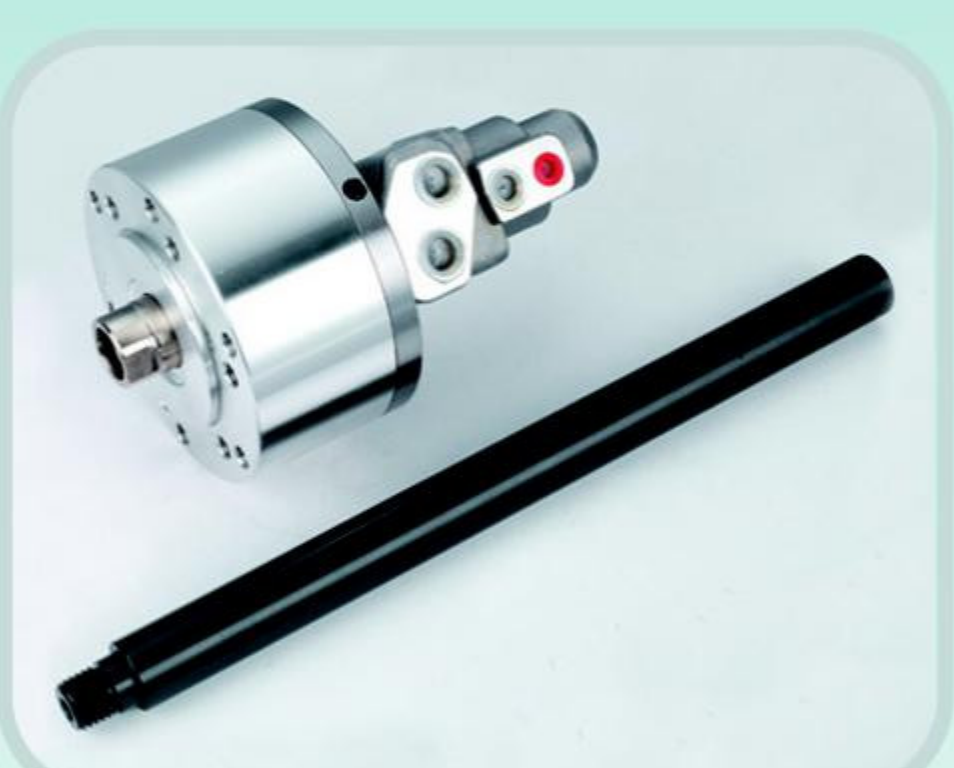
4. 砂輪噴霧式  
給油裝置  
Oil mist lubricator  
for grinding wheel



5. 砂輪主軸  
Grinding wheel spindle



6. 油壓三爪夾頭  
Hydraulic 3-jaw chuck



7. 油壓迴轉缸  
Hydraulic rotary cylinder

# 機械規格 Machine Specifications

項目 ITEMS		機型 MODELS		雙軸內外磨式	雙軸內磨式	雙軸內外磨式
				JHD-3205IO	JHD-3205II	JHD-3205IU
加工能力 Capacity	內徑(孔徑及深度)	ID(Hole,Depth)	Ø6~Ø200 (0.25"~8") x150mm (Ø2-Ø6 optional)			
	最大研磨外徑	Max. grinding dia.	Ø320mm (12.5")	—	Ø320mm (12.5")	
	最大研磨長度	Max. grinding len.	200mm	—	100mm	
	主軸最大旋徑	Max. swing over	Ø500mm (20")			
	工件最大荷重	Max. job weight	130kgs (110 lbs)			
	砂輪頭型式	Type of wheel head	外徑及內徑 (OD, ID)	雙內徑 (ID, ID)	外徑及內徑 (OD, ID)	
X軸 主軸滑台 X axis	夾頭	Chuck	8"			
	主軸轉速(正逆)	Spindle rpm	20-1000 rpm/min (variable speed)			
	最大行程	Max. stroke	500 mm(20")			
	主軸台旋轉角度	Swing angle	+15°~ -15° (手動) (Manual)			
	快速移動速度	Rapid speed	10 m/min (32.8ft/min)			
	最小設定單位	Min. Setting unit	0.001mm (0.00004")			
Y軸 砂輪移動滑台 Y axis	砂輪尺寸(外徑)	OD wheel size	Ø205x25mm	依工件, Depends	Ø405x50mm	
	砂輪轉速	R.P.M	3100rpm (33m/sec)	依工件, Depends	1780rpm (33m/sec)	
	最大行程	Max. stroke	500 mm(20")			
	快速移動速度	Rapid speed	10 m/min (32.8ft/min)			
	最小設定單位	Min. setting unit	0.001mm (0.00004")			
Z軸 砂輪移動滑台 Z axis	砂輪尺寸(內徑)	ID wheel size	依工件 (Depends)			
	砂輪轉速	R.P.M	依工件 (Depends)			
	最大行程	Max. stroke	500 mm(20")			
	快速移動速度	Rapid speed	10 m/min (32.8ft/min)			
	最小設定單位	Min. setting unit	0.001mm (0.00004")			
馬達 Motor	X軸主軸台進給	X axis	FANUC β12 1.8Kw			
	工作頭主軸馬達	Work head spindle	FanucαiF22 3.5Kw			
	Y軸外徑研磨進給	Y axis	FANUC β12 1.8Kw			
	Y軸砂輪主軸馬達	Y axis spindle	3.75Kw 2P V3		3.75Kw 4P V3 5Kw 4P V3 (opt)	
	Z軸研磨進給	Z axis	FANUC β12 1.8Kw			
	Z軸砂輪主軸馬達	Z axis spindle	3.75Kw (5HP) 2P V3			
	潤滑泵浦	Lubrication pump	0.18Kw ( 0.25HP ) 4P			
	油壓泵浦	Hydraulic pump	0.75Kw ( 1HP ) 4P			
	冷卻泵浦	Coolant pump	0.18Kw ( 0.25HP ) 4P			
	機台 Machine	淨重	Net weight	5100kgs		
毛重		Gross weight	5500kgs			
機台尺寸		Machine size	3100 x 2150 x 2270mm (L x W x H)			

## 鍵和機械股份有限公司 JAINNHER MACHINE CO.,LTD.

40768台中市西屯區台中工業區28路333號  
No.333,28th Rd. Taichung Industrial Park,  
Taichung,Taiwan 40768  
Tel:886-4-2358 5299 Fax:886-4-2359 4803  
saledep@jainnher.com  
[www.jainnher.com](http://www.jainnher.com)

## 昆山嘉尼赫機械股份有限公司 江蘇省昆山市周市鎮金茂路900號3棟3樓 (中國售服中心)

3F, Building 3, No.900, Jinmao Road, Zhoushi Town,  
Kunshan City, Jiangsu.  
TEL: +86-512-8186 7171 / +86-512-8186 7575  
FAX: +86-512-8186 7979