

# **JAINNHER®**



***CNC PLUNGE / ANGULAR  
CYLINDRICAL GRINDING MACHINE***

**The Ultimate Cylindrical Grinder  
Unmatched Performance**



**JAINNHER CNC Plunge / Angular  
Cylindrical Grinding Machine**  
**More Proof of JAINNHER's Exclusive  
Technological Capabilities!**



**CNC ANGULAR  
CYLINDRICAL  
GRINDING MACHINE  
JHA-2003CNC**



**CNC PLUNGE  
CYLINDRICAL  
GRINDING MACHINE  
JHP-2003CNC**



## APPLICABLE INDUSTRIES

- Gear shafts and shafts in automotive/ motorcycle gearboxes
- Precision machine tools gear shafts and shafts
- Air/hydraulic cylinders and valve shafts
- Robot arm parts
- Precision measuring instruments, electronic, optical and medical equipment



## CNC PLUNGE CYLINDRICAL GRINDING MACHINE

JHP-3506CNC JHP-4006CNC  
JHP-3510CNC JHP-4010CNC



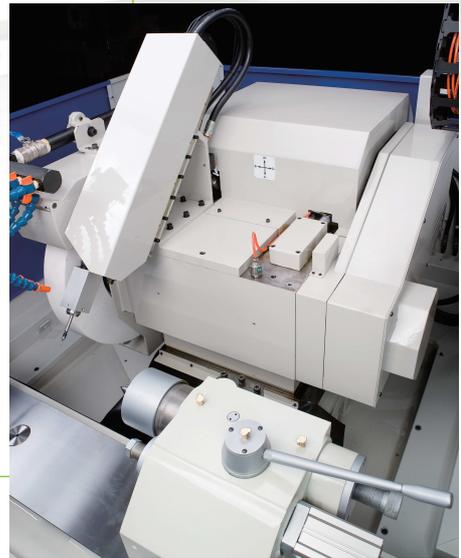
## CNC ANGULAR CYLINDRICAL GRINDING MACHINE

JHA-3505CNC JHA-4005CNC  
JHA-3508CNC JHA-4008CNC

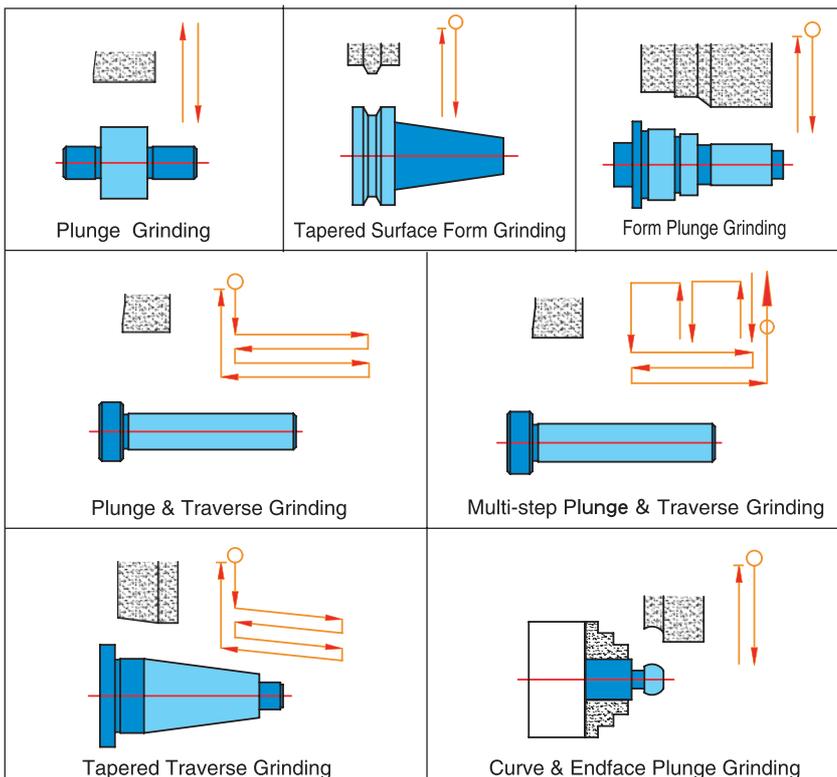
# Combines Various Grinding Functions

## A series of great-value cylindrical

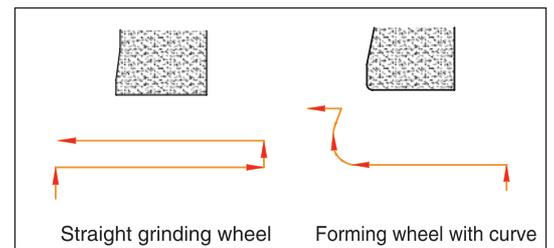
### Plunge Wheelhead



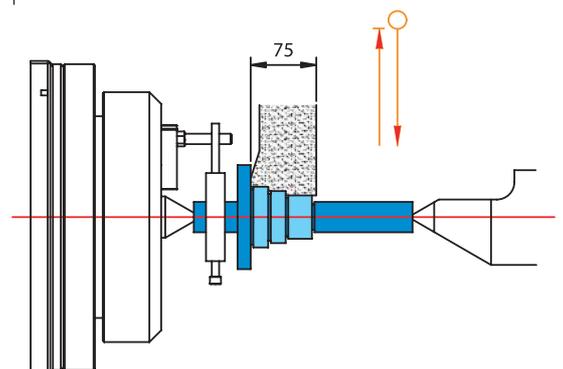
### VARIOUS GRINDING APPLICATIONS:



### WHEEL DRESSING CYCLES:

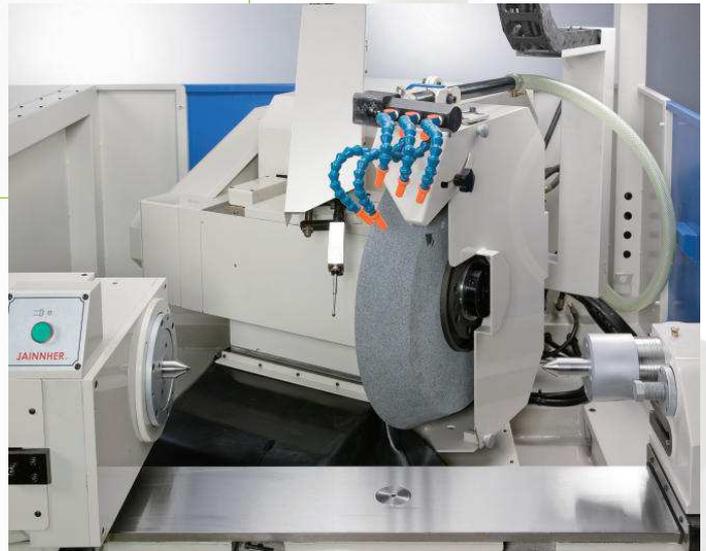


### GRINDING EXAMPLE:

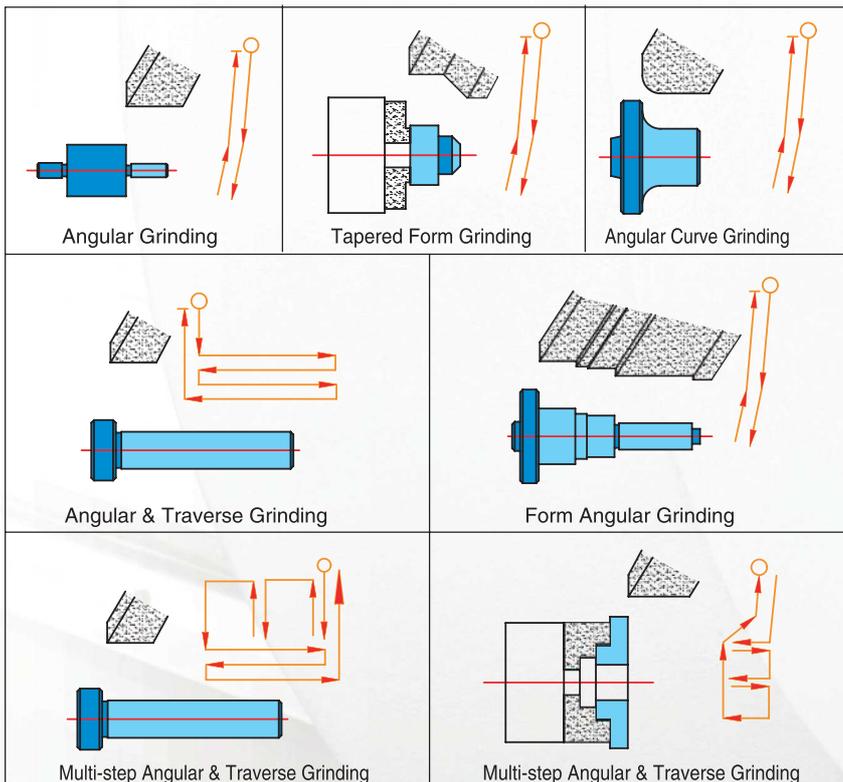


# in One! grinders from JAINNHER!

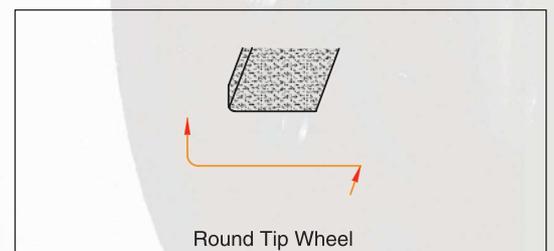
## Angular Wheelhead



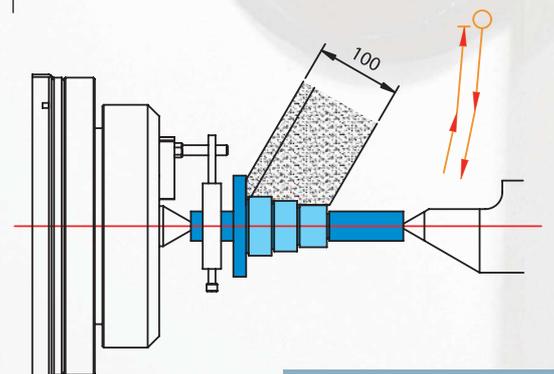
### VARIOUS GRINDING APPLICATIONS:



### WHEEL DRESSING CYCLE:



### GRINDING EXAMPLE :



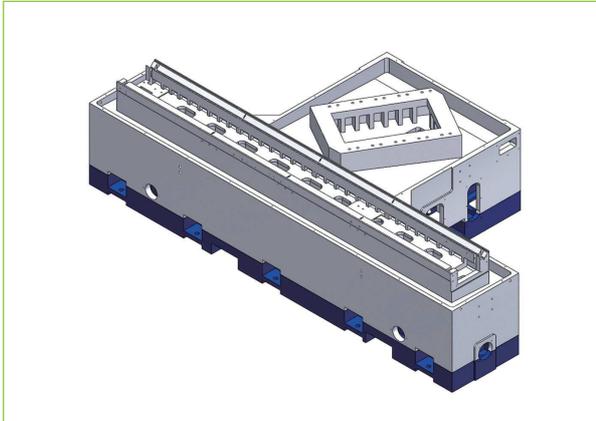
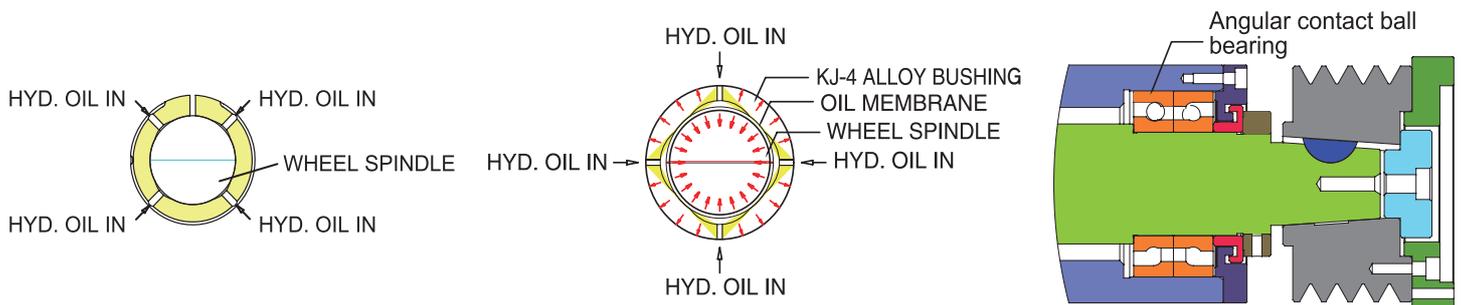
# Advanced Design Concepts!

## Extra Powerful Functions!



### WHEEL SPINDLE

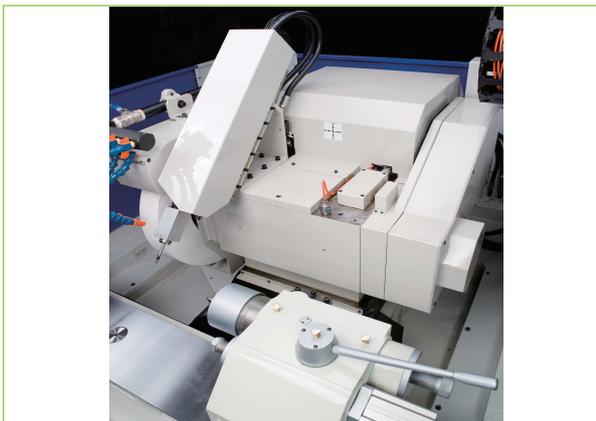
Hydrodynamic / Hydrostatic / Bearing



### ONE-PIECE FABRICATED BASE

#### Deformation-free

- The machine base is one-piece manufactured from Meehanite cast iron, tempered for maximum stability of material.
- Box type base construction features superior stability and rigidity.
- The base permits fast coolant exhaust, preventing thermal deformation from influencing machine accuracy.



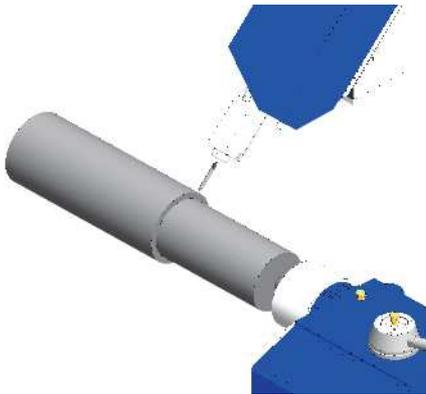
### WHEELHEAD FEEDING SADDLE

#### Equipped with 0.0005mm Linear Scale for Feedback Control

- The wheelhead moves on double "V" slideways.
- Top slideway surfaces are coated with Turcite-B and precision scraped.
- Equipped with high resolution 0.0005mm linear scale for close-loop feedback.

# Advanced Functions !

## Efficiency Improvement !

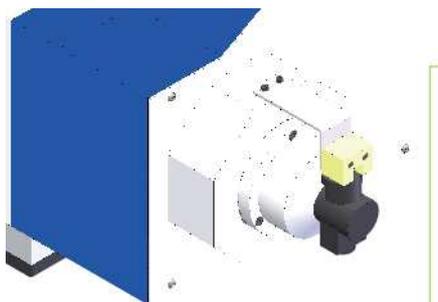
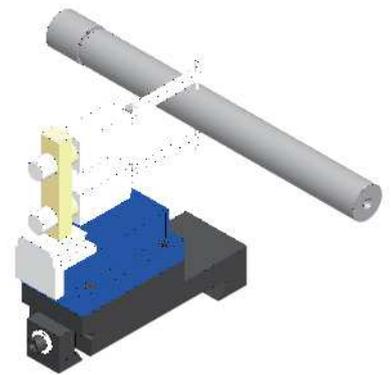


### Touch Probe

- Measuring position and calculating distance .
- Calculating position

### In Process Gauge

- In process measuring workpiece OD, grinding and measuring simultaneously, improvement yield.
- Inspecting workpiece roundness after grinding, and feedback controller.
- Inspecting workpiece accuracy after grinding.



### Grinding Wheel Automatic Balancing System

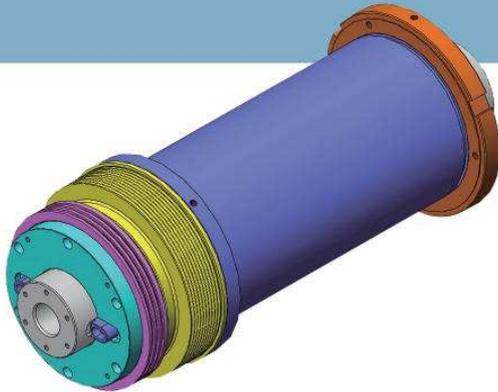
- Grinding wheel automatic balancing while rotating.
- During machine operation if grinding wheel unbalancing, the device automatic adjust wheel balance, it has no need to dismount grinding wheel.

### Wheel Crash Control

- When over grinding workpiece, grinding wheel immediately retract, to avoid machine damage.
- While grinding, the audio frequency function shortens rapid traverse time, improve grinding efficiency.



# Performance is our tenacity



## CARTRIDGE TYPE WORK HEAD SPINDLE (OPTIONAL)



### WORK HEAD

**Maximum Rigidity!**

**High precision!**

- The cartridge spindle is supported by 8 P4-class angular contact ball bearings and roller bearings at front and rear end. This assures outstanding machining stability and makes the machine ideal for heavy duty machining.
- FANUC servo motor drive.
- The spindle provides centering and synchronized motion functions. Fast interchange between center and chuck.
- The work head permits 90° counter-clockwise swiveling and 30° clockwise, making the machine suitable for various grinding modes.



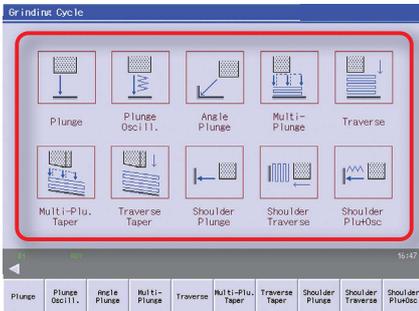
### HYDRAULIC TAILSTOCK

- The sleeve movement is hydraulically operated for convenient workpiece loading and unloading.
- With foot pedal to control workpiece clamping and unclamping.
- Workpiece clamping and unclamping force can be adjusted by turning a knob. The sleeve is precision machined from hardened alloy, featuring maximum wear resistance and rigidity.



## Variety Grinding Cycles

**Total design for user needs! Most practical! Easy operation!**



- Plunge without oscillation
- Plunge with oscillation
- Angle plunge grinding
- Multi-plunge grinding
- Traverse grinding
- Multi-plunge taper grinding
- Traverse taper grinding
- Shoulder plunge without oscillation
- Shoulder traverse grinding
- Shoulder plunge with oscillation

### Form type fill in ! Easy to edit processing mode !

- Using special form type design, easy and fast to edit program for different grinding cycles.
- Using regular program but NC editing, user is available to edit any processing mode.
- Easy to expand special grinding cycle for any processing needs.
- To ensure the accuracy and stability.



FANUC



Mitsubishi



Siemens



## HYDRAULIC PRESSURE SENSOR

- The pressure switch provides pressure sensing function. The spindle can't start until lubrication oil pressure reaches the setting value. In case hydraulic system is abnormal, spindle running stops.
- When setting pressure, fast response can be achieved in case pressure error is within 5kg.



## HIGH PRESSURE OIL SYSTEM

- The high pressure oil system includes high pressure filter can, accumulator, pressure switch, check valve and throttle valve. Pressure can be adjusted in axial and radial direction.
- In case power failure occurs, the accumulator may keep pressure for 5 minutes.

## AUTOMATIC LUBRICATION SYSTEM

- All moving and running parts are lubricated by automatic lubrication system.
- The lubrication system is separately mounted from the machine to avoid vibration and facilitate heat dissipation.

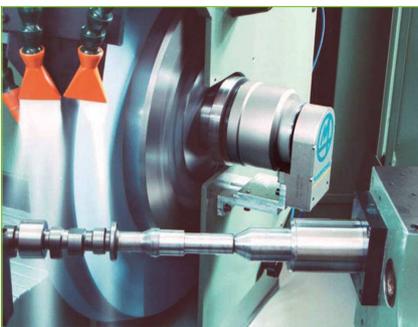
# ADVANCED OPTIONAL EQUIPMENT



Auto in-process gauge (optional)  
Marposs



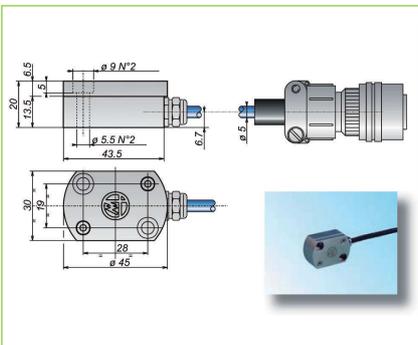
Auto in-process gauge (optional)  
BS



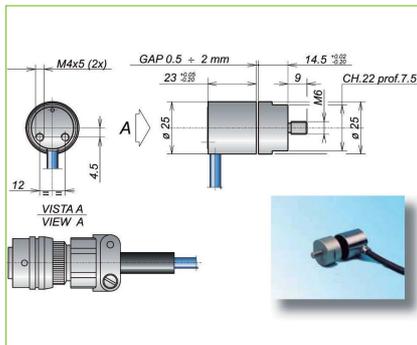
Wheel balancing system (optional)  
Marposs



Wheel balancing system (optional)  
BS



Wheel crash control device  
Marposs



BS



Thickness measuring gauge (optional)  
Marposs/BS



Z-axis linear scale (optional)



# STANDARD EQUIPMENT



(A) Oil cooler (except 2003 series)



(B) X-axis linear scale



(C) Work lamp



(D) Foot pedal



(E) Angle adjustment gauge



(F) Hydraulic tailstock with manual movement



(G) Grinding wheel and flange



(H) Tungsten carbide tipped centers



(I) Automatic lubrication system



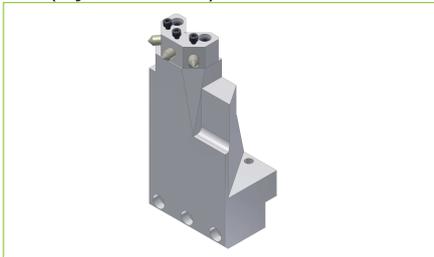
(J) High pressure oil system (hydrostatic)



(K) Low pressure oil system (hydrodynamic)



(L) Tailstock dressing device (except 2003 series)



(M) Diamond dresser (Worktable)



(N) Magnetic separator + coolant tank + pump



(O) Leveling bolts and blocks



(P) Tool kits and toolbox



(Q) Fully enclosed splash guard & Oil mist device



(R) Touch probe gauge



# OPTIONAL EQUIPMENT



(A) 2-point steady rest  
Ø9-Ø70 for 2003  
Ø15-Ø95 for 35 & 40



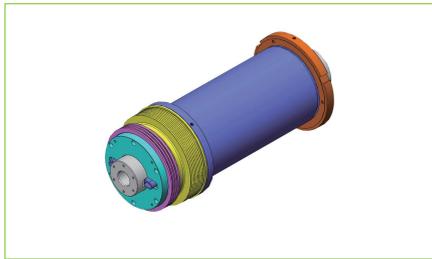
(B) 3-point steady rest  
Ø20~Ø145 for 35 & 40  
Ø135~Ø260 for 35 & 40



(C) Paper filter 40L/80L



(D) 5"/"6"/"8" 3 jaw chuck



(E) Cartridge work head spindle



(F) Center ring and drive plate



(G) Work holder



(H) Wheel lifting tool

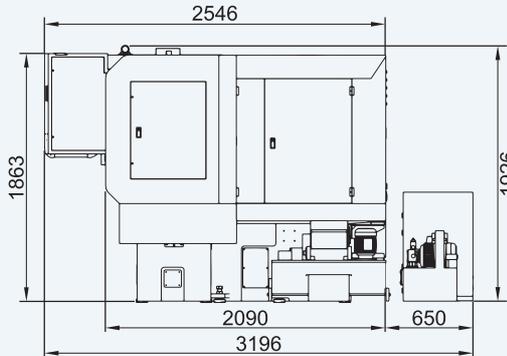
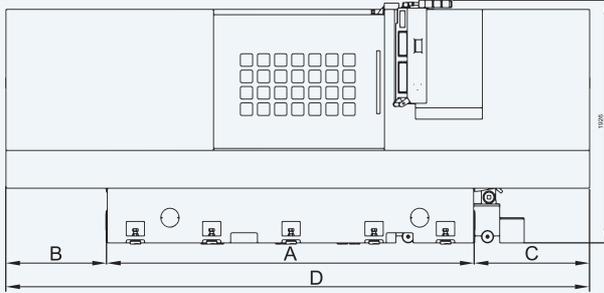
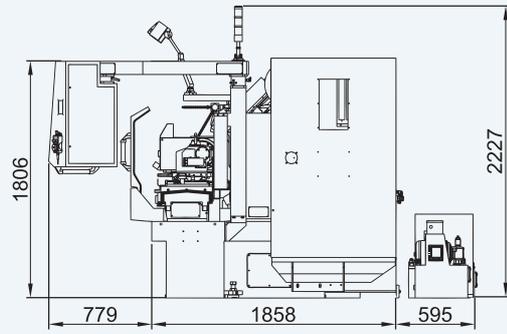
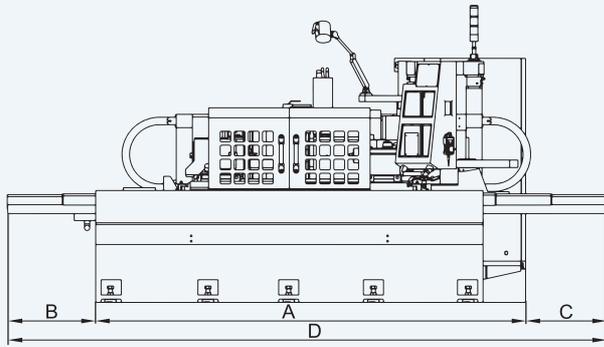


(I) Wheel balancing stand

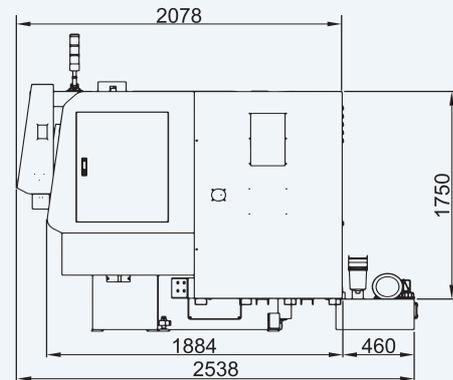
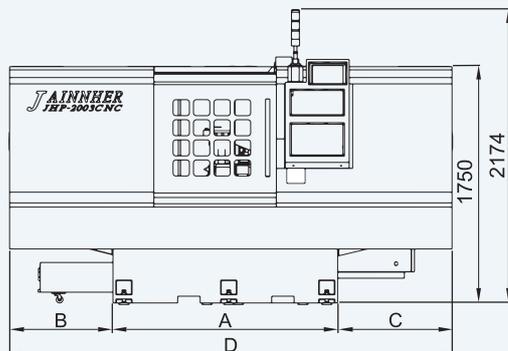
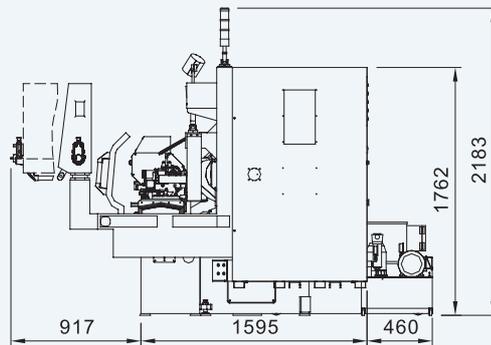
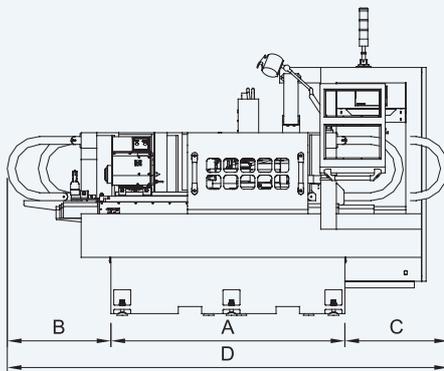


(J) Wheel balancing arbor

MODEL		CNC PLUNGE					CNC ANGULAR							
		JHP-2003 CNC	JHP-3506 CNC	JHP-4006 CNC	JHP-3510 CNC	JHP-4010 CNC	JHA-2003 CNC	JHA-3505 CNC	JHA-4005 CNC	JHA-3508 CNC	JHA-4008 CNC			
ITEM														
	Capacity	Max. work swing	Ø200mm	Ø350mm	Ø400mm	Ø350mm	Ø400mm	Ø200mm	Ø350mm	Ø400mm	Ø350mm	Ø400mm		
Max. grinding length		300mm	600mm		1000mm		300mm	520mm		820mm				
Max. grinding dia.		Ø200mm	Ø330	Ø380	Ø330	Ø380	Ø200mm	Ø330	Ø380	Ø330	Ø380			
Max. job weight		80kg	150kg				80kg	150kg						
Distance between centers		300mm	600mm		1000mm		300mm	600mm		1000mm				
Center height		100	175	200	175	200	100	175	200	175	200			
Grinding wheel	Grinding wheel sizes	Ø355 or Ø405	Ø510x50~100xØ203.2				Ø405x38~50xØ127	Ø610x50~100xØ203.2						
	Grinding wheel speed	1780rpm	1250rpm				1560rpm	1250rpm						
	Max. peripheral speed	33 m/sec	33 m/sec				33 m/sec	40 m/sec						
Wheel head	Feed angle	90°					60°							
	Swivel angle	± 0°					± 0°							
	Rapid traverse speed	6 m/min					6 m/min							
	Max. travel	220mm	280mm				220mm	280mm						
	Min. setting unit	0.0001mm					0.001mm							
	Grinding feed rate	0.001~6000 mm/min					0.001~6000 mm/min							
	Hydrostatic pressure	——	Hydr. D .3kg / Hydr. S. 20kg				——	Hydr. D .3kg / Hydr. S. 20kg						
Tailstock	Retraction of sleeve	30mm					30mm							
	Sleeve diameter	D:48mm	D:70mm				D:48mm	D:70mm						
	Center taper	NO#3	NO#4(Opt.NO.#5)				NO#3	NO#4(Opt.NO.#5)						
	Hydraulic cylinder pressure	20kg					20kg							
Work head	Spindle speed (variable)	10~500 rpm/min					10~500 rpm/min							
	Center taper	NO#3	NO#4(Opt.NO.#5)				NO#3	NO#4(Opt.NO.#5)						
	Spindle type	Cartridge type					Cartridge type							
	Swivel angle	120(90CCW ; 30CW)					120(90CCW ; 30CW)							
Work table	Swivel angle (C.W.)	+10	+9		+7		+10	+9		+7				
	Swivel angle (C.C.W.)	-3	-5		-4		-3	-5		-4				
	Rapid traverse speed	8 m/min	10 m/min				8 m/min	10 m/min						
	Min. setting unit	0.0001mm					0.0001mm							
	Max. travel	640mm	700mm		1100mm		640mm	600mm		900mm				
	Grinding feed rate	0.001~6000 mm/min					0.001~6000 mm/min							
Motor	Grinding wheel spindle	5HP 4P(Opt. 7.5HP 4P)		7.5HP 4P(Opt. 10HP 4P)			5HP 4P(Opt. 7.5HP 4P)		10HP 4P					
	Work head	1.0KW		1.5KW			1.0KW		1.5KW					
	Work table feeding (Z-axis)	1.2KW		1.8KW			1.2KW		1.8KW					
	Wheel table feeding (X-axis)	1.2KW		1.8KW			1.2KW		1.8KW					
	Hydraulic pump	1/4HP 4P		1HP 4P			1/4HP 4P		1HP 4P					
	Wheel head pump	——	Hydr. D. 1HP 4P / Hydr. S. 2HP 4P				——	Hydr. D. 1HP 4P / Hydr. S. 2HP 4P						
	Coolant pump	1/8HP 2P		1/2HP 2P			1/8HP 2P		1/2HP 2P					
	Magnetic coolant separator	1/25HP 2P		1/25HP 2P			1/25HP 2P		1/25HP 2P					
	Oil cooler	——	Hydr. S. 600W / Hydr. D. 400W / Slide 250w				——	Hydr. S. 600W / Hydr. D. 400W / Slide 250w						
Oil tank	Hyd. Oil tank (slideways, screw ends & measurement)	30L		60L			30L		60L					
	Wheel head lubrication	——	50L				——	50L						
	Coolant tank	80L		160L			80L		160L					
Machine	N.W.	Fully enclosed	3800kg		7460kg		8080kg		3800kg		7460kg		8080kg	
		Semi-enclosed	3600kg		6840kg		7800kg		3600kg		6840kg		7800kg	
	G.W.	Fully enclosed	4100kg		7860kg		8480kg		4100kg		7860kg		8480kg	
		Semi-enclosed	3900kg		7240kg		8200kg		3900kg		7240kg		8200kg	
	Machine dimensions (LxWxH)	Fully enclosed	3.3 x 2.1 x 2.2		5.0 x 2.1 x 2.2		5.8 x 2.1 x 2.2		3.3 x 2.1 x 2.2		5.0 x 2.1 x 2.2		5.8 x 2.1 x 2.2	
		Semi-enclosed	3.2 x 2.1 x 2.2		4.2 x 2.1 x 2.2		5.1 x 2.1 x 2.2		3.2 x 2.1 x 2.2		4.2 x 2.1 x 2.2		5.1 x 2.1 x 2.2	
Packing dimensions (LxWxH)	Fully enclosed	3.5 x 2.2 x 2.2		5.2 x 2.2 x 2.2		6.0 x 2.2 x 2.2		3.5 x 2.2 x 2.2		5.2 x 2.2 x 2.2		6.0 x 2.2 x 2.2		
	Semi-enclosed	3.4 x 2.2 x 2.2		4.4 x 2.2 x 2.2		5.3 x 2.2 x 2.2		3.4 x 2.2 x 2.2		4.4 x 2.2 x 2.2		5.3 x 2.2 x 2.2		



	3505A/3506P Full enclosed	3508A/3510P Full enclosed	4005A/4006P Semi enclosed	4008A/4010P Semi enclosed
A	2880	3680	2880	3680
B	874	987	634	747
C	1221	1173	709	661
D	4975	5790	4223	5088



	2003A Semi enclosed	2003P Semi enclosed	2003A Full enclosed	2003P Full enclosed
A	1650	1650	1650	1650
B	713	731	760	760
C	830	731	840	840
D	3193	3112	3250	3250



嘉尼赫®  
**JAINNHER®**  
鍵和機械股份有限公司  
JAINNHER MACHINE CO., LTD.

407 台中市西屯區台中工業區 28 路 333 號  
No. 333, 28th Rd., Taichung Industrial Park, Taichung, Taiwan 407  
TEL: 886-4-2358-5299 FAX: 886-4-2359-4803  
E-mail: [saledep@jainnher.com](mailto:saledep@jainnher.com)  
[www.jainnher.com](http://www.jainnher.com)

昆山嘉尼赫機械有限公司  
KUN SHAN JAINNHER MACHINE

江蘇省蘇州市昆山市周市鎮金茂路900號3棟3樓  
昆山//TEL: +86-512-81867171, +86-512-81867575  
FAX: +86-512-81867979