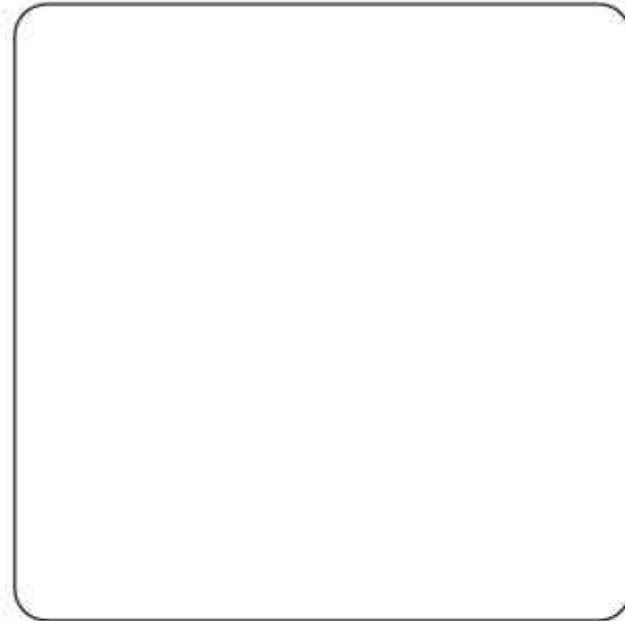


Authorized Agent



**JEOYAR**  
**聚研精机**

**JEOYAR (Chongqing) Intelligent Equipment Co.,Ltd**

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Automatic high precision honing machine

**JEOYAR**  
**聚研精机**

Precision inner Hole Processing Equipment Manufacturer  
ISO9001:2015



**PROFESSIONAL HIGH PRECISION AUTOMATIC  
HONING EQUIPMENTD & HONING SOLTION SUPPLIER**

**JEOYAR (Chongqing) Intelligent Equipment Co.,Ltd**

**CHONGQING, CHINA**



**Enterprise Introduction >>**

- ◆ JEOPYAR (Chongqing) Intelligent Equipment Co. Ltd is an enterprise focus on the high precision intelligent honing machine for over 20 years.
- ◆ Relying on the technologies from Japan, USA, Taiwan, and the support of the CAS & Chongqing University, Jeoyar produces high precision intelligent machines for inner hole machining, include Vertical honing machines, Automatic reaming and honing machines, Dynamic and static pressure boring machine and honing automation systems. Also, we can customize and develop various automatic honing production lines according to customers' requirements.
- ◆ JEOPYAR has passed ISO 9001:2015 . To guarantee the precision, accuracy, stability and life of the machine, the main functional parts of honing machine are imported from Japan, USA, and Taiwan.
- ◆ JEOPYAR owns a great R&D team to serve customers well and strives to produce the machinery that satisfy every user.



**About Honing Machine >>**

- ◆ Honing machines are abrading tools and process utilizing hard tooling and abrasives stones for the correction of diameter, shape, surface, finish, and positional tolerances of bores.
- ◆ Advantages:
  1. Flexible clamping, automatically centering
  2. Use special coolant oil for honing to get a decrease in deformation and to get a higher dimensional accuracy, geometric accuracy, and surface roughness.
  3. The reciprocating and rotating movements make crosshatch on the workpiece's surface which can help maintain the lubrication film. Meanwhile, it will eliminate the phenomenon of sand inlaying and extend the machine's service life.

With the development of high-performance abrasives and automatic honing system, the application of the honing machine will be more extensive.

WHAT JEOPYAR HONING MACHINE CAN DO	Improve roundness, cylindricity, straightness
	Improve lubricity
	Process new and difficult processing materials
	High precision processing of blind hole
	Any operator can operate the machine easily
	Improve working environment
	Reduce labor costs
	Improve interchangeability
	Replace the grinding process
	Improve reciprocating performance
	High efficiency precision processing
	Automatic high precision processing
	Stable high precision processing
Improve surface roughness	



## Honing Technique >>

Honing is the use of one or more oilstones installed on the circumference of the honing head. The oilstones are expanded in the radial direction by the expansion mechanism to press them against the wall of the inner bore of the workpiece to produce a certain surface contact. At the same time, the honing head rotates and reciprocates to achieve honing. Its machining accuracy up to micron( $\mu\text{m}$ ) level.

In the honing operation, a rotating tool carrying abrasives removes metal from the interior surface of a bore or cylinder. The main purpose is to finish the surface to a particular diameter and geometric cylindricity. It's usually a secondary machining operation that finishes a part, relieves stress, or corrects some feature such as out-of-round, undersize tapers, or misaligned bores. A typical production cycle is to drill, ream, heat treat, then hone. Sometimes the operation may only require drilling and honing. The honing operation typically removes from 0.001 to 0.010mm of material in a process that competes effectively as a finishing process with boring and grinding.

Although the honing process can be applied to any surface, it is most commonly done on internal cylinder walls using a combined rotating and reciprocating motion. With abrasive honing stones, the proper choice of bond and coolant optimizes stone performance and cost per part. With diamond-plated honing tools, peck feed, and reversing the spindle on retraction stroke can minimize problems with chip formation and removal.

Honing speeds are quite slow relative to grinding, but that doesn't mean slow metal removal. Area of the abrasive and length of stroke work with feed rate, rotation and spindle speeds to determine metal-removal rate and the geometric accuracy achieved. Many times, this may be below one micron.

There are two main forces involved in the cutting operation: torque from the pressure of the abrasive against the surface being cut during tool rotation, and the forces from the back and forth action of the hone or workpiece.

Unlike conventional machining, the accuracy of a honing process is not entirely dependent on the machine. The tool and abrasive are the keys to accuracy. Another difference from conventional machining is that it needs no chucking or alignment. The part aligns itself with the tool because the tool or the part is floating in most applications. Often, the part is placed in a specially designed honing fixture which provides floating action.

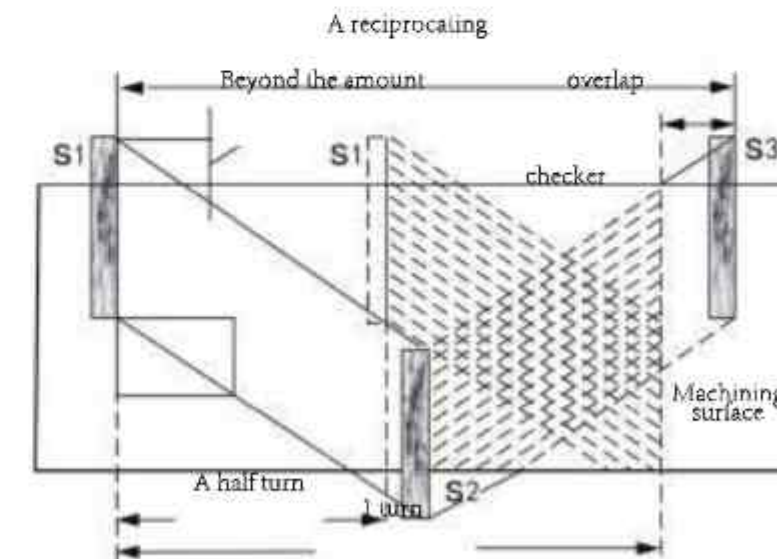


## Honing Motion Paths >>

Honing is a grinding process with low speed and large area contact, which is basically the same as the grinding principle. The abrasive tool used in honing is a honing head which is made up of several pieces of fine abrasive stone.

In the process of honing, the oilstone of honing head has three kinds of motions: rotary motion, reciprocating linear motion, and radial motion with applied pressure, as shown in the figure. Among them, rotation and reciprocating movement are the main movements of honing. The combination of these two movements makes the cutting trajectory of the oilstone abrasive particles on the surface of the hole form crosshatch. The radial pressure movement is the feed movement of the oilstone, the higher the pressure applied, the faster the honing speed will be.

During honing, the contact area between the oilstone and the hole wall is large, and there are many abrasive particles participating in the cutting, so the cutting force applied to each abrasive particle is very small (the vertical load of abrasive particles is only 1/50 ~ 1/100 of the grinding). The honing speed is low (generally less than 100m/min, only 1/30 ~ 1/100 of ordinary grinding), and a large amount of coolant is applied in the honing process, so there is less heat and the surface of the hole is not easy to burn. And the deformation layer is very thin, so that the hole can be processed to obtain high dimensional & shape accuracy and good surface quality.





Three processes of honing >>

Application >>

◆ The first process is shedding-honing.

At the beginning of the honing process, due to the rough bore wall, the contact area between the oil stone and the hole wall is very small, and the contact pressure was very high. The bulge part of the hole wall is quickly polished away. As a result of the high contact pressure on the surface of the oilstone, and cutting on the abrasion of the oilstone adhesive, the binding strength of abrasive particles and adhesives decreased, then the oilstone surface exposed new abrasive particles while some of the abrasive particles shed themselves.

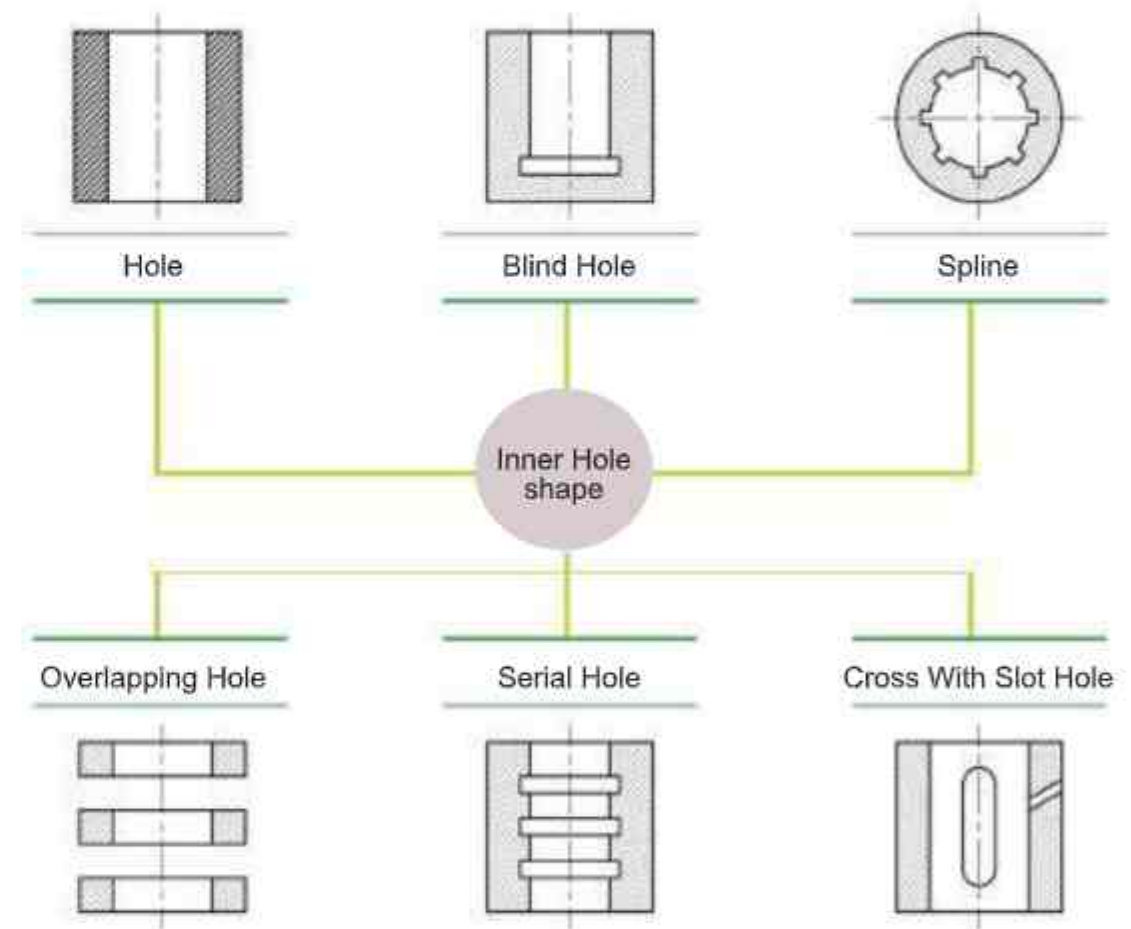
◆ The second process is crushing-honing.

With the progress of honing, the surface of the hole became more and more smooth, the contact area with the stone became larger and larger, the contact pressure per unit area decreased, and the cutting efficiency also decreased. At the same time, the cuttings are very small, and their wear on the adhesive is also very small. Therefore, the oilstone abrasive particles fall off very little. At this time, honing does not rely on new abrasive particles, but is cut by the tip of the abrasive particles. Therefore, the tip of the abrasive particles is heavily loaded, and the abrasive particles are easily broken and collapsed to form new cutting edges.

◆ The last process is blocking-honing.

When honing continued, the contact area between oil stone and hole surface became larger and larger, the cuttings blocked the gap between oil stone and hole wall, therefore, the cutting ability of oil stone is extremely low. If the honing continued, the oil stone would lose its cutting ability completely and be seriously overheating, the accuracy and surface roughness of the hale would be affected. The honing processing should be stopped as soon as possible.

Advanced precision hole processing equipment and technology are widely used in automobile and parts processing, Typical applied to engine cylinder block, cylinder liner, connecting rod, gear, oil pump nozzle, brake pump, brake drum, oil cylinder, steering gear, supercharger, etc.



**JEoyAR Advantages >>**

**1**

● **Leading machine design**

By absorbing foreign advanced technology and relying on the strong support of CAS and Chongqing University, Jeoyar equipment's maturity and progressiveness are in the leading level now.

**2**

● **High rigid structure design**

Use world top-level brands liner guide rail with high rigidity and precision to ensure the processing accuracy of machine.

**3**

● **German automatic honing special control system**

The special automatic control system for honing machine is exploited based on SIEMENS control system and inherits its reliability. Besides, it develops special program according to the feature of honing technology to make the operation easy, automatic, visible and convenient monitoring. The system has undergone five million intensive experiments. It's possible for operator without special programming training to control multiple machines.

**4**

● **Full closed loop control system**

Adopt close-loop control system for recipro-cating and feeding to ensure precision control of position, speed, torque. Strict requirements for blind hole processing, big allowance processing, quick processing, etc... can be satisfied.

**5**

● **Multiple self-monitoring protection systems**

The system will monitor, alarm, shut down and protect automatically if spindle rotation abnormal stopping, short of lubrication, electrical appliances abnormal working, etc...

**7**

● **Feed stroke adopts dual full closed loop control reduces auxiliary time such as idle stroke**

Because of the double close-loop control of the feed stroke, both can be set as required, which effectively reduces the idle time and improves the production efficiency.

**8**

● **Automatic on-line detection**

Variety of on-line detection devices can be optional to improve the efficiency and pass rate of production line.

**10**

● **Original imported global brand functional components guarantee the quality of the whole machine**

All components of mechanical and electrical appliance are imported directly, that ensures the accuracy and reliability of Jeoyar machine.

**6**

● **High quality honing oil coolin and filtration device**

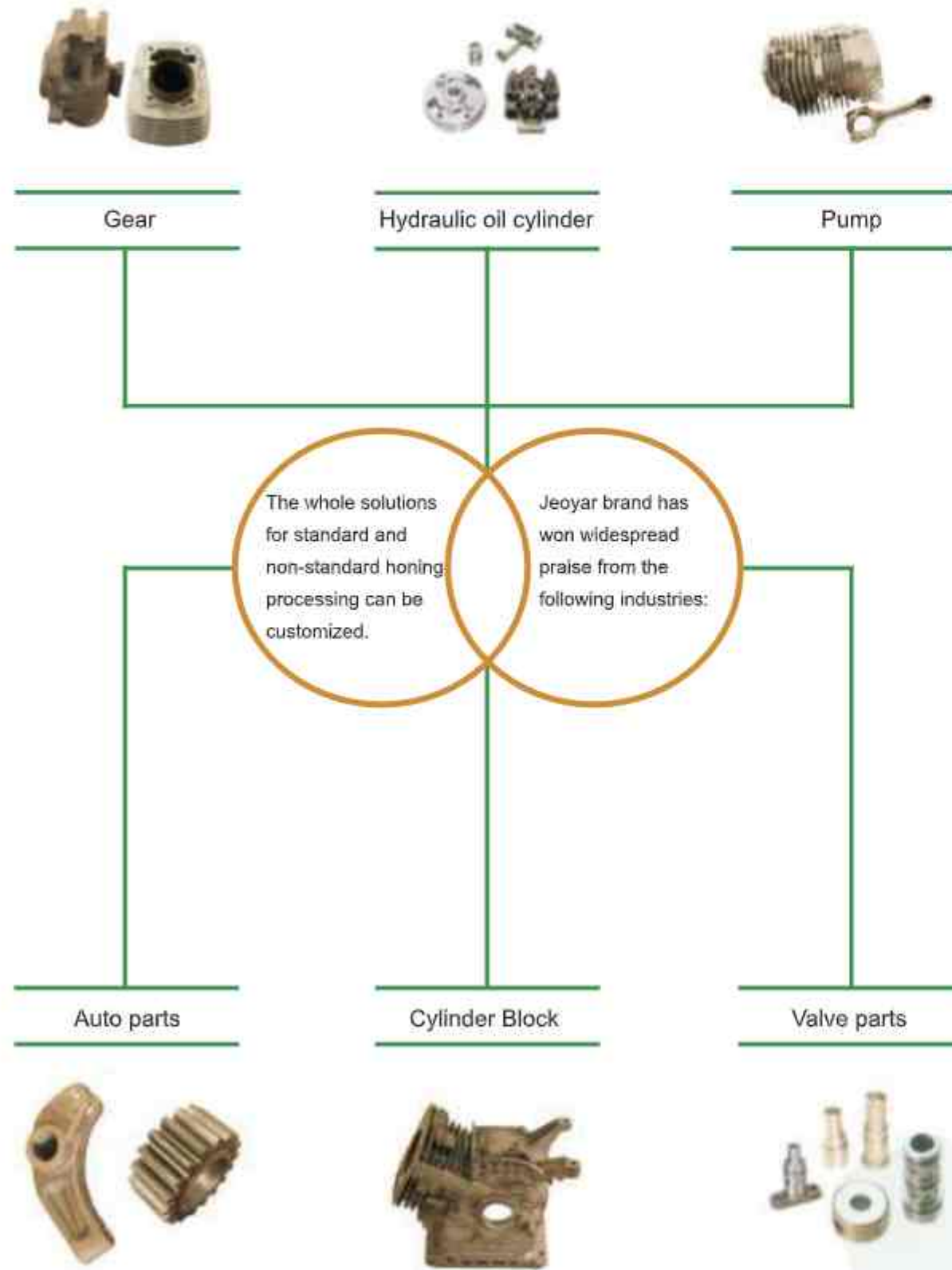
Since the temperature of honing oil rises fast, the special honing oil cooler and multiple magnetic paper filter units affect the processing result properly.

**9**

● **Save energy and reduce energy consumption**

Due to the application of multistage automatic control and frequency conversion technology, consumptions of processing energy and electricity have been effectively reduced to the extreme.





Single Spindle Single Station Vertical Honing Machine  
Model: JYHM 4250-1-1



No.	Items	JYHM4250-1-1
1	Honing Diameter	φ4mm-φ50mm
2	The length of the stroke	350mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	Spindle motor	Frequency inverter / Servo
6	The method of honing extension	Quantitative / Constant pressure
7	The minimum feed amount of honing blade	0.1um
8	Motor power of spindle	2.2Kw/4Kw
9	Spindle speed range	80-1500r/min
10	The spindle number	1
11	Dimension	1500×1530×2500mm
12	Machine weight	3.0T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs

Two Spindles Two Stations Vertical Honing Machine  
Model: JYHM 4250-2-2



Two Spindles Four Stations Vertical Honing Machine  
Model: JYHM 4250-2-4



No.	Items	JYHM4250-2-2
1	Honing Diameter	φ4mm-φ50mm
2	The length of the stroke	350mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Quantitative/ Constant pressure
6	Spindle motor	Frequency Inverter/Servo
7	The minimum feed amount of honing blade	0.1um
8	Motor power of spindle	2.2Kw/4Kw
9	Spindle speed range	80-1500r/min
10	The spindle unumber	2
11	Station number	2
12	Dimension	1880×1660×3000 mm
13	Machine weight	4.0T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs

No.	Items	JYHM4250-2-4
1	Honing Diameter	φ4mm-φ50mm
2	The length of the stroke	350mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Quantitative / Constant pressure
6	Spindle motor	Frequency Inverter/Servo
7	The minimum feed amount of honing blade	0.1um
8	Motor power of spindle	2.2Kw/4Kw
9	Spindle speed range	80-1500r/min
10	The spindle unumber	2
11	Station number	4
12	Dimension	2730×1440×3260 mm
13	Machine weight	5.0T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs



Two Spindles Two Stations Vertical Honing Machine  
Model: JYHM 4280-2-2



No.	Items	JYHM4280-2-2
1	Honing Diameter	φ20mm-φ80mm
2	The length of the stroke	550mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Quantitative / Constant pressure
6	Spindle motor	Frequency Inverter / Servo
7	The minimum feed amount of honing blade	0.1um
8	Motor power of spindle	4Kw
9	Spindle speed range	80-800r/min
10	The spindle unumber	2
11	Station number	2
12	Dimension	1900×1600×3400 mm
13	Machine weight	5.0T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs

Two Spindles Three Stations Vertical Honing Machine  
Model: JYHM 4280-2-3



No.	Items	JYHM4280-2-3
1	Honing Diameter	φ20mm-φ80mm
2	The length of the stroke	550mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Quantitative / Constant pressure
6	Spindle motor	Frequency Inverter/Servo
7	The minimum feed amount of honing blade	0.1um
8	Motor power of spindle	5.5Kw
9	Spindle speed range	80-800r/min
10	The spindle unumber	2
11	Station number	3
12	Dimension	2730×1440×3260 mm
13	Machine weight	5.0T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs



Three Spindles Four Stations Vertical Honing Machine  
Model: JYHM 4250-3-4



No.	Items	JYHM4250-3-4
1	Honing Diameter	φ4mm-φ50mm
2	The length of the stroke	300mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Ration & constant pressure
6	Spindle motor	Frequency Inverter / Servo
7	The minimum feed amount of honing blade	0.1um
8	Motor power of spindle	2.2Kw/4Kw
9	Spindle speed range	80-1500r/min
10	The spindle unumber	3
11	Station number	4
12	Dimension	2860×2200×3100 mm
13	Machine weight	7.0T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs

Single Spindle Two Stations Vertical Honing Machine  
Model: JYHM 4280-1-2



No.	Items	JYHM4280-1-2
1	Honing Diameter	φ20mm-φ80mm
2	The length of the stroke	550mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Quantitative / Constant pressure
6	Spindle motor	Frequency Inverter / Servo
7	The minimum feed amount of honing blade	0.1um
8	Motor power of spindle	4Kw
9	Spindle speed range	80-800r/min
10	The spindle unumber	1
11	Station number	Translation axis
12	Dimension	2730×1440×3260 mm
13	Machine weight	4.8T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs

Two Spindles Four Stations Vertical Honing Machine  
Model: JYHM 4280-2-4



No.	Items	JYHM4280-2-4
1	Honing Diameter	φ20mm-φ80mm
2	The length of the stroke	550mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Quantitative / Constant pressure
6	Spindle motor	Frequency Inverter / Servo
7	The minimum feed amount of honing blade	0.1um
8	Motor power of spindle	4Kw
9	Spindle speed range	80-1500r/min CVT
10	The spindle unumber	2
11	Station number	4
12	Dimension	2430×1440×3260 mm
13	Machine weight	5.0t

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs

Single Spindle Two Stations Vertical Honing Machine  
Model: JYHM 42100-1-2



No.	Items	JYHM42100-1-2
1	Honing Diameter	φ30mm-φ100mm
2	The length of the stroke	550mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Quantitative expansion (Automatic compensation)
6	Spindle motor	Frequency Inverter / Servo
7	The minimum feed amount of honing blade	0.1um
8	Motor power of spindle	5.5Kw
9	Spindle speed range	80-800r/min
10	The spindle unumber	1
11	Station number	Translation axis
12	Dimension	2730×1440×3260 mm
13	Machine weight	5.0T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs



Two Spindles Two Stations Vertical Honing Machine  
Model: JYHM 42100-2-2



No.	Items	JYHM42100-2-2
1	Honing Diameter	φ30mm-φ100mm
2	The length of the stroke	350mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Quantitative / Constant pressure
6	Spindle motor	Servo
7	The minimum feed amount of honing blade	0.1um
8	Motor power of spindle	5.5Kw
9	Spindle speed range	80-1500r/min
10	The spindle number	2
11	Station number	2
12	Dimension	1900×1600×3400 mm
13	Machine weight	5.0T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs

Two Spindles Four Stations Vertical Honing Machine  
Model: JYHM 42100-2-4



No.	Items	JYHM42100-2-4
1	Honing Diameter	φ30mm-φ100mm
2	The length of the stroke	550mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Quantitative expansion (Automatic compensation)
6	Spindle motor	Frequency Inverter / Servo
7	The minimum feed amount of honing blade	0.1um
8	Motor power of spindle	5.5Kw
9	Spindle speed range	80-800r/min CVT
10	The spindle number	2
11	Station number	4
12	Dimension	2920×1500×3420 mm
13	Machine weight	6.5T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs

Single Spindle Two Stations Vertical Honing Machine  
Model: JYHM 42200-1-2



Single Spindle Two Stations Vertical Honing Machine  
Model: JYHM42300-1-2



No.	Items	JYHM42200-1-2
1	Honing Diameter	φ30mm-φ200mm
2	The length of the stroke	1000mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Quantitative expansion (Automatic compensation)
6	Spindle motor	Servo
7	The minimum feed amount of honing blade	0.1um
8	Motor power of spindle	7.5Kw
9	Spindle speed range	80-800r/min
10	The spindle unumber	1
11	Station number	Translation axis
12	Dimension	3400×3200×5840 mm
13	Machine weight	10.0T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs

No.	Items	JYHM42300-1-2
1	Honing Diameter	φ30mm-φ300mm
2	The length of the stroke	1000mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Quantitative expansion (Automatic compensation)
6	Spindle motor	Servo
7	The minimum feed amount of honing blade	0.1um
8	Motor power of spindle	7.5Kw
9	Spindle speed range	80-800r/min
10	The spindle unumber	1
11	Station number	Translation axis
12	Dimension	3400×3200×5840 mm
13	Machine weight	10.0T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs



Six Spindles Eight Stations Vertical Honing Machine  
Model: JYJH 50-6-8A



Six Spindles Eight Stations Vertical Honing Machine  
Model: JYJH 50-6-8B



No.	Items	JYJH 50-6-8A
1	Honing Diameter	φ2mm-φ50mm
2	The length of the stroke	200mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Reaming
6	Spindle motor	Servo
7	The minimum feed amount of honing blade	0.1μm
8	Motor power of spindle	0.75Kw×6
9	Spindle speed range	80-1500r/min
10	The spindle number	6
11	Station number	8
12	Dimension	2880×975×2300 mm
13	Machine weight	4.0T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs

No.	Items	JYJH 50-6-8B
1	Honing Diameter	φ2mm-φ50mm
2	The length of the stroke	200mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Reaming
6	Spindle motor	Belt Drive
7	The minimum feed amount of honing blade	0.1μm
8	Motor power of spindle	5.5Kw
9	Spindle speed range	80-1000r/min
10	The spindle number	6
11	Station number	8
12	Dimension	2880×975×2300 mm
13	Machine weight	4.0T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs

Eight Spindles Ten Stations Vertical Honing Machine  
Model: JYJH 50-8-10



Ten Spindles Twelve Stations Vertical Honing Machine  
Model: JYJH 50-10-12



No.	Items	JYJH 50-8-10
1	Honing Diameter	φ2mm-φ50mm
2	The length of the stroke	200mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Reaming
6	Spindle motor	Servo
7	The minimum feed amount of honing blade	0.1μm
8	Motor power of spindle	0.75Kw×8
9	Spindle speed range	80-1500r/min
10	The spindle unumber	8
11	Station number	10
12	Dimension	2880×975×2300 mm
13	Machine weight	4.5T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs

No.	Items	JYJH 50-10-12
1	Honing Diameter	φ2mm-φ50mm
2	The length of the stroke	200mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Reaming
6	Spindle motor	Servo
7	The minimum feed amount of honing blade	0.1μm
8	Motor power of spindle	0.75Kw×10
9	Spindle speed range	80-1500r/min
10	The spindle unumber	10
11	Station number	12
12	Dimension	2385×2830×3000 mm
13	Machine weight	6.0T

The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs



Twelve Spindles Fourteen Stations Vertical Honing Machine  
Model: JYJH 50-12-14



Customized honing system



No.	Items	JYJH 50-12-14
1	Honing Diameter	φ2mm-φ50mm
2	The length of the stroke	200mm
3	Maximum reciprocating speed	25m/min adjustable
4	Stroke control mode	Servo motor
5	The method of honing extension	Reaming
6	Spindle motor	Servo
7	The minimum feed amount of honing blade	0.1um
8	Motor power of spindle	0.75Kw×12
9	Spindle speed range	80-1500r/min
10	The spindle unnumber	12
11	Station number	14
12	Dimension	2385×2830×3000 mm
13	Machine weight	6.5T

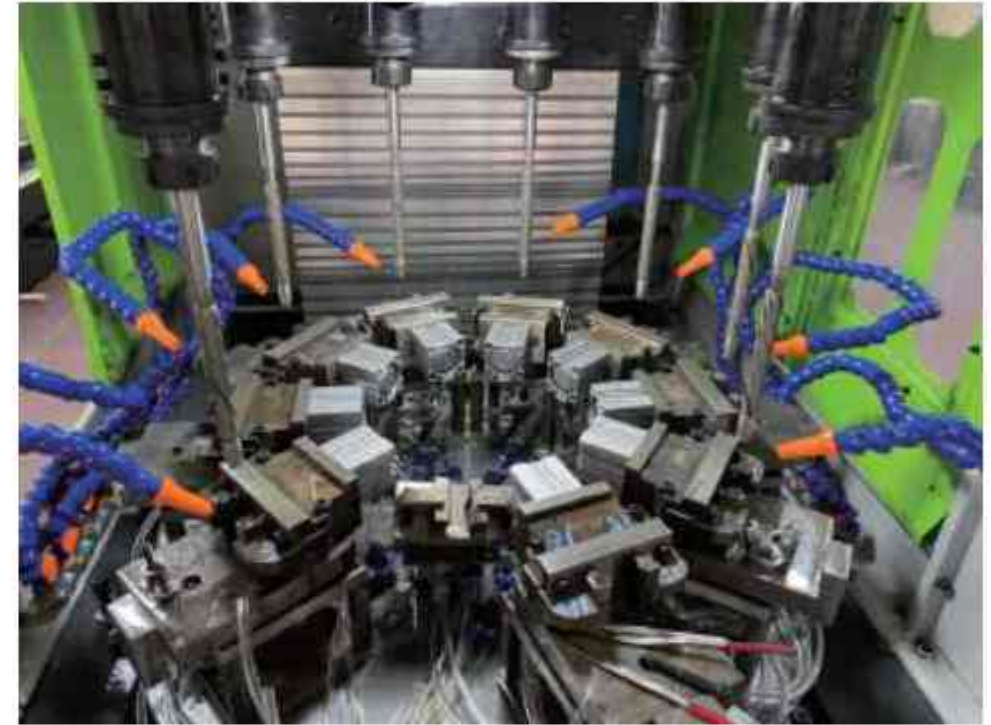
The above parameters are subject to the actual equipment parameters  
All the above honing machines can be equipped with online inspection, automatic loading and unloading and other non-standard configurations, and the honing solutions can be customized according to the customer's needs

- ◆ Customized the non-standard honing machine according to your special requirements.
- ◆ Add smarter and more efficient manipulators to make your production line more automatic.
- ◆ Please consult our technicians for further details if you have any special requirement and technical query.

◆ Honing tools



◆ Clamp Fixture



◆ Optional Automatic Manipulator Conveyer

