

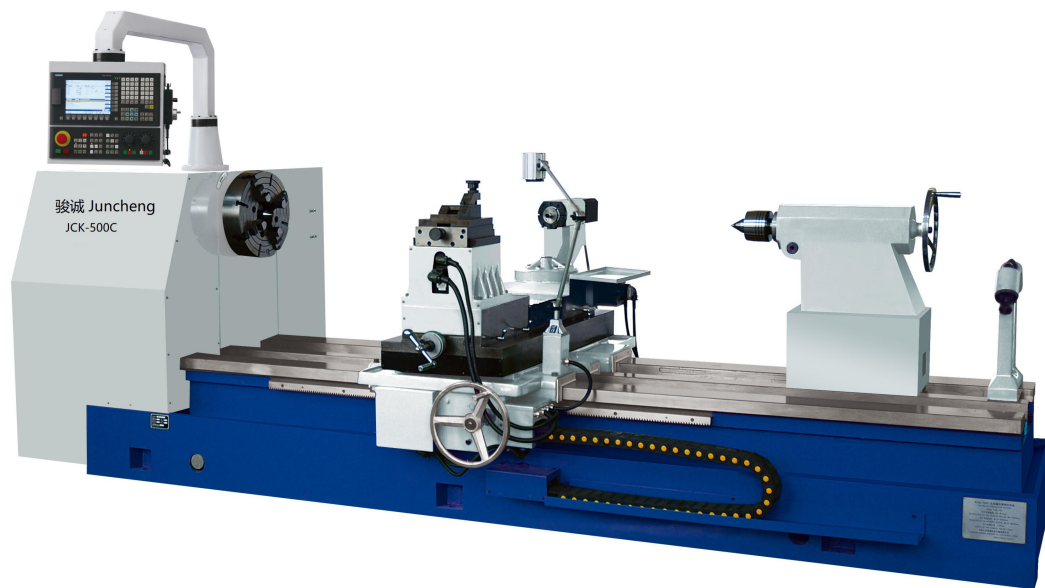
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## Mill Rolls Processing Machinery Catalog

Juncheng supply full set mill rolls processing machinery, pre-sale service, maintenance and repair. Our company integrates the advantages of the products both at home and abroad, and it mainly produces roll transverse rib groove (crescent) CNC machine tool, CNC machine tool with lettering on roll end face, roll machine tool, roll barrel CNC engraved machine tool, Electric spark processing machine for diamond wheel, Numerical control grinding machine for tungsten carbide roller and other special machine tools, and has advanced technology equipment and perfect testing means to ensure the manufacturing quality of products. With respect to design and production, the internationally advanced CAD and CAM technology is used.

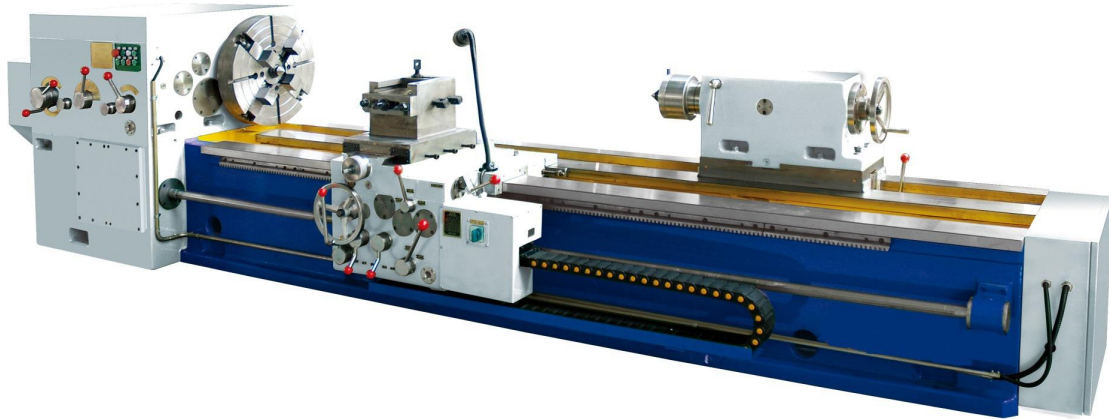
With professional design and manufacturing teams in the company, the products sell well in domestic major steel companies, and Southeast Asia, the Middle East, Europe and America and other many countries and regions.



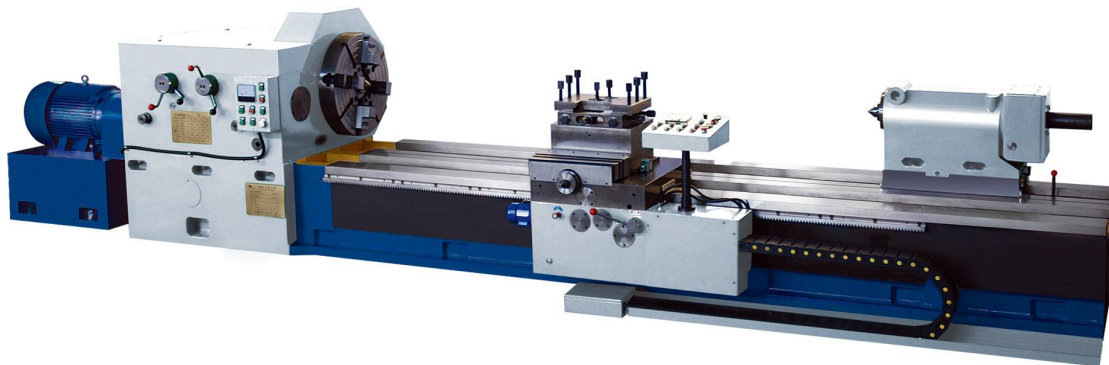
## 1, Mill Roll Turning Lathe

Application: This series of machine tools are especially designed and employed for processing the barrels and passes of rolls in steel mills. It uses forming tools to process and repair the passes of various rolls, to conduct rough machining on the outer cylindrical surfaces of rolls as well as to process other shaft parts.

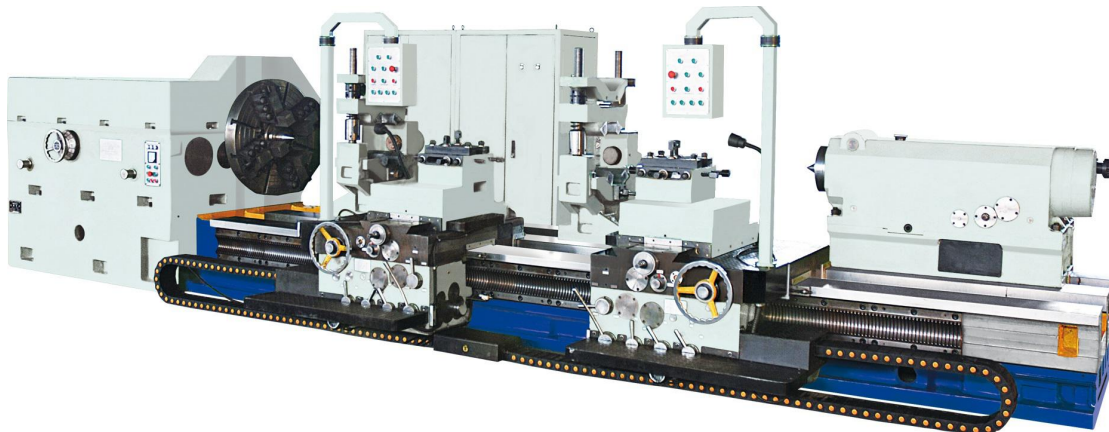
*JCA-8450*



*JCA-8463*



*JCA-8480*



## Main Technical Parameters

Item	Unit	JCA-8450		JCA-8463		JCA-8480
Diameter range of workpiece	mm	500		230-650		360-800
Max. workpiece length	mm	2500		3500		4000
Center height	mm	320		380		550
Max. notching force of single tool carrier	KN	40		60		70
Max. torque of faceplate	KN.m	10		25		55
Number of steps & range of spindle speeds	r/min	16	1-112	16 1-75	16	1-31.5
Number of steps & range of tool carrier to feed	mm/min	12	Longitudinal:	PLC Control 16 steps	12	Longitudinal:
			0.18-8			0.4-18
			Transversal:			Transversal:
			0.045-2			0.2-9
Travel of tailstock sleeve	mm	150		200		300
Diameter range of centre rest to clamp	mm	165-250		200-300		300-400
Power of main motor	KW	15		22		37
Overall dimensions of the machine (L x Wx H)	mm	5155x1368x1400		7042x1571x1520		9240x2280x1800
weight of the machine	kgs	7500		14000		28000

## 2. CNC Mill Roll Turning Lathe

**Application:** The series of machine tools are CNC roll machine tools, mainly used for semi-finish turning and finish timing processing of cast Iron, steel and nonferrous metal roll. Cutters made of high-speed steel, cemented carbide or other materials can be used for turning and repair processing of roll excircle end faces, various complex pass profiles and curved surface, or for the processing of shaft parts ( which have the same dimension and weight as above mentbnd rolls ) made of materials such as cast iron, steel and nonferrous metal, or the semi-finish turning and finish turning of excircle, end faces and various complex curved surfaces.

*JCK-8450*



*JCK-8465*



JCK-8480



### Main Technical Parameters

Item	JCK-8450	JCK-8465	JCK-8480
Maximum Workpiece Diameter	Φ 500mm	Φ 650mm	Φ 800mm
Maximum Workpiece Length	2500mm	3500mm	4000mm
Center Height	350mm	440mm	650mm
Maximum Workpiece Weight	3500Kg	7000Kg	14000Kg
Maximum Cutting Force	20KN	40KN	50KN
Maximum Torque of Faceplate	10KN.m	12KN.m	16KN.m
Range of Spindle Speed	3~350r/min	3-315r/min	3~250r/min
Number of Steps of Spindle Speed	Stepless	Stepless	Stepless
Spindle Speed Change Modes	Hydraulic Automatic		
Faceplate Diameter	Φ 500mm	Φ 650mm	Φ 800mm
Number of Steps of Feeds	Stepless	Stepless	Stepless
Longitudinal (Z Axis) Feed Speed Range	1 ~2000mm/min	1 ~3500mm/min	1 ~3000mm/min
Horizontal (X Axis) Feed Speed Range	1~1500mm/min	1-1500mm/min	1-1500mm/min
Moving Amount of Tailstock Sleeve	150mm	150mm	300mm
AC Frequency Conversion Main Motor (Power)	22KW	37KW	55KW
Longitudinal (Z Axis) Motor: Torque	27N.m	36N.m	50N.m
Horizontal (X Axis) Motor Torque	11N.m	27N.m	27N.m
Protection of Lathe Bed and Guide Rail	Stainless Steel Protecting Cover		
Overall dimension (L x W x H)	6000x2000x1400mm	6800x2000x1760mm	8600x2440x2000mm
Machine weight	11500kg	15000kg	24000kg

### 3. CNC engraving machine

**Application :** The CNC engraving machine for roller end surface, one kind of easy to adjust and highly automatic machine tool that is applicable to the processing marks and letters on various end surface. According to special requirements, the machining programmes can be generated through automatic editing software. Use of the machine tool can dramatically improve work efficiency, reduce labour intensity and beautify customer products.

*JCDK-600*





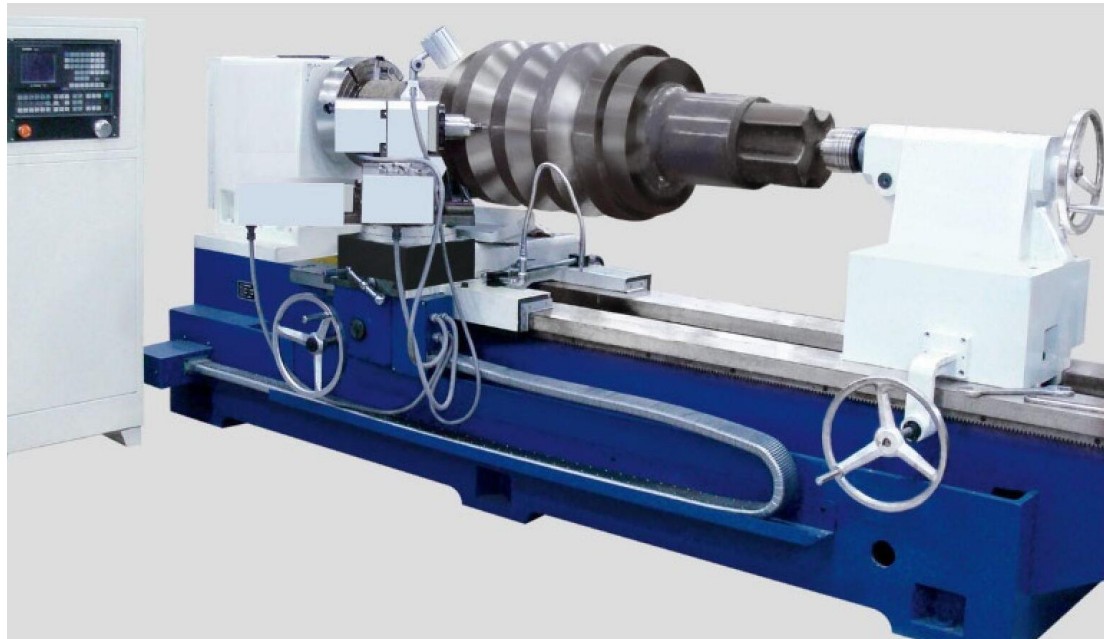
## Main Technical Parameters

Item	WXDKW
Maximum Diameter of Processing End Surface	600mm
Longitudinal Travel	600mm
Horizontal Travel	500mm
Vertical Travel	600mm
Engraving Spindle Speed (Frequency Conversion and Speed Regulation)	0~5000r/min
Engraving Motor Power	1.1KW
Rated Torque of Longitudinal Stepping Motor	17NTT1
Rated Torque of Horizontal Stepping Motor	17N·m
Rated Torque of Vertical Stepping Motor	17N · m
Minimum Amount of Longitudinal Movement	0.01mm
Minimum Amount of Horizontal Movement	0.01mm
Minimum Amount of Vertical Movement	0.01mm
Control System	GSK990MA
Minimum Programmed Setting	0.01mm
Total Weight of Machine Tool	1.5ton
Machine Overall Size	1750x1460x2000mm

## 4. Shaped Roll CNC Marking Machine

**Application:** Shaped Roll CNC Marking Machine Model JCJK-500 is specially designed for marking process on the circumference surfaces of small-size rolls and on the slopes with obliquity less than 45 degrees. It can be used for marking logos and trademarks on the slopes of angle steel rolls and on the base plane of channel steel rolls. The with high automation is easy to be adjusted and can do marking standardly. The uses of JCJK-500 CNC marking machine on sharped rolls can dramatically improve working efficiency and save the labour. Further, this machine tool can be designed according to customer demand.

JCJK-500



### Main Technical Parameters

Diameter range of workpiece	250mm-550mm
Length range of workpiece	500mm-2500mm
Angles between cant and workpiece axis	0 - 45
Minimum width of processing cant	25mm
Speed of marking spindle	0~12000r/min
Power of marking spindle	2.2kw
Control system	GSK990MA
Rated torque of servo system	(X-axis) 17NM
	(Y-axis) 27NM
	(Z-axis) 17NM
Power supply	380V/50HZ
Overall dimension LXWXH	3900 x 1400 x 1550mm
Weight	5000Kg

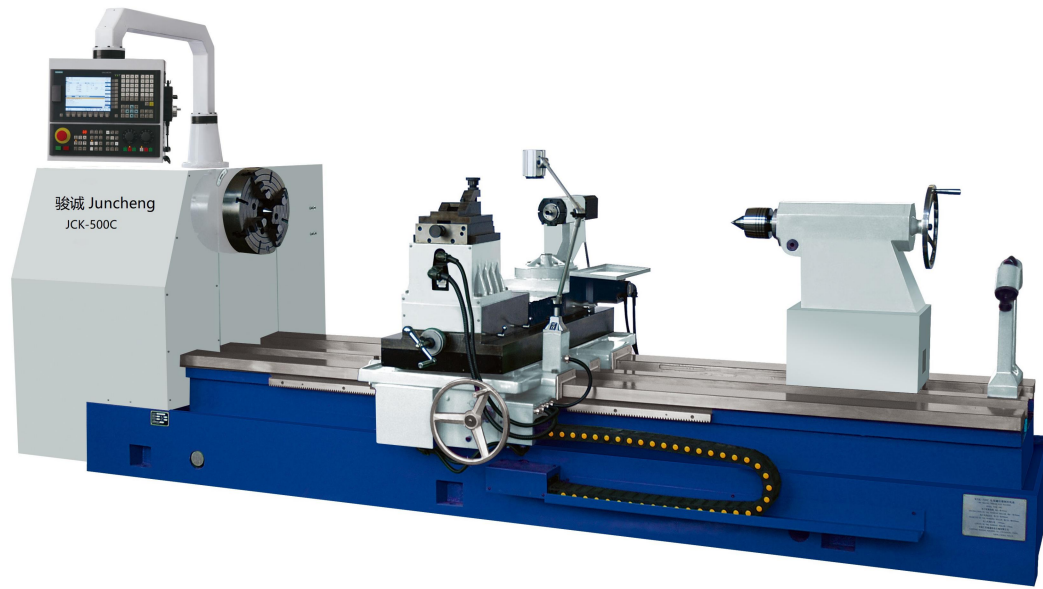


## 5.CNC Notching and Marking machine

**Application:** The CNC Notching and Marking machine mode JCK-500C is specially designed for notching and marking on the cast iron, high speed steel and tungsten carbide rolls. This multifunctional machine has obtained Chinese national patent It applies SIEMENS controlled system with high efficiency and precision.

Four main shafts are controlled by independent servo motors and drives. Currently, JCK - 500C CNC notching and marking machine is the most popular model in Chinese and World\* s market for this application.

*JCK-500C*



HSS roll sample

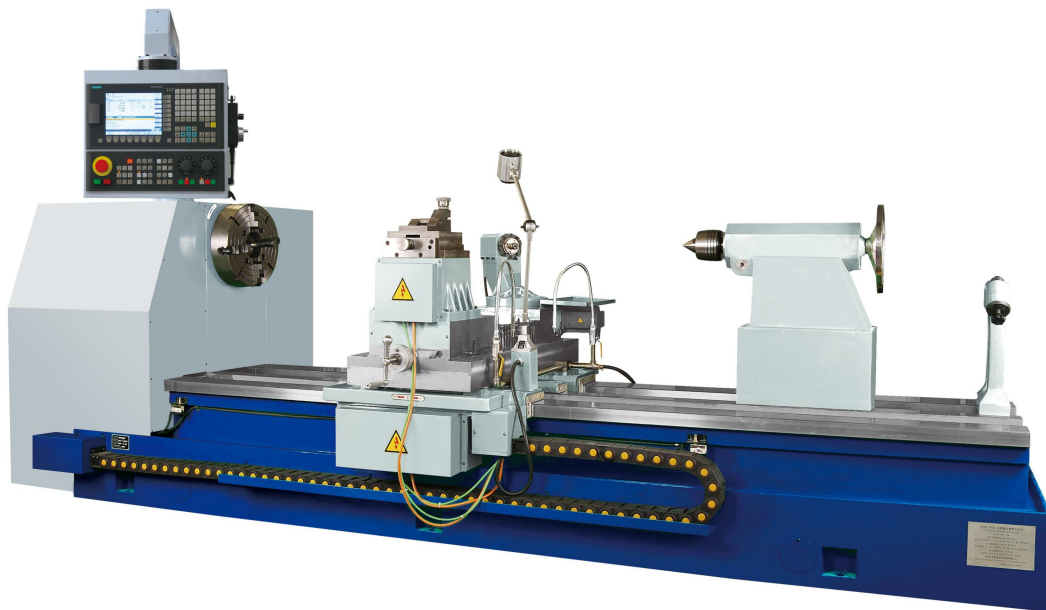


Tungsten carbide roll  
Dia. 14mm sample

## Main Technical Parameters JCK-500C

Maximum Diameter of Roll	500mm	
Minimum Diameter of Roll	50mm	
Maximum Length of Roll	25(X)mm	
Specification of Processing Transverse Rib Groove	6mm- 50mm	
Rated Power of electric Spindle of Engraving Head	2.2KW	
Power of Cooling Pump Motor	90W	
Maximum Milling Speed of Fly-cutter	650r/min	
Maximum Speed of Engraving Head Motor	12000r/min	
Control system	Siemens 808D	
Rated torque servo motor	XAxis	8.34N.m
	YAxis	11.5N.m
	ZAxis	8.34N.m
	A Axis	18.6N.m
Machine Overall Dimension (LxWxH)	4500 x1700 x2100mm	
Machine weight	7000kg	

## JCK-500K



**Application:** The Model JCK-500K is the latest multifunctional notching and marking machine with highest automation and fastest processing speed. It adopts SIEMENS 828D controlled system, SIEMENS servo motors and full color LCD display. Five main shafts are controlled by independent servo motors and drives. Since JCK-500K needs not manual operation during machining process, it is the upgraded version of JCK-500C notching and marking machine with higher level of efficiency and precision. JCK-500K is the best solution for your business.

### Main Technical Parameters JCK-500K

Maximum diameter of workpiece	500mm
Minimum diameter of workpiece	50mm
Maximum length of workpiece	2500mm
Specification of processing transverse rib groove	6-50mm
Notching head speed	0~600rpm
Workpiece spindle speed	0~30rpm
Rated power of marking head	2.2kW
Rated speed of marking head	12000rpm
Coolant pump motor power	120W
Digital control system	Siemens 828D
Servo motor	Siemens
Rated torque of servo motor	X axis 11 Nm
	Y axis 11 Nm
	Z axis 11 Nm
	A axis 18 Nm
	B axis 11 Nm
Minimum programming setting unit	0,001
Minimum cutter feed	0.001mm
Maximum workpiece weight	3500kg
Machine Overall Dimension (LxWxH)	4500x1800x1700mm
Machine weight	7100kgs

## 5. Tungsten Carbide Roll CNC Grinding Machine JCG-400-CNC



This machine uses a diamond wheel as cutting tool, and it is mainly designed for rough, semi-fine, fine and spark-out grinding of the cylindrical surface of tungsten carbide roll and its arc-shaped slots, applied in high-speed wire production industry, with high accuracy and strong power.

Working range:

1. Roll ring diameter ground:  $\phi 50 \sim \phi 400\text{mm}$
2. Max. roll ring width ground: 200mm

Working accuracy:

3. Outside cylindricity deviation:  $\leq 0.005\text{mm}$
4. Outside diameter tolerance:  $\pm 0.005\text{mm}$
5. Roll ring root diameter tolerance:  $\pm 0.01\text{mm}$
6. Roll slot depth tolerance:  $\pm 0.005\text{mm}$
7. Ground surface roughness tolerance:  $Ra \leq 0.8 \mu\text{m}$
8. Ground surface coaxiality with regard to centering bore:  $\leq 0.005\text{mm}$
9. Position tolerance of center line of roll slot with regard to the end-face of roll ring:  $\pm 0.01\text{mm}$

Strength:

- 1) Its performance and technical parameters are same or even better than HERKULES.
- 2) Grinding method: mechanical grinding, which can perform profile grinding and profiling grinding.
- 3) The power of the grinding wheel motor is 18.5 kilowatts, and the power of the headstock motor is 5.5 kilowatts, so the grinding efficiency is high.
- 4) The numerical control system adopts the German SIEMENS-828D numerical control system, the longitudinal movement of the worktable and the horizontal feed motion of the grinding wheel frame are driven by two German SIEMENS servo motors, and the minimum pulse equivalent is 0.001mm. Control two servo units and various auxiliary actions of machine tools to realize automatic cycle grinding of machine tools. The motor in the servo system is controlled by the CNC and moves according to the program edited by the numerical control. The console is equipped with a liquid crystal display. The system has automatic diagnosis, fault alarm, and man-machine dialogue functions. It is not the 802C low-grade single-axis industrial control system specially produced by Siemens in China for some domestic grinding machine manufacturers. Therefore, the whole machine has simple operation, reliable performance and good stability. The CNC grinders that have been sold so far have not had electrical failures.
- 5) After the entire program is set, only one button can be used to complete rapid feed, rough grinding, semi-finish grinding, fine grinding, non-spark grinding, retracting the tool.

## 6. Tungsten Carbide Roll Digital Display Grinding Machine



This machine uses a diamond wheel as cutting tool, and it is mainly designed for rough, semi-fine, fine and spark-out grinding of the cylindrical surface of tungsten carbide roll and its arc-shaped slots, applied in high-speed wire production industry, with high accuracy and strong power.

Working range:

Roll ring diameter ground:	$\phi 50 \sim \phi 400\text{mm}$
Max. roll ring width ground:	150mm

Working accuracy:

Outside cylindricity deviation:	$\leq 0.005\text{mm}$
Outside diameter tolerance:	$\pm 0.005\text{mm}$
Roll ring root diameter tolerance:	$\pm 0.01\text{mm}$
Roll slot depth tolerance:	$\pm 0.005\text{mm}$
Ground surface roughness tolerance:	$Ra \leq 0.8 \mu\text{m}$
Ground surface coaxiality with regard to centering bore:	$\leq 0.005\text{mm}$
Position tolerance of center line of roll slot with regard to the end-face of roll ring:	$\pm 0.01\text{mm}$

Strength of the machine:

1) The machine bed adopts integral casting structure, and is processed with aging to have good structural rigidity and accuracy retention.

2) The longitudinal and lateral movements of the machine are equipped with high-precision SPM digital display devices. The resolution of the digital display is 0.001mm. The electrical is controlled by the Siemens PLC programmable controller to realize semi-automatic circular grinding of the machine. It can also be manually operated when needed. operating.

3) The outer diameter of the diamond grinding wheel used in the machine tool is  $\phi 190 \sim \phi 250\text{mm}$ , and the maximum thickness is 65mm. The connection parameters of the main shaft extension end of the grinding wheel holder must be completely consistent with the corresponding connection parameters of the "diamond wheel dresser" to ensure that the diamond wheel after dressing can be obtained use correctly.

4) The spindle of the grinding wheel frame is supported by German FAG rolling bearings, which has the characteristics of high bearing capacity and high precision of spindle rotation. The rolling bearing lubrication system for the grinding wheel spindle is an independent, fully enclosed forced oil lubrication to ensure the service life and accuracy of the shaft system.

Optional: dynamic and static pressure bearings are used for the spindle system of the wheel carrier. The system has the characteristics of high rigidity, high precision, and strong grinding force, especially for improving the smoothness of workpiece grinding. Greatly reduce the cost of using machine tools and create more benefits.

The headstock workpiece spindle is supported by German FAG bearings, which has the characteristics of strong bearing capacity and high precision of spindle rotation.

5) The power of the motor for driving the spindle of the grinding wheel is 18.5KW, driven by the polyurethane multi-wedge belt, the speed of which is 1910r / min, the workpiece spindle is the AC variable frequency motor with gear reducer, and then driven by the three-stage reduction of the pulley and gear The work piece speed can be adjusted steplessly by AC frequency converter, and the operation is very simple.



6) The machine tool is equipped with an independent cooling system and a cooling liquid purification device, and the filtering and cooling effects are obvious.

7) The clamping of the workpiece (roller ring) uses a high-precision mandrel shaft, which makes it easy to assemble and disassemble, with high automatic centering accuracy and stable and reliable clamping.

## 7. Composite Roll and HSS Roll CNC Grinding Machine



This machine is mainly used for rough grinding, semi-precision grinding, fine grinding and non-sparking of the outer circle and R-groove of tungsten carbide composite roll or high-speed steel roll for bar or coil production. Grinding and other grinding processes, at the same time, after the installation of the transition disk, the automatic centering and tightening mandrel can be used to process a single roll ring, which expands the use of the machine tool.

### Working range:

Roll ring diameter ground:	$\phi 220 \sim \phi 500\text{mm}$
Max. roll ring length:	2000mm

### Working accuracy:

Outside cylindricity deviation:	$\leq 0.015\text{mm}$
Outside diameter tolerance:	$\pm 0.005\text{mm}$
Roll ring root diameter tolerance:	$\pm 0.01\text{mm}$
Roll slot depth tolerance:	$\pm 0.005\text{mm}$
Ground surface roughness tolerance:	$Ra \leq 0.8 \mu\text{m}$
Ground surface coaxiality with regard to centering bore:	$\leq 0.005\text{mm}$
Grinding wheel frame repeated positioning accuracy :	$\leq 0.005\text{mm}$
Position tolerance of center line of roll slot with regard to the end-face of roll ring:	$\pm 0.01\text{mm}$

Strength of the machine:

- 1) The machine bed adopts integral casting structure, and after aging treatment, it has good structural rigidity and accuracy retention.
- 2) The machine tool adopts the German SIEMENS 828D numerical control system, which automatically controls the horizontal feed of the grinding wheel and the reciprocating movement of the worktable. The positions of the grinding wheel frame and the worktable are dynamically displayed on the CRT, and the outer surface of the roller surface and the tool setting are automatically completed Grinding of grooves.
- 3) The outer diameter of the diamond grinding wheel used in the machine tool is  $\phi 200$ -  $\phi 250$ mm, and the maximum thickness is 65mm. The connection parameters of the main shaft extension end of the wheel carrier must be completely consistent with the corresponding connection parameters of the separately signed "JCW-014A / 1 diamond wheel dresser" to ensure the dress The diamond wheel can be used correctly.
- 4) The spindle system of the grinding wheel frame adopts German FAG rolling bearing support or dynamic and static pressure bearings. The system has the characteristics of high rigidity, high precision, and strong grinding force, especially for improving the smoothness of workpiece grinding. Greatly reduce the cost of using machine tools and create more benefits.
- 5) The speed of the headstock can be adjusted steplessly, and the speed range is 20-130 rpm. The main shaft is supported by German FAG rolling bearings (the front bearing adopts double-row cylindrical roller bearings and bidirectional thrust angular contact ball bearings, and the rear bearing adopts angular contact ball bearings), which can bear both radial and axial forces.
- 6) The power of the motor for driving the spindle of the grinding wheel is 18.5kW, which is driven by the polyurethane multi-ribbed belt, and its rotation speed is 1910r / min.
- 7) The guide rail of the worktable adopts open-type unloading lubrication, the guide rail surface is plastic-coated, and the friction force is small.
- 8) The high-precision ball screw is used for the grinding wheel frame and the worktable, which is driven by the servo motor of SIEMENS company. The movement of the grinding wheel frame and the worktable can be automatically controlled by the program to complete the forming grinding of the outer surface of the roller surface and the hole groove, and can also be completed by the electronic hand wheel.
- 9) The machine tool is equipped with an independent cooling system and a cooling liquid purification device, and the filtering and cooling effects are obvious.

## 8. Large Mill Roll (max dia. 3m) CNC Grinding Machine



The machine is equipped with "CP" automatic measurement system, which can perform in-process and post-process measurements. The system can be used to measure the diameter, roundness, concentricity, cylindricity and profile etc. of the workpiece. All of the measurement results can be observed in the screen and printed.

All of the measurements are performed with two measuring arms before & after the grinding. And all of the measurements can be combined with the grinding program to perform automatic operation. To avoid the false operation, all of the movements and measurements of the measuring head should be carried out automatically, not be disturbed by the operator.

All the optical scales are HEIDNAIN from Germany, and its accuracy is 1-5  $\mu\text{m}$ , 0.5-1  $\mu\text{m}$ .

Item		JK8430	JK8450	JK8463	JK8480	JK84100
Machining range .	Max grinding dia. (mm)	300	500	630	800	1000
	Distance between centers (m)	2.5	4	3, 4, 5	4, 5, 6, 8	4, 5, 6, 7
	Max. weight of part (t)	2	3	5	15	25/15
Work speed (stepless) (r/min)		rioso	rioso	rioso	V70	T60
Longitudinal moving speed of tailstock (mm/min)		manual	manual	manual	1800	1800

Supporting dia. of steady rest (mm)		50~300	50*300	90~435	90~680	90~680
Longitudinal moving speed of carriage (mm/min)		0~7500	0~4000	0~2500	0~4000	0~4000
Distance between two guideway centers of wheel bed (mm)		850	465	650	1000	1200
Wheel head	Max. horizontal stroke (mm)	425	400	560	560	900/650
	Horizontal rapid moving speed (mm/min)	1000	1000	1000	1000	1000
	(mm/min) Continuous cross feed (mm/min)	0.002~1.2				
	Periodical cross feed (mm/stroke)	0.002~0.12				
	Electronic handwheel feed amount (mm/p)	0.001	0.001	0.001	0.001	0.001
	Wheel dimensions (O.DXWX I.D) (mm)	750X60X305	750X75X305	750X75X305	750X75X305	900X100X305
	Wheel peripheral speed (m/s)	35(45)	35(45)	35(45)	35(45)	35(45)
	Mid convex (concave) amount (mm)	<1	<1	<3	<3	<3
	Measuring range (mm)	50*300	50~500	100*630	100~800	150,000
	Workherd motor (KW)	9	22	18.5	37	45

Power of main motors	Wheel motor (kW)	30	37	30(55)	45(55)	75
	Wheel head cross feed motor (Nm)	11.4	13	13	13	13
	Carriage longitudinal displacement motor (Nm)	70	70	27	50	50
	Servo motor for grinding convex (Nm)	5.2	5.2	6	6	6
Item		JK84125	JK84160	JK84200	JQK84160	JQK84315
Machining range .	Max grinding dia. (mm)	1250	1600	2000	1600	3150
	Distance between centers (m)	5, 6, 7, 8	6, 7, 8, 10, 12	8, 10, 11, 12	5, 6, 7, 8	4, 5, 6
	Max. weight of part (t)	25	60	100	16/25	25
Work speed (stepless) (r/min)		K60	┘50	V40	K30	V30
Longitudinal moving speed of tailstock (mm/min)		1800	1055	1310	1800	1075
Supporting dia. of steady rest (mm)		90-780	300~950	350~950	90~500	65~400
Longitudinal moving speed of carriage (mm/min)		0-4000	0~4000	0~4000	0~2500	0~2500
Distance between two guideway centers of wheel bed (mm)		1200	1200	1200	1000	1000

Wheel head	Max. horizontal stroke (mm)	900	950	950	650	650
	Horizontal rapid moving speed (mm/min)	1000	1000	1000	1000	1000
	(mm/min) Continuous cross feed (mm/min)	0.002~1.2				
	Periodical cross feed (mm/stroke)	0.002~0.12				
	Electronic handwheel feed amount (mm/p)	0.001	0.001	0.001	0.001	0.001
	Wheel dimensions (O.DXWX I.D) (mm)	900X100X305	900X100X305	900X100X305	900X75X305	750X75X305
	Wheel peripheral speed (m/s)	35(45)	35(45)	35(45)	35	35
	Mid convex (concave) amount (mm)	<3	<3	<3	<3	<3
	Measuring range (mm)	150~1250	300~1600	350~2000	150, 600	35CT3150
		Workherd motor (KW)	45	55	90	30/45
Power of main motors	Wheel motor (kW)	75	75	75	55	55
	Wheel head cross feed motor (Nm)	13	13	13	13	13
	Carriage longitudinal displacement motor (Nm)	50	50	50	50	50



Servo motor for grinding convex (Nm)	6	6	6	6	6
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## 9. Diamond Wheel Finishing Machine( electric spark procesing )

**Application :** Adopting the electric discharge principle for machining, the equipment uses graphite wheel as the tool electrode to perform electric discharge machining on the outer diameter of metal bonded diamond grinding wheel. It is specially applied for producing and dressing diamond grinding wheel in grinding wheel and steel industries. It has the advantages of no limitation by the hardness of produced material and capability of machining different types of grinding wheels with different outer diameter contours. And it is an ideal domestic equipment for machining and dressing the grinding wheel.



Main Technical Parameter

No.	Name of parameter	Unit	Specification
1	Outer diameter of produced workpiece	mm	φ 40~ φ 400
2	Width of produced workpiece	mm	6~60
3	Outer diameter of graphite wheel	mm	φ 200~ φ 300
4	Height from spindle center to working table surface	mm	220
5	Distance between two centers	mm	420
6	Rotation speed of workpiece spindle	r/min	0~4
7	Rotation speed of graphite wheel	r/min	16
8	Longitudinal travel of graphite wheel	mm	180
9	Transverse travel of graphite wheel	mm	120
10	Motor of workpiece spindle	set	90BC5100A Voltage: 24V Stepping angle:0.36° /0.72° Holding torque:2.156N • m
11	Motor of graphite wheel	Set	YSCJ90-120 120W
12	Working liquid pump	Set	CM90/22T 0.37KW 90L/min
13	Volume of working liquid tank	L	200
14	Volume of oil sink	L	130
15	Gross weight of equipment	T	3
16	Outline dimensions of equipment	mm	1260 (length) × 1655 (width) × 1630 (height)







Export Installation Site 1



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