



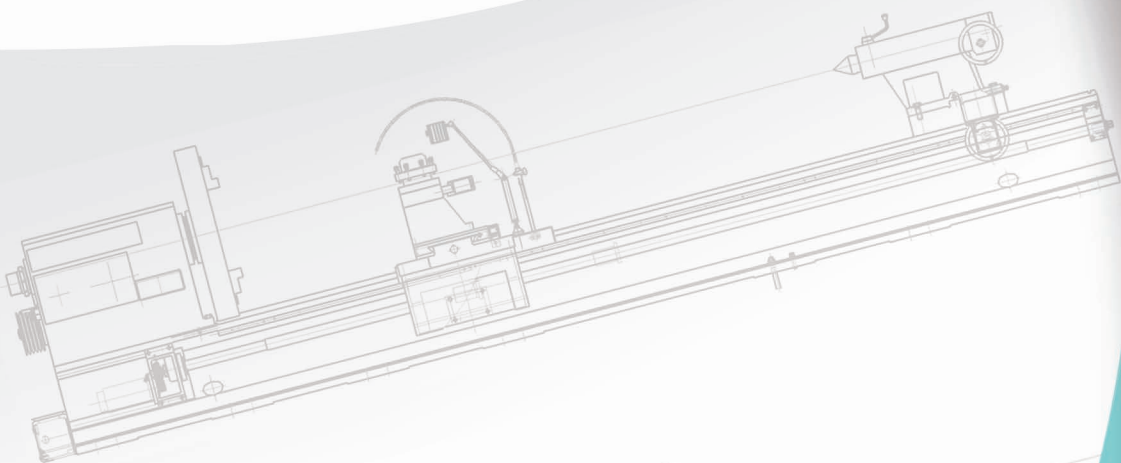
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**通远重工**  
TONGYUAN HEAVY INDUSTRY

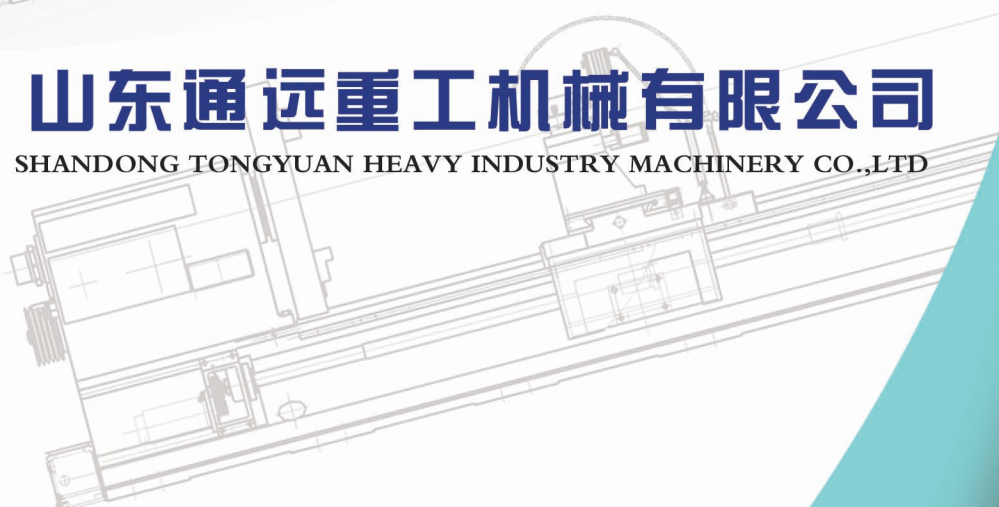
**做让世界赞美的中国机床**

MANUFACTURER CHINESE MACHINE TOOLS PRAISED BY THE WORLD



**山东通远重工机械有限公司**

SHANDONG TONGYUAN HEAVY INDUSTRY MACHINERY CO.,LTD



# CK51E

## Vertical lathe series

### PRODUCT STRUCTURE CHARACTERISTICS:

1. This series of new CNC single-column vertical lathe is our company that has absorbed the advanced design and manufacturing technology of the contemporary era, adopted the CAD optimization design method, adopted the latest design concept, implemented the current national accuracy standards and our factory's stiffness standards, equipped with advanced functional parts at home and abroad, and achieved strong cutting in terms of structural performance. The worktable is overloaded, the machine tool has high dynamic and static stiffness, and each top movement is safe and reliable, High-tech mechatronic products with long service life and high processing efficiency.

It is applicable to cemented carbide and ceramic tools, and can rough and finish the inner and outer cylindrical surfaces, inner and outer conical surfaces, plane and circular surfaces of parts made of ferrous metals, non-ferrous metals and some non-metallic materials at high speed.

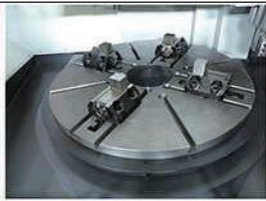
2. This machine tool is mainly composed of column, workbench, beam, vertical tool rest, main transmission gearbox, beam lifting mechanism, vertical tool rest feed mechanism, beam guide rail protection device, complete machine fully enclosed protective cover, electrical system, hydraulic system, cooling device, etc.



## PRODUCT DETAILS DISPLAY:



导轨



工作台



四工位刀台



机床专用刀夹



齿圈



主轴单元 自动润滑站精密油冷机



进给机构



系统箱



光机



机床内部

## MAIN STRUCTURE:

**Column** adopts the box structure and the optimized design of reasonable arrangement of stiffeners, thus achieving the requirements of good thermal stability, high strength and high rigidity. The post guide rail adopts the grinding process after quenching, which enhances the wear resistance and prolongs the service life. The main and auxiliary guide rails of the column are protected by stainless steel closed protective covers, which reduces the probability of corrosion.

**Worktable base** is made of high strength and high rigidity cast iron to improve stability and absorb vibration. Unique thermal symmetry structure overcomes the influence of spindle temperature rise on machining accuracy.

The spindle encoder is set in the middle of the spindle to realize the constant linear speed cutting function.

The worktable and the worktable base are separated from the motor, and the V-belt transmission is used to minimize the direct impact of the heating vibration of the motor on the machining accuracy.

**Worktable** is made of high strength and high rigidity cast iron, with high stability and good seismic resistance.

**Spindle unit** workbench adopts an integrated, rigid, high precision, fixed short spindle structure. A set of high precision thrust ball bearings and a set of double-row short cylindrical roller bearings are installed on the spindle. It has compact structure, can bear radial load, axial load and tilting moment at the same time, and has small elastic deformation when bearing heavy load, which improves the rotating accuracy and bearing capacity of the workbench.

**Beam** ♦ After quenching and grinding, the beam guide rail has high wear resistance, which can ensure lasting stability and good machining accuracy. ♦ The horizontal guide rail has a large width and adopts a wide guide structure. The ball screw in the middle of the guide rail completely solves the problem of driving torque. The bearing adopts film-fitted guide rail, which has good seismic performance, large bearing capacity and reduced friction coefficient by 1. ♦ Two clamping points are used for lifting and lowering the beam to ensure the accuracy of lifting and lowering the beam.

**Infeed mechanism** :The horizontal feed (X-axis) of the feed mechanism tool rest and the vertical movement (Z-axis) of the ram are realized by the AC servo motor driving the ball screw rotation through the reducer. The reducer and the screw are connected by the flexible coupling, with high transmission efficiency, small transmission error and high transmission accuracy.

**Main drive system** ♦ All the main drives are driven by the gear wheel, and the gears are made of high-strength materials and quenched grinding process, which can achieve high speed and large cutting force, high transmission accuracy and transmission efficiency, and reduce the vibration and noise of the drive. ♦ The main drive is controlled by a set of horizontal spindle servo motors, realizing four-speed stepless speed regulation, which is applicable to the processing of parts of various materials, realizing the wide speed regulation of the spindle and heavy cutting with large torque, and meeting the requirements of high-speed cutting of large diameter workpiece, heavy cutting and small diameter workpiece. ♦ The big gear is made of high-grade alloy steel, which is quenched and processed by high-precision precision gear grinding machine to ensure the minimum noise of the main shaft.

**Four-position electric tool table** has high positioning accuracy, large locking force, strong bearing capacity, and reliable stability. The unique dovetail tool holder has more accurate positioning and greater clamping force.

**Main function accessories** ♦ **The electric cabinet** is directly placed in the column, which makes the whole machine more compact and saves space. The electrical appearance is beautiful, the wire number is clear and complete, and the wiring is neat;

The wiring from the electrical cabinet to the bed is all connected with special cables. ♦ The electric cabinet is equipped with air conditioner, which is safe and standard to ensure the constant temperature of the controller and maintain the stability of the controller. The precision oil cooler can prevent the thermal deformation of the machine tool, stabilize the oil pressure, prevent oil shock, improve the machining accuracy of the machine tool, and reduce the error of mechanical action by cooling the hydraulic mechanical oil of the machine tool.

The guide rail and lead screw of the automatic lubrication station are all equipped with a pressurized centralized timed and quantitative lubrication system, and the first pressurized metering piece is used in the oil circuit to control the oil quantity; It can adjust the oil supply cycle and oil supply volume of each lubrication point, and realize automatic centralized lubrication through electrical system control, making the lubrication operation more convenient.

## CK51E SERIES CNC SINGLE COLUMN VERTICAL LATHE TECHNICAL PARAMETER TABLE:

Item	Unit	CK518E	CK5112E	CK5116E	CK5120E
Max.swing diameter	mm	950	1250	1600	2000
Max.cutting diameter	mm	800	1250	1600	2000
Max.workpiece height	mm	800	1000	1000	1250
Max.workpiece weight	kg	2000	5000	8000	12000
Main motor power	kw	22	30	37	37
Worktable diameter	mm	800	1010	1400	1800
Worktable Max.torque	KN.m	10	17.5	25	32
Rotary speed range	rpm	2-320	1.25 □ 200	1 □ 160	4-125
Tool station quantity		4	4	4	4
Cylindrical turning tool shank specification	mm	32x40	32x40	32x40	32x40
Drive type		Electrical	Electrical	Electrical	Electrical
X-axis ball screw diameter/pitch	mm	50x10	50x10	63x10	63x10
Z-axis ball screw diameter/pitch	mm	50x10	50x10	50x10	50x10
Max.stroke	mm	-20 ~ 550/650	-20 □ 800/650	-20-1030/800	-20-1150/800
Infeed amount range(X/Z)	mm	0.1 -500	0.1 ~ 500	0.1 ~ 500	0.1 ~500
Rapid movement (X/Z)	mm/min	2000	2000	2000	2000
Automatic chip conveyor		Side row	Side row	Side row	Side row
CNC control system		SIEMENS 808D	SIEMENS 808D	SIEMENS 808D	SIEMENS 808D
Servo motor torque (X/Z)	N.m	11/11	11/11	15/11	15/11
Machine power capacity	KVA	30	37	45	52
Machine net weight	kg	8500	11000	14500	18500
Machine overall dimension (L*W*H)	mm	4300x2380x4290	4780x2570x4400	5630x3010x4660	5500 x 3685 x 4940
Standard configuration		Automatic lubrication system, complete machine fully enclosed protective cover, electric cabinet air conditioner, precision oil cooler			
Optional configuration		SIEMENS 808Dx SIEMENS 828DX FANUC TF Special fixtures etc.			



USER SITE:



# CK52E

## CNC double-column vertical lathe series

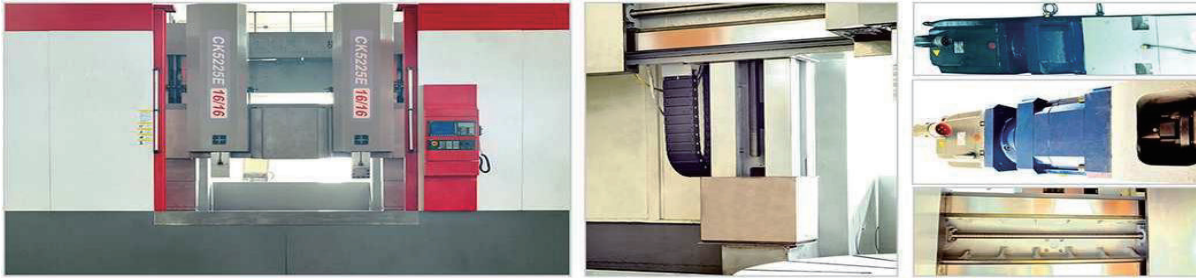


### PRODUCT STRUCTURE CHARACTERISTICS:

1. This series of machine tools is applicable to the motor, water hammer, aviation, mining machinery, metallurgy and machinery industries. It can process ferrous metal, nonferrous metal and some non-metallic material workpieces. On the machine tool, it can finish rough and finish machining of internal and external cylindrical surfaces, conical surfaces, end faces, metric and inch threads, grooves, etc.
2. The large parts of the foundation are of the integral casting structure, made of high-strength low-stress cast iron. After casting, they are processed by tempering and rough machining, and then are subject to aging treatment. The column guide rail is subject to grinding treatment. The beam guide rail and the ram guide rail are subject to medium frequency quenching and grinding treatment.
3. The main drive of this series of machine tools is DC motor+DC speed regulation or AC variable frequency motor+frequency converter. The worktable is divided into wave guide rail and hydrostatic guide rail for user selection. (See the technical parameter table for details) The main shaft bearing of the hydrostatic guide worktable adopts high-precision double-row short cylindrical roller bearing, and the hydrostatic oil adopts constant temperature cooling, thus ensuring that the machine tool has enough high rotation accuracy and sufficient rigidity, strength and thermal stability, and has constant linear speed cutting function.
4. The feeding system for horizontal and vertical movement of vertical tool rest is driven by AC servo motor and dynamic ball screw, with high transmission efficiency and long service life. The left and right tool holders are hydraulically balanced.
5. The machine tool is equipped with advanced functional parts at home and abroad. The machine tool is beautiful in appearance, pleasant and reliable in function.
6. According to special requirements, it can provide complete machine protective cover, chip remover, electric spindle grinding head, cooling device, lathe integrated vertical tool holder, four-station electric tool table, etc.
7. This series of machine tools can be configured with single and double vertical tool holders according to user requirements. The configuration of double tool holders can be divided into three forms: (left NC tool holder, stone common tool holder), double common tool holders, and double NC tool holders.
8. FANUC, SIEMENS or Beijing KND system are selected for the numerical control system, and other numerical control systems can be selected by the user.



PRODUCT DETAILS DISPLAY:



The first specifications and technical parameters of CK52E series CNC double-column vertical lathe are as follows:

Mainly parameters	CK5225Ex H/W	CK5231ExH/W	CK5235Ex H/W	CK5240E x H/W
Working table diameter	2250mm	2500mm/2830mm	2830mm/3150mm	2830mm/3150mm
Max .cutting diameter	2500mm	3150mm	3500mm	4000mm
Max.workpiece height	1600/2000/2500mm	1600/2000/2500mm	1600/2000/2500mm	1600/2000mm
Max.workpiece weight	12/16 Ton	12/16Ton	12/16Ton	120/16 Ton
Square cutter tool dimension ( W*H )	40*50	40*50	40*50	40*50
Main motor	Servo 60kw	Servo 60kw	Servo 60kw	Servo 60kw
Main gear box	Four gears /Stepless	Four gears /Stepless	Four gears /Stepless	Four gears /Stepless
Total cutting force	63000N	63000N	63000N	63000N
Worktable guide rail type	dynamic pressure/Roll	dynamic pressure/Roll	dynamic pressure/Roll	dynamic pressure/Roll
Worktable max .torque	32000Nm	32000Nm	32000Nm	32000Nm
Worktable rotary speed range	2-63r/min	0.2-63r/min	2-63r/min	2-63r/min
Number of steps for right vertical tool	Stepless	Stepless	Stepless	Stepless
Right vertical tool rest feed range	0.1 -500mm/min	0.1 -500mm/min	0.1 -500mm/min	0.1 -500mm/min
Max.cutting force of right vertical tool	35000N	35000N	35000N	35000N
Horizontal travel of right vertical tool	1400	1730	1920mm	2165mm
Vertical travel of right vertical tool	1000mm	1000mm	1000mm	1000mm
Rapid movement speed of right	3000mm/min	3000mm/min	3000mm/min	3000mm/min
Left vertical tool rest feed stage	Stepless	Stepless	Stepless	Stepless
Feeding range of left vertical tool rest	0.1 -1000mm/min	0.1 -1000mm/min	0.1-1000mm/min	0.1 -1000mm/min
Max.cutting force of left vertical tool	30000N	30000N	30000N	30000N
Horizontal travel of left vertical tool	1400	1730	1920	2165
Vertical travel of left vertical tool rest	1000/1250mm	1000/1250mm	1000/1250mm	1000/1250mm
Rapid movement speed of left vertical	4000mm/min	4000mm/min	4000mm/min	4000mm/min
Left and right vertical tool rest degree	±30°	±30°	±30°	±30°
Form and section of ram for left and right vertical tool rest	Square 220*200(mm)	Square 220*200(mm)	Square 220*200(mm)	Square 220*200(mm)
Maximum stroke of beam	1250mm	1250mm	1250mm	1250mm
Beam lifting speed	350mm/min	354mm/min	354mm/min	354mm/min
Beam lifting motor power	7.5kw	11kw	11kw	11kw
Total motor power	70.6kw	78.1 kw	78.1kw	78.1 kw
Machine weight (including electrical and hydraulic)	35/36/37 Ton	38/39/40 Ton	41/42/43 Ton	43/44Ton
Machine Overall dimension (L * W* H)	504*440*495(cm)	746*465*495(cm)	639*540*495(cm)	795*752*495(cm)

# SCVL

## CNC SINGLE COLUMN VERTICAL LATHE SERIES



### PRODUCT STRUCTURE CHARACTERISTICS:

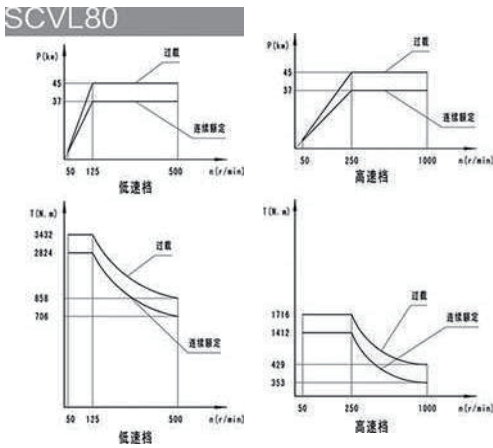
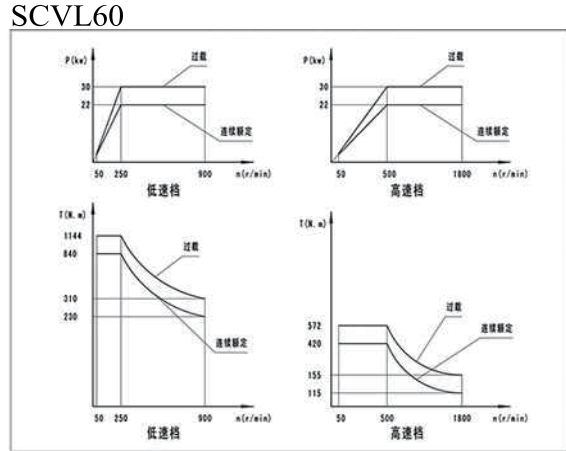
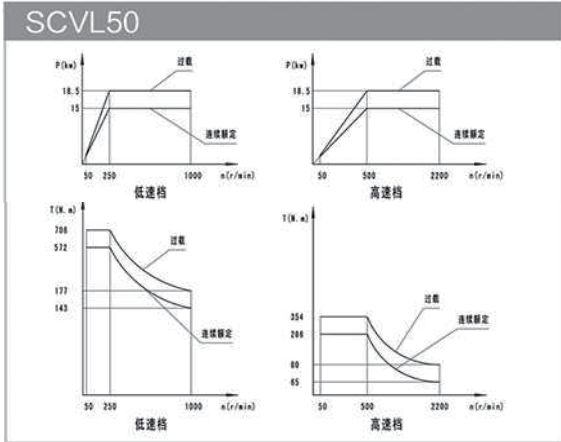
1. Taiwan hydraulic chuck is adopted, which has high positioning accuracy and good stability. At the same time, the labor intensity of operators is reduced, the clamping time of workers is reduced, and the labor production efficiency is improved.
2. Taiwan's high-performance spindle is adopted, and the spindle handle and face are subject to Taiwan's scraping technology. The form of face contact is adopted, which is different from the point contact and first contact of other manufacturers.
3. Taiwan 8-station tool rest or vertical electric tool table.
4. Taiwan ball screw and Taiwan electrical components.
- . The unique closed protective cover of the whole machine can effectively prevent the cutting elbow and the coolant from splashing around, thus achieving the goal of environmental protection.

#### Standard configuration:

- |  |   |
|--|---|
| 1. FANUC OI TF numerical control system and servo motor; | 9. Double base speed main drive servo motor with ZF reducer function                            |
| 2. Japan NSK bearing;                                    | 10. Changchun optical and mechanical spindle encoder;   |
| 3. Taiwan integrated spindle;                            | 11. Sanhe Tongfei precision oil cooler and electric cabinet air conditioner;                    |
| 4. Taiwan hydraulic chuck;                               | 12. Self-made fully enclosed protective cover, chip remover and cooling device;                 |
| 5. Taiwan horizontal 8-position tool holder;             | 13. Domestic famous guide rail protective cover and slippers.                                   |
| 6. Taiwan grinding ball screw;                           | 14. Main shaft support diameter 350MM support bearing model                                     |
| 7. Taiwan linear guide rail;                             | Optional configuration: German Heidelberg grating ruler (x-axis, Z-axis), vertical tool holder. |
| 8. Taiwan electrical components                          |   |

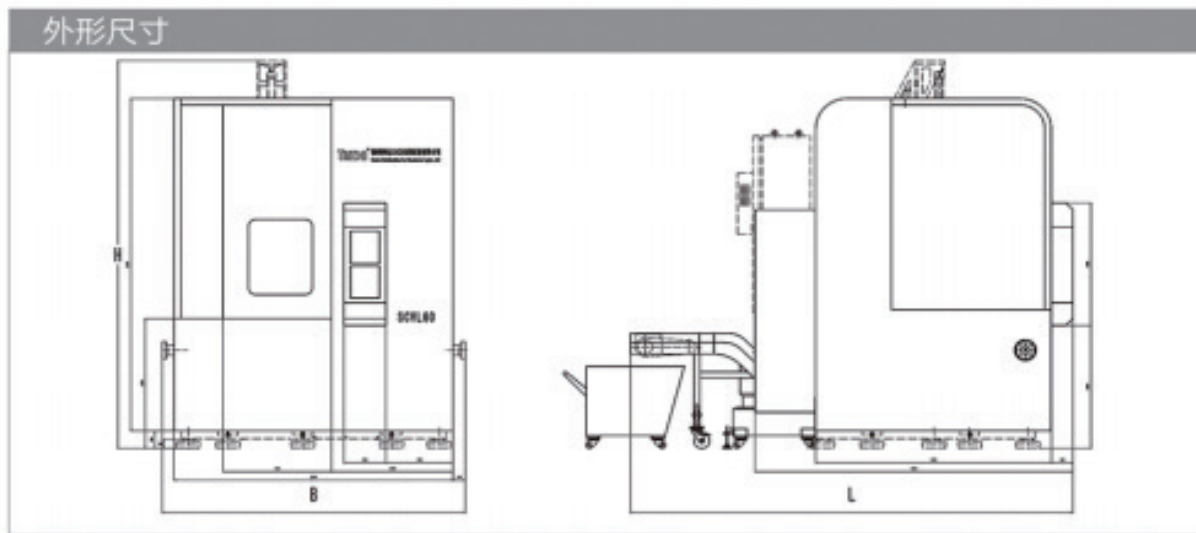


# SPINDLE POWER/TORQUE DIAGRAM

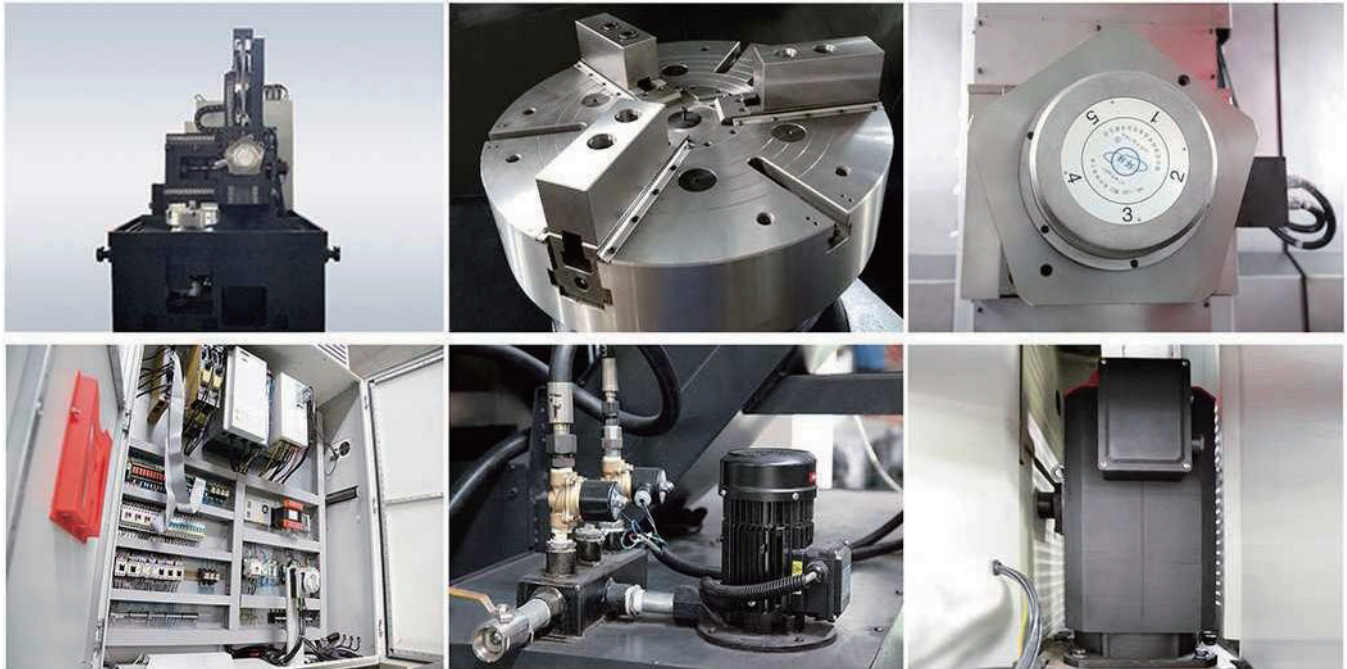


SCVL series Dimension chart

Machine model	Length L	Width B	Height H
SCVL50	2357	2970	3150
SCVL60	3350	2800	3420
SCVL80	2960	3920	3671



## PRODUCT DETAILS DISPLAY:



## MAIN STRUCTURE:

The main drive system is driven by double-base speed main drive servo motor and has the function of ZF reducer. This series of machine tools has the two-speed function. The low-speed gear has the advantages of low-speed heavy-load cutting with large rough turning, and the high-speed gear can achieve the advantages of high-speed light-load cutting with small rough turning.

The transmission system adopts the combined narrow V-belt transmission, and the motor is directly connected to the main shaft, reducing the impact of the intermediate link on the speed and accuracy, and at the same time realizing the optimization and optimization of the smooth transition.

The beam adopts the box structure and the optimized design of the reasonable arrangement of the stiffeners, thus achieving the requirements of good stability, high strength and high rigidity. The beam guide rail surface adopts the precision grinding process, which can effectively ensure the straightness requirements of the linear guide rail for the joint surface.

The unique integrated design of the base improves the overall strength of the machine tool; High strength and high rigidity cast iron material improves the stability of the machine tool and can effectively absorb vibration. The spindle encoder is installed at the spindle position of the base to realize the linear speed cutting function of the button.

Hydraulic chuck hydraulic clamping mechanism is simple and easy to clamp, which can realize correct adjustment of clamping force and improve stability and reliability. Hydraulic chuck is an important part of automatic manufacturing and an inevitable trend of enterprise development.

The tool holder adopts Taiwan horizontal eight-position tool holder. The tool holder adopts hydraulic tool change, which has the advantages of accurate tool change and fast tool change. The tool holder can hold 8 tools at a time and meet the production needs. Or vertical five-position electric tool holder with high accuracy and good rigidity.

The electrical cabinet is directly installed on the beam, saving the floor area of the machine tool and making the whole machine more compact; The appearance of the switchboard is beautiful, and the wire number is clear and complete; The wiring from the electrical cabinet to the bed is all connected with special cables; The electric cabinet is equipped with air conditioner, which is safe and standard to ensure the constant temperature of the controller and make the operation of the controller more stable.

# SCVL series CNC single column vertical lathe machine

## TECHNICAL PARAMETER:

Mainly parameters	Item	Unit	SCVL50	SCVL60	SCVL80
Working capacity	Max. Swing diameter	mm	500	800	1000
	Max.working diameter	mm	400	600	800
	Max.working height	mm	480	700	800
Spindle	Chuck diameter (hydraulic)	inch(	12" (325)	21" (530)	24" (610)
	Spindle nose model		A2-8	A2-11	A2-11
	Spindle bearing diameter	mm	160	180	180
	Worktable Variable speed stage		II gears stepless	II gears stepless	II gears stepless
	Spindle rotary speed range	r/min	50-2200	50-1800	50-1000
	Worktable torque	Nm	500	840	2200
	Infeed	X axis rapid traverse rate	mm/	10000	10000
X axis infeed amount range		mm/	0.1-1000	0.1-1000	0.1-1000
Z axis rapid traverse rate		mm/	15000	15000	15000
Z axis infeed amount range		mm/	0.1-1000	0.1-1000	0.1-1000
Minimum step equivalent		mm	0.001	0.001	0.001
Stroke	X axis stroke	mm	-50-250	-50-650	800
	Z axis stroke	mm	500	625	850
Tool turret	Turret type		Horizontal 8-station	Horizontal 8-station	Horizontal 8-station
	Cutter tool dimension	mm	25x25/040	25x25/040	32x32/050
Accuracy	Processing accuracy		IT6	IT6-IT7	IT6-IT7
	Surface roughness	um	Ra1.6	Ra1.6	Ra1.6
	X axis positioning accuracy	mm	0.012	0.018	0.018
	Z axis positioning accuracy	mm	0.015	0.020	0.020
	X axis repeat positioning	mm	0.006	0.006	0.0075
	Z axis repeat positioning	mm	0.006	0.008	0.015
Power	Spindle power	kw	15/18.5	22/26	30/37
	X axis servo motor	kw	1.8	3	4.2
	Z axis servo motor	kw	3	3	3
	Cooling pump	kw	0.75	0.75	0.75
Machine weight	Machine main body	kg	11000	13000	15000
Machine overall dimension			2357x2970x3150	3350 x 2800 x 3420	2960x3920x3671

# SVL

CNC SINGLE COLUMN HIGH SPEED  
VERTICAL LATHE SERIES





## PRODUCT STRUCTURE CHARACTERISTICS:

SVL CNC single-column vertical turning machining center is equipped with Fanuc 01 TF system, two-axis (X, Z) linkage, 12-position disc tool magazine, and ram tool taking mode. It is suitable for hard alloy and ceramic tools. It can rough and finish the inner and outer cylindrical surfaces, inner and outer conical surfaces, planes, threads and arc surfaces of parts made of ferrous metals, non-ferrous metals and some non-metallic materials at high speed.

The main drive is driven by double-base speed spindle servo motor and controlled by servo. The dual-speed spindle servo drive system has closed-loop speed regulation within the full speed range, with 1.5 times overload capacity, and can output effective torque at zero speed. The main shaft bearing adopts the tapered cross roller bearing structure, which has the characteristics of high precision, high rigidity, high load, high speed, low friction, etc. Therefore, the machine tool itself has high rotation accuracy and rigidity.

The X-axis and Z-axis servo motors are directly connected with the ball screw through the flexible coupling, and the guide rail is in the form of sliding guide rail (hard rail). The position of the linear coordinate is detected by the entrance grating ruler, so as to realize the full closed-loop control of the two-axis linkage.

The complete machine is equipped with a fully enclosed protective cover, which has the protection and collection functions of iron chips and coolant. The protective cover has enough space for chip cleaning.

## PRODUCT STRUCTURE CHARACTERISTICS:

Electric cabinet: directly installed on the beam, saving the floor area of the machine tool and making the whole machine more compact; The appearance of the switchboard is beautiful, and the wire number is clear and complete; The wiring from the electrical cabinet to the bed is all connected with special cables; The electric cabinet is equipped with air conditioner and safety standard to ensure the constant temperature of the controller and make the operation of the controller more stable. Precision oil cooler: by cooling the hydraulic mechanical oil of the machine tool, it can prevent the machine tool from thermal deformation, stabilize the oil pressure, prevent oil shock, improve the machining accuracy of the machine tool, reduce the error of mechanical action, and reduce the maintenance cost of the machine tool.

Automatic lubrication station: the guide rail and lead screw of the whole machine are lubricated in a centralized way. A set of automatic lubrication station supplies oil to each lubrication point in a fixed time and quantity through the control function of the electrical system, making the lubrication work more simple and convenient.

Characteristics of cross roller bearing: it provides the performance advantages of double-row bearing in the space of single-row bearing; It has high ability of resisting overturning moment; It combines the compactness of single-row bearing and the stability of double-row bearing; The height of worktable in occupied space is convenient for operation; The focus of work is low, and the high mental strength is small; Uniform heat conduction and long wear life. High rigidity, high precision, vibration resistance and easy lubrication. Derui brand 0820B type: 12-position tool magazine design, convenient for diversified processing needs, quick and arbitrary change of

direction to select tools nearby, user-friendly control. The greatest advantages of this tool magazine are stable tool change, fast and accurate positioning, large torque, etc. The tool magazine is equipped with a beautiful and protective all-ridge gold shield for the tool holder handle, and a visible window is reserved. The window is inlaid with organic glass.

Castings: all adopt high-quality resin sand molding, high-strength high-quality cast iron. The surface of the bed guide rail has been quenched, and its hardness has reached HRC45 or above, with good stability, high strength, and stable and reliable top precision.

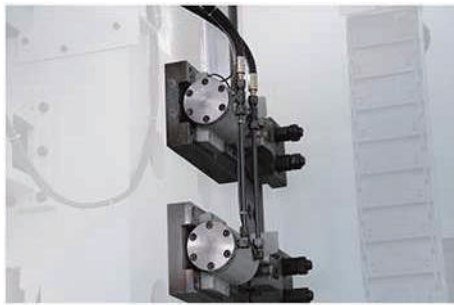
Lead screw: precision double-pin ball screw is adopted.

Pre-tightening is applied at both ends to eliminate precision loss caused by thermal elongation.

Operation station: It is an integrated rotatable type, with an external handheld unit, which is very convenient to operate.

Inlet and outlet system: high-precision AC synchronous servo motor is connected with ball screw through reducer and elastic coupling. Mature and stable structure realizes high-precision transmission and control.

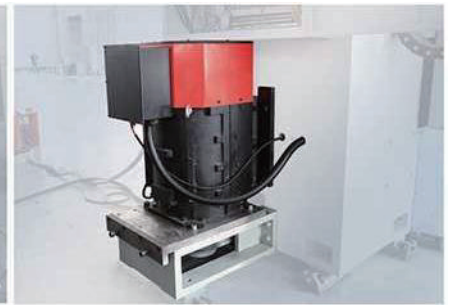
## PRODUCT DETAILS DISPLAY:



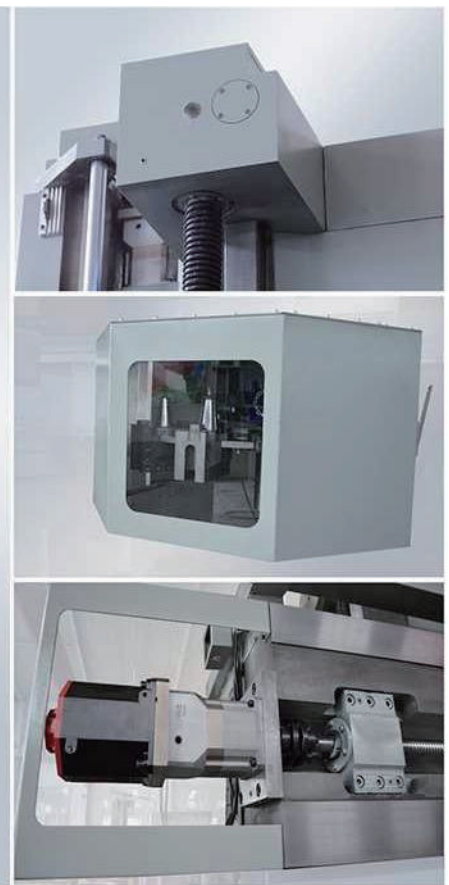
衡量定位夹



垂直刀架



工作台驱动



- STANDARD:
- 1、 FANUC OI TF CNC SYSTEM AND SERVO
  - 2、 TAIWAN HIWIN BALL SCREW
  - 3、 GERMANY SCHNEIDER ELECTRICAL COMPONENTS:
  - 4、 AMERICAN TIMKEN Tapered cross roller bearing
  - 5、 Taiwan high-precision planetary reducer
  - 6、 Double base speed main drive servo motor with ZF reducer function;
  - 7、 Taiwan 12-station disc tool magazine;

- 8、 DONGGUAN BAOTENG LUBRICATE
  - 9、 FANUC spindle encoder;
  - 10、 SANHE TONGFEI PRECISE OIL CHILLER
  - 11、 SANHE TONGFEI ELECTRICAL CABINET AIR CONDITIONOR
  - 12、 Self-made fully enclosed protective cover, chip remover and cooling device;
  - 13、 Domestic famous guide rail protective cover and drag chain.
- Optional configuration: German Heidelberg grating ruler (X axis, Z axis)

# SVL

Mainly parameters	Unit	SVL125xH/W	SVL160xH/W	SVL200 x H/W
Max. Swing diameter	mm	1400	1650	2050
Max. cutting diameter	mm	1250	1600	2000
Max. Workpiece height	mm	1000/1250/1400	1000/1250/1400	1250/1400/1600
Max,workpiece weight	t	5	8	12
Worktable diameter	mm	1200	1450	1800
Vertical tool rest Max. Cutting force	kN	16	20	20
Worktable Max.torque	KN.m	6	10	12.5
Stage of workbench speed		II gears stepless	II gears stepless	II gears stepless
Worktable rotary speed range	mm/min	5-500	5-315	5-250
Number of feed of vertical tool rest		Stepless	Stepless	Stepless
Vertical tool rest feed range	mm/min	0.1 -1000	0.1 -1000	0.1 ~ 1000
Fast moving speed of tool holder	mm/min	6000	6000	6000
Horizontal travel of vertical tool rest	mm	-100-800	-100-1000	-100~ 1250
Vertical travel of ram of vertical tool rest	mm	650/800	800/1000	800/1000
Sectional dimension of ram of vertical tool rest	mm	200 x 200	200x200	220x220
Max.beam stroke	mm	650/900/1050	650/900/1050	900/1050/1250
Beam lifting speed	mm/min	440	440	440
Main motor power	kW	S1=25,S2=30	S1 =30,82=37	S1=35,S2=45
Beam lifting motor power	kW	5.5	5.5	5.5
Torque of X and Z axis feed motor	N.m	20	20	27/20
Positioning accuracy of X and Z axes	mm	0.02/1000	0.02/1000	0.02/1000
Repetitive positioning accuracy of X and Z axes	mm	0.015/1000	0.015/1000	0.015/1000
Table guide rail form		Conical cross hydraulic guide rail	Conical cross hydraulic guide rail	Conical cross hydraulic guide rail
Vertical tool rest horizontal/vertical guide rail form		Hardway	Hardway	Hardway
Maximum height of cutter bar section		□20 □ 32 □ 40	□20 □ 32 □ 40	□20 □ 32 □ 40
Machine overall dimension	mm	4550x4310x3920	5150x4395x4285	5950x4795x4285
Machine total weight	t	12.5	17	20

# CA51E

Single column vertical lathe series



## PRODUCT STRUCTURE CHARACTERISTICS:

1. This series of machine tools is suitable for machining in various industries, and can be used for rough and fine turning of internal and external cylindrical surfaces, conical surfaces, end faces, grooving, cutting, etc., and can also be used for lithium inner hole process.
2. The foundation parts are of integral casting structure and made of high-strength low-stress cast iron. After casting, they are subject to tempering, rough machining and aging treatment. The column guide rail is subject to grinding treatment. The beam guide rail and ram guide rail are subject to medium frequency quenching and grinding treatment.
3. The main drive adopts 16-step speed change, and the workbench speed change is controlled by solenoid valve; All transmission gears adopt high-frequency quenching grinding process.
4. The worktable adopts the form of rolling guide rail, so the worktable has large bearing capacity and high rotation accuracy.
5. The vertical tool rest is equipped with a five-angle tool table, which is positioned with high-precision mouse tooth plate; The tool rest is hydraulically balanced; The horizontal and vertical movement of the vertical tool rest is driven by a sliding lead screw, and the tool rest is driven by a three-phase AC motor; The guide rail is in the form of sliding guide rail, and its matched guide rail surface is pasted with high-strength polytetrafluoroethylene soft belt.
6. The hydraulic system is equipped with a flow transmitter to ensure the stable flow of lubricating oil on the workbench.
7. The machine tool is controlled by PLC, so it has high reliability. The electrical wiring is strictly executed according to the process.
8. The machine tool is beautiful in appearance, pleasant and convenient in operation and maintenance.
9. Digital display device, T-shaped ram, square ram, etc. can be provided according to special requirements.



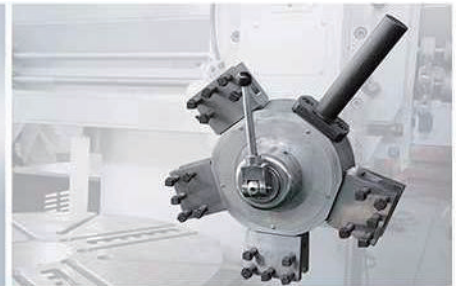
## PRODUCT DETAILS DISPLAY:



操作面板



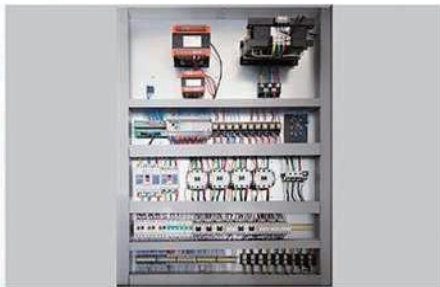
主电机护罩



刀台



HT300工作台



电柜



自动润滑站

## CA51E

Main parameters	Unit	CA5112ExH/W	CA5116ExH/W	CA5120ExH/W	CA5123ExH/W
Max.turning diameter	mm	1250	1600	2000	2000
Max.workpiece Height (H)	dm	10/12.5/14	10/12.5/14/16	12.5/16	12.5/16
Max.workpiece weight (W)	t	5	8	12	12
Worktable diameter	mm	1010	1400	1800	2000
Vertical tool holder Max.cutting force	kN	20	25	25	25
Worktable Max. Torque	kN.m	17.5	25	32	32
Worktable rotary speed range (16 stages)	r/min	6.3-200	5-160	4-125	4-125
Vertical tool holder infeed amount range (12stages)	mm/min	0.8 ~ 86	0.8 ~ 86	0.8-86	0.8 ~ 86
Tool turret rapid traverse rate	mm/min	1800	1800	1800	1800
Vertical tool holder Mobility limit	Degree	±30°	±30°	±30°	±30°
Vertical tool holder horizontal stroke	mm	-28 ~ 733	-15-930	-65-1150	-86-1300
Vertical turret ram vertical stroke	mm	650/800	800/1000	800/1000	800/1000
Main motor power (AC)	kW	22	30	37	37
Worktable guide rail type		Rolling type	Rolling type	Rolling type	Rolling type
Vertical turret guide rail type		Slide guide rail	Slide guide rail	Slide guide rail	Slide guide rail
Machine overall dimension (LxWxH)	mm	2360x2300x3580	2830x2870x3870	3210x2970x4200	3700x3390x4240
Machine total weight	t	8.3/8.6/8.9	12.6/13.8/14.1	17.5/17.8	18.8/19.5

# C52E Double column vertical lathe



## PRODUCT STRUCTURE CHARACTERISTICS:

1. This series of machine tools are applicable to the motor, water hammer, aviation, mining machinery, metallurgy and general machinery industries, and are used for rough and finishing machining of internal and external cylindrical surfaces, conical surfaces, end faces, grooves, etc.
2. The foundation parts are of integral casting structure and made of high-strength low-stress cast iron. After casting, they are subject to fire treatment, rough machining and aging treatment. The column guide rail is subject to grinding treatment. The beam guide rail and ram guide rail are subject to medium frequency quenching and grinding treatment.
3. The main drive of this series of machine tools is driven by an AC motor, and the main drive speed is controlled by a solenoid valve with a 16-step speed change. All gear wheels in the gearbox adopt high-frequency quenching grinding process. The worktable is divided into three types: sliding, static and fluctuating guide rails.
4. The horizontal and vertical feed of the vertical tool rest is driven by the wave ball lead screw, which is moved by the servo AC motor in three zones, thus realizing automation. The left and right tool holders are hydraulically balanced; The horizontal and vertical feed adopts sliding guide rail, and its matched guide rail is pasted with high-strength polytetrafluoroethylene resin.
5. The hydraulic system is equipped with a flow transmitter to ensure the stable flow of lubricating oil on the workbench.
6. The machine tool is controlled by PLC, so it has high reliability. The electrical wiring is strictly executed according to the process.
7. The machine tool is beautiful in appearance, pleasant and convenient in operation and maintenance.
8. According to special requirements, power spindle grinding head, cooling device, digital display and other accessories can be provided.
9. The horizontal and vertical drag lines and button station housings of this series of machine tools are respectively domestic famous and high-quality products.
10. CNC system can be configured according to user requirements.

## C52E

Main parameters	Unit	C5225ExH/W-1	C5231ExH/W-1	C5235ExH/W-1	C5240ExH/W-1
Max.turning diameter	mm	2500	3150	3500	4000
Max.workpiece Height (H)	dm	16/20/25	16/20/25	16/20/25	16/20
Max.workpiece weight (W)	t	12 16	12 16	12 16	12 16
Worktable diameter	mm	2250	2500/2830	2830/3150	3150/3600
Vertical tool holder Max.cutting force	kN	35 (R) /30(L)	35 (R) /30(L)	35 (R) /30(L)	35 (R) /30(L)
Worktable Max. Torque	kN.m	63	63	63	63
Worktable rotary speed range (16 stages)	r/min	2~ 63	2~ 63	2~ 63	2~ 63
Vertical tool holder infeed amount range (stepless)	mm/min	0.2 ~ 500	0.2 ~ 500	0.2 ~ 500	0.2 ~ 500
Tool turret rapid traverse rate	mm/min	3000	3000	3000	3000
Vertical tool holder Mobility limit	度	±30°	±30°	±30°	±30°
Vertical tool holder horizontal stroke	mm	1400	1730	1920	2165
Vertical turret ram vertical stroke	mm	1000/1250	1000/1250	1000/1250	1000/1250
Tool bar section height	mm	40*50	40*50	40*50	40*50
Main motor power (AC)	kW	55	55	55	55
Worktable guide rail type		velocity pressure Rolling type	velocity pressure Rolling type	velocity pressure Rolling type	velocity pressure Rolling type
Vertical turret guide rail type		Slide guide rail	Slide guide rail	Slide guide rail	Slide guide rail
Machine overall dimension (LxWxH)	mm	5040x4400x6200	6390x4650x5600	7460x5400x6200	7950x7520x6200
Machine total weight	t	32.4/34.4/36.5	36/37/38/	40.1/42.2/44.4	42/44

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