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Taikan Sunshine Service



## HIGH-PRECISION CNC VERTICAL LATHE

HIGH-END INTELLIGENT EQUIPMENT  
INTEGRATED SOLUTIONS SERVICE PROVIDER



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16

Taikan was established in 2005  
16th anniversary

500

Shenzhen's top 500 enterprises ranked 226nd in 2020

100

Shenzhen Bao'an District  
Top 100 enterprises in added value  
Top 100 enterprises in output value  
Top 100 enterprises in paying tax  
Top 100 enterprises in innovation



HIGH-END INTELLIGENT EQUIPMENT  
INTEGRATED SOLUTIONS SERVICE PROVIDER



## COMPANY PROFILE

Based on the machine tool and supporting industry, Taikan will be bigger, stronger and more permanent. In the future, Taikan will develop in the direction of high precision, high efficiency, intelligence and complete sets, and vigorously develop the field of robots and intelligent equipment, products are widely used in 3C, 5G, automation equipment, energy, environmental protection and automobile industry etc. We are committed to promoting the upgrade of people's quality of life with product quality and bringing efficient, green and innovative processing applications and service experience to the world industry.

### Academician (Expert) workstation

The first academician expert workstation in Shenzhen

### Engineering lab

With an area of 1,300 square meters and a total investment up to 30 million yuan, it is equipped with material analysis room, functional component testing room, precision measurement room, comprehensive laboratory, vibration testing room, mechanical performance testing room and EMC testing room.

### Innovation base

Shenzhen Headquarters Innovation Direction: Intelligent Machine Tools, Automation Solutions  
Suzhou Innovation Direction: Parts Machine, Mold Machine, Double Column Machine、CNC lathe

### Qualification honor

National high-tech enterprises  
Famous brand in Guangdong province.  
Top 500 manufacturers in Guangdong province  
Cultivating enterprises of strategic emerging industries in Guangdong province  
Abide by the contract and credit enterprises in Guangdong province  
Famous brand in Shenzhen

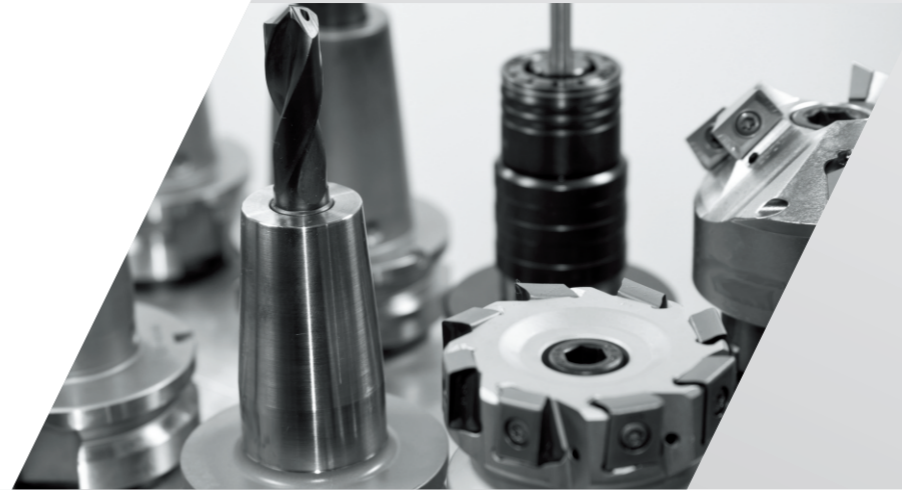
Shenzhen Mayor Quality Award  
Top 100 quality enterprises in Shenzhen  
2nd prize of science and technology progress award in Shenzhen  
ISO9001: 2008 Quality Management System Certification  
ISO14000 Environmental Management System Certification

## TECHNOLOGY RESEARCH AND DEVELOPMENT

Taikan Precision Machinery always takes scientific and technological innovation, product upgrade and technical transformation as the key development goals, invests heavily in scientific and technological research and development projects, actively cooperates with domestic famous universities, colleges and research units in production, learning and research, and has achieved significant scientific and technological achievements and obtained more than 500 technical invention patents.

We have technical consultants consist of authoritative industry experts from Chinese Mainland, Taiwan, Korea, Malaysia , Gerny etc ,and industry leading more than 400 people R&D team. Through science and research activities, we have cultivated a group of researchers with both integrity and ability to establish strong foundation for company's long-term development.

**400+** R&D Staff    **500+** Patent Technology    **4** <sup>pcs</sup> R&D Center



### Casting technology for CNC machine bed

Make the machine maintain the geometric accuracy, movement precision and positioning accuracy in long-term by specially designed machine casting structure. Based on finite element analysis and modal analysis, through multiple optimizations, we designed high rigidity and superior vibration resistance machine structure. Applying symmetrical and heat balance design to improve the machine deformation, so as to make higher precision.

### Intelligent control technology

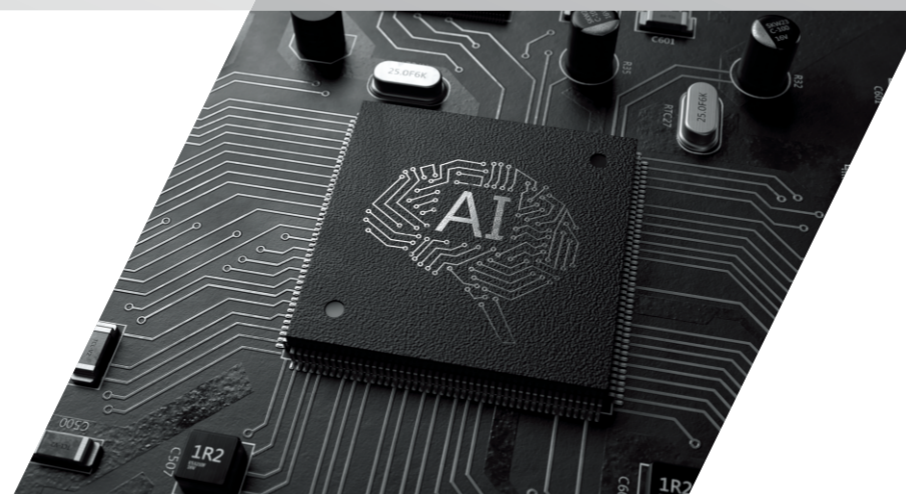
Through intelligent system design, Taikan machine can carry high speed and high precision control, such as preread 30 program segments to calculate route automatically, large preread content make sure accurate calculation. The system can calculate acceleration and deceleration time automatically during machining based on program route. According to calculated route angle, it can get best speed control on the corner. Before machining the corner, the system automatically calculates best machining speed to make sure the accuracy according to angular dimension and machining speed. During machining, the system automatically selects the smooth route generated by vector precision interpolation. By the use of feed-forward control, the system can reduce machining allowance by the control time delay, improve machining precision.

### AI tool life management technology

In the process of machining mechanical parts, it is very important to manage the tool life. Taikan has been engaged in developing the method of tool life management function for CNC machine tools by applying Mitsubishi, FANUC and Siemens macro programs, which involves automatic statistics, display and alarm of tool cutting time, and automatic clearing of alarm and related data. Take use of the tool life management to monitor the tool usage, and status, and launch the back up tool when the usage status reached the setting value, so as to prevent tool broken or other issues

### ATC tool change speed up technology

Taikan increases the action speed based on the conventional automatic tool changer, or adopts mechanisms and drive elements with faster action speed. Design the form and position of tool magazine and tool changer according to the structural characteristics of high-speed tool machines.



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# SEIKO MANUFACTURING



...

# SUNSHINE SERVICE



3<sup>pcs</sup>

3 modern production bases

300000<sup>+</sup> m<sup>2</sup>

plant area of 300000 square meters

3000<sup>+</sup>

production output around 3000 units per month

## PRECISION ASSEMBLY

Precision assembly is the most important step of the machining center. In order to ensure the accuracy of the product. Our company hold all the assembly 100% complete by ourselves to ensure the accuracy and quality of the product. To make sure the accuracy of each machine, we grasp every details of each steps, refine assembly all must undergo rigorous inspection and record for each step before continuing to the next process.

- Base scraping
- Guide rail correction
- Bearing seat correction
- Tailstock correction

## PRODUCT TESTING

The manufacturing process including manufacturing, testing, inspection, performance test etc are strictly controlled in accordance with the highest standard, to ensure the perfect quality and performance.

- Spindle temperature test
- Inspection of spindle inspection rod
- Laser detection
- Spindle pull test
- Geometric accuracy test
- Spindle vibration detection
- Telescopic ballbar system roundness test

## Sales Network

Taikan Precision Machinery has a worldwide sales and service network, with foreign networks covering Vietnam, Thailand, Malaysia, Philippines, Indonesia, Pakistan, India, Korea, Iran, Saudi Arabia, Mexico, Argentina, Brazil, Peru, Russia, Germany, France, Turkey, Spain, Czech Republic and other countries and regions. Domestically we have branches and offices in Beijing, Tianjin, Hebei, Shandong, Henan, Shaanxi, Sichuan, Chongqing, Zhejiang, Jiangsu, Shanghai, Hubei, Hunan, Guangdong, etc. With nearly 100 partners nationwide, we are dedicated to providing comprehensive, convenient and fast sales and service support to our customers.

Taikan provides professional after-sales service teams for customers with full network service, multiple after-sales repair methods to ensure timely and high- efficient service, 24-hour service hotline, sunshine service warranty platform. Whether after-sales timeliness or service attitude, we strive to do better.

## Service Aim

Heart and soul, fast, efficient, cheap, value-added service to every customer forever!

## Service Features

- 01 VIP 24-hour service
- 02 Within 10mins response to maintenance
- 03 All day factory tour service
- 04 Baby-sister type training
- 05 Quick repair service for precision parts

## HIGH PRECISION CNC VERTICAL LATHE



### HIGH PRECISION

High precision, high efficiency, high quality, high cost performance

Precision manufacturing, perfect quality, sunshine service  
to meet individual market needs

Provide a complete set of cutting technology solutions

Provide better, faster and more complete services

#### HIGH-PRECISION CNC VERTICAL LATHE

## L-V50 / L-V65 / L-V80

High precision, high efficiency, high quality, high cost performance

LV (50 ~ 80) series CNC vertical lathes are suitable for automobile parts such as wheel hubs, brake discs, flywheels, brake hubs, reducers, etc., and are suitable for the processing of complex discs, shells and short shaft parts in industries such as bearings and energy.



## Mechanical structure

The main body of the machine tool supports, bases, columns, beams, saddles, etc. are made of high-grade Meehanite precision casting, and the internal stress is eliminated by secondary annealing treatment to ensure accuracy and stability.

The main motor adopts a high-power two-speed motor with a constant power and wide speed range, which can efficiently display the characteristics of the spindle and improve the processing efficiency of the machine tool.

Equipped with a three-jaw self-centering chuck, which shortens the installation time and improves the processing efficiency.

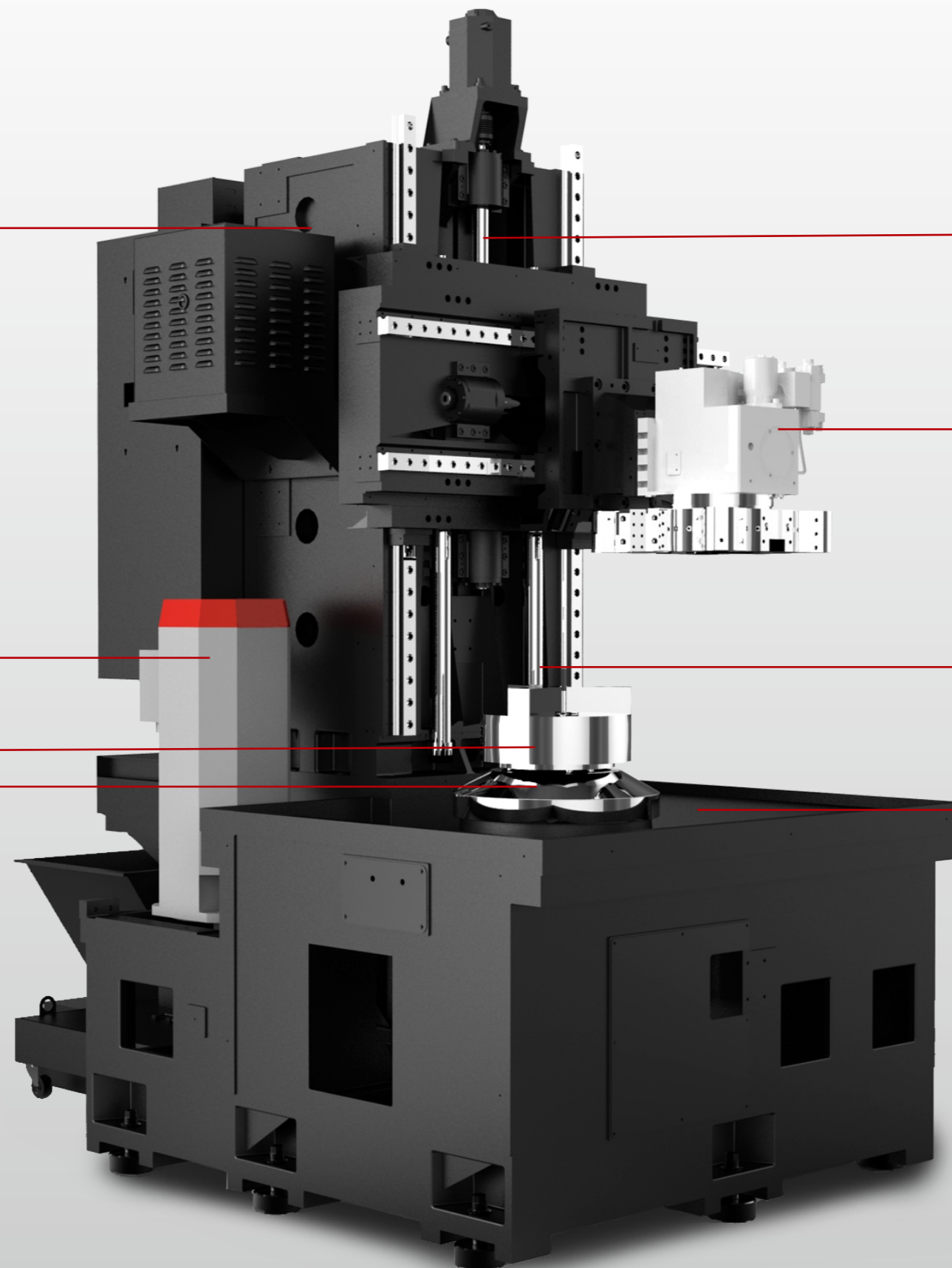
The main shaft bearing adopts imported double row cylindrical roller bearings, the radial clearance is adjusted and the pre-tightening is combined with the main shaft grinding process to ensure the rotation accuracy of the table, and improve the load-bearing capacity and service life. The main shaft is in contact with the tapered surface of the drive pulley for grinding, high contact rigidity, and improved transmission stability.

The feed guide adopts a high-load linear ball guide to meet the requirements of high precision and heavy cutting processing. The drive system adopts a P3 ball screw direct drive, combined with the screw pre-tensioning, high transmission rigidity, to ensure high position accuracy and long-term stability

The hydraulic turret cam has precise indexing, fast tool change speed, and the clamping of the cutter head matches the hydraulic power source to meet heavy-duty cutting. Optional vertical turret and power milling turret.

Z-axis adopts double balance weight compensation technology, which makes the movement more stable and improves the positioning accuracy of the machine tool.

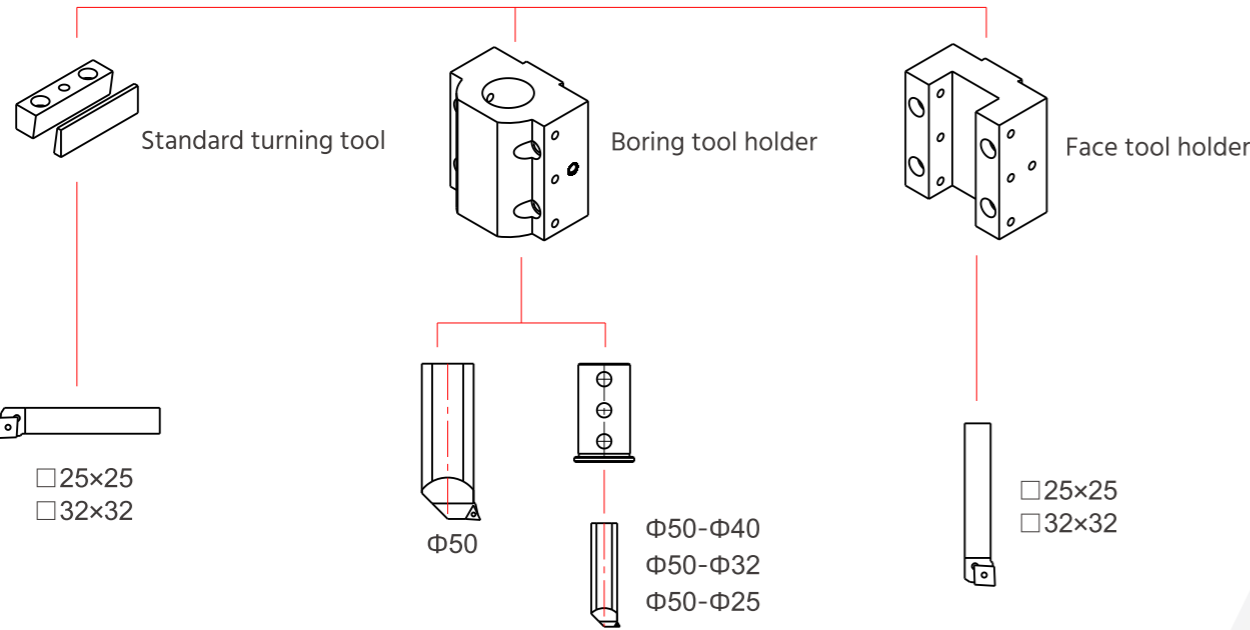
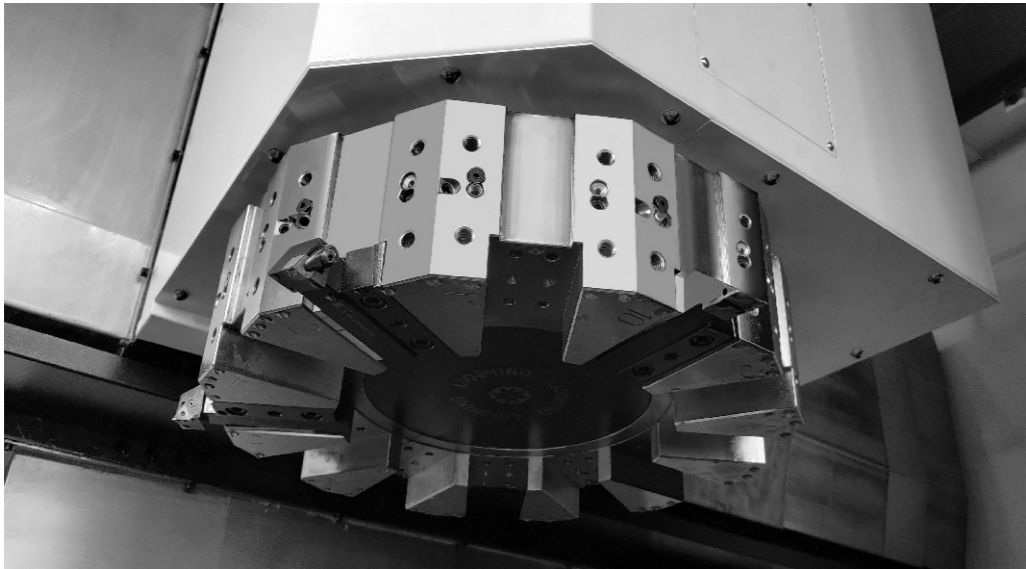
Equipped with iron chip scouring on both sides of the base, which perfectly guarantees the chip removal effect of the machine tool.



# TOOL SYSTEM

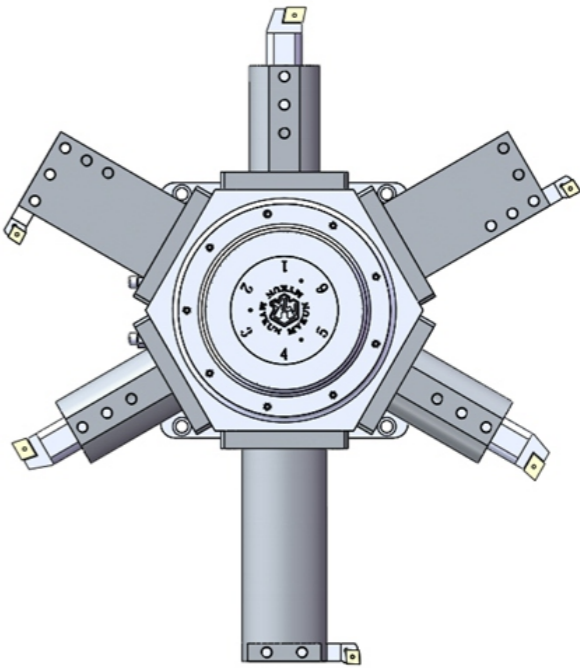
## Horizontal turret

It is suitable for machining parts with external circle and end face mainly, and the tool change speed is fast.

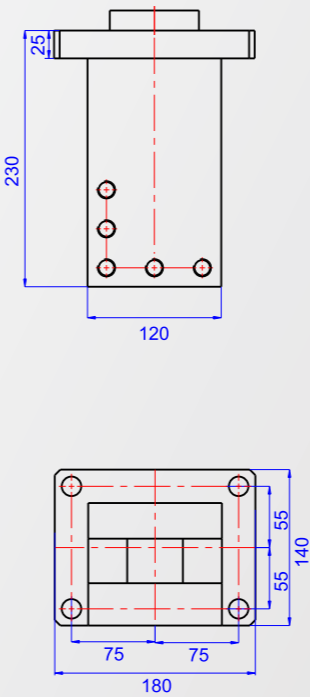


## Vertical turret

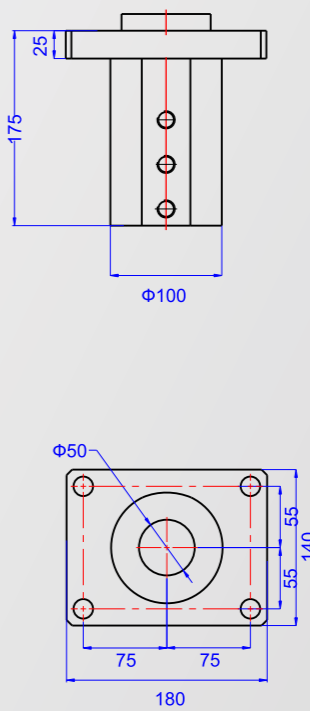
It is suitable for machining workpieces with mainly inner holes, and the range of tool interference is small.



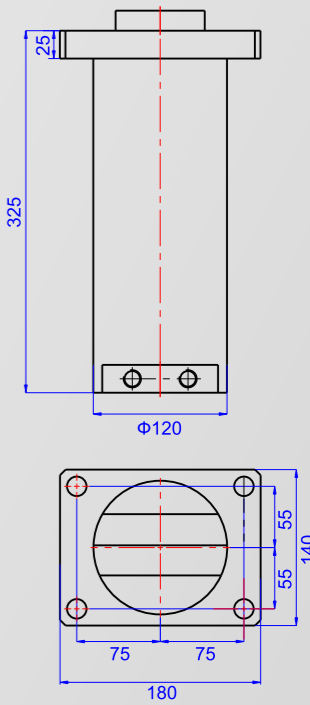
Standard tool holder



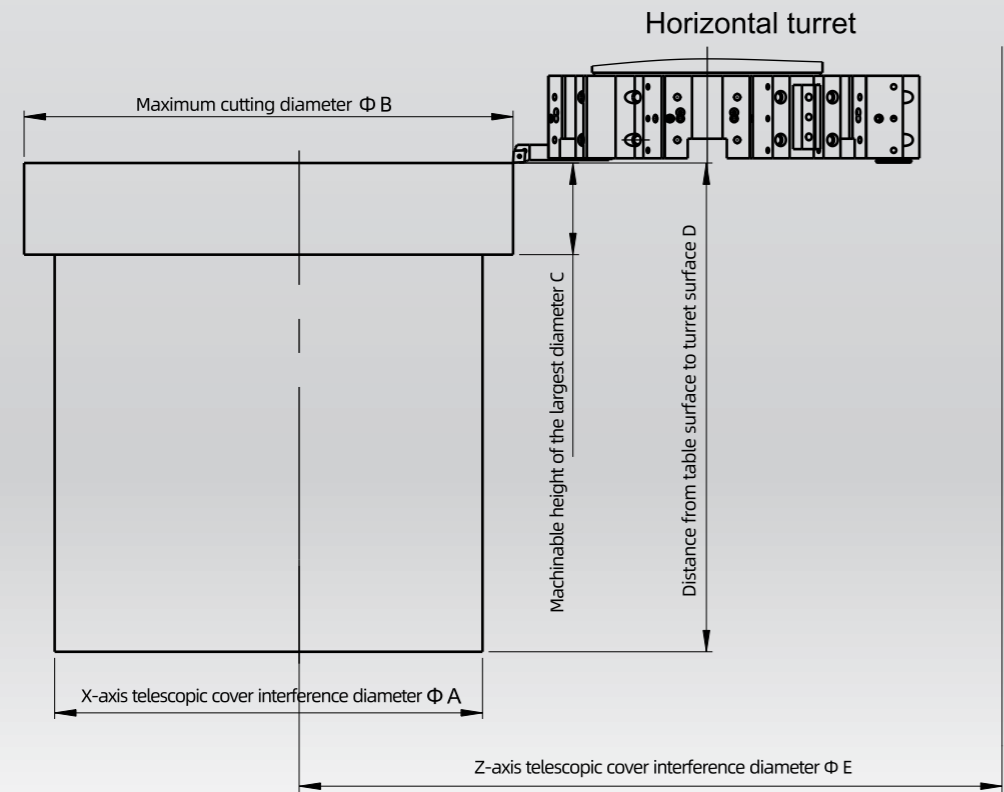
Inner hole knife holder



Inner hole arbor

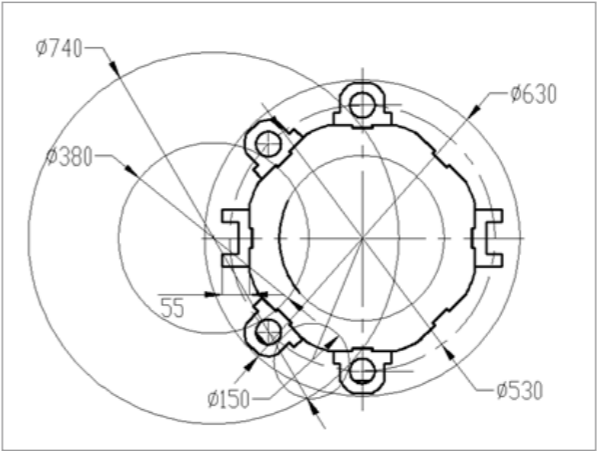


Processing range

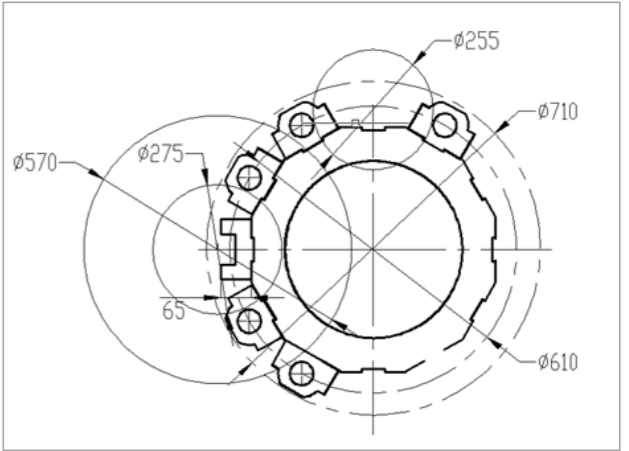


Tool Interferogram

L-V50 ~ L-V65

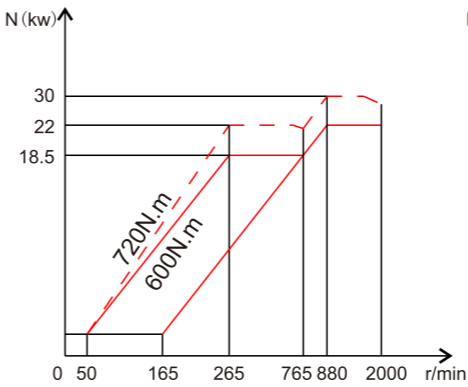


L-V80

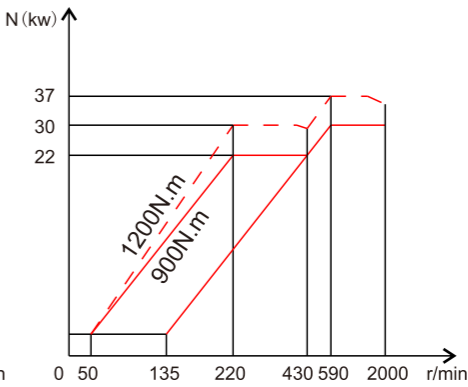


Power torque diagram

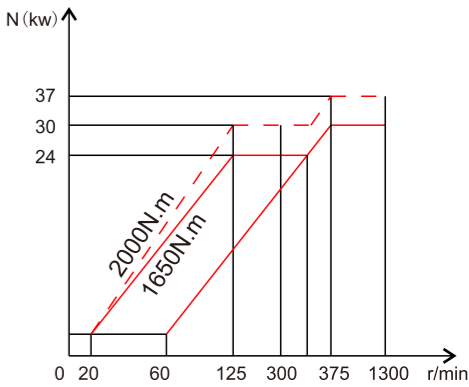
L-V50



L-V65

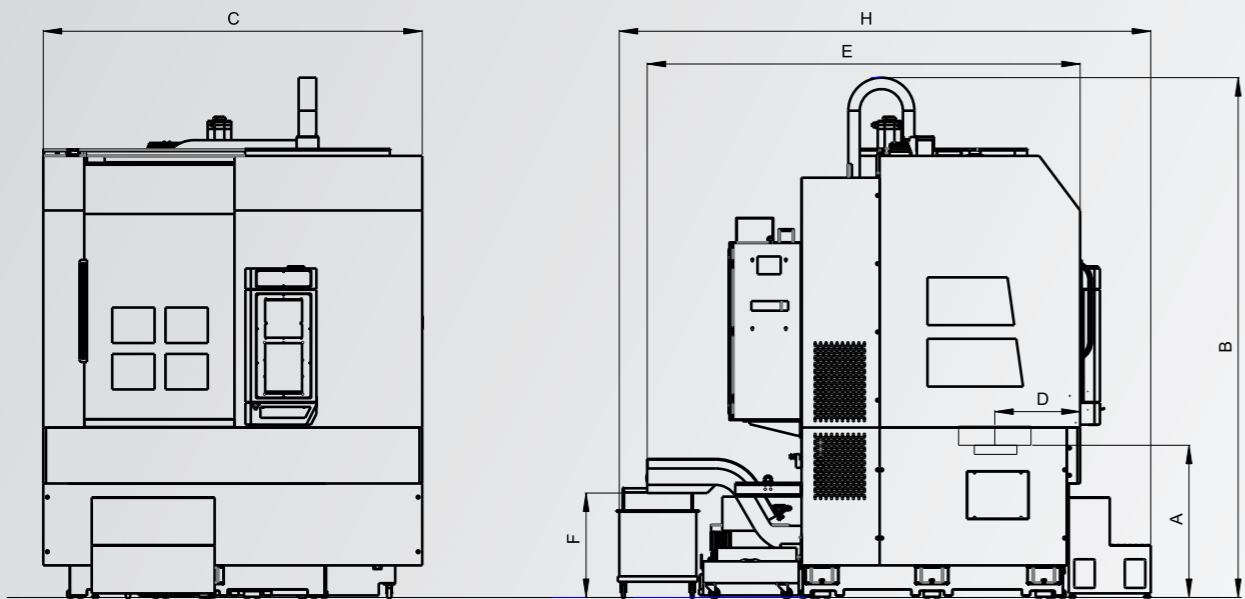


L-V80



| Model | A(mm) | B(mm) | C(mm) | D(mm) | E(mm) |
|-------|-------|-------|-------|-------|-------|
| L-V50 | 550   | 650   | 600   | 600   | 1050  |
| L-V65 | 650   | 750   | 210   | 600   | 1050  |
| L-V80 | 800   | 900   | 210   | 800   | 1200  |

Dimensions



| Model | A    | B    | C    | D   | E    | F   | H    |
|-------|------|------|------|-----|------|-----|------|
| L-V50 | 1100 | 3370 | 2240 | 530 | 2990 | 750 | 3205 |
| L-V65 | 1100 | 3370 | 2240 | 530 | 2990 | 750 | 3205 |
| L-V80 | 1115 | 3735 | 2775 | 625 | 3170 | 750 | 3890 |

Typical workpiece processing



PARAMETER TABLE

| Item             | Name  | L-V50                 | L-V65                 | L-V80                 |
|------------------|---|-----------------------|-----------------------|-----------------------|
| Processing range | Maximum turning diameter (mm)                         | 700                   | 800                   | 950                   |
|                  | Maximum cutting diameter (mm)                         | 550 (650)             | 650 (750)             | 800 (900)             |
|                  | Maximum workpiece height (mm)                         | 600                   | 600                   | 800                   |
|                  | Maximum workpiece weight (kg)                         | 1000                  | 1200                  | 1500                  |
| Spindle          | Chuck diameter (inch)                                 | 15" (Hydraulic chuck) | 18" (Hydraulic chuck) | 21" (Hydraulic chuck) |
|                  | Spindle speed range (r/min)                           | 50 ~ 2000             | 50 ~ 2000             | 20 ~ 1300             |
|                  | Maximum spindle torque (Nm)                           | 720                   | 1200                  | 2000                  |
|                  | Spindle end type                                      | A2-11                 | A2-11                 | A2-11                 |
|                  | Spindle centering bearing diameter (mm)               | 160                   | 160                   | 200                   |
|                  | main motor power (kw)                                 | S1=18.5,S2=22         | S1=22,S2=30           | S1=24,S2=30           |
| Tool holder      | Turret type   | Horizontal (vertical) | Horizontal (vertical) | Horizontal (vertical) |
|                  | Workstation   | 8 (6)                 | 8 (6)                 | 12 (6)                |
|                  | Driving mode  | Hydraulic             | Hydraulic             | Hydraulic             |
|                  | Specification of external turning tool holder (mm×mm) | 32×32                 | 32×32                 | 32×32                 |
|                  | Diameter of inner hole tool holder (mm)               | φ50                   | φ50                   | φ50                   |
| Feed             | X, Z axis feed rail pair                              | linear guide rail     | linear guide rail     | linear guide rail     |
|                  | X, Z axis cutting feed range (mm/min)                 | 0.1 ~ 1000            | 0.1 ~ 1000            | 0.1 ~ 1000            |
|                  | X, Z-axis tool holder fast (m/min)                    | 20/16                 | 20/16                 | 20/16                 |
|                  | X axis horizontal stroke (mm)                         | -50 ~ 340             | -50 ~ 390             | -50 ~ 465             |
|                  | Z axis vertical stroke (mm)                           | 620                   | 620                   | 820                   |
|                  | X, Z axis feed motor torque (Nm)                      | 20/27                 | 20/27                 | 27/36                 |
| Other            | CNC system  | FANUC Oi-T            | FANUC Oi-T            | FANUC Oi-T            |
|                  | Total power capacity of machine tool (kva)            | 45                    | 45                    | 45                    |
|                  | Cooling water tank capacity (L)                       | 240                   | 240                   | 300                   |
|                  | Floor area (length X width) (mm)                      | 2240X3205             | 2240X3205             | 2775X3890             |
|                  | Machine height (mm)                                   | 3370                  | 3370                  | 3735                  |
|                  | Machine weight (t)                                    | 9                     | 9                     | 11                    |

All pictures in this catalog are for reference only, subject to the actual machine; the company's products are continuously improved. If the above information is changed, we will not notify you.

Standard configuration: FANUC CNC system, hydraulic chuck, horizontal turret, soft claw, scrap iron car, cooling system, lubrication system, hydraulic system, fully enclosed protection, safety door switch, work light, three-color light, electric cabinet air conditioner.

Optional configuration: Siemens CNC system, vertical turret, horizontal servo turret, chuck hard claw, grating ruler, oil-water separator, tool measurement, chuck clamping high and low voltage switching.

## HIGH PRECISION CNC VERTICAL LATHE

### HIGH PRECISION

High precision-high efficiency-high quality-high price

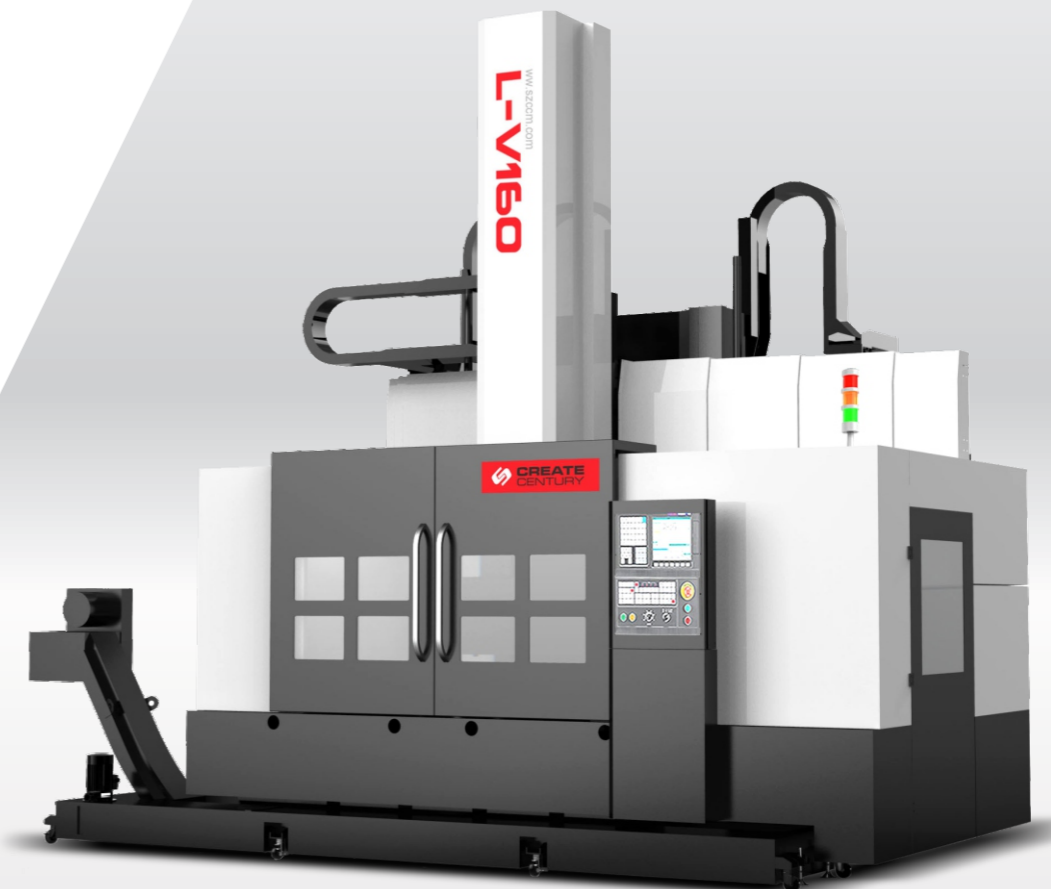
Precision manufacturing, perfect quality,  
sunshine service to meet individual market needs Provide a complete  
set of cutting technology solutions Provide better,  
faster and more complete services

## HIGH-PRECISION CNC VERTICAL LATHE

# L-V125 / L-V160 / L-V200

High precision, high efficiency, high quality, high cost performance

The L-V series (L-V125 ~ L-V200) CNC vertical lathes are suitable for high-precision turning of rotating parts in machinery processing industries such as automobiles, bearings, wind power, and ships. For processing ferrous and non-ferrous metal parts, it can meet the processing needs of different industries. Its good performance-price ratio is the perfect choice for customers at home and abroad.



PRODUCT ADVANTAGE

The overall layout of the L-V series machine tools is a seated, thermally symmetrical structure. The large basic parts are all casted with high-strength cast iron materials. After proper annealing treatment and internal stress elimination, the machine tool has good shock absorption and rigidity, good bending and distortion resistance, and excellent thermal stability. The rib shape is analyzed by finite element and optimized design, so that the machine tool has extremely high rigidity and fully meets the needs of high-torque cutting of the machine tool.

The worktable adopts high-precision rolling guides, and the radial direction adopts high-precision double-row short cylindrical roller bearings for centering. The radial clearance is adjusted to ensure high-precision rotation of the worktable.A thrust ball bearing is used as the rolling guide in the axial direction, and preload is added to ensure the rotation accuracy of the worktable, and improve the bearing capacity and service life.

The lubrication of the transmission gears and bearings of the worktable is supplied to all parts through the cooling device to reduce temperature rise and reduce thermal deformation.

The ram is a large cross-section (220×220mm) square steel ram with a turning broaching spindle inside, which can realize automatic broaching and loosening. The ram material is made of high-quality alloy forged steel. After grinding and heat treatment, the machine can ensure heavy cutting.

The lifting position of the beam is determined by the positioning rack with a pitch of 200 to ensure the high positioning accuracy of the beam. The beam is automatically clamped during processing to ensure the heavy-duty turning of the machine tool.

The beam guide (X-axis) adopts heavy-duty roller linear guide, which has low friction, strong carrying capacity, low speed without creeping, and high positioning accuracy; the ram guide (Z-axis) adopts four-sided plastic-applied hard rail, which has good vibration absorptionIt can ensure smooth cutting during processing, and is especially suitable for strong cutting with spindle extension.

The machine tool is equipped with chip removal, cooling circulation system and semi-closed protection device for the whole machine.



PARAMETER TABLE

| Item             | Name  | L-V125                         | L-V160                         | L-V200                         |
|------------------|---|--------------------------------|--------------------------------|--------------------------------|
| Processing range | Maximum cutting diameter ( mm )                       | 1250                           | 1600                           | 2000                           |
|                  | Maximum workpiece height ( mm )                       | 1000                           | 1000 ( 1400 )                  | 1600                           |
|                  | Maximum workpiece weight ( Kg )                       | 5000                           | 8000                           | 12000                          |
| Spindle          | Diameter of worktable ( mm )                          | 1100                           | 1400                           | 1800                           |
|                  | Spindle speed range ( r/min )                         | 4 ~ 500                        | 2.5 ~ 350                      | 2 ~ 250                        |
|                  | Maximum torque of worktable ( KNm )                   | 8                              | 10                             | 14                             |
|                  | Main motor power ( kw )                               | S1=31,S2=37                    | S1=31,S2=37                    | S1=31,S2=37                    |
| Tool holder      | Turret type   | Vertical turret/turning center | Vertical turret/turning center | Vertical turret/turning center |
|                  | Ram cross section ( mm×mm )                           | 350X225/ □ 220×220             | 350X225/ □ 220×220             | 350X225/ □ 220×220             |
|                  | Workstation   | 4或6/8或12                       | 4或6/8或12                       | 4或6/8或12                       |
|                  | Specification of external turning tool holder(mm×mm)  | 32×32                          | 32×32                          | 32×32                          |
|                  | Turning center output interface                       | Bt50                           | BT50                           | BT50                           |
| Feed             | X axis feed rail pair                                 | linear guide rail              | linear guide rail              | linear guide rail              |
|                  | Z-axis feed rail pair                                 | Linear guide/hard rail         | Linear guide/hard rail         | Linear guide/hard rail         |
|                  | X, Z axis cutting feed range (mm/min)                 | 0.1 ~ 1000                     | 0.1 ~ 1000                     | 0.1 ~ 1000                     |
|                  | X, Z-axis tool holder fast ( m/min )                  | 12/10                          | 12/10                          | 12/10                          |
|                  | X axis horizontal stroke ( mm )                       | -50 ~ 850                      | -50 ~ 1000                     | -50 ~ 1250                     |
|                  | Z axis vertical stroke ( mm )                         | 800/1000                       | 800/1000                       | 800/1000                       |
|                  | X, Z axis feed motor torque ( Nm )                    | 37                             | 37                             | 37                             |
| Beam             | Vertical stroke of beam ( mm )                        | 600                            | 600 ( 800 )                    | 1000                           |
|                  | Cross beam graded positioning pitch (mm)              | 200                            | 200                            | 200                            |
|                  | Horizontal beam classification positioning level (mm) | 4                              | 4 ( 5 )                        | 6                              |
| Other            | CNC system  | Siemens 828D                   | Siemens 828D                   | Siemens 828D                   |
|                  | Cooling water tank capacity ( L )                     | 600                            | 600                            | 600                            |
|                  | Floor area (length X width) ( mm )                    | 6000X4100                      | 6250X4100                      | 7000X4300                      |
|                  | Machine height ( mm )                                 | 4650                           | 4650 ( 5050 )                  | 5800                           |
|                  | Machine weight ( t )                                  | 21                             | 24/25                          | 29                             |

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**Standard configuration:** Siemens 828D CNC system, feed system semi-closed loop, complete machine protective cover, turning cooling, chip conveyor and iron chip car, 8-station tool magazine (turning center), 4-station electric turret (vertical lathe) ), automatic lubrication system, three-color work lights, lighting lights.

**Optional configuration:** FANUC 0I CNC system, fully closed loop grating ruler, 12-station tool magazine, 6-station electric tool post, electric spindle grinding head accessories, tool measuring device, workpiece measuring device, oil-water separator, capto turning tool holder, electromagnetic Suction cups, hydraulic chucks, and water outlet from the center of the spindle.