Z-MaT Group

Smart CNC Solutions



Smart CNC Solutions | Great Machine Tools

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Zhejiang Manufacturing Base 2: Lupu Nanwan Zhigu, Yuhuan, Taizhou, Zhejiang Province, China

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Z-MaT Factory No.1: Zhejiang Manufacturing Base



Z-MaT Factory No.2: Nanjing Manufacturing Base



Z-MaT Factory No.3: Zhejiang Manufacturing Base is under construction

Z-MaT Group, is one of the world's largest and fastest-growing machine tool manufacturers. The group operates three manufacturing sites spanning a total land area of 132,000 square meters and a construction area of 150,000 square meters. Under its brands Z-MaT and GreMaT, the group produces a comprehensive range of CNC machines, including CNC Turning Centers, Double-Column Machining Centers, and 5-axis Machining Centers, with over 200 models currently in production.

Z-MaT Group has independently developed an advanced digital management platform, Electrical Z-MaT Manufacturing (EZM). This intelligent platform integrates ERP, OA, CRM, WMS, and PLM systems, and incorporates the TPS lean production philosophy to significantly enhance operational management and decision-making efficiency. Leveraging modular design and manufacturing technologies, the EZM platform enables Z-MaT Group to achieve cost efficiency in large-scale production while offering customers extensive machine customization options.

Z-MaT is committed to internationalization. From the CE safety design, reliable configurations, solid packaging and shipping to the subsequent professional after-sales service of its products, all aspects have taken fully into account the requirements of overseas markets. Z-MaT Group has maintained the top position in China's export rankings for medium-sized turning and machining centers (According to custom Data resources from 2015 to 2025). Z-MaT machine tools are trusted by tens of thousands of customers across 80 countries.

Besides, Z-MaT Group prioritizes customer-centered service. Its international service team comprises multilingual engineers from diverse countries ensuring rapid response and seamless communication to help clients run equipment effectively. To minimize machine downtime, Z-MaT Group operates a large-scale spare parts warehouse capable of dispatching over 90% of components within 12 hours. Notably, the group does not profit from after-sales parts sales; post-warranty spare parts are priced 30% below international market rates. Free lifelong technical consultations further reduce operational costs for customers.

As a global industry leader, Z-MaT Group is committed to sustainability and social responsibility. All facilities are powered by green energy, with solar panels fully covering factory rooftops. The third factory is being built as net-zero carbon emission standards. Additionally, the group partners with educational institutions and community organizations to support social welfare initiatives, aligning its mission with improving quality of life worldwide.



Timeline of Z-MaT Development:

1981 In 1981, Mr. Jin Yihong, the founder of the Z-MaT Group, officially embarked upon the machine tool manufacturing industry, thereby inaugurating the Z-MaT's historical odyssey within the machine tool domain.

1990 Established in 1990 as a mold and auto parts manufacturer. The early company was successful and experienced rapid growth. The company gained valuable experience using CNC machine tools in the manufacturing of the company's product line.

2005 In 2005, Z-MaT moved out of auto parts manufacturing and fully committed the company's resources into the production of CNC machine tools.

2010 In 2010, Z-MaT established a precision parts manufacturing subsidiary, named Giessen to produce high speed and precision spindles.

2015 In 2015, Z-MaT established a R&D center subsidiary in Taiwan. The 4-axis Turning Center TC500 was designed in the same year in Taichung, Taiwan.

2017 In 2017, Z-MaT set up its second plant in Nanjing, and production capacity has since doubled.

2023 In 2023, Z-MaT implemented the EZM (Electrical Z-MaT Manufacturing) intelligent manufacturing platform, which integrates ERP, OA, and CRM software, milestone of improvement of QC and management efficiency.

2025 In 2025, Z-MaT was awarded the highest honor in China's manufacturing industry — "National Key Little Giant". As a core national project undertaker, Z-MaT has independently developed its own CNC system ZMATROL, 5-axis rotary tables and electric spindles.

2026 In 2026, Z-MaT's third manufacturing base, built to world-class standards, was put into operation. Heavy-duty and high-precision machine tools including 5-axis machining centers, turn-mill machining centers, portal machining centers, and vertical lathes are mass-produced at the new manufacturing base.

Milling

5-Axis Machining Center
5-axis Simultaneously Technology
07



Five-face Machining Center
11 Five-face Machining
Vertical & Horizontal in One Setup

High Speed VMC
F Series
48m/min fast traverse to increase productivity
17



19
Heavy Duty VMC
Power V Series
Same size, higher rigidity



22 Twin Spindle Machining Center
Same investment double productivity, a secret weapon for the large volume products manufacturer

23 The General Purpose Vertical Machining Center
The complete line of VMC,
X axis from 320mm to 1600mm

High Speed
Tapping Center
60m/min super high speed tapping center
25



Die & Mold
Vertical Machining Center
Advanced structural design
Reliable functional components
27



Portal Type Vertical Machining Center
29 Ultra cost-effective
Ultra rigidity

Portal Machining Center
With good vibration absorption and wear resistance
31



Compact APC Solution - MX530H / VMX640
34 Exchange workpieces
without stopping machine

Contents

Horizontal Machining Center
35 Upright & Inverted T-base structure
Cross Sliding Table Structure

5-Axis Turn-Mill Center
X/Y/Z/C and B-Swing Head
38



Automation & Production Line
40 Machine
with robot

Vertical Lathe
45 Excellent option for large,
heavy, thin-walled and irregular disk parts

Multi-Turret Turning Centers

Triple Turrets Series
3-chanel parallel
operation, balanced cutting
49



51 Double Turrets Double Spindles Series
Ideal for complex workpieces and bar machining

52 Double Turrets Series
Multiple turrets, multiply your production

54 Center Drive Double Turrets Series
To achieve the best concentricity

Star Family Turning Centers
63 Star STL Series
Slant bed, tailstock, linear guideway

Turning

66 Star SL Series
Compact design, without tailstock

67 Star STH-B Series
Slant bed, turret, hard-box guideway

69 Star TN/TS Series
X.Z.C. 3-axis turning centers

71 Star DT Series
X.Z.C.Y. 4-axis turning centers

Dual Spindle
74
TC500
Advanced 45 degree cross Y axis



75 STL/TN/DT-S Series
Handle maximum capacities with ease

77 TN/DT/STL-SX Series
Sub-spindle coupling machining function

79 DA Series
Two channels machining, a complete advanced automation on one single machine

80 SA28-S/SA45-VS
Single automation option you can use - and price justifly

Flash Family Turning Center
81 Flash SL Series
The beauty of speed and accuracy

87 Flash FL Series
Center mounted ballscrew with heavy duty linear motion guideway

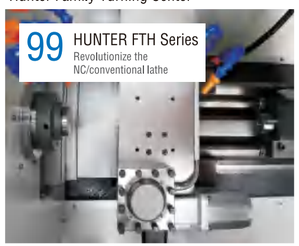
Flash FTL Series
The world's first and best design
91



Super P Series
95 High precision and compact size

Rigid Series Power A
96 60° slant bed, greater rigidity and fast speed

Hunter Family Turning Center



99 HUNTER FTH Series
Revolutionize the NC/conventional lathe

103 HUNTER STH Series
Cost-effective slant bed hard guideway cnc lathe from original design of Z-MaT

Multi-Tasking Machine
105 Unique structure turn-mill center

Turn-Mill TF01
108 Turning center transform into VMC like "transformer"

Tool Room CNC Machine
109 Innovative, heavy cast base-with narrow footprint

Special Purpose Machine

110 Increase Productivity-Beyond Expectations
Spherical Cutting CNC lathe Q50,
Big Head, Multi-Tool, Double End Milling,
Car Wheel Repairing, Steering Rod



115 Professional Manufacturer Broad Production Line

Service Network

117 The pursuit of the fastest response is our promise

CONTROL SYSTEM Cutting edge and easier operation

Z-MaT has established in-depth partnerships with globally renowned CNC system corporations, undertaking secondary development endeavors. Simultaneously, we are dedicated to the research and development of our proprietary, next-generation Super Geometric Intelligence system, ZMATROL.



■ FANUC ■ SIEMENS



■ HEIDENHAIN ■ MITSUBISHI

ZMATROL
SMOOTH G&M



Apply to	Model	Screen Size
Turning Center	ZMATROL T6	10.4 inch
	ZMATROL T7	12 inch
	ZMATROL T8	15 inch
Milling Center	ZMATROL M6	10.4 inch
	ZMATROL M7	12 inch
	ZMATROL M8	15 inch
5 Axis RTCP	ZMATROL R8	15 inch
	ZMATROL R9	17 inch

ZMATROL T/M/R SERIES
SMOOTH G&M

Teach-in Programming
Generate machining codes automatically by teaching coordinate points with the tool tip on the finished workpiece.

Fixed Cycle Insert Programming
Dialog-based parameter input eliminates the need to memorize complex G-code parameters, with graphical parameter filling.

Step-by-Step Programming
No G-code writing is required. Simply select process steps and fill in parameters according to the machining sequence to start production.



Innovative ZMATROL
Swifter • Surer • Smarter

Z-MaT CNC Trainer
It's Like on the Job Training

A need was expressed for a low-cost training "work-seat" package that schools and companies can use to provide practical training for CNC control operations.The ZMATROL CNC Control Simulator was developed to address this need.

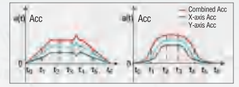


High-Speed Precision Algorithms

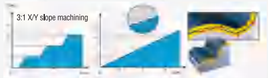
1.Sine-Cosine Flexible Acc/Dec Control



2.High-Order Small Segment Trajectory Fitting



3.Nano Interpolation 2000-block Program Look-ahead



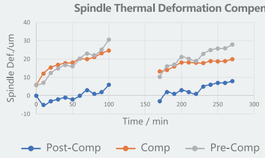
5-Axis Workpiece Measurement
15+ measurement functions for diverse features, freely combinable to meet complex inspection requirements. Compatible with multiple domestic and international probe brands. Supports table alignment and 3D rotary measurement, enabling automatic workpiece datum alignment.



5-Axis Trajectory Smoothing
Aims at uneven segment lengths and tool corner angles in machining paths, smoothes G-code trajectories at the CNC system level, improves interpolation smoothness and continuity, and significantly enhances workpiece surface quality.



Thermal Error Compensation Function
Currently, it supports automatic collection of spindle and feed axis thermal errors via contact/non-contact measuring equipment, and enables effective thermal error compensation using the system's built-in multiple linear regression compensation function or time-based predictive compensation function.





■ R SERIES

Z-MaT Enhanced FANUC 0i-F PLUS System

A new generation of High-performance CNC



- HRV+High Response AC Servo System
- Edit Program In Memory Card
- Fast Cycle-time Technology
- Quick Program Restart
- AICC Ⅰ/AICCⅡ+(TYPE *1&3A)
- AI Contour Control Ⅰ/AI Contour Control Ⅱ+
- Smooth Tolerance+Control
- Machining Condition Selection Function(TYPE *3B)
- Manual Handle Retrace
- Polygon Turning
- Polar Coordinate Interpolation
- Cylindrical Interpolation

■ Standard ■ Standard in MF PLUS ■ Standard in TF PLUS
☆ Option in MF PLUS ★ Option in TF PLUS

Fine Surface Technology

· AICC Ⅰ / AICC Ⅱ +

This function enables suppression of acceleration/deceleration delays and servo delays that become larger with increases in the feedrate and reduction of machining profile errors.

· Smooth Tolerance+Control

This function generates smooth machining path within specified tolerance.

· Machining Condition Selection Function

For AICC function parameters which place importance on feedrate or precision are set and a precision level is specified according to the machining condition during machining.

■ Standard in MF PLUS



Conical/Spiral Interpolation

- Specify circular interpolation command, revolutions or per-revolution radius increment (decrement) to enable spiral interpolation.
- Specify spiral interpolation command, an additional axis and its per-spiral-revolution position increment (decrement) to enable conical interpolation.

☆ Option in MF PLUS



Involute Interpolation

- Involute interpolation enables involute curve machining with cutter compensation. It avoids approximating curves, ensures continuous pulse distribution for smooth high-speed operation, and simplifies program creation, shortening program length.

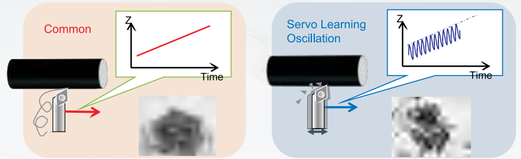
☆ Option in MF PLUS



Servo Learning Oscillation

- A function for shredding chips in lathe applying high frequency oscillation with Servo Learning Control
- This function is necessary to two-axes oscillation cutting

★ Option in TF PLUS





FANOVI

Multifunctional HMI product based on FANUC CNC



■ Standard

Z-MaT Enhanced SINUMERIK 828D System

A new generation of High-performance CNC



Z-MaT added standard functions package

- ☑ Additional 1 Axis/Spindle (C20)
- ☑ Run MyScreens (P64)
- ☑ OPC UA (P67)
- ☑ Extended Technology Functions (P58)
- ☑ Contour Handwheel (M08)

Turning

- ☑ ShopTurn: Machining Step Programming (P17)
- ☑ 3D Simulation 1 (machined part) (P25)
- ☑ TRANSMIT/TRACYL without Y-axis (S50)
- ☑ Travel to Fixed Endstop with Force Control (M01)

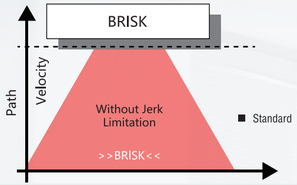
Milling

- ☑ Friction Compensation (S06)
- ☑ Top Surface (S17)
- ☑ Extended Operator Functions

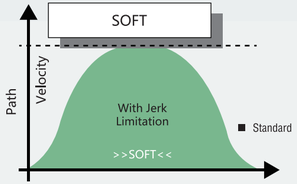
☑ Z-MaT Extended ■ Standard * Option

High Cutting Efficiency

- **Jerk Control (Acceleration Rate of Change)**
  - Unlimited acceleration
  - Commutation shock, easy to produce vibration ripple
  - Forced to reduce acceleration, low efficiency.



- Limit the maximum value of acceleration
- Smooth commutation without shocks and vibration ripples
- Increased acceleration, high efficiency



Impact Extrusion Tapping

- Support for punching, extruding and tapping tools
- Special cycle for punching, extruding and tapping

■ Standard



Traditional Tapping

Impact Extrusion Tapping

☑ Thread machining time savings > **70%**

Comb Grooving

- Uniform blade loading, greatly increased feed rate FB (up to 200 per cent) for comb grooves
- Significantly increased machining efficiency due to higher feed rates
- Graphical interactive programming for easier and time-saving programming

* Option



Spindle Floating Anti-vibration

When turning slender shafts and discs, tool vibration (cutting resonance) occurs during machining at certain intervals of rotational speed, and the quality of machining can be improved by adjusting the spindle speed float (changing the real-time fixed rotational speed of the spindle during machining) to inhibit turning co-seismic vibration.

* Option



Recommended Values for Spindle Float

- Recommended speed range: 100 to 200 RPM
- Recommended cycle time: 0.5 to 2 seconds
- Lower parameters may be used in some cases 20 to 50 RPM / 1 to 3 seconds

* Option



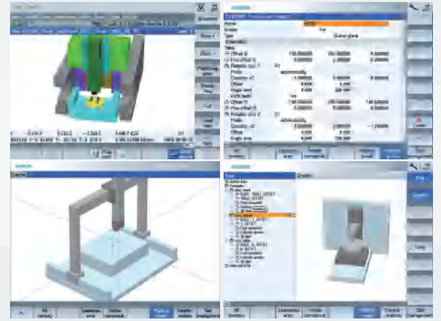
Recommended Application Scenarios

- Use during rough or semi-finishing operations under vibrational conditions.
- Roughing with large R-angle turning tools.
- Applicable in finishing operations where surface appearance is not critical.

Collision Avoidance ECO

With the Collision Avoidance ECO function, 3D collision protection models can be created for machine components and tools, providing real-time, easy and effective protection for moving machine components and tools.

* Option



Rapid collision modelling with basic elements such as cylinders, cubes, etc.
Define protected areas for each moving part.
Setting up multiple collision pairs according to the actual machine mechanism.
Dedicated human-machine interface for display and commissioning
Supports tool rotation/workpiece rotation/hybrid 3+2 setups

More Standard Features

- ■ Preparation of the blank
- ■ Tool Measurement
- ■ Workpiece Measurement
- ■ ISO Programming
- ■ Program GUIDE: Graphical Programming
- ■ Rich 2D/3D Viewing Angle
- ■ Processing Time Evaluation
- ■ Quick View of the Mould
- ■ 80-bit Floating-point Nano Calculation Precision
- ■ Dynamic Feedforward Control
- ■ Premium Surface Optimization
- ■ Pitch Compensation

5-AXIS VERTICAL MACHINING CENTER

5-axis Linkage Machining Center performs universal indexing, encouraging process integration

UZ320/UP400/UB500
UA650/UA800

In the field of high-end manufacturing, core components are the soul of machine tools. Rejecting a "patchwork" approach, Z-MaT insists on fundamental innovation. We are proud to launch our fully self-developed motorized spindles and five-axis rotary tables. From components to complete machines, Z-MaT leverages a fully independent and controllable industrial chain to provide you with more precise, stable, and efficient machining solutions.

5-AXIS VERTICAL MACHINING CENTER

UZ320

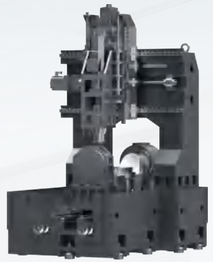


Cross-slide

The UZ Series adopts a cross-slide structure and optimized column design, delivering higher positioning accuracy in the X/Y axes. The Z-axis spindle box is directly supported and moved by the column, offering enhanced rigidity, lower inertia impact on accuracy, and better dynamic response.


UZ320

UP400



Portal-type

The UP Series adopts an integrally cast portal structure for high rigidity and symmetry. The large-span, low-center base stabilizes the A/C turntable and ensures smooth 5-axis motion. The 705mm-wide column eliminates Z-axis forward tilt and delivers stable heavy cutting.


UP400

UB500

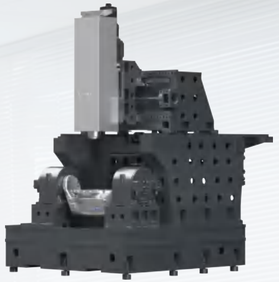


Ram-type

The UB Series uses an advanced ram-type structure. The fixed 5-axis turntable rotates only in B/C axes, eliminating inertia for stable heavy-load machining. X/Y/Z are headstock-driven with constant moving mass, ensuring stable accuracy.


UB500

UA650/UA800



Bridge-type

The UA Series features a moving cross-beam gantry with fixed columns and table. The beam moves in Y, saddle in X, spindle in Z, with an A/C rotary table for 5-axis simultaneous machining. The UA800 offers a 1100mm Z-axis travel, ideal for long-axis parts, deep hole drilling and boring.


UA650


UA800

ULTRA HIGH-PERFORMANCE 5-AXIS MACHINING CENTER

5-axis Simultaneously Technology

Maximum Performance & Lasting Precision

Different mechanical constructions are designed for different size 5 axis machining centers that ensure optimum surface finish and a long tool life.



Standard Features

- Full Enclosed Protective Cover
- Built-in Motor Spindle
- High-precision Spindle Oil Chiller
- Electrical Cabinet Air Conditioning
- Ethernet, USB Interfaces
- Chip Conveyor
- Centralized Lubrication System
- Bed Chip Flushing System
- Automatic Coolant System
- LED Three-color Warning Light
- Electronic Handwheel

Optional Features

- Different Type Spindle
- Workpiece Measurement System
- Tool Measurement System
- Oil Mist Collector
- Hollow Ball Screw Cooling System
- CTS system
- Linear scales

Sample Workpieces


Capsule connecting ring


Integral blade disk


Fan blade disk


Engine crankcast


Lamina

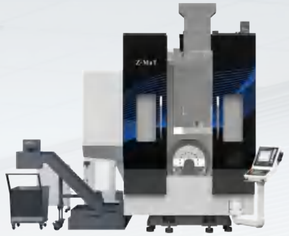





Impeller







Specifications

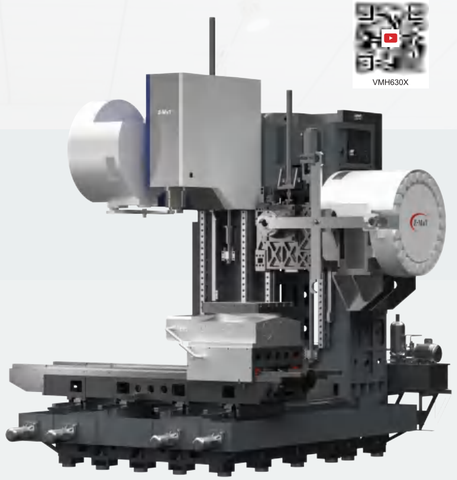
		Unit	UZ320	UP400	UB500	UA650	UA800
Capacity	X/Y/Z-axis travel	mm	500/500/400	600/700/450	700/520/500	800/800/550	1000/970/600
	A/B axis rotation range	°	A:+30, -115	A:±115	B:±115	A:±115	A:±115
	C axis rotation range	°	360	360	360	360	360
	Distance from spindle nose to worktable	mm	100-500	130-580	120-620	120-670	120-720
	X/Y/Z-axis rapid traverse speed	m/min	48	48	48	48	48
	A/B/C axes rapid rotational speed	r/min	A/C:100/130	A/C:100/100	B/C:100/100	A/C:60/100	A/C:80/80
	Structure	/	Cross Slide	Portal Type	Ram Type	Bridge Type (A-axis Dual Drive)	Bridge Type (A-axis Dual Drive)
Swivel Table	Table size	mm	Φ320	Φ400	Φ500	Φ630/*Φ650	Φ800
	Load capacity of rotary table	kg	150	300	400	850	1000
	T-slot	mm	6-12×60°	8-14×45°	8-14×45°	7-14×80°	5-18×150°
	Positioning accuracy A/B/C	sec	A/C:±6	A/C:±6	B/C:±8	A/C:±8	A/C:±8
	Repeatability accuracy A/B/C	sec	A/C:±4	A/C:±4	B/C:±4	A/C:±4	A/C:±4
Servo Motor	A/B axis motor torque	Nm	A:280/634	A:1200/1900	B:1200/1900	A:1290/2400×2	A:2110/3500×2
	C axis motor torque	Nm	172/300	410/780	560/780	600/1100	1700/2500
Spindle	Motor power	kW	7.5/5.5/3.7(S6 15%/S6 25%/S1)	20 (S1, Electric Spindle)	35 (S1, Electric Spindle)	35 (S1, Electric Spindle)	35 (S1, Electric Spindle)
	Torque of spindle	N.m S1/S6 40%	17.5/21	30.7/46	60.8/90.2	60.8/90.2	60.8/90.2
	Max. spindle speed	r/min	24000,*12000	20000	18000	18000	18000
	Spindle taper hole	/	BT30,*BT40	HSK A63	HSK A63	HSK A63	HSK A63
Tool Changer	Type	/	Gripper	Disk	Disk	Horizontal-Type	Horizontal-Type
	Num. of tool positions	nos	21/*26, *20	30	30	32,*40	32,*40
	Max. tool weight	kg	3,*5	8	8	8	8
	Max. tool length	mm	200	300	300	300	300
	Max. tool diameter(Full/beside empty)	mm	Φ60/Φ100	Φ75/Φ120	Φ75/Φ120	Φ75/Φ120	Φ75/Φ120
Others	Compressed air	MPa	0.6-0.8	0.6-0.8	0.6-0.8	0.6-0.8	0.6-0.8
	Dimension（L×W×H）	mm	2650×1980×2810	4200×2320×3480	2570×4040×3540	2728×3760×3726	2930×4190×3800
	Weight	kg	4900	11500	11500	16500	18000

Note:"*" means optional.

FIVE-FACE MACHINING CENTER VMH630X

Machine Characteristics

VMH630X features a fixed-column cross-slide structure for high Z-axis rigidity and stable dynamic response. The Y-axis spindle head uses an automatic balancing system to eliminate counterweights, reducing inertia and stabilizing machining. Its indexing rotary table employs a high-precision dual-lead worm gear for backlash adjustment without disassembly, ensuring accuracy and durability. High-rigidity roller linear guides paired with large-diameter ball screws offer strong load capacity and low friction. All four linear axes support optional Heidenhain linear encoders for full closed-loop feedback, guaranteeing micron-level precision and stable repeat positioning. Advanced five-face machining enables one-setup vertical/horizontal operations for efficient multi-process finishing on five surfaces.



VMH630X

Five-Face Machining
Vertical & Horizontal in One Setup

Standard Features

- FANUC 0i-MF Plus
- BT50-190 / BT50-190 main spindle unit
- BT50-24T / BT50-24T disc-type tool magazine
- 630 × 630 (1°) indexing table
- Y1/Y2 balance oil cylinder
- Screw/chain-type chip conveyor

Optional Features

- Different control systems
- Heidenhain linear scale
- BT50-190 main spindle unit with mid-support
- 630 × 630 (0.001°) NC rotary table

Specifications

		Unit	VMH630X
Table	Table size	mm	630×630
	Max. load	kg	2000
	Number of worktables		1
	Table indexing	°	1/°0.001
	Reference hole dia.		Φ50H7
	Max. workpiece swing dia.	mm	Φ950
Feed& Travel	X/Y1/Y2/Z axis travel	mm	1700/700/750/800
	Y1 Spindle nose to table	mm	250-1050
	Y1 Spindle center to table	mm	50-750
	Y2 Spindle end to table	mm	130-880
	X/Y1/Y2/Z axis rapid traverse	m/min	24/24/24/24
	Cutting speed	mm/min	1-10000
Spindle	Spindle taper		BT50
	Motor(S6 15%/S6 25%/S1)	kW	22/18.5/15
	Spindle speed	rpm	6000
	Standard spindle		Belt type
Tool changer	ATC capacity	Nos.	Y1:24 Y2:24
	Max. tool weight	kg	Y1:15 Y2:18
	Max. tool dia.	mm	Φ112(Full Tool)/Φ200(Adjacent Empty)
	Max. tool length	mm	Y1:350 Y2:300
	Tool change type		Disk
Others	Air pressure source	Mpa	0.6
	Dimension(L×W×H)	mm	5100×4900×4950
	Weight(about)	kg	19000

Note:"*" means optional.

The Latest - MILLING & TURNING TECHNOLOGY

- Vertical Machining Center
- Portal Machining Center
- Horizontal Machining Center
- Tapping Center
- 5-axis Machining Center
- Multi Turrets Turning Center
- Dual Spindles Turning Center
- Flat Bed Turning Center
- Slant Bed Turning Center
- Multi-tasking Machine



Steadfast in Our Faith

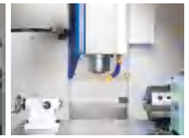
Recently, the machine tools industry is playing a price game, manufacturers are pushing machine tools prices down in a race to the bottom.
The machine tools builders are facing overwhelming pressure to push prices lower and lower in order to compete. Their margins are being cut slimmer and slimmer. This only drives a need to cut costs by using lower priced components, reducing manufacturing processes and designing lighter machine. Though the parameters seem the same, the machines are getting weaker and service is getting poorer. CNC machines are a complex piece of equipment, integrated with pre-service and after-service for a long term operating life, it is impossible to identify the difference by sight. The end user will pay the price by running the machine at high cost and worse accuracy, reduced operating life, increased machine downtime and after sales service.
Z-MaT has always been known for being a manufacturer of heavyweight and high-rigidity structure machines.
We were a massive CNC machines end-user before. Our faith is helping our customer gain competitive advantage by providing them with cost-effective products, fast and superior service and tailor-made machining solutions. Our company, and our people will never compromise on our commitment to providing quality products and service.

Open Innovation for Maintaining Ideal Machining Quality

We offer a variety of high-performance peripheral equipment according to customer production requirements.
The combination of the VMC machine and high-performance peripheral equipment delivers high-precision machining and excellent durability.







4th and 5th axis auxiliary device interface

Users who wish to set up a rotary axis on the table to increase application flexibility are encouraged to contact sales representatives.





Chip conveyor

Reduced chip accumulation inside the machine and operator spends less time removing chips.



Automatic measurement

Automatic tool setting and workpiece measurement offer easy operation and help operator save working time.



Coolant through spindle center

Coolant to be supplied to the tip through the holes of the spindle and tool.



Spindle oil chiller

An oil cooler correlated to room temperature can be equipped for long-term operation at high speed.

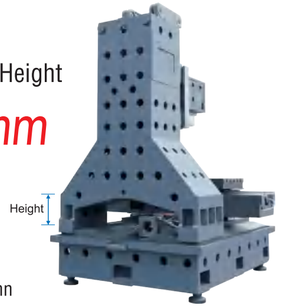


Gearbox

Spindle with gearbox provides two speeds of High-Low torque.

Extended Column Height

100-300mm



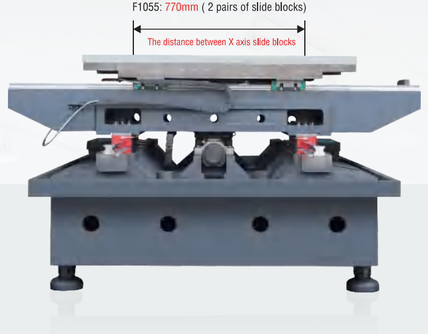
One Piece Raised Column

When the distance between the table top and the spindle nose needs to be extended, for example, to accommodate a fixture or rotary axis on the table, the column of the machine can be raised. One-piece monoblock design structure guarantees the rigidity and reliability.

The Rigidity is Hidden in the Design Details

It's hard to tell the quality of a machine by only reading parameters. However, you could always find design details in Z-MaT machines sparkling the spirit of Z-MaT R&D team in full pursuit of solid inside quality.

V10: 880mm (3 pairs of slide blocks)
V8: 820mm (2 pairs of slide blocks)
V6: 750mm (2 pairs of slide blocks)
VMC1050E: 820mm (3 pairs of slide blocks)
F1055: 770mm (2 pairs of slide blocks)



Wider Width of Distance Between Slide Blocks

The distance between slide-blocks is a very important parameter which affects the machine's accuracy, rigidity and load capacity. If the span between the slide-blocks is short, it cannot guarantee the accuracy and rigidity in the full travel due to bending caused by side thrust force.



Standard with More Powerful Motor

To exploit the performance of mechanical robust design, Z-MaT uses powerful servo motors to drive axes, spindles, tool-changers, etc. Taking one point as an example, for medium - size VMC, Z-MaT uses a rated 3.0kW (Fanuc)/3.1kW (Siemens), Max. 9.4kW, 45N.M high-torque axis servo motor, while others commonly use rated 2.0kW or 2.5kW motors.



One Class-up Servo Driver

Z-MaT usually uses one class-up servo driver to shorten start-stop time, to increase overload capacity. Matched with solid mechanics, it increases the CNC machine reliability and performance extremely.

Larger Size LM Slide Blocks

Z-MaT VMC uses heavy-duty linear rails together with large-size slide blocks which support and guide the motion much more steadily than regular ones. It is one of Z-MaT's unique mechanical engineering details for super anti-vibration, rigidity and long-life characteristics.

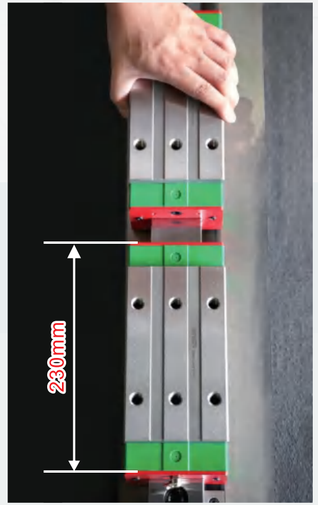


Photo: Power V10 Z axis slide blocks



High-Capacity Spindle Unit
High Thrust & Low Heat
Unlimited Machining Potential

High-quality Machining Supported by High-performance Spindle

The machining centers are equipped with high-performance spindles with various speeds and sizes, whose designs are optimized through structural analysis to increase rigidity of machining. The high durability and high speed of the spindle allow high quality machining.

High Efficiency Belt-drive Spindle

Our high-efficiency belt-driven spindle delivers a maximum speed of 8000 rpm, with outstanding torque output at low and medium speeds, perfectly adaptable to diverse machining needs from heavy-duty cutting to fine finishing. For all series, a spindle oil cooler system is available as an optional upgrade, which effectively dissipates heat generated during continuous operation, preventing thermal expansion and deformation of the spindle, and ensuring long-term stability in precision machining.The contact surfaces between the headstock and the spindle are meticulously hand-scraped by skilled technicians, achieving an ultra-high fit accuracy. This eliminates assembly gaps, minimizes vibration during operation, and guarantees top-notch performance, rigidity and consistent machining precision for complex workpieces.

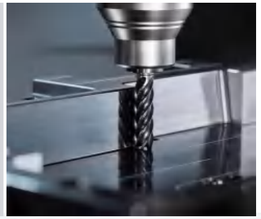




High Speed, High Power Direct Drive Spindle

The direct drive spindle directly couples the motor rotor to the spindle, eliminating intermediate transmission components like belts and gears. This design efficiently isolates the heat generated by the motor from the spindle structure, significantly reducing thermal deformation and ensuring ultra-stable spindle runout. It delivers instantaneous high torque response, enabling high-speed, high-precision machining that boosts production efficiency while maintaining exceptional surface finish quality.





High-Precision Built-in Motor Spindle (Electric Spindle)

Our high-performance built-in motor spindle integrates the motor directly into the spindle unit, achieving zero transmission loss. With a compact structure and minimal vibration, it delivers ultra-smooth operation, making it ideal for high-speed milling, engraving and ultra-precision finishing of molds and complex parts.Equipped with a built-in high-precision encoder and advanced temperature control system, it achieves real-time monitoring and dynamic compensation of spindle temperature, effectively suppressing thermal drift. Combined with a high-rigidity bearing structure and forced lubrication system, it ensures long-term, stable high-speed operation, significantly improving machining efficiency and surface quality for high-demand applications.





High-production Tool Changer with Super-fast Exchange Speed

Tool storage capacity of 24/30/40/60 tools significantly boosts productivity and minimizes setup times. Our high-speed dual-arm gripper swaps tools quickly and smoothly, drastically reducing non-cutting time and maximizing overall spindle utilization. By positioning the tool changer outside the work envelope, we free up valuable workspace, keep tools and pockets perfectly clean, and ensure exceptional operational flexibility—even when using large fixtures, rotary tables, or complex workholding solutions. With adjacent pockets available, the system reliably accepts oversize tools, special cutters, and heavy-duty assemblies, expanding your machining capabilities for high-demand production.



Fast and Reliable

- **Ultra-fast Tool Change**: The high-performance magazine and ATC deliver lightning-quick tool changes, reducing non-cutting time to an absolute minimum and increasing throughput for high-volume manufacturing.
- **Wide Compatibility, Stable Operation**: The highly reliable magazine and ATC support a wide range of tool types, sizes, and configurations, ensuring stable, consistent tool changes and flexible machining for diverse parts and processes.
- **Secure Grip for Long/Heavy Tools**: The ATC arm is equipped with a reinforced, precision-engineered holding lever that provides a tight, vibration-free grip on long and heavy tools, ensuring safe and reliable tool changes even under extreme cutting forces.
- **Low Maintenance & High Durability**: Built with rugged components and precise assembly, the ATC system delivers long-term reliability with minimal maintenance requirements, supporting continuous operation and lowering total cost of ownership.



Disk Arm ATC



Disk Arm ATC



Gripper ATC



Chain Type ATC



Chain Type ATC



Carousel ATC

HIGH SPEED VERTICAL MACHINING CENTER-F SERIES

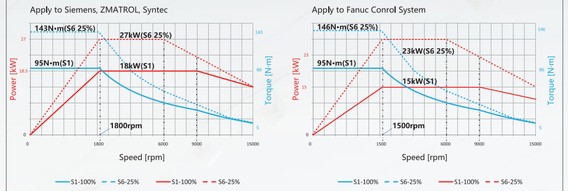


LESS FOOTPRINT
HIGHER PRODUCTIVITY!



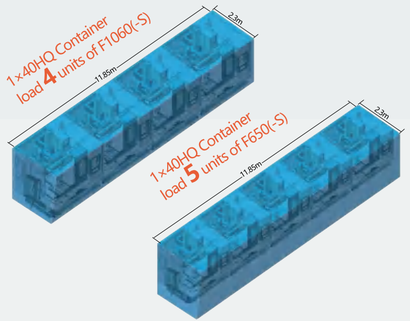
48m/min Rapid Traverse
Mechanical Spindle 10000rpm
Direct Drive Spindle *12000rpm

Optional with Electric Spindle 15000rpm



Compact Design

The F(-S) Series features a compact structure, allowing more units to fit into a single container for safer transportation and a smaller footprint.



Fast Motion and Compact Design

To increase your productivity, the Z-MaT F series vertical machining center is standard equipped with a 48m/min fast traverse, a high-speed ATC, big pitch C3 ballscrew, cylindrical roller linear guideway. The all-around design and enhanced performance of the F series machines are popularly applied to 5G, IT, Aerospace and Defence industry.

Standard Features

- Disk Type ATC
- Automatic Lubrication System
- Full Machine Enclosure
- Operator Door Safety Lock
- Air Conditioned Electrical Cabinet
- Handheld Air Gun
- 10000rpm Belt-Drive Spindle
- Spindle Oil Chiller
- Spiral Type Chip Conveyor

Optional Features

- CNC Controlled 4th/5th Axis Rotary Table
- Different CNC Control System
- Coolant Through Spindle
- Chain Type Chip Conveyor
- 12000rpm Direct Drive Spindle
- 15000rpm Electric Spindle
- Tool Measurement System
- Workpiece Measurement System

F650 F1055 F1060



Specifications

		Unit	F650	F855	F1060	F1055
Table	Table size	mm	750×500	950×550	1200×600	1200×550
	Max.load	kg	400	500	600	600
	T slot(width×nos.×distance)	mm	14×5×80	18×5×90	18×5×100	18×5×90
Travel	X Travel	mm	600	800	1000	1000
	Y Travel	mm	500	550	600	550
	Z Travel	mm	550	550	550	550
	Spindle center to column	mm	510	570	610	580
	Spindle nose to table	mm	100-650	130-680	130-680	130-680
	Guideway type		LM (Roller)	LM(Roller)	LM (Roller)	LM (Roller)
Spindle	Spindle speed	rpm	10000,*12000,*15000	10000,*12000	10000,*12000,*15000	10000,*12000
	Spindle type		BT40,*BBT40	BT40	BT40,*BBT40	BT40
	Motor（S6 15%/S6 25%/S1）	kW	15/11/7.5,*18.5/15/11	18.5/15/11,*22/18.5/15	18.5/15/11,*22/18.5/15	18.5/15/11,*22/18.5/15
Feed &Magazine	X/Y/Z axis rapid traverse	m/min	48	48	48	48
	ATC capacity/type	No./type	24/Disk	24/Disk	24/Disk	24/Disk
	Max. weight of tool	kg	8	8	8	8
Dimension &Weight	Dimension	mm	2200×2000×2250	2820×2140×2430	3100×2150×2400	3120×2890×3080
	Weight (about)	kg	4400	5600	6400	6500



HEAVY DUTY VERTICAL MACHINING CENTER-POWER V SERIES



SAME SIZE MORE POWER!

- Heavy duty LM guideway support bearing
- Higher motor power
- Large guideway span
- Heavier machine weight
- High-Torque BT40-150 spindle (8,000 RPM)

*BT50 Spindle(Optional)

The Power V Series is engineered with outstanding structural rigidity and stability to handle demanding heavy cutting applications. Compared with the standard BT40 spindle, the optional BT50 spindle offers a larger taper interface, stronger rigidity, higher load capacity, and better cutting stability. It effectively suppresses vibration, improves machining accuracy and surface finish, and delivers more reliable performance in tough cutting conditions.





Headstock Counterweight

The spindle assembly comes standard with a dedicated counterweight to fully balance the weight of the headstock. This design ensures smoother and more stable vertical motion, lowers the load and wear on the Z-axis motor, improves positioning accuracy, and extends the service life of the transmission system.

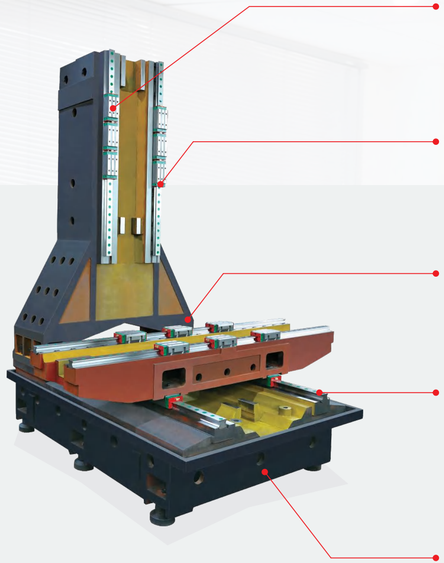
Standard Features

- Disk Arm Type ATC
- Ergonomic CNC Panel & MPG
- Automatic Lubrication System
- Full Machine Enclosure
- Operator Door Safety Lock
- Air Conditioned Electrical Cabinet
- Handheld Air Gun

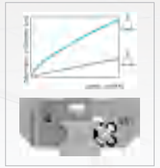
Optional Features

- CNC Controlled 4th/5th Axis Rotary Table
- Different CNC Control System
- Higher Speed Spindle
- Coolant Through Spindle
- Chip Conveyor
- Spindle Oil Chiller
- Measurement System

Rigidity in Numbers



Note: The picture is the frame of Power V10.



4x45°Roller

Longer running life higher rigidity roller LM

With 4-rows of rollers arranged at a contact angle of 45 degrees, the guideway has equal load ratings in the radial, reverse radial and lateral directions. The contact pressure of the rolling element is distributed on the line region, rollers have a greater contact area than balls, this provides the roller guideway with higher load capacity and longer running life. The figure shows the rigidity of a roller and a ball under equal volume.



6 units

More slide blocks

X/Z axis linear guideway

X and Z axes both use 6 slide block bearings to support spindle units and worktables



1320mm

Wide span column structure provides optimal machining rigidity. The headstock retains stability and accuracy even under high speed traveling.



45/55/45mm

Larger X/Y/Z axis linear guideway

Rather than popular 35mm width LM as standard of this size VMC, we use 55mm and 45mm width size on Power V10. Moreover we select longer overall LM block length for greater rated load.



8200kg

Total Machine Weight

Robust casting design is an essential feature for resisting vibration. No matter how good other parameters look, it will affect the machining performance of hard material and heavy cutting, further impact on productivity, accuracy and running life.

HEAVY DUTY VERTICAL MACHINING CENTER-POWER V SERIES





POWER V8

POWER V10

Specifications

		Unit	Power V6	Power V8	Power V10
Table	Table size	mm	1000×450	1200×520	1400×650
	Max.load	kg	750	800	1000
	T slot(width×nos.×distance)	mm	18×3×130	18×5×90	18×5×100
Travel	X Travel	mm	600	850	1050
	Y Travel	mm	400	500	650
	Z Travel	mm	530	570	600
	Spindle center to column	mm	450	580	670
	Spindle nose to table	mm	160-690	130-700	120-720
	Guideway type		LM (Roller)	LM(Roller)	LM(Roller)
Spindle	Spindle speed	rpm	8000,*10000,*12000	8000,*10000,*12000	8000,*10000,*12000
	Spindle type		BT40	BT40,*BT50	BT40,*BT50
	Motor(S6 15%/S6 25%/S1)	kW	15/11/7.5,*18.5/15/11	18.5/15/11,*22/18.5/15	18.5/15/11,*22/18.5/15
Feed &Magazine	X/Y/Z axis rapid traverse	m/min	30	30	30
	ATC capacity/type	No./type	24/Disk	24/Disk	24/Disk
	Max. weight of tool	kg	8	8,*18	8,*18
Dimension &Weight	Dimension(L W H)	mm	2550×2070×2340	3000×2200×2350	3200×2500×2450
	Weight (about)	kg	5500	7300	8200

Note: "*" means optional, "LM" means linear motion guide way.

DOUBLE SPINDLE VERTICAL MACHINING CENTER

Same Investment Double Efficiency

Power WZ6/8 Double Z-axis

- ◆ Supports single/twin spindle modes for flexible production.
- ◆ Enables easy tool length offset adjustment for both spindles.
- ◆ Extends spindle and fixture service life.

Power W6/8 Single Z-axis

- ◆ Single Z-axis design simplifies structure and reduces investment.
- ◆ Twin spindles deliver equivalent productivity to double Z-axis models.
- ◆ Nearly doubles productivity for high-volume production.





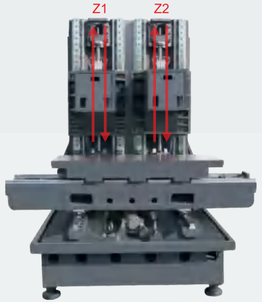
POWER WZ8

POWER W6

Specifications

		Unit	Power W6	Power W8	Power WZ6	Power WZ8
Table	Table size	mm	1200×450	1300×520	1200×450	1300×520
	T slot(width×nos.×distance)	mm	18×3×130	18×5×90	18×3×130	18×5×90
	Max. load	kg	400	800	400	800
Travel	X/Y/Z1.Z2 Travel	mm	450/400/500	650/500/550	450/400/500/500	650/500/570/570
	Spindle nose to table	mm	150-650	150-700	150-650	130-700
	Spindle center to column	mm	510	580	510	580
	Distance between two spindle centers	mm	400	450	350	550
	Guideway type	mm	LM(Roller)	LM(Roller)	LM(Roller)	LM(Roller)
Spindle(1, 2)	Spindle type		BT40-150	BT40-150	BT40-150	BT40-150
	Motor(S6 15%/S6 25%/S1)	kW	15/11/7.5,*18.5/15/11	18.5/15/11,*22/18.5/15	15/11/7.5,*18.5/15/11	18.5/15/11,*22/18.5/15
	Spindle speed	rpm	8000,*10000,*12000	8000,*10000,*12000	8000,*10000,*12000	8000,*10000,*12000
Feed & Magazine	X/Y/Z axis rapid traverse	m/min	30	30	30	30
	ATC capacity/type	Nos./type	2×24/Disk	2×24/Disk	2×24/Disk	2×24/Disk
	Max. weight of tool	kg	8	8	8	8
Dimension & Weight	Dimension	mm	2910×2730×3160	3250×2900×2900	3050×2628×3160	3250×2900×2900
	Weight(about)	kg	6900	7900	7400	8500

Note: "*"means optional, "LM" means linear motion guide way.



Remark: Power WZ8 frame

THE GENERAL PURPOSE VERTICAL MACHINING CENTER

THE COMPLETE LINE OF VMC
X axis from 320mm to 1600mm

Conventional Mill & Drill is past, VMC is better for production of parts.
The High Performance Series machines feature heavier machine castings, large-diameter ballscrews and heavy duty linear guideways that provide superior surface finishes, excellent thermal stability, and quiet operation during heavy cutting.

Standard Features

- Automatic Tool Changer
- Ergonomic CNC Panel & MPG
- Automatic Lubrication System
- Full Machine Enclosure
- Operator Door Safety Lock
- Heat Exchanger
- Air Conditioned Electrical Cabinet (VMC500/VMC700E)
- Handheld Air Gun

Optional Features

- CNC Controlled 4th/5th Axis Rotary Table
- Different CNC Control System
- Higher Speed Spindle
- Coolant Through Spindle
- Chip Conveyor
- Air Conditioner (Except VMC500/VMC700E)
- 10000rpm Belt-Drive Spindle
- 12000rpm Direct Drive Spindle



Standard Features

- Disk Arm Type ATC
- Ergonomic CNC Panel & MPG
- Automatic Lubrication System
- Full Machine Enclosure
- Operator Door Safety Lock
- Air Conditioned Electrical Cabinet
- Handheld Air Gun

Optional Features

- CNC Controlled 4th/5th Axis Rotary Table
- Different CNC Control System
- Higher Speed Spindle
- Coolant Through Spindle
- Chip Conveyor
- Spindle Oil Chiller







VMC1300E VMC840 VMC600E

Specifications

		Unit	VMC320	VMC420S	VMC550E	VMC400	VMC500	VMC600E	VMC700E
Table	Table size	mm	600×305	720x305	800×305	600×380	700×400	800×380	800×400
	T slot(width×nos.×distance)	mm	14×3×85	14x3x85	14×3×85	14×3×110	18×3×110	14×3×110	18×3×110
	Max.load	kg	260	250	260	350	350	350	400
Travel	X/Y/Z Travel	mm	320/240/450	420/240/450	550/240/450	400/350/450	500/400/450	600/350/450	700/400/450
	Spindle nose to table	mm	50-500	50-500	50-500	50-500	90-540	50-500	90-540
	Spindle center to column	mm	380	420	380	450	450	450	450
	Guideway type		LM:XYZ	LM:XYZ	LM:XYZ	LM:XYZ	LM:XYZ	LM(Roller):XYZ	LM(Roller):XYZ
Spindle	Spindle type		BT30	BT30	BT30	BT40	BT40	BT40	BT40
	Motor(S6 15%/S6 25%/S1)	kW	11/7.5/5.5	11/7.5/5.5	11/7.5/5.5	11/7.5/5.5	11/7.5/5.5	11/7.5/5.5	11/7.5/5.5
	Spindle speed	rpm	8000,*12000	8000,*20000	8000,*12000	8000,*12000	8000,*12000	8000,*12000	8000,*12000
Feed &Magazine	X/Y/Z axis rapid traverse	m/min	30	30	30	30	30	30	30
	ATC capacity/type	No./type	12/Carousel	21/Gripper	12/Carousel	24/Disk,*16/Carousel	24/Disk,*16/Carousel	24/Disk,*16/Carousel	24/Disk,*16/Carousel
	Max. weight of tool	kg	3	3	3	8	8	8	8
Dimension &Weight	Dimension	mm	2460×2480×2230	1700x1800x2300	2460×2480×2230	2510×2160×2410	2540×2160×2290	2510×2160×2410	2540×2160×2290
	Weight (about)	kg	2800	2500	3400	3400	3900	3900	4100

Note: " * " means optional, "LM" means linear motion guide way.

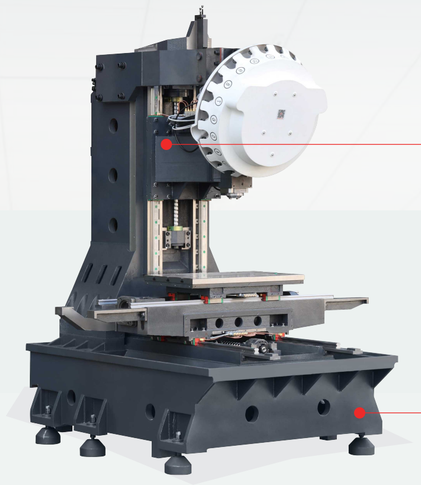
Specifications

		Unit	VMC840	VMC1050E	VMC1200E	VMC1300E	VMC1375	VMC1580	VMC1675
Table	Table size	mm	1000x470	1300×520	1400×520	1600×650	1600×750	1700×800	1700×700
	T slot(width×nos.×distance)	mm	18x3x120	18×5×90	18×5×90	18×5×100	18×5×135	18×5×150	18×5×135
	Max.load	kg	700	800	800	1000	1300	1500	1500
Travel	X/Y/Z Travel	mm	800/400/530	1050/500/570	1200/500/570	1300/650/600	1300/750/700	1500/800/700	1600/750/700
	Spindle nose to table	mm	130-660	130-700	130-700	120-720	130-830	130-830	130-830
	Spindle center to column	mm	450	580	580	670	837	810	760
	Guideway type		LM(Roller):XYZ	LM(Roller):XYZ	LM(Roller):XYZ	LM(Roller):XYZ	LM(Roller):XYZ	LM(Roller),BOX:Z	LM(Roller):XYZ
Spindle	Spindle type		BT40	BT40,*BT50	BT40,*BT50	BT40,*BT50	BT40,*BT50	BT50	BT40,*BT50
	Motor(S6 15%/S6 25%/S1)	kW	15/11/7.5,*18.5/15/11	18.5/15/11,*22/18.5/15	18.5/15/11,*22/18.5/15	18.5/15/11,*22/18.5/15	18.5/15/11,*22/18.5/15	22/18.5/15	22/18.5/15
	Spindle speed	rpm	8000,*10000,*12000	8000,*10000,*12000	8000,*10000,*12000	8000,*10000,*12000	8000,*12000,*6000	8000,*6000	8000,*10000,*12000
Feed &Magazine	X/Y/Z axis rapid traverse	m/min	30	30	30	30	24/24/20	20/20/15	20/20/15
	ATC capacity/type	No./type	24/Disk	24/Disk	24/Disk	24/Disk	24/Disk	24/Disk	24/Disk
	Max. weight of tool	kg	8	8,*18	8,*18	8,*18	8,*18	18	8,*18
Dimension &Weight	Dimension	mm	2600×2810×2620	3120×2900×3030	3460×2900×3030	3590×3220×3000	3600×2860×3360	3950×3820×3470	4126×2545×2974
	Weight (about)	kg	5700	7600	7900	9700	12300	13300	11200

Note: " * " means optional, "LM" means linear motion guide way.

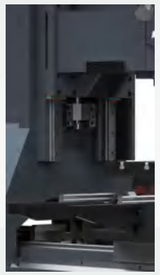
HIGH SPEED TAPPING CENTER

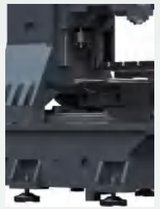
High Speed and High Rigidity Bundles!



Note: The picture is the frame of Z640.







21/26T Servo

Servo-driven 21T/26T ATC with non-stop tool change. High-speed tool change achieved via optimized spindle start/stop, Z-axis movement, and magazine operation.

24000rpm

The high speed tapping centers use brass lubrication tubes, ensuring longer service life and more reliable lubrication.

32mm

The high speed tapping centers are equipped with a large sized dia. 32mm high-precision C3-class ball screw, ensuring higher accuracy and more reliable repeat positioning.

35mm

The Z640 increases linear motion guideway width from 30 mm (previous model) to 35 mm, achieving a 16.7% cross-sectional improvement and thereby further enhancing rigidity and load capacity.

60m/min

The high speed tapping centers feature 48 m/min (Z540) and 60 m/min (Z640) rapid traverse speeds across all axes, delivering industry-leading acceleration and positioning efficiency.

840mm

With column widths of 680 mm (Z540) and 840 mm (Z640), both machines adopt a wide-span Y-axis guideway configuration. This design provides 25% higher rigidity compared to standard models, achieved through: Z540: 452 mm center distance (475 mm edge distance); Z640: 500 mm center distance (528 mm edge distance).

4300kg

Weight is the most important indicator of rigidity. For similar parameter, 4000kg is the heaviest weight we could find in the market.

HIGH SPEED TAPPING CENTER-Z540/Z640

Machine Characteristics

- Both base and column have wide spacing between ways, resulting in a design that is solid as a rock and stable as a mountain.
- Direct drive spindle provides high efficiency, and low noise – assuring speed and torque during high-speed tapping operations.
- Gripper arm type tool magazine – Servo driven and 21 (Z640 optionally 26) tool pockets, 48(Z540)/60(Z640) m/min rapid traverse in all axes.
- Solid ball screw, bearing structure and high precision linear guideways supports rapid traverse and high speed machining. Also, assures proper orientation of machine during operation.
- Rear chip conveyor is compact and makes for easy chip removal. Chip flow is direct and easy.

Combine Agility and Rigidity for Maximum Productivity

Z540 Z640



Standard Features

- Full Machine Enclosure
- 3-color Alarm Light
- Work Light
- Heat Exchanger
- Automatic Lubrication System
- Automatic Coolant System

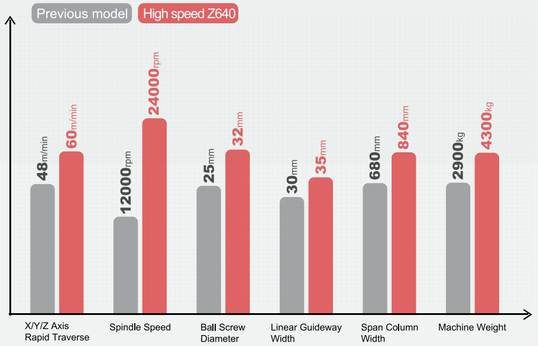
Optional Features

- 26T Tool Magazine
- CNC Controlled 4th/5th Axis Rotary Table
- Electric Spindle
- Workpiece Measurement System
- Tool Measurement System
- CTS System
- Rear Chip Conveyor

Specifications

	Unit	Z540	Z640
Table size	mm	600×400	700×420
Max. load of table	kg	250	300
T slot(width x nos.x distance)	mm	14×3×100	14×3×120
X axis travel	mm	500	610
Y axis travel	mm	400	410
Z axis travel	mm	300	350
Spindle nose to table	mm	155-455	150-500
Spindle center to column	mm	465	459
Cutting feed rate	mm/min	20000	20000
X/Y/Z axis rapid traverse	m/min	48	60
Spindle type		BT30	BT30, *BT40
Spindle driving method		Direct drive	Direct drive
Spindle speed	rpm	12000, *20000	24000,*20000,*12000
Motor(S6 15%/S6 25%/S1)	kW	7.5/5.5/3.7, *11/7.5/5.5	7.5/5.5/3.7, *11/7.5/5.5
ATC type		Gripper	Gripper
ATC capacity		21	21, *20, *26
Max. weight of tools	kg	3	3, *5
Max. length of tools	mm	250	250
Dimension	mm	1800×2600×2310	1860×2620×2350
Weight(about)	kg	2900	4300

Note:"*" means optional.

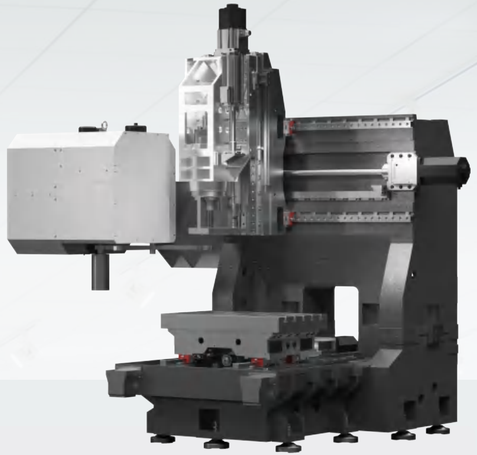


DIE & MOLD MACHINING CENTER

Machine Characteristics

- The machine adopts a gantry frame structure design, featuring high rigidity and excellent stability. The strictly symmetrical mechanical structure ensures dynamic accuracy and machining stability, enabling more efficient mold production.
- No X/Y axis stacked design; the X/Z axes are mounted on the column and supported by it for movement, resulting in better dynamic stability.
- All three axes are equipped with roller linear guides, offering high rigidity, high precision, excellent dynamic performance, strong vibration resistance, and the ability to withstand greater cutting forces.
- The worktable is 850-880mm above the ground, an ergonomic design that facilitates workpiece clamping and improves efficiency.
- Full closed-loop control, with real-time comparison between the actual position and the commanded position for automatic precision adjustment. A single clamping setup allows for batch processing of complex parts through multiple operations, including milling, drilling, boring, expanding, reaming, spot facing, and tapping.

M3



Advanced Structural Design Reliable Functional Components

M8

Centralized Lubrication System

Uses grease lubrication to reduce frictional resistance of moving components, minimize surface wear, cool and lubricate, and prevent corrosion, ensuring effective shock absorption and sealing.



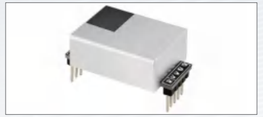
Spindle Oil Chiller

Comes standard with an intelligent, high-efficiency spindle oil chiller, which significantly reduces spindle thermal deformation and steadily improves machining accuracy.



Spindle Thermal Sensor

Real-time monitoring of spindle temperature variation, automatic compensation for thermal growth and deformation, ensuring consistent machining accuracy during long-term high-speed operation.



1 | 8mm Small Pitch Lead Screw

All three axes use small pitch lead screws, characterized by minimal feed increments, slow wear, high transmission rigidity, and sustained high precision, making them suitable for high-precision surface machining requirements.

2 | HSK A63-18000rpm Motorized Spindle

The spindle features an HSK A63 tool holder with displacement compensation, effectively reducing thermal elongation errors and enhancing part machining accuracy and surface finish.

3 | C3 Grade Hollow Cooled Lead Screw

All axes are equipped with high-precision lead screws with integrated cooling cores, including temperature control in the bearing support and motor mounting areas, to maintain stable component temperatures and improve machining accuracy.

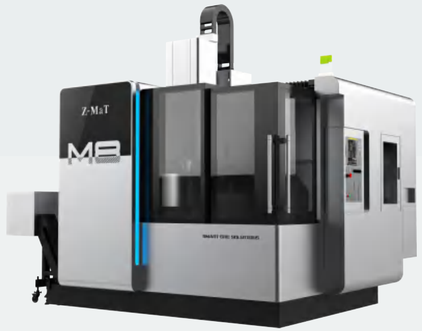


4 | Rapid ATC Tool Changer

Equipped with a standard 24T disc-type tool magazine, it delivers fast tool changes and excellent structural stability. It ensures high reliability during long continuous operation, reduces tool change time, and boosts machining efficiency.

5 | Three Axes with Standard Heidenhain Linear Encoders

Full closed-loop control enables real-time comparison between actual and commanded positions for automatic precision adjustment. A single clamping setup allows for multi-operation batch processing of complex parts.



Specifications

		Unit	M3	M5	M8
Table	Table size	mm	900×550	1100×600	1550×800
	Max. load	kg	800	1000	2500
Feed	Slide saddle travel (X-axis)	mm	800	1000	1400
	Worktable travel (Y-axis)	mm	550	600	800
	Headstock travel (Z-axis)	mm	500	500	660
	Distance between columns	mm	1140	1300	1800
	Spindle nose to table	mm	150-650	150-650	200-860
	Rapid traverse (X/Y/Z)	m/min	24	24	24
Spindle	Spindle motor power	kW	35	35	35
	Spindle type		HSK A63	HSK A63	HSK A63,*HSK A100
	Spindle speed	rpm	18000	18000	18000,*10000
ATC	ATC capacity/type	Nos.	24	24	24
	Max. diameter/length/weight of tool	mm/mm/kg	Φ78/300/8	Φ78/300/8	Φ78/300/8
	Max. tool diameter (no adjacent tools)	mm	Φ120	Φ120	Φ120
Others	Air source/pressure		280L/min 6-8bar	280L/min 6-8bar	280L/min 6-8bar
	Water tank capacity	L	320	320	350
	Dimension (L×W×H)	mm	2800×3600×3011	2800×3070×3045	3400×3470×3400
	Weight (about)	kg	7000	9500	13000

Note:"*"means optional

PORTAL TYPE VERTICAL MACHINING CENTER

Extremely Stiff and High-precision Portal-type Mechanical Structure

Heavy cast iron construction and a unique axis configuration provide outstanding stiffness, rigidity, thermal stability, accuracy and unequaled axis support throughout the full travel of each axis:



• X and Z axes on the column:
–Constant spindle support distance
–Fully supported throughout travel

• Y axis under table:
–No "stack-up" of X and Y
–No off-center table load condition
–Fully supported throughout travel

Finite Element Analysis (FEA) of the basic components ensures optimized structural rigidity and torsional stiffness for ultimate performance characteristics and consistent results.
This structural rigidity is the foundation for superior cutting performance, provides damping against vibration, and sustained accuracy for the life of the machine.

Most competitive machines feature some variation of a traditional "C - frame" design. Therefore, in most die and mold applications, by virtue of the machine configuration and associated geometry, the cutting tool elements significantly overhang their support structure:
The Z axis is cantilevered from the X axis (Figure 1).
The X axis is "stacked up" on the Y axis (Figure 2).
The Y axis is overhung from the Y axis (Figure 3).

As a result, cutting forces, combined with these long, unsupported, and cantilevered distances create stiffness, rigidity and dynamic distortion issues that produce vibration and chatter. Such instabilities, inertial factors and bending moments during cutting dramatically impact surface finish, final part accuracy, tool life, and productivity. By virtue of the unique design of the GV series, the machine provides a stiffer, even rigid construction, high accuracy, chatter-free platform for machining.



Ultra Rigidity Ultra Cost-effective

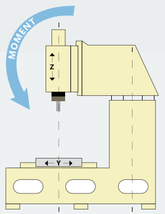


Figure 1

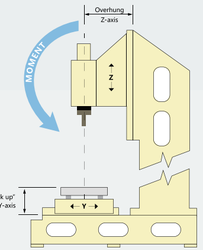


Figure 2

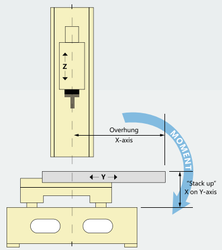
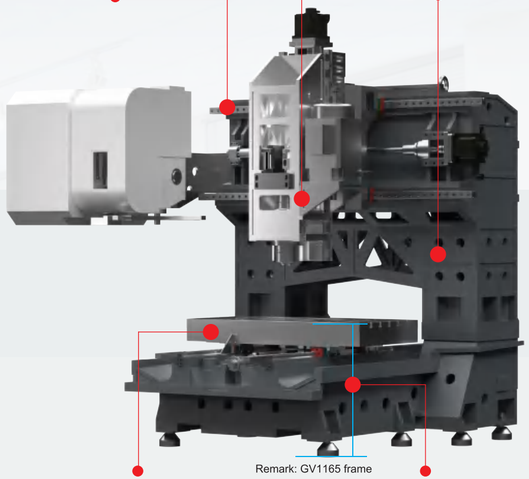


Figure 3

No X/Y-stacking design.
The X-axis is on the upper part, free from chip interference.

Symmetrical mechanical structure design for higher machining stability.

Shoulder-type columns, which are beneficial for improving the rigidity of the machine tool.



The worktable only moves in one direction, resulting in higher precision and stability.

The worktable is close to the ground, making it convenient for loading and unloading workpieces and improving production efficiency.

Remark: GV1165 frame

GV855

GV1165

Standard Features

- Disk Arm Type ATC
- Spindle Oil Chiller
- Automatic Lubrication System
- Full Machine Enclosure
- Operator Door Safety Lock
- Air Conditioned Electrical Cabinet
- Handheld Air Gun

Optional Features

- 12000rpm Direct Drive Spindle
- 15000rpm Electric Spindle
- Coolant Through Spindle
- Chip Conveyor
- Tool Measuring System
- Oil Mist Collector
- Workpiece Measuring System

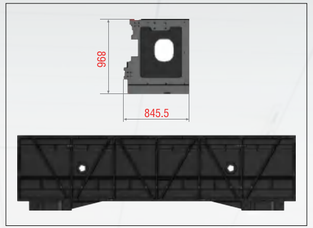
Specifications

		Unit	GV855	GV1165
Table	Table size	mm	1000×550	1300×650
	Max. load	kg	800	1500
	Gantry Width	mm	800	1050
	T slot(width×nos.×distance)	mm	18×5×90	18×5×100
Travel	X Travel	mm	800	1100
	Y Travel	mm	550	650
	Z Travel	mm	400	500
	Spindle nose to table	mm	150-550	150-650
	Guideway type		LM(Roller)	LM(Roller)
Spindle	Spindle speed	rpm	10000/*12000/*15000	10000/*12000/*15000
	Spindle type		BT40-150/*BBT40	BT40-150/*BBT40
	Motor(S6 15%/S6 25%/S1)	kW	18.5/15/11,*22/18.5/15	18.5/15/11,*22/18.5/15
Feed &Magazine	X/Y/Z axis rapid traverse	m/min	36/48/48	36/48/48
	Max. cutting feed rate	mm/min	10000	10000
	ATC capacity/type	No./type	24/Disk	24/Disk
	Max. weight of tool	kg	8	8
Dimension &Weight	Dimension(L×W×H)	mm	2490×2145×2370	2875×2172×2450
	Weight(about)	kg	5500	8500

Note: "*" means optional, "LM" means linear motion guideway.

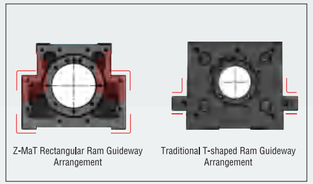
PORTAL MACHINING CENTER PM/PM-H SERIES

Ongoing Refinement



Crossbeam Assembly

With an arch-bridge - style shape and a large cross - section of **968** × **845.5** mm, plus truss - style ribbing arranged within the cavity, it ensures the crossbeam is free from sagging deformation.



Spindle Headstock Assembly

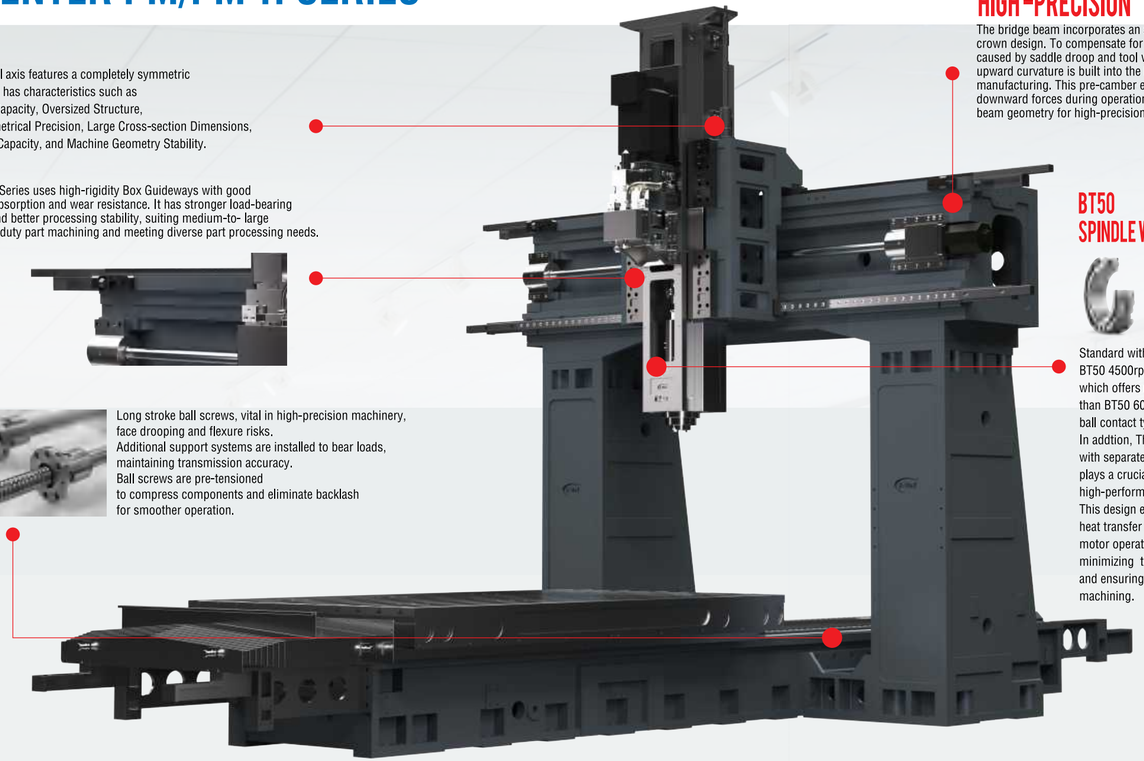
The rectangular spindle headstock (ram) features a surrounding guideway arrangement, offering significantly higher rigidity than T-shaped rams and superior heavy cutting performance.

The vertical axis features a completely symmetric design and has characteristics such as Damping Capacity, Oversized Structure, High Geometrical Precision, Large Cross-section Dimensions, Roughing Capacity, and Machine Geometry Stability.

The PM-H Series uses high-rigidity Box Guideways with good vibration absorption and wear resistance. It has stronger load-bearing capacity and better processing stability, suiting medium-to- large and heavy-duty part machining and meeting diverse part processing needs.



Long stroke ball screws, vital in high-precision machinery, face drooping and flexure risks. Additional support systems are installed to bear loads, maintaining transmission accuracy. Ball screws are pre-tensioned to compress components and eliminate backlash for smoother operation.



Note: The picture is the frame of PM4022H.

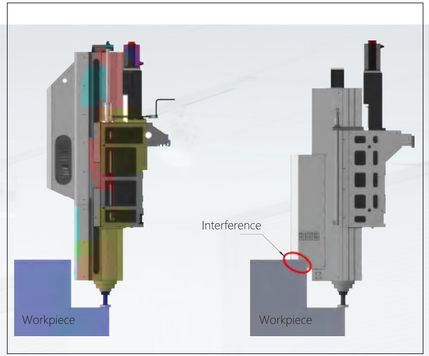
HIGH-PRECISION

The bridge beam incorporates an anti-deformation crown design. To compensate for potential deformation caused by saddle droop and tool weight, a predetermined upward curvature is built into the beam during manufacturing. This pre-camber effectively counteracts downward forces during operation, ensuring consistent beam geometry for high-precision machining applications.

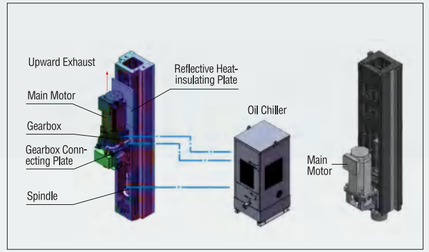
BT50 SPINDLE WITH NN BEARINGS



Standard with Tailor-Made NN Bearings BT50 4500rpm spindle which offers much higher rigidity than BT50 6000rpm ball contact type Spindle. In addtion, The spindle is equipped with separate motor mounts, plays a crucial role in high-performance machining. This design effectively controls heat transfer by isolating the motor operation, thereby minimizing thermal distortion and ensuring high-precision machining.



The top-mounted main motor enhances the machining of stepped workpieces and five-sided machining.

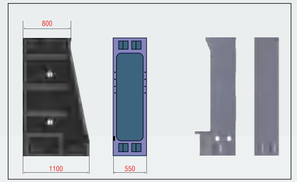


Employ integrated thermal management solutions: externally top-mounted main motor with upward air-cooling exhaust, reflective heat shield between motor and ram, and oil-chilled cooling for spindle, gearbox, and connections. These prevent thermal deformation of the spindle headstock, ensuring precision stability.



Milling Heads

In advanced machining, to meet diverse needs, we provide different milling heads as options. There are A/C swivel heads, universal ones adjustable by ±45°, suitable for inclined and complex contours, and fixed-angle ones like 30° and 60° for specific-angle tasks. Customers can choose according to project requirements, expanding machine tool capabilities and improving machining efficiency and precision.



Column Assembly

With a cross-sectional area of **800–1100** × **550** mm, the right-angled trapezoidal column design increases the contact area with the foundation, making the whole machine more stable and enhancing shock resistance during heavy cutting.

Standard Features

- BT50 Spindle
- ATC
- Automatic Lubrication System
- Inner and Outer Guard
- AC for Electrical Cabinet
- Chip Conveyor

Optional Features

- Different Control System
- Different Nos. ATC
- Different Type Spindles
- Milling Head
- Linear Scale
- Tool Measuring Device
- Workpiece Measuremet

PM1510



PM3022H

PM8036R



Specifications

		Unit	PM1510	PM2011	PM2015H PM3015H	PM2018H PM3018H	PM3022H PM4022H/PM5022H	PM3025H PM4025H/PM5025H	PM4028R PM5028R/PM6028R	PM6036R PM8036R
Table	Table size	mm	1600×800	2000×900	2000/3000×1300	2000/3000×1500	3000/4000/5000×1800	3000/4000/5000×2000	4000/5000/6000×2200	6000/8000×3000
	Max. load	kg	3500	4000	6000/8000	10000/12000	12000/15000/18000	15000/18000/22000	25000/28000/30000	45000/50000
	T slot(width×nos.×distance)	mm	22×5×140	22×7×125	22×7×160	22×9×160	22×11×160	22×11×160	28×11×220	28×13×220
Capacity	X Travel	mm	1500	2000	2200/3200	2200/3200	3200/4200/5200	3200/4200/5200	4200/5200/6200	6500/8500
	Y Travel	mm	1000	1100	1700	2000	2400	2700	3000	3800
	Z Travel	mm	620	800	800	800	1000	1000	1000	1250
	Spindle nose to table	mm	150-770	120-920	200-1000	200-1000	200-1200	200-1200	250-1250	250-1500
	Distance between columns	mm	950	1150	1500	1800	2200	2500	2800	3600
	Guideway type	XYZ	LM(Roller)	LM(Roller)	XY:LM,Z:BOX	XY:LM,Z:BOX	XY:LM,Z:BOX	XY:LM,Z:BOX	XY:LM,Z:BOX	XY:LM,Z:BOX
Spindle	Spindle speed	rpm	8000,*6000	8000,*6000	6000	6000	4500	4500	4500	3000
	Spindle type		BT50	BT50	BT50	BT50	BT50	BT50	BT50	BT50
	Motor(S2 30min/S1)	kW	18.5/15,*22	18.5/15,*22	18.5/15	18.5/15	26/22	26/22	26/22	37/30
	Torque(S2 30min/S1)	N.m	236/143	236/143	236/143	236/143	892/560	892/560	1227/770	2458/1993
Feed	XYZ axis rapid traverse	m/min	20/20/15	20/20/15	18/18/18;15/18/18	15/18/18	15/15/15;12/15/15;12/15/15	12/12/12	12/12/12;12/12/12;10/12/12	10/12/12; 8/12/12
	Max. feedrate	mm/min	10000	10000	8000	8000	6000	6000	6000	6000
ATC	ATC capacity/type	Nos.	24,*30,*40	24,*30,*40	24,*30,*40,*60	24,*30,*40,*60	24,*30,*40,*60	24,*30,*40,*60	24,*30,*40,*60	24,*30,*40,*60
	Max. weight of tool	kg	15	15	15	15	15	15	15	15
Others	Dimension	m	4.4×3.6×3.4	6.9×4.9×3.9	7/9.5×6×4.2	7/9.8×6/6.3×4.2	9.8/11.8/14×7×4.9	9.8/11.8/14×7×4.9	11.8/14/16.2×7.2×6.3	17.5/22×8×6.6
	Weight (about)	kg	15000	18000	22000/25000	23000/29000	31000/35000/40000	33000/38000/45000	45000/50000/55000	75000/95000

Note: "*"means optional, "LM" means linear motion guide way.

COMPACT APC SOLUTION-MX530H / VMX640

EXCHANGING WORKPIECES WITHOUT STOPPING MACHINES

The dual-workstation machining center facilitates automatic interchange of worktables. While one workstation is engaged in machining, the other side switches to load raw workpiece without the need for downtime. It ensures the efficient and high-precision machining of mass products.

MX530H

VMX640



VMX640

Machine Characteristics

- The rotary table is divided into front and rear worktables, and it is controlled by an automatic system for seamless transition. The front and rear worktables serve distinct purposes, with one designated for machining and the other for clamping. This design optimizes clamping processes, enabling continuous operation without interruptions.
- High-Quality Castings: The main castings are crafted using advanced Meehanite high-grade cast iron through resin sand casting technology. Employing advanced finite element analysis techniques, the design is structurally sound, with an optimized layout, and undergoes secondary aging treatment, ensuring long-term machining stability.
- Double-Sided End Gear Table Structure: The exchangeable table features a double-sided end gear structure, providing high positioning accuracy and strong load-bearing capacity.

Standard Features

- Dual Workstation Worktable
- Three-axis Roller LM Guideway
- Automatic Lubrication System
- Automatic Coolant System
- Coolant Tank and Chip
- Conveyor Chassis Chip Flush
- Electrical Cabinet Air Conditioning
- Handheld Air Gun and Water Gun

Optional Features

- Oil Mist Collector
- Tool Measurement System
- Workpiece Measurement System
- Coolant Through Spindle
- Spindle Oil Chiller
- Different Type Spindles
- Different Nos ATC
- Different Control System



Image of VMX640 Vertical

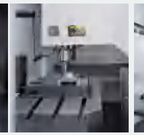




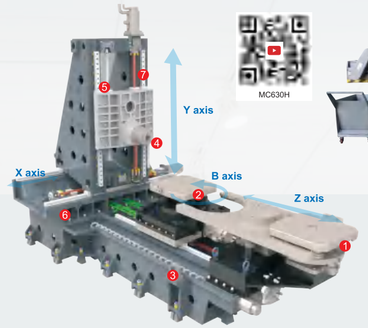
Image of MX530H Horizontal

Specifications

	Unit	MX530H	VMX640
X-Axis Travel	mm	600	600
Y-Axis Travel	mm	70-420(350)	400
Z-Axis Travel	mm	400	510
Distance from Spindle End Face to Worktable Surface	mm	0-400	150-660
Distance from Spindle Center to Column Guide Surface		/	450
Worktable Area	mm	900×820(unilateral 450×820)	1140×820(unilateral 570×820)
Maximum Load Capacity of the Worktable	kg	600(unilateral300kg)	600(unilateral300kg)
T-Slot Width		3-22T×P90×2	3-22T×P130×2
Maximum Spindle Speed	rpm	6000	8000
Spindle Hole Dimensions		BT50	BT40
Rapid Displacement of X/Y/Z Axes	m/min	24	24
Maximum Cutting Feed Rate	mm/min	10000	8000
Spindle Motor(S6 15%/S6 25%/S1)	kW	15/11/7.5,*18.5/15/11	15/11/7.5,*18.5/15/11
Overall Dimensions (Length x Width x Height)	mm	4100×4000×2780	4050×4250×2780
Machine Weight (Net Weight) Approximately	kg	8500	10200

HORIZONTAL MACHINING CENTER

Upright T-Base Structure — Column travels along the X-axis, worktable along the Z-axis, aligning with high-precision milling machine design principles. Worktable feeds the workpiece to the stationary spindle, maximizing spindle rigidity and machining accuracy.



MC630H



Cutting-edge Design

- **FEM-optimized structure:** Meehanite castings with twice aging treatment ensure maximum rigidity and long-term reliability.
- **BT50-190 spindle:** Covers low-speed heavy cutting to high-speed precision machining.
- **3-axis heavy-duty roller linear guides:** Deliver rigid support, smooth motion, stable accuracy, and easy maintenance.
- **Servo B-axis table:** Hydraulic locking + curvic coupling for fast indexing, heavy-cut rigidity, and high precision.
- **Preloaded ball screw brackets:** Ensure high-accuracy drive and positioning for X-Y-Z axes.
- **Stepped base & column (MC-H Series):** Dual X-axis rails on different planes boost spindle-head assembly rigidity and stability.

01	Optional Auto Pallets Changer (APC)	
02	Index Work Table	a)Std: 1 degree b)Opt: NC 0.001°
03	Chip-Removal System	
04	BT50-190 Heavy-Duty Spindle	
05	Cylindrical Roller Linear Motion Guide-way	
06	Stepped Base and Column Design	
07	Large-Size Super Precision Ballscrew	

Specifications

		Unit	MC630H	MC800H	MC1000HE
Table	Table size	mm	630×630	800×800	1000×1000
	T slot (Nos.-width-distance)	mm	5-18T-125	5-22T-160	7-22T-125
	Max. load	kg	2500	3000	3000
	Table quantities	pc	1,*APC	1,*APC	1,*APC
	Table indexing degree	degree	1,*0.001	1,*0.001	1,*0.001
	Reference aperture		Φ50H7	Φ60H7/*Φ55H7	Φ60H7
	Max. swing dia. of workpiece	mm	950	1150	1300
Travel	X/Y/Z Travel	mm	1100/800/1100	1300/1100/1200	1300/1100/1100
	Spindle center to table	mm	0-800	45-1145	45-1145
	Spindle end to table center	mm	125-1225	150-1350	250-1350
Spindle	Spindle type		BT50	BT50	BT50-190
	Motor(S6 15%/S6 25%/S1)	kW	22/18.5/15	22/18.5/15	22/18.5/15
	Spindle speed	rpm	6000	6000	6000
	Standard spindle		Belt type/*Gear box(1:4)	Belt type/*Gear box(1:4)	Belt type/*Gear box(1:4)
Feed &Magazine	X/Y/Z axis rapid traverse	m/min	24/20/24	24/20/24	24/20/24
	ATC capacity/type	No./type	40,*60/Chain	40,*60/Chain	40,*60/Chain
	Max. weight of tool	kg	18	18	18
	Max. dia. of tool	mm	Φ125/250	Φ125/250	Φ125/250
	Max. length of tool	mm	350	350	350
Dimension &Weight	Dimension	mm	6000×4800×3400	6600×4900×3800	6600×4900×3800
	Weight(about)	kg	20000	23800	24900

Note: "*"means optional. APC: Auto Pallet Changer.

HORIZONTAL MACHINING CENTER HM1250

Inverted T-Base Structure — Worktable travels along the X-axis, column along the Z-axis. It offers excellent dynamic response and stable accuracy, ideal for high-speed machining.

Machine Characteristics

High-precision rotary table: Min. indexing unit 1" (optional 0.001° NC table), with 4-axis linkage for single-setup multi-process machining.
Double-wall closed frame: High-density longitudinal/transverse ribs enhance rigidity, chip resistance, and bending/torsion strength.

Standard Features

- FANUC 0i-MF (3-axis package)
- BF Boxes (1-4)
- BT50-190 (standard main spindle)
- 40T Chain-type Tool Magazine
- 1250 × 1250 (1") Indexing Table
- Y-axis Balanced Oil Cylinder
- Chip Conveyor

Optional Features

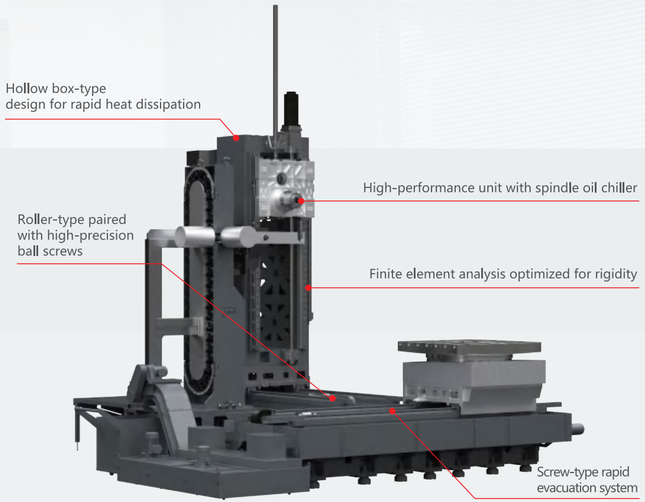
- Linear Scale (Heidenhain)
- ZF Boxes (1-4)
- BT50-190 Main Spindle Unit with Single Bearing
- 60T Chain-type Tool Magazine
- NC Rotary Table 1250 × 1250 (0.001")

HM1250

Specifications

		Unit	HM1250
Table	Table size	mm	1250×1250
	Max. load	kg	8000
	Number of tables		1
	Table indexing	o	1°×360
	Reference hole dia.		Φ75H7
	Max. workpiece turning dia.	mm	Φ2500
Travel& Feed	X/Y/Z-axis travel	mm	2000/1500/1600
	Dis. from spindle nose to table center	mm	380-1980
	Dis. from spindle center to table surface	mm	150-1650
	X/Y/Z-axis rapid traverse	m/min	24
	Cutting speed	mm/min	1-10000
Spindle	Spindle taper		BT50
	Motor(S6 15%/S6 25%/S1)	kW	26/18.5/15
	Spindle speed	rpm	6000
	Standard spindle		Belt-BF(1:4)/Gear box(1:4)
ATC	Tool magazine capacity	Nos.	40
	Max. tool weight	kg	18
	Max. tool diameter	mm	Φ125/Φ250
	Max. tool length	mm	400
	Tool change method		Chain
Others	Air supply	Mpa	0.6
	Dimension(L×W×H)	mm	7800×5800×5500
	Weight(about)	kg	25000

Note:"*" means optional.



HORIZONTAL MACHINING CENTER-HMX SERIES

Cross Sliding Table Structure: Static column and cross sliding table, modular design offers the most economical and compact horizontal machining center HMX series. X and Z axes are provided to the table and the spindle moves in the Y axis alone, With one-time clamping, milling, drilling, boring, broaching, reaming and tapping can be applied to all 4 sides of the workpieces. It is best for machining complex parts of boxes, plates, disks, valves, housing types, etc.

Machine Characteristics

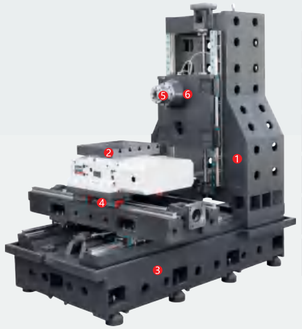
- Full guard protection, user friendly and easy maintenance.
- Positive displacement lubrication system.
- Chip conveyor, chips are conveyed at two sides and collected in the rear
- BT50-190 spindle with oil chiller system.
- Spindle air curtain protection function.
- The Finite Element Method (FEM) analysis provides optimum machine design and structure advantages while ensuring the best machine rigidity. Meehanite standard Casting along with twice aging treatment for long term reliability.
- Large-size heavy duty roller type linear motion guideways applied on all 3-axis for rigid support, smooth slide, stable accuracy as well as easier maintenance.



HMX500

Specifications

		Unit	HMX500	HMX630
Table	Table size	mm	500×500	630×630
	T slot(Nos.-width-distance)	mm	5-18T-100	5-18T-125
	Max. load	kg	1200	2500
	Table quantities	pc	1	1
	Table indexing degree	degree	1°,*0.001°	1°,*0.001°
	Max. swing dia. of workpiece	mm	850	1000
Travel	X/Y/Z Travel	mm	1000/600/650	1000/600/850
	Spindle center to table	mm	100-700	100-700
	Spindle end to table center	mm	150-800	230-1080
Spindle	Spindle type		BT40,*BT50	BT50-190
	Motor(S6 15%/S6 25%/S1)	kW	22/18.5/15	22/18.5/15
	Spindle speed	rpm	8000	6000
Feed &Magazine	X/Y/Z axis rapid traverse	m/min	24/20/24	24/20/24
	ATC capacity/type	No./type	30/Disk	30/Disk
	Max. weight of tool	kg	8,*18	18
	Max. dia. of tool	mm	BT40:Φ75/Φ150 *BT50:Φ112/Φ200	BT50:Φ112/Φ200
	Max. length of tool	mm	300	300
Dimension &Weight	Dimension	mm	4050×3450×2700	4050×4300×2750
	Weight(about)	kg	9700	10500



01 Wide-span Herringbone Columns

02 Cross-slide Structure

03 Ultra-large and Stable Base

04 Large-sized Linear Guide Rails

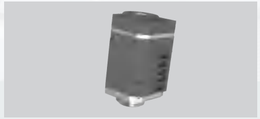
05 High-speed Spindle Unit

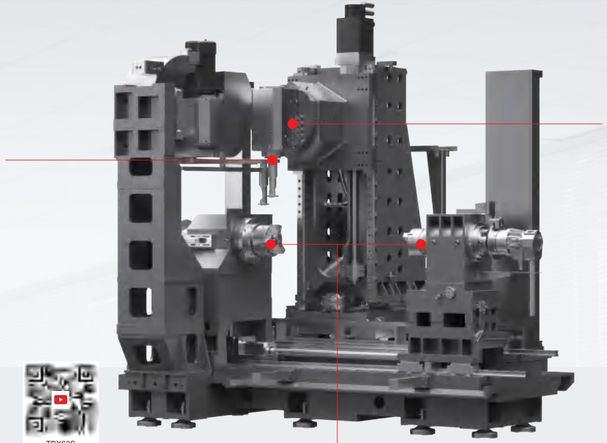
06 Labyrinth Structure & Air Curtain Protection Function

5-AXIS TURN-MILL CENTER TBX63S

1 | High-Power Turn-Mill Spindle

Equipped with an HSK-T63 turn-mill spindle, it delivers higher speed, greater torque, and stronger cutting capability than conventional power turrets, equivalent to an independent high-end vertical machining center. It easily handles complex operations such as contour milling, slotting, drilling, and tapping.The turn-mill dual interface (HSK-T63) is specifically designed for turn-mill integration, with better drive rigidity, higher rotation positioning accuracy, and double-sided (face + end face) contact. This design increases the clamping force, improves tool change speed, and enhances the rigidity of turning and milling operations, with superior tool connection performance compared to traditional tool holders.





TBX63S

2 | High Flexibility B-axis Swing Head

The direct-drive B-axis enables fast indexing, stable operation, and reduced vibration, cutting machining time and improving surface finish. Its lock ensures rigidity for heavy cutting, and the direct-drive motor offers infinite speed control and high dynamic response. Supporting short-path control and smooth contouring, the head allows automatic clamping at any angle in a compact design, enabling multi-surface machining in one setup for greater efficiency.



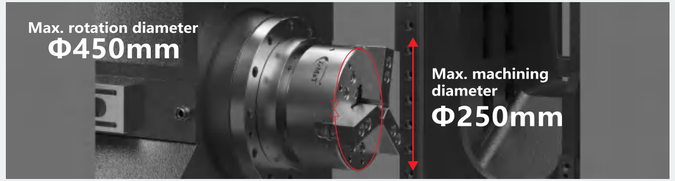
3 | High Precision 5-axis RTCP

The main and sub-spindles enable true 5-axis simultaneous interpolation. The W-axis controls axial spindle movement, extending the range of shaft parts and enabling simultaneous material feeding.



4 | Tool Spindle with Wide Range of Motion

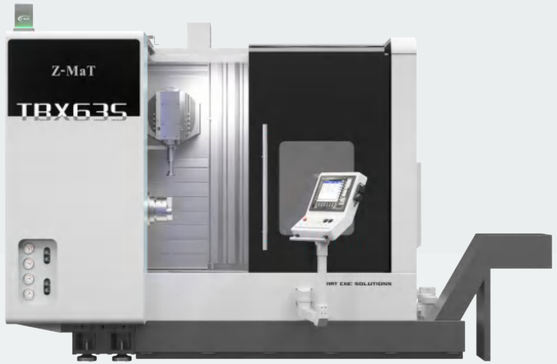
Its capability to machine workpieces that required set up changes up until now in one chucking facilitates process integration. And employing a direct drive motor and octagonal ram enables high-speed, high-accuracy machining.



5-AXIS TURN-MILL CENTER TBX63S

X/Y/Z/C and B-Swing Head

The machine features a moving-column, high-rigidity three-axis structure. For turn-mill machining, the B-axis offers a large swing range, high rigidity and indexing accuracy. The HSK-T63 high-torque spindle, together with the C-axis, achieves true 5-axis simultaneous RTCP. Equipped with dual spindles, it completes turning, milling, grinding and other processes in one setup for AB-face machining. During turning, the milling spindle is hydraulically clamped by end-face discs for higher precision. The ATC automatically exchanges turning and milling tools.



Specifications

		Unit	TBX63S
Capacity	Max. swing diameter	mm	Φ450
	Max. machining diameter	mm	Φ250
	Max. machining length	mm	750
Spindle	Main spindle nose	/	A2-6
	Max. speed of main spindle	rpm	4000
	Main Spindle Torque (S6 15%/S6 25%/S1)	N·m	200/160/105
	Main Spindle Motor(S6 15%/S6 25%/S1)	kW	37/27/18.5
	Sub -spindle nose	/	A2-5/*A2-6
	Max. speed of sub-spindle	rpm	5000
	Sub Spindle Torque(S6 15%/S6 25%/S1)	N·m	80/67/46
	Sub Spindle Motor(S6 15%/S6 25%/S1)	kW	18.5/15/11
Feed &Travel	X-axis travel	mm	815
	Y-axis travel	mm	±75
	Z-axis travel	mm	750
	W-axis travel	mm	1000
	X-axis rapid traverse	m/min	24
	Y-axis rapid traverse	m/min	24
	Z-axis rapid traverse	m/min	24
	W-axis rapid traverse	m/min	24
B axis	B-axis swing head range	°	±120
	Max. speed of B-axis swing head	rpm	100
	Rated power of B-axis swing head	kW	11.6
	Rated torque of B-axis swing head	N·m	1100
Milling motor spindle	Spindle nose type	/	HSK-T63
	Spindle speed	rpm	12000
	Rated power	kW	30
	Rated torque	N·m	95
Tool changer	Capacity	Nos.	24/*30
	Max. Tool Length	mm	250
	Max. Dia. (Adjacent Empty)	mm	Φ110
Others	Dimension(L×W×H)	mm	4450×2760×2850
	Weight(about)	kg	9800

Note: "*"means optional.

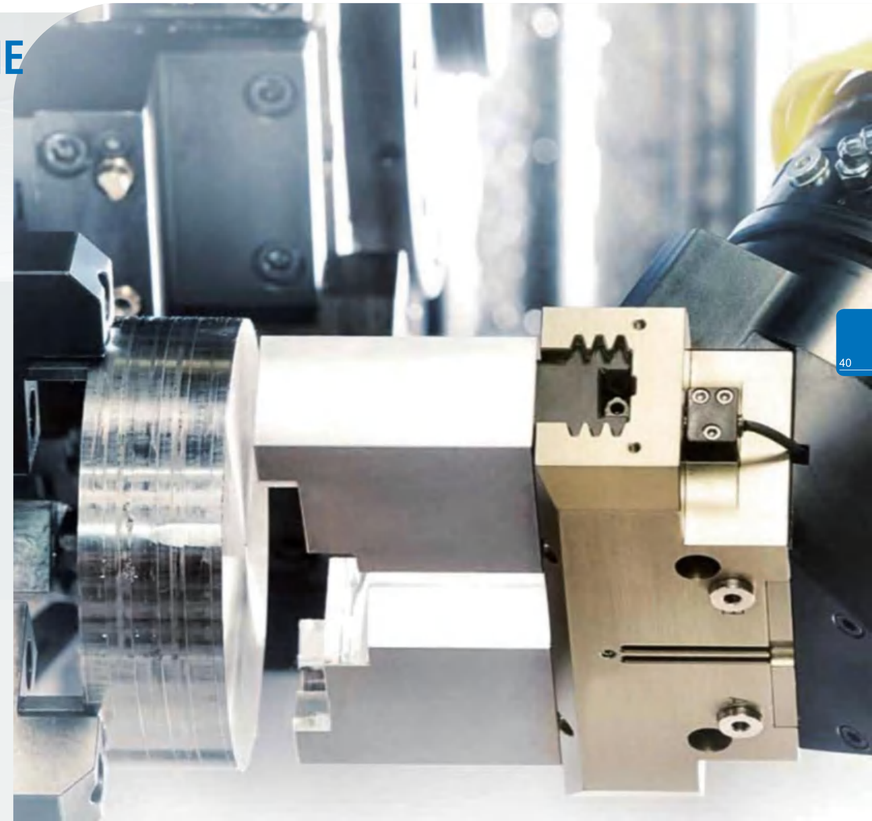
AUTOMATION & PRODUCTION LINE

Machine with Robot

From the set-up of raw materials to the removal of finished workpieces all on one machine, Z-MaT has smart solutions for complete automation. Reduce labor costs and the time between cuts by using loaders, unloaders, and bar feeders to ensure the greatest profit in production. With a combination of different tooling and workholding solutions, this series offers great flexibility for many usage scenarios.

Robots Characteristics

- Compact truss & 6-axis robots fit standard containers, cutting costs & eliminating transport damage.
- Most Z-MaT CNC machines come option with truss/6-axis robot solutions.
- Full range Truss and 6-axis robots of various-load capacity are available.



TRUSS ARM AUTOMATION

All Z-MaT machines are designed to allow the working area to be loaded efficiently from the front and from the top. Since the gantry loading equipment was developed and manufactured by Z-MaT, optimum matching of the individual components is guaranteed. The newly developed loading portal is characterized by very high acceleration rates and velocities as well as very high positioning accuracy and is suitable for loading workpieces of different dimensions. Together with a wide range of CNC machines, our engineering talents are capable to supply complete automatic production line turnkey solutions.

SL6-R FL300-R STL8-S SP28-R


Different Clamping Tools


Different Grippers


Work Feeder Station





Procedures of Automation Solution

01 DEMAND ASCERTAINMENT

Sales representatives have verified the requirement for labor reduction in mass production of parts.

02 COLLABORATIVE DISCUSSION

Engage in comprehensive discussions with Z-MaT engineers. By pooling knowledge and ideas, a more informed and strategic approach to production challenges can be formulated.

03 STRATEGIC PATH-FINDING

Seek out the most dependable means to achieve the production target. The ultimate goal is to identify a foolproof strategy that ensures the successful realization of production objectives.

COMPACT UNIVERSAL AUTOMATION

AUTOMATION WITH ROBOT

Realize a complete automation solution by same investment of a lathe

A super compact design with width only 1800mm and still has large travel 160mm on X axis and 375mm on Z axis.
It takes only 3.5m² footprint for M106-R with truss robot & stocker, which is almost same floor occupation as existing 6-inch 350mm Turning Center.

M106



Specifications

		Unit	M106-R
Capacity	Max. length of workpiece	mm	350
	Max. swing diam. over bed	mm	Φ320
	Max. swing diam. over slide	mm	Φ200
Spindle	Spindle speed	rpm	5000
	Spindle nose		A2-5
	Diam. of spindle Bore	mm	Φ56
	Max. diam. of through-hole	mm	Φ46
	Motorized Motor(S6 15%/S6 25%/S1)	kW	18.5/15/11
Axis	X axis Travel	mm	Φ160
	Z axis Travel	mm	375
	Rapid traverse	m/min	25
Turret	Center height	mm	80
	No. of tool stations		8，*12
	Tool shank size	mm	25×25，*20×20
Tailstock	Type		LM
	Taper of quill		MT4
	Travel of quill	mm	/
	Travel of tailstock	mm	320
*Gantry Robot	Controller	-	Syntec
	Lift Capacity	Kg	6
	Workpiece Capacity	Kg	1, *2.5
	Rapid Traverse	m/min	80
	Transmission Type	-	Gear type
	Guideway	-	Linear guideway
Others	Weight(about)	Kg	3200
	Overall dimension(L×W×H)	mm	1700×1800×1700

NOTE: "*" means optional.



Note: Except of Super M106-R, numerous other models are available with gantry robot solutions.

ARTICULATED ROBOT AUTOMATION

Tailor Various Pickers







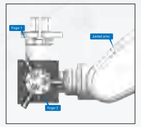
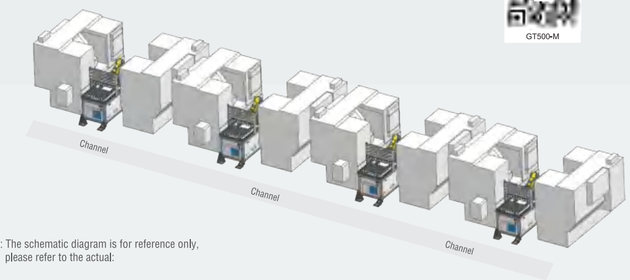





Figure of the workshop for reference:

GT500-M



Note: The schematic diagram is for reference only, please refer to the actual:



6-axis Robotic Arm

Offers excellent flexibility, high precision and stability. Smooth motion, fast response, reliable performance. Perfectly integrates with machine tools for automatic loading/unloading. Compact, easy integration boosts productivity and ensures stable intelligent manufacturing.

Range of Models

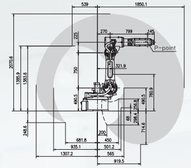
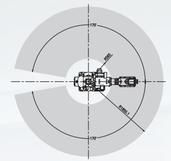

UR8Q-1440


URB08A-1490

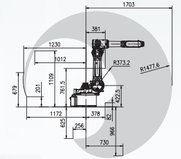
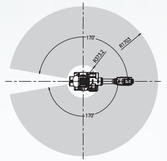

URB20A-1700


URB35-1850

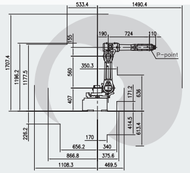
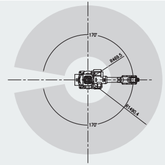
URB35-1850
Motion range diagram

URB20A-1700
Motion range diagram

URB08A-1490
Motion range diagram

Type	DOF	Drive Method	Payload (kg)	Repeatability (mm)	Motion Range(°)						Top Velocity(°/s)						Permissible Inertia of Wrist(kg.m²)			Allowed Top Torque (N·m)			Motion Radius (mm)	Machine Weight (kg)
					J1	J2	J3	J4	J5	J6	J1	J2	J3	J4	J5	J6	J4	J5	J6	J4	J5	J6		
UR8Q-1440	6	AC Servo Drive	8	±0.04	±155	±90	+90~-270	±180	±130	±360	200	160	200	450	360	650	/	0.272	0.074	17.2	17.2	10	1440	70
URB08A-1490			8	±0.04	±170	+120~-85	+83~-150	±180	±135	±360	200	200	200	400	356	600	/	0.19	0.065	14	12	7	1490	185
URB20A-1700			20	±0.04	±170	+160~-80	+76~-112	±180	±138	±360	175	175	180	330	330	450	/	0.93	0.4	40	50	22	1700	265
URB35-1850			35	±0.04	±170	+120~-85	+85~-155	±180	±135	±360	160	160	175	310	360	375	2.46	2.46	1.41	75	75	68	1850	369

Note: Avoid to contact with the inflammable and explosive and corrosive gas and liquid;do not splash the water,oil and dust;keep away from the electric appliances'noisyresource (plasma).

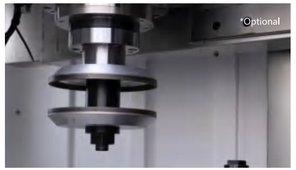


VERTICAL CNC LATHE

Excellent option for large, heavy, thin-walled or complicated parts



Headstock Counterweight



Grinding Attachment



Double-tool Turning

Advantages of the VT Series Compared to a Horizontal CNC Lathe:

VT Series Advantage

	NO	or	YES
Smallest floor space – required footprint?	/	✔	Footprint 50% smaller
Easiest parts loading and unloading?	/	✔	Requires 50% less set-up
Best parts machining roundness results?	/	✔	No deflection from gravity
Strongest foundation for heavy cutting?	/	✔	Twice the weight, power tripled
Best for turning complicated parts?	/	✔	Simpler clamping process

VT320

Outstanding Efficiency & Accuracy

Machine Characteristics

- Standard 8-Station Turret – Stands up to versatile production requirements.
- Compact design, PLUS, square base casting minimizes floor space requirements and increases anti-vibration forces.
- High speed spindle unit with powerful servo drive motor – offers high speed finish cutting, AND low speed heavy duty cutting in the same compact machine.





VT400

VT600

Standard Features

- Hydraulic 3-jaw Chuck
- 8-station Turret
- Chip Conveyor
- Fully Enclosed Guard
- Hydraulic System
- Heat Exchanger of Electric Cabinet

Optional Features

- Driven Tool Turret
- Gear Box
- Multi Tool Cutting
- Oil Mist Collector
- Air Conditioner of Electric Cabinet
- Grinding Function

Specifications

		Unit	VT320	VT400	VT600	VT800	VT1000
Capacity	Max. swing dia.	mm	Φ450	Φ550	Φ720	Φ950	Φ1150
	Max. cutting dia.	mm	Φ350	Φ450	Φ600	Φ800	Shaft:Φ800/Plate:1000
	Max. cutting height	mm	400	420	600	750	800
Chuck	Chuck type		Hydraulic chuck	Hydraulic chuck	Hydraulic chuck	Hydraulic chuck	Hydraulic chuck
	Chuck size	inch	10"	12"	21" , "18", "24"	21", "24"	32"
Spindle	Spindle speed	rpm	3000	2500, *Gear box	1500, *Gear box	1500, *Gear box	1200, *Gear box
	Motor(S6 15%/S6 25%/S1)	kW	22/18.5/15	22/18.5/15,*37/27/18.5	37/27/18.5,*45/30/22	40/30/22	40/30/22
	Spindle nose		A2-8	A2-8	A2-11	A2-11/*A2-15	A2-15
Turret	Turret center height	mm	100	125	160	160	160
	No. of tools	nos	8, *12	8, *12	8, *12	8, *12	8, *12
	Tool shank size	mm	25×25, *BMT55	32×32, *BMT55	32×32, *BMT65	32×32, *BMT65	32×32, *BMT65
Axis	X/Z axis travel	mm	300(+250,-50)/400	350(+300,-50)/450	450(+350,-100)/600	500(+450,-50)/780	550(+520,-30)/850
	X/Z axis rapid traverse	m/min	15/18	15/18	15/18	16/16	15/15
Others	Dimension (LxWxH)	mm	1700×3200×2750	1900×3050×3000	2150×3450×3300	2200×3800×3400	2400×4300×3800
	Weight (About)	kg	5400	7000	10200	12000	14000

Note: "*" means optional.



Wheel Hub



Steering Knuckle



Differential Case



Motor Case



Brake Hub



Brake Disc



Flange



Impeller



Bearing

MULTI-TURRET SERIES



MULTIPLE TURRETS MULTIPLY YOUR PRODUCTION

Expanded machine functionality promises reduced cycle times. Suitable for a broad range of production processes.
This machine's development was driven by the demands of entrepreneurial manufacturers.
The Z-MaT MUTI-TURRET Series combines the highest levels of reliability, accuracy and efficiency.
As a result of large production volume and well managed supply chain,
Z-MaT has produced a machine that operates at the highest levels of performance
- providing you with a powerful weapon for improving your competitive advantage

Experience The Real Power

High Speed Tool Change Turret; Heavy Cast Body;
Cylindrical Roller Linear Guideway; Large-Sized Ball Screws.

This combination of rigid and agile hardware combines seamlessly with Double Channel Control System – offering two times the productivity and broadly expanded machine work capabilities and options.

1. Hydraulic Dashboards
2. Accessories & Tool Box
3. 3-color Indicator Lamp
4. Coolant Tank
5. Central Auto Lubrication System
6. Adjustable Control System Panel





User-friendly Operability

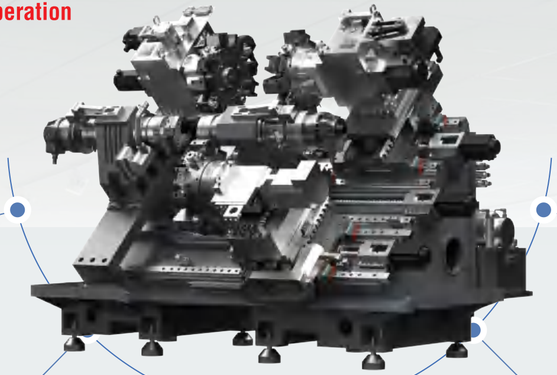
The ergonomically designed operator interface is situated at an optimal height and has a swing arm to allow the operator to adjust the interface angle for ease and convenience. Frequently used buttons are conveniently located and easy to press. The MPG is a standard option and provides optimal visibility.

The difference in height of operators was considered in the design of the door handles. The door handle is elongated for easier opening and closing of the door. An enclosure for tooling and supplies is located just under the control panel. A separate coolant tank makes clean-up easy.

The automatic lubrication pump is located in an enclosure near the operator. It has a clear glass door for easy observation. Enclosing the pump keeps away chips and other contaminants. Hydraulic Dashboards are in the left and front side, chuck, turrets and general hydraulic pressure are all observed clearly and neatly.

TRIPLE-TURRET TURNING CENTER GT550-YYM

Three-channel Parallel Operation Balanced Cutting



GT550-YYM



3 Turrets Balanced Cutting

Upper and lower turrets both feature Y-axis driven tooling, enabling synchronous "balanced cutting" to effectively reduce cutting force deflection.



High-rigidity Inclined Bed

One-piece 45 ° inclined bed with secondary aging treatment, featuring low center of gravity, stable rigidity, excellent vibration damping and superior wear resistance.



0 Backlash Main Spindle

High-speed built-in motorized spindle with precision P4-grade bearings, delivering zero transmission loss, zero backlash, and ultra-low vibration.



High-precision Components

C3-grade precision ball screws paired with double-nut preloading and thermal elongation compensation technology, effectively suppressing thermal elongation from high-speed rotation.



Rapid Tool Change System

Servo-driven tool change with dual-tooth clutch locking mechanism, ensuring fast tool changes, high positioning accuracy, and reduced non-cutting time.



High-rigidity Feed Guides

X/Y/Z axes equipped with large-specification precision roller linear guides, featuring large contact area, strong load-bearing capacity, and excellent rigidity.

Machine Characteristics

- The machine features a unique three-turret, dual-spindle layout. Both upper driven tool turrets are equipped with Y-axis functionality, and the lower driven tool turret can be fitted with a Y-axis power cutting option. This allows independent machining on the left and right main spindles simultaneously.
- The upper and lower turrets can perform "balanced cutting" on the same workpiece, effectively counteracting deformation caused by cutting forces and significantly improving the machining accuracy of long shafts or thin-walled components.
- Three channels operate in parallel. When the first and second channels are out of sync, the third channel can flexibly support bottleneck processes, shortening the overall cycle time and greatly improving production efficiency.
- The left and right main spindles adopt precision high-speed built-in electric spindles (A2-6). The beltless transmission eliminates wear, achieving zero-backlash operation with minimal vibration.
- The left and right apron plates, along with the lower turret, are equipped with 100-12 station power tool turrets. They use the BMT55 tool disk interface with four-screw locking, delivering enhanced rigidity and superior milling and drilling performance, ideal for complex multi-tasking machining.



Specifications

		Unit	GT550-YYM
Capacity	Max. turning dia.	mm	Φ230
	Max. turning length	mm	500
	Max. swing dia. over bed	mm	Φ250
	Max. swing dia. over slide	mm	Φ250
Main & Sub Spindle	Spindle speed	rpm	4500/4000
	Spindle taper	-	Φ70(1:20)
	Spindle bore	mm	Φ66/Φ66
	Spindle nose	-	A2-6/A2-6
	Max. dia. of through-hole		Φ52/Φ52
	Motor(S6 15%/S6 25%/S1)	kW	27/18.5/15
Travel	X-axis travel(Upper turret/Lower turret)	mm	200/200
	Y-axis travel(Upper turret/Lower turret)	mm	±50/none
	Z-axis travel(Upper turret/Lower turret)	mm	350/500
	Sub spindle travel	mm	700
Rapid traverse	X-axis rapid traverse(Upper turret/Lower turret)	m/min	20
	Y-axis rapid traverse(Upper turret/Lower turret)	m/min	15
	Z-axis rapid traverse(Upper turret/Lower turret)	m/min	20
	B-axis	m/min	20
Turrets & Toolposts	ATC capacity	pcs	12
	OD tool shank size	mm	25
	Boring bar size	mm	Φ40
	Power tool holder		BMT55
Others	Dimension(L×W×H)	mm	3200×2200×2520
	Weight(about)	kg	6500

Note: "*"means optional.

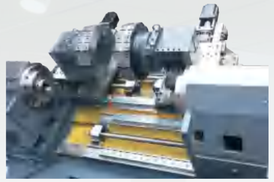
DOUBLE TURRETS DOUBLE SPINDLES TURNING CENTER GT500 / GT500-M

Ideal for Complex Workpieces and Bar Machining

Dual channel machining allows for 2 turrets and 2 spindles to simultaneously machine components. It machines parts from raw material to a finished component in a single setup. The machines' symmetrical structure kinematics allows for even heat distribution and helps to provide continuous machining accuracy. In addition the machine is standard with motorized spindle and servo turret. It opens up new opportunities for high-speed production of bar parts.

Standard Features

- Hydraulic 3-jaw Chuck
- 12-station BMT Turret
- Full Guard
- Work Light
- 3-color Alarm Light
- Automatic Lubrication System
- Automatic Coolant System



Optional Features

- Different Chucks and Collets
- Different Control Systems
- Different Spindles and Bore Dia
- Chip Conveyor
- Bar Feeder
- Gang Type Tool Holders

GT500

GT500-M



Specifications

		Unit	GT500	GT500-M	GT500-MY
Capacity	Chuck Size	inch	8"	8"	8"
	Max Swing Dia. Over Bed	mm	Φ260	Φ260	Φ260
	Max. Length of Workpiece	mm	300	300	300
	Max. turning Dia.	mm	Φ210	Φ210	Φ210
Spindle & Sub Spindle	Spindle Bore	mm	Φ66	Φ66	Φ66
	Max Dia. of Through Hole	mm	Φ52	Φ52	Φ52
	Spindle Nose	type	A2-6	A2-6	A2-6
	Spindle Speed	rpm	4000	4000	4000
	Motor(S6 15%/S6 25%/S1)	kW	37/27/18.5	37/27/18.5	27/18.5/15
Axis	X1/X2 Axis Travel	mm	190	190	190
	Z1/Z2 Axis Travel	mm	300	300	300
	B Axis Travel (sub spindle)	mm	720	720	720
	B Axis Rapid Traverse	mm	25	25	25
	X1/X2 Rapid Traverse	m/min	20	20	20
	Z1/Z2 Rapid Traverse	m/min	25	25	20
Turrets	Turret1&2 Stations		BMT55/12 stations	BMT55/12 stations	BMT55/12 stations
	DrivenTool Function		N/A	ER32	
	OD Tool Shank Size	mm	25×25	25×25	25×25
	Boring Bar Size	mm	Φ40	Φ40	Φ40
	Y-axis Function	mm	N/A	Option	±50
Structure	Slant Bed Degree		45°	45°	45°
	Guideway Type		Linear Motion	Linear Motion	Linear Motion
Others	Overall Dimension(L×W×H)	mm	3100×2000×2250	3100×2000×2250	3100×2000×2350
	Weight (About)	kg	6800	7000	7300

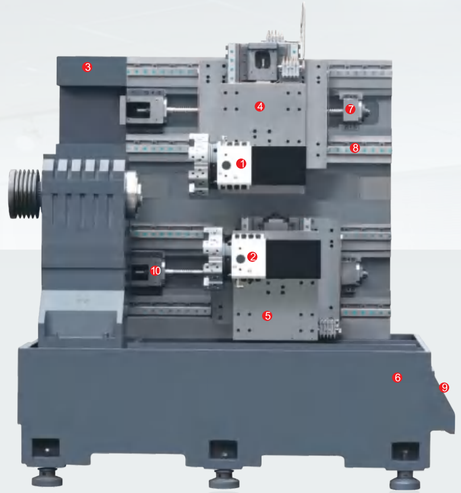
Note: "*"means optional.

DOUBLE TURRETS TURNING CENTER GT260V / GT350V-1100

Scientific Design Structure

By centering the machine symmetrically from the spindle, heat is distributed evenly and accurately during continuous machining. Overall machining efficiency is increased. As GT260V-650 is standard with a spindle unit type tailstock, A slim shaft workpiece can be ideally made with straight stretch and lower turret support process by selecting a hydraulic clamping chuck and servo driven axis.

1. Upper Turret
   Gang Type Tools As Option
2. Sub Turret
   Gang Type Tools As Option
3. 90 Degree Robust
   Bed Offers Super Rigidity
4. Upper
   X1/Z1 Slides
5. Sub
   X2/Z2 Slides
6. Large Span Solid Casting
   Base Provides Perfect Anti-vibration Performance
7. Double End Support and
   Pre-load Super Precision Ballscrew
8. Cylindrical Roller Type Heavy Duty
   Linear Guideway
9. Big Capacity Right Removal
   Chip Tank
10. Direct Transmission Servo Motor
    With Backlash Free Couplings



GT260V







DOUBLE TURRETS TURNING CENTER GT260V / GT350V-1100

Specifications

		Unit	GT260V		GT260V-650		GT350V-1100	
Capacity	Chuck Size	inch	8"		8"		10"	
	Max Swing Dia. Over Bed	mm	Φ550		Φ550		Φ600	
	Max. Length of Workpiece	mm	340/*260		650		1100	
	Max. Swing Dia. Over Slide	mm	Φ200		Φ200		Φ240	
Spindle	Spindle Bore	mm	Φ62	*Φ75	Φ62	*Φ75	Φ62	*Φ75
	Max Dia. of Through Hole	mm	Φ52	*Φ65	Φ52	*Φ65	Φ52	*Φ65
	Spindle Nose	type	A2–6	*A2–8	A2–6	*A2–8	A2–6	*A2–8
	Spindle Speed	rpm	4000	*3200	4000	*3200	4000	*3200
	Motor(S6 15%/S6 25%/S1)	kW	18.5/15/11		18.5/15/11		18.5/15/11	
Axis	X1 Axis Travel	mm	160		160		160	
	Z1 Axis Travel	mm	350		650		1100	
	X2 Axis Travel	mm	160		160		160	
	Z2 Axis Travel	mm	350		650		1100	
	X1/Z1 Rapid Traverse	m/min	25		20		20	
	X2/Z2 Rapid Traverse	m/min	25		20		20	
Turret	Turret1 Stations		8		8		12	
	Turret2 Stations		8		8		12	
	OD Tool Shank size	mm	25×25		25×25		25×25	
	Boring Bar Size	mm	Φ40		Φ40		Φ40	
Tailstock	Type of tailstock		*SST		SST		SST	
	Taper of tailstock quill		*MT4(Spindle unit type)		MT4(Spindle unit type)		MT4(Spindle unit type)	
	Travel of tailstock	mm	*260		650		1100	
Others	Slant Bed Degree		90°		90°		75°	
	Guideway Type		Linear Motion		Linear Motion		Linear Motion	
	Overall Dimension(L×W×H)	mm	2760×1850×2500		3250×1850×2500		3750×2020×2500	
	Weight (About)	kg	6900		8800		11300	

Note: "*"means optional. "SST" means Spindle unit type Servo programmable Tailstock.



Standard Features

- Hydraulic 3-Jaw Chuck
- 8-station Turret
- Full Guard
- Work Light
- Tri-Color Alarm Light
- Automatic Lubrication System
- Automatic Coolant System

GT260V-650

Optional Features

- Different Chucks and Collets
- Different Control Systems
- Different Spindle Speed and Bore Dia
- Chip Conveyor
- Bar Feeder
- Gang Type Tool Holders

CENTER DRIVE DOUBLE TURRETS TURNING CENTER

Center Drive Turning Center

Single Holding Spindle
Hydraulic collets are built into the spindle which is placed in the center of the machine bed, and two independent Cross slides(X1/Z1, X2/Z2) carry tooling systems to turn the two ends of workpiece simultaneously. Hence, the best concentricity accuracy are achieved by using Z-MaT center drive lathe.

Standard Features

- Hydraulic Collet
- Double Turrets or Gang tools
- Spindle Oil Chiller
- Automatic Coolant
- Automatic Lubrication

Optional Features

- Driven Tool Turrets
- Chip Conveyor (Standard for ATB500)
- Different Center Drive Spindles





ATB500

ATB500-1500

Specifications

		Unit	ATB300E	ATB500	ATB500-1500	ATB600E
Capacity	Max. swing dia.	mm	Φ300	Φ300	500	Φ300
	Max. shaft through hole dia.	mm	Φ32	Φ20-72	Φ20-160(Two spindle drive)	Φ20-72
	Spindle speed	rpm	3000	2000	2000	2000
	Max. power of spindle	kW	5.5, *7.5	11	11	11
Axis	X1/X2 axis travel	mm	290	200	300	370
	Z1/Z2 axis travel	mm	180	350	750	250
	X1/X2 rapid traverse	m/min	15	15	9	20
	Z1/Z2 rapid traverse	m/min	20	20	15	20
Turrets & Toolposts	Type		Square toolpost, *Gang type	12-station turret(two)	8-station turret	Gang type
	OD tool shank size	mm	20×20	25×25	25×25	25×25
	Boring bar size	mm	Φ32	Φ40	Φ32	Φ40
Others	Slant bed degree		Flat	45°	Flat	30°
	Guideway type		LM	LM	LM	LM
	Overall dimension(L×W×H)	mm	2300×1530×1770	3150×2050×2250	4110×1860×2250	2500×1750×2000
	Weight	Kg	2200	5000	6200	3500

Note: "*"means optional.



STAR FAMILY TURNING CENTERS

STAR STL / SL / STH-B / TN / TS / DT / GT SERIES

The STAR family of CNC lathes feature a cast mono-block, slant bed design and have configurable tooling options.

The SL Series lathes are typically equipped with a high-speed bi-directional indexing turret and a hydraulic chuck.

The STL series adds a tailstock to the lathe features.

The TN series are equipped with driven tool turret and C axis for secondary milling /drilling /tapping.

The TS series is designed without a tailstock for saving space and investment meanwhile it retains the same efficiency and capacity as the TN series. Furthermore, the TS500 can put a real powerful VMC spindle under the turret for rigid milling.

The DT series is standard with Y axis for off center milling, together with sub spindle option. Complex workpieces can be finished in one time set-up.

The GT series features dual-spindle and multi-turret configurations. Furthermore, the GT550-YYM is a three-turret lathe. Its upper and lower turrets can perform synchronous "balanced cutting" on the same workpiece for higher machining accuracy.



BRILLIANT INNOVATION SOPHISTICATED TECHNOLOGY

Heavy-Duty Cast Iron Base – PLUS, Quality Components

Nearly all Star Family Lathes have a heavy-duty cast base with "true align" slant bed design. The machine bed, head stock, turret and tailstock are aligned on the same plane. This unique design feature reduces heat build-up and resulting thermal expansion. The net result is a higher precision machine tool.

Additional resulting efficiencies from the "true align" design are greater rigidity and smoother operation – which provides a variety of benefits. You can expect to produce highly accurate parts with extremely fine surface finishes.

There are multiple benefits to having a lathe that combines such a large sized "vibration damping" solid, cast base – PLUS, properly aligned and balanced components. Some of these benefits include: 1) Smoother slide surface operation; 2) Higher speed and accuracy; 3) Fewer machine adjustments and lower maintenance costs; 4) Shortened machine warm-up time; 5) Lower power consumption.

The Foundation for Success



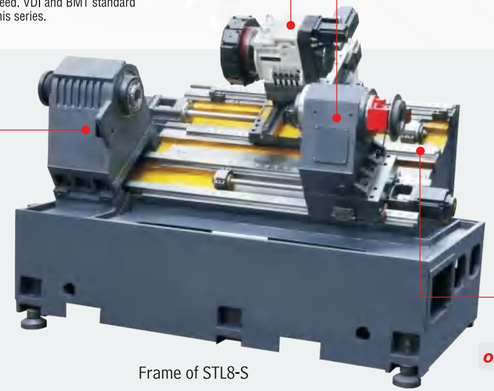
Turret Features

Bi-directional indexing high speed 8/12 station static tools type or 12 stations driven tools type turret provides optimal tool change efficiency and speed. VDI and BMT standard are available in this series.



Rigid Headstock and Spindle

Different types and sizes of spindles are available on one model which adds extreme flexibility and optimized machining performance according to the target workpieces of customer.



Frame of STL8-S



Sub-spindle & Automatic Tailstock

This efficient tailstock provides a combination of rigidity, accuracy and rapid set-up times on sub spindle or servo automatic tailstock solutions. In addition, Z-MaT smartly designed an economic automatic tailstock. The tailstock body is positioned by a hydraulic traction bar on LM guideway.

90% reduction in set-up time, compared to manual tailstock lathes.



Cylindrical Roller
Linear Motion Guideway

Base and bed are
One-piece square casting
monoblock design

SPINDLE & TURRET FEATURES

Combined Speed and Rigidity

Different sizes of direct mount spindles, cartridge type spindles and built-in motor spindles are standard according to exact models. With modular design production, each model has various spindle options to create the perfect balance of speed and rigidity.

The headstock and main spindle are manufactured then assembled and tested in a clean room. Heavy duty type spindle is supported by a double-row tapered cylindrical roller bearing plus angular ball bearing and double-row cylindrical roller bearing in the rear. It is a perfect marriage of speed and rigidity.

Built-in Motor Spindle





Cartridge Type Spindle



Direct Mount Spindle



C Axis Motion

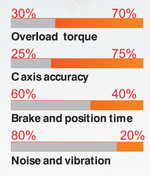
PMSM(spindle permanent magnet synchronous motor) type Direct Driven Spindle provides high-precision C axis motion that is fully interpolated with X and Z motion.

Direct Driven Spindle

Motorized spindle (Built-in motor) offers higher torque, better overload capability and high speed acceleration which shortens cycle time and increases productivity better than a traditional belt driven spindle. The machine is running with less vibration and less noise, together with better accuracy. It represents a new generation of turning center.

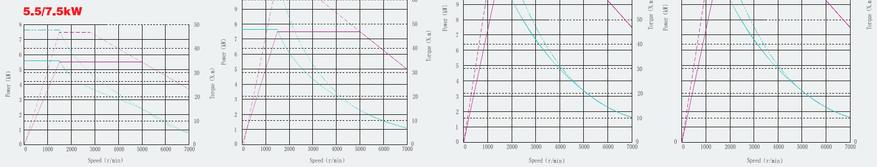
Overload protection and oil coolant are standard features to guarantee long term stability.





SPINDLE MOTOR TORQUE DIAGRAM

Torque S2-30min
Continuous Torque of Drive
Power S2-30min
Continuous Power of Drive



Note: The real spindle output torque are converted by actual belt pulley ratio, please contact sales repsentative to get more technical details.
The above diagrams are shown as 4 poles servo motor. 6, 8, 10 poles are widely selected to increase torque at low speed.

VARIOUS HIGH CLASS TURRET

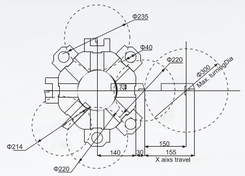
Increase efficiency and reliability

8-station turret is standard on 2 axes CNC lathes. 12-station driven tool turret is standard for 3 and 4 axes turning centers. High quality, high speed bi-directional indexing turret provides optimal tool change efficiency and speed.

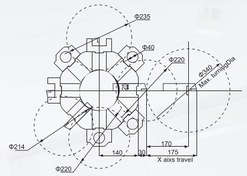


Tool Interference Diagram

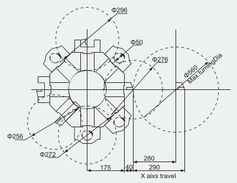
STAR STL6 BTP80-8



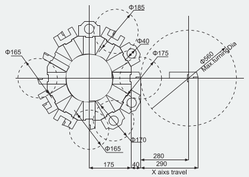
STAR STL8/STL8-II BTP80-8



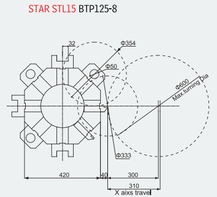
STAR STL10/STL12BTP100-8



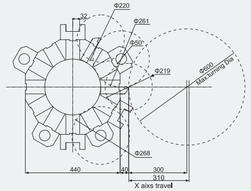
STAR STL10/STL12 BTP100-12



STAR STL15 BTP125-8

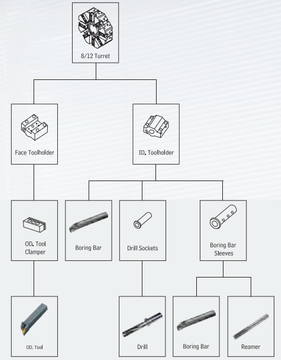


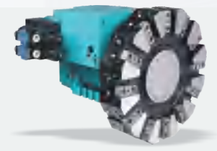
STAR STL15 BTP125-12



Tooling System

STAR STL6/STL8/STL8-II/STL10/STL12

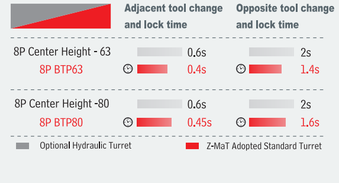




Hydraulic



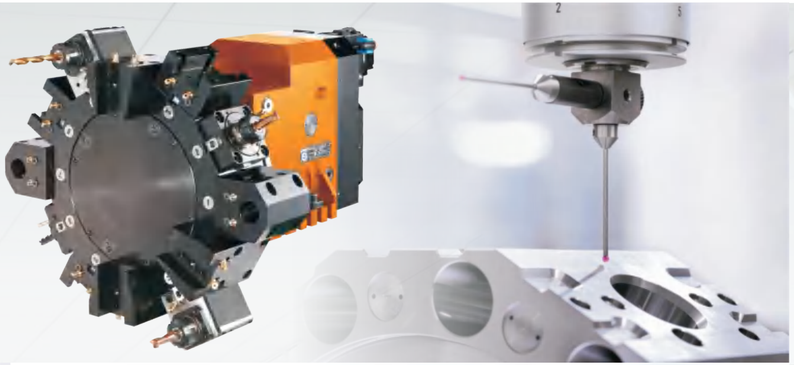
Servo



DRIVEN TOOL POWER TURRET FEATURES

Powerful Driven Tool Turret

Standard with 12-station driven tool turret, it features bi-directional indexing and non-lifting. The high quality, high speed power turret provides optimal tool change efficiency and speed.
Robust construction of internal elements ensures smooth transmission of high torque and speed. Only the tool in position gets drive. Motorized Cam operated mechanism ensures positive engage and disengage movements of the clutch for the driven tool. All drive elements are grease lubricated and properly sealed to prevent coolant entry.



BMT Standard

The BMT "Base Mounted Turret" holder will mount solidly to the face of the turret with 4 socket head cap screws, and is located and further secured with locating keys present on the turret face. These keys eliminate the need for indicating the toolholder to straighten it. Operator does not need to adjust the straightness for BMT toolholder, overall precision is based on the precision of the toolholder, and which is not adjustable.



Various VDI Tool Holders



BMT & VDI TECHNOLOGY

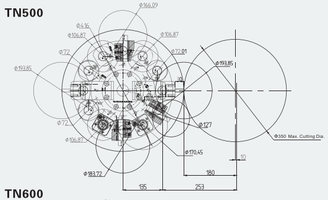
VDI Technology

The VDI system is a quick change clamping system for each tool holder within the tool disc. Tool changes can therefore be performed within seconds, rather than minutes as with the traditional Block Bolt on system.

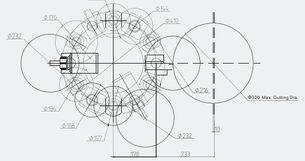


Tool Interference Diagram

TN500



TN600

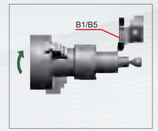


VDI30/12-STATION

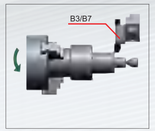
DIN69880	★[ATH-30ER25-80] ★[ATH-40ER32-80] *Compact size is opiton 0 degree live toolholder on Axial(Face)direction	ER25 ER32
DIN69880	★[RTH-30ER25-80] ★[RTH-40ER32-80] *Compact size is opiton 90degree live toolholderon Radial(OD)direction	ER25 ER32
DIN69880	★[B1 (30 20 40)] [B5 (30 20 40)] ★[B1 (40 25 44)] [B5 (40 25 44)] *B5 is extra length design Application of OD turn and face	□ 20 □ 25
DIN69880	★[C1 (30 20)] ★[C1 (40 25)] Application of ID bore and face	□ 20 □ 25
DIN69880	★[Z2 30] ★[Z2 40] Plug to seal VDI hole	

VDI40/12-STATION

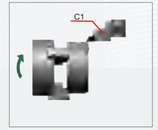
DIN69880	★[E2 (30×32)] ★[E2 (40×32)] *Other sizes option Boring Bar tool holder	Φ32 Φ32
DIN69880	☆[E1 (30×32)] ☆[E1 (40×32)] *Other sizes option Through Coolant Boring tool holder	Φ32 Φ32
DIN6499	☆[E4 (30×25)] ER25 ☆[E4 (40×25)] ER25 ☆[E4 (30×32)] ER32 ☆[E4 (40×32)] ER32 ☆[E4 (30×40)] ER40 ☆[E4 (40×40)] ER40 Er Collet tool holder	
DIN69880	☆[B3 (30 20 40)] [B7(30 20 40)] ☆[B3 (40 25 40)] [B7(40 25 40)] *B7 is extra length design Application of OD turn and face	□ 20 □ 25
DIN69880	☆[C3 (30 20)] ☆[C3 (40 25)] Application of ID bore and face	□ 20 □ 25



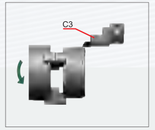
Spindle Rotation clockwise application of OD Turn and Face



Spindle Rotation Anticlockwise application of OD Turn and Face



Spindle Rotation clockwise application of Face and ID Bore



Spindle Rotation Anticlockwise application of Face and ID Bore

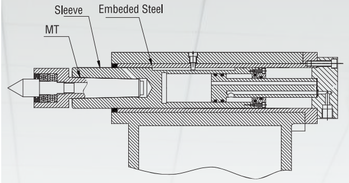
Note:

Ⅰ. The codes in [e.g. C1 (30 20] is purchasing codes. Written in Blue color is for VDI30, written in red color is for VDI40.
Ⅱ. ★mark means that the tool holders often used for general workpiece, we recommend customer to buy together with machine.
Ⅲ. ☆mark means that the tool holders occasionally used for some workpiece.
Ⅳ. *mark means that option size is available, please contact our sales representative for details.
Ⅴ. There are more different VDI standard toolholders, you may get from your closest local market or consult Z-MaT's sales reps. for further details.

Usage Scenario



VARIOUS TAILSTOCK FEATURES



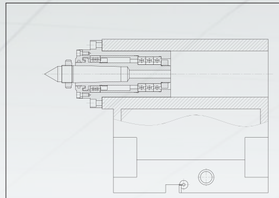
Hydraulic Tailstock(Std)

This automatic tailstock features a sleeve running inside an embedded steel tailstock bore, and is mounted on an on box guideway for enhanced rigidity and precision. Unlike traditional tailstocks, this embedded steel sleeve design delivers exceptional wear resistance and improved machining accuracy, making it ideal for high-precision turning applications.



Hydraulic Programmable LM Tailstock (Opt)

The complete tailstock body is driven by a hydraulic traction bar on cylindrical roller linear motion guide way. With no sleeve design and linear motion guide way, it ultimately increases the accuracy as well as being free of lubrication and maintenance. It has the same full automatic travel feature as the servo programmable tailstock. Set up time is saved and efficiency is increased by such a design.



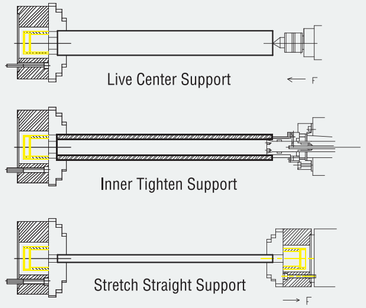
Small Spindle Type Tailstock (Opt)

In addition to the three standard tailstock types, a compact small spindle-style tailstock body is available as an optional upgrade.Designed with a sub-spindle-like structure, it delivers exceptional rigidity, precision, and load capacity, while eliminating the need for live center lubrication—ideal for high-precision turning applications.

Servo Programmable Tailstock (Opt)

Servo programmable tailstock provides advanced precision control. Featuring a high-response servo drive and integrated on-box guideway, it enables programmable positioning with micron-level accuracy, ideal for high-precision, flexible machining. It integrates seamlessly with CNC systems, supporting automated batch production and reducing setup time for complex workpieces.







VARIOUS SUPERB ACCESSORIES



2/3/4 Jaws Chuck



DIN Standard Collet



Hollow Hydraulic Cylinder



Solid Hydraulic Cylinder



Bar Feeder



Oil Mist Collector



Tool Setter



Steady Rest

STAR STL SERIES

Slant bed, Tailstock, Linear Guideway

Standard Features

- Hydraulic 3-jaw Chuck
- 8-station Turret
- Automatic Lubrication System
- Automatic Coolant System
- Hydraulic Tailstock
- 3 Color Indicator Lamp
- Work Lamp
- Fully Enclosed Guard
- Hydraulic System
- Heat Exchanger of Electric Cabinet

Optional Features

- 12-Station Turret
- Different Chucks and Collets
- Automatic Tailstock
- Chip Conveyor
- Tool Setter
- Bar Feeder
- Oil Mist Collector
- Air Conditioner of Electric Cabinet
- Servo/Hydraulic/Manual Steady Rest





STL8



Specifications	Unit	STL5	STL6	STL8	STL8-550/750	STL8-1100
Capacity						
Chuck size	inch	5", *6"	6", *8"	8", *10"	8", *10"	8", *10"
Max. swing dia. over bed	mm	Φ300	Φ400	Φ450	Φ550	Φ600
Max. length of workpiece	mm	300, *400, *550	400	500	550/750	1100
Max. swing dia. over slide	mm	Φ180	Φ220	Φ220	Φ360	Φ360
Spindle						
Spindle bore	mm	Φ48 *Φ55	Φ55 *Φ62	Φ66 *Φ75	Φ62 *Φ75	Φ62 *Φ75
Max. dia. of through-hole	mm	Φ40 *Φ46	Φ46 *Φ52	Φ52 *Φ65	Φ52 *Φ65	Φ52 *Φ65
Spindle nose	type	A2-5 *A2-5	A2-5 *A2-6	A2-6 *A2-8	A2-6 *A2-8	A2-6 *A2-8
Spindle speed	rpm	4500 *4500	4500 *4000	4000 *1600 *2000 *3200	4000 *1600 *2000 *3200	4000 *1600 *2000 *3200
Motor(S2-30min/S1)	kW	7.5/5.5, *11/7.5	11/7.5, *15/11	11/7.5, *15/11	15/11,*18.5/15	15/11,*18.5/15
Axis						
X axis travel	mm	150	150	170	250	250
Z axis travel	mm	300,*400, *550	400	500	550/750	1100
X/Z rapid traverse	m/min	20	20	20	20	20
Turret						
Center height	mm	63	80	80	100/80,*100	80,*100
No. of tool stations	nos	8, *12	8, *12	8, *12	8, *12	8, *12
Tool shank size	mm	20×20	25×25, *20×20	25×25, *20×20	25×25	25×25
Tailstock						
Type of tailstock		HPT, *SPT	Hydraulic, *HPT	Hydralic, *HPT, *SST	HPT, *SPT/SST, *SPT	SST, *SPT
Taper of tailstock quill		MT4	MT4	MT4	MT5/MT3	MT3
Travel of tailstock quill	mm	0	80	80	100/150	150
Travel of tailstock	mm	300,*400	80-400	100-500	550/750	1100
Structure						
Slant bed degree		45°	45°	35°	35°	35°
Guideway type		LM	LM	LM	LM	LM
Others						
Overall dimension (L×W×H)	mm	2400×1715×2000	2470×1745×1990	2700×1750×1950	2860/3000×1950/2000×2200	3500×2000×2200
Weight (about)	kg	2700	3400	3900	4800/5400	6200

Note: "*"means optional. "LM" means linear motion guideway, Tailstock: "Hydraulic" means automatic hydraulic driven tailstock sleeve.
"HPT" means linear motion guide way, automatic hydraulic driven body move tailstock. "SST" means small spindle hydraulic tailstock.
"SPT" means servo programmable tailstock. Programmable taistock is available on STL5 for slim bar machining.





STL12

Specifications	Unit	STL10	STL10-1600/2000	STL12	STL12-1600/2000/3000	STL15-1500/2000
Capacity						
Chuck size	inch	10"	10"	12", *15"	12",*15" 12",*10"*15" 12",*15"	15,*12
Max. swing dia. over bed	mm	Φ520, *Φ620	Φ600/Φ620	Φ530	Φ600 Φ620 Φ620	Φ650
Max. length of workpiece	mm	750,*1000	1600/1800(C2C 2000)	750,1000	1600 1820(C2C 2000) 3000	1320(C2C 1500) 1820(C2C 2000)
Max. swing dia. over slide	mm	Φ280, *380	Φ440/Φ360	Φ280	Φ460 Φ360 Φ460	Φ500
Spindle						
Spindle bore	mm	Φ86 *Φ75	Φ86 *Φ75	Φ105 *Φ120	Φ105 *Φ120	Φ105 Φ120
Max. dia. of through-hole	mm	Φ75 *Φ65	Φ75 *Φ65	Φ91 *Φ110	Φ91 *Φ110	Φ91 Φ110
Spindle nose	type	A2-8 *A2-8	A2-8 *A2-8	A2-8 *A2-11	A2-8 *A2-11	A2-8 *A2-11
Spindle speed	rpm	3000 *3200 *Gear box *Gear box	3000 *3200 *Gear box *Gear box	1800 *1000 *Gear box *Gear box	1800 *1000 *Gear box *Gear box	1800 *1000 *Gear box *Gear box
Motor(S2-30min/S1)	kW	15/11, *18.5/15	18.5/15	15/11, *18.5/15	18.5/15	18.5/15, *22/18.5
Axis						
X axis travel	mm	280	250/280	280	250 280 320	300
Z axis travel	mm	750,*1000	1600/2000	750, *1000	1600 2000 3100	1500/2000
X/Z rapid traverse	m/min	15/20	15/20	15/20	15/20 15/20 15/12	15/20
Turret						
Center height	mm	100, *125	100	100	100 100 100*125	125
No. of tool stations	nos	8,*12	8,*12	8,*12	8, *12 8, *12 12	8,*12
Tool shank size	mm	25×25	25×25	25×25	25×25 25×25 25×25,*32×32	32x32
Tailstock						
Type of tailstock		Hydraulic, *HPT, *SST	SST,*SPT	Hydraulic, *HPT, *SST	SST,*SPT SST,*SPT SPT	SST-LM
Taper of tailstock quill		MT5	MT4	MT5	MT4 MT4 MT5	MT5
Travel of tailstock quill	mm	150	150	150	150 150 /	150
Travel of tailstock	mm	100-750/*1000	1600/1800	100-750/*1000	1600 100-1800 3200	100-1320/1820
Structure						
Slant bed degree		35°	35°	35°	35°	45°
Guideway type		LM	LM	LM	LM	LM
Others						
Overall dimension (L×W×H)	mm	3350/3700×1950×2350	4000/5150×2000/2070×2200/2150	3350/3700×1950×2350	4000/5150/6100×2000/2070/2000×2200/2150/2320	4550/5000×2270×2300/2550
Weight (about)	kg	5300/6500	8300/8700	5600/6600	8300/9200/12500	10000/11500

Note: "*"means optional. "LM" means linear motion guideway, Tailstock: "Hydraulic" means automatic hydraulic driven tailstock sleeve.
"HPT" means linear motion guide way, automatic hydraulic driven body move tailstock. "SST" means small spindle hydraulic tailstock.
"SPT" means servo programmable tailstock. "C2C", Spindle Center to tailstock Center Distance.

STAR STL SERIES

Slant bed, Tailstock, Linear Guideway





Specifications

	Unit	STL18-750/1000/1500/2000/3000					STL24-1000		
Capacity									
Chuck size	inch	18",*15"					24"		
Max. swing dia. over bed	mm	Φ800					Φ980		
Max. length of workpiece	mm	750/1000/1500/2000/3100					1000		
Max. swing dia. over slide	mm	Φ600					Φ720		
Spindle									
Spindle bore	mm	Φ110	*Φ120	*Φ185			Φ135	*Φ162	*Φ185
Max. dia. of through-hole	mm	Φ95	*Φ110	*Φ175			Φ117	*Φ146	*Φ175
Spindle nose	type	A2-11	*A2-11	*A2-15			A2-15	*A2-15	*A2-15
Spindle speed	rpm	1500 *Gear box	*1000 *Gear box	*800 *Gear box			1000 *Gear box	*800 *Gear box	*800 *Gear box
Motor(S2-30min/S1)	kW	40/30/22					40/30/22		
Axis									
X axis travel	mm	380					430		
Z axis travel	mm	750/1000/1500/2000/3000					1000		
X/Z rapid traverse	m/min	15/20					15/20		
Turret									
Center height	mm	125					160		
No. of tool stations	nos	8,*12					8,*12		
Tool shank size	mm	32×32					32×32		
Tailstock									
Type of tailstock		Hydraulic,* HPT, *SST, *SPT	Hydraulic,* HPT, *SST, *SPT	Hydraulic, *SST, *SPT	Hydraulic, *SST, *SPT	Hydraulic, *SST, *SPT	Hydraulic, *SPT		
Taper of tailstock quill		MT6	MT6	MT6	MT6	MT6	MT6		
Travel of tailstock quill	mm	150	150	150	150	150	150		
Travel of tailstock	mm	100-750	200-1000	200-1500	200-2000	200-3000	200-1000		
Structure									
Slant bed degree		45°					45°		
Guideway type		LM					LM		
Others									
Overall dimension (L W H)	mm	3900/4200/4800/5200/6580×2200×2550					4350×2200×2550		
Weight (about)	kg	7800/9150/10900/12000/13500					9500		

Note: "*"means optional, "LM" means linear motion guideway, Tailstock: "Hydraulic" means automatic hydraulic driven tailstock sleeve.
"HPT" means linear motion guideway, automatic hydraulic driven body move tailstock. "SST" means small spindle hydraulic tailstock.
"SPT" means servo programmable tailstock.

STAR SL SERIES

Slant bed, Linear Guideway
Compact Design – Without Tailstock

For disc and short parts, SL has the Same Performance as the STL
– At a Lower Price Point, Perfect for Automation Options

Cast Mono-Block, "True Align" Slant Bed Structure.
Star SL6 and SL10E are designed with extra gang static or live tool holder options under the turret.

SL6 SL8 SL10 SL10E





Standard Features

- Hydraulic 3-jaw Chuck
- 8-station Turret
- Automatic Lubrication System
- Automatic Coolant System
- Heat Exchanger of Electric Cabinet

Optional Features

- 12-Station Turret
- Chip Conveyor
- Tool Setter
- Bar Feeder
- Air Conditioner of Electric Cabinet

Specifications

		Unit	SL6	SL8	SL10E	SL10	SL12-500
Capacity	Chuck size	inch	6", *8",*10"	8"	8", *10"	10"	12", *15"
	Max. swing dia. over bed	mm	Φ480	Φ450	Φ500	Φ550	Φ630
	Max. length of workpiece	mm	250, *350	300	300, *380	450, *600	500
	Max. swing dia. over slide	mm	Φ210	Φ300	Φ210	Φ300	Φ350
Spindle	Spindle bore	mm	Φ55 *Φ62 *Φ81	Φ62	Φ62 *Φ75	Φ86 *Φ75	Φ105 *Φ120
	Max. dia. of through-hole	mm	Φ46 *Φ52 *Φ70	Φ52	Φ52 *Φ65	Φ75 *Φ65	Φ91 *Φ110
	Spindle nose	type	A2-5 *A2-6 *A2-8	A2-6	A2-6 *A2-8	A2-8 *A2-8	A2-8 *A2-11
	Spindle speed	rpm	4500 *2000 *1600 *5000 *4000 *2500	4000 *2000	4000 *3200 *2000	3000 *3200	1800 *1000
	Motor(S2-30min/S1)	kW	7.5/5.5, *11/7.5	11/7.5	11/7.5, *15/11	15/11	15/11
Axis	X axis travel	mm	200	250	280	280	250
	Z axis travel	mm	250, *350	300	300, *380	450, *600	500
	X/Z rapid traverse	m/min	20/25	20	20	20	20
Turret	Center height	mm	63,*80	80	80	100	100
	No. of tool stations	nos	8, *12	8, *12	8, *12	8, *12	8,*12
	Tool shank size	mm	20×20, *25×25	25×25, *20×20	25×25, *20×20	25×25	25×25
Structure	Slant bed degree		35°	45°	60°	35°	35°
	Guideway type		LM	LM	LM	LM	LM
Others	Overall dimension (L×W×H)	mm	2450×1800×1950	2500×1750×2100	2550×1750×2250	3000×1900×2350	2910×1900×1910
	Weight (about)	kg	3100	3300	3800	4400	4400

Note: "*"means optional, "LM" means linear motion guideway.

STAR STH-B SERIES

Slant bed, Turret, Hard-Box guideway

Machine Characteristics

- 45° slant bed - efficient chip flow and optional for chip conveyor (Right or Rear side)
- The machine tool castings are designed by finite element analysis, and the structure is reasonable. The machine tool guideways adopt rectangular plastered sliding guide, with large span and high rigidity, which can meet the heavy cutting requirements of the machine tool;
- The X/Z axis ball screw is a pre-load structure, which can effectively reduce the influence of temperature on accuracy and keep the machine high precision for a long time;
- The tailstock adopts Box guideway with high rigidity with two modes of programming and manual option.

Exceptional structural
rigidity ensures stable heavy cutting.
Maximized efficiency
boosts productivity and reduces cost.

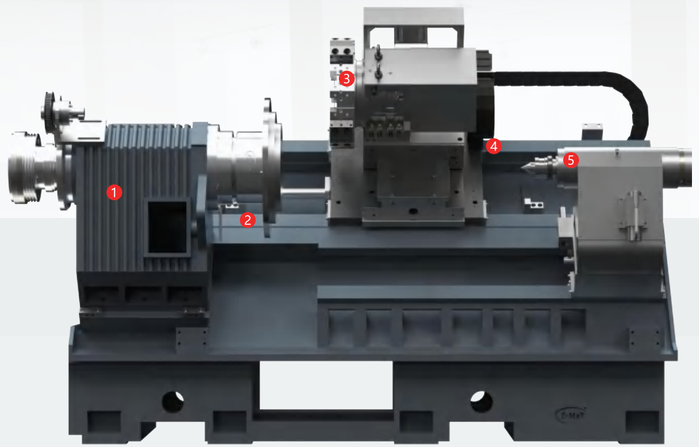
01 The spindle center is closer to operator

02 Monoblock 45°slant bed design

03 Servo Turret Fast tool position change

04 The saddles supported with Box guideway structure, large guide ratio

05 Shortest warm-up time for Spindle, Turret and Tailstock are placed on one plane



Remark: STH10-B frame

Standard Features

- Hydraulic 3-jaw Chuck
- 8-station Turret
- Automatic Lubrication System
- Automatic Coolant System
- Heat Exchanger of Electric Cabinet
- Hydraulic Tailstock

Optional Features

- 12-Station Turret
- Chip Conveyor
- Tool Setter
- Manual/Hydraulic Steady Rest
- Air Conditioner of Electric Cabinet
- Gear Box Spindle



Specifications

		Unit	STH10-500B	STH10-750B	STH10-1000B	STH12-500B	STH12-750B	STH12-1000B
Capacity	Max.turning diameter	mm	Φ320	Φ320	Φ320	Φ320	Φ320	Φ320
	Max.length of workpiece	mm	500	750	1000	500	750	1000
	Max.swing dia. over bed	mm	Φ500	Φ500	Φ500	Φ500	Φ500	Φ500
	Max.swing dia. over slide	mm	Φ210	Φ210	Φ210	Φ210	Φ210	Φ210
Spindle	Max.spindle speed	rpm	3200	3200	3200	3000 *2000	3000 *2000	3000/*2000
	Max.dia.of through-hole	mm	Φ75	Φ75	Φ75	Φ86 *Φ105	Φ86 *Φ105	Φ86/*Φ105
	Spindle nose		A2-8	A2-8	A2-8	A2-8 *A2-8	A2-8 *A2-8	A2-8
	Max. dia. of through hole	mm	Φ65	Φ65	Φ65	Φ75 *Φ91	Φ75 *Φ91	Φ71/*Φ91
	Motor(S2-30min/S1)	kW	15/11, *18.5/15	15/11, *18.5/15	15/11, *18.5/15	15/11, *18.5/15	15/11, *18.5/15	15/11, *18.5/15
Structure	Slant bed degree	degree	45°	45°	45°	45°	45°	45°
	Guideway type		Hard-Box	Hard-Box	Hard-Box	Hard-Box	Hard-Box	Hard-Box
Axis	X axis travel	mm	220	220	220	220	220	220
	Z axis travel	mm	500	750	1000	500	750	1000
	X/Z axis rapid traverse	m/min	15	15	15	15	15	15
Feed Rate	Max. cutting feed rate	m/min	8	8	8	8	8	8
Tailstock	Travel of tailstock quill	mm	100	100	100	100	100	100
	Taper of tailstock quill		MT5	MT5	MT5	MT5	MT5	MT5
Others	Overall dimension(L×W×H)	mm	3300×1700×2000	3520×1700×2000	3900×1700×2000	3300×1700×2000	3520×1700×2000	3900×1700×2000
	Weight(about)	kg	5400	5800	6700	5500	5900	6800

Note: "*"means optional.

STAR TN & TS SERIES

FULL RANGE OF X/Z/C 3-AXIS TURNING CENTERS

Turning Center
Turning Center for Short Parts

TS Feature a Compact Design – Without Tailstock

TS has the Same Performance as TN – At a Lower Price Point

Standard Features

- Hydraulic 3-jaw Chuck
- 12-station Power Turret
- Automatic Lubrication System
- Automatic Coolant System
- Tailstock (TN Series)
- Work and Alarm Light

Optional Features

- Tool Setter
- Chip Conveyor
- Live Tool Holders
- Different Chucks and Collets
- Servo Tailstock
- Bar Feeder
- Servo/Hydraulic Steady Rest
- Static or Live tools under Turret (TS400, TS500)





Machine Characteristics

TN and TS are turning centers able to flexibly handle various workpieces. The models feature Belt-Driven or Direct Driven Spindle (Built-in Motor) that achieves high speed with great rigidity, and outstanding C axis accuracy. 12-station Power turret enables operators to perform machining of workpieces from simple to complex shaped components with one set up operation.

TS are models are without a tailstock for a more compact and economic design to satisfy short or disc type workpiece.



TN600-3000







TN500



Specifications

		Unit	TN500	TN500-450	TN500-650	TN500-1000	TN500-1600
Capacity	Chuck size	inch	8	8	8	8, *10	8,*10
	Max. length of workpiece	mm	500	450	650	1000	1600
	Max. swing dia. over bed	mm	Φ500	Φ550	Φ600	Φ620	Φ600
	Max. swing dia. over slide	mm	Φ280	Φ360	Φ360	Φ380	Φ460
Spindle	Spindle bore	mm	Φ66	Φ66	Φ66	Φ66	Φ66
	Max. dia. of through-hole	mm	Φ52	Φ52	Φ52	Φ52	Φ52
	Spindle nose	-	A2-6	A2-6	A2-6	A2-6	A2-6
	Max. spindle speed	rpm	4000	4000	4000	4000	4000
	Motor(S2-30min/S1)	kW	27/18.5 (Built-in)	27/18.5 (Built-in)	27/18.5 (Built-in)	27/18.5 (Built-in)	27/18.5 (Built-in)
Axis	X axis travel	mm	260	250	250	250	250
	Z axis travel	mm	400, *500	450	650	1000	1600
	X/Z axis rapid traverse	m/min	20/20	20/20	20/20	20/20	20/20
Turret	No. of tool stations	nos	12	12	12	12	12
	Tool shank size		VDI30, *BMT45	BMT45, *BMT55	BMT45, *BMT55	BMT55	BMT55
	Max. speed of driving tool	rpm	4000, *5000	4000, *5000	4000, *5000	4000, *5000	4000, *5000
Tailstock	Type of tailstock	_	Hydraulic, *HPT	Hydraulic, *HPT, *SPT	SST, *SPT	SST, *SPT	SST, *SPT
	Taper of tailstock quill	_	MT4	MT5, *MT3	MT5, *MT3	MT5, *MT3	MT5, *MT3
	Travel of tailstock	mm	100-500	100-500	100-650	100-1000	100-1600
Others	Slant bed degree	_	35°	35°	35°	35°	35°
	Guideway type	_	LM	LM	LM	LM	LM
	Overall dimension(L×W×H)	mm	2750×1800×1900	2860×2200×2200	2960×1950×2200	3500×1950×2200	4100×2200×2350
	Weight(about)	kg	4800	5400	5500	6500	8300

Note: "*"means optional. "LM" means linear motion guideway. Tailstock: "Hydraulic" means automatic hydraulic driven tailstock sleeve.
" HPT" means linear motion guide way, automatic hydraulic driven body move tailstock. "SST" means small spindle hydraulic tailstock.
" SPT" means servo programmable tailstock.

Specifications

		Unit	TN600	TN600-3000		TN700	TN800		TS400	TS500	TS600
Capacity	Chuck size	inch	10,*12	10,*12		15	18, *15		6	8	10
	Max. length of workpiece	mm	700, *900, *1700	3000		1250,*1700	650,*900,*1400, *1900		320	320	400
	Max. swing dia. over bed	mm	Φ620	Φ600		Φ620	Φ800		Φ400	Φ550	Φ600
	Max. swing dia. over slide	mm	Φ360	Φ360		Φ360	Φ600		Φ200	Φ250	Φ400
Spindle	Spindle bore	mm	Φ86	Φ86	*105	Φ105	Φ110	*Φ120	Φ55	Φ66	Φ86
	Max. dia. of through-hole	mm	Φ75	Φ75	*91	Φ91	Φ95	*Φ110	Φ46	Φ52	Φ75
	Spindle nose	-	A2-8	A2-8	*A2-8	A2-8	A2-11	*A2-11	A2-5	A2-6	A2-8
	Max. spindle speed	rpm	3000	3000	*2000	2000	1500	*1000	5000	4000	3000
	Motor(S2-30min/S1)	kW	18.5/15,*45/37(Built-in)	18.5/15,*45/37(Built-in)		18.5/15,*45/37(Built-in)	18.5/15, *45/37(Built-in)		15/11 (Built-in)	27/18.5(Built-in)	18.5/15,*45/37(Built-in)
Axis	X axis travel	mm	280	300		300	380		250	250	280
	Z axis travel	mm	700, *900,*1800	3300		1250, *1700	650,*900,*1400, *1900		320	320	400
	X/Z axis rapid traverse	m/min	20/20	20/20		15/20	15/20		20/20	20/20	20/20
Turret	No. of tool stations	nos	12	12		12	12		12	12	12
	Tool shank size		BMT55, *VDI40	BMT55		BMT65	BMT65		VDI30, *BMT45	VDI30, *BMT45	VDI40, *BMT55
	Max. speed of driving tool	rpm	4000, *5000	4000, *5000		4000, *5000	4000, *5000		4000, *6000	4000, *6000	4000, *5000
Tailstock	Type of tailstock	-	Hydraulic, *SPT,*HPT	Hydraulic, *SPT		SST-LM, *SPT	SST-LM, *SPT		-	-	-
	Taper of tailstock quill	-	MT5	MT5		MT5	MT5		-	-	-
	Travel of tailstock	mm	100-750, *1000, *1700	3000		100-1250, *1700	100-650,*900,*1400, *1900		-	-	-
Others	Slant bed degree	-	35°	35°		45°	45°		35°	60°	35°
	Guideway type	-	LM	LM		LM	LM		LM	LM	LM
	Overall dimension(L×W×H)	mm	TN600-700/900: 3350/3750×1950×2350 TN600-1700: 5150×2070×2150	6620×1950×2010		4550×2270×2550	3900×2200×2550		2500×1600×1900	2600×1750×2050	2700×1720×2120
	Weight(about)	kg	5600/6600/9200	12300		10500	8000		3400	4200	4700

Note: "*"means optional. "LM" means linear motion guideway. Tailstock: "Hydraulic" means automatic hydraulic driven tailstock sleeve. " HPT" means linear motion guide way, automatic hydraulic driven body move tailstock.
"SST" means small spindle hydraulic tailstock," SPT" means servo programmable tailstock. Programmable steady rest is available on TN500-1600, Ts500 is able to put BT30/40 spindle type live tool below turret to realize heavy milling.
37/45kW Motorized Spindle is N/A for Fanuc, belt driven spindle is an option for all machine model standard with motorized spindle.

STAR DT SERIES

FULL RANGE OF X/Z/C/Y 4-AXIS TURNING CENTERS

Dual Processes Turning Center With Y Axis

Standard Features

- Hydraulic 3-jaw Chuck
- 12 station BMT Power Turret
- Y Axis
- Hydraulic Tailstock
- Work Light
- 3-Color Alarm Light
- Automatic Lubrication System
- Automatic Coolant System

Optional Features

- Different Chucks and Collets
- Different CNC Control Systems
- Different Spindle Bore Diameters
- Chip Conveyor
- Tool Setter
- Servo Tailstock
- Servo/Hydraulic Steady Rest



Machine Characteristics

Z-MaT DT series turning centers provide DDS spindle or Belt spindle units, Driven tool turret and Y axis features. This Series extremely extends machining capability for combining turning and off center milling. With Y axis, customers can replace more than 90% secondary machining process by milling machine for turned parts. It will save the labor time, increase accuracy and efficiency.
Thanks for mass production, Z-MaT work hard to make every customer own an excellent turning center at an affordable price. You don't need 1 CNC lathe and 1 milling/drilling/tapping machine any more. In most instances, one unit of DT series turning center solves all your problems in one setup.

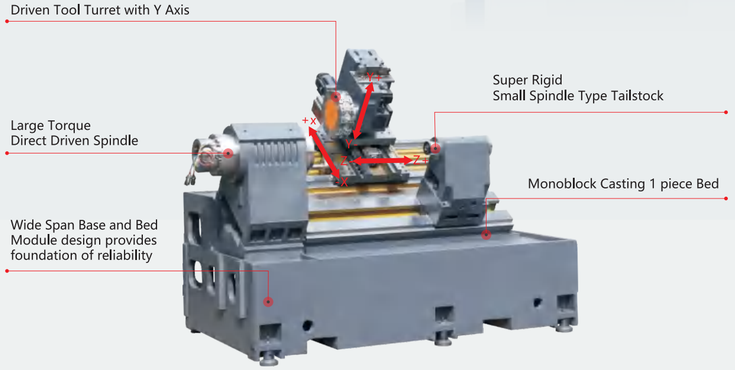
DT300E DT350E DT400E DT450E DT500E











Remark: DT500E frame, DT350E/DT400E/DT450E is similar.

Specifications

		Unit	DT300E	DT350E	DT400E	DT450E	DT500E-450	DT500E	DT500E-1000	DT500E-1500
Capacity	Hydraulic chuck	inch	6	6	6	8	8	8	8	8
	Max. length of workpiece	mm	250	320	320	450	450	650	1000	1500
	Max. swing dia. over bed	mm	Φ500	Φ500	Φ500	Φ600	Φ600	Φ600	Φ600	Φ600
	Max. swing dia. over slide	mm	Φ250	Φ300	Φ350	Φ380	Φ460	Φ460	Φ460	Φ460
	Standard turning dia.	mm	Φ160	Φ160	Φ160	Φ210	Φ320	Φ320	Φ320	Φ320
Spindle	Dia. of spindle bore	mm	Φ55	Φ55	Φ55	Φ66	Φ66	Φ66	Φ66	Φ66
	Max. dia. of through-hole	mm	Φ46	Φ46	Φ46	Φ52	Φ52	Φ52	Φ52	Φ52
	Spindle nose		A2-5	A2-5	A2-5	A2-6	A2-6	A2-6	A2-6	A2-6
	Max. spindle speed	rpm	5000	5000	5000	4000	4000	4000	4000	4000
	Motor(S2-30min/S1)	kW	15/11	15/11	15/11	27/18.5	27/18.5	27/18.5	27/18.5	27/18.5
Structure	Slant bed degree	degree	35°	45°	30°	35°	35°	35°	35°	35°
	Guideway type	mm	LM	LM	LM	LM	LM	LM	LM	LM
Axis	X axis travel	mm	300 (+200 -100)	150	210	220	230	230	230	230
	Z axis travel	mm	250	320	320	450	650	1000	1000	1500
	Y axis travel	mm	70 (±35)	70 (±35)	70 (±35)	100 (±50)	100 (±50), *140 (±70)	100 (±50), *140 (±70)	140 (±70)	140 (±70),*140 (±50)
	X/Z/Y axis rapid traverse	m/min	20/20/12	20/20/12	20/20/12	20/20/12	20/20/12,*7	20/20/12,*7	20/20/12,*7	20/20/12,*7
Turret	Type of turret		BMT40	BMT40	BMT40	BMT45	BMT45,*BMT55	BMT45,*BMT55	BMT55, *BMT65	BMT55, *BMT65
	No. of tool		12	12	12	12	12	12	12	12
	OD tool shank size	mm	20×20	20×20	20×20	20×20	20×20 *25×25	20×20 *25×25	25×25	25×25
	Boring tool shank size	mm	Φ25	Φ25	Φ25	Φ32	Φ32, *Φ40	Φ32, *Φ40	Φ40	Φ40
	Max. speed of live tooling	rpm	4000	4000	4000	4000, *5000	4000, *5000	4000, *5000	4000, *5000	4000, *5000
Tailstock	Type of tailstock		-	Hydraulic, *SST	*Hydraulic	Hydraulic	SPT, *SST	SPT, *SST	SPT, *SST	SPT, *SST
	Taper of tailstock quill		-	MT4	*MT4	MT4	MT3(spindle unit type)	MT3(spindle unit type)	MT3(spindle unit type)	MT3(spindle unit type)
	Travel of tailstock	mm	-	320	*350	450	100-450	100-650	100-1000	100-1500
Others	Overall dimension (L×W×H)	mm	2230×1545×2105	2405×1665×2190	2365×1895×2145	2750×1795×2350	3100×2050×2350	3100×2050×2350	3600×2050×2350	4200×2050×2350
	Weight (about)	kg	2800	3500	3900	4900	5300	5600	6100	9000

Note: "*"means optional. "LM" means linear motion guideway. Tailstock: "Hydraulic" means automatic hydraulic driven tailstock sleeve.
" HPT" means linear motion guide way, automatic hydraulic driven body move tailstock. "SST" means small spindle hydraulic tailstock.
" SPT" means servo programmable tailstock.
" DT500E-1500" is special purpose design for slim shaft workpiece standard with programmable steady rest and servo programmable tailstock.

DUAL-SPINDLE SERIES



TURNING CENTER TC500



Advanced 45 Degree Cross Y Axis

The TC500 adopts an advanced 45 degree Y axis structure which is the fundamental performance of rigidity and compactness.
The TC500 offers a standard chuck size of 8 inches for spindle 1 and 6 inches for spindle 2. The sub spindle specification enables continuous machining of both surfaces.
The combination of driven live tools and Y-axis function enables integrated machining from turning to secondary/back face machining, and multi-axis interpolation machining, allowing for process integration.
The model provides 2- axis turning, and Y axis milling with various spindle and turret options. Customers can choose a "one-of-a-kind machine" that flexibly meets their own needs.

Specifications

		Unit	TC500	TC500MYT-650
Capacity	Max. turning diameter	mm	Φ320	Φ320
	Max. length of workpiece	mm	400	650
	Max. swing dia. over slide	mm	Φ400	Φ400
	Max. swing dia. over bed	mm	Φ460	Φ460
Spindle	Hydraulic chuck / Collet chuck	Inch	8	8
	Diam. of spindle bore	mm	Φ66	Φ66
	Max. diam. of through-hole	mm	Φ52	Φ52
	Spindle nose		A2-6	A2-6
	Max. spindle speed	rpm	4000	4000
	Motor(S2-30min/S1)	kW	27/18.5	27/18.5
Sub-Spindle	Hydraulic chuck	inch	6	N/A
	Diam. of spindle bore	mm	Φ55	N/A
	Max. diam. of through-hole	mm	Φ46	N/A
	Spindle nose		A2-5	N/A
	Max. spindle speed	rpm	5000	N/A
	Motor(S2-30min/S1)	kW	15/11	N/A
Axis	X axis travel	mm	180	180
	Z axis travel	mm	400	650
	B axis travel	mm	400	N/A
	Y axis travel	mm	100 (±50)	100 (±50)
Feed Rate	X/Z1/Z2/Y axis rapid traverse	m/min	18/30/30/10	18/30/N/A/10
	X/Z1/Z2/Y axis ballscrew	mm	32×P08 / 32×P10 / 32×P10 / 32×P06	32×P08 / 32×P10 / N/A / 32×P06
	Cutting feed rate	m/min	10	10
Turret	Type of turret		BMT55	BMT55
	No. of tool		12	12
	OD tool shank size	mm	25×25	25×25
	Boring tool shank size	mm	Φ40	Φ40
	Live tooling motor	kW	3.7/5.5	3.7/5.5
	Max. speed of live tooling	rpm	5000	5000
*Tailstock	Type of tailstock		Servo programmable	Hydraulic
	Taper of tailstock quill		MT5	MT5
	Travel of tailstock	mm	80-400	80-650
Others	Overall dimension (L×W×H)	mm	2980×1910×2130	3100×1900×2250
	Weight (about)	kg	5400	5900

Note: "*" means optional TC500MYT-650 is not equipped with dual spindle function



TC500MYT-650

TC500



Note:TC500 Frame

DUAL-SPINDLE DT500E-S/TN500-S/STL8-S SERIES

Machine Characteristics

Standard with cylindrical roller heavy duty linear motion guideways, pre-loaded high class ballscrew, NSK Bearings, DDS spindle and centralized oil lubrication. DT500E-S/TN500-S/STL8-S are modular designed and manufactured using only the best parts and materials to handle maximum capacities with ease.

Standard Features

- Hydraulic 3-Jaw Chuck
- 12 Stations BMT Turret
- Sub Spindle
- Work Light
- 3-Color Alarm Light
- Automatic Lubrication System
- Automatic Coolant System

Optional Features

- Different Chucks and Collets
- Different CNC Control Systems
- Different Spindle Bore Diameters
- Chip Conveyor(Right or Rear side)
- Tool Setter
- Bar Feeder
- Gantry Robot



Integrated Automation Option

Double spindles offer capacity to machine from raw material to finished parts in one set-up. Together with automatic loading system-gantry arm or industry robot, this series machines are able to realize single machine integrated automation with great reliability and super efficiency.

STL8-S







DT500E-S

Specifications

		Unit	STL8- S	TN500- S	TN500S- 900	TN500S- 1500	DT500E- S	DT500ES- 900	DT500ES- 1500
Capacity	Max. turning diameter	mm	Φ320	Φ320	Φ320	Φ320	Φ320	Φ320	Φ320
	Max. length of workpiece	mm	650	650	900	1500	620/550	900	1500
	Max. swing dia. over bed	mm	Φ600	Φ600	Φ600	Φ600	Φ650	Φ650	Φ650
	Max. swing dia. over slide	mm	Φ360	Φ360	Φ360	Φ360	Φ460	Φ460	Φ460
Spindle	Hydraulic chuck	Inch	8	8	8	8	8	8	8
	Dia. of spindle bore	mm	Φ66	Φ66	Φ66	Φ66	Φ66	Φ66	Φ66
	Max. dia. of through-hole	mm	Φ52	Φ52	Φ52	Φ52	Φ52	Φ52	Φ52
	Spindle nose		A2-6	A2-6	A2-6	A2-6	A2-6	A2-6	A2-6
	Max. spindle speed	rpm	4000	4000	4000	4000	4000	4000	4000
	Motor(S2-30min/S1)	kW	27/18.5	27/18.5	27/18.5	27/18.5	27/18.5	27/18.5	27/18.5
Sub Spindle	Hydraulic chuck		6	6	6	6	6	6	6
	Dia. of spindle bore	mm	Φ55	Φ55	Φ55	Φ55	Φ55	Φ55	Φ55
	Max. dia. of through-hole	mm	Φ46	Φ46	Φ46	Φ46	Φ46	Φ46	Φ46
	Spindle nose		A2-5	A2-5	A2-5	A2-5	A2-5	A2-5	A2-5
	Max. spindle speed	rpm	5000	5000	5000	5000	5000	5000	5000
	Motor(S2-30min/S1)	kW	15/11	15/11	15/11	15/11	15/11	15/11	15/11
Axis	X axis travel	mm	250	250	250	250	200	200	200
	Z/B axis travel	mm	620	620	900	1500	550,*620	900	1500
	Y axis travel	mm	N/A	N/A	N/A	N/A	140 (±70)	140 (±70)	140 (±70)
	X axis rapid traverse	m/min	20	20	20	20	20	20	20
	Z axis rapid traverse	m/min	20	20	20	20	20	20	20
	Y axis rapid traverse	m/min	N/A	N/A	N/A	N/A	12,*7	12,*7	12,*7
Turret	Type of turret		BMT55	BMT55	BMT55	BMT55	BMT55	BMT55	BMT55
	No. of tool		12	12	12	12	12	12	12
	OD tool shank size	mm	25×25	25×25	25×25	25×25	20×20, *25×25	20×20, *25×25	20×20, *25×25
	Boring tool shank size	mm	40	Φ40	Φ40	Φ40	Φ40	Φ40	Φ40
	Max. speed of live tooling	rpm	N/A	4000,*6000	4000,*6000	4000,*6000	4000,*6000	4000,*6000	4000,*6000
	Boring depth of sub spindle	mm	120	120	120	120	120, *90	120, *90	120, *90
Structure	Slant bed degree	degree	35°	35°	35°	35°	35°	35°	35°
	Guideway type		LM	LM	LM	LM	LM	LM	LM
Others	Overall dimension (L×W×H)	mm	3020×1950×2200	3020×1950×2200	3500×1950×2200	4000×1950×2200	3100×2050×2350	3600×2050×2350	4200×2050×2350
	Weight (about)	Kg	5600	5800	6500	8300	6000	7300	8500

Note: "*" means optional

DUAL SPINDLE TURNING CENTER TN400-SX/DT400-SX/STL6-SX

Sub-Spindle Coupling Machining Function

The TN400-SX/DT400-SX/STL6-SX use its sub-spindle to follow the movements of the main spindle, in order to perform on both sides of a workpiece simultaneously, while also using the program coupling between X1/Z1 and X2/Z2 coordinate system to synchronize theirmovements.

- One-piece moulding 45° inclined bed, precision large specification linear roller guide rail, large span layout, stable structure, strong rigidity and good accuracy retention.
- Precision high-speed electric main and sub spindle A2-5 with NSK bearings can get the optimal combination of high precision, high load capacity, high speed and long-lasting durability.
- 12 station power turret-BMT55 turret is used on left drag plates of the machine. The turret has short tool change time and high positioning accuracy, which is conducive to the improvement of machining accuracy.



Machine Characteristics

45 ° overall inclined bed layout, main and sub spindle single power turret, dual spindle automatic docking turning and milling composite function, sub spindle with X-axis function. The system adopts the load-bearing coupling function programming to achieve the positive and vice spindle simultaneous machining. It significantly shorten the time of the product left and right end of the machining, with a strong integrated machining to solve the problem.

01 45° Integral Inclined Bed

02 A2-5 High-precision Electric Spindle

03 Coupling Function of Main and Sub-spindles

04 Turning and Milling Composite Function

05 Servo Turret / Power Turret(DT400-SX with Y-axis)



Note: TN400-SX Frame

Standard Features

- Hydraulic 3-Jaw Chuck
- 12 Stations BMT Turret
- Sub Spindle
- Work Light
- 3-Color Alarm Light
- Automatic Lubrication System
- Automatic Coolant System

Optional Features

- Different Chucks and Collets
- Different CNC Control Systems
- Different Spindle Bore Diameters
- Chip Conveyor(Right or Rear side)
- Tool Setter
- Bar Feeder
- Gantry Robot



TN400-SX



Specifications

		Unit	TN400-SX	DT400-SX	STL6-SX
Capacity	Standard turning diameter	mm	Φ160	Φ160	Φ160
	Maximum turning length	mm	400	400	400
	Max swing diameter over bed	mm	Φ240	Φ240	Φ240
	Max swing diameter over slide	mm	Φ240	Φ240	Φ240
Spindle	Maximum speed of main spindle and sub-spindle	rpm	5000/5000	5000/5000	5000/5000
	Taper hole of main spindle and sub-spindle		MT6	MT6	MT6
	Spindle bore of main spindle and sub-spindle	mm	55/55	55/55	55/55
	Spindle nose		A2-5/A2-5	A2-5/A2-5	A2-5/A2-5
	Bar capacity of main spindle and sub-spindle	mm	46/46	46/46	46/46
	Bearing of main spindle and sub spindle		3-7018/NN3015	3-7018/NN3015	3-7018/NN3015
	Motor(S2-30min/S1)	kW	15/11	15/11	15/11
Axis	X1/X2-axis travel	mm	170/300	170/300/Y:±50	170/300
	Z1/Z2-axis travel	mm	400/400	400/400	400/400
	Rapid traverse of the X1/X2/Z1/Z2 axis	m/min	20	20	20
	Maximum cutting feed speed	m/min	8	8	8
Turret	No. of tool stations	nos	12	12	/
	Tool shank size		BMT55	BMT55	/
	Max. speed of driving tool	rpm	4000, *6000	4000, *6000	/
Others	Overall dimensions (L×W×H)	mm	2700×2000×2220	2700×2000×2400	2700×2000×2220
	Weight of machine tool (net)	kg	5800	6000	5600

Note:"*" means optional.

DUAL-SPINDLE AUTOMATION DA SERIES

Dual Spindle Automation
Design and Build for Mass Production



DA66-G

Moveable Spindle＋Moveable Spindle

Together with robot or auto loading system, Z-MaT dual-spindle turning machine could realize two channels machining, a complete advanced automation on one single machine.

1 Main and Sub-Spindles

Both spindles adapt servo high-speed motors or DDS spindle options. This level of speed and synchronization assures total process accuracy and efficiency.
Workpieces are exchanged from main to sub spindle and work in two separate working channels, which tremendously increases productivity.

2 Center-Mounted Ball Screw

Center mounted ball screws along with quality pre-loaded bearing assemblies assures optimal power transmission, speed and accuracy.

3 Heavy Linear Guideways

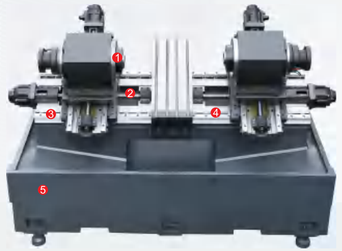
Extra heavy linear guides and rails, couples with wide way spacing producing superior rigidity. Two crossed slides and symmetry structure design meet both rigidity and efficiency.

4 Slant Bed Design

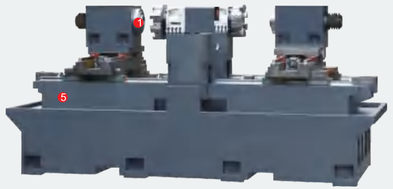
30° slant bed layout provides a reliable, efficient structure. Optimal chip removal is accomplished. Provides easy operator access – an important consideration for dual spindle set-ups and operation.

5 Mono-Block Casting

Lathe bed and machine base are produced in a single cast unit. This heavy, quality cast structure provides a strong foundation for operations that require high-speed yet smooth, multiple axis movements and direction changes.
Wide span base and bed are in a one piece casting.
This solid base guarantees great reliability.



Note: DA66-G Frame



Note: DA88-T Frame

Specifications

	DA66-G	DA88-T
Bed structure	30°	0° Flat
Max. machining dia.	Φ160mm	Φ320mm
Standard machining dia.	Φ100mm	Φ200mm
2 spindles type	A2-5	A2-6, *A2-8
2 spindles taper	MT6	1:20
2 spindles X/Z axis travel	370mm/200mm	280mm/300mm
2 spindles X/Z rapid traverse	15/15 m/min	15/15 m/min
2 spindles bore	Φ55mm	Φ62mm
2 spindles bar capacity	Φ46mm	Φ52mm
2 spindles speed	4500rpm	2000, *4000rpm
2 spindles chuck/collet	6" Hydraulic chuck/ Hydraulic collet	Left: 8" Hydraulic chuck/ Right: Hydraulic collet
2 motor(S2-30min/S1)	15/11 kW	15/11 kW
2 turrets type	Gang type	8-Station turret
Overall dimension(L×W×H)	2620×1750×2050	3910×1850×2100
Weigh (about)	4000kg	5600kg

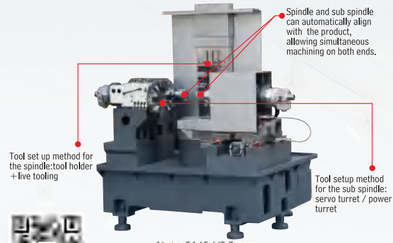
DUAL-SPINDLE AUTOMATION SA28-S/SA45-VS SERIES

SA28-S Fixed Spindle & Movable Spindle

Meet the new low cost option for dual-spindle machining. Advantages of dual-spindle/turret machining centers include:

- One machine is cheaper than two
- More accurate when a machining process is accomplished on a single machine, rather than moving the part from machine to machine.
- Lower labor cost due to reduced set-up requirements.

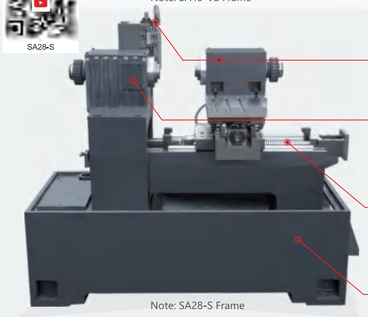
SA45-VS



Note: SA45-VS Frame



SA28-S



Note: SA28-S Frame

Secondary Spindle Options

X axis secondary spindle is mounted on the machine carriage.
Y axis spindle is mounted on the side of headstock.

Main Spindle Options

Highly rigid frame structure with wide span provides high stability and heavy carrying capacity.

Center-Mounted Ball Screw

Center mounted ball screw eliminates torque – increasing speed and efficiency. Dual, pre-loaded bearing structures support ball screw for optimal transmission accuracy.

Stable Base Structure

Machine base and bed are one-piece casting, mono-block design. This provides optimal rigidity and accuracy.

Specifications

	Unit	SA45-VS
Standard turning dia.	mm	Φ160
Max turning length	mm	180
Max swing dia. over bed	mm	Φ260
Max swing dia. over slide	mm	Φ200
X1/X2-axis travel	mm	350/210
Z1/Z2-axis travel	mm	180/180
*Y-axis travel(Optional)	mm	*±35
Rapid traverse of the X1/X2/Z1/Z2 axis	m/min	20
Max cutting feed speed	mm/min	8000
B-axis travel		/
Max speed of spindle&sub-spindle	rpm	5000/6000
Taper hole of spindle&sub-spindle		MT6/49(1:20)
Through hole dia. of spindle&sub-spindle	mm	55/*46
Head form of spindle&sub-spindle		A2-5/A2-4
Pull tube through hole of spindle&sub-spindle	mm	46/*36
Motor of spindle&sub-spindle(S2-30min/S1)	kw	7.5/5.5
Rated torque of spindle&sub-spindle	N.M	42/17.5
Dimension(L×W×H)	mm	2360×1950×2000
Weight (about)	kg	3800

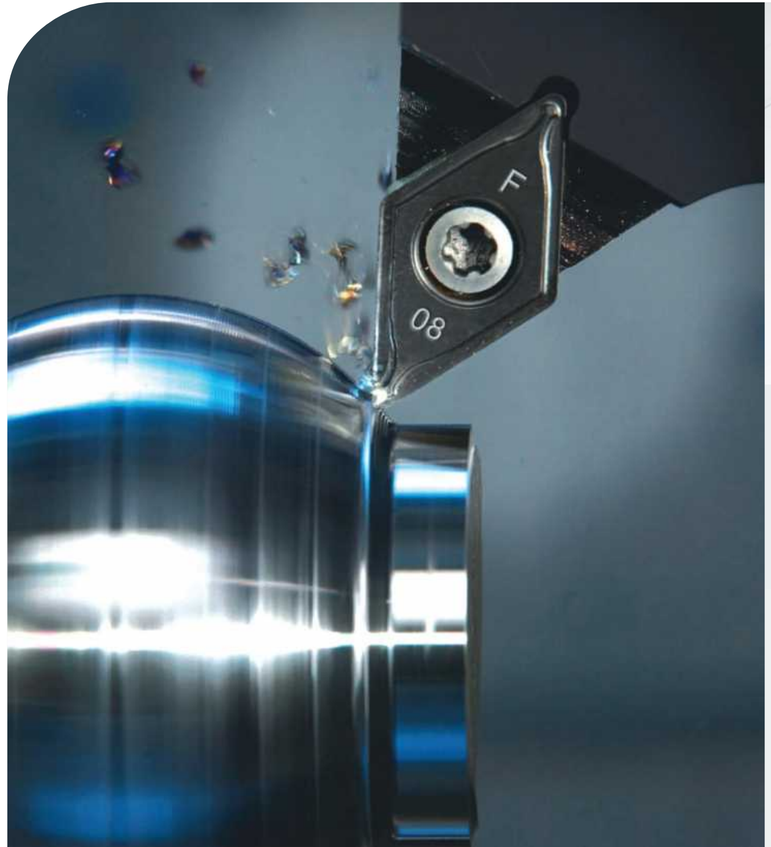
Specifications

	SA28-S	
Standard machining dia.	Φ40mm	
Max. rod dia.	Φ28mm	
X axis travel	350mm	
Z axis travel	200mm	
Y axis travel	80mm	
X/Z rapid traverse	15/15 m/min	SUB-SPINDLE
Spindle bore	Φ37mm,*Φ48mm	Φ37mm
Spindle bar capacity	Φ28mm,*Φ40mm	Φ28mm
Spindle speed	3000rpm	3000rpm
Spindle chuck/collet	Hydraulic collet	Hydraulic collet
Spindle turret type	Gang type tools, *8-Station turret	Gang type tool
Spindle Motor(S2-30min/S1)	5.5/3.7kW	3.7/2.2kW
Spindle type	Φ68mm	
Spindle taper	39°, *42°	
Dimension(L×W×H)	2130×1530×1750mm	
Weight	2300kg	

FLASH FAMILY TURNING CENTERS

FLASH SL/ FL/ FTL SERIES

The FLASH family of CNC lathes were designed with speed and accuracy in mind. FLASH CNC lathes feature both slant bed and flat bed designs. The SL and FL series lathes are typically set-up for gang tool operations – optimal for high speed, low-cost turning requirements. Live tooling, turrets and various chuck options are easily added. The FTL series includes a tailstock for addedfunctionality.



FLASH SL SERIES

Slant Bed with Linear Guideway

SL280/SL340/SL350/SL400/SL450/SL580

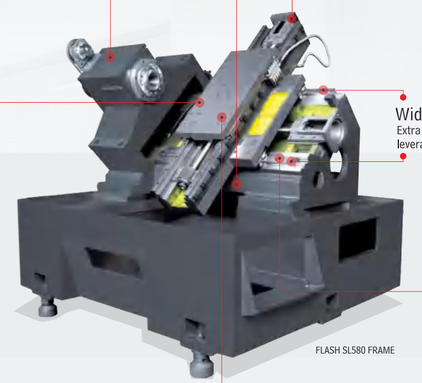
The Beauty of Speed and Accuracy

Slant Bed

"True Align" slant bed design increases machine accuracy. Slant bed design increases operator efficiency during tooling set-ups and optimizes the flow of chips and coolant.

Symmetrical Headstock

The main spindle design is based on the concept of "Bilateral Symmetry". The major benefit of this design is the elimination of heat expansion at higher speeds. This assures high accuracy and rigidity on all SL turning centers – while performing both forward and reverse turning operations.



FLASH SL580 FRAME

580mm X Axis Travel

Generous X axis travel, coupled with an extra-large work table allows for maximum tooling options – including live tooling or high-speed turret.

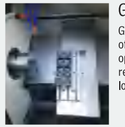
Wide Spaced Linear Guideways

Extra wide spacing between linear guideways adds leverage – even during heavy cuts. This assures greater rigidity and accuracy.



Sleeve-type Follow Rest

Longer parts requiring only simple turning operations can be machined accurately with good repeatability using the optional table-mounted follow rest. This option supports small shaft parts working like a Swiss-type CNC lathe - with the assurance of comparable, or better accuracy and repeatability.



Gang Plate and Tooling

Gang type tools allow for a broad selection of tooling – allowing for more turning operations and reduced cycle time. The results often mean more parts made at the lowest price possible.



28M/M Rapid Feed Rate (Model SL280/SL340)

High quality components like Bosch Rexroth linear guideways and PMI ball screws assure extra high rapid feed speeds. Quality components also provide for higher accuracy, lower operating costs and minimal maintenance requirements.

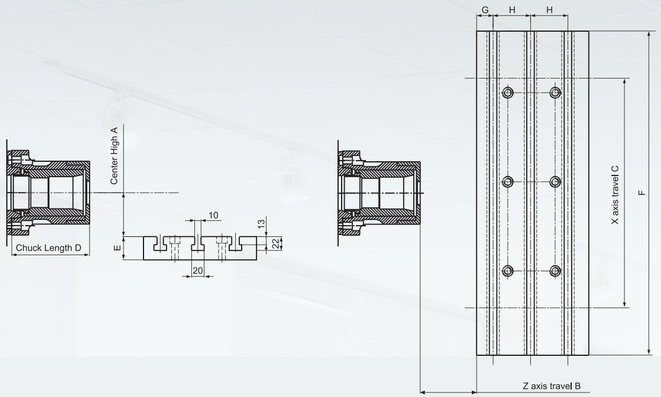


Note: SL280, SL340, SL350, SL400, SL450' s base and bed are one-piece casting, monoblock design.

FLASH SL FEATURES

Chuck/Table Interface Diagrams

Flash SL series are standard with gang type tools and collet chuck, which offers infinite space for the creative application engineers. Users can design their own type tool holders and fixtures to optimize their production. The chuck/table interference diagrams will help you to calculate the machining capacity after changing different clamping and holding systems.



Model	Spindle Nose	Clamping Type	Center Hight A	Z Axis Travel B	X Axis Travel C	Length Of Chuck D	Slide Table Thickness E	Slide Table Length F	Distance From First Slot G	Slot Pitch H
SL280	A2-5	Z-MaT collet	72mm	240mm	280mm	113.5mm	37mm	520mm	26mm	60mm
		173E collet	72mm	225mm	280mm	127mm	37mm	520mm	26mm	60mm
		6" chuck	72mm	210mm	280mm	137mm	37mm	520mm	26mm	60mm
SL340	A2-5	Z-MaT collet	56mm	200mm	340mm	113.5mm	37mm	520mm	26.5mm	60mm
		173E collet	56mm	185mm	340mm	127mm	37mm	520mm	26.5mm	60mm
		6" chuck	56mm	170mm	340mm	137mm	37mm	520mm	26.5mm	60mm
SL350	A2-5	Z-MaT collet	72mm	300mm	350mm	87.5mm	37mm	520mm	26.5mm	60mm
		173E collet	72mm	250mm	350mm	127mm	37mm	520mm	26.5mm	60mm
		6" chuck	72mm	235mm	350mm	137mm	37mm	520mm	26.5mm	60mm
SL450	A2-5	Z-MaT collet	80mm	450mm	450mm	113.5mm	40mm	610mm	35mm	60mm
		173E collet	80mm	435mm	450mm	127mm	40mm	610mm	35mm	60mm
		6" chuck	80mm	420mm	450mm	137mm	40mm	610mm	35mm	60mm
SL580	A2-5	Z-MaT collet	53mm	320mm	580mm	113.5mm	48mm	700mm	26mm	60mm
		173E collet	53mm	305mm	580mm	127mm	48mm	700mm	26mm	60mm
		6" chuck	53mm	290mm	580mm	137mm	48mm	700mm	26mm	60mm

Reconsidering the Obvious

Perfect Combination Unsurpassed Productivity

Linear Guideway

- Higher accuracy and faster speeds than ordinary box ways.
- No adjusting–Maintenance free and very accurate.

Gang Type Tooling

- No indexing - Direct contact with individual tool during each turning operation. Solid and Highly Accurate. Turrets and toolpost may lose accuracy each time a tool changes.
- Low failure rate – low maintenance compared to turret or tool post.

Linear guideway
+
Gang type tools



The machining accuracy can easily reach **<0.01mm**

Machining productivity **increase by 20-90%** than traditional Box guideway + Toolpost CNC lathe!

Most Flash Series models are standard with this perfect match





C Axis, Y Axis, and Live Tooling Options are Available on Most FLASH Series Lathes

Linear guideway
+
Gang type tools
+
C axis & live tooling

An Even Better Option!

Reliable and Economical
Turning – PLUS,
Milling,
Drilling & Tapping
True Multi-Task,
Multi-Operation Machining

FLASH SL SERIES

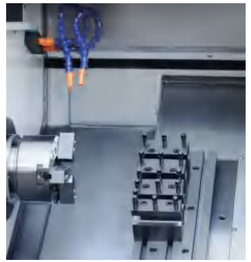
Slant bed, Linear guideway

Standard Features

- Hydraulic Collet
- Gang Type Tooling
- Ergonomic Operator Panel Design
- Automatic Lubrication System
- Automatic Coolant System
- Built-in Safety Features

Optional Features

- Different Chucks and Collets
- Different Control Systems
- Live Tooling
- Bar Feeder



Machine Characteristics

- Heat treated and annealed high quality cast iron base – provides a strong foundation for the high speed, highly accurate SL Series of CNC Lathes.
- True Slant Bed design is highly rigid and withstands heavy cutting forces.
- Slant bed also allows for easy operator access and efficient chip removal.
- The combination of high X/Z rapid speeds and gang tool set-up increases productivity tremendously. Highly accurate parts at the lowest cost.
- Quality machine at a value price – High volume production and good QC.



Specifications

		Unit	SL280				SL340			
Capacity	Chuck/collet		Hydraulic Collet *Hydraulic Chuck 6", *8"				Hydraulic Collet *Hydraulic Chuck 6", *8"			
	Max. swing dia. over bed	mm	Φ300				Φ300			
	Max. length of workpiece	mm	Collet 240, * Chuck 210				Collet 200, Chuck 170			
	Max. swing dia. over slide	mm	Φ140				Φ140			
Spindle	Spindle bore	mm	*Φ48	*Φ55	*Φ62	*Φ81	Φ48	*Φ55	*Φ62	
	Max. dia. of through-hole	mm	Φ40	*Φ46	*Φ52	*Φ70	Φ40	*Φ46	*Φ52	
	Spindle nose		A2-5	*A2-5	*A2-6	A2-8	A2-5	*A2-5	*A2-6	
	Max. Spindle speed	rpm	3000 *4500	*2500 *4500 *5000	*2000 *4000	*1600	3000 *4500	*2500 *4500 *5000	*2000 *4000	
	Motor(S2-30min/S1)	kW	5.5/3.7, *7.5/5.5				5.5/3.7, *7.5/5.5			
Axis	X travel	mm	280				340			
	Z travel	mm	240				200			
	X/Z rapid traverse	m/min	28				28			
Toolpost	Type		Gang type				Gang type			
	No. of tool stations	No.	4~6				4~7			
	OD tool and bore tool shank	mm	20×20 / Φ25				20×20 / Φ25			
Structure	Inclined bed degree		35°				35°			
	Guideway type		LM				LM			
Others	Dimensions (L×W×H)	mm	2050×1550×1750				2050×1550×1750			
	Weight(about)	kg	2300				2300			

Note: "*" means optional, "N/A" means not available, "LM" means linear motion guide way.

Full Range of Turning Machines

SL350

SL580





Specifications

		Unit	SL350		SL450		SL580			
Capacity	Chuck/collet		Hydraulic Collet *Hydraulic Chuck 6", *8"		Hydraulic Collet *Hydraulic Chuck 6", *8"		Hydraulic Collet *Hydraulic Chuck 6", *8"			
	Max. swing dia. over bed	mm	Φ420		Φ400		Φ380			
	Max. length of workpiece	mm	Collet 300, * Chuck300		Collet 430, * Chuck 400		Collet 320, * Chuck 290			
	Max. swing dia. over slide	mm	Φ140		Φ160		Φ160			
Spindle	Spindle bore	mm	Φ48	*Φ55	Φ55	*Φ62	Φ48	*Φ62	*Φ55	*Φ75
	Max. dia. of through-hole	mm	Φ40	*Φ46	Φ46	*Φ52	Φ40	*Φ52	*Φ46	*Φ65
	Spindle nose		A2-5	*A2-5	A2-5	*A2-6	A2-5	*A2-6	*A2-5	*A2-6
	Max. Spindle speed	rpm	3000 *4500	*2500 *4500 *5000	4500	*2000 *4000	3000 *4500	*2000 *4000	*2500 *4500 *5000	*2500
	Motor(S2-30min/S1)	kW	5.5/3.7, *7.5/5.5		7.5/5.5		7.5/5.5, *11/7.5			
Axis	X travel	mm	350		450		580			
	Z travel	mm	300		410		320			
	X/Z rapid traverse	m/min	28		25		20			
Toolpost	Type		Gang type		Gang type		Gang type			
	No. of tool stations	No.	5~8		5~9		6~10			
	OD tool and bore tool shank	mm	20×20 / Φ25		20×20 / Φ25		20×20 / Φ25			
Structure	Inclined bed degree		35°		45°		45°			
	Guideway type		LM		LM		LM			
Others	Dimensions (L×W×H)	mm	2050×1540×1880		2350×1760×2090		2400×1810×2050			
	Weight(about)	kg	2200		3500		3700			

Note: "*" means optional, "N/A" means not available, "LM" means linear motion guide way.



FLASH FL SERIES

Flat Bed with Linear Guideways

Machine Characteristics

- Linear Guideways are protected by stainless steel telescoping guards – provides maximum protection from chips and coolant and extended machine life.
- Center mounted ball screws are placed between the bed ways, minimizing side torque and friction. Provides cooler operation, better dynamic efficiency and longer life.
- Servo motors and drives on X/Z axes. Spindle can be driven by VFD or Servo.
- Various control systems, chucks and tool posts are available. Highly configurable to fit your needs.

The FL Series is produced at high volume in our factory- using world standard quality control processes. These facts contribute to the FL lathe's reputation in the world market for excellent quality at a reasonable price. We produce a great machine at a great price, and pass the savings on to you.

Customers report high satisfaction and high productivity with their FL Series CNC Turning Centers. That's why it's one of our best selling lathes!



Smart Design – and Powerful

This series allows high flexibility in tooling configurations. A wide range of gang type, turret, milling, and polygon tools can be combined to fit your specific part production task.

Various Spindle Options

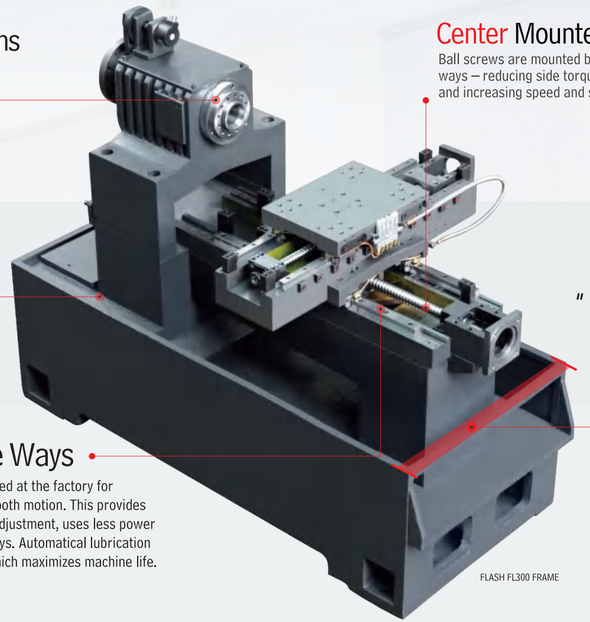
Different speeds, spindle bore and chuck options to match your needs

Center Mounted Ball Screws

Ball screws are mounted between the ways – reducing side torque and friction and increasing speed and service life.

1 – Piece

Mono-Block Casting



FLASH FL300 FRAME

" Bi-Laterally Symmetrical "

Complete bi-laterally symmetrical machine body and head stock design increases rigidity and stiffness in all movements of the machine. An added feature bonus is the compact dimensional casting, which keeps advanced performance in a smaller footprint.

Linear Motion Guide Ways

Linear guideway bearings are pre-loaded at the factory for maximum balance of accuracy and smooth motion. This provides axis movement that does not require adjustment, uses less power and will out-perform standard hard ways. Automatical lubrication system assures optimal lubrication, which maximizes machine life.

FLASH FL SERIES

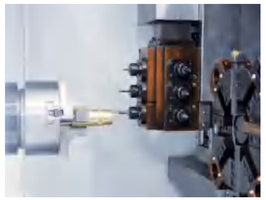
Flat bed, Linear guideway

Standard Features

- Manual 3-Jaw Chuck (For Swing >400mm)
- Hydraulic Collet (For Swing <400mm)
- Gang Type Tooling (For Swing <400mm)
- 4-Station Tool Post + Gang Plate (For Swing >400mm)
- Ergonomic Operator Panel Design
- Automatic Lubrication System
- Automatic Coolant System
- Built-in Safety Features

Optional Features

- Hydraulic Chucks
- Different Spring Collets
- Different Control Systems
- Live Tooling
- Bar Feeder
- 8-Station Turret (Available on FL300/ FL400/ FL500/ FL550/ FL630)





FL300

Full Range of Turning Machines

FL400 FL630







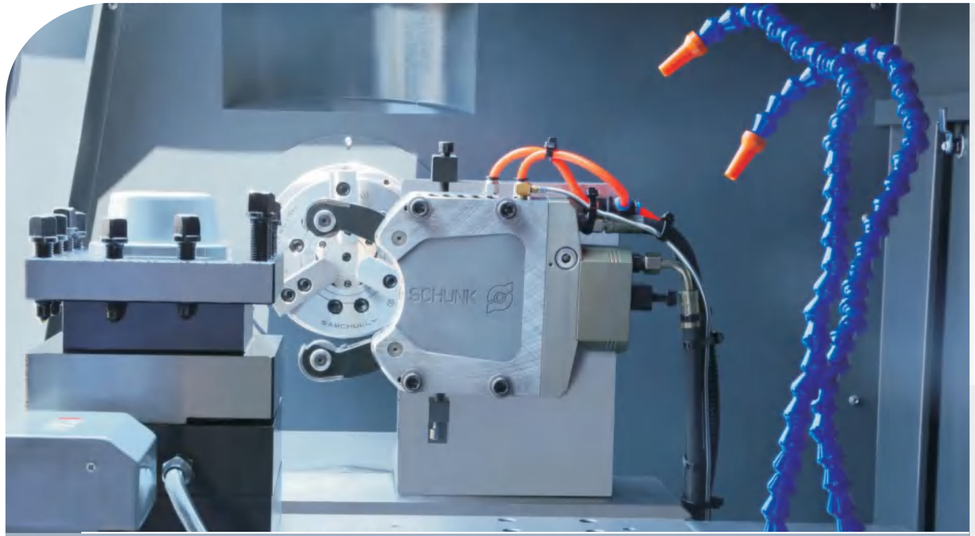


Specifications

		Unit	FL280	FL300		FL400		FL500		FL550	FL630
Capacity	Chuck/collet	type	Pneumatic collet * Hydraulic collet	Pneumatic collet *Hydraulic collet, *chuck 6"		Manual chuck 8" *Hydraulic chuck 8", *6"		Manual chuck 10" *Hydraulic chuck10", *8"		Manual chuck 12" *Hydraulic chuck 12"	Manual chuck 15" *Hydraulic chuck 15"
	Bed type/ guideway		Flat/LM	Flat/LM		Flat/LM		Flat/LM		Flat/LM	Flat/LM
	Max. swing dia. over bed	mm	Φ300	Φ300		Φ400		Φ500		Φ550	Φ650
	Max. length of workpiece	mm	250(collet),*165 (chuck)	300, 180(chuck) *260 (chuck)		320		500		500	430
	Max. swing dia. over slide	mm	Φ140	Φ140		Φ180		Φ360		Φ360	Φ380
Spindle	Spindle bore	mm	Φ48	Φ48	*Φ55 *Φ62	Φ62	Φ48	Φ81	*Φ62	Φ105	Φ120
	Max. dia. of through hole	mm	Φ41	Φ40	*Φ46 *Φ52	Φ52	Φ40	Φ70	*Φ52	Φ91	Φ110
	Spindle nose		A2-5	A2-5	*A2-5 *A2-6	A2-6	A2-5	A2-8	*A2-6	A2-8	A2-11
	Spindle speed	rpm	3000 *4500	3000 *4500	*2500 *2000 *4500 *4000 *5000	2000 *4000	3000 *4500	1600 *2500	*2000 *4000	1000 *2000	1000
	Motor(S2-30min/S1)	kW	5.5/3.7	5.5/3.7, *7.5/5.5		7.5/5.5		7.5/5.5,*11/7.5		11/7.5, *15/7.5	15/11, *18.5/15
Axis	X/Z travel	mm	280/250	350/300		380/350		260/500,*350/500		260/500, *350/500	350/500
	X/Z rapid traverse	mm/min	15/15,*25/25	25/15,*25/25		20/20		15/15		15/15	20/20
Toolpost	Type		Gang type *4-station toolpost	Gang type *4-station toolpost *8-station turret		4-station toolpost *8-station turret *Gang type tooling		4-station toolpost *8-station turret *Gang type tooling		4-station toolpost *8-station turret *Gang type tooling	4-station toolpost *8-station turret *Gang type tooling
	No. of tool stations	No.	4-6	4-10		4-10		4-10		4-10	4-10
Others	Dimensions (L×W×H)	mm	1980×1450×1800	2110×1600×1800		2200×1640×1940		2670×1360×1910		2650×1360×1800	2750×1460×1930
	Weight(about)	kg	1400	2000		2750		3500		3650	4000

Note: "*" means optional, "N/A" means not available, "LM" means linear motion guide way.

FLASH FTL SERIES

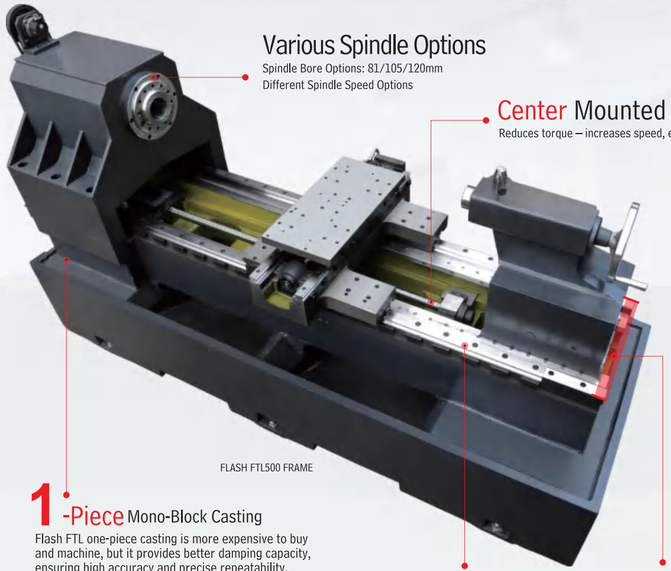


Machine Characteristics

- The tailstock is set on its own guide way, parallel to the main bed ways. This structure is highly rigid and accurate.
- Linear guideways are protected by telescoping stainless steel covers – maximizing ball screw protection and extending tool life.
- Center mounted ball screws eliminate torque – providing better dynamic properties and greater stability over the life of the machine.
- Servo drives on X/Z axes. Spindle can be driven by VFD or Servo.
- Various control systems, chucks and tool mounting systems are available.

The World's First and Best Design

You will be hard pressed to find another linear guide way type CNC lathe that has a center mounted ball screw and stainless covers over the full length of the ball screw and guide ways. This unique, Z-MaT patented design provides the perfect combination of long-term speed, accuracy and repeatability for a CNC lathe of this size and design.



Various Spindle Options

Spindle Bore Options: 81/105/120mm
Different Spindle Speed Options

Center Mounted Ball Screw

Reduces torque – increases speed, efficiency, accuracy and machine life.

FLASH FTL500 FRAME

1-Piece Mono-Block Casting

Flash FTL one-piece casting is more expensive to buy and machine, but it provides better damping capacity, ensuring high accuracy and precise repeatability.

Heavy-Duty Linear Guideways

Heavy roller and ball-type linear guideways were selected for this heavy duty machine – so it has the efficiency advantages of linear guides, but also can compete with box ways for stability during heavy cutting operations.

500mm Wide Machine Base

Extra wide machine base adds mass and stability to this heavy-duty lathe designed for heavy-duty turning operations.

Various option features



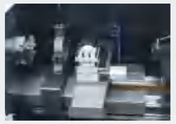
8/12 stations turret



Vertical live tool (Y axis)



Hydraulic steady rest



Manual steady rest



Manual operation box

FLASH FTL SERIES

Flat bed, Tailstock, Linear guideway





Standard Features

- Manual 3-Jaw Chuck
- 4-Station Tool Post Plus Gang Tool Plate
- Manual Tailstock
- Ergonomic Operator Panel Design & MPG
- Automatic Lubrication System
- Automatic Coolant System
- Work Lamp & Built-in Safety Features

Optional Features

- Different Chucks
- Different Control Systems
- 8-Station Turret (except FTL300)
- Hydraulic Tailstock
- Gear Box Spindle
- C Axis & Live Tooling
- C Axis & 12 station Power Turret (for big model)



Full Range of Turning Machines





FTL550-1500



Specifications

		Unit	FTL300		FTL320		FTL400	FTL500	FTL550			FTL660
Capacity	Chuck size	inch	6"		6",*8"		8"	10", *8"	12" , *15"			15",*18"
	Max. swing dia. over bed	mm	Φ300		Φ400		Φ400	Φ500	Φ550			Φ700
	Max. length of workpiece	mm	180		Collet: 380, Chuck: 320 *300(8 station turret)		650(C2C) 500(chuck) 450(turret)	700/1000/1500/2000(C2C) 550/850/1350/1850(chuck) *450/750/1250/1750 (turret)	700/1000/1500/2000/3000(C2C) 550/850/1350/1850/2850(chuck) *450/750/1250/1750/2750 (turret)			1000/1500/2000/3000(C2C) 800/1300/1800/2800(chuck) *700/1200/1700/2700 (turret)
	Max. swing dia. over slide	mm	Φ135		Φ140		Φ250	Φ350	Φ350			Φ480
Spindle	Spindle bore	mm	Φ48	*Φ55	Φ55	*Φ62	Φ62	Φ83 *Φ62	Φ105	*Φ105	*Φ120	Φ120, *Φ135, *Φ162
	Max dia. of through hole	mm	Φ40	*Φ46	Φ46	*Φ52	Φ52	Φ75 *Φ52	Φ91	*Φ91	*Φ110	Φ110, *Φ120, *Φ150
	Spindle nose		A2-5	*A2-5	A2-5	*A2-6	A2-6	A2-8 *A2-6	A2-11	*A2-8	*A2-11	A2-11
	Spindle speed	rpm	3000 *4500	*2500 *4500 *5000	2500 *4500 *5000	*2000 *4000	2000 *4000	1600 *2000 *2500 *4000	1000	*2000	*1000	1000 *800
	Motor(S2-30min/S1)	kW	5.5/3.7, *7.5/5.5		5.5/3.7, *7.5/5.5		7.5/5.5, *11/7.5	11/7.5, *15/11	15/11, *18.5/15			15/11, *18.5/15
Axis	X/Z travel	mm	280/200		280/380		280/500	280/700,1000,1500,2000	280/700,1000,1500,2000,3000			370/1000, 1500, 2000,3000
	X/Z rapid traverse	m/min	15/15,*25/25		25/15,*25/25		15/15, *20/20	15/15, *20/20	15/15, *20/20			15/15, *20/20
Tool post	Type		4-station toolpost *gang type tooling		4-station toolpost *8-station turret *gang type tooling		4-station toolpost *8-station turret *gang type tooling	4-station toolpost *8-station turret *gang type tooling	4-station toolpost *8-stations turret *gang type tooling			4-station toolpost *8-stations turret *gang type tooling
	No. of tool stations	nos	4+2		4+2, *8+2		4+2, *8+2	4+2, *8+2, * Driven 12	4+2, *8+2, *Driven 12			4+2, *8+2
Tailstock	Tailstock type		Manual,* Hydraulic		Manual,* Hydraulic		Manual, * Hydraulic	Manual, *Hydraulic	Manual, *Hydraulic			Manual, *Hydraulic
	Taper of quill	MT	MT4		MT4		MT4	MT5	MT5			MT5
	Travel of tailstock quill	mm	80		80		100	100	100			100
Structure	Bed type /guideway		Flat/LM		Flat/LM		Flat/LM	Flat/LM	Flat/LM			Flat/LM
	Bed width	mm	300		400		405	500	500			680
Others	Dimensions (L×W×H)	mm	1800×1580×1600		2310×1650×1850		2800×1575×1900	3005×1715×2075 (shortest)	3005×1715×2075 (shortest)			3820×1950×2000(shortest)
	Weight (about)	kg	1900/2500(with column)		3100		3700	4400/4800/6000/7100	4500/5000/6100/7200/10500			5400/6800/7600/11500

Note: "*" means optional, "N/A" means not available, "LM" means linear motion guide way. Dimensions are only list the shortest length model.
Different chucks ,turrets and toolposts will affect the real Max. cutting length capacity.
C2C: Spindle center to Tailstock center; Chuck: Spindle 3 jaws chuck to tailstock; Turret: 3 jaws chuck to tailstock while configured with 8/12 stations turret.

SUPER P SERIES

Super Precision CNC Lathe

High Precision and Compact Size

Machine Characteristics

- Spindle runout ≤2 μm
- Space saving, compact footprint
- Smooth, efficient chip removal
- Built-in spring collets – low vibration, high accuracy
- Servo spindle motor, Bosch Rexroth linear guideway,
- THK ballscrew

Standard Features

- Hydraulic Collet (SP28)
- Pneumatic Collet (P30H)
- Work & Alarm Light
- Automatic Coolant System
- Automatic Lubrication System
- Gang Plate Work Table
- Tools & Tool Box

Optional Features

- Different Collets
- Different CNC Control Systems
- Part Catcher
- C Axis and Live Tooling
- Bar Feeder





SP28

Specifications

		Unit	SUPER P30H	SUPER SP28	
Capacity	Max. swing dia. over bed	mm	Φ300	Φ300	
	Max cutting length	mm	160	180	
	Max. swing dia over slide	mm	Φ80	Φ140	
Spindle	Spindle bore	mm	Φ36	Φ37	*Φ48
	Bar dia. capacity of hyd. collet	mm	Φ30	Φ29	*Φ40
	Nose type		Φ54mm 1:1	Φ68 1:4	*ΦA2-5
	Spindle speed	rpm	5000	5000	*5000
	Motor(S2-30min/S1)	kW	5.5/3.7, *7.5/5.5	5.5/3.7, *7.5/5.5	
Axis	X axis travel	mm	250	290	
	Z axis travel	mm	180	180	
	X/Z rapid traverse	m/min	20/20	28/28	
Toolpost	Type of tool post		Gang type	Gang type	
	No. of tool stations	nos	4-6	4-7	
	ODTool shank size	mm	16×16	16×16	
Others	Bed /Guideway type		Flat /Linear motion	35° Slant bed / Linear motion	
	Overall dimension (L×W×H)	mm	1420×1200×1550	1580×1530×1650	
	Weight (about)	kg	1500	2200	

Note:"*" means optional.

POWER A SERIES TURNING CENTERS

A6 / A8L

When we set out to build a heavy duty cutting (hogging) machine we did a number of things:

- Increased spindle rigidity
- Widened guideway spacing
- Increased bed casting weight
- Increased spindle torque

The result is a machine that will take heavy cuts and still assure minimal tool tip vibration. Finer surface finish is the result – even when making heavy cuts.



POWER A SERIES

POWER A SERIES for 60° Rigid Structure

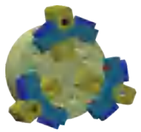
Machine Characteristics

- German-made BOSCH Rexroth Linear Guideways
- High speed with heavy torque – suitable for machining hard materials
- 60° slant bed makes for easy chip removal
- Optional floating jaws for securely holding hard, thin-walled pipe

Bearing Ring Solution

Power A machines are widely used in bearing industry. And Z-MaT has mature solutions for inner ring and outer ring machining.





Floating jaws

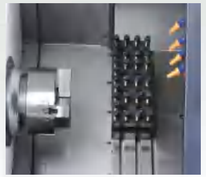


Depth of cut

9mm(0.35in)

Material:	S45C(Carbon steel)
Cutting speed:	220m/min(721.8 ipm)
Feedrate:	0.4mm/rev(0.016ipr)

Greater Rigidity and Faster Speed



By using German-made BOSCH Rexroth heavy-duty linear guides, over-sized ball screws, thicker head stock ribs and wider bed ways we have created a highly rigid, high speed lathe. The POWER A Series is a true 60 slant bed lathe – significantly increasing machine accuracy and capacity. The steep slant bed and over-sized chip tanks allow efficient chip removal, even during "heavy cut" turning operations. An optional chip conveyor is available.

Built for High Speed Heavy Cutting

60° Slant Bed

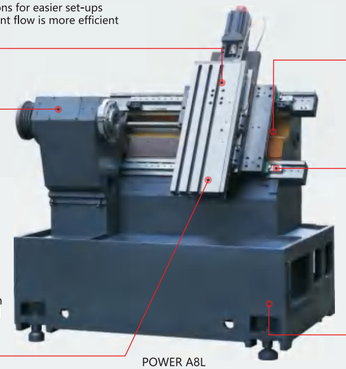
Operator is close to tooling stations for easier set-ups and tool changes. Chip and coolant flow is more efficient with the steeper table incline.

Heavy Duty Spindle

Extra built-in ribbing on the headstock and higher torque spindle drive provides a spindle ready and willing to handle all-day heavy cutting.

Extended X Axis Travel

X Axis travel up to 380mm. Allows for a large number of gang, live tooling and turret mounted tools to be mounted on the table and sequentially moved to the point of tool tip turning contact.



POWER A8L

Larger Ball Screw Diameter

40mm diameter ball screw supports heavy machining operations. Pre-loaded bearings are mounted on both ends of the ball screw assembly for optimal support.

Heavier Linear Guideways

Heavy duty ball linear guideways are necessary for heavy cutting. These heavy duty linear guides will hold up and maintain accuracy for the long-term.

High Volume Chip Collection

Standard feature includes extra-large chip collection tank. POWER A Series chip tanks are three times larger than ones used on the FLASH Series. Chip conveyor optional.

One-Piece Mono-Block Casting

FULL RANGE OF TURNING MACHINE



60° steep inclined bed, closer to operator

300% size chip tank larger than previous

280% sized linear guide way slide block

45mm width heavy duty linear guideway

40mm ballscrew diameter

Standard Features

- Hydraulic Chuck
- Gang Type Tooling
- Frequency Inverter
- Work and Alarm Light
- Foot Pedal & Safety Features
- Automatic Lubrication System
- Automatic Coolant System

Optional Features

- Different Chucks & Collets
- Different Control Systems
- Larger Spindle
- Servo Spindle Motor
- Chip Conveyor
- Bar Feeder
- C Axis & Live Tooling

POWER A8L

Specifications

		Unit	POWER A6		POWER A8L		
Capacity	Collet/*Chuck size	inch	6", * 8"		8", * 10"		
	Max. swing dia. over bed	mm	Φ400		Φ550		
	Max cutting length	mm	320		300		
	Max. swing dia. over slide	mm	Φ150		Φ210		
Spindle	Spindle bore	mm	Φ48	*Φ55	Φ55	*Φ62	*Φ75
	Max dia. of through hole	mm	Φ40	*Φ45	Φ46	*Φ52	*Φ65
	Spindle nose		A2-5	*A2-5	A2-5	*A2-6	*A2-8
	Spindle speed	rpm	3000	*1600	1600, *4500	*2000	*1600
	Motor(S2-30min/S1)	kW	11/7.5, *15/11		15/11, *18.5/15		
Axis	X axis travel	mm	260		380		
	Z axis travel	mm	320		300		
	X/Z rapid traverse	m/min	20/20		20/20		
Toolpost	Type of toolpost		Gang type		Gang type		
	No. of tool stations	nos	4-6		4-8		
	OD tool shank size	mm	32X32		32X32		
Structure1	Slant bed degree		60°		60°		
	Guideway type		Linear Motion		Linear Motion		
Others	Overall dimension (L×W×H)	mm	2270×1650×1850		2460×1750×2250		
	Weight (about)	kg	3200		3900		

Note:"*" means optional.

HUNTER FAMILY TURNING CENTERS

FTH /STH /SH Series



Machine Characteristics

The HUNTER Series are a new take on the traditional, economic hard way CNC lathe. The new HUNTER lathe series offer outstanding acceleration, low friction guideways, precision ball screws – and a lower price point.

The series of HUNTER CNC lathes include the STH(Slant Bed with Tailstock), the SH (Slant Bed without Tailstock), the FTH (Flat Bed with Tailstock) lathe series.

HUNTER SERIES

FTH /STH /SH

Constant Research and

Ongoing Product Refinement

Evolving a Lathe Tradition: Improving the Flat Bed Box Way Design for CNC Turning

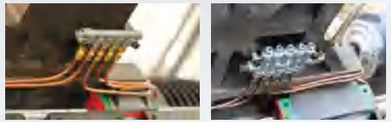
Unlike the old CK CNC lathe design, which has the ball screw mounted on the front side of the lathe bed, the HUNTER Series moved the ball screw to the middle of the lathe bed, between the guideways. This eliminates friction and ball screw torque – increasing efficiency and assuring higher speeds. The HUNTER lathes also have telescoping stainless steel guards that cover the ball screw along its entire length. This assures smooth operation and long machine life.



Comparison of tradition CK type CNC lathe



Reliable and Efficient Lubrication Oil Distribution



This efficient unit assures all machine components are lubricated evenly – extending machine operating life.

Double "V" Machine Bed Ways

Lathe carriage is continually aligned for torque-free, smooth operation and increased accuracy. The center-mounted, covered ball screws increase the smoothness and speed of carriage movement along the V ways.



Pre-Loaded Ball Screws with Bumpers



A pre-loaded ball screw reduces thermal distortion. The ball screw bumper helps protect the ball screw in case of operator error or machine malfunction.

HUNTER FTH SERIES

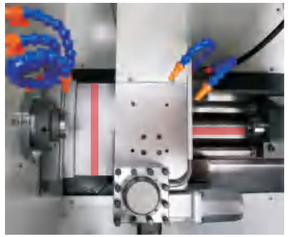
Smart CNC Solutions

Standard Features

- Manual 3-jaw Chuck
- 4-station Tool Post
- Manual Tailstock
- Ergonomic Operator Panel Design & MPG
- Automatic Lubrication System
- Automatic Coolant System
- Work Lamp & Built-In Safety Features

Optional Features

- Different Chucks
- 8-station Turret
- Different Control Systems
- Hydraulic Tailstock
- Bar Feeder
- C Axis & Live Tooling
- Steady Rest & Hydraulic Follow Rest
- Gear Box



Stainless Steel Telescopic Cover

Provide excellent chip-proofing and protect guide way to extend long life span time

Revolutionize the NC/Conventional Lathe

Structured to real CNC, but kept the economical features "Get the work done easily" featured in a smart way.

Wider bed width

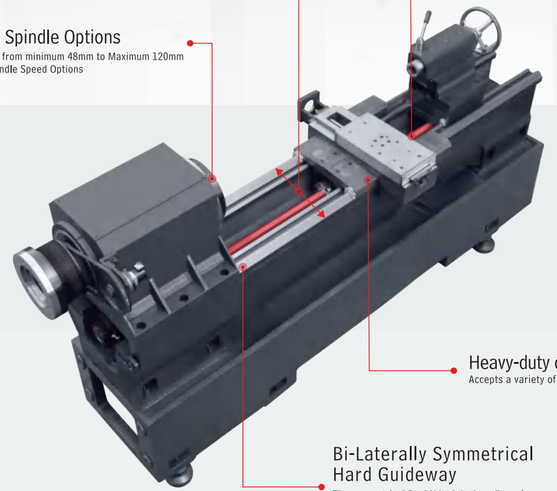
Eliminate Vibration, Lower Center of gravity, Solid base for heavier duty

Center Mounted Ball Screw

Balance Torque Output – increases speed, efficiency, accuracy and machine life, Double protected by ballscrew cover and stainless steel telescopic guideway cover

Various Spindle Options

Spindle Bore from minimum 48mm to Maximum 120mm
Different Spindle Speed Options



Heavy-duty cross-slide

Accepts a variety of tool post options

Bi-Laterally Symmetrical Hard Guideway

The symmetrical Dual V bed design allows for even wear of the bedway over time, resulting in maintained accuracy over the life of the machine





Specifications

		Unit	FTH6130			FTH6136			FTH6140			FTH6150			FTH6166
Capacity	Chuck size	inch	6"			8"			10", *15"			12"			15"
	Max.Swing dia.over bed	mm	Φ300			Φ400			Φ530			Φ530			Φ700
	Max.length of workpiece	mm	400(collet), 300(chuck)			500, *650 Centers			750/1000/1500/2000 Centers			750/1000/1500/2000 Centers			1000/1500/2000/3000 Centers
	Max.swing dia.over slide	mm	Φ150			Φ200			Φ290			Φ290			Φ480
Spindle	Spindle bore	mm	Φ48	*Φ55	*Φ62	Φ55	*Φ62	*Φ75	Φ62	*Φ55	*Φ75	Φ83	*Φ105	*Φ120	Φ120
	Bar dia. capacity	mm	Φ40	*Φ46	*Φ52	Φ46	*Φ52	*Φ65	Φ52	*Φ46	*Φ65	Φ75	*Φ91	*Φ110	Φ110
	Spindle nose		A2-5	*A2-5	*A2-6	A2-5	*A2-6	*A2-8	A2-6	*A2-5	*A2-8	A2-8	*A2-11	*A2-11	A2-11
	Spindle speed	rpm	3000	*2500	*2000, *4000	2500	*2000	*1600	2000, *4000	*2500	*1600	1600, *2500	*1000,*2000	*1000	1000
	Motor(S2-30min/S1)	kW	5.5/3.7, *7.5/5.5			7.5/5.5,*11/7.5			11/7.5,*15/11			11/7.5,*15/11			18.5/15
Axis	X axis travel	mm	280			320			320			320			380, *450
	Z axis travel	mm	400			500,*650			750/1000/1500/2000			750/1000/1500/2000			1000/1500/2000/3000
	X/Z rapid traverse	m/min	9/12			9/12			9/15			9/15			9/15
Toolpost	Type of toolpost		4-station toolpost, *gang type			4-station toolpost, *gang type			4-station toolpost, *gang type, *8-station turret			4-station toolpost, *gang type, *8-station turret			4-station toolpost, *gang type, *8-station turret
	No. of tool stations	nos	4			4			4			4			4
	Tool shank size	mm	20×20			25×25			25×25			32×32			40×40
Tailstock	Type of tailstock		Manual,*Hydraulic			Manual, *Hydraulic			Manual, *Hydraulic			Manual, *Hydraulic			Manual, *Hydraulic
	Taper of tailstock quill		MT3*MT4			MT4			MT5			MT5			MT5, *MT6
	Travel of tailstock quill	mm	100			100			130			130			150
	Travel of tailstock	mm	350			400/550			600/850/1350/1850			600/850/1350/1850			800/1300/1800/2900
Structure	Bed width		280			340			410			410			600
	Guideway type		Hard way			Hard way			Hard way			Hard way			Hard way
Others	Overall dimension (L×W×H)	mm	2120×1480×1760			2340×1575×1730			2775(3055)(3553)(4003)×1675×1850			2725(3055)(3553)(4003)×1760×1910			3590(4090)(4590)(5880)×1820×2110
	Weight (about)	kg	1900			2650			3700/4150/5000/5600			3800/4400/5350/5700			6000/7000/7700/10500

Note:"*" means optional. "Centers" means the distance between spindle center to tailstock Center, chuck to center distance will be less around 120~200mm.

HUNTER STH SERIES

Slant Bed Tailstock Hard Guideways

Standard Features

- Manual 3-Jaw Chuck
- 4-Station Tool Post + gang plate
- Manual Tailstock
- Automatic Lubrication System
- Automatic Coolant System

Optional Features

- Hydraulic Chuck
- Spring Collet System
- Hydraulic Tailstock
- Different CNC Control Systems
- Different Spindle
- 8 Position turrets
- Gear Box Spindle

Machine Characteristics

- 30 degree slant bed – efficient chip flow and easier operator access
- Ergonomically designed adjustable panel
- Center-mounted ball screw – less torsion and better accuracy
- STH10 and STH12 have cylindrical roller spindle bearings
- The most economical slant bed with tailstock in the market



There's only one place you'll find this Unique CNC lathe design - Z- MaT!

STH CNC Lathes are designed to provide a cheaper and easier machining option – while providing real production capacity and accuracy. Perfect for R&D, education, manufacturing or just getting a business started, STH Series CNC Lathes are a very affordable option that will allow you to accomplish your machining tasks easier and faster.



Z-MaT Original Design

Cost-Effective,
Full Production Capable
Slant Bed CNC Lathe

Specifications

		Unit	STH6130		STH6136	
Capacity	Chuck size	inch	6"		8"	
	Max.Swing dia.over bed	mm	Φ300		Φ350	
	Max.length of workpiece	mm	280,*350(collet)		300, *400(collet)	
	Max.swing dia.over slide	mm	Φ130		Φ150	
Spindle	Spindle bore	mm	Φ48	*Φ55	Φ48	*Φ62
	Max. dia of through hole	mm	Φ40	*Φ46	Φ40	*Φ52
	Spindle nose		A2-5	*A2-5	A2-5	*A2-6
	Spindle speed	rpm	3000	*2500	3000	*2000
			*4500	*4500	*4500	*4000
				*5000		
	Motor(S2-30min/S1)	kW	5.5/3.7,*7.5/5.5		7.5/5.5,*11/7.5	
Axis	X axis travel	mm	300		320	
	Z axis travel	mm	280,*350(collet)		300,*400(collet)	
	X/Z rapid traverse	m/min	8/12		8/12	
Toolpost	Type		4-station toolpost + Gang type tooling * 8-station turret		4-station toolpost + Gang type tooling * 8-station turret	
	No. of tool stations	nos	4-8		4-8	
	ODTool shank size	mm	20×20		20×20	
Tailstock	Type of tailstock		Manual,*Hydraulic		Manual,*Hydraulic	
	Taper of tailstock quill		MT3		MT4	
	Travel of tailstock quill	mm	100		100	
	Travel of tailstock	mm	300		400	
Structure	Slant bed degree		30°		30°	
	Guideway type		Hard		Hard	
Others	Overall dimension (L W H)	mm	2050×1380×1880		2290×1450×1880	
	Weight (about)	kg	2000		2700	

Note: "*" means optional. "C to C" means spindle Center to tailstock Center.

Machine Characteristics

The machine adopts a T-shaped inclined bed design. There are options for rear chip removal and front-right chip removal, ensuring smooth chip evacuation.
The tool post, designed with T300 castings and FEA-analyzed, has a reasonable structure. The machine tool guideways adopt a layout with rectangular plastic-faced sliding ones and a large span to achieve high rigidity and meet heavy-cutting needs.
The ball screw of the X-axis has a pre-tensioned structure, which can effectively reduce the impact of temperature on accuracy, enabling the machine tool to maintain high precision for a long time.



Specifications

		Unit	STH6140		STH6150		STH6166
Capacity	Chuck size	inch	10"		12",*15"		15", *18"
	Max.Swing dia.over bed	mm	Φ450		Φ500		Φ700
	Max.length of workpiece	mm	600		600		750(C to C)
	Max.swing dia.over slide	mm	Φ250		Φ280		Φ500
Spindle	Spindle bore	mm	Φ62	*Φ83	Φ83	*Φ105	Φ120
	Max. dia of through hole	mm	Φ52	*Φ75	Φ75	*Φ91	Φ110
	Spindle nose		A2-6	*A2-8	A2-8	*A2-11	A2-11
	Spindle speed	rpm	2000	1600	1600	*1000	1000
			*4000	*2500	*2500	*1800	
	Motor(S2-30min/S1)	kW	11/7.5, *15/11		15/11, *18.5/11		18.5/15
Axis	X axis travel	mm	300		300		380
	Z axis travel	mm	750 (C to C)		750 (C to C)		750
	X/Z rapid traverse	m/min	9/12		9/12		9/12
Toolpost	Type		4-station toolpost+ Gang type tooling * 8-station turret		4-station toolpost+ Gang type tooling * 8-station turret		4-station toolpost+ Gang type tooling * 8-station turret
	No. of tool stations	nos	4-8		4-8		4-8
	ODTool shank size	mm	25×25		32×32		32×32
Tailstock	Type of tailstock		Manual,*Hydraulic		Manual,*Hydraulic		Manual,*Hydraulic
	Taper of tailstock quill		MT5		MT5		MT6
	Travel of tailstock quill	mm	100		100		150
	Travel of tailstock	mm	650		650		750
Structure	Slant bed degree		30°		30°		30°
	Guideway type		Hard		Hard		Hard
Others	Overall dimension (L×W×H)	mm	3200×1490×1870		3200×1490×1870		3315×1820×2110
	Weight (about)	kg	4100		4500		4500

Note: "*" means optional. "C to C" means spindle Center to tailstock Center.

LIVE TOOLING & MULTI-TASKING MACHINE

Secondary Machining Operations



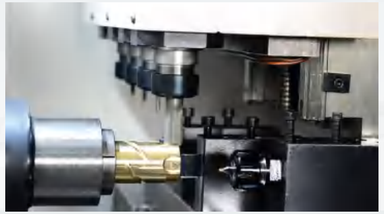
Powerful Solution for Secondary Machining of Turned Parts

Z-MaT is a recognized leader in C Axis and live tooling technology. This strong core competence makes Z-MaT the go-to source for secondary machining operations.

In addition to standard turning operations, with Z-MaT you can perform additional machining operations on a single machine – like milling, drilling, surface finishing and tapping on all surfaces. A Y axis unit is also available on many lathe models.

LIVE TOOLING

High Torque Secondary System



Z-MaT live tooling units feature a robust gear drive system that provides efficient power transmission and maximum continuous torque. An extra-large servo motor drive provides 50% more torque than comparable units on the market. Also, the use of quality ground transmission gears reduces noise levels at high speed.

Driven Toolholders List

Form	Position	Group tool nos	Max dia. of live tool	Max. speed
ER20	Radial, Axial, Vertical	1、2、3	ϕ13mm	5000rpm
ER25	Radial, Axial, Vertical	1、2、3	ϕ16mm	5000rpm
ER32	Radial, Axial, Vertical	1、2、3	ϕ20mm	5000rpm

Able to fit for most existing Z-MaT models.



Polygon turn-mill driven toolholder | Axial and Radial elevation adjustable driven toolholder | Axial and radial index adjustable driven toolholder | Double lifting vertical driven toolholder | Doulbe lifting axial driven toolholder | ER20 single driven toolholder | ER32 single driven toolholder | Group 4 vertical driven toolholder | Group 3 lifting axial and 3 radial driven toolholder | Group 2 lifting axial and 2 radial driven toolholder | Single lifting vertical driven toolholder

C Axis Motion

C Axis drive units provide high precision bi-directional spindle motion that is fully interpolated with X and Z axis movements. The unit is servo driven with a timing pulley and belt, and a powerful hydraulic brake locks the main spindle during secondary operations.



Y Axis Motion

Z-MaT Y axis drive units are used for off center milling, drilling and tapping. Each Y axis model comes standard with C axis and live tooling capabilities and fully interpolates with C axis, X axis and Z axis movement. This combination provides a powerful, efficient solution for secondary machining of turned parts.



MULTI-TASKING MACHINE

4-Axis Simultaneous Multitasking Turning Centers

Turn-Mill Machining Center

Long X Axis Travel

PLUS, an extra-long work table provides a large tool mounting area. This allows for a large number and variety of table mounted tooling options. This capacity makes the Series a powerful, "single set-up" turning center for turning, milling, tapping and drilling operations in a single part production cycle.

Smart operators can combine operations into a single machining center – saving on capital input and operating costs. The series machine owners report they have gained a competitive advantage with the addition of these machines to their production system.

SL580-MT





Machine Characteristics-TMC40V

- High-quality castings: reduce vibration, enhance rigidity, ensure fine surface finishes.
- 90° vertical structure: optimize chip/coolant flow, simplify operation setup.
- Single setup enables turning, milling, drilling, tapping; supports C-axis & 4-axis simultaneous machining.
- Modular design allows diverse configurations (e.g., tailstock-tool combinations).
- X/Y/Z/C axes interpolate. One setup finishes complex milling/drilling/tapping.

Specifications

		Unit	SL450-MT		SL580-MT		TMC40V		
Structure	Bed incline degree		45°		45°		90°		
	Guideway type		Linear motion		Linear motion		Linear motion		
Capacity	Chuck/Collet		6" Hydraulic chuck/Hydraulic collet		6" Hydraulic chuck/Hydraulic collet		Hydraulic collet, "6", "8"		
	Max. swing dia. over bed	mm	Φ450		Φ300		Φ400		
	Max. length of workpiece	mm	Chuck 180, "Collet 210		Chuck 220, "Collet 250		300		
	Max. swing dia. over slide	mm	Φ150		Φ160		Φ250		
Spindle	Spindle type		A2-5	*A2-6	A2-5	*A2-6	A2-5	*A2-5	*A2-6
	Spindle bore	mm	Φ55	*Φ62	Φ55	*Φ62	Φ48	*Φ55	*Φ62
	Max. dia. of through hole	mm	Φ46	*Φ52	Φ46	*Φ52	Φ40	*Φ46	*Φ52
	Spindle speed	rpm	4500	*4000	4500	*4000	4500	*4500	*4000
	Motor(S2-30min/S1)	kW	7.5/5.5, *11.5/7.5		7.5/5.5, *11.5/7.5		7.5/5.5, *11.5/7.5		
Axis	X axis travel	mm	450		580		220		
	Z axis travel	mm	210		270		320		
	Y axis travel	mm	150		150		300		
	X/Z/Y rapid traverse	m/min	20/20/15		20/20/15		12/12/12		
Toolpost	Toolpost type		8-Station turret mixed with livetoolings		8-Station turret mixed with livetoolings		Gang type tools mixed with livetoolings		
Tailstock	Taper of tailstock		No		No		MT4		
	Travel of tailstock quill		No		No		100		
Others	Overall dimension(L×W×H)	mm	2300×1800×2050		2400×1810×2050		2380×1850×2380		
	Weight (about)	kg	3500		3700		3500		

Note: "*" means optional, "N/A" means not available.
Chip conveyor is available as option for SL450-MT

DUAL-USE TECHNOLOGY SERIES TF01

Turning Center Transform into VMC Like "TransFormer"

CNC Turning Center With Y Axis
VMC With 4th Axis Integrated into One

This machine is designed based on wide span lathe bed, monoblock one-piece casting and large-size linear motion guideway which guarantee the solid foundation for balanced two purposes-turning and milling.

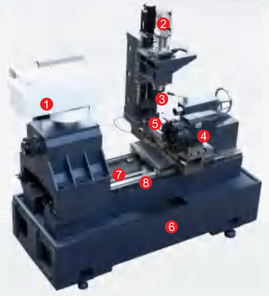
Its basic function is a powerful turning center. However, it can become a 4th axis VMC as long as we add a bridge plate between the 3-Jaw Chuck and Tailstock (Then C axis convert to "A" Axis function in VMC mode). The milling, drilling and tapping processes can be realized through automatic tool change and BT30 high speed VMC spindle.

Basically, this machine can realize two functions: CNC Turning Center with Y axis, or a VMC with 4th Axis.

TF01



1. Automatic tool change magazine
2. Milling spindle motor
3. BT30 high rigid spindle
4. 8/12-station turret in the front
5. 4 axis rotary table function
6. One piece monoblock casting
7. Both ends anchored ballscrew
8. Roller type 45mm linear guideway





Standard Features

- Manual 3 Jaws Chuck
- PMI/ HIWIN Linear Guideway
- PMI/ HIWIN Ballscrew
- 8-Station Turret
- BT30 Spindle Unit 8000rpm
- Drum Type ATC 8-Station
- Manual Tailstock

Optional Features

- Hydraulic Chuck
- Chip Conveyor
- Quick Bridge Plate for 4th Axis VMC Function
- Hydraulic Tailstock

Specifications TF01

4 Axes Turning Center Mode		4 Axes VMC Mode	
Max. Swing Diam. Over Bed	650mm	4th Axis Center Height	145mm
Max. Swing Diam. Over Slide	290mm	Bridge Plate Size	550x45x200mm
Max. Turning Diam.	400mm	T Slot	12x3x70mm
Max. Length of Workpiece	500mm	Spindle Center to Column	210mm
Spindle Bore	Φ62mm	Spindle Nose toTable	350mm
Max. Diam. of Through Hole	Φ52mm	Max. Load	200kg
X Axis Travel	300mm	"Y" AxisTravel	200mm
Y Axis Travel	200mm	"Z" AxisTravel	200mm
Z Travel	500mm	"X" AxisTravel	500mm
X Rapid Traverse	20m/min	"Y" Axis Rapid Speed	20m/min
Y Rapid Traverse	10m/min	"Z" Axis Rapid Speed	10m/min
Z Rapid Traverse	20m/min	"X" Axis Rapid Speed	20m/min
Turning Spindle Nose Type	A2-6	Turning Spindle NoseType	A2-6
Turning Spindle Motor(S2-30min/S1)	11.5/7.5kW	Turning Spindle Motor(S2-30min/S1)	11.5/7.5kW
Max. Turning Spindle Speed	2000, *4000rpm	Max.Turning Spindle Speed	2000,*4000rpm
Milling Spindle type	BT30	Milling SpindleType	BT30
Max. Milling spindle speed	8000r/min	Max. Milling Spindle Speed	8000r/min
Milling Spindle Motor(S2-30min/S1)	5.5/3.7kW	Milling Spindle Motor(S2-30min/S1)	5.5/3.7kW
Turnning Turret Stations	8	Turnning Turret Stations	8
Turning Tool Change Time-adjacent	≦0.45S	Turning Tool Change Time-adjacent	≦0.45S
*Milling ATC Capacity	8	*Milling ATC Capacity	8
*Max. Weight of Milling Tool	3kg	*Max. Weight of Milling Tool	3kg
*Milling Tool Change Time	≦8s	*Milling Tool Change Time	≦8s
*Air Source Pressure	0.5-0.8Mpa	*Air Source Pressure	0.5-0.8Mpa
Chuck Size	8"	Rotary Chuck Size	8"
Tailstock	MT5	Tailstock	MT5
Travel of Tailstock Sleeve	100mm	Travel of Tailstock Sleeve	100mm
Travel of Tailstock	100-500mm	Travel of Tailstock	100-500mm
C Axes Index Resolution	0.001°	4th Rotary Index Accuracy	0.001°
C Axes Machining Accuracy	±0.04",±0.02"	4th Index Accuracy	±0.04",±0.02"
Overall Dimension(L×W×H)		3000×1750×2400mm	
Weight(about)		3500	

Note: "*" means optional. " means equal to.

TOOL ROOM CNC MACHINES

" Fit Through a Door " CNC Lathes

Innovative, Heavy Cast Base – with Narrow Footprint



Perfect for getting through narrow halls and into small spaces. Up and into skyscrapers or down to a basement laboratory – or, maybe even into your garage.



Specifications	Unit	LTF5	LTS5
Chuck/Collet	N/A	Φ160mm Manual chuck	5" Manual chuck, * Hydraulic chuck
Max. swing dia. over bed	mm	Φ250	Φ300
Max. length of workpiece	mm	300	Turret 220, Gang type tool 320
Max. swing dia. over slide	mm	Φ140	Φ150
Spindle type	N/A	A2-4	A2-4
Spindle bore	mm	Φ30	Φ30
Spindle speed	rpm	3000	3000
Motor(S2-30min/S1)	kW	5.5/3.7	3.7/2.2
X/Z axis travel	mm	160/300	200/320
X/Z rapid traverse	m/min	8/12	6/9
Turret type	N/A	Quick change Toolpost	Gang type tool, *Quick change Toolpost, *8-station turret
Tailstock type	N/A	Manual, *Hydraulic	Manual, *Hydraulic
Taper of tailstock	N/A	MT3	MT4
Travel of tailstock quill	mm	80	80
Overall dimension (L×W×H)	mm	1650×820×1800	1300×820×1650
Weight (about)	kg	1300	1500

Note: " * " means optional.

Specifications	Unit	VMC550E
Table size	mm	800×305
T slot(width×nos.×distance)	mm	14×3×85
Max. load	kg	260
X/Y/Z axis travel	mm	550/240/450
X/Y/Z axis rapid traverse	m/min	28/28/28
Spindle nose to table	mm	50-500
Spindle center to column	mm	380
Guideway type	N/A	LM: X/Y/Z
Spindle type	N/A	BT30
Motor(S2-30min/S1)	kW	5.5/3.7
Spindle speed	rpm	8000
*ATC capacity/type	No./type	*12/Carousel
Max. weight of tool	kg	3
Overall dimension (L×W×H)	mm	2250×2000×2200
Weight(about)	kg	2600

Note: * means optional,
"LM" means linear motion guide way.

SPM SERIES

Special Purpose Machine



Increasing Productivity – Beyond Expectations

Because your efficiency and profitability are at the core of our mission, Z-MaT does not limit our engineering innovation to just general use CNC lathes and mills. We also design and produce special-purpose machines to meet specific needs that come to us from our diverse customer base.

SPM SERIES Special Purpose Machine

Spherical Cutting Lathe





Q60

Specifications	Unit	Q50	Q60
Chuck/Collet	N/A	Hydraulic collet	Hydraulic collet
Max. spherical turning dia.	mm	Φ50	Φ80
X/Z axis travel	mm	200/150(*320)	120/200
X/Z rapid traverse	m/min	9/9	20/28
Spindle nose	mm	A2-5	A2-5
Spindle speed	rpm	4000	5000
Main motor power	kW	3.0, *4.0	5.5
Turret type	N/A	Double turret & Hyd. hob	Double turret &Hyd.hob
Overall dimension(L×W×H)	mm	2200×1450×1900	2500×1750×1800
Weight(about)	kg	2300	3200

Drill Bit Hole Machining Center





WZZ40

Specifications	Unit	WZZ40
Max. drilling diameter	mm	Φ25
Max. drilling depth	mm	220
Spindle rated power	kW	11
X-axis travel	mm	180
Z-axis travel	mm	350
Fixture travel	mm	100
X/Z-axis rapid traverse	m/min	20
Max. cutting feed rate	m/min	8
Guideway type		LM
Clamping drive mode		Hydraulic
Tool shank size		BT40
Slant bed degree	°	35
Dimension(L×W×H)	mm	2550×2050×1750
Weight(about)	kg	3000

Note:"LM" means linear motion guideway

Large Flange Drilling & Tapping Center





VMR1200

Specifications	Unit	VMR1200
Table size	mm	Φ1000
Max. load	kg	5000
T-slot		8-18×45°
Y/Z-axis travel	mm	540/600
Y/Z-axis rapid traverse	m/min	36/48
Dis. from spindle center to column	mm	713
Dis. from spindle nose to table	mm	170-770
Guideway type		Roller guideway
Spindle speed	rpm	8000/*12000
Spindle taper		BT40-150
Spindle power	kW	11
Tool magazine capacity	Nos.	24(Disc-type)
Max. tool weight	kg	8
Air supply pressure	Mpa	0.6
Electrical cabinet cooling		Air conditioner/Heat exchanger
Dimension(L×W×H)	mm	2740×2632×2790
Weight	kg	8100

Note:"*" means optional.

Gap-Bed Large Swing Dia Lathe

The machine bed is specially designed with rack and gear pair, which can move forward and backward manually for adapting different jobs' length.





CK62110

Specifications	Unit	CK62110	CK62130
Chuck	inch	Manual 10", *12", *15"	Manual 18"
Max. swing dia. in the gap	mm	Φ1100	Φ1300
Max. swing dia. over bed	mm	Φ400	Φ850
Max. length in the gap	mm	250	450
Max. length of workpiece	mm	400	350
Spindle bore	mm	Φ55, *Φ81, *Φ105	Φ135
Spindle speed	rpm	1600, *800	750
Main motor power	kW	7.5/*11	11
X/Z axis travel	mm	320/400	580/350
X/Z rapid traverse	m/min	6/9	15/15
Turret type		4-station toolpost	4-station toolpost
Guideway type		Hard	Roller Linear Motion
Overall dimension(L×W×H)	mm	2600/3080×1460×2050	3580×2310×2380
Weight(about)	kg	3100	8100

Note: "*" means optional. Manual moving length 450mm,Gear box spindle is optional.

Dual End Milling and Drilling Machine STK Series

This machine allows for double end cutting of parts that require machining on multiple surfaces of the part.





STK50

Specifications	Unit	STK50	STK200
Machining dia. range	mm	Φ20-70	Φ20-100
Machining length range	mm	200-700	800-1600
Size of centering	mm	Φ2.5-6.3	Φ2.5-6.3
Max milling depth.(one side)	mm	5	5
Spindle speed	rpm	200-2000	200-2000
Max. power of spindle	kW	11×2	18.5×2
Spindle nose	Type	BT50	BT50
Tool type		Milling / Drilling	Milling / Drilling
Tool change type		Manual	Manual
X/Z1/Z2 travel	mm	250/250/250	320/400/400
X/Z1/Z2 rapid traverse	m/min	15	15
Structure		Double V support self-positioning	Double V support self-positioning
Driven		Hydraulic	Hydraulic
Clamping force	kN	15	15
Bed degree	degree	30°	30°
Dimensions (L×W×H)	mm	3150×1700×2050	3850×1760×2100
Machine weight (about)	kg	4500	7200

Super Heavy Milling Center

The machine designed for heavy duty milling, standard with the gear box BT50 spindle, delivers strong clamping and high output torque.





WHX50

Specifications	Unit	WHX50
Table size	mm	1000×530
Max. load	kg	600
T-slot	mm	18×5×90
X/Y/Z-axis travel	mm	550/350/400
Dis. from spindle nose to table	mm	150-500
Guideway type		LM / BX / LM
X/Y/Z-axis rapid traverse	m/min	20/12/20
Max. cutting feed rate	mm/min	8000
Spindle speed	rpm	2000
Spindle taper		BT50
Spindle motor power	kW	11
Tool magazine capacity / type	Nos.	Optional
Max. tool weight	kg	Optional
Air supply pressure	Mpa	0.6
Electrical cabinet cooling		Air conditioner/Heat exchanger
Dimension(L×W×H)	mm	2300×3000×2750
Weight(about)	kg	6000

Note: "LM" means linear motion guideway,"BX" means box guideway

SPM SERIES Special Purpose Machine

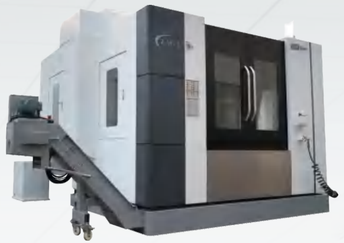
CK6163-F



SPM CK6163-F for Steering Rod



HM630TC



SPM for Brake Calipers



S-CK350



Mirror Structure CNC Lathe S-CK350



FL630



Car Wheel Repairing Machine FL630



FL300-SPM



Multi-tool FL300-MT





Crankshaft Drilling Machine



Partners & Quality Components

Z-MaT uses only high-quality, precision components in the manufacture of our line of professional-quality and production-grade CNC machines. While this step is more costly, having quality components built into our machines is the only way to achieve the quality results and long service life our customers expect.

SIEMENS · SMTCL · PRAGATI · Rexroth · HEIDENHAIN · Schneider Electric · CHANDOX · CENTROID · FANUC · YASKAWA · FAG · NSK · PMI · THK · HIWIN · NACHI · GSK · KND · LNS



Workpiece Samples

Provider of Precision CNC Machines
and Smart CNC Solutions
for the Metal Cutting Industry

PROFESSIONAL MANUFACTURER – BROAD PRODUCT LINE

Wide Product Line

Z-MaT is one of the few world-wide turning center manufacturers that can claim almost two dozen unique series of lathes with over 200 machine models.

Each machine series was designed to meet a specific target application. Individual machine models have their unique outstanding features that can be applied to the specific needs of individual customers.















Hand Scraping

Expert Hand Scraping at Z- MaT machines to achieve stable machining accuracy, Every Z-MaT machine conducts strict hand Scraping process by skilled technicians, realizing perfect flatness, squareness and straightness required for all surfaces and axes.



Total Quality Management

No matter how far technology may evolve, the one ongoing concern of CNC customers is, "Will the machine make my parts, with higher productivity and without a hassle-And at a price I can justify?" Customers deserve our best effort towards always providing quality,reliability, efficiency and low cost. We have introduced the concept of TPS-Toyota quality system including TQM-Total Quality Management, which involves integrated control of quality, not just of the products but also service and communication, and all processes.

We are working to provide quality that exceeds customer expectations. Our machine Quality inspection process is far beyond the standard in the industry. We combine scientific process, along with disciplined procedural systems to assure the highest quality total experience for our customers.















Always Innovating & Providing Solutions

The ultimate goal for Z-MaT is to become your Smart CNC Solution provider. We believe continual innovation is the key to accomplishing this goal. Here are a few things we do to increase innovation:

- Every year we invest large amounts of capital in the development of new models of CNC lathes and mills.
- Our advanced applications for live tooling technology provide industry leading capabilities in custom designs and applications for secondary machining operations.
- We are applying world-class quality control standards to our complete manufacturing process.
- Our technicians are recognized by the industry for fast, professional service.
- Our goal is to always get better.
- An entrepreneurial attitude and positive approach to innovation has brought us to the fore front of CNC machine tool design and sales. We will continue to innovate.

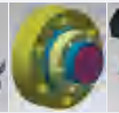
Innovation has been a key to our success and we continue to build a culture where ideas are important. Our goal is to practice continual learning, both in terms of technical and professional knowledge and capability. Tell us how we can do better – We're listening.

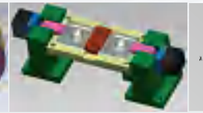
High Value Human Resources

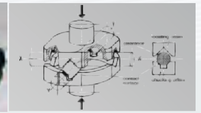
A key Z-MaT competitive advantage is the quality of our people, and our team approach to delivery of the best possible results. Each member of our team has training and proven expertise, as well as a positive, cheerful, can-do approach to supporting our customers.
Z-MaT supports each team member with training and advanced technology-enabled processes for accomplishing day-to-day tasks.
Z-MaT has also created a work environment characterized by mutual trust, recognition for a job well done, and opportunities for personal and professional growth.
Z-MaT works hard to combine individual and combined strengths to generate tangible positive results that exceed customer expectations.

Examples of Fixtures









Bar Feeders



Long bar feeder



Hydra-dynamic bar feeder



Hydraulic single rod bar feeder



Big size bar feeder

INDUSTRY LEADING SERVICE NETWORK



The Pursuit of the Fastest Response is Our Promise

"Responding within 18 Hours" is our commitment to client service standards, the cornerstone of service philosophy and a key to our success. We track our service response patterns and apply scientific process. One of the commitments we promise to our customers is to make sure we keep improving.

We know that technical service is important–as important as the physical machine. Our technicians are here to help provide you the most efficient machine process–this includes help in determining optimal cycle time and optimizing machine maintenance. Most of Z-MaT's valuable services are provided free of charge.

Service Center



Our service and sales team are well trained to use multi-language, materials are also updated to international languages, which is critical capability to supply timely service and avoid loss by misunderstandings. In order to recover the normal operation of customers' machines as quickly as possible, we work to resolve problems speedily by the ways (conference apps, WhatsApp, telephone and Email) which customer is convenient, if necessary by dispatching well trained experienced staff from the worldwide technical centers for repairs, or supplying parts from the parts stocks.

Parts Center



We will supply a replacement for parts that prove to be defective for a period of warranty. We build abundant stocks and track our service response patterns, 95% spare parts can be shipped out by air-courier within 1 day after receiving the request from customer.

Pre-sale Service



To select the most suitable machine with the right configuration and optimized solutions is the first most important step of everything. Machine tools are products that run continuously for many years. This means that machine tools manufacturers have to build very close partnerships with their customers, more so than in any other industries. Integrated with 30 years' experience in auto parts, medical mold and machine tools industries, our application engineers come up with the optimum proposals based on their requirements in regard to machining. Supporting the customer's production activities with greater speed and reliability, as well as cost reduction requirement for improving Z-MaT's client competitive advantage.

The Z-MaT International Warranty – 18 Months

Demonstrates our confidence in the quality of our product, and brings peace of mind to our customers.

We will supply a replacement for parts that prove to be defective for a period of 18 months, starting on the machine's bill of lading date. Extended warranty is available at the time of purchase. Please contact your Z-MaT sales representative for details.







Z-MaT Fast Facts:

- 97%+ Client Retention Rate
- 15,000+ Cooperate Clients
- In business for more than 36 years.
- 100% focus on our clients best interests

China

Direct service in china

- Technical centers
- Headquarter plant
- Subsidiaries

Overseas

- Head office
- Subsidiaries
- Existing and planned overseas service centers