

# Z-MaT

## Smart CNC Solutions

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- Specified bar feeder capacity matches the specified through hole capacity on hydraulic chuck and collet machine configurations. Bar capacity and spindle bore are the same diameter on machines with manual chucks.
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## Products General Catalogue





## Smart CNC Solutions

#1 - Wide Range of Smart CNC Machines

## The Z-MaT Advantage

### Wide Range of CNC Products

We have a CNC machine tailor-made for your application.

### Superior Component Quality

All machines are built using quality, precision grade components – including spindles, electrical parts, linear guides and ball screws, turntables and chucks.

### Special Fixture Designs

We design and manufacture special fixtures for specific industry applications.

### Secondary Machining Operations

Machine Complex Parts in a Single Operation: Z-MaT provides industry leading live tooling design applications. We offer precision bi-directional live tooling and hydraulic tooling. Z-MaT live tooling is capable of 1/C Axis interpolation using axial, radial and vertically driven tool holders.

### Special Purpose Machines

Custom designs for purpose built machine tools. This service is provided to customers who need a special machine to produce large quantities of complex parts.

# Z-MaT



### Professional Technical Team

The Z-MaT technical team members are knowledgeable and well-trained. Each of our technicians has many years of experience handling a wide range of machining applications for customers around the world. Give us a call – let us help you determine which machine best fits your needs.



### Flexible Configuration Options

We will configure the machine that most efficiently and profitably fulfills your machining requirements. Our wide range of CNC machines and tooling options can be configured in a variety of combinations.



### Attention to Ergonomics

Full consideration is given to designs for operator comfort and productivity. Standard or optional configurations options include adjustable panel, hand-held BWP, auto lube system and operator safety features.



### Superior Customer Care

Z-MaT's 24/7 Promise – We return customer calls within 16 hours. When you contact us, a knowledgeable English speaking sales engineer will be in contact to answer your questions. The same promise applies to service and machine support – we have repair parts in-house and in dealer stock to handle worldwide service requests.



Z-MaT stands for Zhenhuan Machine Tool Company, one of the largest and fastest growing machine tool builders – worldwide. Z-MaT manufactures a wide range of CNC machines, which includes CNC Turning Centers, Horizontal CNC Lathes, Vertical Machining Centers, CNC Milling Machines and Special Purpose Machines.

In addition, Z-MaT is recognized for the company's advanced development and technological advantage in the field of live tooling products. Live tooling operations include axial and radial milling, drilling and tapping. These live tooling applications are available on a wide variety of Z-MaT CNC turning machines.

#### Timeline of Z-MaT Development:

- 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.
- 1999** In 1999 capital investment from Hong Kong expanded the company's capacity – pushing Z-MaT onto the international business stage.
- 2000** From 2000 onward Z-MaT made a variety of machine tools for use in the company's parts manufacturing. These tools dramatically increased productivity and cut costs.
- 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.
- 2011** In 2011 the company established a global marketing strategy and began using the new Z-MaT logo as a replacement for the domestic Chinese brand and logo.
- 2016** In 2016 Z-MaT exported CNC machines to over 30 countries and is a recognized pioneer and leader in supplying complete smart manufacturing solutions for machining small to medium sized parts.

As of today, Z-MaT has more than **23 machine model series**, with more than 100 models of CNC turning machines in the company product line. This broad line of CNC lathes has brought recognition to Z-MaT as a world-wide leader in precision turning machines.

With distribution around the world, investment from Hong Kong, research and development centered in Taiwan, and manufacturing/assembly in China, Z-MaT is a responsible international corporation. Z-MaT is known and recognized for providing unmatched support to customers, employees, and to the environment.

Z-MaT is committed to building partnerships with educational institutions, community organizations, governmental agencies and private companies. Our ultimate goal is to be a conscientious public partner in providing smart manufacturing solutions that serve industry and positively impact the world.

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	2540	Tapping Center
	VMC	
	Q50	Roll Shape Solutions
	CXK2110	Big Spring Solution
	B105	Big Spindle Bore Solution
	Others	



# STAR FAMILY Turning Centers

STAR STL/SL SERIES

The STAR family of CNC lathes features a cast mono-block, slant bed design and has 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 STAR family is comprised of two series of lathes – **SL** (Slant bed with Linear Guideways) and the **STL** (Slant Bed, Tail Stock and Linear Guideways).



## STAR STL SERIES The Foundation for Success

### Turret Features

Indexing, bi-directional 8-Station Turret is standard on the STL. 12-Station Turret is optional. High quality, high speed turret provides optimal tool change efficiency and speed.



### Rigid Headstock and Spindle

Heavy duty spindle nose is supported by a double row of tapered cylindrical roller bearings. Back of spindle is supported by angular ball bearings and a double row of cylindrical roller bearings. This combination provides the very best combination of speed and rigidity.

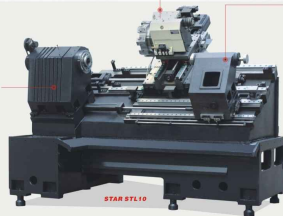


### Heavy-Duty Cast Iron Base – PLUS, Quality Components

STL lathes have a heavy-duty cast base with "true align" slant bed design. The machine bed, head stock, turret and tail stock 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, and 5) Lower power consumption.



### Automatic Tail Stock

This efficient tail stock provides a combination of rigidity, accuracy and rapid set-up times. The tail stock body, with cylindrical roller linear guideway is positioned by a hydraulic traction bar.



**90%** reduction in set-up time, compared to manual tail stock lathes.



STAR STL6 SL6 STL8 STL8-II SL8S  
base and bed are  
**One-piece casting**  
monoblock design.

# SPINDLE & TURRET FEATURES

## Star Family Turning Center

STL6 / STL8 / STL8-II / STL10 / STL12 / SL6  
SL8 / SL10 / SL12

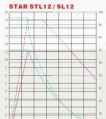
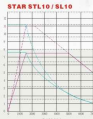
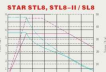
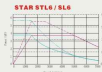


## Combined Speed and Rigidity

Machines come standard with a direct mount spindle. Cartridge type spindle units are available as an option.

The headstock and main spindle are manufactured then assembled and tested in 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.

## SPINDLE MOTOR TORQUE DIAGRAM



Cartridge Type Spindle As Optional

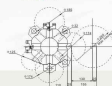
Note: The real spindle output torque are converted by actual belt pulley ratio, please contact sales representative to get more technical details.

## Various High Class Turret

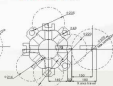
Increase efficiency and reliability

## Tool Interference Diagram

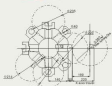
STAR SL6 BTP63-B



STAR STL8/STL8-II BTP60-B



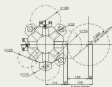
STAR SL8 BTP60-B



STAR STL10/SL10(STL12/SL12) BTP100-B



STAR STL6 BTP63-B

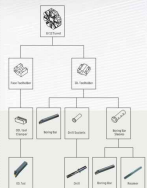


STAR STL10/SL10(STL12/SL12) BTP100-L2



## TOOLING SYSTEM

STAR STL6/STL8/STL8-II/STL10/STL12/SL6/SL8  
SL10/SL12



	Adjacent tool change and lock time	Opposite tool change and lock time
BP Center Height - 63 BP BTP63	0.6s 0.4s	2s 1.4s
BP Center Height - 60 BP BTP60	0.6s 0.45s	2s 1.6s

Optional Hydraulic Turret

2-Mat Adopted Standard Turret



Servo



Hydraulic

# STAR STL SERIES

Slant bed, Tailstock, Linear guideway

## Standard Features

- Hydraulic 3-Jaw Chuck
- 8-Station Turret
- Automatic Lubrication System
- Automatic Coolant System
- Automatic Tail Stock (STL8-II, 10, 12)
- Hydraulic Tail Stock (STL6, 8)

## Optional Features

- 12-Station Turret
- Different Chucks and Collets
- Different CNC Control Systems
- Different Spindle Bore Diameters
- Chip Conveyor
- Tool Setter



## Machine Characteristics

- Cast Mono-Block, "True Align" Slant Bed Structure
- Adjustable "Ergonomic" Operator Control Panel
- Servo Spindle Motor - High Speed with Constant Torque
- Handheld Electronic Hand Wheel
- Highly Efficient Turret - Indexing, Bi-Directional, Non-Lifting
- Schneider Superior Quality Electrical Components
- Cylindrical Roller Bearings and LM for STL10/STL12



## Full Range of Turning Centers



## Specifications

	Unit	STL6	STL8	STL8-II	STL10	STL12
Capacity	Chuck size	inch 6", "8"	inch 8", "10"	inch 8", "10"	inch 10", "8"	inch 12", "10"
	Max. swing dia. over bed	mm Ø400	mm Ø420	mm Ø420	mm Ø500	mm Ø550
	Max. length of workpiece	mm 300	mm 400	mm 500	mm 750	mm 750
	Max. swing diam. over slide	mm Ø250	mm Ø210	mm Ø210	mm Ø275	mm Ø290
Spindle	Spindle bore	mm Ø48	mm *Ø55	mm *Ø62	mm Ø62	mm *Ø75
	Max. dia. of through-hole	mm Ø40	mm *Ø48	mm *Ø52	mm Ø52	mm *Ø65
	Spindle nose	type A2-5	type *A2-5	type *A2-6	type A2-6	type *A2-8
	Spindle speed	rpm 3000	rpm *1600	rpm *2000	rpm 1800	rpm 2000
Axis	Max. motor power	kW 5.5/7.5	kW 7.5/11.0	kW 7.5/11.0	kW 7.5/11.0, *11.0/15.0	kW 11.0/15.0, *15.0/18.0
	X-axis travel	mm 155	mm 180	mm 180	mm 280	mm 280
	Z-axis travel	mm 300	mm 400	mm 500	mm 750	mm 750
	X/Z rapid traverse	mm/min 18/20	mm/min 15/20	mm/min 15/20	mm/min 15/20	mm/min 15/20
Turret	Center height	mm 63	mm 80	mm 80	mm 100	mm 100
	No. of tool stations	nos 8, *12	nos 8, *12	nos 8, *12	nos 8, *12	nos 8, *12
	Tool shank size	mm 25x20, *16x16	mm 25x20, *20x20	mm 25x25, *20x20	mm 25x25	mm 25x25
Tailstock	Type of tailstock	Hydraulic, "LM"	Hydraulic, "LM"	Hydraulic, "LM"	LM	LM
	Taper of tailstock quill	MT4	MT4	MT4	MT5	MT5
	Travel of tailstock quill	mm 80	mm 80	mm 0	mm 0	mm 0
	Travel of tailstock	mm 300	mm 400	mm 100-600	mm 100-750	mm 100-750
Structure	Slant bed degree	35°	35°	35°	35°	35°
	Guideway type	LM	LM	LM	LM	LM
Others	Power capacity	KVA 13	15	15	18	20
	Overall dimension (LxWxH)	mm 2130x1450x1600	mm 2600x1720x1775	mm 2600x1850x1830	mm 3200x1900x2000	mm 3200x1900x2000
	Weight (about)	Kg 3300	3400	3400	5000	5200

Note: "\*" means optional, "LM" means linear motion guide way, automatic hydraulic driven body move tailstock.

# STAR SL SERIES

Slant bed, Linear guideway

## Standard Features

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

## Optional Features

- 12-Station Turret
- Different Chucks and Collets
- Different CMC Control Systems
- Different Spindle Bore Diameters
- Chip Conveyor
- Tool Setter
- C Axis and Live Turret



SL Turning Centers Feature a Compact Design – **Without Tail Stock**  
SL has Same Performance as STL – At a Lower Price Point

## Machine Characteristics

- Cast Mono-Block, "True Align" Slant Bed Structure
- Compact Design (No Tail Stock) – Perfect for Automation Options
- Adjustable "Ergonomic" Operator Control Panel
- Servo Spindle Motor – High Speed with Constant Torque
- Handheld Electronic Hand Wheel
- Highly Efficient Turret – Indexing, Bi-Directional, Non-Lifting
- Schneider Superior Quality Electrical Components
- Cylindrical Roller LM and Cylindrical Roller Bearings for SL10/SL12 with Rigid Upgrade



## Specifications

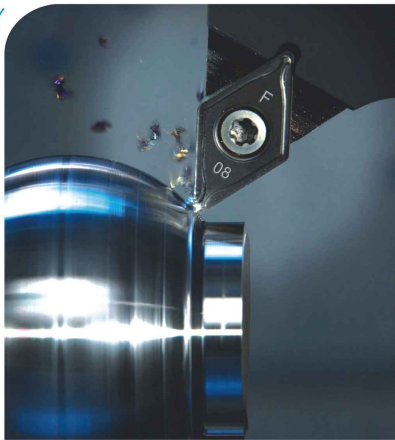
		Unit	SL6	SL8	SL10	SL12
Capacity	Chuck size	inch	6", 18"	8"	10", 18"	12", 15"
	Max. swing dia. over bed	mm	φ400	φ420	φ560	φ660
	Max. length of workpiece	mm	338	320	400	400
	Max. swing diam. over	mm	φ200	φ220	φ270	φ290
Spindle	Spindle bore	mm	φ48   *φ55   *φ62   *φ81	φ62   *φ48   *φ55   φ81	φ81   *φ62   *φ48   *φ55	φ105   *φ105   *φ120
	Max. dia. of through-hole	mm	φ45   *φ46   *φ52   *φ70	φ52   *φ40   *φ46   φ70	φ52   *φ40   *φ46   φ70	φ91   *φ91   *φ110
	Spindle nose	type	A2-6   *A2-5   *A2-8   *A2-8	A2-6   *A2-5   *A2-8   *A2-8	A2-6   *A2-5   *A2-8   *A2-8	A2-11   *A2-8   *A2-11
	Spindle speed	rpm	3000   *2500   *2000   *1600	3000   *2500   *2000   *1600	3000   *2500   *2000   *1600	1000   *1500   *1000
Axis	Main motor power	kW	3.7/5.5, *5.5/7.5	5.5/7.5, *7.5/11.0	7.5/11.0, *11.0/15.0	7.5/11.0, *11.0/15.0
	X axis travel	mm	155	250	280	280
	Z axis travel	mm	330	320	400	400
	X/Z rapid traverse	mm/min	20/25	12/20	15/25	15/25
Turret	Center height	mm	83	80	100	100
	No. of tool stations	nos	8, *12	8, *12	8, *12	8, *12
	Tool shank size	mm	20x20, *16x16	25x25, *20x20	25x25	25x25
	Slant bed degree	35°	45°	35°	35°	35°
Others	Guideway type	LM	LM	LM	LM	LM
	Power capacity	KVA	11	13	16	16
	Overall dimension (LxWxH)	mm	2350x1450x1900	2050x1550x1850	2700x1730x1900	2700x1750x1900
	Weight (about)	kg	2100	2600	4500	4800

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

# 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 tail stock for added functionality.



## FLASH SL SERIES

**SL Stands For:** Slant Bed with Linear Guideway  
SL280/ SL340/ SL400/ SL500

### 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.

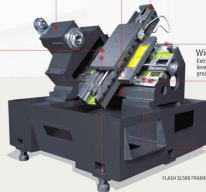


### Sleeve-Type Follow Rest

Longer parts that require only simple turning operations can be machined accurately, and with good repeatability using the optional table-mounted follow rest. This option can be used in place of a Swiss-type CNC lathe – with the assurance of comparable, or better accuracy and repeatability.

### 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.



FLASH SL500 FRAME

### Wide Spaced Linear Guideways

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



### 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, SL400's base and bed are one-piece casting, monoblock design.

*The Beauty  
of Speed and  
Accuracy*

### 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.

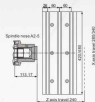
# FLASH SL FEATURES

## Chuck/Table Interface Diagrams

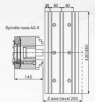
FLASH SL280/ SL340



Collet



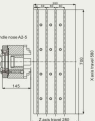
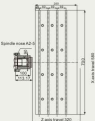
Chuck



FLASH SL400



FLASH SL580



## 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. Turnets 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



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

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

# FLASH SL SERIES

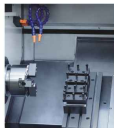
Slant bed, Linear guideway

## 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 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.



## Full Range of Turning Machines



## Specifications

	Unit	SL280	SL340	SL400	SL580
Capacity	Chuck/collet	Hydraulic Chuck "Hydraulic Chuck 6", "8"			
	Max. swing dia. over bed	mm	6420	6420	6420
	Max. length of workpiece	mm	*Chuck 245, *Chuck 285	*Chuck 240, *Chuck 280	*Chuck 250, *Chuck 285
	Max. swing dia. over slide	mm	φ140	φ140	φ120
Spindle	Spindle bore	mm	φ40    *φ55    *φ62    *φ81	φ48    *φ55    *φ62	φ48    *φ55    *φ62    *φ75
	Max. dia. of through-hole	mm	φ40    *φ48    *φ52    *φ70	φ40    *φ48    *φ52	φ40    *φ48    *φ52    *φ65
	Spindle nose	mm	A3-6    *A2-5    *A2-6    *A2-8	A2-5    *A2-5    *A2-6	A2-5    *A2-5    *A2-6    *A2-8
	Max. Spindle speed	rpm	3000    *2500    *2000    *1600	3600    *2500    *2000    *1600	3600    *2500    *2000    *1600
Axis	Main motor power	kW	3.7/5.5    *5.5/7.5	3.7/5.5    *5.5/7.5	5.5/7.5
	X travel	mm	280	340	400
	Z travel	mm	240	240	320
	X/Z rapid traverse	m/min	28/28	28/28	20/20
Turret	Type	Gang type			
	No. of tool stations	No.	4-6	4-7	5-8
	OO tool and bore tool shank	mm	20x20 / φ25	20x20 / φ25	20x20 / φ25
Structure	Inclined bed degree	35°	35°	45°	45°
	Guideway type	LM	LM	LM	LM
Others	Power capacity	kVA	11	11	13
	Dimensions (LxWxH)	mm	1750x1320x1560	2000x1600x1800	2300x1820x1900
	Weight (about)	Kg	2000	2200	3200

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 biggest 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 longevity.

## 1 Piece

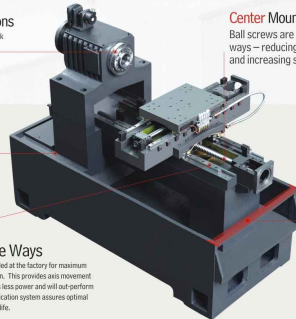
Mono-Block Casting

## "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. Automatic lubrication system assures optimal lubrication, which maximizes machine life.





# FLASH FL SERIES

Flat bed, Linear guideway

## Optional Features

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

## Standard Features

- Manual 3-Jaw Chuck (FL400 and above)
- Pneumatic Collet (FL280, FL300)
- 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



## Full Range of Turning Machines



## Specifications

	Unit	FL280	FL300	FL400	FL500	FL550	FL630
Capacity	Chuck/collet	type	Pneumatic collet "Hydraulic collet	Pneumatic collet "Hydraulic chuck 8", "6"	Manual chuck 8" "Hydraulic chuck 8", "6"	Manual chuck 10" "Hydraulic chuck 10", "8"	Manual chuck 12" "Hydraulic chuck 12"
	Bed type/linear guideway	Flat/LM	Flat/LM	Flat/LM	Flat/LM	Flat/LM	Flat/LM
	Max. swing dia. over bed	mm	Φ300	Φ300	Φ400	Φ500	Φ550
	Max. length of workpiece	mm	180	300, "200 (chuck)	320	500	450
Spindle	Max. swing dia. over slide	mm	Φ120	Φ135	Φ180	Φ360	Φ380
	Spindle bore	mm	Φ37	Φ48	Φ55	Φ62	Φ81
	Max. dia. of through hole	mm	Φ32	Φ40	Φ45	Φ52	Φ70
	Spindle nose		Φ68 1:4	A2-5	A2-5	A2-6	A2-6
Spindle	Spindle nose		Φ68 1:4	A2-5	A2-5	A2-6	A2-6
	Spindle speed	rpm	3000	3000	3000	3000	3000
	Spindle motor power	kW	3	4	5.5	5.5	7.5
Axis	X/Z travel	mm	250/180	350/300	380/350	260/500	260/500
	X/Z rapid traverse	mm/min	16/15	25/15	25/20	12/9	12/9
Tool post	Type		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
	No. of tool stations	No.	4-8	4-10	4-10	4-10	4-10
Others	Power capacity	kVA	8	9	11	12	15
	Dimensions (LxWxH)	mm	1750x1200x1550	1700x1200x1550	1850x1250x1620	2050x1360x1800	2050x1360x1800
	Weight (about)	Kg	1300	1800	2600	2700	3600

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

# FLASH FTL SERIES



## Machine Characteristics

- The tail stock is set on its own guide way, parallel to the main bed ways. This structure is highly rigid and accurate.
- Z Axis on FTL320 uses a box way.
- 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 1.5 meter 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.

## 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 stations turret



Vertical live tool (Y axis)



Hydraulic steady rest



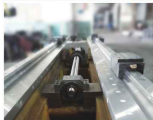
Manual steady rest



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 Tail Stock
- Ergonomic Operator Panel Design & MPG
- Automatic Lubrication System
- Automatic Coolant System
- Work Lamp & Built-In Safety Features

## Optional Features

- Different Chucks
- Different Spring Collets
- Different Control Systems
- Hydraulic Tail Stock
- Live Tooling
- Bar Feeder
- 8-Station Turret



## Full Range of Turning Machines



## Specifications

		Unit	FTL300	FTL320 (*T)	FTL400 (*T)	FTL500 (*T)	FTL550 (*T)
Capacity	Chuck size	type	6", "8"	6", "8"	8"	10", "8"	12", "10"
	Bed type / guideway		Flat/LM	Flat/X, LM, Z box	Flat/LM	Flat/LM	Flat/LM
	Max. swing dia. over bed	mm	Ø300	Ø350	Ø400	Ø500	Ø550
Capacity	Max. length of workpiece	mm	180	380(4 toolpost) *300(8 station turret)	850(center to center) 580(chuck to center) 450(8/12 station turret)	1090(1500:center to center) 850(1350: chuck to center) *750(1250 (8/12 station turret))	1090(1500:center to center) 850(1350: chuck to center) *750(1250 (8/12 station turret))
	Max. swing dia. over slide	mm	Ø135	Ø140	Ø220	Ø280	Ø320
	Max. swing dia. over slide	mm	Ø135	Ø140	Ø220	Ø280	Ø320
Spindle	Spindle bore	mm	Ø48	*Ø55	Ø48	*Ø62	Ø81
	Max dia. of through hole	mm	Ø40	*Ø46	Ø40	*Ø52	Ø70
	Spindle nose	mm	A2-5	*A2-5	A2-5	*A2-6	A2-6
Spindle	Spindle speed	rpm	3000 *4500 *6000	3000 *4500 *6000	2000 *2500 *3000	1800 *2200 *2800	1000 *1500 *1800
	Spindle speed	rpm	3000 *4500 *6000	3000 *4500 *6000	2000 *2500 *3000	1800 *2200 *2800	1000 *1500 *1800
	Spindle speed	rpm	3000 *4500 *6000	3000 *4500 *6000	2000 *2500 *3000	1800 *2200 *2800	1000 *1500 *1800
Axis	Main motor power	kW	4.5, *5.5	4.5, *5.5	5.5, *7.5	7.5, *11, *15	11, *15
	X/Z travel	mm	300/250	280/380	280/650	280/1000, 280/1500	280/1000, 280/1500
	X/Z rapid traverse	mm/min	15/15, *20/20	25/15	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-station turret *gang type tooling
	No. of tool stations	pcs	4+2	4+2, *8+2	4+2, *8+2	4+2, *8+2	4+2, *8+2
	Tailstock type		Manual, *hydraulic	Manual, *hydraulic	Manual, *hydraulic	Manual, *hydraulic	Manual, *hydraulic
Tailstock	Taper of quill	MT	MT4	MT4	MT4	MT5	MT5
	Travel of tailstock quill	mm	80	80	100	100	100
	Power capacity	kVA	9	13	13	15	18
Others	Dimensions (LxWxH)	mm	1800x1580x1900	2200x1580x1900	2500x1400x1500	3400x1900x2010	3400x1900x2010
	Weight (about)	kg	1600	2100	2800	3800	3800

Note: "\*" means optional, "N/A" means not available, "LM" means linear motion guide way.  
 "T" means configured with turret and other higher configuration.

# Power A Series Turning Centers

A6 / A8 / 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

A6 / A8 / A8L

- 60°** steep inclined bed, closer to operator
- 300%** double size chip tank larger than Flash SL series
- 280%** sized linear guide way slide block
- 45mm** width heavy duty linear guideway
- 40mm** ballscrew diameter

### 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.

### Power A8 rough cutting parameter



- **Depth of cut**  
**9mm(0.35in)**

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

### 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

# POWER A SERIES

Built for High Speed Heavy Cutting

## 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

## 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



### 60° (Degree) 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 chip tanks used on the FLASH Series. Chip conveyor optional.

## FULL RANGE OF TURNING MACHINE



## Specifications

		Unit	POWER A6		POWER A8		POWER A8L	
Capacity	Collet/Chuck size	inch	6", " 8"		8", " 10"		8", " 10"	
	Max. swing dia. over bed	mm	9550		9550		9550	
	Max. cutting length	mm	250		250		250	
	Max. swing dia. over slide	mm	Φ160		Φ140		Φ266	
Spindle	Spindle bore	mm	Φ48	*Φ55	Φ65	*Φ62	*Φ75	Φ55
	Max dia. of through hole	mm	Φ40	*Φ45	Φ45	*Φ52	*Φ65	Φ45
	Spindle nose		A2-5	*A2-5	A2-5	*A2-6	*A2-8	A2-5
	Spindle speed	rpm	3550	*1600	1600, *4000, *5000	*2550	*1600	1600, *4000, *5000
	Main motor power	kW	7.5		11			11
Axis	X axis travel	mm	380		380		380	
	Z axis travel	mm	250		250		250	
	X/Z rapid traverse	m/min	12/12		12/12		12/12	
Tool post	Type of toolpost		Gang type		Gang type		Gang type	
	No. of tool stations	nos	4-6		4-6		4-6	
	OD tool shank size	mm	32X32		32X32		32X32	
Structure	Slant bed degree	°	60		60		60	
	Guideway type		Linear Motion		Linear Motion		Linear Motion	
Others	Power capacity	kVA	12		16		16	
	Overall dimension (LxWxH)	mm	2160X1600X1750		2350X1650X1780		2360X1950X2060	
	Weight (approx)	kg	2850		3200		3500	

Note:\*\*\* means optional.

# SUPER SERIES

Super Precision CNC Turning Center  
M06 / P30H / SP28

## Standard Features

- Hydraulic 3-Jaw Chuck
- 8-Station Servo Turret
- Automatic Lubrication System
- Automatic Coolant System
- Work Light and Alarm Light
- Ergonomic Operator Panel

## Optional Features

- 12-Station Servo Turret
- Different Chucks and Collets
- Different CNC Control Systems
- Different Spindle Bore Diameter
- Chip Conveyor
- Tool Setter
- Bar Feeder
- Automatic Hydraulic Tail Stock



## Specifications

	Unit	Super M06
Capacity	Chuck size	6", 8"
	Max. swing dia. over bed	Φ360
	Max. length of workpiece	300
	Max. swing diam. over slide	Φ160
Spindle	Spindle bore	Φ55    *Φ62
	Max. dia. of through-hole	Φ46    *Φ52
	Spindle nose	A2-5    *A2-6
	Spindle speed	4500    *4000
	Main motor power	5.5/7.5    *7.5/11
Axis	X axis travel	160
	Z axis travel	320
	X/Z rapid traverse	25/25
Turret	Center height	80
	No. of tool stations	8, *12
	Tool shank size	25x25
Tailstock	Type of tailstock	Hydraulic, *LM
	Taper of tailstock quill	M74
	Travel of tailstock quill	80
	Travel of tailstock	300
Structure	Slant bed degree	30°
	Guideway type	LM
Others	Power capacity	KVA    13
	Overall dimension (LxWxH)	mm    1650x1880x1780
	Weight	Kg    3000

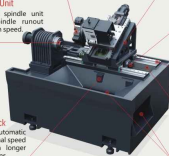
Note: "\*" means optional, "LM" means linear motion guide way.

### Servo Turret

Fast tool changes with high positioning accuracy. Increases overall machine accuracy and shortens cycle times.

### Superior Spindle Unit

Superior standard spindle unit achieves high spindle runout accuracy - with high speed.



### Slant Carriage

Table carriage is slanted triangle structure - solid and reliable.

### High Accuracy Ball Screw

Ball screw bearing housing is precision ground and hand scraped to maximize bearing assembly accuracy.

### Roller Linear Guideway

Large diameter cylindrical roller linear guideways - allows for heavy cutting at high accuracy.

### Heavy Base Structure

Heavy, wide base structure provides superior damping and rigidity.

### Optional Chip Conveyor

Can be installed on right side or back side of the machine.

## HIGH PRECISION AND COMPACT SIZE

## Machine Characteristics

- Spindle runout  $\leq 2 \mu m$
- Space saving, compact footprint
- Smooth, efficient chip removal
- Built-in spring collets - low vibration, high accuracy
- Servo spindle motor, Bosch Rexroth linear guideway, PMI ball screw

## 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
- Parts Counter
- C Axis and Live Tooling
- Bar Feeder



## Specifications

	Unit	SUPER P30H	SUPER SP28
Capacity	Max. swing dia. over bed	mm    Φ300	Φ300
	Max. cutting length	mm    180	180
	Max. swing dia over slide	mm    Φ80	Φ90
Spindle	Spindle bore	mm    Φ36	Φ37
	Bar dia. capacity of hyd. collet	mm    *Φ20	Φ28
	Nose type	Φ54mm 1:1	*Φ40 1:1
	Spindle speed	rpm    4000	*5000
	Main motor power	kW    2.2, *3.7	3.7, *5.5
Axis	X axis travel	mm    250	290
	Z axis travel	mm    180	180
	X/Z rapid traverse	mm/min    20/20	28/28
Toolpost	Type of tool post	Gang type	Gang type
	No. of tool stations	4-6	4-7
	OD Tool shank size	mm    16X16	16X16
Others	Power capacity	KVA    6.5	9
	Bed / Guideway type	Flat / Linear motion	35° Slant bed / Linear motion
	Overall dimension (LxWxH)	mm    1420X1200X1550	1500X1660X1780
	Weight (about)	Kg    1400	1800

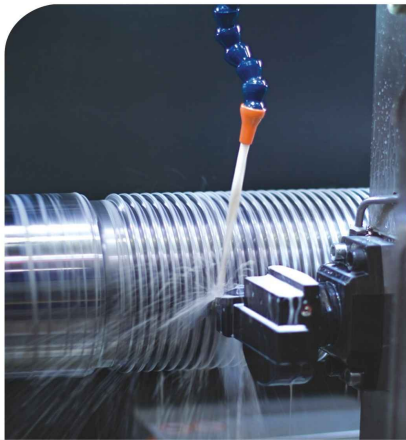
Note: "\*" means optional.

# Hunter Family Turning Centers

HUNTER STH/SH/FH SERIES

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

The three series of HUNTER CNC lathes includes the STH (Slant Bed with Tail Stock), the SH (Slant Bed Without Tail Stock), and the FH (Flat Bed) lathe series.



## HUNTER SERIES

STH / SH / FH

*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 ways. 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 STH SERIES

Slant Bed Tail Stock Hard Ways

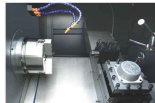
## Z-MaT Original Design

### Standard Features

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

### Optional Features

- Hydraulic Chuck
- Spring Collet System
- Hydraulic Tail Stock
- Different CNC Control Systems
- Different Spindle Bore
- High Speed Spindle



**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.

### 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 taper bearings
- The most economical slant bed with tail stock in the market



## Cost-Effective, Full Production Capable Slant Bed CNC Lathe



### Specifications

	Unit	STH6	STH8	STH10	STH12
Capacity	Chuck size	6"	8"	10"	12", 15"
	Max. swing dia. over bed	mm Ø300	mm Ø350	mm Ø450	mm Ø620
	Max. length of workpiece	mm 280, *350(collet)	mm 300, *400(collet)	mm 750	mm 750
	Max. swing dia. over slide	mm Ø140	mm Ø200	mm Ø250	mm Ø280
Spindle	Spindle bore	mm Ø48	mm Ø48	mm Ø52	mm Ø61
	Max. dia of through hole	mm Ø40	mm Ø40	mm Ø52	mm Ø70
	Spindle nose	A2-5 *A2-5	A2-5 *A2-6	A2-6 *A2-6	A2-11 *A2-11
	Spindle speed	rpm 3000 *4500 *5500	rpm 3000 *4500 *5500	rpm 2000 *3500 *4500	rpm 1800 *2500 *3500
Axis	Main motor power	kW 3.0, *4.0	kW 4.5, *5.5	kW 7.5, *11	kW 11
	X axis travel	mm 300	mm 280	mm 300	mm 300
	Z axis travel	mm 280, *350(collet)	mm 300, *400(collet)	mm 600, 750(between two center)	mm 600, 750(between two center)
	X/Z rapid traverse	mm/min 8/12	mm/min 8/12	mm/min 9/12	mm/min 9/12
Toolpost	Type	4-station toolpost Gang type tooling	4-station toolpost Gang type tooling	4-station toolpost Gang type tooling	4-station toolpost Gang type tooling
	No. of tool stations	4-6	4-6	4-6	4-6
	OD Tool shank size	mm 25x25	mm 25x25	mm 25x25	mm 32x32
Tailstock	Type of tailstock	Manual, *Pneumatic, *Hydraulic	Manual, *Pneumatic, *Hydraulic	Manual, *Hydraulic	Manual, *Hydraulic
	Taper of tailstock quill	MT3	MT4	MT5	MT5
	Travel of tailstock quill	mm 100	mm 100	mm 100	mm 100
	Travel of tailstock	mm 300	mm 400	mm 650	mm 650
Structure	Slant bed degree	30°	30°	30°	30°
	Guideway type	Hard	Hard	Hard	Hard
Others	Power capacity	kVA 8	kVA 8	kVA 11	kVA 15
	Overall dimension (LxWxH)	mm 1950x1250x1600	mm 2050x1300x1600	mm 2500x1450x1650	mm 2500x1450x1650
	Weight (about)	Kg 1700	Kg 2200	Kg 3100	Kg 3300

Note: "\*" means optional.



# HUNTER SH SERIES

Slant bed, Hard guideway

## Standard Features

- Pneumatic Spring Collet
- Gang Type Tools
- Frequency Inverter
- Work and Alarm Lights
- Full Enclosure w/ Safety
- Automatic Lubrication System
- Automatic Coolant System

## Optional Features

- Hydraulic Chuck/Collet
- Servo Spindle Drive
- Different CNC Control Systems
- High Speed Spindle Unit
- C Axis and Live Tooling



## Machine Characteristics

- Low Friction Turcite-B Plastic Way Coating
- Optional C Axis and Live Tooling
- Large contract area between ways and carriage – allows for interrupted cutting cycles.
- 45° degree slant bed structure offers efficient chip removal and easy operator access.
- Compact structure, modular design and high performance to cost ratio.



Mark: Chip conveyor can be installed either right side or back side only for SH52B.

## FULL RANGE OF TURNING MACHINE



## Specifications

		Unit	SH30B	SH40B	SH52B
Capacity	Bar dia. capacity*Chuck size	inch	30mm	40mm, "1 1/2"	52mm, "2", "3"
	Max. swing dia. over bed	mm	Φ250	Φ300	Φ380
	Max. length of workpiece	mm	200	250	320
	Max. swing dia. over slide	mm	Φ80	Φ90	Φ140
Spindle	Spindle bore	mm	Φ37	Φ48	Φ52
	Bar dia. capacity	mm	Φ32	Φ40	Φ48
	Spindle nose	mm	Φ68 1:4	Φ80 1:4	Φ92
	Spindle speed	rpm	3000	3000	2500
	Main motor power	kW	3.0	4.0	4.0
Axis	X axis travel	mm	300	300	280, *340
	Z axis travel	mm	200	250(collet), 160(chuck)	320(collet), 240(chuck)
	X/Z rapid traverse	mm/min	8/9	8/12	15/15
Tool post	Type of toolpost		Gang type	Gang type	Gang type
	No. of tool stations	nos	4-8	4-8	4-8
	OD. tool-shank size	mm	16X16	20X20	25X20
Structure	Slant bed degree		45°	45°	45°
	Tailstock		N/A	N/A	N/A
	Guideway type	type	Hard	Hard	Hard
Others	Power capacity	kVA	7	8	10
	Overall dimension (LxWxH)	mm	1550X1100X1400	1650X1100X1600	1650X1360X1650
	Weight (about)	Kg	1100	1600	2400

Note: \*\*\* means optional.

# HUNTER FH SERIES

Flat bed, Hard guideway

## Standard Features

- Pneumatic Spring Collet
- Manual 3-Jaw Chuck
- 4-Station Tool Post
- Work and Alarm Lights
- Full Enclosure w/ Safety
- Automatic Lubrication System
- Automatic Coolant System
- Variable Frequency Drive

## Optional Features

- Hydraulic Chuck/Collet
- Servo Spindle Motor/Drive
- Different CNC Control Systems
- High Speed Spindle Unit
- Larger Spindle Bore
- C Axis and Live Tooling
- Bar Feeder



## Machine Characteristics

- Center Mounted Ball Screw Assembly reduces friction and side torque – improving dynamic characteristics and long-term machine stability.
- Telescoping, stainless steel ball screw/way guards completely protect slide operation from chips, coolant and debris.
- Large contact area between bed ways and machine carriage promotes stability and accuracy.
- Double row, cylindrical roller spindle bearings improve rigidity on larger machines.



## Unique, Efficient Design – Ball Screw is Mounted Between FH Lathe Bed Ways



## Specifications

	Unit	FH30B	FH40B	FH360	FH400	FH500	FH630
Capacity	Collet bar capacity/Chuck size	inch 30mm, "8"	40mm, "8"	8"	10", "8"	12"	18"
	Max. swing dia. over bed	mm Ø 325	Ø 360	Ø 360	Ø 420	Ø 500	Ø 635
	Max. length of workpiece	mm 180	300/450	300	450	450	485
	Max. swing dia. over slide	mm Ø 75	Ø 150	Ø 210	Ø 290	Ø 420	Ø 425
Spindle	Spindle bore	mm Ø 37	*Ø 48	Ø 48	*Ø 62	*Ø 70	*Ø 105
	Bar dia. capacity	mm Ø 32	*Ø 40	Ø 40	*Ø 52	*Ø 60	*Ø 91
	Spindle nose	Ø 68 1:4	*Ø 60 1:4	Ø 60 1:4	*A2-6	*A2-6	*Ø 111 1:20
	Spindle speed	r/min 3000	*3000	3000	*2000	*2000	*1600
	Main motor power	kW 3.0, *4.0	3.0, *4.0	5.5	7.5	11	15
	X axis travel	mm 250	280, *340	320	320, *380	320, *380	380
Axis	Z axis travel	mm 180	300, *450	300(chuck)	450	450	450
	X/Z rapid traverse	m/min 6/9	6/9	6/9	6/9	6/9	8/9
	Type of toolpost	Gang type	4-station toolpost	4-station toolpost	4-station toolpost	4-station toolpost	4-station toolpost
Tool post	No. of tool stations	nos 4-5	4-6	4-5	4-5	4-5	4-5
	Tool shank size	mm 16X16	20X20	25X25	25X25	25X25	32X32
	Bed width	mm 220	240	340	400	400	480
Structure	Type guideway	Hard	Hard	Hard	Hard	Hard	Hard
	Power capacity	kVA 6	6.5	7	9.5	11	14
Others	Overall dimension (LxWxH)	mm 1350X1100X1420	1450X1200X1490	1900X1200X1600	2300X1300X1700	2300X1300X1700	2300X1400X1800
	Weight (about)	Kg 1600	1200	1600	2600	2800	3600

Note:\*\*\* means optional.

# CK SERIES

CK6125 / CK6130 / CK6136 / CK6140 / CK6150

## Standard Features

- 3-Jaw Chuck or Collet
- 4-Station Tool Post
- Manual Tail Stock
- Center Sleeve
- Automatic Lubrication System
- Automatic Coolant System

## Optional Features

- Different Chucks
- Different CNC Control Systems
- Hydraulic Tail Stock
- Higher Spindle Speed
- Larger Diameter Spindle Bore



## Machine Characteristics

- Heavy Headstock & Large Spindle Bore
- Heavy, Quality Cast Base & Lathe Bed
- High Torque with Good Spindle Speed
- Hardened & Ground Bed Ways
- Good for Turning Long Work Pieces
- Centralized Lubrication System



## Full Range of Turning Machines



## Specifications

Specifications	Unit	CK6125	CK6130	CK6136	CK6140	CK6150				
Capacity	Chuck size	inch	collet	8"	8"	10"	12"			
	Max. swing dia. over bed	mm	Ø250	Ø300	Ø350, *400	Ø420	Ø500			
	Max. length of workpiece	mm	270(collet), 175(chuck)	400(collet), 300(chuck)	500	750/1000/1500	750/1000/1500			
	Max. swing dia. over slide	mm	Ø130	Ø150	Ø160, *Ø200	Ø210	Ø290			
Spindle	Spindle bore	mm	Ø37	Ø48	*Ø62	Ø55	*Ø75	Ø65	*Ø82	*Ø120
	Bar dia. capacity	mm	Ø32	Ø40	*Ø52	Ø46	*Ø65	Ø50	*Ø81	*Ø110
	Spindle nose		Ø68 1:4	Ø80 1:4	*A3-6	A2-6	*A2-6	A2-6	*A2-11	*A2-11
	Spindle speed	r/min	3000	3000	*2000, *3500	1600	*1600	1600	*2000, *3500	*1600
	Main motor power	kW	2.2, 3.0	3.0, *4.0	5.5	7.5	7.5	7.5	10.0	*1000
Axis	X axis travel	mm	220	250	225, *320	320	320	320	400	400
	Z axis travel	mm	270	400	500	750/1000/1500	750/1000/1500	750/1000/1500	750/1000/1500	750/1000/1500
	X/Z rapid traverse	mm/min	6/9	6/9	6/9	6/9	6/9	6/9	6/9	6/9
Toolpost	Type of toolpost		4-station toolpost, "gang type	4-station toolpost, "gang type	4-station toolpost, "gang type	4-station toolpost, "gang type	4-station toolpost, "gang type	4-station toolpost, "gang type	4-station toolpost, "gang type	4-station toolpost, "gang type
	No. of tool stations	nos	4	4	4	4	4	4	4	4
	Tool shank size	mm	16x16	20x20	20x20	25x25	25x25	25x25	25x25	25x25
Tailstock	Type of tailstock		Manual/pneumatic/hydraulic	Manual/pneumatic/hydraulic	Manual/pneumatic/hydraulic	Manual/hydraulic	Manual/hydraulic	Manual/hydraulic	Manual/hydraulic	Manual/hydraulic
	Taper of tailstock quill		MT3	MT3/MT4	MT4	MT6	MT6	MT6	MT6	MT6
	Travel of tailstock quill	mm	80	100	100	130	130	130	130	130
	Travel of tailstock	mm	220	350	400	600	600	600	600	600
Structure	Bed width		260	280	300	400	400	400	400	400
	Guideway type		Hard way	Hard way	Hard way	Hard way	Hard way	Hard way	Hard way	Hard way
Others	Power capacity	kVA	5.5	8	11	14	15	15	15	15
	Overall dimension (LxWxH)	mm	1500X1250X1450	1540X1010X1570	1950X1220X1620	2430X1200X1600	2430X1200X1600	2430X1200X1600	2430X1200X1600	2430X1200X1600
	Weight (about)	Kg	1100	1300	1800	2800	3000	3000	3000	3000

Note:\*\*\* means optional.

# 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 – live 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.

## 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.



## Driven Toolholders List

Form	Position	Group tool nos	Max dia. of live tool	Max. speed
ER20	Radial, Axial, Vertical	1. 2. 3	φ 13mm	5000rpm
ER25	Radial, Axial, Vertical	1. 2. 3	φ 16mm	5000rpm
ER32	Radial, Axial, Vertical	1. 2. 3	φ 20mm	5000rpm

Able to fit for most existing Z-MaT models.



# Multi-Tasking Machine

Turn-Mill Machining Center

## 580mm 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 SL580M 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. SL580M owners report they have gained a competitive advantage with the addition of these machines to their production system.



## Tooling Options

### Option # Tooling Included

1. Gang Tools
2. Gang Tools + (3) ER25 Aerial Live Tools
3. Gang Tools + (4) ER25 Aerial Live Tools
4. Gang Tools + (3) ER25 Radial Live Tools w/ Y Axis
5. Gang Tools + (3) ER25 Aerial Live Tools & (3) ER25 Radial Live Tools w/ Y Axis
6. 8-Station Turret + (3) ER25 Aerial Live Tools
7. 8-Station Turret + (4) ER25 Aerial Live Tools
8. 8-Station Turret + (3) ER25 Aerial Live Tools w/ Y Axis
9. 8-Station Turret + (3) ER25 Aerial & (3) ER25 Radial w/ Y Axis
10. 8-Station Turret + (3) ER25 Aerial and (3) ER25 Radial Live Tools on Single Motor Driven Y Axis Unit
11. 8-Station Turret + (4) ER20 Aerial and (4) Radial Live Tools on Single Motor Driven Y Axis Unit

### Warning:

Carefully consider your specific machining requirements and choose the best tooling combination for your application from the options listed above.

### Tooling Option Labels:

- Gang Tools
- (3) ER25 Aerial Live Tools
- (4) ER25 Aerial Live Tools
- (3) ER25 Radial Live Tools w/ Y Axis
- (3) ER25 Aerial and (3) Radial Live Tools w/ Y Axis
- 8-Station Turret
- (4) ER20 Aerial and (4) Radial Live Tools w/ Y Axis



## Machine Characteristics

- High quality castings provide optimal damping – reducing vibration and increasing rigidity. Best assurance of quality surface finishes.
- Advanced 90° vertical machine structure optimizes chip and coolant flow – PLUS, provides easy operator access for work and tool set-up.
- Single Set-up allows for turning, milling, drilling and tapping operations.
- Capable of C axis and 4 axis simultaneous machining.
- Modular design with many available configurations – such as tail stock and tooling combinations.



## 4-Axis Simultaneous Multitasking Turning Centers



X, Y, Z axes are interpolated with C axis. Milling, drilling and tapping of complex shapes can be accomplished in one setup.

## Specifications

	Unit	SL580-MG	SL580-MT	TMC400Y	TMC40V
<b>Structure</b>	Bed incline degree	45°	45°	0°	90°
	Guideway type	Linear motion	Linear motion	Linear motion	Linear motion
<b>Capacity</b>	Chuck/Collet	N/A	8" Hydraulic chuck/Hydraulic collet	8" Hydraulic chuck/Hydraulic collet	Hydraulic collet
	Max. swing dia. over bed	N/A	Φ380	Φ380	Φ400
	Max. length of workpiece	mm	Chuck 288, *Collet 328	Chuck 220, *Collet 258	250
	Max. swing dia. over slide	mm	Φ90	Φ90	Φ120
<b>Spindle</b>	Spindle type	N/A	A2-6	A2-6	A2-6
	Spindle bore	mm	Φ62	Φ62	Φ62
	Max. dia. of through hole	mm	Φ62	Φ62	Φ62
	Spindle speed	rpm	2000 *3500	2000 *3500	3000 *5000
	Main motor power	KW	5.5/7.5	5.5/7.5	3.7/5.5, *5.5/7.5
<b>Axis</b>	X axis travel	mm	580	390	400
	Z axis travel	mm	320	290	250
	Y axis travel	mm	150	150	50
	X/Z/Y rapid traverse	mm/min	20/20/15	20/20/15	31/31/10
<b>Toolpost</b>	Toolpost type	N/A	Gang type tools mixed with live tooling	8-Station turret mixed with live tooling	Gang type tools mixed with live tooling
<b>Tailstock</b>	Taper of tailstock	N/A	No	No	MT4
	Travel of tailstock quill	N/A	No	No	100
<b>Others</b>	Power capacity	KVA	13	15	14KVA
	Overall dimension(LXWXXH)	mm	2320X1820X1900	2320X1820X1900	2320X1600X1850
	Weight (about)	Kg	3600	3600	2500

Note: "\*" means optional, "N/A" means not available.

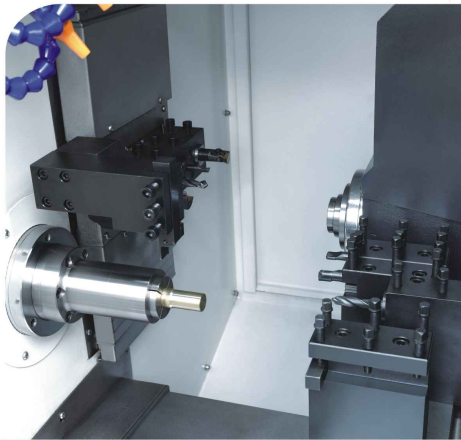
# DUAL SPINDLE CNC LATHE

Advance Automation – On a Single Machine

Meet the new low cost option for dual spindle machining. Advantages of dual spindle/turret machining centers include: 1) One machine is cheaper than two 2) More accurate when a machining process is accomplished on a single machine, rather than moving the part from machine to machine. 3) Lower labor cost due to reduced set-up requirements.

In the past, the problem with dual spindle machines has been the price – too high to justify.

Z-Mat has now introduced the SA28-S Dual Spindle Turning Center. This high quality machine has the capabilities of traditional dual spindle machines – **at a much lower price tag**. Finally, here is an automation option you can use – and price justify.



## Machine Characteristics

- Modular design with multiple tooling options. Main spindle operations can be accomplished using gang tools, tool post or turret. Easily adaptable for turn-mill live tooling options.
- Very high precision Taiwan-made linear guides and ball screws ensure long-term machine accuracy and reliability.
- Highly rigid, Z-Mat exclusive "Mono-Block design" cast base assure absolute rigidity.
- X axis mounted sub-spindle with precision bearings on spindle. Save cost by machining both ends of a part on a single machine.
- Y axis vertical carriage is mounted to side of machine headstock.

## Main Spindle Options

## 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 mm/min	
Spindle bore	Φ37mm, *Φ48mm	<b>SUB-SPINDLE</b>
Spindle bar capacity	Φ28mm, *Φ40mm	Φ37mm
Spindle speed	3000rpm	3000rpm
Spindle chuck/coilet	Hydraulic collet	Hydraulic collet
Spindle turret type	Gang type tools, *8 Station turret	Gang type tool
Spindle motor power	3.7KW	2.2KW
Spindle taper	Φ48mm	
Spindle type	30°, *42°	
(Dimension) X300(H)	1090X1480X1830mm	
Weight	1900Kg	



### Main Spindle Options

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

### Secondary Spindle Options

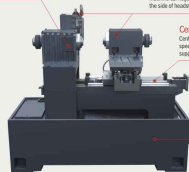
X axis secondary spindle is mounted on the machine carriage. Y axis spindle is mounted on the side of headstock.

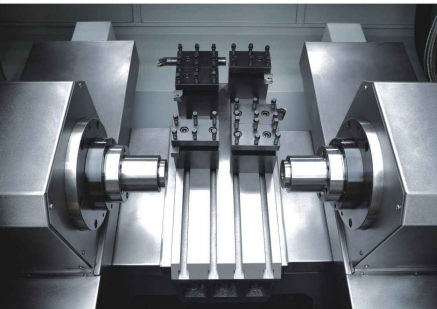
### Center-Mounted Ball Screw

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.





## DUAL SPINDLE CNC MACHINES

Different Forms – Different Applications

### Three Dual Spindle Model Options:

SA28-S	Fixed Spindle + Movable Spindle
DA66-G	Movable Spindle + Movable Spindle
TT300	Both Spindles Fixed



### TT300

Chuck/Collet	6" Hydraulic chuck/Hydraulic collet
Max. swing dia. over bed	Φ300mm
Max. length of workplace	220mm
Spindle bore / through hole	Φ48mm / Φ40mm
Spindle speed	3000rpm
Main motor power	4.5kW, 7.5kW
X/Z axis travel	325mm/220mm
X/Z rapid traverse	25/25 m/min
Turret type	Gang type tool, 14-Station toolpost
Guide way type	LM
Overall dimension(LXWXH)	2750X1300X1750mm
Weight	2400Kg

## DUAL SPINDLE AUTOMATION

### Machine Characteristics

- Main and sub-spindle can machine separate parts simultaneously, or machine both ends of a single part in a sequential operation.
- High precision, high quality components - including spindle, precision ball screws and world-class linear guideways.
- The advantages of gang tool operations include minimal tool change error and rapid point-to-point tool changes. This adds up to faster cycle times and higher accuracy.
- Stand-alone automation is accomplished by adding a vibrating tray or gantry robot arm.
- Both main and sub-spindle can catch, clamp or release parts automatically.



### Specifications

#### DA66-G

Slant bed degree	30° LM
Max. machining dia.	Φ160mm
Standard machining dia.	Φ100mm
Spindle type	A2-5
Spindle taper	MT6
Spindle X/Z axis travel	370mm/200mm
Spindle X/Z rapid traverse	15/15 m/min
Spindle bore	Φ50mm
Spindle bar capacity	Φ40mm
Spindle speed	3500rpm
Spindle chuck/collet	6" Hydraulic chuck/ Hydraulic collet
Spindle motor power	7.5kW
Turret type	Gang type tool
Overall dimension(LXWXH)	2550X1750X1800
Weight	3300kg

### Center-Mounted Ball Screw

Center mounted ball screw is inherently more accurate than lower cost machines that use front-mounted ball screws. Lower friction and torque, along with quality pre-loaded bearing assemblies assures optimal power transmission, speed and accuracy.

### Heavy Linear Guideways

Extra heavy linear guides and rails, coupled with wide way spacing produces superior rigidity, along with improvements in long-term quality results, with high precision.

### Main and Sub-Spindles

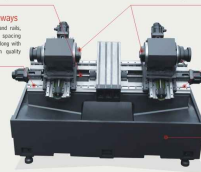
Both spindles adopt servo high-speed motors with high rotation accuracy and fast response. This level of accuracy and synchronization assures total process accuracy as single parts are machined with high precision using two different spindles in a single machining cycle.

### 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.

### 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.





# VERTICAL CNC LATHE

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

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

## 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.

### SPECIFICATIONS

	ITEM	Unit	VT400	VT600
Capacity	Max. swing dia.	mm	φ500	φ750
	Max. cutting dia.	mm	φ450	φ650
	Max. cutting height	mm	400	600
Chuck	Chuck type		Hydraulic chuck	Hydraulic chuck
	Chuck size	inch	12"	15" x 18"
	Spindle speed	rpm	50-2500	50-2000
Spindle	Main motor	kW	15/18	22
	Spindle nose		A2-8	A2-11
Turret	Turret type		Hydraulic turret	Hydraulic turret
	No. of tools	nos	8-station	8-station
	Tool shank size	mm	40X40	40X40
Axis	X/Z axis travel	mm	300/450	480/600
	X/Z axis rapid traverse	m/min	15/18	12/16
Accuracy	Positioning X/Z	mm	0.015/0.015	0.015/0.015
	Repeatability X/Z	mm	0.005/0.008	0.005/0.008
	Machining IT	IT6	IT6	IT6
Others	Power consumption	kVA	22	28
	Dimension LxWxH	mm	1850X1700X2650	2500X2000X3300
	Weight	Kg	6300	11500

Note: \*\*\* means optional.





# The Latest - MILLING & TAPPING TECHNOLOGY

Tapping Center/VMC

## Customers have told us:

"We need shorter machining cycle times and more efficiency in our machining process. It would help to have a mill with a long X axis without the bulk of a larger VMC. Of course, we want a machine at lower cost - that's easy to learn to operate."

In response to customer expectations we have produced a high precision VMC tapping series with its own unique structure and upgraded performance. While the design is based on a standard, this tapping machine has our own science and engineering design ideas added into the mix. This VMC tapping center has common features that fit the unique requirements of a wide range of parts making requirements.

## HIGH SPEED TAPPING CENTER

### Machine Characteristics

- Advanced casting design uses precision annealing with traditional aging methods used on each casting. Provides optimal damping of vibration and ensures long-term stability and quality results.
- 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.
- Sun type tool magazine - for rapid tool changes and solid machining performance.
- 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.



	Unit	Z540
Table size	mm	800X400
Max. load of table	Kg	250
T slot (width/height, distance)		14X3X100
X axis travel	mm	500
Y axis travel	mm	400
Z axis travel	mm	300
Spindle nose to table	mm	155-455
Spindle center to column	mm	405
X/Y/Z axis rapid traverse	m/min	48
Spindle type		B T30
Spindle driving method		Direct drive
Spindle speed	rpm	12000
Spindle motor power	kW	3.7
ATC type		Clamp arm type
ATC capacity		16/20
Max. weight of tools	Kg	3
Tool change time	s	2
Dimension	mm	1900X2100X2500
Weight (about)	Kg	2300

**ATC Tool Magazine**  
Armless type magazine, fast tool changing

**Main Spindle**  
Standard Spindle Speed 12000rpm, Rigid Tapping Function Is Standard

**Machine Column**  
Y-Shape column design, Stable structure and good rigidity.

**Optimum Structure**  
Big space machine bed, Stable structure and strong carrying capacity.

**LM Guideway**  
Rapid travel reach to 48m/min, fast response and high positioning accuracy.



# VMC SERIES

Vertical Machining Center

## SMART MANUFACTURING – Starts Right Here!



3 axes all linear guideways,  
high speed and accuracy.

The VMC Series includes specialized machines for milling dies and molds – with high value features that increase your competitiveness.

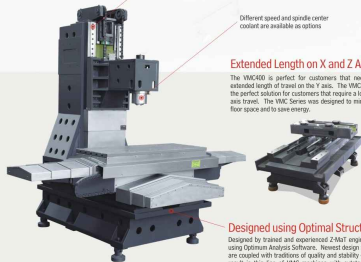
### Roller Type Linear Guideways

This is a standard option on most models.  
The rating load of roller type LM is higher - by  
**150%** over standard ball type linear guideways.

Different speed and spindle center  
coolant are available as options

### Extended Length on X and Z Axes

The VMC400 is perfect for customers that need an  
extended length of travel on the Y axis. The VMC850  
is the perfect solution for customers that require a lot of X  
axis travel. The VMC Series was designed to minimize  
floor space and to save energy.



### Designed using Optimal Structure

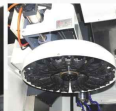
Designed by trained and experienced Z-Mat engineers  
using Optimum Analysis Software. Newest design ideas  
are coupled with traditions of quality and stability – the  
result is this line of VMC machines with outstanding  
performance, and value pricing.

### High Speed ATC

A variety of ATC types with different sizes and capabilities are available options. The  
drum type ATC is standard on the VMC320, 420E, 400, 600E, 500 and 700E. All (except  
the 320 and 420E) can be upgraded to arm type ATC units. VMC850 and 1050E having  
the arm type as the standard ATC.



Arm Type ATC



Drum Type ATC



Easy Chip Removal Design

### Ergonomic Operator Panel Design

User-friendly CNC control system panel swings 0-90° to  
allow adjustment by machine operator for optimal  
visibility and performance.



# VMC SERIES

Vertical Machining Center

## 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/VMC850/VMC1050E)
- Air System w/ Handheld Air Gun

## Optional Features

- CNC Controlled 4th Axis Rotary Table
- Different CNC Control System
- Higher Speed Spindle
- Spindle Center Coolant
- Chip Conveyor
- Air Conditioner (Except VMC500/VMC700E/VMC850/VMC1050E)



## Machine Characteristics

- Precision linear guideways on X/Y/Z axes – provide high speed rapids
- High quality castings provide a solid structure and foundation
- Full enclosed way covers
- Direct drive servo motors on all axes
- Drum or arm type ATC available
- High speed rapids standard – higher speeds available on axes and spindle



## FULL RANGE OF VERTICAL MACHINING CENTERS



## Specifications

	Unit	VMC320	VMC420E	Mega Y VMC400	VMC600E	VMC500	VMC700E	Mega Z VMC850	VMC1050E
Table	Table size	600x305	720x305	600x380	800x380	700x400	600x400	1200x520	1300x520
	T slot (width x no. x distance)	14x3x85	14x3x85	14x3x110	14x3x110	18x3x110	18x3x110	18x5x90	18x5x90
	Max. load	260	260	350	350	350	400	600	600
Travel	X/Y/Z Travel	320/240/450	420/240/450	400/350/450	600/350/450	500/400/450	700/400/450	850/500/670	1050/500/670
	Spindle nose to table	50-500	50-500	50-500	50-500	50-540	50-540	130-800	130-800
	Spindle center to columns	380	380	450	450	450	450	580	580
	Guideway type	LM: XYZ	LM: XYZ	LM: XYZ	LM: XYZ	LM: XYZ	LM: XYZ	LM: XYZ	LM: XYZ
Spindle	Spindle type	BT30	BT30	BT40	BT40	BT40	BT40	BT40	BT40
	Main servo motor	3.7/5.5	3.7/5.5	5.5/7.5	3.7/5.5	5.5/7.5	5.5/7.5	7.5/11.0	7.5/11.0
	Spindle speed	6000, *8000	6000, *8000	6000, *8000, *12000	6000, *8000, *12000	8000, *12000	8000, *12000	8000, *12000	8000, *12000
Feed & Magazine	X/Y/Z axis rapid traverse	20/20/20	20/20/20	20/20/20	20/20/20	20/20/20	20/20/20	24/24/20	24/24/20
	ATC capacity/type	12/Drum	12/Drum	16/Drum, *20/Arm	16/Drum, *20/Arm	16/Drum, *24/Arm	16/Drum, *24/Arm	24/Arm	24/Arm
	Max. weight of tool	3	3	8	8	8	8	8	8
Dimension & Weight	Power capacity	14	14	15	15	17	17	21	21
	Dimension	2080x1900x2350	2080x1900x2350	2400x2000x2500	2400x2000x2500	2300x2100x2400	2300x2100x2400	3000x2400x3000	3000x2400x3000
	Weight (about)	2000	2300	2400	2500	2800	3200	6500	6800

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

# TOOL ROOM CNC Machines

## "Fit Through a Door" CNC Lathes

Innovative, Heavy Cast Base – With Narrow Footprint



LTS5 Frame



Note: LTF5 and LTS5 have similar exterior design

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.



	Unit	LTF5	LTS5
Chuck/Collet	N/A	Ø100mm Manual chuck	Ø100mm Manual chuck
Max. swing dia. over bed	mm	Ø250	Ø300
Max. length of workpiece	mm	300	Turret 220, Gang type tool 320
Max. swing dia. over slide	mm	Ø180	Ø180
Spindle type	N/A	A2-4	A2-4
Spindle bore	mm	Ø30	Ø30
Spindle speed	rpm	3000	3000
Main motor power	kW	3.7	2.2
X/Z axis travel	mm	180/300	200/320
X/Z rapid traverse	m/min	8/12	6/9
Turret type	N/A	America 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	M75	M74
Travel of tailstock quill	mm	80	80
Overall dimension (LxWxH)	mm	1830x820x1800	1300x820x1650
Weight (about)	Kg	1300	1300

## Tool Room Functionality

These versatile, universal use machines were designed for customers around the world who need machines for general use – or small space production. With their compact design and "easy-to-use" functionality these accurate but heavy-duty small-sized production quality machines will fit a wide range of applications – from tool room settings, to lab room R & D, small shop production or personal use in the family garage.



Full guarded type

	Unit	ZM400
Table size	mm	1000x250
T slot (width X nos. X distance)	mm	14x3x56
Max. load	Kg	250
X/Y/Z axis travel	mm	400/250/300
X/Y/Z axis rapid traverse	m/min	9/9/9
Spindle nose to table	mm	210
Spindle center to column	mm	375
Guideway type	N/A	Box X/Y/Z
Spindle type	N/A	Ø130
Main servo motor	kW	2.2
Spindle speed	rpm	100-3000
Overall dimension (LxWxH)	mm	1500x1500x2200
Weight (about)	Kg	1700



Semi-guarded type



TRX550 Frame

	Unit	TRX550
Table size	mm	1800x280
T slot (width X nos. X distance)	mm	14x3x60
Max. load	Kg	280
X/Y/Z axis travel	mm	550/280/450
X/Y/Z axis rapid traverse	m/min	15/15/15
Spindle nose to table	mm	50-500
Spindle center to column	mm	300
Guideway type	N/A	LM X/Y/Z
Spindle type	N/A	Ø130
Main servo motor	kW	2.2
Spindle speed	rpm	8000
*ATC capacity/type	No./type	12/Drum
Max. weight of tool	Kg	3
Overall dimension (LxWxH)	mm	1800x1700x2100
Weight (about)	Kg	1300

# SPM SERIES

Special Purpose Machine

## Increasing Productivity — Beyond Expectations

Because your efficiency and profitability are at the core of our mission, Z-WoT 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.



## SPHERICAL CUTTING CNC LATHE

The **Q50** is a special design for machining ball-shaped parts. Turning, indexing and finish polishing can be accomplished in a single parts machining cycle.

### Machine Description

Traditional spherical cutting CNC lathes used a traditional technology that featured a straight rack drive and hydraulic system. The result was that tolerances were difficult to maintain and surface finishes were not smooth.

The Q50 uses a circular rack and tooth combination, along with a servo motor to control table movement. The improved results include machining results that match programming specifications and mirror-like finishes.

### Machine Features

- Mono-Block single piece cast base and lathe bed. Extra-heavy casting is stabilized using traditional weather aging (an expensive and time consuming process). This helps to optimize lathe bed stability and accuracy.
- High precision, world-class linear motion bearing guideways increase machine accuracy and stability over the life of the machine.
- Center-mounted, high precision ball screw has optimal dynamic motion stability and efficiency.
- Accurate, high-speed cartridge spindle best fits the needs of the application – extra-fine finishes and optimal finish part roundness.
- Three axis simultaneous movement system maximizes felicity of parts accuracy to part design when cutting round or three dimensional shapes.



### Unit Q50

Chuck/Collet	N/A	Hydraulic collet
Max. spherical turning dia.	mm	Ø 60
X/Z axis travel	mm	200/150
X/Z rapid traverse	mm/min	9/9
Spindle nose	mm	A2-5
Spindle speed	rpm	4000
Main motor power	kW	3.0, *4.0
Turret type	N/A	Double turret&hyd. hob
Overall dimension(LXWXH)	mm	1900X1210X1600
Weight(about)	Kg	1900



### A DIFFERENT SOLUTION The Power ASL Lathe w/Rotary Table

Besides the Q50 spherical lathe, another option for accurately machining spherical shapes is our highly accurate Power ASL lathe (see page 36) matched with a precise rotary table with servo drive. See this setup on the photo below:



# SPM SERIES

SPECIAL PURPOSE MACHINE

Smart Manufacturing Solutions - Strengthen Your Competitive Advantage

## Big Head – CK62110 CNC Lathe

The large swing radius on the **CK62110** lathe provides an efficient option for turning rocker arms, or other long, narrow diameter parts.



## Specifications

Gag-Bed Lathe	Unit	CK62110
Chuck	mm	Manual 10", 12", 15"
Max. swing dia. in the gap	mm	Φ1100
Max. swing dia. over bed	mm	Φ400
Max. length in the gap	mm	250
Max. length of workpiece	mm	400
Spindle bore	mm	Φ55, *Φ81, *Φ105
Spindle speed	rpm	1600, *800
Main motor power	kW	6.5, *7.5
X/Z axis travel	mm	320/400
X/Z rapid traverse	m/min	6/9
Turner type		4-station toolpost
Guideway type		Hard
Overall dimension(LxWxH)	mm	2100X1350X1800
Weight(about)	Kg	2300

Note: \* means optional.

## Specifications

Large Spindle Bore CNC Lathe	Unit	B105
Max. swing dia. over bed	mm	Φ350
Max. length of workpiece	mm	350, *230(chuck)
Max. swing dia. over slide	mm	Φ135
Spindle bore	mm	Φ105
Max. dia. of through hole	mm	Φ65
Spindle speed	rpm	1000
Main motor power	kW	7.5
X/Z axis travel	mm	320/250
X/Z rapid traverse	m/min	10/10
Turner type		Gang type tool
No. of tool stations	no.	4-6
Power capacity	kVA	10.5
Overall dimension(LxWxH)	mm	2000X1300X1950
Weight(about)	Kg	1650

Note: \* means optional.

## Large Spindle Bore – B105 CNC Lathe

The **B105** has an oversized spindle bore, making in an excellent option for turning larger diameter parts like pipes or shafts.



## Dual End Turning Machine

The dual end turning machine was developed specifically for the auto industry, but can be applied to other applications. This machine allows for double end cutting of parts that require machining on multiple surfaces of the part. Configurations of two to eight spindles can be configured for differing part turning requirements.



## Gear Inspection Machine



## Crankshaft Drilling Machine



## Multistation Drilling Machine



# Z-MAT CNC CONTROL SYSTEM TRAINER

Industry Standard CNC Control Program with Operator Station

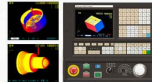
## CNC Trainer Characteristics

- Closed system
- ISO Standard
- Built-In, Dedicated Keypad
- One-Button Features
- Multi-Function Jog Handle
- Color LCD Screen
- USB Port



## REACHING OUT TO BUILD FOR THE FUTURE

Capable of 3D Simulation



Industry Standard  
Hardware & Software



Seamless shift from CNC trainer  
to real world machine operation



## It's Like on the Job Training

In recent years Z-Mat has expanded relationships with educational institutions and community organizations. We have encouraged public discussion about how to develop coordinated plans for addressing the shortage of trained CNC technicians.

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 Z-Mat CNC Control Simulator was developed to address this need.



# 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 100 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.



## Strict Quality Control

No matter how far technology may evolve, the one ongoing concern of CNC machine users is, "Will this machine make my part, with good precision and without a hassle – AND at a price I can justify?" Customers deserve our best effort toward always providing quality, reliability, efficiency and low cost.

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. Not just with our machines, but with our level of service and response to customer questions. We work to exceed customer expectations.



## 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.

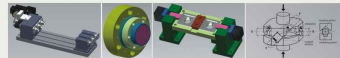
Z-MaT works hard to combine individual and combined strengths to generate tangible positive results that exceed customer expectations.



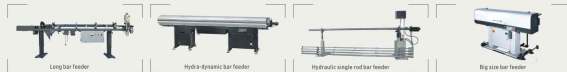
## Options for Automation



## Examples of Fixtures



## Bar Feeders



## 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.





## Workpiece Samples

Provider of precision CNC Machines  
And Smart CNC Solutions  
For the Metal Cutting Industry



## Partners & Quality Components

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

# Industry Leading Service Network

## "Call Back within 18 Hours" is our Promise

Our commitment to client service standards is the cornerstone of service philosophy and a key to our success. We track our service response patterns and apply scientific process and a commitment to our customers to make sure we keep improving.



## The Z-MaT 18 Month Warranty –

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
- 10,000+ Cooperate Clients
- In business for more than 15 years.
- 100% focus on our clients best interests

#### • Zhejiang Headquarters and Plant:

Mechanical & electrical industrial zone, Yuhuan, Zhejiang, 317600 China.

#### • Jiangsu Accessories Plant:

No.1 Tuqiao Industrial Zone, Jiangning District, Nanjing, Jiangsu.

#### • Shandong Precision Spindle unit Plant:

No. 39-3 Hi-tech industrial zone, Weihai, Shandong.

#### • Hong Kong Commercial Center:

701A Caroline Centre, 2-38 Yun Ping Road, Hong Kong.

#### • Taiwan R&D Center

No. 955, Section 4, Wenxin Rd., Beitun District, Taichung, Taiwan.

