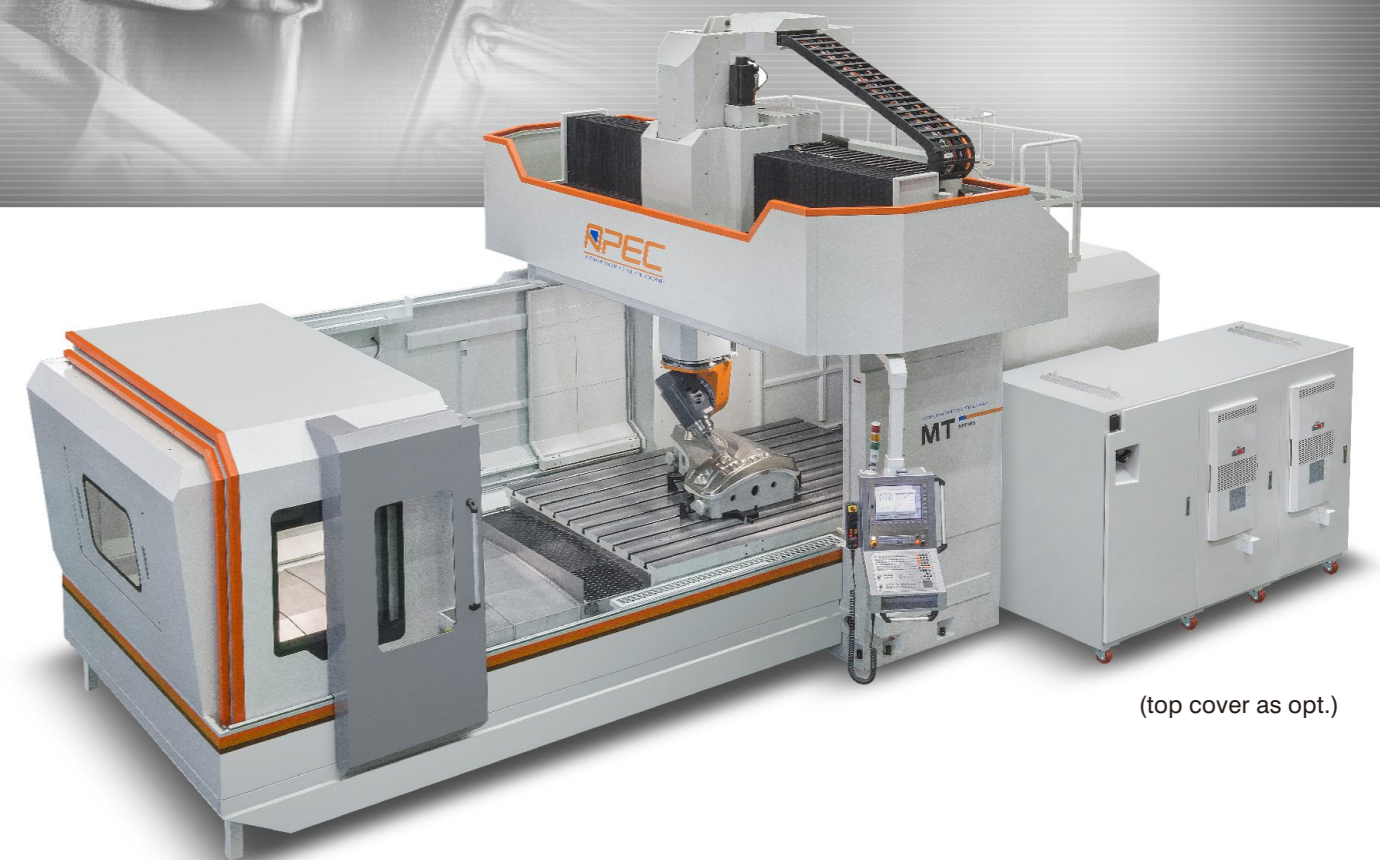


MT 24

5-Axis High Speed Double Column Machining Center



- High rigidity machine structure
- XYZ-axis with high rigidity roller linear guideway
- 2-axis head driven by torque motor
- Double ball screws in Z axis
- Feed rate 20m/min



(top cover as opt.)

Asia Pacific Elite Corp.

Add: NO.7, Jingke N. Rd., Nantung, Taichung,
40852 Taiwan
TEL : +886-4-2358 9313
FAX : +886-4-2358 9311
www.apecnc.com
sales@apecnc.com



APEC Wide ranges of large-scale machining centers

G Series

X=2~12 m Y=2.0~3.0 m
Rapid traverse=60 m/min



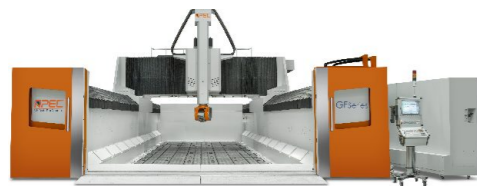
MT Series

X=2.6~6 m Y=1.8~3.4 m
Rapid traverse=12~30 m/min



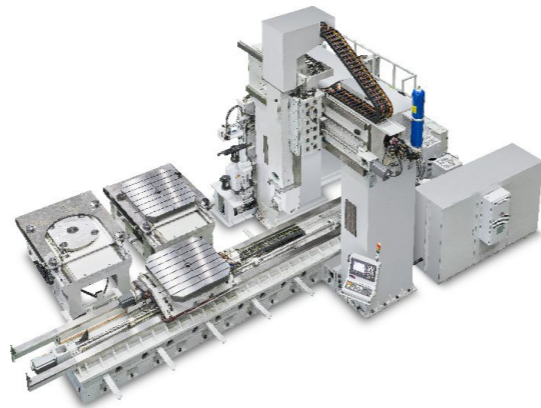
GF Series

X=6.0~30.0 m Y=4.0~5.0 m
Rapid traverse=40 m/min



MDU Series

X=2.0~2.5 m Y=2.0~2.5 m
Rapid traverse=10 m/min



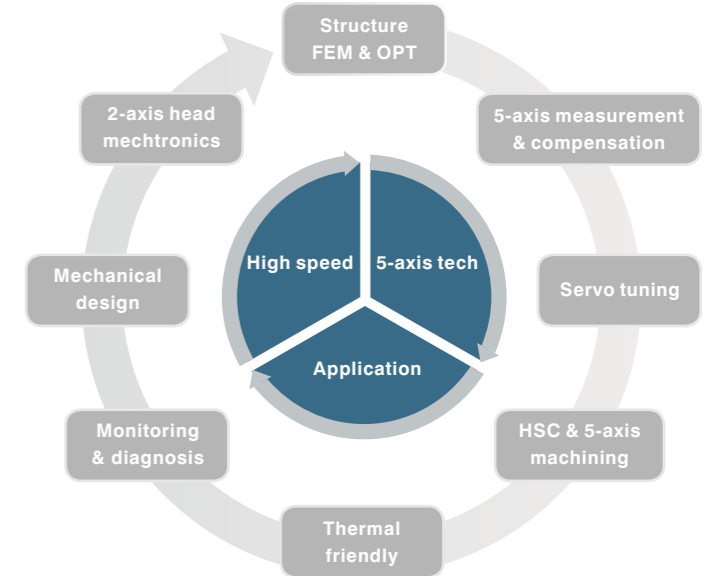
GM Series

X=4.0~6.0 m Y=2.7~3.7 m
Rapid traverse=60 m/min



About Asia Pacific Elite Corp.

Creating benchmarks of large-scale 5-axis expert for high speed gantry machining center



Excellent products and services

APEC Ltd. affiliated with the TTG (Tongtai Group) which is the biggest machine tool building group in Taiwan, is the first company working on manufacturing the large gantry High-speed 5-axis machine in Asia area. To provide the most professional and complete products and service, we adopt the European main components design and manufacturing technology, designed for gantry type and high-end processing.

Since 2003 . we have been successfully selling our products in wide range of industry of automotive and aerospace ,and we also win the repeat orders in the Well-known enterprises all over the world and continue to build the excellent reputation.

Perfect application supporting and customer training

The most perfect application supporting and customer training

APEC is the company that specializes in machining for Aerospace and Automobile industries.

APEC team, by analyzing the processing demand from customers, not only recommends the suitable equipment but also provide the complete solutions. It helps the improving of machining efficiency and accuracy, and it upgrades the processing.

Auto attachment heads



Unchangeable attachment heads



Built-in-motor drive attachment heads



Manual attachment heads

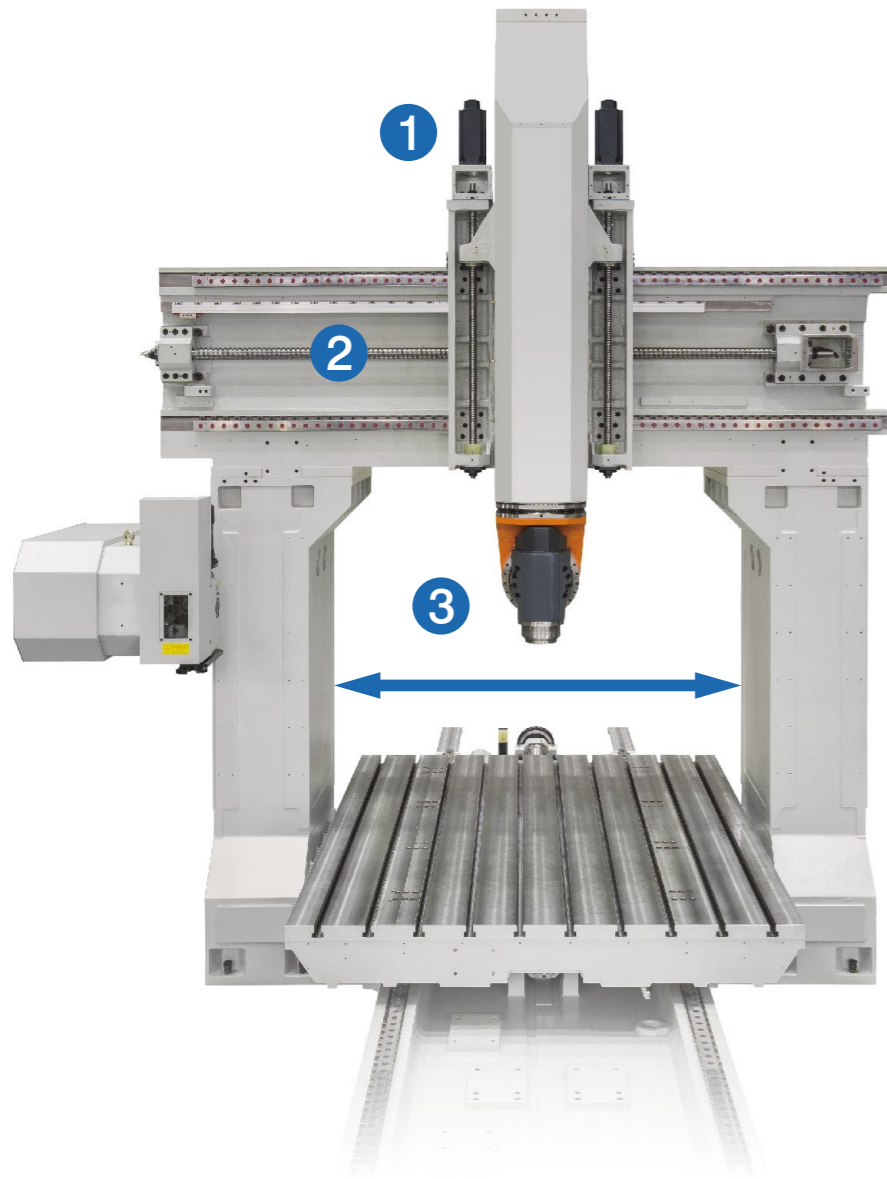
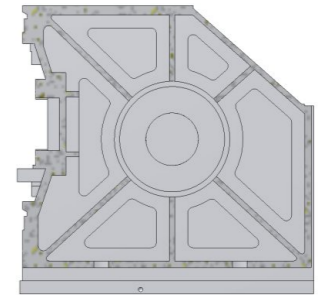


MT 24

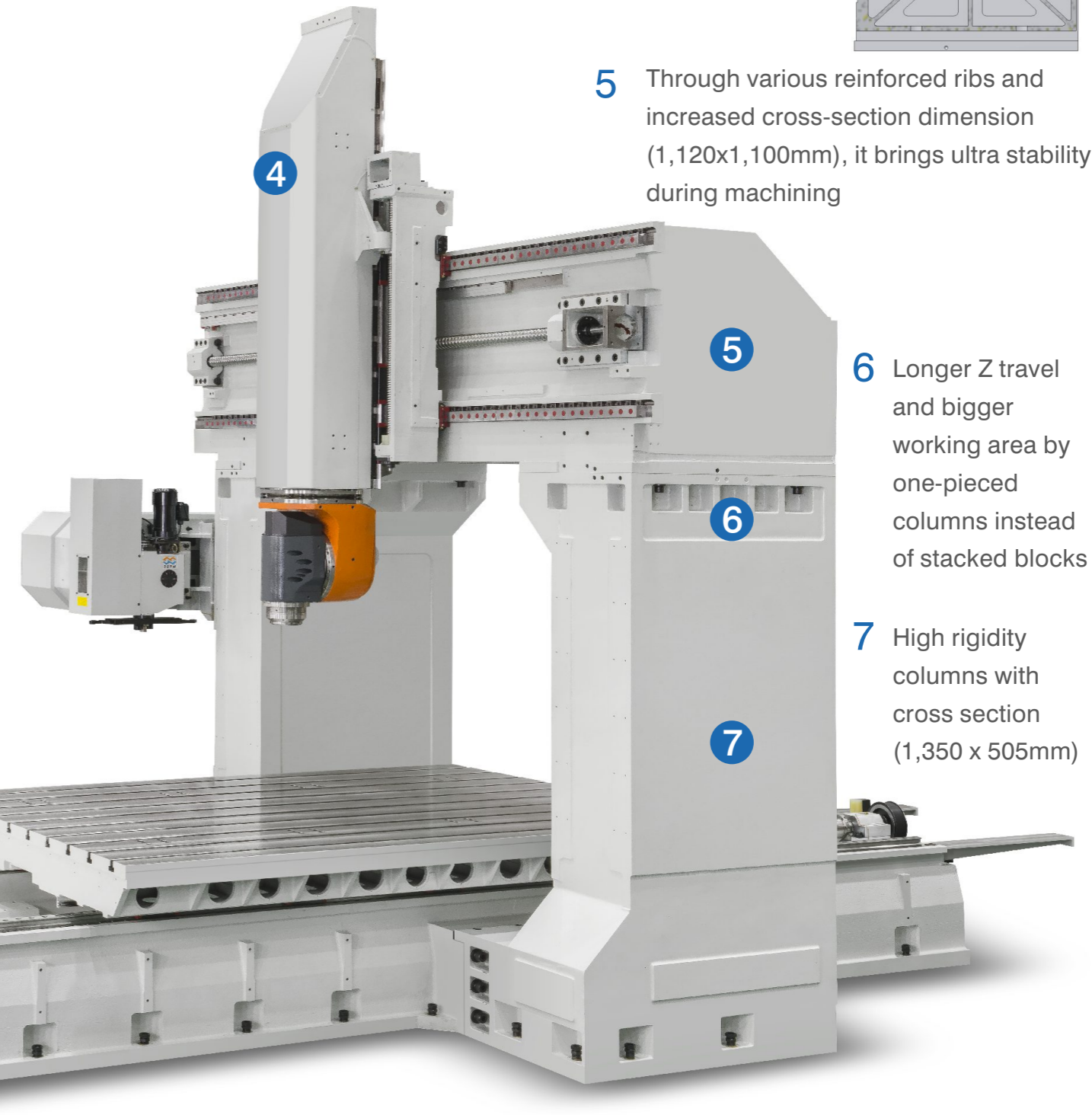
Excellent rigid structure design



sta. fully enclosure guard



- 1 Double ball screw driving in Z axis,back lash elimination by master slave control
- 2 Best structure design through FEM analysis large span design provides better rigidity
- 3 To increase distance between columns for larger work piece
- 4 Ram made of special ductile casting iron for better machine rigidity and damping effect

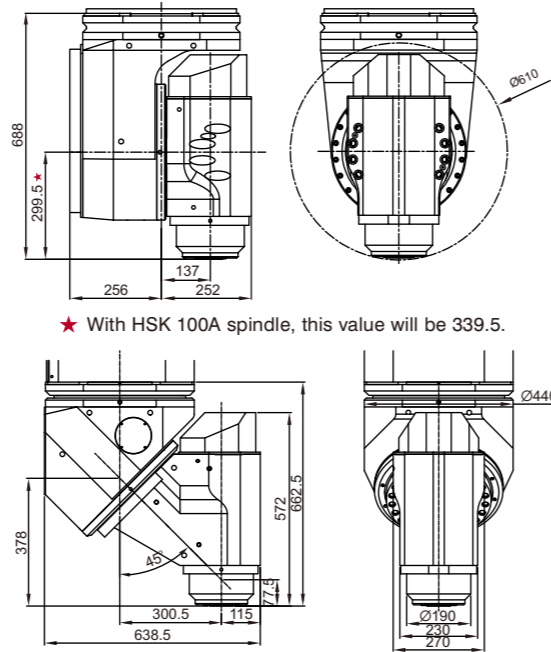


- 5 Through various reinforced ribs and increased cross-section dimension (1,120x1,100mm), it brings ultra stability during machining
- 6 Longer Z travel and bigger working area by one-pieced columns instead of stacked blocks
- 7 High rigidity columns with cross section (1,350 x 505mm)

- 8 Inverted dual V-shaped rib structure applied in basement design to achieve best force flow path

MT 24

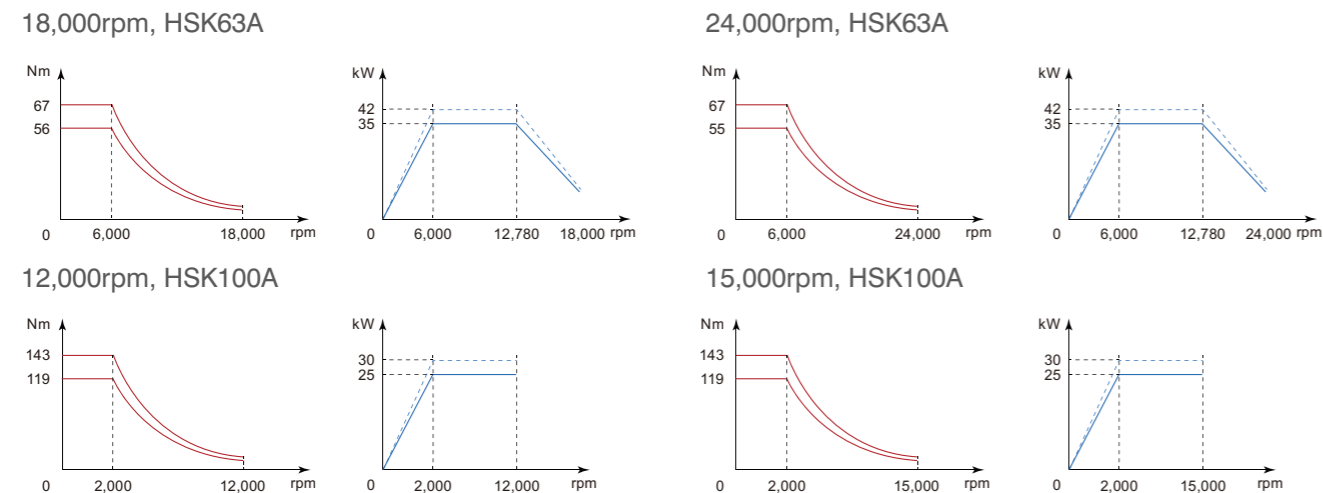
High speed head & spindle



Spindle taper	HSK63A	HSK100A	
Tool clamping	Auto clamping		
Spindle speed	18,000 std.	24,000 opt.	12,000 opt. 15,000 opt.
Spindle power	35/42 kW		25/30 kW
Spindle torque	56/67 Nm		119/143 Nm
Indexing	continuous indexing		
Swivel/Rotating angle	B=±125° C=±200°		
Clamping torque	A=4,000Nm C=4,000Nm		

- Much smaller interference area (20% volume reduction)
- Rigid structure (ductile iron FCD600 and high stiffness rigid bearing inside)
- High speed spindle (HSK63A & HSK100A)
- Invariant B- and C-axis positioning and axial accuracy (by ring brake design)
- Clean tech & environmental care (grease / oil-air)
- Wear-free torque motor in A-and C-axis (30 rpm)
- Germany maintenance-free re-greasing lubrication system in spindle
- B/C-axis with torque motor and Heidenhain linear scale
- Heidenhain high accuracy encoder

Spindle power and torque (for 2-axis head)



High speed vertical built-in spindle

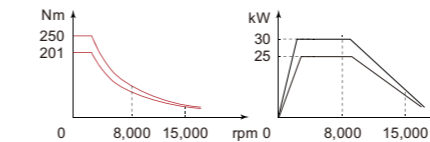


Germany maintenance-free re-greasing lubrication system in spindle.

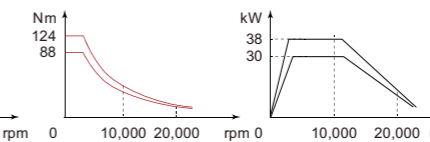
- High speed, High rigidity design
- Various type can fit for different cutting

Spindle	Type	HSK100A	HSK63A	
	Power (S1 / S6) (Kw)	25 / 30	30 / 38	
	Torque (S1 / S6) (Nm)	201 / 250	88 / 124	86 / 111
	Max. speed (rpm)	15,000	20,000	24,000

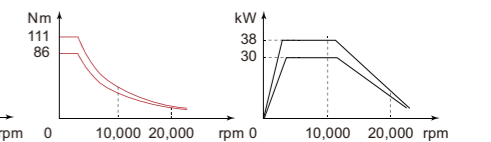
15,000rpm HSK100A



20,000rpm HSK63A

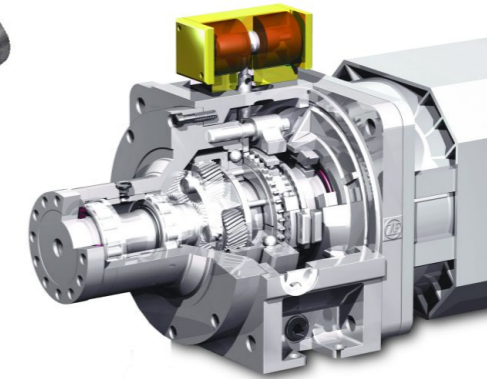


24,000rpm HSK63A

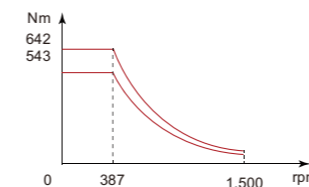


Heavy duty vertical spindle

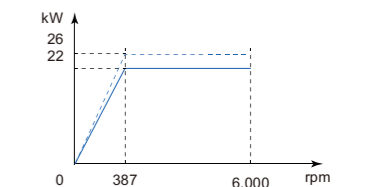
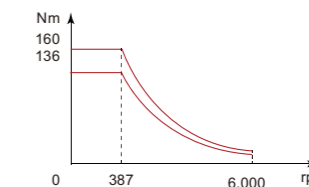
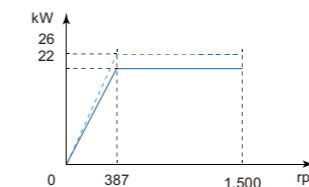
- Standard Fanuc 22 / 26 kW α22 motor
- Automatic head change with compact head storage
- CTS 20bar optional
- Angular head with 2.5° / 5° indexing
- ZF 2-step speed gearbox provides low noise and 600Nm~1,500Nm high torque transmission performance.



Low speed (Fanuc / α22 / 7000i) with gearbox (1:4)




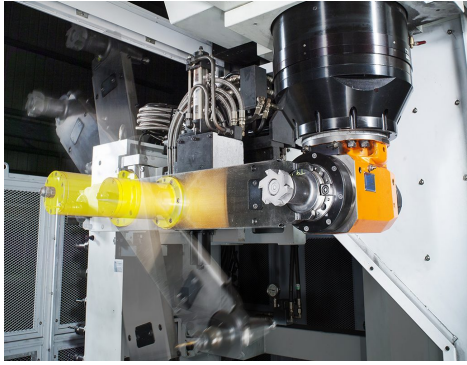
High speed (Fanuc / α22 / 7000i) with gearbox (1:4)




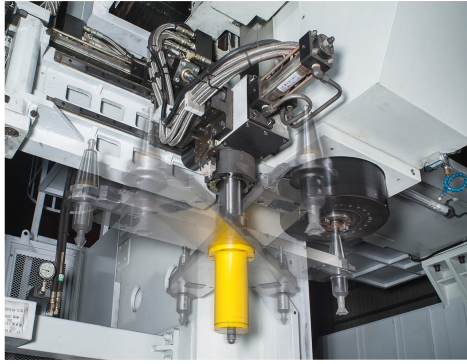
MT 24

Automatic changeable head attachment

90° Angular head	
Spindle taper	#50
Tool damping	Auto damping
Head damping	Auto damping
Indexing	C=5° fixed indexing (opt. 25°)
Max. torque	642 Nm
Max. speed	3,500 rpm

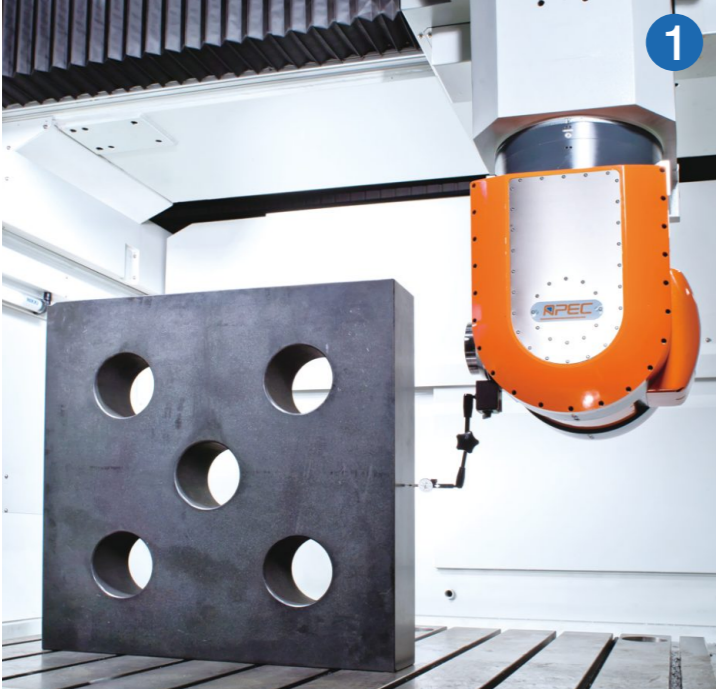

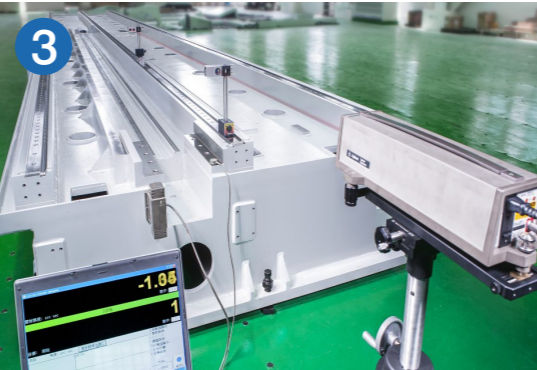



Extension head	
Spindle taper	#50
Tool damping	Auto damping
Head damping	Auto damping
Extended distance	300 / 500 mm
Max. torque	660 Nm (opt. 1,500 Nm)
Max. speed	3,500 rpm

Accuracy Measurement

- 1 | 1m x 1m granite square geometric accuracy test
- 2 | Ballbar using 300 as standard measurement
- 3 | Track measurement

Fully 5-axis practical application experience





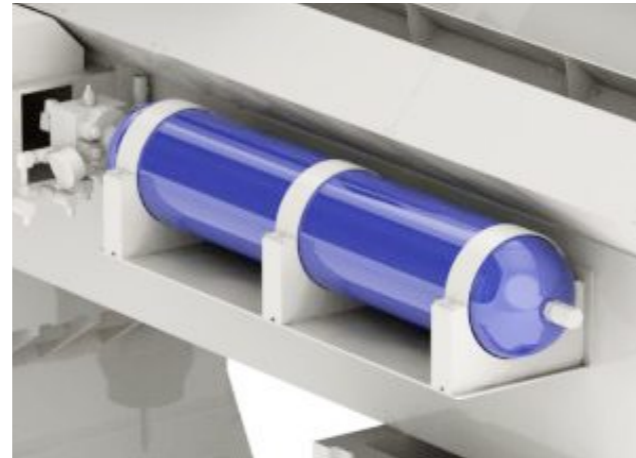


- 1 | Aerospace : aluminum parts, titanium parts, invar jig, fixture, and mold
- 2 | Automotives: bumper mold, plastic injection mold, complex geometry die & mold
- 3 | Five-axis high dynamic & high speed machining
- 4 | Five-axis R0.5mm pencil cleaning
- 5 | Auto 5-axis tolerance measurement

MT 24

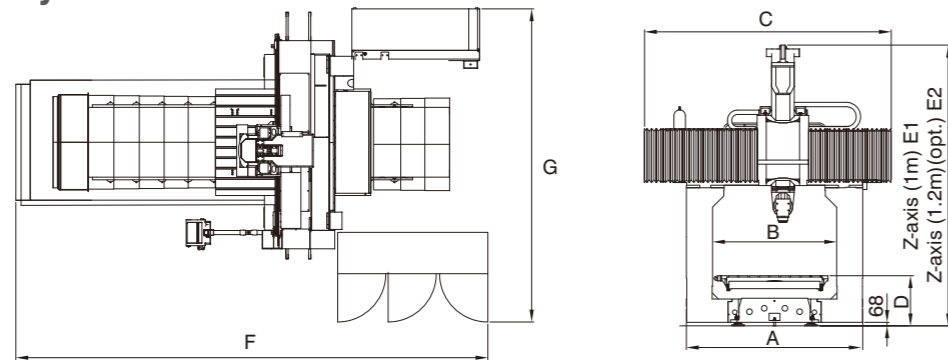
Attaching equipment

- The complete peripheral units are placing at the side of machine ,and according to the site space constraints, the placed position could be adjusted.



- Cable chain made by Germany, power cable use IGUS. SIEMENS, CE mark
- Rapid response of nitrogen hydraulic counter balance system balances the weight of spindle and ram to make up the gravity loading of high speed and acceleration by accumulator principle
- Perfect electrical cabinet equipment to maintain cabinet and avoiding inner electrical components damaging

Machine layout



Model	Unit	A	B	C	D	E1 (Z=1.0m)	E2 (Z=1.2m)	F	G
MT2432-5S	mm	3,410	2,400	4,770	960	4,427~5,427	4,827~6,027	9,130	6,100
MT2442-5S								11,310	
MT2452-5S								13,130	
MT2432-5F				4,950				9,130	
MT2442-5F								11,130	
MT2452-5F								13,130	

Machine specifications

Specifications	unit	MT24			
		3 axis	3+2 axis	5 axis	5 face
Travel					
X-axis	mm	3,200 / 4,200 / 5,200			
Y-axis	mm	2,300	2,500 / 3,000		3,000
Z-axis	mm	1,000 (Opt. 1,200)			
Distance between two columns	mm	2,400			
Distance from spindle end to table	mm	200~1,200	30~1,030 (HSK63A)		200~1,200
Table					
Table length x Table width : table load	mm : tons	3,000 x 2,060 : 12T / 4,000 x 2,060 : 14T / 5,000 x 2,060 : 16T			
Traverse					
Feedrate	m/min	XYZ=20			
Spindle					
Spindle taper		HSK 63A / 100A			#50
Spindle speed	rpm	20,000	18,000		6,000
Spindle power (S1/S6)	kW	30 / 38	35 / 42		22 / 26
Spindle torque (S1/S6)	Nm	87.9 / 123.8	56 / 67		low (543 / 642) high (136 / 160)
Positioning head					
A / C-axis motor torque	Nm	-	416 / 309		-
A / C-axis clamping torque	Nm	-	4,000		-
A / C-axis indexing	deg	-	0.1° fixed indexing (0.001° opt.)	continuous indexing	C-axis, C=360° 5° (2.5° opt.)
Swivel / rotation angle	deg	-	A=±125° C=±200°		-
Automatic Tool Changer					
Type of tool magazine		vertical			vertical & horizontal
Tool magazine capacity	pcs	32 / 40 / 60 (opt.)			

Standard Accessories

- Heidenhain iTNC530 CNC controller (for 3+2 axes or 5 axes)
- 2-axis head with HSK63A/ 18,000rpm/35kW/56Nm (for 3+2 axes or 5 axes)
- Automatic tool magazine with vertical tool changer 32 tools
- XYZ-axis with linear scale (for 3+2 axes or 5 axes)
- Oil cooler
- Air blast through spindle
- Auto lubrication device
- Coolant device
- Hydraulic unit
- Manual pulse generator
- Working light
- 3-color signal lamp
- Twin chip augers on table side
- Caterpillar type chip conveyor
- Auto power-off device
- RS-232 interface
- Air conditioner for electrical cabinet
- Pad & adjusting bolt
- Tool kits
- Accuracy report
- Operation manual
- PLC & electrical circuit diagram

Optional Accessories

- FANUC / SIEMENS CNC controller (for 3 axes)
- 6,000rpm gear head spindle (for 3 axes)
- 15,000rpm spindle with 25kW/20Nm (for 3 axes)
- 2-axis head with HSK63A/24,000rpm/35kW/56Nm (for 3+2 axes or 5 axes)
- 2-axis head with HSK100A/15,000rpm/25kW/119Nm (for 3+2 axes or 5 axes)
- 2-axis head with HSK100A/12,000rpm/25kW/119Nm (for 3+2 axes or 5 axes)
- German made 2-axis head (for 3+2 axes or 5 axes)
- Auto vertical tool changer 40/60 tools
- Coolant through spindle system
- Auto tool measuring system
- Auto workpiece measuring system
- Mist cooling device
- Transformer
- Enclosure splash guard (without roof / with roof)
- Auto 5-axis measurement & compensation
- Chip cart
- Coolant through spindle system 20 / 70 bar