

Five-Axis Horizontal Machining Center

HTT-1250



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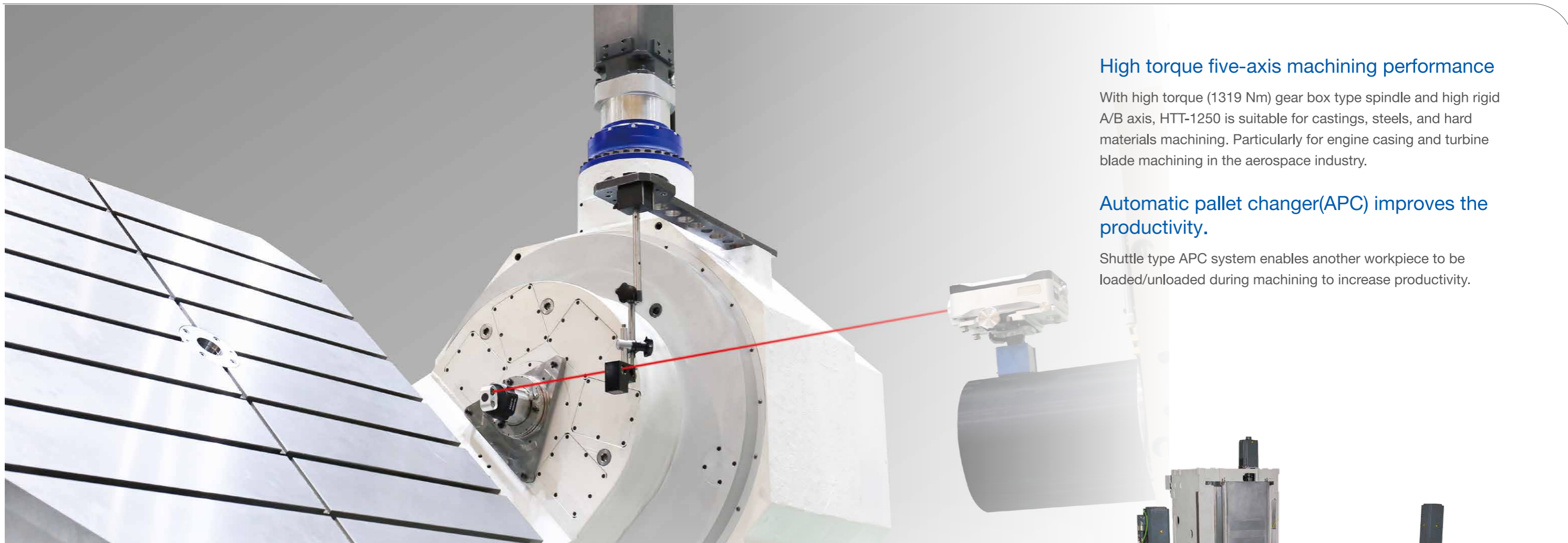
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HTT-1250



High torque five-axis machining performance

With high torque (1319 Nm) gear box type spindle and high rigid A/B axis, HTT-1250 is suitable for castings, steels, and hard materials machining. Particularly for engine casing and turbine blade machining in the aerospace industry.

Automatic pallet changer(APC) improves the productivity.

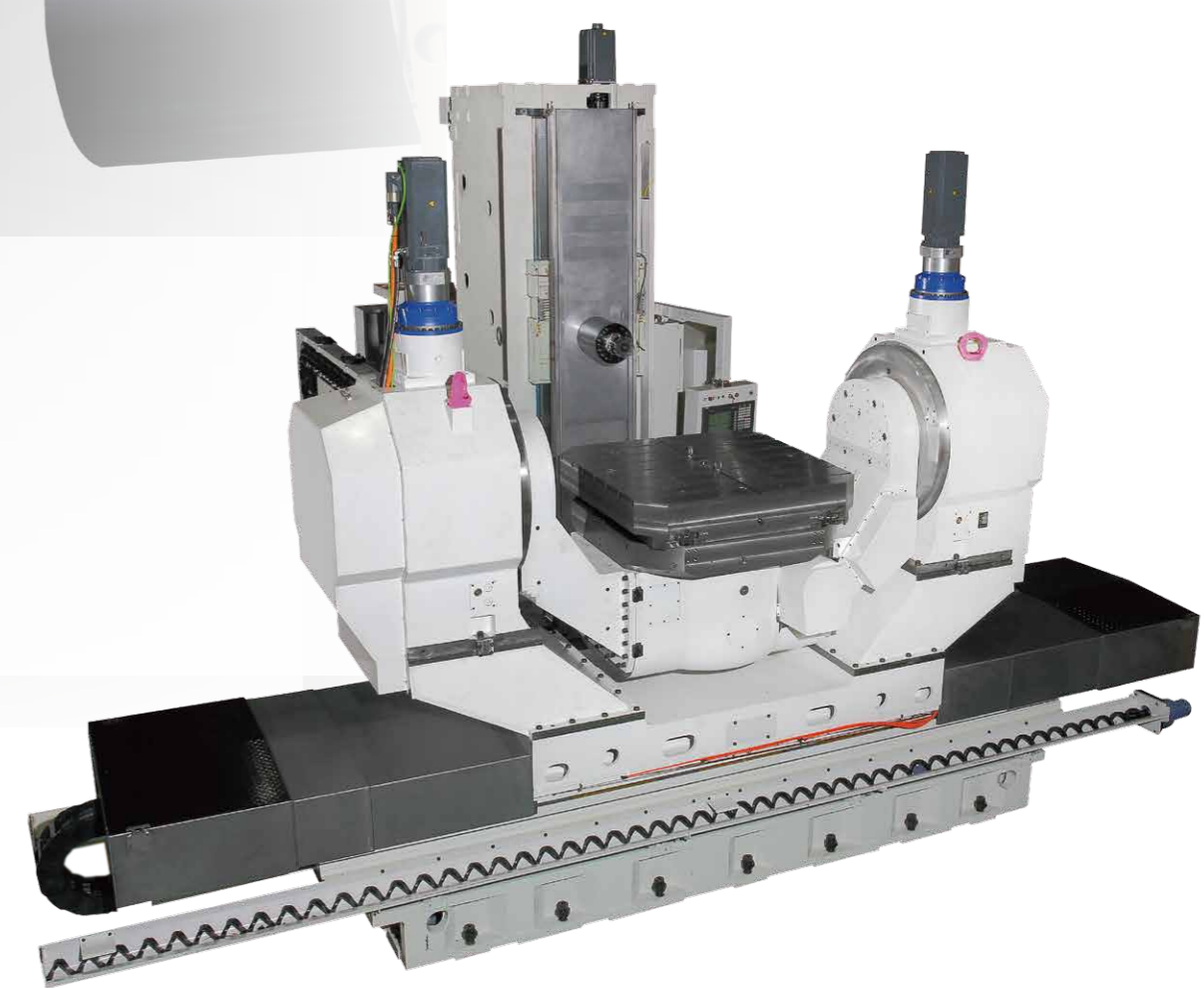
Shuttle type APC system enables another workpiece to be loaded/unloaded during machining to increase productivity.

Main specifications

Spindle	8,000 rpm gear box type with high torque spindle
Three axis	Rapid traverse 10 m/min
	X/Y/Z axis stroke 2,000/1,800/1,250 mm
	X/Y/Z axis high rigidity box-way design
A axis	X/Y/Z axis (Ø 63/Ø50/Ø63 mm) high precision ball screws
	Rotary degree +110°/-20°
B axis	Speed 5 rpm
	Min. indexing degree 0.001°
B axis	Rotary degree 360°
	Speed 5 rpm
ATC	Min. indexing degree 0.001°
	Tool capacity is 60 tools (opt. 90/120 tools)

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Main structure

High rigid box-way structure

Stroke

X/Y/Z Axis 2,000/1,800/1,250 mm

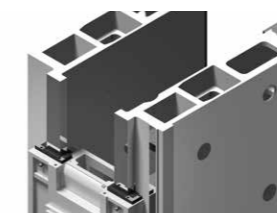
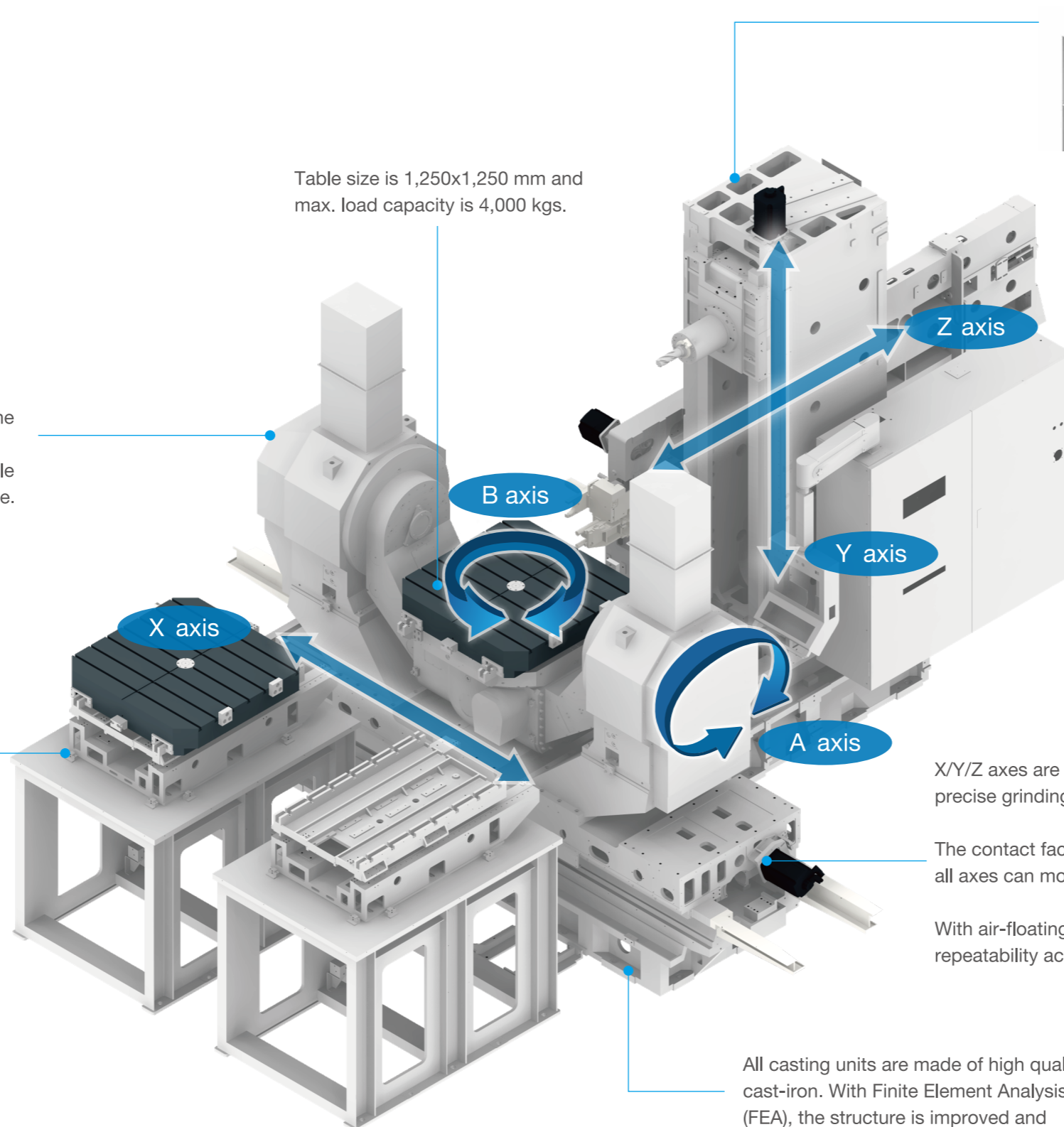
Rapid traverse

X/Y/Z Axis 10 m/min

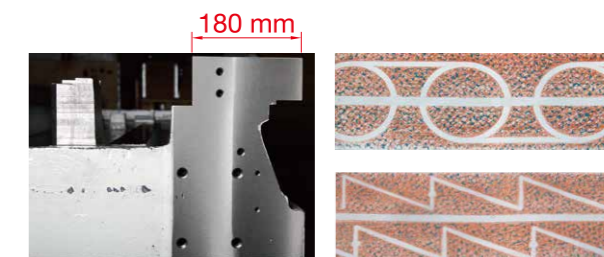
A/B axis adopts high rigidity design. The braking torque of A/B axis is upto 30,000/12,500 Nm, working table is able to against 20,000 Nm axial cutting force.

Shuttle type APC system saves loading/unloading time while machining to improve productivity.

Table size is 1,250x1,250 mm and max. load capacity is 4,000 kgs.



Adopts double-wall structure design to increase the structure rigidity and to minimize possibilities of deformation caused by heat expansion.



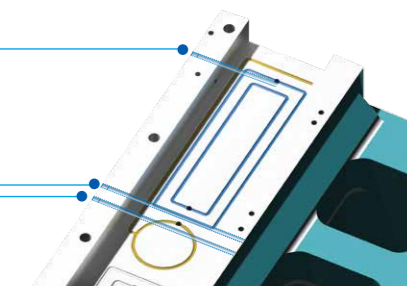
X/Y/Z axes are with box-way design. Box way has suitable heat treatment and precise grinding which are qualified for heavy duty cutting and high rigidity.

The contact face of box-way has Turcite-B with professional scarping to make sure all axes can move smoothly with proper lubrication.

With air-floating design, it is able to decrease friction, increase positioning and repeatability accuracies, and lower motor energy consumption.

All casting units are made of high quality cast-iron. With Finite Element Analysis (FEA), the structure is improved and ensures the requirements of the dynamic and static rigidity.

Pneumatic groove
Lubricant groove



Basic structure

High rigidity and high precision A/B axis

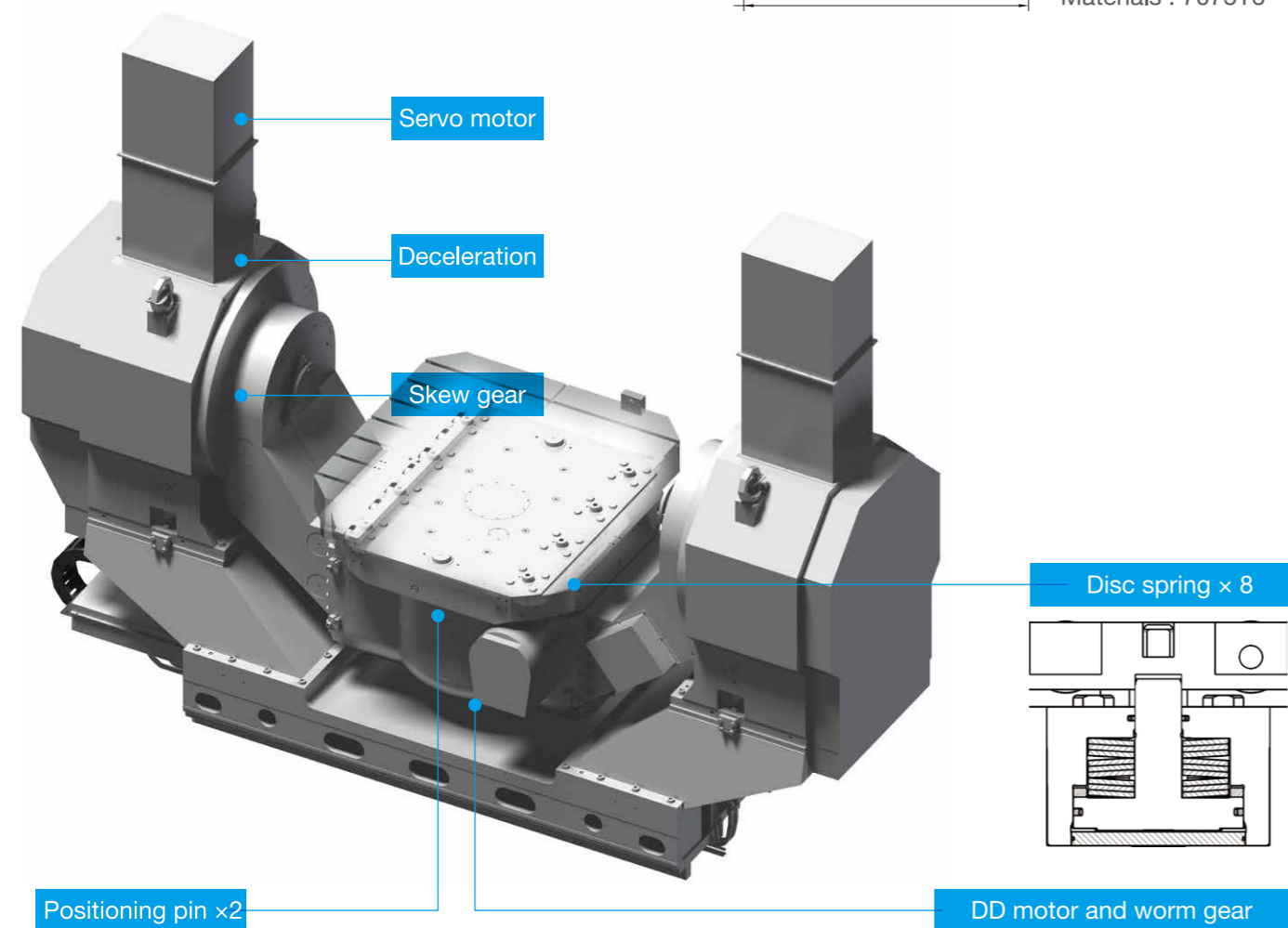
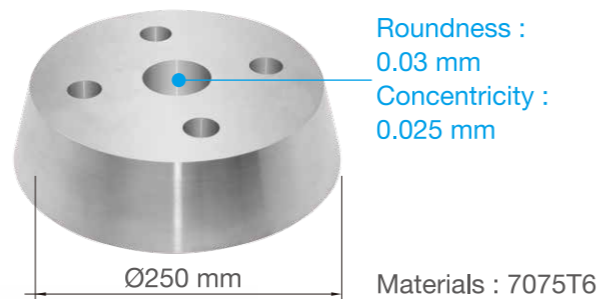
High rigidity A/B axis design. A axis adopts dual-sides supporting, each side has servo motor thru reductor to drive A axis tilting. The driving torque and braking torque of A axis is up to 56,000 Nm and 30,000 Nm. B axis rotation is by worm shaft and worm gear which are driven by DD motor, with 8 sets of disc springs combine 2 positioning pins which gives working table high rigidity and perfect positioning to against 2,000 Nm. horizontal cutting force.

A/B axis dynamic accuracy

Testing rules : VDI 3441

Specifications	Positioning accuracy	Repeatability accuracy
A axis	13.1"	6.5"
B axis	6.5"	4.3"

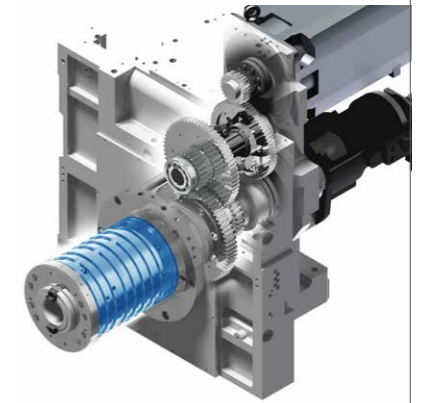
Machining accuracy



Gear box type high torque spindle

Adopt high quality gears to provide high transmission efficiency. Two-steps gearbox can give more than 1,000 Nm torque below 200 rpm speed. It satisfies the machining requirements of various harden materials and big size workpieces.

Max. speed **8,000** rpm
Spindle motor **26/22** kW
Output torque **1319/1073** Nm (30 min. S3,60%/Cont.)



Tool magazine and ATC system

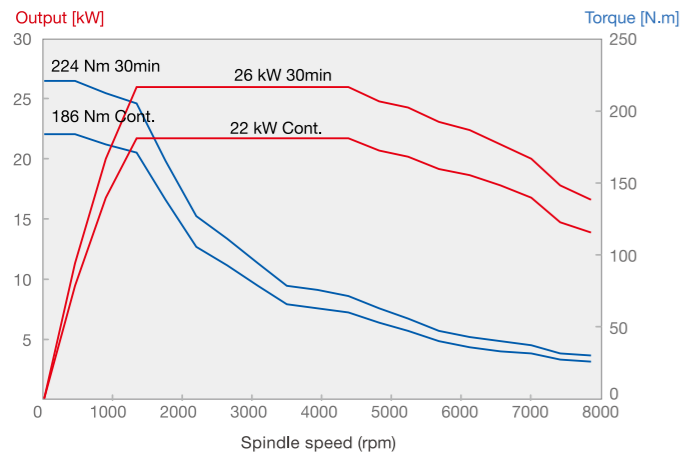
Big tool capacity
Standard tool capacity has 60 tools, capacity can be flexibly increased up to 120 tools as per the required.

Tool spec	BT50
Tool capacity	60 (Opt. 90/120)
Max. tool diameter	Ø125 mm
Max. tool diameter (w/o adjacent tool)	Ø250 mm
Max. tool length	610 mm
Max. tool weight	25 kg
ATC mechanism	Fixed position

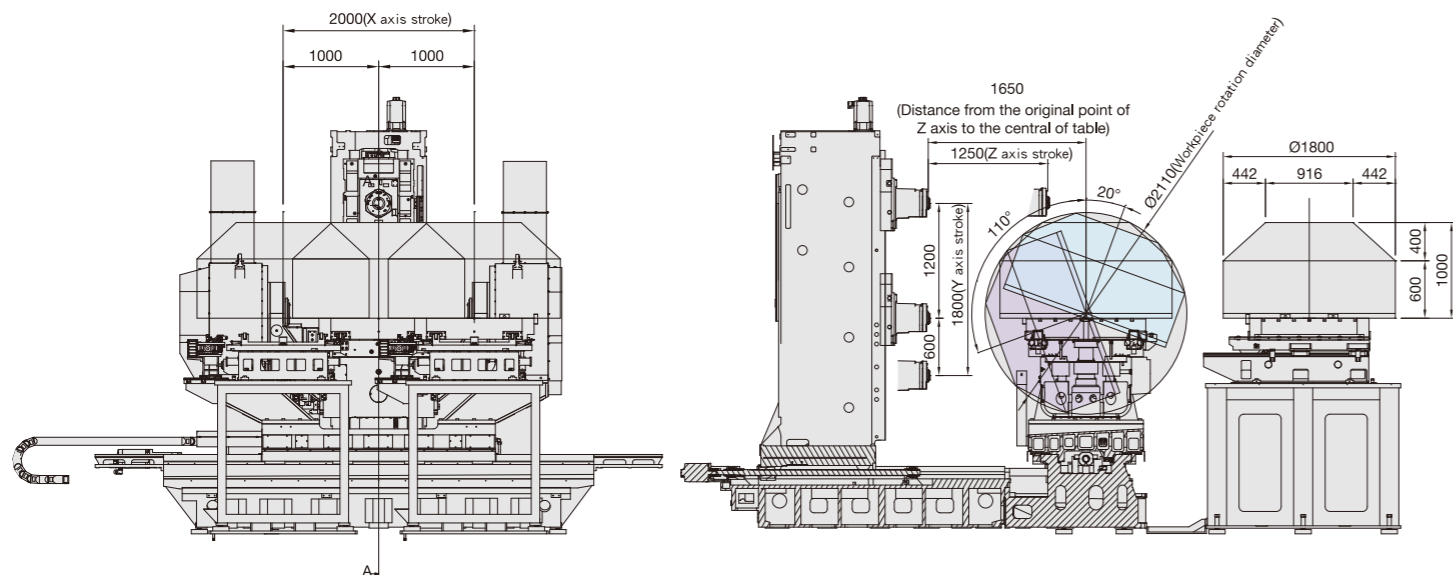
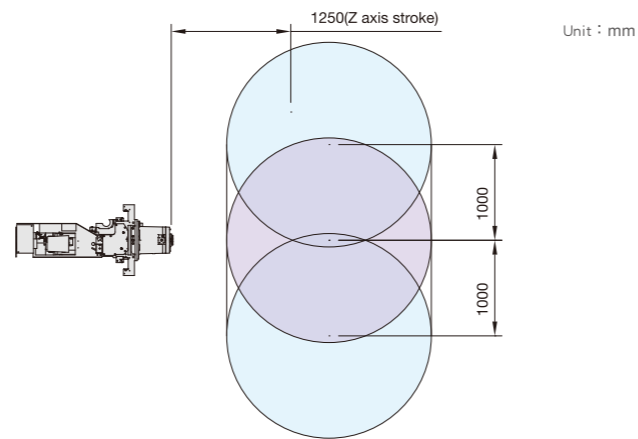
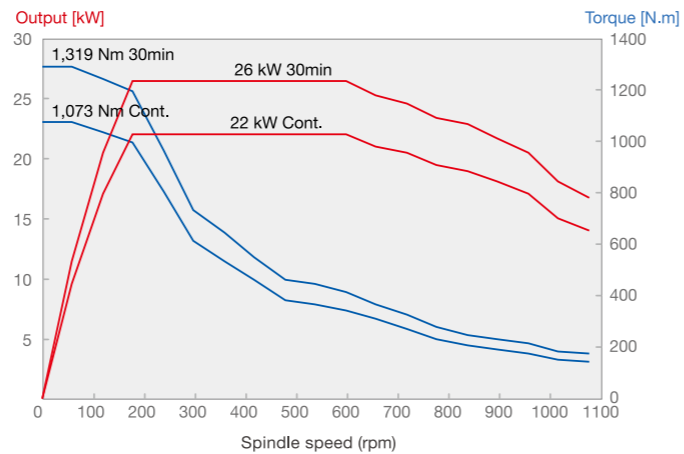


Tool interference · Spindle output and torque chart

High speed (4:3)



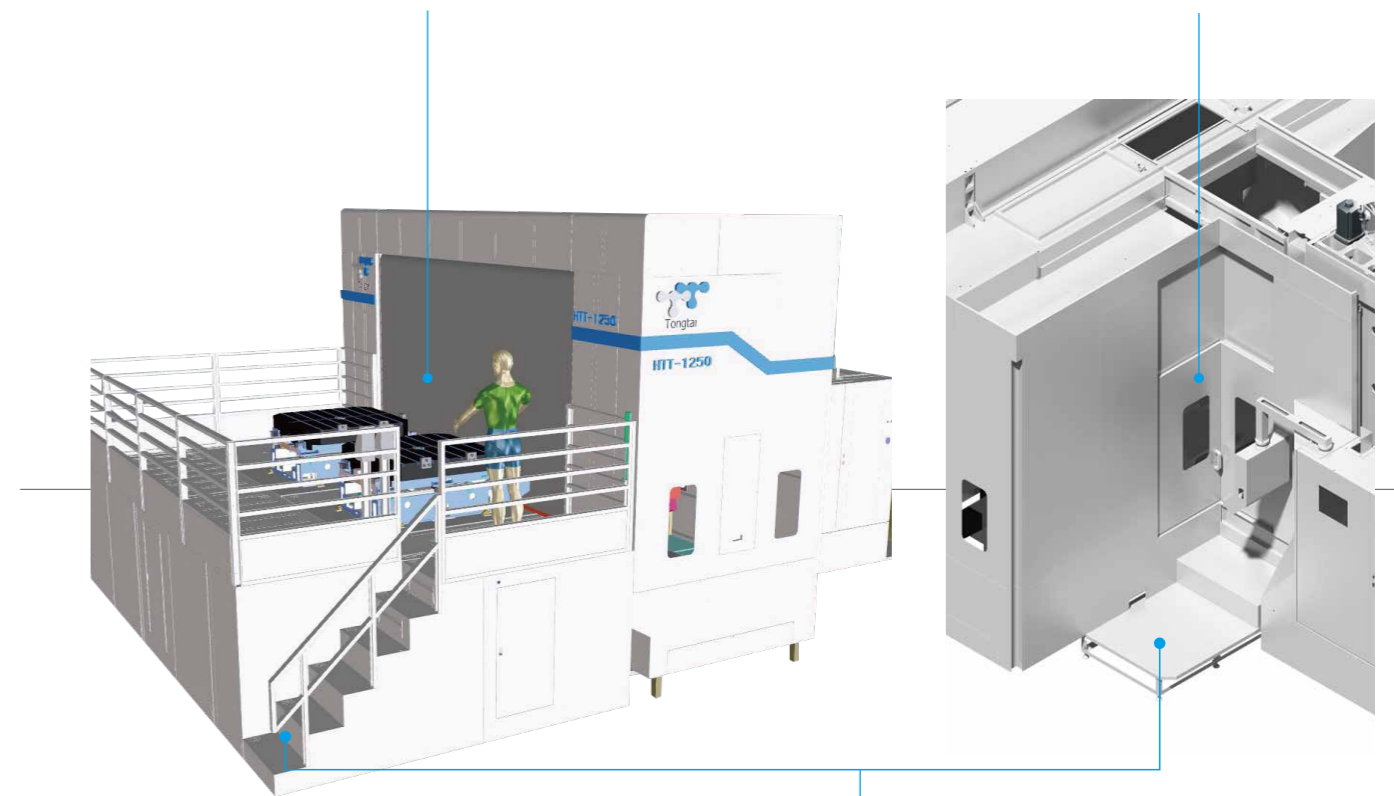
Low speed (3:23)



Operation · Peripheral accessories

Loading/unloading area is separated from the working area. Auto door keeps chips inside machine to ensure operator safety.

Enclosed sheet metal is with safety switch and tempered glass, it ensures the operator security and convenient for machining observation.

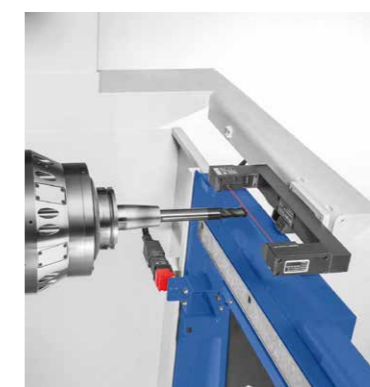


Stands are provided at loading area and operation panel side, different high stands can be designed as per the customized.

Wireless workpiece measurement (Opt.)



Laser tool measurement (Opt.)



Automatic 5-axis precision measurement (Opt.)

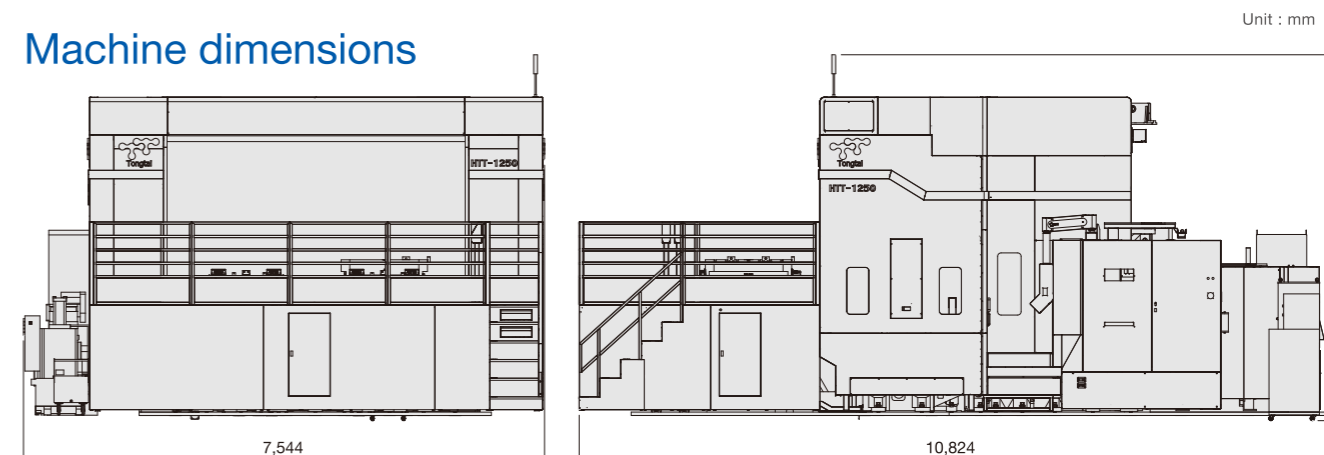


Standard / Optional accessories

		Standard	Optional
Spindle	6,000 rpm gear type high torque spindle	●	
	8,000 rpm gear type high torque spindle		○
A axis	0.001° increment (including linear scale)	●	
B axis	0.001° increment (including linear scale)	●	
Tool holder	BT50	●	
	HSK-A100		○
	DIN50		○
BT50 stud degree	MAS407 BTIII (90°)	●	
	MAS407 BTII (60°)		○
	MAS407 BTI (45°)		○
C.T.S. pump	20bar	●	
	35bar		○
	70bar		○
Tool magazine	60T	●	
	90T		○
	120T		○
Cooling system	Spindle cooling system	●	
	Hydraulic temperature control system		○
	Coolant temperature control system		○
APC system	Dual-pallet	●	
Chip conveyor	Dual chip augers	●	
	Scraper type chip conveyor	●	
	Magnetic scraper type chip conveyor		○
	Hinge type chip conveyor		○
Lubrication system	Drum type chip conveyor		○
	Integrated type chip conveyor		○
	Lubrication system	●	
Linear scale	LHL integrated lubrication system		○
	Heidenhain 5μ resolution	●	
Warning light	Heidenhain 3μ resolution		○
	Tri-color light	●	
Other accessories	Renishaw OMP60 workpiece measuring system		○
	Laser tool measurement		○
	Machining air blow		○
	Air gun		○
	Coolant gun		○
	Oil skimmer		○
	Oil-mist collector		○

Machine dimensions · Specifications

Machine dimensions



Specifications

Item	Specification	Unit	HTT-1250
Stroke	X/Y/Z stroke	mm	2,000/1,800/1,250
	Spindle center to table	mm	-600~1,200
	Spindle nose to table	mm	400~1,650
Table	Table height from floor	mm	2,255
	Table size(LxW)	mm	1,250x1,250
	Max. Fixture dimension (diameter x height)	mm	∅1,800xH1,000
	Max. loading capacity	kg	4,000x2
A axis	T-slot (size x No.)	mm	18x7
	Rotating degree	deg	+110°/-20°
	Speed	rpm	5
B axis	Min. indexing degree		0.001°
	Rotating degree	deg	360
	Speed	rpm	5
Spindle	Min. indexing degree	deg	0.001
	Spindle nose		7/24 Taper No.50
Feed	Spindle speed	rpm	8,000
	Rapid traverse	m/min	10
	Cutting feedrate	mm/min	1~5000
ATC	Tool shak		BT-50
	Tool capacity	pc	60 (Opt. 90/120)
	Max. tool diameter	mm	∅125
	Max. tool diameter (w/o adjacent tool)	mm	∅250
	Max. tool length	mm	610
APC	Max. tool weight	kg	25
	Tool selection method		Fixed
	APC moving method		Horizontal type
Motor	Numbers of pallet		2
	Spindle motor	kW	26/22
	X/Y/Z axis servo motor	kW	10.5/8.2/8.2
Capacity	Coolant motor	kW	3
	Hydraulic oil tank	L	170
	Lubrication oil tank	L	2.5
Machine size	Collant tank	L	650
	Wide x depth x height	mm	7,544x10,824x5,298

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