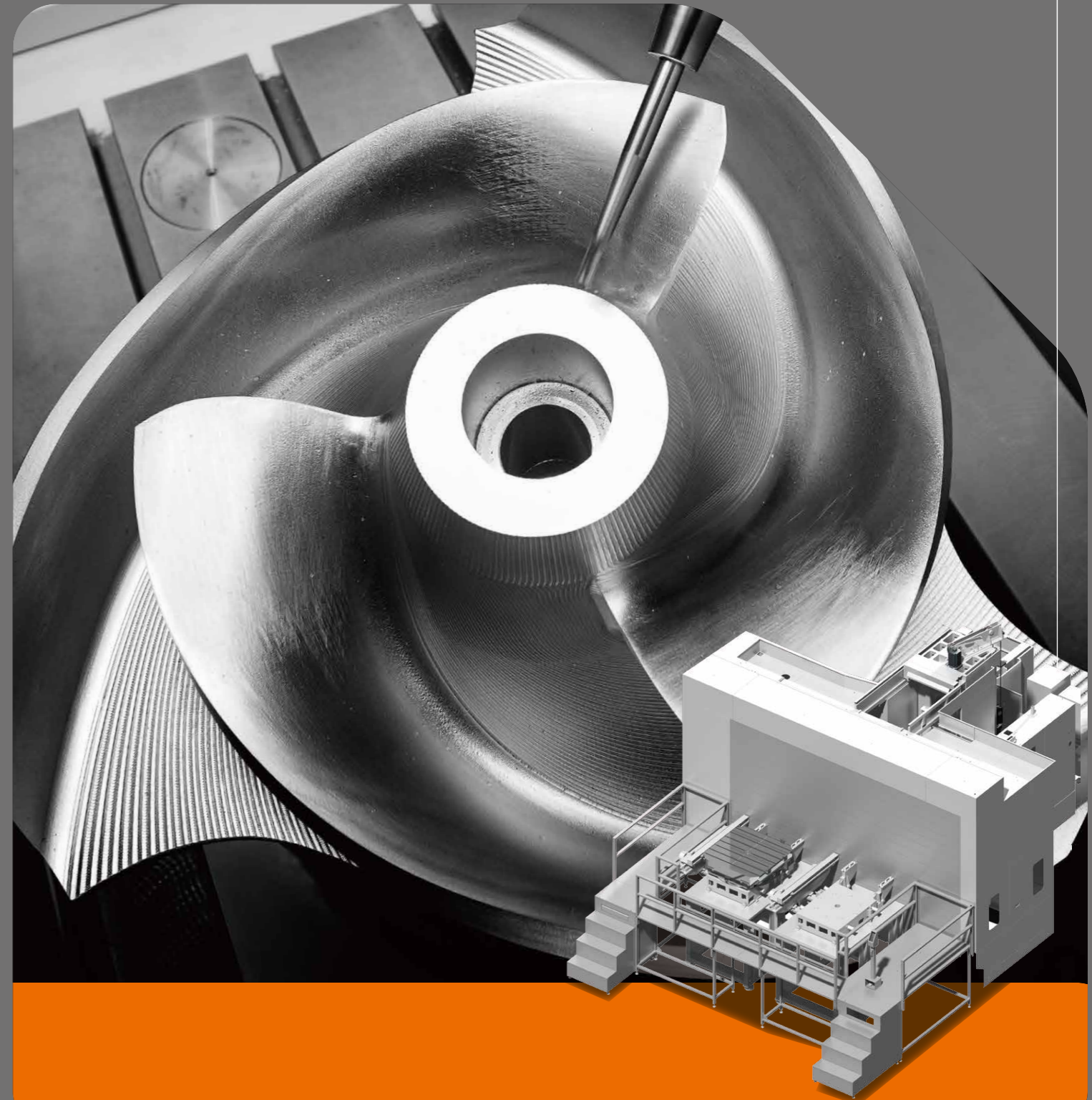


HTT-1250

Five-Axis Horizontal Machining Center



Tongtai Tongtai Machine & Tool Co., Ltd.

Headquarters

No.3, Luke 3rd Rd., Luzhu Dist., Kaohsiung City 82151, Taiwan
TEL : 886-7-9761588 FAX : 886-7-9761589
www.tongtai.com.tw

Taoyuan Branch	TEL : 886-3-4551399	FAX : 886-3-4559730
Taichung Branch	TEL : 886-4-23589600	FAX : 886-4-23589993
Japan Branch	TEL : 81-4-71438355	FAX : 81-4-71438360
Europe Branch	TEL : 31-161-454639	FAX : 31-161-454768
Romania Branch	TEL : 40-264-415273	FAX : 40-264-403983
Malaysia Branch	TEL : 603-78597113	FAX : 603-78597115
Vietnam Branch	TEL : 84-4-62766090	
Thailand Branch	TEL : 66-2-7443440	FAX : 66-2-3986518
Indonesia Office	TEL : 62-21-45850875	FAX : 62-21-45850876

China Operation Center

Shuzhou Tong-yu Machine & Tool Co., Ltd.

No.555 Huahong Rd., Economic Development Zone of Wujiang,
Suzhou City, Jiangsu Province, China
TEL : 86-512-63430168

FAX : 86-512-63431622

E-mail : sales@tong-yu.com.cn

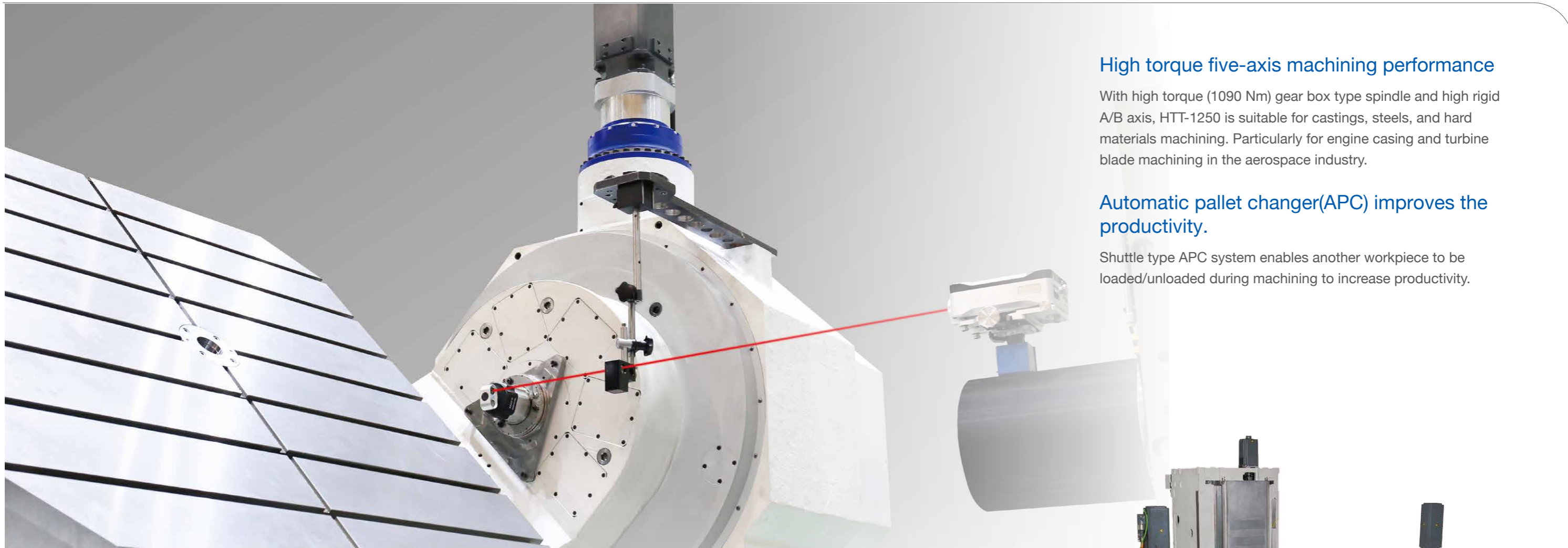
Wuhan Branch	TEL : 86-27-59409109	FAX : 86-27-59409110
Chongqing Branch	TEL : 86-23-67865925	FAX : 86-23-67867717
Guandong Branch	TEL : 86-755-27222119	FAX : 86-755-27222115
Tianjin Branch	TEL : 86-22-24417640	FAX : 86-22-24416738
Shanghai Office	TEL : 86-21-24208138	FAX : 86-21-34073262
Shenyang Office	TEL : 86-24-24142968	FAX : 86-24-24115782

Affiliates

Honor Seiki Co., Ltd.	Asia Pacific Elite Corp.	Quick-Tech Machinery Co., Ltd	PCI-SCEMM - rue Copernic	ANGER Machining GmbH
TEL : 886-7-9759888	TEL : 886-4-23589313	TEL : 886-6-3841155	TEL : 33-4-77426161	TEL : 43-7229-71041-0
FAX : 886-7-9759999	FAX : 886-4-23588913	FAX : 886-6-3841177	FAX : 33-4-77426023	FAX : 43-7229-71041-199
www.honorseiki.com.tw	www.apecnc.com	www.quicktech.com.tw	www.pci.fr	www.anger-machining.com



HTT-1250



High torque five-axis machining performance

With high torque (1090 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.

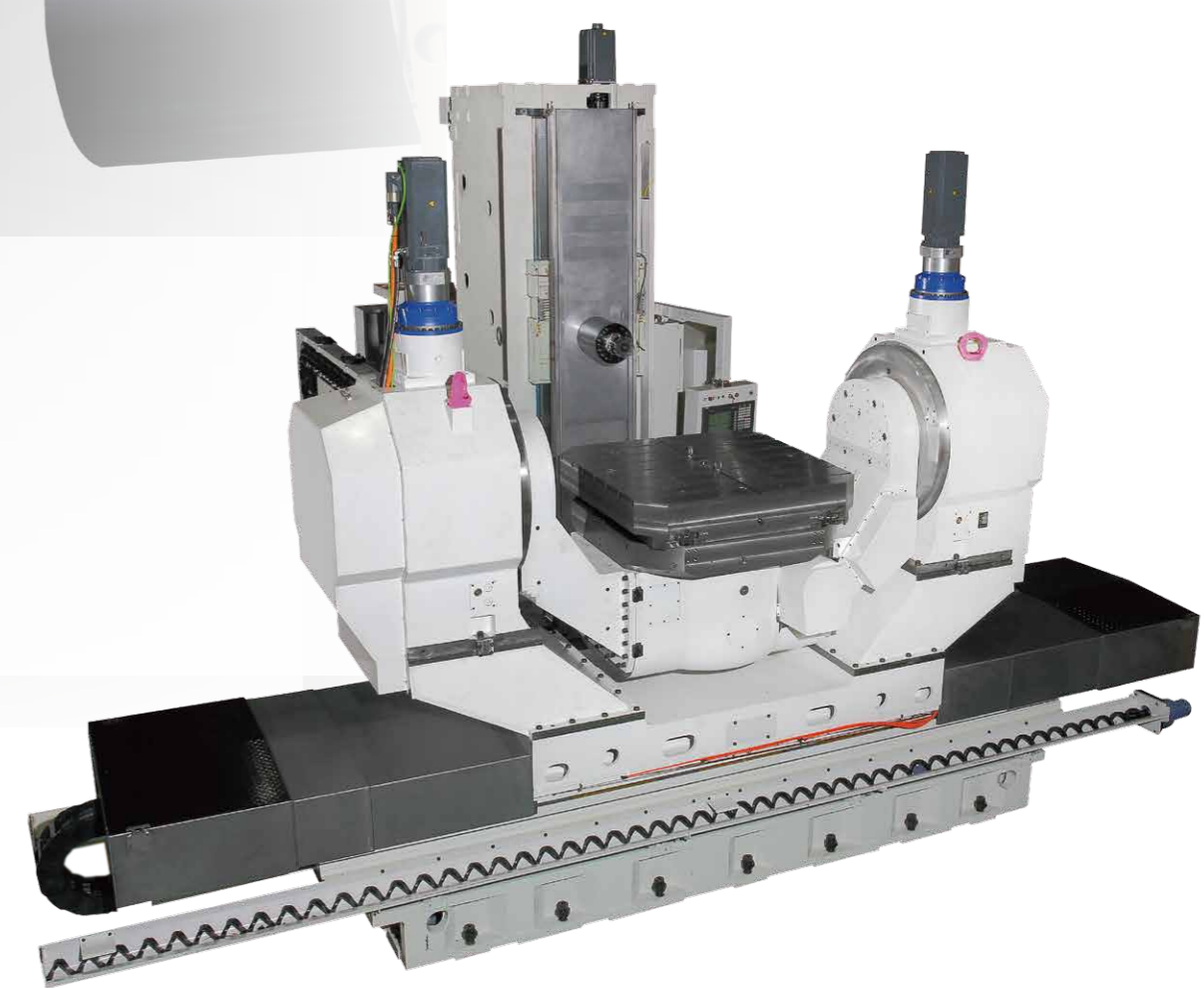
Shuttle type APC system enables another workpiece to be loaded/unloaded during machining to increase productivity.

Main specifications

Spindle	6,000 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 X/Y/Z axis (Ø 63/Ø50/Ø63 mm) high precision ball screws
A axis	Rotary degree +110°/-20°
	Speed 5 rpm Min. indexing degree 0.001°
B axis	Rotary degree 360°
	Speed 5 rpm Min. indexing degree 0.001°
ATC	Tool capacity is 60 tools (opt. 90/120 tools)

CONTENT

- 03 Main structure
- 05 Basic structure
- 07 Operation · Peripheral accessories
- 08 Tool interference
 - Spindle output and torque chart
- 09 Standard / Optional accessories
- 10 Machine dimensions · Specifications



Main structure

High rigid box-way structure

Stroke

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

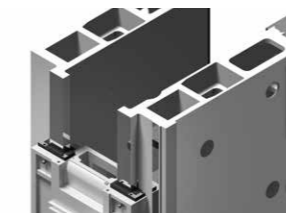
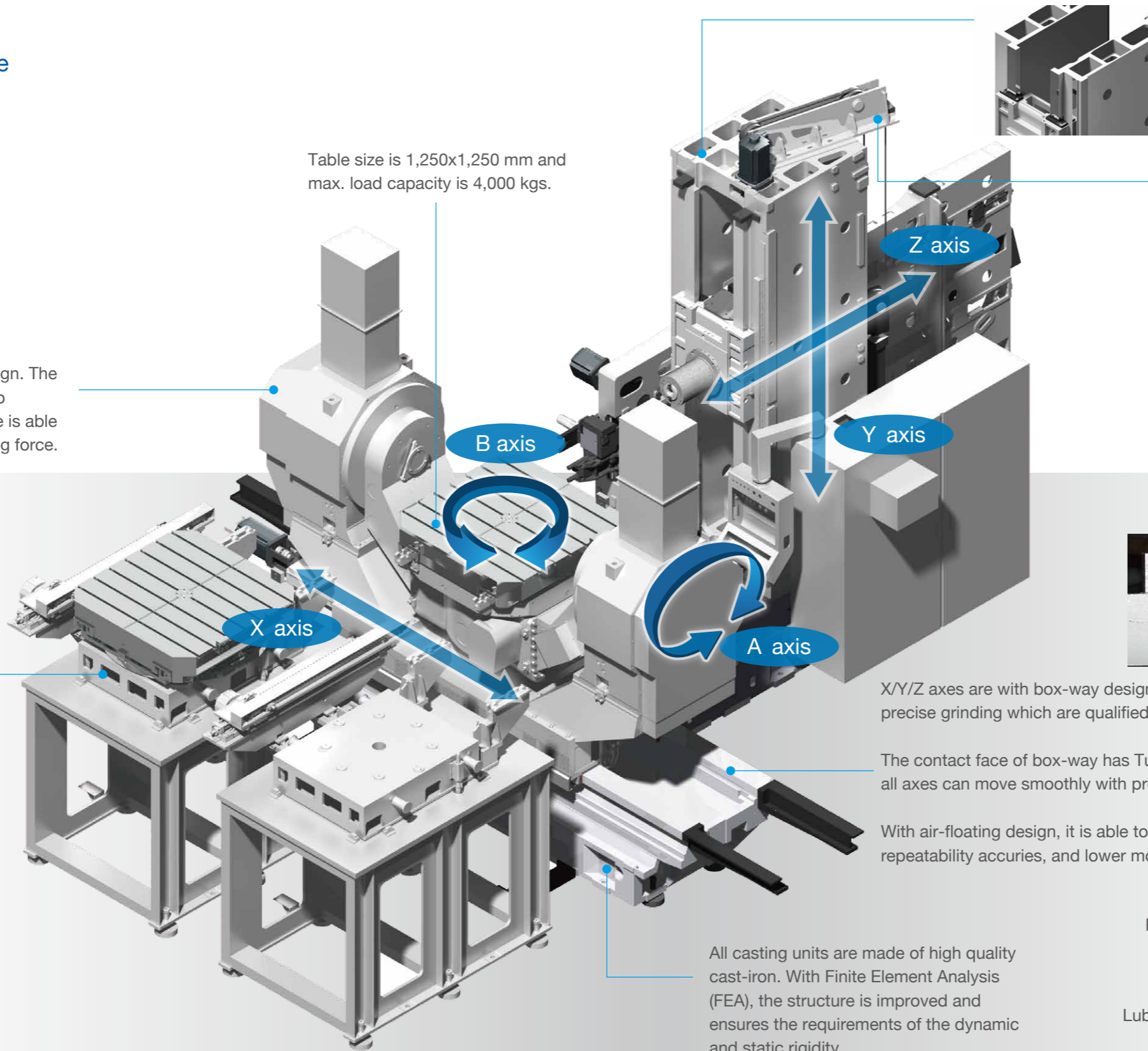
Rapid traverse

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.

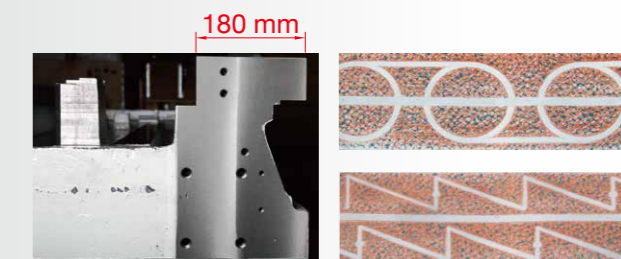
Shuttle type APC system saves loading/unloading time while machining to improve productivity.

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.

Y axis can be with auxiliary cylinders to balance loads of servo motor and enhance machining precision. (Opt.)

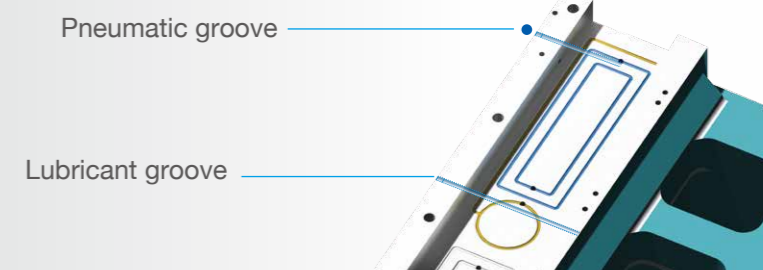


X/Y/Z axes are with box-way design. Box way has suitable heat treatment and precise grinding which are qualified for heavy duty cutting and high rigidity.

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

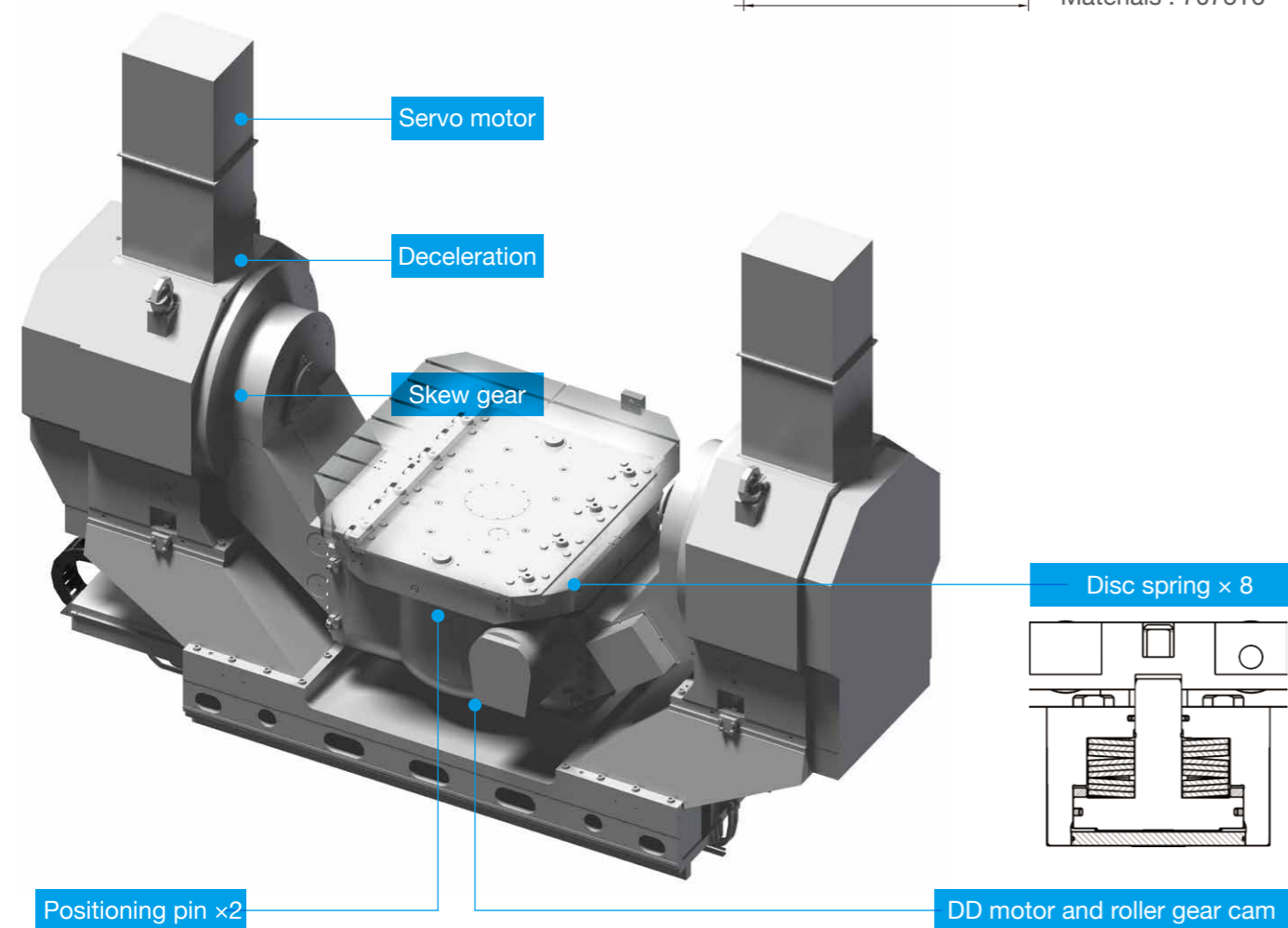
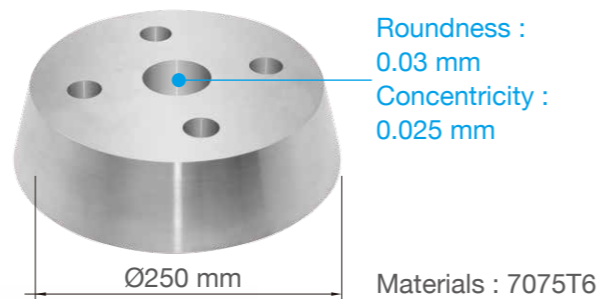
High rigidity A/B axis design. A axis adopts dual-sides supporting, each side has servo motor thru reductor to drive A axis tilting. The driving torque and braking torque of A axis is up to 56,000 Nm and 30,000 Nm. B axis rotation is by worm shaft and worm gear which are driven by DD motor, with 8 sets 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"

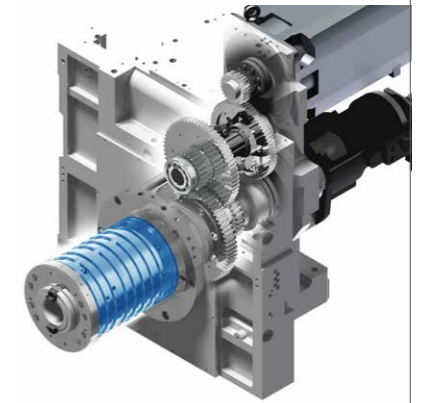
Machining accuracy



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 **6,000** rpm
 Spindle motor **21.5/18.5** kW
 Output torque **1071/901** 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.

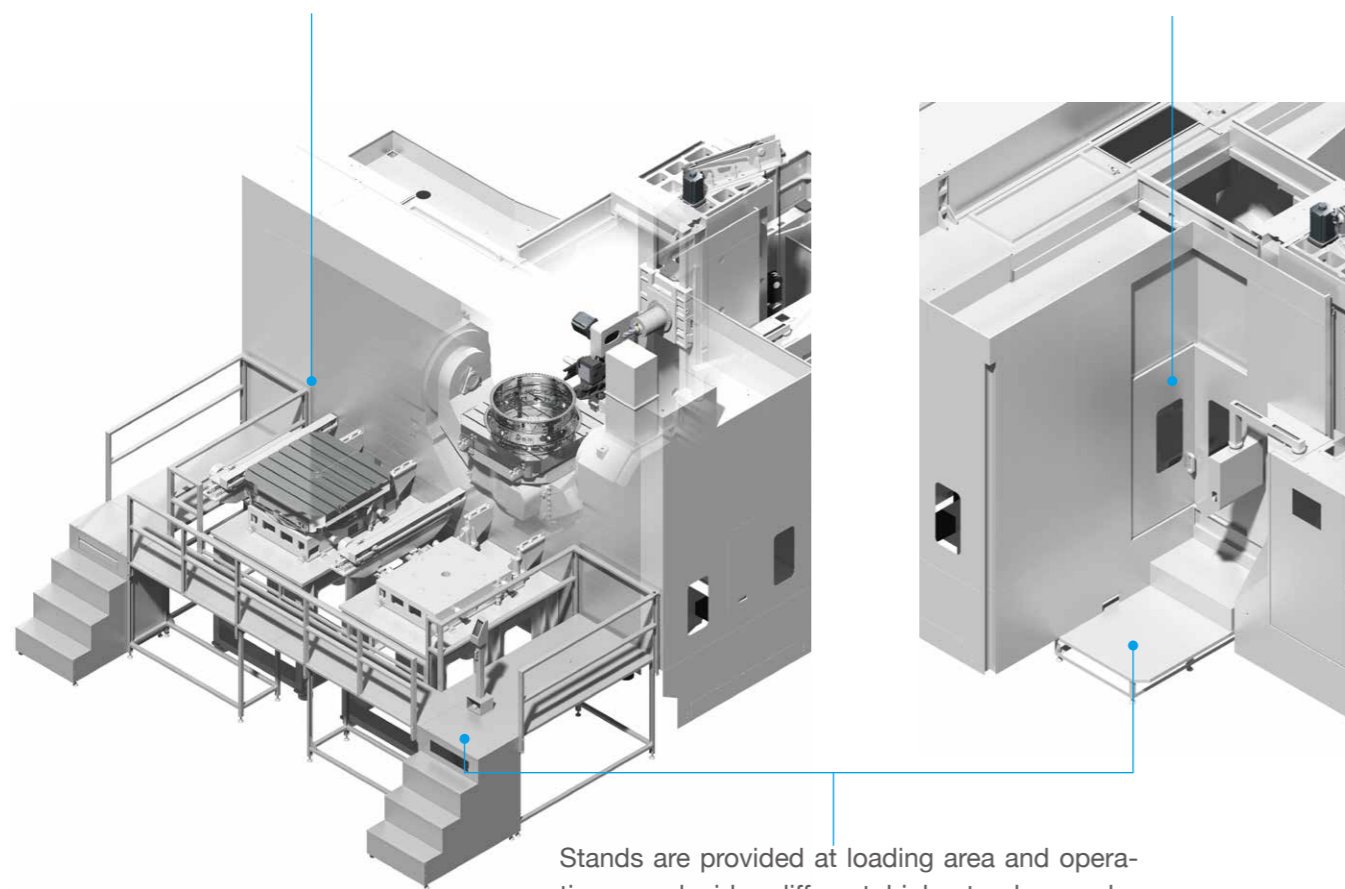
Tool spec	BT50
Tool capacity	60 (Opt. 90/120)
Max. tool diameter	Ø125 mm
Max. tool diameter (w/o adjacent tool)	Ø250 mm
Max. tool length	610 mm
Max. tool weight	25 kg
ATC mechanism	Fixed position



Operation · Peripheral accessories

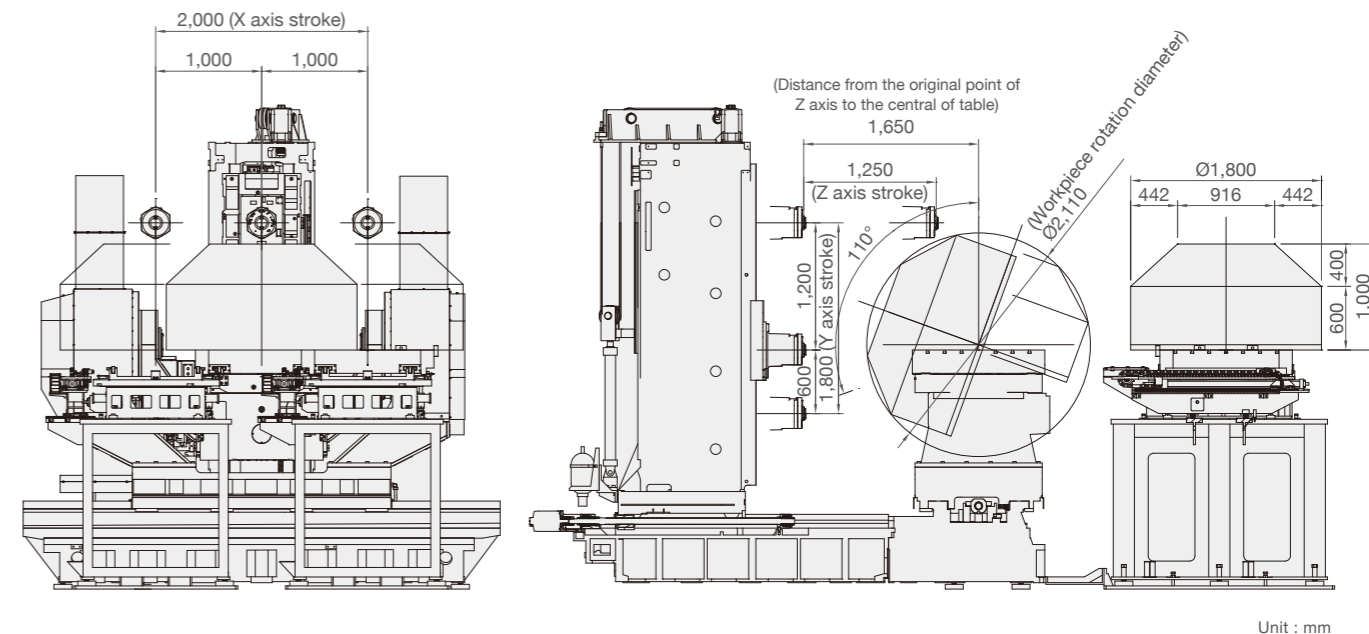
Loading/unloading area is separated from the working area. Auto door keeps chips inside machine to ensure operator safety.

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.

Tool interference · Spindle output and torque chart

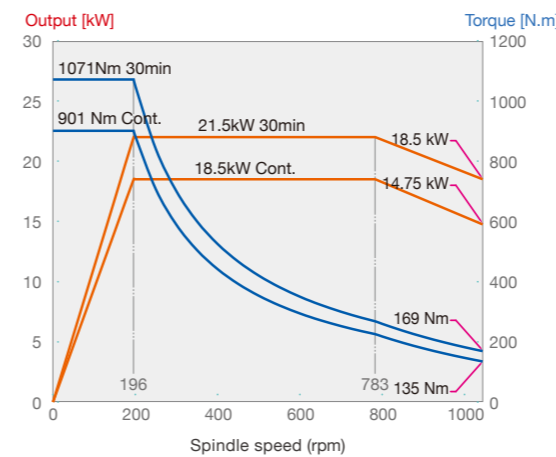


Unit : mm

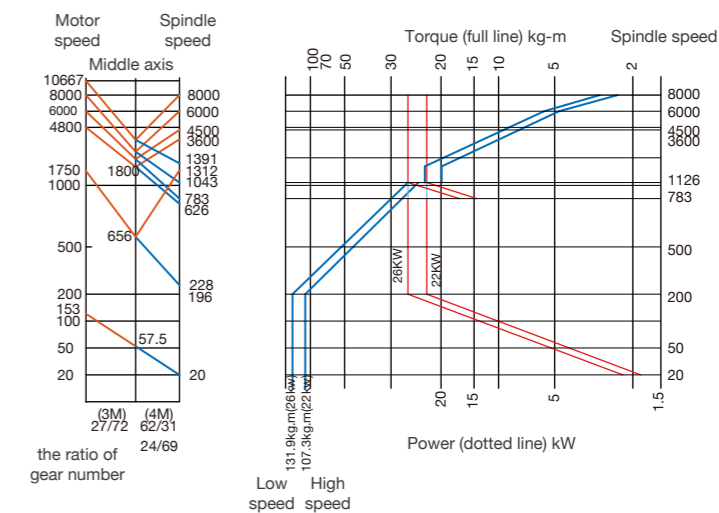
6,000 rpm Gear box type spindle

8,000 rpm (Opt.)

Low speed



Spindle speed and torque chart



Wireless workpiece measurement (Opt.)



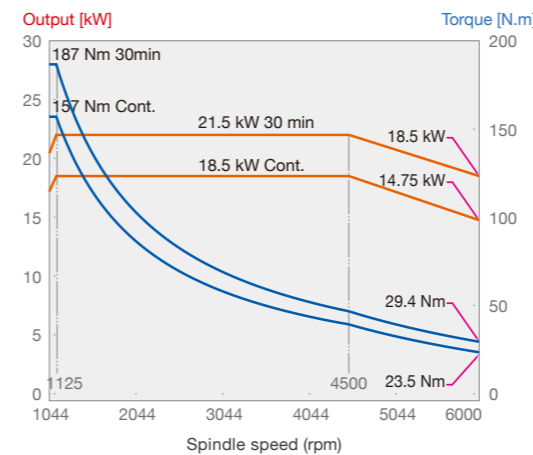
Laser tool measurement (Opt.)



Automatic 5-axis precision measurement (Opt.)



High speed

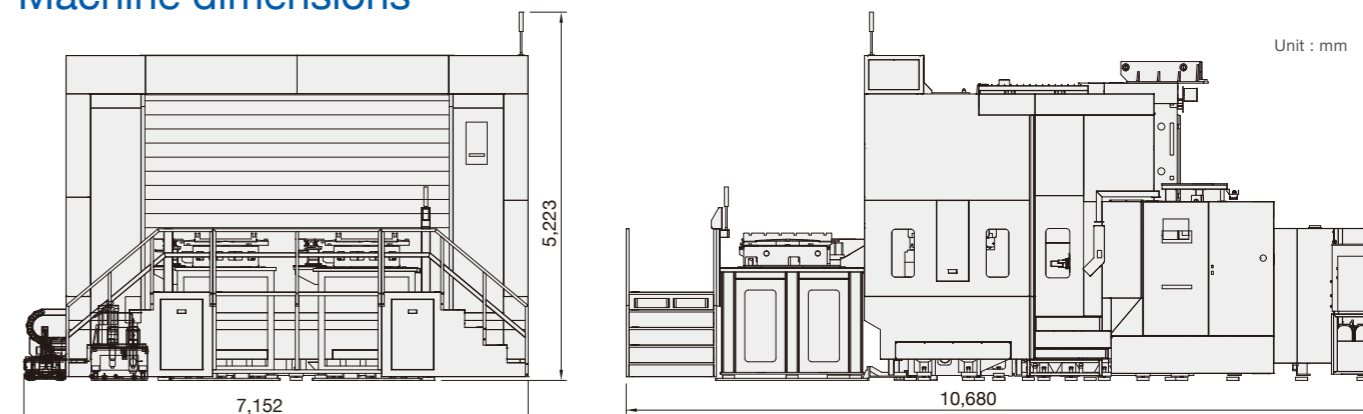


Standard / Optional accessories

		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	●	
Chips disposal	Dual chip augers	●	
Chip conveyor	Scraper type chip conveyor	●	
	Magnetic scraper type chip conveyor		○
	Hinge type chip conveyor		○
	Drum type chip conveyor		○
Lubrication system	Integrated type chip conveyor		○
	Lubrication system	●	
	LHL integrated lubrication system		○
Linear scale	Heidenhain 5μ resolution	●	
	Heidenhain 3μ resolution		○
Warning light	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(L×W)	mm	1,250×1,250
	Max. Fixture dimension (diameter x height)	mm	∅1,800×H1,000
	Max. loading capacity	kg	4,000×2
A axis	T-slot (size × No.)	mm	18×7
	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
	Spindle speed	rpm	6,000
Feed	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	21.5/18.5
	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	10,680×7,152×5,223

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