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HORIZONTAL MACHINING CENTER

HPC500 II / HPC600 II / HPC650 II / HPC800 II / HPC1000



SUPERIOR PRODUCTION PERFORMANCE

- High rigid infrastructure for heavy cutting
- All series of standard hollow screw rods, ensure stable processing accuracy
- Advanced FMS, achieve higher production capacity



FLEXIBLE INDUSTRY APPLICATIONS

<p>Automobile</p>	<p>Workpiece: Knuckle Material: Aluminum</p>	<p>Workpiece: Clutch housing Material: Aluminum</p>
	<p>Workpiece: Cylinder block Material: Aluminum</p>	<p>Workpiece: Front subframe Material: Aluminum</p>
<p>General machinery</p>	<p>Workpiece: Valve block Material: SC45</p>	<p>Workpiece: Reducer housing Material: HT200</p>
	<p>Workpiece: Air compressor housing Material: HT250</p>	

DIVERSE SERIES OF PRODUCTS

HPC500 II

High speed machining of small parts

Max. spindle speed:
12000 rpm
Cutting feedrate:
60 m/min
Tool change time (T-T):
1.5s



HPC600 II

For large quantities of small and medium-sized die castings

Spindle power:
26/45 kW
RapidtraverseX/Y/Z:
60 m/min
Tool change time (T-T):
2s



HPC650 II

Efficient processing of castings and die-casting aluminum

Max. spindle torque:
623 Nm
Spindle taper:
BT50(HSK-A100 option)
Max. tool dia. (Adjacent/Vacant):
125/250 mm



HPC800 II

Efficient processing of castings and die-casting aluminum

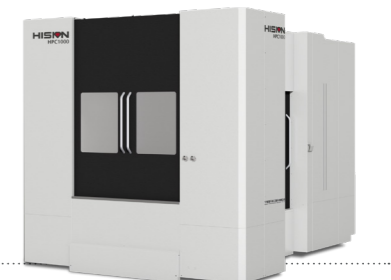
Max. spindle torque:
623 Nm
Spindle taper:
BT50(HSK-A100 option)
Max. tool dia. (Adjacent/Vacant):
125/250 mm



HPC1000

The best choice for processing new energy front and rear subframe

Max. spindle speed:
8000 rpm
Table size:
1250 × 1000 mm
Table indexing:
0.001°
Table 90° indexing time:
3.5s





HIGH EFFICIENCY & PRECISION

High Rigid Bed

High load bearing casting bed, ensure the stability of processing

Linear Roller Guide Is Used For X/Y/Z Axis

In order to achieve high-precision and heavy cutting, X/Y/Z axis of HPCII series adopts linear roller guide



**X/Y/Z Axis
High Speed**

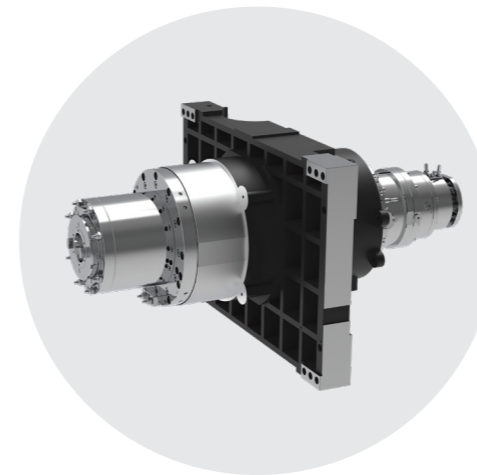
Rapid traverse
60m/min

X/Y/Z
HPC500 / 600 / 650II / HPC1000

Cutting feed rate
60m/min

X/Y/Z
HPC500/600/650II

HIGH PRECISION MACHINING DESIGN



Built-in Spindle

The built-in spindle has small rotary inertia, fast starting/stopping speed, and greatly reduces the vibration during high-speed operation to ensure the machining accuracy and accuracy.

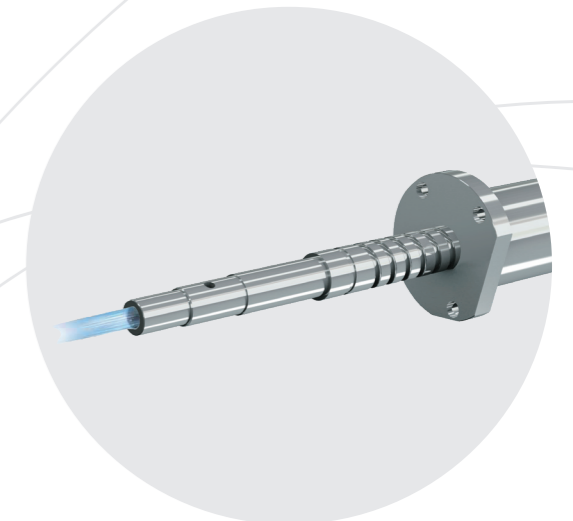
Spindle Thermostatic Cooling System

In order to achieve stable spindle accuracy, the coolant cools the spindle bearing and spindle box circularly to reduce the thermal deformation of the spindle.



X/Y/Z Axis Standard Hollow Cooling Screw

The coolant passes through the hollow part of the screw rod to effectively restrain the temperature rise and maintain the accuracy.



X/Y Axis Shield

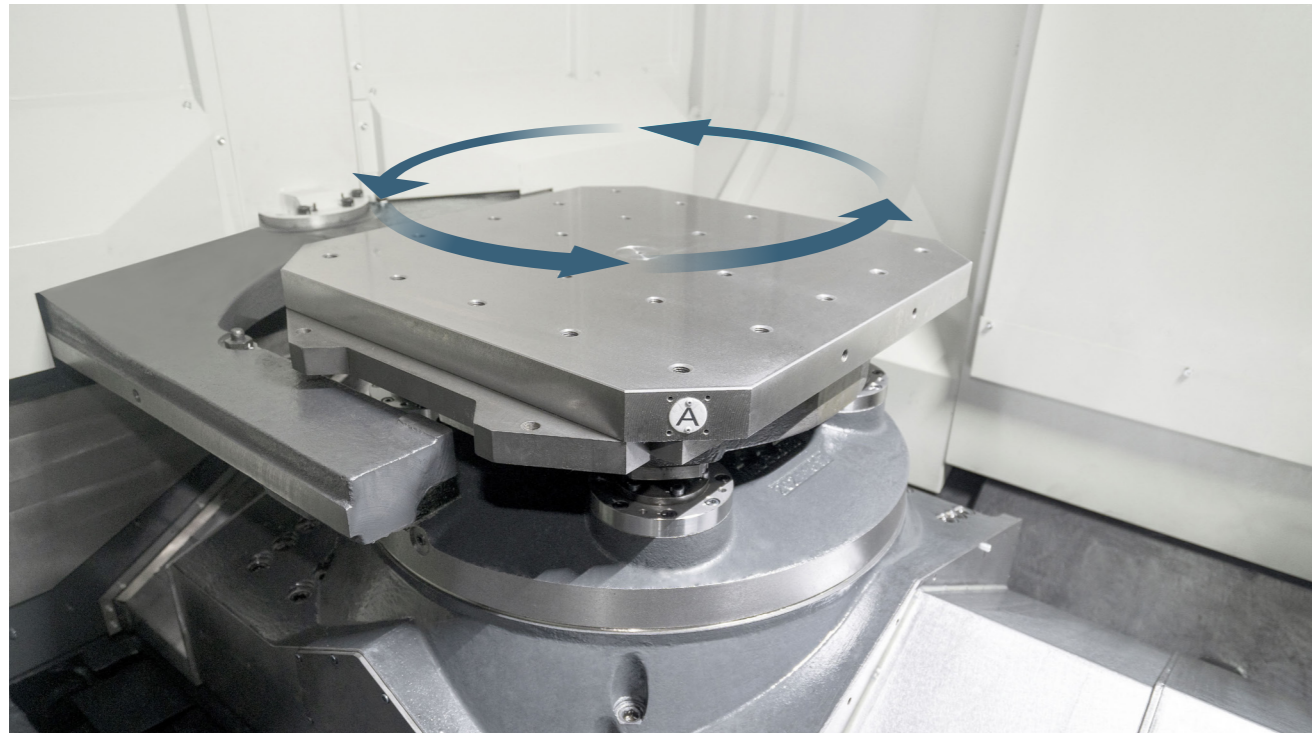
The fixed armor protection effectively controls the iron chips and cutting fluid in the fully enclosed processing area, and adapts to the fast and stable operation of moving parts.



TABLE

Multiple workbenches available

Standard configuration is 1° indexing pallet (except HPC1000). NC rotary table is optional.



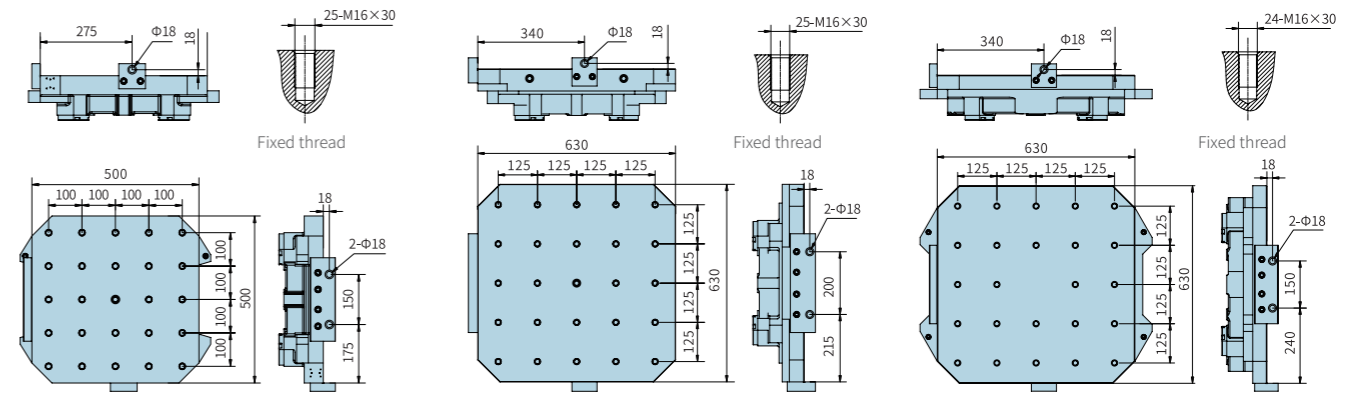
SPECIFICATIONS OF TABLE

Model	Unit	HPC500 II		HPC600 II		HPC650 II		HPC800 II		HPC 1000	
Table Type	-	1° × 360 indexing table	NC rotary table (option)	1° × 360 indexing table	NC rotary table (option)	1° × 360 indexing table	NC rotary table (option)	1° × 360 indexing table	NC rotary table (option)	NC rotary table	1° × 360 indexing table (option)
Max. Table Load	kg	500	500	1000	1000	1300	1300	2000	2000	2000	2000
Min. Table Indexing	°	1	0.001	1	0.001	1	0.001	1	0.001	0.001	1
Table 90° Indexing	s	1.4	1.4	2.5	2.5	2.5	2.5	3.5	3.5	3.5	3.5

HIGH PRECISION MACHINING DESIGN

Model	Unit	HPC500 II	HPC600 II	HPC650 II	HPC800 II	HPC1000
Table Size	mm	500×500	630×630	630×630	800×800	1250×1000
Max. Size of Workpiece	mm	Φ800×1000	Φ900×1000	Φ1100×1170	Φ1450×1320	Φ1920×1500
Max. Table Load	kg	500	1000	1300	2000	2000

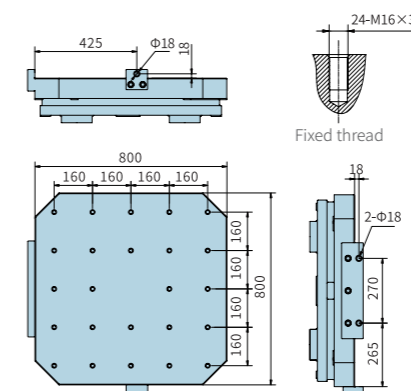
WORKPIECE CLAMPING RANGE



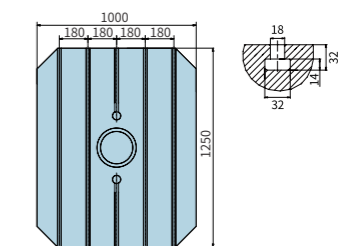
HPC500 II Table Size

HPC600 II Table Size

HPC650 II Table Size



HPC800 II Table Size



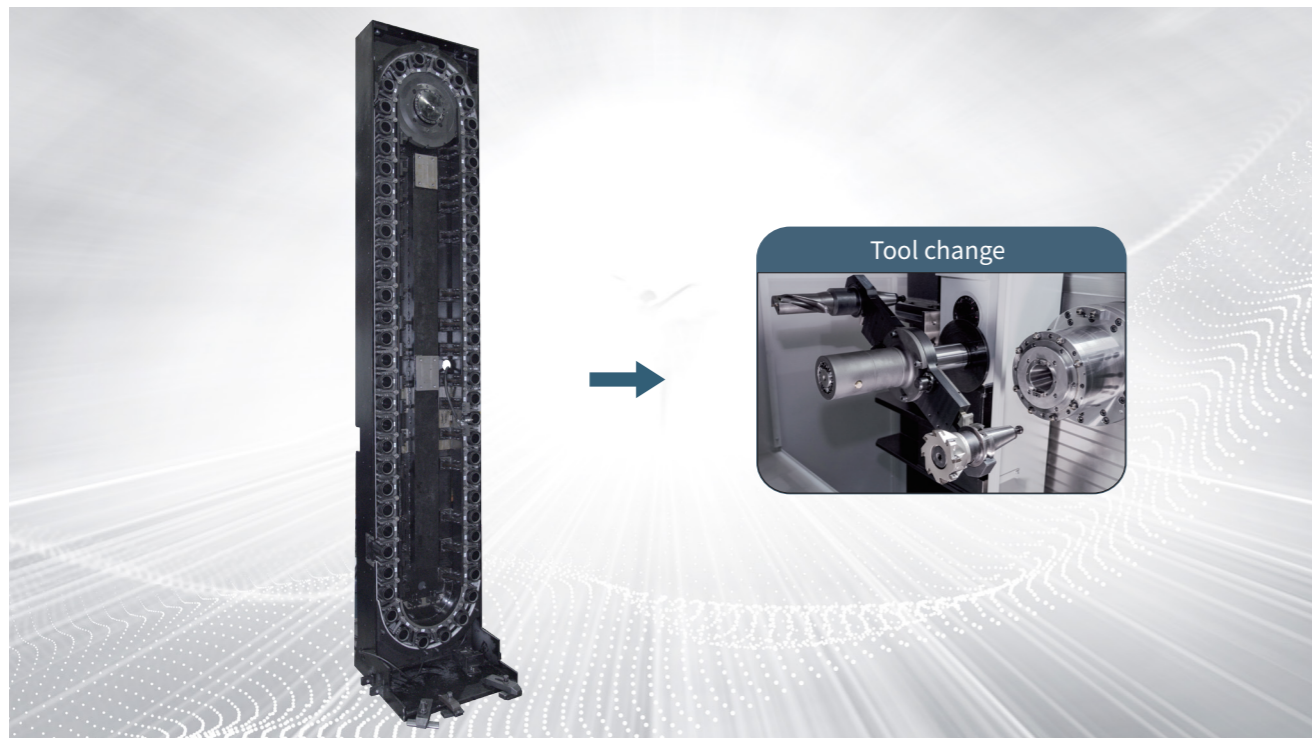
HPC1000 Table Size



DOUBLE SERVO TOOL MAGAZINE

ATC

Double servo motors greatly improve tool change efficiency. Ensure stable tool change



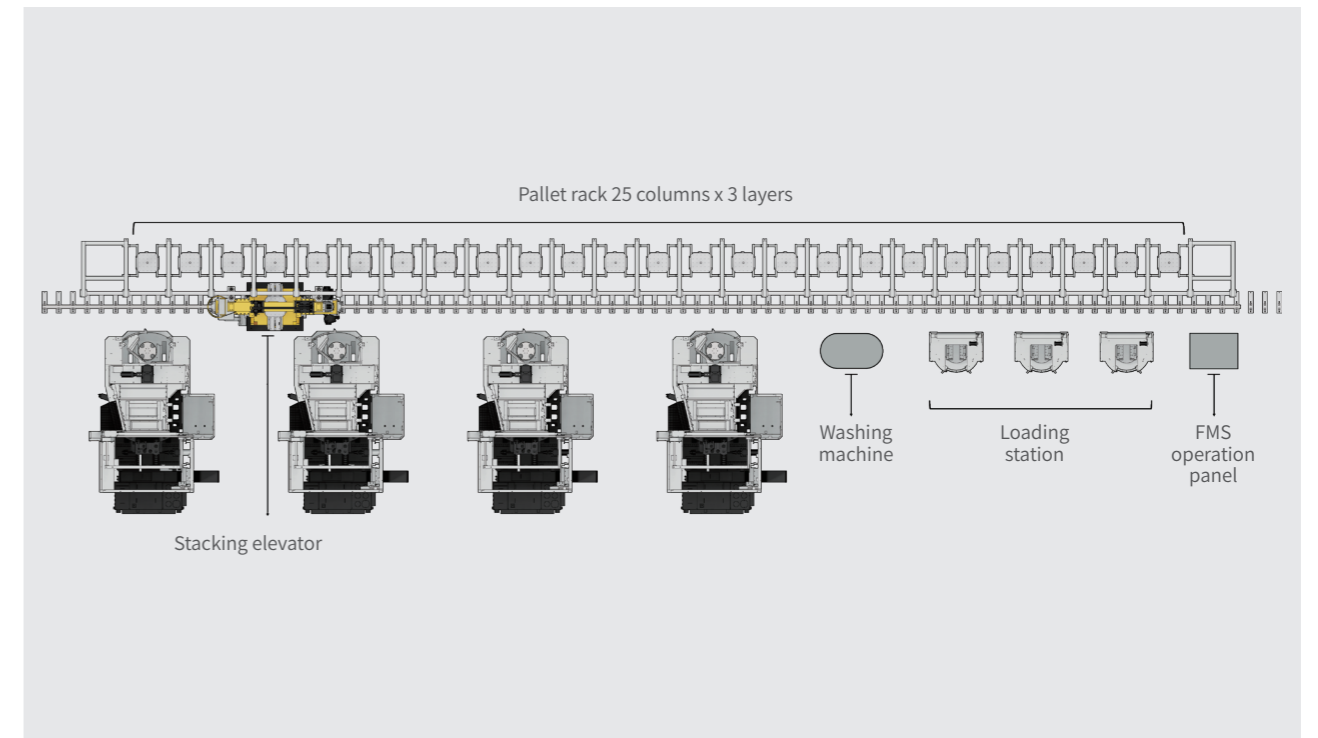
ATC SPECIFICATION

	Unit	HPC500 II	HPC600 II	HPC650 II	HPC800 II	HPC 1000
Tool length	mm	500	600	600	500	500
ATC Max. tool size						
Tool weight	kg	12	25	25	25	25
Max. tool dia. (Adjacent/vacant)	mm	Φ80/Φ160	Φ125/Φ250	Φ125/Φ250	Φ125/Φ250	Φ115/Φ230
Tool change time(T-T)	s	1.5	2	2	2	2
Tool change time(C-C)	s	6	7	7	7	7
Capacity	-	40 (option 60, 90, 120)	40 (option 60, 90, 120)	40 (option 60, 90, 120)	60 (option 40, 90, 120)	40 (option 60, 90, 120)

HIGH PRECISION MACHINING DESIGN

Advanced FMS

Helps improve automated production for customers



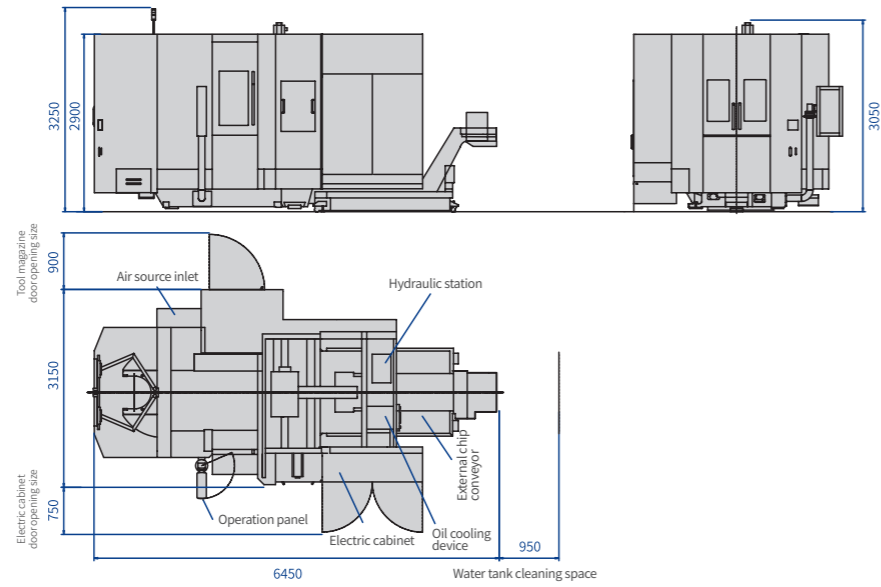
	Min.	Max.
Number of MC	1	5
Number of pallets		
2 layers	12	60
3 layers	Customized	Customized
Loading station	1	4
Stacking elevator	1	1



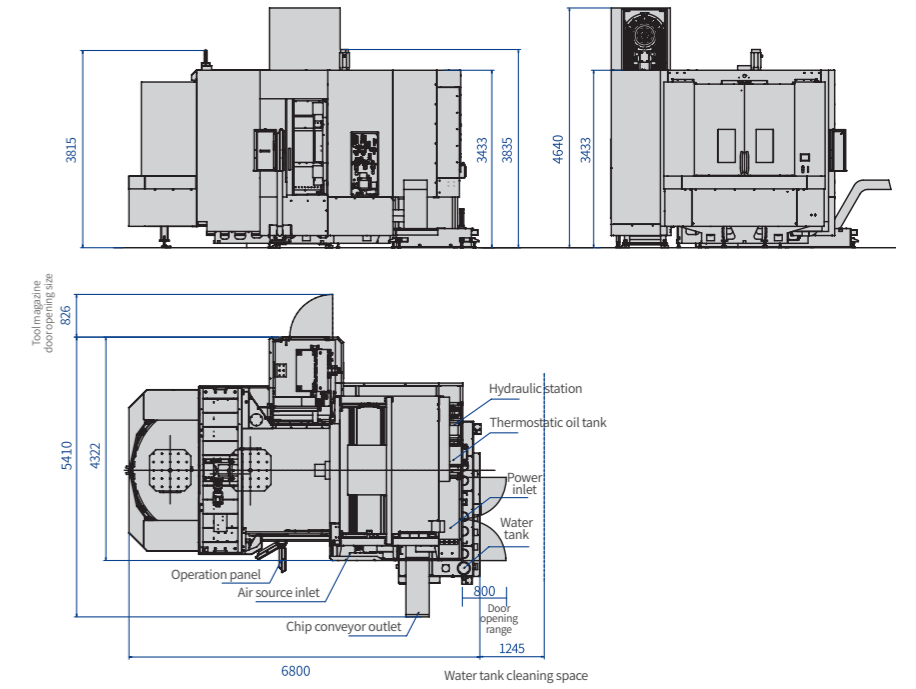


DOUBLE SERVO TOOL MAGAZINE

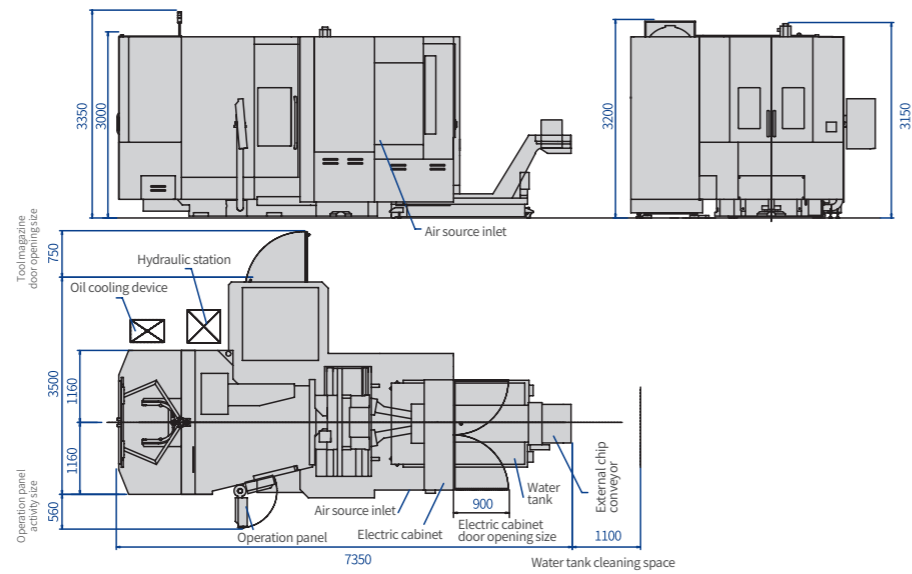
HPC500 II



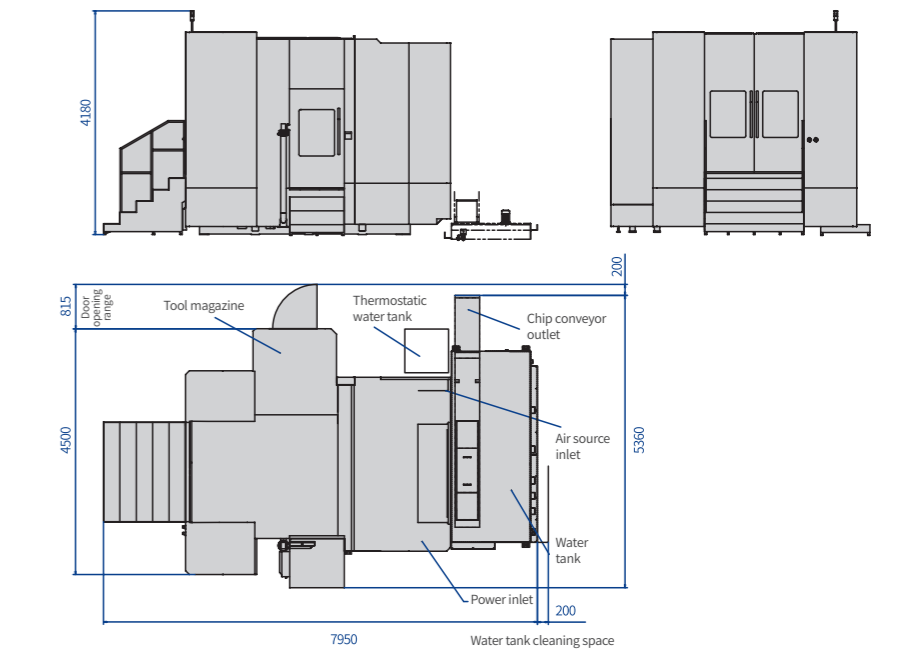
HPC800 II



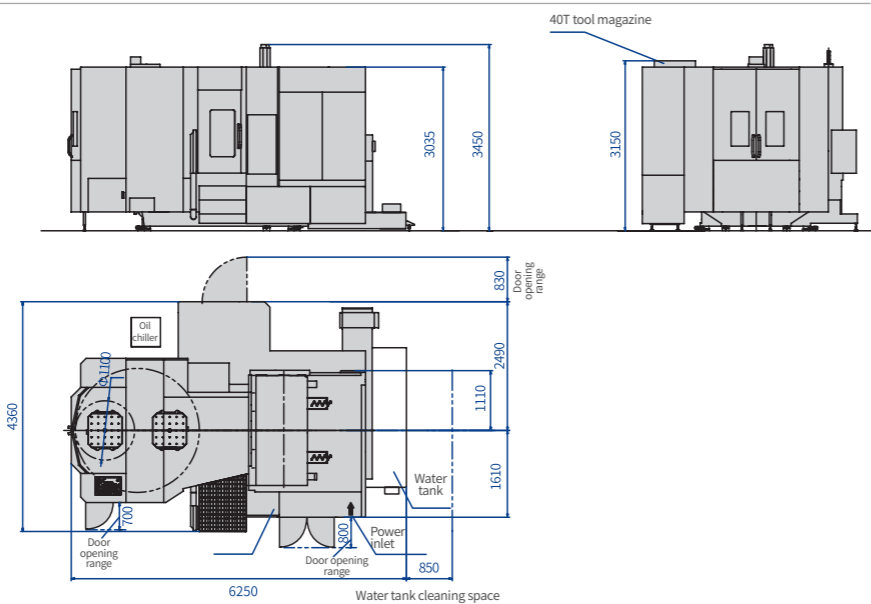
HPC600 II



HPC1000



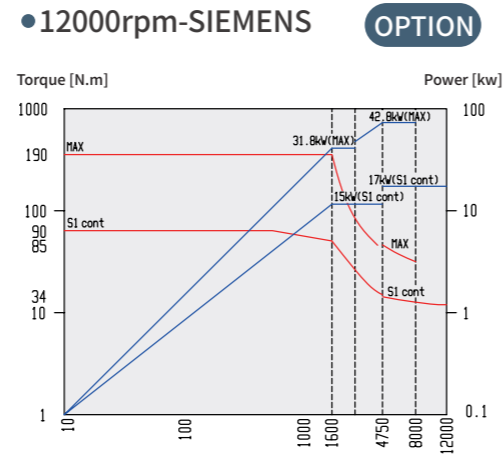
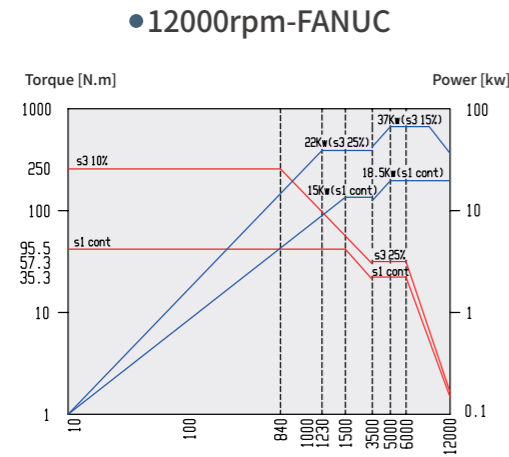
HPC650 II



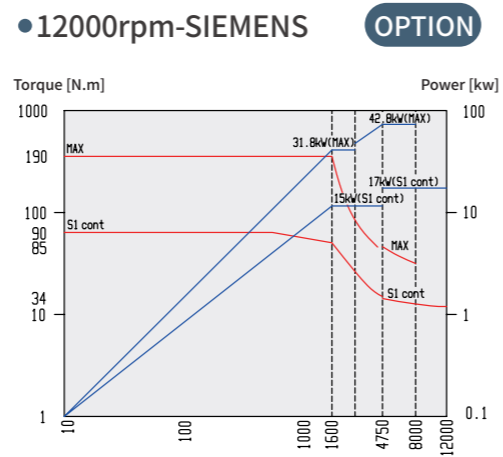
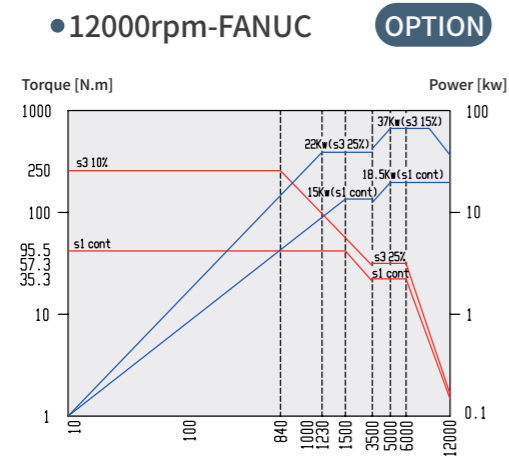
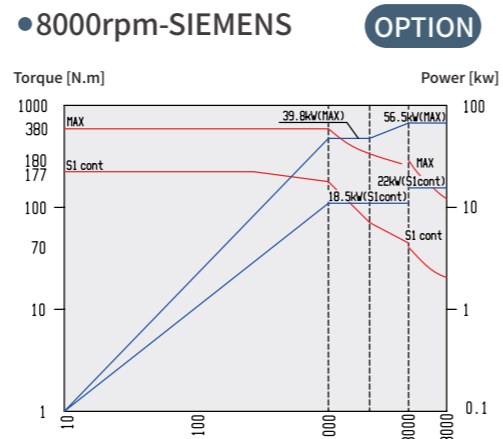
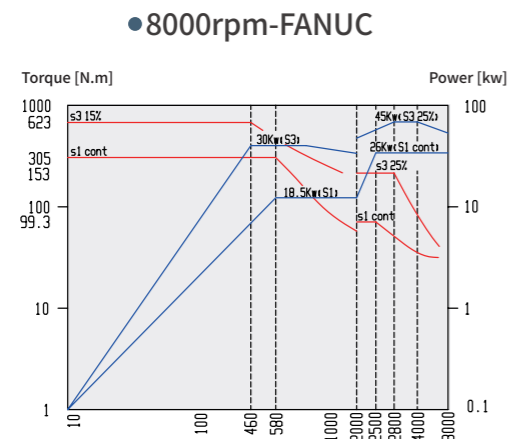


POWER TORQUE DIAGRAM

HPC500 II
Standard Configuration
Spindle Torque
Spindle Power



HPC600 II
HPC650 II
HPC800 II
HPC1000
Standard Configuration
Spindle Torque
Spindle Power



HPC II / HPC

Unit	HPC500 II	HPC600 II	HPC650 II	HPC800 II	HPC1000
» Machining Capacity					
X travel	mm	730	800	1050	1400
Y travel	mm	730	800	900	1250
Z travel	mm	800	850	1000	1250
Spindle center to table surface	mm	80-810	70-870	100-1000	55-1255
Spindle nose to table center	mm	70-870	150-1000	190-1190	200-1250
» Table					
Table size	mm	500×500	630×630	630×630	800×800
Table indexing	°	1°×360	1°×360	1°×360	1°×360
Max. table load	kg	500	1000	1300	2000
» Spindle					
Drive type		Built-in spindle	Built-in spindle	Built-in spindle	Built-in spindle
Spindle power	kW	18.5/37	26/45	26/45	26/45
Spindle speed	r/min	12000	8000	8000	8000
Spindle torque	Nm	95.5/250	305/623	305/623	305/623
Spindle taper		ISO7:24NO.40	ISO7:24 NO.50	ISO7:24 NO.50	ISO7:24 NO.50
Pull stud		P40T-1-MAS403	P50T-2-MAS403	PT50T-2-MAS403	PT50T-2-MAS403
» Feed Rate					
Rapid traverse (X/Y/Z)	m/min	60	60	60	50
Cutting feedrate (X/Y/Z)	m/min	60	60	60	50
Table 90° indexing time	s	1.4	2.5	2.5	3.5
» APC					
Table change type		Direct rotary	Direct rotary	Direct rotary	Direct rotary (option)
Table change time		9	10	12	15
» Tool magazine					
Tool magazine capacity	T	40	40	40	60
Tool selection mode		Choose the shortest path	Choose the shortest path	Choose the shortest path	Choose the shortest path
Tool shank type		BT40	BT50	BT50	BT50
Max. tool length	mm	500	600	600	500
Max. tool dia. (Adjacent/vacant)	mm	Φ80/Φ160	Φ125/250	Φ125/250	Φ125/250
Max. tool weight	kg	12	25	25	25
Tool change time (T-T)	s	1.5	2	2	2
» Accuracy (GB/T 18400.4-2010)					
Positioning accuracy (X/Y/Z)	mm	0.012/0.012/0.012 (0.01 with linear scale)	0.012/0.012/0.012 (0.01 with linear scale)	0.012/0.012/0.012 (0.01 with linear scale)	0.012/0.012/0.012 (0.01 with linear scale)
Positioning accuracy (A/B)	"	7"	7"	7"	10"
Repeatability (X/Y/Z)	mm	0.008/0.008/0.008 (0.006 with linear scale)	0.008/0.008/0.008 (0.006 with linear scale)	0.008/0.008/0.008 (0.006 with linear scale)	0.008/0.008/0.008 (0.006 with linear scale)
Repeatability (A/B)	"	4"	4"	4"	6"
» Other					
Power capacity	kVA	45	64	64	64
Machine weight	t	13	17	19	25
Machine size (L×W×H)	cm	645×315×325	735×350×335	625×436×345	680×541×464

Standard Configuration

1. Controller: FANUC 0i
2. 40T ATC (HPC800II 60T)
3. 1° indexing table (except HPC1000)
4. NC table 0.001° indexing (HPC1000)
5. APC (HPC1000 is single pallet)
6. Full enclosure with top cover
7. Guide rail protection
8. External chain type chip conveyor
9. Cutting cooling
10. Spindle oil chiller
11. Screw cooling oil temperature control device
12. 3-color signal lamp, working light
13. Standard accessories

Option Configuration

1. Controller: SIEMENS 828D
2. T slot pallet
3. NC table 0.001° indexing (Standard for HPC1000)
4. CTS (3-6MPa)
5. 40/60/90120T double servo magazine
6. Linear scale
7. Top spray
8. Workpiece probe
9. Tool setter
10. Air gun
11. AC for electrical cabinet



-  Manufacturing Base
-  Overseas Subsidiary
-  Overseas Market



MORE THAN PRECISION

Ningbo Haitian Precision Machinery Co., Ltd. is a listed company specializing in machine tooling industry. It has developed Ningbo Dagang production base, Ningbo Yanshan production base and Dalian production base. It has a modern constant temperature processing and assembly plant of over 300,000 square meters with nearly 1900 employees. It is awarded honors such as “national major technical equipment enterprise”, “national high-tech enterprise”, and “provincial high-tech research and development center”.

