

Horizontal Machining Centre



HX504 SERIES ISO 40

Control: (F) FANUC (S) SIEMENS

Technical Data	HX504						
	A / B						
Specification code	C		E		P		
Work range							
Pallet size (mm)	□ 500						
Max. work swing diameter (mm)	Ø762						
Max. work piece height	900						
Table load capacity (kg)	500						
Travel X / Y / Z (mm)	762 / 640 / 810						
B minimum indexing (degree)	1 / 0.001						
Table surface to spindle center (mm)	85 ~ 725 (Belt)		85 ~ 725 (Belt) 100 ~ 740 (Coupling)				
Spindle nose to table center (mm)	110 ~ 920						
Surface configuration	24-M16@pitch100 mm grid						
Feed drive							
Feed force X / Y / Z (N)	6,911 / 12,566 / 6,911 (F) 7,539 / 12,566 / 7,539 (S)		6,283 / 11,519 / 6,283		8,639 / 8,639 / 8,639 (F) 10,603 / 14,137 / 10,603 (S)		
Rapid movement X / Y / Z (m/min) B (sec. /90 degree)	30		32		48		
Acceleration X / Y / Z (m/s ²)	3 / 3 / 3 (F) 3 / 3 / 2 (S)		3 / 4 / 4 (F)		4 / 5 / 5 (F) (S)		
Dia. & pitch of the ball screw (mm)	Ø45 / 10		Ø45 / 12		Ø45 / 16		
Accuracy Positioning / Repeatability							
ISO 230-2	0.008 / 0.004						
JIS 6338 (300 mm)	± 0.003 / ± 0.002						
VDI3441	0.008 / 0.004						
Main spindle							
Spindle taper	BBT40						
Max. spindle speed	8,000		10,000		9,000		12,000
Spindle base speed	F / S	981 / 1,090	1,350 / 1,500	1,125 / -	1,500 / -	1,125 / 1,500	1,500 / 2,000
Spindle output (kW) (S3-25%)	F / S	15 / 20.9 ⁽¹⁾	15 / 20.9 ⁽¹⁾	25 / -	25 / -	35 / 46.5 ⁽¹⁾	35 / 46.5 ⁽¹⁾
Spindle torque (Nm) (S3-25%)	F / S	146 / 183 ⁽¹⁾	106 / 133 ⁽¹⁾	212 / -	159 / -	297 / 296 ⁽¹⁾	223 / 222 ⁽¹⁾
Spindle transmission	Belt						Coupling
Spindle bearing diameter (mm)	Ø70						

Continued »

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Technical Data	HX504			
	A / B			
Specification code	C	E	P	
Tool changer				
Tool selection	Random pocket, bidirectional election	Random pocket, bidirectional election (60 & 120ATC) Address fixed, random method (240ATC)		
Magazine positions	48 (std.) 60 (opt.)	60 (std.) / 120 & 240 (opt.)		
Max. tool diameter w/o adjacent tool (mm)	Ø76.2 / Ø125	Ø76.2 / Ø150 (60 & 240ATC) Ø95 / Ø190 (120ATC)		
Max. tool length (mm)	450			
Max. tool weight (kg)	7	10 (60ATC) 7 (240ATC) 8 (120ATC)		
Max. tool weight moment <from spindle gauge line> (Nm)	10	10 (60 & 120 & 240 ATC)		
Tool to tool time (sec.) ⁽⁴⁾	23	23		
Chip to chip time (sec.) ⁽⁴⁾	6.6	6.4	5.2	
Pallet changer				
Number of pallet	2			
Method of pallet changer	ARM type			
Pallet change time (sec.)	10.5			
Pallet changing repeatability (mm)	0.01			
Coolant system				
Coolant tank capacity (Liter) ⁽⁴⁾	300 L	450 L		
- Nozzle coolant pump capacity	75 L / min, 3 bar			
- Through spindle coolant pump capacity	opt.	25 L / min, 20 bar		
- Ceiling & wash down pump capacity	opt.	75 L / min, 3 bar		
Machine size				
Height (mm)	3,030			
Floor space W x D (mm)	3,040 x 4,835	3,450 x 4,280 (60ATC) 3,620 x 4,800 (120ATC) 3,930 x 5,400 (240ATC)		
Weight (kg)	12,000	13,000 (60ATC) 16,000 (120ATC) 18,000 (240ATC)		
Connections				
Main power	220 V / 60 Hz or 400 V / 50 Hz			
Power consumption (KVA)	27 (F) 28 (S)	37 (F)	45 (F) 44 (S)	49 (F) 53 (S)

●=Standard ○=Option ×=N/A

Standard / Option accessories	HX504					
Specification code	AC	BC	AE	BE	AP	BP
■ QUASER mill i	○	○	●	●	×	×
■ FANUC 31iB	×	×	×	×	●	●
■ SIEMENS 828D	●	●	×	×	×	×
■ SIEMENS 840D	×	×	×	×	○	○
■ Spindle ECO cooler	●	●	×	×	×	×
■ Spindle oil chiller	○	○	●	●	●	●
■ Coolant through ball screw	×	×	●	●	●	●
■ BT tooling (QUASER SUPPLY)	●	●	●	●	●	●
DIN tooling (69872-A) / ISO tooling (7388-B)	○	○	○	○	○	○
■ ISO 40 48 position tool magazine (Chain type)	●	●	×	×	×	×
60 position tool magazine (Chain type)	○	○	×	×	×	×
60 position tool magazine (Disk type)	×	×	●	●	●	●
120 position tool magazine (Chain type)	×	×	○	○	○	○
240 position tool magazine (Pack type)	×	×	○	○	○	○
■ ISO 50 30 position tool magazine (Chain type)	×	×	×	×	×	×
40 position tool magazine (Chain type)	×	×	×	×	×	×
40 position tool magazine (Disk type)	×	×	×	×	×	×
60 position tool magazine (Chain type)	×	×	×	×	×	×
120 position tool magazine (Chain type)	×	×	×	×	×	×
150 position tool magazine (Pack type)	×	×	×	×	×	×
■ Balance tooling for spindle warm up	○	○	●	●	●	●
■ Pull stud for BT tooling	○	○	●	●	●	●
■ Air pressure detector for pallet clamping	○	○	●	●	●	●
■ Hydraulic through pallet (3 ports)***	○	○	○	○	○	○
■ 2 pallet station	●	●	●	●	●	●
■ NC rotary table (0.001°) with rotary encoder	×	○	×	○	×	○
■ Linear encoder	○	○	○	○	○	○
■ Panel MPG	●	●	×	×	×	×
■ Remote MPG	○	○	●	●	●	●
■ Transformer	○	○	●	●	●	●
■ Work probe	○	○	○	○	○	○
■ Tool length / breakage measurement (Laser)**	○	○	○	○	○	○
■ 20 bar through spindle coolant	○	○	●	●	●	●
■ 50 bar through spindle coolant	○	○	○	○	○	○
■ 70 bar through spindle coolant	×	×	○	○	○	○
■ Ceiling wash down coolant	○	○	●	●	●	●
■ Base, wash down coolant	×	×	×	×	×	×
■ Coolant wash gun	○	○	●	●	●	●
■ Internal Chip augers	●	●	●	●	●	●
■ Internal Chip conveyor	×	×	×	×	×	×
■ External Chip auger	●	●	×	×	×	×
■ External chip conveyor	○	○	●	●	●	●
■ Drum type conveyor	○	○	○	○	○	○
■ Bag filter	○	○	○	○	○	○
■ Mist collector	○	○	○	○	○	○
■ Documentation	○	○	○	○	○	○
■ Work light	●	●	●	●	●	●
■ Machine status light	●	●	●	●	●	●
■ CE & EMC* / GB	○	○	○	○	○	○

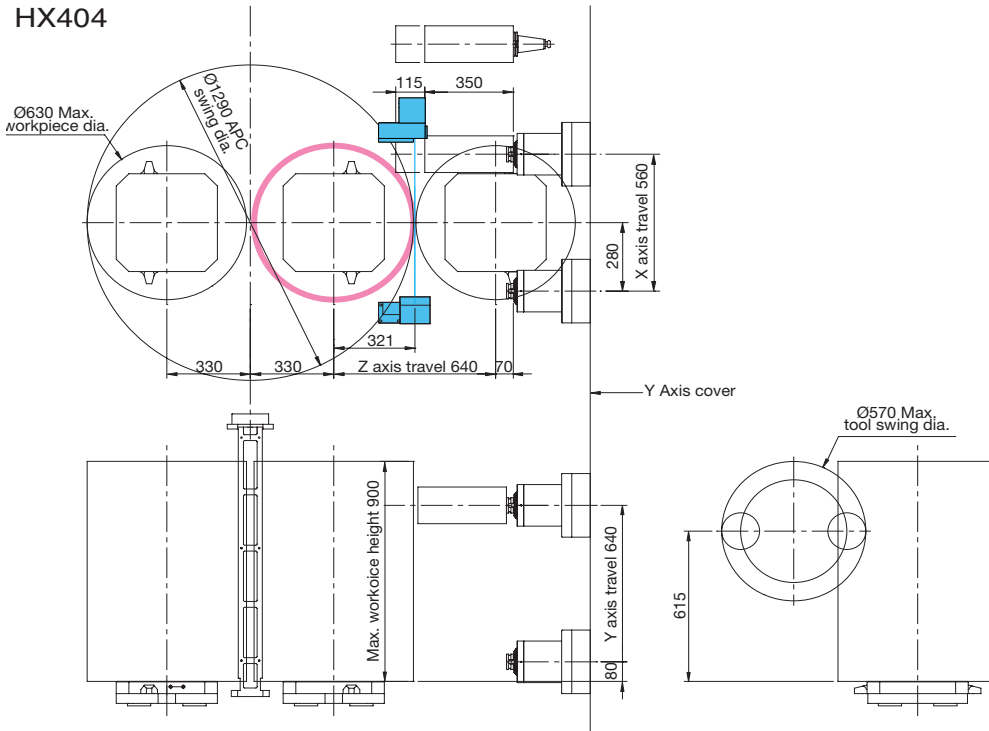
Note: *Standard for EU area except C type.

** HX504 / 505 / 635 / 805 only available for NC4S Renishaw.***Factory mounted only.

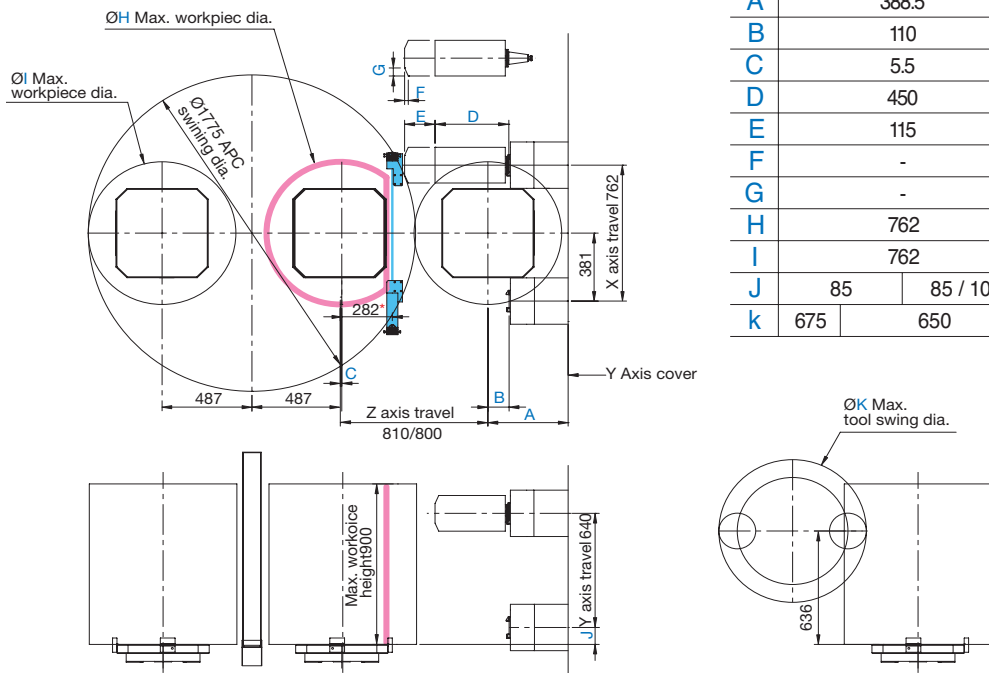
- For C series ambient temperature greater than 35°C the cabinet heat exchanger is required.

- Machine specification might be different from the catalog if there is any specification update.

HX404



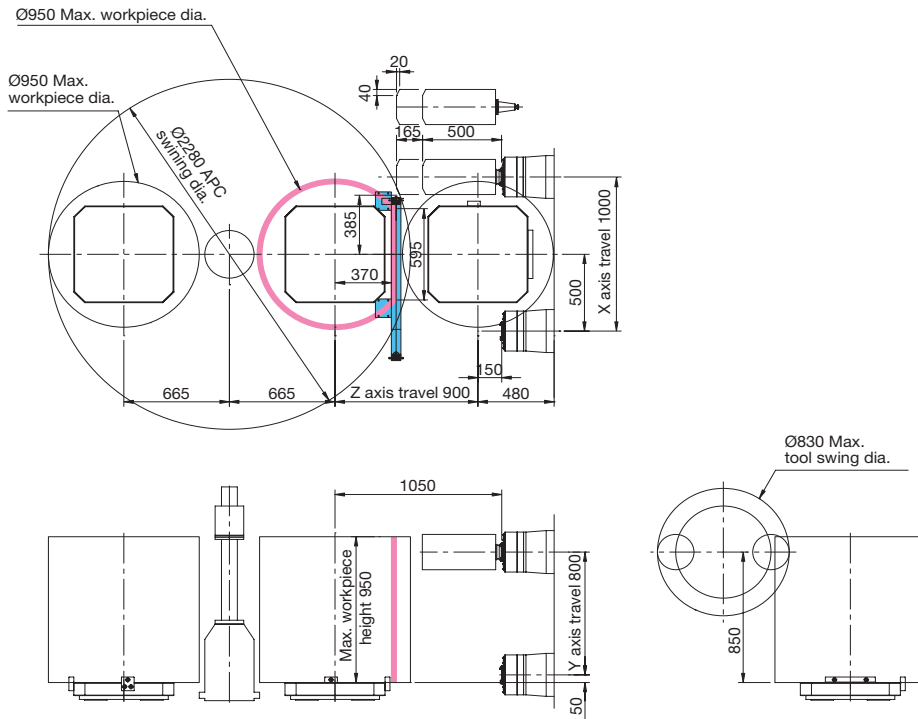
HX504 / HX505



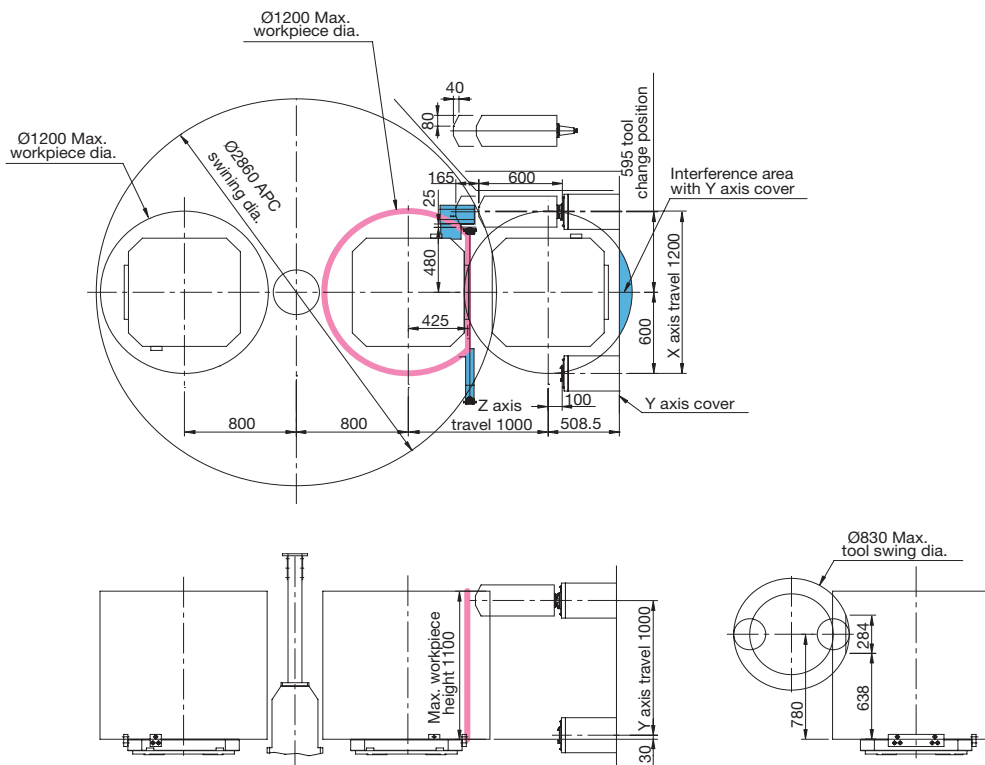
	HX504		HX505	
	C	E	P	P
	Belt		Belt / Coupling	Belt / Coupling
A	388.5		435	
B	110		115	
C	5.5		8	
D	450		400	
E	115		165	
F	-		20	
G	-		45	55
H	762		800	
I	762		800	
J	85	85 / 100		85 / 85
k	675	650		770

Note: *Maximum workpiece swing may impact "TOOL LENGTH MEASUREMENT" functionally.

HX635

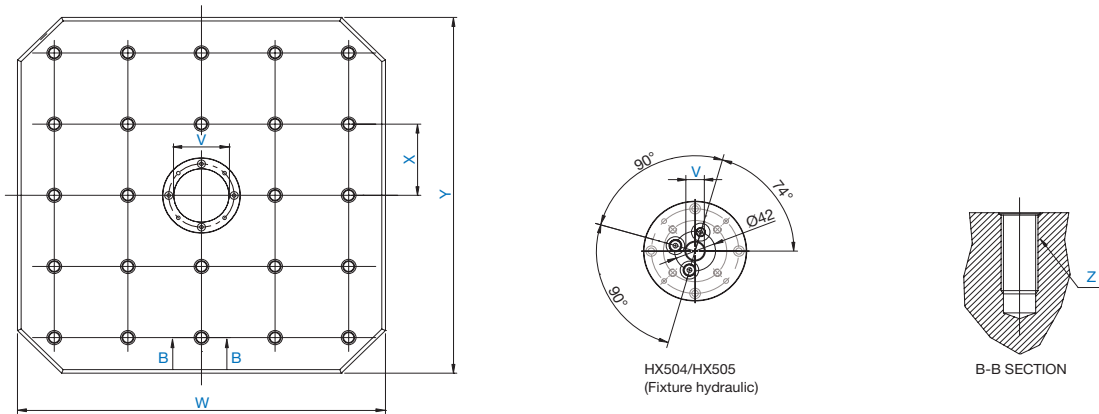


HX805



Pallet dimension

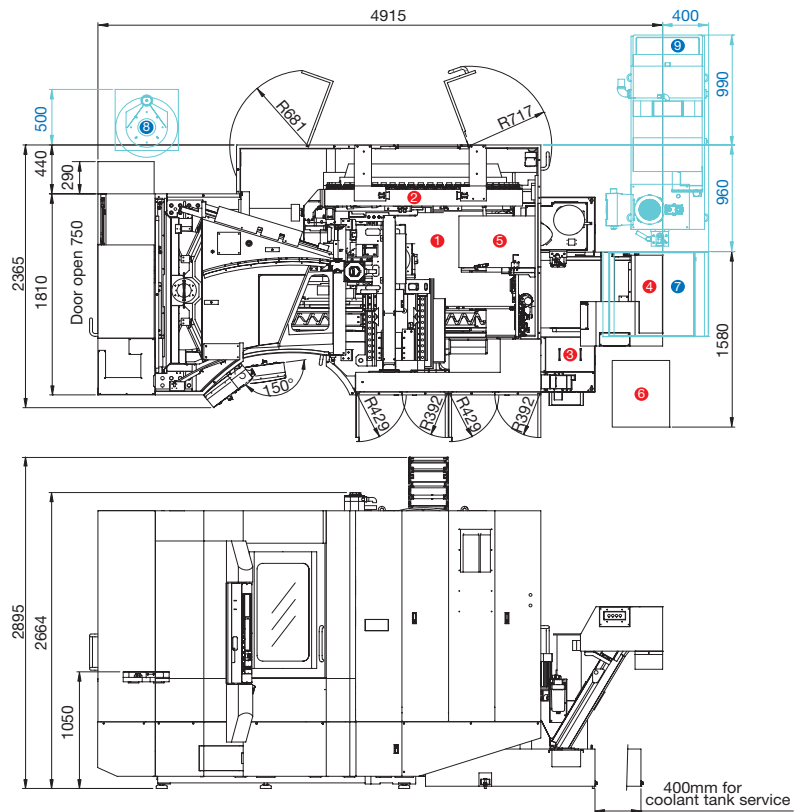
	HX404	HX504/HX505/8APC	HX504/HX505 (Fixture hydraulic)	HX635	HX805
V	$\varnothing 50^{+0.016}_0 \times D32$	$\varnothing 50^{+0.016}_0 \times D32$	$\varnothing 19^{+0.016}_0 \times D25$	$\varnothing 30^{+0.02}_0 \times D15$	
W	400	500	500	630	800
X	80	100	100	125	160
Y	400	500	500	630	800
Z	24-M16				



Installation dimension

HX404

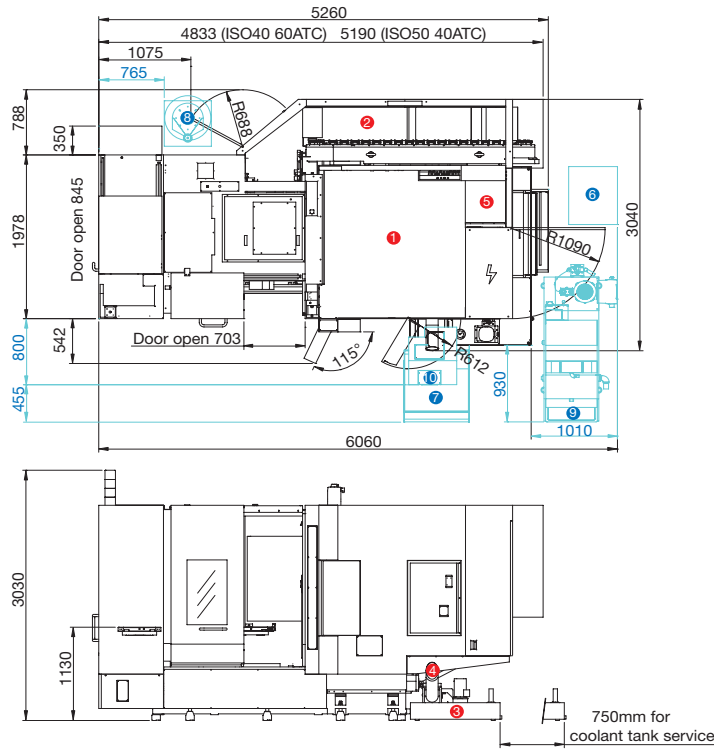
- 1 Standard Machine
- 2 Magazine unit
- 3 Coolant supply unit
- 4 Chip conveyor
- 5 Spindle cooling unit & Hyd. tank unit
- 6 Transformer
- 7 Chip bucket (Opt.)
- 8 Mist collector (Opt.)
- 9 Filtration unit (Opt.)



Installation dimension

HX504C/HX505C

- ① Standard Machine
- ② Magazine unit
- ③ Coolant supply unit
- ④ Spiral type chip auger
- ⑤ Spindle cooling unit & Hyd. tank unit
- ⑥ Transformer (Opt.)
- ⑦ Chip bucket (Opt.)
- ⑧ Mist collector (Opt.)
- ⑨ Filtration unit (Opt.)
- ⑩ Chip conveyor (Opt.)

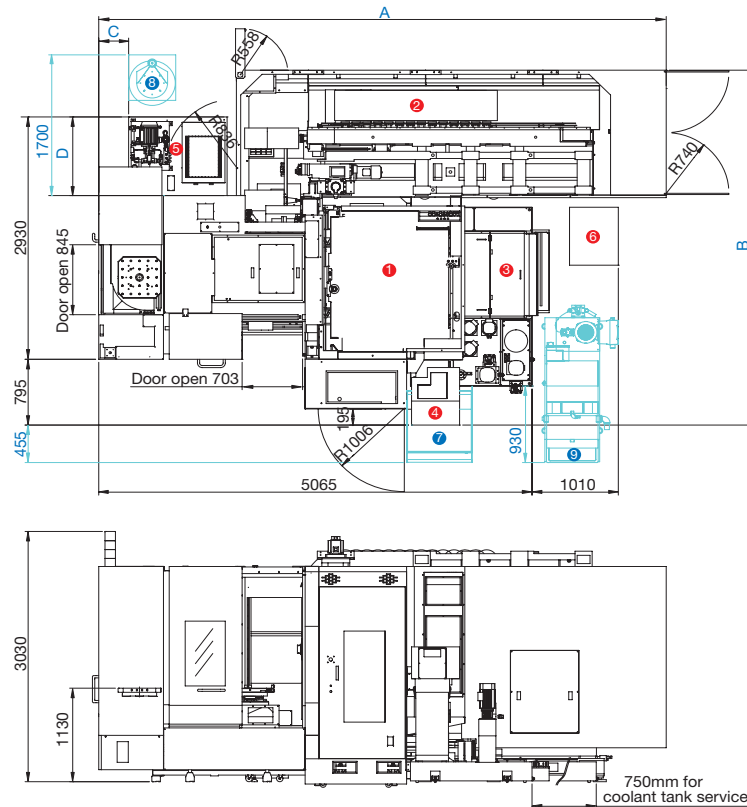


HX504/HX505

- ① Standard Machine
- ② Magazine unit
- ③ Coolant supply unit
- ④ Chip conveyor
- ⑤ Spindle cooling unit & Hyd. tank unit
- ⑥ Transformer
- ⑦ Chip bucket (Opt.)
- ⑧ Mist collector (Opt.)
- ⑨ Filtration unit (Opt.)

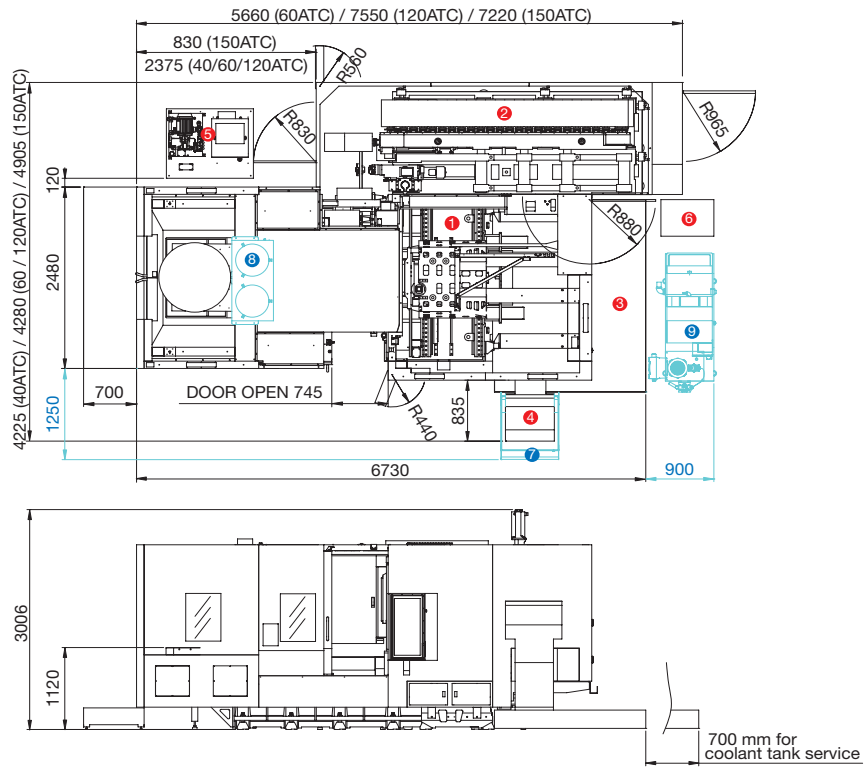
HX504				
	A	B	C	D
60ATC	4,280	3,450	350	950
120ATC	4,800	3,620	350	950
240ATC	5,400	3,930	-	950

HX505				
	A	B	C	D
40ATC	4,280	3,450	350	950
60ATC	4,800	3,620	350	950
120ATC	6,750	3,620	350	950
150ATC	6,630	4,300	-	950



HX635

- 1 Standard Machine
- 2 Magazine unit
- 3 Coolant supply unit
- 4 Chip conveyor
- 5 Spindle cooling unit & Hyd. tank unit
- 6 Transformer
- 7 Chip bucket (Opt.)
- 8 Mist collector (Opt.)
- 9 Filtration unit (Opt.)



HX805

- 1 Standard Machine
- 2 Magazine unit
- 3 Coolant supply unit
- 4 Chip conveyor
- 5 Spindle cooling unit & Hyd. tank unit
- 6 Transformer
- 7 Chip bucket (Opt.)
- 8 Mist collector (Opt.)
- 9 Filtration unit (Opt.)

