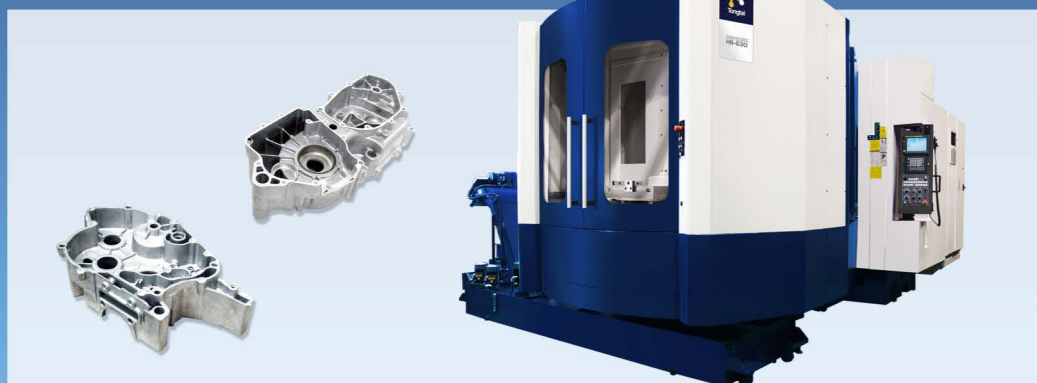


Tongtai

ISO 9001 ISO 14001 CE
A Worldwide Tradition of Quality Products and Customer Service

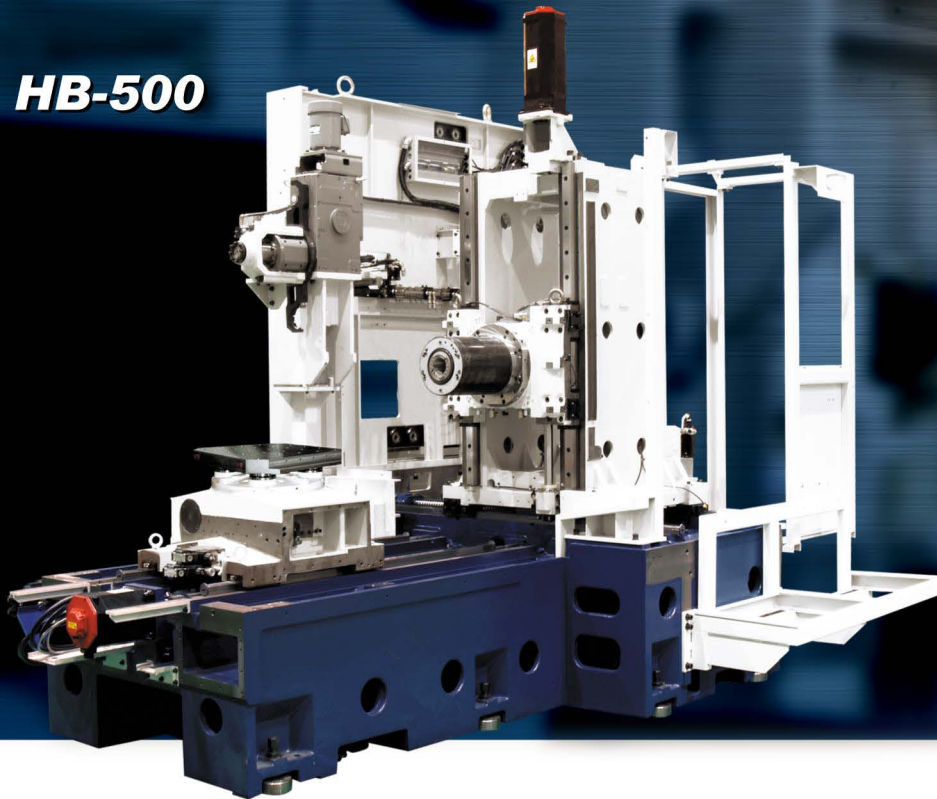
Super Productivity **Horizontal Machining Center** **HB-500/630/800**

High ■Quality ■Precision ■Efficiency ■Economy



Super Productivity Horizontal Machining Center

HB-500



HB-630



High Speed Roller Gear Cam ATC

Tool Shank : BT50(Opt. CAT50/DIN50
/BBT50/HSK-A100)

Pull Stud : 90°

Max. Tool Capacity : 60Tools
(Opt. 90/120Tools)

Max. Tool Dia. : 250 mm(w/o Adjacent Tools)

Max. Tool Length : 610 mm

Max. Weight : 25 kg

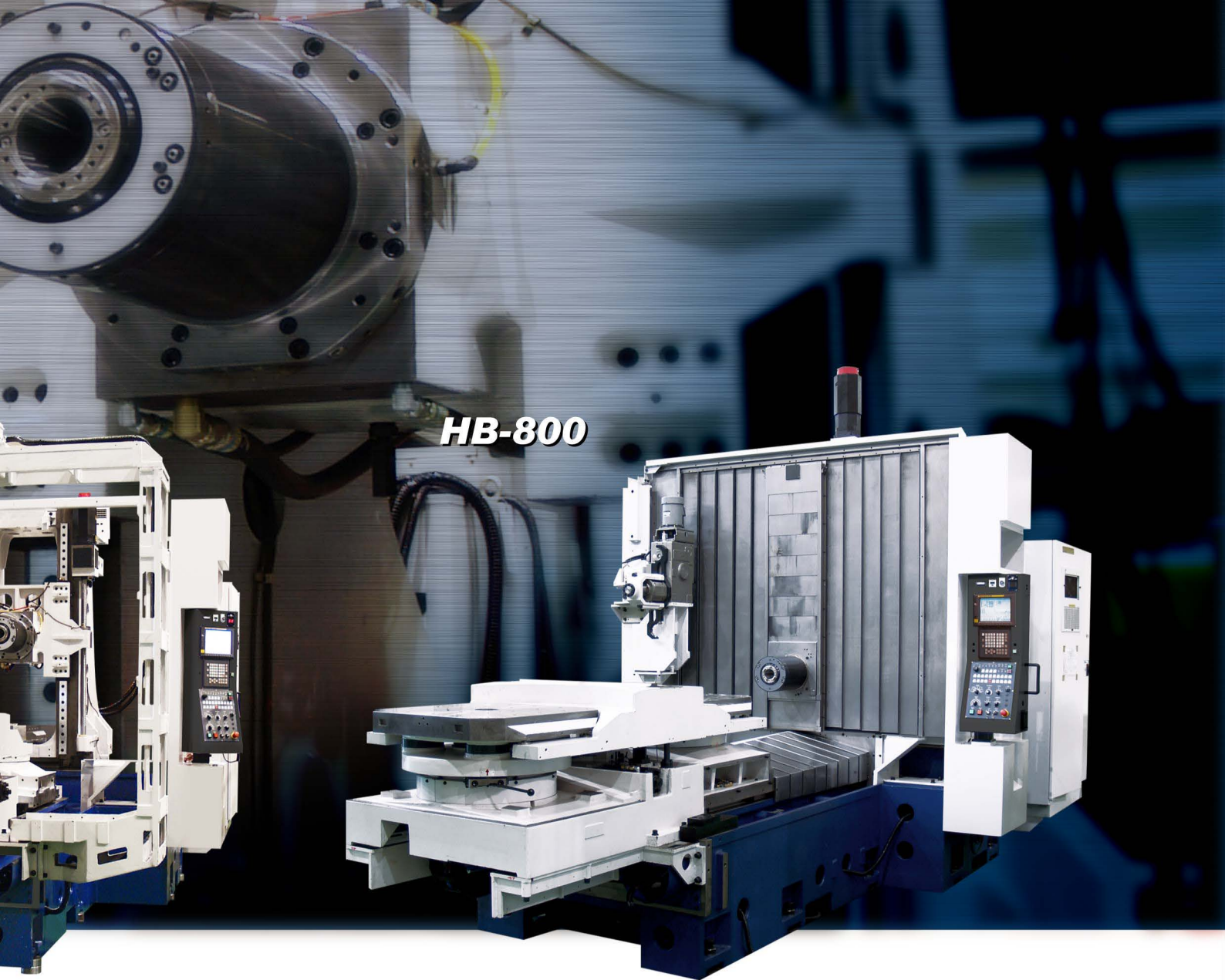
Tool Changing Time : 2.1 sec(T-T)



Pallet

Item	HB-500	HB-630	HB-800
Pallet	500×500 mm	630×630 mm	800×800 mm
Max. Machining	Ø900×900 mm	Ø1100×1100 mm	Ø1300×1250 mm
Max. Load Capacity	600 kg×2	1200 kg×2	1800 kg×2
Clamping Force	17 ton.	20 ton.	20 ton.





Spindle

Spindle Taper : 7/24 No.50

Spindle Speed : 10000 RPM

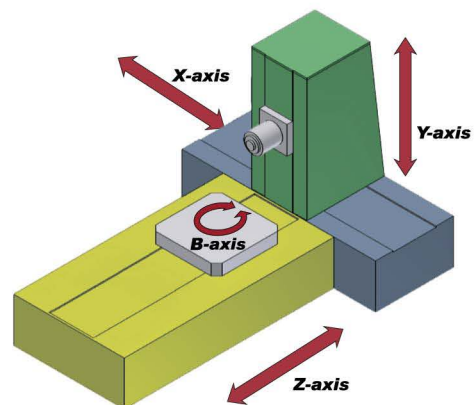
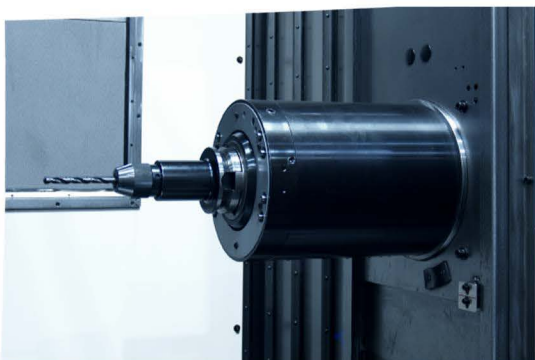
Spindle Motor : 30/25 kW (HB-630/HB-800)

22/18.5 kW (HB-500)

Travel

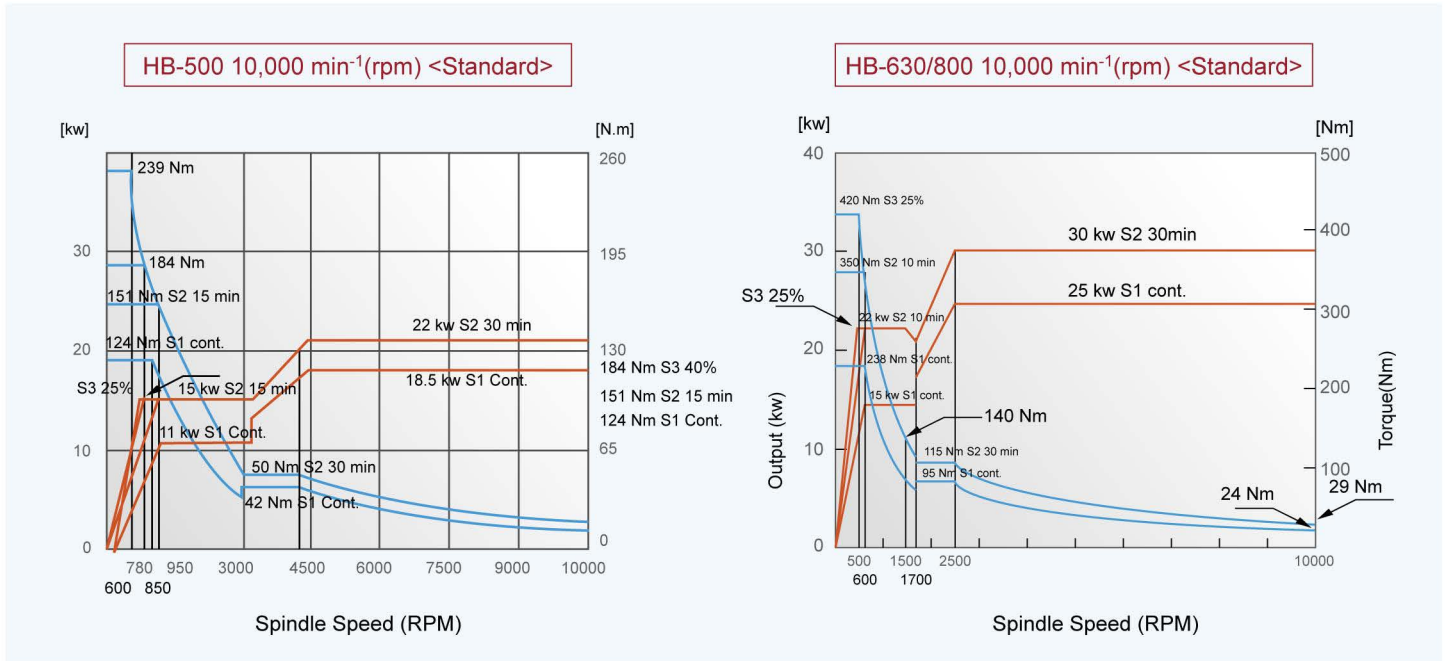
Item	HB-500	HB-630	HB-800
X-Axis travel	800 mm	1050 mm	1200 mm
Y-Axis travel	710 mm	850 mm	1000 mm
Z-Axis travel	710 mm	970 mm	1000 mm
Ballscrew	Ø40 mm	Ø50 mm(Y:Ø40mmx2)*	Ø50 mm
Rapid traverse	50 m/min	50 m/min	50 m/min
Cutting feedrate	20 m/min	20 m/min	20 m/min

* Y-Axis Double Screw

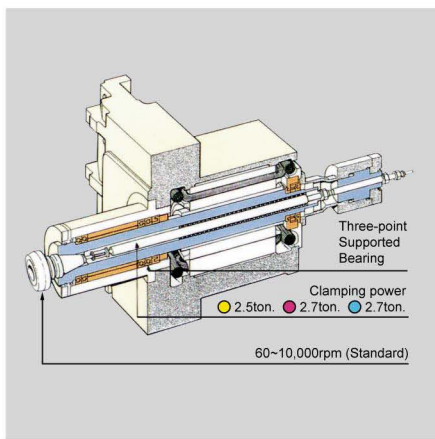


High Efficiency Cutting and High

Spindle Output and Torque Chart



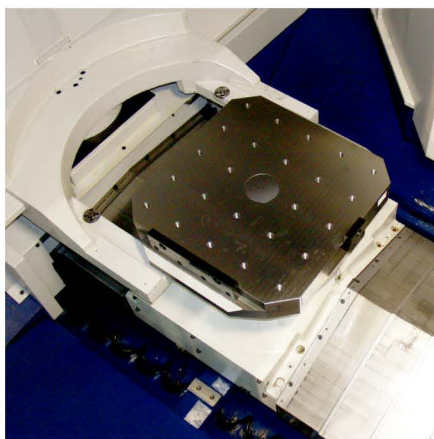
Built-in Motor Provides High Rigidity and High Accuracy



● HB-500
● HB-630
● HB-800

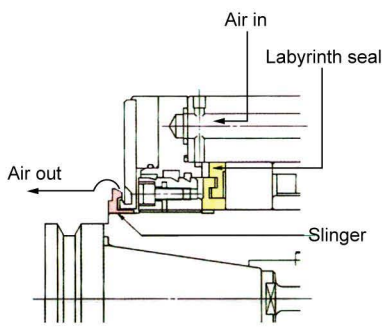
Use Large Diameter Spindle and Built-in Motor Provides High Rigidity, Free from Vibration for High Accuracy. (Ambient Temperature Tuning Type Spindle Cooling Unit is Built in as Standard Equipment.)

Comfortable Working Environment and Wide Space



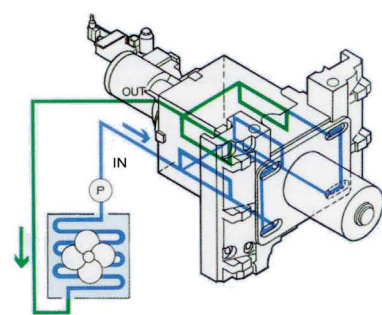
The Integrated Cover and Door On the Operator Side Prevents Water Drips Falling During Checking, and Keeps the Machining Area Bright.

Spindle Bearing Protection



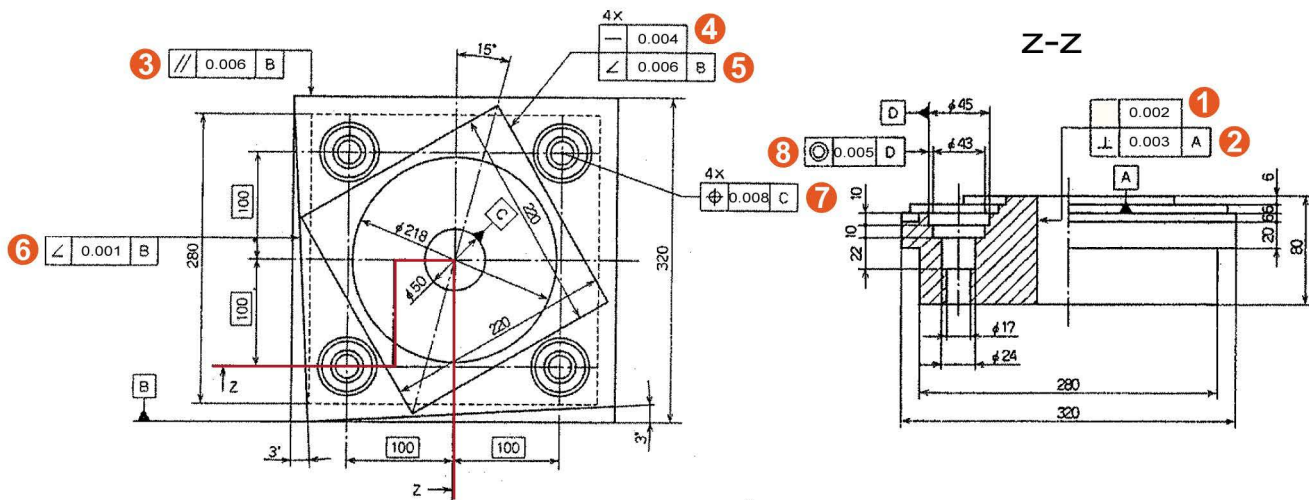
A slinger and a labyrinth seal are used to prevent fine chips and coolant from entering the spindle bearing and providing dual protection.

Spindle-Cooling Unit



A large capacity spindle-cooling unit helps to minimize thermal distortion.

Standard Testing Block Measurements



Testing Item		Unit	ISO10791-7	HB-500	HB-630	HB-800
Central Hole	① Cylindricity	mm	0.015	0.002	0.002	0.002
	② Concentricity of A datum and central hole	mm	0.015	0.003	0.002	0.002
Square	③ Parallel of B datum with opposite face	mm	0.020	0.006	0.006	0.006
Diamond	④ Exact straightness of four sides	mm	0.015	0.004	0.004	0.003
	⑤ Angle precision of 75° slant for B datum	mm	0.020	0.002	0.006	0.005
Slant	⑥ Angle precision for B datum	mm	0.020	0.001	0.003	0.003
Four Boring	⑦ Position of four bores to central hole C	mm	0.05	0.010	0.007	0.016
	⑧ Concentricity of small diameter to big diameter D	mm	0.02	0.004	0.005	0.004
Accuracy						
Positioning Accuracy		mm			0.005	
Repeatability		mm			±0.003	

©Accuracy Data are the Actual Results Obtained Under Static Testing Conditions in a Temperature Controlled Environment per JIS-Standard.

High Speed

Item	HB-500	HB-630	HB-800
Rapid Traverse (X/Y/Z)	50 m/min	50 m/min	50 m/min
Cutting Feedrate(Max.)	20 m/min	20 m/min	20 m/min
ATC (C-C)	3.8 sec.	3.8 sec.	3.8 sec.
Spindle Start-up (0→10000 rpm)	4.0 sec.	4.3 sec.	4.3 sec.
Spindle Orientation (1000 rpm→0)	0.7 sec.	0.8 sec.	0.8 sec.
Pallet Index 90° (Max. Loaded)	1.7 sec.	2.4 sec.	3.5 sec.
APC	14 sec.	20 sec.	22 sec.

Cutting Capabilities

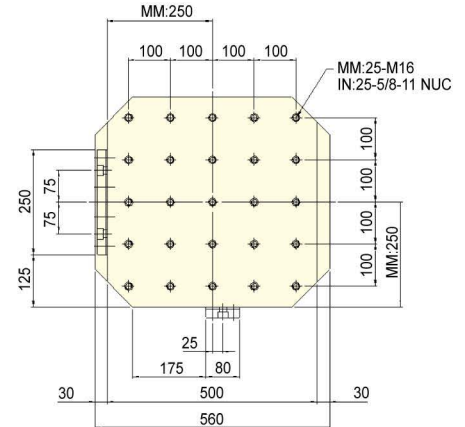
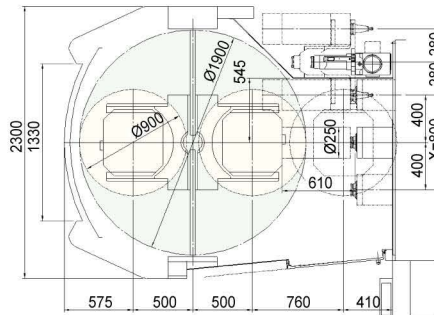
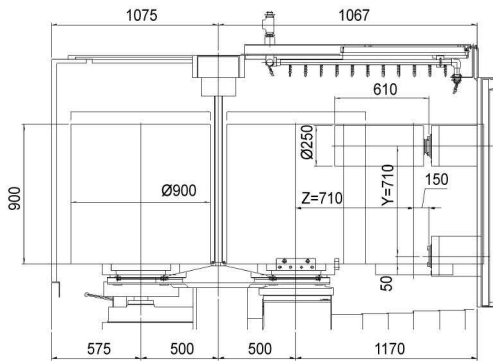
Material: S45C

Item		Face Milling	End Milling	Drilling	Tapping	
		Ø125×6	Ø25×4	Ø50		
Cutting Capacity (cc/min)	HB-500	432	600	62.8	M48×P5.0	RC1¼
	HB-630	663	720	62.8	M48×P5.0	RC1¼
	HB-800	663	720	62.8	M48×P5.0	RC1¼
Cutting WidthxDepth (mm)	HB-500	100×4.2	40×5.5	75		
	HB-630	100×6.0	40×6.0	75		
	HB-800	100×6.0	40×6.0	75		
Spindle Speed (min ⁻¹)	HB-500	600	5000	160	66	78
	HB-630	600	5000	160	66	78
	HB-800	600	5000	160	66	78
Cutting Feedrate (mm/min)	HB-500	1080	3000	32	10 m/min	
	HB-630	1080	3000	32	331.5	10 m/min
	HB-800	1080	3000	32	10 m/min	

ATC.APC

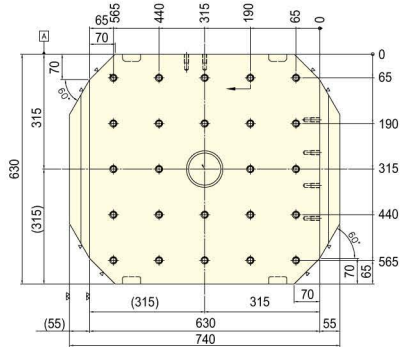
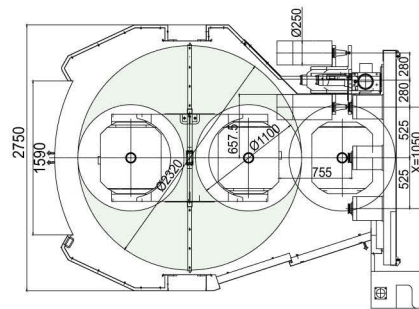
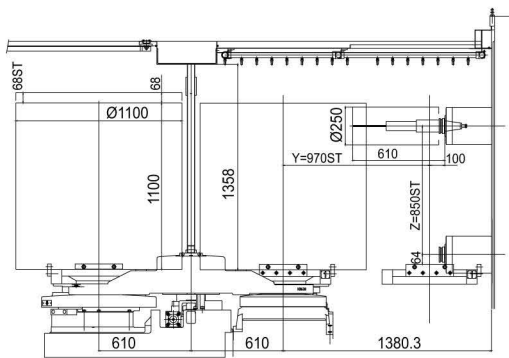
HB-500

Unit : mm



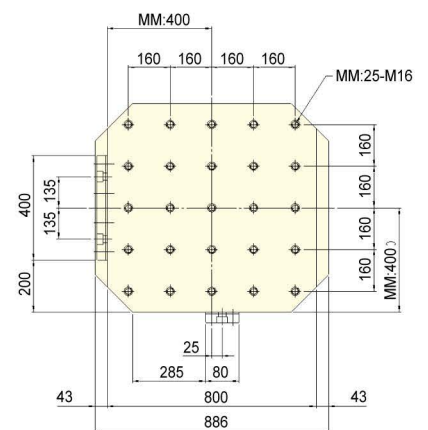
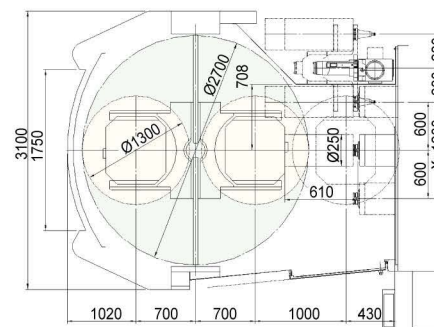
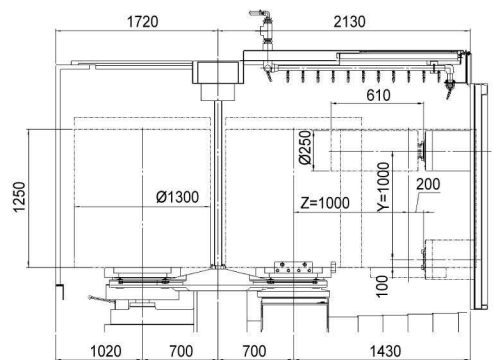
HB-630

Unit : mm



HB-800

Unit : mm



ATC

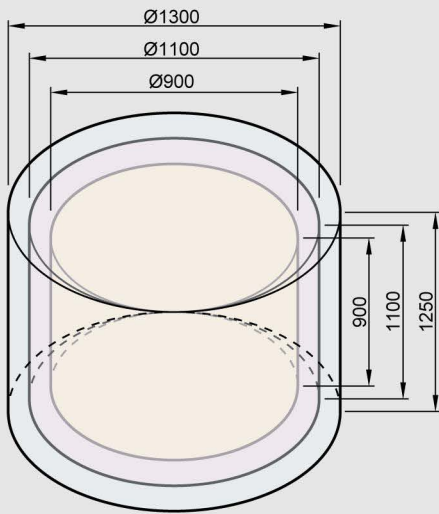
- A Swing-in Fast Cam Type Win-arm ATC is Employed for Short Cycle Time Machining.
- Tool Change Time (T to T) 2.1 sec.
- Stable Operation of Cam Type Twin-arm Presents High Reliability in Changing Heavy Tools.
- The Fast Magazine Under Servo Control can Index at The Speed of 30 m/min

APC

- A Rotary Type APC is Used.
- The Pallet Change (up→180°index→down).
- Pallet Change Time:
HB-500:14 sec. HB-630:20 sec. HB-800:22 sec.

Max. Load & Size

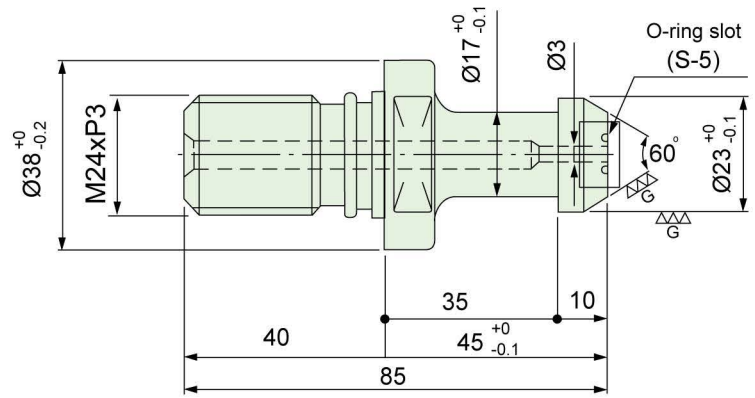
Unit : mm



● HB-500 ● HB-630 ● HB-800

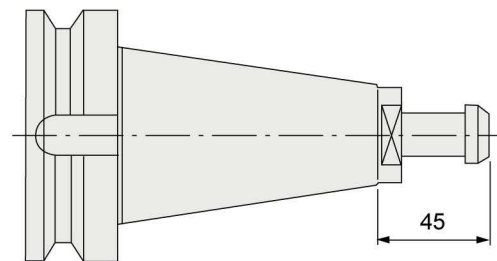
Pull Stud (A Type)

Unit : mm



Type of Tool Shank MAS BT50

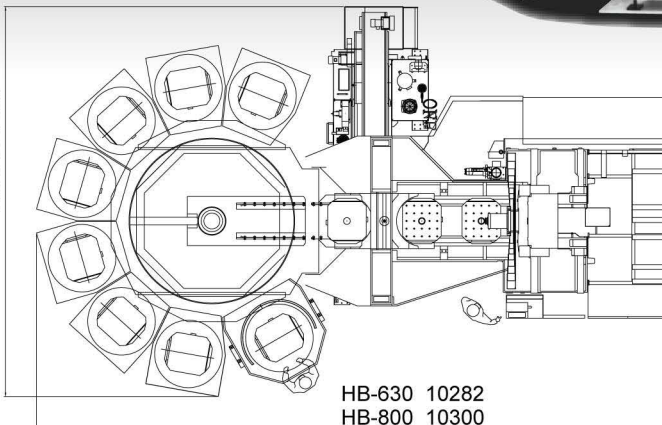
Unit : mm



HB-800+6PPL



HB-630 6360
HB-800 6360

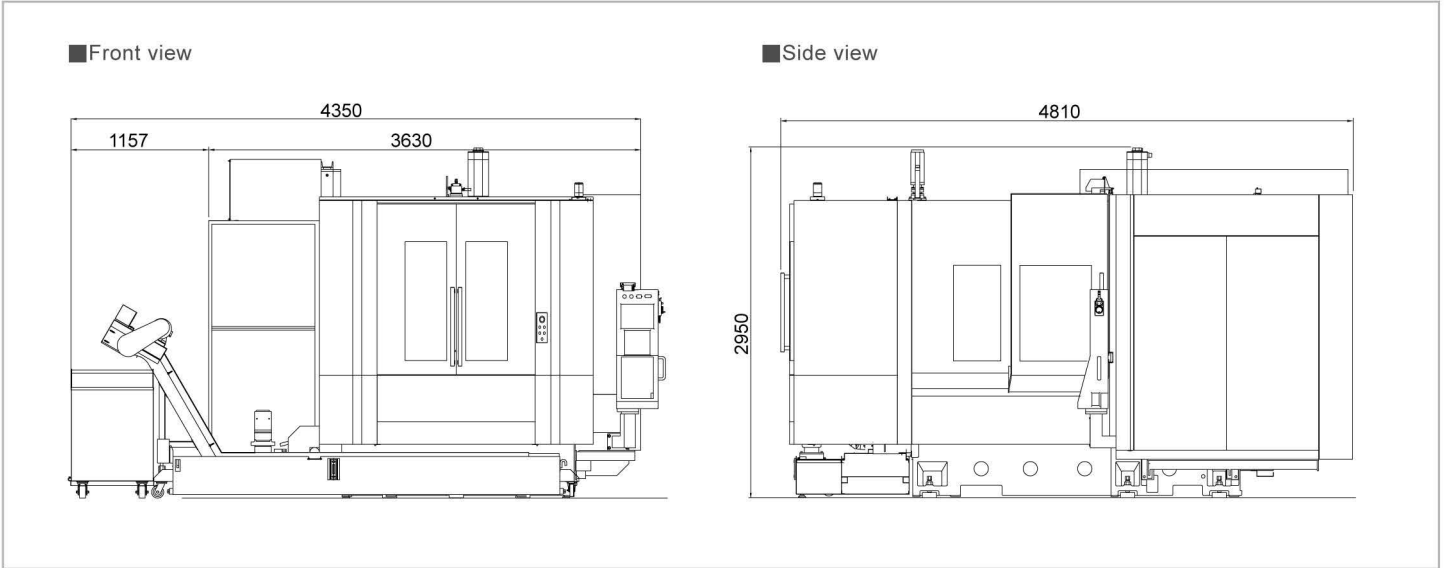


HB-630 10282
HB-800 10300

Machine Dimensions

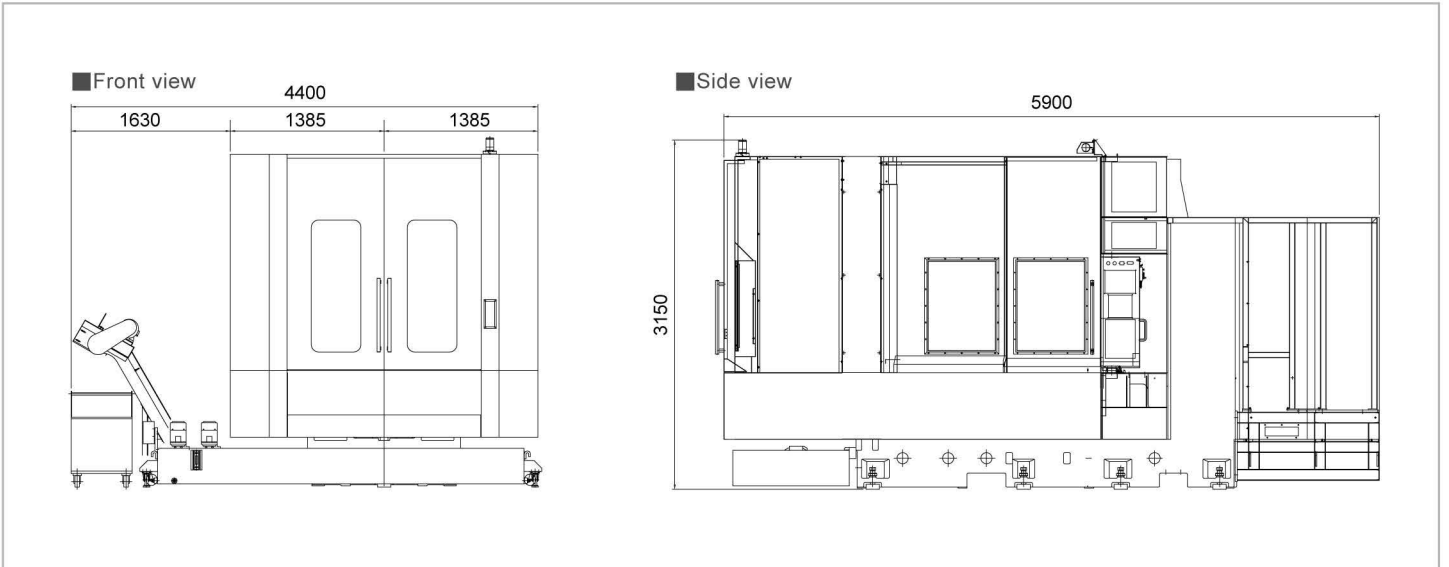
HB-500

Unit : mm



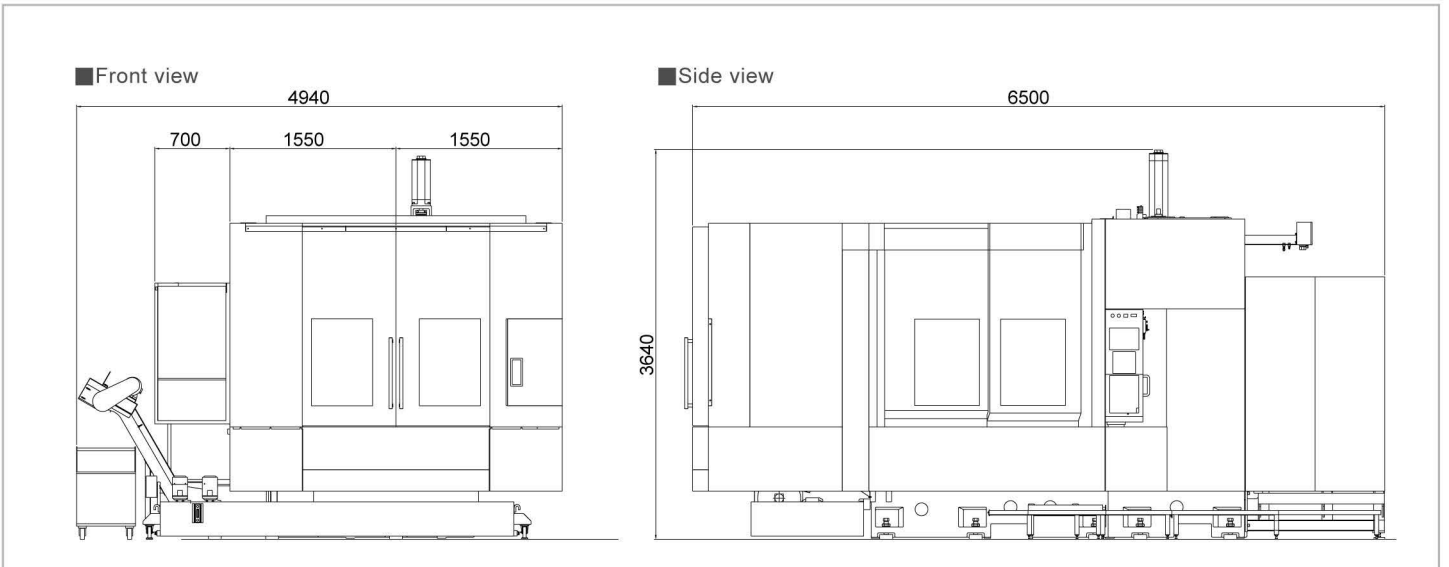
HB-630

Unit : mm



HB-800

Unit : mm



Standard Specifications

Item	Specification	Unit	HB-500	HB-630	HB-800
TABLE	Table Size	mm	500x500	630x630	800x800
	Max. Workpiece Dimension(Dia. x Height)	mm	Ø900xH900	Ø1100xH1100	Ø1300xH1250
	Max. Load Capacity(Workpiece Load)	kg	600×2	1200×2	1800×2
	Index Positioning	deg	1°(Opt. 0.001°)	1°(Opt. 0.001°)	1°(Opt. 0.001°)
CAPACITY	X/Y/Z-Axis Stroke	mm	800/710/710	1050/850/970	1200/1000/1000
	Distance from Spindle Center to Table Top	mm	50-760	100-950	100-1100
	Distance from Spindle Nose to Table Center	mm	150-860	100-1070	200-1200
	Table Height from Floor	mm	1150	1300	1350
SPINDLE	Spindle Taper		7/24 Taper No.50	7/24 Taper No.50	7/24 Taper No.50
	Spindle Speed	rpm	10000(Built-in)	10000(Built-in)	10000(Built-in)
	Spindle Motor (50% ED)	kw	22/18.5	30/25	30/25
	Spindle Bearing Diameter	mm	Ø100	Ø100	Ø100
FEED	Rapid Traverse	m/min	50/50/50	50/50/50	50/50/50
	Cutting Feedrate	mm/min	1-20000	1-20000	1-20000
ATC	Tool Shank		BT 50	BT 50	BT 50
	Tool Capacity	pc	60	60	60
	Max. Tool Diameter	mm	Ø125	Ø125	Ø125
	Max. Tool Diameter(w/o Adjacent Tool)	mm	Ø250	Ø250	Ø250
	Max. Tool Length	mm	610	610	610
	Max. Tool Weight	kg	25	25	25
APC	No. of Pallets		2	2(Opt. 8)	2(Opt. 6)
	Pallet Change System		Rotary Type	Rotary Type	Rotary Type
MACHINE	L x W x H	mm	4810x4350x2950	5900x4400x3150	6500x4940x3640
	Weight	kg	14000	20000	21400

©SPECIFICATIONS MAY BE CHANGED WITHOUT PRIOR NOTICE

CNC unit FANUC 18i-MB

Controlled Axis

- Controlled axis (X,Y,Z,B)
- Simultaneously controlled axis:3 axis
- Least input increment 0.001 mm
- High speed HRV control
- Inch/metric conversion \G20~G21
- Stored stroke check 1
- Stored stroke check 2 \G22~G23
- Stored limit check before move
- Position switch
- EDIT/MEMORY/MDI/HANDLE/JOG/ZRN
- Dry run/Single block/Single skip Function
- Machine lock
- Emergency stop
- Cutting feed override 0-150%
- Rapid traverse override 0-100%
- Jog feed override (0-1260 mm/min)
- Feed per minute
- Cutting feedrate override cancel

Operation

- DNC operation
- Program restart (Opt.)
- RS232C
- Hardware interface (Opt.)

Feed Function

- Automatic acceleration/deceleration
- Bell shaped acceleration/deceleration programmable
- Inverse time FEED\G93 (Opt.)
- Advanced preview control (Opt.)

Interpolation Functions

- Linear/circular interpolation \G01~G03
- Single direction positioning \G60
- Exact stop \G09
- Polar coordinate interpolation (Opt.)
- Cylindrical interpolation (Opt.)
- Helical interpolation \G02~G03
- Conical/spiral interpolation (Opt.)
- Skip \G31
- High-speed skip (Opt.)
- Reference position return \G28
- 3rd/4th reference position return

Spindle Speed Function

- Spindle positioning
- Rigid tapping
- Spindle speed override (50-120%)
- Retraction for rigid tapping (Opt.)

Tool Function / Tool Compensation

- Tool offset memory : 99 pairs
- Tool length compensation
- Tool position compensation \G45~G48
- Cutter compensation C \G40~G42
- Tool life management
- Automatic tool length measurement (Opt.)

Editing Operation

- Program storage length 640 M (Opt. 1280 M)
- Number of registerable programs 200 pcs
- Program protection
- Background editing (Opt.)
- Extended part program editing (Opt.)

Program Input

- Program number 08-digit (Opt.)
- Workpiece coordinate system \G52~G59 (48 sets)
- Optional chamfering/corner R
- Canned cycles for drilling \G80~G89
- Automatic corner override \G62
- Programmable data input \ G10
- MACRO-B
- Automatic corner override
- Scaling \G50 (Opt.)
- Coordinate system rotation \G68~G69

Setting and Display

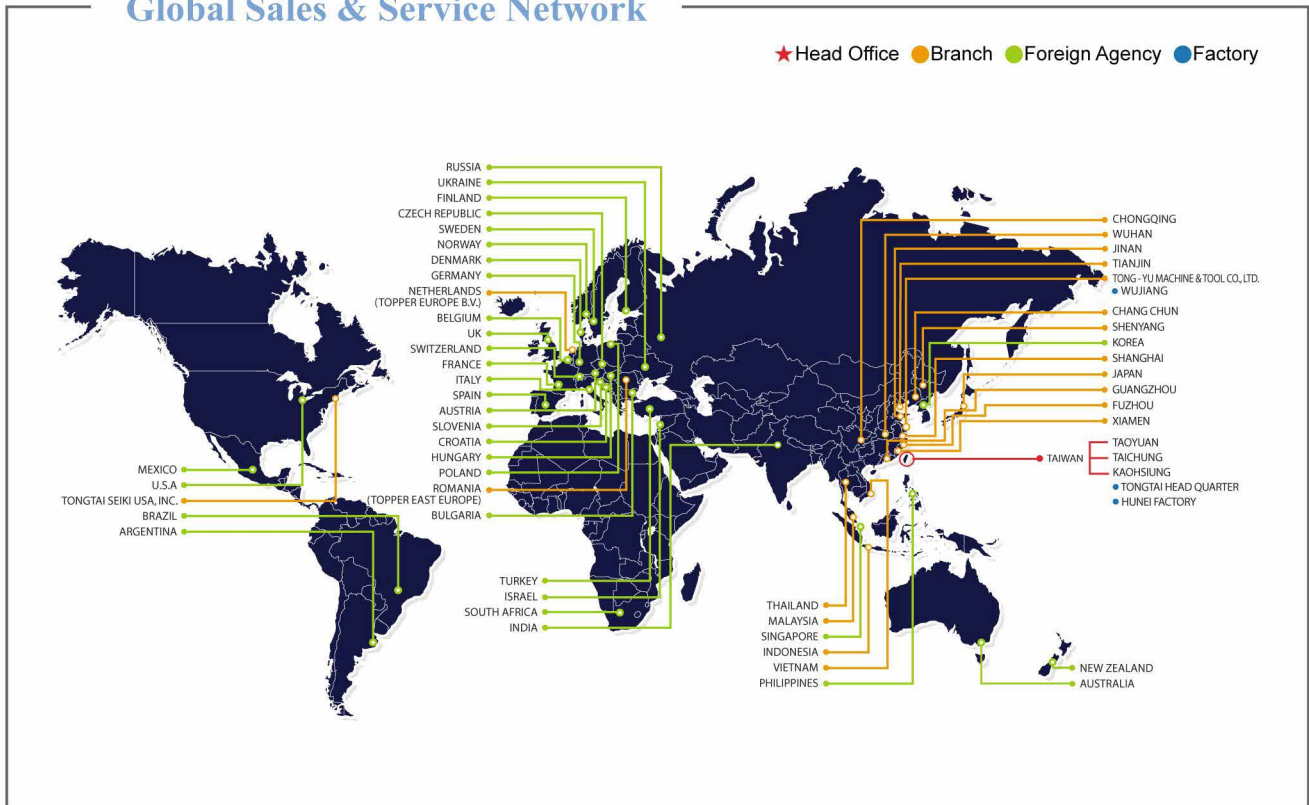
- Clock function and parts counter display
- Alarm history display
- Operator message history display
- Help function
- Spindle speed / Overload display
- Graphic display (Opt.)
- Dynamic graphic display (Opt.)
- Servo motor setting screen
- Spindle motor setting screen
- Servo motor information screen
- Spindle motor information screen
- Periodic maintenance screen
- Maintenance information screen
- Trouble diagnosis
- Conversational programming function (Opt.)

Accuracy Compensation Function

- G0/G01 backlash compensation
- Stored pitch error compensation



Global Sales & Service Network



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