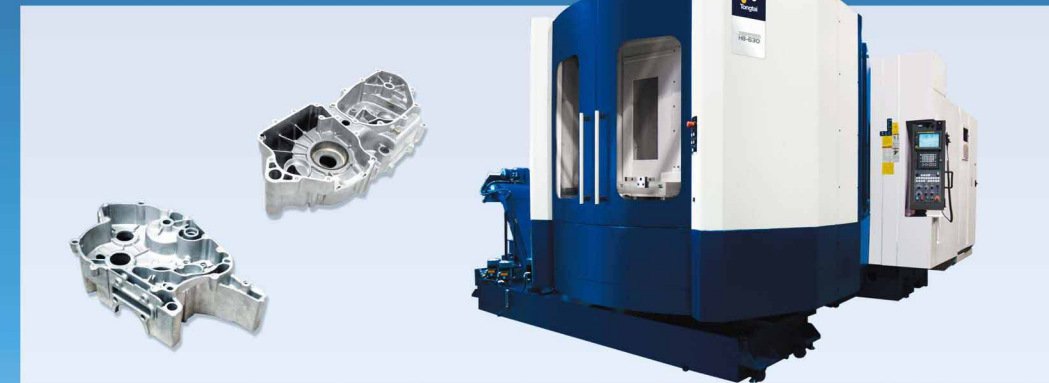




ISO 9001 ISO 14001 CE
A Worldwide Tradition of Quality Products and Customer Service

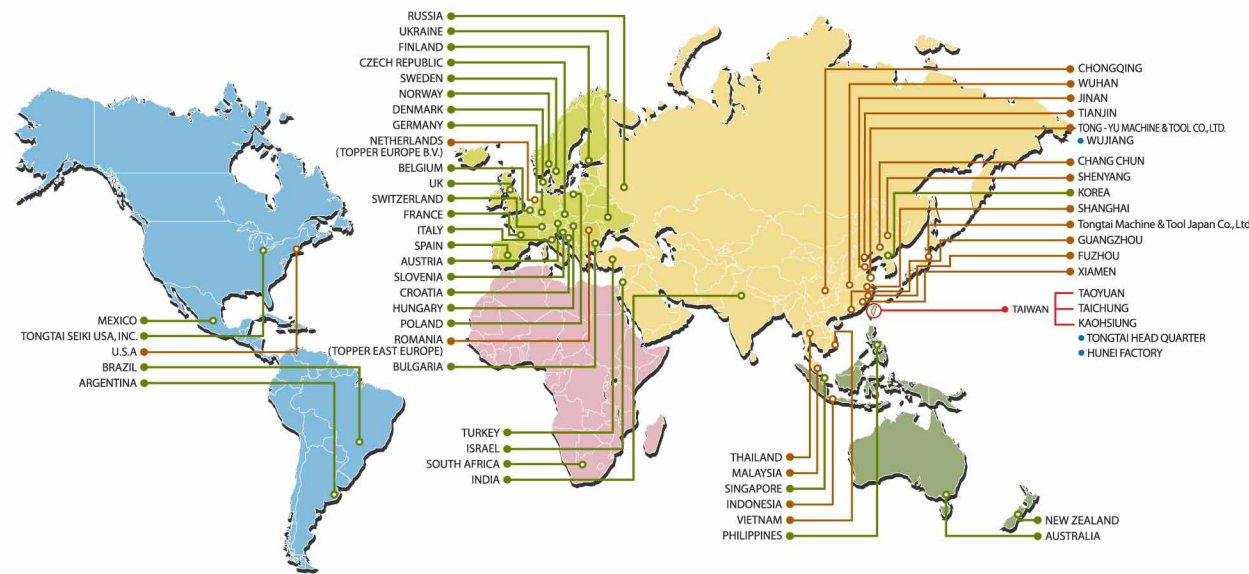
Super Productivity
Horizontal Machining Center
HB-500/630/800

High ■Quality ■Precision ■Efficiency ■Economy



Global Sales & Service Network

★ Head Office ● Branch ● Foreign Agency ● Factory



Tongtai Machine & Tool Co., Ltd.

• HEAD OFFICE
NO.3, LUKE 3rd. RD., LUZHU DISTRICT, KAOHSIUNG CITY, 82151, TAIWAN.
TEL : 886-7-9761588 FAX : 886-7-9761589/886-7-9761590
Website : <http://www.tongtai.com.tw>

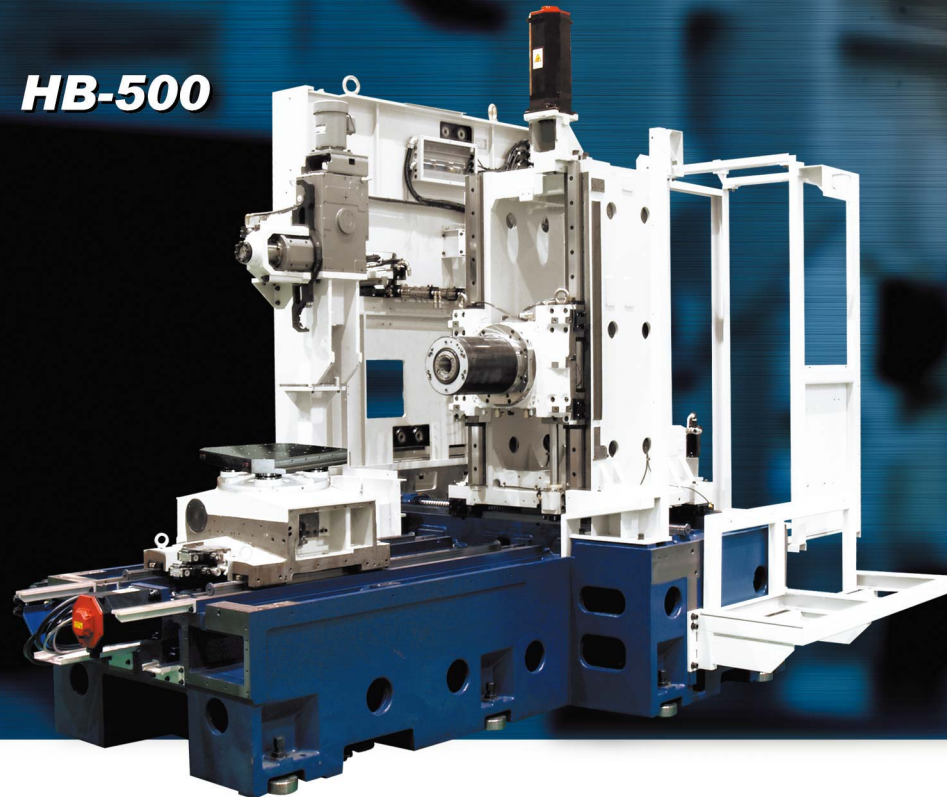
• TAOYUAN OFFICE TEL : 886-3-4551399 FAX : 886-3-4559730
• TAICHUNG OFFICE TEL : 886-4-23589313 FAX : 886-4-23588913
• TONGTAI SEIKI U.S.A INC. TEL : 1-845-2675500 FAX : 1-845-2675546
• Tongtai Machine & Tool Japan Co., Ltd TEL : 81-4-71438355 FAX : 81-4-71438360
• TONGTAI SEIKI VIETNAM LIMITED TEL : 84-435112529
• EUROPE OFFICE TEL : 31-161-454639 FAX : 31-161-454768
• THAILAND OFFICE TEL : 66-2-7443440 FAX : 66-2-3986518
• INDONESIA OFFICE TEL : 62-21-45850521 FAX : 62-21-45840522
• MALAYSIA OFFICE TEL : 60-3-78456815 FAX : 60-3-78456851

• CHINA OFFICE
SHUZHOU TONG-YU MACHINE & TOOL CO., LTD.
TEL : 86-512-63430168 FAX : 86-512-63431622
E-mail : sales@tong-yu.com.cn

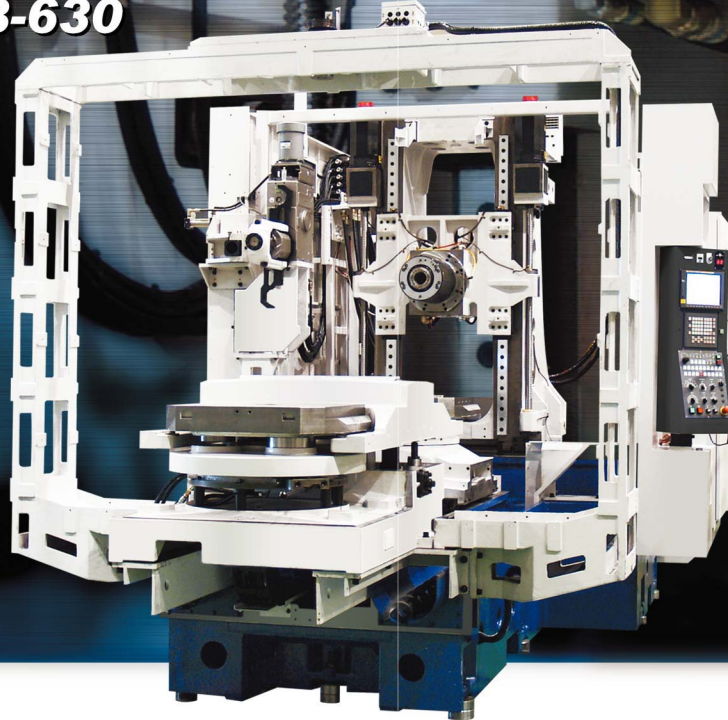
• WUHAN OFFICE TEL : 86-27-59409109 FAX : 86-27-59409110
• SHANGHAI OFFICE TEL : 86-21-24208138 FAX : 86-21-34073262
• CHONGQING OFFICE TEL : 86-23-67865925 FAX : 86-23-67867717
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• TIANJIN OFFICE TEL : 86-22-24417640 FAX : 86-22-24416738

Super Productivity Horizontal Machining Center

HB-500



HB-630



HB-800



High Speed Roller Gear Cam ATC

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

Pull stud : 90°

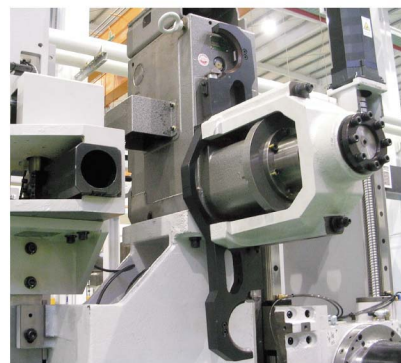
Max. tool capacity : 60 tools
(Opt. 90/120 tools)

Max. tool dia. : 250 mm (w/o adjacent tools)

Max. tool length : 610 mm

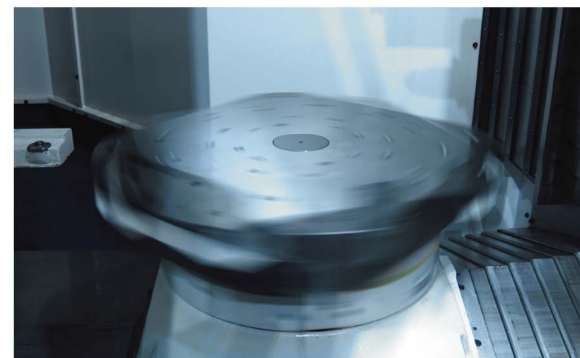
Max. weight : 25 kg

Tool changing time : 2.1 sec (T to 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 tons	20 tons	20 tons

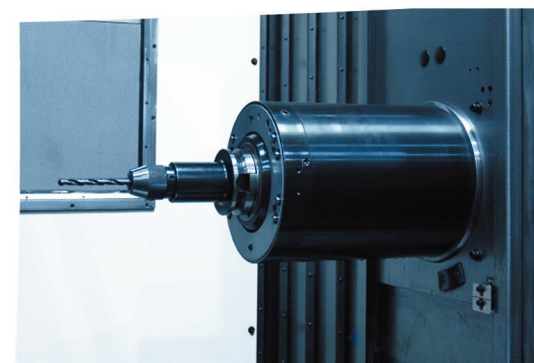


Spindle

Spindle taper : 7/24 No.50

Spindle speed : 10000 rpm

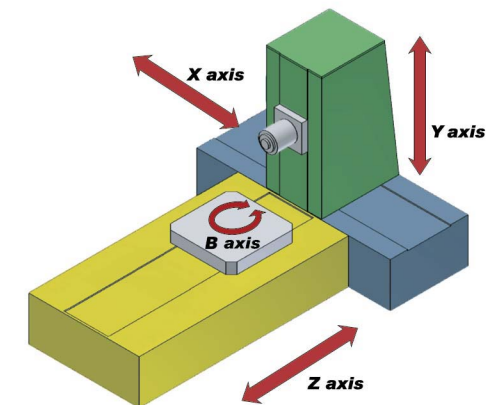
Spindle motor : 30/25 kw (HB-630/HB-800)
22/18.5 kw (HB-500)



Stroke

Item	HB-500	HB-630	HB-800
X axis stroke	800 mm	1050 mm	1200 mm
Y axis stroke	710 mm	850 mm	1000 mm
Z axis stroke	710 mm	970 mm	1000 mm
Ball screw	Ø40 mm	Ø50 mm (Y:Ø40mm×2)*	Ø50 mm
Rapid traverse	50 m/min	50 m/min	50 m/min
Cutting feedrate	20 m/min	20 m/min	20 m/min

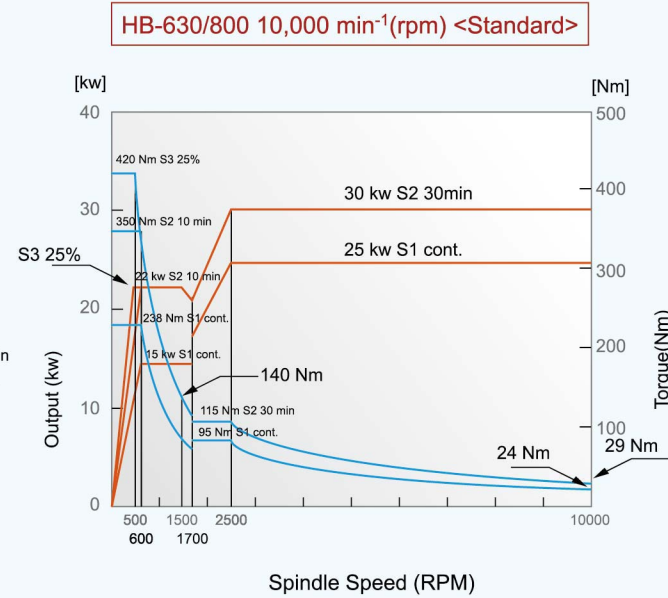
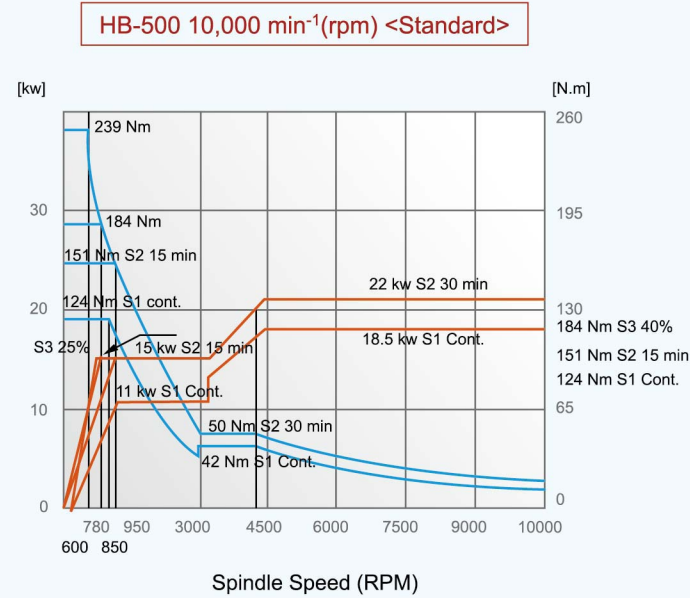
* Y axis double screw



High Efficiency Cutting and High

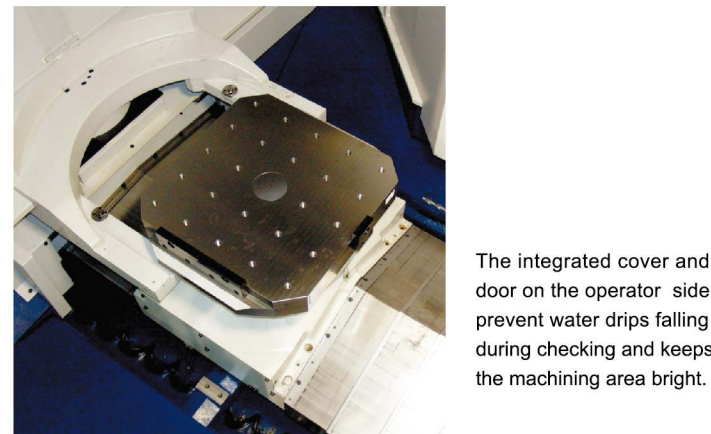
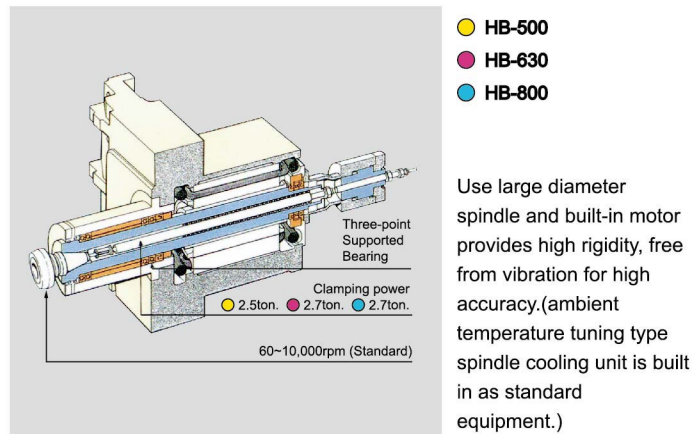
Reliability

Spindle Output and Torque Chart



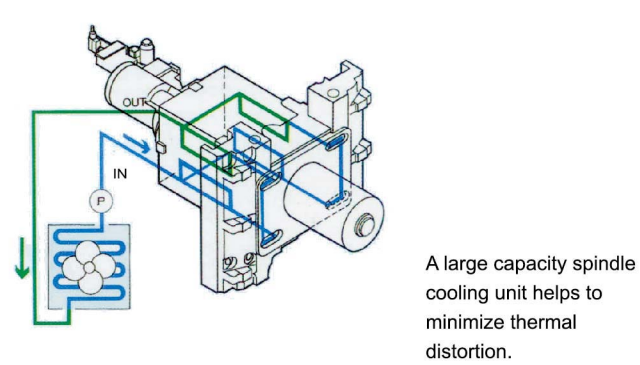
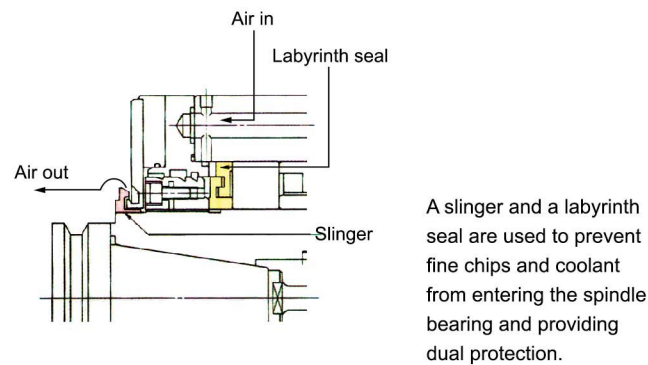
Built-in Motor Provides High Rigidity and High Accuracy

Comfortable Working Environment and Wide Space

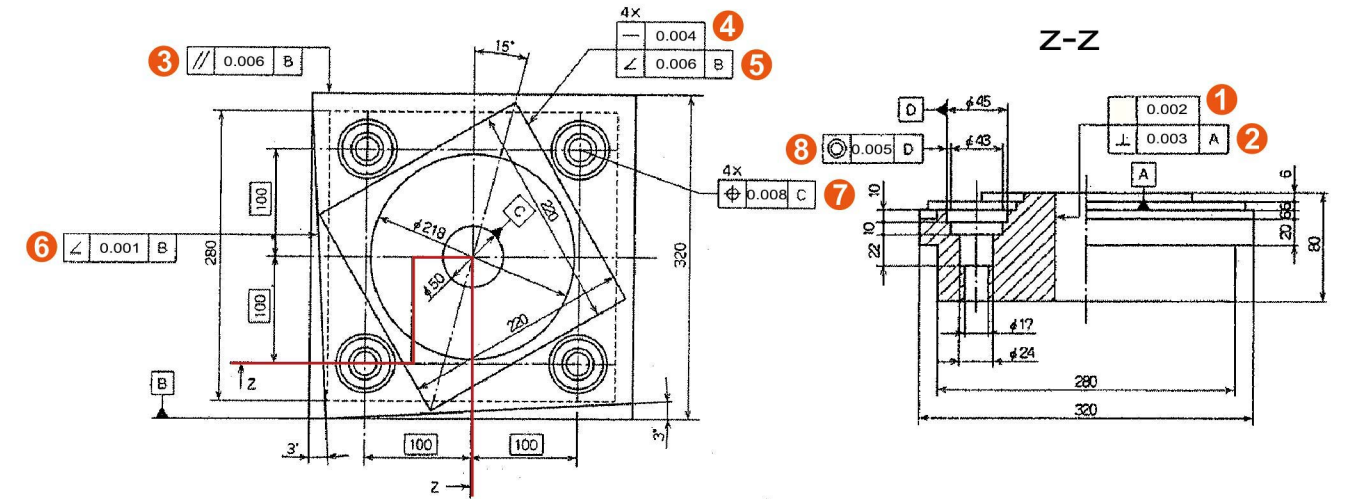


Spindle Bearing Protection

Spindle Cooling Unit



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
	②	Concentricity of A datum and central hole	mm	0.015	0.003	0.002
Square	③	Parallel of B datum with opposite face	mm	0.020	0.006	0.006
Diamond	④	Exact straightness of four sides	mm	0.015	0.004	0.003
	⑤	Angle precision of 75° slant for B datum	mm	0.020	0.002	0.006
Slant	⑥	Angle precision for B datum	mm	0.020	0.001	0.003
Four boring	⑦	Position of four bores to central hole C	mm	0.05	0.010	0.007
	⑧	Concentricity of small diameter to big diameter D	mm	0.02	0.004	0.005

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

Cutting Capabilities

Material:S45C

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 to 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.

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 width×depth (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

A Variety of Options and Labor-saving Support Functions

★ **Standard accessories**
□ **Option**

ATC

- Number of tools 60 tools
- 90 tools
- 120 tools

Coolant System

- Overhead coolant device
- Coolant gun 180 W
 - by table
 - by APC
- Coolant through spindle
 - Center (A type) 1.5 MPa (15 kgf/cm²)
 - 3.5 MPa (35 kgf/cm²)
 - 7.0 MPa (70 kgf/cm²)
 - DIN (B type) 1.5 MPa (15 kgf/cm²)
 - 3.5 MPa (35 kgf/cm²)
 - 7.0 MPa (70 kgf/cm²)
- Coolant filtration device
- Oil-mist collector

Chip Disposal

- Dual chip augers, 2 pcs.
- Flushing system
- Chip conveyor
 - Scrape type
 - Drum type with filter
 - Chain type
 - Magnet scraper conveyor
 - Multi-functions type
- Oil skimmer
- Chip wagon with wheel
- Air blow for cutting point
- Air blow for spindle side
 - Center (A type)
 - DIN (B type)

Splash Guard

- Operator side door interlock
- Fully enclosed guards
- Key-switch for door interlock

Automatic Pallet Changer

- APC (including 2 pallets)
- APC auto. door
- APC door interlock
- Pallet fit confirmation device
- Additional pallets (8 PPL) HB-500/630
- Additional pallets (6 PPL) HB-800

Hyd. Source for Jig & Fixture

- Hyd' source piping to APC
- Hyd' source piping to B axis



Spindle Speed

- 10,000 min⁻¹
- 12,000 min⁻¹

Controller

- FANUC 31-i

Tool Shank

- ATC tool shank
 - BT#50
 - CAT#50/DIN#50
 - BBT#50 (2-face contact)
 - HSK-A100
- Additional pull-stud bolt×4
 - Standard type (A type)
 - DIN through coolant (B type)

Operation Management

- Portable manual pulse generator (separate type)
- Spindle speed meter (separate type)
- Spindle load meter (separate type)
- Spindle/feedrate override (GRT)
- Warning light
 - Single color
 - Tri-color
- Auto power off
- Work light
- Workpiece counter
- Buzzer alarm
- Tool number indicator (Spindle tool/Stand-by tool)

Accuracy Management

- Linear scale
 - (HEIDENHAIN) (3 Axis)
 - Rotary type (B Axis)
- Spindle cooler
- Automatic tool length & tool breakage detector
- Workpiece measuring device (Renishaw)
- Air blow for automatic measuring device
- Coolant temperature control unit
- Hydraulic oil temperature control unit
- Tool diameter measurement

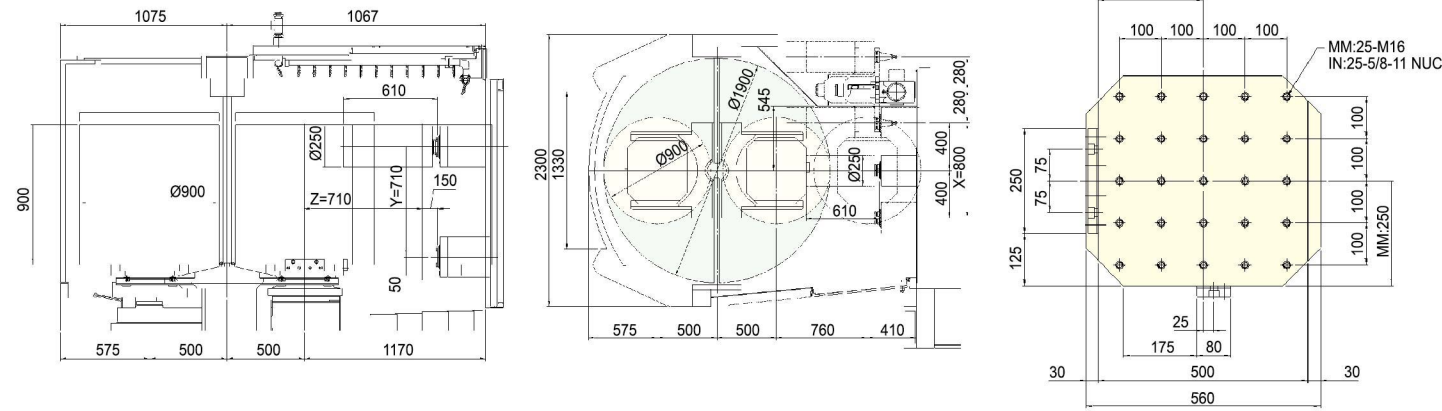
Other

- Levering block
- Tool kits and tool box
- Safety regulations
 - CE
 - EMC
- Transformer
- Voltage stabilizer

ATC.APC

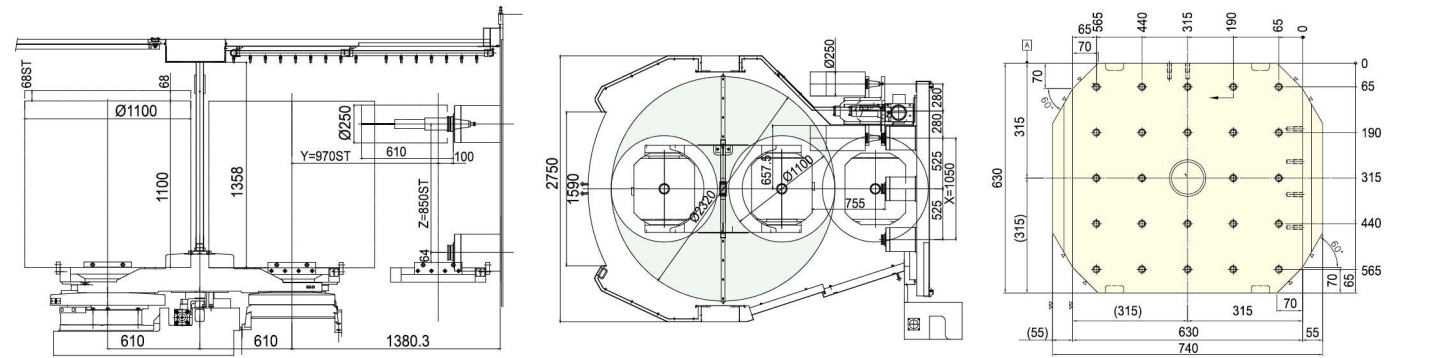
HB-500

Unit : mm



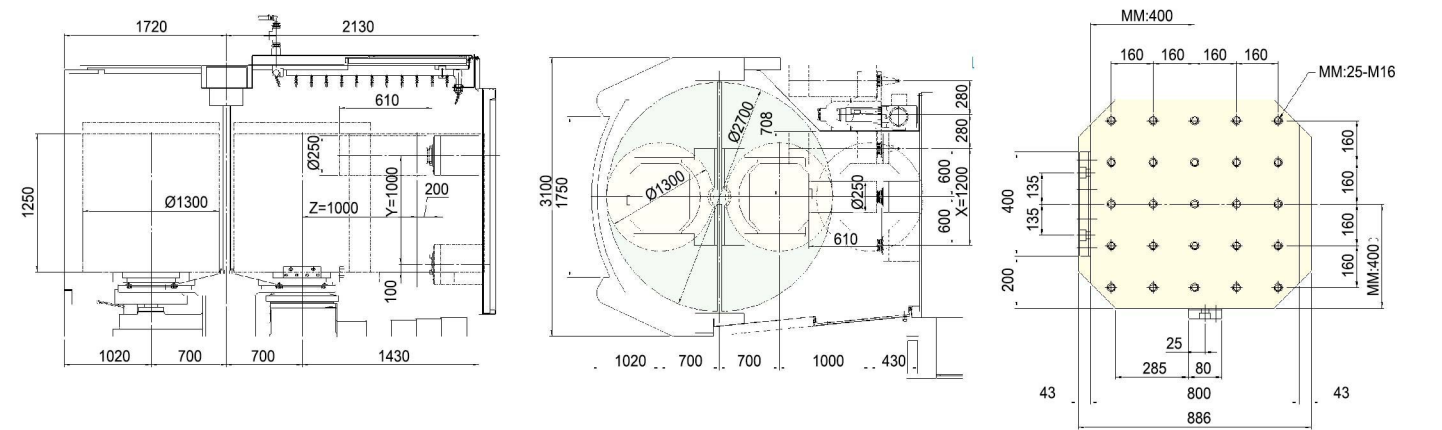
HB-630

Unit : mm



HB-800

Unit : mm



ATC

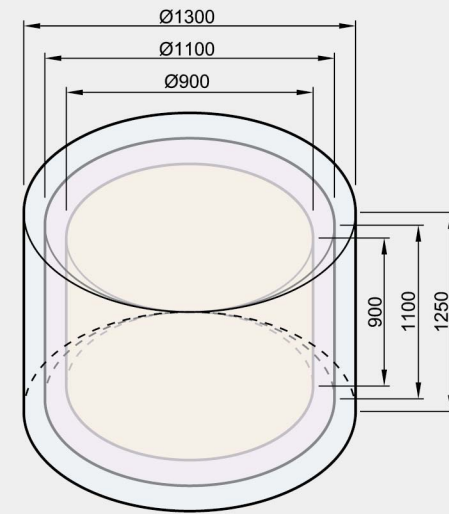
- A swing-in fast cam type win-arm ATC is employed for short cycle time machining.
- Tool changing time (T to T) 2.1 sec.
- Stable operation of cam type twin-arm presents high reliability in changing heavy tools.
- The fast magazine under servo control can index at the speed of 30 m/min

APC

- A rotary type APC is used.
- The pallet changing (up \rightarrow 180° index \rightarrow down).
- Pallet changing time:
HB-500:14 sec. HB-630:20 sec. HB-800:22 sec.

Max. workpiece size

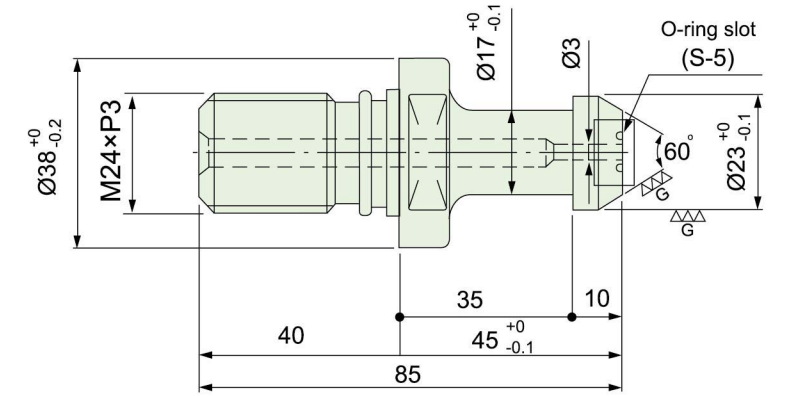
Unit : mm



● HB-500 ● HB-630 ● HB-800

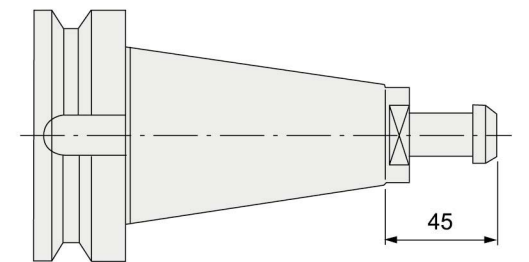
Pull stud (A type)

Unit : mm



Type of tool shank MAS BT50

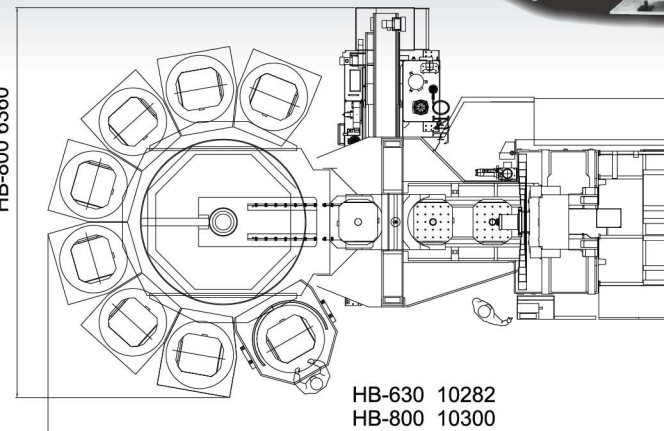
Unit : mm



HB-800+6PPL



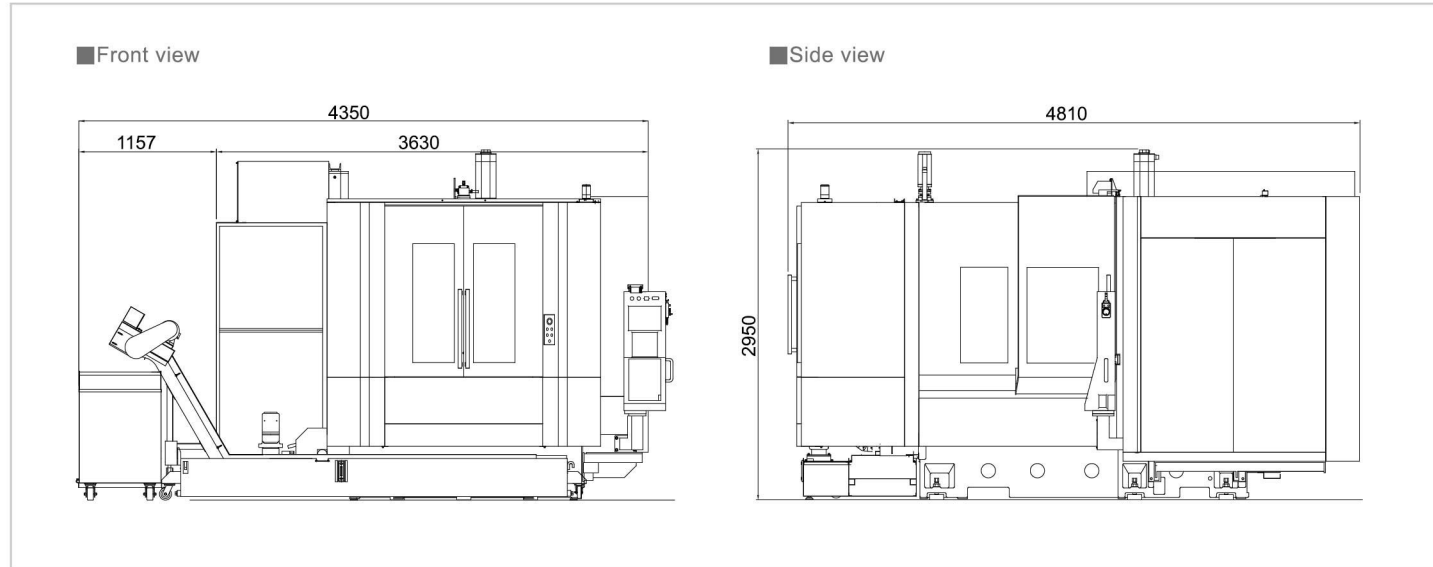
HB-630 6360
HB-800 6360



Machine Dimensions

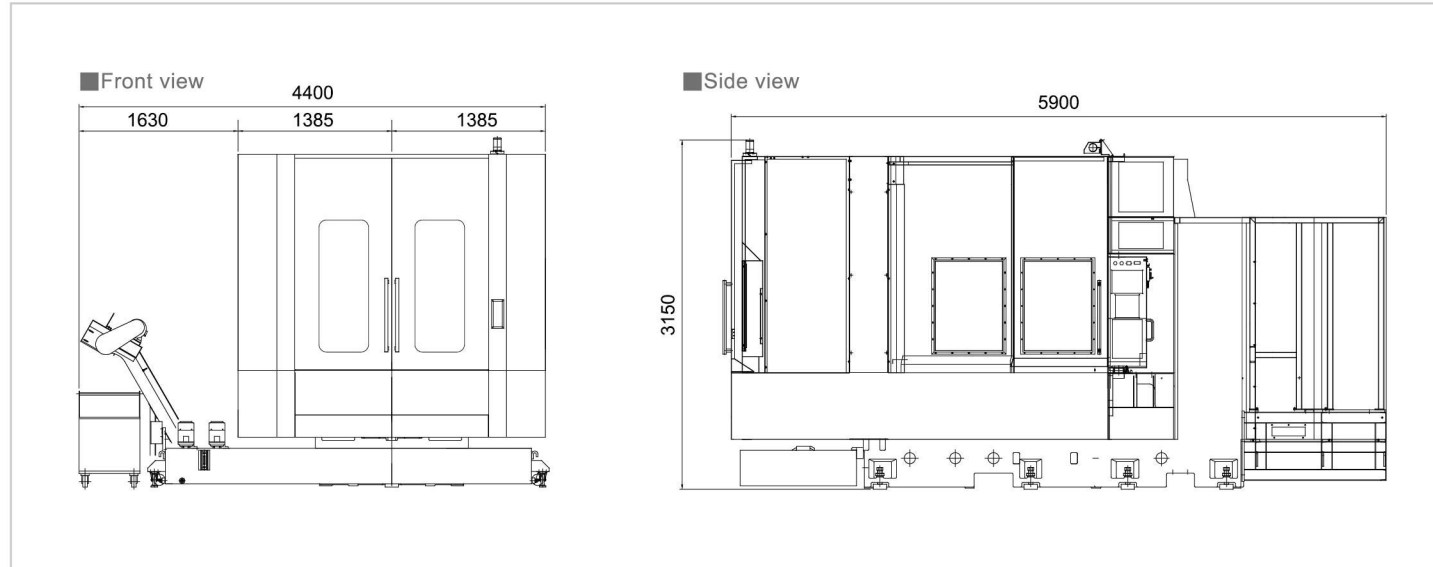
HB-500

Unit : mm



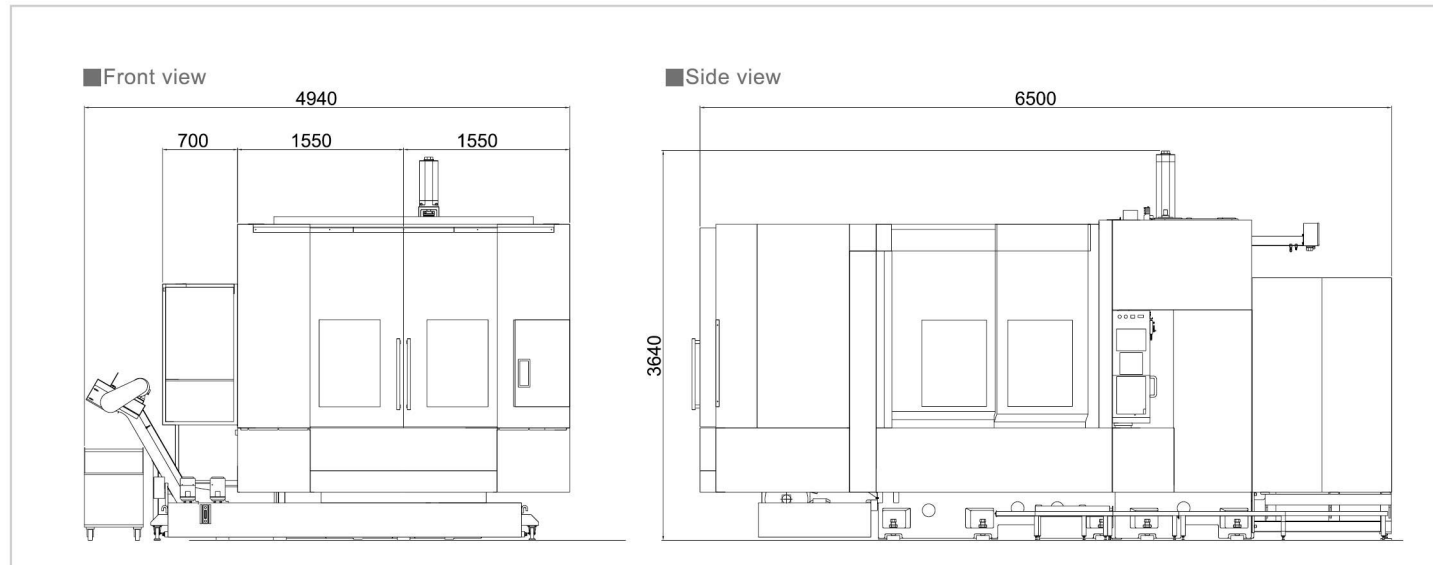
HB-630

Unit : mm



HB-800

Unit : mm



Standard Specifications

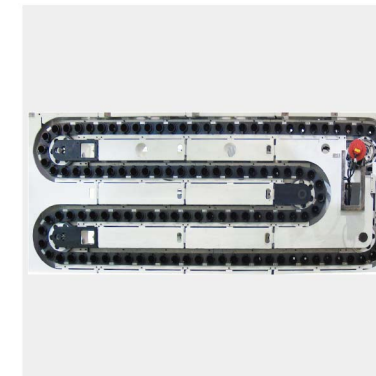
Item	Specification	Unit	HB-500	HB-630	HB-800
Table	Table size (L×W)	mm	500×500	630×630	800×800
	Max. loading capacity	kg	600×2	1200×2	1800×2
	Table height from floor	mm	1150	1300	1350
	Max. workpiece dimension (Diameter × height)	mm	Ø900×H900	Ø1100×H1100	Ø1300×H1250
	B axis min. indexing increment	deg		1°(Opt. 0.001°)	
Spindle	Spindle taper		7/24 Taper No. 50		
	Spindle speed	rpm	Built-in type 10000		
Stroke	X/Y/Z axis stroke	mm	800/710/710	1050/850/970	1200/1000/1000
	Spindle center to table	mm	50-760	100-950	100-1100
	Spindle nose to table	mm	150-860	100-1070	200-1200
Feed	X/Y/Z axis rapid traverse	m/min	50		
	Cutting feedrate	m/min	1-20000		
ATC	Tool shank		BT50		
	Tool capacity	pc	60(Opt. 90/120)		
	Max. tool diameter	mm	Ø125		
	Max. tool diameter (w/o adjacent tool)	mm	Ø250		
	Max. tool length	mm	610		
	Max. tool weight	kg	25		
Motor	Spindle motor (50% ED)	kw	22/18.5	30/25	
	X/Y/Z axis servo motor	kw	4/6/4	7/7×2/7	7/9/7
	Coolant motor	kw	0.55×3/1.1	0.55×3/1.1	0.55×3/1.1
Machine size	L×W×H	mm	4810×4350×2950	5900×4400×3150	6500×4940×3640
	Weight	kg	14500	21600	26000

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Optional accessories



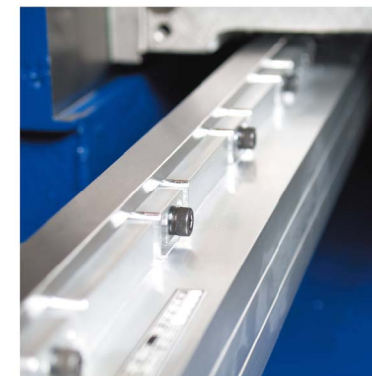
90 tools



120 tools



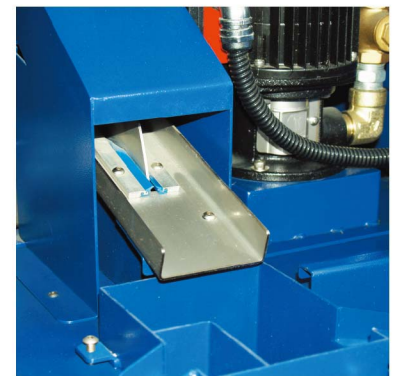
Oil-mist collector



Linear scale



B axis 0.001°



Oil skimmer