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ISO 9001



ISO 14001



AGENT



MB SERIES

High Precision Horizontal Boring Mills



High Precision Horizontal Boring Mills

Representing AWEA's "The Ultimate Machining Power" of mature manufacturing abilities and advanced technology skills, the all new MB series combines a high torque spindle, strong-solid structure, and a high precision rotary working table along with our professional assembly and hand scraping skills, to provide you with a machine of maximum performance and productivity without taking much floor space. The optional APC system can efficiently minimize man power and reduce non-operational time which increases more productivity.

MB Series

High Precision Horizontal Boring Mills

With years of innovation and manufacturing experience on horizontal boring mills, we combine them with the latest Japanese key components to make the MB series provide maximum mechanical performance and strengthen our reputation as a professional boring mills manufacturer.

- High rigidity structure combined with a high precision spindle provides excellent machining accuracy and heavy-duty cutting ability.
- The rotary working table is supported with hydrostatic bearings. Working table max. load 4,000 kg. B-axis positioning accuracy 0.001°.
- One-piece bed structure plus 4 compound guideways are combined with the X / Y axes high rigidity box way to meet with various needs for heavy-duty cutting and precision machining.
- The open-space operating area can shorten the distance between the operator and the working area to increase both safety and convenience. Additionally, this compact size machine does not take too much space in the factory.

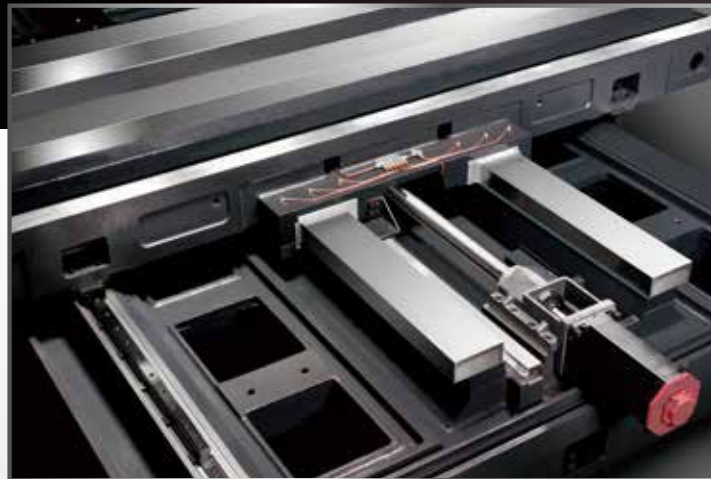


MB Series

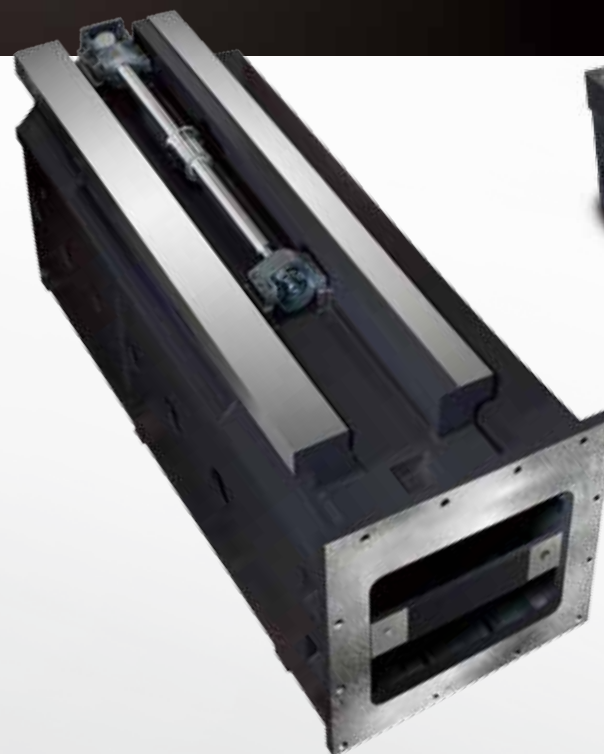
High Precision Horizontal Boring Mills

High Rigidity Structure

- The Finite Element Method (FEM) provides optimum machine designing and light-weighted structure advantages while ensuring high machine rigidity.
- Built to withstand years and years of rigorous high production machining, the heavily ribbed, one-piece thermally balanced bed and casting components are of " MEEHANITE " casting.
- The 3 axes feed system is adopted with full travel support and uses high precision linear encoders to ensure optimum performance and accuracy.
 - ▶ The X / Y axes are adopted with high rigidity box way which is pre-heated and pre-grinded, suitable for heavy-duty cutting conditions.
 - ▶ The Z-axis is adopted with 4 compound guideways to effectively prevent the working table from overhanging while providing strong and firm support.



- Large size ball screws are designed with pretension to increase the working accuracy.
- The automatic lubrication system uses pressure-relief lubricators and high quality copper oil pipe which gives the right amount of lubricants to the guide ways, ball screws and other key components.



- The contact surface of the bed and column are all precision hand scraped to ensure maximum performance and accuracy.

- The bed and column structure are built in one-piece.

FEM
Finite Element Method



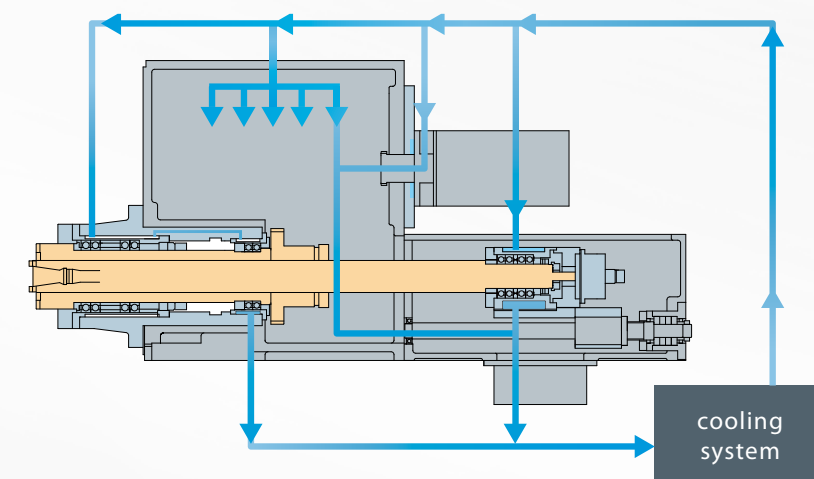
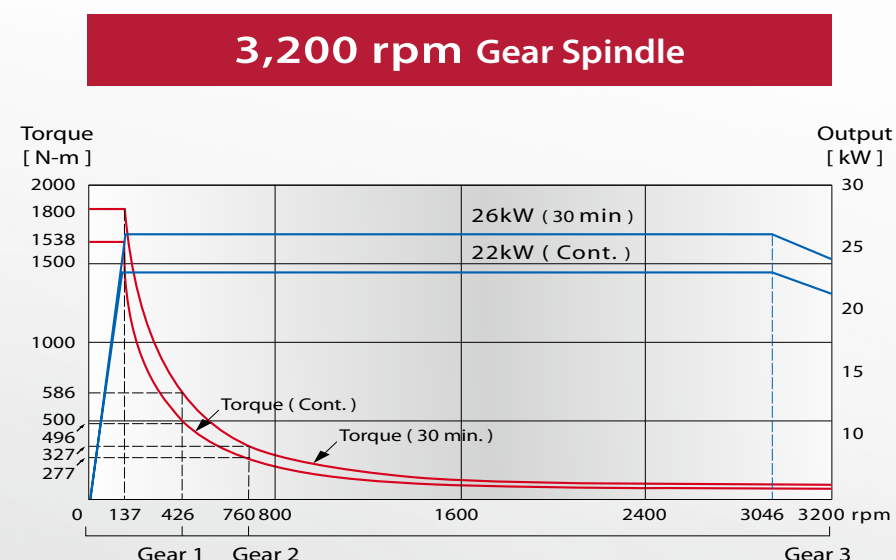
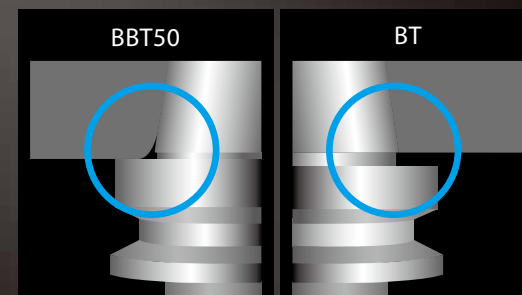
Optimized Spindle System

- High rigidity closed spindle head design combined with spindle transmission and feeding system provides powerful heavy-duty cutting ability.
- Max. spindle speed of 3,200 rpm with 3-step gear box can provide maximum torque output of 1,800 N-m under 137 rpm.
- The system uses a Ø110 mm high precision spindle which allows the W-axis travel to be up to 500 mm.

1,800 N-m

Maximum Torque

- The inner taper of the spindle conforms with BBT50 tool to provide a firmer grip to the tools which reduces the vibration from the tools.



- The spindle cooling system uses oil cooling and water jacket device to give the right amount of coolant to all the bearings, motors, gears inside the spindle box. This effectively reduces spindle thermal distortion and ensures working accuracy.

High Performance Rotary Working Table

- The rotary table is supported with high rigidity base which gives full travel support, to prevent overhanging problems and maintain accuracy over long working hours.
- Hydrostatic bearings with high resolution linear scales provide strong support, anti-vibration features, low-wear and long life-term advantages.
- The B-axis positioning uses a powerful hydraulic braking system to provide positioning accuracy in any indexing. The right angle indexing lock device allows the 90° indexing with more stability.
- The rotary table is adopted with 4 sets of hydraulic cylinder when using the APC system (Opt.) to ensure working accuracy and stability.



4,000 KG

MB Series 1512

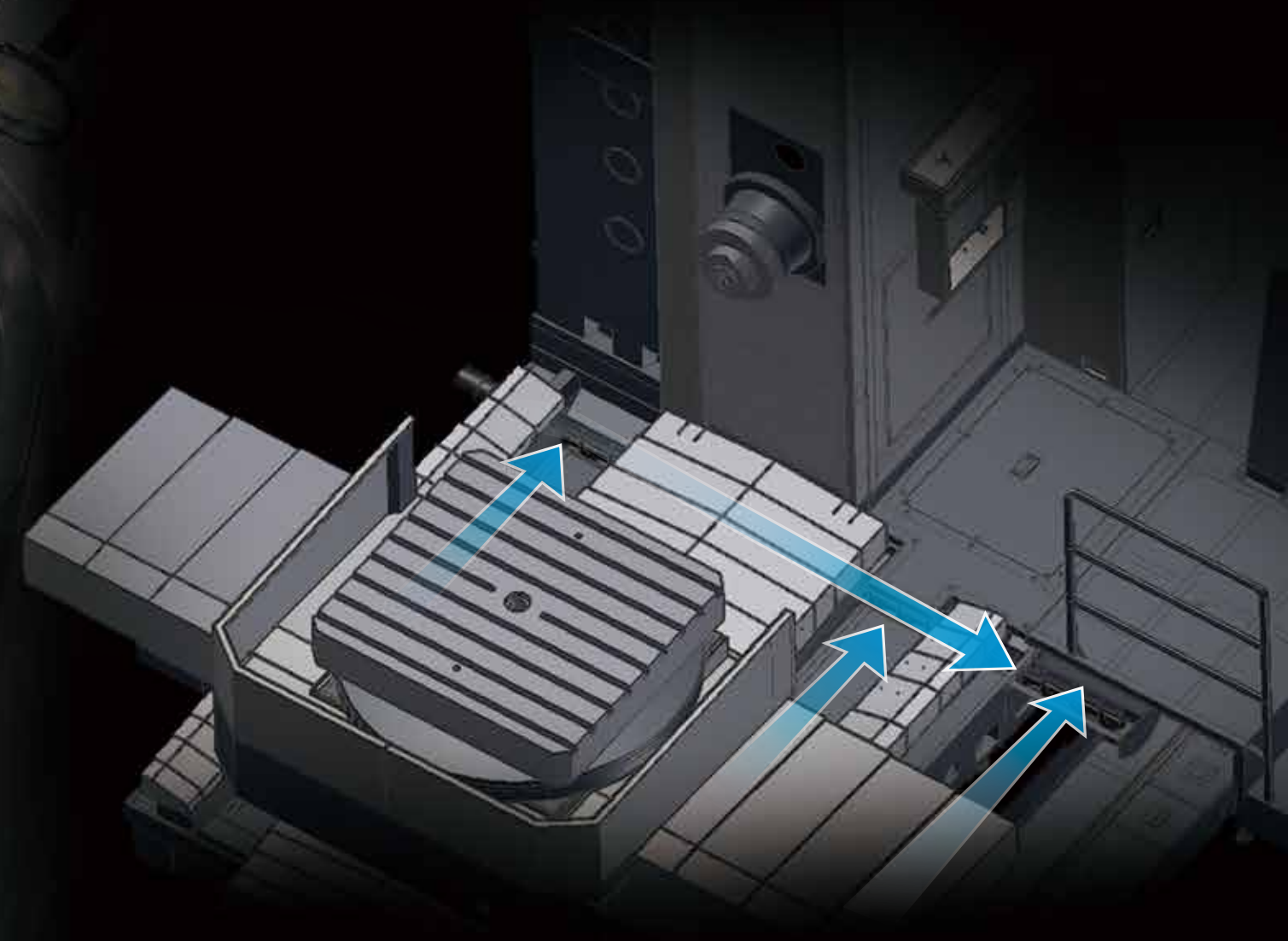
B-axis specification	
Table size	1,250 x 1,150 mm*
Max. table load	4,000 kg
B-axis rotary range	360°
B-axis positioning accuracy	0.001°
B-axis speed	5 rpm

High Reliability APC System

High Efficiency Chip Conveying System



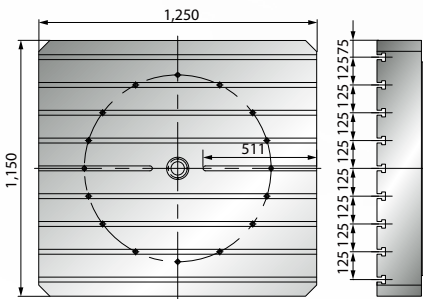
- Standard 40T ATC system. 60T magazine is optional.
- Max. tool load is 25 kg, max. tool magazine load is 600 kg which can meet various needs of working condition.



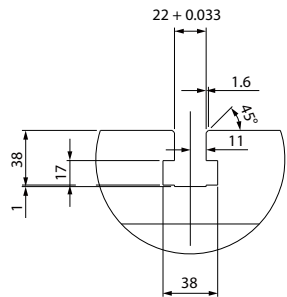
- The carefully designed chips conveying system allows the chips to automatically fall into the screw type chip conveyor. The chip conveyor then transports the chips into the water tank and chip container to prevent heat and chips from accumulating which ensures long-term working accuracy.
- 2 sets of chip conveyors are installed between the contact surface of the saddle and bed which helps the chips on top of the bed to be quickly transported in to the chip conveyor and also reduces cleaning time.

Dimensions

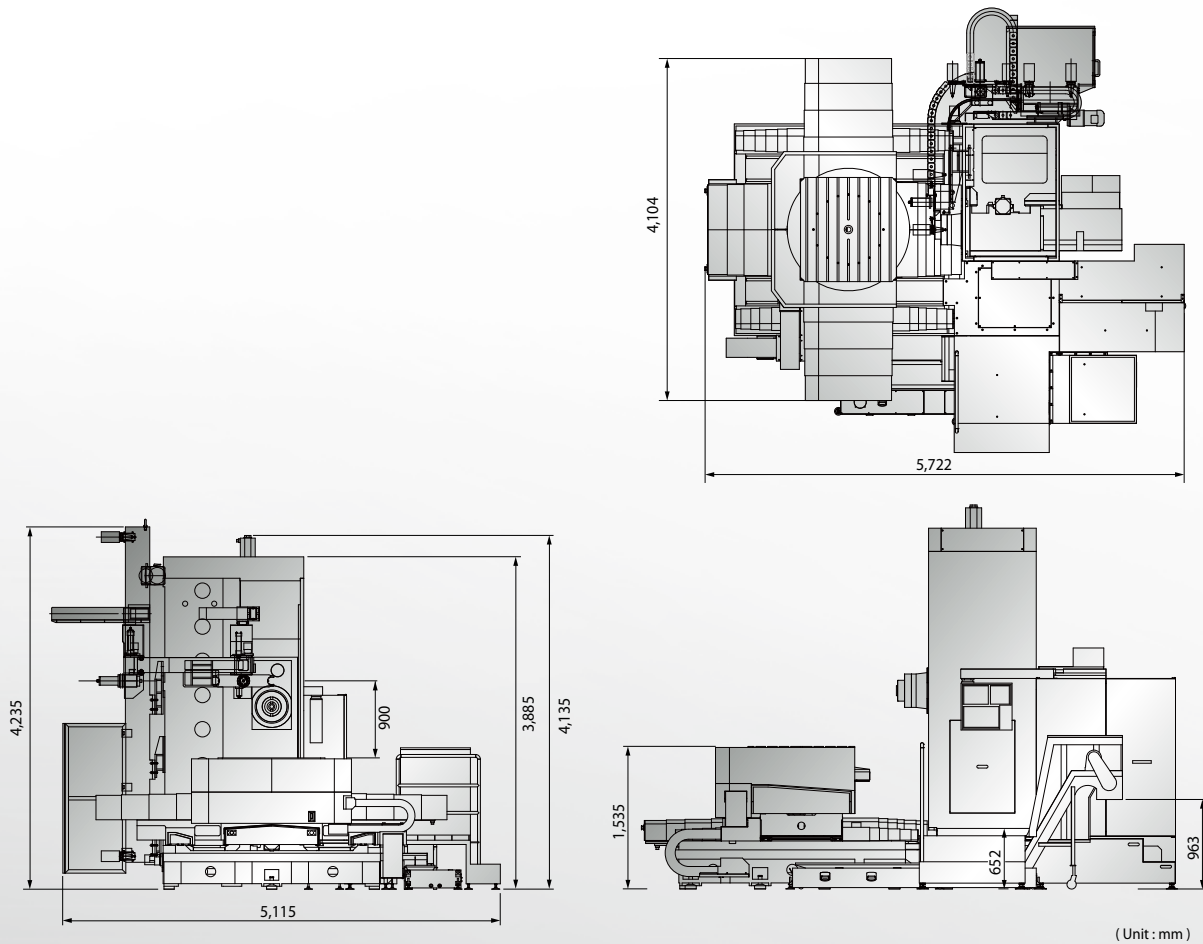
Table Dimensions



T-slot Dimensions

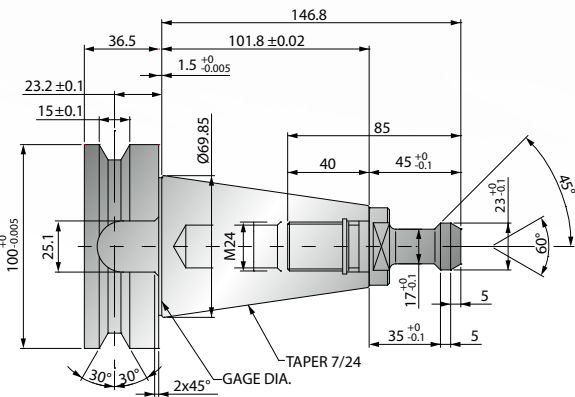


Machine Dimensions



Tool Shank and Pull Stud Dimensions

BBT50



(Unit: mm)

MB-1512

Specifications

X / Y / Z axes travel	mm	1,500 / 1,200 / 900
W-axis travel	mm	500
Distance from spindle nose to table top	mm	575 ~ 1,475

Working Table

Table size (X x Y)	mm	1,250 x 1,150
Table load capacity	kg	4,000
Minimum table index		0.001°
B-axis speed	rpm	5

Spindle

Boring spindle size	mm	Ø 110
Spindle motor (cont. / 30 min.)	kW (HP)	22 / 26 (30 / 35)
Spindle speed	rpm	3,200
Spindle torque	Nm	1,800
Spindle taper		BBT50

Feedrate

X / Y / Z axes rapid feedrate	m / min.	15 / 15 / 15
W-axis rapid feedrate	m / min.	6
Cutting feedrate	m / min.	6

Tool Magazine

Tool magazine capacity	T	40
Max. tool diameter / adj. pocket empty	mm	Ø 125 / Ø 250
Max. tool length (from gauge line)	mm	400
Max. tool weight	kg	25

Accuracy

Positioning accuracy (JIS B 6338)	mm	± 0.01 / Full Travel
Positioning accuracy (VDI 3441)	mm	P ≤ 0.02 / Full Travel
Repeatability (JIS B 6338)	mm	± 0.003
Repeatability (VDI 3441)	mm	P ≤ 0.008

General

Power requirement	kVA	60
Pneumatic pressure requirement (min.)	kg / cm ²	5
Hydraulic unit tank capacity (pump)	liter (HP)	200 (3)
Lubrication oil tank capacity	liter	8
Coolant tank capacity (pump)	liter (HP)	330 (1)
Machine weight	kg	30,000

Specifications are subject to change without notice.

Standard Accessories

- FANUC 31i-MB control
- 3-step gear spindle
- Standard splash guard + chip collector for table
- Spindle cooling system
- X / Y / Z / B axes optical linear scale
- 0.001° indexing rotary table
- Automatic power off system
- Caterpillar type chip conveyor and bucket
- Coolant equipment system (Pump & tank)
- Heat exchanger for electrical cabinet
- Air gun
- Alarm light
- Centralized automatic lubricating system
- Foundation bolt kit

Optional Accessories

- Automatic pallet changer
- Half enclosed / Fully enclosed splash guard
- Oil skimmer
- A / C cooler for electrical cabinet
- Transformer
- 60T Arm type tool magazine
- Coolant through the spindle (Form A)