



HORIZONTAL BORING & MILLING MACHINE



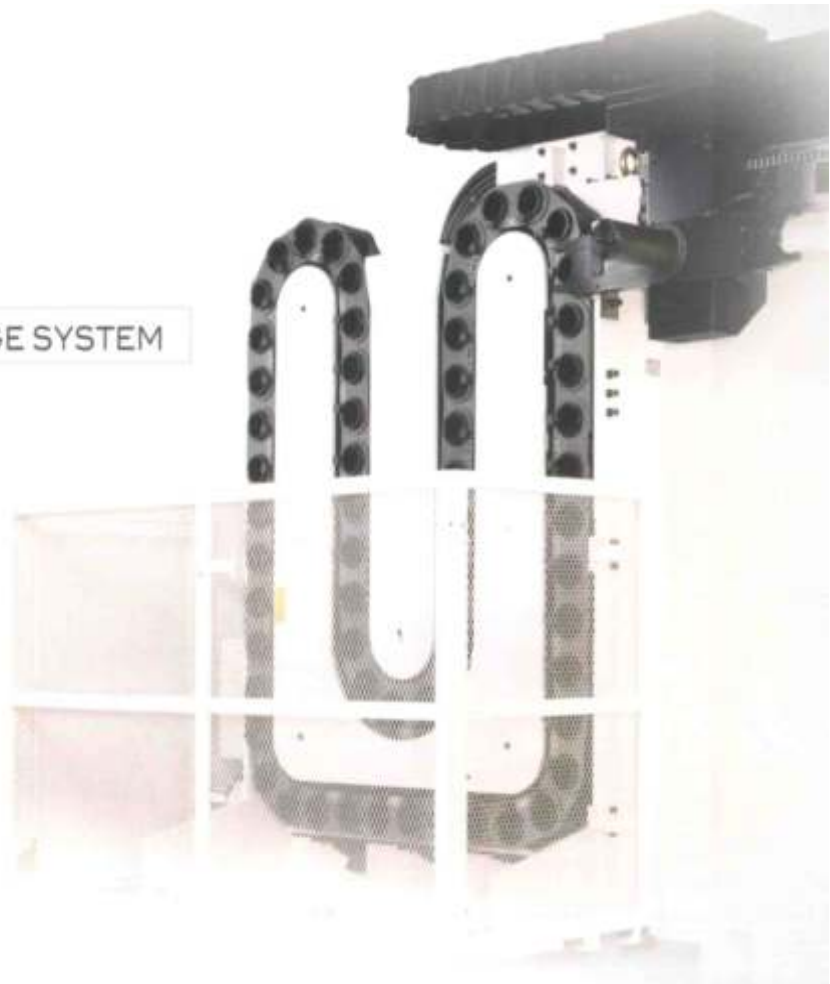
HB-110-20T

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AUTOMATIC TOOL CHANGE SYSTEM

Standard chain type with 60 tools magazine ATC, provide safety and stable exchange. This enhances machining flexibility and efficiency. Loading and unloading tools at the rear of the ATC is available.



- Build-in index table 1500x1200mm driven by a servo motor.
- With high precision absolute angle encoder for closed feedback.
- Minimum input 0.001 degree, full B-axis 360 degree.
- 0-90-180-270 degree with mechanical locating pin.
- Table load capacity maximum 5000kg.
- Hydraulic clamping system.



MAIN SPINDLE (ISO50)



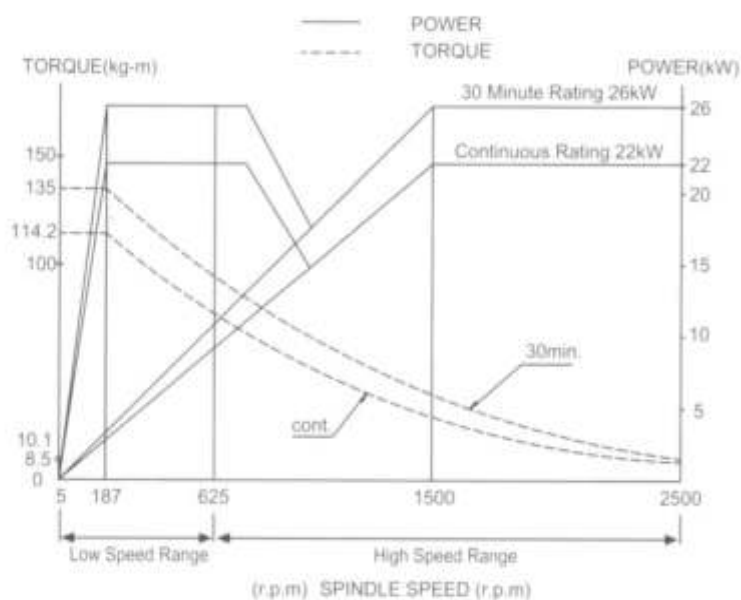
- Working spindle diameter 110mm is mounted on high precision NN type dual roller bearing.
- With 2-steps gear box for automatic change the spindle speed.
- Oil cooler for the lubrication circuit and temperature control as a standard feature.
- Working spindle stroke (W-axis travel) is 550mm.
- Air curtain for the spindle effectively prevents fluid or chip into the spindle.
- Hydraulic clamping for W-axis.

CONTROL SYSTEM

- The suspended control box can be rotated during operation and the portable MPG handwheel easily in set-up workpiece.
- With high reliable and high performance control FANUC 18i-MB.



TORQUE CHART



- Powerful spindle motor: 22/26 kW.
- 2-steps variable speed at maximum 2500rpm.
- Torque output maximum 135kg-m.

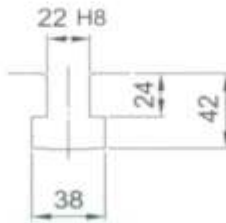
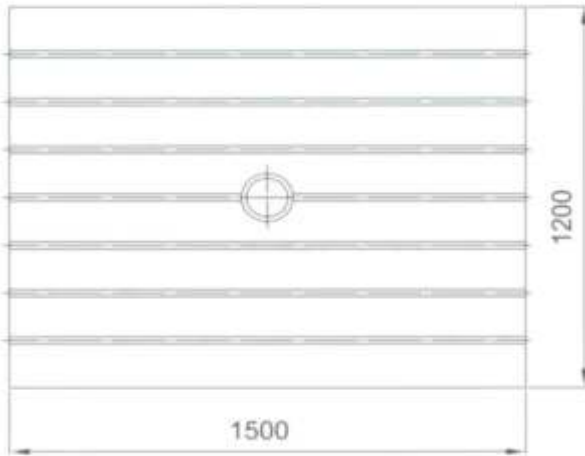
MACHINE STRUCTURE

- Column moving design with T-structure, offers high efficiency machining process.
- Rigid box-type column features outstanding stability in heavy duty machining.
- Hardened and precision grounded box way construction for X,Y and Z-axis.
- The X,Y,Z and W-axis installed with high precision linear scale and B-axis with angle encoder feedback for high accuracy.
- Absolute coordinate system no needs to return the axis to home position.
- Telescopic covers for the cross and longitudinal traverses.
- Quantitative automatic lubrication system features forced lubrication to all slideways, and self-detection function ensures long slideway life.



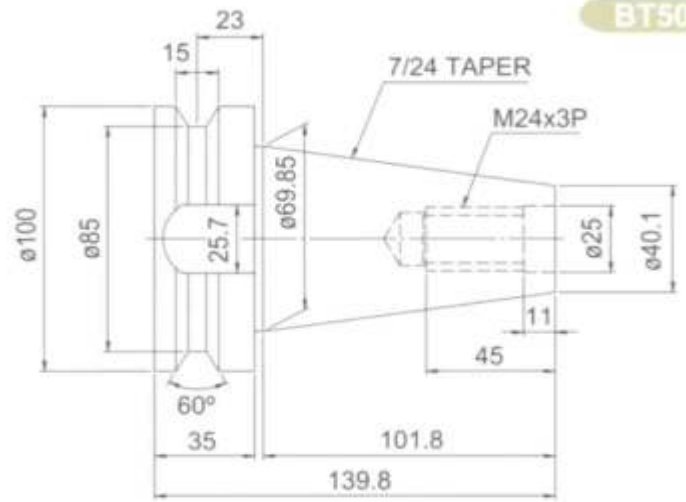
CNC HORIZONTAL BORING & MILLING MACHINE

TABLE

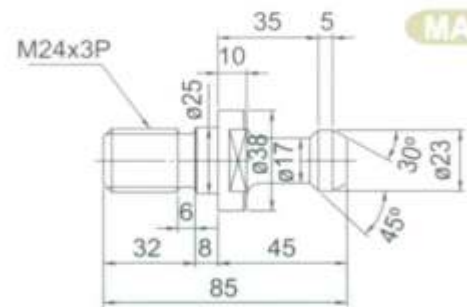


TOOL SHANK & PULL STUD BOLT

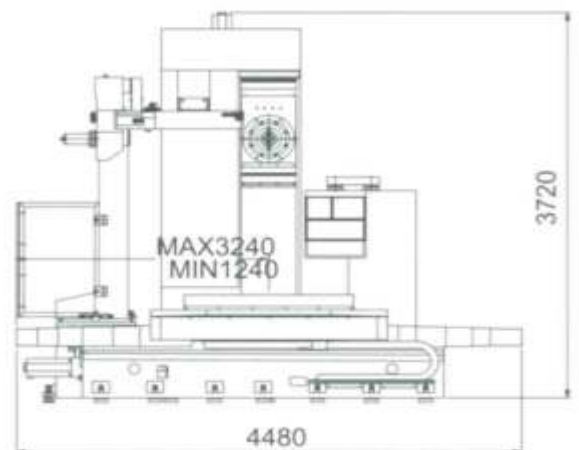
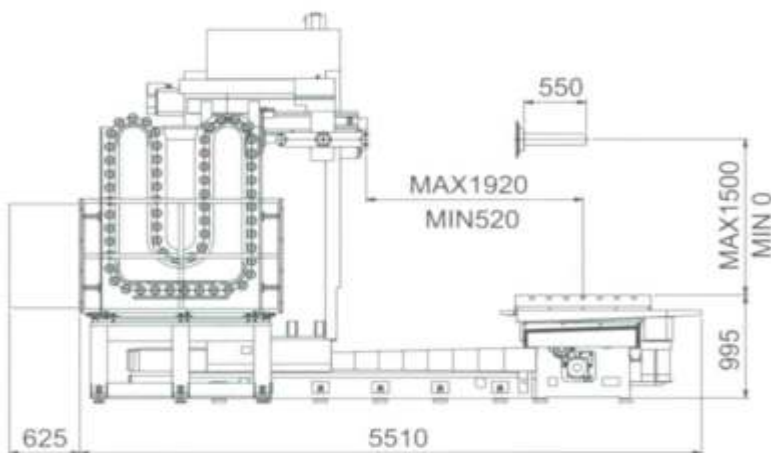
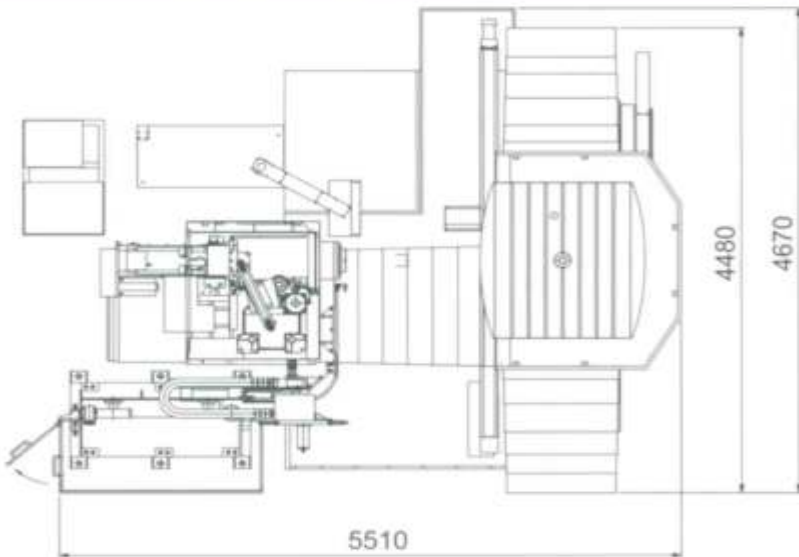
BT50



MAS-P50T-1



EXTERNAL DIMENSIONS



SPECIFICATIONS

HB-110-20T

MODEL

TABLE

Table size	1500 x 1200	mm
T slot (width x no. x pitch)	22H8 x 7 x 150	mm
Max. load capacity	5000	kg
Auto indexing	0.001 Every 90 deg with locating pin	deg
Table height from ground	1050	mm
B-axis rapid feed	2	rpm

TRAVEL

X-axis travel	2000 Optional 3000	mm
Y-axis travel	1500	mm
Z-axis travel	1400	mm
W-axis travel	550	mm
Spindle nose to table center	-30 ~ 1920	mm
Spindle center to table top	0 ~ 1500	mm

SPINDLE

Spindle nose	BT50	
Spindle diameter	110	mm
Max. torque of spindle	135	kg-m
Speed / 2 ranges (auto)	Lo-speed 5 ~ 625 Hi-speed 626 ~ 2500	rpm

FEEDS

Rapid X, Y, Z, W-axis	10/10/10/5	m/min
Feed rate of X, Y, Z-axis	1 ~ 6000	mm/min
Feed rate of W-axis	1 ~ 5000	mm/min
X,Y,Z ballscrew (Dia./ Pitch)	63/10	mm
W-axis ballscrew (Dia./ Pitch)	40/10	mm

A.T.C.

Magazine capacity	60	pcs
Pull stud	MAS-P50T-1	-
Max. tool length	400	mm
Max. tool weight	25	kg
Max. tool diameter	125/ 250 w/o adjacent tools	mm
Tool selection	Sequence by shortest path	-
Tool change time (approx.)	13	sec

MOTORS

Spindle motor	22 / 26	kW
Servo motor for X/Y/Z/B/W	6/6/6/7/7	kW
Centralized lubrication pump	150 x 2	W
Hydraulic pump	3.7	kW
Spindle oil cooler pump	1.18	kW
Coolant pump	1.34	kW

GENERAL INFORMATION

Pneumatic required	6	kg/cm ²
Coolant tank	250	L
Machine dimension	4480x5510x3720	mm
Machine weight (approx.)	24000	kg
CNC control	Fanuc 0i-MD	

STANDARD ACCESSORIES

Heidenhain Absolute Linear scales on X,Y,Z and W-axis

Heidenhain Absolute angle encoder on B-axis

Spindle oil chiller

Centralized auto lubrication system

Programmable coolant system

Programmable air blow

Air conditioner for cabinet

Work lamp

Chip auger for table

M30 Automatic power off

Portable MPG handwheel

Alarm lamp

RS-232 interface port

Tool box with adjustment tools

Leveling blocks and bolts

OPTIONAL ACCESSORIES

Coolant through spindle

Chain type chip conveyor with bucket

Spindle support

Table splash guard cover

Transformer for other than 220V

Right angel milling attachment

Angle plate

Designs and specifications are subject to change without prior notice.