



**TREX Series**

## Bridge Type Machining Center

**MAXMILL** Since 1960

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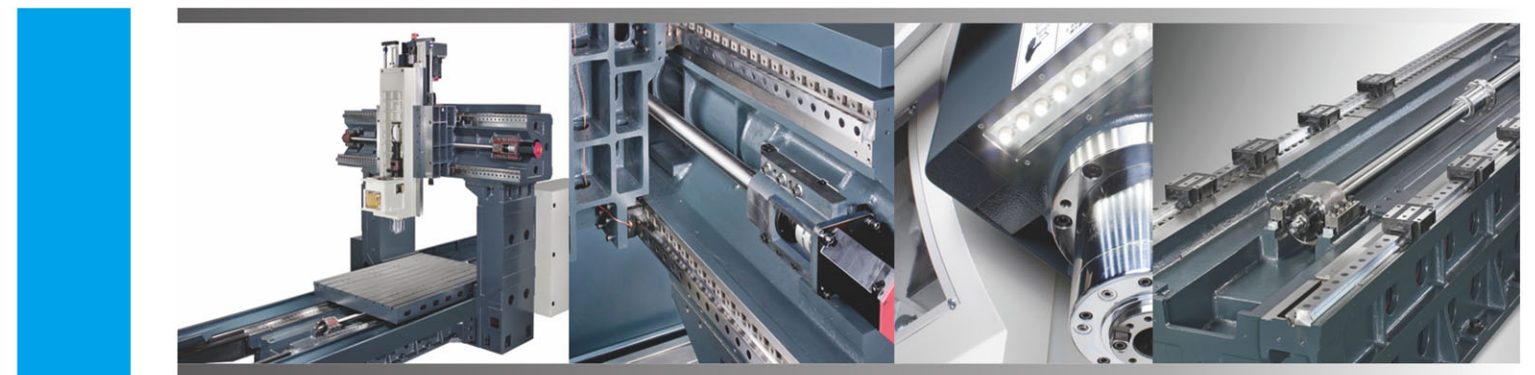
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MADE IN TAIWAN **CE ISO 9001**

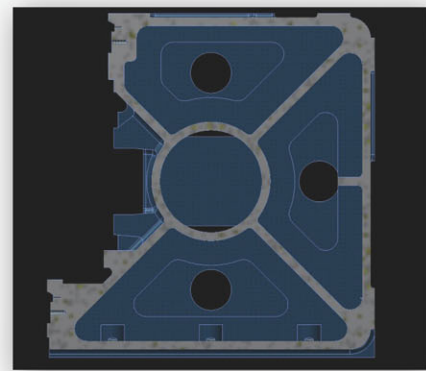
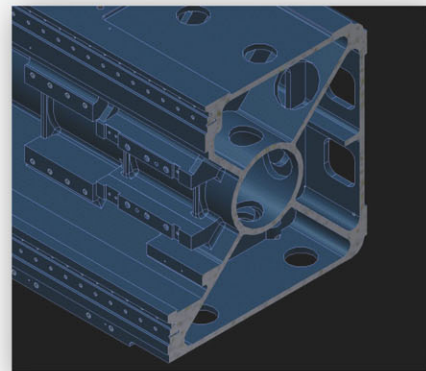
All specification are subject to change without prior notice.





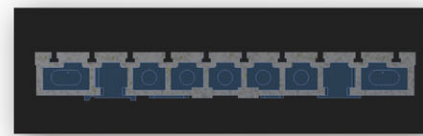
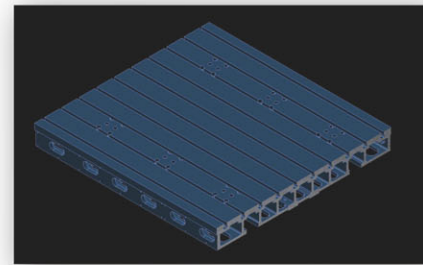
## HIGH RIGIDITY CROSS BEAM

The cross beam is designed with high strength "Internal Circular Wall", which features excellent torsion-resistant capability, and suppresses cross beam's structural deformation caused by the big span between slideways.



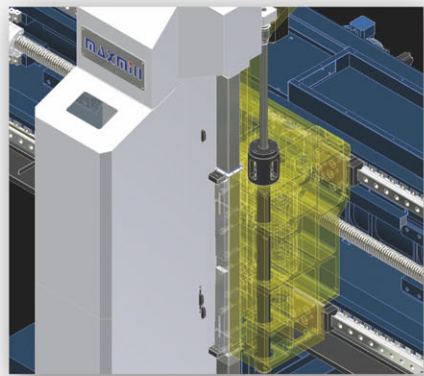
## HIGH RIGIDITY TABLE

The table is double-wall constructed to enhance its rigidity and effectively increases machining stability



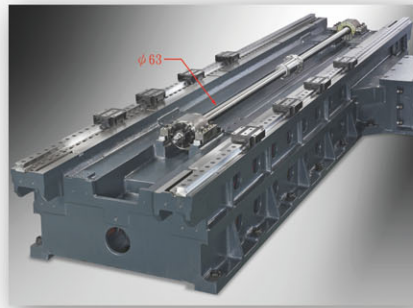
## X, Y-AXIS LINEAR WAYS Z-AXIS BOX WAYS

- » The X and Y-axis are mounted with high speed heavy duty linear ways; while the Z axis is box guide way designed for heavy load.
- » The Z-axis is designed with box ways to ensure outstanding stability during cutting.



## OVERSIZED BALL SCREWS

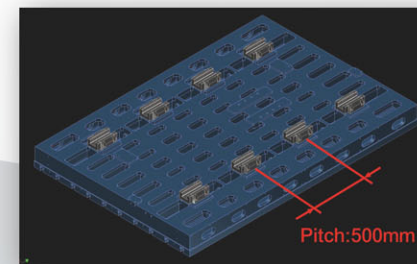
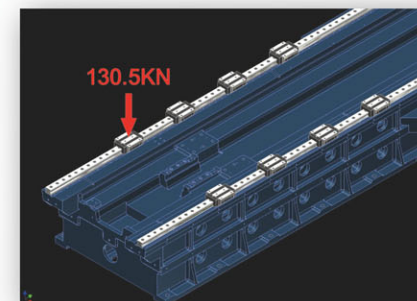
The X and Y axes are transmitted through  $\Phi 63$ mm oversized ball screws to achieve the highest transmission rigidity.



## ROLLER TYPE SLIDE BLOCKS

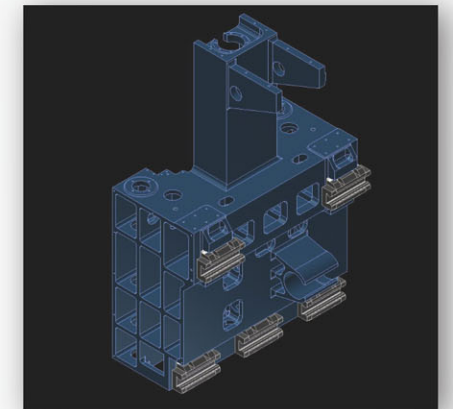
The machine is fitted with heavy duty roller type slide blocks. Distance between slide blocks is 500 mm.

- » The rated dynamic loading capacity is 130.5 kN.
- » 8 blocks layout for model with 2-meter door width.
- » 12 blocks layout for model with 3-meter door width.



## POWERFUL GEAR-DRIVE HEAD

The saddle is equipped with 5 slide blocks to enhance cutting capacity of the z-axis.



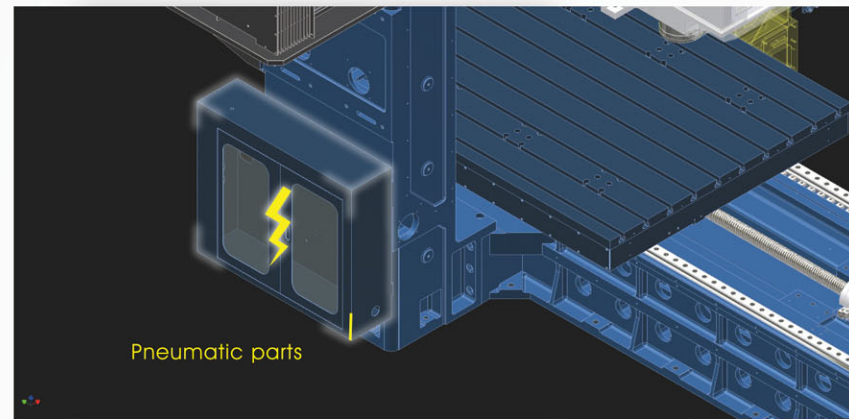
## OPERATION BOX

The ergonomic design of the operation box provides added convenience of operation.



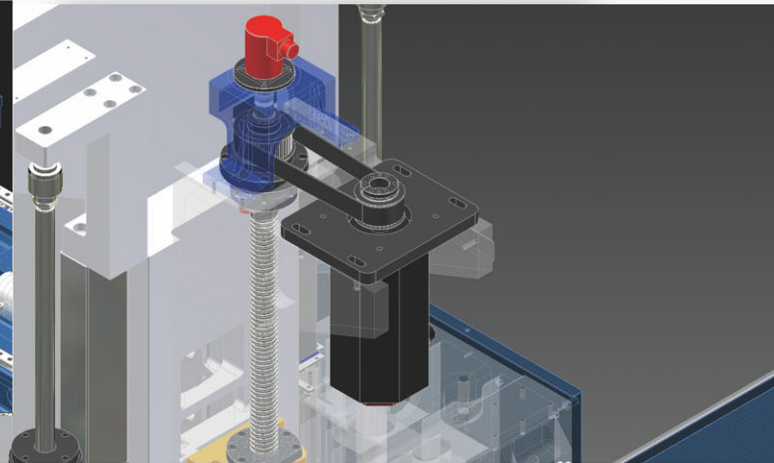
## CENTRALIZED PNEUMATIC COMPONENTS

The pneumatic parts are deployed together for convenient air regulating and easy maintenance.



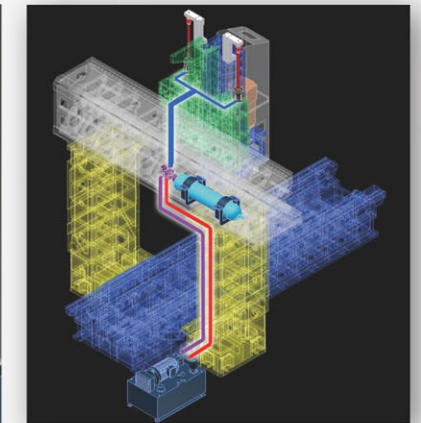
## ABSOLUTE POSITIONING CONTROL

The 3 axes are installed with external position encoder, providing a close-loop positioning control, effectively eliminates the flexible error caused by the increased gear ratio transmission design.



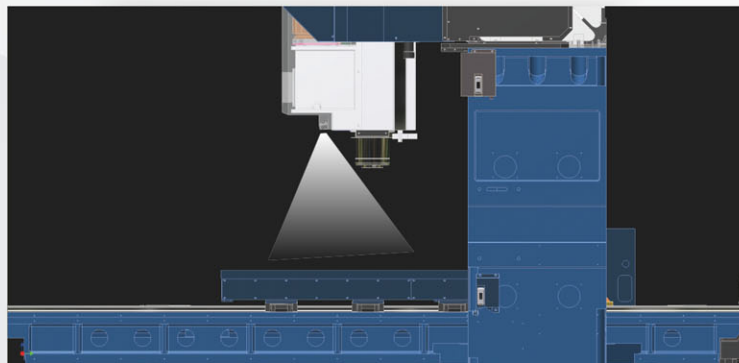
## TWO HYDRAULIC CYLINDERS FOR COUNTER-BALANCE

The Z-axis feed is counter-balanced by two hydraulic cylinders actuated by a combination of hydraulics and gas. Automatic counter-balance adjustment assures high accuracy.



## LED WORKING LAMP

» The LED lamp features high brightness, long life and is water-proof. It meets IP 67 protection grade.

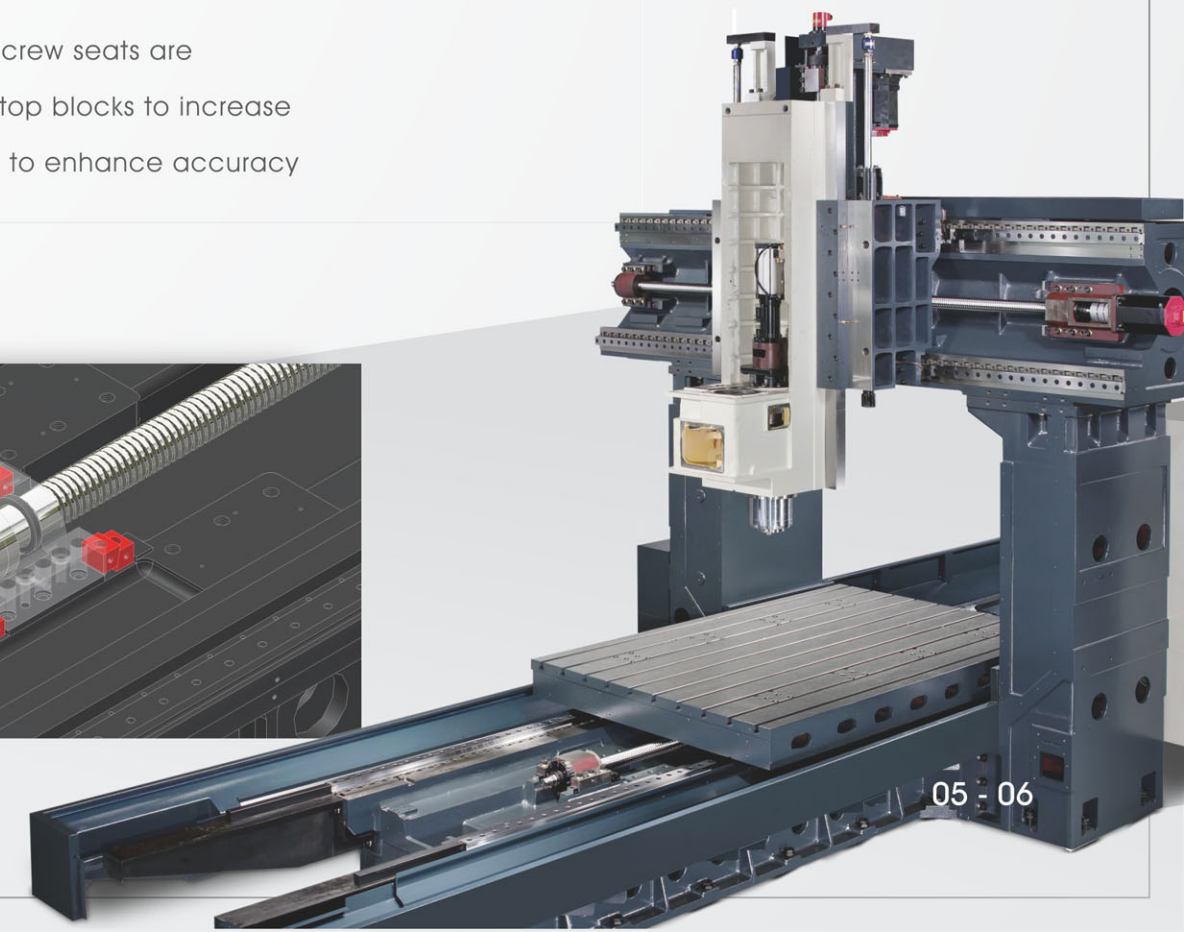
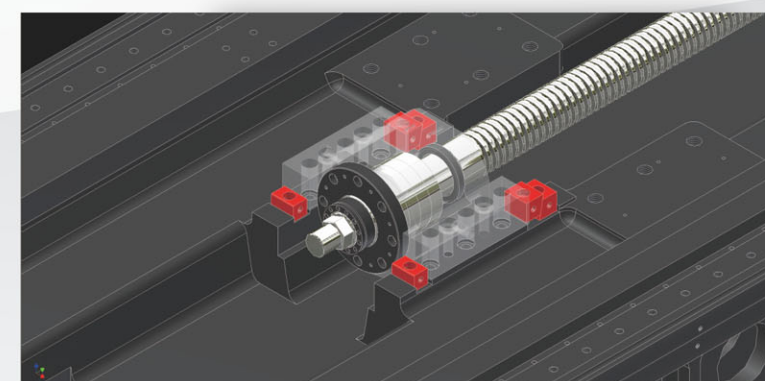


## HIGH STRENGTH STOP BLOCKS

» The working lamp is directly mounted above the spindle providing a clearer operating space.

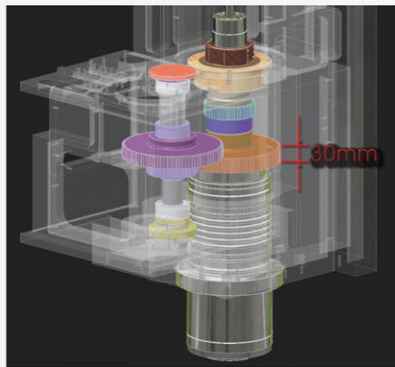


The 3 axes ball screw seats are supported with stop blocks to increase axial rigidity and to enhance accuracy stability.



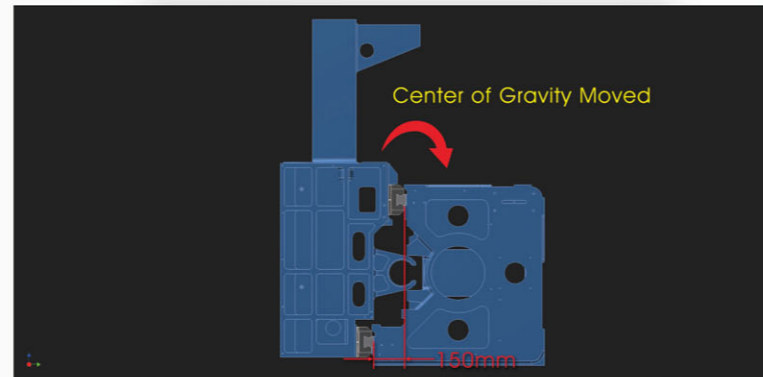
## POWERFUL GEAR-DRIVE HEAD

The spindle head is driven by a powerful gearbox with 30 mm thick gear (conventional gear thickness is 20-25 mm) that aids heavy cutting capability.



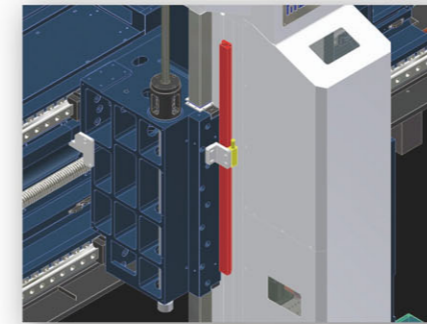
## STEPPED CROSS BEAM

The sideways on the cross beam is deployed in step format, capable of sustaining heavy load, and increasing axial motion stability.



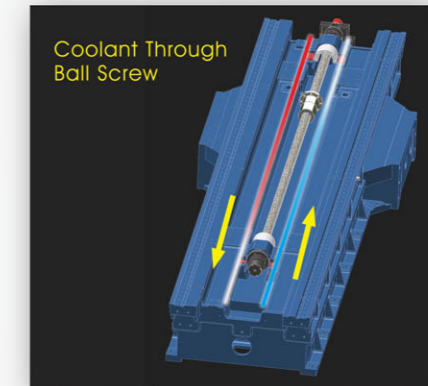
## LINEAR SCALES ON THREE AXES (OPTIONAL)

The three axes are available to equip with Heidenhain or Fagor linear scales to achieve higher positioning accuracy.



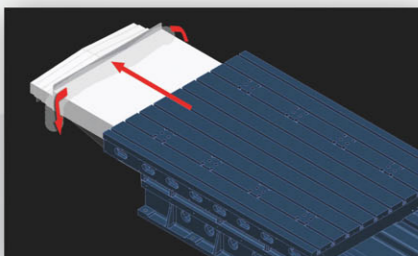
## COOLANT THROUGH BALL SCREW

The ball screws on the three axes are cooled by a coolant through ball screw device. This avoids thermal deformation on the ball screw caused by thermal growth, making the machine suitable for high precision machining.



## COOLANT STOP PLATE ON X-AXIS

The telescopic guard on X-axis is equipped with an additional plate that reduces the possibility of chips and coolant entering into the machine interior.



## VOLUMETRIC LUBRICATION SYSTEM

The centralized volumetric lubrication system features pressure detection to prevent oil blockage and to avoid severe wearing-out caused lubrication failure.



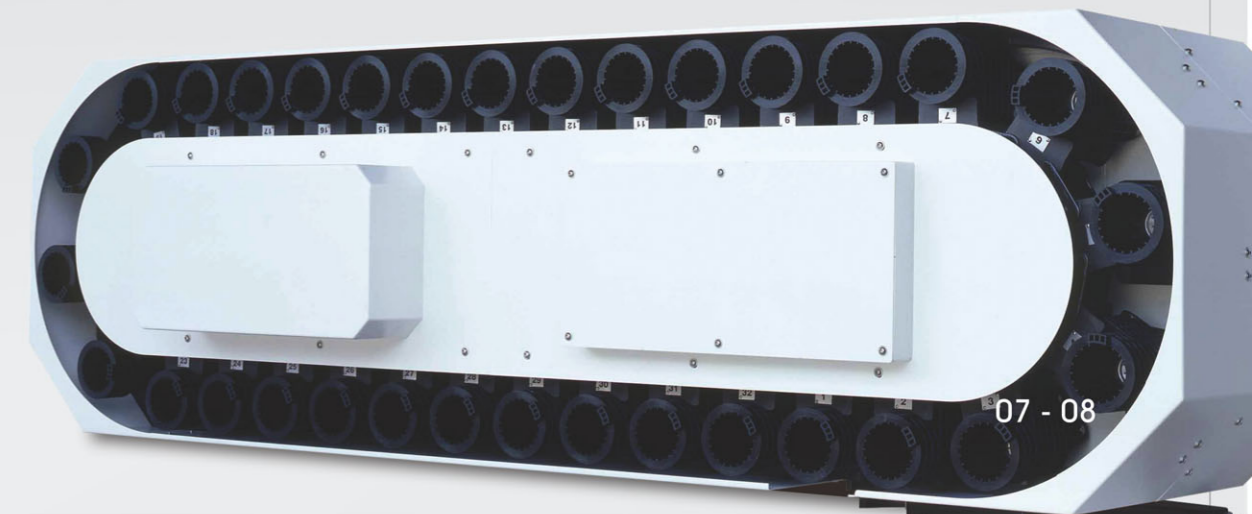
## SIDE-MOUNTED CHAIN TYPE ATC

32 tools (Standard)  
40 / 60 tools (Optional)

» The ATC with automatic door is independently mounted to avoid splashes from cutting chips or coolant.

» The magazine accommodates BT 50 tool shank.

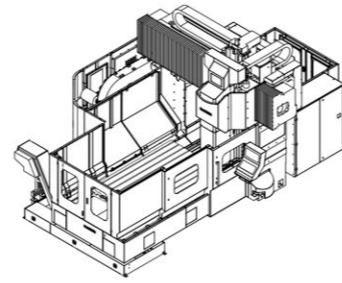
» Random tool selection allows tool change to be accomplished quickly in only 8 seconds.



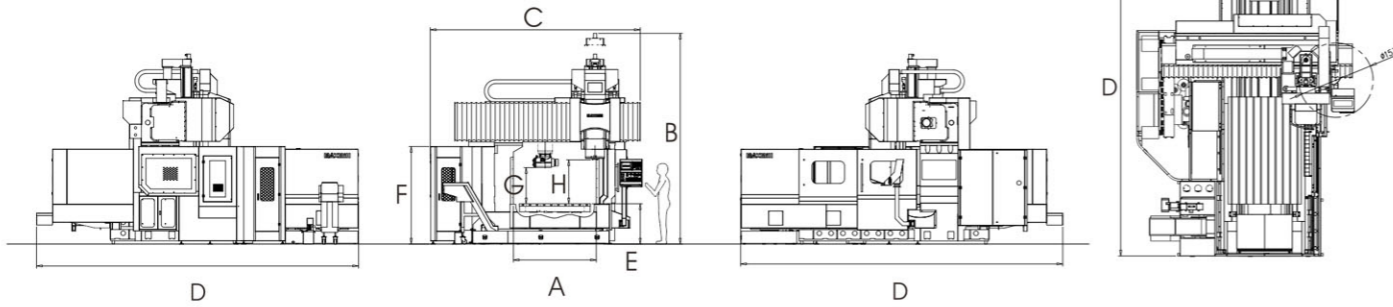
## MACHINE DIMENSIONS

Unit: mm

TREX SERIES	Z-AXIS STROKE	A BETWEEN TWO COLUMNS	B M/C HEIGHT	C WIDTH	D M/C LENGTH	E TABLE TO GROUND	F HEIGHT	G BOTTOM OF 90° ANGULAR HEAD TO TABLE (HORIZONTAL)	H SPINDLE TO TABLE TOP (VERTICAL)
BMC-2217		1700		4435	6800				
BMC-2220	850	2000	4535	4735		850	2060	-110~740	200~1050
BMC-3217	(opt.1050)	1700	(opt.4935)	4435	8800			(-110~940)	(opt.200~1250)
BMC-3220		2000		4735					



\*\*\* The height listed in the table is standard dimension.  
Please contact Maxmill staff for any special size needed.



## THREE-AXIAL MACHINING RANGE

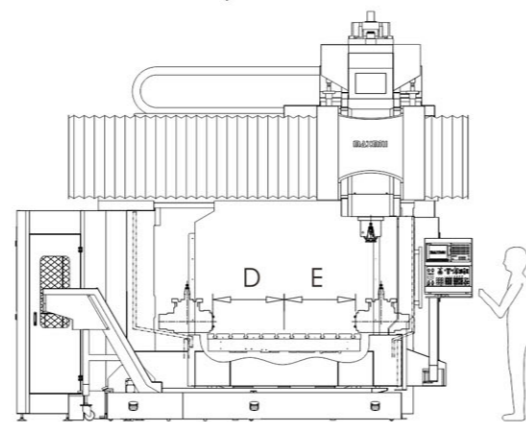
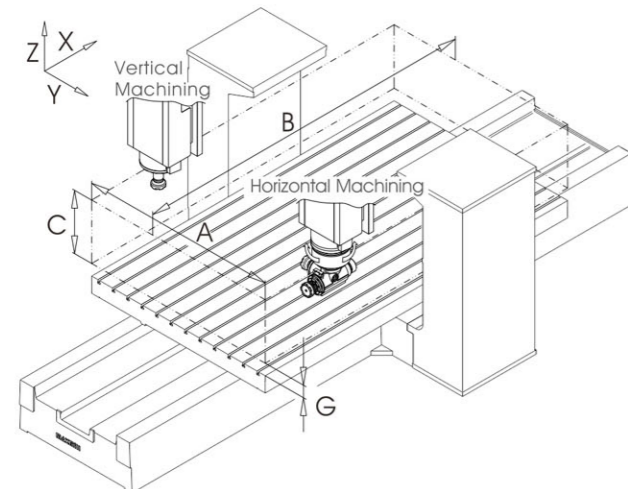
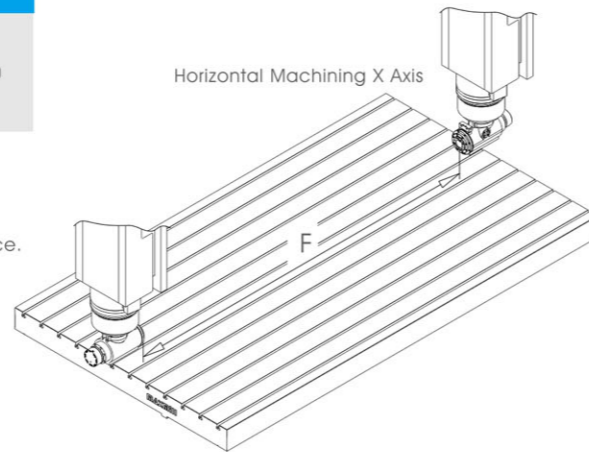
Unit: mm

TREX SERIES	VERTICAL WORKING AREA			HORIZONTAL WORKING AREA					
	A	B	C	C	D	E	F	G	
BMC-2217	1700		200~1050	120~850	700	700		1700	
BMC-2220	2000	2200	(opt.200)	(opt.120)	850	850			120
BMC-3217	1700		1250	1050	700	700		2700	
BMC-3220	2000	3200			850	850			

### Remarks:

- \* The working range varies depends on the optional equipment selected. Please contact Maxmill sales staff for further information.
- \*\* The height of working dimension is the distance from spindle nose to table surface. The actual high varies depends on the tool length.
- \*\*\* Distance D, E: Between spindle nose and table surface.
- \*\*\*\* Please contact Maxmill sales staff for the definition of "D, E" distance.

Horizontal Machining X Axis



## DOUBLE COLUMN MACHINING CENTER SPECIFICATION: (X, Y AXIS: LINEAR GUIDE WAY; Z AXIS: BOX WAY)

TRAVEL		BMC-2217	BMC-2220	BMC-3217	BMC-3220
X axis	mm	2,200	2,200	3,200	3,200
Y axis	mm	2,050	2,350	2,050	2,350
Z axis	mm	850 (opt. 1050)	850 (opt. 1050)	850 (opt. 1050)	850 (opt. 1050)
Spindle nose to table	mm	200~1,050(200~1,250)	200~1,050(200~1,250)	200~1,050(200~1,250)	200~1,050(200~1,250)
Distance between spindle center to bridge	mm	550	550	550	550
Door width	mm	1,700	2,000	1,700	2,000

SPINDLE		BMC-2217	BMC-2220	BMC-3217	BMC-3220
Spindle speed	rpm	50~6,000	50~6,000	50~6,000	50~6,000
Spindle motor max. rating	kw	18.5 (OPT. 26)	18.5 (OPT. 26)	18.5 (OPT. 26)	18.5 (OPT. 26)
Motor for 3 axes	kw	7/7/7	7/7/7	7/7/7	7/7/7
Taper size		BT-50	BT-50	BT-50	BT-50

TABLE		BMC-2217	BMC-2220	BMC-3217	BMC-3220
Working area	mm	2,200 x 1,500	2,200 x 1,800	3,200 x 1,500	3,200 x 1,800
Max. loading	kgs	8,000	8,000	10,000	10,000
T-Slots (No.x Width x Pitch)	mm	10 x 22 x 150	12 x 22 x 150	10 x 22 x 150	12 x 22 x 150

FEED RATES		BMC-2217	BMC-2220	BMC-3217	BMC-3220
Rapid on X/Y/Z axis	m/min	20/20/15	20/20/15	20/20/15	20/20/15
Cutting feedrate	m/min	10	10	10	10

TOOL MAGAZINE		BMC-2217	BMC-2220	BMC-3217	BMC-3220
Tool number		32 (OPT. 40/60)	32 (OPT.40/60)	32 (OPT. 40/60)	32 (OPT.40/60)
Max. tool diameter	mm	127	127	127	127
Max. tool weight	kgs	15	15	15	15
Max. tool length	mm	300	300	300	300
Tool to tool (change time)	sec	8	8	8	8

ACCURACY		BMC-2217	BMC-2220	BMC-3217	BMC-3220
Positioning	mm	JIS ± 0.005/300	JIS ± 0.005/300	JIS ± 0.005/300	JIS ± 0.005/300
Repeatability	mm	±0.003/300	±0.003/300	±0.003/300	±0.003/300

OTHERS		BMC-2217	BMC-2220	BMC-3217	BMC-3220
Air source required	kg/cm <sup>2</sup>	6	6	6	6
Machine weight	kg	24,000	25,500	27,500	29,000
Power source required	KVA	50	50	50	50
Floor space (L x W x H)	mm	6,800 x 4,435 x 4,535	6,800 x 4,735 x 4,535	8,800 x 4,435 x 4,535	8,800 x 4,735 x 4,535

\*Specifications are subject to change without notice.

\*The color shown on machine in the catalogue is for reference only. Check the actual product for correct machine color.

### Standard Accessories

- » Fanuc Oi-MD controller
- » Spindle 6000rpm (Gear)
- » Automatic lubricating system
- » Twin screw and one link chip conveyor with tank
- » Heat exchanger for electric cabinet
- » Foot switch for tool clamping / unclamping
- » 32 tools arm-type tool change
- » Spindle oil cooler
- » Full splash guard
- » Air blow for chip (M code)
- » X/Y linear guideway (roller type)
- » Coolant gun & air socket
- » Foundation bolt kit
- » Manual & pulse generator (MPG)
- » Work light
- » Rigid tapping
- » Coolant system and tank
- » Operation cycle finish and alarm lights
- » RS-232 interface
- » Tool box
- » Oil skimmer
- » Maintenance and operational manual
- » Twin hydraulic counter weight cylinders

### Optional Accessories

- » Controller (Heidenhain, Seimens, Mitsubishi)
- » Z axis travel up to 1050mm
- » ATC (24, 40, 60 tools)
- » Spindle 8000 / 10000 rpm (Direct-Drive)
- » 26KW spindle motor upgrade (for Fanuc)
- » Ball screw cooling system (X/Y/Z axis)
- » Manual 90° angular head
- » Manual universal head
- » Auto tool length measurement
- » Auto workpiece measurement system
- » Coolant through spindle
- » Linear scales (Heidenhain / Fagor)
- » CNC rotary table & tail stock
- » Data Server