



SANCO



CNC Double Column Machining Center Series
SDM-1714(L)~7235(L)



High Precision Horizontal Boring & Milling Machine Series
SHM-1200 / 1400 / 1800 / 1960



CNC High Precision Horizontal Boring & Milling Machine Series (with W-axis)
SHM-11025 / 11030 / 11040
SHM-13030 / 13040
SHM-11025R / 11030R / 11040R
SHM-13030R / 13040R
SHM-11020RF (fix column)



CNC Bed Type Universal Milling Machine Series
SBM-2000L / 2600L / 3000L / 3500L



CNC Five Face Machining Center Series
S5F-4530 / 5530 / 7230
S5F-4535 / 5535 / 7235



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SHM Series

CNC HORIZONTAL BORING & MILLING MACHINE

FORTEX

2009.08.1000 copies

Quality Features to Help Users Stay Ahead

With over 20 years of design and manufacturing experience in conventional as well as CNC boring and milling machines, SANCO offers a wide range of machines from small to big models for customers to choose from. SANCO machines are ruggedly constructed to assure maximum rigidity and stability during boring and milling operations. SANCO employs high precision indexing for each machine to provide the high machining accuracy you've come to expect.

State-of-the-Art Manufacturing Techniques

SANCO CNC Boring and Milling Machines are assembled by our highly skilled technicians who pay special attention to every detail during assembly. Each machine is tested, undergoes quality control and is then retested to meet the highest standards of quality and performance.

SANCO CNC Boring and Milling Machines... Guaranteed Accuracy! Maximum Stability!

The machine has been modified, therefore this cover is no longer required. Please see page 7 for the current design.



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SHM-630/630L

SHM-630

CNC Horizontal Boring and Milling Machine

- Standard table size: 630 x 630 mm.
- Optional table sizes: 700 x 700 mm or 700 x 900 mm.
- X / Y / Z-axis travel: 1,200 / 950 / 800 mm (all box way).
- Indexing step 5° / 72 positions (1° / 360 indexing as option).
- 40 tools chain type magazine (60 tools as option).
- FANUC 21iMB controller.

The machine has been modified, therefore this cover is no longer required. Please see page 7 for the current design.



- Additional pendant type control panel as option.

The machine has been modified, therefore this cover is no longer required. Please see page 7 for the current design.



SHM-630L

CNC Horizontal Boring and Milling Machine

- Linear guide ways on X / Z-axes.
- Standard table size: 630 x 630 mm.
- Optional table sizes: 700 x 700 mm or 700 x 900 mm.
- X / Y / Z-axis travel: 1,200 x 950 x 800 mm.
- Indexing step 5° / 72 positions (1° / 360 indexing as option).
- 40 tools chain type magazine (60 tools as option).
- FANUC 21iMB controller.
- Please see page 8 for example of machine with splash guards.

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SHM-630/630L



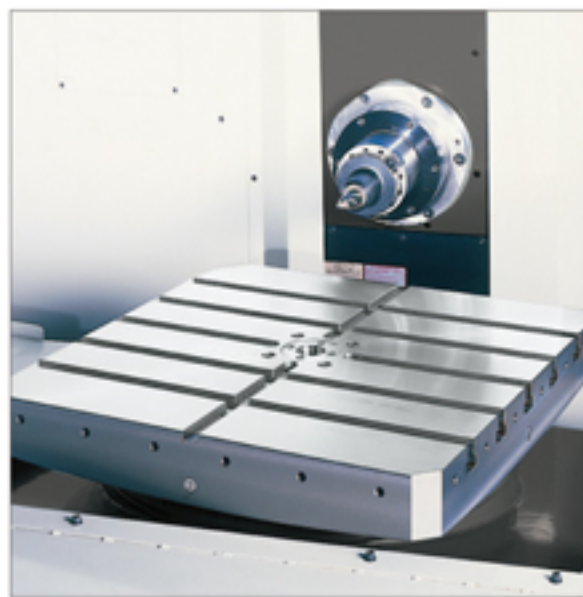
Side-mount Chain Type Magazine: 40 or 60 Tools

- The SHM-630 and SHM-630L are equipped with a 40-tool chain type magazine as standard.
- 60-tool chain type magazine is optional for increased productivity.
- Bi-directional, random tool selection permits fast tool change in only 14 seconds (tool to tool).
- The chain type magazine accommodates BT-50 or ISO-50 tool shank.



Ergonomic, Pendant Type Auxiliary Control Panel

- The additional pendant type control panel is designed to facilitate workpiece setup and running test.
- The control panel is easy to move in any operational position.



Indexing Rotary Table

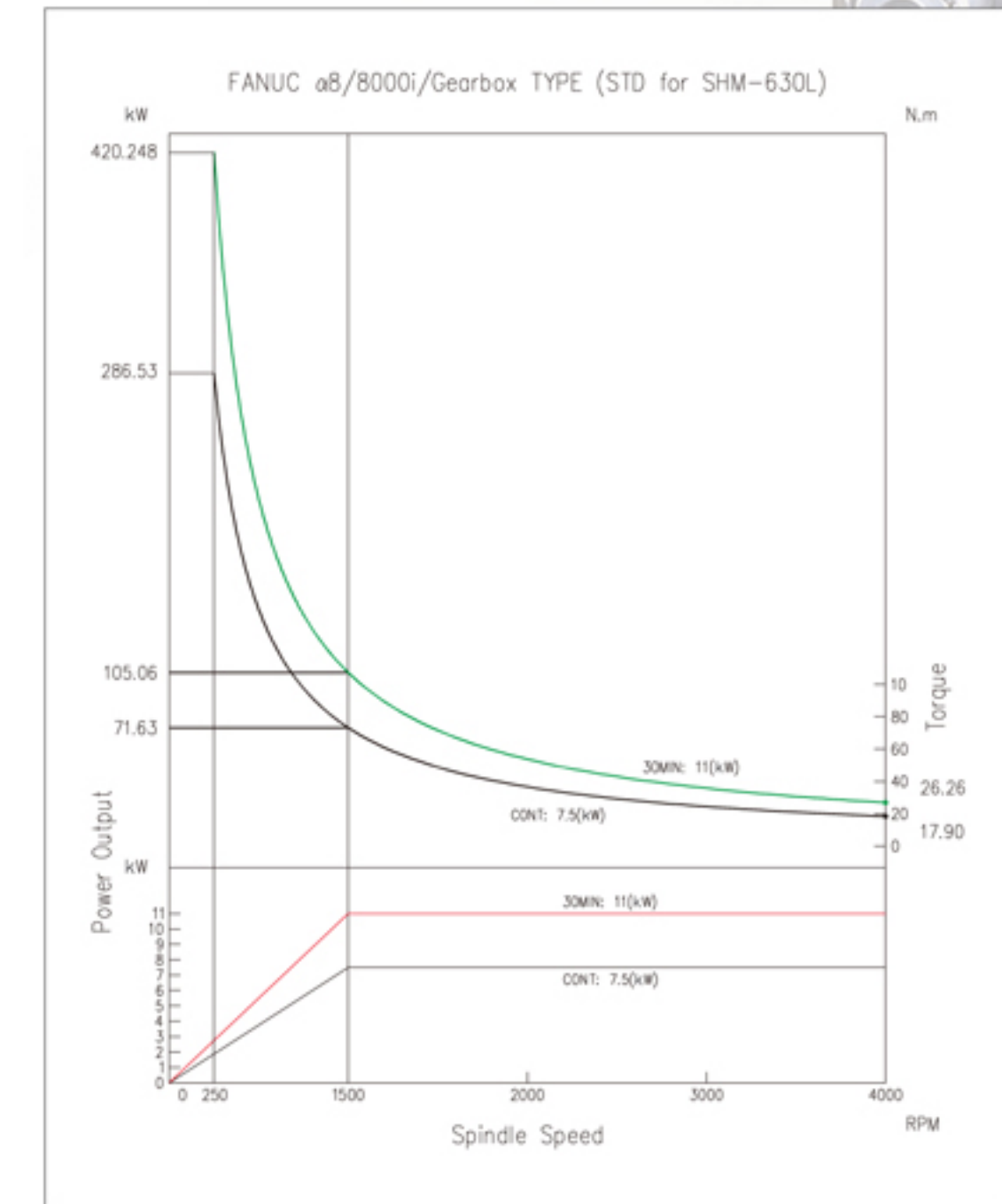
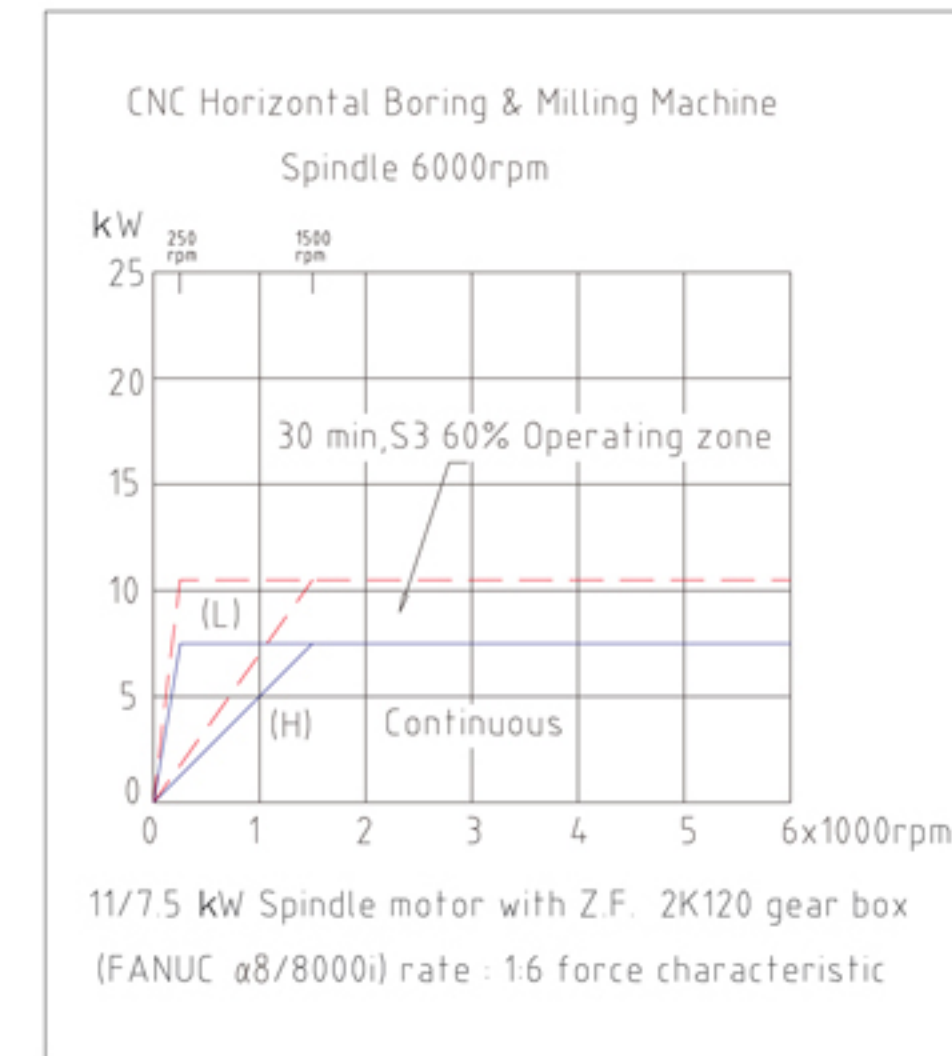
- This high precision rotary table provides outstanding axial indexing accuracy in 5° / 72 positions (1° / 360 indexing as option).
- 630 x 630 mm large table area allows for loading heavy workpieces of up to 1,500 kgs without sacrificing the indexing accuracy.
- Table with five 20 mm T-Slots, 100 mm apart and one 20 mm T Slot across.



Extra Large Working Space

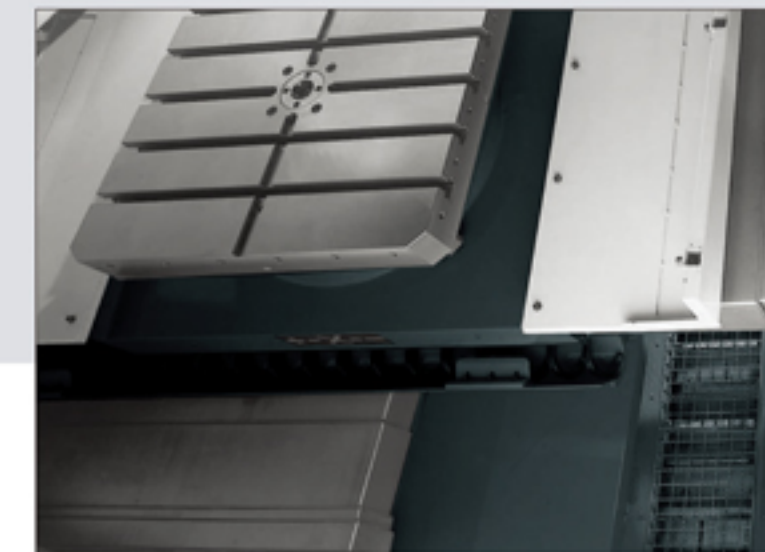
- SANCO SHM-630 and SHM-630L are specially designed for extra large internal space.
- This increases convenience during loading and unloading heavy workpieces.

Spindle Motor Torque Diagram



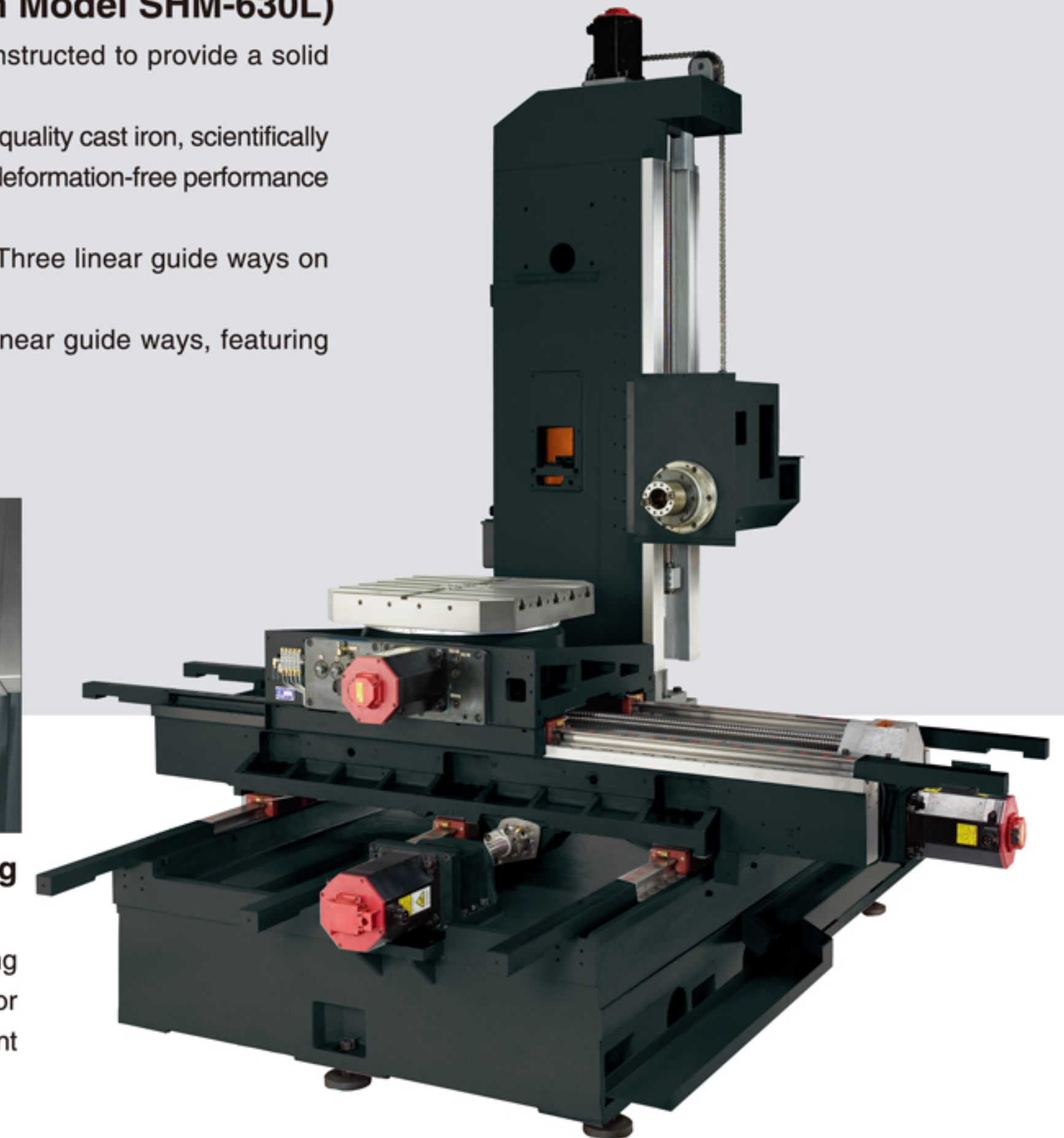
Rigid, Box Type Base (on Model SHM-630L)

- The box type base is ruggedly constructed to provide a solid support for heavy loads.
- The base is manufactured from high quality cast iron, scientifically rib reinforced and stress relieved for deformation-free performance year after year.
- Two linear guide ways on X-axis. Three linear guide ways on Z-axis.
- The X / Z-axes utilize roller type linear guide ways, featuring exceptional precision and rigidity.



Outstanding Chip Removing Design

The specially designed chip removing system not only keeps a clean interior but also saves time that would be spent on manually removing chips.



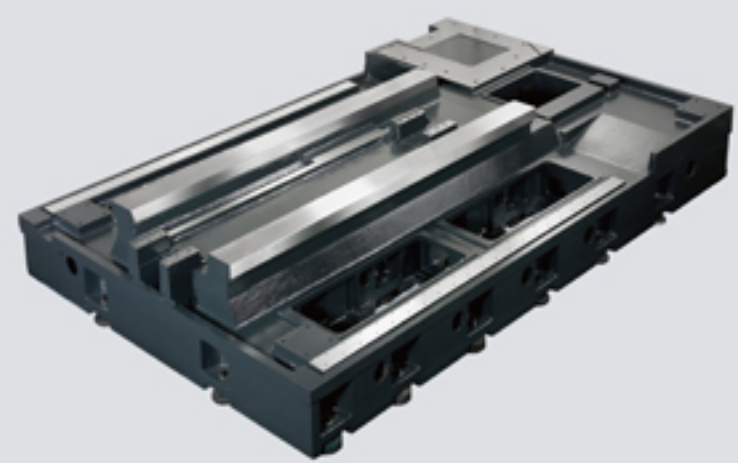
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SHM-800/800L

SHM-800

CNC Horizontal Boring and Milling Machine

- Additional slideways at both sides of the base greatly increases stability for heavy loads.
- Standard table size: 800 x 800 mm x 1° indexing.
- Optional tables sizes of 1,000 x 800 mm x 1° indexing or 1,000 x 1,000 mm x 1° indexing.
- X / Y / Z-axis travel: 2,000 / 1,100 / 1,200 mm.
- 40 tools chain type magazine (60 tools as option).



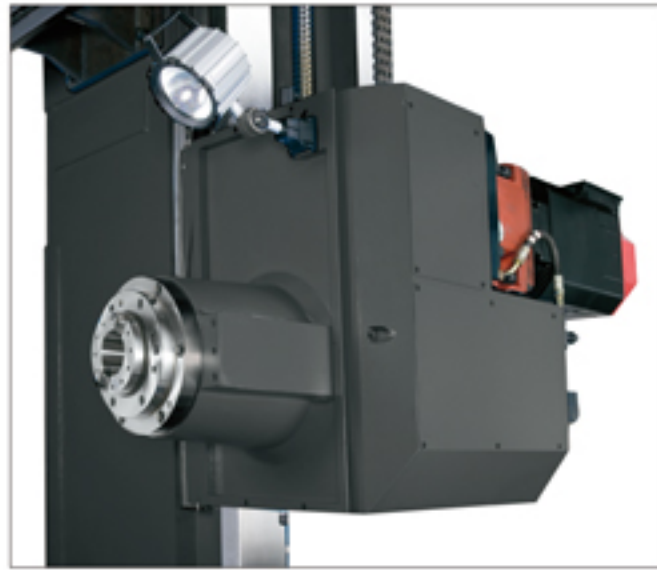
- Optional: one-piece base, dual main rails + dual auxiliary rails.



SHM-800L

CNC Horizontal Boring and Milling Machine

- Linear guide ways on X, Z-axis.
- Standard table size: 800 x 800 mm x 1° indexing.
- Optional table sizes of 1,000 x 800 mm x 1° indexing or 1,000 x 1,000 mm x 1° indexing.
- X / Y / Z-axis travel: 1,600 x 1,180 x 1,000 mm.
- 40 tools chain type magazine (60 tools as option).
- Picture above shows machine with splash guards.



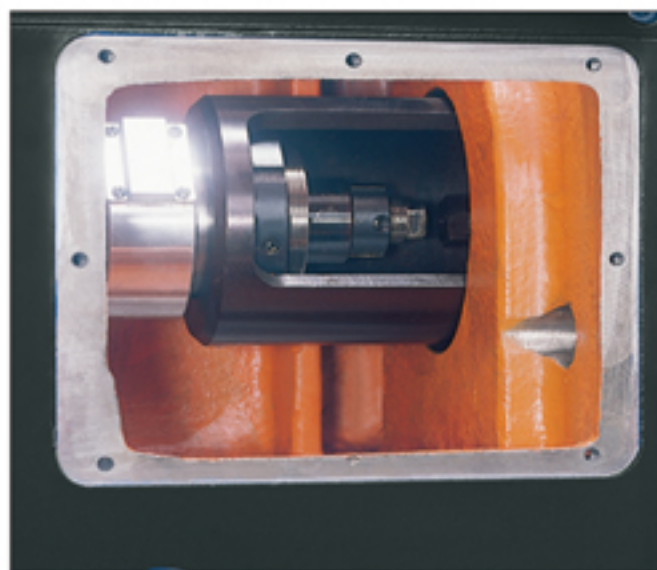
Rigid Spindle Head

- The compactly constructed spindle head reduces interference to a minimum during boring operation.
- The distance between the spindle nose and the table center is only 225mm. This results in higher stability during machining.
- The spindle head is equipped with a ZF gear box, providing higher torque output.



High Precision Spindle

- The spindle is machined from high quality alloy steel and runs on high precision bearings. The rigid, precise spindle makes the machine excellent for boring operations.
- An oil cooler is equipped to ensure the spindle runs at a constant temperature with reduced temperature generation.
- Three types of spindles to choose from: 2,500, 4,000 and 6,000 rpm.



Floating Type Tool Release

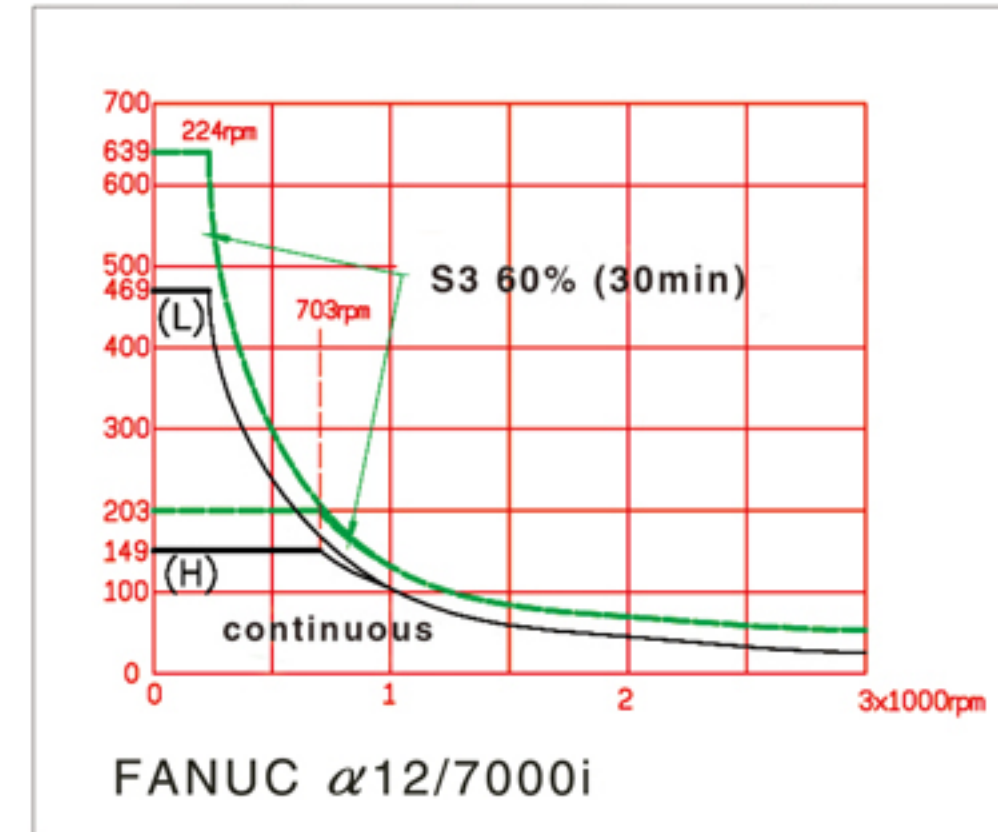
With the floating type tool releasing feature, the spindle bearings are not damaged by an impact force when releasing the tool. This ensures the spindles accuracy and protects the bearings.



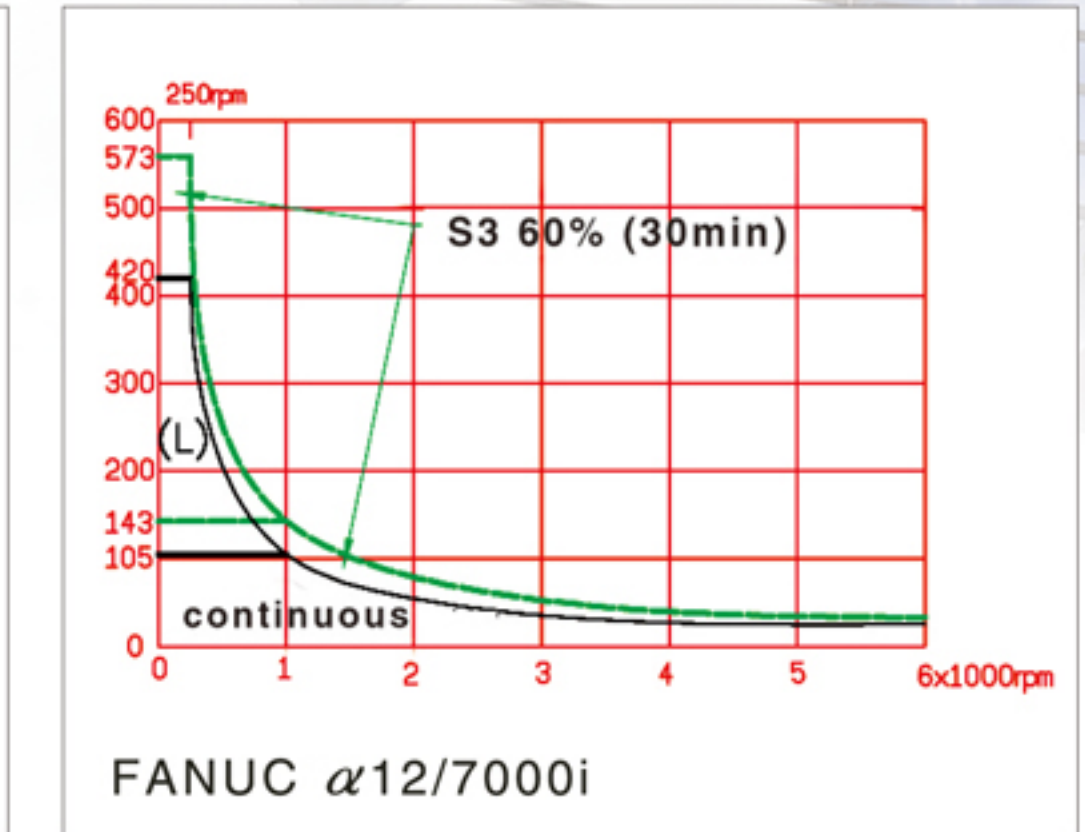
Chain Type Magazine

The chain type magazine provides various tool numbers to choose from such as 40 and 60 tools.

SHM-800 / 800L Spindle Motor Torque Diagram 2,500rpm spindle speed. (Gear Box)



4,000rpm spindle speed. (ZF)

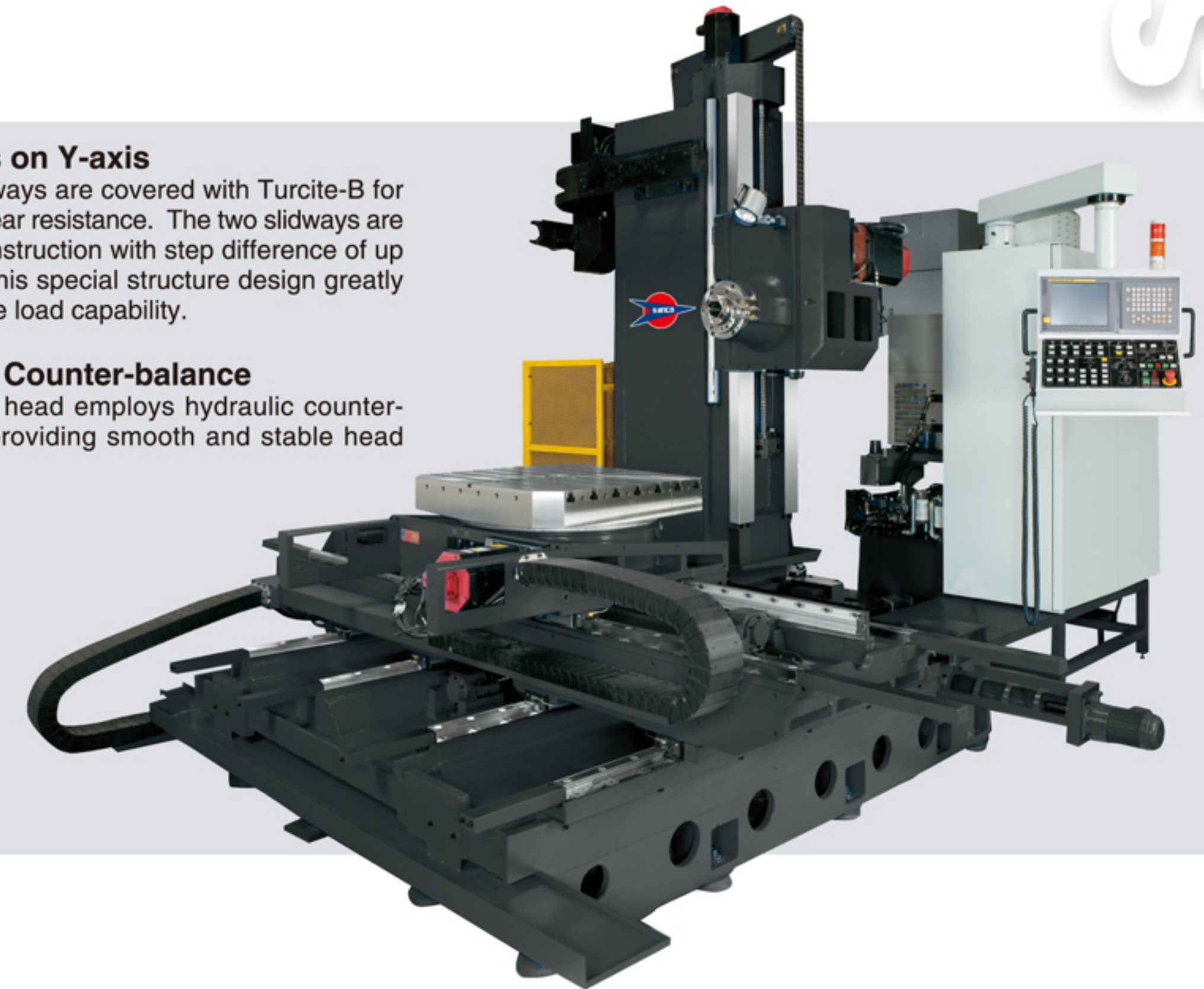


Box Ways on Y-axis

Y-axis slideways are covered with Turcite-B for maximum wear resistance. The two slideways are of a step construction with step difference of up to 70 mm. This special structure design greatly increases the load capability.

Hydraulic Counter-balance

The spindle head employs hydraulic counterbalancing, providing smooth and stable head movement.



Outstanding Structure Design for Guaranteed Stability (on Model SHM-800L)

- All structural parts are ruggedly constructed, combined with heavy rib reinforcement. The outstanding machine structure design guarantees exceptional rigidity and stability.
- 4 linear guide ways on Z-axis provide extra firm support for heavy loads.
- The machine structure features oil fluid separation to avoid fluid deterioration.
- Three axes travels are fully supported without overhang problem.
- X / Z-axes utilize Japanese THK-NRS type linear guide ways which feature high rigidity and low friction resulting in longer machine life and lifetime accuracy.

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SHM-1200NC/1800NC/1800NCX

SHM-1200NC

CNC Horizontal Boring and Milling Machine

- X / Y / Z-axis travel: 1,200 / 1,100 / 800 mm.
- Table size: 1,100 x 800 mm.
- Table loading capacity: 1,500 kgs.
- 40 tools chain type magazine (60 tools as option).
- FANUC 21iMB controller (Picture below shows Meldas M64 Controller).



- Optional: one-piece base, dual main rails + dual auxiliary rails.



SHM-1800NCX

CNC Horizontal Boring and Milling Machine

- X / Y / Z-axis travel: 1,800 / 1,200 / 1,200 mm.
- Table sizes: 1,500 x 800 mm.
- Table loading capacity: 2,000 kgs.
- 40 tools chain type magazine (60 tools as option).
- 11/15 kW powerful spindle motor.
- FANUC 21iMB controller.

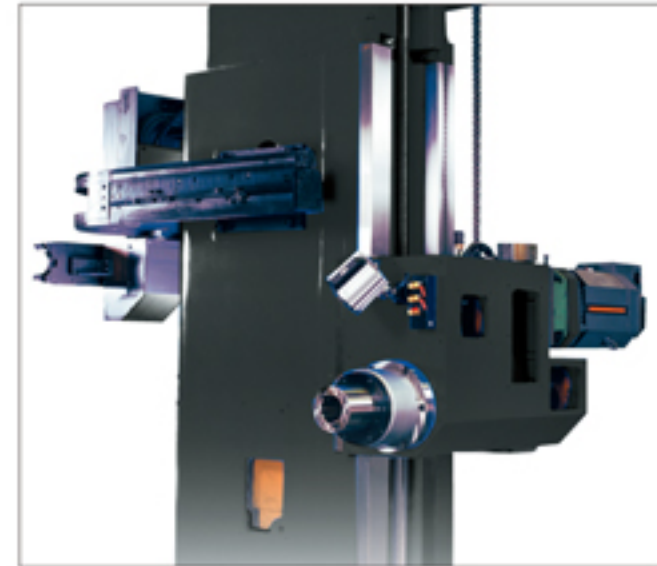
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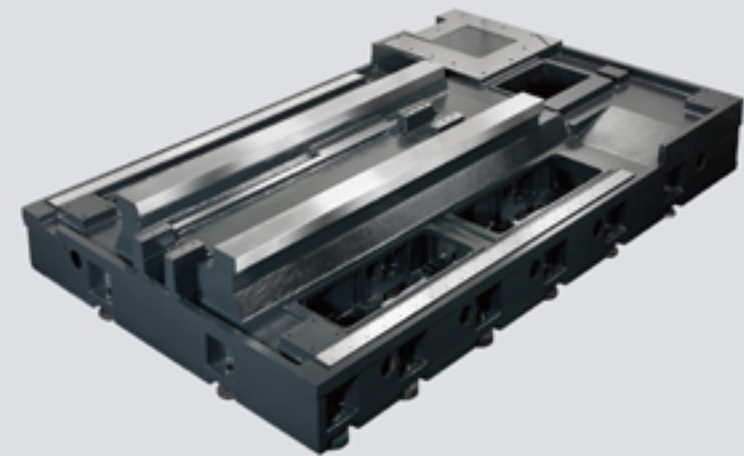
SHM-1200NC/1800NC/1800NCX

SHM-1800NC

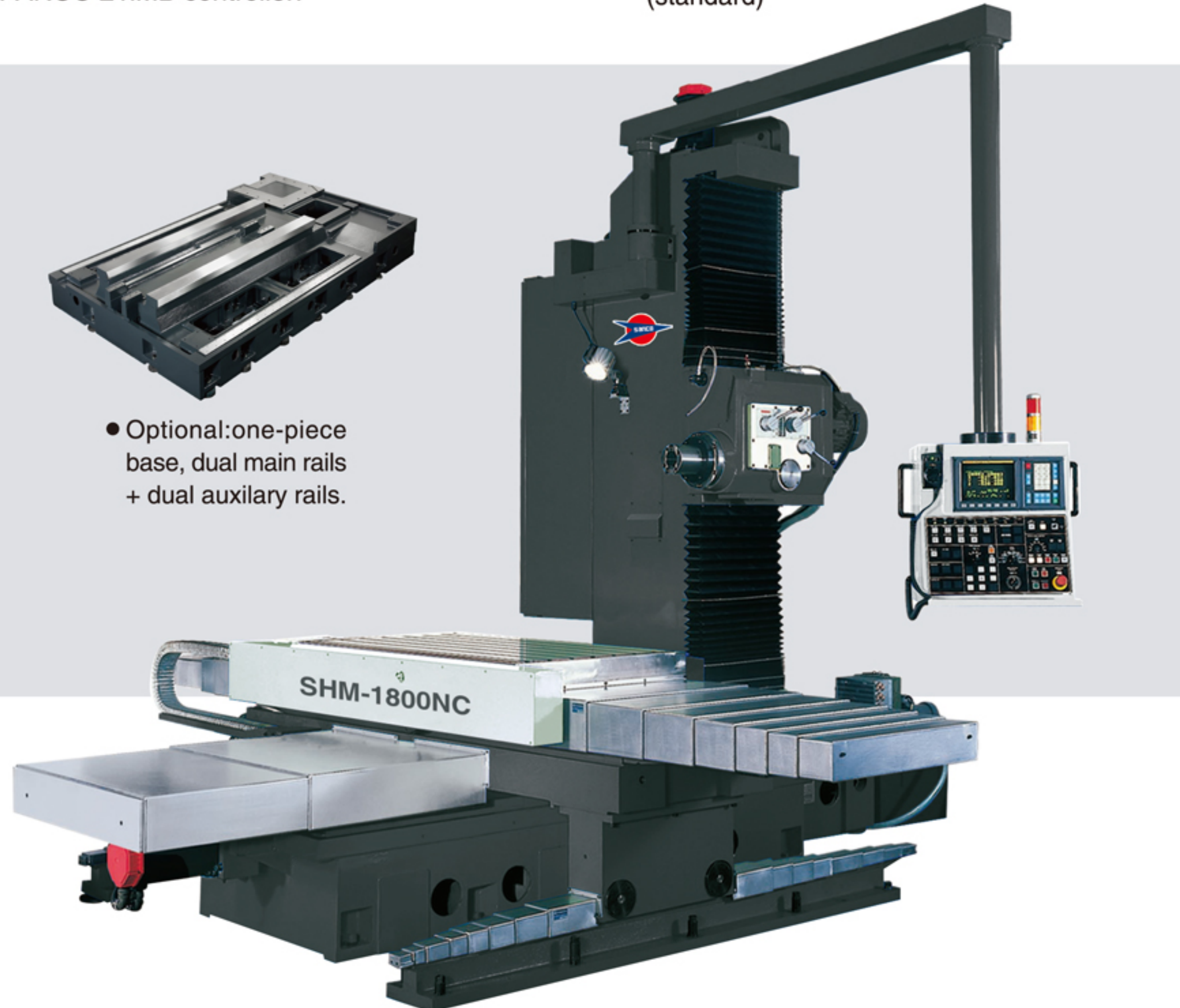
- X / Y / Z-axis travel: 1,800 / 1,300 / 1,200 mm.
- Table size: 1,500 x 800 mm.
- Table loading capacity: 2,000 kgs.
- Compact spindle head with ZF gear box drive is standard. Choice of 4,000 or 6,000 rpm spindle.
- Conventional spindle head is available.
- FANUC 21iMB controller.



Compact Type Spindle Head (standard)



- Optional: one-piece base, dual main rails + dual auxiliary rails.



High Precision Spindle

The spindle features high precision and high rigidity. An oil cooler is equipped to maintain constant temperature during operation.



German ZF Gear Box

- The two speed range planetary gear box features extremely smooth running and great torque output in high and low speed ranges.
- The spindle is driven by a powerful motor and ZF gear box to achieve excellent machining performance.
- 1:4 gear ratio combined with minimum backlash feature to exhibit ultra smooth running at high speeds.

Spindle Oil Cooler

To ensure a constant temperature while running for long periods of time, the spindle oil cooler allows for temperature setting as desired to maintain the spindle accuracy at all times.

High Performance Electric Cabinet

The electric cabinet is equipped with a fully enclosed circulated heat exchanger which maintains a constant temperature in the electrical cabinet.

An air conditioner is available on request.

Electric wiring in the electrical cabinet meets international standards, increasing service life of the control components and safety.

High Pressure Automatic Lubrication System

The high pressure automatic lubrication system delivers 15 kgs/cm² of oil pressure.

The volumetric oil distributor delivers oil to separate lubrication points simultaneously, ensuring sufficient oil supply to every point.

A pressure sensor is provided to detect if any piping is broken or choked, thus assuring proper lubrication at each point.



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SHM-1200NC/1800NC/1800NCX



40 / 60 -Tool Chain Type Magazine

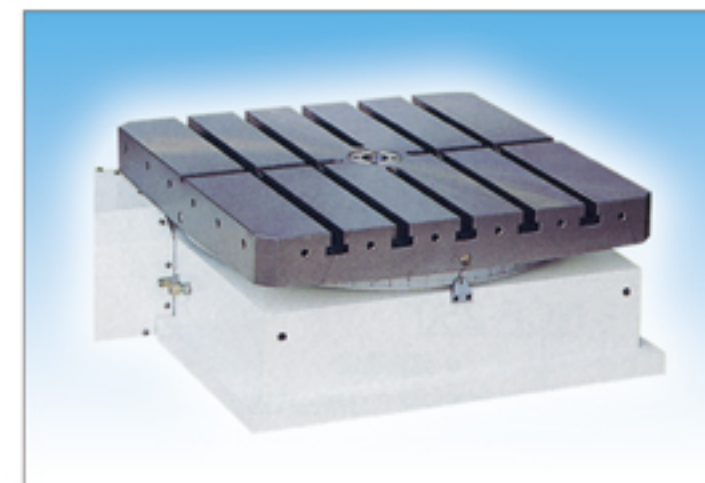
The side-mount chain type magazine features Bi-directional, random tool selection. Fast tool change can be accomplished in only 14 seconds (tool to tool). The chain type magazine accommodates BT-50 or ISO 50 tool shanks.

Optional Rotary Tables:



Manual Index Table

600 mm x 600 mm x 5° (1°)
700 mm x 700 mm x 5° (1°)
800 mm x 800 mm x 5° (1°)



CNC Index Table

630 mm x 630 mm x 5° (1°)
700 mm x 700 mm x 5° (1°)
800 mm x 800 mm x 5° (1°)
1,000 mm x 800 mm x 1°
1,000 mm x 1,000 mm x 1°



CNC Rotary Table

630 mm x 630 mm x 0.001°
700 mm x 700 mm x 0.001°
800 mm x 800 mm x 0.001°
1,000 mm x 800 mm x 0.001°
1,000 mm x 1,000 mm x 0.001°

Various State-of-The-Art CNC Controllers to Choose From



FANUC (21iMB / 18iMB)



Melder M64 / M65 / M700



Siemens 810D / 840D



HEIDENHAIN iTNC530



SELCA S3045 / S4045D

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SHM-Series

Machine Specifications

MODEL	單位	SHM-1200NC	SHM-1800NC	SHM-1800NCX
TABLE				
Size	mm	1,100 x 800	1,500 x 800	
Max. Loading	kg	1,500	2,000	
Height from Ground	mm	850	975	
TRAVELER				
X Axis Travel	mm	1,200 (1,400)	1,800	
Y Axis Travel	mm	1,100 (1,300)	1,300 (1,600)	1,200 (1,600)
Z Axis Travel	mm	800 (1,000)	1,200 (1,400)	
DISTANCE				
Spindle Nose to Table Center	mm	250~1,050 (1,250)	400~1,600 (1,800)	260~1,460 (1,660)
Spindle Center To Table	mm	100~1,200 (1,400)	100~1,400 (1,700)	160~1,360 (1,760)
SPINDLE				
Spindel Taper	mm	ISO-50 / BT-50		
Spindel Speed 2 Steps	rpm	20~4,000(30~6,000)		10~2,500 (4,000 / 6,000)
FEED RATE				
X/Y/Z Rapid Traverse	m/min	10 / 10 / 10		
Cutting Feed rate	mm/min	1 ~ 5,000		
Minimum Input	mm	0.001		
ATC				
No. of tools	tool	40 (60)		
Max. Tool Length	mm	350		
Max. Tool Weight	kg	18		
Max. Tool Diameter	mm	φ 125- φ 250 (With Adjacent Tool)		
Tool Selection		Random		
Tool Change Time	sec	14		
MOTORS				
Spindle Servo Motor	kW	7.5/11 (11 / 15)	11/15 (15 / 18.5)	
X/Y/Z Servo Motors	kW	3/3/4	3/3/3	
Lubricator Motor	kW	0.025		
Hydraulic Pump	kW	0.75		
Coolant Pump	kW	0.9		
MISCELLANEOUS				
Air Consumption	kg/cm ²	6		
Power Required	kVA	30	40	45
Hydraulic Tank Volume	ℓ	120	180	
Coolant Tank Volume	ℓ	300	400	
ACCURACY				
Positioning	mm	ISO 3070-2 0.022mm		
Repeatability	mm	ISO 3070-2 0.011mm		
Roundness	mm	0.02/300		
machine dimension				
Machine Outline	mm	3,900 x 3,150 x 3,130	4,300 x 5,600 x 3,450	4,300 x 5,600 x 3,500
Machine Weight	kg	8,000	12,000	13,000

★ () As Option ★ Specifications are subject to change without prior notice.

STANDARD ACCESSORIES:

- FANUC 21iMB as standard
- Spindle speed: 4000 rpm (ZF gear box)
- X / Y / Z-axes linear scales
- Spindle oil cooler
- Auto power off
- Hydraulic system
- Coolant system
- Lubricator system
- Alarm lamp

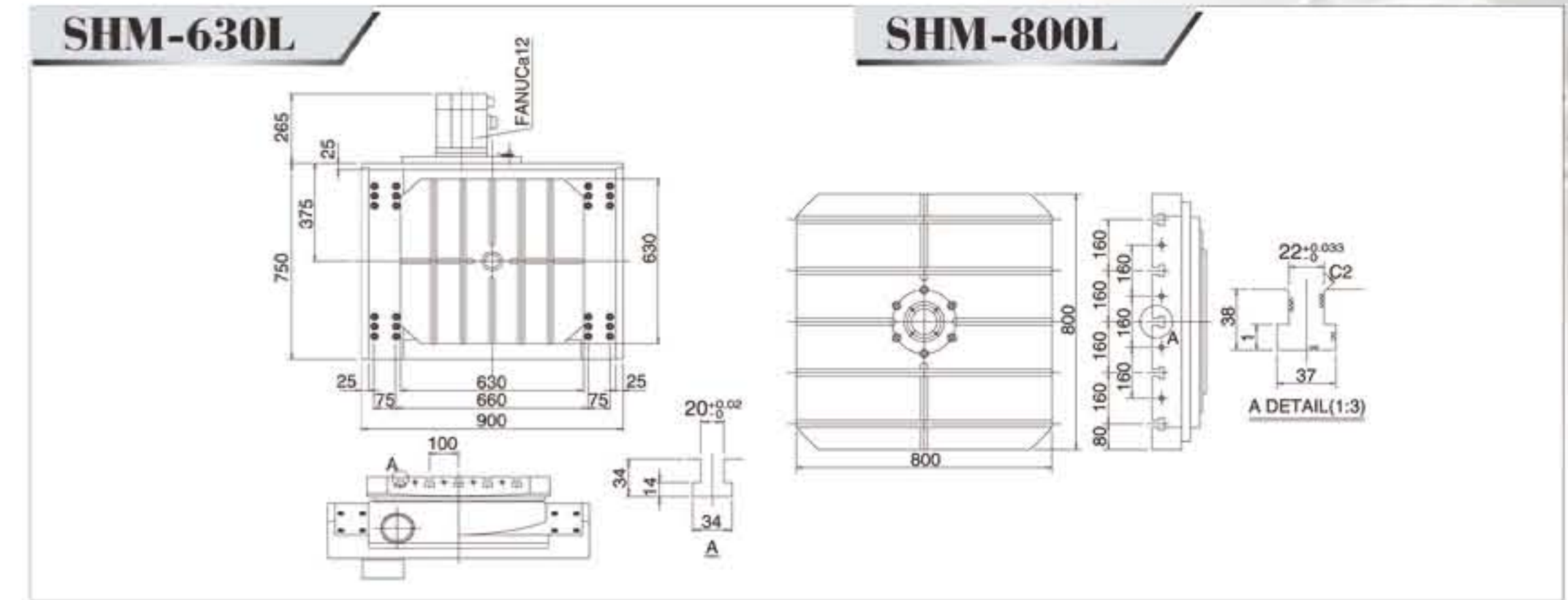
- Work lamp
- M.P.G.
- RS232C interface
- Heat exchanger
- Leveling bolts & pads
- Controller manuals and circuit diagram
- Operation manuals
- Machine inspection lists
- Tool box

OPTIONAL ACCESSORIES:

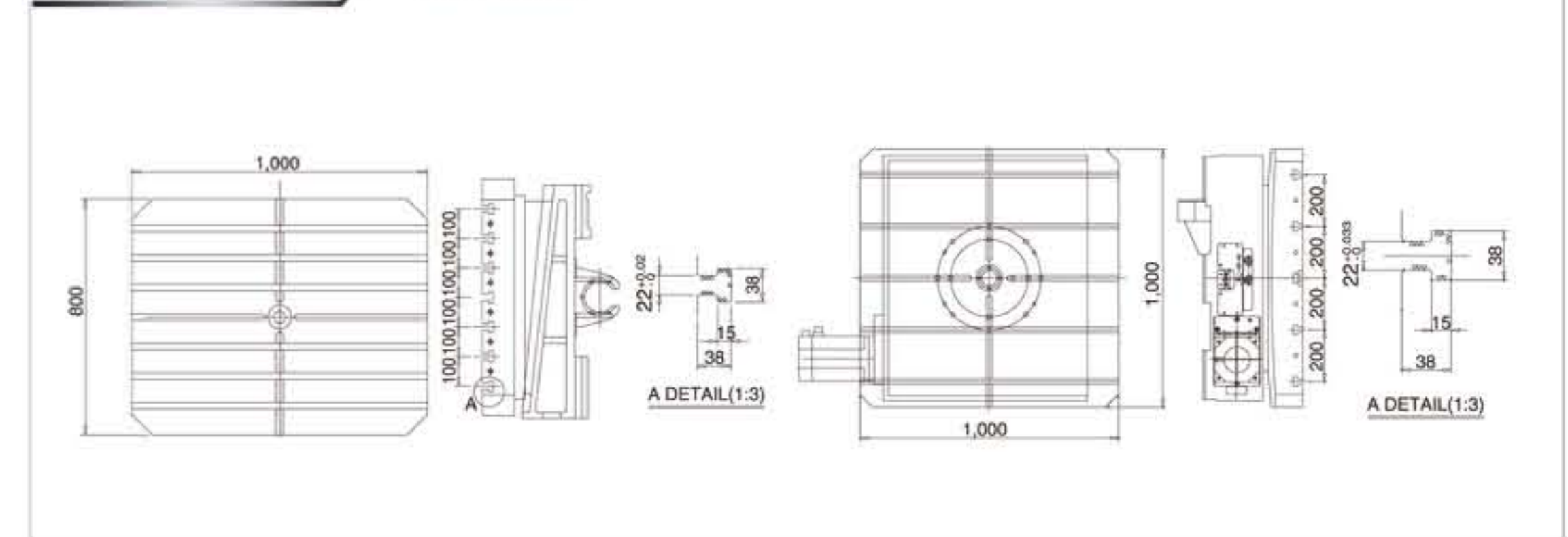
- Positioning block for Oil-Feed Holder
- Various ATC are available
- Oil mist device
- Variety of controllers (FANUC / Meldas / Siemens / HEIDENHAIN / SELCA)
- Coolant through spindle
- Indexing table (manual / CNC)
- Various auxiliary work tables are available

Dimensions of the Index Tables

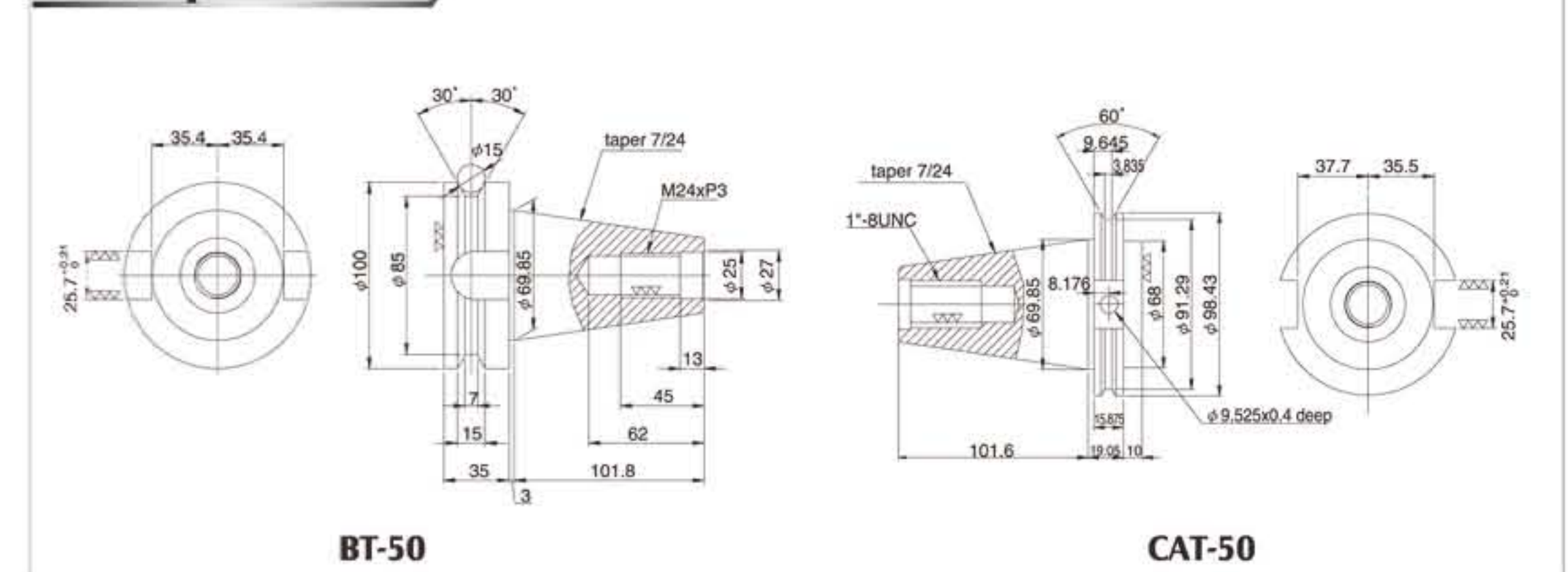
Unit:mm



SHM-800L OPTIONAL



Tool Specification



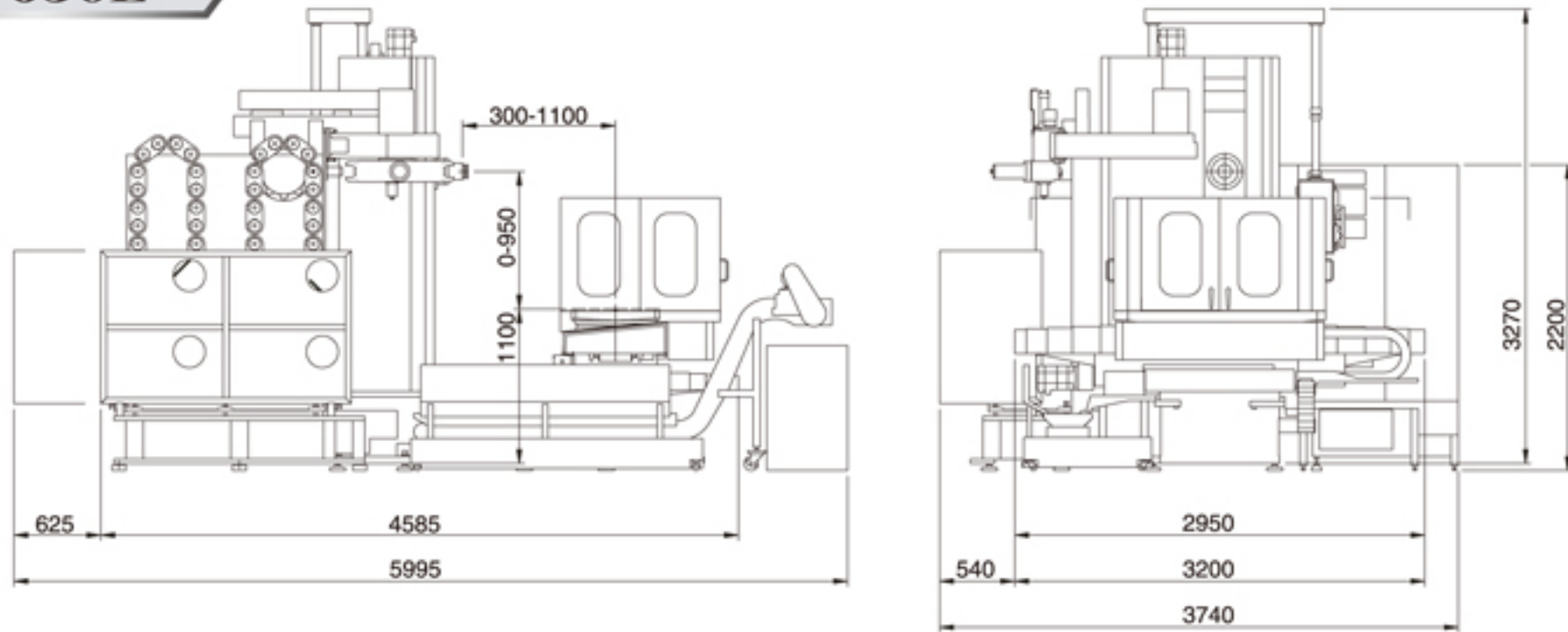
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SHM-Series

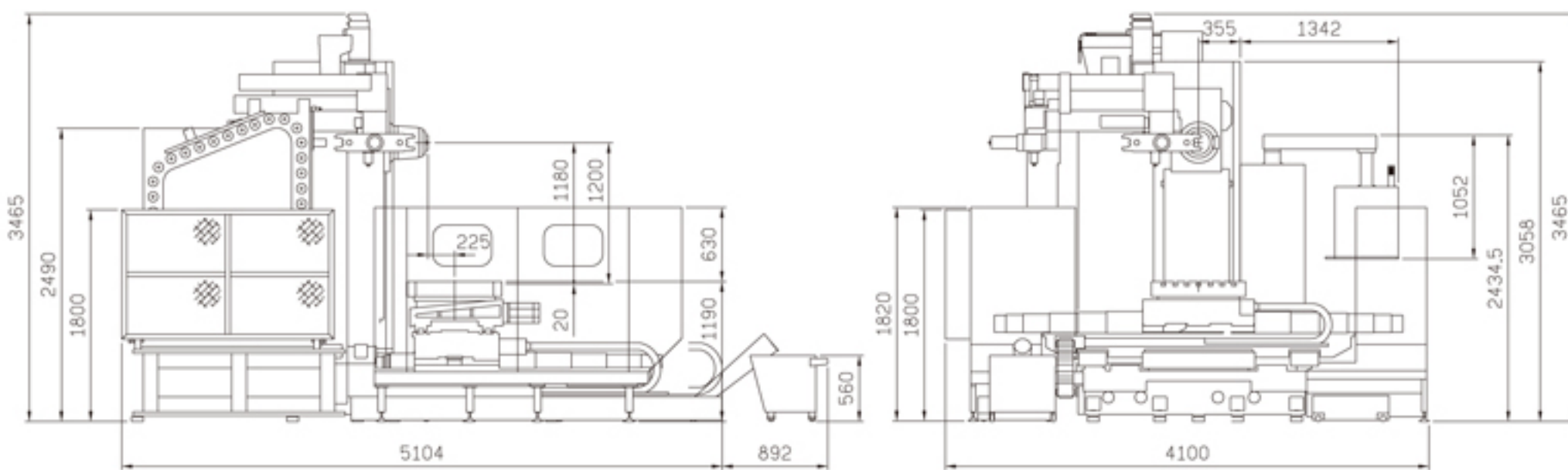
Machine Size:

Unit: mm

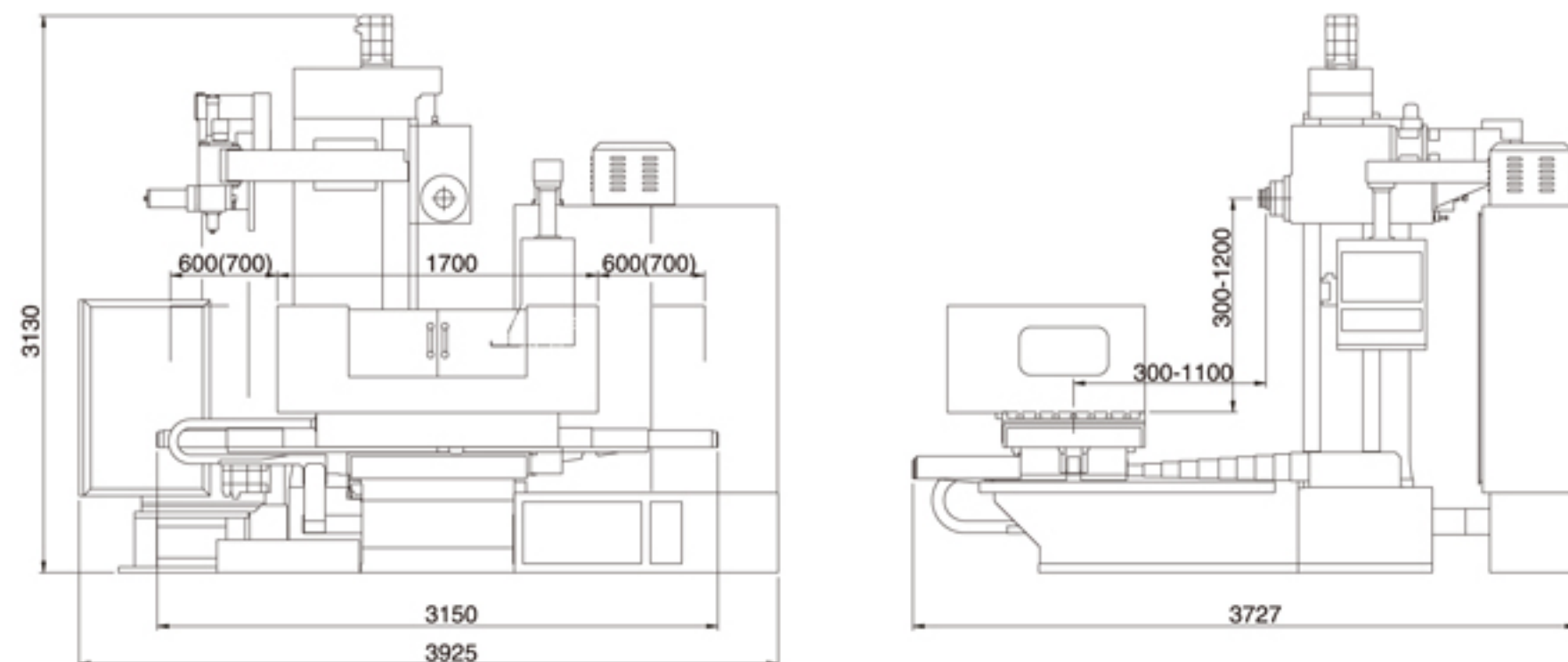
SHM-630L



SHM-800L



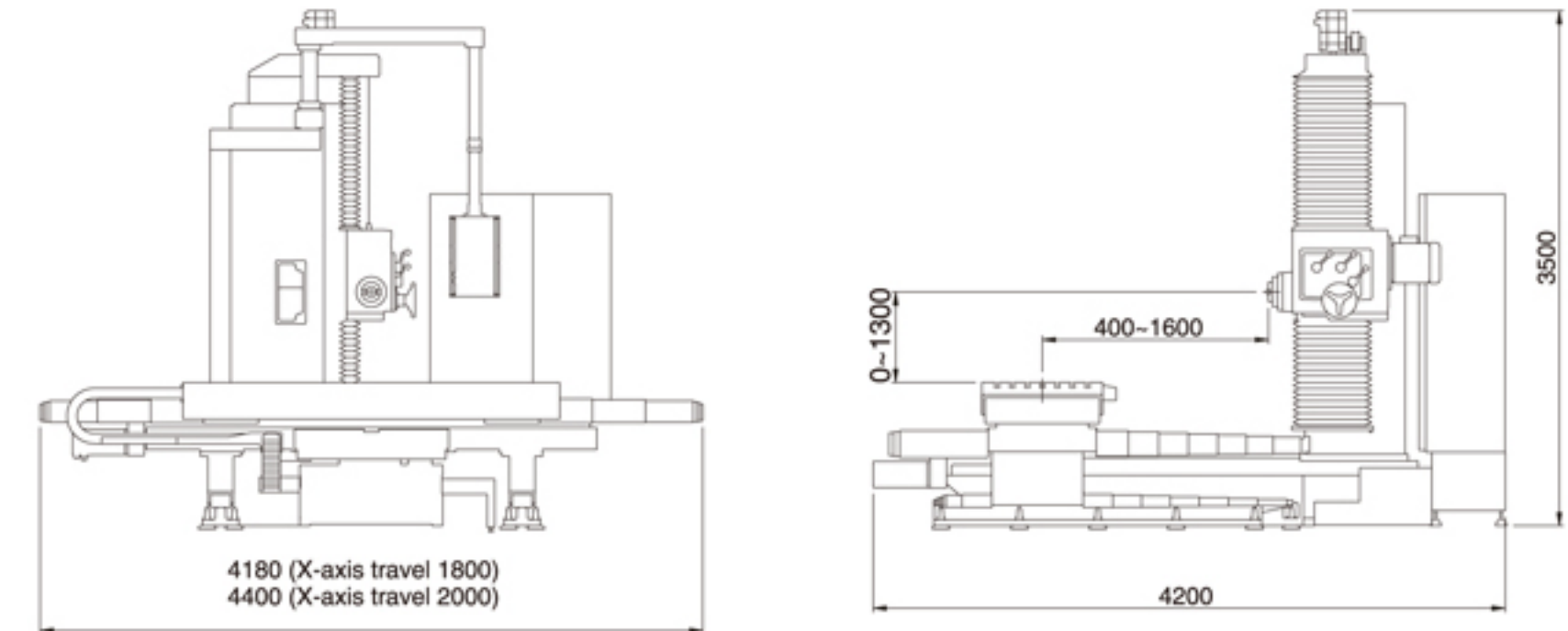
SHM-1200NC



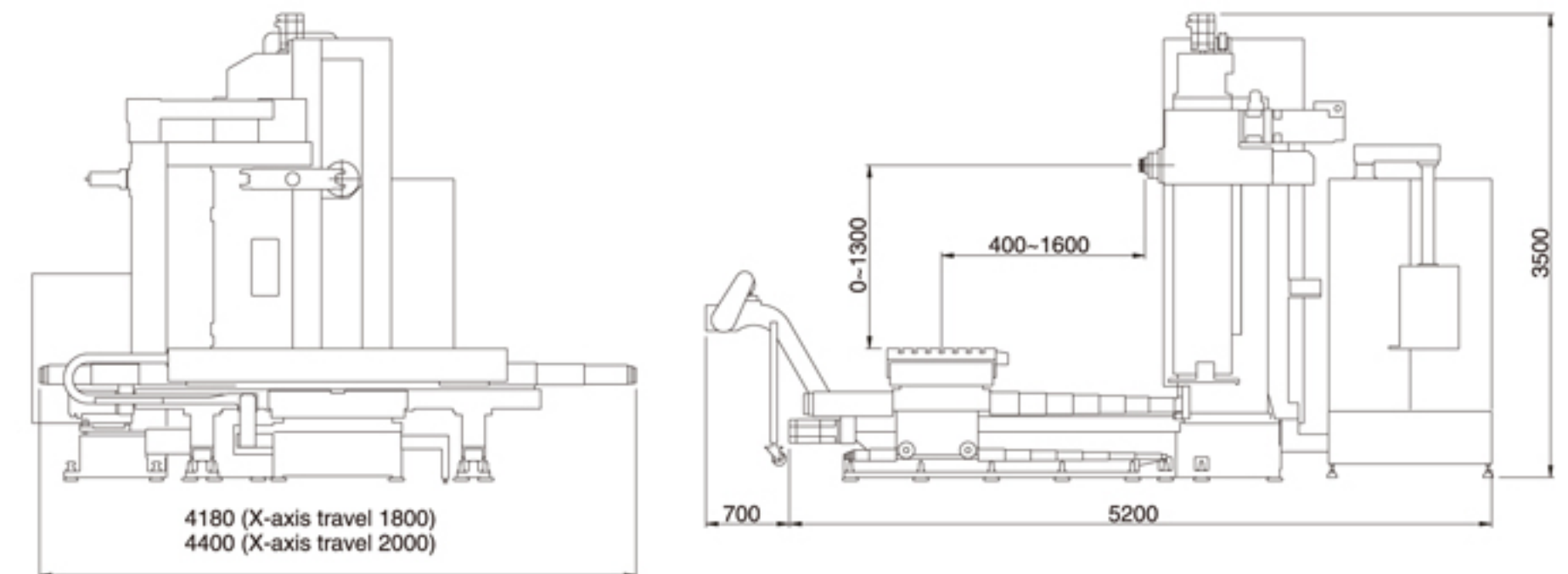
Machine Size:

Unit: mm

SHM-1800NC / With Conventional Head and Standard Table



SHM-1800NCX / With Standard Table and Spindle



SHM-800 / With Index Table and Standard Spindle

