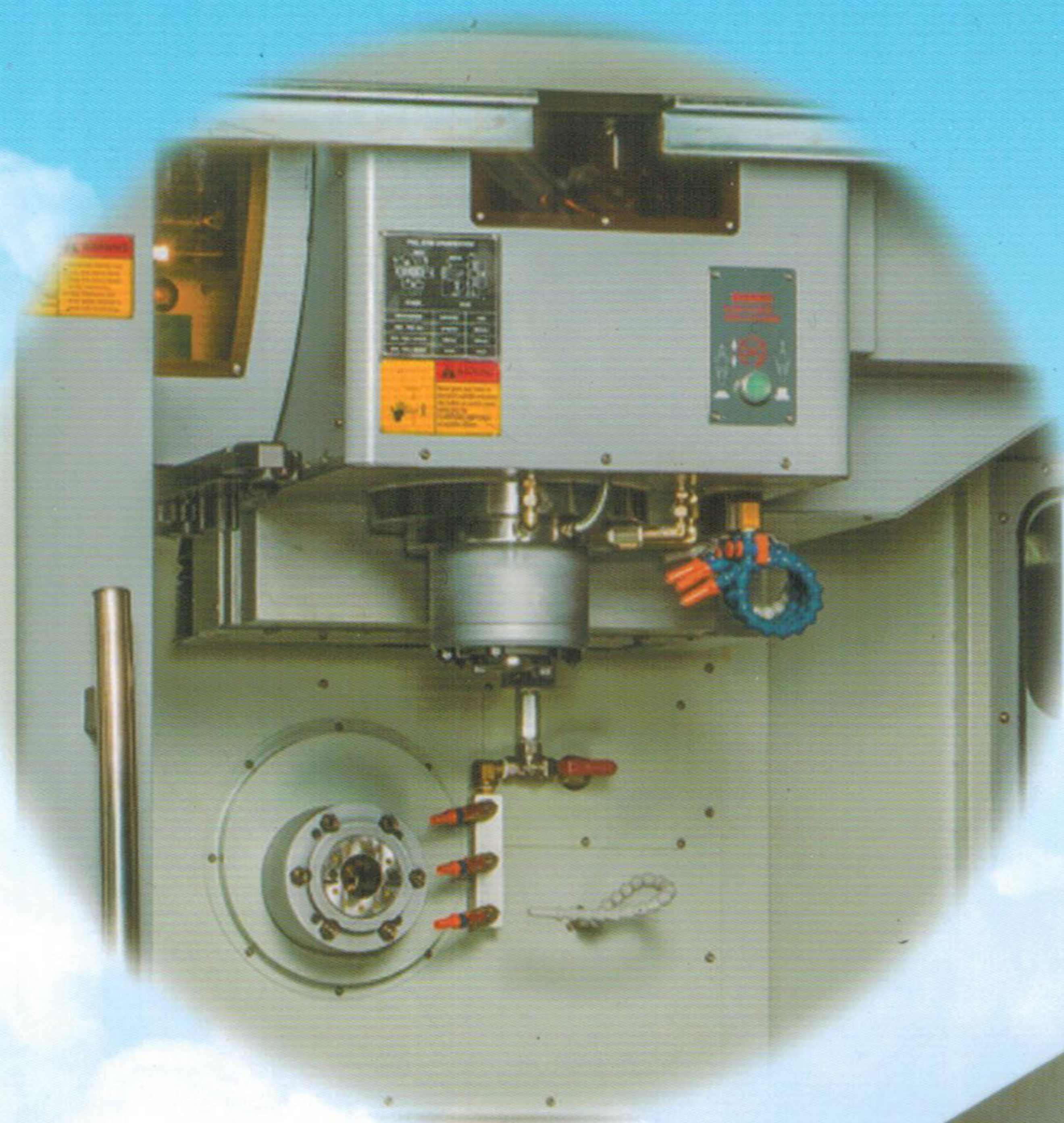


**Top Well**

# TW-1100HV

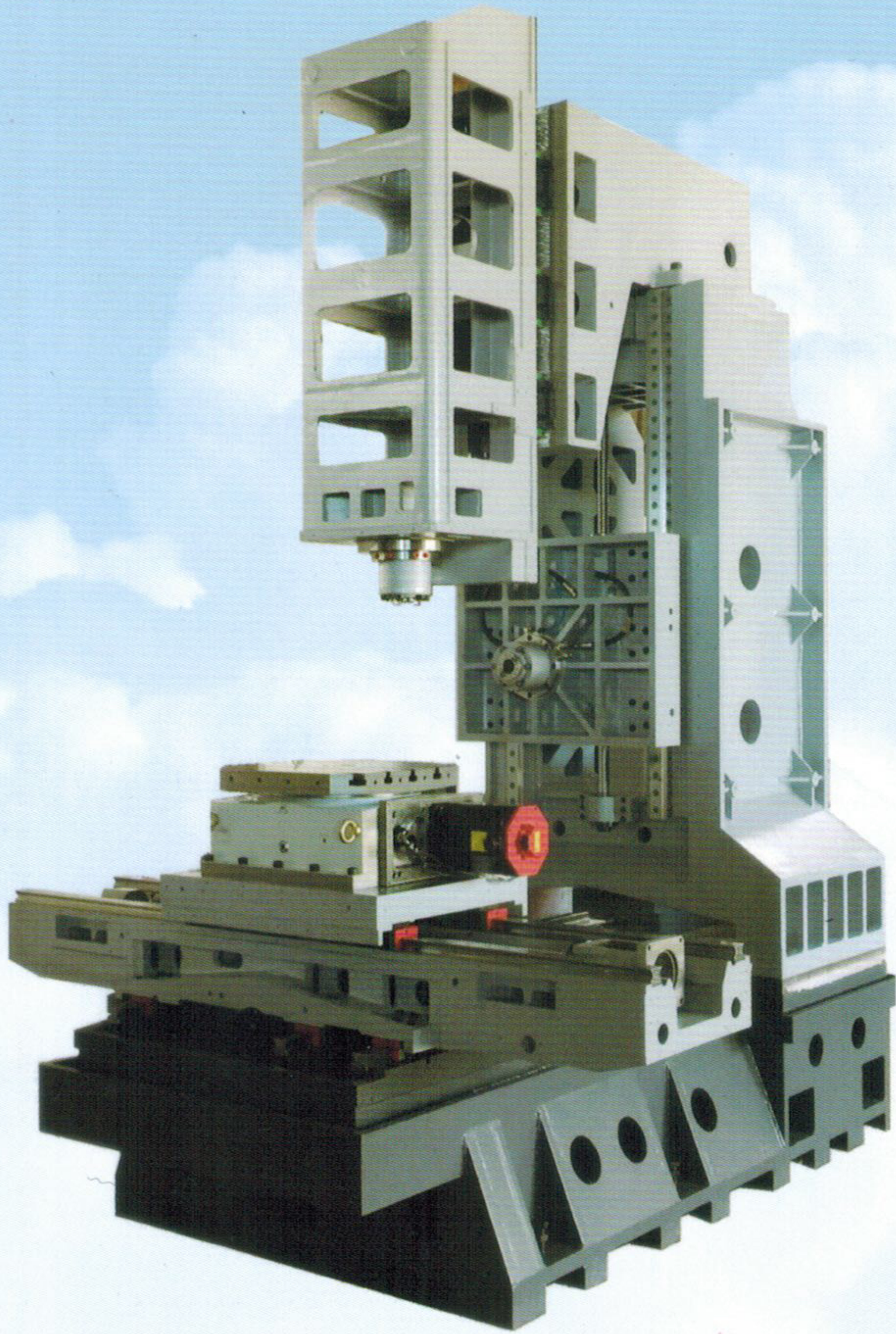
Complex – Horizontal / Vertical Machining Center





# TW-1100HV

## Complex-Horizontal & Vertical Machining Center



### Structure

- Analysis by FEA (Finite Element Analysis).
- Meehanite certified iron.

### Precision

- Optical scale is equipped for rotary table. (opt.)
- Minimize geometric error for 5 face job.
- Rigid tapping : M1 (Metric) or #0-80 (imperial)

### Practical

- Vertical / Horizontal mode is changed automatically.
- 24 tools for each magazine · high tool capacity.

### Economy

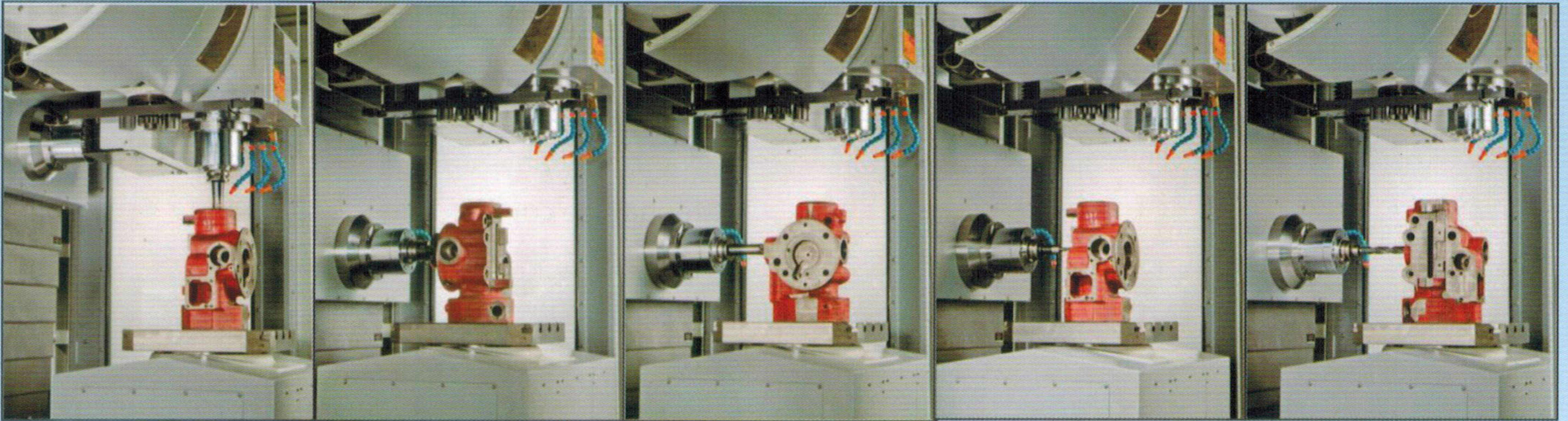
- Reduce work piece upload time · and jig design cost.
- Floor space is 320cmx470cm only.






# 5 Sides Manufacturing at Once

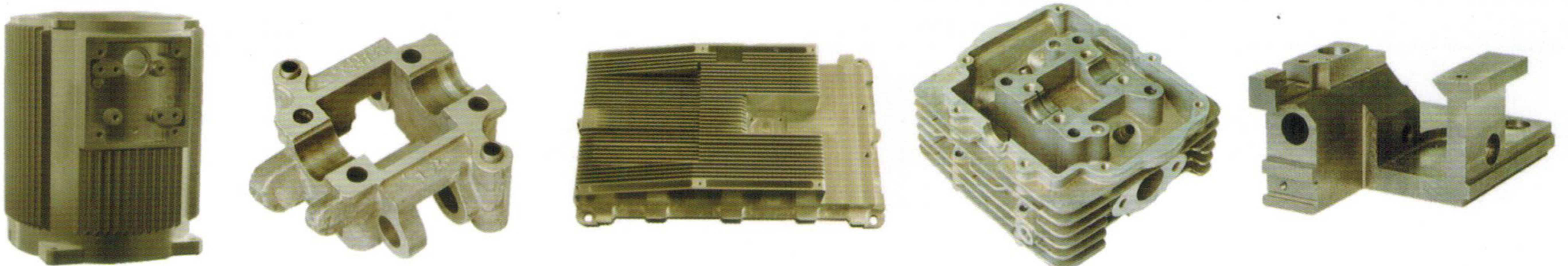
Vertical Spindle → Horizontal-0° → Horizontal-90° → Horizontal-180° → Horizontal-270°



## Excellent Efficiency

Model	TW-1100HV Complex H/V Machining Center	Vertical + Horizontal Center	Vertical Centerterter
Item			
Preparing time	30 min. Setup once	55 min. Setup twice	150 min. Setup 5 time
work piece upload time	5 min.	12 min.	26 min.
cutting time	135 min.	153 min.	164 min.
total time	170 min.	220 min.	340 min.
Efficiency	<b>130% WIN</b>	100%	60%

## Parts Sample :



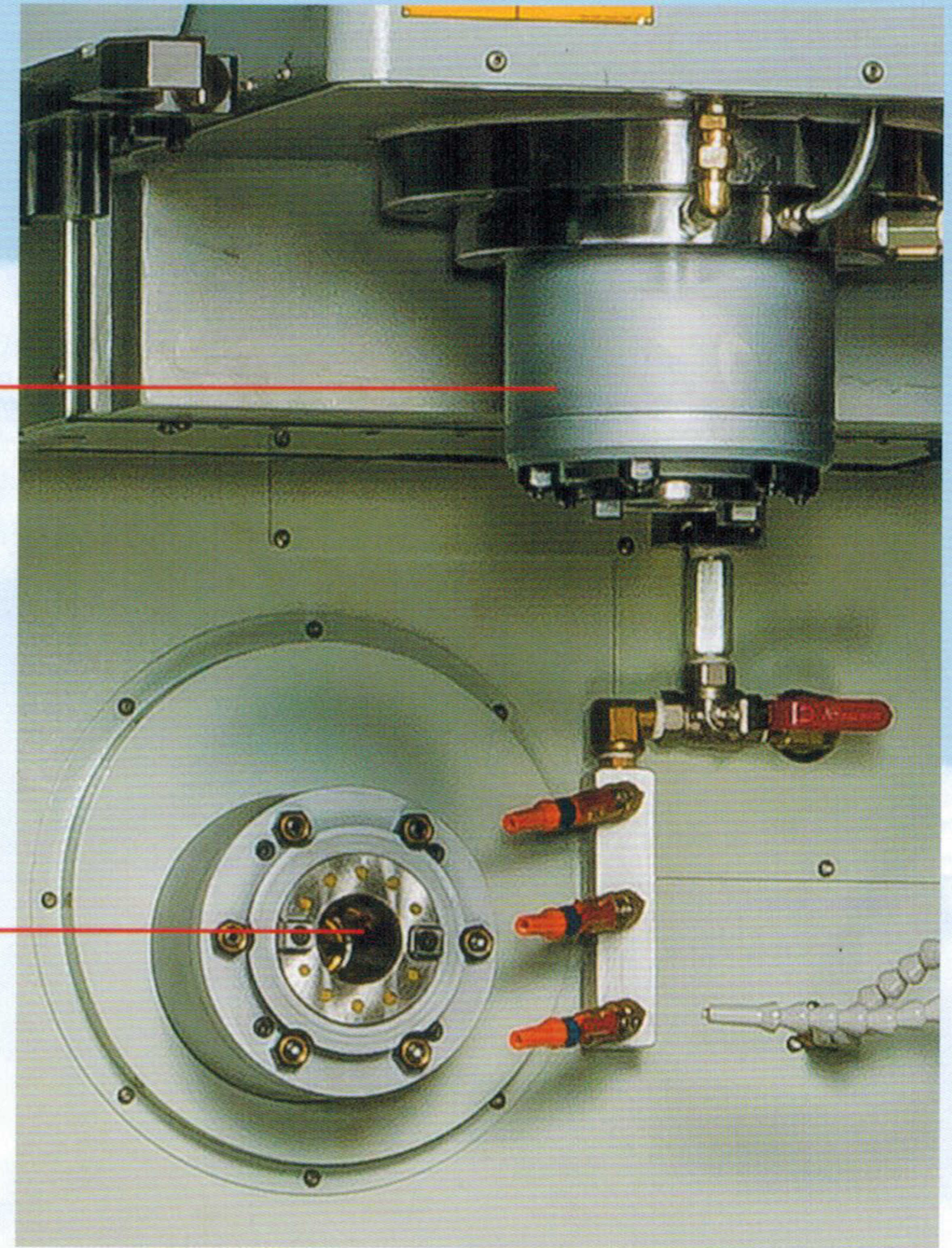


# Complex Vertical & Horizontal unique design

- Five-face job finished in a program.
- Work piece set up once time.
- Reduce work piece load time, and jig design cost.
- Compact floor space to save factory building cost.

**Vertical Spindle**

**Horizontal Spindle**



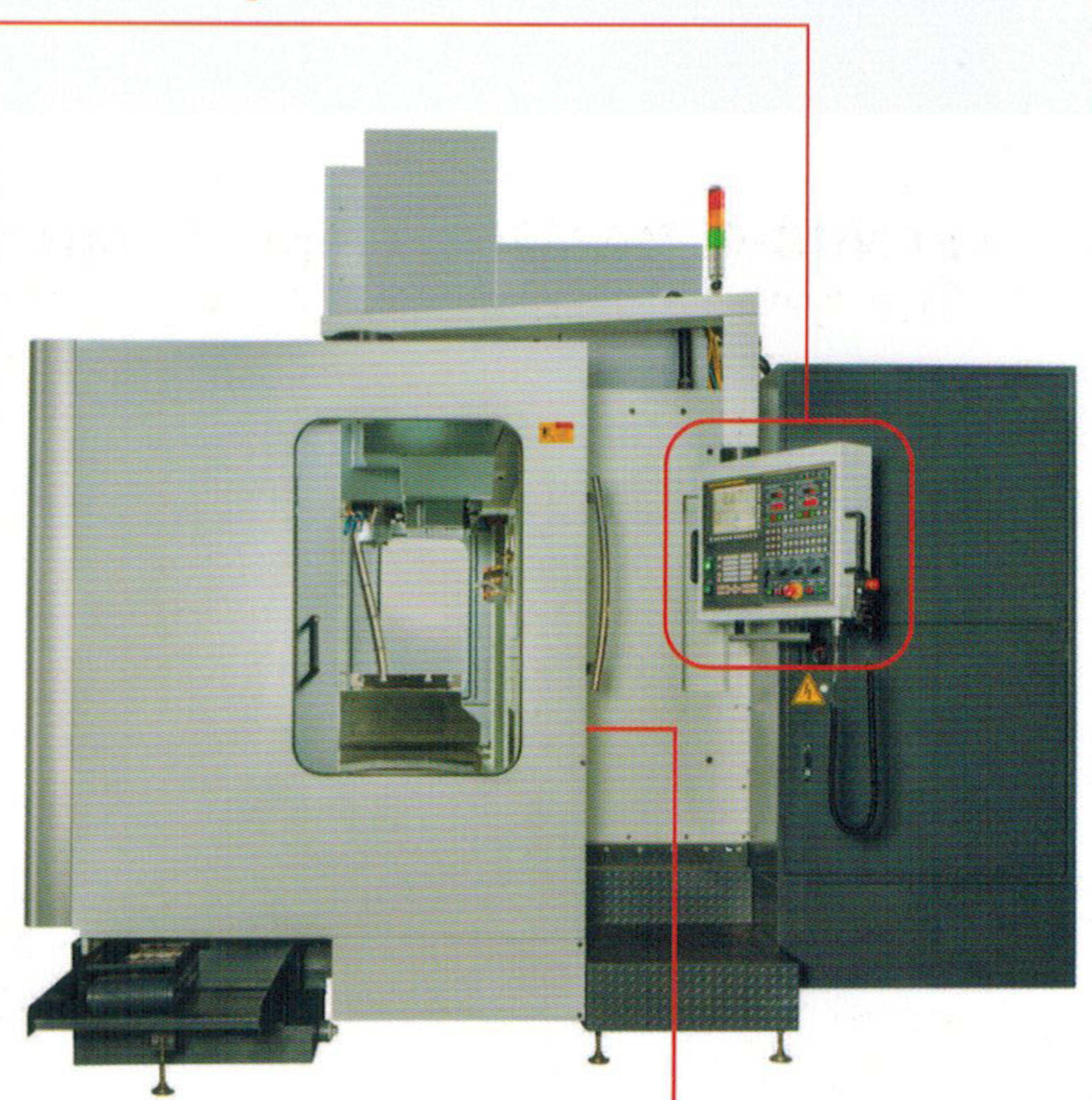
## Easy Operation

- **User friendly 180° console:**  
It can be operate at front door or side door.
- **Extra-wide front door & side door:**  
Front door is 1450 mm easy for job loading.
- **Horizontal Spindle can be reached easily:**  
Easy for tool set up.

**User friendly 180° console**



**Front door 1450mm**

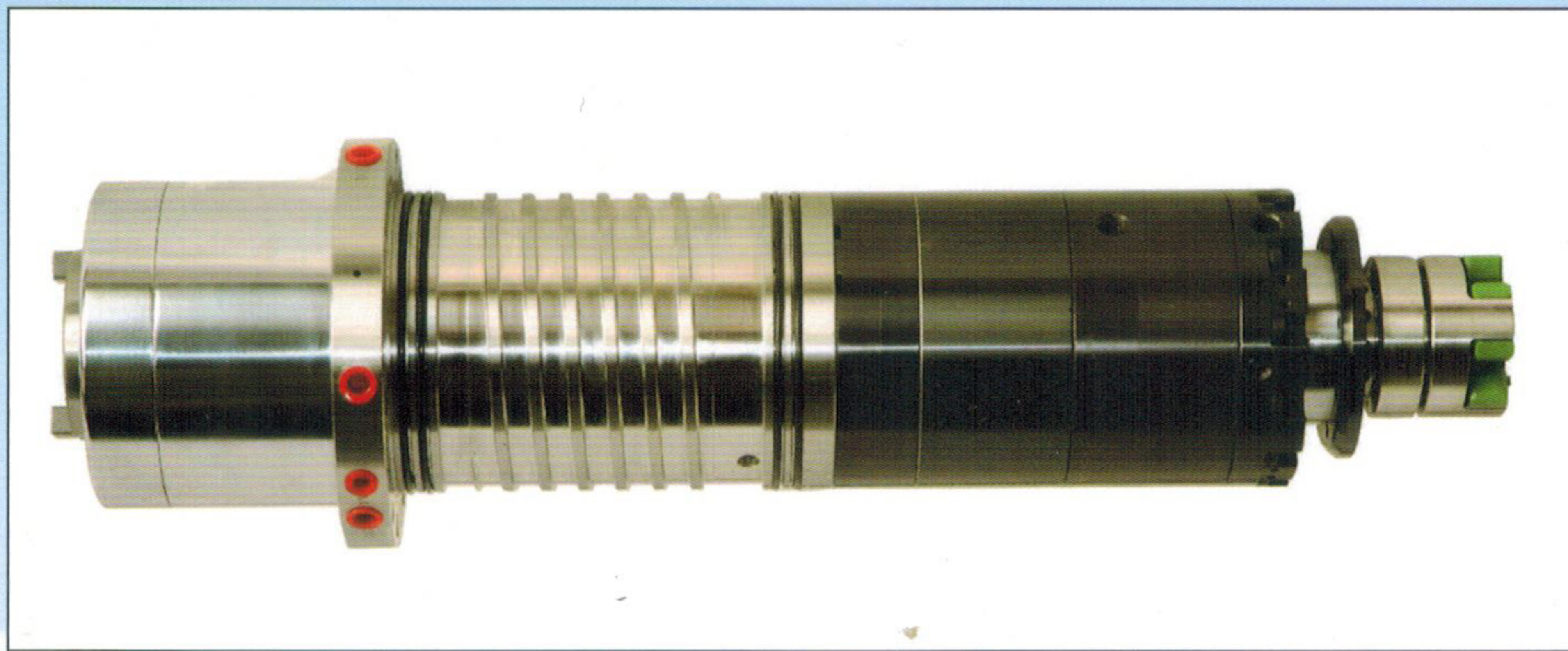


**Side door 700mm**



# 10,000 rpm Isolated Direct Drive Spindle

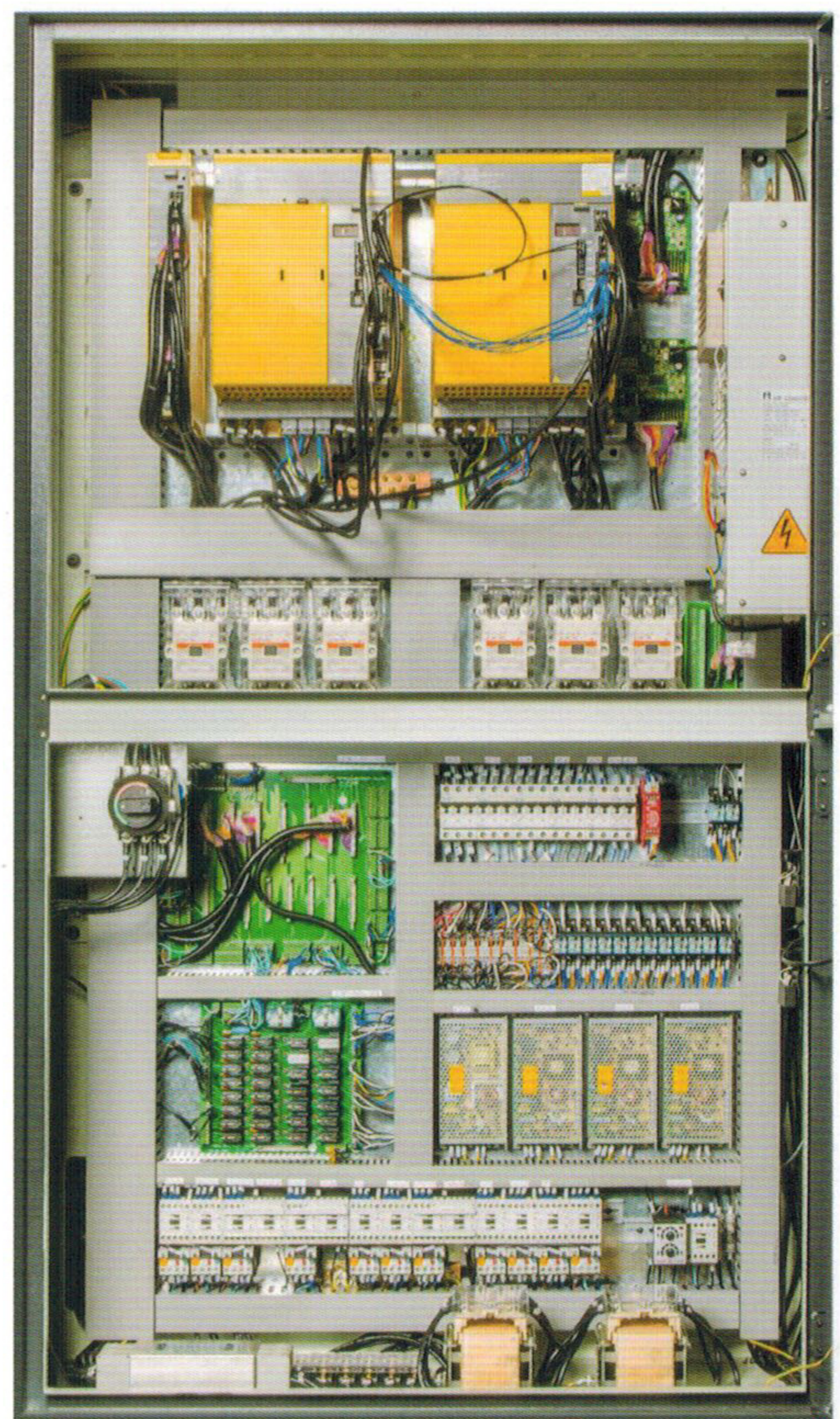
- Rigid tapping: M1 (Metric) / #0-80 (Imperial).
- The noise of spindle is less than 67dB.
- Ceramic bearing extends spindle life at high speed.
- Floating tool unclamp system can avoid the bearing hit by the cylinder.
- Spindle air sealing can prevent the coolant.
- Oil chiller can reduce the spindle and motor heat transmission.



## Hi-Precision Controller and AI Operation method



- **FANUC-0i-MF /32i-MB (opt.) Controller**  
The new controller has faster processing capacity, and the hardware has highly stability, and reliability.
- **AI style Vertical / Horizontal mode change function**  
Our experienced IT technician develops the program, the user can use standard program for other machine, and combined it together for 5 face program.  
The machine can finish the job at one time, and mode can be seen on the panel.
- **Easy, and user Friendly operation panel provide convenient for user.**
- **The cabinet is complied with CE regulation, and continuous test over 96 hours.**

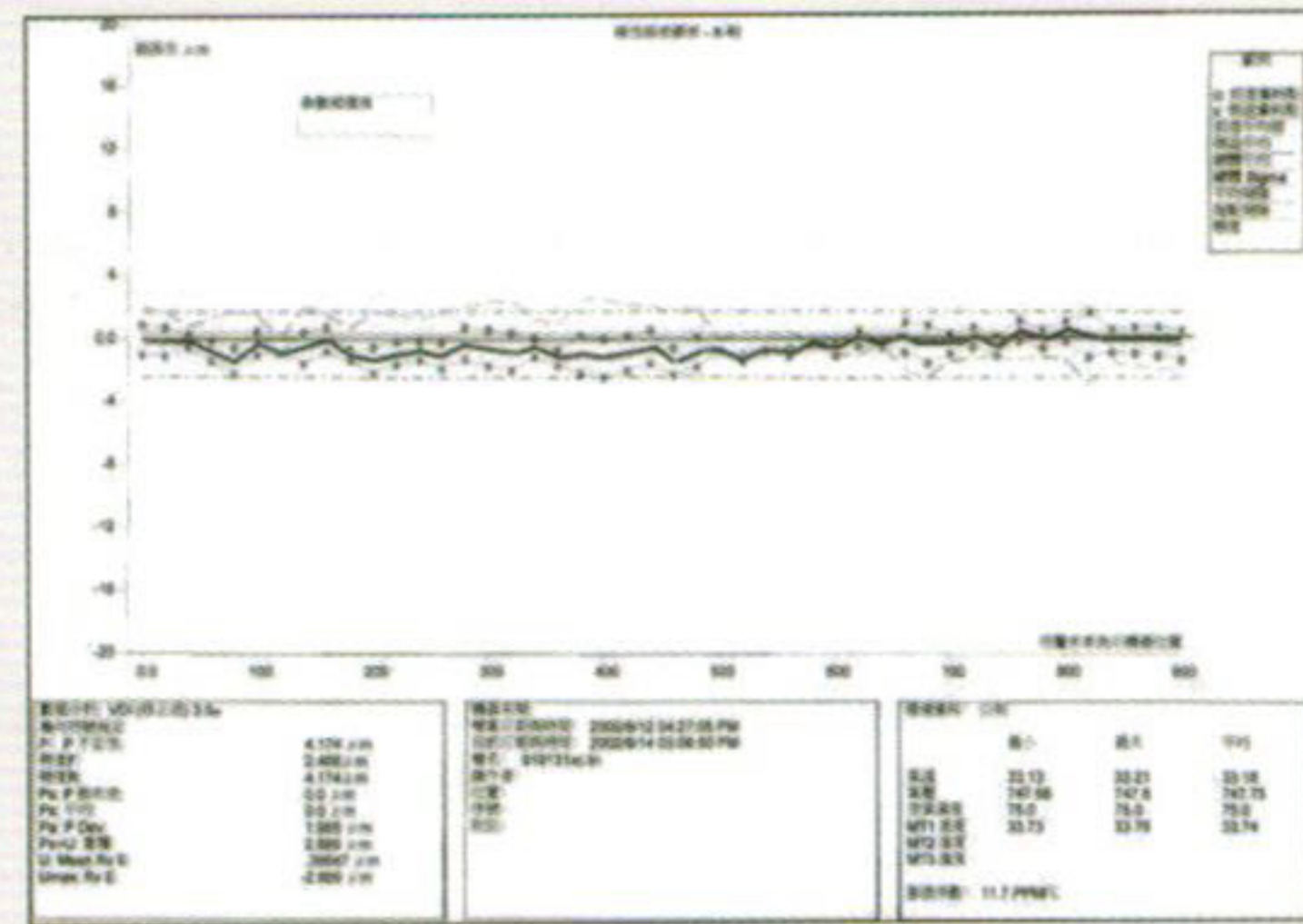
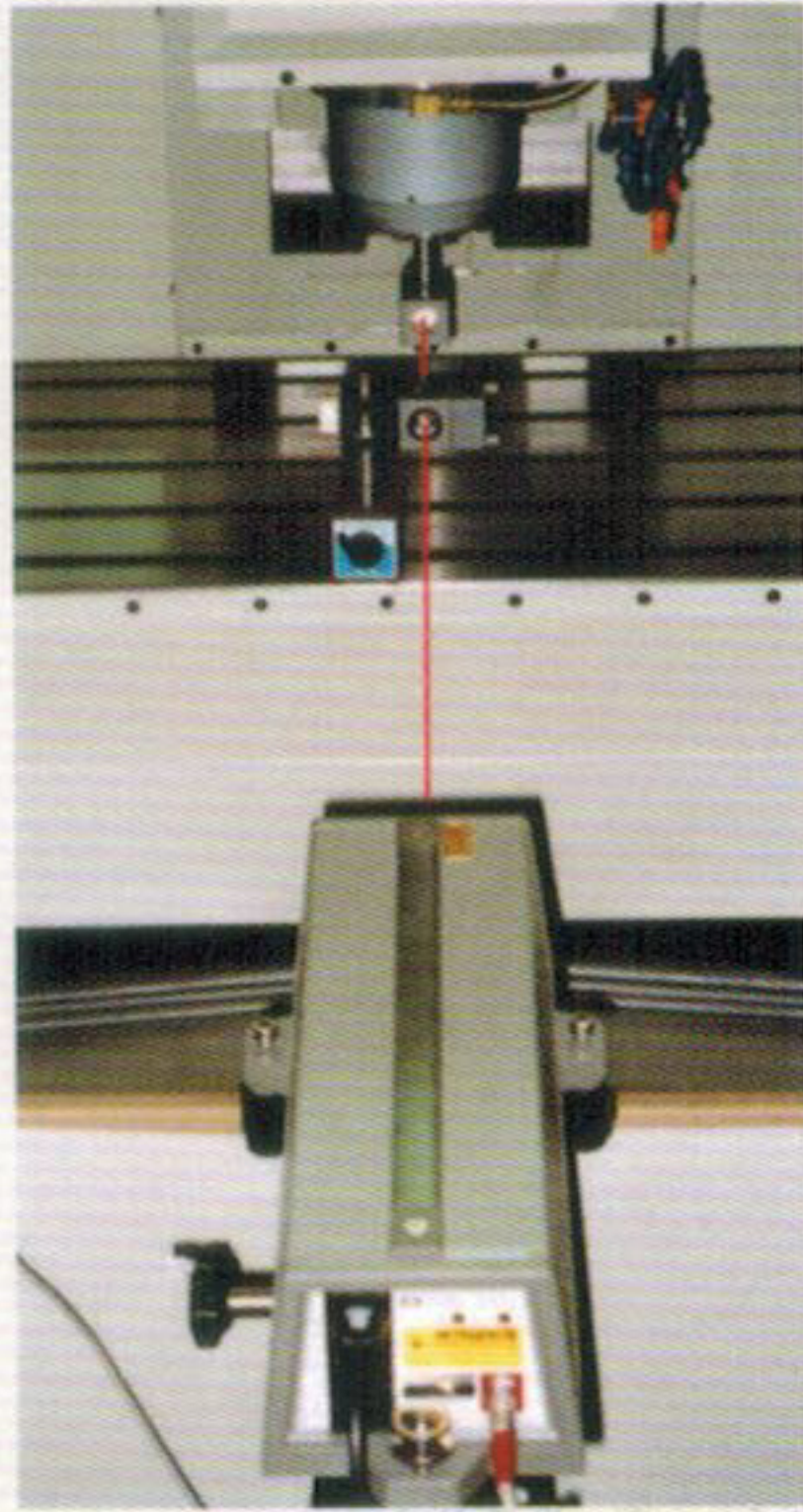




# High standard inspection is Quality insurance

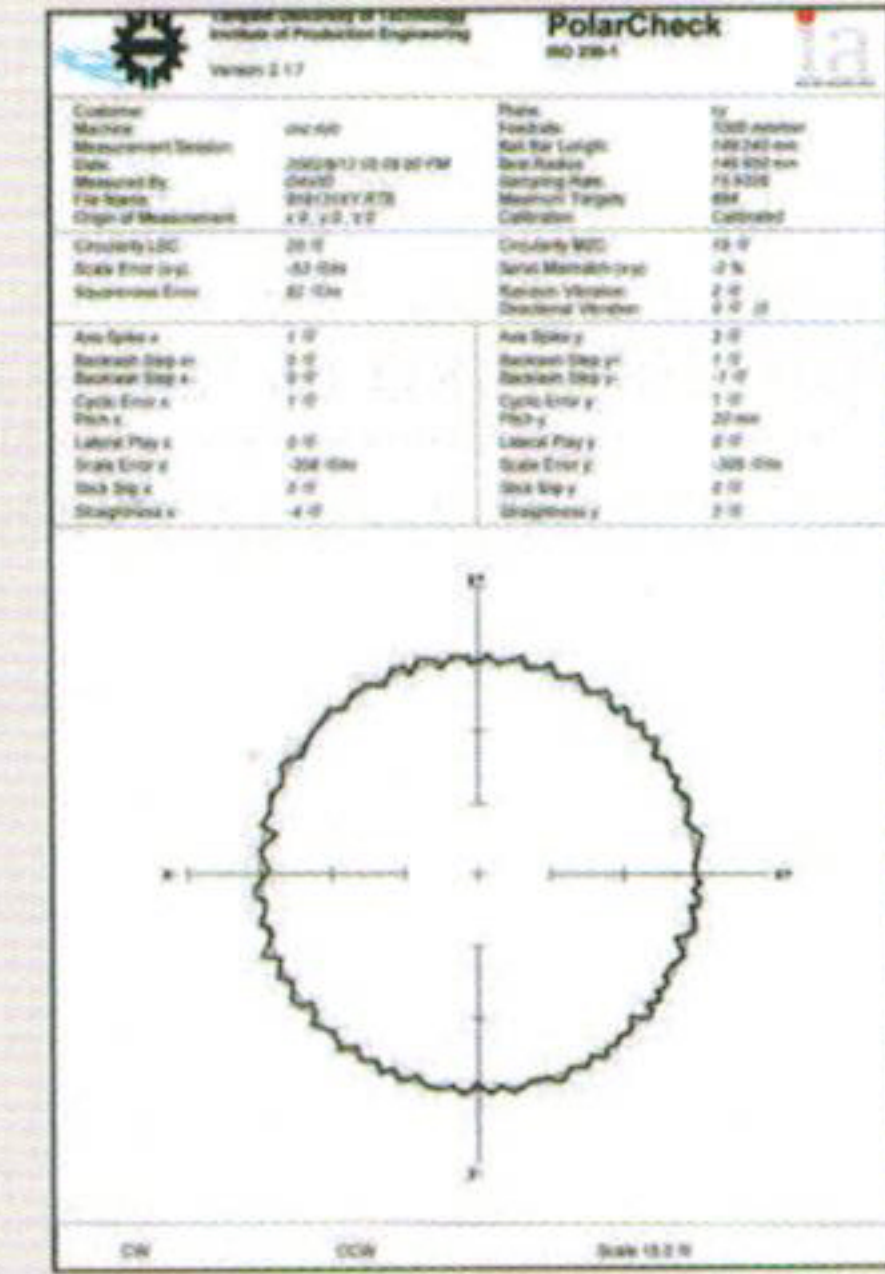
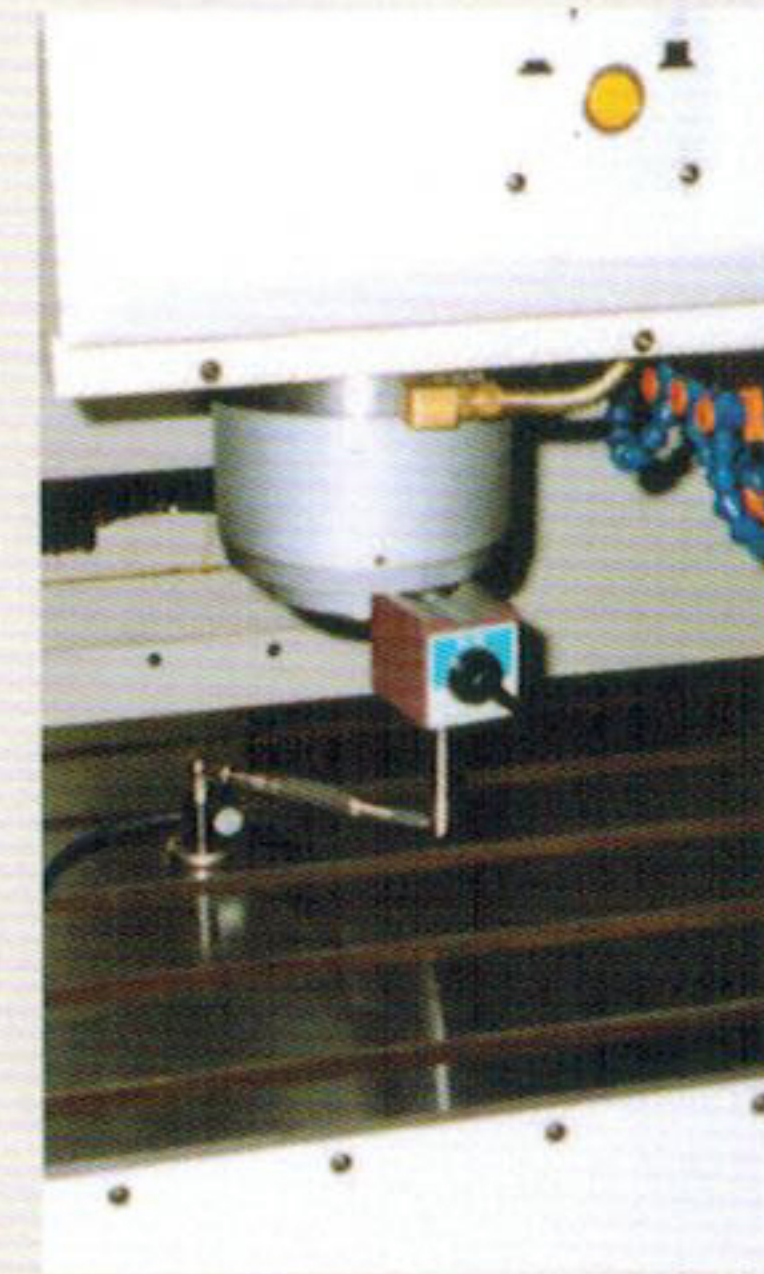
## High standard inspection is Quality insurance

- The machine's dynamic accuracy and repeatability's tested by the RENISHAW Laser system.



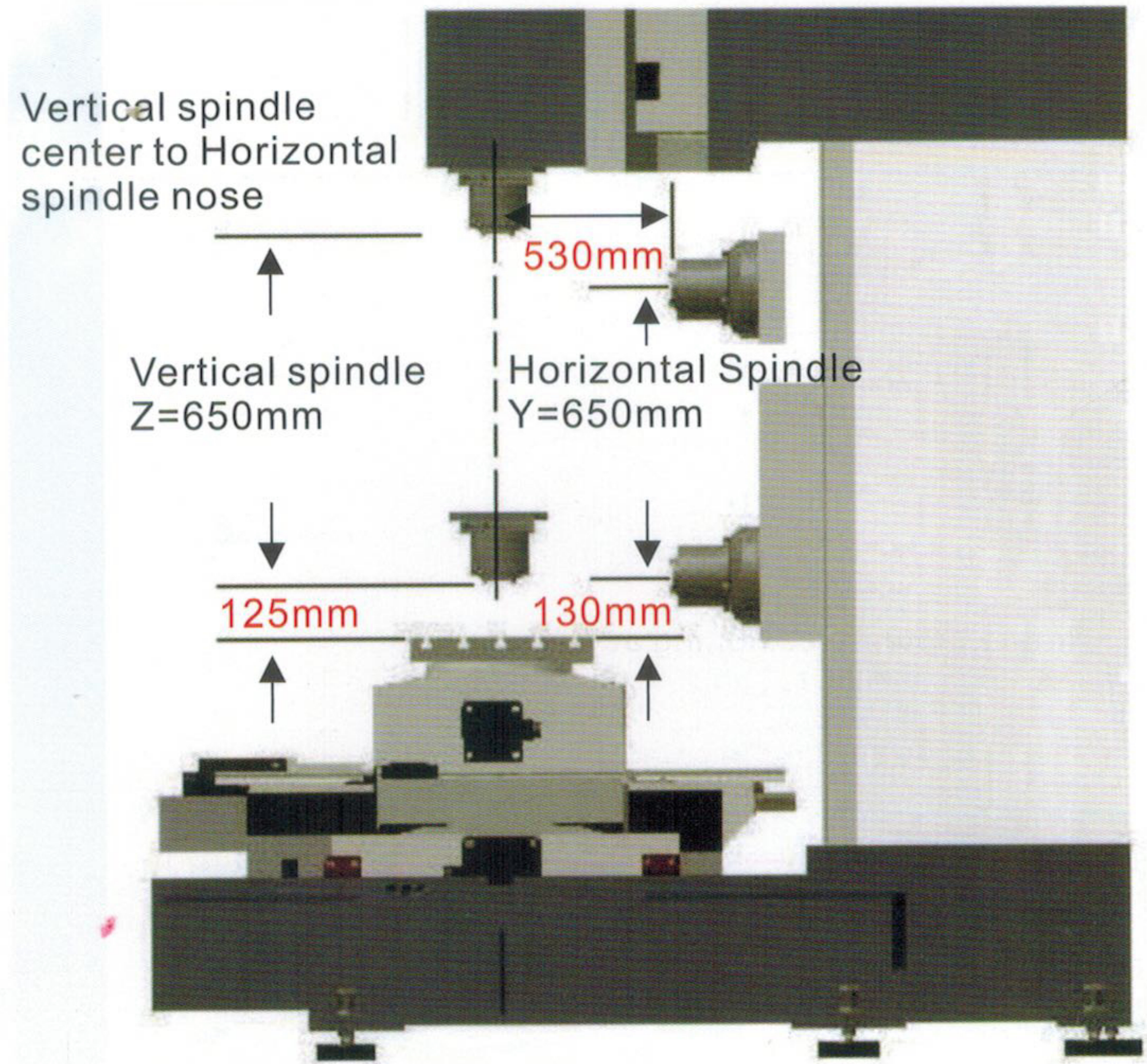
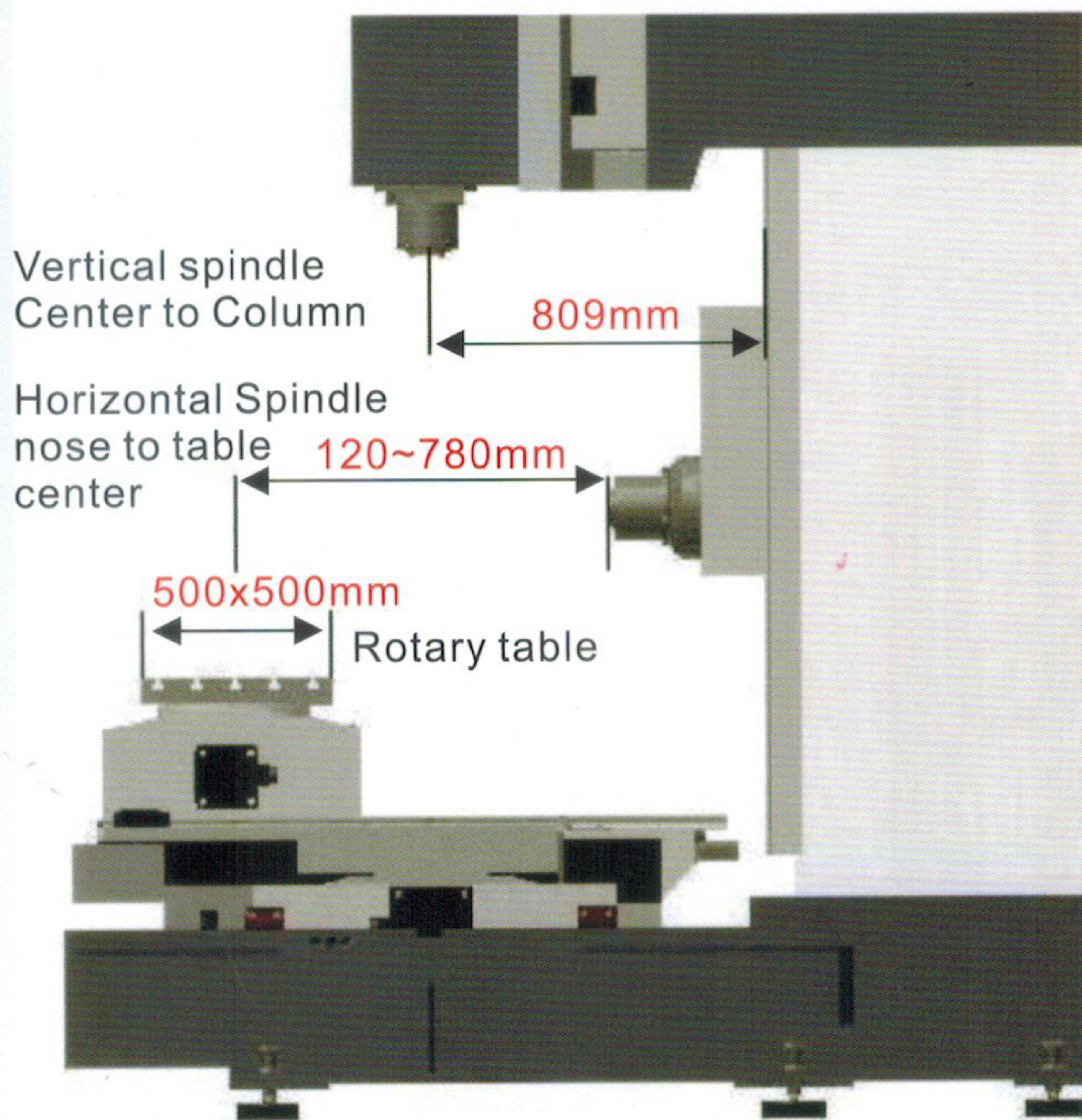
Laser Linear inspection (ISO 10791-4)

- The circularity is tested by the RENISHAW Ball-Bar system in order to ensure the profile.

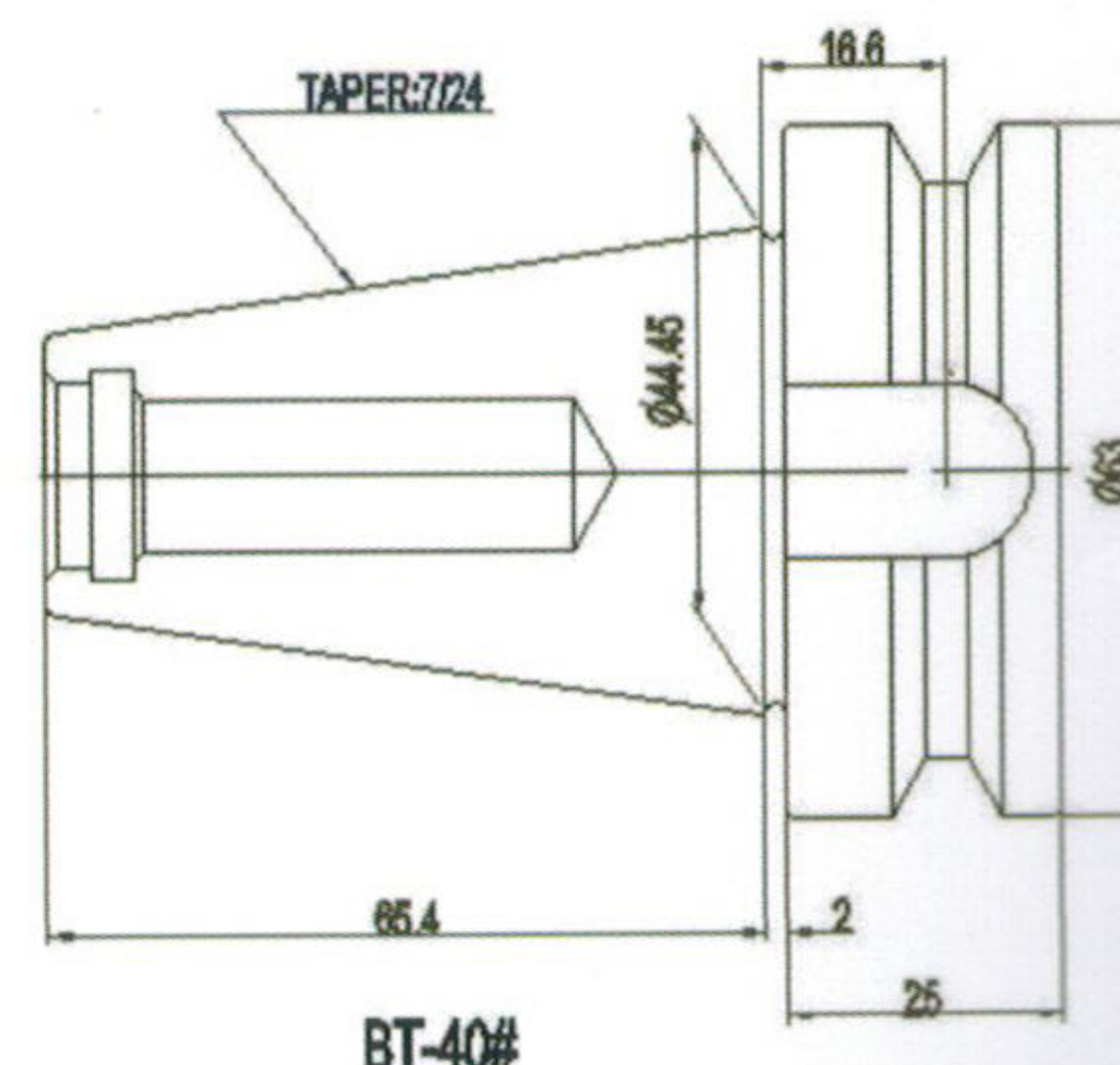
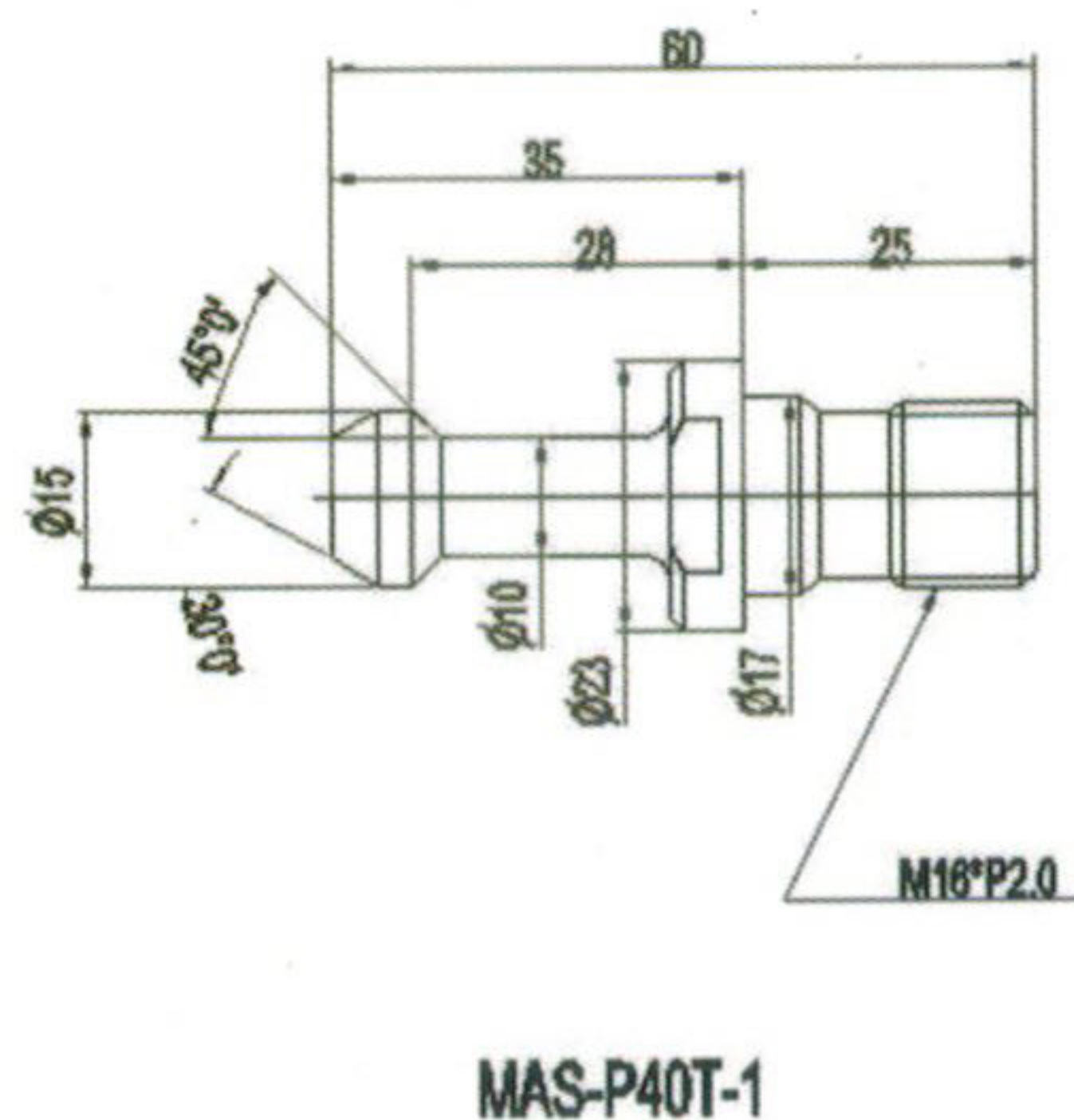


Ball-Bar testing Report (ISO 230-4)

## Working Envelope



## Tool Shank & Pull Studs :





# Specifications :

Model	TW – 1100HV
X Axis travel	1100 mm
Y Axis travel - Vertical	750 mm
Z Axis travel - Vertical	650 mm
Y Axis travel - Horizontal	650 mm
Z Axis travel - Horizontal	750 mm
Vertical Spindle center to column	809mm
Vertical Spindle nose to table top	125 -785 mm
Horizontal Spindle nose to table center	125 -780 mm
Horizontal Spindle center to table top	130 -880 mm
Table height from the floor	1300 mm
Table load capacity	600kgs
Spindle nose (BT / CAT / DIN)	BT40 / CAT40 / ISO40
Spindle RPM (Vertical)	75~10,000rpm (opt.12,000)
Spindle RPM (Horizontal)	75~10,000rpm (opt.12,000)
Main motor (cont./ 30min)	18.5 / 20Kw (Direct Drive)
A.T.C. Magazine for arm type(H/V)	24 / 24(opt. 40/40)
A.T.C. tool diameter	76 / 127 mm
A.T.C. tool length	250 mm
A.T.C. tool weight	7 Kg
Rapid traverse	24,000 mm
Cutting feed	1 ~ 15,000 mm
Positioning	± 0.003 mm
Repeatability	± 0.002 mm
Rotary table – Table top dimension	500 x 500 mm
Rotary table – T-slots( wide× no.× pitch)	18H7 x 5 x 100 mm
Rotary table – Speed reduction ratio	1: 144
Rotary table – Min. indexing (degree)	0.001°
Rotary table – Max. rotation speed	11.1
Rotary table – Positioning accuracy	15"
Rotary table – Repeatability	± 4"
Rotary table – Max. load	600 kg
Coolant system	580 W
Lubrication system	25 W
Air pressure	6Kg / cm <sup>2</sup> over
Machine weight	14,700kgs
Floor space ( L x W x H )	4500x3500x3550 mm
CNC controller	Fanuc 0i-MD / 32i-MB

• Specification and design characteristics Are Subject to change without Prior notice.

## Standard equipment :

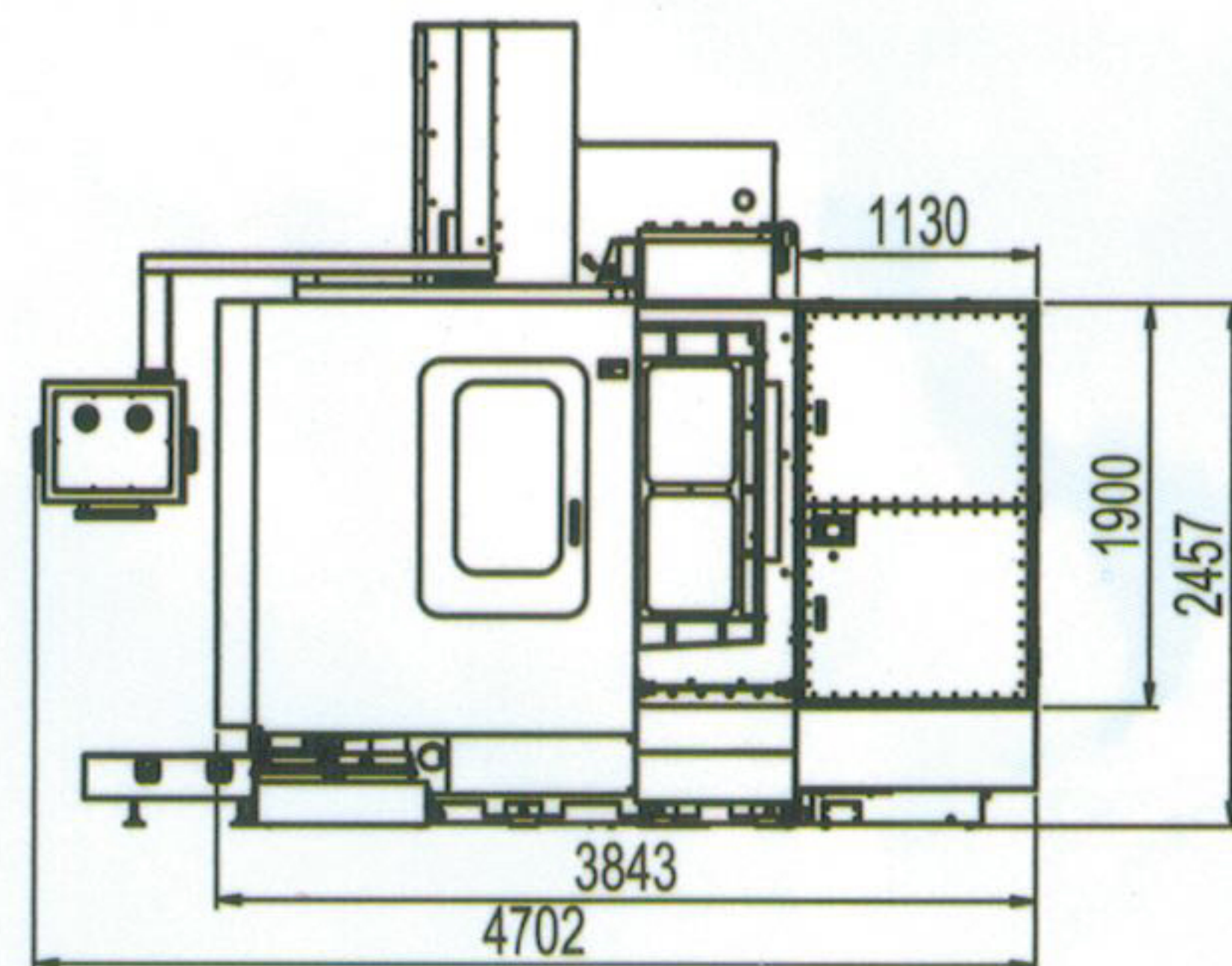
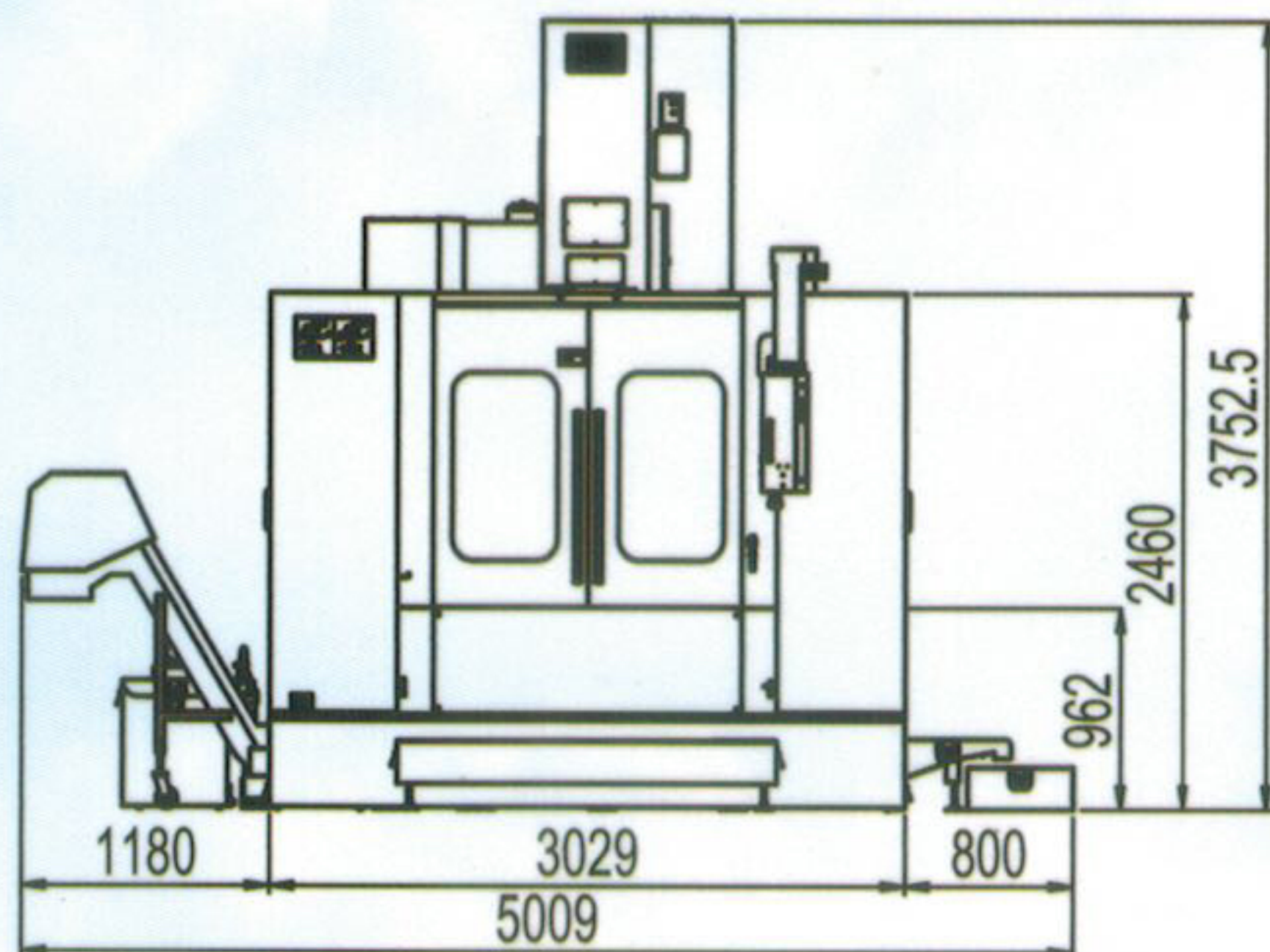
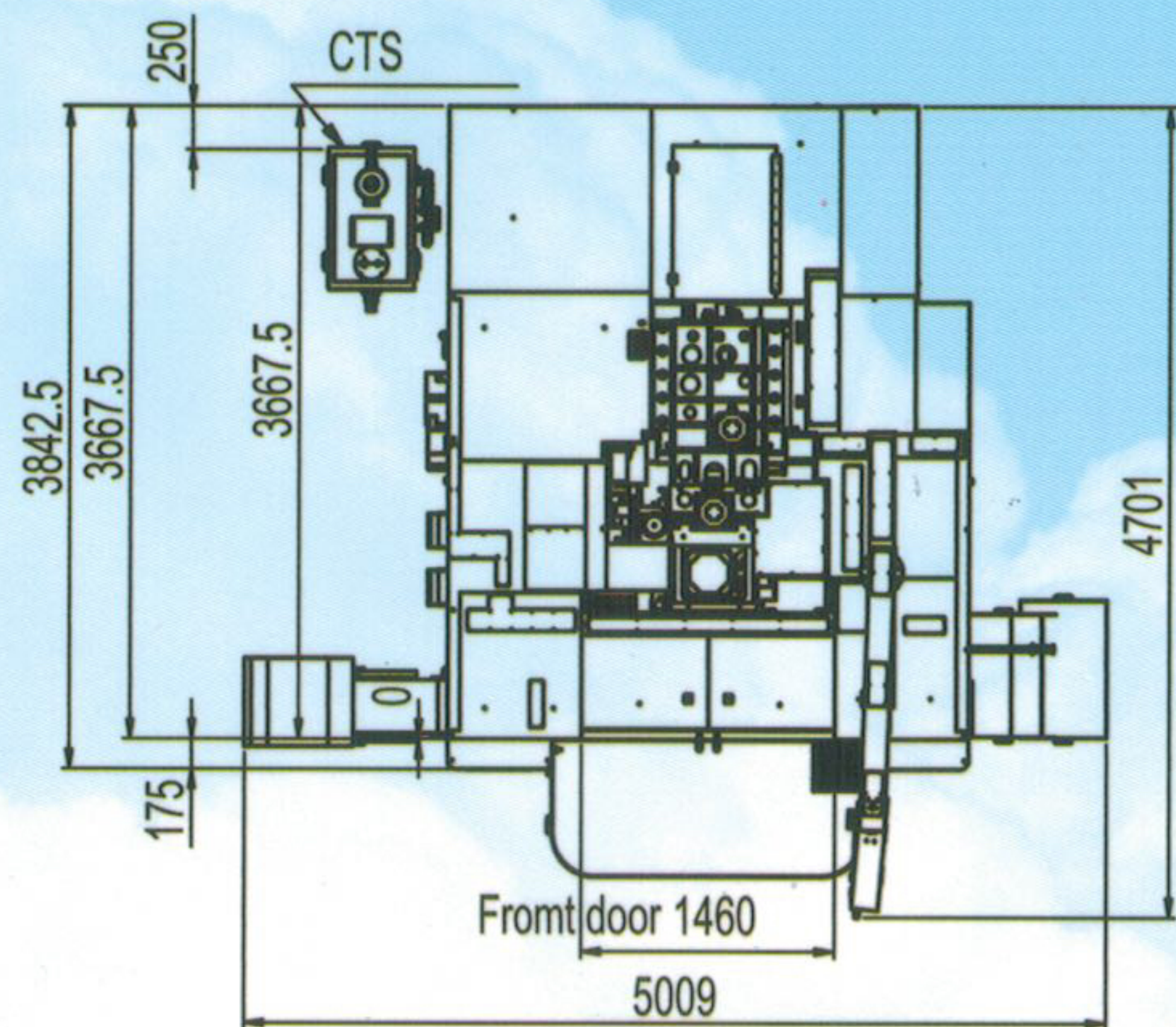
- 0.001° Rotary table (400x400mm)
- Spindle chilling system
- M30 Auto-power OFF
- Auto Lubrication system
- Full enclosure Guard
- 12,000 RPM spindle Direct (H/V)
- H/V-Arm type A.T.C. (24 tools)
- Auger type Chip conveyor
- Electrical / Machine manual
- Coolant chip flushing
- Air Gun
- Water Gun
- M-code Air blast
- Heat exchanger
- Coolant system
- Rigid tapping
- Work lamp
- Alarm tower
- Tools & tool box
- External MPG

## Standard equipment :

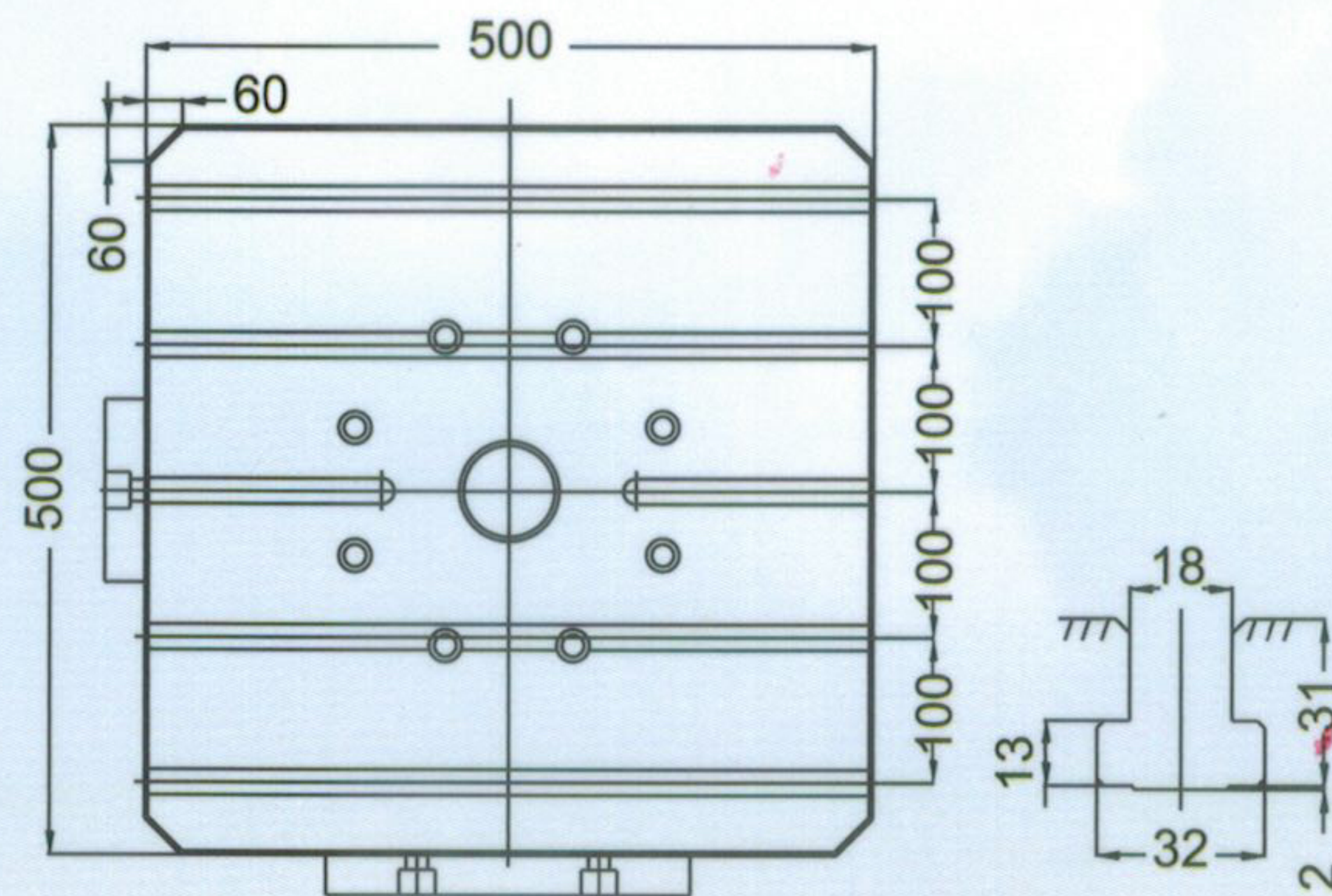
- Transformer/stabilizer
- Safety switch on both door
- Disk Type Oil Skimmer
- CE Electrical
- Chain type Chip conveyor
- Auto tool length
- Coolant Through Spindle
- 12,000 RPM spindle Direct Drive
- Air con. for electrical Cabinet
- Rotary table Optical scale



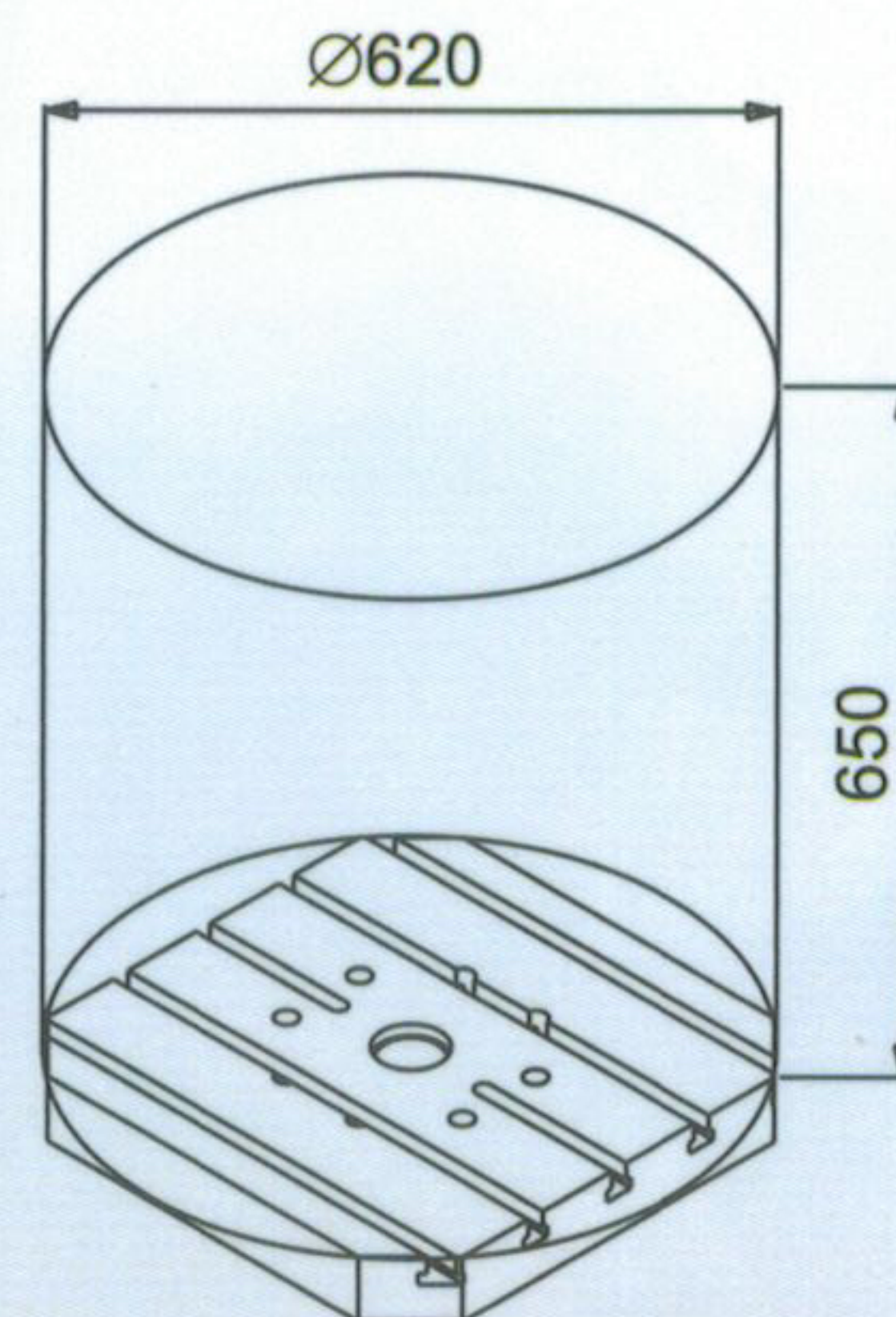
## Machine Dimensions :



## Table Dimensions :



## Max. Cutting Area :



## Topwell Machinery Co., Ltd.

No 46, Sec. 2, Yuetao Rd., Zhong Li Dist,  
Tao Yuan City, 32053, Taiwan  
TEL : 886-3-4986182  
FAX : 886-3-4986003  
E-mail:sales@topwell.com.tw  
<http://www.topwell.com.tw>

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