



Gentiger

High Speed Double Column Machining Center

GT-2516V



Gentiger Machinery Industrial Co., Ltd.

No.2-2, Shueitou Lane, Jiahou Rd, Waipu Township,
Taichung County 438, Taiwan.

TEL: 886-4-2683-6919

FAX: 886-4-2683-9900

[Http://www.gentiger.com.tw](http://www.gentiger.com.tw)

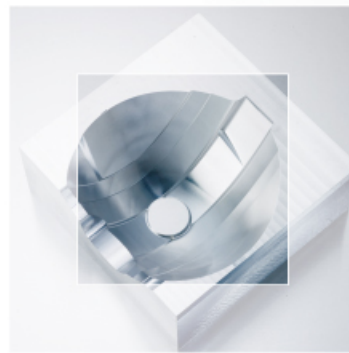
E-mail: gentiger@ms38.hinet.net



CE ISO 9001 Gentiger Machinery Industrial Co., Ltd.



High Speed Double Column Machining Center



High Speed • High Precision • High Efficiency

The Ultimate in Large Mold Machining

Designed with advanced concepts, the GT-2516V High Speed Double Column Machining Center from Gentiger optimizes high speed, high accuracy and heavy cutting. This machine will bring large mold machining into a new era. Its specially designed double column high speed machine structure combined with one-piece constructed double columns makes the GT-2516V fully exhibit its extraordinary stability and rigidity. The Gentiger GT-2516V has X, Y, Z-axis of 2,500 x 1,600 x 700mm with maximum table load up to 10,000 kg. The cutting feedrates on three axes are 20, 18 and 20m/min. In addition, its three axes are mounted with roller type linear guideways.

**Gentiger
GT-2516V**

Machine Features:

- Special double-column high speed machine structure for high speed and heavy cutting.
- One-piece constructed double columns feature extra high rigidity.
- All structural parts are stress relieved and seasoning treated.
- Three axes are mounted with high speed, heavy duty roller type linear ways.
- Extra powerful drives on three axes.
- X, Y, Z-axis feedrates:
Rapid feedrates: 20, 18, 20 m/min.
Cutting feedrates: 20, 18, 20 m/min.
- Heidenhain linear scales on X, Y, Z-axis.
- Positioning accuracy: 0.005 mm / 300 mm.
- Repeatability accuracy: ± 0.003 mm.
- Cutter balance should be calibrated to within G2.5.



Perfect **Structure Design** to Maximize Machine Rigidity

Optimal Machine Structure

The model GT-2516V is a double column structure for high speed machining. The table is independently installed on the base and fully supported by 3 roller-type linear guideways through the entire stroke, assuring maximum accuracy and dependability. The columns are one-piece constructed for extra high rigidity.

Lifetime Accuracy

All casting parts are stress relieved and seasoning treated for long term accuracy and long service life.

Three Axes Linear Guide Ways

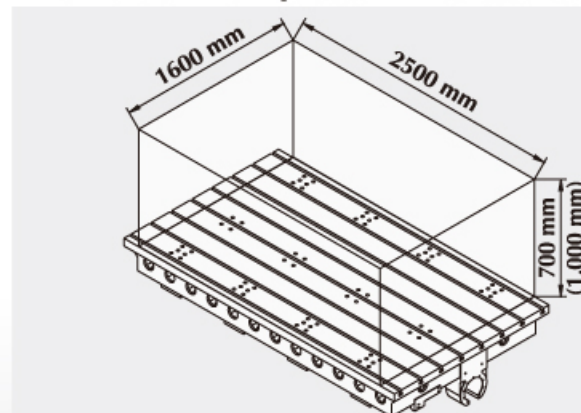
- Roller type linear guide ways on three axes feature higher feedrate, resist heavier loads and ensure superior dynamic accuracy and long service life. X-axis is equipped with 3 linear guide ways for superior rigidity.
- Three axes are driven by powerful servo motors. Its strong power can reduce machining time for large molds and increase profitability.
- Three axes feedrates:
Rapid feedrates 20/18/20m/min.
Cutting feedrates 20/18/20m/min.
- Three axes are equipped with Heidenhain optical scales.
- Positioning accuracy: 0.005mm/300mm.
- Repeatability: $\pm 0.003\text{mm}$
- Cutter balance should be calibrated to within G2.5.

One-piece Constructed Columns

The specially designed double-column high speed machine structure combined with one-piece constructed columns fully exhibit structural rigidity and stability during heavy cutting.



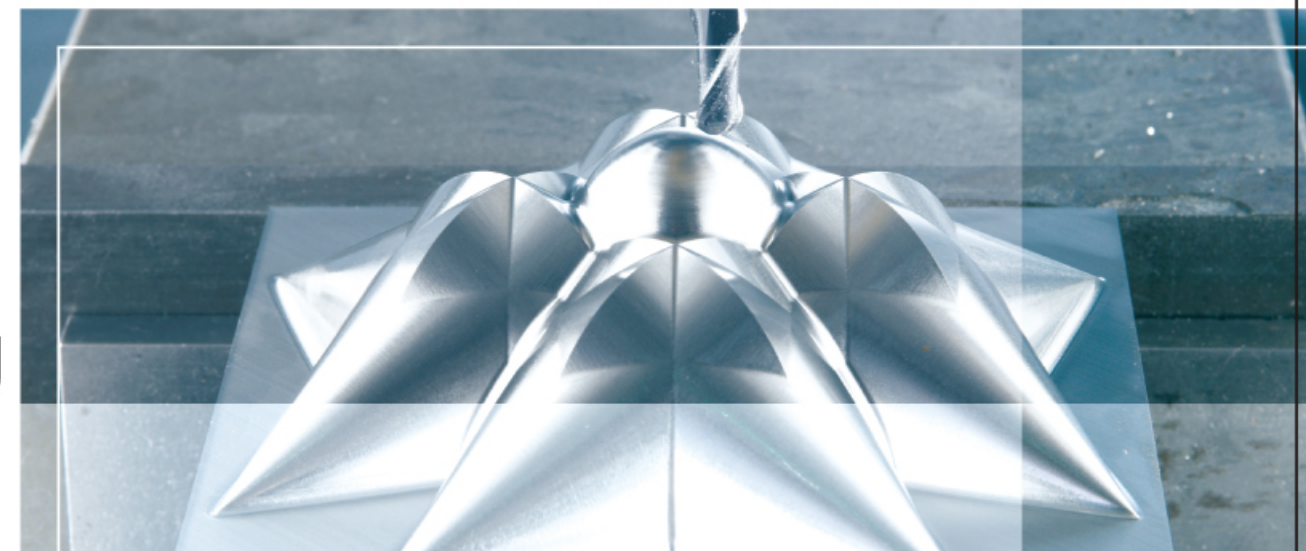
Allowable Workpiece Dimensions:



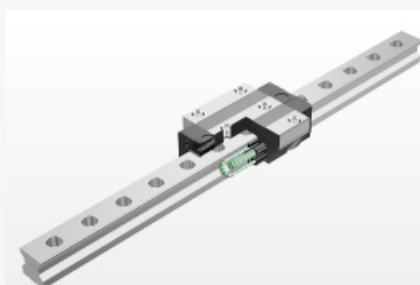
X-axis travel (optional)	3,000 mm
Z-axis travel (optional)	800 mm
Max. workpiece height	700 mm
(Optional)	1,000 mm
Max. table load	10,000 kg

Excellent Design Throughout.

GT-2516V is Your No.1 Choice in Large Mold Machining

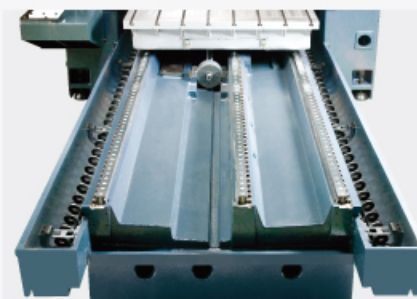


Gentiger Machine GT-2516V Features



Rigid Roller Type Linear Way

Mounted with the SRG highly rigid roller type linear guide ways combined with the use of roller retainer. These special linear guide ways feature low friction coefficient, smooth movement and maintenance-free performance for long periods of operation.

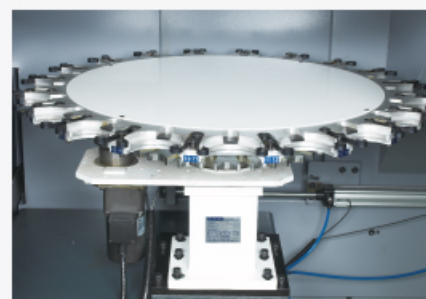


Three Linear Ways on X-axis

The X-axis is mounted with three heavy-duty roller type linear guide ways with greater span between ways. This provides solid support for table. Another benefit is the table can accommodate heavier loads without deformation.

Chip Augers

There is one chip auger each equipped at each side of base, delivering chips to a chip conveyor for exhausting chips out of the machine.



Disk Type Magazine (standard equipment)

The loading capacity of magazine is 20 tools. It accommodates BT-50 tool shank.



Coolant Through Ball Screw

Coolant through ball screws on X, Y-axis prevent ball screw deformation, while assuring smooth feed motions and high positioning accuracy.



6 Blocks on Z-axis

Slideways are mounted with two heavy duty roller type linear ways with great span between ways. Each linear way employs three blocks to upgrade rigidity on Z-axis and features maximum stability during heavy cutting.



Air Conditioner for Electronic Cabinet

With the use of air conditioner, the controller, motor driver and electronic components may maintain a constant temperature at all times. It also eliminates trouble or machine downtime caused by high temperature for a long time operation.



High Quality Electronic Components

The control circuit in the electrical cabinet consists of high quality electronic components that feature excellent stability and long service life.



Automatic Lubricator

This lubricator automatically delivers lubrication oil to Y, Z-axis ball screws (X-axis is grease lubricated) and three axes linear ways.



Heidenhain Optical Scales on 3 Axes

High accuracy ($\pm 3\mu\text{m}$)
High repeatability accuracy ($\leq 0.2\mu\text{m}$)
Pollution resistant (single field scanning)
Interfering signal-resistant (covered by full conductor)



Caterpillar Chip Conveyor

The chip conveyor efficiently delivers chips out of the machine. It eliminates machine problem caused by chips deposit.

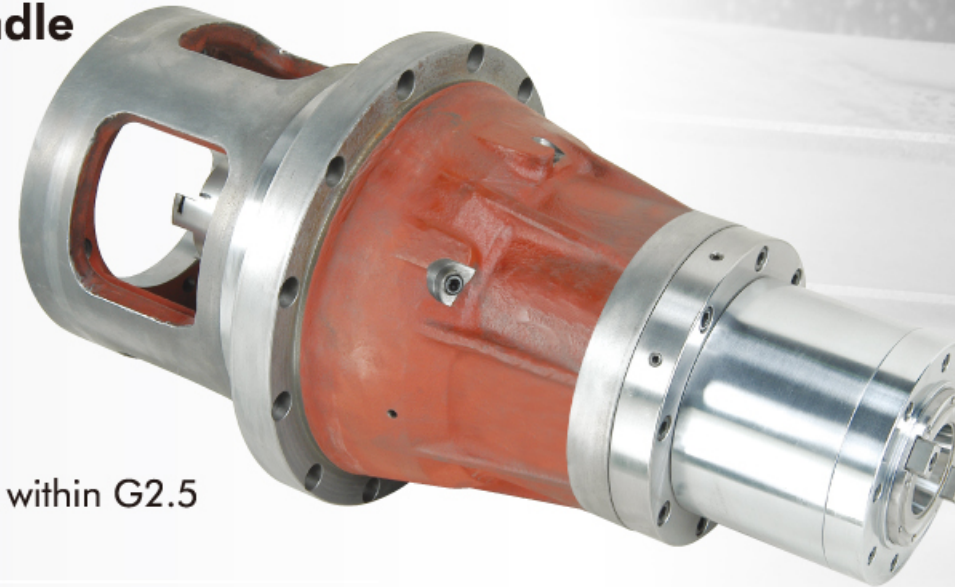
High Precision, High Speed Spindle

A Guarantee for High Speed and High precision Machining

Direct Drive Spindle BT-50

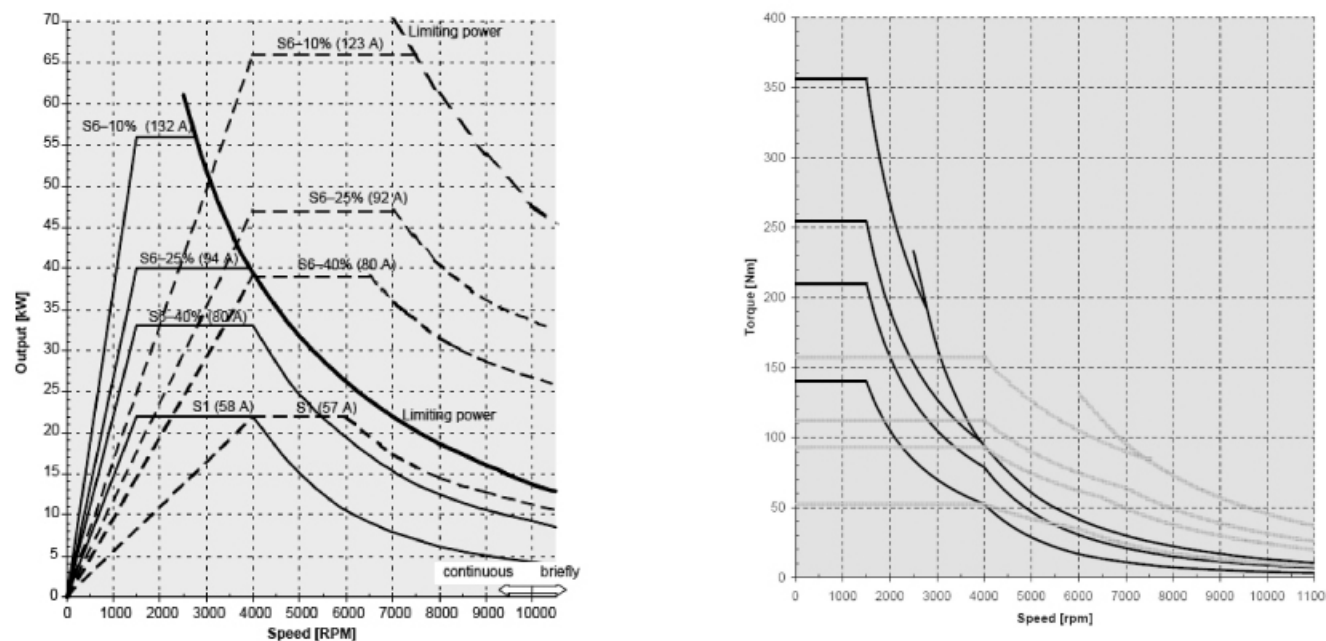
Water Circulated Cooling on Spindle

- Maximum Spindle Speed: 10,000 RPM
- Bearing Lubrication: Grease
- Spindle Motor: 22 KW
- Spindle Torque: 140 Nm
- Spindle Inside Diameter: 90 mm
- High Precision Ceramic Bearings
- Cutter needs to be dynamically balanced to within G2.5

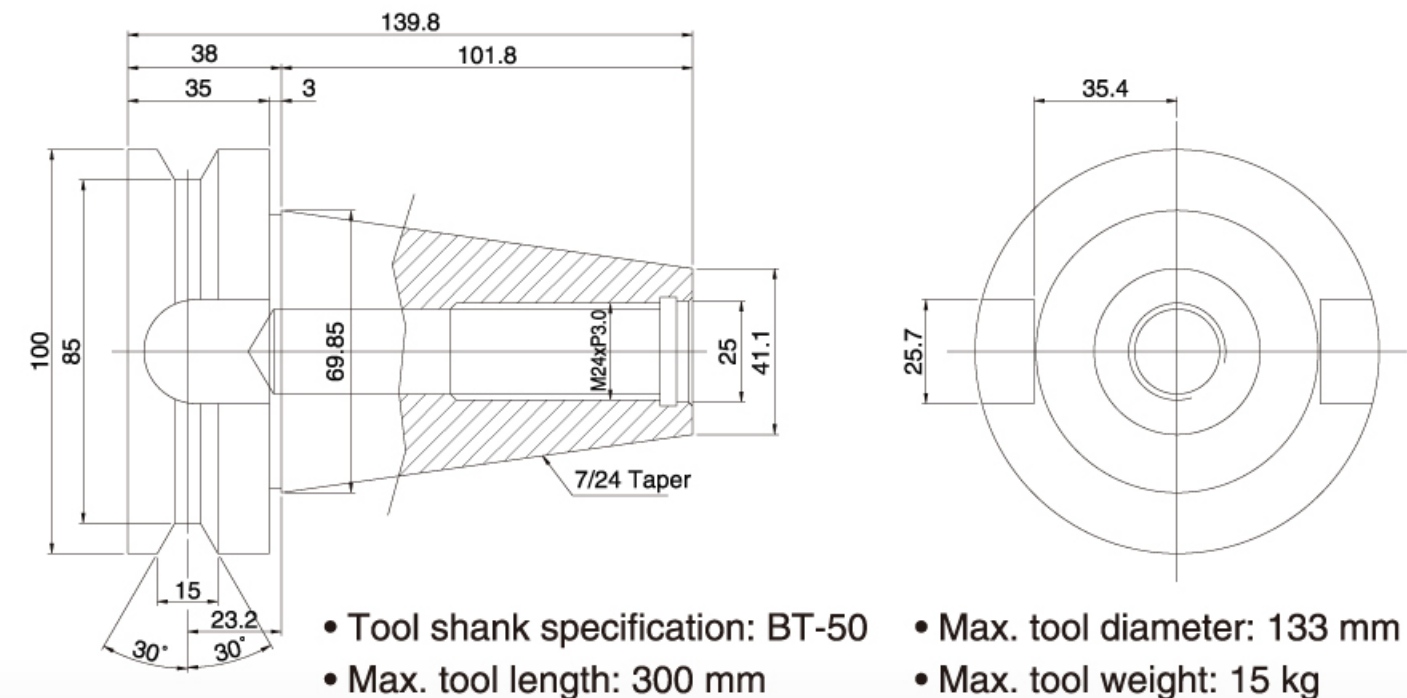


**HIGH
SPEED
SPINDLE**

Spindle Speed/Power Diagram



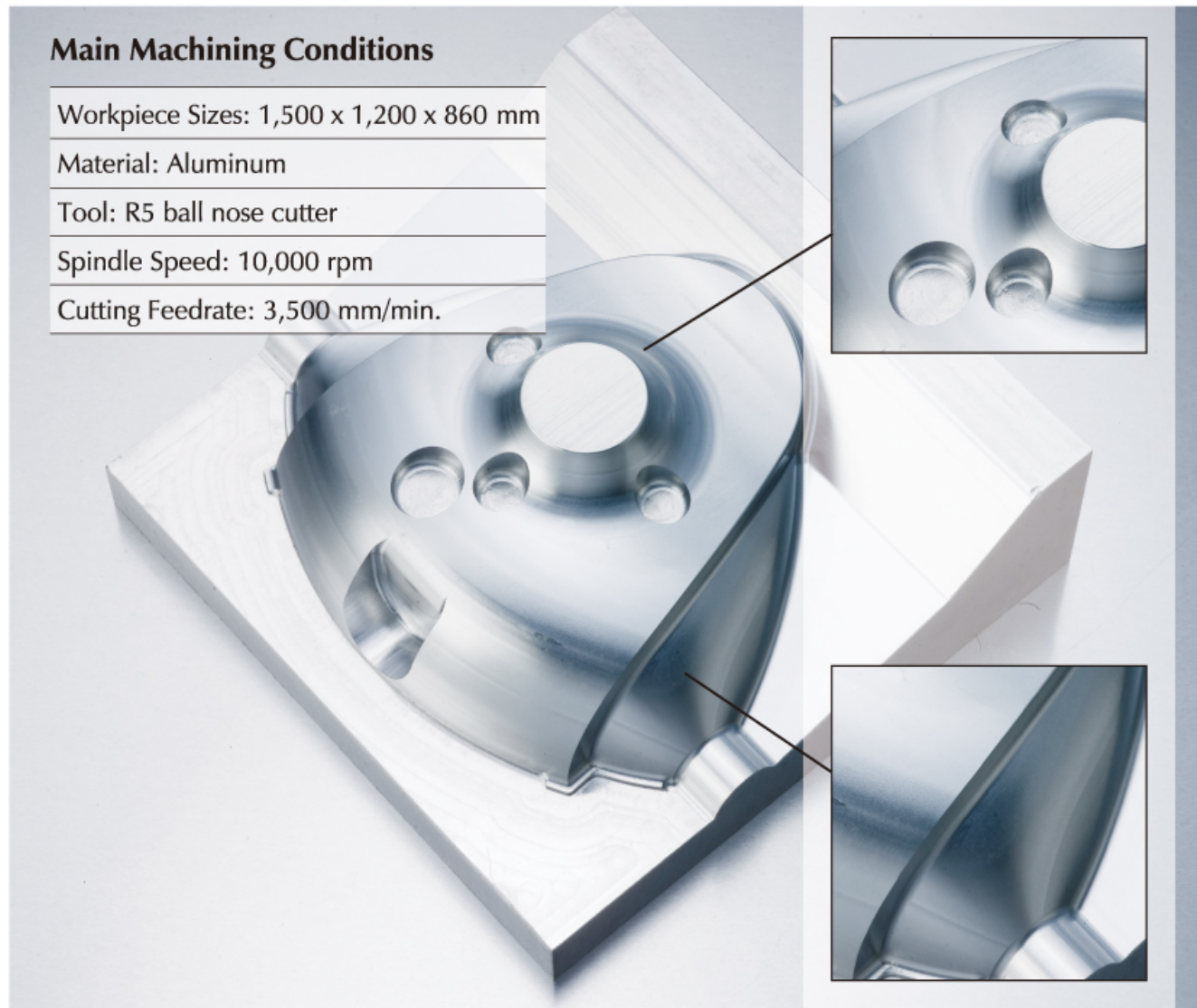
BT-50 Tool Shank Diagram



Outstanding **Mold Machining** Capability

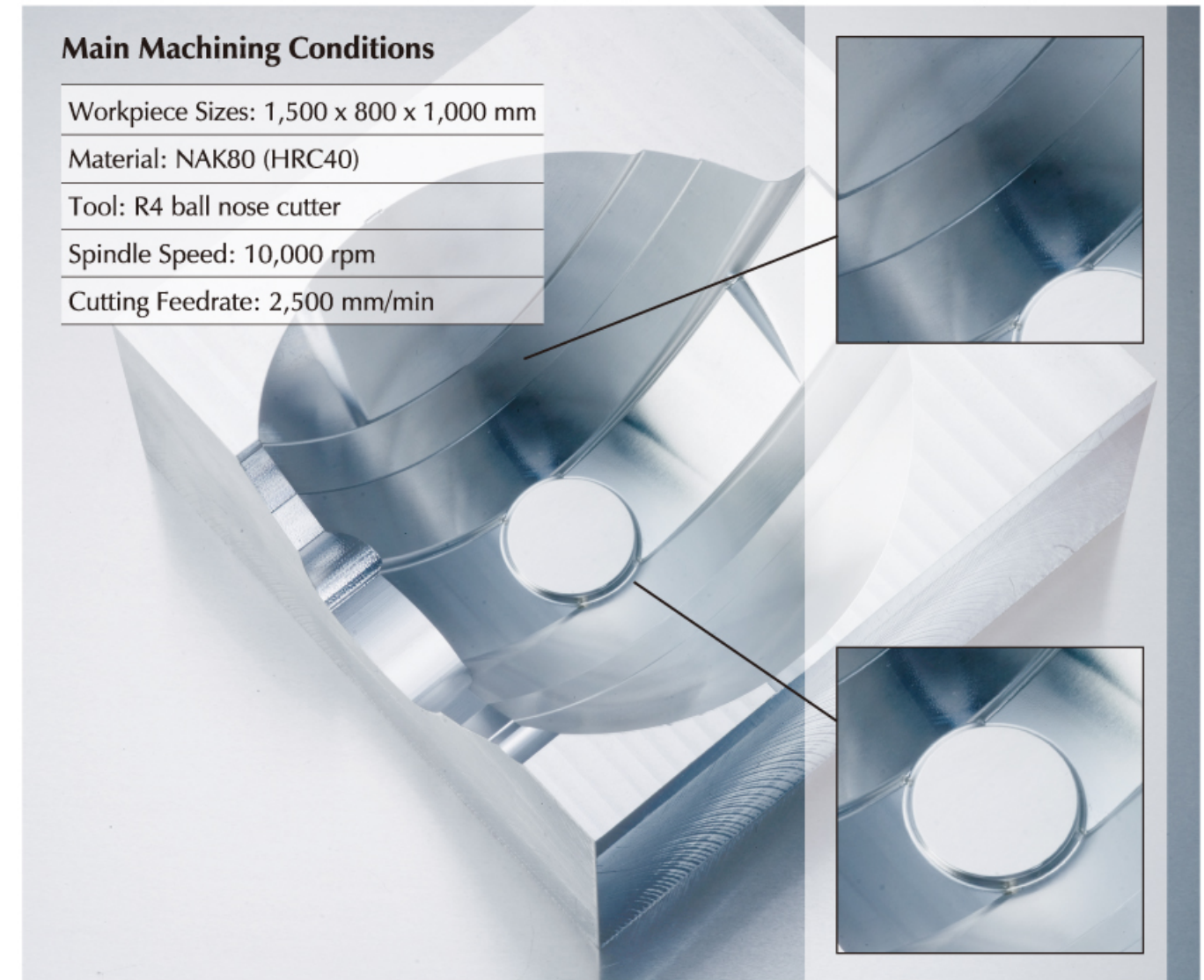
Main Machining Conditions

Workpiece Sizes: 1,500 x 1,200 x 860 mm
 Material: Aluminum
 Tool: R5 ball nose cutter
 Spindle Speed: 10,000 rpm
 Cutting Feedrate: 3,500 mm/min.



Main Machining Conditions

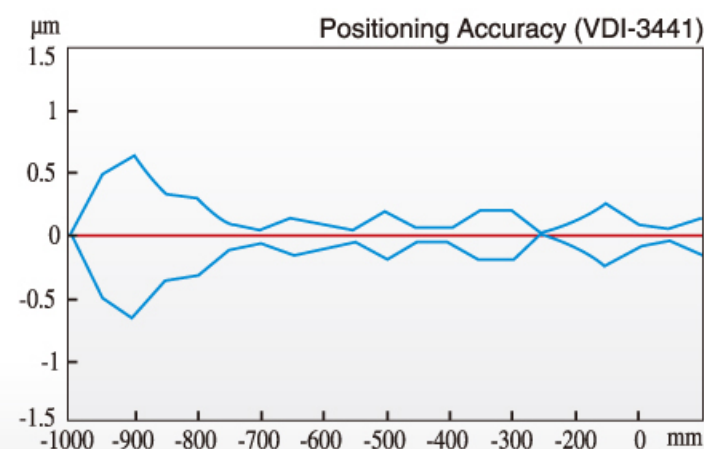
Workpiece Sizes: 1,500 x 800 x 1,000 mm
 Material: NAK80 (HRC40)
 Tool: R4 ball nose cutter
 Spindle Speed: 10,000 rpm
 Cutting Feedrate: 2,500 mm/min



Superior **Quality** Control

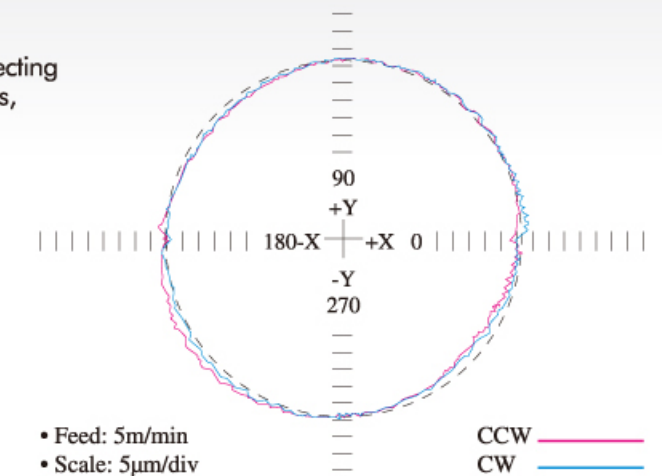
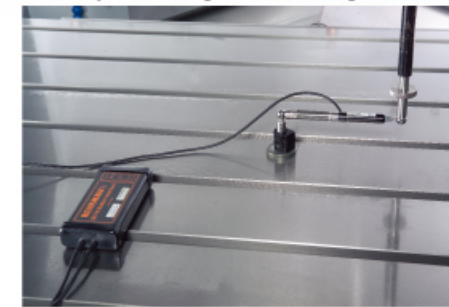
Accuracy Inspection by Laser

The high-tech Renishaw laser unit is applied for inspecting linear positioning accuracy, pitch error and backlash, etc.



Ball Bar Circulating Accuracy Inspection

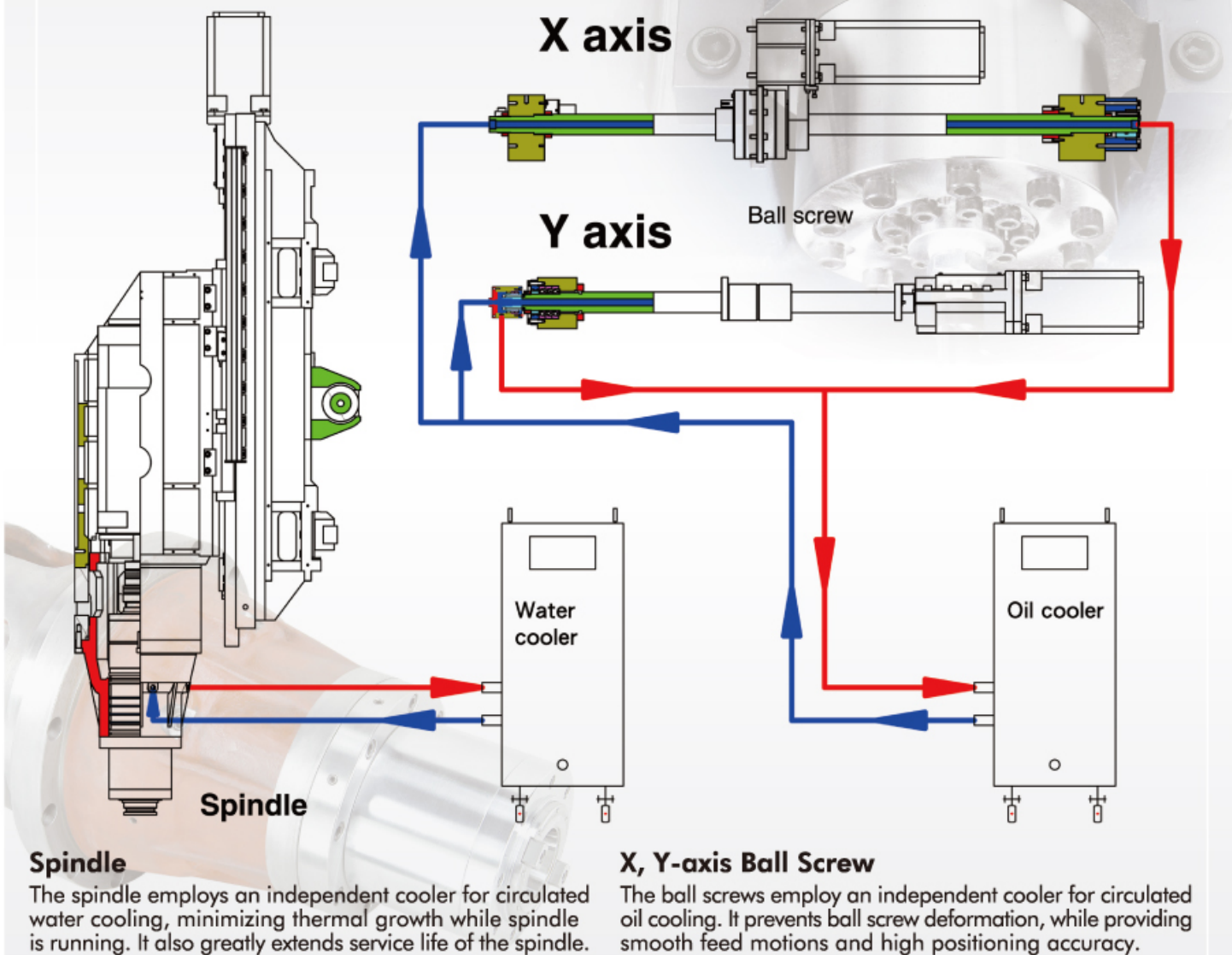
A high precision Renishaw ball bar tester is used for inspecting servo accuracy and geometric errors between two axes, thereby ensuring outstanding circularity accuracy.



Positioning and Repeatability Accuracy

Model	Control	Positioning Accuracy	Repeatability
GT-2516V	SIEMENS FANUC HEIDENHAIN	0.005/300mm	±0.003mm

High Precision Performer



Various Advanced CNC Controls to Choose from



The Gentiger machining center provides a choice of various advanced CNC controls. Each control permits high speed milling and NURBS curved surface machining functions and is easy to learn and operate.

Ethernet



Ethernet Support Function

The machining programs can be managed by a PC with instant editing then the programs are transferred through Ethernet to the machine. This function will save operation time.

Optional Equipment



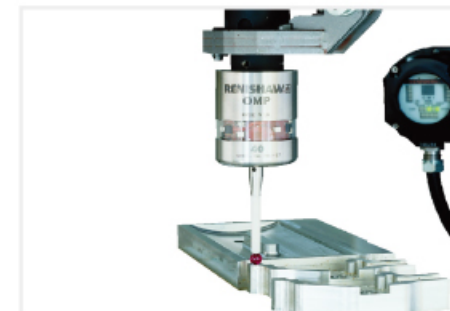
■ CTS Coolant Through Spindle Device



■ Automatic Tool Length Measurement System (Laser Type)



■ Automatic Tool Length Measurement System (Mechanical Type)



■ Automatic parts Measurement Device



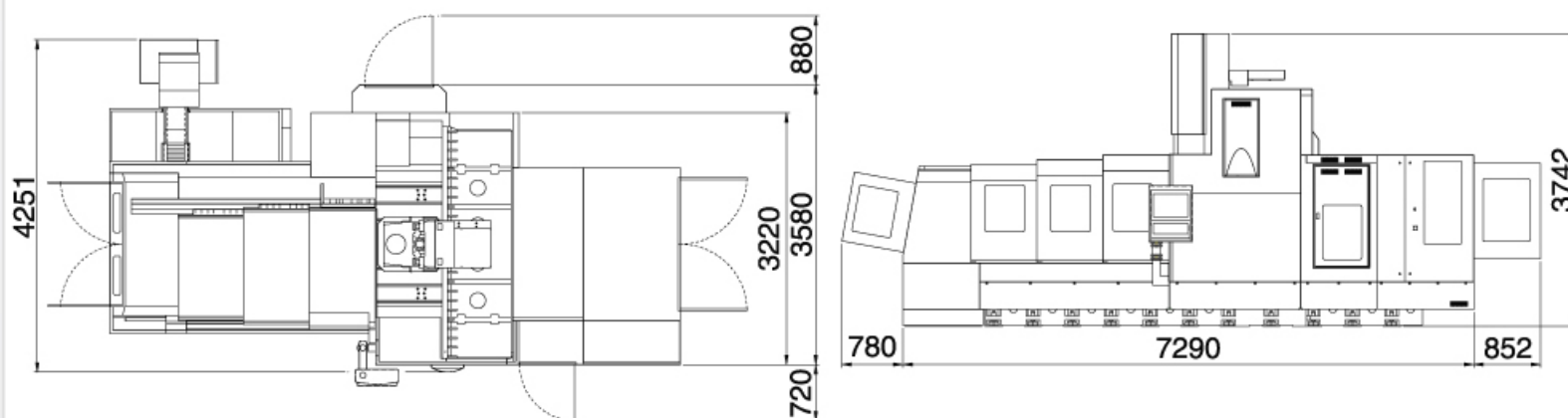
■ Oil Coolant Separator



■ 40T Magazine (BT-50)



DIMENSIONAL DRAWINGS OF THE MACHINE



Gentiger GT-2516V

Model	GT-2516V
Max. spindle speed	10,000 rpm
Spindle taper	BT-50
Spindle motor	22 kw
Spindle torque output	140 Nm
Inside dia. of spindle bearing	90 mm
Bearing lubrication	Grease
Spindle cooling	Water cooling
Table area	2,800 x 1,600 mm
T-slot	22 x 210 x 8
Height of table from ground	980 mm
Max. load of table	10,000 kg
Travel for X, Y, Z-axis	2,500 x 1,600 x 700 / 800 mm (optional)
Distance from table surface to spindle nose	300 - 1,000 mm / 250 - 1,050 mm (optional)
Max. height of workpiece	700 mm / 1,000 mm (optional)
Rapid traverse rate (X,Y,Z)	20, 18, 20 m/min
Cutting feedrate (X,Y,Z)	20, 18, 20 m/min
ATC tool system	BT-50/20 tools (40 tools optional)
Max. tool length	300 mm
Max. tool diameter	133 mm
Max. tool weight	15 kg
Tool Magazine motor	40 W
X, Y, Z-axis servo	SIEMENS / HEIDENHAIN FANUC
	Y, Z: 7.75 kw ; X: 11.5 kw X, Y, Z: 8.7 kw
Air pressure requirement	7 kgf / cm ²
Air conditioner	800 W
Spindle cooler	5 AMP / 3 HP (2.3 kw)
Automatic lubricator (slideways)	150 W
Coolant motor	760 W
Chip flush motor	1600 W
Total power consumption (Max.)	50 KVA
Coolant tank capacity	1,170 Liter
Packing dimensions (L x W x H)	780 x 380 x 400 cm
Net weight	30,000 kg
Gross weight	33,000 kg

* SIEMENS control is standard. HEIDENHAIN and FANUC control are optional.

* Above specifications are subject to change without prior notice.

STANDARD ACCESSORIES

- Coolant tank
- Work lamp lamp
- Tool box
- Coolant motor
- Coolant system
- Spindle air blow system
- Chip air blow device
- Air conditioner for electrical cabinet
- MPG
- M30 work end indication lamp
- Spindle cooling system
- Caterpillar chip conveyor and cart
- Central control lubricator

- Operation and maintenance manual
- Leveling bolts and pads
- Helix chip conveyors along side working table
- Network function
- X, Y, Z axis optical scale

OPTIONAL ACCESSORIES

- Oil and lubricant separator
- Oil-mist cooling system
- Auto tool measurement system
- Auto workpiece measurement system
- Coolant through spindle device
- 40-tool magazine