



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

Professional High-Speed Machine GT-1614V

**A New Standard in High Speed
Precision Machining**



Gentiger Machinery Industrial Co., Ltd.



CE ISO 9001

Gentiger GT-1614V

Main Machining Conditions

Application: High Circularity Precision Machining
Control: SIEMENS 840D
Workpiece Sizes: 100 x 75 x 120 mm
Material: AL6061
Tool: Boring Tool
Performance: Less than 5 μ tolerance for concentricity and circularity.

Gentiger GT-1614V New Design Concept A Perfect Presentation of Speed, Stability and Precision!

The GT-1614V from Gentiger is designed for mold and die machining. It inherits the high speed, high precision features integrated in a big machining center. In addition, its outstanding stability has been fully recognized by each customer. The GT-1614V features double column high speed machine structure enabling the machine to fully exhibit its extraordinary stability and rigidity during performing high speed machining. The machine has X, Y, Z-axis travel of 1,400 x 1,600 x 600 mm. The cutting feedrates on three axes are 20 x 18 x 20 m/min. Three axes are mounted with roller type linear guideways to upgrade stability of travel.

Machine Features

Rigid Structure

- The Gentiger GT-1614V features T-shape machine structure, exhibiting superior rigidity. The width of column is the same as the base. The table is independently installed on the base and is fully supported through the entire stroke. This machine offers high speed, maximum stability and high precision, providing a competitive edge in small type precision mold and die machining.

High Quality Cast Iron Multiple Treatments

- The structural parts of GT-1614V are manufactured from high quality cast iron, stress relieved and seasoning treated for the deformation-free performance year after year.

Roller Type Linear Guide Ways on Three axes

- Precision roller type linear guide ways on three axes achieve high loading resistance, high rigidity and long service life. Another benefit is that the machine provides the best dynamic accuracy at high feedrate.

Screw Chip Conveyor

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



- 3 axes cutting feedrate: 20 x 18 x 20 m/min
- 3 axes rapid feedrate: 20 x 18 x 20 m/min
- Positioning accuracy: 0.004 / 300 mm (Equipped with optical scale)
- Repeatability: ± 0.003 mm (Equipped with optical scale)

Gentiger GT-1614V

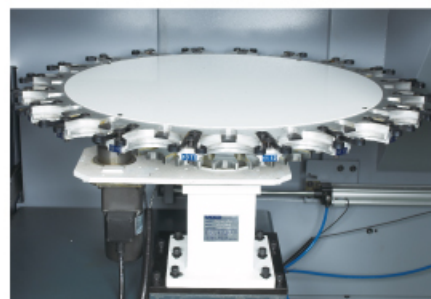
Supreme Frame Structure Design

Machine Features



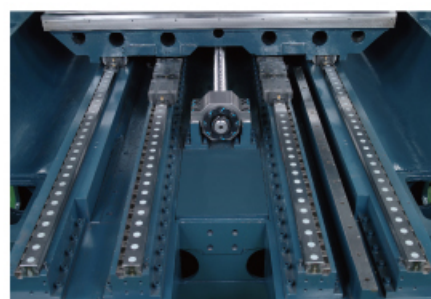
Automatic Lubricator

This lubricator automatically delivers lubrication oil to 3-axes ball screws and linear ways.



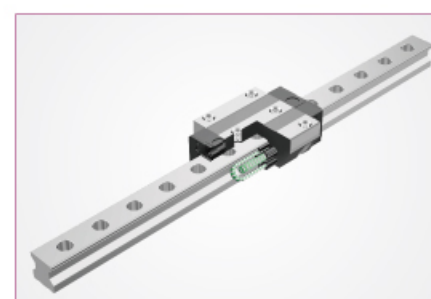
Disk Type Magazine (standard equipment)

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



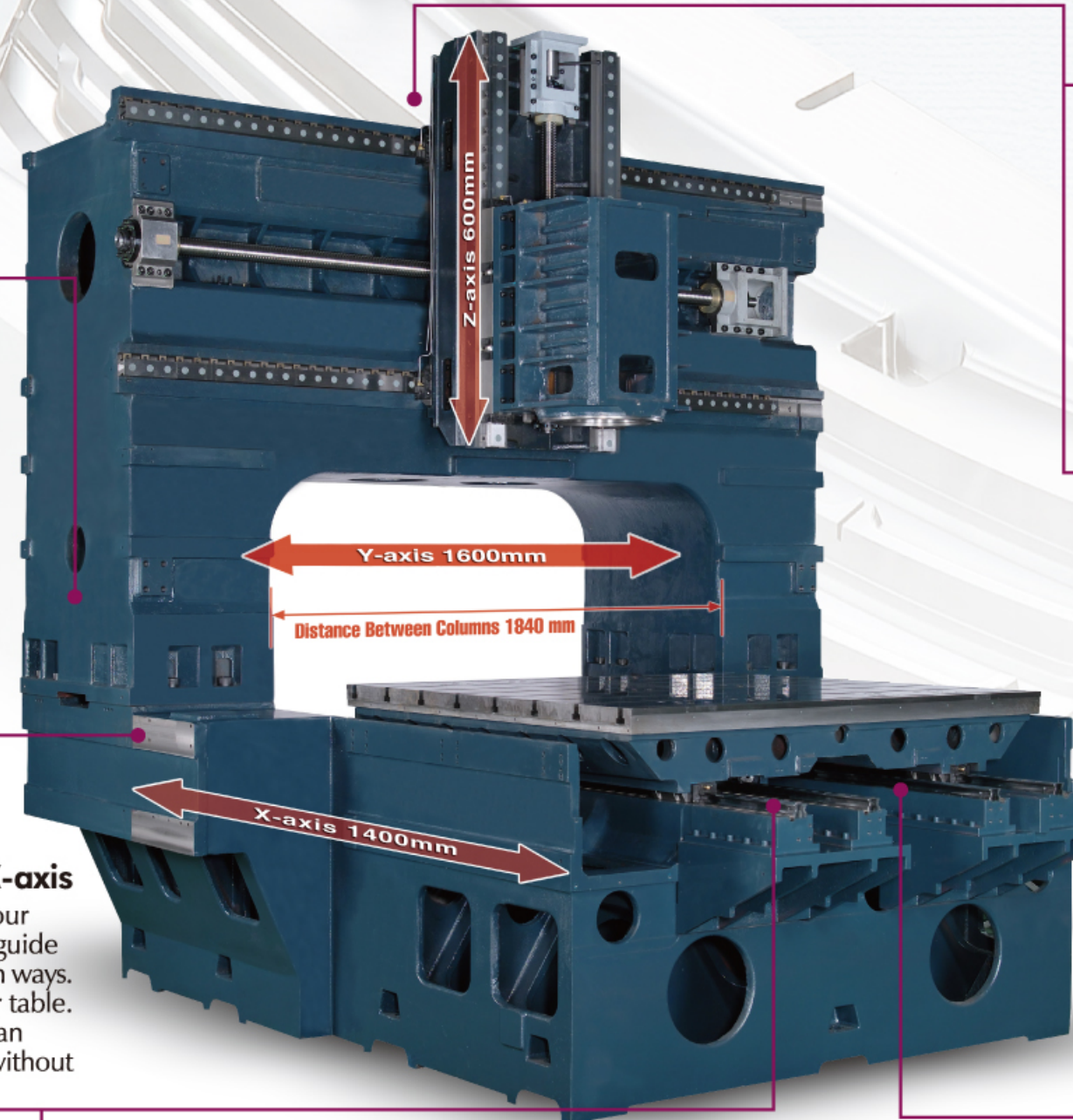
Four Linear Ways on X-axis

The X-axis is mounted with four 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.



Rigid Roller Type Linear Way

Mounted with the 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.



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 down-time 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.



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)



Optional Equipment



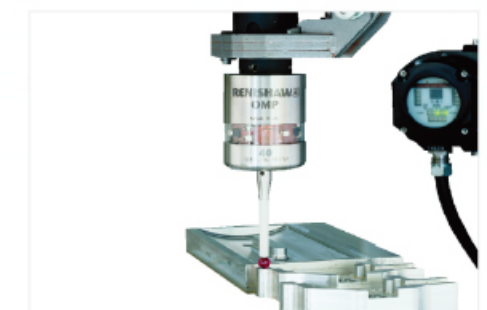
CTS Coolant Through Spindle Device



Automatic Tool Length Measurement System (Laser Type)



Automatic Tool Length Measurement System (Mechanical Type)



Automatic parts Measurement Device

10,000 rpm High Speed Spindle

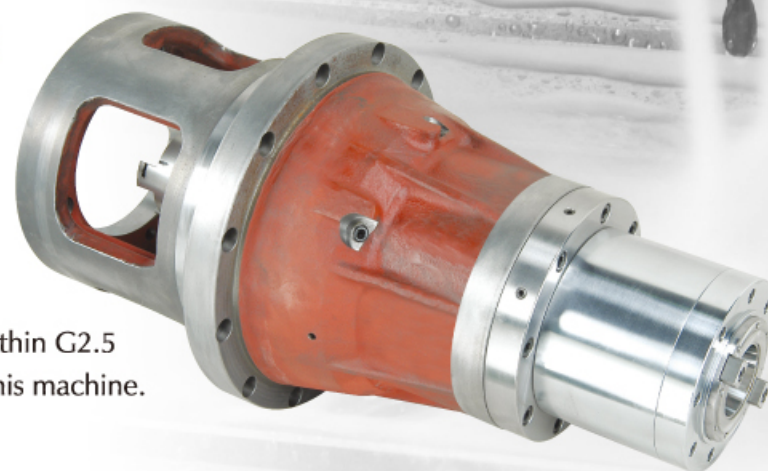
High Precision, Maximum Stability!

Great Torque Output!

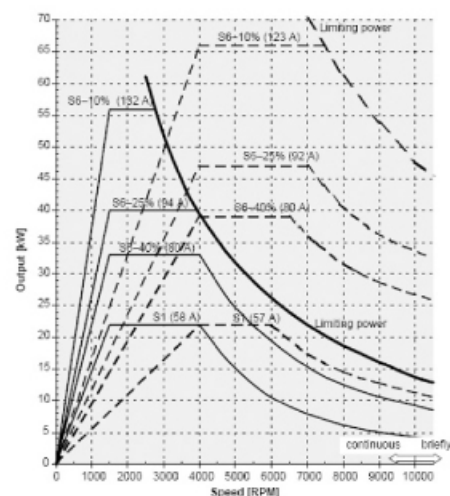
T10

Direct Drive Spindle BT-50 Oil Circulated Cooling

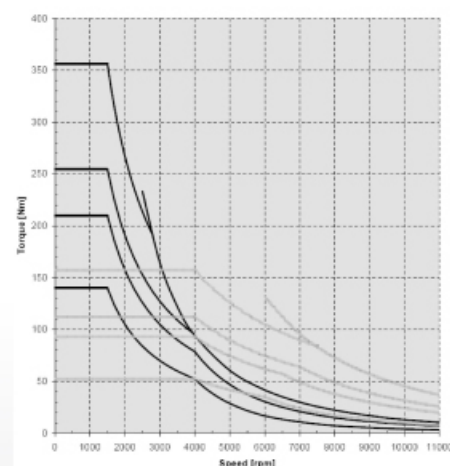
- Maximum Spindle Speed: 10,000 RPM
- Spindle Motor: 22 kW
- Spindle Torque: 140 Nm
- Spindle Inside Diameter: Ø90 mm
- Bearing Lubrication: Grease
- High Precision Ceramic Bearings
- ※Cutter balance should be calibrated to within G2.5
- ※Other spindle speed also available with this machine.



Spindle Speed / Power Diagram

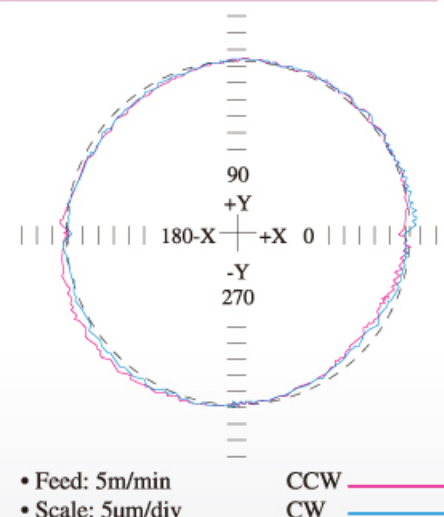
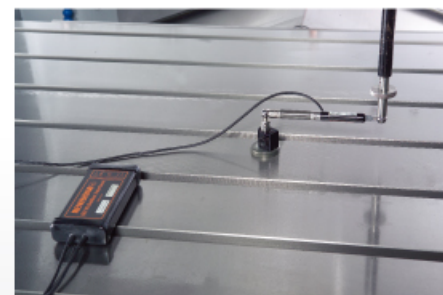


Spindle Speed / Torque Diagram



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.



Gentiger GT-1614V

MODEL	T10P
Travel (X/Y/Z)	1,400 x 1,600 x 600 mm
Cutting Feedrate	20 x 18 x 20 m/min
Rapid Feedrate	20 x 18 x 20 m/min
Table Area	1,500 x 1,600 mm
T-Slot	22 / 200 x 8 mm
Height of Table from Ground	1,080 mm
Max. Height of Working Piece	600 mm
Distance from Spindle Nose to Table Surface	300 ~ 900 mm
Max. Load of Table (Average Load)	3,000 kg
Max. Spindle Speed	10,000 rpm
Type of Spindle Motor	Direct Drive
Bearing Lubrication	Grease
Spindle Cooling	Oil Cooling
Spindle Taper	BT-50
Spindle Motor	22 kw
Spindle Torque	140 Nm
Spindle Bearing Ins.Diameter	Ø90 mm
ATC Capacity	20 tools
ATC Tool System	BT-50
Max. Tool Diameter	Ø133 mm
Max. Tool Length	300 mm
Max. Tool Weight	15 kg
Motor of Tool Magazine	90 w
Air Pressure Requirement	7 kgf / cm ²
Air Conditioner	800 w
Spindle Cooler	2,900w (50HZ) / 3,500w (60HZ)
Automatic Lubricator (Slideways)	150 w
Coolant Motor	750 w
Total Power Consumption (Max.)	58 kw
Coolant Tank Capacity	400 Liter
Controller	SIEMENS / HEIDENHAIN FANUC
Servo Motor for 3 Axes	11.5 kw(X) / 8.7 kw(Y,Z) 16 kw(X) / 7 kw(Y,Z)
Machine Dimension	4,865 x 4,605 x 3,940 mm
Packing Dimension	5,300 x 4,000 x 3,990 mm
Machine Net Weight	24,500 kg
Machine Gross Weight	26,500 kg

* Other spindle speed also available with this machine.

* All specification, design and characteristics shown in this catalogue are subject to change without prior notice.

Standard Accessories

- Coolant system
- Work lamp
- Toolbox
- Spindle air blow system
- Chip air blow device
- Air conditioner for electrical cabinet
- MPC
- M30 work end indication light
- Full enclosed splash guard
- Central control lubricator
- Operation and maintenance manual
- Leveling bolts and pads
- Internet function
- Spindle heat compensation system
- Caterpillar chip conveyor and cart
- 3 axes optical scale
- Two screw chip conveyor equipped at the base

Optional Accessories

- Oil skimmer
- Oil-mist cooling system
- Auto tooling measurement
- Coolant through spindle

Dimensional Drawings of the Machine

Unit: mm

