

# FORTEX



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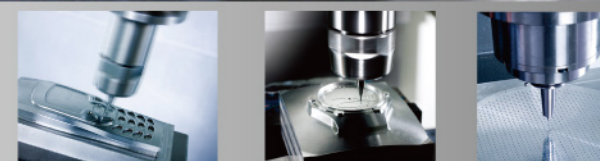
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VT SERIES  
ENGLISH



# VT Series



## HIGH SPEED TAPPING CENTER VT500



TKM-20120330-V1-1000



www.takumi.com.tw



# VT Series

## VT500 DRILL & TAPPING CENTER

The achievement of Takumi's innovation and technology-

The perfect performance of high speed and high accuracy.

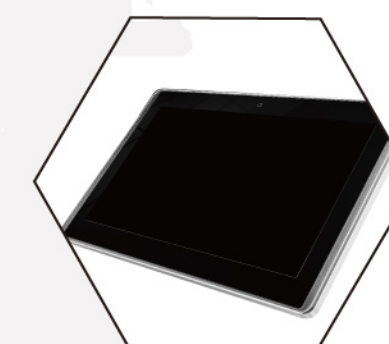
TAKUMI R & D team to adhere high speed performance design concept of 3C and auto parts industry, to successful development of a new generation of high-performance drilling and tapping machine, effectively enhance the quality of the light and rapid cutting, excellent high-speed drilling and tapping. Maximize your working efficiency and benefits.



Smart Phone



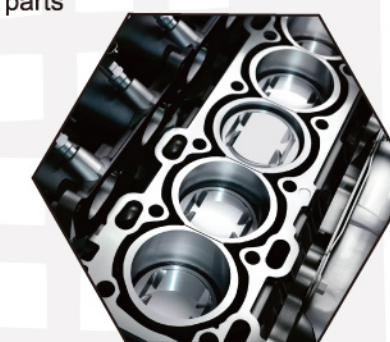
Computer parts



Tablet PC



Parts working



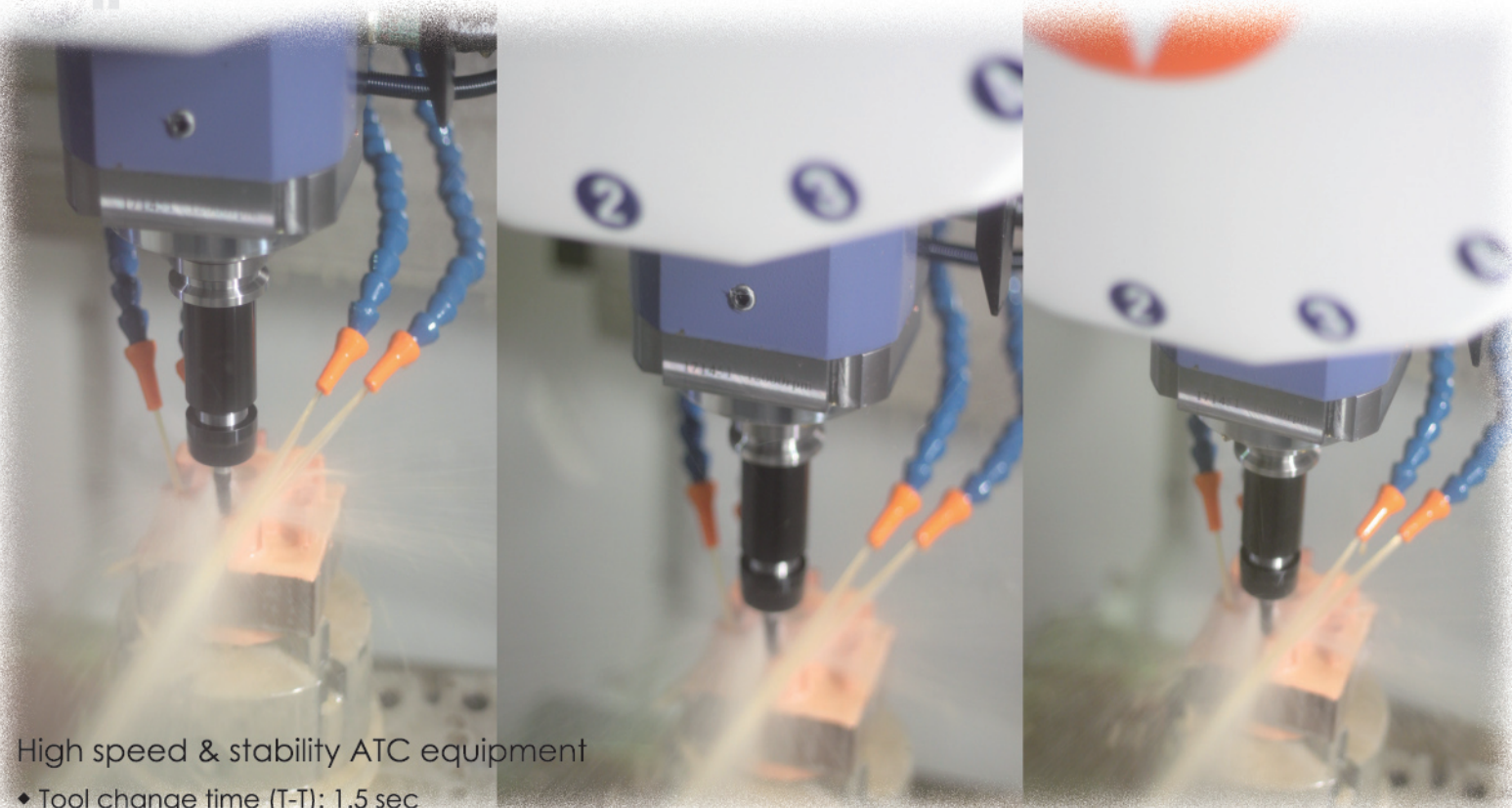
Auto Parts and Accessories



- ◆ Standard spindle 12,000rpm  
Optional spindle 20,000rpm
- ◆ Rigid tapping 4000rpm
- ◆ Spindle taper BT30
- ◆ 3 axis feedrate 60/60/60 m/min  
(Mitsubishi Specification only)
- ◆ High speed ATC system (T-T:1.5 sec)
- ◆ Direct drive type spindle
- ◆ 3 axis high speed linear guide way
- ◆ Minimum floor space  
Machine width only 1,600mm ·  
Reduce the use of area, saving the cost.

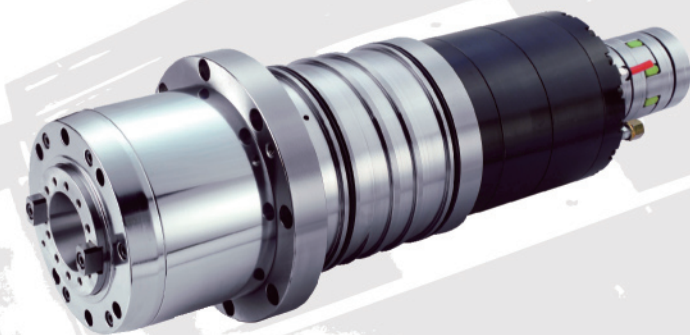
VT500





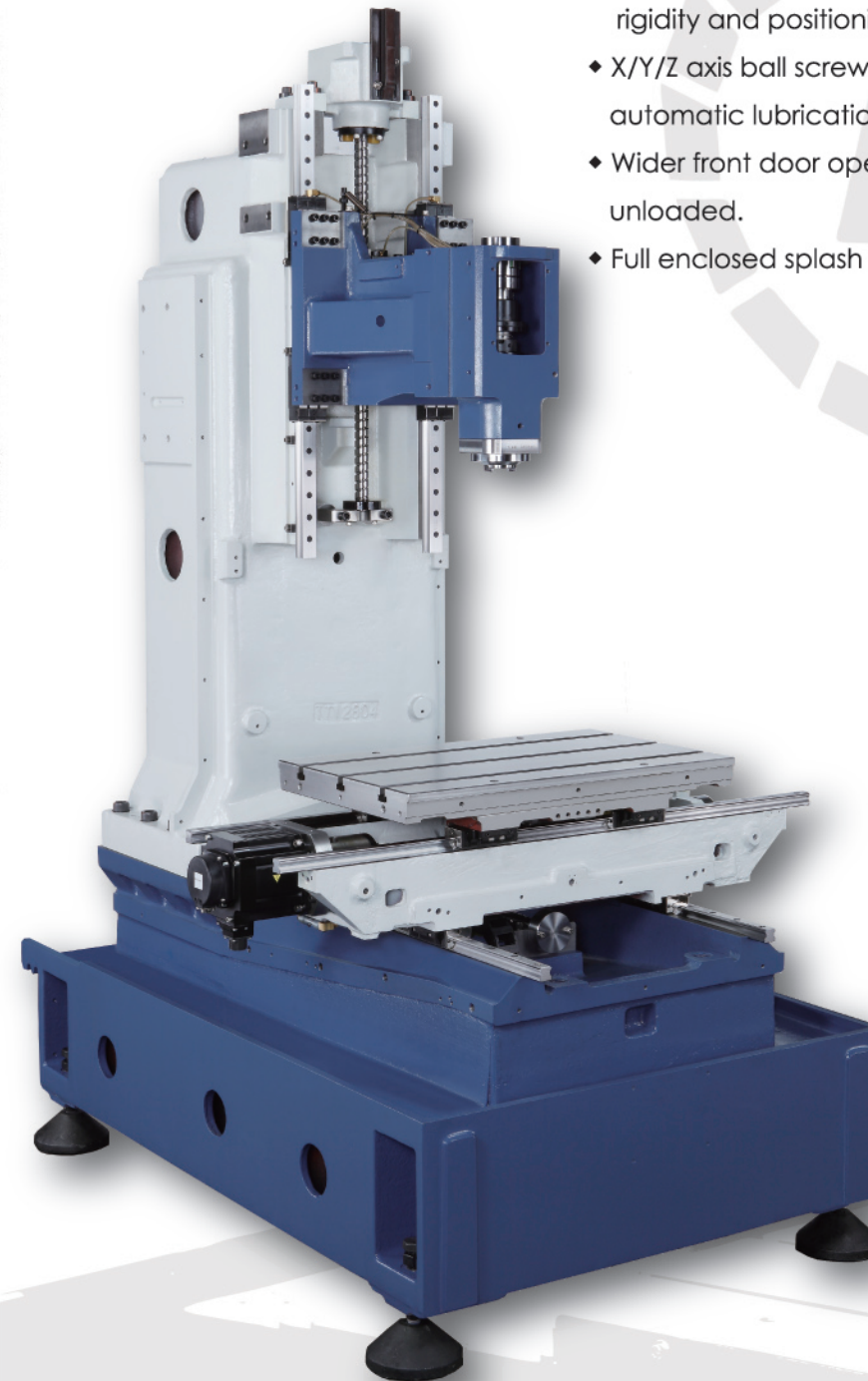
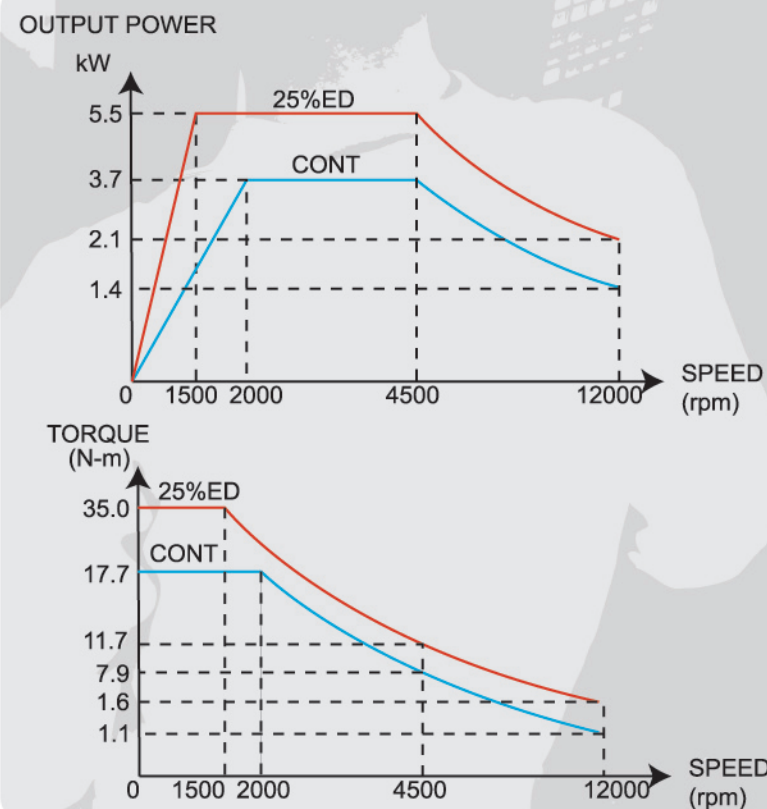
High speed & stability ATC equipment

- ◆ Tool change time (T-T): 1.5 sec
- ◆ Simple structure, stable and reliable, reducing non-cutting time, enhance the use of machine performance.

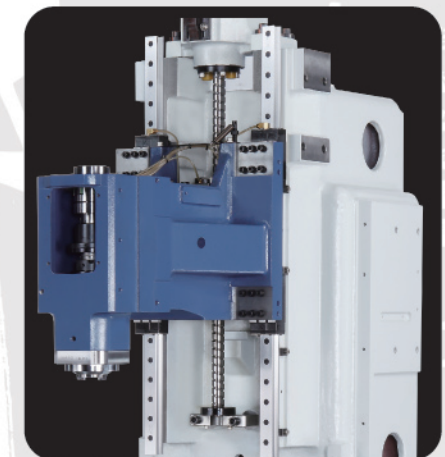


Direct drive spindle  
12000rpm(Std)/20000rpm(Opt)

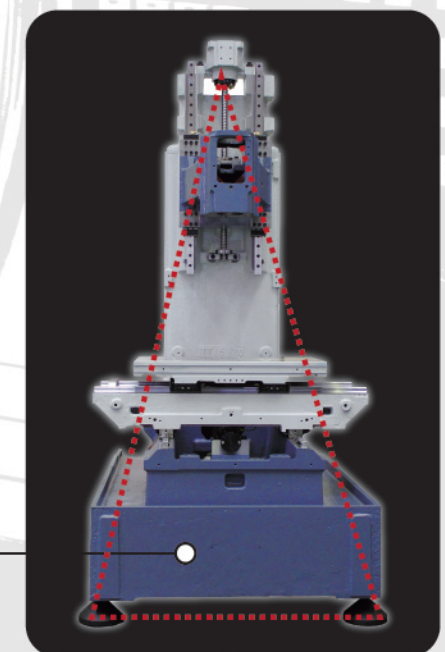
- ◆ The spindle is directly driven by a motor without noise, backlash or vibration problems, which usually occur on belt or gear-driven spindle.
- ◆ The direct drive spindle design provides higher motor efficiency.



- ◆ All of 3 axes are equipped with high precision linear guide ways.
- ◆ Bed, table, column, beam, saddle and other main casting are made of Meehanite grade cast iron and released the stress by heat treatment.
- ◆ Box shape bed ensures the best structural rigidity. Columns are made of one piece casting.
- ◆ 3-axis ball screws are drove by coupling, which enhances the rigidity and positioning accuracy.
- ◆ X/Y/Z axis ball screws and linear guide ways are lubricated by centralized automatic lubrication system (oil type).
- ◆ Wider front door opening makes workpiece easier to be loaded and unloaded.
- ◆ Full enclosed splash guard provides safety during operation. (Optional)



Rigid Headstock



### A type Stability Constructure

Combined with high rigidity large base span column, which offer absolute stability and accuracy. The low gravity center strengthens the structural rigidity of the machine base. Reduces vibration during cutting.



## Application

### Drilling/Aluminum

Max. diameter

**Ø32 mm**

Tool Ø32 Speed drilling  
Speed 700 rpm  
Feedrate 200 mm/min

### Drilling/ S45C

Max. diameter

**Ø26 mm**

Tool Ø26 Drilling  
Speed 300 rpm  
Feedrate 60 mm/min  
Depth 30 mm

### Tapping/ S45C

**M20**

Tool M20  
Speed 240 rpm  
Feedrate 600 mm/min  
Depth 28 mm

### Face Milling/ Aluminum

Removal rate

**1,000 c.c/min**

Tool Ø50 Face Milling  
Speed 1500 rpm  
Feedrate 10,000 mm/min  
Width 40 mm  
Depth 2.5 mm

### Face Milling/ S45C

Removal rate

**150 c.c/min**

Tool Ø50 Face Milling  
Speed 1500 rpm  
Feedrate 1,800 mm/min  
Width 40 mm  
Depth 2 mm

### Face Milling/ S45C

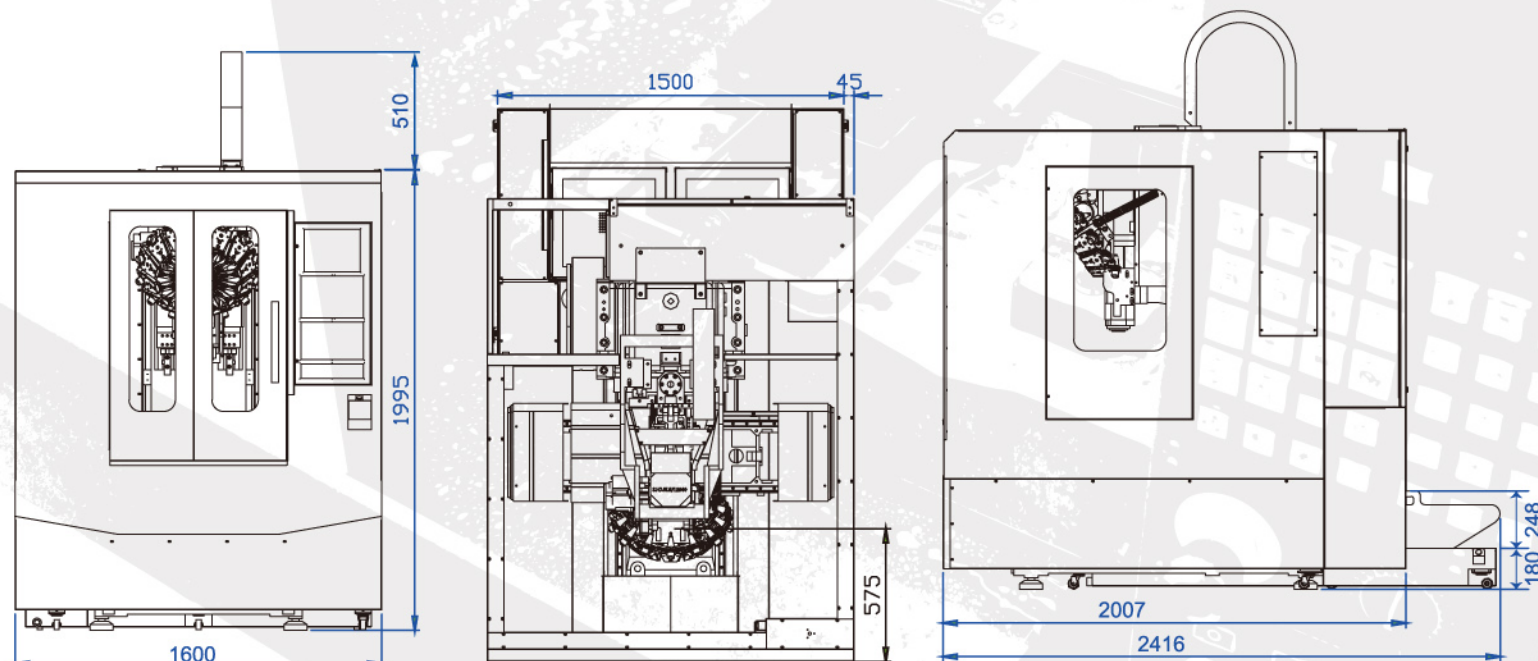
Max. cutting depth

**4 mm**

Tool Ø50 Face Milling  
Speed 1200 rpm  
Feedrate 600 mm/min  
Width 40 mm

## Machine Dimension

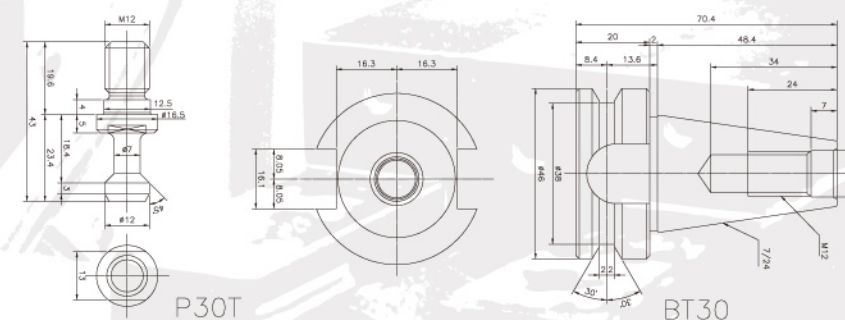
unit : mm



## Specifications

| Item                                    | Unit                | VT 500                                 |
|-----------------------------------------|---------------------|----------------------------------------|
| Stroke                                  |                     |                                        |
| X axis                                  | mm                  | 500                                    |
| Y axis                                  | mm                  | 400                                    |
| Z axis                                  | mm                  | 330                                    |
| Spindle nose to table                   | mm                  | 250-580                                |
| Table                                   |                     |                                        |
| Dimension                               | mm                  | 650x400                                |
| Max. table load                         | kg                  | 250                                    |
| T-slot (Width*Pitch*Number)             | mm                  | 14x125x3                               |
| Spindle                                 |                     |                                        |
| Spindle type                            |                     | Direct-drive                           |
| Spindle speed                           | rpm                 | 12000/ BT30 (STD)<br>20000/ BT30 (OPT) |
| Spindle motor (cont./ 30 min rated)     | kW                  | 3.7/5.5                                |
| Feed                                    |                     |                                        |
| Rapid traverse X/Y/Z (MITSUBISHI SPEC.) | m/min               | 60/60/60                               |
| Cutting feed rate                       | mm/min              | 1-10000                                |
| 3-axis motor (X/Y/Z)                    | kW                  | 1.5/1.5/2.2                            |
| ATC unit                                |                     |                                        |
| Magazine type                           |                     | Tool turret                            |
| Magazine capacity                       | pcs                 | 14/21(opt)                             |
| Tool changing time (T to T)             | Sec.                | 1.5                                    |
| Max. tool diameter                      | mm                  | 80                                     |
| Max. tool length                        | mm                  | 150                                    |
| Max. tool weight                        | kg                  | 3                                      |
| Accuracy                                |                     |                                        |
| Positioning accuracy                    | mm                  | 0.006/300                              |
| Repeatability                           | mm                  | 0.004                                  |
| Space & system requirement              |                     |                                        |
| Pneumatic pressure                      | kgf/cm <sup>2</sup> | 6                                      |
| Space Dimension (WxLxH)                 | mm                  | 1600x2000x2500                         |
| Machine weight                          | kgs                 | 2500                                   |

\*\*Specifications are subject to change without notice.\*\*



BT30 - Tool Shank & Pull Stud

## Standard Accessories

- MITSUBISHI M70-B
- 12,000 rpm, BT30, Direct drive
- 14 tools, BT30, Turret
- Spindle air curtain
- Cutting coolant system
- Flush coolant system
- Manual pulse generator (MPG)
- Full splash guard
- Working lamp
- Indication lamp
- Tool package
- Heat exchanger in electrical cabinet (Fan type)
- Leveling blocks and bolts
- One-year machine warranty
- Controller warranty (24 months from shipping date)

## Optional Accessories

- MITSUBISHI M70-A
- FANUC 0iMD
- 20,000 rpm, BT30, Direct drive
- 21 tools, BT30, Turret type
- Short column (Spindle nose to table 150~480mm)
- Spindle oil cooler
- Full enclosed splash guard
- Chip conveyor
- Workpiece measurement system
- Tool length measurement system
- 4th axis rotary table
- Transformer