

## ULTRA-HIGH PERFORMANCE! EXCEEING EXPECTATION!

Rigid and compact structure design. X/Y/Z axis rapid traverse reaches 48 m/min. With various spindles, The TMV-720A allows different machining applications.

- ▶ TMV-720A is designed for high speed machining. The high speed 40 taper spindle with integrated spindle cooler allows long-term accurate machining. (Coolant through spindle optional).
- ▶ Long-neck type spindle decreases the interference range with 4th axis table. Furthermore, high rigidity machine structure ensures excellent positioning accuracy during high speed and precision machining.
- ▶ Arm type rapid automatic tool changer shortens the tool changing time and increases productivity.





# Machine structure

Stroke (X/Y/Z axis):

720/480/530 mm

Rapid traverse (X/Y/Z axis):

48/48/48 m/min

Wide Span Column

1,140 mm

Chip-proof  
telescopic cover



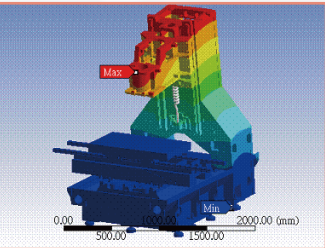
Ball screw &  
rigid linear guide way



Servo motor



Finite Element Analysis – FEA



FEA is employed in the machine design to ensure structural integrity. The result is high rigidity, high accuracy, and excellent machine productivity

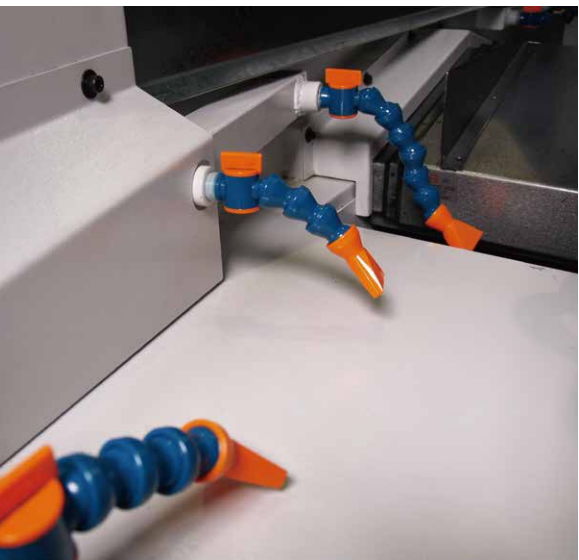
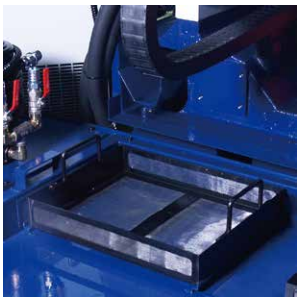
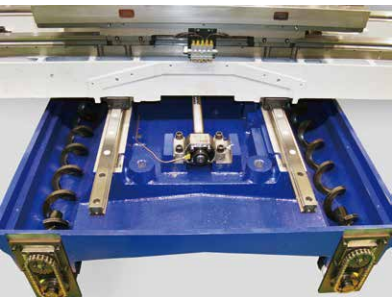
# Ball screw preloaded

The preloaded ball screw reduces thermal distortion and ensures the machine's continuous performance and precision.



# Chip removal design

Excellent dual-track chip disposal design with flushing system improves chip flow. The optional chip augers speed up the chip disposal and decrease the cleaning time.



# Ergonomic design

The ergonomic design facilitates the operator in monitoring the production process during program editing. It reduces mistakes and improves the working efficiency.



Spindle

Belt type

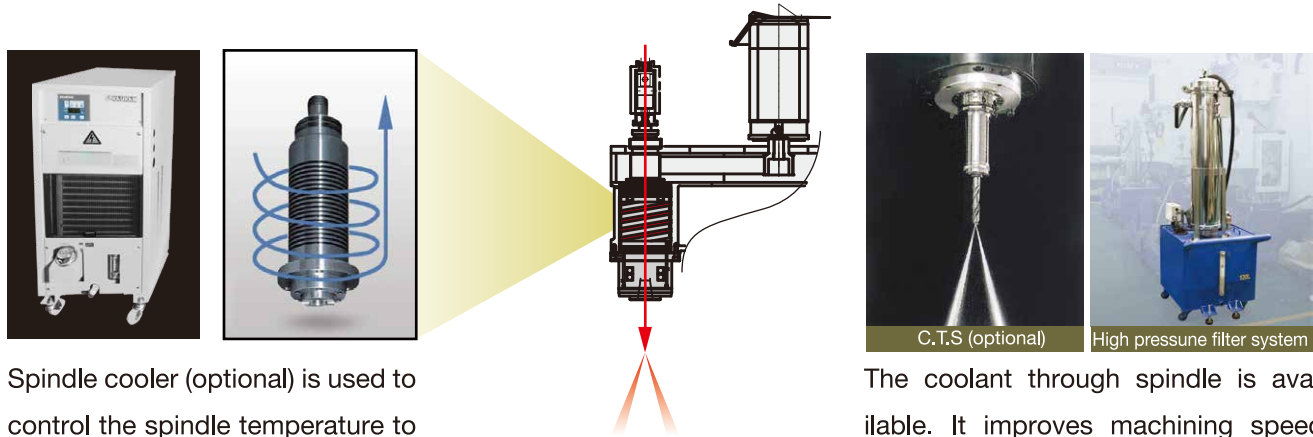
Standard  
Belt type : **8,000** rpm

Optional  
Belt type : **10,000** rpm



Belt type spindle (optional coolant through spindle)

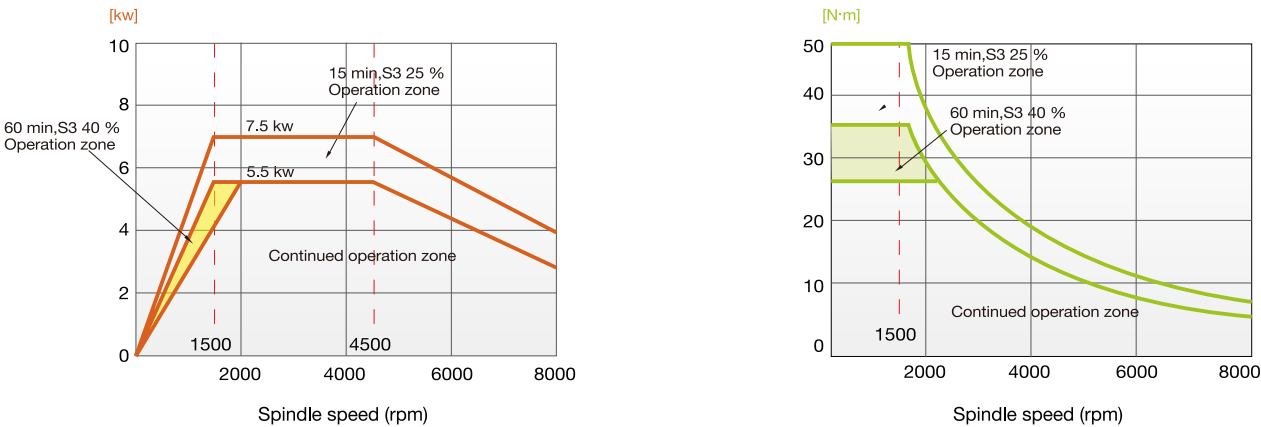
- Spindle is connected with motor by belt



Spindle cooler (optional) is used to control the spindle temperature to match the machine temperature. This prevents the spindle from overheat, thus minimizing thermal distortion.

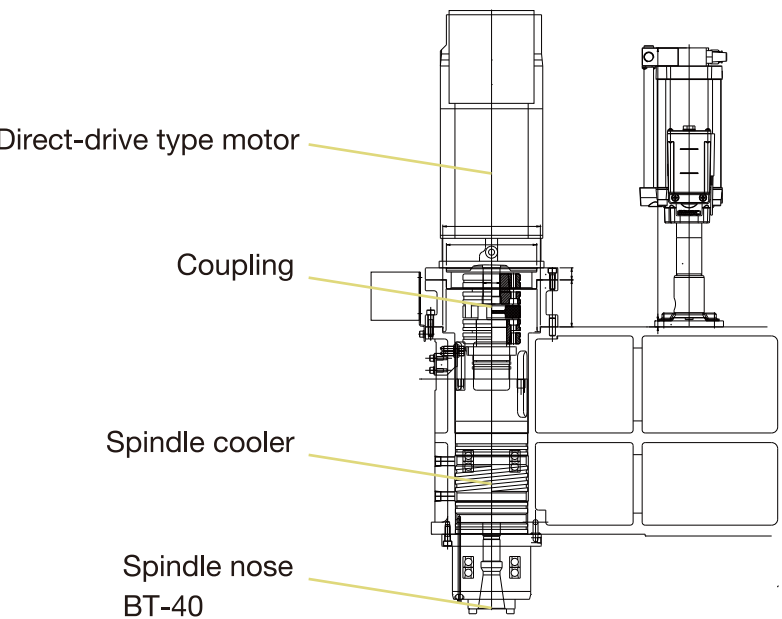
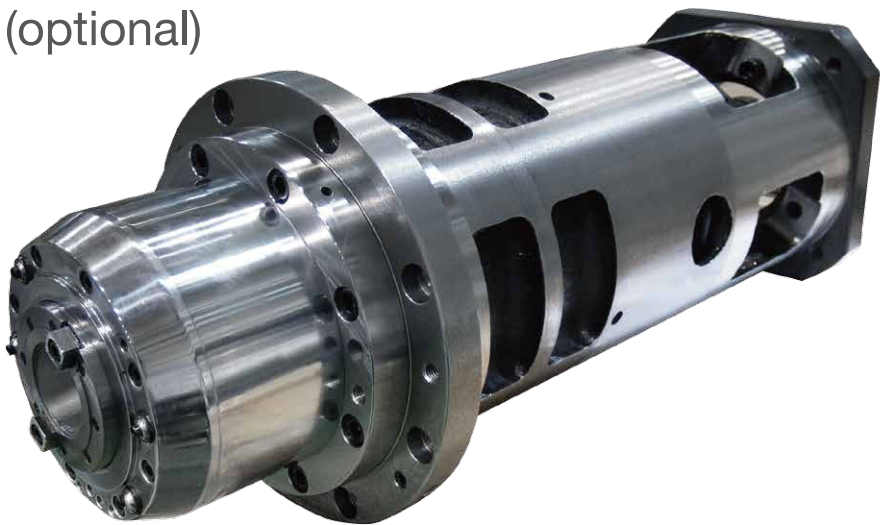
The coolant through spindle is available. It improves machining speed and extends the tool life. Moreover, it allows efficient metal chip removal during deep hole machining and improves the workpieces' precision.

Spindle output and torque chart Standard-8000 rpm

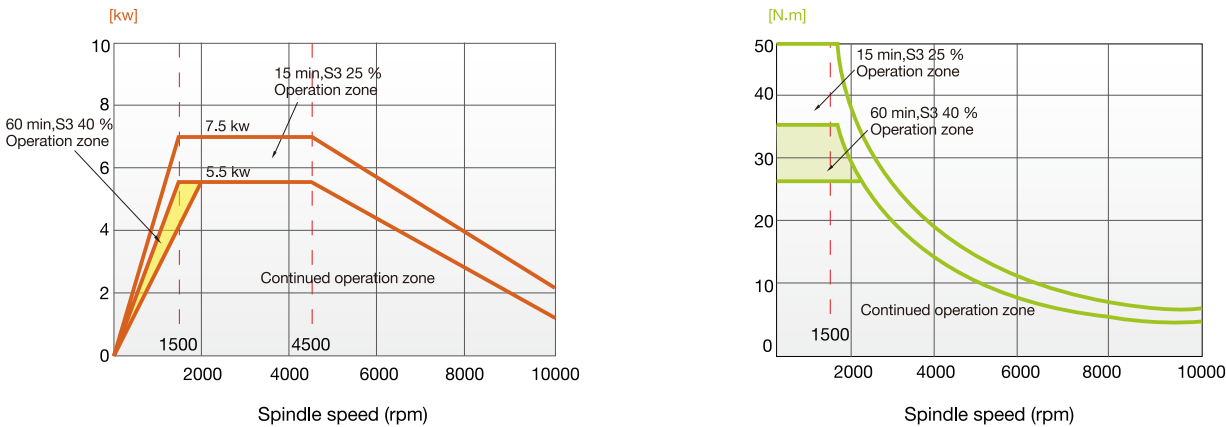


Direct-drive type (optional)

Optional  
Direct-drive type : **10,000** rpm



Spindle output and torque chart Optional-10000 rpm







## Automatic Tool Changer

Tool capacity **24** tools

Tool changing time T to T : **3.0** sec

C to C : **4.0** sec



The maximum capacity of tool magazine is 24 tools. It uses an arm type rapid tool changer to shorten idle time and achieves the goal of high efficiency machining.



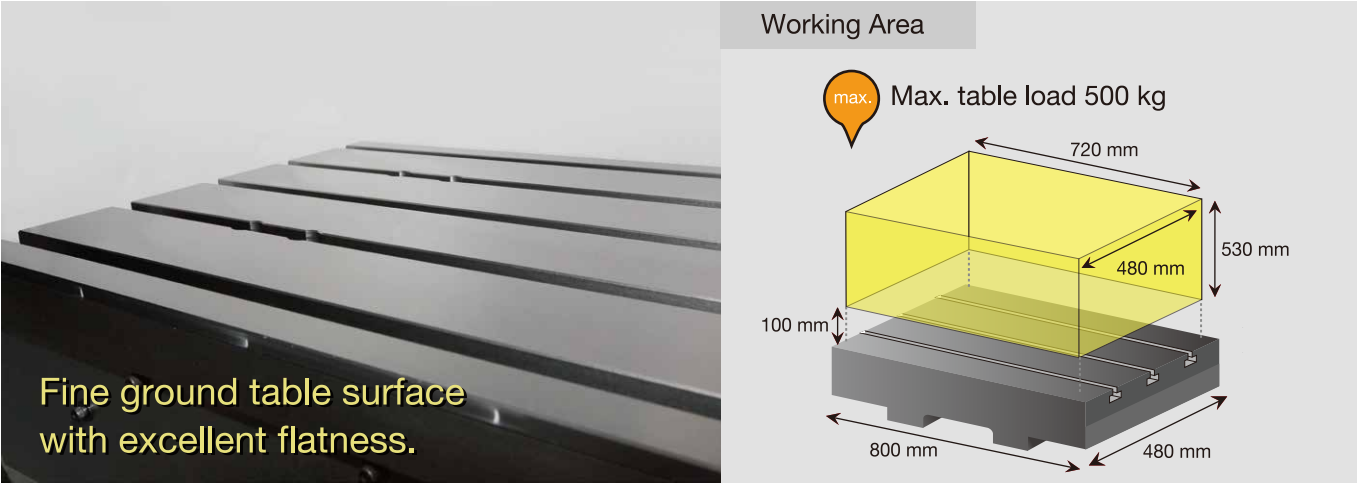
# Table

Table size  
**800×480 mm**

Working area (L×W×H)  
**720×480×530 mm**

Maximum table load  
**500 kg**

Table height from floor  
**900 mm**

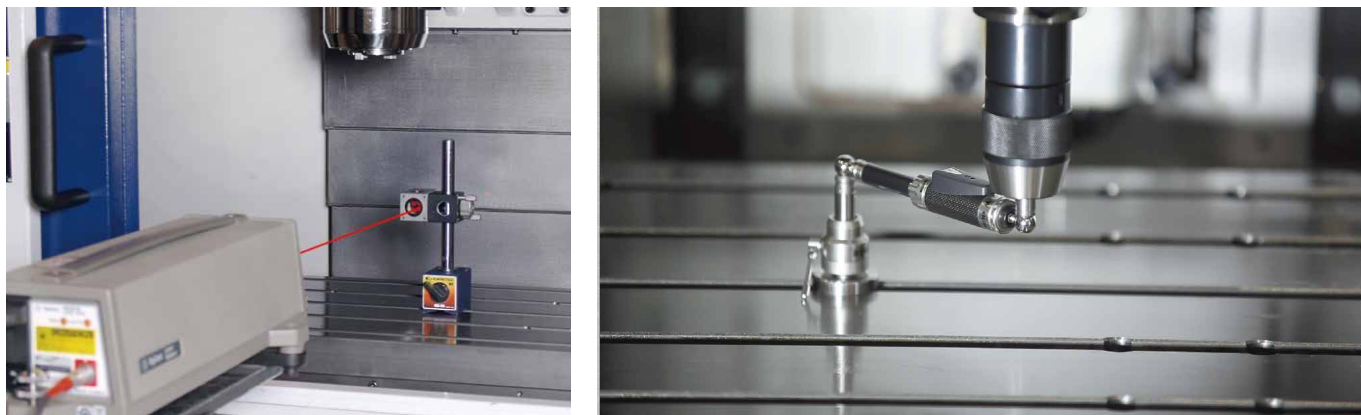


# Ergonomic operation

Friendly machine design provides the operator with an ergonomic operation environment by door opening width 800 mm. The height of table from floor is 900 mm and the minimum distance from the table to the front guard is only 185 mm.

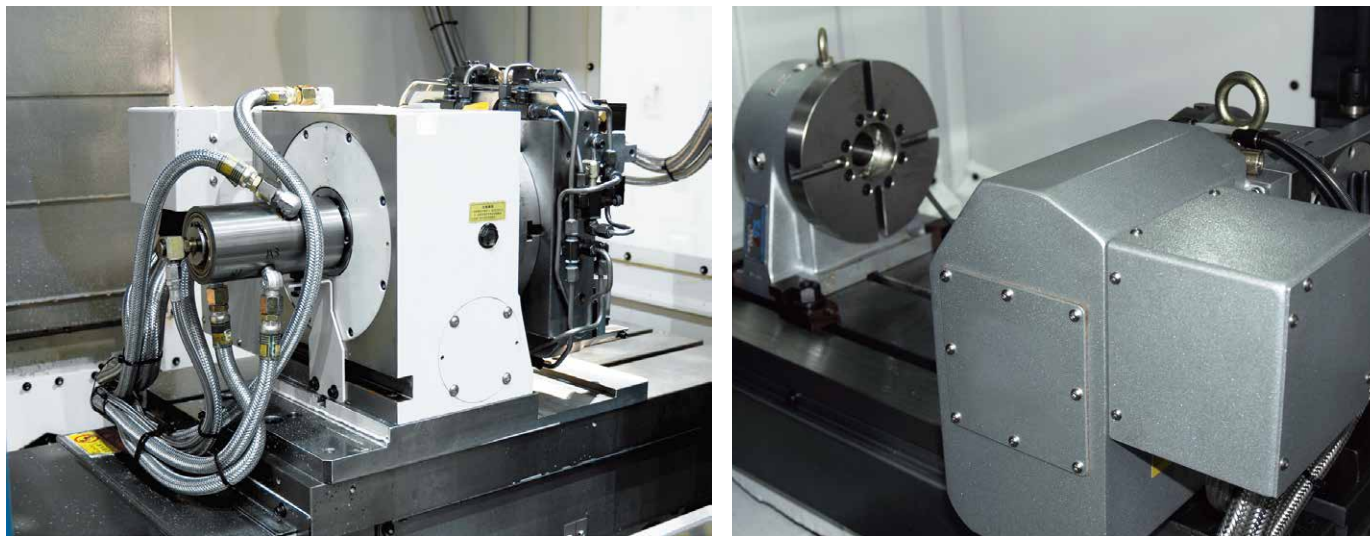


# Precision testing



For assuring assembly precision, Tongtai not only sets internal controls through standard operating procedures, but also has established self-checking lists for each machine assembly. Engineers can follow the lists to enforce setting and testing tasks for approving the quality of products.

# Customization (Optional)



With an excellent R&D team, Tongtai is able to offer customization with optional solutions.

# Examples of application



Specification



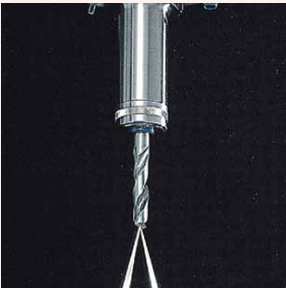
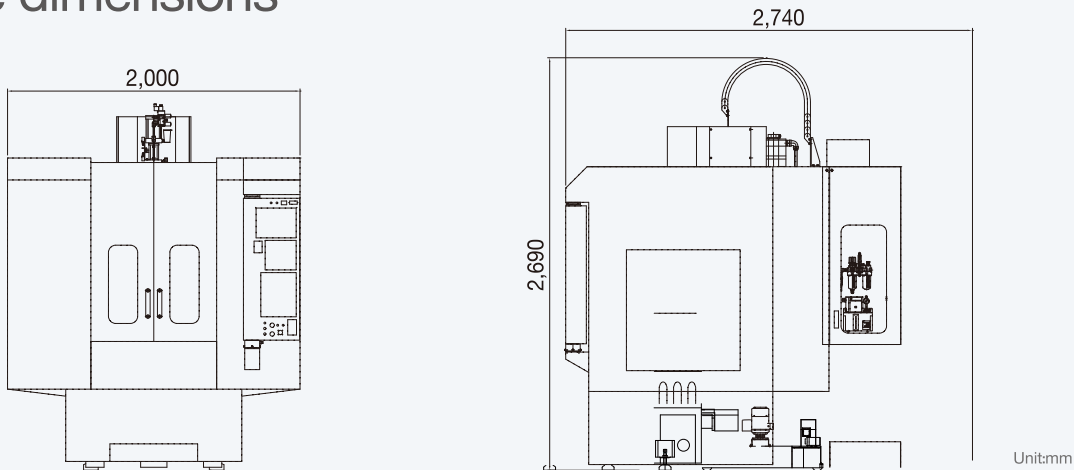
TMV-720A

Optional accessories

| Item         | Specification                          | Unit   | TMV-720A              |
|--------------|--|--------|-----------------------|
| Table        | Table size (L×W)                       | mm     | 800×480               |
|              | Max. table load                        | kg     | 500                   |
|              | Table height from floor                | mm     | 900                   |
|              | T-slot (size × No.)                    | mm     | 18×5                  |
| Spindle      | Spindle taper                          |        | 7/24 Taper No.40      |
|              | Spindle speed                          | rpm    | 8,000 (opt. 10,000)   |
| Stroke       | X/Y/Z axis stroke                      | mm     | 720/480/530           |
|              | Spindle nose to table                  | mm     | 100-630               |
| Feed         | X/Y/Z axis rapid traverse              | m/min  | 48/48/48              |
|              | Cutting feedrate                       | mm/min | 1-10,000              |
| ATC          | Tool shank                             |        | BT40                  |
|              | Tool capacity                          | pc     | 24                    |
|              | Max. tool diameter                     | mm     | Ø80                   |
|              | Max. tool diameter (w/o adjacent tool) | mm     | Ø125                  |
|              | Max. tool lenght                       | mm     | 250                   |
| Motors       | Max. tool weight                       | kg     | 7                     |
|              | Spindle motor (50% ED)                 | kw     | 7.5/5.5               |
|              | X/Y/Z axis servo motor                 | kw     | 1.8/1.8/3.0           |
|              | Coolant motor                          | kw     | 0.55                  |
| Controller   |  |        | FANUC 0i-M (opt. 31i) |
| Machine size | L×W×H                                  | mm     | 2,740×2,000×2,690     |
|              | Weight                                 | kg     | 4,400                 |

© Specifications may be changed without prior notice

Machine dimensions



Coolant through spindle



Tool breakage detector



Tri-color warning light



A/C for electrical cabinet



Spindle cooler



Oil skimmer



Oil mist collector



Transformer



4th axis



Chip conveyor



Coolant gun



Sub-operation box



Your best partner for metal-cutting total solutions



Tongtai emphasizes providing an excellent investment strategy to our clients with high cost-performance ratio. We give our customers supreme machine performance with reasonable prices.

Our management team and the members of all five of its departments will ceaselessly search for innovative solutions for your processing needs. All your sales and after sales concerns will be satisfied! That means, when you purchase our machines, the service never stops!

Our company slogan "Trust & Technology" is always backed with passion for our product improvements and responsibility for our service to you.



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# Tongtai