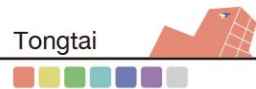


## THE PINNACLE OF HIGH-SPEED MACHINING

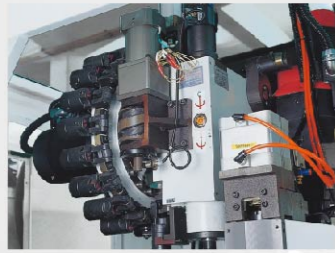
It is designed for high-speed milling, drilling, and tapping. The maximum speed for rigid tapping can reach 6,000 rpm. Furthermore, the spindle with coolant through spindle (optional) will provide high efficiency of chip disposal to assure machining accuracy and extend tool life.

- ▶ TMV-710 series is designed for high speed machining. The X/Y/Z axis ball screws are preloaded and the rapid traverse reaches 48 m/min.
- ▶ Various spindles are available for different machining applications. With the spindle cooler system (optional) and coolant through spindle (optional), TMV-510/710 series promotes long-term stability and high precision.
- ▶ With an ergonomic table height, a friendly interface with comfortable operation panel position, and an excellent chip disposal system, TMV-510/710 series creates a high efficiency working environment for operators.
- ▶ A type 20 tools arm or C type 14 tools drum automatic tool changers are available for your various machining needs. It provides you the best cost-performance choices.



## Machine structure

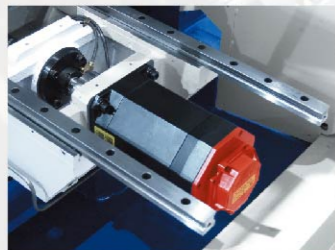
A type tool magazine



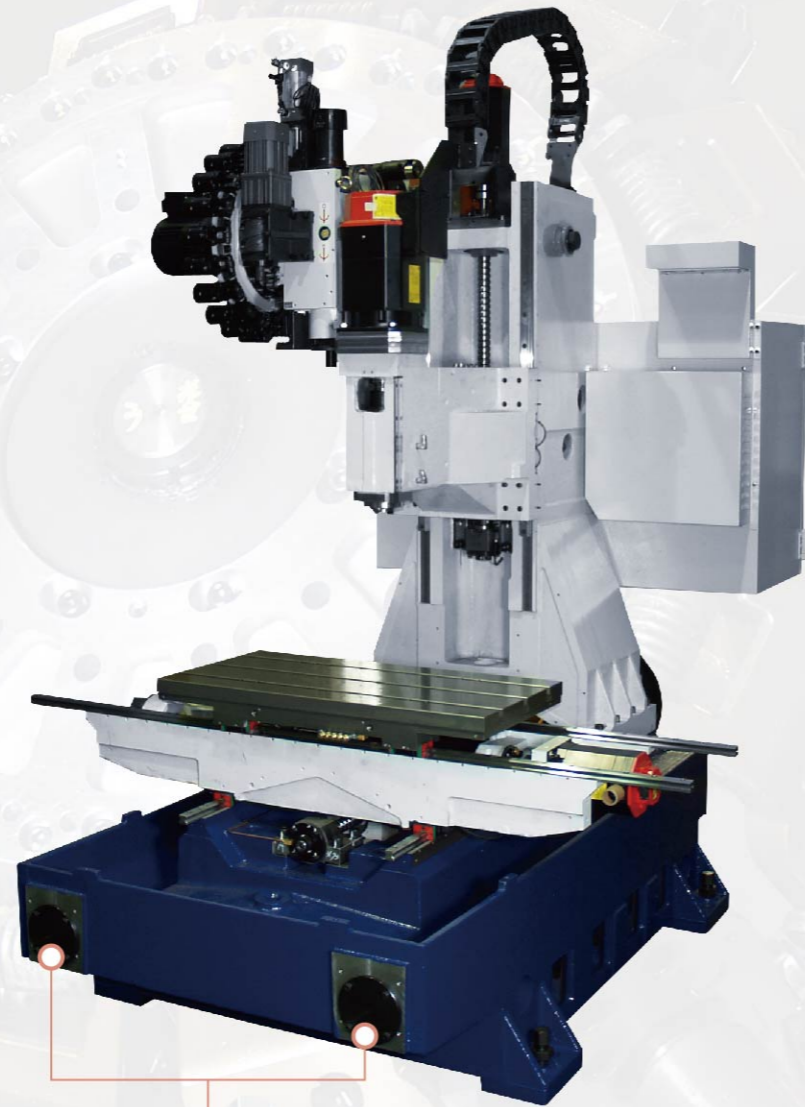
C type tool magazine



Servo motor



Direct-drive feeding unit : The servo motor is connected with the ball screws by coupling. Rapid traverse reaches 48 m/min.



Dual-chip disposal design:  
TMV-710 Series

### Stroke (X/Y/Z axis):

TMV-710A → 710/400/350 mm

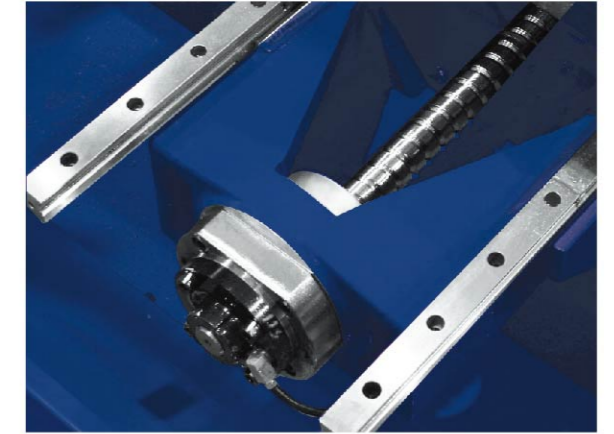
TMV-710C → 710/400/300 mm

### Rapid traverse (X/Y/Z axis):

TMV-710A/C → 48/48/48 m/min

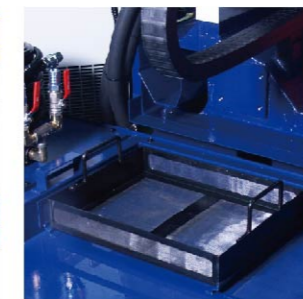
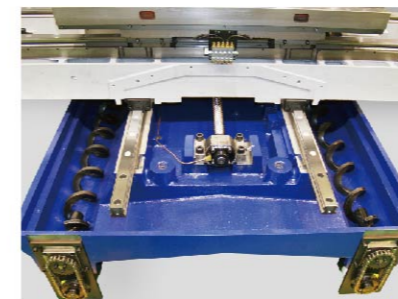
## Ball screw preloaded

The preloaded ball screw reduces thermal distortion and ensures the machining 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

Standard

Belt type : **8,000** rpm

Optional

Belt type : **4,000/12,000** rpm

Direct-drive type : **10,000/15,000/20,000** rpm

Direct-drive type (coolant through spindle) : **15,000/20,000** rpm

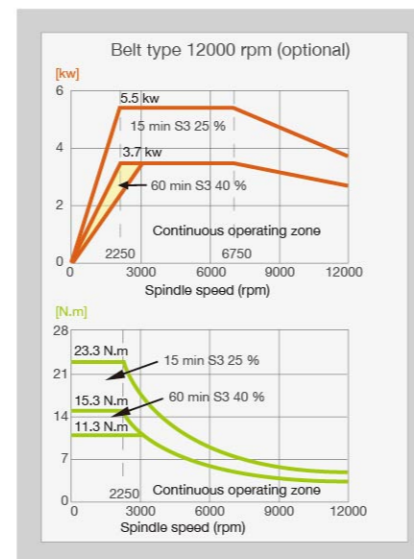
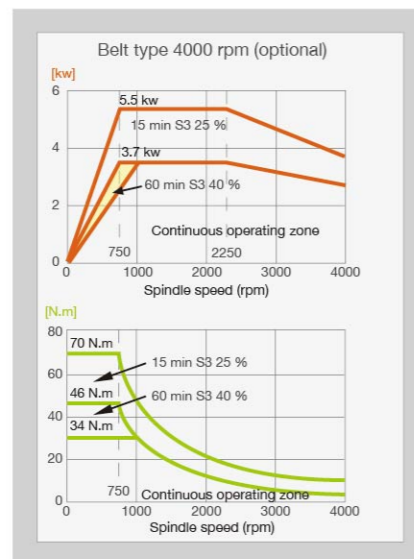
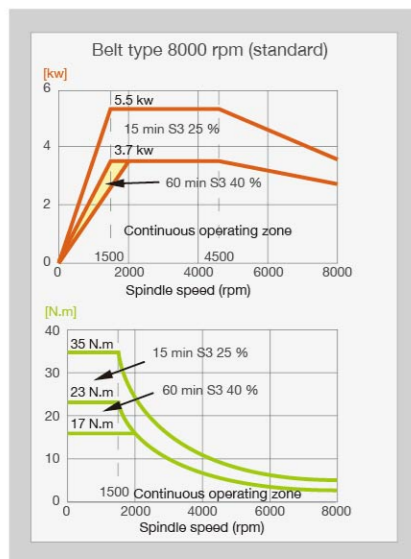
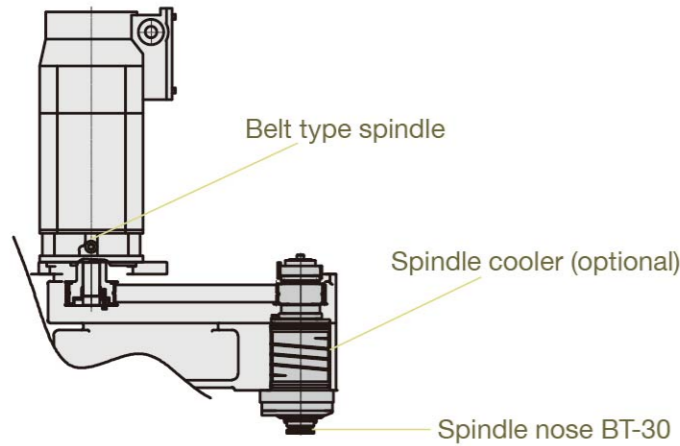
Direct-drive type : **24,000** rpm (Mitsubishi motor)

## Belt type spindle

- Spindle is connected with motor by belt.
- Spindle speed 8,000 rpm  
Optional 4,000 / 12,000 rpm
- All belt type spindles available with coolant through spindle.
- Spindle cooler is available.



Belt type spindle

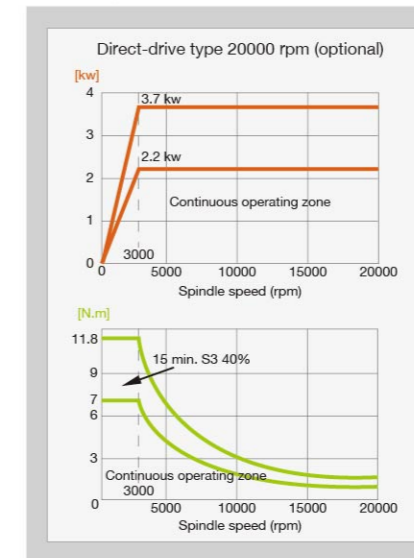
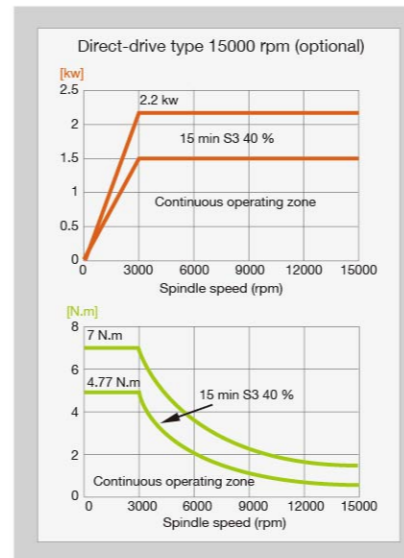
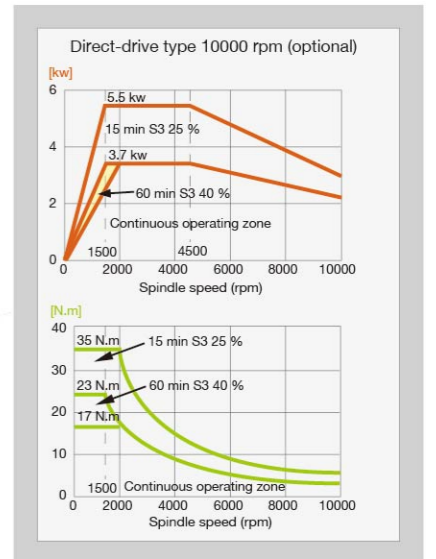


## Direct-drive type spindle (Optional)

- Spindle is connected with motor by coupling
- Spindle speed 10,000 / 15,000 / 20,000 rpm
- Spindle speed 24,000 rpm (Mitsubishi motor)
- Spindle cooler is available.



Direct-drive type spindle

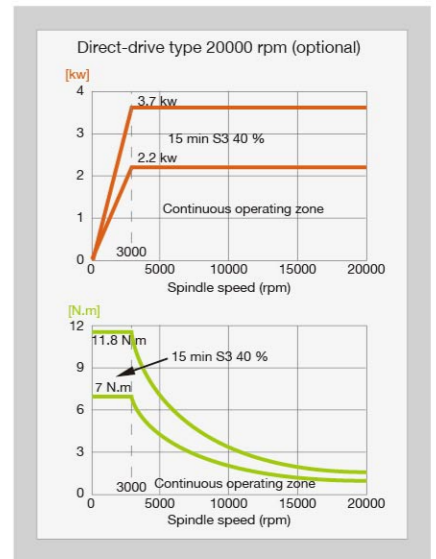
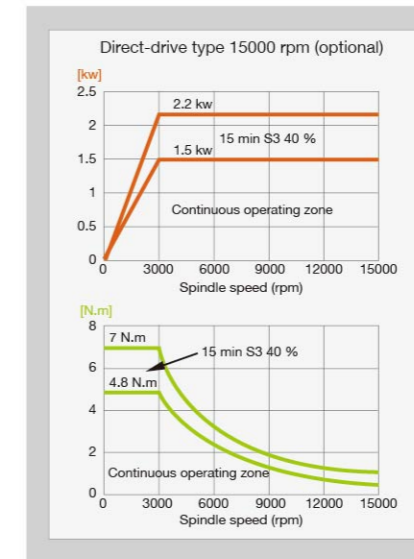


## Direct-drive type spindle (available with coolant through spindle)

- Direct-drive type spindle : 15000, 20000 rpm (coolant through spindle)
- Spindle cooler is available.

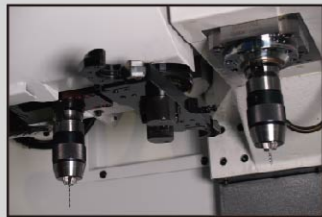


The coolant through spindle (optional) allows tool cooling, extends tool life and eases chip flow in deep hole drilling process.



## Automatic Tool Changer

Tool capacity	A type	<b>20</b>	tools
	C type	<b>14</b>	tools (15° slant)
Tool shank	BT30		
Tool changing time	T to T : A type	<b>0.8</b>	sec
	C type	<b>1.5</b>	sec
	C to C : A type	<b>2.0</b>	sec
	C type	<b>2.8</b>	sec



The capacity of A type ATC is 20 tools. A high-speed tool changer is used to shorten idle time and achieve the goal of high efficiency machining.



The capacity of C type ATC is 14 tools. The ATC structure with 15 degree slant makes the optional coolant through spindle and direct-drive type spindle available.



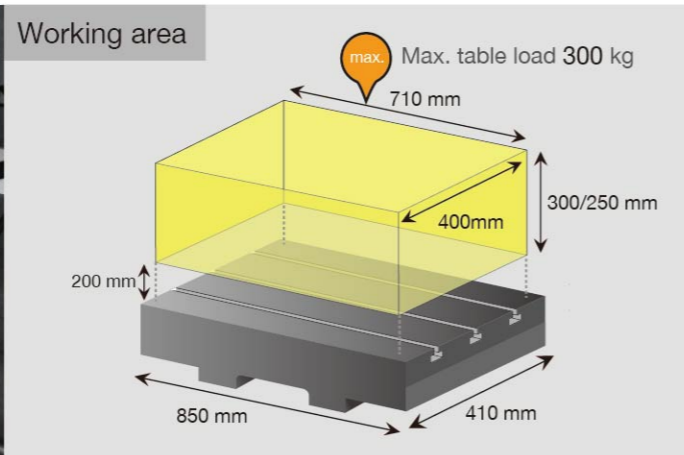
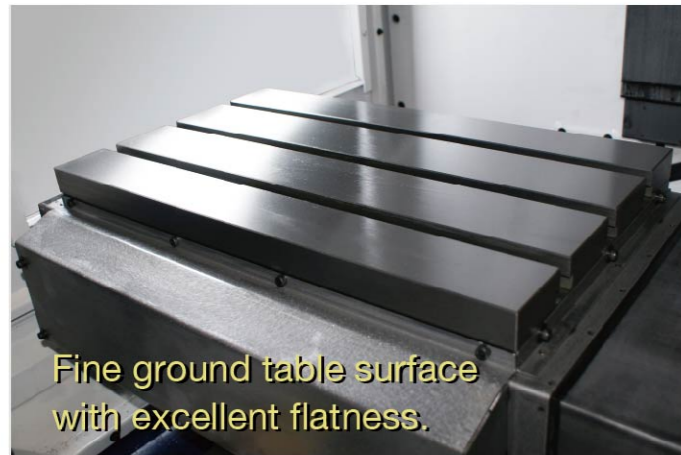
## Table

Table size  
850×410 mm

Maximum table load  
300 kg

Working area (L×W×H)  
TMV-710A 710×400×350 mm  
TMV-710C 710×400×300 mm

Table height from floor  
850 mm



## Customization (Optional)



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

## Examples of application



## Machining capacity

Item	Material	Tool	Spindle speed (rpm)	Feedrate (mm/min)	Width×Depth (mm×mm)	Machining Capacity (cc/min)
Rigid tapping	S45C	M12×1.75p HSS	530	-	-	-
Drilling	S45C	Dia. 16 HSS	490	88	30 mm	-
End milling	S45C	Dia. 20 HSS-Co 4 tools	450	130	20×6	15.6
Face milling	S45C	Dia. 80 face milling tool	600	360	70×1.58	40
	AL	Dia. 80 face milling tool	4,000	1,500	70×2	210
End milling	AL	Dia. 20 HSS-Co 2 tools	1,350	250	20×10	50

Spindle speed : General type 10,000 rpm

Spindle motor : FUNUC 3.7 kw (S1)



# Specification

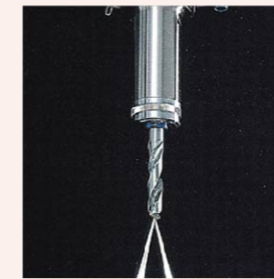
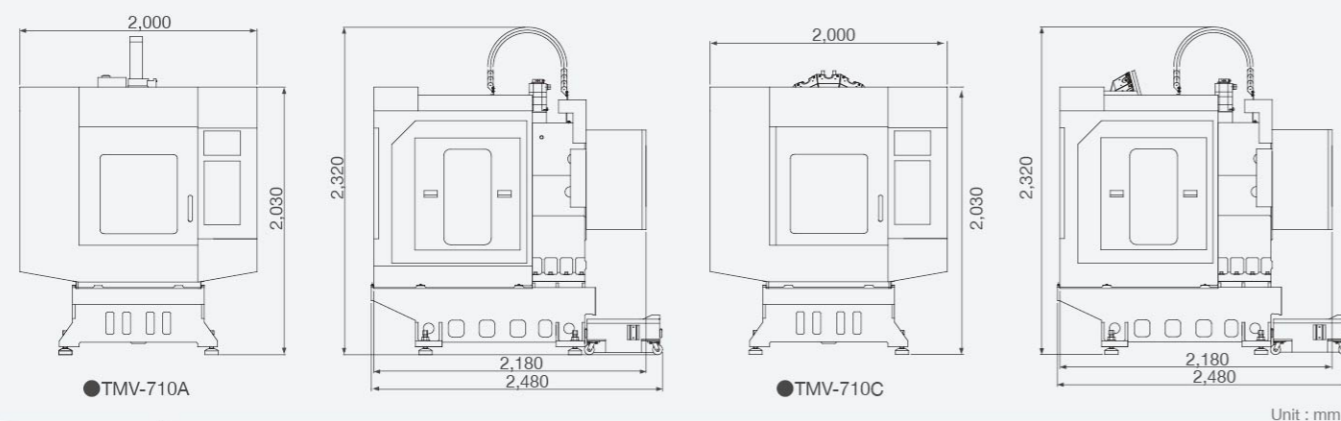
# Optional accessories



Item	Specification	Unit	TMV-710A	TMV-710C
Table	Table size (L×W)	mm	850×410	
	Max. table load	kg	300	
	Table height from floor	mm	850	
	T-slot (size × No.)	mm	18×3	
Spindle	Spindle taper		7/24 Taper No.30	
	Spindle speed	rpm	Standard : Belt type 8,000 Optional : Belt type 4,000, 12,000 Direct-drive type 10,000, 15,000, 20,000, 15,000, 20,000 (Coolant through spindle), 24,000 (Mitsubishi motor)	
Stroke	X/Y/Z axis stroke	mm	710/400/350	710/400/300
	Spindle nose to table	mm	200-550	200-500
Feed	X/Y/Z axis rapid traverse	m/min	48/48/48	
	Cutting feedrate	mm/min	1-20,000	
ATC	Tool shank		BT-30	
	Tool capacity	pcs	20	14 (15° slant)
	Max. tool diameter	mm	Ø68	Ø80
	Max. tool diameter (w/o adjacent tool)	mm	Ø68	-
	Max. tool length	mm	200	
	Max. tool weight	kg	3	
Motors	Spindle motor (50% ED)	kW	5.5/3.7(Opt. 2.2/1.5, 3.7/2.2) Spindle motor connects with spindle speed (Separated by color)	
	X/Y/Z axis servo motor	kW	1.8/1.8/3.0	
	Coolant motor	kw	0.18	
Controller			FANUC 0i-M (Opt. 31i)	
Machine size	W×L×H	mm	2,000×2,480×2,320	
	Weight	kg	3,250	

© Specifications may be changed without prior notice

## Machine dimensions



Coolant through spindle



Spindle cooler



4th axis



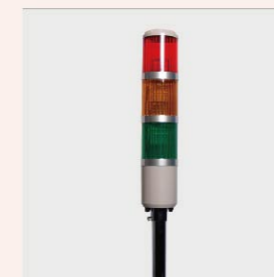
Tool breakage detector



Oil skimmer



Chip conveyor



Tri-color warning light



Oil mist collector



Coolant gun



A/C for electrical cabinet



Transformer



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 and our product improvements and responsibility for our service to you.



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# Tongtai

