



## THE PINNACLE OF HIGH-SPEED MACHINING

It is designed for high-speed milling, drilling, and tapping. The maximum speed for rigid tapping can reach 6000 rpm. Furthermore, the spindle with coolant through spindle (optional) will provide high efficiency of chip disposal to assure machining accuracy and extend tool life.

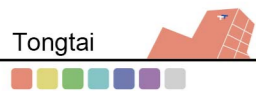


▶ TMV-510AII / TMV-510CII series is designed for high speed machining. The X/Y/Z axis ball screws are preloaded and the rapid traverse reaches 48 m/min.

▶ Various spindles are available for different machining applications. With the spindle cooler system (optional) and coolant through spindle (optional), TMV-510 series promotes long-term stability and high precision.

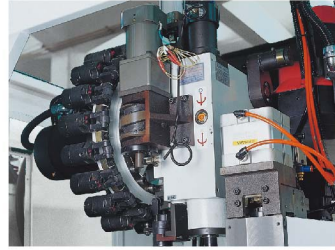
▶ With an ergonomic table height, a friendly interface with comfortable operation panel position, and an excellent chip disposal system, TMV-510 series creates a high efficiency working environment for operators.

▶ A type 20-tool arm or C type 14-tool drum automatic tool changers is available for your various machining needs. It provides you the best cost-performance choices.

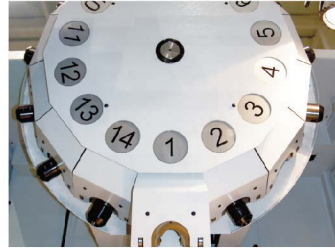


## Machine structure

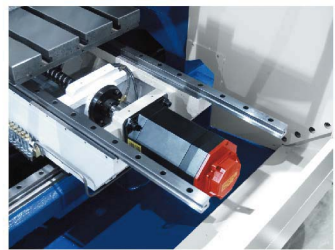
A type tool magazine



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-510AII/CII

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

TMV-510A → 510/360/300 mm  
 TMV-510C → 510/360/250 mm  
 TMV-710A → 710/400/350 mm  
 TMV-710C → 710/400/300 mm

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

TMV-510A/C → 48/48/48 m/min  
 TMV-710A/C → 48/48/48 m/min

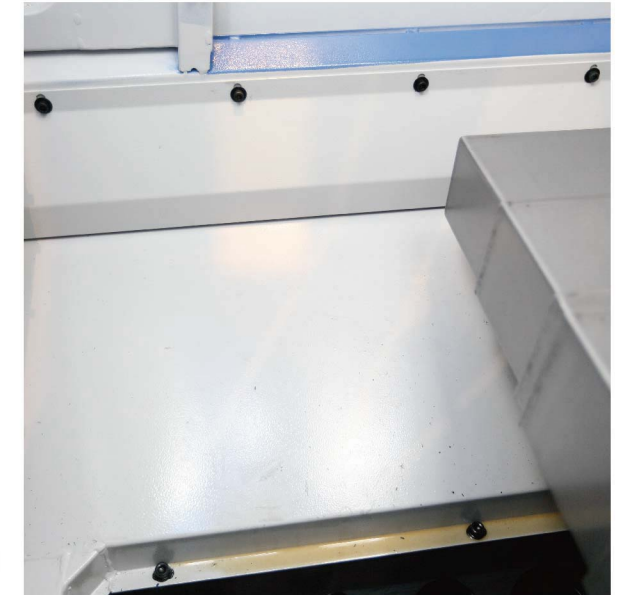
## Ball screw preloaded

The preloaded ball screw reduces thermal distortion and ensures the machining performance and precision.



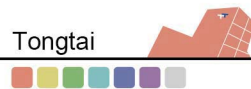
## Chip removal design

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

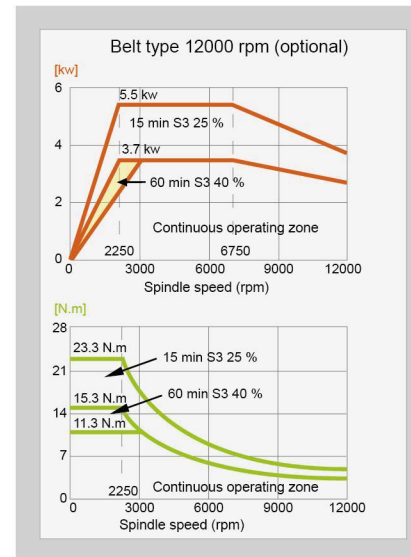
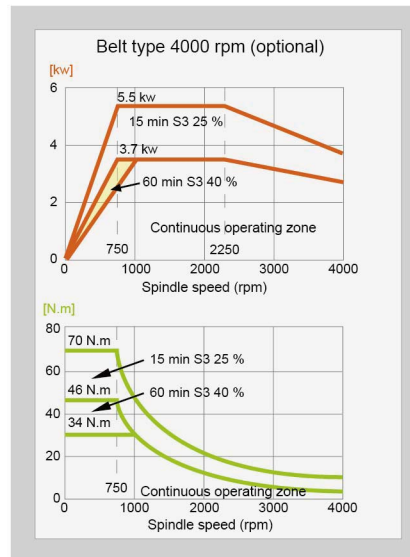
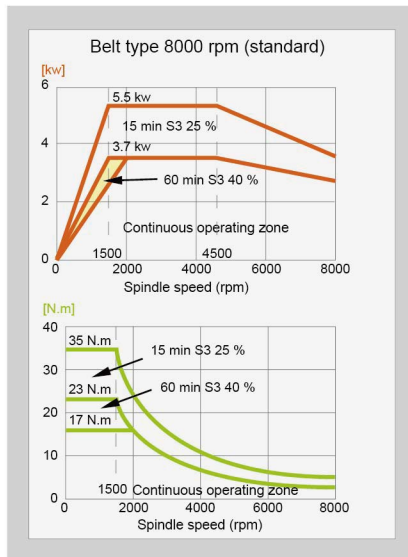
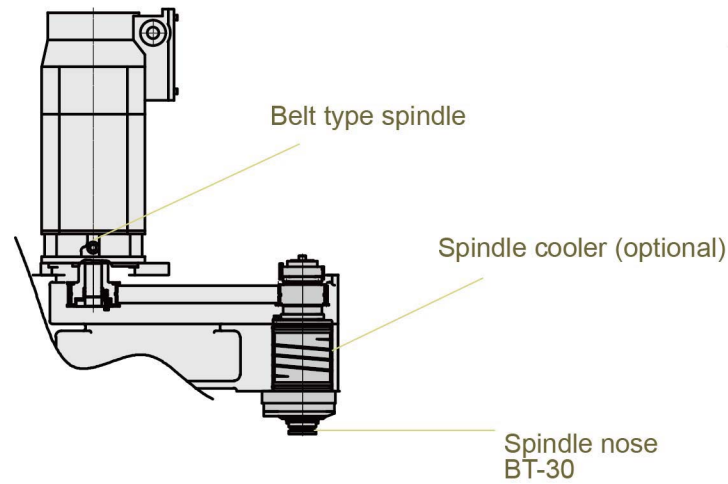
Direct-drive type : **24,000** rpm (Mitsubishi motor)

## Belt type spindle

- Spindle is connected with motor by belt.
- Spindle speed 8000 rpm  
Optional 4000 / 12000 rpm
- All belt type spindles available with coolant through spindle.
- Spindle cooler is available.



Belt type spindle

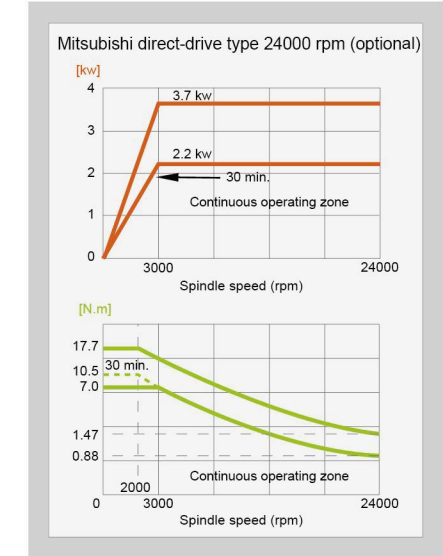
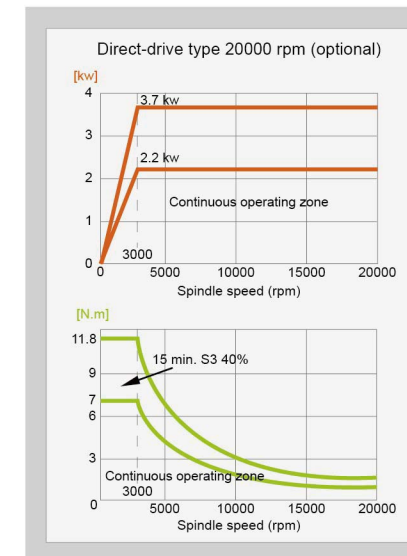
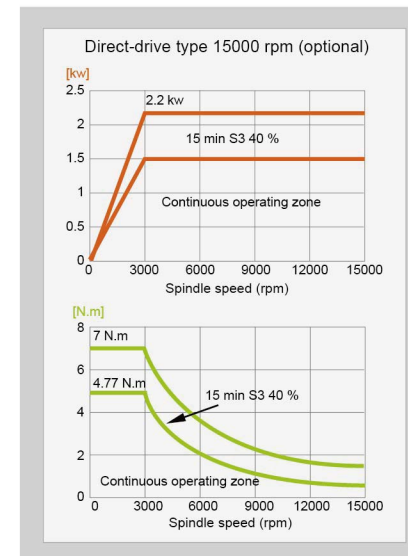
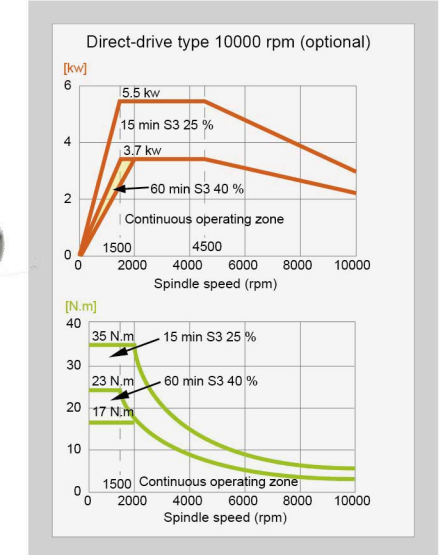


## Direct-drive type spindle (optional)

- Spindle is connected with motor by coupling
- Spindle speed 10000 / 15000 / 20000 rpm
- Spindle speed 24000 rpm (Mitsubishi motor)
- Spindle cooler is available.

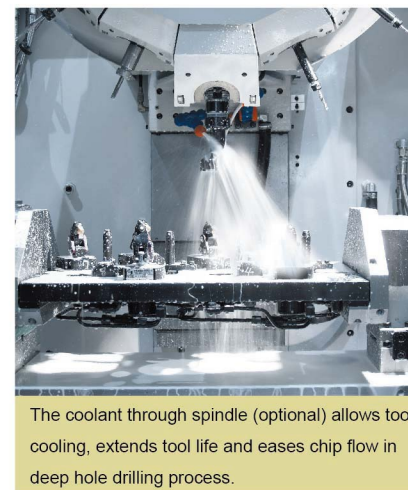


Direct-drive type spindle

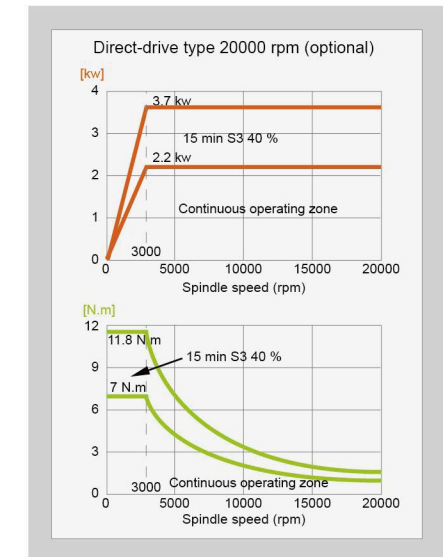
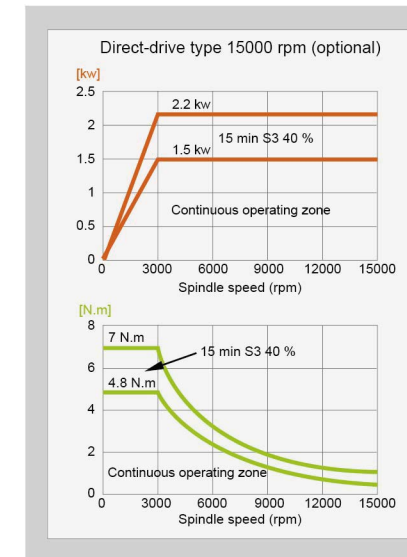


## Direct-drive type spindle (available with coolant through spindle)

- 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.



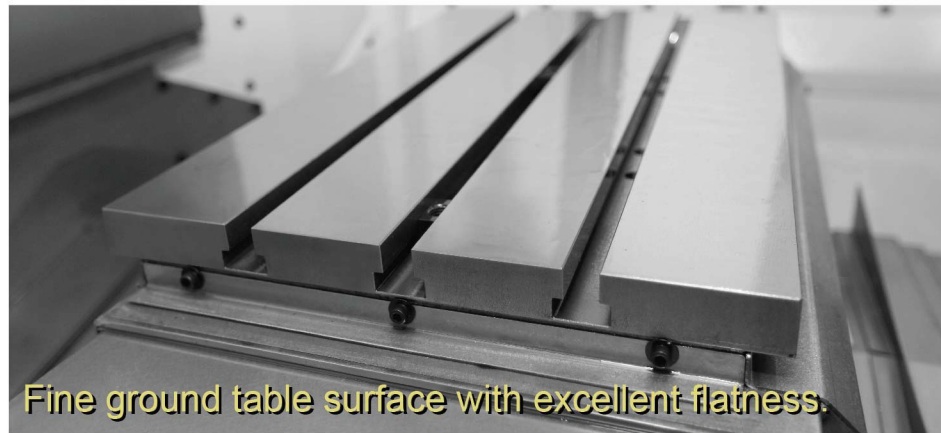
# Table

Table size  
 TMV-510A/C: 600×360 mm  
 TMV-710A/C: 850×410 mm

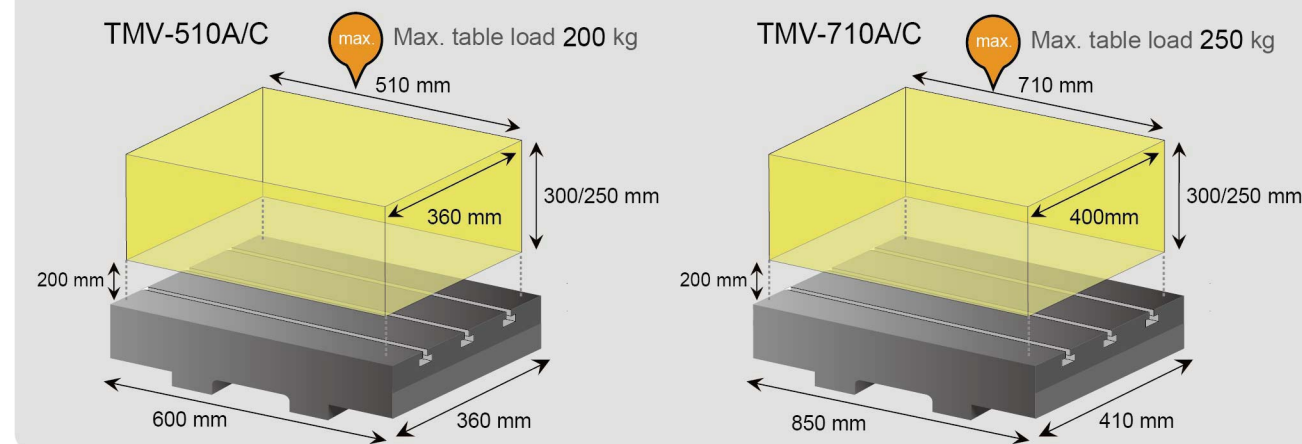
Working area (L×W×H)  
 TMV-510A/C: 510×360×300/250 mm  
 TMV-710A/C: 710×400×300/250 mm

Maximum table load  
 TMV-510A/C: 200 kg  
 TMV-710A/C: 250 kg

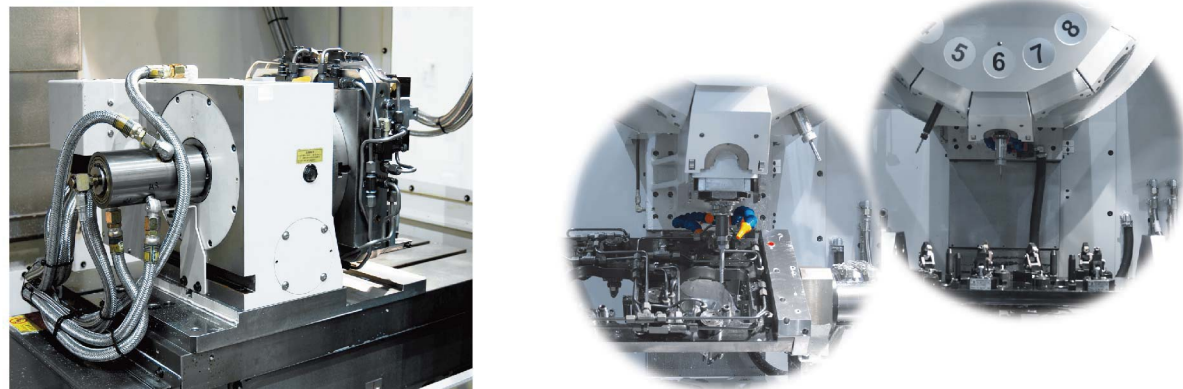
Table height from floor  
 TMV-510A/C: 850 mm  
 TMV-710A/C: 850 mm



## Working area



# 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	180	70×1.58	20
	AL	Dia. 80 face milling tool	4000	1500	70×2	210
End milling	AL	Dia. 20 HSS-Co 2 tools	1350	250	20×10	50

Spindle speed : General type 10,000 rpm  
 Spindle motor : FUNUC 3.7 kw (S1)





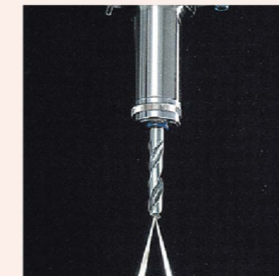
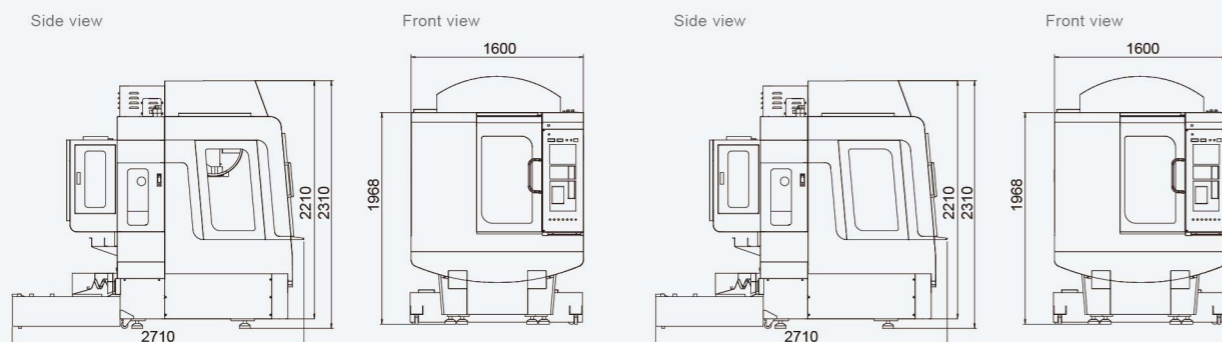
Item	Specification	Unit	TMV-510AII	TMV-510CII
Table	Table size (L×W)	mm	600×400	
	Max. table load	kg	250	
	Table height from floor	mm	850	
	T-slot (size × No.)	mm	18×3	
Spindle	Spindle taper		7/24 Taper No.30	
	Spindle speed	rpm	Standard : Belt type 8000 Optional : Belt type 4000, 12000 Direct-drive type 10000, 15000, 20000, 15000, 20000 (Coolant through spindle), 15000, 24000 (Mitsubishi motor)	
Stroke	X/Y/Z axis stroke	mm	510/400/350	510/400/300
	Spindle nose to table	mm	200-550	200-500
Feed	X/Y/Z axis rapid traverse	m/min	48/48/48 (Opt. 60/60/60)	
	Cutting feedrate	mm/min	1-10000	
ATC	Tool shank		BT-30	
	Tool capacity	pc	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	1.8/1.8/1.8	
	Coolant motor	kw	0.18	
Controller			FANUC 0i-M or MITSUBISHI M70 (Opt. FANUC 31i)	
Machine size	L×W×H	mm	2710×1600×2310	
	Weight	kg	2850	

© SPECIFICATIONS MAY BE CHANGED WITHOUT PRIOR NOTICE

●TMV-510AII

●TMV-510CII

單位:mm



Coolant through spindle



Spindle cooler



Rotary table



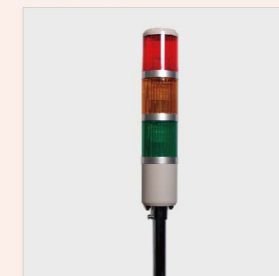
Tool breakage detector



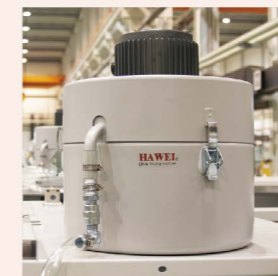
Oil skimmer



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

· Head Office  
No.3, Luke 3rd. Rd., Luzhu District, Kaohsiung City, 82151, Taiwan.  
Tel : 886-7-9761588 Fax : 886-7-9761589/886-7-9761590  
Website : <http://www.tongtai.com.tw>

· Taoyuan Office	Tel : 886-3-4551399	Fax : 886-3-4559730
· Taichung Office	Tel : 886-4-23589313	Fax : 886-4-23588913
· Tongtai Seiki U.S.A INC.	Tel : 1-845-2675500	Fax : 1-845-2675546
· Tongtai Machine & tool japan Co., ltd	Tel : 81-4-71438355	Fax : 81-4-71438360
· Tongtai Seiki Vietnam Limited	Tel : 84-4-35112529	
· Topper Europe	Tel : 31-161-454639	Fax : 31-161-454768
· Thailand Office	Tel : 66-2-7443440	Fax : 66-2-3986518
· Indonesia Office	Tel : 62-21-45850521	Fax : 62-21-45840522
· Malaysia Office	Tel : 60-3-78456815	Fax : 60-3-78456851

· China Office  
Shuzhou Tong-Yu Machine & Tool Co., Ltd.  
Tel : 86-512-63430168 Fax : 86-512-63431622  
E-mail : [sales@tong-yu.com.cn](mailto:sales@tong-yu.com.cn)

· Wuhan Office	Tel : 86-27-59409109	Fax : 86-27-59409110
· Shanghai Office	Tel : 86-21-24208138	Fax : 86-21-34073262
· Chongqing Office	Tel : 86-23-67865925	Fax : 86-23-67867717
· Guangzhou Office	Tel : 86-755-27222119	Fax : 86-755-27222115
· Tianjin Office	Tel : 86-22-24417640	Fax : 86-22-24416738

# Tongtai