

Vertical Machining Center

# TMV-850QII/1050QII



**Tongtai Tongtai Machine & Tool Co., Ltd.**

MEMBER OF  
**TTGROUP**



Official Website Global Network

**Headquarters**

No.3, Luke 3rd Rd., Luzhu Dist., Kaohsiung City 82151, Taiwan  
TEL : 886-7-9761588 FAX : 886-7-9761589  
www.tongtai.com.tw

**China Operation Center**

**Shuzhou Tong-yu Machine & Tool Co., Ltd.**  
No.555 Huahong Rd., Economic Development Zone of Wujiang,  
Suzhou City, Jiangsu Province, China  
TEL : 86-512-63430168 FAX : 86-512-63431622  
E-mail : sales@tong-yu.com.cn  
www.tongtai.com.tw/cn

Taoyuan Branch	TEL : +886-3-4551399	FAX : +886-3-4559730
Taichung Branch	TEL : +886-4-23589600	FAX : +886-4-23589993
Japan Branch	TEL : +81-047-712-0835	FAX : +81-047-712-0870
Europe Branch	TEL : +31-161-454639	
Malaysia Branch	TEL : +603-78597113	FAX : +603-78597115
Vietnam Branch	TEL : +84-24-62766090	
Thailand Branch	TEL : +66-2-3164708-10	FAX : +66-2-3164711
Indonesia Office	TEL : +62-21-45850875	FAX : +62-21-45850876

Wuhan Branch	TEL : +86-27-84586587	
Chongqing Branch	TEL : +86-23-67865925	FAX : +86-23-67867717
Guandong Branch	TEL : +86-769-81158198	FAX : +86-769-81158108
Tianjin Branch	TEL : +86-22-24417640	FAX : +86-22-24416738
Shanghai Office	TEL : +86-21-24208138	FAX : +86-21-34073262
Shenyang Office	TEL : +86-24-24142968	FAX : +86-24-24115782

**Members of TTGroup**

<b>Honor Seiki Co., Ltd.</b> TEL : 886-7-9759888 FAX : 886-7-9759999 www.honorseiki.com	<b>Asia Pacific Elite Corp.</b> TEL : 886-4-23589313 FAX : 886-4-23588913 www.apecnc.com	<b>Quick-Tech Machinery Co., Ltd.</b> TEL : 886-6-3841155 FAX : 886-6-3841177 www.quicktech.com.tw	<b>PCI-SCEMM</b> TEL : 33-4-77426161 FAX : 33-4-77426023 www.pci.fr	<b>ANGER Machining GmbH</b> TEL : 43-7229-71041-0 FAX : 43-7229-71041-199 www.anger-machining.com
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## TMV-850QII/1050QII



- TMV-850QII and TMV-1050QII are the upgraded versions that allow the rapid traverse of up to 48 m/min. The rapid automatic tool changer shortens the T to T time less than 2 seconds. These features will provide the best investment return to the customers.
- Excellent C type mechanical structure design provides high machine rigidity. It also assures excellent positioning accuracy during high speed and precision machining.
- The integrated ergonomic working table design and friendly operating panel improves operating efficiency.
- Spindle thermal distortion compensation is available. It not only monitors the temperature change in machine structure and feeding axis, but also engages the compensation in spindle to enhance the machining stability.



Machine main specifications

Item	Unit	TMV-850QII	TMV-1050QII
X/Y/Z travel	mm	850 / 600 / 530	1,050 / 600 / 530
Spindle speed	rpm	8,000 (10,000) (15000)	
Rapid traverse	m/min	48 / 48 / 48	
Table size	mm	950 x 600	1,100 x 600
Max. loading capacity	kg	800	
Servo motor	kW	4.5 / 4.5 / 5.5	
Max. tool weight	kg	7	
Tool capacity	pc	24 (30)	

### CONTENTS

- 03 Main structure
- 08 Examples of application
- 09 Peripheral accessories
- 10 Tongtai- Technical Application Center
- 11 Spindle output and torque chart
- 12 Machine dimension
- 13 Optional
- 14 Specifications

# Main structure

## X/Y/Z axis specification

### Travel

X/Y/Z axis

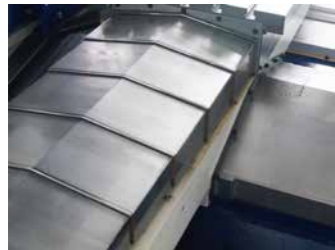
TMV-850QII 850 / 600 / 530 mm

TMV-1050QII 1,050 / 600 / 530 mm

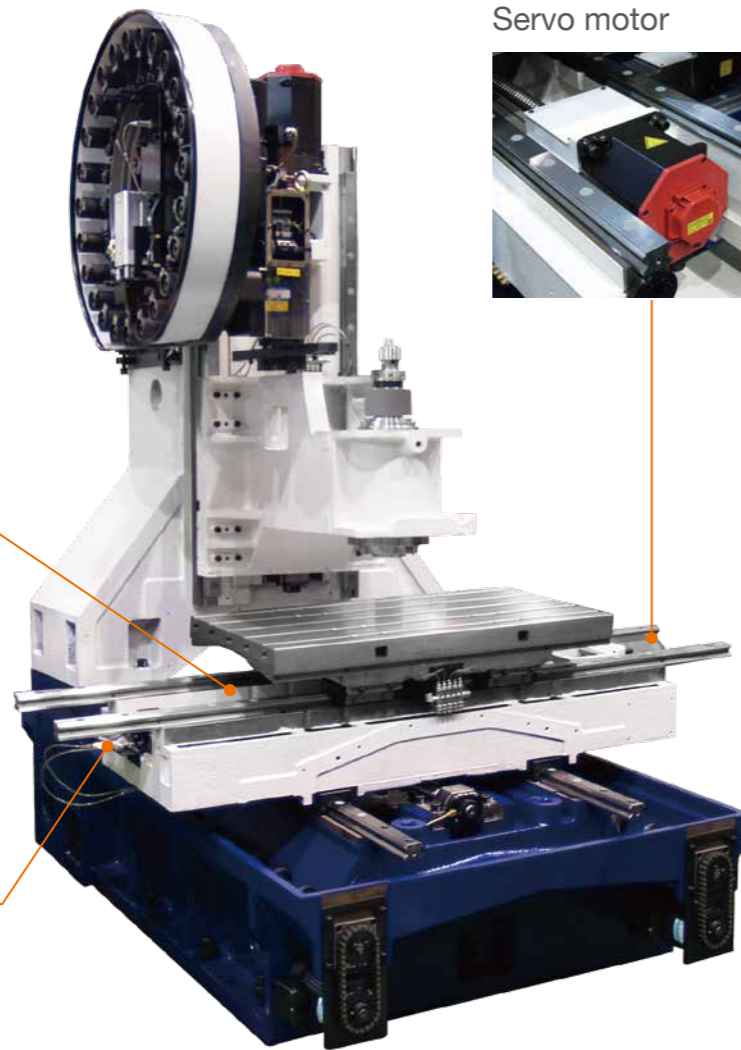
### Rapid traverse

X/Y/Z axis 48/48/48 m/min

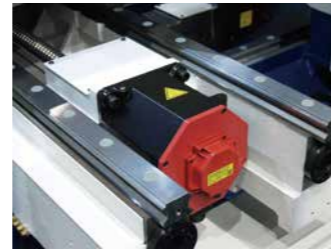
### Chip-proof telescopic cover



### Ballscrew & rigid linear guide way



### Servo motor



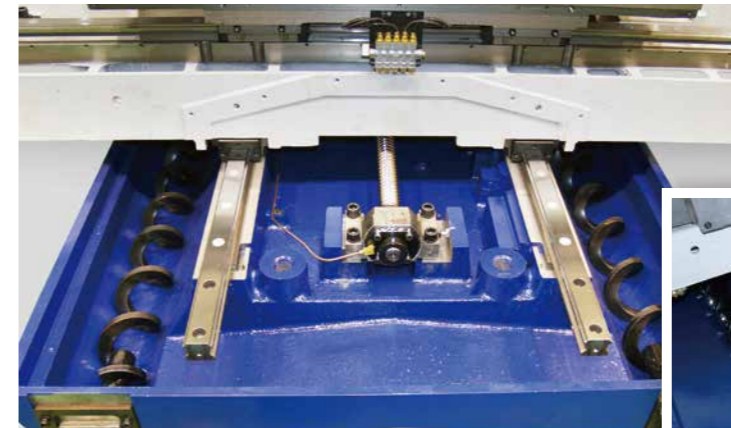
## Preloaded Ballscrews

All ball screws of X/Y/Z axis are preloaded to reduce thermal distortion and ensure the machine's continuous performance and accuracy. Axis thrust bearings are automatically lubricated for long life.



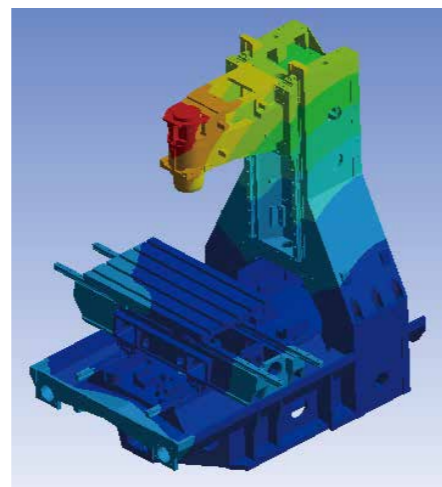
## Chips removal design

Dual chip augers are standard and the flushing system is optional for increasing the ability of chip disposal and decreasing the cleansing time.



## Finite Element Analysis – FEA

FEA is applied in the machine design to ensure structural integrity. It benefits on high rigidity, high accuracy, and excellent productivity



## Ergonomic design

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



# Main structure

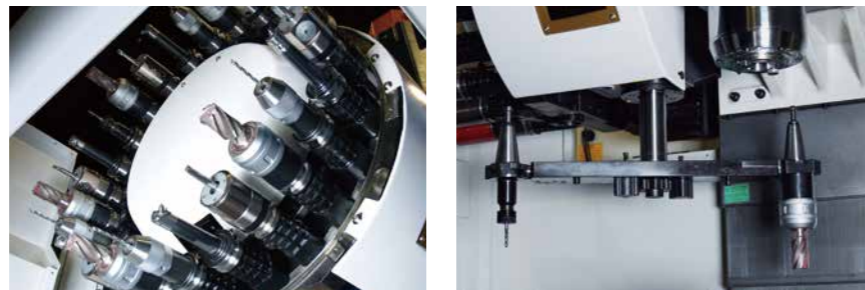
## Automatic Tool Changer

In TMV-850QII and TMV-1050QII series, the standard capacity of the tool magazine is 24 pieces. It uses a rapid tool changer to shorten idle time and achieves the goal of high efficiency machining.

Tool capacity 24 (30) pcs

Tool changing time

T to T : 2.0 sec  
C to C : 3.4 sec



## Belt type spindle

Standard  
Belt-type : 8,000 rpm

Optional  
Belt-type : 10,000 rpm

- Spindle is connected with motor by belt
- Coolant through spindle is available
- Spindle cooler is available

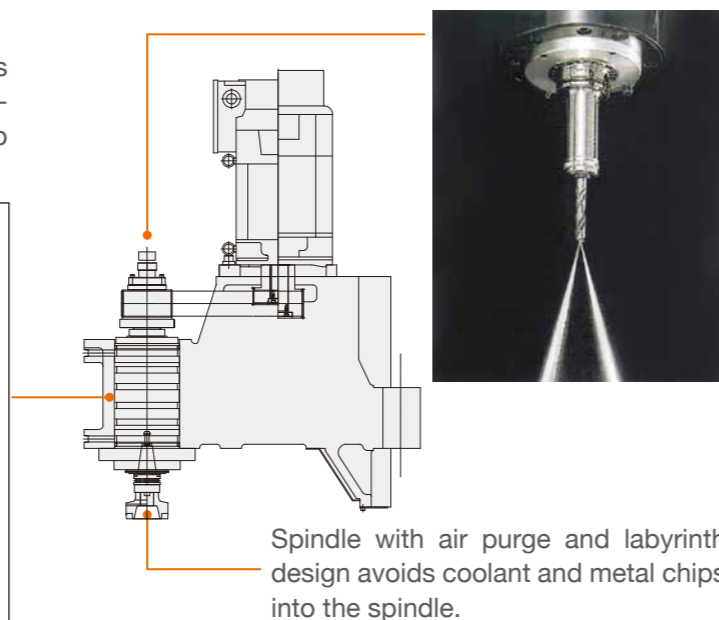
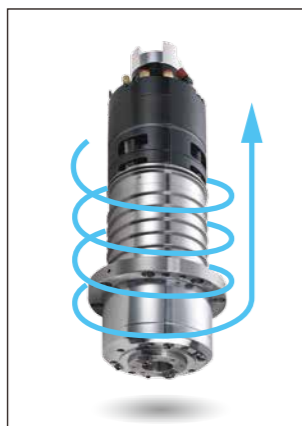


## Coolant through spindle (C.T.S) (Opt.)

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 cooler (Opt.)

To reduce the thermal displacement, spindle chiller is available as optional equipment, which could automatically adjusted spindle temperature according to machine temperature.



## Direct-drive type (Opt.)

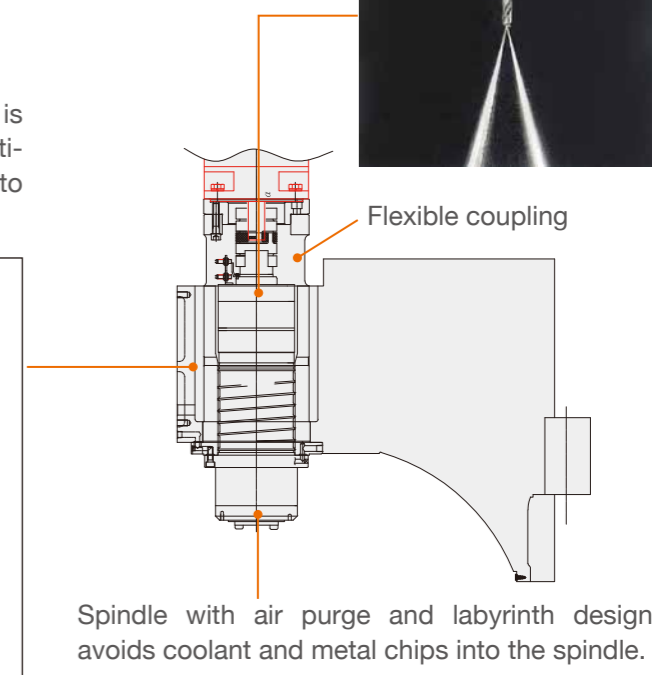
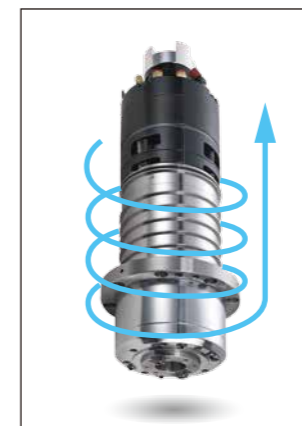
Direct-drive type : 8,000 rpm \ 10,000 rpm

## Direct-drive motor



## Spindle cooler (Opt.)

To reduce the thermal displacement, spindle chiller is available as optional equipment, which could automatically adjusted spindle temperature according to machine temperature.



- Spindle is connected with motor by coupling
- Spindle cooler is available
- Coolant through spindle is available (α T8 motor only)

## Coolant through spindle (C.T.S) (Opt.)

α T8 motor only



# Main structure

## Table size (L×W)

	850QII	1050QII
L	950	1,100
W	600	600

Unit : mm

## Working area (L×W×H)

	850QII	1050QII
L	850	1,050
W	600	600
H	530	530

Unit : mm

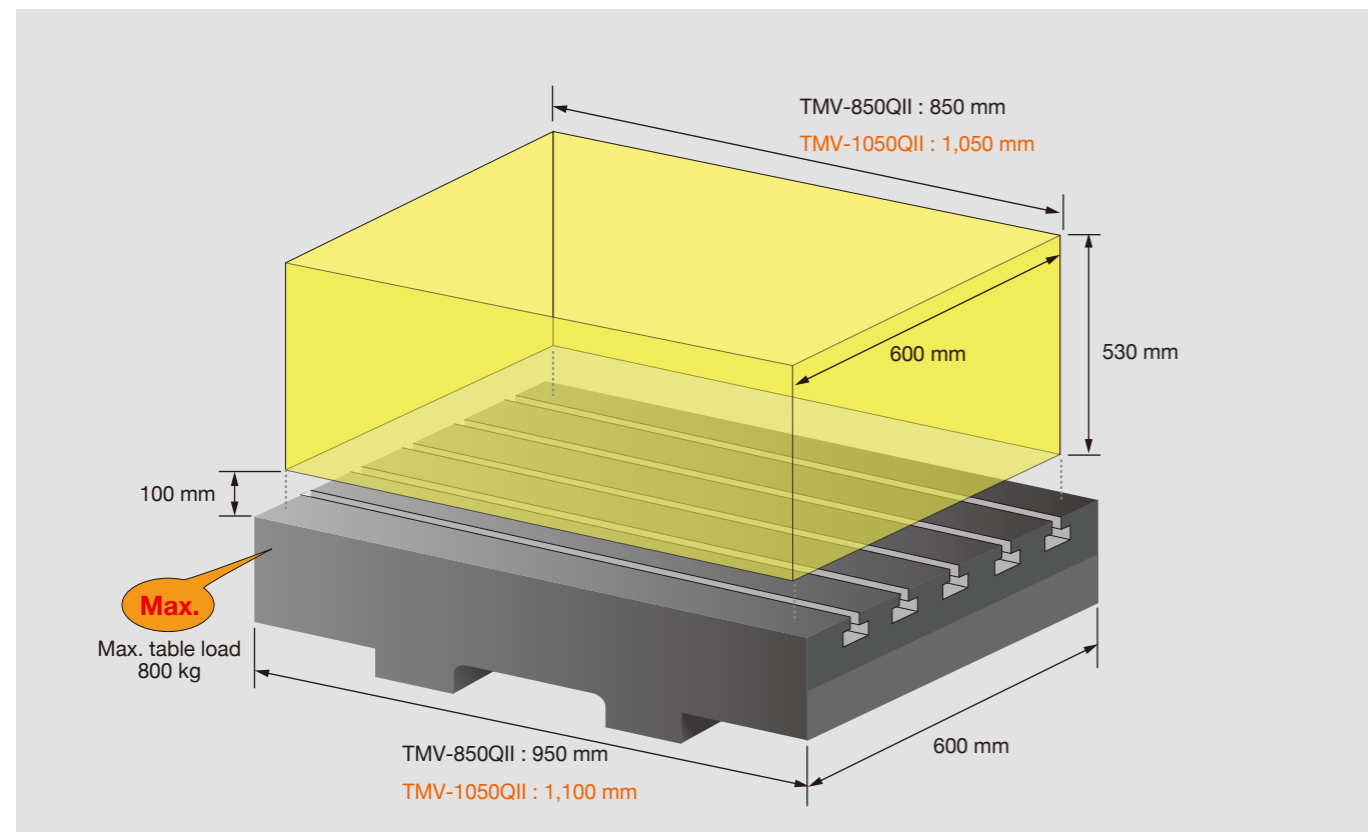


Fine ground table surface with excellent flatness.

Maximum table load **800 kg**

Table height from floor **900 mm**

## Working area



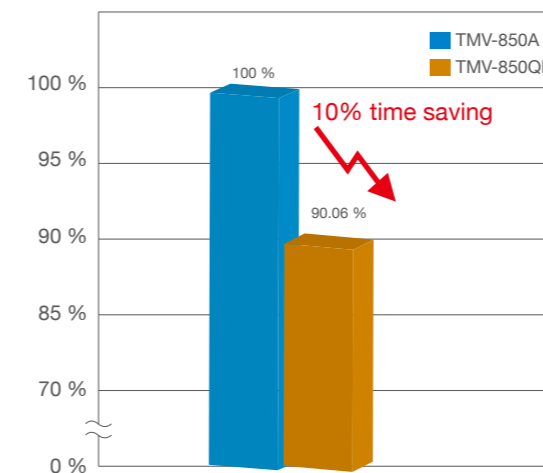
# Examples of application



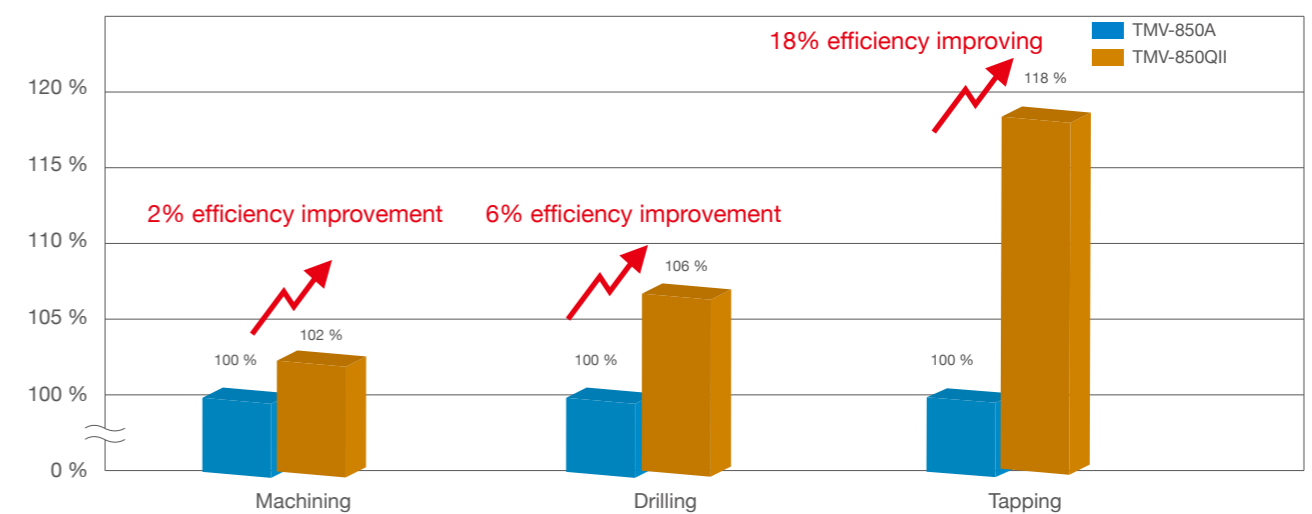
## Machining efficiency improvement test

The below graphs show the comparison between TMV-850A and TMV-850QII. In the practical applications, the TMV-850QII saves 10% more machining time than the TMV-850A. Furthermore, to compare the different machining modes, the TMV-850Q has better performance than TMV-850A, especially in tapping.

### Cycle time comparison



### Machining modes comparison



## Peripheral accessories

### 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 follow the lists to ensure setting and testing for improving the quality of products.



### Customization (Opt.)

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



## Tongtai- Technical Application Center

The purpose of T-TAC is to take care of customer's machining solution actively. Based on the outstanding technical applications, Tongtai is able and willing to provide advanced machining technologies, machining solutions as well as trial tests to its customers and ensures them of excellent experiences in machine operation, maintenance convenience and machine availability.



### T-TAC technical and machining solutions

Solutions	Contents
Product manufacture test	Through the manufacturing progress and jig & fixture plans, Tongtai's skilled staff will manufacture the first piece for understanding the client's corresponding demands.
Machining technologies	By introducing innovative technologies and adding the extra functions, T-TAC is available to provide brand-new solutions.
Machine technology	Our technical staff will test current problems, which clients have, in the same machine model for processing problem diagnosis and providing possible solutions. Furthermore, our skilled staff is able to provide the services at the client's factory.
Training	T-TAC is open to train current clients, potential customers, agents, teachers/students, and employees and to strengthen their abilities.
Technology exhibits	T-TAC is also an excellent platform to launch new products/technologies by cooperation with software/hardware suppliers. With presentation of highly reliable products/technologies, it's possible to provide higher efficiency and availability solutions than currently existing ones.

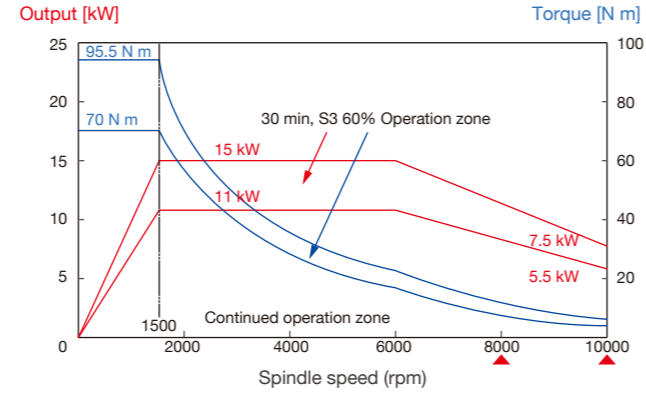
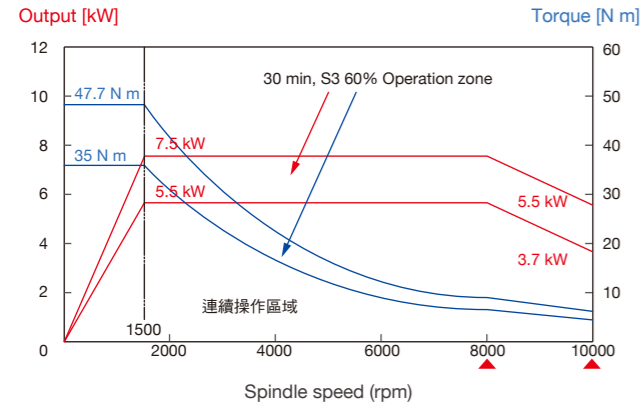
# Spindle output and torque chart

## Belt type spindle (All series CTS is optional)

## Direct-drive type (All series CTS is optional)

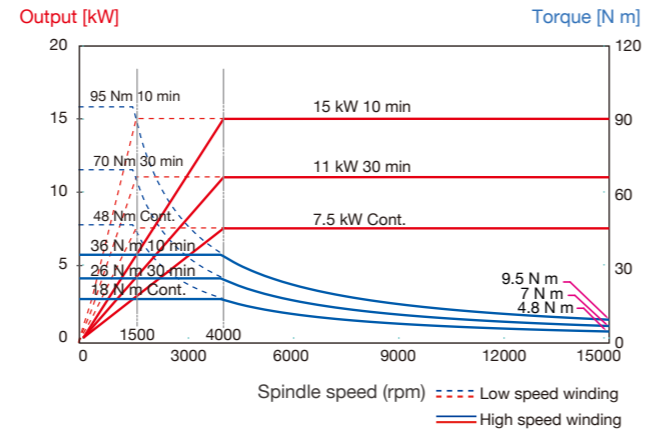
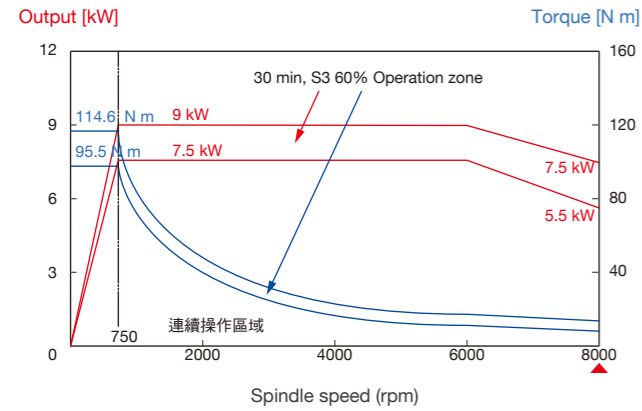
Std. α6 (7.5/5.5 kW) 8,000 rpm (Opt. 10,000 rpm)

Opt. α12 (15/11 kW) 10,000



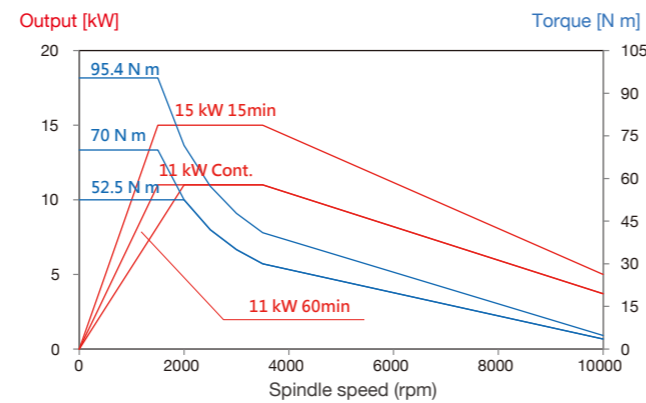
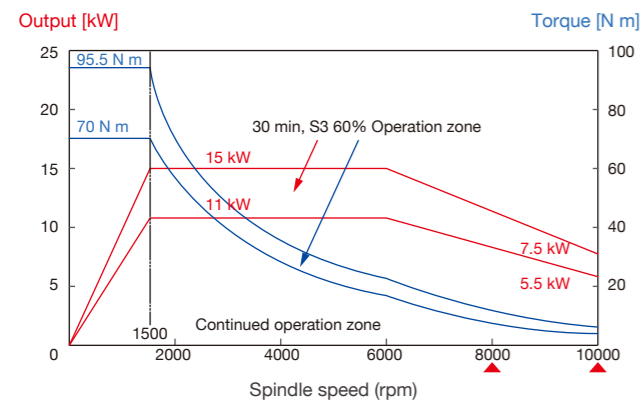
Opt. αP15 (9/7.5 kW) 8,000 rpm

Opt. αT8 (11/7 kW) 10,000/15,000 rpm



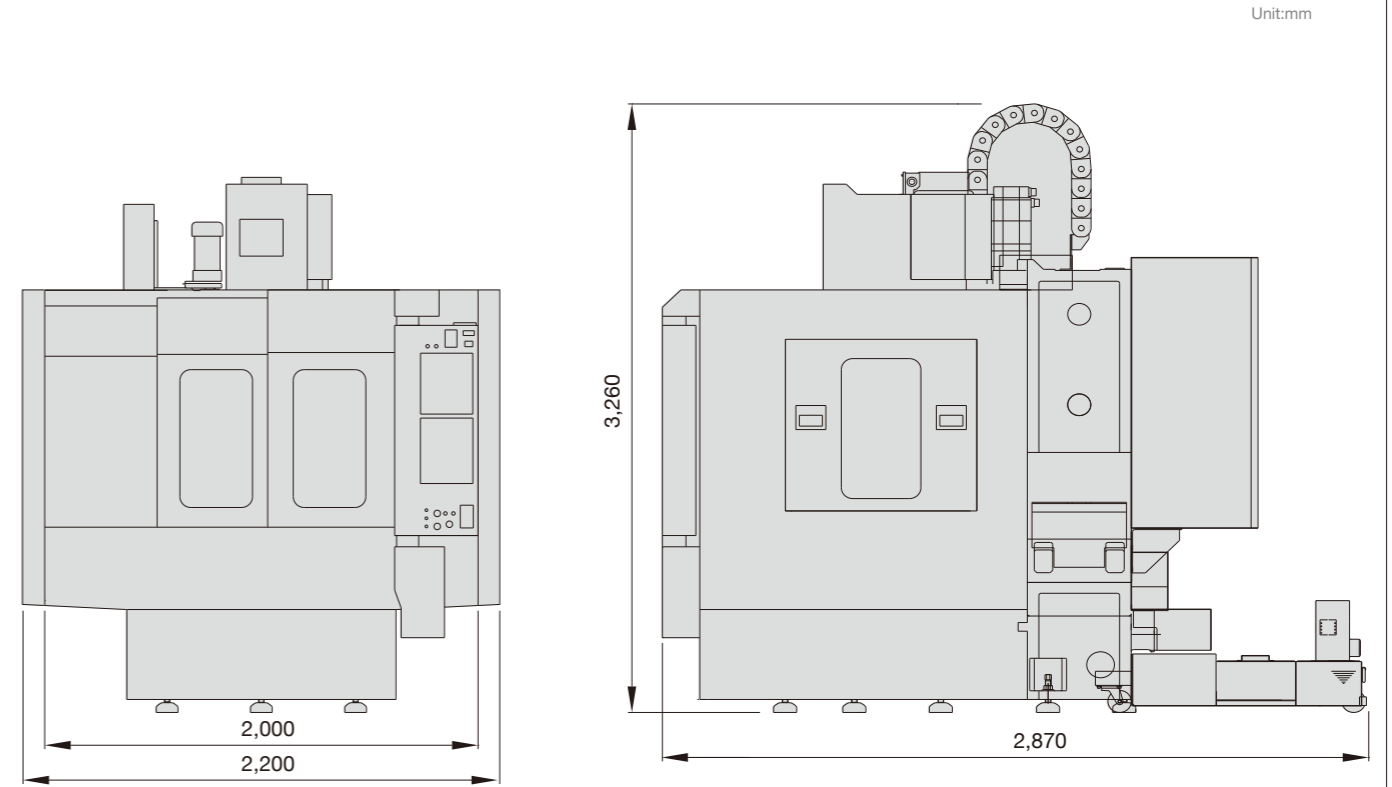
Opt. α12 (15/11 kW) 10,000 rpm

Opt. βiT12 10,000 rpm

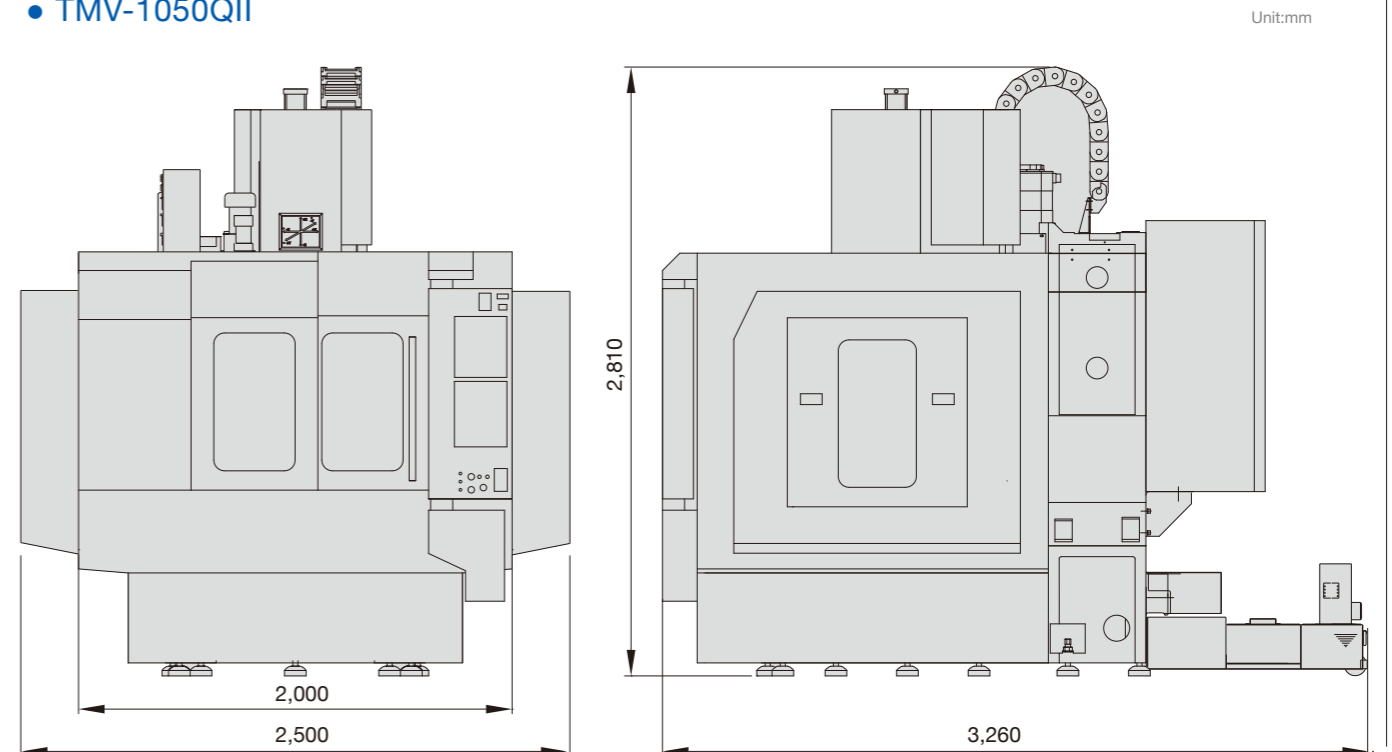


# Machine dimension

## • TMV-850QII



## • TMV-1050QII



# Optional accessories

Coolant through spindle



Spindle chiller



4<sup>th</sup> 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



# Specifications



Item	Specification	Unit	TMV-850QII	TMV-1050QII
Table	Table size (L×W)	mm	950 x 600	1,100 x 600
	Max. table load	kg	800	
	Table height from floor	mm	900	
	T-slot (size×No.)	mm	18x5	
Spindle	Spindle taper		7/24 Taper No.40	
	Spindle speed	rpm	8,000 (10,000) (15,000)	
Travel	X/Y/Z axis travel	mm	850 / 600 / 530	1,050 / 600 / 530
	Spindle nose to table	mm	100-630	
Feed	X/Y/Z axis rapid traverse	m/min	48 / 48 / 48	
	Cutting feedrate	mm/min	1-12,000	
ATC	Tool shank		BT-40	
	Tool capacity	pc	24 (30)	
	Max. tool diameter	mm	Ø89	
	Max. tool diameter (w/o adjacent tool)	mm	Ø125	
	Max. tool length	mm	250	
	Max. tool weight	kg	7	
Motors	Spindle motor (50% ED)	kW	7.5/5.5 (9/7.5) (15/11)	
	X/Y/Z axis servo motor	kW	4.5/4.5/5.5	
Machine size	Width x Depth x Height	mm	2,200 x 3,260 x 2,810	2,500 x 3,260 x 2,810
	Weight	kg	5,500	5,900
Controller			FANUC 0i-MF	

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