

Tapping Center

EZ Series



Tongtai Machine & Tool Co., Ltd.

Headquarters

No.3, Luke 3rd Rd., Luzhu Dist., Kaohsiung City 82151, Taiwan

TEL : 886-7-9761588 FAX : 886-7-9761589

www.tongtai.com.tw

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

Members of TTGroup

Honor Seiki Co., Ltd.

TEL : 886-7-9759888

FAX : 886-7-9759999

www.honorseiki.com

Asia Pacific Elite Corp.

TEL : 886-4-23589313

FAX : 886-4-23588913

www.apecnc.com

Quick-Tech Machinery Co., Ltd.

TEL : 886-6-3841155

FAX : 886-6-3841177

www.quicktech.com.tw

PCI-SCHEM

TEL : 33-4-77426161

FAX : 33-4-77426023

www.pci.fr

ANGER Machining GmbH

TEL : 43-7229-71041-0

FAX : 43-7229-71041-199

www.anger-machining.com

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Official Website



Global Network

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

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

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EZ Series



- EZ series is designed for 3C, hardware, and automotive industries. Variety spindle speed 12,000rpm, 20,000rpm, or 24,000rpm are available for different machining requirements.
- Standard equipped with direct-drive type spindle for better tapping precision and avoids belt life issue of belt type spindle.
- Servo type roller cam ATC gives high production efficiency.
- Adopt A type column structure and it has the advantage of keeping dynamic stability under the rapid traverse of 1.2G.

Main specifications

Item	Unit	EZ-5 (EZ-5A)		EZ-7 (EZ-7A)	
X/Y/Z axis travel	mm	510/400/300 (350)※1		710/400/300 (350)※1	
Spindle	rpm	12,000 (20,000) (24,000)			
Max. tapping speed	rpm	6,000			
Rapid traverse	m/min	60/60/60			
Cutting feedrate	m/min	1-20,000			
Table size	mm	600x400		850x400	
Max. loading capacity	kg	250			
Servo motor	kW	5.5/3.7 (3.7/5.5/9) (3.7/2.2)			
Max. tool weight	kg	3			
Tool amounts	pc	EZ-5/7 : 16 (21) / EZ-5/7A : 20			

※1 : The travel of Z axis in EZ-5A and EZ-7A is 350mm ※2 : Max. speed in FANUC spindle motor is 20,000rpm
※3 : FANUC servo motor :1.8/1.8/3 kW



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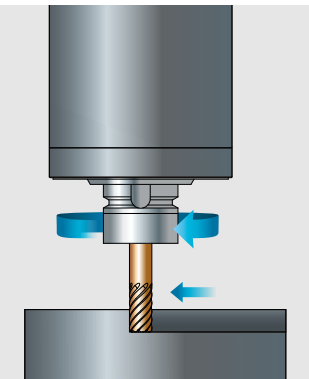
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Industry application / Machining capacity

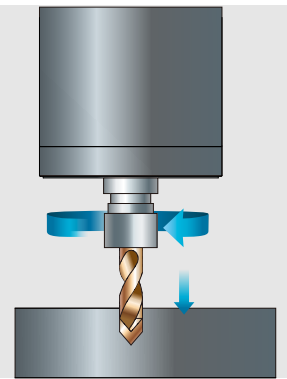
Industry application



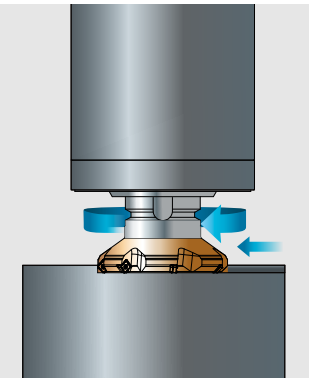
Machining capacity



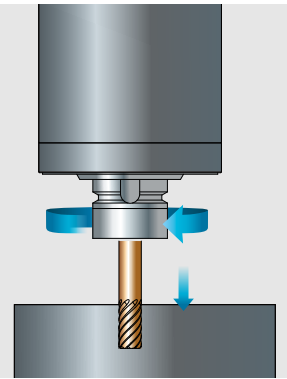
End mill Ø20 mm	
Material	S45C
Cutting depth/width	2/20 mm
Spindle speed	3,182 rpm
Feedrate	1,273 mm/min
Chip disposal rate	51 cm³/min



Drill Ø22 mm	
Material	S45C
Spindle speed	580 rpm
Feedrate	58 mm/min



Face mill Ø80 mm	
Material	S45C
Cutting depth/width	1/70 mm
Spindle speed	1,200 rpm
Feedrate	1,200 mm/min
Chip disposal rate	84 cm³/min

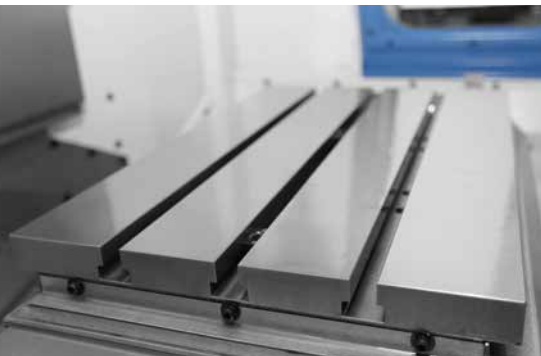


Tap M16	
Material	S45C
Max. M hole	M16x2
Min. M hole	M2x0.5
Spindle speed	6,000 rpm

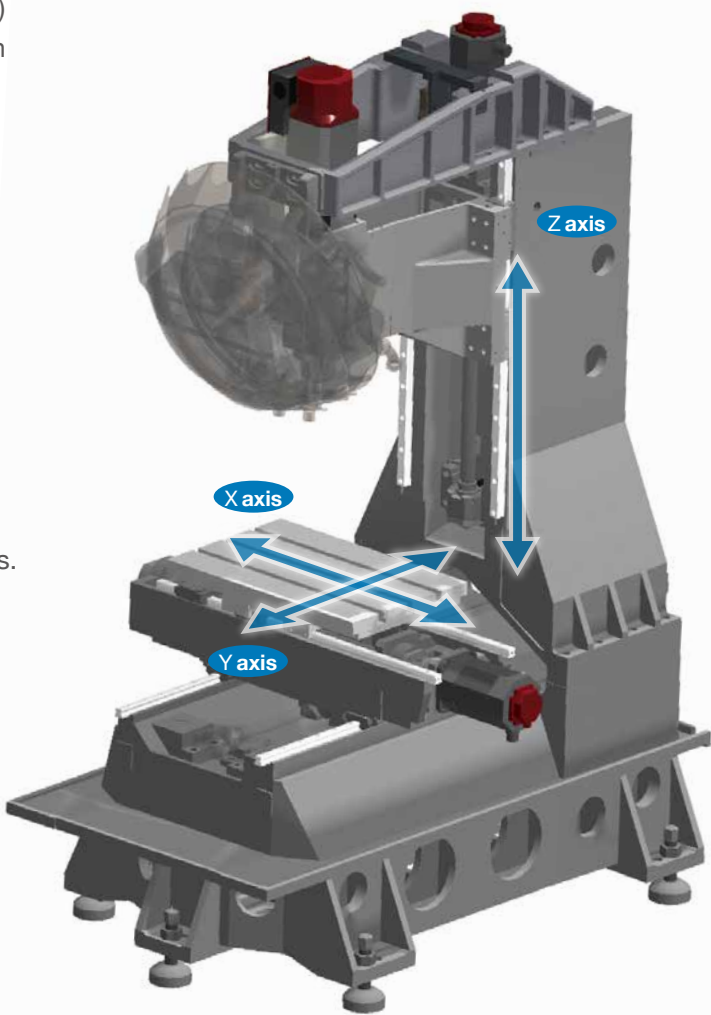
※Note: The data above comes from the test values of EZ-5 with 12,000 rpm direct drive type spindle.

Main structure

EZ series adopts Finite Element Analysis (FEA) to ensure the machining efficiency and maintain the machining precision.

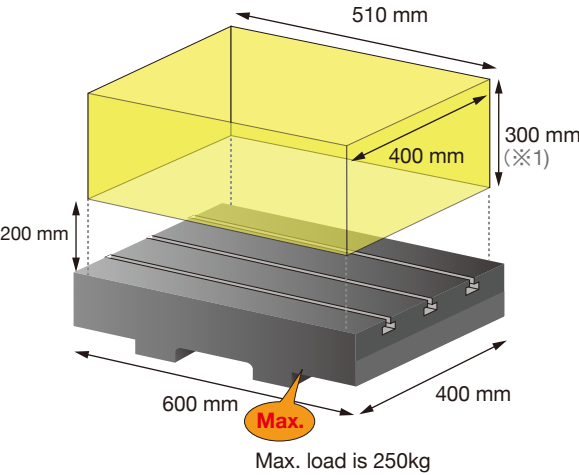


Fine ground table surface with excellent flatness.

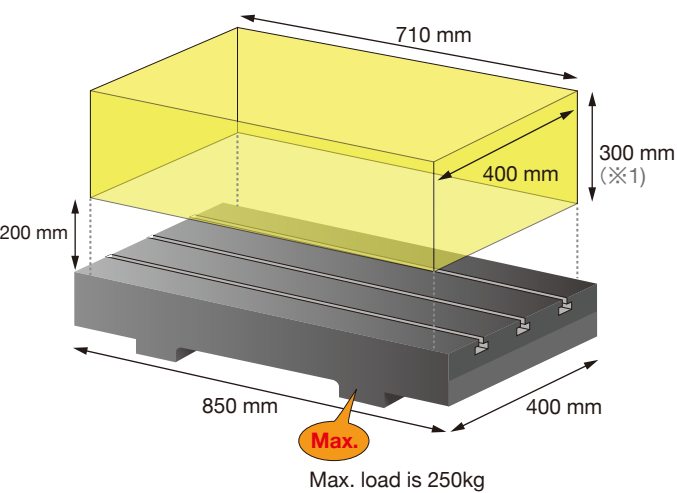


Working area

EZ-5



EZ-7



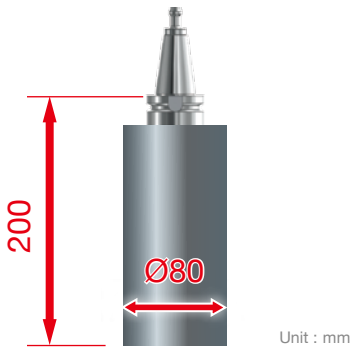
※1 : The travel of Z axis of EZ-5A and EZ-7A is 350mm

Automatic tool changer (ATC)

EZ-5

High speed servo motor drives tool magazine fast only in 0.2 seconds for each indexing time. With Tongtai made cam type tool changer, tool changing is fast and noise is low.

Tool to Tool time	1.2 sec
Time of opposite tool changing	0.9 sec
Tool capacity	16 (Opt. 21)
Max. tool weight	3 kg



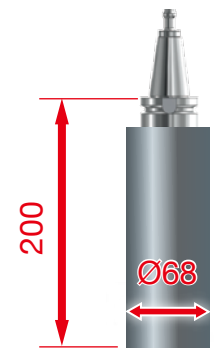
Tool to Tool = 1.2 sec

EZ-5A

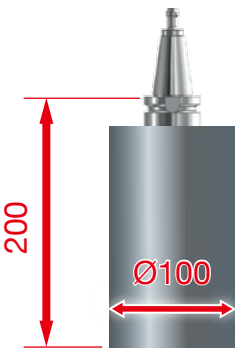
Arm type changer is adopted for processing tool change. Roller cam type ATC design allows the synchronous actions of tool losing and arm working in a rapidly and stably situation. It shortens the non-cutting time and increases productivity dramatically.

Tool to Tool time	0.8 sec
Tool capacity	20
Max. tool weight	3 kg

With adjacent tool



Without adjacent tool



Unit : mm



Tool to Tool = 0.8 sec

Safety and operation

Safety

Safety glass window is passed EN12417 standard and certificated by CE. Impact resistance is 200 times more than tempered glass. It improves the safety for operators.



Operation – Easy daily maintenance

Pneumatic unit, lubricant pump and some maintenance items are located on machine side together for easy maintenance.



Chips disposal

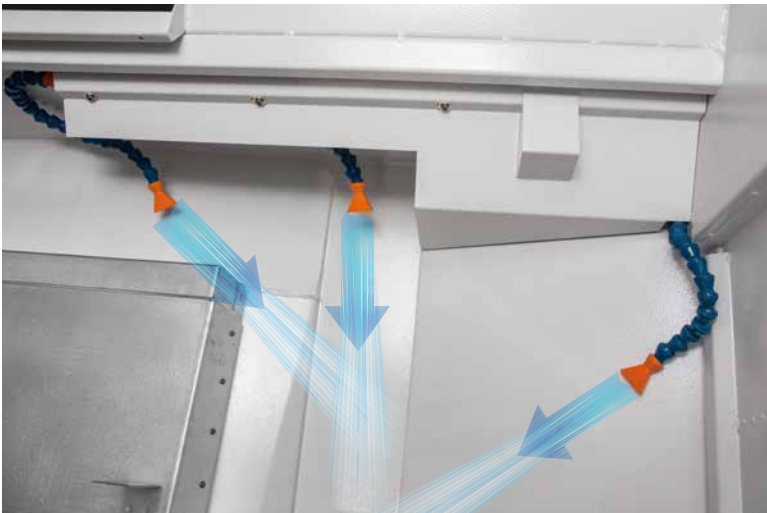
- Slanted sheet metal design with coolant flushing design enables to carry chips out of machine easily.
- Special sheet metal prevents machine bed being affected by chips heat. It avoids thermal distortion and maintain machining precision.



Peripheral accessories

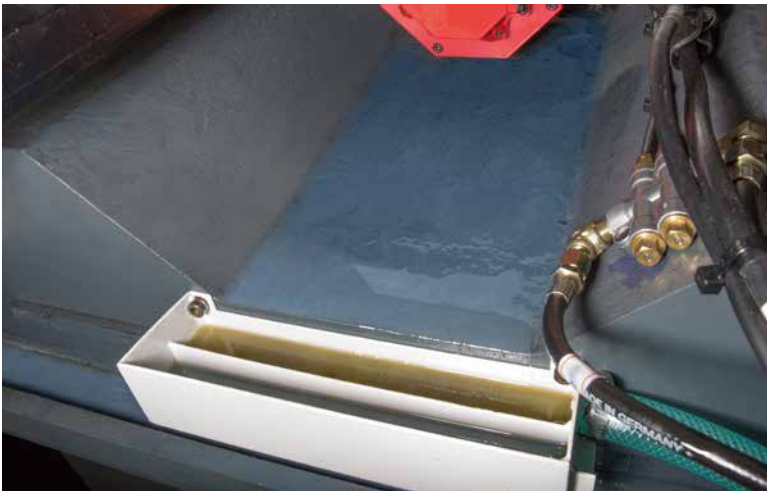
Interior flushing system (Std.)

Adopt 1.3 kW machine bed flushing system for avoiding chip accumulation.



Environment friendly design – Oil-water separator

- 1. Linear guideways & ballscrews have best efficient lubricant feeding design. Less feeding frequency saves lubricant consumption.
- 2. Special design guides X/Y/Z axes used lubricant to the center of machine bed.
- 3. Oil-water separator is equipped for preventing lubricant flow into coolant tank to extend coolant life.



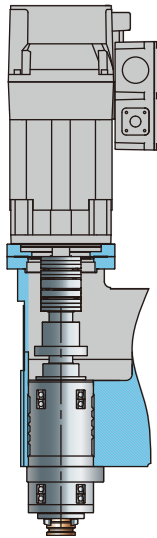
Coolant through spindle

Coolant through spindle (C.T.S.) design provides excellent chip removal in deep hole machining and increase machining efficiency and extend tool life.

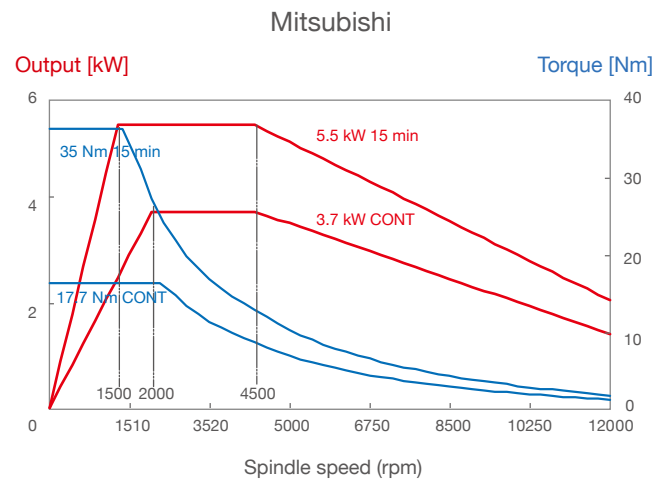


Spindle output and torque chart

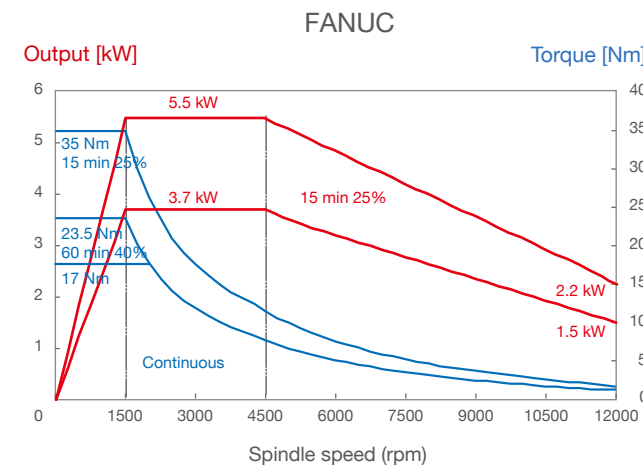
Spindle motor



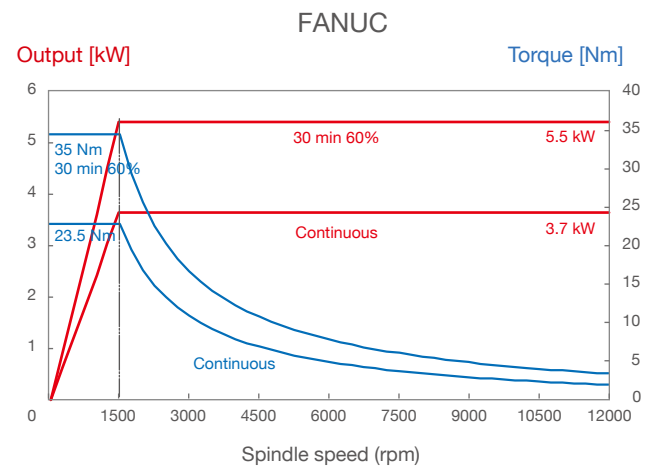
12,000 rpm (Std.) (C.T.S. is available)



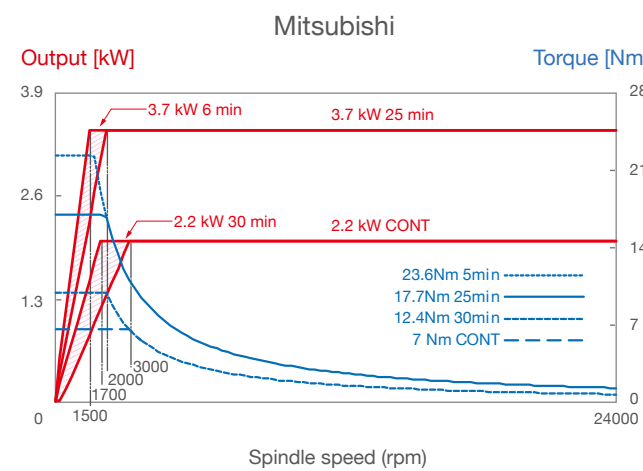
12,000 rpm (Opt.)



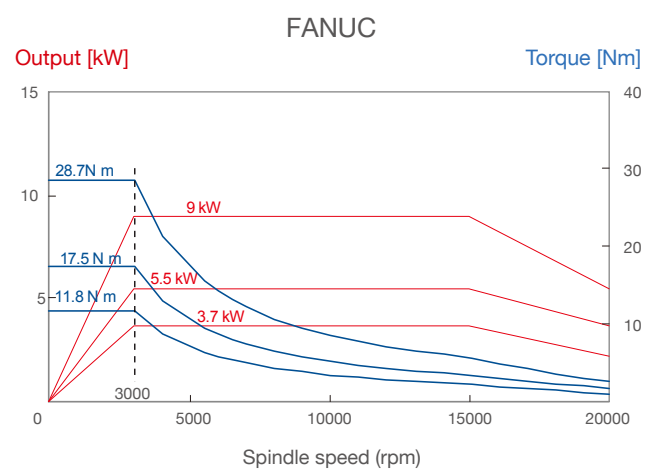
12,000 rpm With C.T.S (Opt.)



24,000 rpm (Opt.)

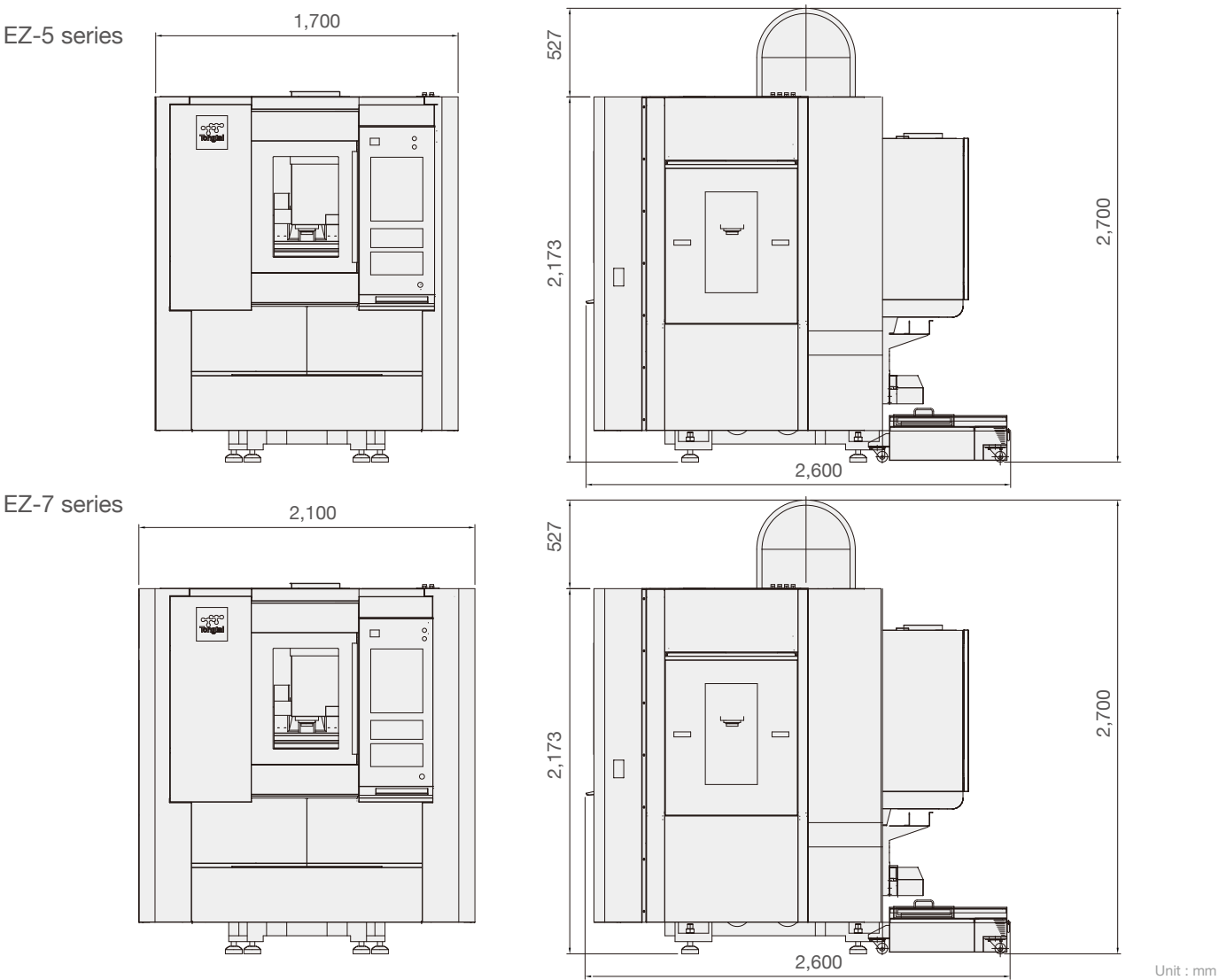


20,000 rpm (Opt.) (C.T.S. is available)



Machine dimensions • Std./Opt. accessories

Specification



Standard/optional accessories

(Arm type)

	Standard	Optional
LED lighting	●	
Manual pulse generator	●	
Workpiece counter	●	
Tri-color warning light	●	
Tool magazine	●	
Flushing system	●	
Spindle blow	●	
Interlock	●	
Coolant around spindle	●	
Coolant through spindle		○
Disc type oil skimmer		○
Air gun set		○
Coolant gun set		○

	Standard	Optional
Automatic door		○
Oil-mist collector		○
Coolant tank with chip conveyor		○
Spindle cooling device		○
Transformer / Stabilizer		○
Tool breakage detector		○
Standard 4 th axis (available to D210)		○
Hydraulic units and interface		○
A/C for electrical cabinet		○
CE standards		○
Automatic power off system		○
Automatic tool taper washing		○

Item	Specification	Unit	EZ-5	EZ-5A	EZ-7	EZ-7A
Table	Table size (L×W)	mm	600×400		850×400	
	Max. loading capacity	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	12,000 (20,000) (24,000)			
Travel	X/Y/Z axis travel	mm	510/400/300	510/400/350	710/400/300	710/400/350
	Spindle nose to table	mm	200-500	200-550	200-500	200-550
Feed	X/Y/Z axis rapid traverse	m/min	60/60/60			
	Cutting feedrate	mm/min	1-20,000			
ATC	Tool shank		BBT-30			
	ATC driving method		Servo motor	Motor	Servo motor	Motor
	Tool magazine type		Rotary disc type	Tool arm type	Rotary disc type	Tool arm type
	Tool pick-up		Fixed	Random	Fixed	Random
	Tool capacity	pc	16 (21)	20	16 (21)	20
	Max. tool diameter	mm	Ø80	Ø68	Ø80	Ø68
	Max. tool diameter (w/o adjacent tool)	mm	Ø80	Ø100	Ø80	Ø100
	Max. tool length	mm	200			
	Max. tool weight	kg	3			
	Motor	Spindle motor	kW	5.5/3.7 (3.7/5.5/9) (3.7/2.2)		
X/Y/Z servo motor		kW	1.5/2.2/2.2 [1.8/1.8/3]			
Coolant motor		kW	0.18			
Machine size	Width×Depth×Height	mm	1,700x2,600x2,700		2,100x2,600x2,700	
	Weight	kg	2,850		3,150	
Controller	Mitsubishi M70VA [Fanuc Oi-MF]					

*1.The max. tool weight is provided for reference. Different shapes and centers of gravity will influence the results.

◎The spindle with 12,000/16,000 rpm is available with C.T.S. (24,000 rpm w/o C.T.S.)

◎Specifications may be changed without prior notifications.