

CNC milling and tapping center

VTX Series



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VTX Series



Main specifications

Item	Unit	VTX-5 (VTX-5A)	VTX-7 (VTX-7A)
X/Y/Z axis travel	mm	510/400/300 (350)	710/400/300 (350)
Spindle	rpm	Std. 12,000	
Max. tapping speed	rpm	6,000	
Rapid traverse	m/min	60/60/60	
Cutting feedrate	m/min	20/20/20	
Table size	mm	600x400	850x400
Max. loading capacity	kg	250	
Servo motor	kW	1.8/1.8/3 (FANUC)	
Max. tool weight	kg	3	
Tool amounts	pc	16 (20)	

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- VTX series is mainly designed for demand of high efficient production. It not only gives BT-40 torque performance, but also performs BT-30 spindle fast acceleration, rapid and tool changing.
- To achieve high activation, space-saving, and best space utilization.
- 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 shape column design with roller linear guideway, which maintains stability of structure and dynamic movement in the speed of 1G acceleration.

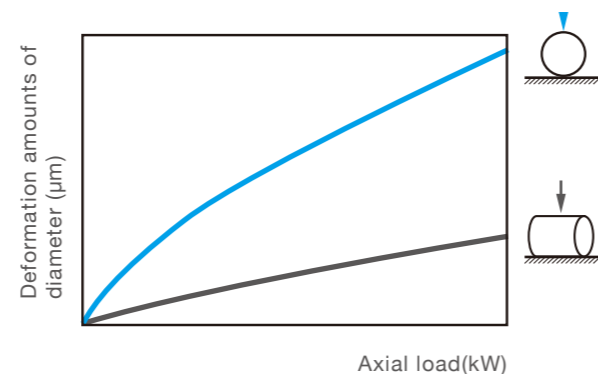
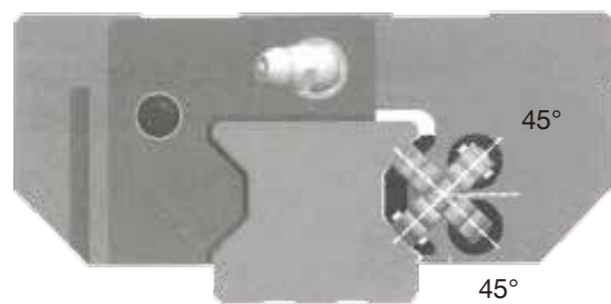


Main structure

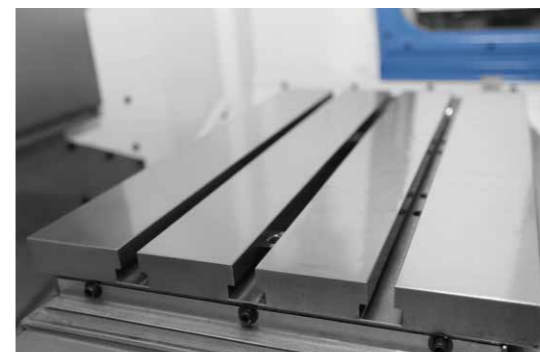
Roller guideway (Std.)

Adopts HIWIN DB roller guideway for satisfying the requirements of heavy duty machining and improving the machine rigidity.

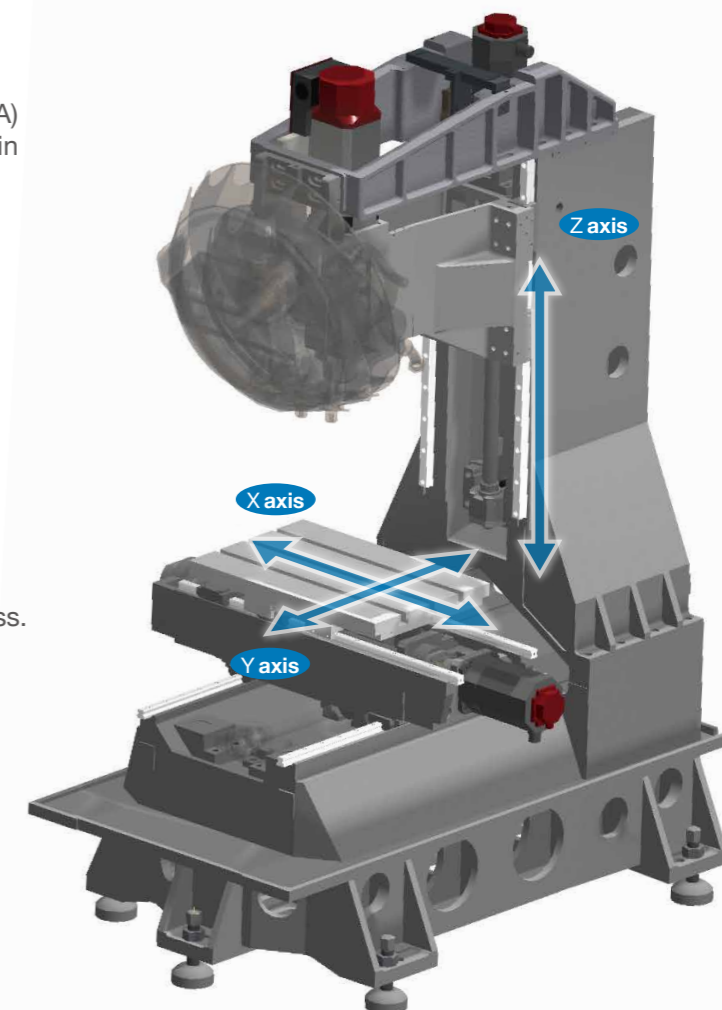
- The amount of deformation of roller type is smaller than other types



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



Fine ground table surface with excellent flatness.



Direct-drive type spindle (Std.)

Long-neck design

All series adopts direct-drive type spindle with coupling design. It avoids heat transferring and has the features of high precision, low vibration, and free maintenance.

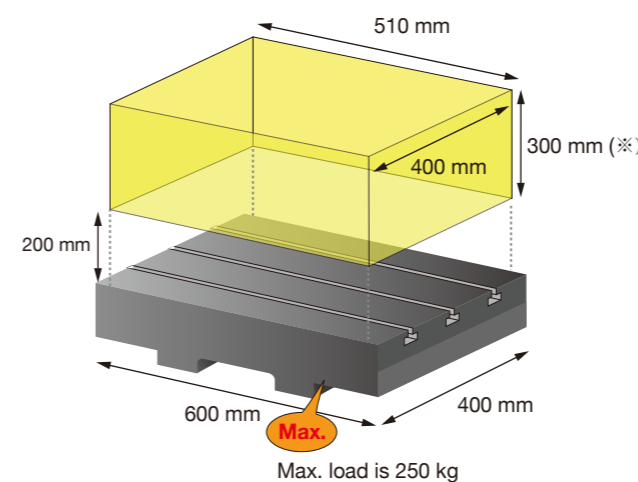
Intelligent function

Standard equipped with spindle rod positioning technology for detecting the clamping is completed or having errors. It avoids the possibility of tool position errors which will cause to damage the spindle during machining.

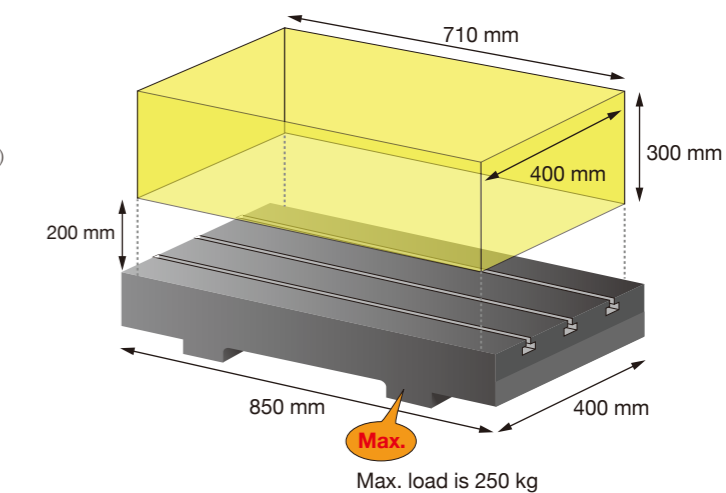


Working area

VTX-5



VTX-7

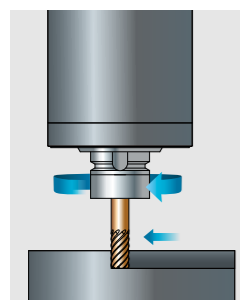


※ : The travel of Z axis in VTX-5A and VTX-7A is 350 mm

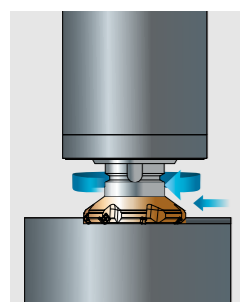
Machining capacity / Industry application

Machining capacity

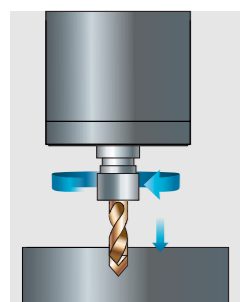
※Note: The data above comes from the test values of VTX-5 with standard 12,000 rpm spindle.



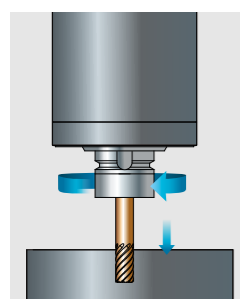
End mill	Ø20 mm
Material	S45C
Cutting depth/width	30/4 mm
Spindle speed	3,182 rpm
Feedrate	1,273 mm/min
Chip disposal rate	153 cm ³ /min



Face mill	Ø80 mm
Material	S45C
Cutting depth/width	2/65 mm
Spindle speed	915 rpm
Feedrate	1,372 mm/min
Chip disposal rate	178 cm ³ /min



Drill	Ø30 mm
Material	S45C
Spindle speed	424 rpm
Feedrate	84 mm/min



Tap	M24
Material	S45C
Max. M hole	M24xP3.0
Min. M hole	M2xP0.5
Spindle speed	6,000 rpm

Industry application



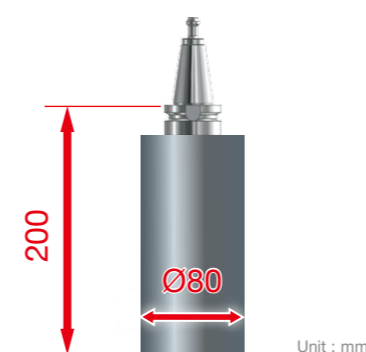
Automatic tool changer (ATC)

VTX-5/VTX-7

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



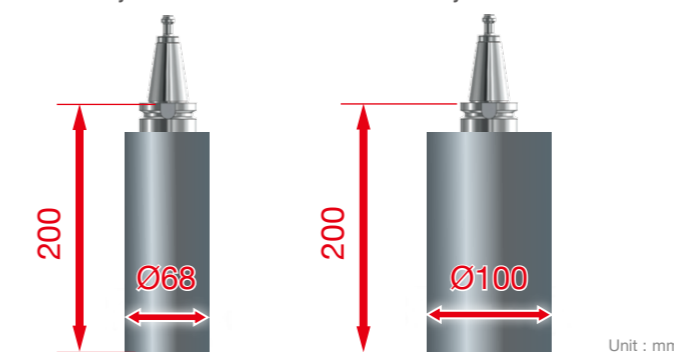
VTX-5A/VTX-7A

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

Tool to Tool = 0.8 sec

With adjacent tool Without adjacent tool



Safety and operation · Peripheral accessories

Safety

The impact strength of safety glass window, is same as tempered glass. It has passed EN12417 standards and certificated by CE, which provides excellent protection to the operator.



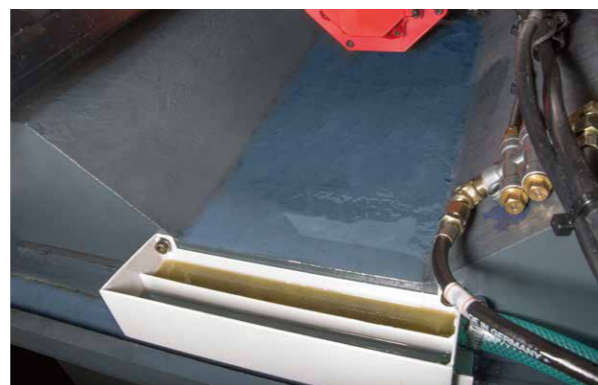
Chips disposal

- Slanted sheet metal design with coolant flushing design enable 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.



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.



Operation – Easy daily maintenance

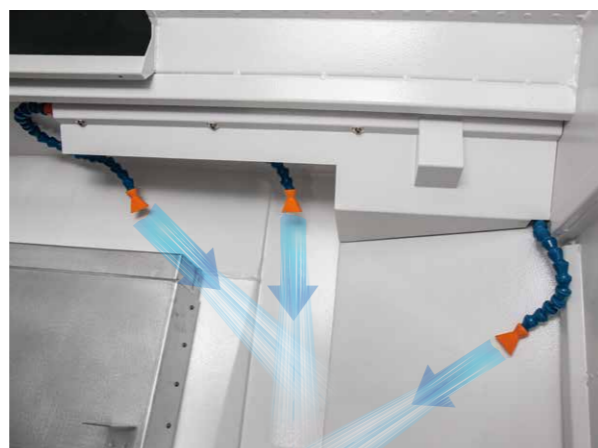
Pneumatic unit, lubricant pump and some maintenance items are located on machine side together for easy maintenance.

Rear cover (Opt.)



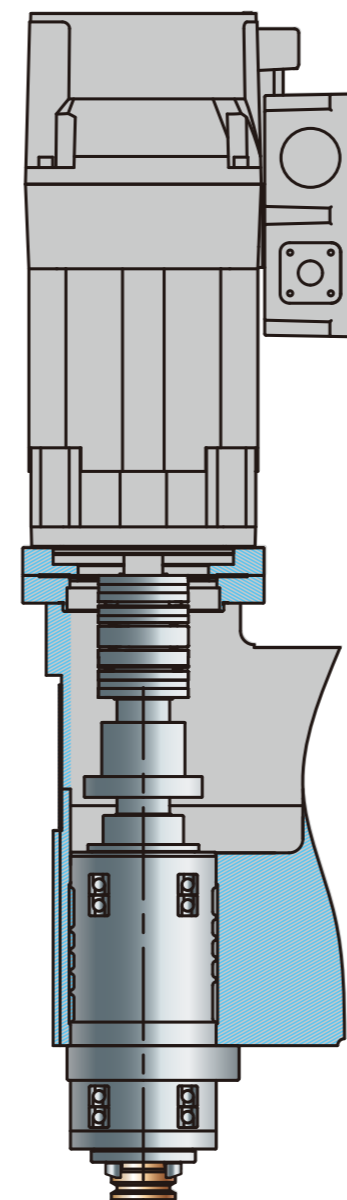
Interior flushing system (Std.)

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



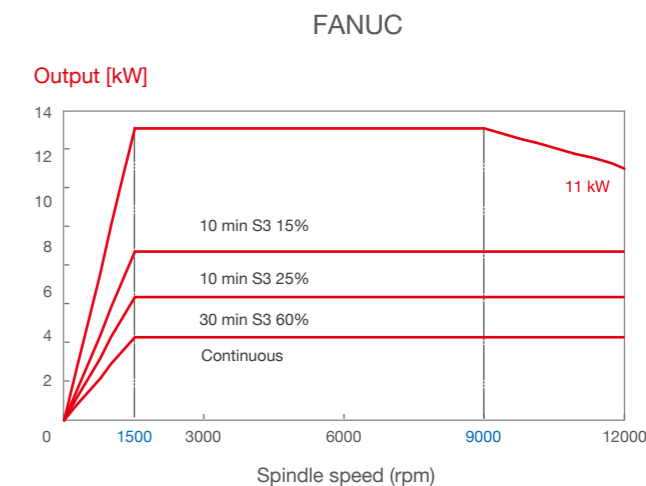
Spindle output and torque chart (Standard)

Spindle motor

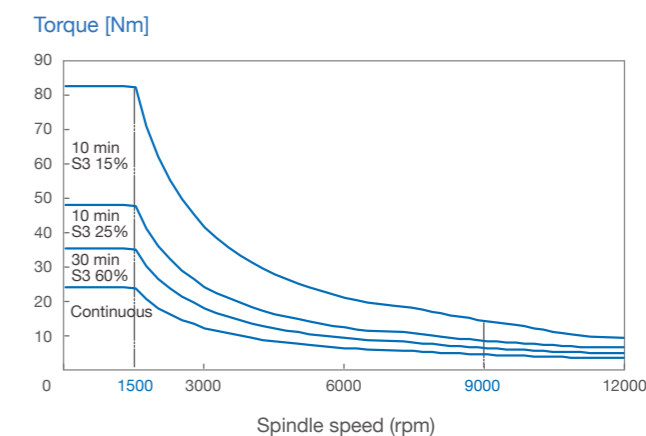


12,000 rpm (Std.)

(C.T.S. is available)



82 Nm



Direct-drive Spindle

- Long neck design is suitable for different kinds of complex components machining to avoid possibilities of interference.
- Spindle design is different from other high torque spindles, VTX has dia. 50 mm spindle shaft and best span distance, which gives double axial rigidity. It benefits on better drilling/tapping performances and maintaining milling stability.

Std./opt. accessories · Machine dimensions

Specification

Standard ● Optional ○

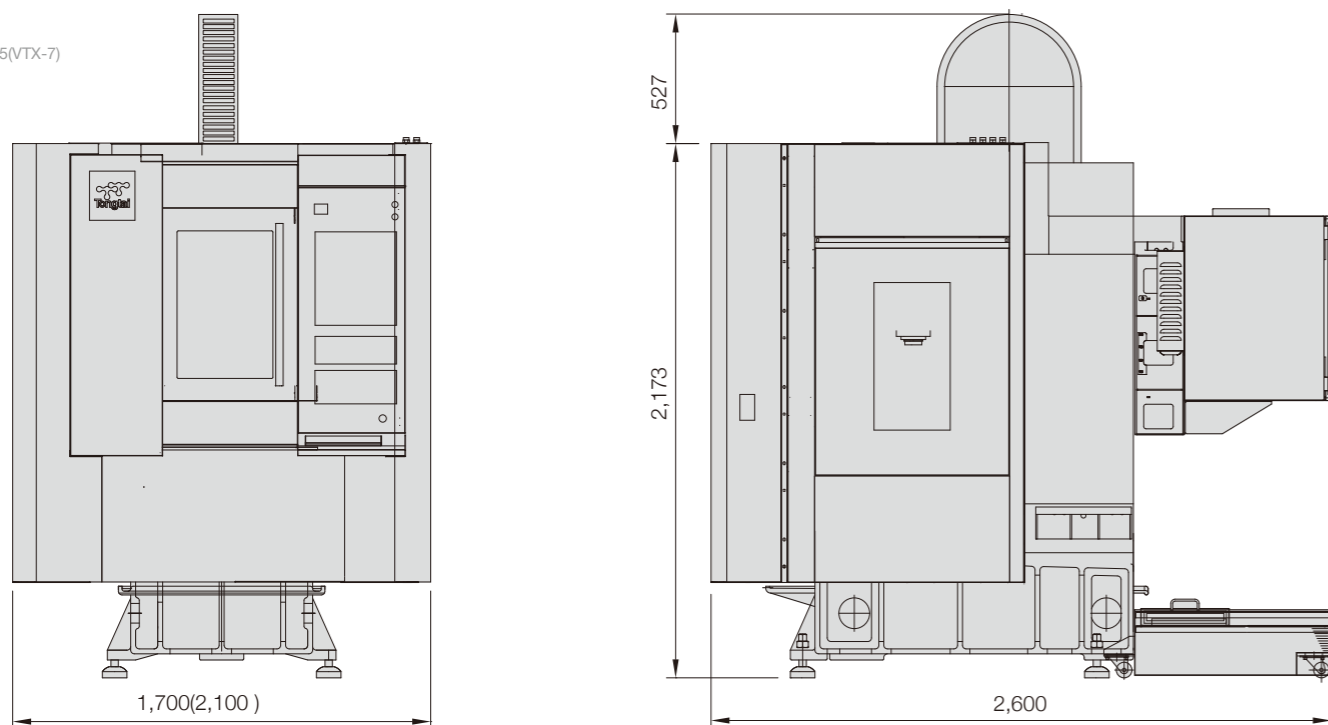
Item	Std.	Opt.
LED lighting	●	
Manual pulse generator	●	
Workpiece counter	●	
Tri-color warning light	●	
Tool magazine	●	
Flushing system	●	
Spindle blow	●	
Interlock	●	
Coolant around spindle	●	
Spindle tool clamping detector	●	
Coolant through spindle		○
Disc type oil skimmer		○
Air gun set		○
Coolant gun set		○
Automatic door		○

Item	Std.	Opt.
Oil-mist collector		○
Chip conveyor		○
Spindle cooling device (20,000/24,000 rpm)		○
Transformer / Stabilizer		○
Tool breakage detector		○
Standard 4th axis		○
Hydraulic units and interface		○
A/C for electrical cabinet		○
CE standards		○
Automatic power off system		○
Auto. tool taper washing		○
Chip Angur		○
Economy Spindle & Motor		○
Rear cover		○
FANUC_P660 High quality machining center (AICC、pre-read)		○

Machine dimensions

Unit : mm

※VTX-5(VTX-7)



Item	Specification	Unit	VTX-5	VTX-5A	VTX-7	VTX-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	Type of spindle taper hole		7/24 Taper No. 30			
	Spindle speed	rpm	12,000 (Opt. 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			
Feed	X/Y/Z axis rapid traverse	m/min	60/60/60			
	Cutting feedrate	mm/min	1-20,000			
ATC	Tool shank		BBT-30 (Opt. BT-30)			
	Tool capacity	pc	16 (Opt. 21)	20	16 (Opt. 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	3.7/13 (Opt. 3.7/5.5)			
	X/Y/Z servo motor	kW	1.8/1.8/3			
	Coolant motor	kW	0.18			
Machine size	Width×Depth×Height	mm	1,700×2,600×2,700		2,100×2,600×2,700	
	Weight	kg	2,850		3,150	
Controller			FANUC 0i-F			

*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 with C.T.S. is available (24,000 rpm w/o C.T.S.)

◎Specifications may be changed without prior notifications.