

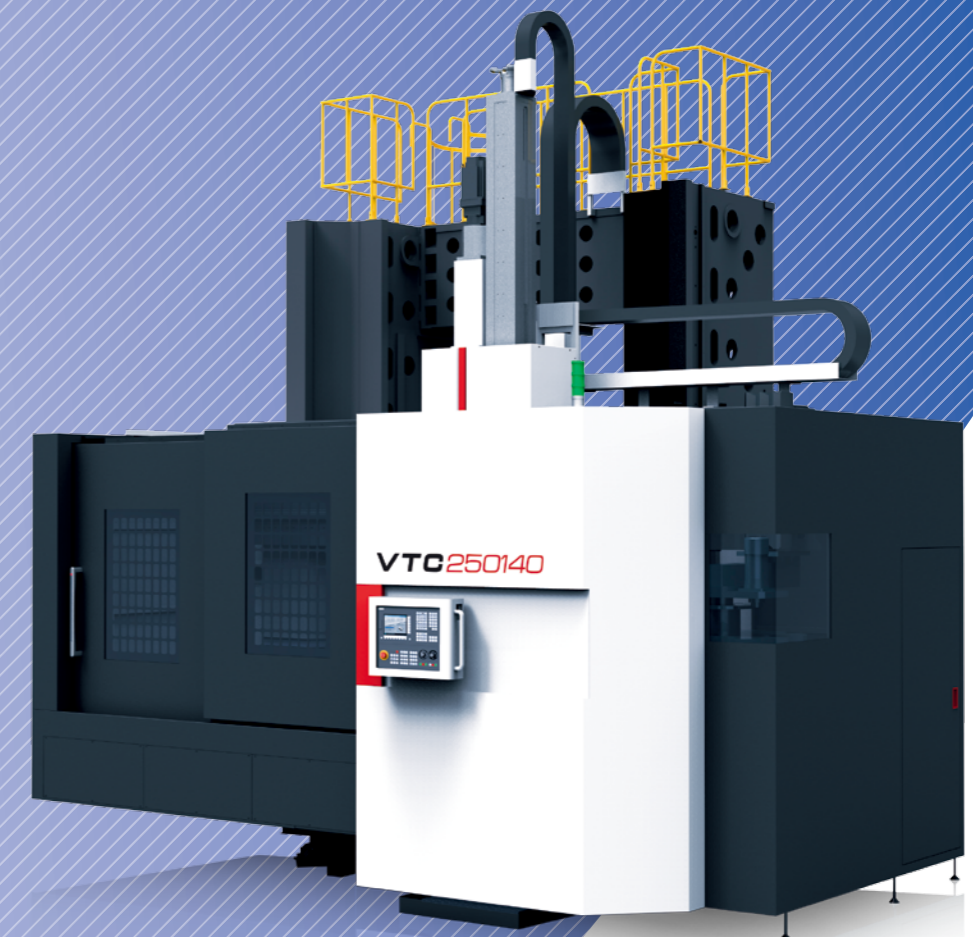
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VTC (M) Series

CNC Vertical Lathe Vertical Turning/Milling Center

Dedicated service line

400-615-9999



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VTC Series

CNC Vertical Lathe

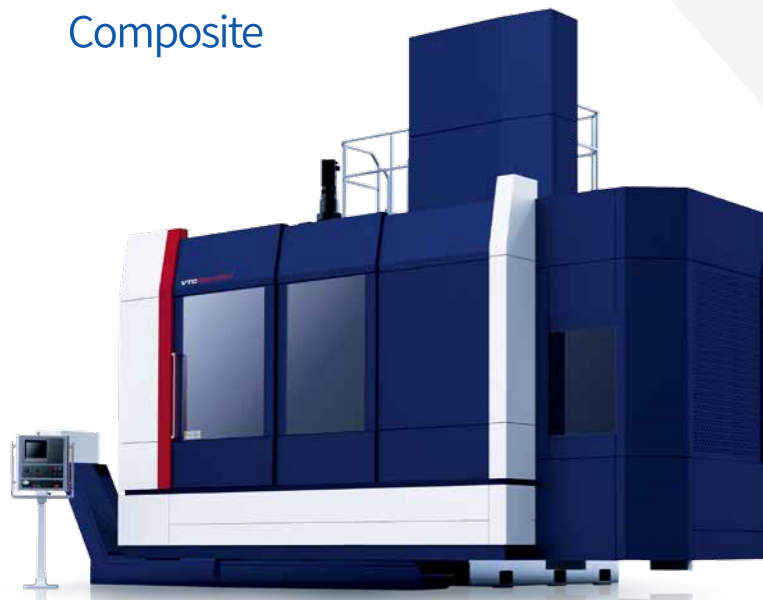
Product Introduction

VTC series CNC vertical lathe is a new generation product completely independently researched and developed on the basis of sufficient digestion and absorption of foreign advanced technology in combination with the advantageous technology of CNC vertical lathe of Shenyang Machine Tool Group. The key outsourced components such as CNC system, main electrical parts, main bearing, ball lead screw, linear guiderail and reducers of this series of machine tools adopt the products of foreign famous brand manufacturers. The product is mainly used for mechanical treatment industries such as pump valve, track traffic, electric motor, metallurgy, mining, bearing and engineering machinery to machine various large-size components featuring high accuracy, multiple work procedures and complicated shape. This machine tool is able to save technical equipment, shorten the production preparation cycle, ensure the machining quality of parts and improve production efficiency.



- High rigidity
- High strength
- High accuracy
- High efficiency

- High accuracy
- High efficiency
- High rigidity
- Composite



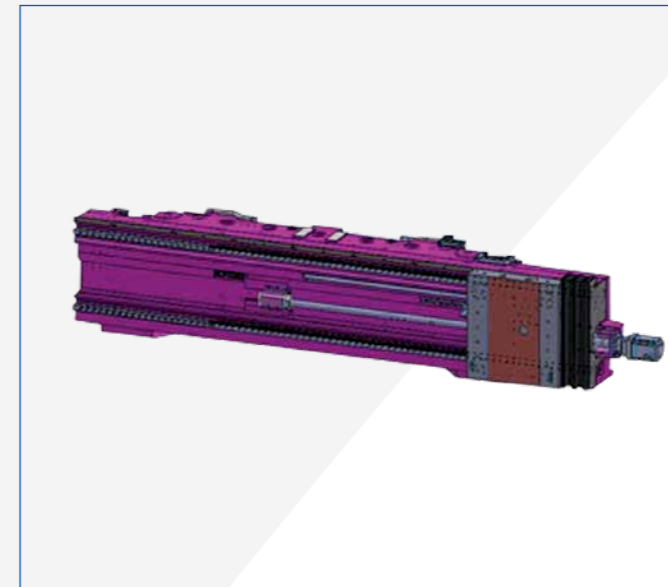
VTC M Series

Vertical Turning/Milling Center

Product Introduction

VTC-M series vertical turning/milling center is a new generation product completely independently researched and developed on the basis of sufficient digestion and absorption of foreign advanced technology in combination with the advantageous technology of CNC vertical lathe of Shenyang Machine Tool Group. The series of machine tool features large machining capacity, high machining accuracy and high machining efficiency and adopts fully automated tool changing technology which enhances automation degree. The control system of the machine tool features strict protection measures to ensure personal and equipment safety. The product is mainly used for mechanical treatment industries such as aerospace, ship, wind power, valve and mining to machine various large-size components featuring high accuracy, multiple work procedures and complicated shape. This machine tool is able to save technical equipment, shorten the production preparation cycle, ensure the machining quality of parts and improve production efficiency.

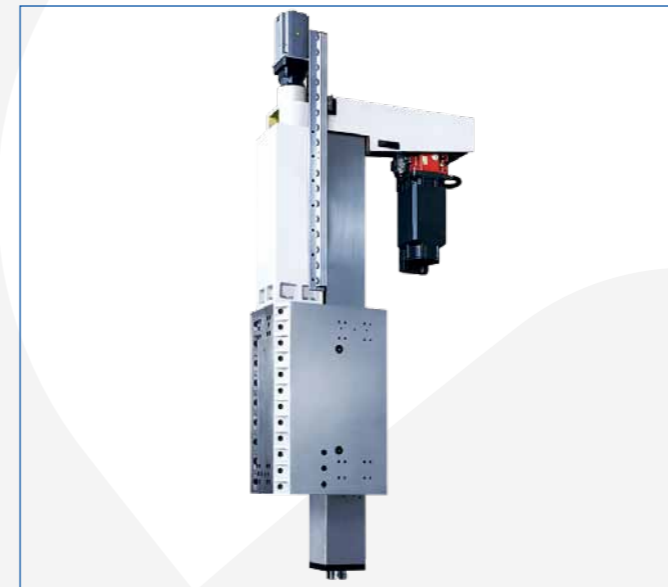
Structural Features



Crossbeam: design of crossbeam adopts sufficient guiderail span and thickness as well as reasonable layout to prevent bending generated by ram motion and cutting force and enhance rigidity of crossbeam.



Tool holder: the thrusting cylinder installed on upper part of ram moves drag link up/down to forcefully raise and tightly pull tool holder, and lower fluted disc is used for positioning.



Ram: ram is a rectangle ram and moves on crossbeam along X-axis and Z-axis directions. Forged ram ensures sufficient cutting rigidity.



Optional: tool setting gauge, multi-position tool holder and right-angle boring/milling head. (VTC-M series)

Technical parameters

Items	Unit	VTC 12560S	VTC 160100S	VTC 160100	VTC 250140	VTC 350140
Diameter of workbench	mm	Φ1250	Φ1400	Φ1400	Φ2000	Φ3150
Maximum turning diameter	mm	Φ1250	Φ1600	Φ1600	Φ2500	Φ3500
Maximum workpiece height	mm	600	1000	1600	2000	2500
Maximum workpiece weight	t	5	6	6	16	25
Maximum torque of workbench	Nm	10000	13300	13300	35000	55000
Maximum speed of workbench	rpm	280	280	280	150	60
Power of variable frequency spindle motor	kW	37	37	37	55	55
Section size of ram	mm×mm	200×200	200×200	200×200	240×240	240×240
X-axis travel	mm	-50+1450	-50+1520	-50+1520	-50+2150	-50+2580
Z-axis travel (ram travel)	mm	600	1000	1000	1400	1400
Crossbeam travel (W-axis)	mm	Fixed beam	Fixed beam	1200(200×6)	1400(200×7)	1800
X-axis rapid traverse speed	m/min	12	12	12	8	8
Z-axis rapid traverse speed	m/min	8	8	8	8	8
Crossbeam rapid traverse speed (W-axis)	m/min	Fixed beam	Fixed beam	0.3	0.3	0.3
Dimension of turning tool shank	mm×mm	40×40	40×40	40×40	40×40	40×40
Positioning accuracy of X/Z axes	mm	0.025/1000	0.025/1000	0.025/1000	0.025/1000	0.025/1000
Positioning repeatability of X/Z axes	mm	0.008	0.008	0.008	0.008	0.008
CNC system		SIEMENS 828D	SIEMENS 828D	SIEMENS 828D	SIEMENS 828D	SIEMENS 828D

Remarks: the parameters provided in the table are only for reference, and please refer to the actual product in case of change.

Standard configuration

Siemens 828D system	Homemade spindle plane bearing (VTC125/160)
Homemade variable frequency main motor	Workbench static pressure guiderail (VTC250/350)
NSK spindle fixed center bearing	W-axis ball lead screw of Nanjing Technical Equipment Company (VTC350)
X/Z axes THK ball lead screw	BF double-speed reducer box (VTC125/160)
NSK lead screw bearing	Semi-enclosed protection (VTC125/160/250)
X-axis imported linear guiderail	Simple enclosure protection (VTC350)
Z-axis ram	6-position tool magazine (VTC12560S/160100S)
STOBER reducer	Single tool holder ram (VTC160100/250/350)
Manual 4-claw chuck	Chip remover and external cooling (VTC12560S/160100S)
1 set of standard turning tool holder	Chip receiving box (without external cooling) (VTC160100/250/350)

Optional configuration

2250mm workbench	6-position tool magazine
Siemens servo main motor	12-position tool magazine
Fanuc Oi-TF system	Machining height 1000mm (VTC12560S)
Fanuc servo main motor	NSK spindle plane bearing (VTC125/160)
Chip remover and external cooling	German SKL bearing
X/Z axes grating ruler	Hydraulic chuck
Standard turning tool holder	

Diagram of external clamping range

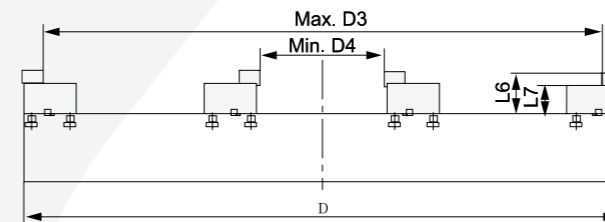
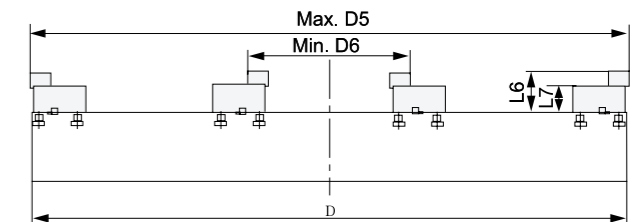


Diagram of internal clamping range



Machine model	D	D3	D4	D5	D6	L6	L7
VTC12560S	1250	1060	300	1200	350	243	120
VTC160100 (S)	1400	1260	300	1390	350	243	120
VTC250140	2000	1760	560	1950	710	215	105
VTC350140	3150	2800	650	2950	850	240	150

Remarks: the parameters provided in the table are only for reference, and please refer to the actual product in case of change.

Technical parameters

Items	Unit	VTC 125100M	VTC 160100M	VTC 250140M	VTC 300140M	VTC 350140M	VTC 400140M
Diameter of workbench	mm	Φ1000	Φ1400	Φ2000	Φ2500	Φ3000	Φ3500
Maximum turning diameter	mm	Φ1250	Φ1600	Φ2500	Φ3000	Φ3500	Φ4000
Maximum workpiece height	mm	1000	1200	1600	2000	2000	2000
Maximum workpiece weight	t	5	6	16	20	25	30
Maximum torque of workbench	N.m	10550	20000	37000	45000	83000	83000
Maximum turning speed of workbench	rpm	300	280	160	120	80	80
Rated power of spindle turning motor	kW	44	44	58	58	81	81
Rotation speed range of C-axis	rpm	0.01-7	0.01-6	0.01-5	0.01-4	0.01-4	0.01-4
Rated power of milling anti-backlash motor	kW	20.5	26.5	26.5	26.5	26.5	26.5
Section size of ram	mm×mm	200×200	280×280	280×280	280×280	280×280	280×280
Milling spindle taper		BT50	BT50	BT50	BT50	BT50	BT50
Maximum speed of milling spindle	rpm	1800	1800	1800	1800	1800	1800
Maximum output torque of milling spindle	Nm	407	1000	1000	1000	1000	1000
Rated power of milling spindle motor	kW	10	29	29	29	29	29
X-axis travel	mm	-400+1170	-800±2300	-1025+3025	-1275+3255	-1525+3525	-1775+3775
Z-axis travel (ram travel)	mm	1000	1000	1400	1400	1400	1400
Crossbeam travel (W-axis)	mm	Fixed beam	1000	1400	1800	1800	1800
X-axis rapid traverse speed	m/min	16	16	16	16	16	16
Z-axis rapid traverse speed	m/min	8	8	8	8	8	8
Crossbeam rapid traverse speed (W-axis)	m/min	Fixed beam	1	1	1	1	1
Cutting feed speed range	mm/min	1-3000	1-3000	1-3000	1-3000	1-3000	1-3000
Tool magazine position		16	6+16	6+16	6+16	6+16	6+16
Dimension of turning tool shank	mm×mm	40×40	40×40	40×40	40×40	40×40	40×40
Positioning accuracy of X/Z axes	mm	0.02/1000	0.02/1000	0.02/1000	0.02/1000	0.02/1000	0.02/1000
Positioning repeatability of X/Z axes	mm	0.008	0.008	0.008	0.008	0.008	0.008
Positioning accuracy of C-axis	"	15"/360°	15"/360°	15"/360°	15"/360°	15"/360°	15"/360°
Positioning repeatability of C-axis	"	8	8	8	8	8	8
CNC system		SIEMENS 828D	SIEMENS 828D	SIEMENS 828D	SIEMENS 828D	SIEMENS 828D	SIEMENS 828D

Remarks: the parameters provided in the table are only for reference, and please refer to the actual product in case of change.

VTC125100M/160100M

Standard configuration

Siemens 828D system	Imported reducer	ruler
Imported spindle fixed center bearing	Z-axis ram	Turning/milling tool magazine
Homemade spindle plane bearing	Manual 4-claw chuck	Chip remover and external cooling
Imported X-axis linear guiderail	Semi-enclosed protection	1 set of standard turning tool holder
Imported lead screw bearing	Spindle taper hole BT50	Homemade ball lead screw (VTC125100M)
	X/Z/W axes grating	Imported ball lead screw (VTC160100M)

Optional configuration

Fanuc 31i system
Imported spindle plane bearing
Imported ball lead screw (VTC125100M)
Standard turning tool holder
Siemens 840Dsl system

VTC250140M/300140M/350140M/400140M

Standard configuration

Siemens 828D system	Imported reducer	BT50
Imported fixed center bearing	Z-axis ram	Chip remover and external cooling
Workbench static pressure guiderail	X/Z/W axes grating ruler	Semi-enclosed protection
Imported ball lead screw	Manual 4-claw chuck	1 set of standard turning tool holder
Imported X-axis linear guiderail	6+16 positions turning/milling tool magazine	
	Spindle taper hole	

Optional configuration

Machining height 2000mm (VTC250140M)	Spindle internal cooling system
Machining height 2500mm	Spindle taper hole SK50
Ram travel 1600mm	Multi-position cutter head and index adapter
Imported lead screw bearing	Self-made manual tool change extension head
Fanuc 31i system	Self-made manual tool change right angle boring/milling head
Siemens 840DSI system	
Standard turning tool holder	

Diagram of external clamping range

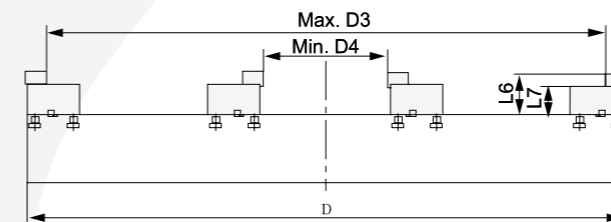
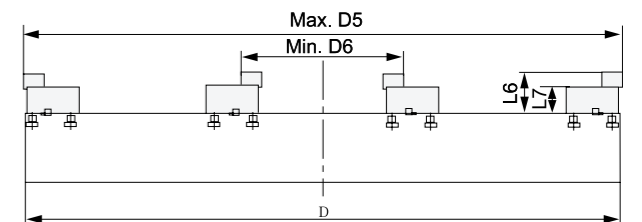


Diagram of internal clamping range



Machine model	D	D3	D4	D5	D6	L6	L7
VTC125100M	1000	910	200	1050	350	193	100
VTC160100M	1400	1310	300	1450	450	193	100
VTC250140M	2000	1860	350	2000	500	195	100
VTC300140M	2500	2360	350	2500	500	195	100
VTC350140M	3000	2690	470	2880	660	240	150
VTC400140M	3500	3190	470	3380	660	240	150

Remarks: the parameters provided in the table are only for reference, and please refer to the actual product in case of change.