



Vertical Turning Centers



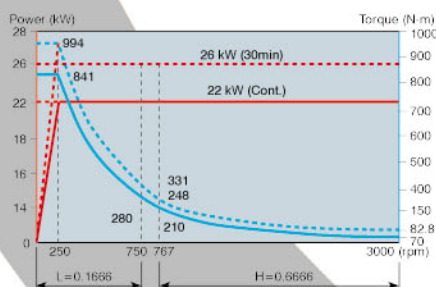
VTC-650
VTC-800ATC/1000ATC/1200ATC
VTC-1600ATC/2000ATC/2500ATC
and up (order made)

Vertical Turning Center

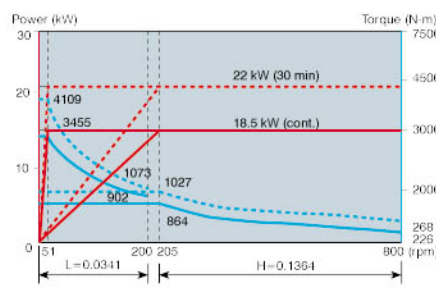


- The specially designed for machining of larger and heavy components.
- With APC (Automatic Pallet Changer) designed allows easy loading / unloading workpiece and reduced idle times.
- Double Turret is available to reduce cutting times and machining operations.

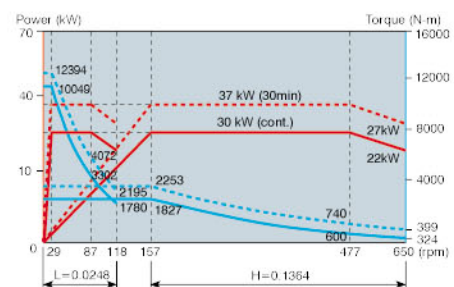
VTC-650 & VTC-800/1000/1200/



VTC-650
■ ZF-2 steps gear box



VTC-800ATC
■ ZF-2 steps gear box

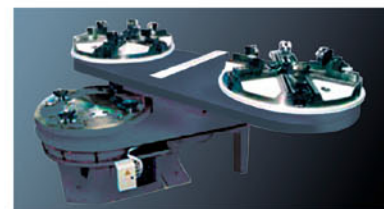


VTC-1000ATC
■ ZF-2 steps gear box



- High rigidity of table and column are mounted on a common bed.
- High stability of thermal distortion is minimized by the thermal-symmetry layout of ribs on the machine bed. High precision of table is supported on large diameter.
- INA Axial / radial bearings to provided high loading heavy machining.
- Powerful spindle motor with ZF two speed gear box for larger output torque.

I 600/2000/2500 ATC



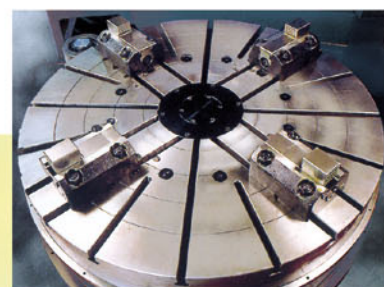
Automatic Chuck Changer (ACC)



Automatic Material Handling System



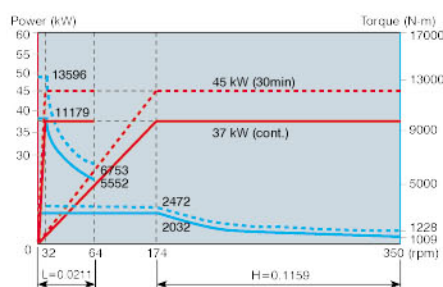
Automatic tool changer (ATC)



High rigidity table construction

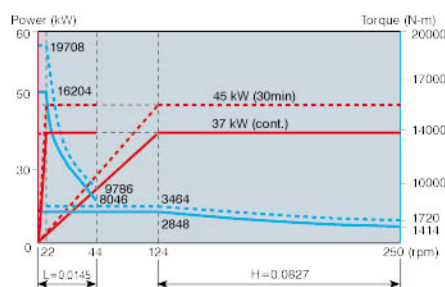


Thermal-symmetry (FEA)



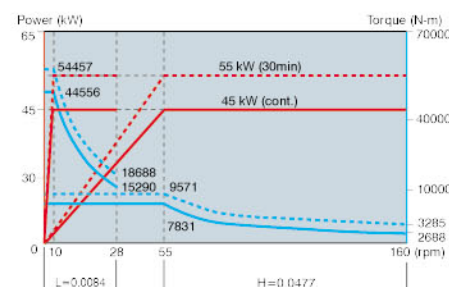
VTC-1200ATC

- ZF-2 steps gear box



VTC-1600ATC

- ZF-2 steps gear box

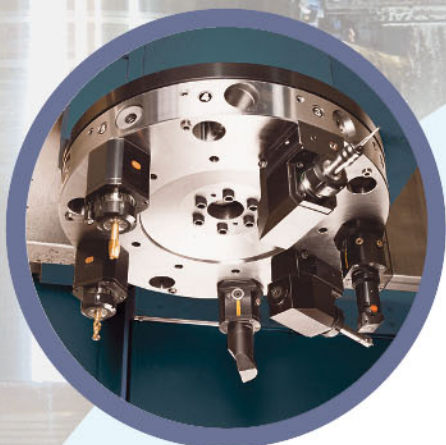


VTC-2000ATC ~ 2500ATC

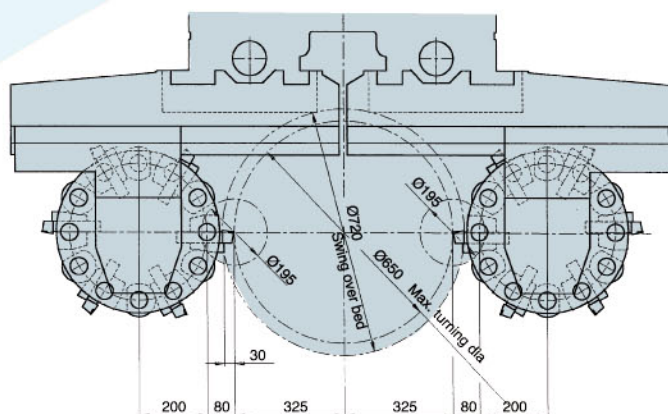
- ZF-2 steps gear box

Working Capacity / Range

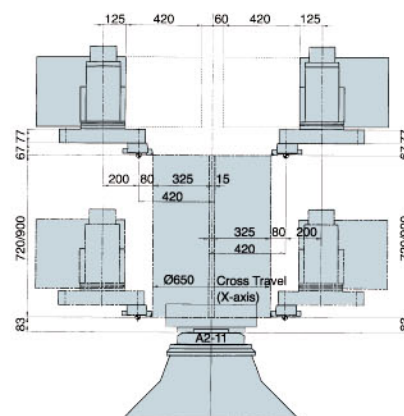
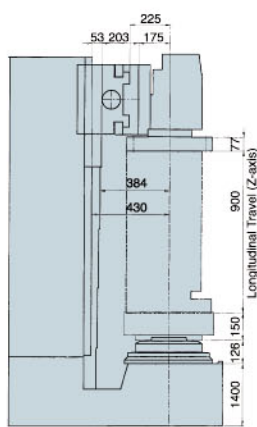
VTC-650



6, 8-Stations Turret

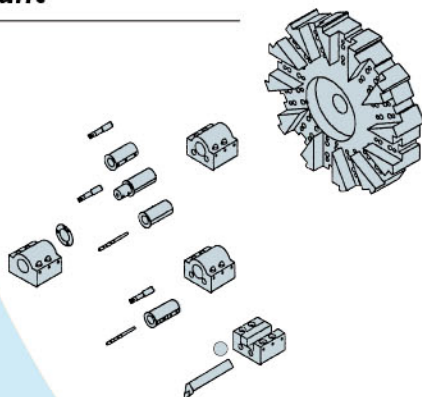


VDI Turret Capacity

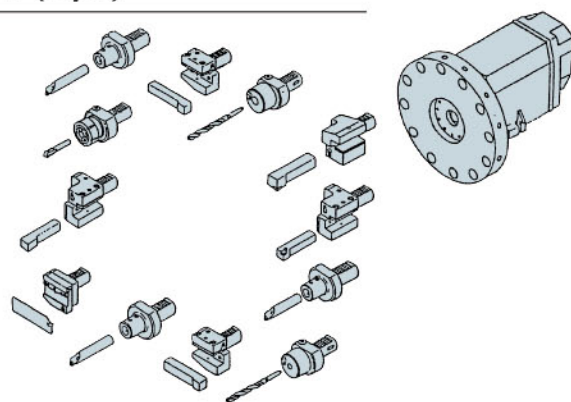


VDI Turret Working Range

Direct Mount



VDI (Opt.)

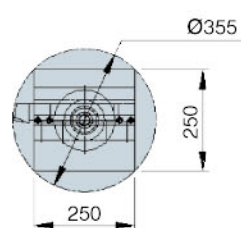
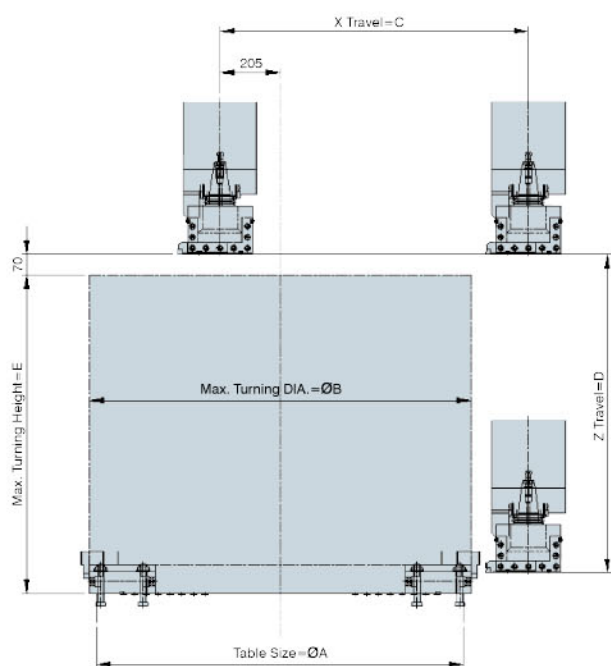


Tool Data

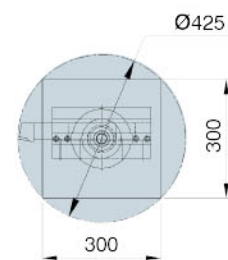
Bore	ϕ 8, ϕ 10, ϕ 12, ϕ 16 ϕ 20, ϕ 25, ϕ 32, ϕ 40
Outerdia	☐ 25
End	☐ 25
Tap	ϕ 20
Drill	MT#2, #3, #4

Bore	ϕ 12, ϕ 16, ϕ 20, ϕ 25 ϕ 30, ϕ 32, ϕ 40, ϕ 50
Outerdia	☐ 25, ☐ 32
End	☐ 25, ☐ 32
Tap	ϕ 32
Drill	MT#2, #3, #4, #5

VTC-800ATC / 1000ATC / 1200ATC / 1600ATC / 2000ATC / 2500ATC

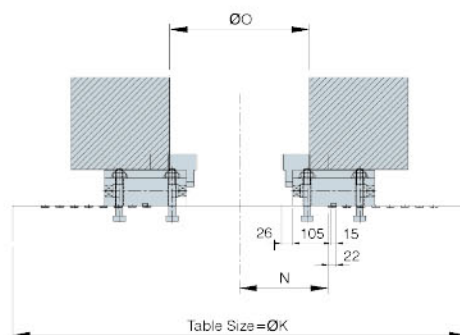
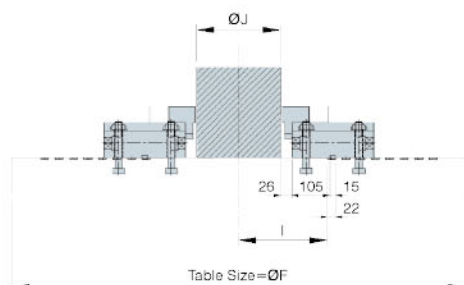
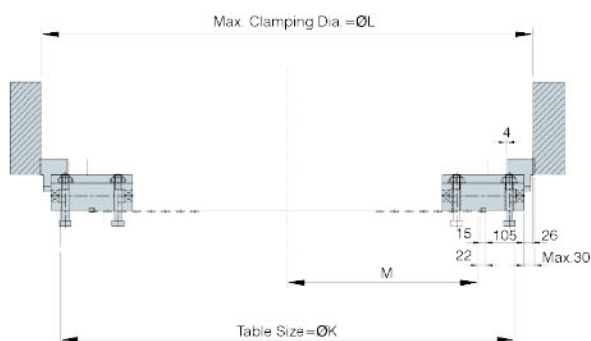
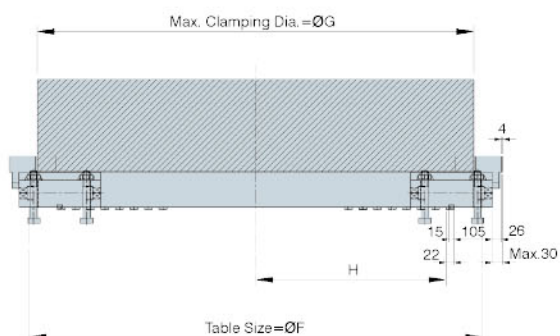


VTC-800 / 1000 / 1200 / 1600
Min. Turning Diameter



VTC-2000 / 2500
Min. Turning Diameter

Model	A	B	C	D	E
VTC-800ATC	φ 810	φ 1000	870	900 (Std.)	800
VTC-1000ATC	φ 1000	φ 1200	970		800
VTC-1200ATC	φ 1250	φ 1600	1170		1250
VTC-1600ATC	φ 1600	φ 2000	1370	1000 (Std.)	1250
VTC-2000ATC	φ 2000	φ 2500	1685		1600
VTC-2500ATC	φ 2500	φ 3000	1935		1600



Model	F	G	H	I	J	K	L	M	N	O
VTC-800ATC	φ 810	φ 762	304	214	φ 172	φ 810	φ 914	304	214	φ 324
VTC-1000ATC	φ 1000	φ 994	429	229	φ 210	φ 1000	φ 1150	429	229	φ 356
VTC-1200ATC	φ 1250	φ 1194	529	244	φ 240	φ 1250	φ 1340	524	244	φ 386
VTC-1600ATC	φ 1600	φ 1514	684	244	φ 240	φ 1600	φ 1660	684	244	φ 386
VTC-2000ATC	φ 2000	φ 1914	884	244	φ 240	φ 2000	φ 2060	884	244	φ 386
VTC-2500ATC	φ 2500	φ 2414	1134	244	φ 240	φ 2500	φ 2560	1134	244	φ 386

Tool Diagram

Turning and Boring Tool

Parts No.	Remark
766100A	Std.

Parts No.	A	Remark
766101A	260	Std.
766102A	310	Opt.
766103A	360	Opt.

Parts No.	A	B	Remark
766104A	230	50	Std.
766105A	330	50	Opt.
766106A	230	60	Std.
766107A	330	60	Opt.

Parts No.	A	Remark
766108A	210	Std.
766109A	310	Opt.

ATC Data

Item	Model	VTC- 800ATC / 1000ATC / 1200ATC / 1600ATC / 2000ATC / 2500ATC
ATC type		Armless ATC 12 tools (Std.), 24 / 40 / 60 tools (Opt.)
Type of tool shank		7 / 24 taper BT-50
Max. of tool size for automatic tool changing		300 W x 155 T x 500 L
Max. tool weight		50 kg
Max. loading of ATC		350 kg
Tool change time (ATC)		30 sec

Axial / Radial Bearing (INA)

The axial/radial bearing YRT Speed is a German-made and ready-to-fit high precision bearing for high precision applications with combined loads. It can support radial loads, axial loads from both sides and tilting moments without clearance and are particularly suitable for bearing arrangements with high requirements for running accuracy, such as rotary tables.

The bearing has an axial component and a radial component. The axial component comprises an axial cylindrical roller and cage assembly, an outer ring, L-section ring and shaft locating washer. The radial component is a cage-guided, preloaded cylindrical roller set. The unit is located by means of retaining screws for transport and safe handling.

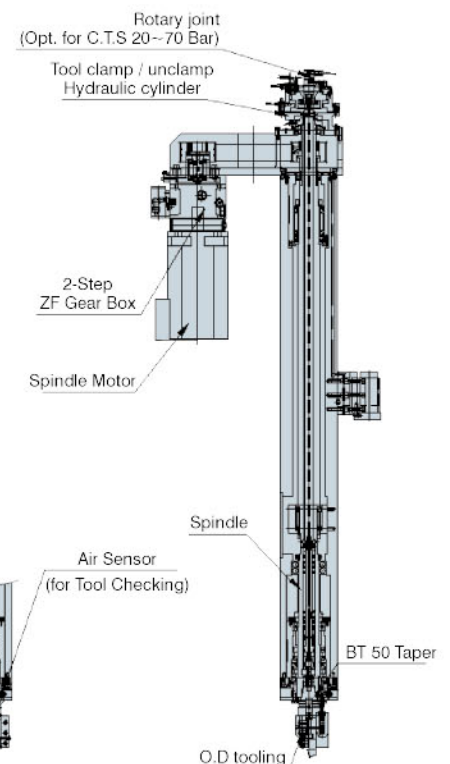
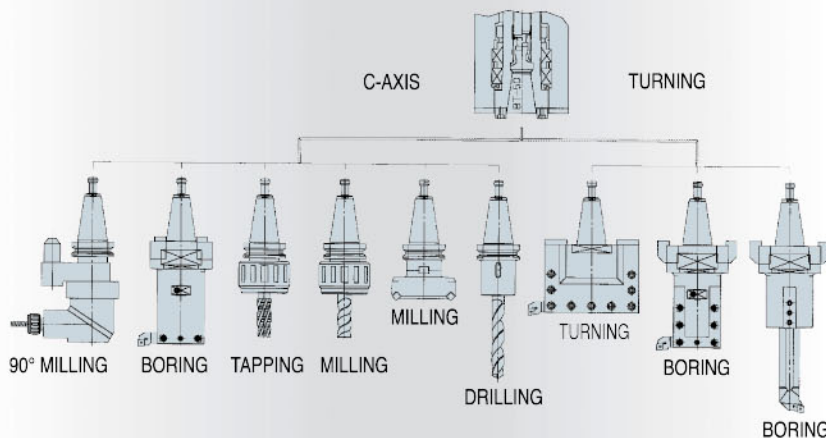
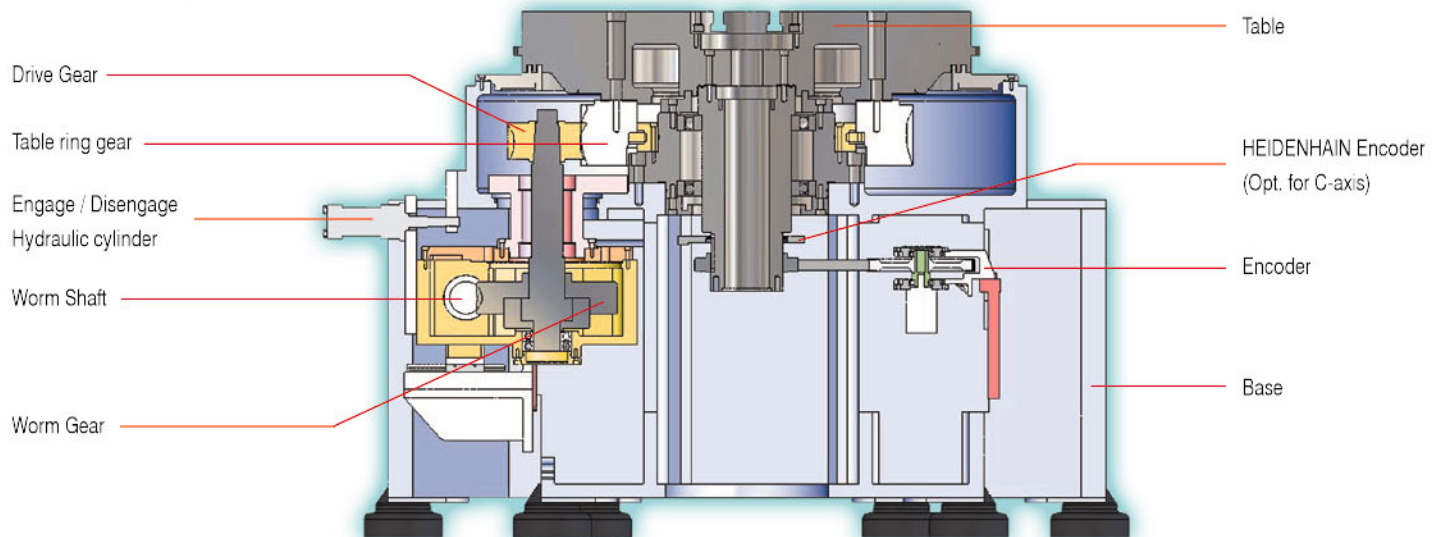
The axial/radial bearing is supplied without seals. It is lubricated and cooled by oil via the outer ring and L-section ring. It is suitable for operating temperatures from -30 °C ~ +120 °C. Due to the fixing holes in the bearing rings, the units are very easy to fit. The bearing is radially and axially preloaded after fitting. Besides, it has high limiting speeds and very low, uniform frictional torque across the whole speed range, so you can have easy and wide application in your job.



Multiple Function Characteristics

C-axis Driving Mechanism

The C-axis feed prmon has a backlash-free wind - up mechanism for accurate table indexing. The positioning is detected by rotary encoder, accurate table indexing is possible. In the loading mode, this pinion is released by the hydraulic shifting gear located the C - axis feed gear box.

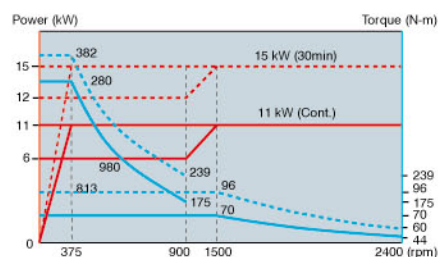


Live Tooling

Face milling, End milling, Drilling, Boring and Turning.

Structure of power spindle for live tooling

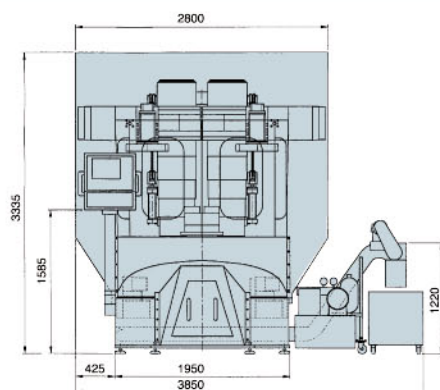
A spindle motor is located on top of the ram to rotate the spindle.



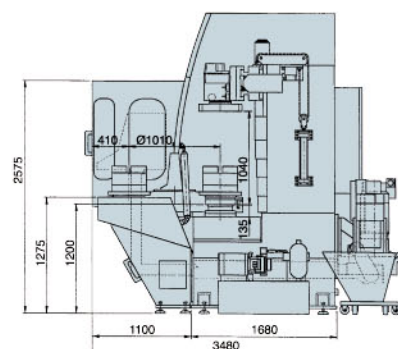
VTC-800 ~ 2500ATC
■ ZF-2 steps gear box

Dimensions

VTC-650+APC



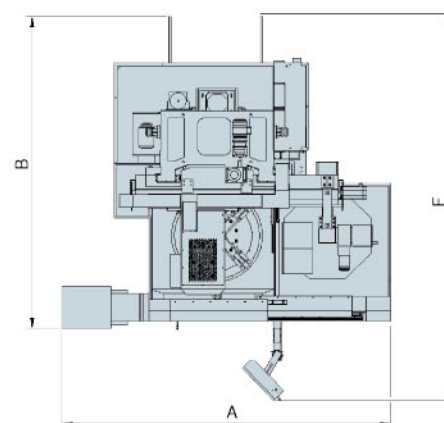
Front View



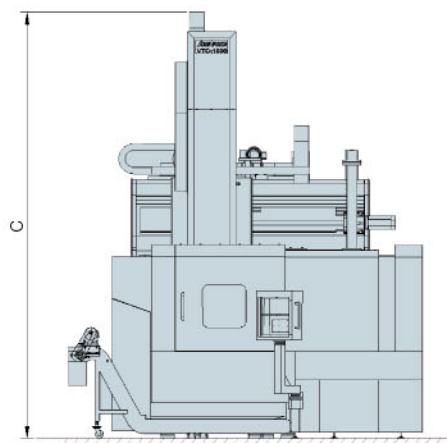
Side View

VTC-800ATC ~ 1600ATC

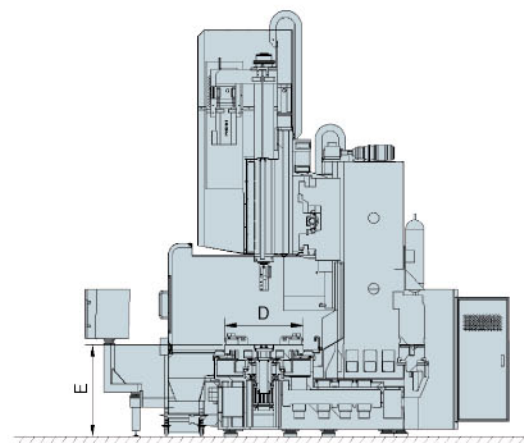
Model	A	B	C	D	E	F
VTC-800ATC	4500	4440	5430	φ 810	1175	5500
VTC-1000ATC	4700	4440	5430	φ 1000	1175	5500
VTC-1200ATC	5000	4440	5815	φ 1250	1175	5500
VTC-1600ATC	5400	4665	5815	φ 1600	1175	5725



Top View (floor space required)



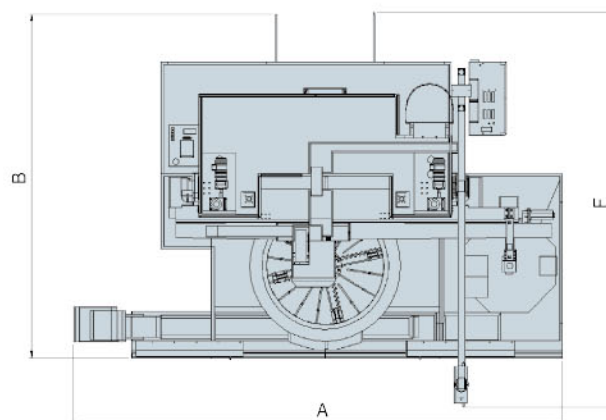
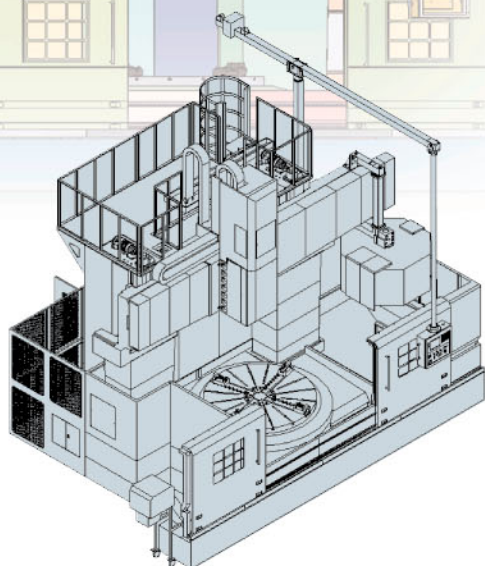
Front View



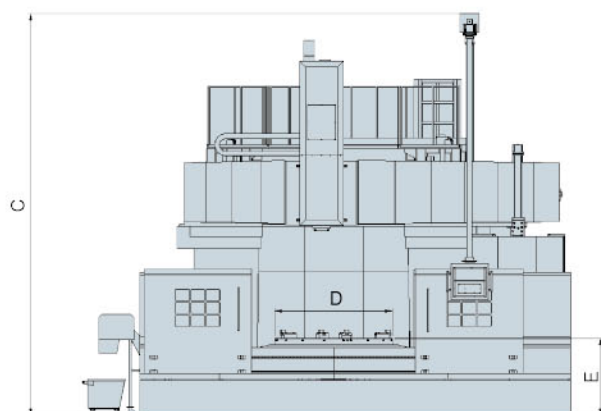
Side View

VTC-2000ATC ~ 2500ATC

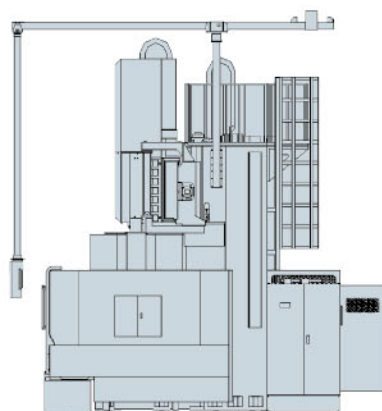
Model	A	B	C	D	E	F
VTC-2000ATC	8500	6500	6900	φ 2000	1311	6500
VTC-2500ATC	9200	6500	6900	φ 2500	1311	6750



Top View (floor space required)



Front View



Side View

Specifications

Item	Model	VTC-650	VTC-800ATC	VTC-1000ATC	VTC-1200ATC	VTC-1600ATC	VTC-2000ATC	VTC-2500ATC
Max. swing diameter (mm)		φ 720 (28.3")	φ 1000 (39.4")	φ 1200 (47.2")	φ 1600 (63")	φ 2000 (78.7")	φ 2500 (98.4")	φ 3000 (118.1")
Max. turning diameter (mm)		φ 650 (25.6")	φ 1000 (39.4")	φ 1200 (47.2")	φ 1600 (63")	φ 2000 (78.7")	φ 2500 (98.4")	φ 3000 (118.1")
Max. Turning height (mm)		720 (28.3") Std. 900 (35.4") Opt.	800 (31.5")	800 (31.5")	1250 (49.2")	1250 (49.2")	1600 (63")	1600 (63")
* Chuck size (mm/min) / Work table size (mm)		* 304 (12") Std. * 381 (15") Opt.	φ 810 (31.9")	φ 1000 (39.4")	φ 1250 (49.2")	φ 1600 (63")	φ 2000 (78.7")	φ 2500 (98.4")
Max. table load (kg)		—	2000 (4400 lb)	4000 (8800 lb)	5000 (11000 lb)	8000 (17600 lb)	10000 (22000 lb)	15000 (33000 lb)
Cross travel (X axis) (mm)		420 (16.5")	870 (34.3")	970 (38.2")	1170 (46")	1370 (53.9")	1685 (66.3")	1935 (76.2")
Vertical travel of ram (Z axis) (mm)		720 (28.3") Std. 900 (35.4") Opt.	900 (35.4")				1000 (39.4")	
Vertical travel of cross rail (W axis) (mm)		—	400 (15.7")	400 (15.7")	800 (31.5")	800 (31.5")	1000 (39.3")	1000 (39.3")
Spindle speed (rpm)		3000 (A2-8) (Std.) 20-1700(A2-11)(Opt.)	—	—	—	—	—	—
Speed of table (rpm)		—	10-800	2-650	2-350	2-250	2-160	
Speed steps		Auto Hi-Lo						
Max. spindle torque (Nm)		841	3455	10049	11179	16204	44556	
Power spindle speed (Opt.) (rpm)		—	2-2400					
Rapid traverse (X/Zaxis) (m/min)		12 / 20	12 / 10				12 / 10	
No. of tools		Double turret:12	ATC type: 12 (Std.), 16, 24, 40, 60 (Opt.)					
Type of tool shank		—	7 / 24 taper BT-50					
Max. tool size for automatic tool changing (mm)		—	300 W x 155 T x 500 L					
Max. tool weight (kg)		—	50 (110 lb)					
Max. loading of ATC (kg)		—	350 (770 lb)					
Tool change time (ATC) (sec)		—	30					
Square tool holder (Boring tool size) (mm)		□ 25 x □ 25 (φ 40)	□ 32 x □ 32 (φ 60)					
Square section of RAM (mm)		—	250 x 250 (9.8" x 9.8")				300 x 300 (12" x 12")	
* Spindle motor / Table spindle motor (kW)		22 / 26 Std. (30 / 37 Opt.)	18.5 / 22 Std. (22 / 26 Opt.)	30 / 37 (37 / 45 Opt.)	37 / 45 (45 / 55 Opt.)		45 / 55 (60 / 75 Opt.)	
Power spindle motor (Opt.) (kW)		—	11 / 15 (Std.), 15 / 18.5 (Opt.)					
Servo motor (X/Z axis) (kW)		3 / 3	7 / 7					
CF axis motor (Opt.) (kW)		—	3				4	
Coolant pump motor (kW)		0.98						
Vertical of cross rail motor (kW)		—	13				20	
Hydraulic motor (kW)		3.8						
Machine weight (kg)		11400(25080 lb)	22000(48400 lb)	25000(55000 lb)	30000 (66000 lb)	33000 (72600 lb)	72000(158400 lb)	75000(165000 lb)
Dimension (L x W x H) (mm)		3600x2500x3720 (141.7"x98.4"x146.5")	5590x5555x5525 (220"x218.7"x217.5")	5590x5555x5525 (220"x218.7"x217.5")	6035x5820x5870 (237.6"x229.1"x231.1")	6410x6140x5880 (252.4"x241.7"x231.5")	8500x7570x6860 (334.6"x298"x270.1")	9200x7820x6860 (362.2"x307.9"x270.1")

■ All data subject to change without notice.

* Specifications for VTC-650

■ All the specifications are listed with the FANUC CNC system.

Standard Accessories:

1. Coolant system
2. Splash guard
3. Chip conveyor
4. Tools holders
5. Tool box and various manuals
6. ATC (except VTC-650)

Optional Accessories:

1. Contact tool setting system
(Renishaw TS 20 or BULM NT-A2 / NT-A3)
2. Tool holders (VDI)
3. Automatic pallet changer (A. P. C.)
4. Hydraulic chuck 3, 4, 5, 6 jaws
5. High pressure coolant through spindle
6. C-axis
7. X / Z axis linear scale
8. Oil skimmer

CNC Control Specs

■ CNC system type

O: Std. △: Opt. -: Nil

Type	Model	VTC-650	VTC-800 / 1000 / 1200 / 1600 / 2000 / 2500ATC
Fanuc 0i-TF			○
Fanuc 31i-B			△
Siemens 840D			△
Siemens 828D			△

■ Fanuc specifications

O: Std. △: Opt. -: Nil

	Item	Specifications	0iTF	31i-B
Display unit	8.4" color LCD		○	
	10.4" color LCD		△	○
	Data Server with 2GB CF card		△	△
Function	NC program memory	1280M (512KB)	○	○
	Conversational programming	Manual guide 0i / 0iTF	○	
	with graphic function	Manual guide i / 31i-B / 0iTF (10.4" LCD)	○	○
	No. of tool offset sets		64	99
	No. of variable command sets		500	500
	Work coordinate system	G54~G59	○	○

■ Siemens specifications

O: Std. △: Opt. -: Nil

	Item	Specifications	828D	840D
Operator Panel	10.4" color LCD		○	○
	15.1" color LCD		-	△
	Machine panel MCP483C		○	○
	TCU without hard disk	CF card	○	○
	PCU 50 with hard disk		-	△
	Ethernet		○	○
Function	ShopTurn programming		△	△
	Automatic residual material detection		△	△
	Transmit / Peripheral surface transformation		△	△
	Measuring cycles for drilling/milling and turning		△	△



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