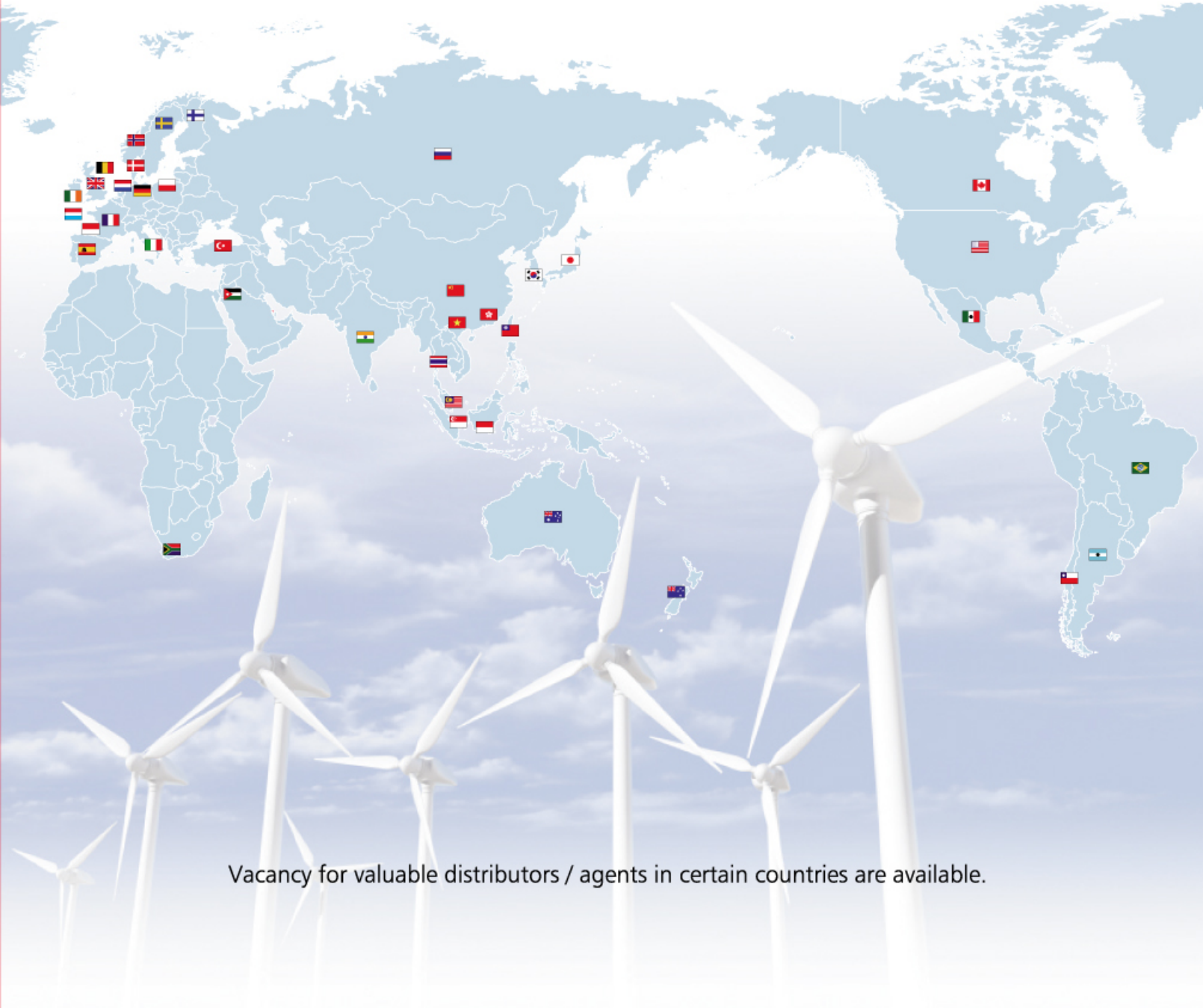


Global Sales Network



Vacancy for valuable distributors / agents in certain countries are available.

L&W MACHINE TOOLS, INC.

Factory: No. 53 Ho Tso St., Feng Yuan District, Taichung City, Taiwan

Export Office: 9F-8, No. 62, Ta Ya Road, Taichung, Taiwan

Tel: +886-4-2201-4701 Fax: +886-4-2203-6013, 2207-0371

<http://www.lw-machinetools.com> E-mail: lwmachin@ms31.hinet.net

2011.07.1000

CNC Vertical Turning Center (Double Column)

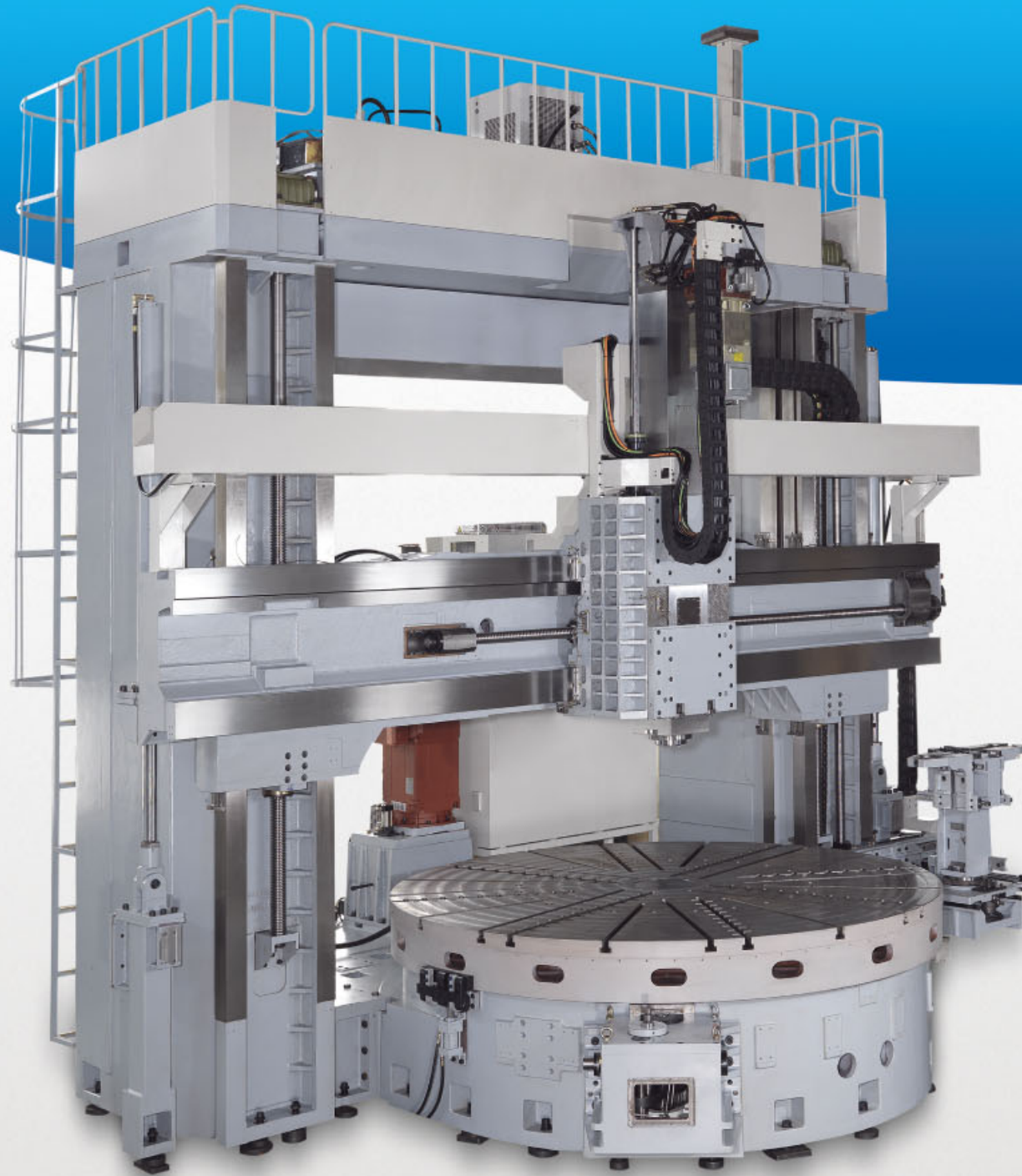
VTC series

 **cyclone®**

CNC Vertical Turning Center

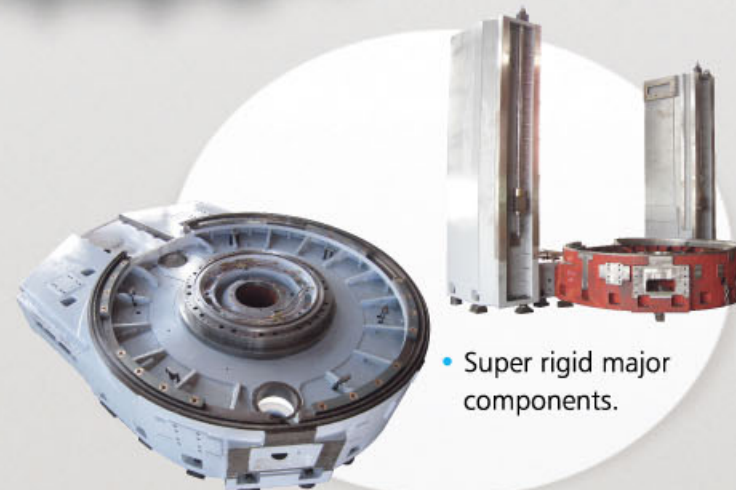
Milling, Drilling, Boring, 3 Machines in One

Unbeatable Rigidity and Performance

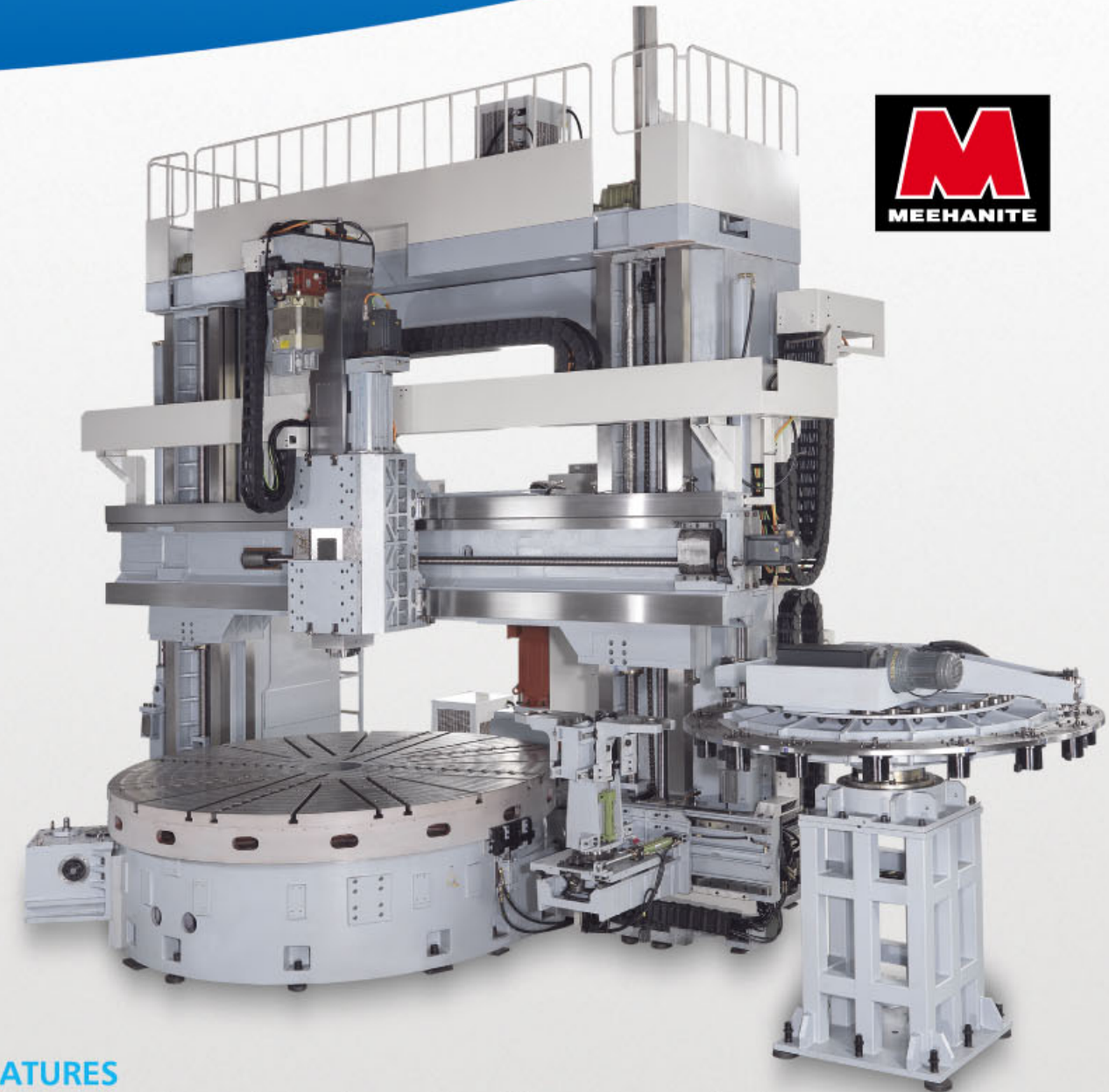


CONSTRUCTION

VTC-SERIES vertical lathe is a double column turn-mill complex turning center. The newly designed machine features extraordinary structural rigidity, and is capable of performing heavy duty cutting for a workpiece up to 4400 mm in diameter.

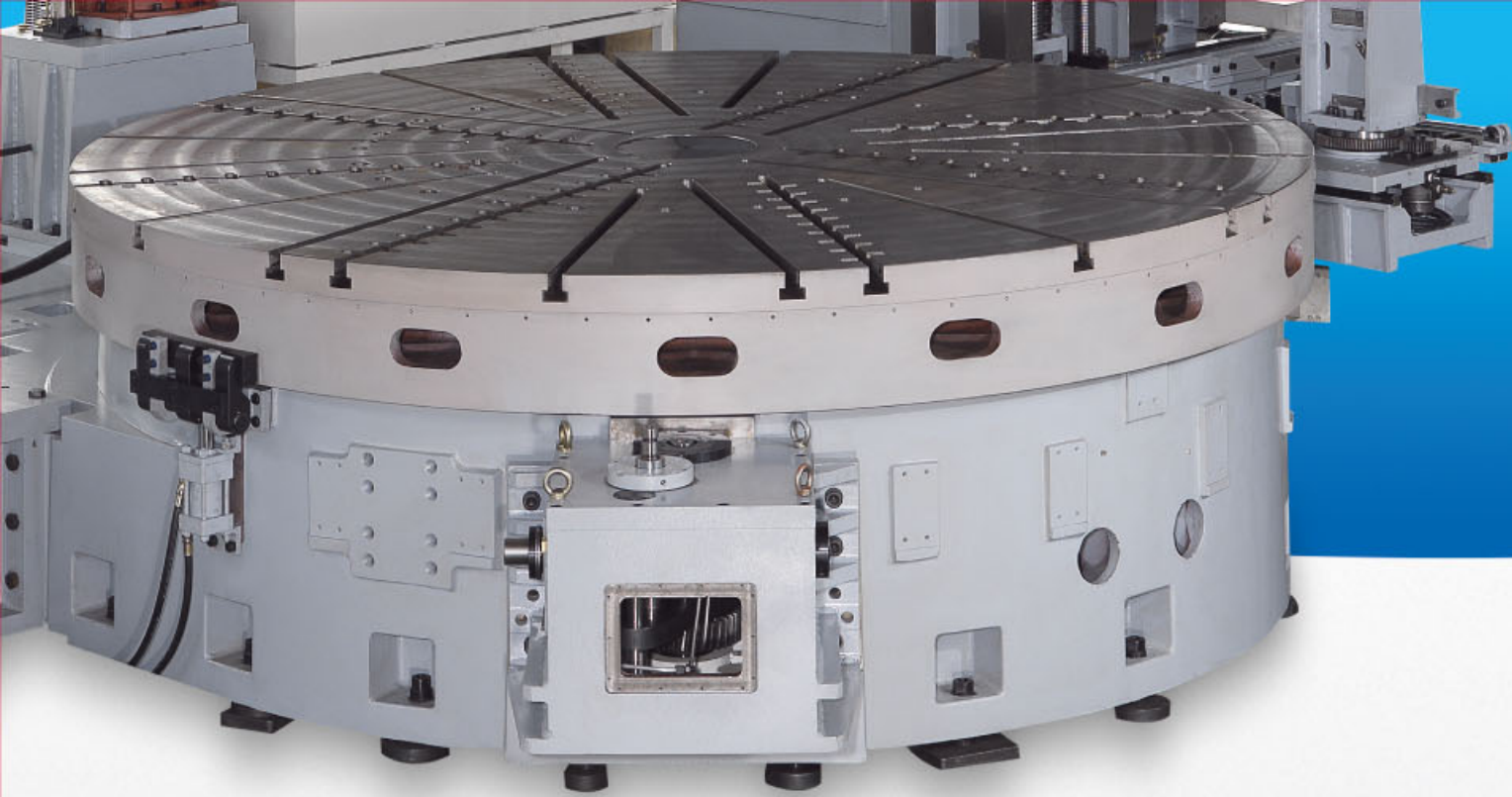


- Super rigid major components.



DESIGN FEATURES

- Complex machining and probing can be done in one set-up with one or two ram heads.
- Major structure of the machine adopts Meehanite cast iron, featuring high rigidity and high damping effect.
- Single or double tool magazine is available for large numbers / of tools and accessory storage.
- Face plate or power chuck is available with work table.
- High precision, high stability ball screw.
- The multi-purpose machining mode can perform milling, drilling, boring and tapping operations on the C axis.
- Suitable for bulky, heavy or irregular shaped workpieces. The machine design allows easy loading and unloading of workpiece.



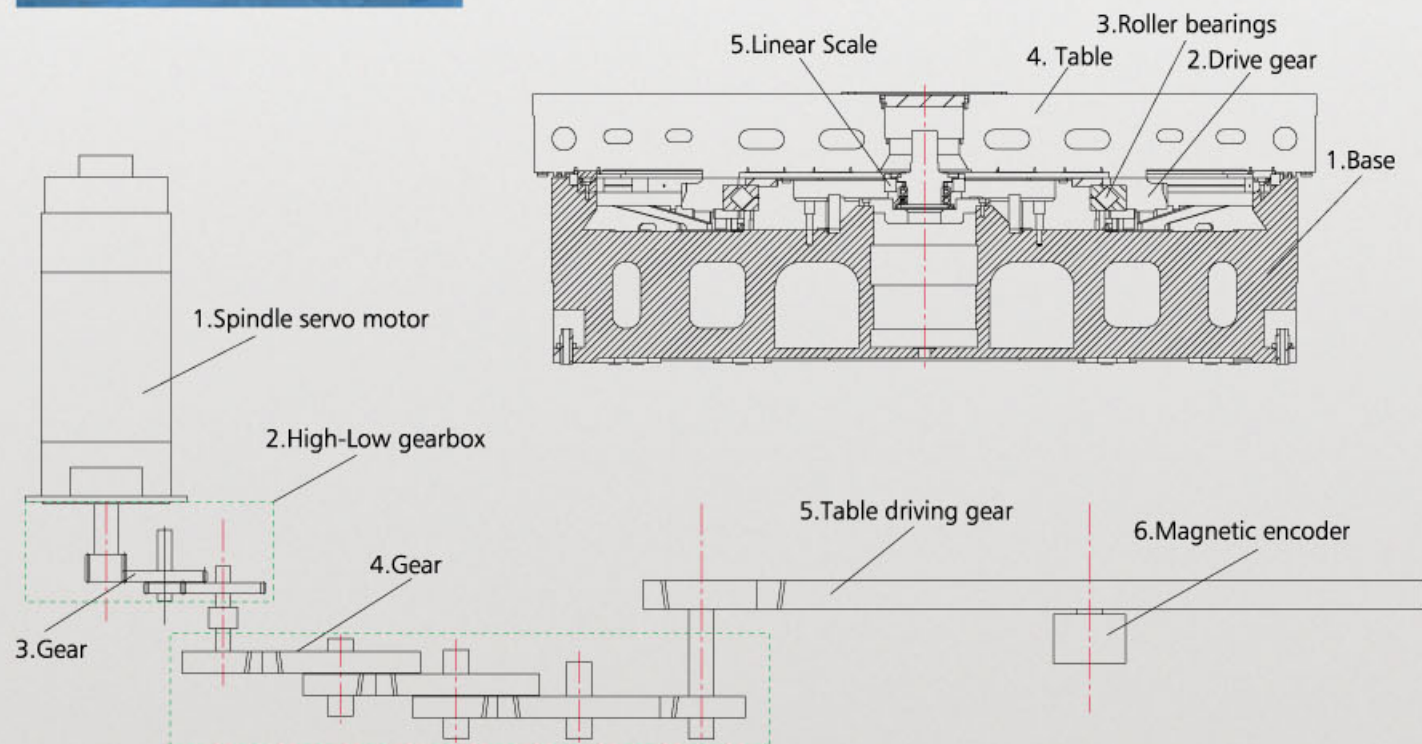
Machine main body is made from one-piece Meehanite cast iron with sturdy inner ribs and robust rigidity.

Cross tapered roller bearings



TABLE

- Hydraulic clamping and unclamping.
- External brake assisting mechanism.
- Stepless AC servo drive with external rotary encoder for accurate turning and milling.
- Slow feed gearbox for C-Axis with backlash compensation.
- Equipped with spindle chiller and hydraulic tank to control the spindle temperature.

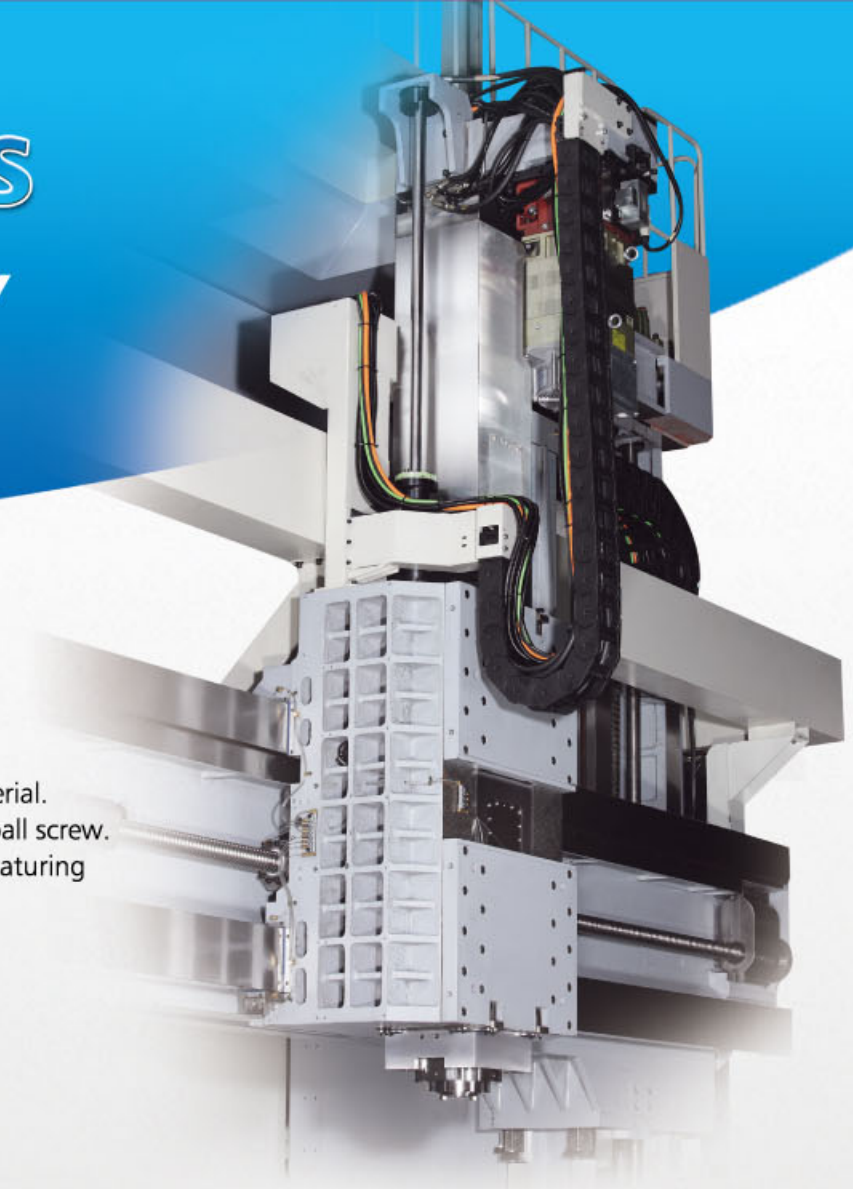


VTC Series

Dynamic Rigidity and Accuracy

RAM HEAD X-AXIS

- Contact surface is coated with anti-friction material.
- Horizontal travel on the cross rail is driven by a ball screw.
- Inner side of ram bracket is made from brass, featuring distortion-free, heavy cutting capacity.
- Hydraulic clamping and unclamping.

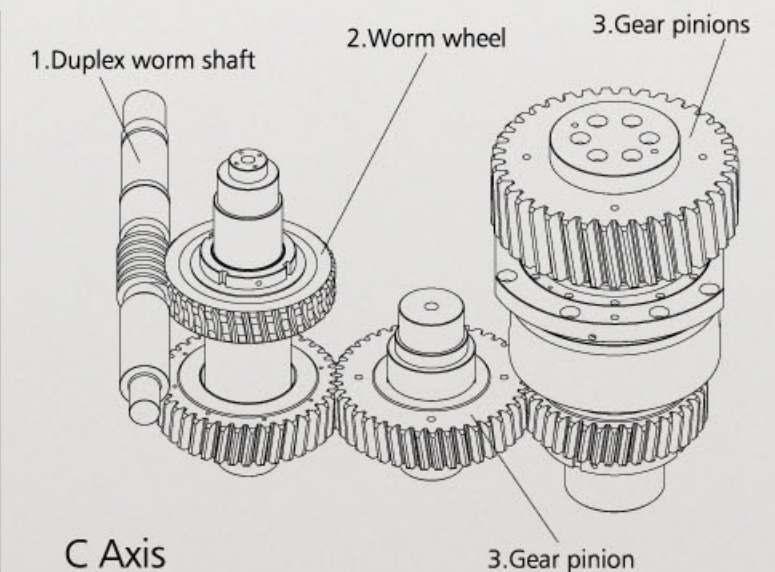


C-AXIS DRIVE

The C-axis in milling mode is driven via duplex worm wheel gear, backlash eliminator and double pinion gear by a stepless AC servo motor. The gears for the table are hardened and ground. During turning, the slow feed gearbox remains disengaged.

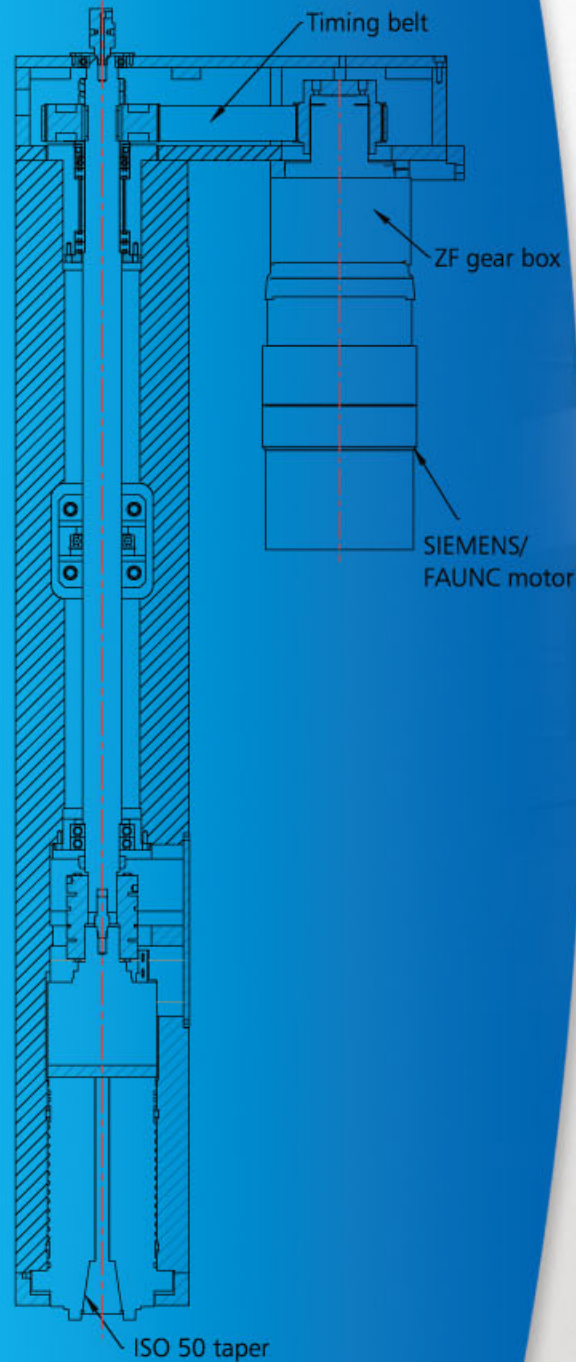


Table drive for milling



C Axis

Robust Ram Delivers Gigantic Power

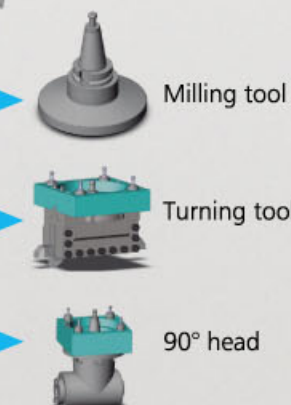
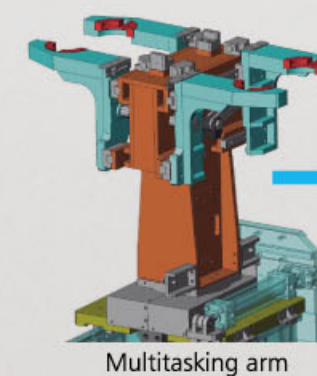
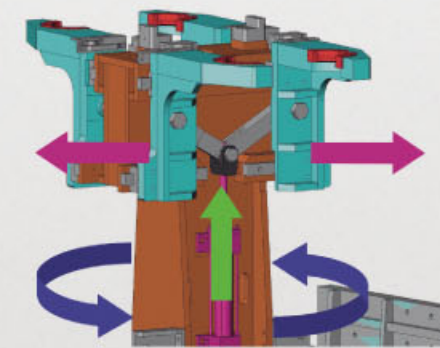
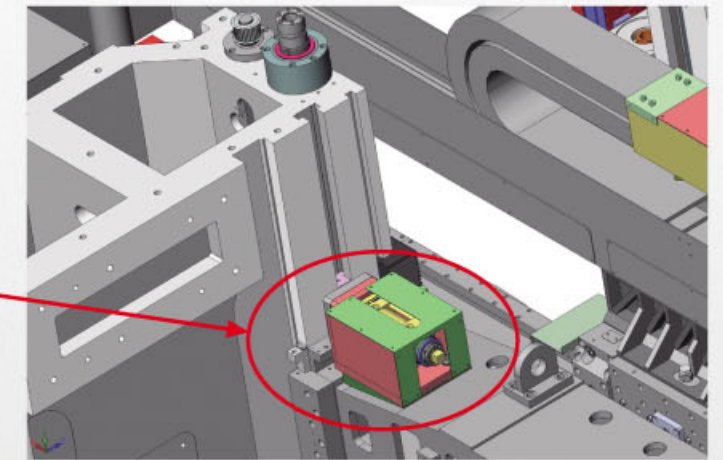
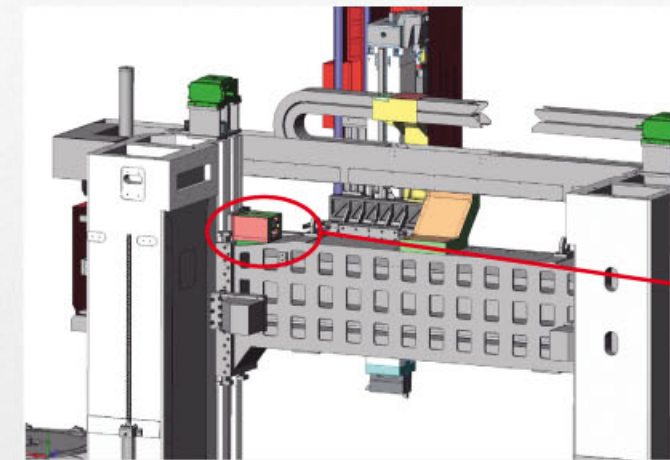


RAM Z-AXIS

- Square ram with hardened and ground steel inserts
- The brass brake shoes feature high rigidity and wear-resistance.
- Vertical motion is driven via ball screw.
- Hydraulic clamping, unclamping and counter-balancing.
- Turning and milling tools are clamped mechanically and unclamped hydraulically.
- ISO 50 Spindle taper cone.
- Rotary encoder for spindle orientation.

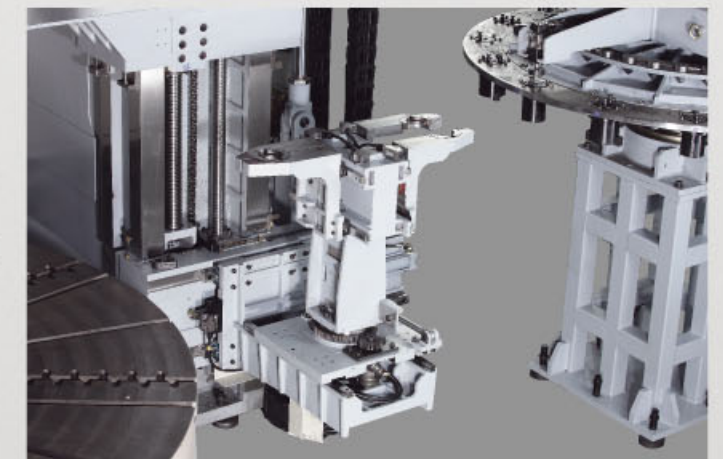
CROSS RAIL

- The one-piece cross beam is designed with inner crossed ribs and honeycomb structure
- The gantry type 4 slideway design allows the cross beam and column to contact firmly, and features high accuracy and rigidity.
- Vertical moving beam is driven by two differential motors via worm wheel gears and shafts with two ball screws. The entire system is supported by twin hydraulic cylinders, allowing flexible machining applications, and depends on the height differences of the workpiece.
- Unique patented design of T-shaped hydraulic braking system that firmly locks the beam assembly on the column, featuring accurate and deformation-free machining.



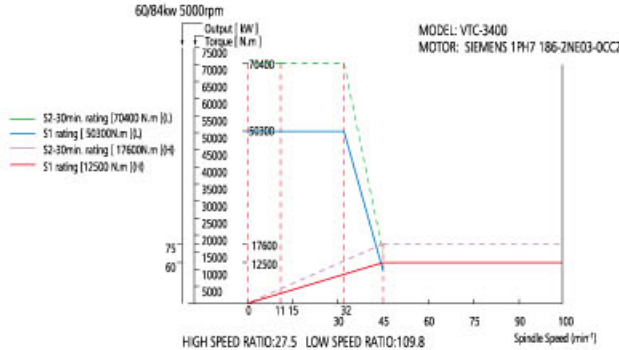
TOOL MAGAZINE

- The machine can be equipped with single or double tool magazine for ISO 50 turning/boring/milling tools or accessories. The magazine is fixed on the floor and it can be changed via a relay station, assuring high precision tool changes.
- **The magazine capacity can be 12T/16T/32T/40T/60T.**

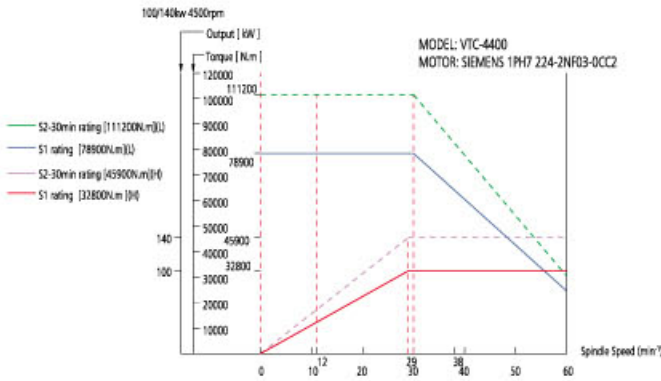


Technical Data

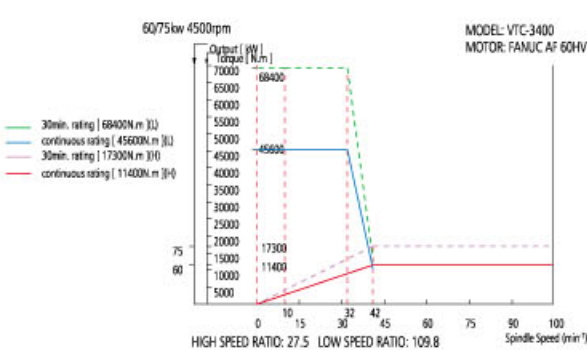
Table Speed, Torque and Power Diagram



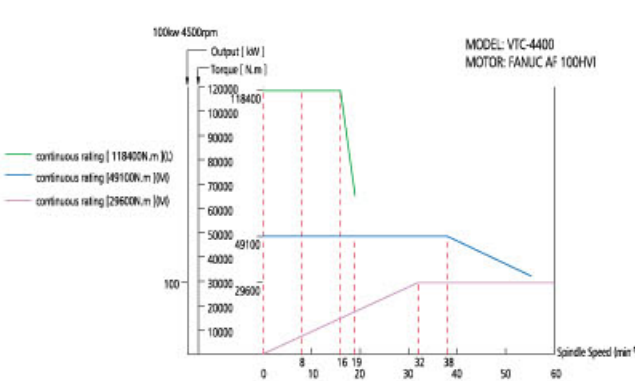
VTC-3400 SIEMENS 1PH7186



VTC-4400 SIEMENS 1PH7224

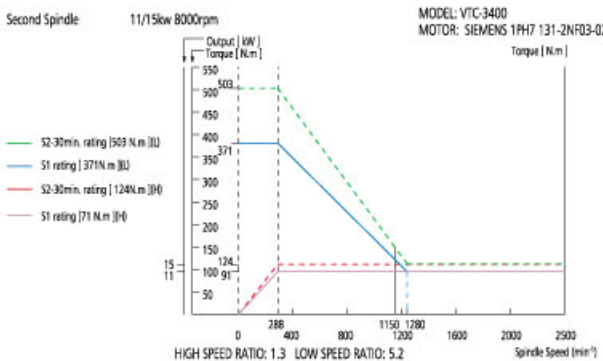


VTC-3400 FANUC AF 60 HVI

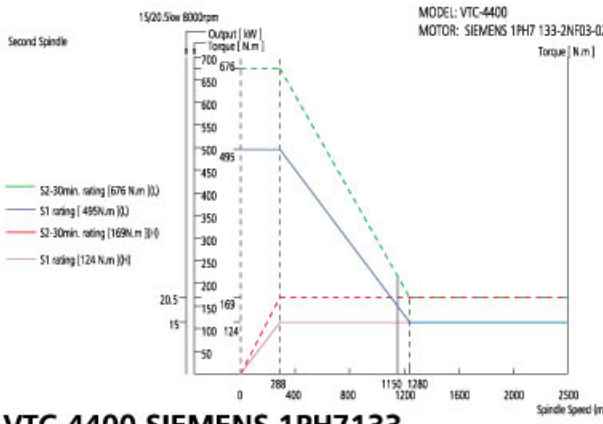


VTC-4400 FANUC AF 100 HVI

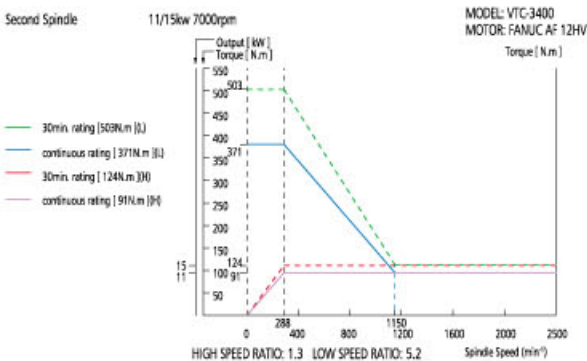
Second Spindle Torque



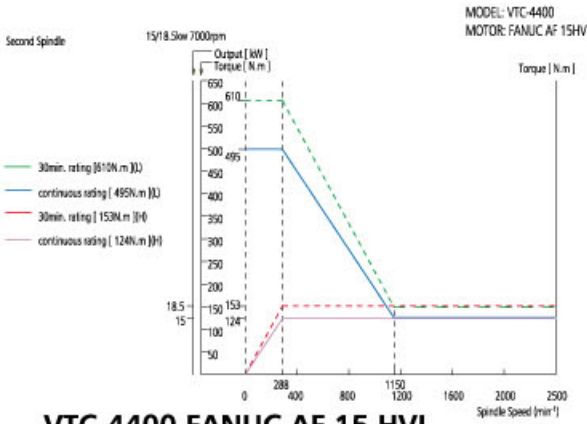
VTC-3400 SIEMENS 1PH7131



VTC-4400 SIEMENS 1PH7133



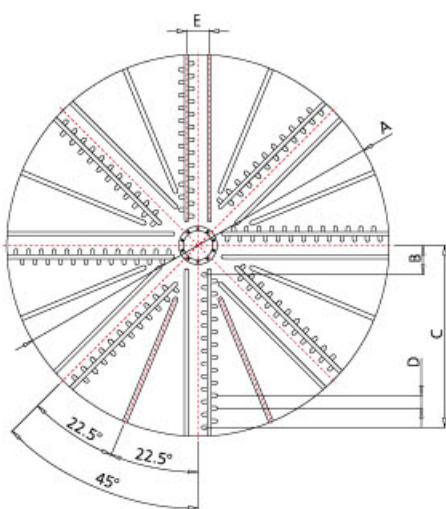
VTC-3400 FANUC AF 12 HVI



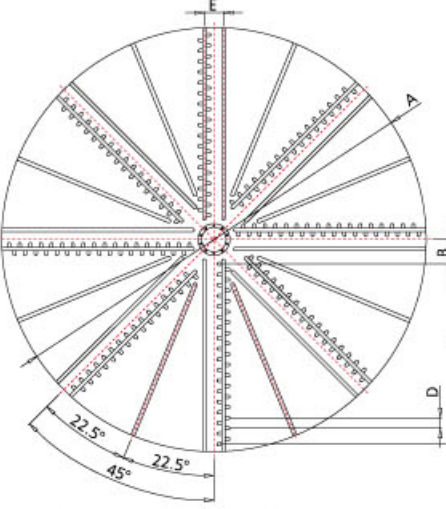
VTC-4400 FANUC AF 15 HVI

Table, Jaw-chuck, Workpiece Dimensions

VTC-3400 Series



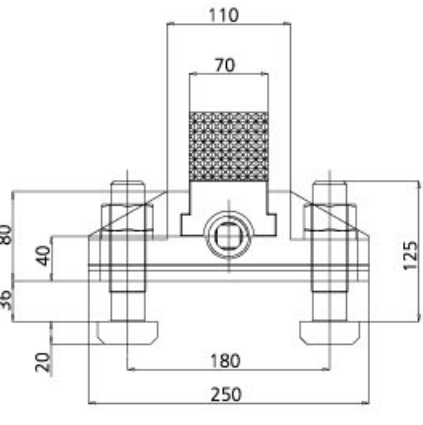
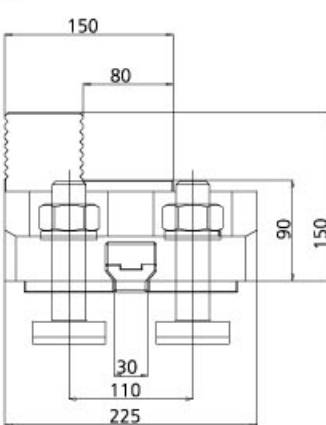
VTC-4400 Series



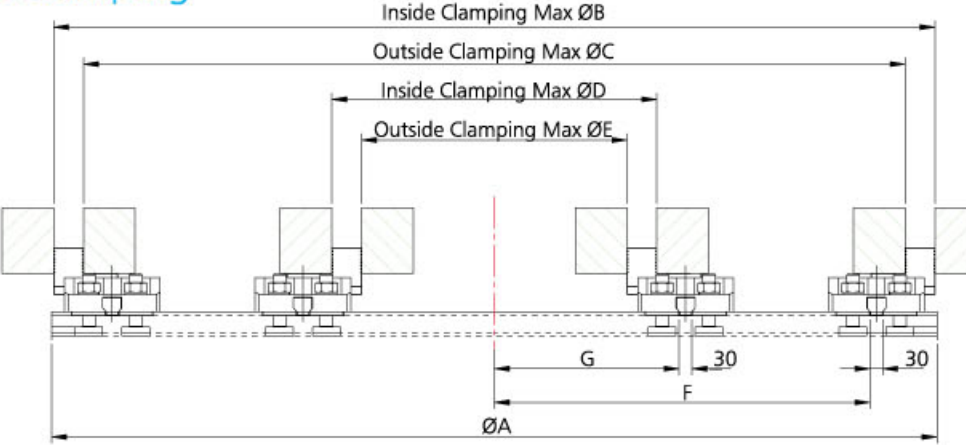
Model	A	B	C	D	E
VTC-3400 Series	Ø3000mm (118")	230mm (9.05")	1430mm (56.3")	100mm (3.94")	180mm (7.1")
VTC-4400 Series	Ø4000mm (157.5")	230mm (9.05")	1930mm (76")	100mm (3.94")	180mm (7.1")

Manual Chuck

(Unit: mm)



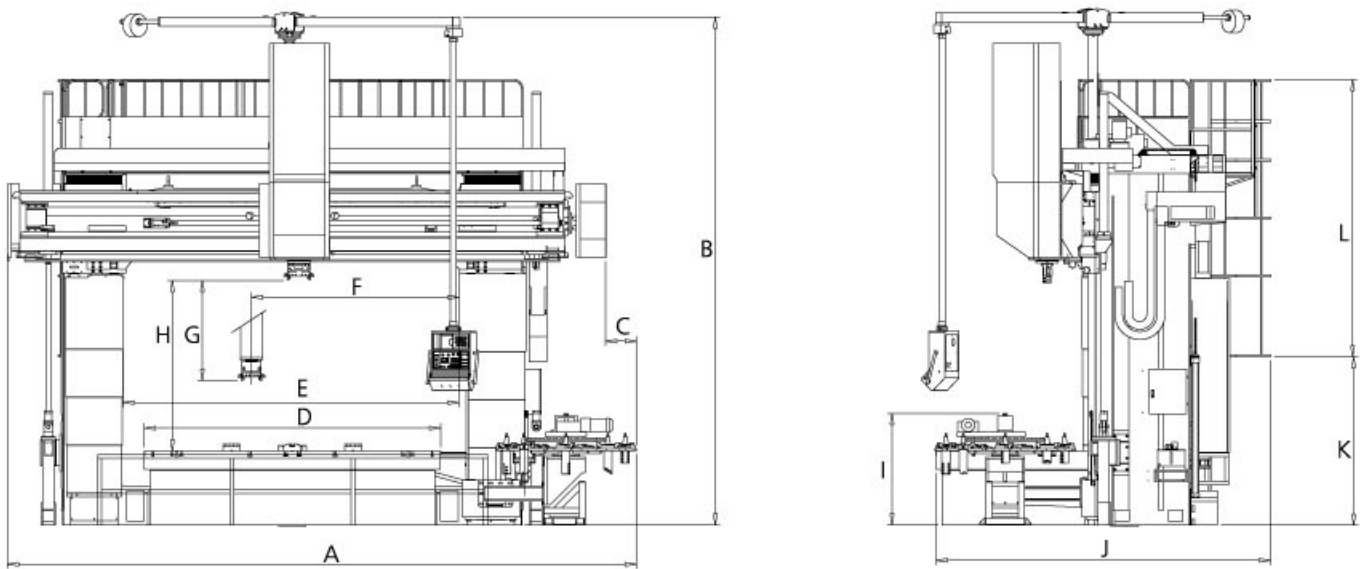
Workpiece Clamping



Model	A	B	C	D	E	F	G
VTC-3400 Series	Ø3000mm (118")	Ø3035mm (119.5")	Ø2895mm (114")	325mm (12.8")	185mm (7.28")	1365mm (54.9")	215mm (8.46")
VTC-4400 Series	Ø4000mm (157.5")	Ø4035mm (158.9")	Ø3895mm (153.3")	325mm (12.8")	185mm (7.28")	1865mm (73.4")	215mm (8.46")

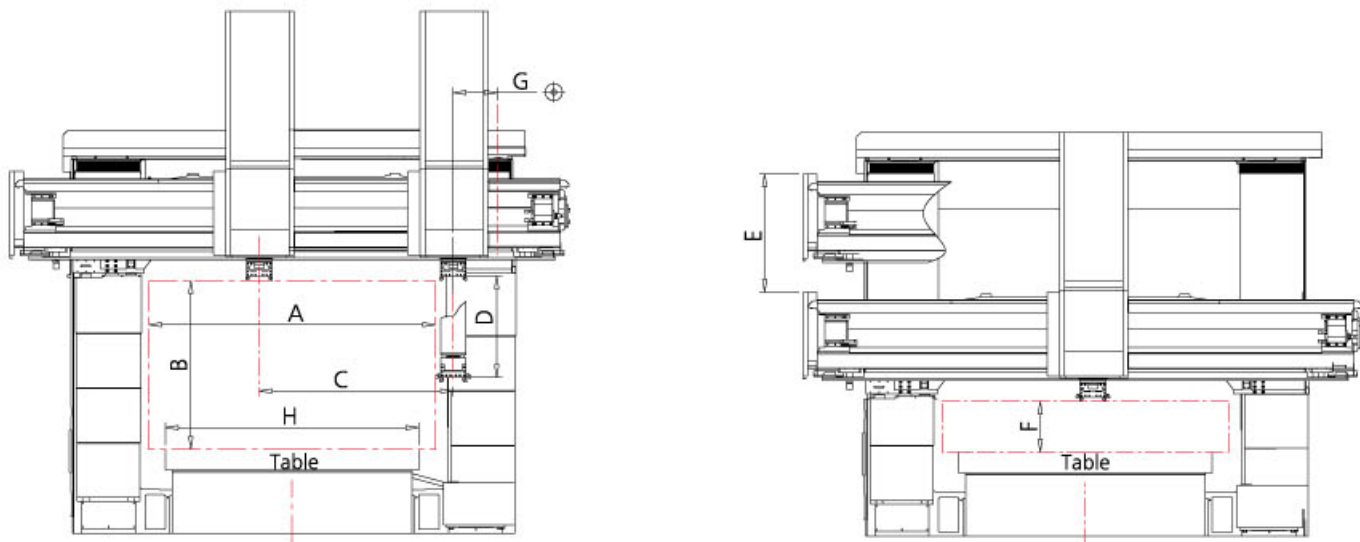
Machine Dimensions

VTC-3400ATC / VTC-4400ATC



Model	A	B	C	D	E	F
VTC-3400 Series	7491mm (295")	7059mm (278")	414mm (16.3")	3000mm (118")	2265mm (89.2")	3535mm (139.2")
VTC-4400 Series	8491mm (334.3")	7059mm (278")	414mm (16.3")	4000mm (157.5")	2800mm (110")	4535mm (178.5")
Model	G	H	I	J	K	L
VTC-3400 Series	1200mm (47.2")	2500mm (98.4")	1504mm (59.2")	4517mm (177.8")	2274mm (89.5")	3447mm (135.7")
VTC-4400 Series	1450mm (57.1")	2500mm (98.4")	1504mm (59.2")	4517mm (177.8")	2274mm (89.5")	3747mm (147.5")

Machining Range

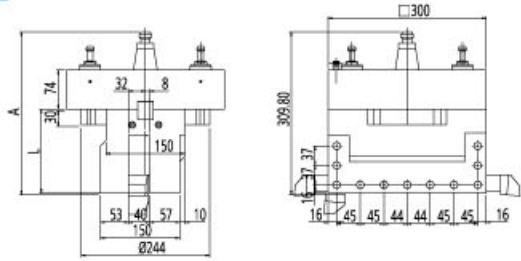


Model	A	B	C	D	E	F	G	G
VTC-3400 Series	3400mm (133.9")	0~2000mm (0~78.7")	2300mm (90.5")	1200mm (47.2")	1400mm (55")	600mm (23.6")	350mm (13.8")	3000mm (118")
VTC-4400 Series	4400mm (173.2")	0~2300mm (0~90.5")	2800mm (110")	1350mm (53.1")	1700mm (67")	600mm (23.6")	350mm (13.8")	4000mm (157.5")

Tool Holder and Dimensions (ATC Series)

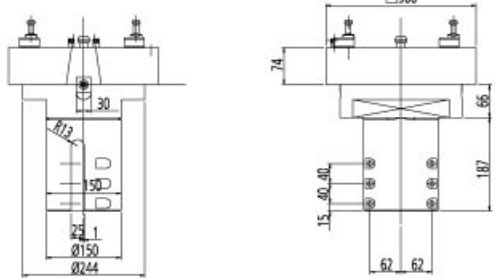
(Unit: mm)

Turning Tool Holder

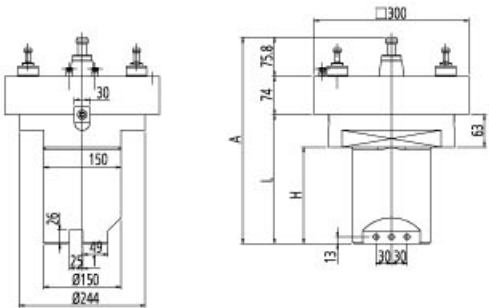


TYPE	L	A	TOOL SIZE
DT50-160-32	160	309.8	□32
DT50-200-32	200	359.8	□32
DT50-250-32	250	409.8	□32

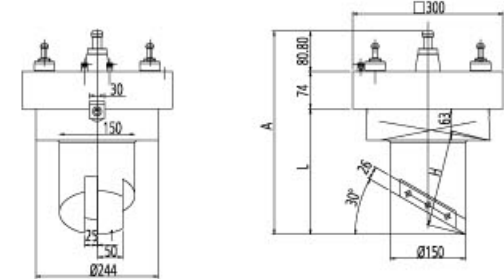
Boring Tool Holder



TYPE	H	L	A	TOOL SIZE
DB50-250-25	187	250	399.8	□25
DB50-300-25	237	300	449.8	□25
DB50-350-25	287	350	499.8	□25
DB50-400-25	337	400	579.8	□25

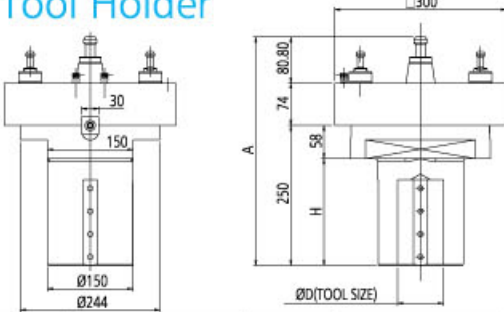


TYPE	H	L	A	TOOL SIZE
DE50-250-25	187	250	399.8	□25
DE50-300-25	237	300	449.8	□25
DE50-350-25	287	350	499.8	□25
DE50-400-25	337	400	579.8	□25

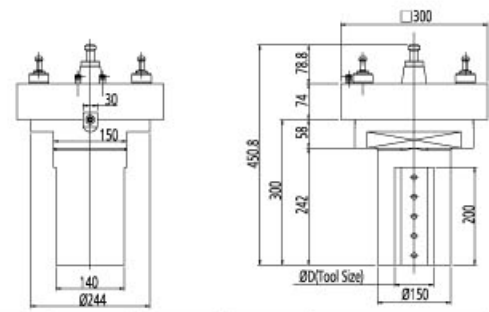


TYPE	H	L	A	TOOL SIZE
DC50-250-25	187	250	399.8	□25
DC50-300-25	237	300	449.8	□25
DC50-350-25	287	350	499.8	□25
DC50-400-25	337	400	579.8	□25

Drilling Tool Holder



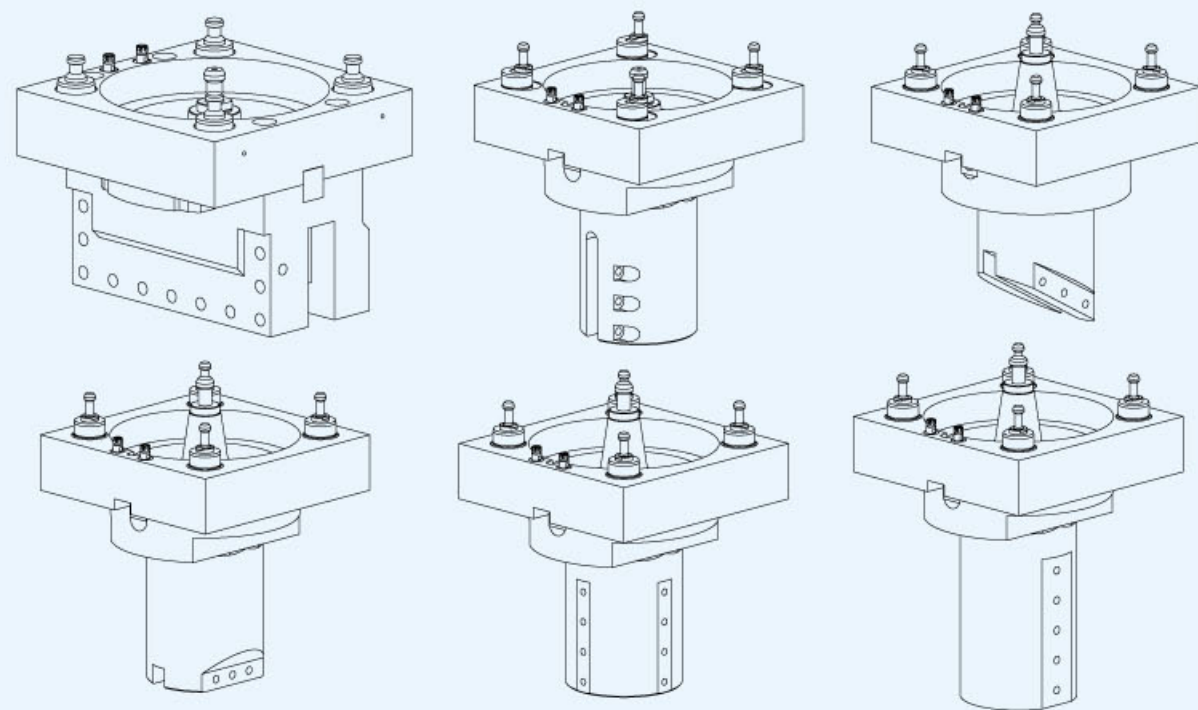
TYPE	H	L	A	TOOL SIZE
DR50-187-32	187	250	399.8	Ø32
DR50-187-40	187	250	399.8	Ø40
DR50-187-50	187	250	399.8	Ø50
DR50-187-60	187	250	399.8	Ø60



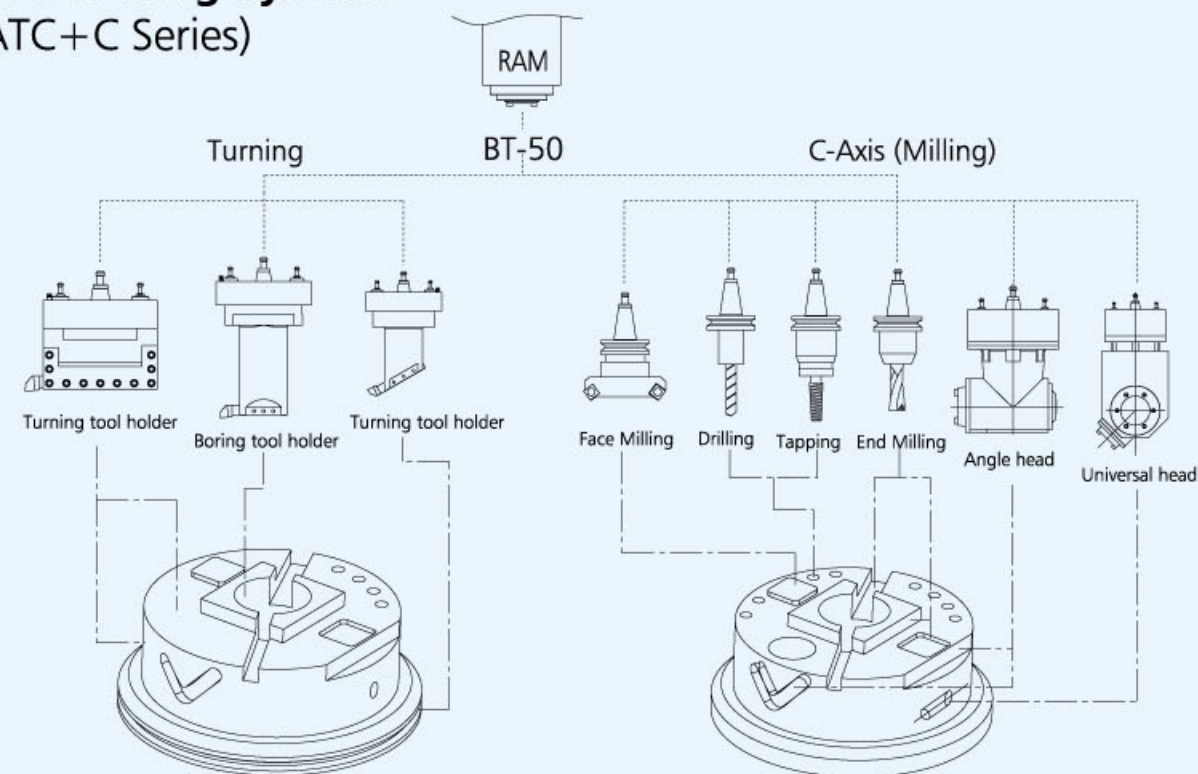
TYPE	H	L	A	TOOL SIZE
DSP50-300-80	240	300	450.8	Ø80
DSP50-300-110	240	300	450.8	Ø110

VTC Series

Standard Tooling System (ATC Series)

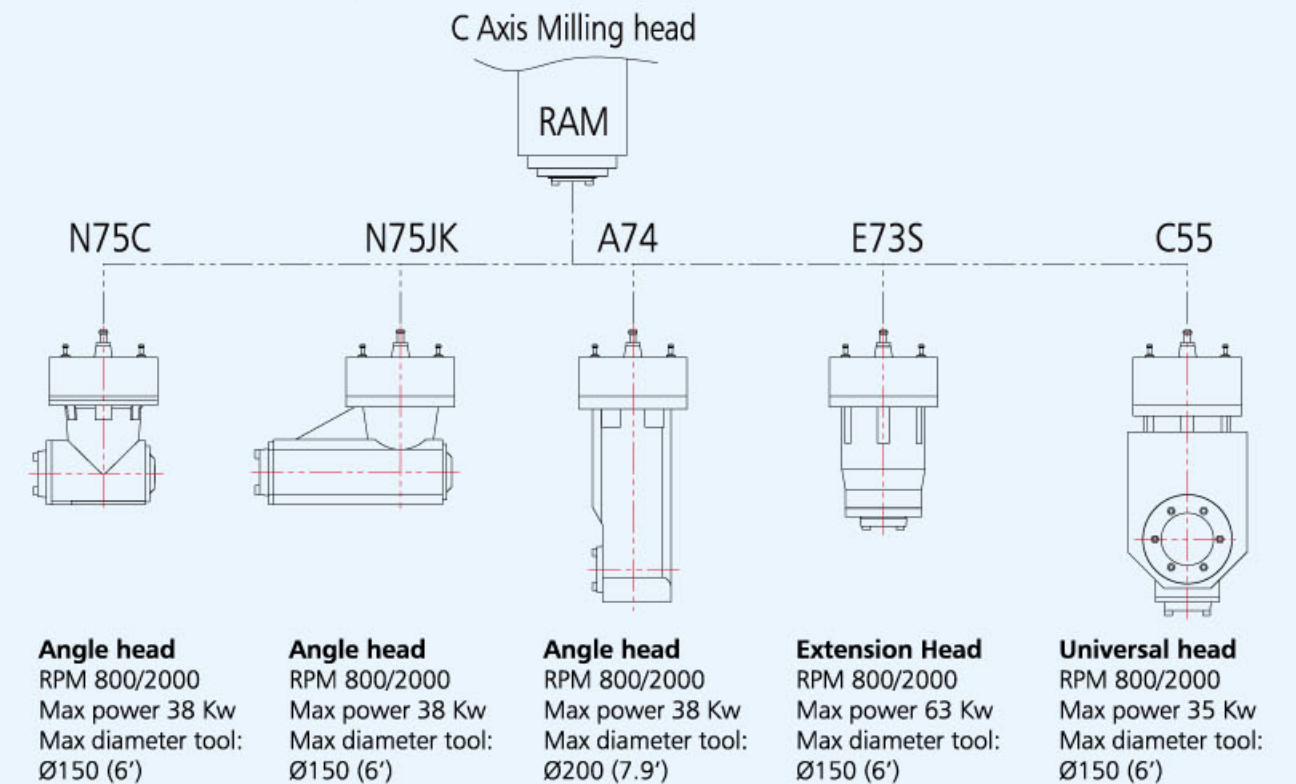


Live Tooling System (ATC+C Series)



VTC Series

Various Heads (optional)



Standard Accessories

1. FANUC Oi-TD controller
2. Heavy duty manual chuck (4 jaws)
3. Lubrication system
4. Coolant system
5. Heat exchanger for electrical cabinet
6. Tool box
7. Operational manual
8. Automatic tool changer (12 tools)

Optional Accessories

1. Chip conveyor
2. C-axis
3. Tool magazine for 16, 32, 40, 60 tools
4. Z-axis travel 1500 mm
5. CE norms
6. Transformer
7. Turning tool holder
8. X, Z-axis linear scale
9. W-axis moving NC control

SPECIFICATIONS:

STANDARD SPECIFICATIONS		VTC-3400ATC	VTC-3400ATC+C	VTC-3400ATC+C+Y axis
Spindle				
Spindle Speed	Low		2~32 rpm	
	High		33~100 rpm	
Cutting Spindle Speed	Low	x	2~1150 rpm	
	High	x	1151~2500 rpm	
Max. Torque			68100 N.m (6941 kgf-m)	
Feed rate				
X Axis Rapid Traverse			8000 mm/min (315 ipm)	
Z Axis Rapid Traverse			10000 mm / min (393.7 ipm)	
W Axis Rapid Traverse			600 mm/min (23.6 ipm)	
Y Axis Rapid Traverse		x		5000 mm/min (196.9 ipm)
Cutting Feed Rate			1~2100 mm/rev	
Manual Feed Rate			0~5500 mm/min (216.5 ipm)	
Capacity				
Table Diameter			Ø3000 mm (118")	
Max Turning Diameter			Ø3400 mm (133.9")	
Max. Swing			Ø3400 mm (133.9")	
Max. Turning Height			2000 mm (78.8")	
Max. Table Load			22000 kg (48458 lb)	
Motor				
FANUC 0iTD				
Spindle Motor			60/75 kW (α 60HVi)	
#2 Spindle Motor			11/15 kW (α 12HVi)	
X Axis Servo Motor			5.5 kW	
Z Axis Servo Motor			5.5 kW	
C Axis Servo Motor		x	5.5 kW	
Y Axis Servo Motor			x	5.5 kW
SIEMENS (Optional)				
Spindle Motor			60/84 kW (1PH7 186-2NE05-0CC0)	
#2 Spindle Motor		x	11/15 kW	
X Axis Servo Motor			8.17 kW	
Z Axis Servo Motor			5.37 kW	
C Axis Servo Motor		x	8.17 kW	
Y Axis Servo Motor				8.17 kW
W Axis Motor			AC 7.5HP	
Coolant Motor			0.37 kW	
#2 Spindle Coolant Motor		x	1.5 kW	
Stroke				
Z Axis Travel			1200 mm (47.2") / optional 1500 mm (59")	
X Axis Travel			2300 mm (90.6")	
W Axis Travel			1400 mm (55.1")	
Y Axis Travel		x		1850 mm (72.8")
ATC Magazine				
Number of Tools			12 PCS	
Tool Shank			BT-50 Taper	
Max. Tool Size			Ø300 mm (11.8")	
Max. Tool Weight			50 kg (110 lb)	
Max. Loading of ATC Magazine			520 kg (1145 lb)	
Tool Change Time			50 sec.	
Lubrication System				
Hydraulic Tank			250 L	
Coolant Liquid Tank		1000 L		1200 L
Lubrication Tank			20 L	
Miscellaneous				
Machine Size		7935 mm x 8150 mm x 6559 mm (312" x 321" x 258")		
Machine Weight		57900 kg (127533 lb)	58900 kg (129735 lb)	76900 kg (169383 lb)
Power Requirements		120 KVA	140 KVA	160 KVA
Accuracy		Positioning Accuracy: ±0.008 / 500, Repeatability Accuracy: ±0.006 C Axis Positioning Accuracy: ±7.5°360° C Axis Repeatability Accuracy: ±5"		

SPECIFICATIONS:

STANDARD SPECIFICATIONS		VTC-4400ATC	VTC-4400ATC+C
Spindle			
Spindle Speed	Low step		1~16 rpm
	2nd step		17~38 rpm
	High step		39~60 rpm
Cutting Spindle Speed	Low	X	2~1150 rpm
	High	X	1151~2500 rpm
Max. Torque			118400 N.m (12081 kgf-m)
Feed rate			
X Axis Rapid Traverse			7000 mm/min (275.6 ipm)
Z Axis Rapid Traverse			10000 mm / min (393.7 ipm)
W Axis Rapid Traverse			600 mm/min (23.6 ipm)
Cutting Feed Rate			1~2100 mm/rev
Manual Feed Rate			0~5500 mm/min (216.5 ipm)
Capacity			
Table Diameter			Ø4000 mm (157.5")
Max. Turning Diameter			Ø4400 mm (173.2")
Max. Swing			Ø4400 (173.2")
Max. Turning Height			2300 mm (90.6")
Max. Table Load			26000 kg (57269 lb)
Motor			
FANUC 0iTD			
Spindle Motor			100 kW (α 100HVi)
#2 Spindle Motor		X	15/18.5 kW(α 15HVi)
X Axis Servo Motor			5.5 kW
Z Axis Servo Motor			5.5 kW
C Axis Servo Motor		X	5.5 kW
SIEMENS (optional)			
Spindle Motor			100/140 kW (1PH7 224-2NF03-0CC2)
#2 Spindle Motor		X	15/20.5 kW (1PH7133-2NF03-2)
X Axis Servo Motor			8.2 kW
Z Axis Servo Motor			8.2 kW
C Axis Servo Motor		X	8.2 kW
W Axis Motor			AC 10 HP
Coolant Motor			0.75 kW
#2 Spindle Coolant Motor		X	1.5 kW
Stroke			
Z Axis Travel			1350 mm (53.1") / optional 1500 mm (59")
X Axis Travel			2800 mm (110")
W Axis Travel			1700 mm (66.9")
ATC Magazine			
Number of Tools			12 PCS
Type of Tool Shank			BT-50 Taper
Max. Tool Size			300 mm (11.8")
Max. Tool Weight			50 kg (110 lb)
Max. Loading of ATC Magazine			520 kg (1145 lb)
Tool Change Time			50 sec.
Lubrication System			
Hydraulic Tank			250 L
Coolant Tank			1200 L
Lubrication Tank			25 L
Miscellaneous			
Machine Size		8491 mm x 5392 mm x 6859mm (334" x 212" x 270")	
Machine Weight		70800 kg (115947 lb)	71800 kg (158150 lb)
Power Requirements		140 KVA	170 KVA
Accuracy		Positioning Accuracy: ±0.008 / 500, Repeatability Accuracy: ±0.006 C Axis Positioning Accuracy: ±7.5°360° C Axis Repeatability Accuracy: ±5"	

● L&W Machine Tools, Inc. reserves the right to alter any mechanical specifications without prior notice.