

CubicMachinery.com

VL



VERTICAL MACHINING CENTER

VL SERIES

- 10000 rpm high speed spindle
- Spindle oil cooler on every model
- 24-tool ATC

VL SERIES

VL-600 / VL-800
VL-1000 / VL-1200

VL-600

Travels
X: 600 mm (23.6")
Y: 450 mm (17.7")
Z: 480 mm (18.9")

VL-800

Travels
X: 800 mm (31.5")
Y: 450 mm (17.7")
Z: 500 mm (19.7")



VL-1000

Travels
X: 1000 mm (36.4")
Y: 510 mm (20")
Z: 610 mm (24")

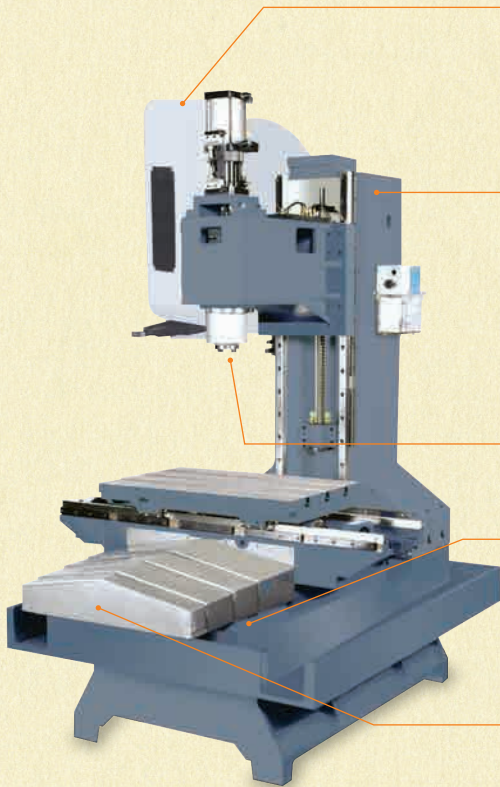
VL-1200

Travels
X: 1200 mm (47")
Y: 600 mm (23.6")
Z: 610 mm (24")



▼ Machine construction for
VL-600,VL-800

▼ Machine construction for
VL-1000,VL-1200



Fast ATC reduces non-cutting time

- Arm type **24 Tools**
- Tool-to-tool time **2.5 sec.**

Rigid by design

MEEHANITE casting is used on all major components for its excellent vibration dampening characteristic. Machine structure is designed in CATIA CAD and optimized using FEA (Finite Element Analysis). Having the right structure leads to higher rigidity, better machining performance and extended machine life.

High-efficiency spindle

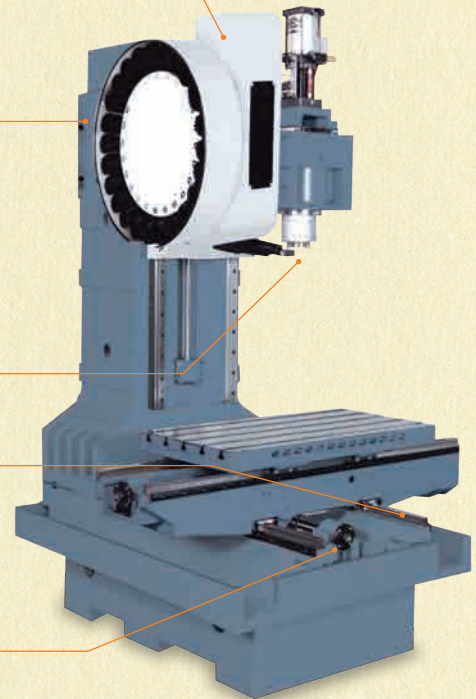
- Belt-drive spindle speed **10,000 rpm**

Heavy-duty linear guideways

- X, Y, Z-axes ball linear guideways
- Guide rails are precision ground
- Ball track zones are hardened
- Four guide blocks on each axis

C3 precision class ballscrews

- All linear axes feature large diameter ballscrews that have been preloaded to increase rigidity.
- Ballscrew is directly coupled to motor to reduce vibration
- Design reduces friction and thermal growth to maintain cutting accuracy.



High precision 10,000 rpm spindle

The high speed spindle is a true cartridge type unit supported by P4 precision class high speed bearings which are permanently grease lubricated to eliminate heat buildup. The spindle is driven by a high torque FANUC spindle motor. Power is transferred through a heavy duty cogged drive belt eliminating slippage, promoting thermal stability and minimizing vibration.



Oil cooler

The spindle coolant system refrigerates and circulates cooling oil to maintain a constant temperature for high accuracy across different cutting conditions and ambient temperature.



SPECIFICATIONS /

ITEM		UNIT		VL-600		VL-800		VL-1000		VL-1200	
TABLE	Table size	inch	mm	27.5x17.7	700x450	33.8x17.7	860x450	43.3x20	1100x510	51.1x22.8	1300x580
	Working area	inch	mm	23.6x17.7	600x450	31.4x17.7	800x450	39x20	1000x510	47.2x23.6	1200x600
	T-slots (CD x W x NO)			100 x 18 mm x 3T				100 x 18 mm x 5T			
	Table load (maximum)	lbs	kg	661	300	1100	500	1760	800	2200	1000
TRAVEL	X-axis	inch	mm	23.6	600	31.4	800	39.4	1000	47	1200
	Y-axis	inch	mm	17.7	450	17.7	450	20	510	23.6	600
	Z-axis	inch	mm	18.9	480	19.6	500	24	610	24	610
	Spindle nose to table surface	inch	mm	3.9-22.8	100-580	3.5-23.2	90-590	4.3-28.3	110-720	3.5-27.5	90-700
	Spindle center to column surface	inch	mm	20.6	525	20.6	525	22.2	565	28.5	725
	X.Y.Z. axis ball screws dia	mm		Ø32 x pitch12				Ø40 x pitch12			
SPINDLE	Spindle taper			CT-40							
	Spindle speed			rpm				10,000			
FEEDRATE	Cutting feedrate (X, Y, Z axis)	ipm	mm/min	0.04-393		1-10000					
	Rapid traverse rate (X/Y/Z axis)	ipm	m/min	944 / 944 / 944		24 / 24 / 24					
ATC	Tool capacity	Tool		24 tools							
	Tool selection			bi-directional & minimum path							
	Maximum tool diameter x length	inch	mm	Ø3.14 x 11.81		Ø80 x 300					
	Maximum tool weight	lbs	kg	15		7					
	Air power required	psi	kg/cm ²	85		6					
	Tool shank			CT-40							
MOTOR	Tool change time (tool to tool)	sec.		2.5							
	Spindle motor	HP	KW	7 / 10		5.5 / 7.5		10 / 14.7		7.5 / 11	
	Servo motor (X/Y/Z axis)	HP	KW	1 / 1 / 5.3		1.6 / 1.6 / 4		4 / 4 / 4		3 / 3 / 3	
	Coolant pump	HP		1/2							
	Power supply	KVA		25				30			
	New weight	lbs	kg	7300	3300	8800	4000	11700	5300	13700	6200

STANDARD EQUIPMENT /

- 10,000 rpm high speed spindle (belt drive)
- Spindle oil cooler
- FANUC OiM control
- MPG handwheel pendant
- 24-tool arm-type ATC
- Coolant system
- Cutting air blast
- Automatic lubrication system
- Machine enclosure
- Way covers
- Pull-out chip drawer for VL-600/VL-800
- Screw-type chip conveyor for VL-1000/VL-1200
- Halogen worklight
- Status light
- Leveling blocks and bolts
- Tool box
- Mechanical, electrical & operating manuals

OPTIONAL ACCESSORIES /

- 4th axis rotary table
- Chain-type chip conveyor
- Flood coolant
- Renishaw TS27R tool setting probe
- Renishaw OMP60 inspection probe
- Screw-type chip conveyor for VL-600/VL-800

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