

# VB



VERTICAL MACHINING CENTER

## VB SERIES

- 4-boxway rigid structure
- Extra wide column and base
- Spindle oil cooler
- 2-speed ZF gearbox\*

\* optional

# VB SERIES

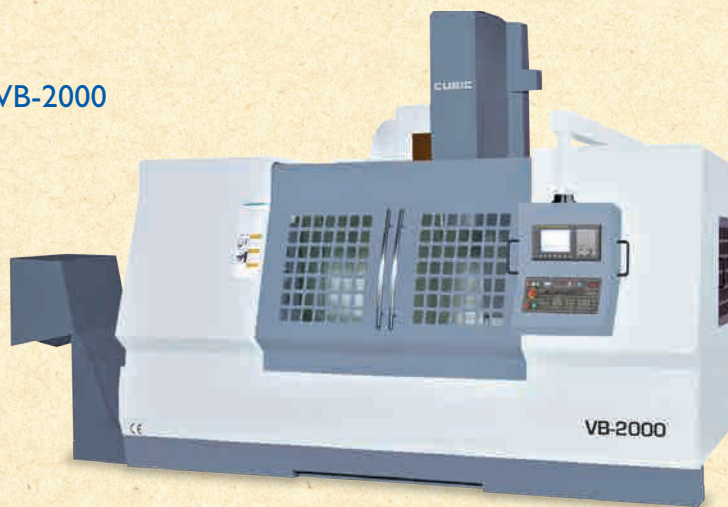
**VB-850 / VB-1000**  
**VB-1200 / VB-1400**  
**VB-1600 / VB-2000**

MACHINE FEATURES /

## RIGID BY DESIGN

- Four boxways on Y-axis to distribute heavy loads evenly
- Turcite-B coating on all slideway surfaces
- P4 precision class spindle bearings
- C3 double nut, precision ground, large diameter ball screws on all three axes
- Screw-type conveyor makes chip cleanup a breeze
- Industry standard FANUC 0iM control
- Spindle oil cooler to maintain constant spindle temperature
- 100% laser tested positioning accuracy
- ISO 9001/2000 certified quality assurance

VB-2000



VB-1000



**Maximum spindle speed 8,000 rpm**

### High Speed Spindle

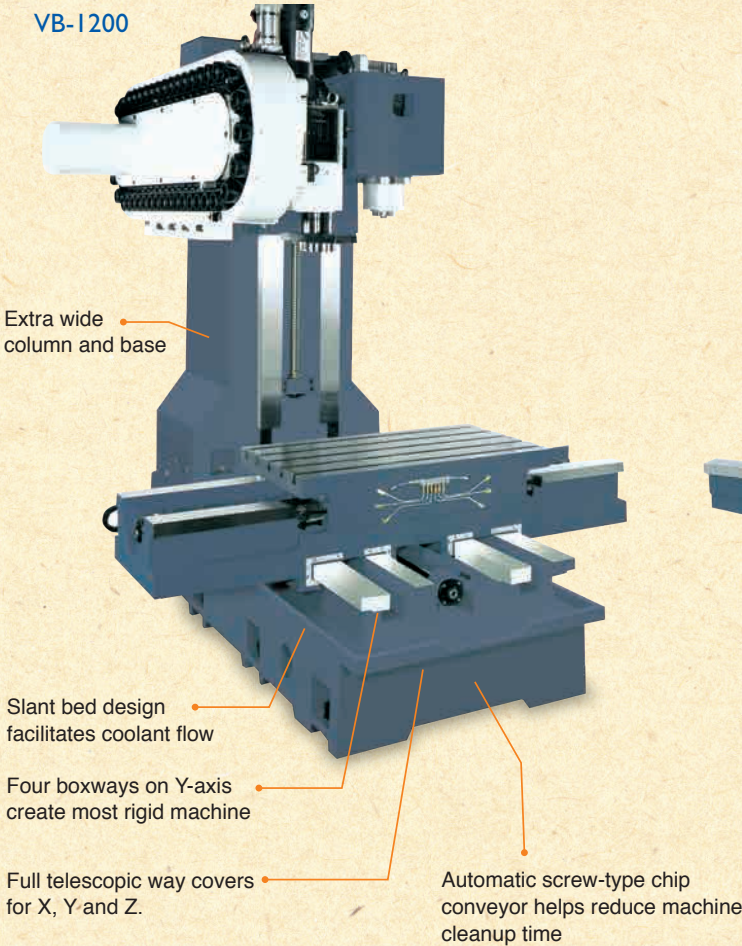
The high speed spindle is a true cartridge type unit supported by P4 precision class high speed bearings which are permanently grease lubricated to eliminate heat buildup. The spindle is driven by a high torque FANUC spindle motor. Power is transferred through a heavy duty cogged drive belt eliminating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





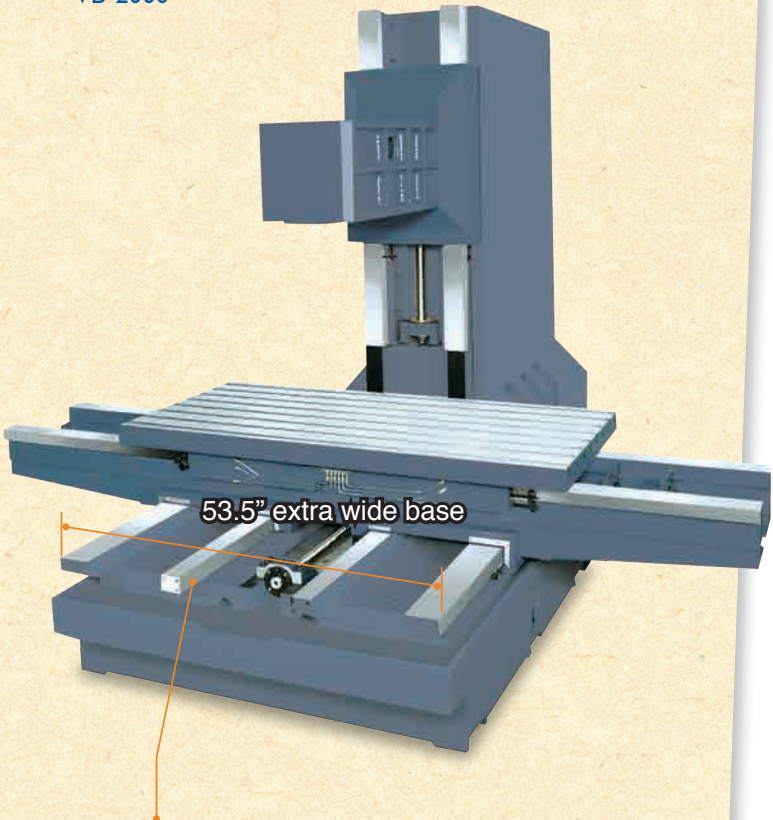
▼ Machine construction for 40-taper machines

- VB-850
- VB-1000
- VB-1200



▼ Machine construction for 50-taper machines

- VB-1400
- VB-1600
- VB-2000



**Four boxways on base**  
 Four rugged boxways ensure table is always supported rigidly even when workpiece is off center. The uniform weight distribution translates into smooth traverse, superior cutting performance and long machine life.

**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.



**Minimizing non-cutting time**

Automatic tool changer

**Tool storage capacity**

24 tools

**Tool change time (T-to-T)**

1.8 second

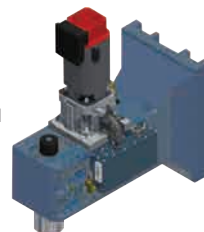


Model	X	Y	Z	Table Size	Spindle Taper
VB-850	33.5"	24"	24"	41.3 x 20"	40"
VB-1000	39.4"	24"	24"	47.2 x 20"	40"
VB-1200	47.2"	25"	24"	51.2 x 20"	40"
VB-1400	55.1"	30"	27.6"	59 x 25.5"	50"
VB-1600	59"	31.9"	27.6"	67 x 31.5"	50"
VB-2000	78.7"	31.9"	27.6"	82.6 x 33.4"	50"

**Applications**

- Aerospace
- Tool & die
- Mold making
- Automotive
- Industrial equipment
- Job shops

Optional:  
 2-speed ZF gear box,  
 ideal for mold machining



## SPECIFICATIONS /

ITEM		UNIT		VB-850		VB-1000		VB-1200		VB-1400		VB-1600		VB-2000	
TABLE	Table size	inch	mm	41.3x20	1050x510	47.2x20	1200x510	51.2x20	1300x510	59x25.5	1500x650	67x31.5	1700x800	82.6x33.4	2100x850
	Working area	inch	mm	33.5x20	850x610	41.3x24	1050x610	47.2x25	1200x635	55.1x31.5	1400x800	63x31.9	1600x810	78.7x35.4	2000x900
	T-slots (CD x W x NO)			100 x 18 mm x 5T		100 x 18 mm x 5T		100 x 18 mm x 5T		100 x 18 mm x 6T		100 x 18 mm x 8T		100 x 18 mm x 8T	
	Table load (maximum)	lbs	kg	1540	700	1760	800	1980	900	3520	1600	4400	2000	6600	3000
TRAVEL	X-axis	inch	mm	33.5	850	39.4	1000	47.2	1200	55.1	1400	59	1600	78.7	2000
	Y-axis	inch	mm	24	610	24	610	25	635	30	760	31.9	810	31.9	810
	Z-axis	inch	mm	24	610	24	610	24	610	27.6	700	27.6	700	27.6	700
	Spindle nose to table surface	inch	mm	5-29	130-740	5-29	130-740	5-29	130-740	4.7-32.2	120-820	4.7-32.2	120-820	4.7-30.3	120-770
	Spindle center to column surface	inch	mm	26	660	26	660	26	660	30	760	34.4	875	38.3	975
	X.Y.Z. axis ball screw dia	mm		Ø40 x pitch12 (C3)		Ø40 x pitch12 (C3)		Ø40 x pitch12 (C3)		Ø50 x pitch12 (C3)		Ø50 x pitch12 (C3)		Ø50 x pitch12 (C3)	
SPINDLE	Spindle taper			CT-40						CT-50					
	Spindle speed	rpm		8,000											
FEEDRATE	Cutting feedrate (X, Y, Z axis)	ipm	mm/min	0.04-196 1-5000											
	3 Axes slideways			Hardened and ground boxways											
	Rapid traverse rates (X/Y/Z axis)	ipm	m/min	787 / 787 / 590 20 / 20 / 15										590 / 590 / 590 15 / 15 / 15	
ATC	Tool capacity	Tool		24						24					
	Tool change speed	sec		1.8 sec tool-to-tool											
	Tool selection			Bi-directional & min. path											
	Maximum tool diameter x length	inch	mm	3.94 x 11.81 Ø100 x 300						4.53 x 11.81 Ø115 x 300					
	Maximum tool weight	lbs	kg	13.2 6											
	Air power required	psi	kg/cm <sup>2</sup>	85 6											
MOTOR	Spindle motor	HP	KW	10 / 14.7 7.5 / 11						14.7 / 20 11 / 15				20 / 25 15 / 18.5	
	Servo motor	HP	KW	4 / 4 / 4 3 / 3 / 3						5.3 / 5.3 / 5.3 4 / 4 / 4				6.7 / 5.3 / 6.7 5 / 4 / 5	
	Coolant pump	HP		1/2											
MISC	Power supply	KVA		20						30					
	Net weight	lbs	kg	14500	6600	15600	7100	16500	7500	24200	11000	27500	12500	37900	17200

## STANDARD EQUIPMENT /

- 8000-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
- Screw-type chip conveyor
- Halogen worklight
- Status light
- Leveling blocks and bolts
- Tool box
- Mechanical, electrical & operating manuals

## OPTIONAL ACCESSORIES /

- 2-speed ZF gear box for spindle
- 4th axis rotary table
- Chain-type conveyor
- Flood coolant
- Renishaw TS27R tool setting probe
- Renishaw OMP60 inspection probe
- Movable operator console

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