



# 5X-12

## 5-Axis High Speed VMC with built-in 12" Trunnion

- + Glass Scale Feedback on All 5-Axis
- + Roller Bearing Ways (twice as rigid as ball ways)
- + 40-Tool Double Arm ATC
- + 1,417 IPM Rapid Rates
- + 12,000 RPM Inline Direct-Drive Beltless "Big-Plus" Spindle
- + Spindle Chiller for Consistent Thermal Stability
- + 300-PSI Through-the-Tool Coolant System
- + Available as 4 + 1 or 5 Axis simultaneous

<b>Axis Travel</b>	X-Travel	34.64"	880 mm
	Y-Travel	23.62"	600 mm
	Z-Travel	19.97"	482 mm
	Spindle Nose to Rotary Table Surface	4.72" - 18.97"	120 - 480 mm
	Spindle Center to Z-axis way covers	22.44"	570 mm (throat dimension)
<b>Tilting Rotary Table</b>	Platter diameter	Ø 12.6"	Ø 320 mm
	Center bore diameter	Ø 50 H7	
	T-Slot width	12 mm H7 / 4	Hardened & ground table & T-slots
	Guide block width	18 mm	
	A-Axis Tilting Servo Motor	Mitsubishi HF-224T	
	C-Axis Rotary Servo Motor	Mitsubishi HF-104T	
	Torque	7 kg-cm <sup>2</sup>	
	Indexing resolution	0.001°	
	Feedback System A / C	Glass Scales (10 arc sec. resolution)	
	Tilting angle range	+30° - -111° (141° total range)	
	Brake Torque A / C	140 / 70 kg/m	
	Cutting Torque limit	25 kg/m	
	Rotational speed A / C	25.0 / 25.0 rpm	
	Transmission Ratio A / C	1:120 / 1:90	
	Work Load Capacity	330 lbs.	("A" Axis at 0-10 degrees)
Work Load Capacity	220 lbs.	("A" Axis at 10-90 degrees)	
Maximum Part Swing	Ø16.3"	Ø 414 mm	
<b>Spindle</b>	Spindle Motor – S1 / S2 / S3 = 7.5 / 11 / 15 kW	25-Horsepower Peak	20-HP 30-minute duty-rating
	Spindle Speed – Inline Direct-Drive	12,000 rpm	(15,000 rpm optional)
	Spindle Torque	90 ft-lb @ 1,500 rpm	
	Retention Knob (pull stud)	C40-4502H (coolant)	C40-4502S (solid)
	Retention System / Holding Capability	Bellville Spring Stack	1,650-1,760 lbs.
	Spindle Runout	≤ 0.000040" T.I.R.	
<b>Axis Feeds</b>	Accuracy X, Y, & Z axis (JIS6338)	± 0.0002" / 12"	± 0.005 mm over 300 mm travel
	Repeatability X, Y, & Z axis (JIS6338)	± 0.0002" / 12"	± 0.003 mm over 300 mm travel
	Least Input Command Increment	0.0001" / 0.000040"	0.001 mm / (40-millionths in metric)
	Rapid Traverse - X and Y	1,417 ipm	36 m / minute
	Rapid Traverse- Z	1,260 ipm	32 m / minute
	Cutting Feedrate	0.02 - 393 ipm	10 m / minute
	Axis Drive Motor Power - X, Y, Z	5-HP	3.5 kW
	Ballscrews – X, Y, Z	40 mm ballscrews with 12 mm pitch	
<b>Tool Changer</b>	Tool Capacity	40 Tool Twin-Arm	Chain-Drive Storage Rack
	Tool Shank	CAT#40 Taper	BT#40 optional
	Tool Change Time	2.8-sec. tool-to-tool	
	Maximum Tool Diameter / w/ adjacent tool	5.90" / 3.15"	150 mm / 80 mm
	Maximum Tool Length / Weight	11.81" / 15 lbs.	300 mm / 7 kg
	Tool Selection / Tool Access	Random access	Bi-directional shortest path
<b>Specifications</b>	Air Service Requirements	85 psi @ 14-scfm	20 kg / cm <sup>2</sup>
	Coolant Capacity	97-gallons / 300 psi	367 liters / 20-bar
	Electrical Requirements - connected load	220 vac ±5%, 60-Hz	38 kVA
	Floor space requirements (W x D x H)	115" x 82" x 116"	[add 48" on left side for conveyor]
	Machine Weight	15,708 lbs.	7,120 kg
	Warranty – 1-year machine warranty	3-year Mitsubishi control, motors, & drives warranty	