



## 510mm High Speed Mill-Drill-Tap Center

- + 4-Inch Zero-Backlash Roller Gear Cam Tilting Rotary Table
- + 12,000 RPM Inline Direct-Drive Beltless Spindle
- + 7.5-HP spindle motor with 6000 RPM Synchronous Rigid Tapping
- + BT #30 BBT Dual Contact "Big-Plus" Spindle
- + 21-Tool Drum Turret with 1.6-Second Tool-to-Tool tool change time
- + 2,362 IPM rapid rates in X, Y & Z axis for fast production

**Axis Travel**

X-Travel	20.08" 510mm
Y-Travel	16.93" 430mm
Z-Travel	12.99" 330mm
Spindle Nose to Rotary Table Surface	9.05" – 22", 230 – 560mm
Spindle Center to Column	18.50" 470mm

**Spindle**

Spindle Motor – Mitsubishi DJ-D5.5/120-01 7.5-HP	3.7/5.5kw 25% Duty-Cycle
Spindle Motor Coupling	Inline Direct-Drive, Beltless Spindle Drive
Spindle Speed	12,000 rpm 15,000 RPM optional
Synchronous Tapping Speed Limit	6,000 rpm
Tapping Performance in Production	M20x2.5 in aluminum, M14x2.0 in steel
Drilling Performance in Production	38mm in aluminum, 25mm in steel
Spindle Torque	26 ft-lb force, 35Nm up to 1,500 RPM, 17.7Nm continous
Tool Type	BT #30, 4-bearing spindle – 2-top, 2-bottom
Spindle Bearing - Inner Diameter	40mm, P4 class-7, steel ball bearings
Spindle Material / Hardness	SCM415 / HRC 58-62
Spindle Runout	≤ 0.000040" T.I.R., Pull Stud USST B30-4500H
Retention System / Holding Capacity	MAS-P30T-1, Belleville Spring Stack / 1650-1760 lbs.

**Axis Feeds**

Rapid Traverse – X/Y/Z	2,362 ipm 60/60/60m / minute
Rated Cutting Feedrate – X/Y/Z	0.04 - 1181 ipm 30/30/30m/minute
Mechanical Way System – X/Y/Z	Roller-Bearing Ways, Roller-Ways -30/30/35mm width
Axis Drive Motor Power – X, Y/Z	2.0-HP / 3.0-HP 1.5kw / 2.2kw with brake
Axis Thrust Force – X, Y/Z	3335 lbs. / 3692 lbs. 14840 N / 16430 N
Ballscrews – X, Y, Z	32mm Ballscrews, 16mm Pitch
Positioning Accuracy – X/Y/Z	±0.00015" ±0.004mm
Positioning Repeatability – X/Y/Z	±0.00008" ±0.002mm
Least Input Command Increment	0.0001" / 0.000040" 0.001mm / (40-millionths in metric)

**Tool Changer**

Tool Capacity	21-Tools, Drum Turret
Tool Shank	BT#30, MAS P30T-1 Pull-Stud
Tool Change Time	1.6-sec. tool-to-tool, Servo motor driven
Maximum Tool Diameter / with adjacent tool	2.36" / 3.15" 60mm / 80mm with no adjacent tool
Maximum Tool Length / Weight	7.87" / 6.6 lbs. 200mm / 3 kg
Tool Selection / Tool Access	Random access Bi-directional shortest path

**Specifications**

Air Service Requirements	85 psi @ 5-scfm 6 Kg/cm <sup>2</sup>
Connected Load Electrical Requirements	16kva, 40 Amps 220vac ±5%, 3-Phase, 60-Hz
Coolant Tank Capacity	32-gallons / 120 liters
Coolant Pump (Cutting Tools) - HP / Pressure	1.0-HP / 45 PSI, .75kw Grundfos MTH4-30/3A
Coolant Pump (Chip Flush Pump)	1.0-HP .75kw
Floor space requirements (W x D x H)	49.2" x 105" x 109" 125x267x276cm (+ chip conveyor)
Machine Weight	6,408 pounds 2,910 kg
Warranty – 1-year machine warranty	3-year Mitsubishi control, motors, & drive warranty