



**EXPAND**<sup>™</sup>  
MACHINERY

**GEN MILL**

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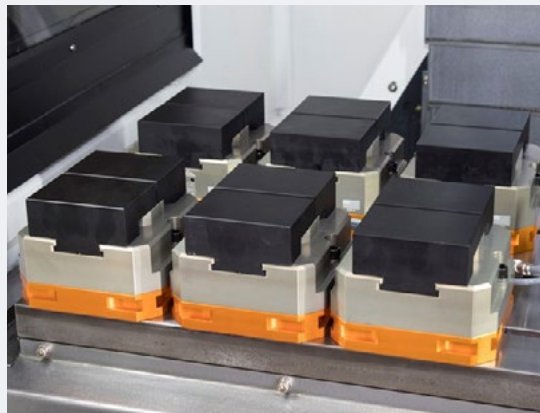
2021 MACHINE CATALOG





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

- + 12,000 RPM Inline Direct-Drive Beltless Spindle
- + 21-Tool Drum Turret
- + Tool Change Time 1.6-sec. tool-to-tool, Servo motor driven
- + 2,362 Inch per Minute Rapid Rates
- + BT#30 BBT Dual Contact Big-Plus Spindle
- + 6,000 RPM Synchronous Rigid Tapping
- + 7.5 HP Spindle Motor



## Axis Travel

X-Travel	20.08" 510mm
Y-Travel	16.93" 430mm
Z-Travel	12.99" 330mm
Spindle Nose to Rotary Table Surface	5.1" – 18.1", 130 – 460mm
Spindle Center to Column	18.89" 480mm

## Work Table

Table Surface Dimension (X, Y)	22.04" x 15.75", 560 x 400mm
T-Slot Dimension / Spacing	3-14mm T-slots / 125mm center distance spacing
Table Height	35" above floor, 890mm
Maximum Table Weight for Rated Accuracy	550 pounds, 250kg @ 60m/min (770 lbs. @ 48m/min.)

## 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 @ 1,500 rpm, 25% Duty-Cycle
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.
Retention System / Holding Capacity	MAS-P30T-1 Bellville Spring Stack / 1650-1760 lbs.

## Axis Feeds

Rapid Traverse – X/Y/Z	2,362 ipm 60/60/60 /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	40 Amps / 220vac ±5%, 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)	50" x 87" x 95" 125x221x241cm (+ chip conveyor)
Machine Weight	6,110 pounds, 2,770 kg
Warranty – 1-year machine warranty	3-year Mitsubishi control, motors, & drive warranty





## 700mm High Speed Mill-Drill-Tap Center

- + 12,000 RPM Inline Direct-Drive Beltless Spindle
- + 21-Tool Drum Turret
- + Tool Change Time 1.6-sec. tool-to-tool, Servo motor driven
- + 2,362 Inch per Minute Rapid Rates
- + BT#30 BBT Dual Contact Big-Plus Spindle
- + 6,000 RPM Synchronous Rigid Tapping
- + 7.5 HP Spindle Motor



## Axis Travel

X-Travel	27.56" 700mm
Y-Travel	16.93" 430mm
Z-Travel	12.99" 330mm
Spindle Nose to Rotary Table Surface	5.1" – 18.1", 130 – 460mm
Spindle Center to Column	18.89" 480mm

## Work Table

Table Surface Dimension (X, Y)	33.4" x 15.75", 850 x 400mm
T-Slot Dimension	3-14mm T-slots / 125mm center distance spacing
Table Height	35" above floor, 890mm
Maximum Table Weight	550 pounds, 250kg @ 60m/min (770 lbs. @ 48m/min.)

## 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	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 @ 1,500 rpm
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.
Retention System / Holding Capacity	MAS-P30T-1 Bellville 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/min.
Mechanical Way System – X/Y/Z	Roller Ways, Cross Roller 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	40 Amps / 220vac ±5%, 60-Hz
Coolant Tank Capacity	40-gallons / 150 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)	73" x 87" x 95" 185x221x241cm (+ chip conveyor)
Machine Weight	6,770 pounds, 3,070 kg
Warranty – 1-year machine warranty	3-year Mitsubishi control, motors, & drive warranty





## 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 Inch per Minute Rapid Rates
- + 12,000 RPM Double-Ground "Big-Plus" Spindle
- + Spindle Chiller for Consistent Thermal Stability
- + 300-PSI Through-the-Tool Coolant System
- + Available as 4 + 1 or 5 Axis simultaneous



## Axis Travel

X-Travel	34.64" 880mm
Y-Travel	32.62" 600mm
Z-Travel	25.59" 650mm
Spindle Nose to Table Surface	4.72" – 18.89", 120 – 480mm
Spindle Center to Z-axis way covers	22.44" 570mm (throat dimension)

## Rotary Table

Platter Diameter	Ø 12.6" Ø 320mm
Center Bore Diameter	Ø 50 H7
T-slot width / Number	12 H7 / 4, Hardened & ground table & T-slots
Guide block width	18mm
Maximum Work-Table Load	220 lbs 100kgs
Maximum Part Swing	Ø16.3" Ø 414mm

## Spindle

Spindle Motor - S1/S2/S3 =11/15/18.5kw	25-Horsepower Peak, 20-HP 30-minute duty-rating
Spindle Speed – Mitsubishi Inline Direct-Drive	12,000rpm (15,000rpm optional)
Spindle Torque	90 ft-lb @ 1,500 rpm
Tool Type	CAT #40 Taper BT #40 optional
Retention Knob (Pull Stud)	C40-4502H coolant C40-4502S solid
Spindle Runout	≤0.000040 T.I.R.
Spindle Bearings - Front	110mm NSK 70BNR, 2 - P4 class-7 bearings
Spindle Bearings - Rear	110mm NSK 70BNR, 2 - P4 class-7 bearings
Retention System/Holding Capability	Bellville Spring Stack, 1650-1760 lbs
Retention Knob Specification	#40 Japanese standard, JMTBA double 45° head angle Ø.590"

## Axis Feeds

Accuracy X, Y, & Z Axis (JIS6338)	± 0.0002" / 12" ± 0.005mm over 300mm travel
Repeatability X, Y, & Z Axis (JIS6338)	± 0.0001" / 12" ± 0.003mm over 300mm travel
Least Input Command Increment	0.0001" / 0.000040" 0.001mm / (40-millionths in metric)
Rapid Traverse - X and Y	1,417 ipm, 36m / minute
Rapid Traverse - Z	1,260 ipm, 32m / minute
Cutting Feedrate	0.02 - 393 ipm, 10m / minute
Axis Drive Motor Power - X, Y, Z	5-HP, 3.5kw
Ballscrews - X, Y, Z	40mm ballscrews with 12mm pitch

## Tool Changer

Tool Capacity (40+1)	40 Tool Twin-Arm, Chain-Drive Storage Rack
Tool Shank	CAT#40 Taper BT#40 optional
Tool Change Time	1.7-sec. tool-to-tool
Maximum Tool Diameter / with adjacent tool	5.90" / 3.15" 150mm / 80mm
Maximum Tool Length / Weight	11.81" / 15 lbs. 300mm 7kg
Tool Selection / Tool Access	Random Access / Bi-Directional

## Specifications

Air Service Requirements	85 psi @ 14-scfm
Coolant Capacity / Pressure	97-gallons / 300 psi, 256 liters / 20-bar
Connected Load Electrical Requirements	50 Amps / 220vac ±5%, 60-Hz
Floor space requirements (W x D x H)	115" x 82" x 116" (add 48" on left side for conveyor)
Shipping dimensions (W x D x H)	169" x 92" x 96" (306x231x256cm)
Machine Weight	15,708 lbs 7,120 kgs
Warranty – 1-year machine warranty	3-year Mitsubishi control, motors, & drive warranty





## 24.01" X 15.75" 3 Axis High Speed Vertical Machining Center

- + 24 Tool High Speed Double Arm ATC
- + 1,417 Inch per Minute Rapid Rates
- + 12,000 RPM Double-Ground "Big-Plus" Spindle
- + 300-PSI Through-the-Tool Coolant System
- + Spindle Chiller for Consistent Thermal Stability
- + 2,700 Block Look-Ahead High-Speed Machining
- + 4th & 5th Axis Wiring



12,000RMP Direct Drive Spindle



**Axis Travel**

X-Travel	24.01" 610mm
Y-Travel	15.75" 400mm
Z-Travel	17.72" 450mm
Spindle Nose to Table Surface	5.11" – 22.83" 130 – 580mm
Spindle Center to Z-axis way covers	15.35" 390mm (throat dimension)

**Table**

Table Size (LxW)	25.59" x 15.75" 650mm X 400mm
T-slot width (3 T-slots total)	18 mm on 100mm centers
Max. Table Load	882 lbs. 400 kgs load

**Spindle**

Spindle Motor - S1/S2/S3=5.5/7.5/11kW	15-HP S3 Power, 10-HP 30-min duty rating
Spindle Speed – Mitsubishi Inline Direct-Drive	12,000rpm (15,000rpm optional)
Tool Type	CAT #40 Taper BT #40 optional
Spindle Taper Material / Hardness	SCM415 / HRC 58-62
Retention System / Holding Capability	Bellville Spring Stack 1650-1760 lbs
Spindle Runout	≤ 0.000040" T.I.R
Spindle Bearings - Front	95mm NSK 70BNR P4 class-7 bearings x2
Spindle Bearings - Rear	95mm NSK 70BNR P4 class-7 bearings x2
Retention Knob (pull stud)	C40-4502H (coolant), Japanese Standard

**Axis Feeds**

Accuracy X, Y, & Z axis (JIS6338)	± 0.0002" / 12" ± 0.005mm over 300mm travel
Repeatability X, Y, & Z axis (JIS6338)	± 0.0001" / 12" ± 0.003mm over 300mm travel
Least Input Command Increment	0.0001" / 0.000040" 0.001mm / (40-millionths in metric)
Rapid Traverse – X, Y / Z	1,417 / 1260 ipm 36m / 32m minute
Cutting Feedrate	0.02 - 393 ipm 10m / minute
Axis Drive Motor Power – X, Y	2.7-HP (2.0kw)
Axis Drive Motor Power - Z	3.35-HP (2.5kw)
Ballscrews – X, Y, Z	32mm ballscrews 12mm pitch
Linear Ways – X / Y / Z	30 / 35 / 35 mm Premium Cross-Roller

**Tool Changer**

Tool Capacity (24+1)	24-Tool Twin-Arm Hi-Speed Tool Changer
Tool Shank	CAT#40 Taper BT#40 optional
Tool Change Time	1.7-sec. tool-to-tool
Maximum Tool Diameter / w/adjacent tool	5.90" / 3.15" 150mm / 80mm
Maximum Tool Length (from gage line)	11.81" 300mm
Maximum Tool Weight	15 lbs. 7kg
Tool Selection / Tool Access	Random access Bi-directional shortest path

**Specifications**

Air Service Requirements	85 psi @ 14-scfm
Connected Load Electrical Requirements	50 Amp Service / 220vac ±5%, 60-Hz
Coolant Capacity	68-gallons, 256 liters
Floor space requirements (W x D x H)	87" x 73" x 113", 218x186x288cm (add 44" for conveyor)
Shipping dimensions (W x D x H)	97" x 91" x 101", 246x229x256cm
Machine Weight	9.923 pounds, 4,500 kg
Warranty – 1-year machine warranty	3-year Mitsubishi control, motors, & drive warranty



**27.95" X 17.71" 3 Axis High Speed Vertical Machining Center**

- + 24 Tool High Speed Double Arm ATC
- + 1,417 Inch per Minute Rapid Rates
- + 12,000 RPM Double-Ground "Big-Plus" Spindle
- + Spindle Chiller for Consistent Thermal Stability
- + 300-PSI Through-the-Tool Coolant System
- + 2,700 Block Look-Ahead High-Speed Machining
- + 4th & 5th Axis Wiring





**Axis Travel**

X-Travel	27.95" 710mm
Y-Travel	17.716" 450mm
Z-Travel	18.11" 460mm
Spindle Nose to Table Surface	5.11" -23.62" 150 – 600mm
Spindle Center to Z-axis way covers	17.71" 450mm (throat dimension)

**Table**

Table Size (LxW)	29.92" x 16.53" 760mm X 420mm
T-slot width (3 T-slots total)	18 mm on 100mm centers
Max. Table Load	2,205 lbs. 1000 kgs load for full accuracy

**Spindle**

Spindle Motor - S1/S2/S3=7.5/11/15kw	20-HP S3 power, (15-HP 30-min. duty rated)
Spindle Speed – Mitsubishi Inline Direct-Drive	12,000rpm (15,000rpm optional)
Spindle Torque	50 ft-lb @ 1,500 rpm
Tool Type	CAT #40 Taper BT #40 optional
Spindle Taper Material / Hardness	SCM415 / HRC 58-62
Retention System / Holding Capability	Bellville Spring Stack 1650-1760 lbs
Spindle Runout	≤ 0.000040" T.I.R
Spindle Bearings - Front	95mm NSK 70BNR P4 class-7 bearings
Spindle Bearings - Rear	95mm NSK 70BNR P4 class-7 bearings
Retention Knob (pull stud)	C40-4502H (coolant), Japanese Standard

**Axis Feeds**

Accuracy X, Y, & Z axis (JIS6338)	± 0.0002" / 12" ± 0.005mm over 300mm travel
Repeatability X, Y, & Z axis (JIS6338)	± 0.0001" / 12" ± 0.003mm over 300mm travel
Least Input Command Increment	0.0001" / 0.000040" 0.001mm / (40-millionths in metric)
Rapid Traverse – X, Y / Z	1,417 / 1260 ipm 36m / minute
Cutting Feedrate	0.02 - 393 ipm 10m / minute
Axis Drive Motor Power – X, Y	2.7-HP, 2.0kw
Axis Drive Motor Power - Z	4.0-HP, 3.0kw
Ballscrews – X, Y, Z	32mm ballscrews, 12mm pitch

**Tool Changer**

Tool Capacity (24+1)	24-Tool Twin-Arm Hi-Speed Tool Changer
Tool Shank	CAT#40 Taper BT#40 optional
Tool Change Time	1.7-sec. tool-to-tool
Maximum Tool Diameter / w/adjacent tool	5.90" / 3.15" 150mm / 80mm
Maximum Tool Length (from gage line)	11.81" 300mm
Maximum Tool Weight	15 lbs. 7kg
Tool Selection / Tool Access	Random access Bi-directional shortest path

**Specifications**

Air Service Requirements	85 psi @ 14-scfm
Connected Load Electrical Requirements	50 Amp Service / 220vac ±5%, 60-Hz
Coolant Capacity / Pressure	68-gallons / 300 psi 256 liters / 20-bar
Floor space requirements (W x D x H)	86" x 81" x 113", 221x206x288cm (add 45" for conveyor)
Shipping dimensions (W x D x H)	97" x 91" x 101", 246x229x256cm
Machine Weight	10,582 pounds 4,800 kg
Warranty – 1-year machine warranty	3-year Mitsubishi control, motors, & drive warranty



**40.55" X 23.62" 3 Axis High Speed Vertical Machining Center**

- + 30 Tool High Speed Double Arm ATC
- + 1,417 Inch per Minute Rapid Rates
- + 12,000 RPM Double-Ground "Big-Plus" Spindle
- + Spindle Chiller for Consistent Thermal Stability
- + 300-PSI Through-the-Tool Coolant System
- + 2,700 Block Look-Ahead High-Speed Machining
- + 4th & 5th Axis Wiring





**Axis Travel**

X-Travel	40.55" 1,030mm
Y-Travel	23.62" 600mm
Z-Travel	25.59" 650mm
Spindle Nose to Rotary Table Surface	5.1"– 30.56" 130 – 775mm
Spindle Center to Z-axis way covers	22.83" 580mm (throat dimension)

**Table**

Table Size (LxW)	45.66" x 19.68" 1,160mm X 500mm
T-slot width (5 T-slots total)	0.709" slot width 18 mm wide on 100mm centers
Max. Table Load	3,530 lbs. 1600 kgs for full accuracy

**Spindle**

Spindle Motor - S1/S2/S3=11/15/18.5kw	25-Horsepower Peak, 20-HP 30-minute duty-rating spindle
Spindle Speed – Inline Direct-Drive	12,000rpm (15,000rpm optional)
Spindle Torque	90 ft-lb @ 1,500 rpm
Tool Type	CAT #40 Taper, BT #40 optional
Spindle Taper Material / Hardness	SCM415 / HRC 58-62
Retention System / Holding Capability	Bellville Spring Stack 1650-1760 lbs
Spindle Runout	≤ 0.000040" T.I.R
Spindle Bearings - Front	110mm NSK 70BNR 2-P4 class-7 bearings
Spindle Bearings - Rear	110mm NSK 70BNR 2-P4 class-7 bearings
Retention Knob (pull stud)	C40-4502H (coolant) Japanese Standard

**Axis Feeds**

Accuracy X, Y, & Z axis (JIS6338)	± 0.0002" / 12" ± 0.005mm over 300mm travel
Repeatability X, Y, & Z axis (JIS6338)	± 0.0001" / 12" ± 0.003mm over 300mm travel
Least Input Command Increment	0.0001" / 0.000040" 0.001mm / (40-millionths in metric)
Rapid Traverse – X, Y	1,417 ipm 36m/minute
Rapid Traverse – Z	1,260 ipm 32m/minute
Cutting Feedrate	0.02 - 393 ipm 10m/minute
Axis Drive Motor Power – X, Y	5-HP, 3.5kw
Axis Drive Motor Power - Z	5-HP, 3.5kw
Ballscrews – X, Y, Z	40mm ballscrews 12mm pitch

**Tool Changer**

Tool Capacity (30+1)	30-Tool Twin-Arm
Tool Shank	CAT#40 Taper BT#40 optional
Tool Change Time	1.7-sec. tool-to-tool
Maximum Tool Diameter / w/adjacent tool	5.90" / 3.15" 150mm / 80mm
Maximum Tool Length/Weight	11.81"/15 lbs. 300mm/7kg
Tool Selection / Tool Access	Random access Bi-directional shortest path

**Specifications**

Air Service Requirements	85 psi @ 14-scfm
Coolant Capacity / Pressure	97-gallons / 300 psi 256 liters / 20-bar
Connected load electrical requirement	50 Amps / 220vac ±5%, 60-Hz
Floor space requirements (W x D x H)	115" x 82" x 116" (add 48" on left side for conveyor)
Shipping dimensions (W x D x H)	121" x 92" x 121", 306x231x256cm
Machine Weight	15,708 pounds 7,120 kg
Warranty – 1-year machine warranty	3-year Mitsubishi control, motors, & drive warranty

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**5127**

## 51.27" X 27.56" 3 Axis High Speed Vertical Machining Center

- + 30 Tool High Speed Double Arm ATC
- + Spindle Chiller for Consistent Thermal Stability
- + 12,000 RPM Double-Ground "Big-Plus" Spindle
- + 300-PSI Through-the-Tool Coolant System
- + 2,700 Block Look-Ahead High-Speed Machining
- + 4th & 5th Axis Wiring
- + Y-Axis Supported with 4-Ways





**Axis Travel**

X-Travel	51.27" 1,300mm
Y-Travel (4-Linear cross ways)	27.56" 700mm
Z-Travel	25.59" 650mm
Spindle Nose to Table Surface	5.9" – 31.5" 150 – 800mm
Spindle Center to Z-axis way covers	28.96" 735 mm (throat dimension)

**Table**

Table Size (LxW)	57.98 x 27.56" 1,450mm X 700mm
T-slots (5 T-Slots)	0.709" slot width 18 mm on 100mm centers
Max. Table Load	4,850 lbs. 2200 kgs load

**Spindle**

Spindle Motor - S1/S2/S3=15/18.5/26kw	35-HP S3 Power, 25-HP 30-minute duty-rating
Spindle Speed – Inline Direct-Drive	12,000rpm
Spindle Torque	90 ft-lb @ 1,500 rpm
Tool Type	CAT #40 Taper (BT #40 optional)
Spindle Taper Material / Hardness	HRC 58-62 SCM 415
Spindle Orientation	By sensor
Spindle Runout	≤ 0.000040 T.I.R.
Spindle Bearings - Front	110mm NSK 70BNR 10 x 2, P4 class-7 bearings
Spindle Bearings - Rear	110mm NSK 70BNR 10 x 2, P4 class-7 bearings
Retention System / Holding Capability	Bellville Spring Stack 1650-1760 lbs
Retention Knob (pull stud)	C40-4502H (coolant) Japanese Standard

**Axis Feeds**

Accuracy X, Y, & Z axis (JIS6338)	± 0.0002" / 12" ± 0.005mm over 300mm travel
Repeatability X, Y, & Z axis (JIS6338)	± 0.0001" / 12" ± 0.003mm over 300mm travel
Least Input Command Increment	0.0001" / 0.000040" 0.001mm / (40-millionths in metric)
Rapid Traverse X and Y / Motor HP	984 ipm / 6-HP, 25m / minute / 4.5kw
Rapid Traverse Z / Motor HP	984 ipm / 6-HP, 25m / minute / 4.5kw
Ballscrews – X, Y, Z	X, Y= 50mm ballscrews 10mm pitch, (Z=40mm)
Cutting Feedrate	0.04 – 393 ipm

**Tool Changer**

Tool Capacity (30+1)	30 Tool Twin-Arm
Tool Shank	CAT#40 Taper
Tool Change Time (average)	3.7-seconds tool-to-tool
Maximum Tool Diameter / w/adjacent tool	5.90" / 3.15" 150mm / 80mm
Maximum Tool Length	11.81" 300mm
Maximum Tool Weight	15 lbs. 7kg
Tool Selection / Tool Access	Random access Bi-directional

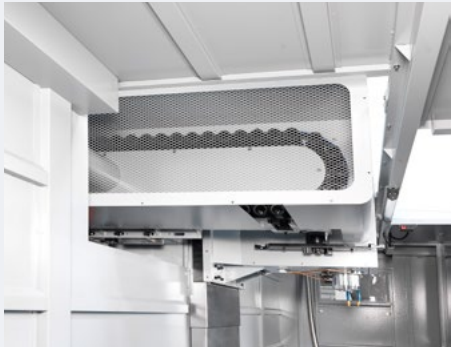
**Specifications**

Air Service Requirements	85 psi @ 14-scfm
Coolant Capacity / Pressure	134 gallons / 300 PSI 510 liters
Connected Load Electrical Capacity	75 Amps / 220vac ±5%, 60-Hz
Floor space requirements (L x W x H)	146" x 130" x 119" 370x330x260cm (+ 48" for conveyor)
Shipping dimensions (L x W x H)	126" x 92" x 101" 318x231x256cm
Machine Weight	19,841 pounds 9,000 kg
Warranty – 1-year machine warranty	3-year Mitsubishi control, motors, & drive warranty



**63.1" X 27.56" 3 Axis High Speed Vertical Machining Center**

- + 40 Tool High Speed Double Arm ATC
- + Spindle Chiller for Consistent Thermal Stability
- + 12,000 RPM Double-Ground "Big-Plus" Spindle
- + 300-PSI Through-the-Tool Coolant System
- + 2,700 Block Look-Ahead High-Speed Machining
- + 4th & 5th Axis Wiring
- + Y-Axis Supported with 4-Ways





**Axis Travel**

X-Axis Travel (6 cross-roller trucks)	63" 1,600mm
Y-Axis Travel (4 cross-roller ways w/8 trucks)	27.56" 700mm
Z-Axis Travel	27.56" 700mm
Spindle Nose to Rotary Surface	5.9" – 31.5" 150 – 800mm
Spindle Center to Z-Axis covers	28.74" 730mm (throat dimension)

**Table**

Table Size (LxW)	68.9 x 27.56" 1,750mm X 700mm
T-slots (5 T-Slots)	0.709" slot width 18 mm on 100mm centers
Max. Table Load	3,307lbs. 1500 kg load for full accuracy

**Spindle**

Spindle Motor - S1/S2/S3=22/26/30kw	25-HP 30-min rating 20-HP constant duty rating
Spindle Speed – Inline Direct-Drive	12,000rpm (15,000 & 20,000 rpm optional)
Spindle Torque	90 ft-lb @ 1,500 rpm
Tool Type	CAT #40 Taper (CAT#50, BT#40/50 optional)
Spindle Taper Material / Hardness	HRC 58-62 SCM415
Spindle Runout	≤ 0.000040 T.I.R.
Spindle Bearings - Front	110mm NSK 70BNR 2, P4 class 7 bearings
Spindle Bearings - Rear	110mm NSK 70BNR 10 x 2, P4 class-7 bearings Retention System
Holding Capability	Bellville Spring Stack 1650-1760 lbs
Retention Knob (pull stud)	#40 Japanese standard, JMTBA double 45° head angle Ø.590"

**Axis Feeds**

Accuracy X, Y, & Z axis (JIS6338)	± 0.0002" / 12" ± 0.005mm over 300mm travel
Repeatability X, Y, & Z axis (JIS6338)	± 0.0001" / 12" ± 0.003mm over 300mm travel Least
Least Input Command Increment	0.0001" / 0.000040" 0.001mm / (40-millionths in metric)
Rapid Traverse X and Y	944 ipm 24m/minute
Rapid Traverse Z	944 ipm 24m/minute
Ballscrews – X, Y, Z	X, Y=50mm ballscrews 10mm pitch (Z=40mm)
Cutting Feedrate	0.04 – 393 ipm
Maximum Thrust Force	4,408 lbs. 2,000 kg
Constant Thrust Force	2,204 lbs. 1,000 kg

**Tool Changer**

Tool Capacity (40+1)	40 Tool Twin-Arm
Tool Shank	CAT#40 Taper (CAT#50, BT#40/50 optional)
Tool Change Time (average)	1.7 seconds tool to tool
Maximum Tool Diameter / w/adjacent tool	5.90" / 3.15" 150mm / 80mm
Maximum Tool Length	11.81" 300mm
Maximum Tool Weight	15 lbs. 7kg
Tool Selection / Tool Access	Random access Bi-directional

**Specifications**

Air Service Requirements	85 psi @ 14-scfm
Coolant Capacity / Pressure	148 gallons / 560 liters
Connected Load Electrical Requirements	75 Amps / 220vac ±5%, 60-Hz
Floor space requirements (L x W x H)	185" x 130" x 120" 470x330x260cm (add 48" for chip conveyor)
Shipping dimensions (L x W x H)	219" x 92" x 104" 558x232x256cm
Machine Weight	26,455 pounds 12,000 kg
Warranty – 1-year machine warranty	3-year Mitsubishi control, motors, & drive warranty



## 70.86" X 39.37" 3 Axis High Speed Vertical Machining Center

- + 40 Tool High Speed Double Arm ATC
- + Spindle Chiller for Consistent Thermal Stability
- + 12,000 RPM Double-Ground "Big-Plus" Spindle
- + 300-PSI Through-the-Tool Coolant System
- + 2,700 Block Look-Ahead High-Speed Machining
- + 4th & 5th Axis Wiring
- + Y-Axis Supported with 4-Ways





**Axis Travel**

X-Travel	70.86" 1,800mm
Y-Travel	39.37" 1000mm
Z-Travel	35.43" 900mm
Spindle Nose to Table Surface	9.8"– 45.27" 250 – 1150mm
Spindle Center to Z-Axis way covers	41.53" 1055mm (throat dimension)

**Table**

Table Size (LxW)	76.77" x 35.43" 1,950mm X 900mm
T-slots (5 T-Slots)	22mm slot width on 160mm centers
Max. Table Load	6,600 lbs. 3000 kgs load for full accuracy

**Spindle**

Spindle Motor – S1/S2=22/26 kW	50-Horsepower Peak, 35-HP 30-minute duty-rating
Spindle Speed	12,000rpm (15,000 optional)
Tool Type	CAT #40 Taper (CAT/BT #40 & #50 taper optional)
Spindle Taper Material / Hardness	SCM415 / HRC58-62
Retention System / Holding Capability	Bellville Spring Stack, 1650-1760 lbs
Spindle Runout	0.000040 T.I.R.
Spindle Bearings - Front	110mm NSK 70BNR 10 x 2, P4 class-7 bearings
Spindle Bearings - Rear	110mm NSK 70BNR 10 x 2, P4 class-7 bearings
Retention Knob (pull stud)	C40-4502H (coolant) Japanese Standard

**Axis Feeds**

Accuracy X, Y, & Z axis (JIS6338)	± 0.0002" / 12" ± 0.005mm over 300mm travel
Repeatability X, Y, & Z axis (JIS6338)	± 0.0001" / 12" ± 0.003mm over 300mm travel
Least Input Command Increment	0.0001" / 0.000040" 0.001mm / (40-millionths in metric)
Rapid Traverse Z and Y	590 ipm 15m/minute
Rapid Traverse Z	472 ipm 12m/minute
Ballscrews – X, Y, Z	63mm ballscrews 10mm pitch
Cutting Feedrate	0.02 - 393 ipm 10m/minute
Axis Drive Motor Power – Z, Y	9.4-HP 7kw
Axis Drive Motor Power - Z	9.4-HP 7kw w/brake

**Tool Changer**

Tool Capacity (40+1)	40 Tool Twin-Arm, Chain-Drive
Tool Shank	CAT#40 Taper (CAT#50, BT#40/50 optional)
Tool Change Time	4.3-second tool-to-tool
Maximum Tool Diameter w/ adjacent tool	5.90" / 3.15" 150mm / 80mm
Maximum Tool Length	11.81" 300mm
Maximum Tool Weight	15lbs / 7kg
Tool Selection / Tool Access	Random access / Bi-directional

**Specifications**

Air Service Requirements	85 psi @ 14-scfm
Coolant Capacity	172 gallons / 650 liters
Connected Load Electrical Requirement	100amps / 220vac ±5% 60-Hz
Floor Space Requirements	193" x 131" x 142" 490x332x360cm (add 47" for conveyor)
Shipping dimensions (L x W x H)	217" x 146" x 150" 550x370x380cm
Machine Weight	44,092 pounds 20,000 kg
Warranty – 1-year machine warranty	3-year Mitsubishi control, motors, & drive warranty



GEN MILL

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## 98.42" X 39.37" 3 Axis High Speed Vertical Machining Center

- + 40 Tool High Speed Double Arm ATC
- + Spindle Chiller for Consistent Thermal Stability
- + 12,000 RPM Double-Ground "Big-Plus" Spindle
- + 300-PSI Through-the-Tool Coolant System
- + 2,700 Block Look-Ahead High-Speed Machining
- + 4th & 5th Axis Wiring
- + Y-Axis Supported with 4-Ways





**Axis Travel**

X-Travel	98.425" 2,500mm
Y-Travel	39.37" 1000mm
Z-Travel	35.43" (39.37" opt.) 900mm (1000mm opt.)
Spindle Nose to Table Surface	9.8"– 45.27" 250 – 1150mm
Spindle Center to Z-axis way covers	41.53" 1055mm (throat dimension)

**Table**

Table Size (LxW)	98.42" x 39.37" 2,500mm X 1000mm
T-slots (5 T-Slots)	22mm slot width on 1260mm centers
Max. Table Load	7,700 lbs. 3500 kgs load

**Spindle**

Spindle Motor – S1/S2=22/26 kW	50-Horsepower Peak, 35-HP 30-minute duty-rating
Spindle Speed	12,000rpm (15,000 optional)
Tool Type	CAT #40 Taper (CAT/BT #40 & #50 taper optional)
Spindle Taper Material / Hardness	SCM415 / HRC58-62
Retention System / Holding Capability	Bellville Spring Stack, 1650-1760 lbs
Spindle Runout	0.000040 T.I.R.
Spindle Bearings - Front	110mm NSK 70BNR 10 x 2, P4 class-7 bearings
Spindle Bearings - Rear	110mm NSK 70BNR 10 x 2, P4 class-7 bearings
Retention Knob (pull stud)	C40-4502H (coolant) Japanese Standard

**Axis Feeds**

Accuracy X, Y, & Z axis (JIS6338)	± 0.0002" / 12" ± 0.005mm over 300mm travel
Repeatability X, Y, & Z axis (JIS6338)	± 0.0001" / 12" ± 0.003mm over 300mm travel
Least Input Command Increment	0.0001" / 0.000040" 0.001mm / (40-millionths in metric)
Rapid Traverse – Z, Y	472 ipm 12m/minute
Rapid Traverse Z	393 ipm 10m/minute
Ballscrews – X, Y, Z	63mm ballscrews 10mm pitch
Cutting Feedrate	0.02 - 393 ipm 10m/minute
Axis Drive Motor Power – Z, Y	10-HP 7kw
Axis Drive Motor Power - Z	10-HP 7kw w/brake

**Tool Changer**

Tool Capacity (40+1)	40 Tool Twin-Arm Chain-Drive
Tool Shank	CAT#50 Taper (CAT#40, BT#40/50 optional)
Tool Change Time	4.3-second tool-to-tool
Maximum Tool Diameter w/ adjacent tool	5.90" / 3.15" 150mm / 80mm
Maximum Tool Length	11.81" 300mm
Maximum Tool Weight	15lbs / 7kg
Tool Selection / Tool Access	Random access / Bi-directional

**Specifications**

Air Service Requirements	85 psi @ 14-scfm
Coolant Capacity	172 gallons / 650 liters
Connected Load Electrical Requirement	100 Amps / 220vac ±5%, 60-Hz
Floor space Requirements	237" x 146" x 142" 600x370x360cm (add 52" for conveyor)
Shipping dimensions (L x W x H)	248" x 154" x 150" 630x390x380cm
Machine Weight	66,138 pounds 30,000 kg
Warranty – 1-year machine warranty	3-year Mitsubishi control, motors, & drive warranty