

# MM – Linear Rail Toolroom Bed Mill

Effective June 1, 2011



## MM18

Spindle Taper / RPM / Diameter	40 / 8000 / 60 mm	
Spindle Horsepower 1 minute / 30 minute	12 / 10 HP 9 / 7.5 kw	
Travel (XYZ")	30 x 18 x 18"	
<b>STANDARD ACCESSORIES</b>		
<ul style="list-style-type: none"> <li>• Two Year Parts Warranty</li> <li>• Heavily Ribbed Cast Iron Construction</li> <li>• 35 mm Linear Rails <i>Not inverted</i></li> <li>• Precision Ground Double Anchored Ball Screws</li> <li>• Precision Ground Table Surface</li> <li>• Metal Way Covers</li> <li>• Automatic Metered Lubrication with Low Lube Fault</li> <li>• High Torque AC Digital Servo Drives</li> <li>• High Torque Closed Loop Vector Spindle Drive System</li> <li>• #40, 8000 RPM Air Purged 60 mm Spindle</li> <li>• Work Lamp</li> <li>• Front Panel Mounted Electronic Handwheel &amp; Handwheel Controlled Program Execution</li> <li>• LCD Hour Meter</li> <li>• Auto DXF File Import</li> <li>• Spindle Taper Blow-out and Tool Release Push Button</li> <li>• Programming &amp; Machine Manuals in Electronic Format</li> <li>• Single Spare "M" Function with CNC "Wait" Channel</li> </ul>	<ul style="list-style-type: none"> <li>• PC-based 7200 CNC includes 12 MB Parts Storage Memory</li> <li>• 12" LCD Active Matrix Color Display</li> <li>• Conversational plus G &amp; M Code Programming including Coordinate Rotating, Scaling, Mirror Image, Thread Mill Engraving, Helical Interpolation, Auto Routines, &amp; User definable Macros with Trig Assist, &amp; Irregular Pocket Clearing</li> <li>• 3-D Part and Wire Frame Tool Path Graphics on Series 7200 Plus Solid Modeling Graphics on Series 8200</li> <li>• 3.5" Floppy Drive / RS-232 with DNC Buffer (7200 CNC Only)</li> <li>• High Speed Processor 1200 block/sec</li> <li>• Optional Four &amp; Five Axis Simultaneous Interpolation Software &amp; Interface</li> <li>• Large Program Management Software (Allows Editing of 10 MB Files)</li> <li>• High Torque AC Digital Servo Drives</li> <li>• High Torque Closed Loop Vector Spindle Drive System</li> <li>• All Axes Laser Calibrated and Ballbar Inspected</li> <li>• Spindle Load Meter</li> </ul>	
<b>CONVENIENCE PACKAGE</b>		
Programmable On/Off Flood Coolant System		
Rear Splash Guards		
Coolant Drip Pan		
Table Chip Guard		
Rigid Tap		
Networking Option Includes 30 Days Phone Support		
Edit Key Lockout Switch		
Offline FastCAM Software for Programming & Training		
<i>Items may be purchased separately</i>		
<b>8200 CONTROL PACKAGE – Purchase as a Complete Package Only and Includes all the following:</b>		
<ul style="list-style-type: none"> <li>• Solid State Non-Volatile Memory Upgrade to 1 GB</li> <li>• Enhanced CPU Increases Block Processing Speed from 1200 to 2000 bps</li> <li>• Solid Model Graphics Functionality</li> <li>• USB Connectivity in lieu of 3.5" Floppy Disk Drive</li> <li>• High Speed Performance with Enhanced Jerk Control and Look Ahead</li> <li>• MT Connect Compliant</li> </ul>		
<i>3.5" Floppy Drive is replaced by USB. Do not combine with 256 MB Program Storage and Multi Format Flash Card Reader from other accessories. FastCAM Software replaced with 8200 Software. RS-232 Data transfer not available on 8200 control.</i>		
<b>OTHER ACCESSORIES</b>		
Upgrade to Solid State Non-Volatile Memory 256 MB Flash Card – 7200 Controls only		Optional
Multi Format Flash Card Reader – 7200 Controls only		Optional
Specify Spindle type	CT40	Standard
	BT40 or DIN69871	Optional

<b>OTHER ACCESSORIES - Continued</b>		
16 Pocket Carousel Type ATC with Electronic Orient		Optional
CE Table Chip Guard <i>Requires purchase of Convenience Pkg</i>		Optional
End of Cycle Light		Optional
Spray Mist Programmable On/Off		Optional
Off-line FastCAM Software for Programming and Training		Optional
Rotary Tables ( <i>Includes 4<sup>th</sup> axis amp &amp; motor</i> )	6.5" (165 mm)	Optional
	9.0" (228 mm)	Optional
	5C Collet Table	Optional
Tail Stock for Rotary Tables	6.5"	Optional
	9.0"	Optional
4 <sup>th</sup> Axis Servo Amplifier & Motor (Electrics only 0.9 kw motor, larger tables may require a larger motor) – Contact factory for 5 axes <i>Included with Rotary Table Accessory</i>		Optional
<i>Milltronics will charge an engineering fee to interface a customer provided rotary table with the electrics only package. Charge will depend on table and engineering requirements</i>		
Spare "M" Functions - Block of 4 <i>Maximum 2 Blocks</i>		Optional
Dual Electronic Handwheels		Optional
Remote Handwheel Unit		Optional
Contact Tool Offset Probing with Macros		Optional
Work Offset Probing with Macros		Optional
Combo Pack – Contact & Work Tool Offset Probing with Macros		Optional
Laser Tool Setter with Macros		Optional
<i>Digiscan Digitizing 3-D Software, Probe &amp; Manual - Not available with 8200 Control Package</i>		Optional
RS-232 Cable, 50' 15 Meters		Optional
Printed Programming Manual (Electronic Format Standard)		Optional
Printed Machine Manual (Electronic Format Standard)		Optional
Power Requirements 208-240 VAC, 50 – 60 hz, 3Ø		Standard
Optional Voltage 208-240 VAC, 50 – 60 hz, 1Ø <i>May reduce spindle power by up to 20%</i>	Without ATC	Optional
	With ATC	Optional
380-480 Transformer (Reduces Voltage to 208-240) – 20 kVA <i>Factory recommended sizes. Consult local electrical codes for proper transformer sizing.</i>		Optional
CE Code <i>Required for European Union countries</i>		Optional
Export Handling Fee		Consult Factory
Crating Charge		Consult Factory
UL/CUL Compliant		Optional
Two Year Parts Warranty <i>See Note</i>		Standard
Factory Start-up and Training On Site, U.S. only		Optional
Training at Milltronics <i>Includes lunches, training, materials and manual</i>		Optional
<p><i>Terms within USA: Cash or terms with approved credit; down payment due with order. Terms outside USA: Cash or approved Letter of Credit FCA Waconia, Minnesota USA; Prices do not include taxes, duties, transportation, insurance, rigging or start-up.</i></p> <p><i>Milltronics reserves the right to amend or change without notice without incurring obligation; not responsible for typographical errors.</i></p> <p><i>Consult Written Warranty Statement for Details of Two Year Parts Warranty</i></p> <p><i>All sales of equipment, parts, software and service are subject to Milltronics' Standard Terms and Conditions of Sale.</i></p>		

# MM – Linear Rail Toolroom Bed Mill Specifications



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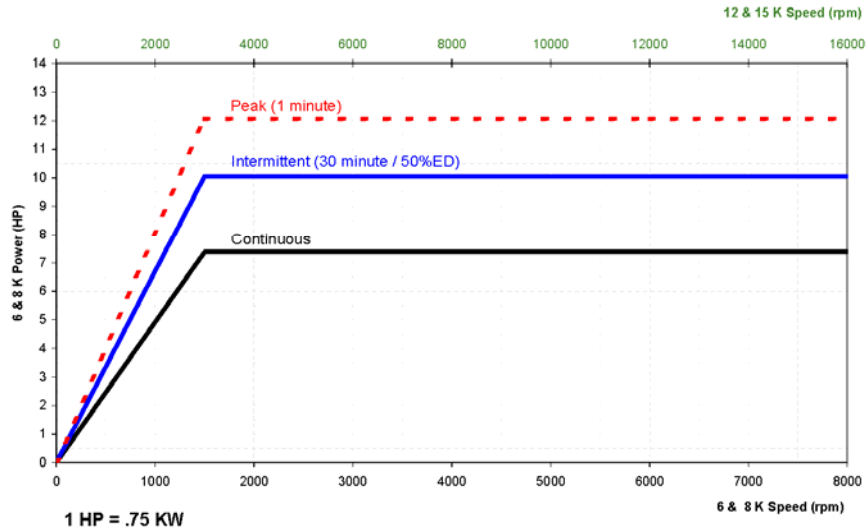
## MM18

Standard Control Type	Milltronics 7200 CNC
Optional Control Type	Milltronics 8200 CNC
Software	CNC
Number of Axes	3 (opt 4)
Spindle RPM	CNC Auto Prog. RPM
Functions <i>Automatic</i>	Spindle Start/Stop, Mist, Flood, RPM
<b>CAPACITY</b>	
Standard Table Size	35" x 16" <i>890 x 405 mm</i>
Table Travel <i>X Axis</i>	30" <i>760 mm</i>
Saddle Travel <i>Y Axis</i>	18" <i>460 mm</i>
Head Travel <i>Z Axis</i>	18" <i>460 mm</i>
Throat Distance <i>Spindle to Column</i>	18" <i>460 mm</i>
Spindle to Table Top	4 - 22" <i>100 - 560 mm</i>
Maximum Table Load	1000 lbs <i>450 kg</i>
Machine Weight	7000 lbs <i>3180 kg</i>
T Slots	(4) .63" <i>16 mm</i>
Saddle Width	56" <i>1420 mm</i>
Ball Screw Size: <i>X,Y,Z Axis</i>	32 mm
Ball Screw Grade	C5
Ball Screw Pitch <i>X,Y,Z</i>	8 mm
<b>SPINDLE #40</b>	
Spindle Cartridge Assembly with Three Bearings	60 mm
Spindle Horsepower <i>1 minute / 30 minutes</i>	12/10 HP <i>9/7.5 kw</i>
Reference Torque Chart:	12/10/1/B/Y
Standard Spindle RPM	50 - 8000
<b>PERFORMANCE</b>	
Servo Type	AC
Rapid Traverse	X,Y: 500 ipm <i>12 mpm</i> Z: 300 ipm <i>7.6 mpm</i>
Feedrate Range	300 ipm <i>7620 mmpm</i>
Position Accuracy <i>See note</i>	±0.0003" <i>0.0076 mm</i>
Repeatability <i>See note</i>	0.0002" <i>0.005 mm</i>
Resolution	.00004" <i>.001 mm</i>
Thrust, Machine Duty Rating	X, Y: 800 lb <i>360 kg</i> Z: 1600 lb <i>720 kg</i>
<b>OPTIONAL AUTOMATIC TOOL CHANGER</b>	
16 Pocket Automatic Carousel Tool Changer	Optional
Maximum Diameter / Length / Weight	4" / 11" / 10 lb <i>100mm/280mm/4.5kg</i>
Max. Length With Table Guard	8" <i>200 mm</i>
Tool Change Time	7 Sec.
<b>MISCELLANEOUS</b>	
1/4 HP Flood Pump Capacity <i>Optional in Convenience Package</i>	10 Gal. <i>40 L</i>
Drawbar Air Pressure Required	100 psi <i>6.8 bar</i>
Power Requirements 208-240 VAC, 50 – 60 hz, 3Ø	50 amps 19 kVA
Power 380-480 VAC, 50 – 60 hz, 3Ø	Requires Transformer
Floor Space Requirement	110" x 78" <i>2800 x 1980 mm</i>
Warranty	Parts: 2 Year (or 4200 hours, whichever occurs first) on all normal failures. Service: 1 Year (or 2100 hours, whichever occurs first) from distributor.
<p><i>Measurements performed with Renishaw laser and ballbar systems. Measurements are linear over entire travel.</i></p> <p><i>Temperature changes and table loads may affect tolerances. Tolerances are guaranteed over 10" sq. area.</i></p> <p><i>Centurion features covered under separate literature. For machine duty rating, see "Truth in Specifications" on <a href="http://www.milltronics.net">www.milltronics.net</a>.</i></p> <p><i>Milltronics reserves the right to change specifications at any time without incurring obligation.</i></p>	

## Yaskawa Torque Chart 12/10/1/B/Y – Inline Spindle

Used on: Standard MM18  
Optional N/A

Power Characteristics of 12/10 HP Single Winding Motor  
for 6,000 and 8,000 RPM or 12,000 and 15,000 RPM



Torque Characteristics of 12/10 HP Single Winding Motor  
for 6,000 and 8,000 RPM or 12,000 and 15,000 RPM

