

BR – Bridge Mill

Effective June 1, 2011



Machine Model	BR50	BR60	BR80
Standard Travel (XYZ")	100 x 50 x 28"	100 x 60 x 28"	100 x 80 x 28"
Extended Travel (XYZ")	150 x 50 x 28"	150 x 60 x 28"	150 x 80 x 28"
Extended Travel (XYZ")	N/A	N/A	200 x 80 x 28"
Horsepower 1 minute / 30 minutes	Single Speed 24/15 HP 18/11 kw		
Optional Horsepower 1 minute / 30 minutes	Two Speed 24/15 HP 18/11 kw		
Optional Horsepower 1 minute / 30 minutes	Two Speed 35/25 HP 26/18 kw		
MACHINE FEATURES		CONTROL FEATURES	
<ul style="list-style-type: none">• Two Year Parts Warranty• Heavy Duty 45 mm Linear Ball Way Construction with Roller Way Option• Precision Ground Double Anchored Ball Screws• #40, Five Bearing 8000 RPM Air Purged Spindle Cartridge Assembly, Optional 15,000 RPM• Metal Way Covers• Spindle Taper Blow-Out and Tool Release Push Button• Front Panel Mounted Electronic Handwheel & Handwheel Controlled Program Execution• High Torque Closed Loop Vector Spindle Drive System• Spindle Load Meter• Rigid Tap• End of Cycle Light• LCD Hour Meter• High Torque AC Digital Servo Drives• Programming & Machine Manuals in Electronic Format• Single Spare "M" Function with CNC "Wait" Channel		<ul style="list-style-type: none">• PC-based 7200 CNC includes 12 MB Parts Storage Memory• 12" LCD Active Matrix Color Display• Conversational plus G & M Code Programming including Coordinate Rotating, Scaling, Mirror Image, Thread Mill Engraving, Helical Interpolation, Auto Routines, & User definable Macros with Trig Assist, & Irregular Pocket Clearing• 3-D Part and Wire Frame Tool Path Graphics on Series 7200 Plus Solid Modeling Graphics on Series 8200• 3.5" Floppy Drive / RS-232 with DNC Buffer (7200 CNC Only)• High Speed Processor (7200 Series 1200 block/sec, 8200 Series 2000 blocks/sec)• Optional Four & Five Axis Simultaneous Interpolation Software & Interface• Auto DXF File Import• Large Program Management Software (Allows Editing of 10 MB Files)• All Axes Laser Calibrated and Ballbar Inspected• Networking Option Includes 30 days Phone Support	
PERFORMANCE PACKAGE			
Air Blast Nozzle Programmable by CNC			
Off-line FastCAM Software for Programming & Training			
Edit Key Lock-out Switch			
Bridge Mounted Work Light			
Upgrade to Two Speed 24/15 HP (18/11 kw) Wye/Delta Spindle Drive			
Tool Release Foot Switch			
Programmable Spray Mist			
<i>Items may be purchased separately</i>			
8200 CONTROL PACKAGE – Purchase as a Complete Package Only and Includes all the following:			
<ul style="list-style-type: none">• Solid State Non-Volatile Memory Upgrade to 1 GB• Enhanced CPU Increases Block Processing Speed from 1200 to 2000 bps• Solid Model Graphics Functionality• USB Connectivity in lieu of 3.5" Floppy Disk Drive• High Speed Performance with Enhanced Jerk Control and Look Ahead• MT Connect Compliant			
<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>			
PREMIER PACKAGE			
Convert 45 mm Linear Ball Ways on Y and Z axis to 45mm Roller Ways			
Convert 60 mm Spindle Cartridge to 70mm Spindle Cartridge			
<i>Items may be purchased separately</i>			

SPINDLE CONFIGURATIONS — #40				
#40 CT Type				Standard
#40 BT Type				Optional
Upgrade to 15,000 RPM Ceramic Bearing 60 mm Spindle (Consider Inline BR)				Optional
Upgrade to 15,000 RPM Ceramic Bearing 70 mm Spindle <i>Requires Purchase of 70 mm Upgrade in Premier Package (Consider Inline BR)</i>				Optional
Upgrade to Two-Speed 35/25 HP (26/18 kw) Wye/Delta Spindle Drive System <i>(Requires Purchase of Performance and Premier Package)</i>				Optional
FLOOD COOLANT SYSTEM & CHIP CONTROL ACCESSORIES				
BR50			100"	150"
Flood Coolant System w/ Through Head Cooling, Six Nozzles, Coolant Tank, Wash Down Hose and Table Trough			Optional	Optional
BR60			100"	150"
Flood Coolant System w/ Through Head Cooling, Six Nozzles, Coolant Tank, Wash Down Hose and Table Trough			Optional	Optional
Flood Coolant System w/ Through Head Cooling, Six Nozzles, Coolant Tank, Wash Down Hose and Dual Chip Auger Chip Removal System			Optional	Optional
Full Machine Enclosure – <i>Requires purchase of Flood Coolant System with Dual Chip Augers</i>			Optional	Optional
BR80			100"	150" 200"
Flood Coolant System w/ Through Head Cooling, Six Nozzles, Coolant Tank, Wash Down Hose and Table Trough			Optional	Optional Optional
Flood Coolant System w/ Through Head Cooling, Six Nozzles, Coolant Tank, Wash Down Hose and Dual Chip Auger Chip Removal System			Optional	Optional Optional
Full Machine Enclosure – <i>Requires purchase of Flood Coolant System with Dual Chip Augers</i>			Optional	Optional Optional
AUTOMATIC TOOL CHANGER				
24 Pocket Carousel ATC with Remote Tool Changer Control Panel				Optional
ROTARY TABLE ACCESSORIES				
Rotary Tables <i>Includes 4th axis amp & motor; Application may require riser</i>	6.5" (165 mm)	Optional	9.0" (228 mm)	Optional
	10.0" (254 mm)	Optional	5C Collet Table	Optional
Rotary Table Tail Stock	6.5" (165 mm)	Optional	9.0" (228 mm)	Optional
4 th 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>			10.0" (254 mm)	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>				
OTHER ACCESSORIES				
Upgrade to Solid State Non-Volatile Memory 256 MB Flash Card – 7200 Controls only				Optional
Multi Format Flash Card Reader – 7200 Controls only				Optional
Automatic Lubrication in Place of Grease Zerks				Optional
Pressurized Air/Oil Purge System for Ball Screws and Bearing Blocks (<i>Requires purchase of automatic lubrication</i>)				Optional
Remote Handwheel Unit				Optional
Coolant Through Spindle – 300 PSI Low Pressure System <i>Includes Drawbar Assembly for ANSI Retention Knobs and Rotary Coupling, Requires full machine enclosure.</i>				Optional
Spindle Chiller Loop (Reduces Flood System to Two Nozzles)				Optional
6" 150 mm Riser Block in Columns (<i>Non-removable</i>)				Optional
Spare "M" Functions – Block of 4 <i>Maximum 2 blocks (Price is For Each Block)</i>				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				Optional
Digiscan Digitizing 3-D Software, Probe, Manuals - <i>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
OTHER ACCESSORIES		
380-480 Transformer (Reduces Voltage to 208-240) <i>Factory Recommended Sizes Consult Local Electrical Codes for Proper Transformer Sizing.</i>	24/15 HP 18/11 kw, 20 KVA	Optional
	35/25 HP 26/18 kw, 40 KVA	Optional
UL/CUL Compliance		Optional
CE Code <i>Required for European Union Countries</i>		Optional
Export Handling Fee		Consult Factory
Crating Charge		Consult Factory
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.</i></p> <p><i>FCA Waconia, MN USA; Prices do not include taxes, duties, transportation, insurance, rigging or start-up.</i></p> <p><i>All sales of equipment, parts, software, and service are subject to Milltronics' Standard Terms and Conditions of Sale.</i></p> <p><i>Consult Written Warranty Statement for Details of Two Year Parts Warranty</i></p> <p><i>Milltronics reserves the right to amend or change without notice without incurring obligation; not responsible for typographical errors.</i></p>		

BR – Bridge Mill Specifications

Effective June 1, 2011

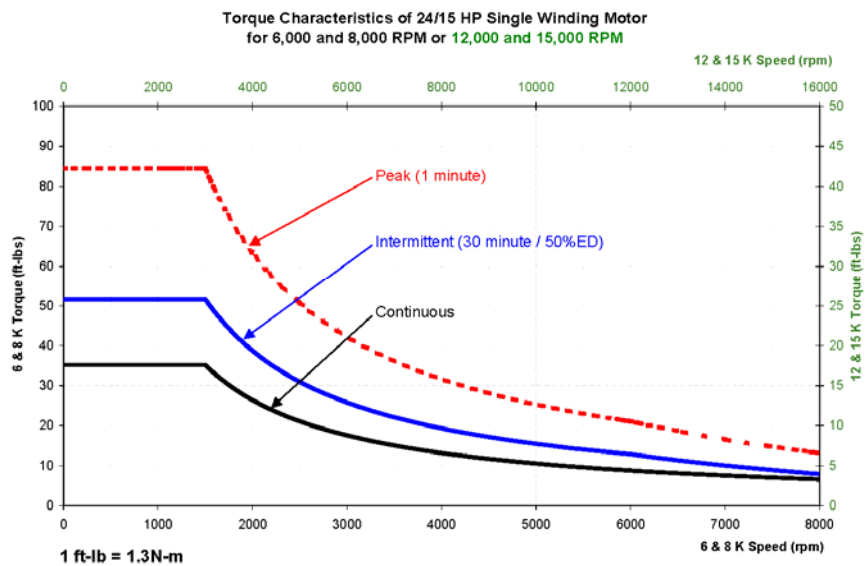
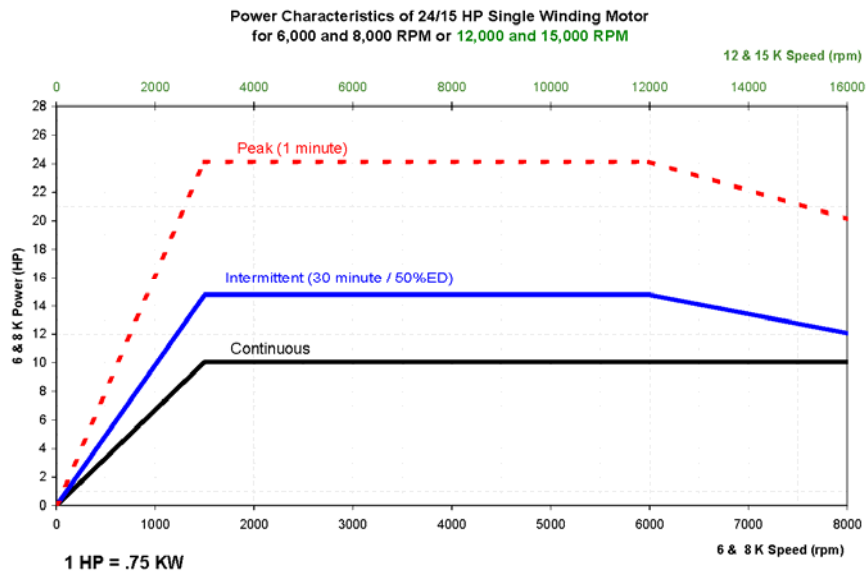


Machine Model	BR50	BR60	BR80
Standard Control Type	Milltronics 7200 CNC		
Optional Control Type	Milltronics 8200 CNC		
Number of Axes	3 (Optional 4 or 5)		
CAPACITY			
Table Size – Standard 100" Travel	48" x 96" <i>1220 x 2440 mm</i>	60" x 96" <i>1524 x 2440 mm</i>	80" x 96" <i>2030 x 2440 mm</i>
Table Size – Optional 150" Travel	48" x 150" <i>1220 x 3800 mm</i>	60" x 150" <i>1524 x 3800 mm</i>	80" x 150" <i>2030 x 3800 mm</i>
Table Size – Optional 200" Travel	N/A	N/A	80" x 200" <i>2030 x 5080 mm</i>
Standard Table Travel X	100" <i>2540 mm</i>		
Optional Table Travel X	150" <i>3800 mm</i>		
Cross Travel Y	50" <i>1270 mm</i>	60" <i>1524 mm</i>	80" <i>2032 mm</i>
Head Travel Z	28" <i>710 mm</i>		
Spindle To Table Top	4" - 32" <i>100 - 810 mm</i>		
Optional Riser, Non-removable	6" <i>150 mm</i>		
Table Surface	6" <i>150 mm</i> Hole Matrix, ½" x 13		
Machine Weight – Standard 100" Travel	13,000 lb <i>6000 kg</i>	14,000 lb <i>6400 kg</i>	16,000 lb <i>7300 kg</i>
Machine Weight – Optional 150" Travel	15,000 lb <i>6800 kg</i>	16,000 lb <i>7300 kg</i>	18,000 lb <i>8200 kg</i>
Machine Weight – Optional 200" Travel	N/A	N/A	23,000 lb <i>10,500 kg</i>
Maximum Table Load <i>Consult factory for higher load capacities</i>	5000 lb <i>2270 kg</i>		
Ball Screw Grade	C5		
Ball Screw Diameter: X 100", Y, Z (mm)	63, 40, 32		
Ball Screw Diameter: X 150 & 200", Y, Z (mm)	80, 40, 32		
Ball Screw Pitch: X, Y, Z (mm)	40, 20, 10		40, 25, 10
Linear Way Type and Size	45 mm Ball Type		
Premier Series Linear Way Type and Size	45 mm Roller Type		
SPINDLE – #40			
Standard Horsepower <i>1 minute / 30 minutes</i> Reference Torque Chart:	Single Speed 24/15 HP <i>18/11 kw</i> 24/15/1/B/Y		
Optional Horsepower <i>1 minute / 30 minutes</i> Performance Package Reference Torque Chart:	Two Speed 24/15 HP <i>18/11 kw</i> 24/15/2/B/Y		
Optional Horsepower <i>1 minute / 30 minutes</i> Reference Torque Chart:	Two Speed 35/25 HP <i>26/18 kw</i> 35/25/2/B/Y		
Standard Spindle Size	60 mm		
Premier Series Spindle Size	70 mm		
Standard Spindle RPM, Triplex Bearing	50 - 8000		
Optional Ceramic Duplex Bearing Spindle RPM <i>Requires balanced tooling</i>	100 - 15,000 <i>Recommend Two Speed</i>		
***** Tools should be balanced to 2.5 G's at 15,000 RPM *****			
AUTOMATIC TOOL CHANGER – # 40			
Tool Changer Type	24 Pocket Carousel Type		
Tool Changer Time – Tool to Tool	7 Seconds		
Maximum Tool Size (Diameter / Length / Weight)	3.5" / 11" / 15 lb <i>80 mm / 280 mm / 7 kg</i>		
PERFORMANCE			
Servo Type	Digital, AC Brushless		
Rapid Traverse X, Y, Z – 100" machine	1000 ipm <i>25 mpm</i>		
Rapid Traverse X / Y, Z – 150" machine	750 / 1000 ipm <i>19 / 25 mpm</i>		
Rapid Traverse X / Y, Z – 200" machine	600 / 1000 ipm <i>15 / 25 mpm</i>		
Maximum Feedrate <i>Part dependent</i>	500 ipm <i>12.7 mpm</i>		
Positioning Accuracy ^{see note}	±0.001" <i>.025 mm</i> in 10" <i>250 mm</i> single axis move; ±0.005" <i>.127 mm</i> over full travel area		
Positioning Repeatability ^{see note}	.0003" <i>.005 mm</i>		
Feedback Resolution	.00004" <i>.001 mm</i>		

Machine Model	BR50	BR60	BR80
Thrust, Machine Duty Rating, XYZ	5000 lb <i>2270 kg</i>		
COOLANT THROUGH SPINDLE			
Coolant Through Spindle Option (CTS) <i>Requires ANSI Retention Knob and 70 mm Spindle</i>	300 psi <i>20 bar</i>	300 psi <i>20 bar</i>	300 psi <i>20 bar</i>
CTS – Pump Filtration	11 Micron	11 Micron	11 Micron
CTS – Additional Coolant Capacity	118 Gal <i>450 L</i>	118 Gal <i>450 L</i>	118 Gal <i>450 L</i>
CTS – Flow Rate	5 gal/min <i>19 L/min</i>	5 gal/min <i>19 L/min</i>	5 gal/min <i>19 L/min</i>
CTS – Pump HP	5 HP <i>3.7 kw</i>	5 HP <i>3.7 kw</i>	5 HP <i>3.7 kw</i>
MISCELLANEOUS			
Lubrication	Grease		
Automatic Metered Lubrication with Low Lube Fault	Included in Performance Package		
¼ HP Flood Pump Capacity - <i>Convenience Package</i>	16 gal <i>60 L</i>	100 gal <i>370 L</i>	100 gal <i>370 L</i>
Drawbar Air Pressure Required	100 psi <i>6.8 bar</i>		
Power 208-240 VAC 50-60hz, 3Ø – 24 HP	50 amps 19 kVA		
Power 208-240 VAC 50-60hz, 3Ø – 35 HP	100 amps 38 kVA		
Power 400-440 VAC – 24 HP <i>Requires Transformer</i>	Requires Transformer		
Warranty	Parts: Two years or 4200 hours, whichever occurs first on all normal failures. Service: One year or 2100 hours (whichever occurs first) from distributor.		
<p><i>Note: Measurements performed with Renishaw laser and ballbar systems. Measurements are linear over entire travel. Temperature changes and table loads may affect tolerances. Tolerances are guaranteed over 10" sq. area. Centurion features covered under separate literature. For machine duty rating, see "Truth in Specifications" on www.milltronics.net. Milltronics reserves the right to change specifications at any time without incurring obligation.</i></p>			

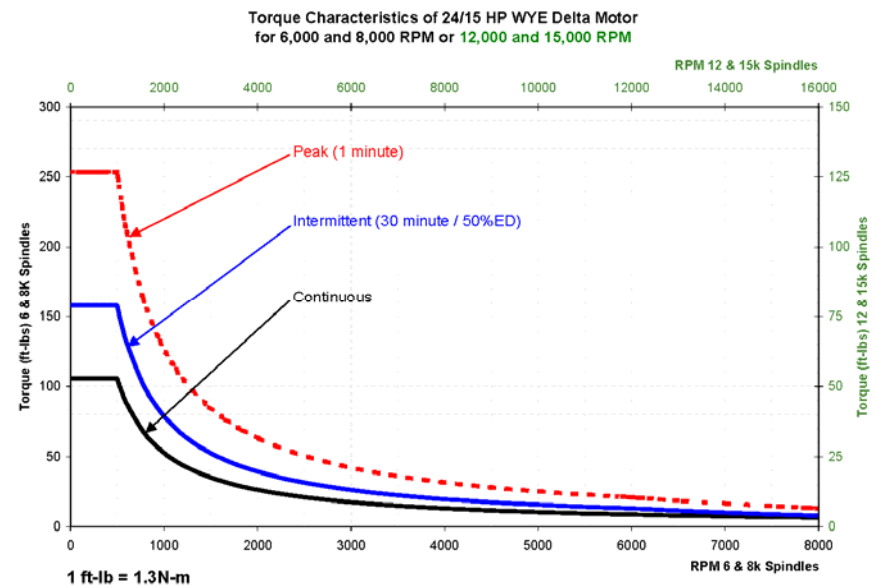
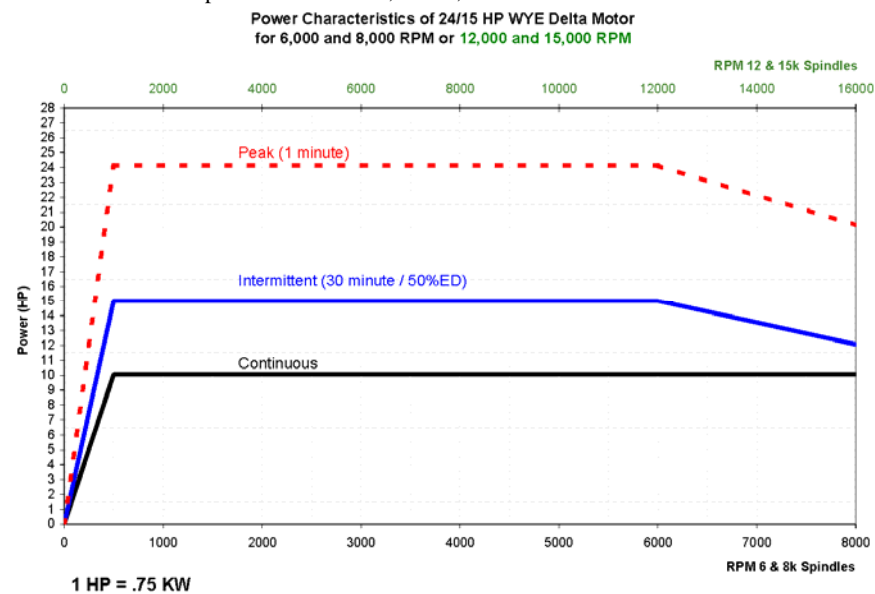
Yaskawa Torque Chart 24/15/1/B/Y – Belted Spindle

Used on: Standard BR50, BR60, BR80
 Optional N/A



Yaskawa Torque Chart 24/15/2/B/Y – Belted Spindle

Used on: Standard N/A
 Optional BR50, BR60, BR80

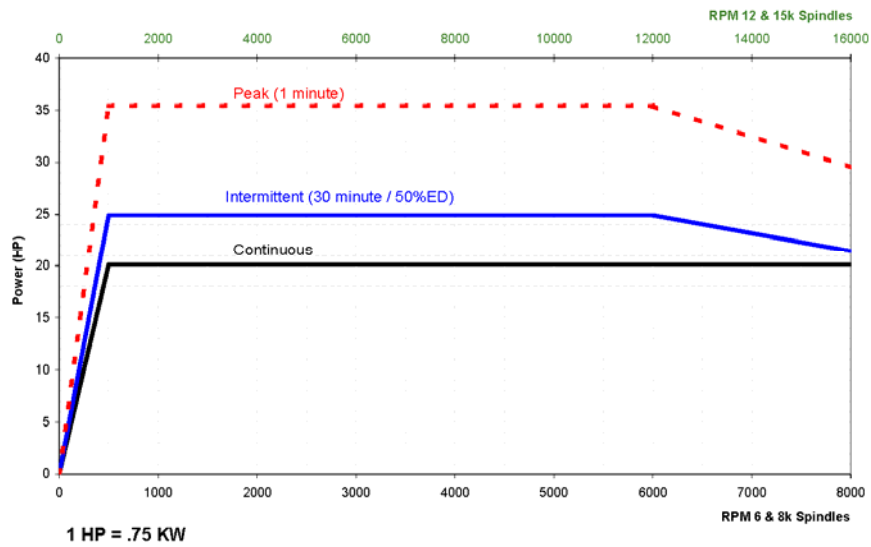


Yaskawa Torque Chart 35/25/2/B/Y – Belted Spindle

Used on: Standard N/A

Optional BR50, BR60, BR80

Power Characteristics of 35/25 HP WYE Delta Motor
for 6,000 and 8,000 RPM or 12,000 and 15,000 RPM



Torque Characteristics of 35/25 HP WYE Delta Motor
for 6,000 and 8,000 RPM or 12,000 and 15,000 RPM

