

RH - Large Travel Rigid Head Bed Mill

Effective June 1, 2011



Machine Model	RH35	RH35XP
Spindle Taper / RPM	40 / 8000	50 / 8000 Optional Gear Box
Spindle Horsepower 1 minute / 30 minute, Diameter	24/15, 70 mm	24/15, 90 mm
Optional Spindle Horsepower 1 minute / 30 minutes	24/15 Two Speed	24/15 Two Speed
Optional Spindle Horsepower 1 minute / 30 minutes	35/25 Two Speed	35/25 Two Speed
Travel (XYZ")	120 x 35 x 30	120 x 35 x 30
MACHINE FEATURES		CONTROL FEATURES
<ul style="list-style-type: none"> • Two Year Parts Warranty • Heavily Ribbed Cast Iron Construction • Fully Ground Solid Ways with Turcite Surfaces • Precision Ground Double Anchored Ball Screws • Precision Ground Table Surface • Metal Way Covers in Front and Rear of Saddle • Box Way Construction with 6 Ways Base to Saddle • Dual Auger Chip Removal System • Automatic Metered Lubrication with Low Lube Fault • High Torque AC Digital Servo Drives • High Torque Closed Loop Vector Spindle Drive System • Five Bearing 8000 RPM Air Purged Spindle • Spindle Taper Blow-out and Tool Release Push Button • With or without full enclosure • Rigid Tap • Front Panel Mounted Electronic Handwheel & Handwheel Controlled Program Execution • LCD Hour Meter 	<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 1200 block/sec • Optional Four & Five Axis Simultaneous Interpolation Software & Interface • Large Program Management Software (Allows Editing of 10 MB Files) • High Torque AC Digital Servo Drives • High Torque Closed Loop Vector Spindle Drive System • All Axes Laser Calibrated and Ballbar Inspected • Spindle Load Meter • Auto DXF File Import 	
CONVENIENCE PACKAGE		
Six Nozzle High Volume Multi Height Flood Coolant System with Through Head Cooling and Flow Valve		
Work Lights (Two at \$400 each)		
End of Cycle Light		
Single Spare "M" Function and CNC "Wait" Channel		
Coolant Drip Pan		
Rear Splash Guards		
Networking Option Includes 30 days Phone Support		
Edit Lockout Key Switch		
<i>Items may be purchased separately</i>		
PERFORMANCE PACKAGE		
Upgrade to 24/15 HP 18/11 kw Two Speed Closed Loop Spindle Drive System		
Programmable Spray Mist On/Off		
Off-line FastCAM Software for Programming and Training		
Remote Handwheel Unit		
Tool Release Foot Switch		
<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 		
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.		

SPINDLE CONFIGURATIONS			RH35	RH35XP	
Specify Tool Holder: CT40			Standard	N/A	
Optional Tool Holder: BT40 or DIN69871			Optional	N/A	
Optional Tool Holder: BT50			N/A	Optional	
Spindle Upgrade to 15,000 RPM Spindle			Optional	N/A	
Optional Spindle HP Upgrade to 35/25 HP 26/18 kw Two Speed Wye/delta <i>Requires purchase of Performance Pkg</i>			Optional	Optional	
Optional Gear Box – 4:1 Ratio <i>Can be combined with any motor configuration</i>			N/A	Optional	
Coolant Through Spindle – 300 PSI Low Pressure System – <i>Requires Purchase of Full Enclosure, Arm ATC Recommended. Includes drawbar assembly for ANSI retention knobs and rotary coupling.</i>			Optional	Optional	
ROTARY ACCESSORIES					
Rotary Tables <i>Includes 4th axis amp & motor</i> <i>Application may require riser</i>		6.5" (165 mm)	Optional	Optional	
		9.0" (228 mm)	Optional	Optional	
		10.0" (254 mm)	Optional	Optional	
Tail Stock for Rotary Table	6.5" (165 mm) - Optional	9.0" (228 mm) - Optional	10.0" (254 mm) - Optional		
4 th Axis Servo Amplifier & Motor (Electrics only 0.9 kw motor, larger tables may require a larger motor)			Optional	Optional	
Contact factory for 5 axes <i>Included with Rotary Table Accessory</i>					
<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>					
ATC OPTIONS					
16 Pocket Carousel Type ATC (40 Taper), <i>Requires full enclosure for CE</i>			Optional	N/A	
24 Pocket Carousel Type ATC (40 Taper), <i>Requires full enclosure for CE</i>			Optional	N/A	
20 Pocket Carousel Type ATC (50 Taper), <i>Requires full enclosure for CE</i>			N/A	Optional	
24 Pocket Arm Type ATC (40 Taper), <i>Requires purchase of full enclosure</i>			Optional	N/A	
32 Pocket Arm Type ATC (50 Taper), <i>Requires purchase of full enclosure</i>			N/A	Optional	
OTHER ACCESSORIES					
Upgrade to Solid State Non-Volatile Memory 256 MB Flash Card – <i>7200 Controls only</i>			Optional	Optional	
Multi Format Flash Card Reader – <i>7200 Controls Only</i>			Optional	Optional	
Full Machine Enclosure with Chip Auger & Chip Wash Down			Optional	Optional	
Dual Electronic Handwheel – <i>Not available with full enclosure option</i>			Optional	Optional	
Chip Buckets for Dual Auger System – <i>2 Buckets</i>			Optional	Optional	
4" Riser Block – <i>Not Removable</i> <i>Consult factory for other sizes and special applications</i>			Optional	Optional	
Spare "M" Functions – Block of 4 <i>Maximum 2 blocks; price is for each block</i>			Optional	Optional	
Contact Tool Offset Probing with Macros			Optional	Optional	
Work Offset Probing with Macros			Optional	Optional	
Combo Pack – Contact & Work Tool Offset Probing with Macros			Optional	Optional	
Laser Tool Setter			Optional	Optional	
<i>Digiscan Digitizing 3-D Software, Probe, Manuals - Not available with 8200 Control Package</i>			Optional	Optional	
RS-232 Cable, 50' 15 Meters			Optional	Optional	
Printed Programming Manual (Electronic Format Standard)			Optional	Optional	
Printed Machine Manual (Electronic Format Standard)			Optional	Optional	
Power Requirements 208-240 VAC, 50 – 60 hz, 3Ø			Standard	Standard	
380-480 Transformer (Reduces Voltage to 208-240) <i>Factory recommended sizes. Consult local electrical codes for proper transformer sizing.</i>		24 HP	80 kVA	Optional	Optional
		35 HP	80 kVA	Optional	Optional
UL/CUL Compliance			Optional	Optional	
CE Code <i>Required for European Union Countries –Requires Full Enclosure</i>			Optional	Optional	
Export Handling Fee			Consult Factory		
Crating Charge			Consult Factory		
Two Year Parts Warranty <i>See Note</i>			Standard	Standard	
Factory Start-up and Training On Site, U.S. only			Optional	Optional	
Training at Milltronics <i>Includes lunches, training, materials and manual</i>			Optional	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, 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>					

RH - Large Travel Rigid Head Bed Mill Specifications

Effective June 1, 2011



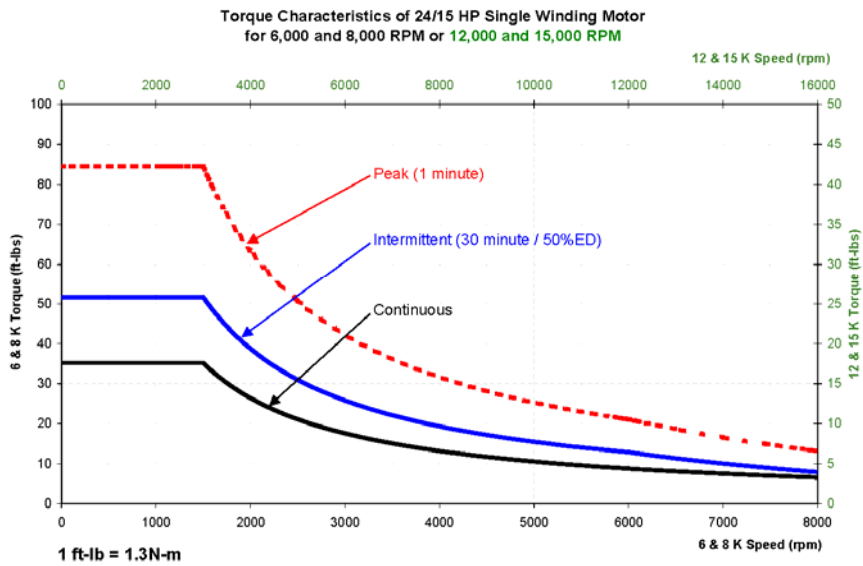
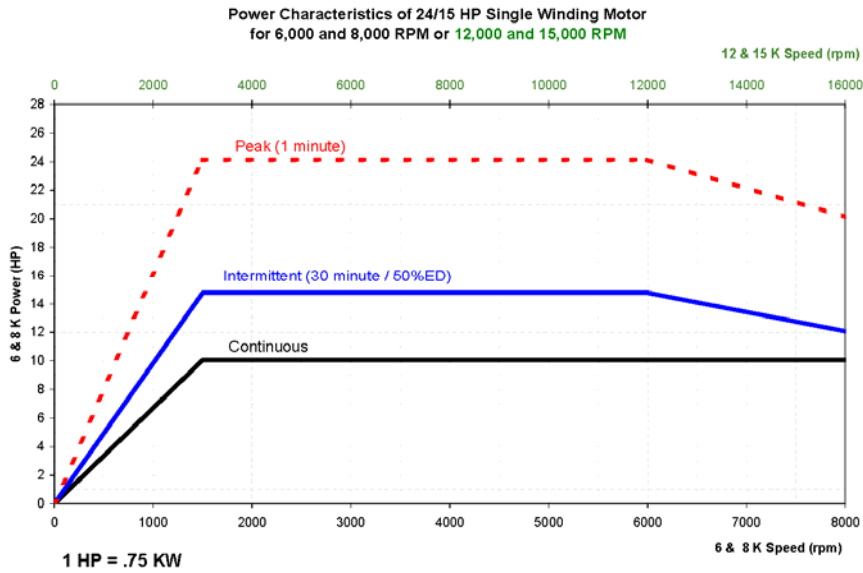
Machine Model	RH35	RH35XP
Standard Control Type	Milltronics 7200 CNC	Milltronics 7200 CNC
Optional Control Type	Milltronics 8200 CNC	Milltronics 8200 CNC
Software	CNC or SLS	CNC or SLS
Number of Axes	3 (Opt 4 or 5)	3 (Opt 4 or 5)
Functions: <i>Automatic</i>	Auto operation of spindle start/stop, mist, flood, RPM	
CAPACITY		
Standard Table Size	126 x 32" <i>3200 x 810 mm</i>	126 x 32" <i>3200 x 810 mm</i>
Table Travel - X Axis	120" <i>3050 mm</i>	120" <i>3050 mm</i>
Saddle Travel - Y Axis	35" <i>890 mm</i>	35" <i>890 mm</i>
Head Travel - Z Axis	30" <i>760 mm</i>	30" <i>760 mm</i>
Throat Distance <i>Spindle to Column</i>	35" <i>890 mm</i>	35" <i>890 mm</i>
Spindle to Table Top	4 - 34" <i>100 - 860 mm</i>	4 - 34" <i>100 - 860 mm</i>
Spindle to Table Top with #50 20 Pkt ATC	N/A	3 - 33" <i>80 - 840 mm</i>
Maximum Table Load	5000 lb <i>2270 kg</i>	5000 lb <i>2270 kg</i>
Machine Weight	40,000 lb <i>18,150 kg</i>	40,000 lb <i>18,150 kg</i>
T Slots	(7) .71" <i>18 mm</i>	(7) .71" <i>18 mm</i>
Saddle Width	229" <i>5820 mm</i>	229" <i>5820 mm</i>
Ball Screw Size: X,Y/Z Axis	80/63 mm Dbl Nut	80/63 mm Dbl Nut
Ball Screw Grade	C5	C5
Ball Screw Pitch X,Y,Z	10 mm	10 mm
SPINDLE		
Spindle Taper/Configuration	#40 Direct Belt Drive	#50 Direct Belt Drive
Heavy Duty Spindle Cartridge Assembly with Triplex Bearing Design	70 mm	90 mm
Spindle Horsepower <i>1 minute / 30 minutes</i>	24/15 HP <i>18/11 kw</i>	24/15 HP <i>18/11 kw</i>
	Reference Torque Chart 24/15/1/B/Y	
Optional Spindle Drive System <i>1 minute / 30 minutes</i>	24/15 HP <i>18/11kw</i> <i>Two speed</i>	24/15 HP <i>18/11kw</i> <i>Two speed</i>
	Reference Torque Chart 24/15/2/B/Y	
Optional Spindle Drive System <i>1 minute / 30 minutes</i>	35/25 HP <i>26/18kw</i> <i>Two speed</i>	35/25 HP <i>26/18kw</i> <i>Two speed</i>
	Reference Torque Chart 35/25/2/B/Y	
Optional Gear Box	N/A	2 Range 4:1 Gearing
	For Standard 24 HP - 24/15/1/G/Y	
	For Optional 24 HP Two Spd - 24/15/2/G/Y	
	For Optional 35 HP Two Spd - 35/25/2/G/Y	
Standard Triplex Bearing Spindle RPM	50 - 8000	50 - 8000
Gear Range With Optional Gear Box	Low Range:	15 - 2000
	High Range:	50 - 8000
Optional Ceramic Duplex Bearing Spindle RPM <i>Requires balanced tooling, Recommend HP Upgrade</i>	100 - 15,000	N/A
Balanced Tooling Requirements	Tools Should Be Balanced to 2.5 G's at 15,000 RPM	
PERFORMANCE		
Servo Type	AC Digital	AC Digital
Rapid Traverse X, Y & Z	400 ipm <i>10.2 mpm</i>	400 ipm <i>10.2 mpm</i>
Maximum Feedrate	300 ipm <i>7600 mmpm</i>	300 ipm <i>7600 mmpm</i>
Position Accuracy <i>See note</i>	±0.00039" <i>0.01 mm</i>	±0.00039" <i>0.01 mm</i>
Repeatability	0.0002" <i>0.005 mm</i>	0.0002" <i>0.005 mm</i>
Resolution	0.00004" <i>0.001 mm</i>	0.00004" <i>0.001 mm</i>

Machine Model	RH35	RH35XP	
Thrust, Machine Duty Rating	X, Y: 3000 lb <i>1360 kg</i> Z: 4000 lbs <i>1800 kg</i>	X, Y: 3000 lb <i>1360 kg</i> Z: 4000 lb <i>1800 kg</i>	
OPTIONAL AUTOMATIC TOOL CHANGER			
16 Pocket #40 Automatic Carousel Tool Changer	Optional	N/A	
24 Pocket #40 Automatic Carousel Tool Changer	Optional	N/A	
16 or 24 Pocket Carousel Style Maximums Diameter / Length / Weight	3.5" / 13" / 15 lb <i>80 mm/330mm/7 kg</i>	N/A	
16 or 24 Pocket Carousel Style Tool Changer Time	7 Sec.	N/A	
20 Pocket #50 Carousel Style ATC	N/A	Optional	
26 Pocket #50 Carousel Style Maximums Diameter / Length / Weight	N/A	5" / 13" / 25 lb <i>125mm/330mm/11kg</i>	
20 Pocket #50 Carousel Tool Changer Time	N/A	9 Sec.	
24 Pocket Arm Style ATC	Optional	N/A	
40 Pocket Arm Style ATC	Optional	N/A	
24 or 40 Pocket Arm Style Maximums Diameter / Length / Weight	4" / 9" / 15 lb <i>100mm/230mm/7kg</i>	N/A	
32 Pocket #50 Taper Arm Style ATC	N/A	Optional	
32 Pocket #50 Taper Arm Style Maximums Diameter / Length / Weight (Over 5" has adjacent empty pocket)	N/A	5" / 13" / 25 lb <i>125mm/330mm/11kg</i>	
32 Pocket #50 Taper Arm Style Tool Changer Time	N/A	9 Sec.	
MISCELLANEOUS			
Coolant Through Spindle Option (CTS) <i>Requires ANSI Retention Knob</i>	300 psi <i>20 bar</i>	300 psi <i>20 bar</i>	
CTS – Pump Filtration	11 Micron	11 Micron	
CTS – Flow Rate	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>	
MISCELLANEOUS			
Way Surface Design	X Axis:	Box Ways	Box Ways
	Y Axis:	6 Box Ways	6 Box Ways
	Z Axis:	Box Ways	Box Ways
1/4 HP Flood Pump Capacity <i>Optional in Convenience Package</i>	90 Gal <i>340 L</i>	90 Gal <i>340 L</i>	
Drawbar Air Pressure Required	100 psi <i>6.8 bar</i>	100 psi <i>6.8 bar</i>	
Power 208-240 VAC 50-60hz, 3Ø (24 HP)	150 amps 57 kVA	150 amps 57 kVA	
Power 208-240 VAC 50-60hz, 3Ø (35 HP)	200 amps 76 kVA	200 amps 76 kVA	
Power 400-440 VAC	Requires Transformer	Requires Transformer	
Floor Space Requirement	300" x 116" <i>7620 x 2950 mm</i>	300" x 116" <i>7620 x 2950 mm</i>	
Floor Space Requirement – Full Enclosure	302" x 116" <i>7660 x 2950 mm</i>	302" x 116" <i>7660 x 2950 mm</i>	
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>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>			

*For similar machines see the RH20, RH30 and RH33.
For toolroom bed style milling machines with quill heads see the, MB20.
Also see VKM4 knee mills with quill and Milltronics' patented MillSlide.*

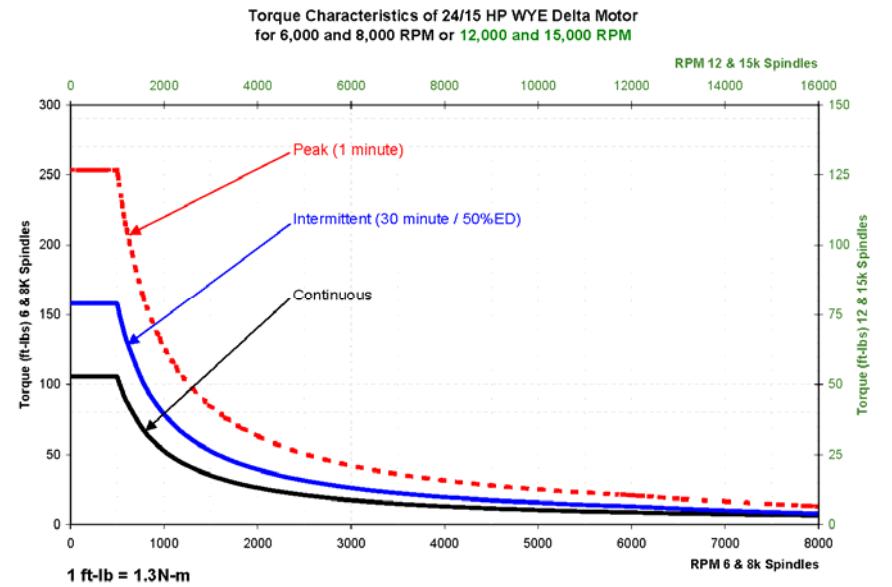
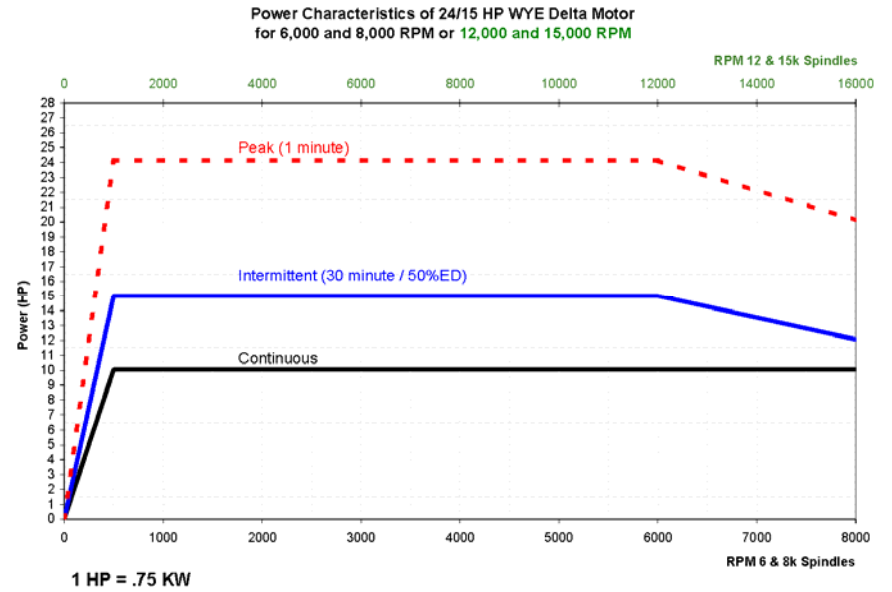
Yaskawa Torque Chart 24/15/1/B/Y – Belted Spindle

Used on: Standard RH35, RH35XP
 Optional N/A



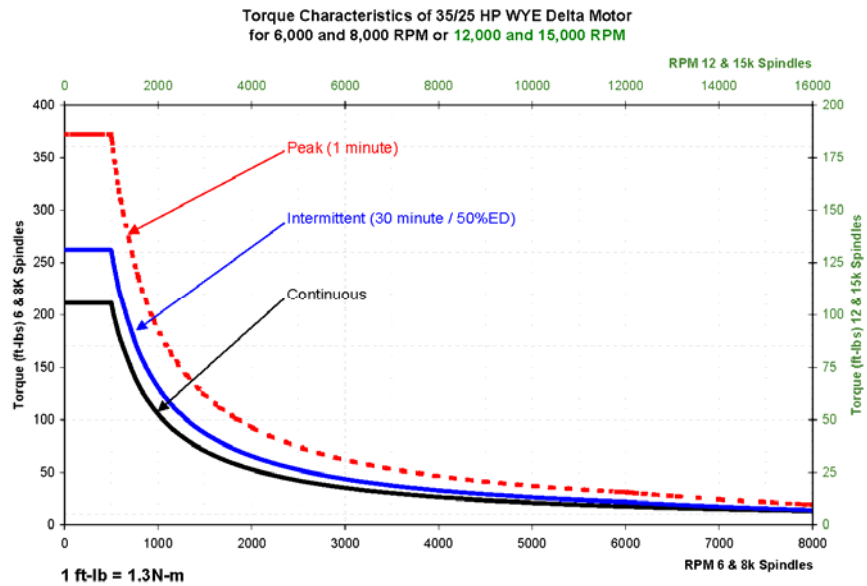
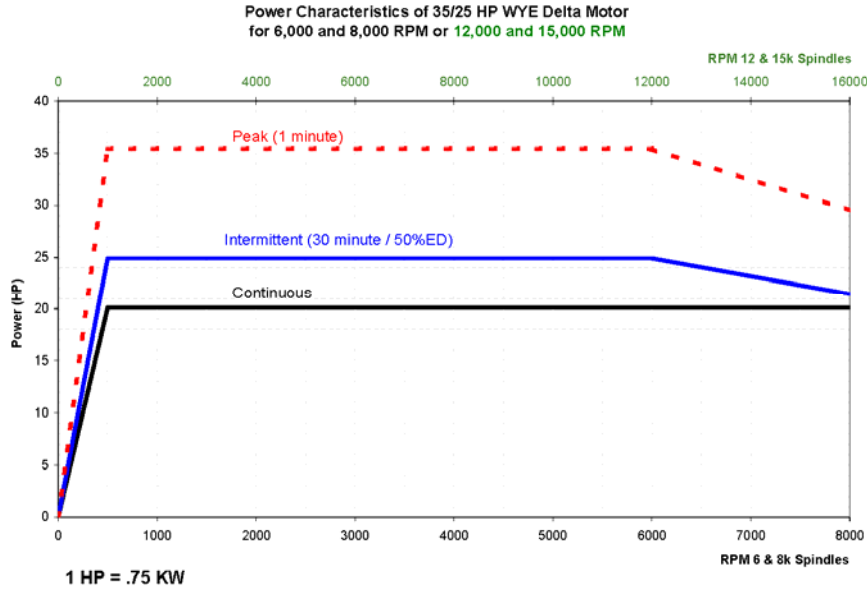
Yaskawa Torque Chart 24/15/2/B/Y – Belted Spindle

Used on: Standard N/A
 Optional RH35, RH35XP



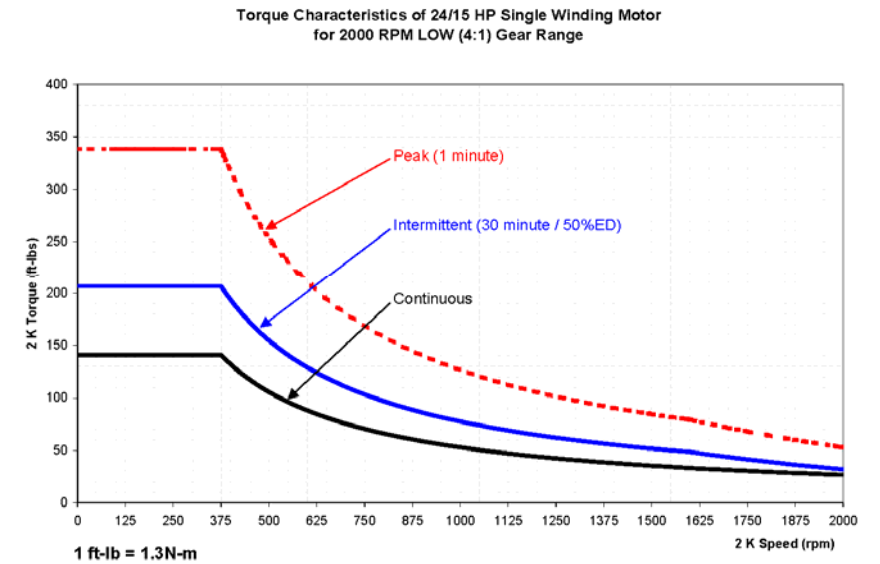
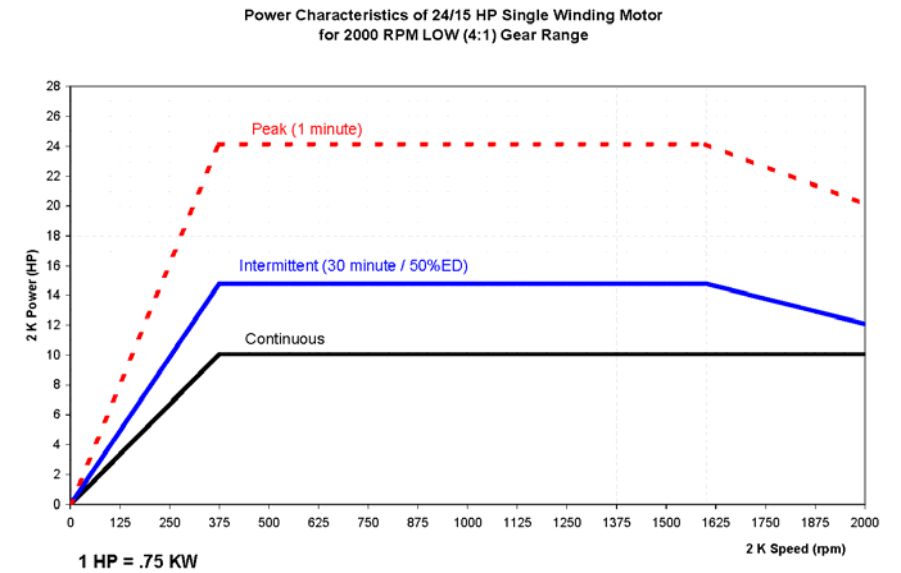
Yaskawa Torque Chart 35/25/2/B/Y – Belted Spindle

Used on: Standard N/A
Optional RH35, RH35XP



Yaskawa Torque Chart 24/15/1/G/Y – Geared Spindle

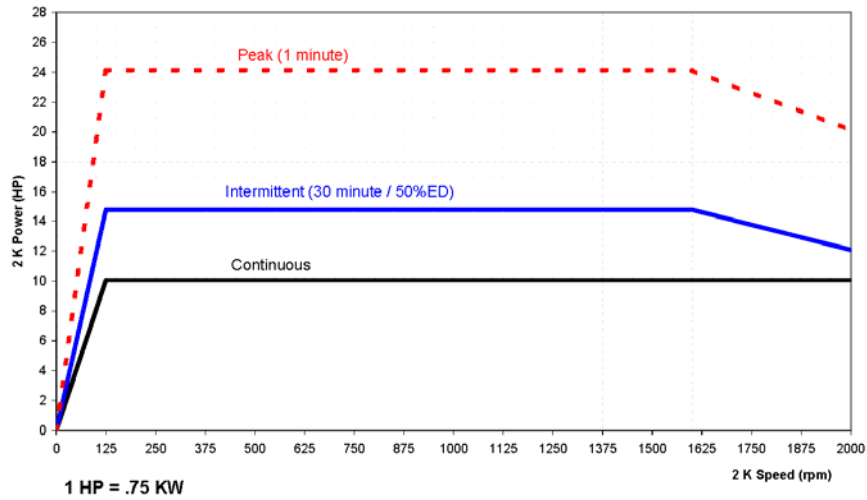
Used on: Standard N/A
Optional RH35XP



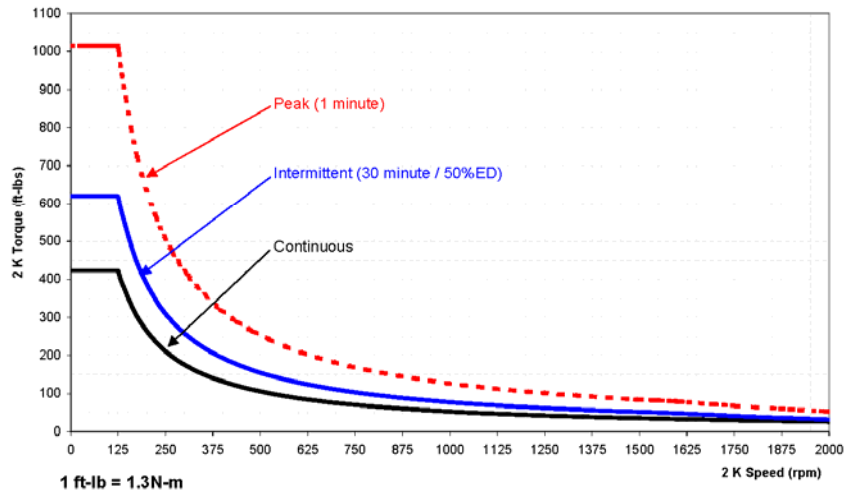
Yaskawa Torque Chart 24/15/2/G/Y – Geared Spindle

Used on: Standard N/A
Optional RH35XP

Power Characteristics of 24/15 HP Wye Delta Motor
for 2000 RPM LOW (4:1) Gear Range



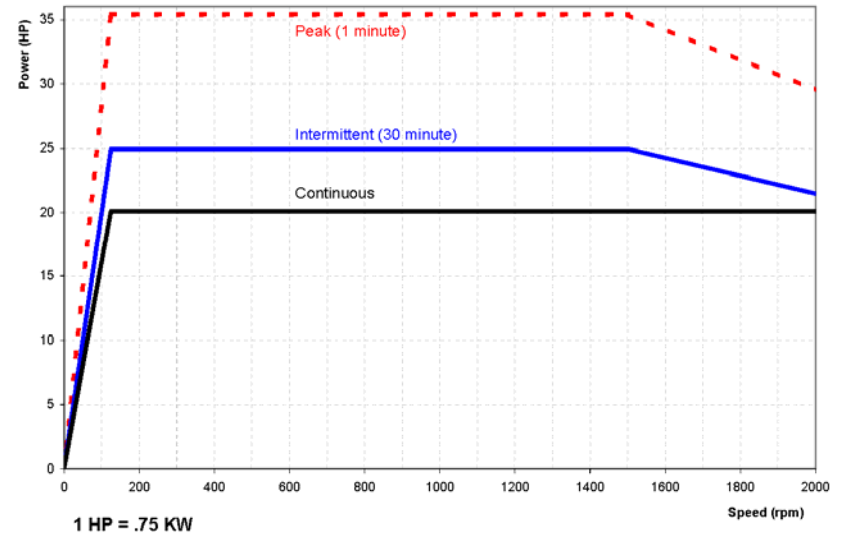
Torque Characteristics of 24/15 HP Wye Delta Motor
for 2000 RPM LOW (4:1) Gear Range



Yaskawa Torque Chart 35/25/2/G/Y – Geared Spindle

Used on: Standard N/A
Optional RH35XP

Power Characteristics of VM30XP #50 With 35/25hp Motor - LOW Gear



Torque Characteristics of VM30XP #50 With 35/25hp Motor - LOW Gear

