

ML - Combination Lathe

Effective June 01, 2011 Rev. A



Machine Model		ML16/40	ML18/60	ML22/60	ML26/40	
Bed Length	Spindle Bore	Available Configurations				
40" 1 M	2.04" 52 mm	Standard	N/A	N/A	N/A	
40" 1 M	3.22" 82 mm	N/A	N/A	N/A	Standard	
60" 1.5 M	2.56" 65 mm	N/A	Standard	N/A	N/A	
60" 1.5 M	3.22" 82 mm	N/A	N/A	Standard	N/A	
80" 2 M	4.17" 106 mm	N/A	N/A	N/A	Optional	
80" 2 M	6" 153 mm	N/A	N/A	N/A	Optional	
120" 3 M	6" 153 mm	N/A	N/A	N/A	Optional	
160" 4 M	6" 153 mm	N/A	N/A	N/A	Optional	
***** Chip Conveyor Chip Removal System Included In Price of ML26 x 120" and ML26 x 160" Machines*****						
Swing Over Bed / Cross Slide		17" / 7.48"	19" / 9.25"	23" / 12.1"	27" / 16.1"	
Spindle Horsepower 1 minute / 30 minutes		Single Speed 12/10 HP 9/7.5 kw	Single Speed 18/12 HP 13/9 kw	Single Speed 24/15 HP 18/11 kw	Single Speed 24/15 HP 18/11 kw	
Optional Spindle Horsepower 1 minute / 30 minutes		Single Speed 18/12 HP 13/9 kw	Single Speed 24/15 HP 18/11 kw	Two Speed 24/15 HP 18/11 kw	Two Speed 24/15 HP 18/11 kw	
MACHINE FEATURES			CONTROL FEATURES			
<ul style="list-style-type: none"> • Two Year Parts Warranty • Fully Ground Solid Ways with Turcite Surfaces with Unique Square Box Ways on Bed For Long Life • Automatic Metered Lubrication with Low Lube Fault • Flood Coolant Pump with Nozzle • Chuck Guard with Safety Switch • Tail Stock with Adjustable Quill & Safety Switch • Precision Ground Ball Screws • Heavy Duty Metal Enclosure with Full Front Guarding and Sliding Doors up to 120" (160" Bed has Traveling Guard) • Chip Drawer Chip Containment System (Optional Conveyor) • Gap Bed Design – Contact Factory for Information • Spindle Load Meter • Handwheel Controlled Program Execution Programming & Machine Manuals in Electronic Format			<ul style="list-style-type: none"> • PC-based 7200 T CNC includes 12 MB Parts Storage Memory • 12" LCD Active Matrix Color Display • 3.5" Floppy Drive / RS-232 with DNC Buffer • Turning, Facing, Grooving, Tapping and Boring Cycles • Conversational plus G & M Code Programming with Tool Path Graphics Constant Surface and Feed/Rev. (IPR) with Threading Cycles, Rigid Tap Cycle and Thread Chasing Feature • All Axes Laser Calibrated and Ballbar Inspected • Large Program Management Software (Allows Editing of 10 MB Files) • Door Interlock Safety Switch • LCD Hour Meter • User Defined Macros with Trig Help • Pattern Repeat, Chamfering, Radius Programming Assist with Handwheel Teach Mode 			
CONVENIENCE PACKAGE			ML16	ML18	ML22	ML26
Dual Electronic Handwheel for Teach, Manual or Automatic Operation			Optional	Optional	Optional	Optional
Single Spare "M" Function and CNC "Wait" Channel			Optional	Optional	Optional	Optional
Work Lamp			Optional	Optional	Optional	Optional
End of Cycle Light			Optional	Optional	Standard	Standard
Steady Rest, Roller Type .75"-7.8" 20-200 mm			Optional	Optional	Optional	Optional
Follow Rest, Brass Tips .4" – 4" 10-100 mm			Optional	Optional	N/A	N/A
Follow Rest, Brass Tips .75" – 7.8" 20-200 mm			N/A	N/A	Optional	Optional
<i>Items may be purchased separately</i>						
PERFORMANCE PACKAGE			ML16	ML18	ML22	ML26
Off-line LatheCAM Software for Programming and Training			Optional	Optional	Optional	Optional
Remote Handheld Electronic Handwheel			Optional	Optional	Optional	Optional
Tail Stock Latch and Auto-Position			Optional	Optional	Optional	Optional
Upgrade to 18/12 HP 13/9kw Spindle Motor			Optional	N/A	N/A	N/A
Upgrade to Single Speed 24/15 HP 18/11kw Spindle Motor			N/A	Optional	N/A	N/A
Upgrade to Two Speed Wye/Delta 24/15 HP 18/11 kw Spindle Motor			N/A	N/A	Optional	Optional
Edit Key Lock-out Switch			Optional	Optional	Optional	Optional
<i>Items may be purchased separately</i>						
CONTROL ACCESSORIES			ML16	ML18	ML22	ML26
Upgrade to Solid State Non-Volatile Memory 256 MB Flash Card			Optional	Optional	Optional	Optional
Multi Format Flash Card Reader			Optional	Optional	Optional	Optional
Auto Import of DXF Files Conversion Software			Optional	Optional	Optional	Optional
Networking Option includes 30 Days Phone Support <i>Recommend 256 MB Option</i>			Optional	Optional	Optional	Optional

WORK HOLDING		ML16	ML18	ML22	ML26
8" 200 mm Manual 3 Jaw Chuck, Mounted - 2.16" Bore A2-5 Adaptor Plate		Optional	N/A	N/A	N/A
8" 200 mm Manual 3 Jaw Chuck, Mounted - 2.17" Bore D1-6 Adaptor Plate		N/A	Optional	N/A	N/A
10" 250mm Manual 3 Jaw Chuck, Mounted – 2.99" Bore D1-6 Adaptor Plate		N/A	Optional	N/A	N/A
10" 250mm Manual 3 Jaw Chuck, Mounted – 2.99" Bore A1-8 Adaptor Plate (ML22)		N/A	N/A	Optional	N/A
12" 300mm Manual 3 Jaw Chuck, Mounted – 4.08" Bore A1-8 Adaptor Plate (ML22 & ML26 x 40)		N/A	N/A	Optional	Optional
12" 300mm Manual 3 Jaw Chuck, Mounted – 4.95" Bore A1-11 Adaptor Plate (ML26 – 4" Bore Only)		N/A	N/A	N/A	Optional
6" 150mm 3 Jaw Hydraulic Chuck "Strong"		Optional	Optional	N/A	N/A
8" 200mm 3 Jaw Hydraulic Chuck "Strong"		Optional	Optional	N/A	N/A
10" 250mm Hydraulic 3 Jaw Chuck "Strong" (ML18 & ML22 Only)		N/A	Optional	Optional	N/A
12" 300mm Hydraulic 3 Jaw Chuck (ML26 – 4" Bore Only)		N/A	N/A	N/A	Optional
5C Air Operated Royal Collet Closer with Footswitch		Optional	Optional	N/A	N/A
Rear Chuck Mount with A2-11 Spindle Nose (ML26 – 6" Bore Only)		N/A	N/A	N/A	Optional
Hydraulic Tail Stock Option – <i>Purchased with Hydraulic Chuck Option</i>		Optional	Optional	Optional	Optional
Hydraulic Tail Stock Option – <i>Purchased without Hydraulic Chuck Option</i>		Optional	Optional	Optional	Optional
TOOLING		ML16	ML18	ML22	ML26
Tooling Riser Block (No Tooling) – Specify Tooling Type or Height <i>Will require machining on site</i>		Optional	Optional	Optional	Optional
Super Dorian Tool Post & Riser Block, ¾" 20mm <i>No tool holders included</i>		Optional	Optional	Optional	N/A
Super Dorian Tool Post & Riser Block, 1" 25mm <i>No tool holders included</i>		N/A	N/A	Optional	Optional
Dorian Quadra Post & Riser Block, ¾" 20mm <i>No tool holders included</i>		Optional	Optional	Optional	N/A
Dorian Quadra Post & Riser Block, 1" 25mm <i>No tool holders included</i>		N/A	N/A	Optional	Optional
Automatic Turret, 8 Station with Riser Block, ¾" 20mm (<i>must specify metric</i>) Includes 1 Boring Bar Holder & 1 Axial Holder (<i>Can be mounted in front or rear – specify</i>)		Optional	Optional	N/A	N/A
Automatic Turret, 8 Station with Riser Block, 1" 25mm (<i>must specify metric</i>) Includes 1 Boring Bar Holder & 1 Axial Holder (<i>Can be mounted in front or rear – specify</i>)		N/A	N/A	Optional	Optional
Automatic Turret, 12 Station with Riser Block, 1" 25mm (<i>must specify metric</i>) Includes 1 Boring Bar Holder & 1 Axial Holder (<i>Can mount in front or rear – specify</i>)		N/A	N/A	Optional	Optional
1.25" Boring Bar Holder For ¾" Turret		Optional	Optional	N/A	N/A
1.5" Boring Bar Holder For 1" Turret		N/A	N/A	Optional	Optional
¾" 20mm Axial Tool Holder For ¾" Turret		Optional	Optional	N/A	N/A
1" 25 mm Axial Tool Holder For 1" Turret		N/A	N/A	Optional	Optional
Optional Steady Rest – Special Size 7.09" – 16.1" 180mm - 410mm		N/A	N/A	N/A	Optional
VDI Upgrade for Turrets <i>No tool holders</i>		Optional	Optional	Optional	Optional
Metric 20mm Turret Face to Replace ¾"		Optional	Optional	N/A	N/A
LIVE TOOLING – Contact Distributor for Application		ML16	ML18	ML22	ML26
Spindle Orient <i>Required with Live Tooling</i>		Optional	Optional	Optional	Optional
Baruffaldi TBMA Live Tooling, Servo Turret, 8 Station, S6, 10 minute Live Tooling Duty Cycle Rating (Rear Mounted) <i>Consult factory for tool limitations on the ML18</i> No tooling supplied with Live Tool Turret, Fixed or Rotating	VDI 40, 7.5 HP – Model 160	N/A	Optional	Optional	Optional
Spindle Brake <i>Required with Live Tooling</i>		Optional	2,000	Optional	Optional
Standard Axial Holder VDI 40		N/A	1,600	Optional	Optional
Standard Radial Holder VDI 40		N/A	2,200	Optional	Optional
OTHER ACCESSORIES		ML16	ML18	ML22	ML26
Programmable Spray Mist – <i>Not Recommended with Automatic Turrets or Bed Lengths over 40"</i>		Optional	Optional	Optional	Optional
Spare "M" Functions – Block of 4 <i>Maximum 2 blocks; price is for each block</i>		Optional	Optional	Optional	Optional
Chip Conveyor	40"	N/A	N/A	N/A	N/A
	60"	N/A	Optional	Optional	N/A
	80"	N/A	N/A	N/A	Optional
	120"	N/A	N/A	N/A	Standard
	160"	N/A	N/A	N/A	Standard

Chip Bucket for Chip Conveyor	N/A	Optional	Optional	Optional	
Optional Barfeeder with Spindle Orient <i>No Spindle Sleeves Included</i>	Optional	Optional	Optional	Optional	
Barfeeder Interface Only with Spindle Orient <i>Interface designed for Milltronics Barfeeder only. Consult the factory for other Barfeeder interface.</i>	Optional	Optional	Optional	Optional	
RS-232 Cable, 50' 15 Meters	Optional	Optional	Optional	Optional	
Printed Programming Manual (Electronic Format Standard)	Optional	Optional	Optional	Optional	
Printed Machine Manual (Electronic Format Standard)	Optional	Optional	Optional	Optional	
Power Requirements 208-240 VAC, 50 – 60 hz, 3Ø	Standard	Standard	Standard	Standard	
Power Requirements 208-240 VAC, 50 – 60 hz, 1Ø <i>May reduce spindle power by up to 20%</i>	Without Conveyor or Turret	Optional	Optional	Optional	N/A
	With Conveyor or Turret	Optional	Optional	Optional	N/A
380-480 Transformer (Reduces Voltage to 208-240) <i>Factory recommended sizes. Consult local electrical codes for proper transformer sizing.</i>	20 KVA	Optional	Optional	Optional	Optional
UL/CUL Compliance	Optional	Optional	Optional	Optional	
CE Code <i>Required for European Union Countries</i>	Optional	Optional	Optional	Optional	
Export Handling Fee	Consult Factory				
Crating Charge	Consult Factory				
Two Year Parts Warranty ^{<i>See Note</i>}	Standard	Standard	Standard	Standard	
Factory Start-up and Training On Site, U.S. only	Optional	Optional	Optional	Optional	
Training at Milltronics <i>(Includes lunches, training, materials and manual)</i>	Optional	Optional	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 FCA Waconia, MN 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> <p>Live Tooling Capability</p> <p><i>The Milltronics 7200 T CNC supports live tooling without contouring. Therefore, the main spindle is programmed to a position and cannot be moving while live tooling is in operation. Contact Factory for additional specifications.</i></p>					

ML – Combination Lathe Specifications

Effective June 01, 2011 Rev. A



Machine Model	ML16	ML18	ML22	ML26
Control Type	Milltronics 7200 T CNC			
Functions	Dual Handwheel, Handwheel Teach, Conversational G/M Code, Manual or Automatic Operation of Spindle RPM and Coolant			
CAPACITY				
Swing Over Bed	17" <i>440mm</i> (dia.)	19" <i>480mm</i> (dia.)	23" <i>580mm</i> (dia.)	27" <i>685mm</i> (dia.)
Swing Over Gap	25.9" <i>658mm</i> (dia.)	27.9" <i>710mm</i> (dia.)	31" <i>790mm</i> (dia.)	35" <i>890mm</i> (dia.)
<i>Contact factory for limitations</i>	12.75" <i>320mm</i> Gap	12.75" <i>320mm</i> Gap	12.75" <i>320mm</i> Gap	12.75" <i>320mm</i> Gap
Swing Over Cross Slide	7.48" <i>190mm</i> (dia.)	9.25" <i>235mm</i> (dia.)	12.1" <i>310mm</i> (dia.)	16.1" <i>410mm</i> (dia.)
Cross Slide Tool Holder Mounting Surface	T-Slots	T-Slots	T-Slots	T-Slots
Cross Slide "T" Slots	14 mm	14 mm	14 mm	14 mm
Travel (X Axis) Cross Slide	11" <i>280 mm</i>	12" <i>300 mm</i>	13" <i>330 mm</i>	13" <i>330 mm</i>
Travel (Z Axis) Long Slide – with tail stock <i>*Optional turret may limit Z axis travel due to tail stock interference</i>	44.5" <i>1130 mm</i>	N/A	N/A	42" <i>1066 mm</i>
60" Bed Machine <i>*See note above</i>	N/A	63.5" <i>1600 mm</i>	63.5" <i>1600 mm</i>	N/A
80" Bed Machine <i>*See note above</i>	N/A	N/A	N/A	70" <i>1775 mm</i>
120" Bed Machine <i>*See note above</i>	N/A	N/A	N/A	124" <i>3150 mm</i>
160" Bed Machine <i>*See note above</i>	N/A	N/A	N/A	163" <i>4140 mm</i>
Z Cutting Length with Standard Turret	Reduce center-to-center distance by 4" <i>102 mm</i>			
Z Cutting Length with Live Tooling Turret	N/A	Consult factory	Consult factory	Consult factory
Centerline to Turret Face	Consult factory	Consult factory	Consult factory	Consult factory
Center Distance 40" Bed Machine	48" <i>1220 mm</i>	N/A	N/A	45" <i>1140 mm</i>
Center Distance 60" Bed Machine	N/A	66.9" <i>1700 mm</i>	64.5" <i>1638 mm</i>	N/A
Center Distance 80" Bed Machine	N/A	N/A	N/A	84" <i>2130 mm</i>
Center Distance 120" Bed Machine	N/A	N/A	N/A	118" <i>3000 mm</i>
Center Distance 160" Bed Machine	N/A	N/A	N/A	163" <i>4150 mm</i>
Bed Width	14" <i>355 mm</i>	14" <i>355 mm</i>	16" <i>405 mm</i>	16" <i>405 mm</i>
Machine Weight, 40" Bed Machine	6000 lb <i>2730 kg</i>	N/A	N/A	9,500 lb <i>4300 kg</i>
60" Bed Machine	N/A	8500 lb <i>3850 kg</i>	10,000 lb <i>4500 kg</i>	N/A
80" Bed Machine	N/A	N/A	N/A	11,500 lb <i>5200 kg</i>
120" Bed Machine	N/A	N/A	N/A	13,200 lb <i>6000 kg</i>
160" Bed Machine	N/A	N/A	N/A	17,200 lb <i>7800 kg</i>
Ball Screw Size 40" & 60" Bed Machine	X 25 mm Z 40 mm	X 25 mm Z 40 mm	X 32 mm Z 45 mm	X 32 mm Z 45 mm
Ball Screw Size 80" Bed Machine	N/A	N/A	N/A	X 32 mm Z 50 mm
Ball Screw Size 120" Bed Machine	N/A	N/A	N/A	X 32 mm Z 50 mm
Ball Screw Size 160" Bed Machine	N/A	N/A	N/A	X 32 mm Z 50 mm
Ball Screw Grade, Precision Ground	C5	C5	C5	C5
Ball Screw Pitch X axis / Z axis	5 mm / 10 mm	5 mm / 10 mm	5 mm / 10 mm	5 mm / 10 mm
Maximum Weight of Part With Chuck and No Support From Center	220 lb <i>100 kg</i>	220 lb <i>100 kg</i>	250 lb <i>114 kg</i>	300 lb <i>135 kg</i>
<i>Maximum weight listed above is determined using factors of Chuck and Jaw clamping force and less than ideal work piece with a safety margin, and does not reflect the actual load capacity of the machine spindle. Safe machining practices should always be maintained when determining the largest part intended for the machine. Refer to supported weights, and the chuck manufactures recommendations when determining the acceptable weight of part.</i>				
Maximum Weight of Part With Chuck and Supported From Center	2200 lb <i>1000 kg</i>	2200 lb <i>1000 kg</i>	2500 lb <i>1140 kg</i>	2850 lb <i>1300 kg</i>
Maximum Weight of Part Between Centers With Steady Rest	3300 lb <i>1500 kg</i>	3300 lb <i>1500 kg</i>	4400 lb <i>2000 kg</i>	4850 lb <i>2200 kg</i>

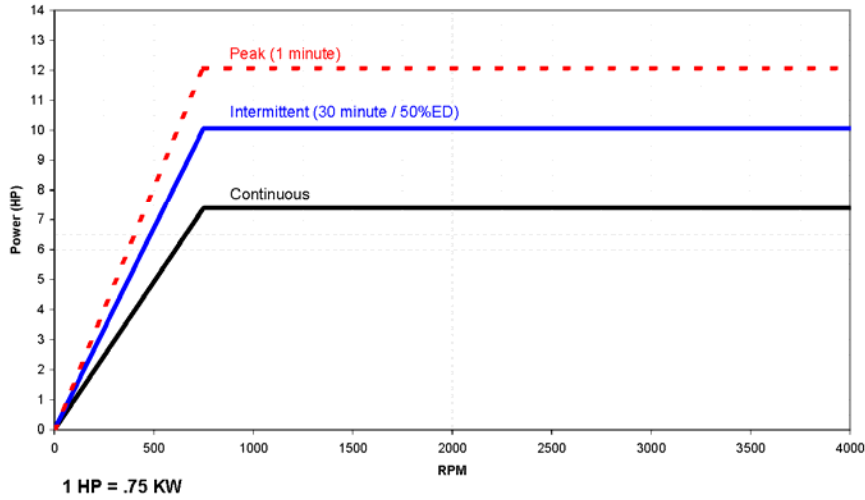
	ML16	ML18	ML22	ML26
SPINDLE				
Horsepower <i>1 minute / 30 minutes</i>	12/10 HP <i>9/7.5 kw</i>	18/12 HP <i>13/9 kw</i>	24/15 HP <i>18/11 kw</i>	24/15 HP <i>18/11 kw</i>
Reference Torque Chart:	12/10/1/L/Y	18/12/1/L-1/Y	24/15/1/L-1/Y	24/15/1/L-2/Y
Optional Horsepower <i>1 minute / 30 minutes (Performance Package)</i>	18/12 HP <i>13/9 kw</i>	24/15 HP <i>18/11 kw</i>	24/15 HP <i>18/11 kw</i> Two Speed	24/15 HP <i>18/11 kw</i> Two Speed
Reference Torque Chart:	18/12/1/L/Y	24/15/1/L/Y	24/15/2/L/Y	24/15/2/L-1/Y
Spindle Bore Standard Machines	2.04" <i>52 mm</i>	2.56" <i>65 mm</i>	3.22" <i>82 mm</i>	3.22" <i>82 mm</i>
Spindle Bore ML26 x 80	N/A	N/A	N/A	4.17" <i>106 mm</i>
Optional Spindle Bore ML26x80	N/A	N/A	N/A	6" <i>153 mm</i>
Spindle Bore on ML26 x 120 & ML26 x 160" Machines	N/A	N/A	N/A	6" <i>153 mm</i>
Spindle Nose Standard Machine	A2-5	D1-6	A1-8	A1-8
Spindle Nose ML26 x 80	N/A	N/A	N/A	A1-11
Spindle Nose with 6" Bore ML26 x 80	N/A	N/A	N/A	A2-11
Optional Rear Spindle Nose with 6" Bore	N/A	N/A	N/A	A2-11
Spindle Taper	MT#4	MT#4	MT#5	MT#5
Standard Horsepower Spindle Speed <i>*Important notice: RPM may need to be limited due to chuck size and RPM rating on workpiece</i>	100 - 4000	100 - 2600	40 - 2000	30 - 1600
Optional Horsepower Spindle Speed <i>*See note above</i>	100 - 4000	50 - 2600	40 - 2000	30 - 1600
Programmed by CNC <i>Low</i>	N/A	N/A	40 - 375	30 - 300
Programmed by CNC <i>High</i>	N/A	N/A	75 - 2000	60 - 1600
Optional Chuck Size(s)	8" <i>200 mm</i> 3 Jaw	8" <i>200 mm</i> 3 Jaw 10" <i>250 mm</i> 3 Jaw	10" <i>250 mm</i> 3 Jaw 12" <i>300 mm</i> 3 Jaw	12" <i>300 mm</i> 3 Jaw
Spindle Programming Resolution – <i>with Orient Option</i>	0.025°	0.025°	0.025°	0.025°
Spindle Orient Positioning Accuracy – <i>with Orient Opt</i>	± 0.16°	± 0.16°	± 0.16°	± 0.16°
Optional 5C Royal Collet Closer	Optional	Optional	N/A	N/A
Optional 3 Jaw Hydraulic Chuck(s)	6" <i>150 mm</i> 8" <i>200 mm</i>	8" <i>200 mm</i> 10" <i>250 mm</i>	10" <i>250 mm</i> 12" <i>300 mm</i>	12" <i>300 mm</i>
Bar Capacity with 6" Hydraulic Chuck Option	1.57" <i>39.8 mm</i>	N/A	N/A	N/A
Bar Capacity with 8" Hydraulic Chuck Option	1.57" <i>39.8 mm</i>	2.03" <i>51 mm</i>	N/A	N/A
Bar Capacity with 10" Hydraulic Chuck Option	N/A	2.03" <i>51 mm</i>	2.74" <i>70 mm</i>	N/A
Bar Capacity with 12" Hydraulic Chuck Option	N/A	N/A	2.74" <i>70 mm</i>	3.58" <i>91 mm</i>
Tailstock Quill Travel	6" <i>150 mm</i>	6" <i>150 mm</i>	6" <i>150 mm</i>	6" <i>150 mm</i>
Tailstock Quill Diameter	2.55" <i>65 mm</i>	3.15" <i>80 mm</i>	3.94" <i>100 mm</i>	3.94" <i>100 mm</i>
Tailstock Quill Taper	MT4	MT5	MT5	MT5
TOOLING ACCESSORIES – Contact Factory for Live Tooling Specifications				
Super Dorian Tool Post Option	3/4" <i>20 mm</i> SD35CXA	3/4" <i>20 mm</i> SD35CXA	3/4" <i>20 mm</i> or 1" <i>25 mm</i> SD35CXA or SD40CA	1" <i>25 mm</i> SD40CA
Dorian Quadra Post Option	3/4" <i>20 mm</i> , (QITP 35)	3/4" <i>20 mm</i> , (QITP 35)	3/4" <i>20 mm</i> , (QITP 35) 1" <i>25 mm</i> (QITP 40)	1" <i>25 mm</i> (QITP 40)
8 Station Auto Turret Option – <i>Specify if metric</i>	¾"x4" <i>20x100 mm</i>	¾"x4" <i>20x100 mm</i>	1"x5" <i>25x150 mm</i>	1"x5" <i>25x150 mm</i>
12 Station Auto Turret Option – <i>Specify if metric</i>	N/A	N/A	1"x 5.5" <i>25x150 mm</i>	1"x 5.5" <i>25x150 mm</i>
Turret Boring Bar Capacity – 8 Station	1.25" <i>32mm</i>	1.25" <i>32mm</i>	1.5" <i>38mm</i>	1.5" <i>38mm</i>
Turret Boring Bar Capacity – 12 Station	N/A	N/A	1.5" <i>38mm</i>	1.5" <i>38mm</i>
Turret Boring Bar Sleeve – 8 Station	1.25" dia x 2.375" <i>32 x 60mm</i>	1.25" dia x 2.375" <i>32 x 60mm</i>	1.5" dia x 3" <i>38 mm x 76 mm</i>	1 1.5" dia x 3" <i>38 mm x 76 mm</i>
Turret Boring Bar Sleeve – 12 Station	N/A	N/A	1.5" Dia x 3"	1.5" Dia x 3"
Steady Rest <i>Roller Type</i> - Convenience Package	.75 - 7.8" <i>20 - 200 mm</i>	.75 - 7.8" <i>20 - 200 mm</i>	.75 - 7.8" <i>20 - 200 mm</i>	.75 - 7.8" <i>20 - 200 mm</i>
Follow Rest <i>Brass Tip</i> - Convenience Package	.4 - 4" <i>10 - 100 mm</i>	.4 - 4" <i>10 - 100 mm</i>	.75 - 7.8" <i>20 - 200 mm</i>	.75 - 7.8" <i>20 - 200 mm</i>
Optional Steady Rest <i>Roller Type</i>	N/A	N/A	5.9 - 11.8" <i>150 - 300 mm</i>	5.9 - 11.8" <i>150 - 300 mm</i>
PERFORMANCE				

	ML16	ML18	ML22	ML26
Servo Type	AC	AC	AC	AC
Rapid Traverse	XZ: 500 ipm <i>12.7 mpm</i>	XZ: 500 ipm <i>12.7 mpm</i>	XZ: 500 ipm <i>12.7 mpm</i>	XZ: 500 ipm <i>12.7 mpm</i>
Maximum Feedrate	100 ipm <i>2540 mmpm</i>	100 ipm <i>2540 mmpm</i>	100 ipm <i>2540 mmpm</i>	100 ipm <i>2540 mmpm</i>
Position Accuracy <i>See note</i>	±.00025" <i>.0063 mm</i>	±.00025" <i>.0063 mm</i>	±.00025" <i>.0063 mm</i>	±.00025" <i>.0063 mm</i>
Repeatability <i>See note</i>	.0002" <i>.005 mm</i>	.0002" <i>.005 mm</i>	.0002" <i>.005 mm</i>	.0002" <i>.005 mm</i>
Resolution	.00004" <i>.001 mm</i>	.00004" <i>.001 mm</i>	.00004" <i>.001 mm</i>	.00004" <i>.001 mm</i>
Thrust, Machine Duty Rating	X: 1500 lb <i>680 kg</i> Z: 1500 lb <i>680 kg</i>	X: 1500 lb <i>680 kg</i> Z: 1500 lb <i>680 kg</i>	X: 2300 lb <i>1040 kg</i> Z: 2300 lb <i>1040 kg</i>	X: 4000 lb <i>1815 kg</i> Z: 4000 lb <i>1815 kg</i>
MISCELLANEOUS				
Optional Barfeeder - Bar Diameter	N/A	.2 - 2.55" <i>5 - 65 mm</i>	.2 - 2.55" <i>5 - 65 mm</i>	.2 - 2.55" <i>5 - 65 mm</i>
Optional Barfeeder - Maximum Bar Length	N/A	50" <i>1250 mm</i>	50" <i>1250 mm</i>	50" <i>1250 mm</i>
Optional Barfeeder - Loading Capacity	N/A	10 Bars x 2.55" <i>65 mm</i>	10 Bars x 2.55" <i>65 mm</i>	10 Bars x 2.55" <i>65 mm</i>
Flood Pump	¾ HP	¾ HP	¾ HP	¾ HP
Flood Coolant Capacity	20 gal. <i>75 L</i>	26 gal. <i>100 L</i>	50 gal. <i>190 L</i>	50 gal. <i>190 L</i>
Power 208-240 VAC, 50-60hz, 3Ø	30 amps 11 kVA	50 amps 19 kVA	50 amps 19 kVA	50 amps 19 kVA
400-440 VAC Transformer	Req. Transformer	Req. Transformer	Req. Transformer	Req. Transformer
Floor Space Requirement 40" Bed Machine	83" x 120" <i>2110 x 3050mm</i>	N/A	N/A	94" x 120" <i>2390 x 3050 mm</i>
Floor Space Requirement 60" Bed Machine	N/A	83" x 138" <i>2100 x 3510mm</i>	83" x 143" <i>2100 x 3630 mm</i>	N/A
Floor Space Requirement 80" Bed Machine	N/A	N/A	N/A	94" x 158" <i>2390 x 4000 mm</i>
Floor Space Requirement 120" Bed Machine	N/A	N/A	N/A	118" x 205" <i>3000 x 5200 mm</i>
Floor Space Requirement 160" Bed Machine	N/A	N/A	N/A	90 x 244" <i>2390 x 6190 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, and 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>				

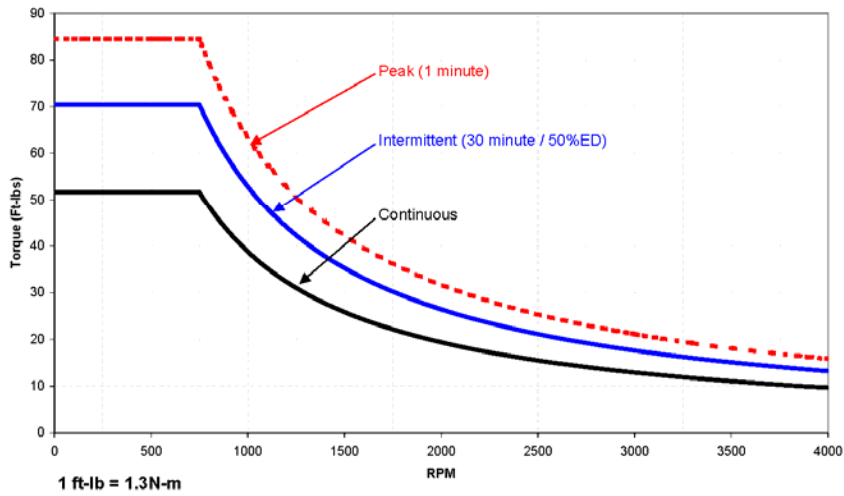
Yaskawa Torque Chart 12/10/1/L/Y – Belted Spindle

Used on: Standard ML16
Optional N/A

Power Characteristics of ML16 with 12/10 HP Single Winding Motor



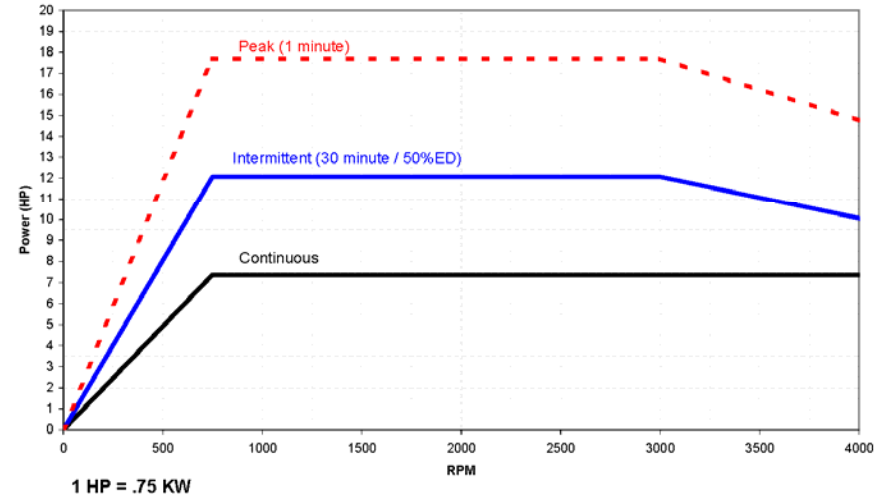
Torque Characteristics of ML16 with 12/10 HP Single Winding Motor



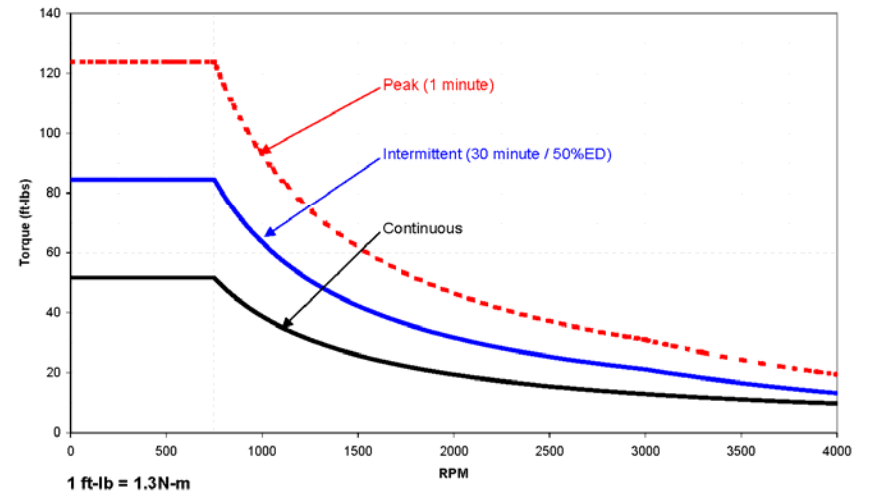
Yaskawa Torque Chart 18/12/1/L/Y – Belted Spindle

Used on: Standard N/A
Optional ML16

Power Characteristics of ML16 With 18/12 HP Single Winding Motor

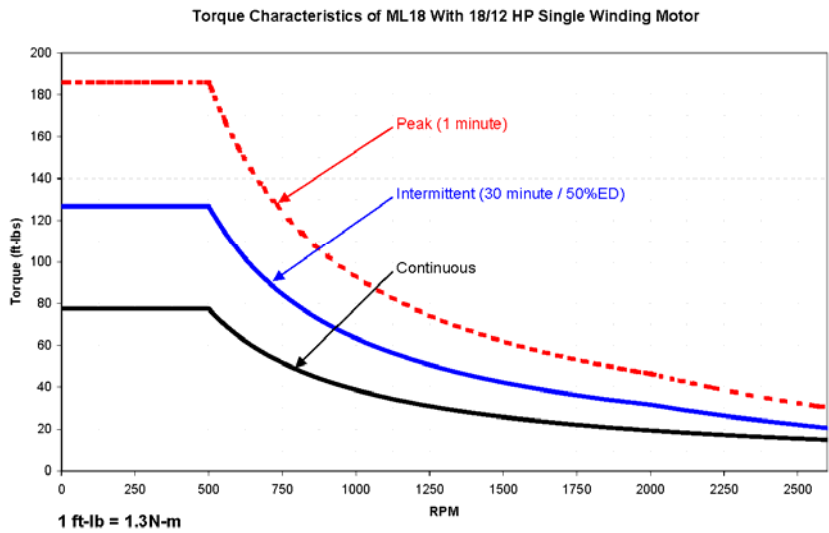
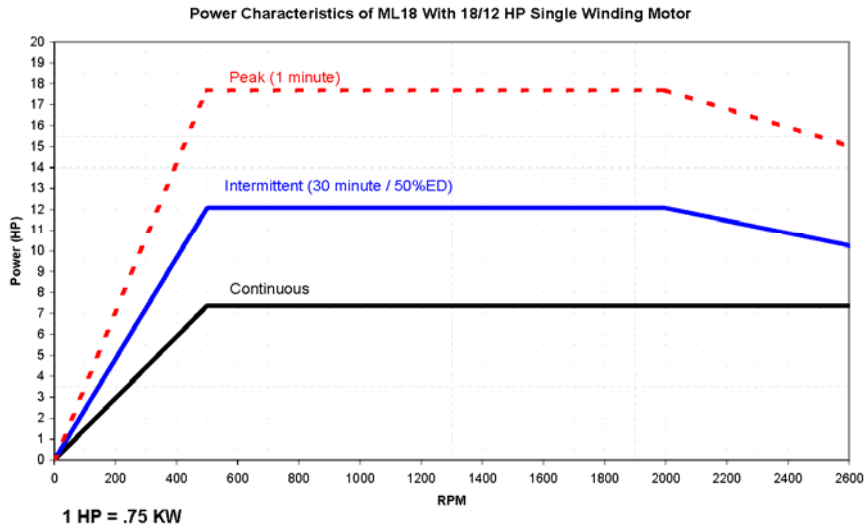


Torque Characteristics of ML16 With 18/12 HP Single Winding Motor



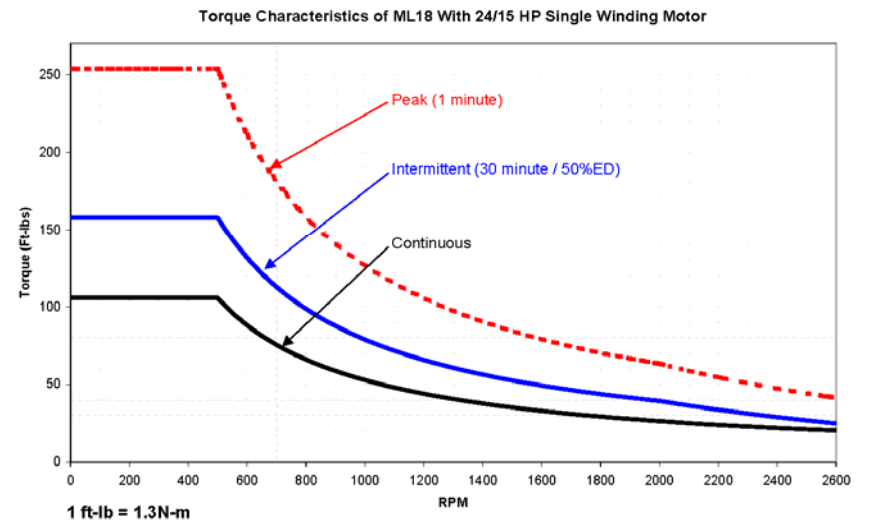
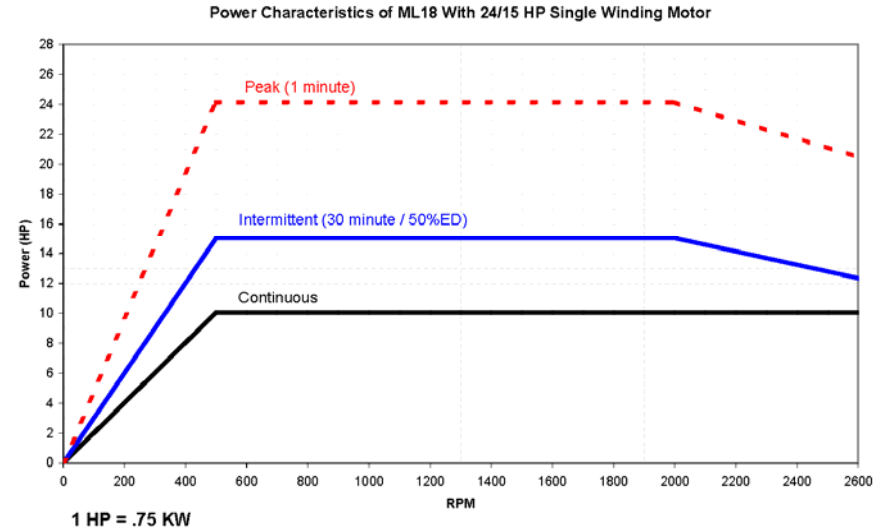
Yaskawa Torque Chart 18/12/1/L-1/Y – Belted Spindle

Used on: Standard ML18
Optional N/A



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

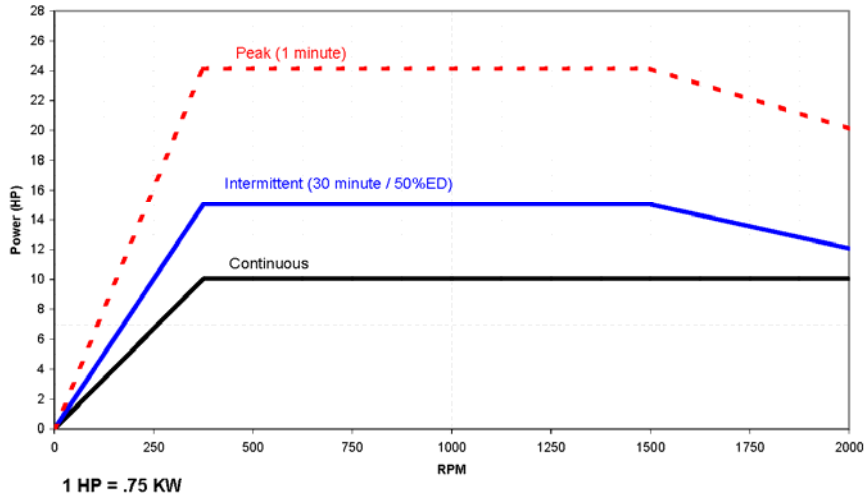
Used on: Standard N/A
Optional ML18



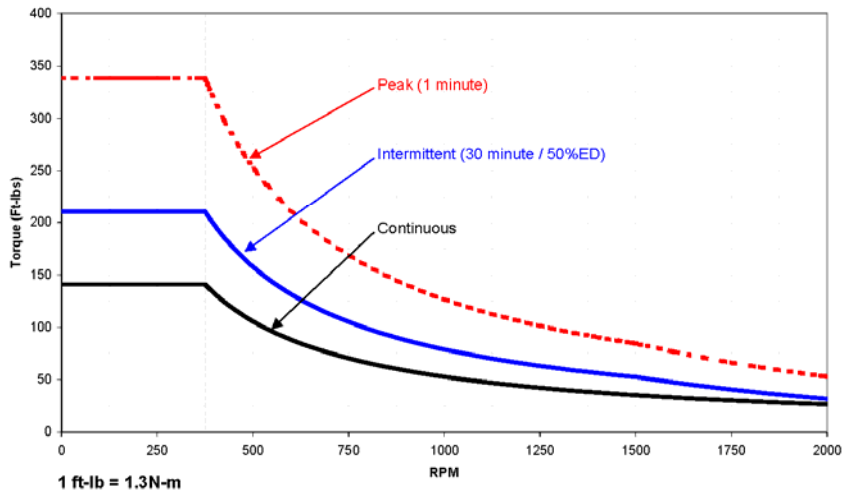
Yaskawa Torque Chart 24/15/1/L/1/Y – Belted Spindle

Used on: Standard ML22
Optional N/A

Power Characteristics of ML22 With 24/15 HP Single Winding Motor



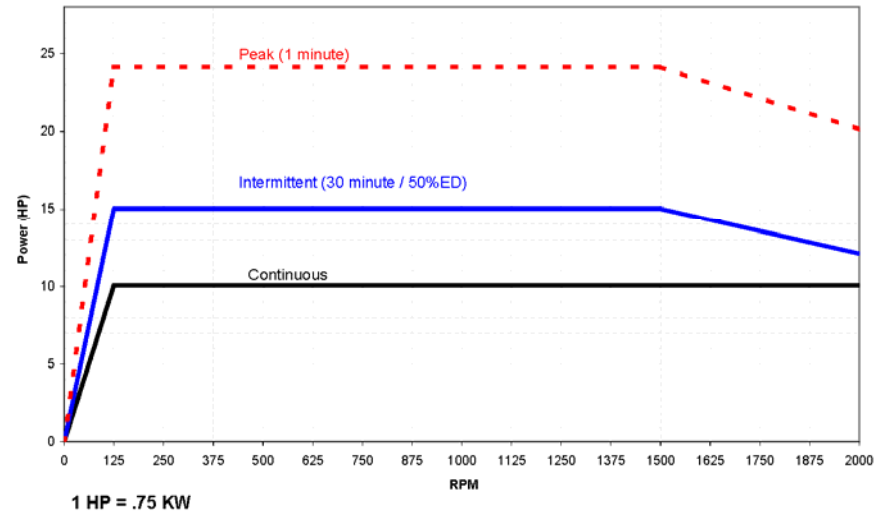
Torque Characteristics of ML22 With 24/15 HP Single Winding Motor



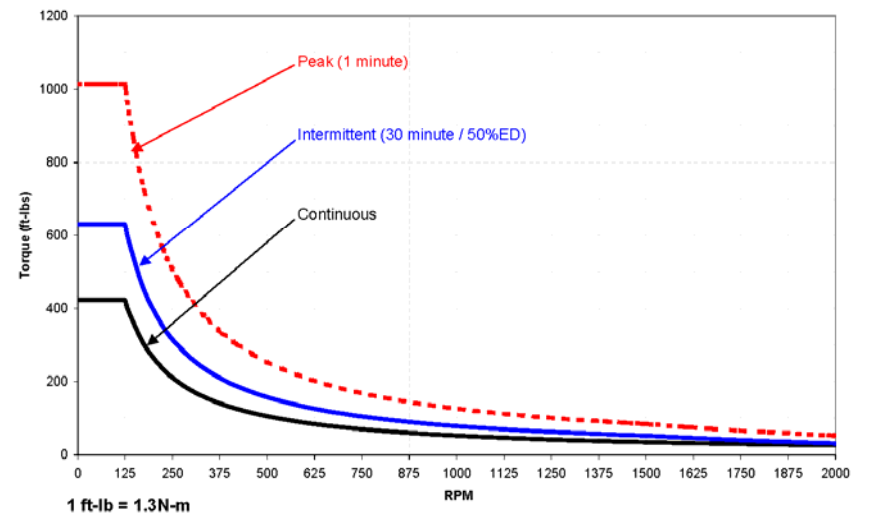
Yaskawa Torque Chart 24/15/2/L/Y – Belted Spindle

Used on: Standard N/A
Optional ML22

Power Characteristics of ML22 With 24/15 HP WYE Delta Motor

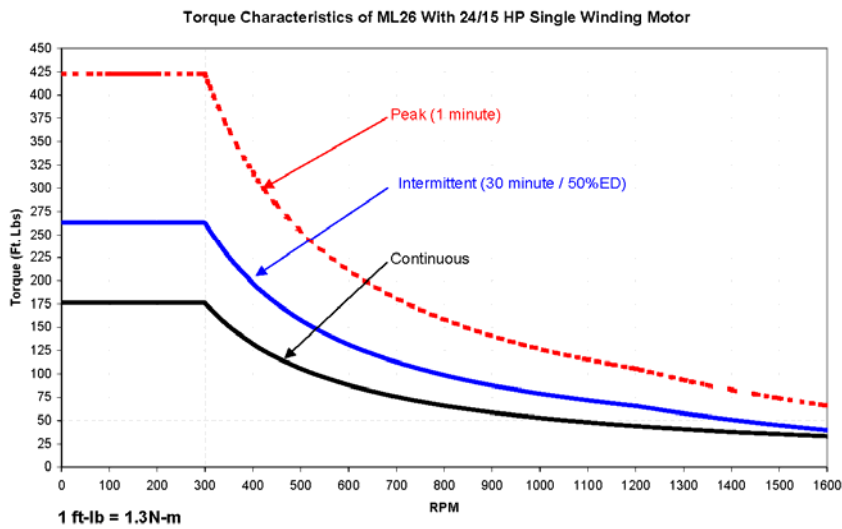
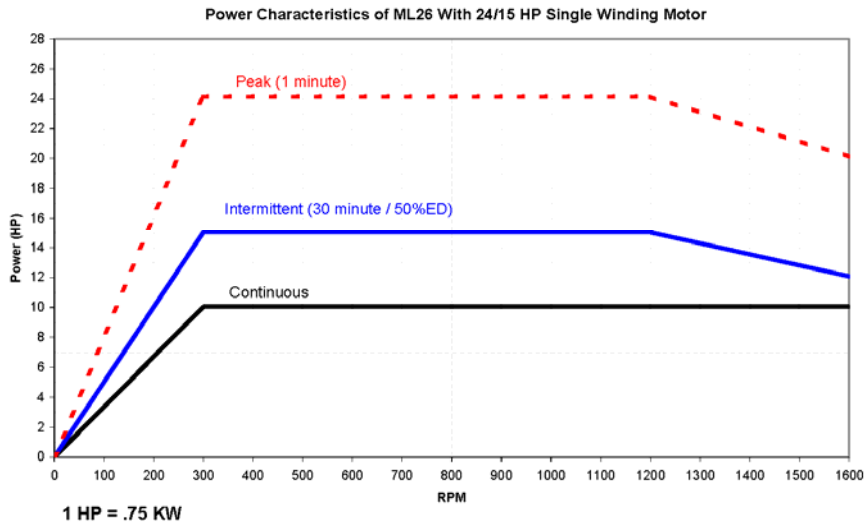


Torque Characteristics of ML22 With 24/15 HP WYE Delta Motor



Yaskawa Torque Chart 24/15/1/L-2/Y – Belted Spindle

Used on: Standard ML26
Optional N/A



Yaskawa Torque Chart 24/15/2/L-1/Y – Belted Spindle

Used on: Standard N/A
Optional ML26

