

ML26/80

2 Axis Combination Lathe



STANDARD FEATURES

- Milltronics 8200-B series CNC control
- Solid box way bed construction
- 1600 RPM spindle
- Tailstock
- Auto lubrication
- Full enclosure w/ sliding doors
- 4.17" Spindle bore
- A1-11
- 12" LCD color display
- Spindle load meter
- Flood coolant
- Solid model graphic display
- USB Port
- Gap bed design
- 8 Station 1" automatic turret
- LCD hour meter
- Thread chasing feature
- One year warranty

SPECIFICATIONS

CAPACITY:

X axis travel	13" (330 mm)
Z axis travel	84" (2130 mm)
Swing over bed (diam)	27" (685 mm)
Swing over gap (diam)	34.2" (870 mm)
Swing over cross slide (diam)	16.1" (410 mm)
Gap distance	12.75" (320 mm)

SPINDLE:

Spindle bore	4.17" (106 mm)
Spindle nose	A1-11
Spindle bore (Opt)	6" (153 mm)
Spindle nose (w/Opt bore)	A2-11
Spindle range	30-1600 RPM
AC spindle motor	24/15 HP (18/11 kW) 2 Speed Delta/WYE
Spindle torque	1250 ft-lbs (1690 N.m)

TAILSTOCK:

Tailstock quill travel	6" (150 mm)
Tailstock quill diameter	3.94" (100 mm)
Tailstock quill taper	MT5

AUTOMATIC TURRET:

Number of tools	8
Tooling size	1" (25 mm)
Boring bar capacity	1.5" (38 mm)
Tool selection	Bi-directional

MOTION:

X, Z axis rapid traverse rate	500 IPM (12.7 m/min)
Max. cutting feed rate	100 IPM (2540 mm/min)
X axis ball screw diameter	1.25" (32 mm)
Z axis ball screw diameter	1.97" (50 mm)
Positioning accuracy	+/- 0.00025" (+/- 0.0063 mm)
Repeatability	0.0002" (0.005 mm)
Axis thrust force X,Z	4000 lbs. (1815 kg)

GENERAL:

Machine Height	83" (2108 mm)
Floor Space Required (W x D)	166" x84 " (4216 x 2133 mm)
Machine Weight	11,500 lbs. (5200 kg)
Power required	23 KVA / 60 amps
Voltage required	208-240 Volts / 3 Phase

CONSTRUCTION

*** BED, CROSSLIDE AND SADDLE:**

The bed, crossslide, and saddle are composed of Meehanite cast iron, which includes very high dampening characteristics. Heavily ribbed castings provide superior dampening decreasing vibration and harmonics providing aggressive turning ability. The bed casting and saddle are stress relieved to ensure machine geometry is maintained. Spacing of the solid box bed ways create optimal support for the saddle in full travel. The gap (12.75") allows larger turning near the spindle. The "T" slotted crossslide is fully ground and hardened and allows easy mounting of custom tooling.

*** WAY SURFACES:**

The X & Z-axis way surfaces are hardened and ground with turcite. The square box ways on the Z axis provide added rigidity and strength over a conventional "V" way. Additionally, the Z axis ways are widely spaced (405 mm) increasing the stability of the bed and slide providing superior cutting performance. The way surfaces on both axes utilize gibs with easy adjustment to maximize rigidity and maintain geometry throughout the life of the machine tool.

*** SPINDLE AND HEADSTOCK:**

The fully balanced spindle is driven using a 24/15 HP (18/11kw) 2 Speed Delta/WYE closed loop full regen AC servo motor. Heavy exterior ribbing on the headstock allows for added rigidity and increased surface area for heat transfer. The spindle is directly driven eliminating gears, oil pumps, vibration, and noise. Five high precision, large diameter permanently greased angular ball bearings support the spindle allowing for heavy work pieces. CSS function is standard promoting longer tooling life and improved part finish. An optional 6" (153mm) spindle bore is available. A rear chuck mount is standard with the 6" spindle bore option.

*** BALL SCREWS AND AXIS DRIVES:**

Each axis is driven using a high precision, fully ground preloaded ball screw. Each ball screw is supported on each end using angular contact thrust bearings to achieve high rapid traverse rates and thrust. The Z axis ball screw is directly driven using AC servo type motors minimizing backlash and vibration. The 5 mm (X) and 10 mm (Z) pitch ball screws provide a high level of accuracy while maintaining adequate thrust.

*** AUTOMATIC TURRET:**

An 8 position automatic turret provides quick, reliable tool changes. Turning holders utilize 1" square shank tooling and boring bar holders can accommodate 1.5". The bi-directional turret comes standard with 1 boring bar holder and 1 axial tool holder. Additional holders are available and are interchangeable from station to station.

*** LUBRICATION:**

Automatic lubrication is provided to the way surfaces and ball screws with oil to eliminate wear. Way oil is delivered by metered valves, which precisely control the volume. A low oil-level alarm warns the user preventing possible damage to the way surfaces and ball screws.

*** TAILSTOCK:**

The design of the interface free tailstock allows for full cutting along the Z axis travel. The oversized tailstock is ideal for supporting heavy work pieces. The tailstock is easily positioned using a carriage connection coupler. The quill can be moved manually up to 6". A MT#5 dead center is provided with the tailstock.

*** COOLANT SYSTEM:**

A high volume coolant pump (3/4HP) delivers coolant to the coolant nozzle(s) on each turret station. The 69 gallon coolant tank is separate from the machine bed allowing for quick and easy maintenance. The chip drawer rests above the coolant tank filtering chips from reaching the coolant tank and pump. The coolant tank and chip drawer are easily removed from the rear of the machine to allow for chip removal.

*** EDIT KEY:**

The edit key enables protection of programs as well as parameters of the 8200-B CNC control. Removal of the key limits a user from loading programs and parameters such as work coordinates and tool offsets. With the edit key in the off position the data in the CNC control is available for editing.

STANDARD EQUIPMENT IN BASE PRICE

- Milltronics 8200-B CNC
- 12" Color LCD display
- Ethernet Connection
- USB Port
- Auxiliary Keyboard jack with keyboard
- Offline FastCAM software for programming
- User Definable Custom Macros
- Feedrate and Spindle speed overrides
- Spindle load meter
- Edit key lock-out switch
- LCD hour meter
- Tri-color end of cycle warning light
- Single spare "M" function with CNC wait channel
- Rigid Tapping
- Remote Handwheel (MPG)
- Work light
- Meehanite cast iron bed
- Gap bed design
- 1600 RPM spindle
- Cartridge spindle design
- 24/15 HP(18/11 kW) 2 Speed Delta/WYE spindle motor
- 4.17" Spindle bore w/A1-11 Spindle nose
- 6" Spindle bore w/A2-11 Spindle nose (Option)
- Fully ground solid ways with turcite
- Flood coolant
- Full enclosure with sliding front doors
- Chuck guard with safety switch
- Door interlock safety switch
- AC Servo motors driven to oversized ball screws on all axes
- Double anchored, pre-tensioned ball screws
- 500 IPM Rapid Traverse rate
- Matched AC Servo Amplifiers on all axes
- CSS and Feed/rev with threading, rigid tapping, and thread chasing cycles
- Rear mounted 8 Station 1" Automatic Turret
- Dual Electronic Handwheels for Teach, manual or automatic operation
- Tail Stock latch and position coupler
- Automatic metered way oil lubrication
- Instruction manual, parts list, and electrical drawings
- Operator and maintenance manuals
- One year warranty

OPTIONAL ACCESSORIES:**Spindle Bore:**

3023-16 6" (153 mm) Spindle bore with rear chuck mount

Work Holding:

9389-19 12" (300 mm) Manual 3-Jaw Chuck
** Through hole not recommended with 6" bore option*

6992-10 12" (300 mm) Hydraulic 3-Jaw Chuck – 2.71" (70 mm) Bar Capacity

3876-14 Programmable hydraulic quill only tailstock upgrade
Must be purchased with hydraulic chuck package

8847 Steady Rest – Roller Type 0.75 - 7.8" (20 - 200 mm) Capacity

8987-1 Steady Rest – Roller Type 7.09 – 16.1" (180 - 410 mm) Capacity

8848 Follow Rest – Brass Tip 0.4 - 4" (10 - 100 mm) Capacity

Tooling:

9890-4 1.5" Boring Bar Holder for 1" Automatic Turret

9891-6 1" Axial Tool Holder for 1" Automatic Turret

Additional Machine Accessories:

6987-11 Baruffaldi TBMA160 Live Tool Turret
Consult factory for limitations – Requires spindle orient & brake

7031-1 Spindle Brake

9891-4 Standard axial holder (VDI40)

9891-5 Standard radial holder (VDI40)

8909-3 Spare "M" Functions – *Block of 4*

9999-411 Printed programming manual

9999-329 Printed machine manual

Export Packaging:

9999-395 Required for machines shipping outside of North America

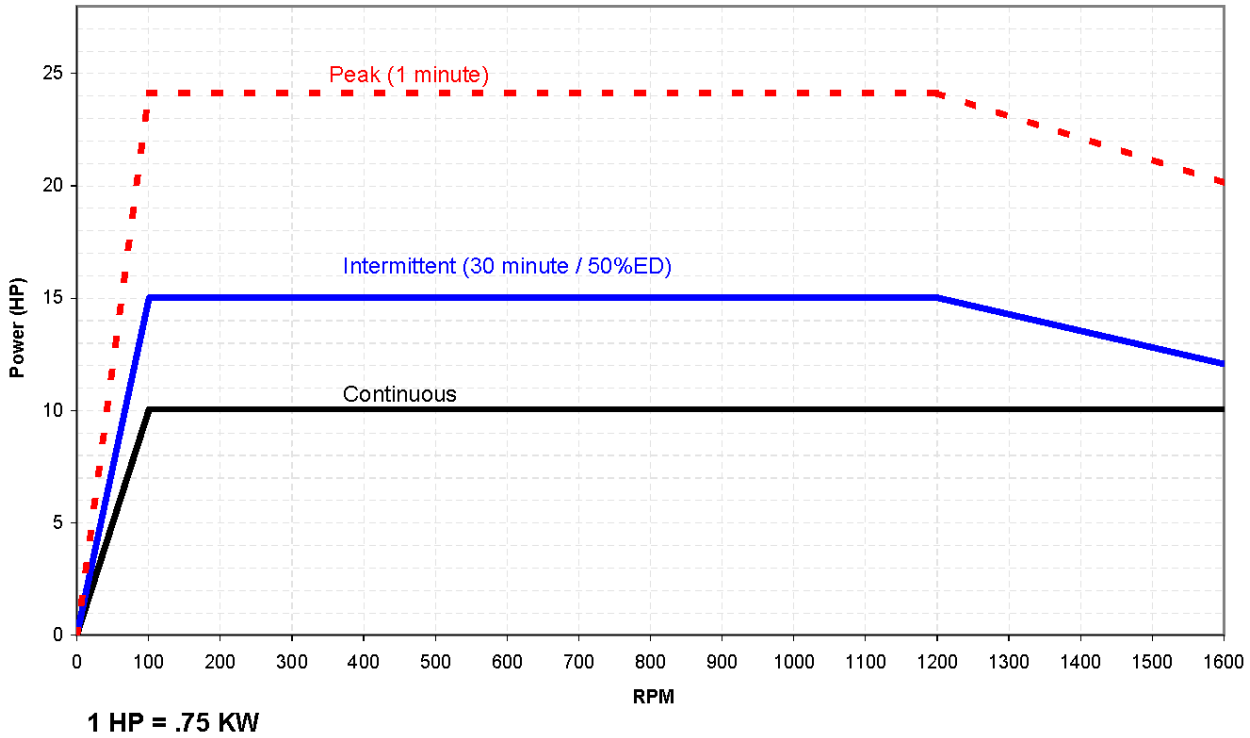
Milltronics 8200-B Series CNC Control Features

- 12" LCD color display
- 2000 blocks/second high speed processor
- Conversational programming
- Fanuc based G&M Code programming
- Inch/Metric Conversion / programming
- Manual Machine Operations
- Single Automatic Operation w/Teach Mode
- Auto routines
- User definable macros with trig assist
- Custom Macro B
- Auto DXF file import
- Part and wire frame tool path graphics
- Solid Model Graphic Display
- Onboard diagnostics
- Spindle load meter
- Part counter display
- 1 GB parts program memory
- Networking
- USB Port
- Manual pulse generator
- Coordinate rotating
- Scaling
- Mirror image
- Feedrate and Spindle Override
- Tool radius and length offsets (24 total)
- Tool Load Monitoring
- 6 Work Coordinates (G54-G59)
- G92 Coordinate system setting
- Backlash Compensation
- Ballscrew pitch error compensation
- Rigid tapping/ threading cycles
- Canned cycles including:
 - Drilling
 - Turning
 - Facing
 - Boring
 - Tapping
 - Grooving
 - Threading
 - 3D Pocket/Sweep
 - Tangent/Circle Generate
- Subprogram Call-50 nested programs maximum
- MDI
- Background Editing
- Program/Parameter protect

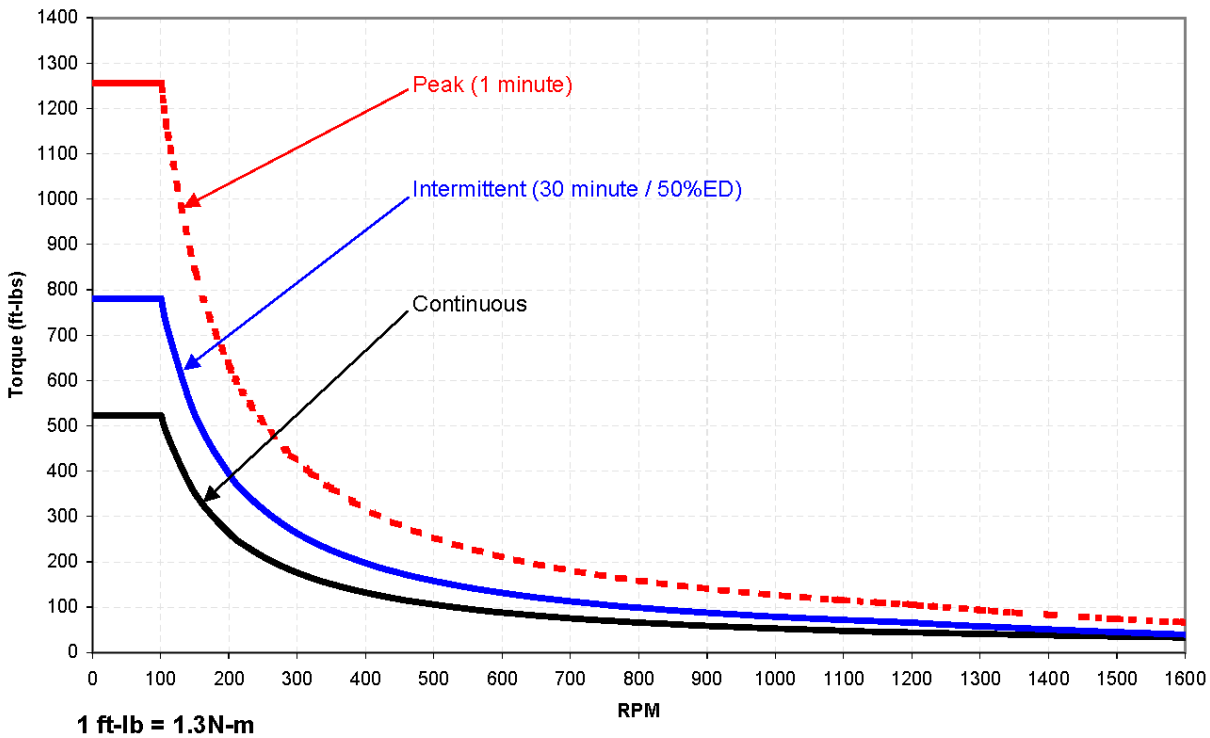
Yaskawa Torque Chart 24/15/2/L-1/Y – Belted Spindle

Used on: Standard ML26/80

Power Characteristics of ML26 With 24/15 HP WYE Delta Motor



Torque Characteristics of ML26 With 24/15 HP WYE Delta Motor



LIMITED WARRANTY ON ALL NEW MILLTRONICS MANUFACTURING COMPANY MACHINES

Marketed under the commercial name of Milltronics Manufacturing Company. This warranty does not apply to equipment manufactured and sold by the International Machine Tools or Partner Machines divisions of Milltronics Manufacturing Company. Such equipment has a separate limited warranty.

United States and Canada Shipments

Milltronics Manufacturing Company ("Milltronics" or "Company") warrants all of their CNC machines ("Machines") and the Centurion CNC systems supplied with these Machines shall be free from defects in workmanship and materials under normal use and service for a period of one year or 2100 hours, whichever is shorter, from the date of delivery. This warranty is limited to all factory-supplied parts and accessories as indicated on the original purchase order as accepted by Milltronics and any parts necessary to repair such defects. Milltronics' liability for breach of warranty shall arise only upon the return of the defective parts at Buyer's expense after notice to Milltronics of claimed breach, and shall be limited to replacing or repairing, at Milltronics option, at its factory, any of said articles which shall within one year after shipment be returned to Milltronics' factory of origin, transportation charges prepaid, and which are, after examination, disclosed to Milltronics' satisfaction to be defective. Notice to Milltronics of claimed defects discoverable by inspection must be given within ten (10) days after receipt of shipment. This warranty shall not apply to any of such articles which shall have been repaired or altered, except by Milltronics, or which shall have been subjected to misuse, negligence, or accident. The aforementioned provisions do not extend the original warranty period of any articles which have either been repaired or replaced by Milltronics. This warranty applies to the original purchaser only or the original end user if the equipment is financed by a third party. During the first six months the one-year warranty also includes all travel expenses incurred by a Milltronics factory representative if a problem occurs which is not repairable by the local distributor or a part exchange. For the second six months of the one-year warranty Milltronics will pay for all travel expenses except airfare. During the warranty period Milltronics will cover any standard UPS freight charge for parts and repairs shipped from our facility. Incoming freight for warranty items is not covered under this warranty, and Milltronics will not pay incoming freight charges unless pre-approved in writing.

Neither the Machine nor the Centurion CNC warranty will cover parts that are damaged or have failed due to abuse, improper operation, weather, act of God, terrorism or shipping. No Milltronics warranty covers damage to fixtures, tools, or parts, regardless of the cause of this damage. Accessories not supplied by Milltronics are not covered under this warranty, and any alterations to the Machine or CNC control done by other than Milltronics' authorized personnel, unless approved by Milltronics' personnel in writing, shall void any warranties.

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MILLTRONICS SHALL NOT BE LIABLE FOR ANY: (A) SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS, ARISING FROM OR RELATED TO THIS WARRANTY, THE BREACH OF ANY AGREEMENT OR WARRANTY OR THE OPERATION OR USE OF THE *MACHINE OR CENTURION CNC CONTROL*, INCLUDING WITHOUT LIMITATION, DAMAGES ARISING FROM DAMAGE TO FIXTURES, TOOLS, PARTS OR MATERIALS, LOSS OF DATA OR PROGRAMMING, DIRECT OR INDIRECT LOSS CAUSED BY THE DISTRIBUTOR OR DEALER REPRESENTATIVE, LOSS OF REVENUE OR PROFITS, FAILURE TO REALIZE SAVINGS OR OTHER BENEFITS, DAMAGE TO EQUIPMENT, FINANCING OR INTEREST CHARGES, AND CLAIMS AGAINST CUSTOMER BY ANY THIRD PERSON, EVEN IF MILLTRONICS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES; (B) DAMAGES (REGARDLESS OF THEIR NATURE) FOR ANY DELAY OR FAILURE BY THE COMPANY TO PERFORM ITS OBLIGATIONS UNDER THIS AGREEMENT DUE TO ANY CAUSE BEYOND THE COMPANY'S REASONABLE CONTROL; OR (C) CLAIMS MADE A SUBJECT OF A LEGAL PROCEEDING AGAINST THE COMPANY MORE THAN ONE (1) YEAR AFTER ANY SUCH CAUSE OF ACTION FIRST AROSE.

The validity, construction and performance of this Warranty and any sale made by Milltronics shall be governed by the laws of the State of Minnesota, without regard to conflicts of laws provisions of any jurisdiction and any action related in any way to any alleged or actual offer, acceptance or sale by Milltronics or any claim related to performance or agreement or warranty by Buyer or Milltronics shall be venued in federal or state district court in Hennepin County, Minnesota.

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This warranty is invalid unless the customer has signed off on and returned to Milltronics or its distributor the factory-provided installation forms and Milltronics is funded in full for the equipment.