MB-RH Series

Milltronics USA

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Waconia, Minnesota

Milltronics USA

Headquarters in Waconia, Minnesota

Founded in 1973 with over 45 years building machines and controls

- 14,000 machines installed worldwide

Member of Hurco Machine Tool Group

- Publicly traded company on NASDAQ

- About 800 employees (250 in USA)

- Plants in Indiana, Minnesota, Italy and Taiwan

Minnesota team includes machine design, software, controls, electrical and mechanical engineering

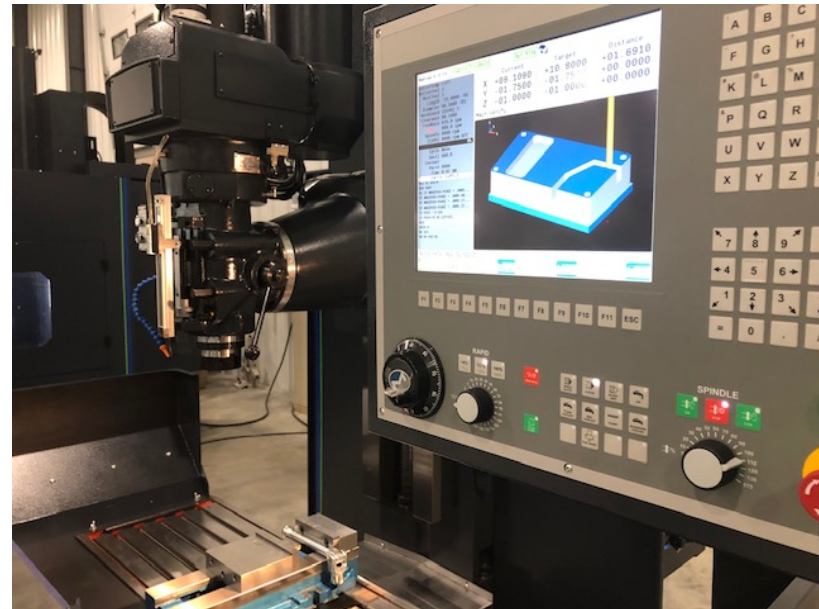- Also manufacturing, assembly, finance, sales, service, training and applications

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MB-RH Series
Tool Room Specialists

MB-RH Series

- Flexible machines designed for tool room, prototype, maintenance or job shop applications

- Bed style (with saddle) and either quill head (MB) or rigid head (RH)

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MB Quill Head

- Fully programmable using the CNC control
- The quill has 6" of travel for manual operations
- The spindle is belt driven using an inverter control AC spindle motor
- 8:1 manually shifted back gear allows for applications requiring high torque (two speed)
- Tools (Cat #40) are secured in the spindle using a power drawbar
- The head is capable of tilting ±45 for additional flexibility

MB2

Quill Scale (option)

- Provides direct feedback of quill position to the CNC control
- Adjusts commanded move if quill is inadvertently left down (avoiding crash)
  - Can detect if a quill is unlocked (detects un-commanded movement) and aids in tool setting
- The tool setting feature allows an operator to position the quill manually when setting tools

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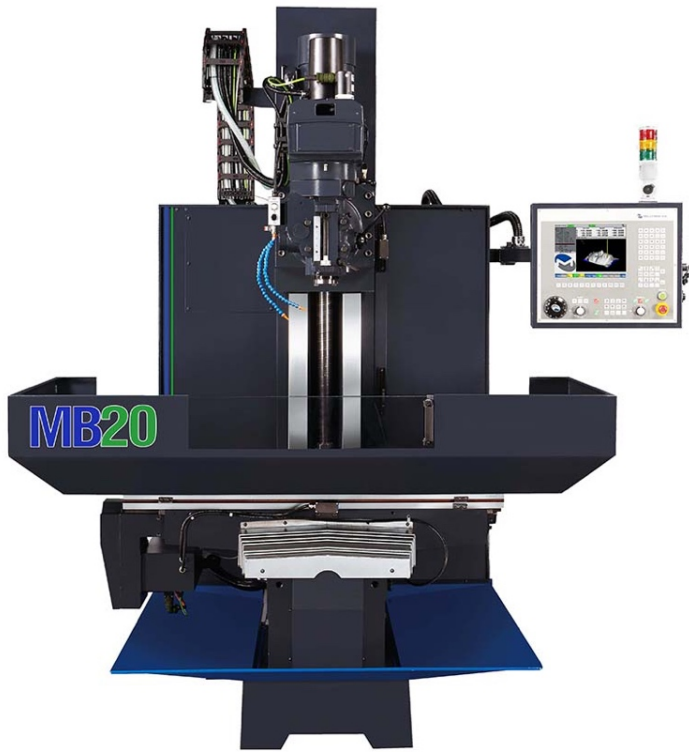LET'S INVENT

Machine Construction

The mating surface of the base and column are hand scraped

- The base, column, and saddle are heavily ribbed Meehanite cast iron

- Spacing of solid box ways ensure optimal support for table and saddle in full travel of each axis

- Axis ball screws are supported on each end using angular contact thrust bearings and are perfectly centered

- The axis ball screws are belt driven with AC servo type drive motors

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Electrical and Motors

- MB features AC spindle motor with Yaskawa inverter and all Yaskawa axes motors and drives
- RH Series uses Yaskawa spindle motor and amplifier and all Yaskawa axes motors and drives
- Electric cabinet is well organized and labelled
- Documentation is excellent and in English

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MB20 Spec Summary

Spindle Taper	Cat #40
Spindle (low/high)	60-500/500-4000
Spindle Motor	10/7.5 hp
X/Y, Z Rapids	500/300 ipm
Max Cut Feed Rate	300 ipm
Ballscrews X/Y & Z	32 mm/40 mm
Positioning	+/-.00039"
Repeatability	.0002"
Height	110"
Width x Depth	129" x 82"
Weight	7,000 lbs
Power Required	16 KVA
Control	8200-B

Travels	40" x 20" x 24"
Quill Travel	6" (manual)
Head Tilt	+/- 45º
Table Size/Capacity	54" x 16"/2,500 lbs

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MB20

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RH Rigid Head

- 8,000 rpm Cat #40 cartridge spindle – five 60 mm spindle bearings
- Permanently greased spindle bearings require no maintenance
- Driven by a 18/12HP (13/9 kW) AC servo motor
- Standard rigid tapping
- Spindle air purge keeps the spindle bearings free of contamination
- The optional 24 pocket carousel ATC provides reliable tool changes

RH20 Spec Summary

Travels	40" x 20" x 24"
Table Size	54" x 16"
Table Capacity	2,500 lbs
Spindle Taper	Cat #40
ATC (Optional)	24 stations carousel
Spindle Speed	8,000 rpm
Spindle Motor	10/7.5 hp
Spindle Torque	85 ft lbs
X/Y, Z Rapids	500/300 ipm
Max Cut Feed Rate	300 ipm
Ballscrews X/Y & Z	32 mm/40 mm
Positioning	+/-.00039"
Repeatability	.0002"

Width x Depth x Height	129" x 82"x 103"
Weight	8,000 lbs
Power Required	24 KVA
Control	8200-B

RH20

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RH30 Spec Summary

Travels	60" x 30" x 28"
Table Size	73" x 24"
Table Capacity	3,000 lbs
Spindle Taper	Cat #40

ATC (Optional)	24 stations carousel
Spindle Speed	8,000 rpm
Spindle Motor	24/15 hp
Spindle Torque	250 ft lbs
X/Y, Z Rapids	500/400 ipm
Max Cut Feed Rate	300 ipm
Ballscrews X/Y & Z	40 mm/40 mm
Positioning	+/-.00039"
Repeatability	.0002"
Width x Depth x Height	169" x 99"x 106"
Weight	11,000 lbs
Power Required	24 KVA
Control	8200-B

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RH30

RH33 Spec Summary

Travels	78" x 33" x 28"
Table Size	86" x 32"
Table Capacity	3,500 lbs
Spindle Taper	Cat #40
ATC (Optional)	24 stations carousel
Spindle Speed	8,000 rpm
Spindle Motor	24/15 hp
Spindle Torque	250 ft lbs
X/Y, Z Rapids	800/600 ipm
Max Cut Feed Rate	300 ipm
Ballscrews X/Y & Z	40 mm/40 mm
Positioning	+/-.00039"
Repeatability	.0002"

Width x Depth x Height	238" x 162"x 113"
Weight	15,000 lbs
Power Required	30 KVA
Control	8200-B

RH33

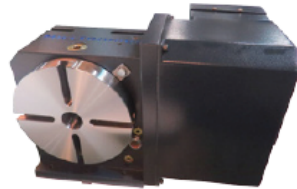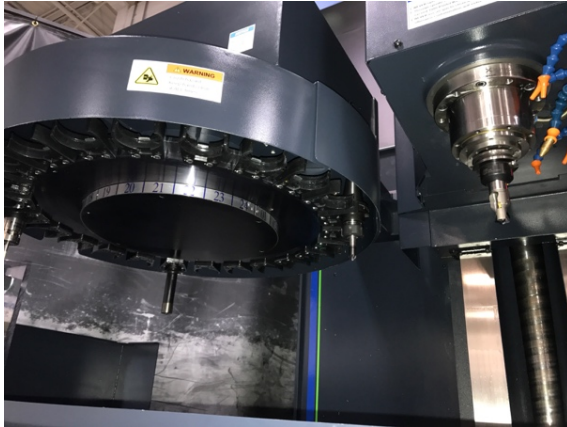Milltronics USA
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Chip Management
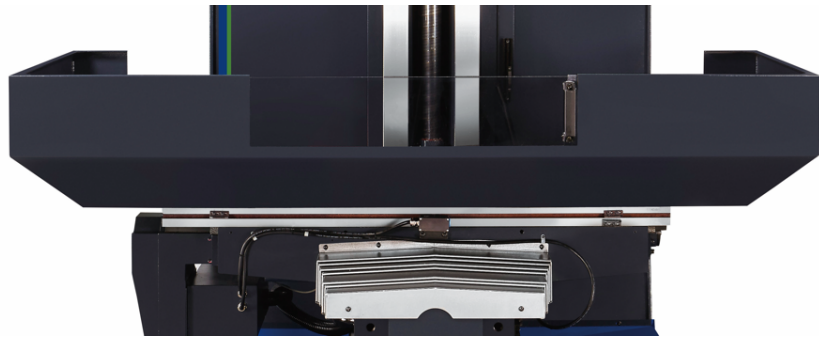
- Programmable flood coolant is standard
- Metal way covers
- Table guard is standard and attached with wing nuts for easy removal (not removable on RH33)
  - Helps accommodate oversize parts
- Back splash and chip pan are also standard
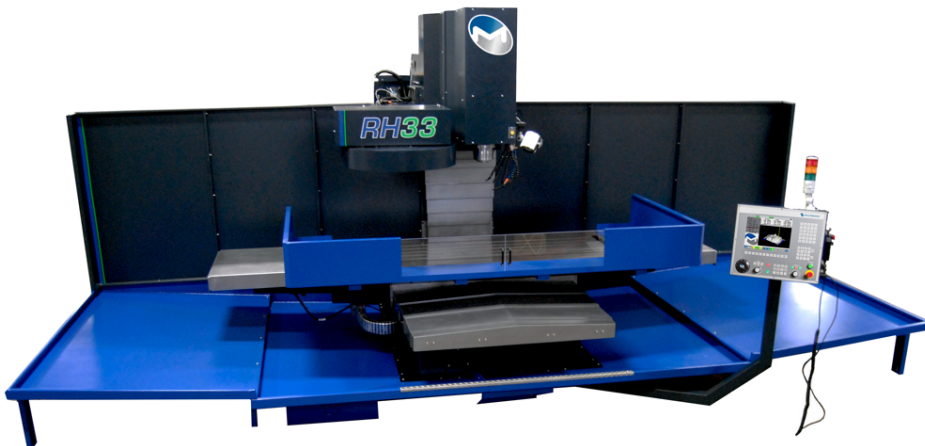
Options

Accessories

Options & Accessories
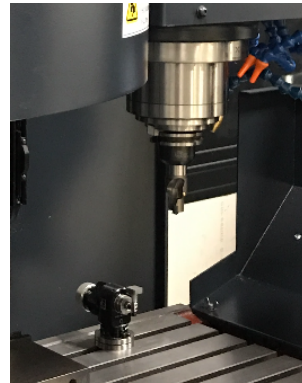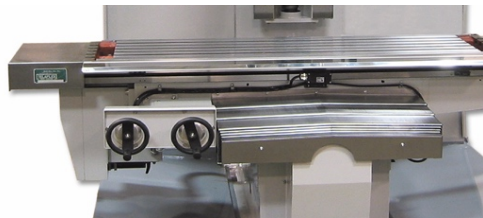
- 24 station carousel ATC (not available on MB)
- Dual electronic handwheels (MB only)
- Remote jog
- Pedestal mount control
- Milltronics rotary tables
- Renishaw tool & part probes
- Programmable spray mist or air blast
- Auxiliary keyboard
- Extended warranty
- Factory start-up and on-site training
- Training at Milltronics (Waconia, MN)
- Printed manuals (electronic format standard)
- Milltronics logo floor mat
- Windows® control upgrade with aux keyboard
- 9000-DGI CNC Control Upgrade
- ChipBoss™ Trochoidal Milling Software
- Milltronics Shop View (MSV) - requires Windows® upgrade
- Offline DGI software

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Series 8200-B
Conversational or G-code

Series 8200-B control is Linux-based and features a 12" color LCD screen

Milltronics 8200-B

- Shops can chose either Conversational or G-code programming, whatever is most efficient to produce the required part

- 8200-B Series is the standard high-speed milling and turning control

  - PC-based control with advanced processing speeds that are imperative for high speed and multi-axis machining

  - 1GB memory, 2GB disk storage, a 12" LCD screen and membrane keys

Series 8200-B Control

Specifications	
Operating System and Hardware	RT Linux – B&R PC
User Interface	Milltronics Software with Solids
Machine Control	Milltronics Hardware
Logic Control IO	Milltronics Software
Motors & Drives	Yaskawa
Processor	Pentium CPU
Memory	1 Gigabyte
Storage	2 Gigabytes
Screen	12" Color LCD
Keys	Membrane
USB	2 (1 required if keyboard)

Well organized cabinet with coded, labeled connectors and components from suppliers such as Yaskawa, Eaton, Schneider Electric, etc.


Electrical cabinet is sealed with power interlock and standard heat exchanger

Hour meter

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Milltronics Software

- Easy navigation function keys

- Solid model graphics

- Auto trig help

- 3D pocket/sweep

- DXF import

- Pockets and islands

- Tool tables

- Help screens

- Prompted tool setting routine

- Mid-program restart

- Handwheel run

- Scaling, mirror image, rotate

- Canned cycles – drilling, boring, tapping, facing, threading, bolt hole pattern, text/engraving, tangent/circle generate
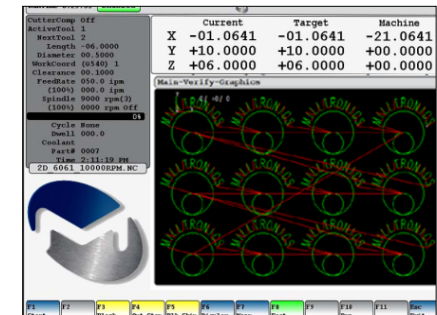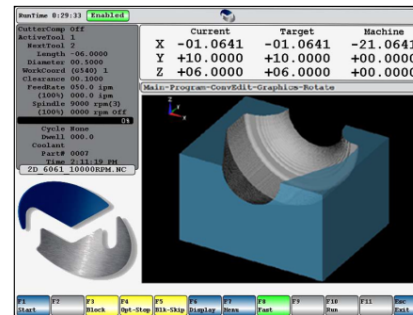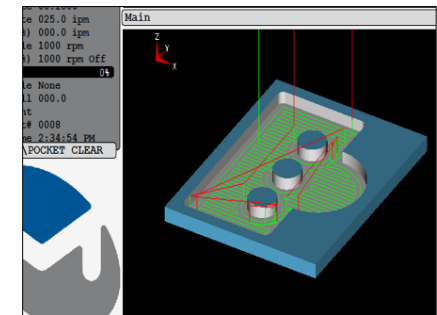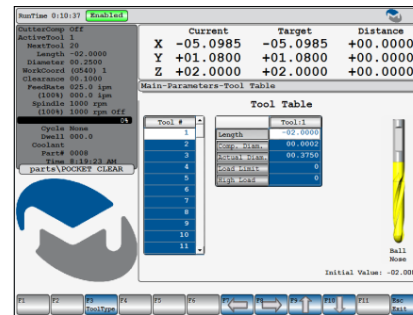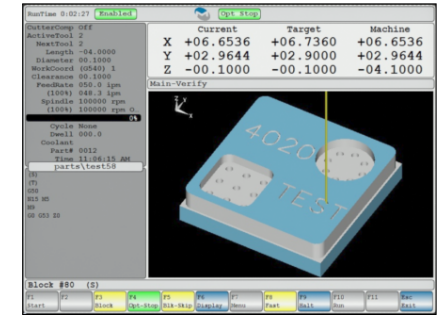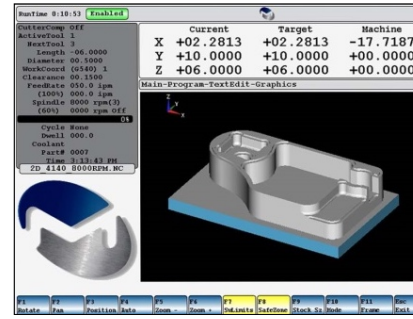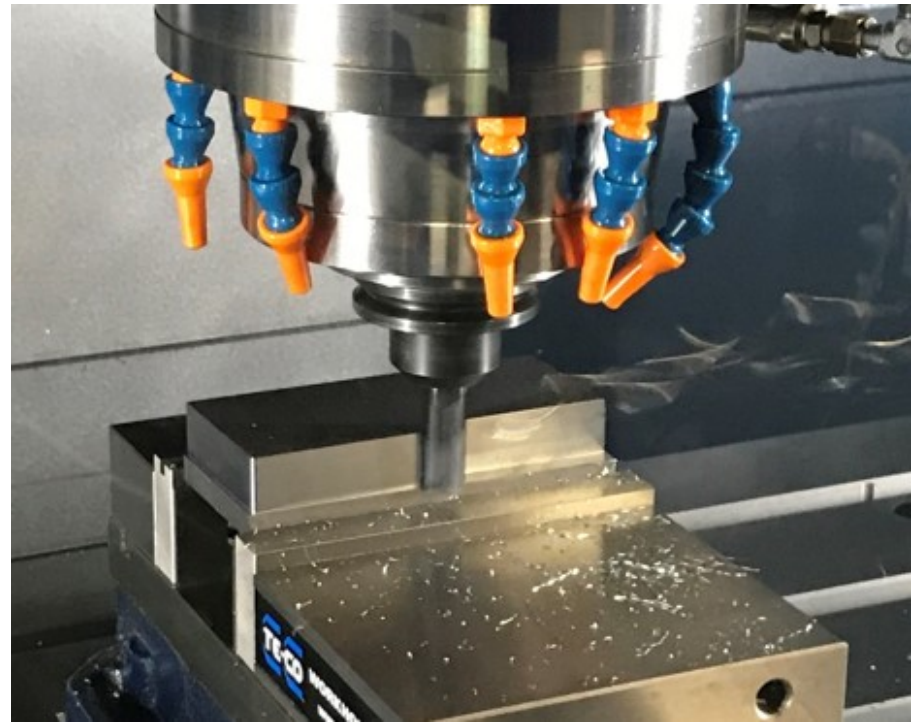
Watch control demo here

ChipBoss™ Software (option)

New optional software from Milltronics uses proprietary algorithms to calculate toolpaths and control the maximum allowable cutter engagement resulting in:

- Faster cycle times

- Better tool life

- More accurate parts

- Cycle times can be reduced by as much as 50% (or more) and 3-5 times better tool life

Part accuracy can improve through reduction in tool deflection

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ChipBoss™ Software (option)
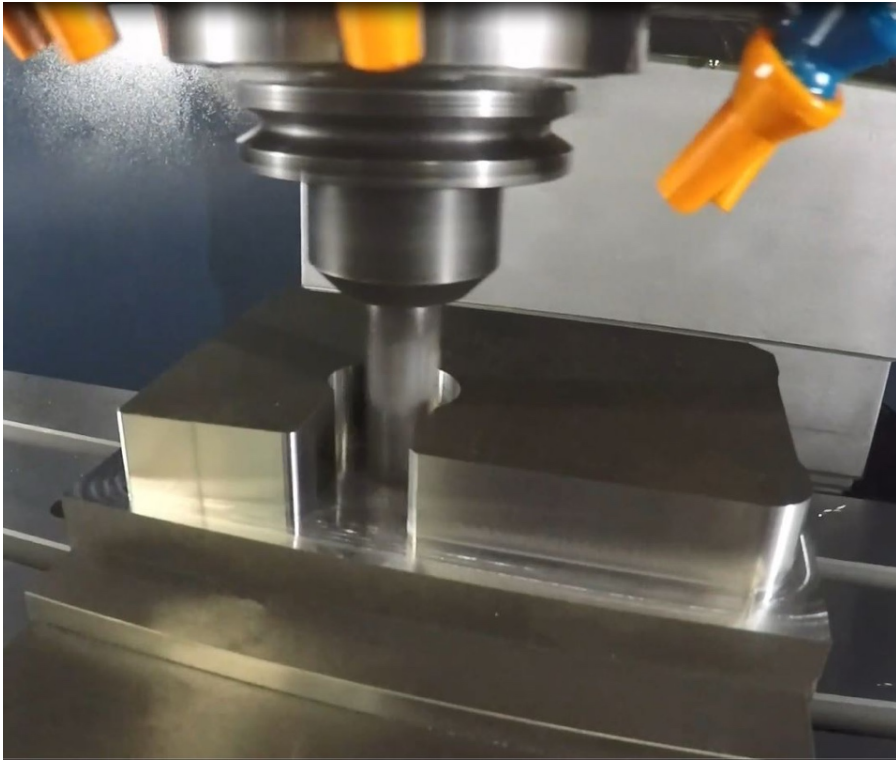
Automatically controls the chip load, keeping it constant and creating the optimal chip

Watch video [here](#)

ChipBoss™ uses trochoidal milling strategies with deeper depths of cut and smaller step overs:

- Feed rates can be much higher than what conversational users are used to experiencing

- Reduces the number of times a machine needs to accelerate and decelerate – "less wear and tear"

- Includes "Rest Roughing" – automatically calculates the areas to be machined and uses a smaller cutter to get just those areas that can't be cut with larger tool, saving even more time

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Why Milltronics? 10 Reasons

1.   Easy to Use Control

The Milltronics control is straightforward and easy-to-use. Chose between conversational, G-code or use a CAM system – whatever is the most efficient way to program the part.

2.   Made Right

Using a machine design process that is ISO 9001 certified, Milltronics starts with FEA analysis and designs accurate, rigid and reliable machines built to last. No shortcuts here.

3.   Superior Components

Milltronics partners with top suppliers such as Yaskawa, Kenturn, Hiwin® and Grundfos. You can judge a machine tool builder by the company it keeps.

4.   Upgradeable

Milltronics controls are designed, built and supported by Milltronics – and are designed to be upgradeable. You don't have to miss out on new software or hardware advancements as time marches on.

5.   Availability

We recognize that sometimes you need a machine *fast.* We work hard to make sure we have our most popular models in stock for quick shipment.

6.   Fastest Learning Curve

Because Milltronics machines are so easy to learn and use, you'll be making chips quicker. And don't confuse easy with simple – the 9000 is packed with advanced features and capabilities.

7.   Service Network

According to customer surveys, Milltronics and our distributor network offer the best service and support in the industry. We do what it takes!

8.   Complete Solution

A complete line – 50 different models of tool room mills and lathes, general purpose and performance VMC, CNC lathes, bridges and boring mills.
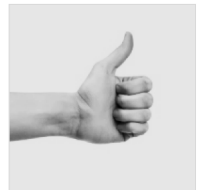
9.   Global American Company

Milltronics is part of the Hurco Companies Machine Tool Group. Publically traded with solid financials, we're in it for the long haul.

10.   More for Your Money

Finally, Milltronics offers better built machines with more standard features for the price. Period.

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MOMENTUM

Thank you!