



MILLTRONICS®



CNC MACHINE PRODUCT LINE-UP

TECHNICAL CATALOG



MILLTRONICS.COM

888.999.1440



At Milltronics, we are dedicated to empowering your inventive spirit. From machine research to online pricing for machines and options, we want to swiftly provide you with the information you need so you can make the best decision for your shop. Our purpose is to offer you affordable and well-built CNC machines equipped with a logical control that exemplifies the power of simplicity for the operator and the strength of sophisticated control technology for your shop.

We take pride in reinforcing our commitment to CNC excellence by packaging all of our 50+ models of CNC machines with MORE FEATURES STANDARD than other brands in our class. For the latest information, visit Milltronics.com and let's invent the future together.



CNC MACHINE PRODUCT LINE-UP



TOOL ROOM MILLS

Milltronics has a long history of building tool room mills that can be run as manual, teach, or full CNC. Popular in tool rooms, job shops, and tool & die, these machines are very flexible and can be used for a wide variety of parts.



GENERAL PURPOSE VERTICAL MACHINING CENTERS

The VM Series CNC mills offer a great combination of standard features (that the other guys charge extra for) and performance at a great price.



PERFORMANCE IL VERTICAL MACHINING CENTERS

The IL Series machines have inline spindles, roller guides for rigidity, direct-coupled ballscrews for quick response, and dual wound spindles for faster acceleration/deceleration.



EXTRA POWER VERTICAL MACHINING CENTERS

XP Series VMCs are #50 taper machines built with robust cross rollers and high torque dual speed spindle motors.



TOOL ROOM COMBO LATHES

The ML Series of combo lathes can be run as manual, teach, or full CNC. They feature easy thread repair and are available in more than 15 sizes.



SLANT BED CNC LATHES

The SL Series CNC lathes feature robust true slant bed castings, roller ways for rigidity, direct coupled ballscrews and more.



INSPIRE V11 CONTROL

This cutting-edge software boasts improved surface finish and cycle times and an advanced proprietary motion engine, and can support 5-axis and live tooling lathes.



9000 SERIES CONTROL

Our control is straightforward and easy to use. When programming you can choose between conversational, G-code or use a CAM system - whatever is the most efficient way to program your parts.

VERTICAL MACHINING CENTERS

40 TAPER | VM SERIES

The Milltronics VM Series vertical machining centers offer a great combination of features and performance at an attractive price. The VM Series machines are belt-driven and include standard features such as full enclosures, swing-arm tool changers, 10,000 RPM BIG-PLUS® dual contact spindles, the INSPIRE v11 control*, and more.



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INCLUDED AT NO EXTRA COST

STANDARD FEATURES

- ✓ Heavily ribbed one piece fine grain cast iron casting
- ✓ Fully enclosed machine guard with side doors
- ✓ 30/35 mm linear way technology
- ✓ Precision ground ballscrews supported at both ends
- ✓ Precision ground table surface
- ✓ Telescopic metal way covers
- ✓ 20 pocket double arm ATC
- ✓ BIG-PLUS® ISO No. 40
- ✓ Automatic positive displacement lubrication system
- ✓ High torque AC digital servo drives
- ✓ High torque closed loop vector spindle drive system
- ✓ Dual work lights
- ✓ LCD hour meter
- ✓ Spindle taper blow-out and tool release button
- ✓ Spare "M" function with CNC "wait" channel
- ✓ Programmable on/off flood coolant system
- ✓ Rigid tap
- ✓ Remote handwheel
- ✓ Chip auger chip removal system
- ✓ Air gun
- ✓ Coolant wash down gun
- ✓ Edit key lockout switch
- ✓ Spindle load meter
- ✓ Feedrate and spindle speed overrides
- ✓ Spindle air purge
- ✓ End of cycle light
- ✓ One year warranty
- ✓ INSPIRE v11 Control*

OPTIONS

- Coolant through spindle system
- Part and tool probes
- 4th axis options
- 5th axis options
- Lift up chip conveyor chip removal system
- Auxiliary industrial grade keyboard
- Electronic spindle chiller
- BT style tooling
- ChipBoss™ Trochoidal Milling Software
- Milltronics Shop View
- Digital Setup Assistant

*Some machines may ship with 9000 Series Control.

Specifications subject to change without notice. Some machines shown with options.

SPECIFICATIONS	VM2515	VM3018	VM4020	VM5020	VM5020EZ
TABLE					
TABLE WORKING SURFACE	30 x 16 in (762 x 406 mm)	34 x 18 in (864 x 457 mm)	46 x 20 in (1,168 x 508 mm)	52 x 20 in (1,321 x 508 mm)	52 x 20 in (1,321 x 508 mm)
TABLE T-SLOTS	.71 in (18 mm)	.71 in (18 mm)	.71 in (18 mm)	.71 in (18 mm)	.71 in (18 mm)
MAXIMUM WEIGHT ON TABLE	3,140 lbs (1,420 kg)	3,770 lbs (1,710 kg)	3,770 lbs (1,710 kg)	3,770 lbs (1,710 kg)	3,770 lbs (1,710 kg)
TRAVELS					
X-AXIS	25 in (635 mm)	30 in (762 mm)	40 in (1016 mm)	50 in (1270 mm)	50 in (1270 mm)
Y-AXIS	15 in (381 mm)	18 in (457 mm)	20 in (508 mm)	20 in (508 mm)	20 in (508 mm)
Z-AXIS	20 in (508 mm)	20 in (508 mm)	20 in (508 mm)	20 in (508 mm)	20 in (508 mm) WITH 150 MM RISER
SPINDLE MOTOR					
SPINDLE POWER (MAXIMUM)	15/10 HP (11/7.5 kW)	20/15 HP (15/11 kW)	20/15 HP (15/11 kW)	20/15 HP (15/11 kW)	20/15 HP (15/11 kW)
SPINDLE TORQUE (MAXIMUM)	54 ft-lbs (73 Nm)	75 ft-lbs (102 Nm)	75 ft-lbs (102 Nm)	75 ft-lbs (102 Nm)	75 ft-lbs (102 Nm)
SPINDLE					
SPINDLE TAPER	BIG-PLUS® ISO. No. 40	BIG-PLUS® ISO. No. 40	BIG-PLUS® ISO. No. 40	BIG-PLUS® ISO. No. 40	BIG-PLUS® ISO. No. 40
SPINDLE NOSE TO TABLE	4-24 in (101-610 mm)	4-24 in (101-610 mm)	4-24 in (101-610 mm)	4-24 in (101-610 mm)	9.9-29.9 in (251-759 mm)
SPINDLE SPEED (MAXIMUM)	10,000 RPM	10,000 RPM	10,000 RPM	10,000 RPM	10,000 RPM
TOOL CHANGER					
TOOL CAPACITY / TYPE	24 / DOUBLE ARM	24 / DOUBLE ARM	24 / DOUBLE ARM	24 / DOUBLE ARM	24 / DOUBLE ARM
TOOL SHANK	CT40	CT40	CT40	CT40	CT40
RETENTION KNOB	MAS 60	MAS 60	MAS 60	MAS 60	MAS 60
MAXIMUM TOOL DIAMETER	3.5 in (89 mm)	3.5 in (89 mm)	3.5 in (89 mm)	3.5 in (89 mm)	3.5 in (89 mm)
MAXIMUM TOOL LENGTH	9.8 in (250 mm)	9.8 in (250 mm)	9.8 in (250 mm)	9.8 in (250 mm)	9.45 in (240 mm)
MAXIMUM TOOL WEIGHT	15.4 lbs (7 kg)	15.4 lbs (7 kg)	15.4 lbs (7 kg)	15.4 lbs (7 kg)	15.4 lbs (7 kg)
FURTHER DETAILS					
X/Y/Z RAPID TRAVERSE RATE	945 IPM (24 m/min)	945 IPM (24 m/min)	945 IPM (24 m/min)	945 IPM (24 m/min)	945 IPM (24 m/min)
MACHINE HEIGHT	101.5 in (2,565 mm)	102 in (2,570 mm)	102 in (2,570 mm)	102 in (2,570 mm)	107.3 in (2,725 mm)
FOOTPRINT: MAXIMUM SERVICE SPACE - (WIDTH x DEPTH)	130 x 119 in (3,303 x 3,023 mm)	136.5 x 126.4 in (3,466 x 3,210 mm)	146.5 x 126.4 in (3,722 x 3,210 mm)	162 x 125 in (4,115 x 3,175 mm)	162 x 125 in (4,115 x 3,175 mm)
FOOTPRINT: NOMINAL OPERATING - (WIDTH x DEPTH)	76 x 101 in (1,906 x 2,553 mm)	93 x 110 in (2,351 x 2,777 mm)	100 x 110 in (2,537 x 2,777 mm)	130 x 111.7 in (3,303 x 2,836 mm)	130 x 111.7 in (3,303 x 2,836 mm)
MACHINE WEIGHT	6,200 lbs (2,818 kg)	9,000 lbs (4,100 kg)	9,100 lbs (4,125 kg)	9,833 lbs (4,730 kg)	9,833 lbs (4,730 kg)
POWER REQUIRED	18 KVA/25 Amps	25 KVA/29 Amps	25 KVA/29 Amps	25 KVA/29 Amps	25 KVA/29 Amps
VOLTAGE REQUIRED	480 Volts/ 3 Phase	480 Volts/ 3 Phase	480 Volts/ 3 Phase	480 Volts/ 3 Phase	480 Volts/ 3 Phase

VERTICAL MACHINING CENTERS

40 TAPER INLINE | IL SERIES

The “IL” stands for “**inline spindle**”, since this series of vertical machining centers is equipped with a 40-taper BIG-PLUS® dual-contact inline spindle. Inline spindles run smooth and quiet with minimal heat and reduced vibration, providing better surface finish and longer tool life. The 12,000 RPM inline spindles have dual-wound spindle motors for faster acceleration/deceleration and more torque. The IL machines also have bigger castings, faster rapids, and more standard features.



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STANDARD FEATURES

- ✓ Heavily ribbed one piece fine grain cast iron casting
- ✓ Fully enclosed machine guard with side doors
- ✓ 35/45 mm roller linear way technology
- ✓ Precision ground ballscrews supported at both ends
- ✓ Precision ground table surface
- ✓ Telescopic metal way covers
- ✓ 30 pocket arm type ATC
- ✓ BIG-PLUS® ISO No. 40
- ✓ Automatic positive displacement lubrication system
- ✓ High torque AC digital servo drives
- ✓ High torque closed loop vector spindle drive system
- ✓ Dual work lights
- ✓ LCD hour meter
- ✓ Spindle taper blow-out and tool release button
- ✓ Single spare “M” function with CNC “wait” channel
- ✓ Programmable on/off flood coolant system
- ✓ Rigid tap
- ✓ Edit key lockout switch
- ✓ Spindle load meter
- ✓ Feedrate and spindle speed overrides
- ✓ Spindle air purge
- ✓ End of cycle light
- ✓ Chip conveyor chip removal system
- ✓ Remote handwheel
- ✓ Air gun
- ✓ Coolant wash down gun
- ✓ One year warranty
- ✓ INSPIRE v11 Control*

OPTIONS

- Coolant through spindle system
- Part and tool probes
- 4th axis options
- 5th axis options
- Auxiliary industrial grade keyboard
- Electronic spindle chiller
- BT style tooling
- 40 pocket ATC (available on the VM4224IL, VM5025IL, and VM6030IL)
- 15,000 RPM spindle
- Thermal head mapping
- ChipBoss™ Trochoidal Milling Software
- Milltronics Shop View
- Digital Setup Assistant
- Programmable spray-mist and air-blast

* Some machines may ship with 9000 Series Control.

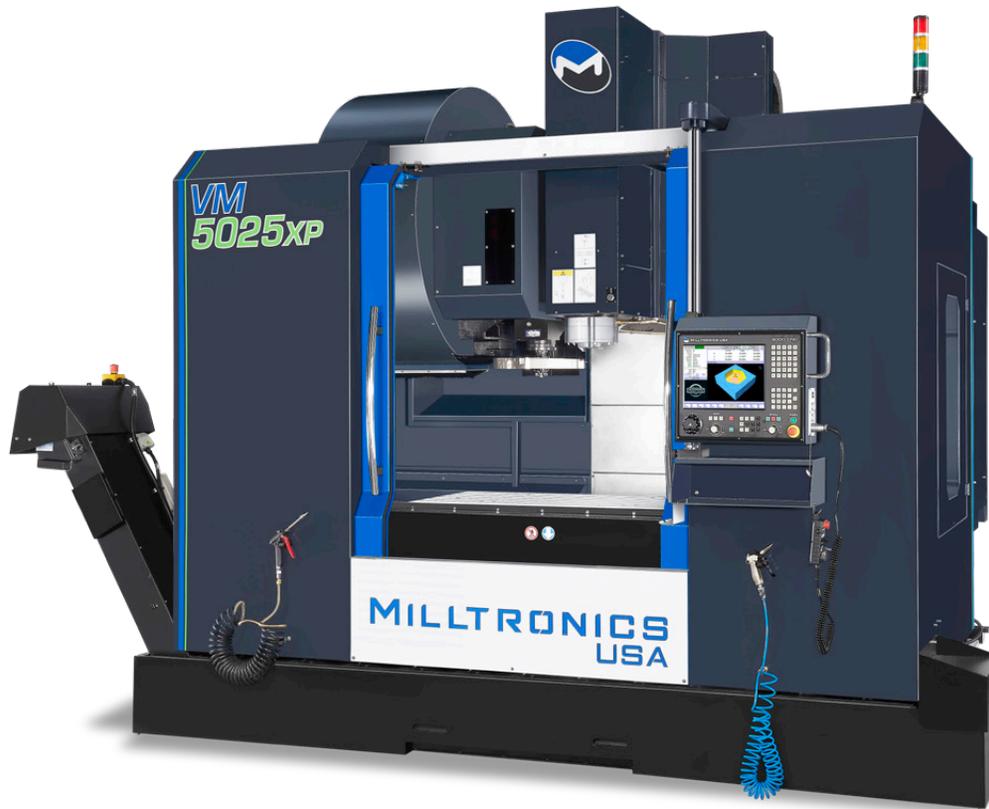
Specifications subject to change without notice. Some machines shown with options.

SPECIFICATIONS	VM3020IL	VM4224IL	VM5025IL	VM6030IL
TABLE				
TABLE WORKING SURFACE	34 x 20 in (864 x 508 mm)	50 x 24 in (1,270 x 610 mm)	54 x 25 in (1,372 x 635 mm)	66 x 30 in (1,680 x 762 mm)
TABLE T-SLOTS	.71 in (18 mm)	.71 in (18 mm)	.71 in (18 mm)	.71 in (18 mm)
MAXIMUM WEIGHT ON TABLE	3,140 lbs (1,420 kg)	3,660 lbs (1,660 kg)	4,190 lbs (1,900 kg)	4,190 lbs (1,900 kg)
TRAVELS				
X-AXIS	30 in (762 mm)	42 in (1,067 mm)	50 in (1,270 mm)	60 in (1,524 mm)
Y-AXIS	20 in (508 mm)	24 in (610 mm)	25 in (635 mm)	30 in (762 mm)
Z-AXIS	22 in (559 mm)	24 in (610 mm)	24 in (610 mm)	24 in (610 mm)
SPINDLE MOTOR				
SPINDLE POWER (MAXIMUM)	24/15 HP (18/11 kW)	32/10 HP (24/7.5 kW)	35/25 HP (26/18 kW)	35/25 HP (26/18 kW)
SPINDLE TORQUE (MAXIMUM)	89 ft-lbs (121 Nm)	89 ft-lbs (121 Nm)	124 ft-lbs (168 Nm)	124 ft-lbs (168 Nm)
SPINDLE				
SPINDLE TAPER	BIG-PLUS® ISO. No. 40	BIG-PLUS® ISO. No. 40	BIG-PLUS® ISO. No. 40	BIG-PLUS® ISO. No. 40
SPINDLE NOSE TO TABLE	6-28 in (152-712 mm)	6-30 in (152-762 mm)	4-28 in (101.5-711.5 mm)	4-28 in (101.5-711.5 mm)
SPINDLE SPEED (MAXIMUM)	12,000 RPM	12,000 RPM	12,000 RPM	12,000 RPM
TOOL CHANGER				
TOOL CAPACITY / TYPE	30 / DOUBLE ARM	30 / DOUBLE ARM	30 / DOUBLE ARM	30 / DOUBLE ARM
TOOL SHANK	CT40	CT40	CT40	CT40
RETENTION KNOB	MAS 60	MAS 60	MAS 60	MAS 60
MAXIMUM TOOL DIAMETER	3.15 in (80 mm)	3.15 in (80 mm)	3.15 in (80 mm)	3.15 in (80 mm)
MAXIMUM TOOL LENGTH	11.8 in (300 mm)	11.8 in (300 mm)	11.8 in (300 mm)	11.8 in (300 mm)
MAXIMUM TOOL WEIGHT	15.4 lbs (7 kg)	15.4 lbs (7 kg)	15.4 lbs (7 kg)	15.4 lbs (7 kg)
FURTHER DETAILS				
X/Y/Z RAPID TRAVERSE RATE	1,200/1,000 IPM (30.5/25.4 m/min)	1,200/1,000 IPM (30/25 m/min)	1,000/787 IPM (25.4/20 m/min)	1,000/787 IPM (25.4/20 m/min)
MACHINE HEIGHT	119 in (3,025 mm)	121 in (3,060 mm)	122 in (3,100 mm)	126.4 in (3,210 mm)
FOOTPRINT: MAXIMUM SERVICE SPACE - (WIDTH x DEPTH)	161 x 146.8 in (4,089 x 3,729 mm)	179.8 x 133.8 in (4,566 x 3,399 mm)	198.9 x 165.6 in (5,052 x 4,207 mm)	220.6 x 152 in (5,602 x 3,864 mm)
FOOTPRINT: NOMINAL OPERATING - (WIDTH x DEPTH)	85.8 x 124.1 in (2,180 x 3,152 mm) 123.3 in (3,131 mm) with conveyor	110.2 x 133.8 in (2,798 x 3,399 mm) 138.1 in (3,508 mm) with conveyor	128 x 143 in (3,252 x 3,630 mm) 173.3 in (4,403 mm) with conveyor	149.8 x 149.4 in (3,804 x 3,794 mm) 184.4 in (4,685 mm) with conveyor
MACHINE WEIGHT	10,700 lbs (4,850 kg)	14,775 lbs (6,702 kg)	17,900 lbs (8,136 kg)	21,800 lbs (9,900 kg)
POWER REQUIRED	26 KVA/31 Amps	26 KVA/31 Amps	36 KVA/44 Amps	36 KVA/44 Amps
VOLTAGE REQUIRED	480 Volts/3 Phase	480 Volts/3 Phase	480 Volts/3 Phase	480 Volts/3 Phase

VERTICAL MACHINING CENTERS

50 TAPER | XP SERIES

The “XP” stands for “**extra power**” since these CNC machines are built with a 50 taper spindle and linear cross roller guides for rigidity, direct-coupled ballscrews for faster response, and dual-wound spindle motors for faster acceleration/deceleration and more torque. Standard with up to 35 HP for maximum metal removal, the XP Series features a heavy duty belt drive spindle and also includes more standard features, such as a coolant ring and washdown system, lift-up chip conveyor, and height adjustment on the control.



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STANDARD FEATURES

- ✓ Heavily ribbed one piece fine grain cast iron casting
- ✓ Fully enclosed machine guard with side doors
- ✓ 45 mm roller linear way technology
- ✓ Precision ground ballscrews supported at both ends
- ✓ Precision ground table surface
- ✓ Telescopic metal way covers
- ✓ 30 pocket double arm ATC
- ✓ BIG-PLUS[®] ISO No. 50
- ✓ Automatic positive displacement lubrication system
- ✓ High torque AC digital servo drives
- ✓ High torque closed loop vector spindle drive system
- ✓ Dual work lights
- ✓ LCD hour meter
- ✓ Spindle taper blow-out and tool release
- ✓ Spare “M” function with CNC “wait” channel
- ✓ Programmable on/off flood coolant system
- ✓ Rigid tap
- ✓ Edit key lockout switch
- ✓ Spindle load meter
- ✓ Feedrate and spindle speed overrides
- ✓ Spindle air purge
- ✓ End of cycle light
- ✓ Chip conveyor and washdown chip removal system
- ✓ Remote handwheel
- ✓ Air gun
- ✓ Coolant wash down gun
- ✓ One year warranty
- ✓ INSPIRE v11 Control*

OPTIONS

- Coolant through spindle system
- Programmable spray mist coolant
- Tool and part probes
- 4th and 5th axis options
- Auxiliary industrial grade keyboard
- Electronic spindle chiller
- BT style tooling
- ChipBoss™ Trochoidal Milling Software
- Milltronics Shop View
- Digital Setup Assistant

* Some machines may ship with 9000 Series Control.

Specifications subject to change without notice. Some machines shown with options.

SPECIFICATIONS	VM5025XP	VM6030XP	VM8434XP
TABLE			
TABLE WORKING SURFACE	54 x 25 in (1,372 x 635 mm)	66 x 30 in (1,680 x 762 mm)	86 x 34 in (2,184 x 865 mm)
TABLE T-SLOTS	.71 in (18 mm)	.71 in (18 mm)	.71 in (18 mm)
MAXIMUM WEIGHT ON TABLE	4,190 lbs (1,900 kg)	4,190 lbs (1,900 kg)	4,750 lbs (2,150 kg)
TRAVELS			
X-AXIS	50 in (1,270 mm)	60 in (1,524 mm)	84 in (2,134 mm)
Y-AXIS	25 in (635 mm)	30 in (762 mm)	34 in (864 mm)
Z-AXIS	24 in (610 mm)	24 in (610 mm)	30 in (762 mm)
SPINDLE MOTOR			
SPINDLE POWER (MAXIMUM)	35/25 HP (26/18 kW)	35/25 HP (26/18 kW)	35/25 HP (26/18 kW)
SPINDLE TORQUE (MAXIMUM)	365 ft-lbs (495 Nm)	365 ft-lbs (495 Nm)	365 ft-lbs (495 Nm)
SPINDLE			
SPINDLE TAPER	BIG-PLUS® ISO. No. 50	BIG-PLUS® ISO. No. 50	BIG-PLUS® ISO. No. 50
SPINDLE NOSE TO TABLE	6-30 in (152-762 mm)	4-28 in (101-710 mm)	5-35 in (127-889 mm)
SPINDLE SPEED (MAXIMUM)	8,000 RPM	8,000 RPM	8,000 RPM
TOOL CHANGER			
TOOL CAPACITY / TYPE	30 / DOUBLE ARM	30 / DOUBLE ARM	32 / DOUBLE ARM
TOOL SHANK	CT50	CT50	CT50
RETENTION KNOB	MAS 60	MAS 60	MAS 60
MAXIMUM TOOL DIAMETER	4.9 in (125 mm)	4.9 in (125 mm)	4.9 in (125 mm)
MAXIMUM TOOL LENGTH	11.8 in (300 mm)	11.8 in (300 mm)	11.8 in (300 mm)
MAXIMUM TOOL WEIGHT	33 lbs (15 kg)	33 lbs (15 kg)	33 lbs (15 kg)
FURTHER DETAILS			
X/Y/Z RAPID TRAVERSE RATE	1,000/787 IPM (25.4/20 m/min)	1,000/787 IPM (25.4/20 m/min)	709/530 IPM (18/13.5 m/min)
MACHINE HEIGHT	123 in (3,124 mm)	123 in (3,214 mm)	130.5 in (3,316 mm)
FOOTPRINT: MAXIMUM SERVICE SPACE - (WIDTH x DEPTH)	198.7 x 141 in (5,048 x 3,582 mm)	220.6 x 149.4 in (5,602 x 3,794 mm)	411.7 x 165.4 in (10,458 x 4,202 mm)
FOOTPRINT: NOMINAL OPERATING - (WIDTH x DEPTH)	128 x 108 in (3,250 x 2,667 mm) 165 in (4,191 mm) with conveyor	150 x 115 in (3,810 x 2,921 mm) 189 in (5,029.2 mm) with conveyor	298.2 x 157 in (7,574 x 3,994 mm) 460.2 in (11,698.1 mm) with conveyor
MACHINE WEIGHT	29,100 lbs (9,136 kg)	22,267 lbs (10,100 kg)	37,260 lbs (19,936 kg)
POWER REQUIRED	38 KVA/94 Amps	38 KVA/94 Amps	43 KVA/107 Amps
VOLTAGE REQUIRED	208-240 Volts/3 Phase	208-240 Volts/3 Phase	208-240 Volts/3 Phase

TOOL ROOM MILLS

40 TAPER

Milltronics has a long history of building tool room mills that can be run as manual, teach or full CNC with thousands of satisfied users. Popular in tool rooms, job shops, and tool & die, these machines are very flexible and can be used for a wide variety of different parts. We offer two types of quill machines in a traditional knee style (VK) as well as a bed type (TRQ). The rigid head (TRM) machines are available in four different sizes starting with a compact model that is 30 x 16 inches up to the largest that has 78 x 33 inches of travel. The TRM3016 is a tool room mill that offers large travels, speed, and power at a great price. The TRM3016 (pictured below) has “drop down” door openings for long part pass-through to help accommodate oversized parts.



VK4II – MILLSLIDE™

The unique MillSlide™ on the VK4II provides rigid, CNC programmable, Z-axis travel. By traversing the entire head up and down the MillSlide™ is more robust than competitors' quill-driven solutions. The optional Quill Scale integrates with the CNC feedback and you have a built in Z-axis DRO.



INCLUDED AT NO EXTRA COST

STANDARD FEATURES

- ✓ Solid box way construction (most models)
- ✓ X/Y axis metal way cover construction (most models)
- ✓ Auto lubrication
- ✓ ISO No. 40
- ✓ Spindle load meter
- ✓ Spindle air purge (excluding VK / TRQ models)
- ✓ Flood coolant
- ✓ Rigid tapping (excluding VK model)
- ✓ LCD hour meter
- ✓ One year warranty
- ✓ INSPIRE v11 Control*

OPTIONS (AVAILABILITY VARIES BY FRAME)

- Enclosure top cover
- Chip auger
- Remote handwheel
- Milltronics rotary tables
- Renishaw tool and 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 (PDF standard)
- Milltronics logo floor mat
- ChipBoss™ Trochoidal Milling Software
- Milltronics Shop View
- Offline DGI software
- Quill scale

*Some machines may ship with 9000 Series Control.
Specifications subject to change without notice. Some machines shown with options.



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SPECIFICATIONS	VK4II	TRM3016	TRQ20	TRM20	TRM30	TRM30HT	TRM33HT
TABLE							
TABLE WORKING SURFACE	54 x 12 in (1,370 x 305 mm)	35.4 x 16 in (900 x 406 mm)	54 x 16 in (1,372 x 406 mm)	54 x 16 in (1,372 x 406 mm)	73 x 24 in (1,853 x 610 mm)	73 x 24 in (1,853 x 610 mm)	86 x 32 in (2,185 x 810 mm)
TABLE T-SLOTS	.63 in (16 mm)	.71 (18 mm)	.63 in (16 mm)	.63 in (16 mm)	.71 in (18 mm)	.71 in (18 mm)	.71 in (18 mm)
MAXIMUM WEIGHT ON TABLE	1,324 lbs (600 kg)	992 lbs (450 kg)	1,323 lbs (600 kg)	1,323 lbs (600 kg)	2,866 lbs (1,300 kg)	2,866 lbs (1,300 kg)	3,960 lbs (1,800 kg)
TRAVELS							
X-AXIS	33 in (838 mm)	30 in (760 mm)	39.4 in (1,000 mm)	39.4 in (1,000 mm)	59.8 in (1,520 mm)	59.8 in (1,520 mm)	78 in (2,000 mm)
Y-AXIS	14.25 in (362 mm)	16 in (406 mm)	19.7 in (500 mm)	19.7 (500 mm)	29 in (740 mm)	29 in (740 mm)	33 in (840 mm)
Z-AXIS	QUILL: 5.83 in (148 mm) MILLSLIDE: 5.25 in (133 mm)	20 in (510 mm)	23.6 in (600 mm)	23.6 (600 mm)	28 in (710 mm)	28 in (710 mm)	28 in (710 mm)
SPINDLE MOTOR							
SPINDLE POWER (MAXIMUM)	7.5 HP (5.5 kW)	15/10 HP (11/7.5 kW)	14.75/7.5 HP (11/5.5 kW)	20/15 HP (15/11 kW)	20/15 HP (15/11 kW)	25/15 HP (18/11 kW)	24/15 HP (18/11 kW) 2-SPEED DELTA/WYE
SPINDLE TORQUE (MAXIMUM)	204 ft-lbs (271 Nm)	54 ft-lbs (73 Nm)	259 ft-lbs (232 Nm)	75 ft-lbs (102 Nm)	75 ft-lbs (102 Nm)	211 ft-lbs (286 Nm)	250 ft-lbs (339 Nm)
SPINDLE							
SPINDLE TAPER	ISO. No. 40	BIG-PLUS® ISO. No. 40	CT40	BIG-PLUS® ISO. No. 40	BIG-PLUS® ISO. No. 40	BIG-PLUS® ISO. No. 40	BIG-PLUS® ISO. No. 40
SPINDLE NOSE TO TABLE	1.75-23.25 in (45-591 mm)	4-24 in (101-610 mm)	7.1-30.7 in (180-780 mm)	3.94-27.5 in (100-700 mm)	3.94-31.89 in (100-810 mm)	3.94-31.89 in (100-810 mm)	4-32 in (100-810 mm)
SPINDLE SPEED (MAXIMUM)	4,000 RPM	8,000 RPM	4,000 RPM	8,000 RPM	8,000 RPM	8,000 RPM	8,000 RPM
TOOL CHANGER							
TOOL CAPACITY / TYPE	—	16 / CAROUSEL	—	24 / CAROUSEL (OPTIONAL TOOL CHANGER)			
TOOL SHANK	—	CT40	—	CT40	CT40	CT40	CT40
RETENTION KNOB	—	MAS 60	—	MAS 60	MAS 60	MAS 60	MAS 60
MAXIMUM TOOL DIAMETER	—	4 in (100 mm)	—	3.46 in (88 mm)			
MAXIMUM TOOL LENGTH	—	11 in (280 mm)	—	11.8 in (300 mm)	11.8 in (300 mm)	11.8 in (300 mm)	10 in (250 mm)
MAXIMUM TOOL WEIGHT	—	10 lbs (4.5 kg)	—	15 lbs (7 kg)			
FURTHER DETAILS							
X/Y/Z RAPID TRAVERSE RATE	300 IPM (7.62 m/min)	700 IPM (17.8 m/min)	500 IPM (12 m/min)	500 IPM (12 m/min)	500 IPM (12 m/min)	500 IPM (12 m/min)	800/600 IPM (20/15 m/min)
MACHINE HEIGHT	102.8 in (2,611 mm)	110 in (2,564 mm)	101.0 in (2,564 mm)	101 in (2,564 mm)	100 in (2,540 mm)	100 in (2,540 mm)	113 in (2,870 mm)
FOOTPRINT: MAXIMUM SERVICE SPACE - (WIDTH x DEPTH)	117.95 x 85 in (2,996 x 2,168 mm)	183.3 x 121.2 in (4,657 x 3,077 mm)	120.5 x 142 in (3,061 x 3,607 mm)	120.5 x 142 in (3,061 x 3,607 mm)	177.1 x 180 in (4,498 x 4,572 mm)	177.1 x 174.7 in (4,498 x 4,436 mm)	238 x 162 in (6,045 x 4,115 mm)
FOOTPRINT: NOMINAL OPERATING - (WIDTH x DEPTH)	107 x 85 in (2,718 x 2,168 mm)	90 x 90 in (2,280 x 2,280 mm)	115. x 123.0 in (2,921 x 3,124 mm)	115. x 123.0 in (2,921 x 3,124 mm)	174.0 x 180 in (4,420 x 4,572 mm)	174.0 x 180 in (4,420 x 4,572 mm)	236 x 140.4 in (5,996 x 3,567 mm)
MACHINE WEIGHT	4,400 lbs (2,000 kg)	6,835 lbs (3,100 kg)	5,953 lbs (2,700 kg)	6,393 lbs (2,900 kg)	11,023 lbs (5,000 kg)	11,023 lbs (5,000 kg)	15,000 lbs (6,800 kg)
POWER REQUIRED	13 KVA/32 Amps	18 KVA/21 Amps	15 KVA/36 Amps	25 KVA/61 Amps	28 KVA/58 Amps	23 KVA/27 Amps	26 KVA/65 Amps
VOLTAGE REQUIRED	208-240 Volts/ 3 Phase	480 Volts/3 Phase	200-240 VAC/60 Hz	200-240 VAC/60 Hz	200-240 VAC/60 Hz	480 Volts/3 Phase	480 Volts/3 Phase

SLANT BED LATHES SLII SERIES

The Milltronics SLII Series CNC lathes offer a great combination of features and performance at an attractive price. They are well built, reliable, and easy to use. The SLII Series machines feature robust true slant bed castings, linear motion guide roller ways, direct-coupled ballscrews, and the 9000 Series control.

SPECIFICATIONS	SL6II	SL8II	SL10II
CAPACITY			
X-AXIS TRAVEL	7 in (178 mm)	8 in (203 mm)	9.8 in (250 mm)
Z-AXIS TRAVEL	14 in (356 mm)	21 in (533 mm)	31.1 in (790 mm)
SWING OVER BED DIAMETER	15.9 in (405 mm)	21.7 in (550 mm)	22.9 in (582 mm)
SWING OVER CROSS SLIDE DIAMETER	9.45 in (240 mm)	11.8 in (300 mm)	15.8 in (402 mm)
MAXIMUM TURNING DIAMETER	12.4 in (316 mm)	14 in (356 mm)	17.7 in (450 mm)
MAXIMUM TURNING LENGTH	13.4 in (340 mm)	21 in (533 mm)	29.9 in (760 mm)
SPINDLE			
SPINDLE NOSE	A2-5	A2-6	A2-8
DRAW TUBE DIAMETER	1.77 in (45 mm)	2.54 in (64.5 mm)	3.18 in (81 mm)
SPINDLE BORE DIAMETER	2.2 in (56 mm)	3.07 in (78 mm)	3.74 in (95 mm)
CHUCK SIZE	6 in (152 mm)	8 in (203 mm)	10 in (254 mm)
SPINDLE RANGE	0-6,000 RPM	0-4,000 RPM	0-3,000 RPM
AC SPINDLE MOTOR	17/10 HP (13/7.5 kW)	30/20 HP (23.2/15 kW)	29.5/20 HP (22/15 kW)
MAXIMUM SPINDLE TORQUE	83 ft-lbs (113 Nm) @ 1,090 RPM	161 ft-lbs (219 Nm) @ 1,000 RPM	260 ft-lbs (352 Nm) @ 600 RPM
TURRET			
TOOL CAPACITY	12	12	12
TOOL SIZE	.75 x .75 in (19 x 19 mm)	1 x 1 in (25 x 25 mm)	1 x 1 in (25 x 25 mm)
BORING BAR CAPACITY	1.25 in (32 mm)	1.5 in (40 mm)	1.5 in (40 mm)
TOOL SELECTION	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL
TAILSTOCK OPTION			
TAILSTOCK QUILL TRAVEL	3.46 in (88 mm)	3.46 in (88 mm)	4.7 in (119 mm)
TAILSTOCK QUILL DIAMETER	2.28 in (58 mm)	2.28 in (58 mm)	3.54 in (90 mm)
TAILSTOCK THRUST	550 lbs (250 kg)	550 lbs (250 kg)	550 lbs (250 kg)
TAILSTOCK QUILL TAPER	MT4	MT4	MT5
MOTION			
MAXIMUM CUTTING FEED RATE	400 IPM (10.16 m/min)	400 IPM (10.16 m/min)	400 IPM (10.16 m/min)
POSITIONING ACCURACY	+/- 0.0002 in (+/- 0.005 mm)	+/- 0.0002 in (+/- 0.005 mm)	+/- 0.0002 in (+/- 0.005 mm)
REPEATABILITY	0.0002 in (0.005 mm)	0.0002 in (0.005 mm)	0.0002 in (0.005 mm)
AXIS THRUST FORCE X/Z	1,851 lbs (8.2 kN)	1,951 lbs (8.2 kN)	3,125 lbs (13.9 kN)

SPECIFICATIONS	SL6II	SL8II	SL10II
FURTHER DETAILS			
X/Z RAPID TRAVERSE RATE	1,181 IPM (30 m/min)	1,181 IPM (30 m/min)	1,181 IPM (30 m/min)
MACHINE HEIGHT	72.1 in (1,831 mm)	83.7 in (2,127 mm)	73.5 in (1,868 mm)
FOOTPRINT: MAXIMUM SERVICE SPACE - (WIDTH x DEPTH)	169.1 x 104.4 in (4,486 x 2,651 mm)	169.1 x 104.4 in (4,486 x 2,651 mm)	191.4 x 112.4 in (4,860 x 2,854 mm)
FOOTPRINT: NOMINAL OPERATING - (WIDTH x DEPTH)	125.2 x 98.6 in (3,180 x 2,504 mm)	142.8 x 88.3 in (3,628 x 2,244 mm)	163.9 x 94.8 in (4,163 x 2,408 mm)
MACHINE WEIGHT	7,050 lbs (3,200 kg)	8,885 lbs (4,030 kg)	10,670 lbs (4,840 kg)
POWER REQUIRED	16 KVA/39 Amps	26 KVA/64 Amps	24 KVA/59 Amps
VOLTAGE REQUIRED	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase



INCLUDED AT NO EXTRA COST

STANDARD FEATURES

- ✓ 3-jaw hydraulic chuck with foot switch
- ✓ 12 position auto turret with 1" slots
- ✓ True slant bed with one-piece base casting
- ✓ Linear motion guide ways with roller type bearings
- ✓ Full enclosure with sliding door
- ✓ Hydraulic tailstock
- ✓ Chip conveyor
- ✓ Flood coolant
- ✓ Auto lubrication
- ✓ Part, wire frame, and solid model graphics
- ✓ Constant Surface Speed (CSS)
- ✓ Spindle load meter
- ✓ LCD hour meter
- ✓ One year warranty
- ✓ 9000 Series Control

OPTIONS

- Parts catcher
- Mist collector
- Bar feed interface
- Bi-directional turning cycle
- Automatic tool setter
- Additional spare "M" functions
- Oil skimmer
- Collet chucks
- Digital Setup Assistant
- Milltronics Shop View

Specifications subject to change without notice. Some machines shown with options.

SLANT BED LATHES



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COMBINATION LATHES

ML SERIES

Milltronics ML Series combo lathes offer both manual and CNC operations for tool rooms and job shops. They can be configured with many options and other features such as bore sizes and bed lengths - including live tooling and C-axis (on most models).



INCLUDED AT NO EXTRA COST

STANDARD FEATURES

- ✓ Solid model graphic display
- ✓ DXF file import
- ✓ Networking
- ✓ 35 mm solid boxed ways technology
- ✓ Automatic lubrication
- ✓ Spindle load meter
- ✓ Flood coolant with enclosure
- ✓ Thread chasing feature (most models)
- ✓ 500 IPM rapid traverse rate
- ✓ LCD hour meter
- ✓ One year warranty
- ✓ 9000 Series Control

OPTIONS (AVAILABILITY VARIES BY FRAME)

- 10 or 14 in bore options for ML35 and ML40
- Live tooling option for ML22 and larger lathes
- Lift-up chip conveyor for ML18 and larger
- Additional tool holders
- Hydraulic quill for tailstock (most models)
- Bi-directional turning cycle
- Pneumatic 5C collet closer (ML16)
- Additional spare "M" functions
- Automatic tool turrets
- Tool posts
- Steady rest
- Follow rest
- Digital Setup Assistant
- Milltronics Shop View

Specifications subject to change without notice. Some machines shown with options.



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SPECIFICATIONS	ML16II/40	ML18II/60	ML22II/60	ML26II/40	ML26II/80	ML26II/120	ML26II/160
CAPACITY							
X/Z TRAVELS	11/44.5 in (280/1,130 mm)	12/63.5 in (300/1,600 mm)	13/63.5 in (330/1,600 mm)	13/42 in (330/1,066 mm)	13/84 in (330/2,130 mm)	13/124 in (330/3,150 mm)	13/163 in (330/4,140 mm)
SWING OVER BED	16.7 in (425 mm)	18.7 in (475 mm)	21.6 in (550 mm)	25.6 in (650 mm)	25.6 in (650 mm)	25.6 in (650 mm)	25.6 in (650 mm)
SWING OVER GAP	25.98 in (660 mm)	27.9 in (710 mm)	30.3 in (770 mm)	34.2 in (870 mm)	34.2 in (870 mm)	34.2 in (870 mm)	34.2 in (870 mm)
GAP DISTANCE	12.75 in (320 mm)	12.75 in (320 mm)	12.75 in (320 mm)	12.75 in (320 mm)	12.75 in (320 mm)	12.75 in (320 mm)	12.75 in (320 mm)
SWING OVER CROSS SLIDE	7.48 in (190 mm)	9.4 in (240 mm)	12.2 in (310 mm)	16.1 in (410 mm)	16.1 in (410 mm)	16.1 in (410 mm)	16.1 in (410 mm)
SPINDLE							
SPINDLE NOSE	A2-5	D1-6	A1-8	A1-8	A1-11	A2-11	A2-11
SPINDLE BORE	2.04 in (52 mm)	2.56 in (65 mm)	3.22 in (82 mm)	3.22 in (82 mm)	4.17 in (106 mm)	6 in (153 mm)	6 in (153 mm)
SPINDLE RANGE	100-4,000 RPM	100-2,600 RPM	40-2,000 RPM	40-2,000 RPM	30-1,600 RPM	30-1,600 RPM	30-1,600 RPM
AC SPINDLE MOTOR	18 HP (13 kW)	24 HP (18 kW)	24/15 HP (18/11 kW) 2-SPEED DELTA/WYE	24/15 HP (18/11 kW)			
SPINDLE TORQUE	124 ft-lbs (168 Nm)	255 ft-lbs (345 Nm)	1,050 ft-lbs (1,423 Nm)	1,050 ft-lbs (1,423 Nm)	1,250 ft-lbs (1,690 Nm)	1,250 ft-lbs (1,690 Nm)	1,250 ft-lbs (1,690 Nm)
TAILSTOCK							
TAILSTOCK QUILL TRAVEL	6 in (150 mm)	6 in (150 mm)	6 in (150 mm)	6 in (150 mm)	6 in (150 mm)	6 in (150 mm)	6 in (150 mm)
TAILSTOCK QUILL DIAMETER	2.55 in (65 mm)	3.15 in (80 mm)	3.15 in (80 mm)	3.94 in (100 mm)	3.94 in (100 mm)	3.94 in (100 mm)	3.94 in (100 mm)
TAILSTOCK QUILL TAPER	MT4	MT5	MT5	MT5	MT5	MT5	MT5
AUTOMATIC TURRET							
TOOL CAPACITY	8	8	8	8	8	8	8
TOOLING SIZE	.75 in (20 mm)	.75 in (20 mm)	1 in (25 mm)	1 in (25 mm)	1 in (25 mm)	1 in (25 mm)	1 in (25 mm)
BORING BAR CAPACITY	1.25 in (32 mm)	1.25 in (32 mm)	1.5 in (38 mm)	1.5 in (38 mm)	1.5 in (38 mm)	1.5 in (38 mm)	1.5 in (38 mm)
TOOL SELECTION	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL
FURTHER DETAILS							
X/Z RAPID TRAVERSE RATE	500 IPM (12.7 m/min)	500 IPM (12.7 m/min)	500 IPM (12.7 m/min)	500 IPM (12.7 m/min)	500 IPM (12.7 m/min)	500 IPM (12.7 m/min)	500 IPM (12.7 m/min)
MAXIMUM CUTTING FEED RATE	100 IPM (2,540 mm/min)	100 IPM (2,540 mm/min)	100 IPM (2,540 mm/min)	100 IPM (2,540 mm/min)	100 IPM (2,540 mm/min)	100 IPM (2,540 mm/min)	100 IPM (2,540 mm/min)
POSITIONING ACCURACY	+/- 0.00025 in (+/- 0.0063 mm)	+/- 0.00025 in (+/- 0.0063 mm)	+/- 0.00025 in (+/- 0.0063 mm)	+/- 0.00025 in (+/- 0.0063 mm)	+/- 0.00025 in (+/- 0.0063 mm)	+/- 0.00025 in (+/- 0.0063 mm)	+/- 0.00025 in (+/- 0.0063 mm)
REPEATABILITY	0.0002 in (0.005 mm)	0.0002 in (0.005 mm)	0.0002 in (0.005 mm)	0.0002 in (0.005 mm)	0.0002 in (0.005 mm)	0.0002 in (0.005 mm)	0.0002 in (0.005 mm)
AXIS THRUST FORCE X/Z	1,500 lbs (680 kg)	1,500 lbs (680 kg)	2,300 lbs (1,040 kg)	4,000 lbs (1,815 kg)	4,000 lbs (1,815 kg)	4,000 lbs (1,815 kg)	4,000 lbs (1,815 kg)
MACHINE HEIGHT	80 in (2,032 mm)	80 in (2,302 mm)	83 in (2,108 mm)	83 in (2,108 mm)	83 in (2,108 mm)	83 in (2,108 mm)	83 in (2,108 mm)
FOOTPRINT: MAXIMUM SERVICE SPACE - (WIDTH x DEPTH)	142 x 123.5 in (3,607 x 3,137 mm)	185.2 x 123.5 in (4,703 x 3,137 mm)	162.8 x 128.5 in (4,316 x 3,265 mm)	166.5 x 141.25 in (4,229 x 3,588 mm)	206.5 x 141.25 in (5,245 x 3,588 mm)	246.5 x 141.25 in (6,261 x 3,588 mm)	286.5 x 141.25 in (7,277 x 3,588 mm)
FOOTPRINT: NOMINAL OPERATING - (WIDTH x DEPTH)	120 x 83 in (3,050 x 2,110 mm)	145 x 84.4 in (3,682 x 2,145 mm)	143 x 83 in (3,630 x 2,108 mm)	126 x 84 in (3,200 x 2,133 mm)	166 x 84 in (4,216 x 2,133 mm)	206 x 84 in (5,235 x 2,133 mm)	246 x 84 in (6,250 x 2,133 mm)
MACHINE WEIGHT	6,000 lbs (2,730 kg)	8,500 lbs (3,850 kg)	10,000 lbs (4,500 kg)	9,500 lbs (4,300 kg)	11,500 lbs (5,200 kg)	13,200 lbs (6,000 kg)	17,200 lbs (7,800 kg)
POWER REQUIRED	19 KVA/47 Amps	24 KVA/60 Amps	18 KVA/43 Amps	18 KVA/45 Amps	18 KVA/45 Amps	19 KVA/48 Amps	19 KVA/48 Amps
VOLTAGE REQUIRED	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase

SPECIFICATIONS	ML35II/80	ML35II/120	ML35II/160	ML35II/200	ML35II/240
CAPACITY					
X/Z TRAVELS	19/87 in (480/2,210 mm)	19/120 in (480/3,000 mm)	19/160 in (480/4,000 mm)	19/200 in (480/5,000 mm)	19/240 in (480/6,000 mm)
SWING OVER BED	36.2 in (920 mm)	36.2 in (920 mm)	36.2 in (920 mm)	36.2 in (920 mm)	36.2 in (920 mm)
SWING OVER GAP	45 in (1,150 mm)	45 in (1,150 mm)	45 in (1,150 mm)	45 in (1,150 mm)	45 in (1,150 mm)
GAP DISTANCE	14.6 in (370 mm)	14.6 in (370 mm)	14.6 in (370 mm)	14.6 in (370 mm)	14.6 in (370 mm)
SWING OVER CROSS SLIDE	21.6 in (550 mm)	21.6 in (550 mm)	21.6 in (550 mm)	21.6 in (550 mm)	21.6 in (550 mm)
SPINDLE					
SPINDLE NOSE	A2-11	A2-11	A2-11	A2-11	A2-11
SPINDLE BORE	6.02 in (153 mm)	6.02 in (153 mm)	6.02 in (153 mm)	6.02 in (153 mm)	6.02 in (153 mm)
SPINDLE RANGE	10-900 RPM	10-900 RPM	10-900 RPM	10-900 RPM	10-900 RPM
AC SPINDLE MOTOR	35/25 HP (26/18 kW) 2-SPEED DELTA/WYE	35/25 HP (26/18 kW)			
SPINDLE TORQUE	1,850 ft-lbs (2,500 Nm)	1,850 ft-lbs (2,500 Nm)	1,850 ft-lbs (2,500 Nm)	1,850 ft-lbs (2,500 Nm)	1,850 ft-lbs (2,500 Nm)
TAILSTOCK					
TAILSTOCK QUILL TRAVEL	8 in (200 mm)	8 in (200 mm)	8 in (200 mm)	8 in (200 mm)	8 in (200 mm)
TAILSTOCK QUILL DIAMETER	4.92 in (125 mm)	4.92 in (125 mm)	4.92 in (125 mm)	4.92 in (125 mm)	4.92 in (125 mm)
TAILSTOCK QUILL TAPER	MT6	MT6	MT6	MT6	MT6
AUTOMATIC TURRET					
NUMBER OF TOOLS	8	8	8	8	8
TOOLING SIZE	1.5 in (38 mm)	1.5 in (38 mm)	1.5 in (38 mm)	1.5 in (38 mm)	1.5 in (38 mm)
BORING BAR CAPACITY	2 in (50 mm)	2 in (50 mm)	2 in (50 mm)	2 in (50 mm)	2 in (50 mm)
TOOL SELECTION	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL
FURTHER DETAILS					
X/Z RAPID TRAVERSE RATE	500 IPM (12.7 m/min)	500 IPM (12.7 m/min)	500 IPM (12.7 m/min)	500 IPM (12.7 m/min)	500 IPM (12.7 m/min)
MAXIMUM CUTTING FEED RATE	100 IPM (2,540 mm/min)	100 IPM (2,540 mm/min)	100 IPM (2,540 mm/min)	100 IPM (2,540 mm/min)	100 IPM (2,540 mm/min)
POSITIONING ACCURACY	+/- 0.00025 in (+/- 0.0063 mm)	+/- 0.00025 in (+/- 0.0063 mm)	+/- 0.00025 in (+/- 0.0063 mm)	+/- 0.00025 in (+/- 0.0063 mm)	+/- 0.00025 in (+/- 0.0063 mm)
REPEATABILITY	0.00039 in (0.010 mm)	0.00039 in (0.010 mm)	0.00039 in (0.010 mm)	0.00039 in (0.010 mm)	0.00039 in (0.010 mm)
AXIS THRUST FORCE X/Z	6,700 lbs (3,000 kg)	6,700 lbs (3,000 kg)	6,700 lbs (3,000 kg)	6,700 lbs (3,000 kg)	6,700 lbs (3,000 kg)
MACHINE HEIGHT	90 in (2,286 mm)	90 in (2,286 mm)	90 in (2,286 mm)	90 in (2,286 mm)	90 in (2,286 mm)
FOOTPRINT: MAXIMUM SERVICE SPACE - (WIDTH x DEPTH)	193 x 117.7 in (4,902 x 2,990 mm)	232 x 117.7 in (5,893 x 2,990 mm)	272 x 117.7 in (6,909 x 2,990 mm)	311 x 117.7 in (7,900 x 2,990 mm)	350 x 117.7 in (8,890 x 2,990 mm)
FOOTPRINT: NOMINAL OPERATING - (WIDTH x DEPTH)	193 x 110 in (4,902 x 2,974 mm)	232 x 110 in (5,893 x 2,794 mm)	272 x 110 in (6,909 x 2,974 mm)	311 x 110 in (7,900 x 2,794 mm)	350 x 110 in (8,890 x 2,794 mm)
MACHINE WEIGHT	23,000 lbs (10,500 kg)	25,200 lbs (11,500 kg)	27,400 lbs (12,500 kg)	29,600 lbs (13,500 kg)	31,800 lbs (14,500 kg)
POWER REQUIRED	40 KVA/100 Amps	40 KVA/100 Amps	40 KVA/100 Amps	50 KVA/125 Amps	50 KVA/125 Amps
VOLTAGE REQUIRED	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase

SPECIFICATIONS	ML40II/80	ML40II/120	ML40II/160	ML40II/200	ML40II/240
CAPACITY					
X/Z TRAVELS	21/87 in (550/2,210 mm)	21/120 in (550/3,000 mm)	21/160 in (550/4,000 mm)	21/200 in (550/5,000 mm)	21/240 in (550/6,000 mm)
SWING OVER BED	39.7 in (1,010 mm)				
SWING OVER GAP	50 in (1,280 mm)				
GAP DISTANCE	14.6 in (370 mm)				
SWING OVER CROSS SLIDE	26.6 in (675 mm)				
SPINDLE					
SPINDLE NOSE	A2-11	A2-11	A2-11	A2-11	A2-11
SPINDLE BORE	6.02 in (153 mm)				
SPINDLE RANGE	10-900 RPM				
AC SPINDLE MOTOR	35/25 HP (26/18 kW)				
SPINDLE TORQUE	1,850 ft-lbs (2,500 Nm)				
TAILSTOCK					
TAILSTOCK QUILL TRAVEL	9 in (230 mm)				
TAILSTOCK QUILL DIAMETER	4.92 in (125 mm)				
TAILSTOCK QUILL TAPER	MT6	MT6	MT6	MT6	MT6
AUTOMATIC TURRET					
NUMBER OF TOOLS	8	8	8	8	8
TOOLING SIZE	1.5 in (38 mm)				
BORING BAR CAPACITY	2 in (50 mm)				
TOOL SELECTION	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL
FURTHER DETAILS					
X/Z RAPID TRAVERSE RATE	500 IPM (12.7 m/min)				
MAXIMUM CUTTING FEED RATE	100 IPM (2,540 mm/min)				
POSITIONING ACCURACY	+/- 0.00025 in (+/- 0.0063 mm)				
REPEATABILITY	0.00039 in (0.010 mm)				
AXIS THRUST FORCE X/Z	6,700 lbs (3,000 kg)				
MACHINE HEIGHT	90 in (2,286 mm)				
FOOTPRINT: MAXIMUM SERVICE SPACE - (WIDTH x DEPTH)	193 x 119 in (4,902 x 3,025 mm)	232 x 119 in (5,893 x 3,025 mm)	272 x 119 in (6,909 x 3,025 mm)	311 x 119 in (7,900 x 3,025 mm)	350 x 119 in (8,890 x 3,025 mm)
FOOTPRINT: NOMINAL OPERATING - (WIDTH x DEPTH)	193 x 110 in (4,902 x 2,794 mm)	232 x 110 in (5,893 x 2,794 mm)	272 x 110 in (6,909 x 2,794 mm)	311 x 110 in (7,900 x 2,794 mm)	350 x 110 in (8,890 x 2,794 mm)
MACHINE WEIGHT	24,500 lbs (11,000 kg)	26,700 lbs (12,000 kg)	28,900 lbs (13,000 kg)	31,100 lbs (14,000 kg)	33,300 lbs (15,000 kg)
POWER REQUIRED	40 KVA/100 Amps	40 KVA/100 Amps	40 KVA/100 Amps	50 KVA/125 Amps	50 KVA/125 Amps
VOLTAGE REQUIRED	208-240 Volts/ 3 Phase				



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INSPIRE V11 CONTROL

THE ULTIMATE SHOP FLOOR OPERATING SYSTEM

Introducing INSPIRE v11 - the ultimate shop floor CNC operating system. This latest-and-greatest software gives your machinists improved surface finish and cycle times, an advanced proprietary motion engine, and is capable of supporting future machine technologies, including 5-axis and live tooling lathes. With new Industry 4.0 and IoT tech support, the INSPIRE v11 fulfills every software need you'll ever face.

KEY FEATURES

CONVERSATIONAL PROGRAMMING

- ChipBoss™ Software
- MotionBoss™ Software
- DXF & IGES File Import
- Math Function Input Fields
- Custom Conversational Screens
- Speed & Feed Calculator
- Prompting Help Screens
- Concurrent Programming

G&M CODE PROGRAMMING

- Macro Programming
- MDI
- EIA/ISO Code (Fanuc™)
- Compatibility
- Macro Variable Programming

DISPLAY FEATURES

- 3D Part & Wire Frame Tool Path Graphics
- Color Graphics - Tool Path & Part Profile
- Solid Model Graphics
- Wireframe over Solids
- Transparent Graphics
- Customizable DRO
- User Definable Image Display window
- User Selectable Graphics in all Planes

AUTO ROUTINE & CANNED CYCLES

- Bolt Pattern, Drill, Tap & Bore Cycles
- Text Engraving on Arc or Line
- Thread Milling Cycle
- Circular Framing Cycle
- Rectangular Framing Cycle
- Polygon Framing Cycle
- Circular Pocket Cycle
- Rectangular Pocket Cycle
- Polygon Pocket Cycle
- Slot Cycle
- Facing Cycle
- Engraving with Serializing
- Milling Cycles
- Drill, Tap & Bore Cycles
- Custom Drill Cycle

TRIG HELP FEATURES

- Arc & Line Intersection Find
- Tangent Line & Arc Functions
- 3 Point Arc Generations
- Line Extend Back
- Cartesian & Polar Coordinates
- Corner Chamfering & Rounding



The INSPIRE v11 includes key software features and options, including:

- **CHIPBOSS™**
- **REST ROUGHING**
- **BI-DIRECTIONAL TURNING**
- **MOTIONBOSS™**
- **PC & HARDWARE UPGRADES**
- **REMOTE SUPPORT (TEAMVIEWER)**
- **INSPIRE KINEMATIC COMPENSATION SUITE**



ChipBoss™ (Option)

A high-efficiency conversational pocketing feature available for all new Milltronics CNC milling machines. Benefits include faster cycle times, improved tool life, and less wear on your machine tool. ChipBoss™ is a modern cutting strategy allowing for higher metal removal rates by increasing the depth of cut while controlling the allowable cut width, reducing cycle times, extending tool life and reducing wear on your machine tool.

It is not uncommon to use a depth of cut equal to 3 times the tool diameter with the spiral fill toolpaths generated by ChipBoss™. This cutting strategy, originally available only on high-end CAM packages, is now available conversationally on profiles, open pockets, and pockets with islands. Combine it with tapered wall and Rest Roughing on your Milltronics DGI control and multiply your machine's productivity.

Rest Roughing

This is a standard conversational feature on all new Milltronics CNC milling machines.

With Rest Roughing, a large diameter cutter is used to quickly remove material from a pocket or profile, and then one or more smaller cutters are used to machine away only the material that the large cutter could not reach. Best of all, the control does all the work for you, automatically computing what material the previous cutter left behind.

In the example shown, Rest Roughing improved cycle time by more than 33% using a 0.0" D end mill followed by the 0.25" cutter, over just using the 0.25" cutter alone.

Bi-Directional Turning (Option)

This is a high-efficiency conversational turning strategy for use on all new Milltronics CNC lathes. Benefits include faster cycle times & reduced tool changes - do more with one tool. Bi-directional turning takes advantage of the new tooling technology allowing you to cut both towards and away from the spindle. Not only does it eliminate retract and positioning moves in profiles, but it also allows you to do more with one tool, with no need for individual profiling and grooving tools - thus eliminating tool changes

that cost you time. Bi-directional cutting is smart turning for your new Milltronics lathe.

NEW! MotionBoss™ (Option)

Patented control technology that allows you to maximize cutting efficiency by managing the balance between speed and precision. Using a racecar analogy, MotionBoss™ allows you to set the width of the track along with the maximum speed. The INSPIRE control then determines the optimal path around the track, automatically accelerating between line segments or slowing down for a tight turn, providing you faster cutting time, less chatter, less vibration, and less machine jerk.

PC & Hardware Upgrades

With 4 times the memory capacity, 20 times the GPU memory, faster processing capabilities, improved graphics, and heightened reliability, our upgraded systems stand out among the competition. Additionally, the streamlined design with fewer connections provides increased ease for technicians to service the machine if needed.

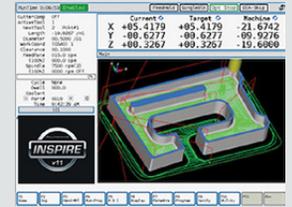
Remote Support (TeamViewer)

With INSPIRE v11, our latest software offering empowers customers with an array of cutting-edge features, including the integration of TeamViewer. This innovative addition enables users to take advantage of interactive troubleshooting, remote PC access, augmented reality, faster real-time support, and direct access to product experts.

INSPIRE Kinematic Compensation Suite

INSPIRE consolidates industry-leading best practices compensation techniques into the control software, ensuring you get the most from the solid, rigid mechanical foundation. The Kinematic Compensation Suite includes ISO 230-2 multi-pass axial compensation for improved positional accuracy; reversal spike compensation to deal with sightlines on molds; squareness compensation to tweak perpendicularity of axes, and digital field bus communications eliminating drift and analog signal noise.

OPTIONAL FEATURES



ChipBoss™

A high-efficiency conversational pocketing feature, available for all new Milltronics CNC mills



Bi-Directional Turning

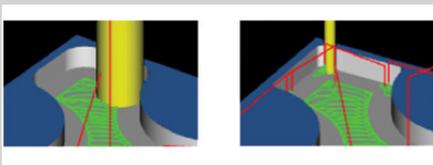
Faster cycle times & reduced tool changes - do more with one tool! Available on all new Milltronics CNC lathes.



NEW! MotionBoss™

Maximize cutting efficiency by managing the balance between speed and precision.

STANDARD FEATURES



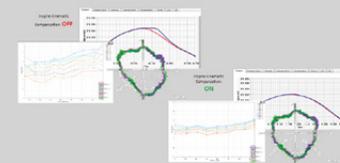
Rest Roughing



PC & Hardware Upgrades



Remote Support (TeamViewer)



INSPIRE Kinematic Compensation Suite

9000 SERIES CONTROL

THE NEW STANDARD

At Milltronics we are constantly refining our controls to simplify operation, shorten setup times, and provide features that reduce cycle times. The 9000 Series control features 120 GB disk storage, 4GB memory, up to 10-times better graphic performance, mid-travel tactile keys, and an enlarged 15-inch LCD touch screen. It's a Windows®-based platform and offers all the user-friendly features that Milltronics CNC controls are known for, such as the G-code visualization screen.

INTUITIVE

With its conversational programming, on screen help, intuitive menus, color graphics, and prompted tool settings, the 9000 CNC helps new operators get up to speed quickly. The 9000 CNC makes it the one machine in the shop that everyone wants to operate.

EFFICIENT

The 9000 CNC is packed with features that allow quick and confident operation of the CNC:

- **Solid model graphics allow the operator to see a completed part prior to cutting.**
- **Mid program restart allows the operator to start anywhere in a program by verifying the graphics and then switching to Run Mode. It's simple - no need for G&M code expertise!**
- **Handwheel run allows the operator to run a program in a controlled mode where motion only occurs while the handwheel is turning. This feature allows operators to verify programs with total control and complete confidence.**

- **The 9000 CNC features a dual-core processor and high speed motion control that is capable of executing 3,000 blocks per second. Execute the most demanding programs in the shortest time.**
- **The 9000 CNC is equipped with a 120 GB solid state drive, 4 GB RAM memory, USB ports and Ethernet connectivity.**

PRODUCTIVE

The 9000 CNC allows operators to run parts programmed conversationally or toolpaths generated by a CAM system. Coupled with a super-fast motion control system, feature packed CNC, and interface designed to expedite setup and operation, the 9000 CNC is the solution to helping your operator make parts faster and better.



9000 SERIES CONTROL SPECIFICATIONS

ESSENTIALS

PROCESSOR	INTEL® CORE I5-3610ME
INSTRUCTION SET	64-BIT

PERFORMANCE

NUMBER OF CORES	2
PROCESSOR BASE FREQUENCY	2.7 GHZ
MAX TURBO FREQUENCY	3.3 GHZ

MEMORY SPECIFICATIONS

DATA STORAGE	120 GB
SYSTEM MEMORY INSTALLED	4 GB

OPERATING SYSTEM

PRIMARY OS	WINDOWS® EMBEDDED 7
REAL TIME EXTENSION	INTERVALZERO RTX

The Milltronics 9000 CNC control is Windows® based and features a 15-inch color LCD touch screen.



DISPLAY

SIZE	15"
RESOLUTION	1024 X 768
BACKLIGHT TYPE	LED
TOUCHSCREEN	RESISTIVE

OPERATOR PANEL

KEYPAD TYPE	ABS MID-TRAVEL WITH TACTILE FEEDBACK
DATA TRANSFER	USB PORTS AND ETHERNET CONNECTIVITY

9000 SERIES CONTROL FEATURES

- Optional Four and Five Axis Simultaneous
- 3,000 Blocks / Second High Speed Processor
- Absolute / Incremental
- 120 GB Solid State Hard Drive
- 4 GB Ram Memory
- 500 MB Text Editing with Cut, Copy, Move, Search and Replace
- Ball Screw Pitch Error Correction
- True S Curve Acceleration and Jerk Correction
- Feed Forward Error Correction
- Full Language Error Messages
- Backlash Compensation
- Linear, Circular, Helical and Interpolation
- Feed Per Rev, Minute, Inverse Time
- Custom I/O Screens
- Surface Finish Selection (SFS)
- Aux Keyboard Port
- Networking
- Calculator
- Service Diagnostics
- Parts Counter
- Program / Parameter (Edit Key)
- Remote Diagnostics
- Rigid Tapping
- Selectable Corner Accuracy
- Selectable Languages
- Handwheel Scroll through Menus
- 15" Color LCD Touch Screen Display
- Automatic Homing
- Two USB Ports
- Hour Meter

TRIG HELP FEATURES

- Arc and Line Intersection Find
- Tangent Line and Arc Functions
- 3 Point Arc Generation
- Line Extend Back
- Cartesian and Polar Coordinates
- Corner Chamfering and Rounding

SINGLE PAGE AUTO-ROUTINES

- Bolt Pattern, Drill, Tap and Bore Cycles
- Text Engraving on Arc or Line
- Thread Milling Cycle
- Circular Framing Cycle
- Rectangular Framing Cycle
- Polygon Framing Cycle
- Circular Pocket Cycle
- Rectangular Pocket Cycle
- Polygon Pocket Cycle
- Slot Cycle
- Facing Cycle

CANNED CYCLES

- Milling Cycles
- Drill, Tap and Bore Cycles
- Custom Drill Cycle
- Rotary Axis Cylindrical Mapping
- 3D Sweep Routine
- Irregular Pocket Clear with Islands

CONVERSATIONAL PROGRAMMING

- DXF and IGES File Import
- Math Function Input Fields
- Macro Variable Programming
- Custom Conversational Screens
- Speed and Feed Calculator
- Prompting Help Screens

G&M CODE PROGRAMMING

- Macro Programming
- MDI
- EIA / ISO Code (Fanuc™) Compatibility

PROGRAMMING FEATURES

- Concurrent Programming
- Cutter Compensation
- Inch / Metric
- Mirror, Scale and Rotate
- Dwell
- Subprogram Call, Looping and Nesting
- Tapered and Round Walls
- Engraving with Serializing

RUN AND VERIFY FEATURES

- Handwheel Run
- Dry Run
- Block Skip, Optional Stop, Programmable Stop and Single Block
- Multiple Mid Program Start Options
- Mill Away / Jog Away
- Program Halt and Resume
- Tool Load Monitoring
- Tool Breakage Detection with Optional Tool Setter
- Estimated Cycle Time
- 10%, 100% and Variable Rapid Override Select
- Spindle Load Meter
- Fine Tune Feed and Spindle Override
- Machine Status Light
- Programmable Air, Mist and Coolant

SET-UP FEATURES

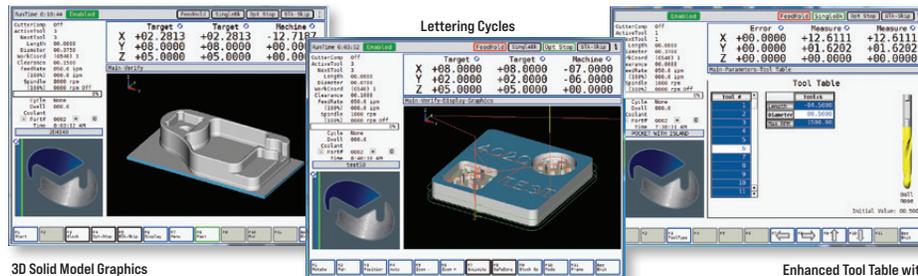
- Automatic Tool Setting Program
- Single Button Tool / Fixture Offset Entry
- 60 Work Coordinates
- Continuous and Incremental Axis Jog
- Electronic Handwheel(s)
- Optional Probe and Tool Setter
- 199 Tool Diameter Length and Wear Offsets
- DRO Measure
- Safe Zone
- Hot Keys

EDIT FEATURES

- Background Editing
- Cut, Copy, Paste and Move Editing
- Handwheel through Text
- Overwrite and Insert
- Global Find and Replace
- Printout a Program (Fastcam)

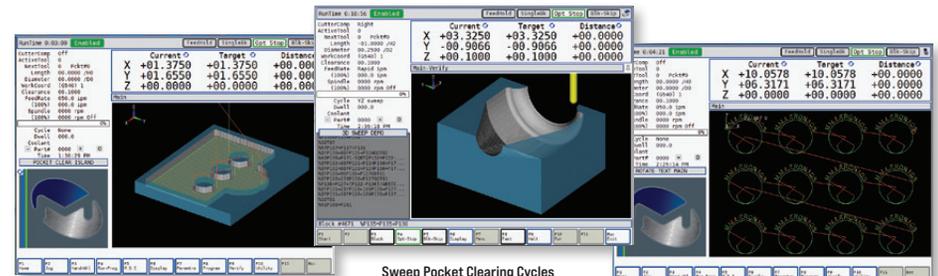
DISPLAY FEATURES

- 3D Part and Wire Frame Tool Path Graphics
- Color Graphics — Tool Path and Part Profile
- Solid Model Graphics
- Wireframe over Solids
- Transparent Graphics
- Customizable DRO
- User Definable Image Display Window
- User Selectable Graphics in all Planes



3D Solid Model Graphics

Enhanced Tool Table with Graphic Tool Representation



Irregular Pocket Clearing with Islands

Sweep Pocket Clearing Cycles

Sub-Program Loops for Pattern Repeat Cycles

SUPERIOR DESIGN & QUALITY COMPONENTS

Milltronics partners with world-class suppliers for critical components used in the design and manufacture of our CNC machines.

SL6II FRAME



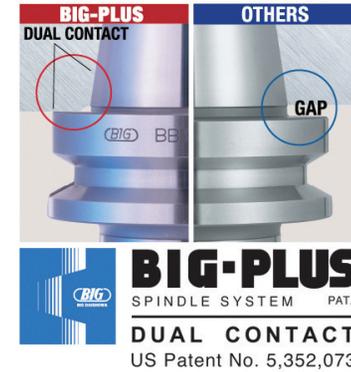
Rigid true slant bed casting, direct coupled ballscrews, with roller style linear guides.

VM5025XP FRAME



Oversized and widely spaced linear cross roller ways for rigidity and accuracy—provide 40% more rigidity than standard ball ways

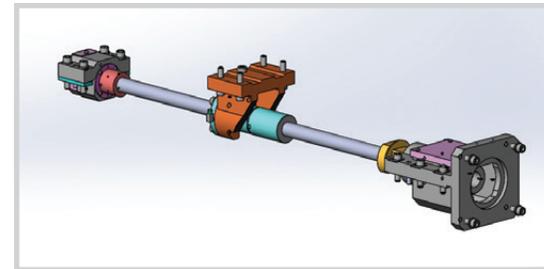
- Milltronics uses a design process that is ISO 9001 certified to make rigid and reliable machines built to last.
- Heavily ribbed and supported fine grain cast iron optimized with Finite Element Analysis (FEA) provides superior dampening characteristics and added rigidity for heavy machining applications.
- Machines are designed with rapid traverse rates and high feeds to minimize cycle times and increase productivity.
- Variety of efficiency enhancing options such as thermal head mapping, linear glass scales, coolant-through-spindle, spindle chillers, rotary tables, bar feeders, and automation solutions are available.



BIG-PLUS® SPINDLES

Milltronics mills* are equipped with the BIG-PLUS® spindle system that improves rigidity with simultaneous fit of taper and face, which provides better heavy or high speed cutting, better deep or large diameter boring, and longer tool life.

*Not available on VK4II, TRQ20 models



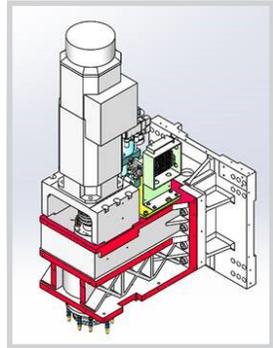
Direct coupled ballscrews.

BALLSCREWS

The VM/VM-IL/VM-XP Series of machines feature direct coupled Hiwin® premium grade double-nut pre-loaded ballscrews, anchored at both ends as well as Hiwin® linear motion guides. The double-nut ballscrews apply pressure in opposite directions to the ballscrew which keeps the nut under tension and prevents backlash. The ballscrews are also pre-tensioned, providing greater rigidity and help to negate the effects of thermal growth.

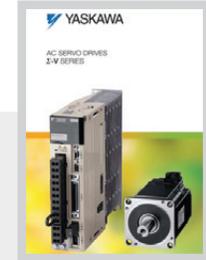
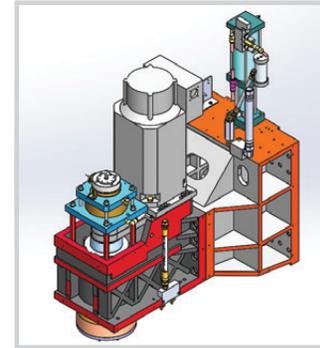
VMIL SPINDLE TRANSMISSION

Belts are eliminated with spindle and motor directly inline. This delivers higher performance in acceleration, reduced vibration for better part finish, and quieter operation.



VM-XP SPINDLE

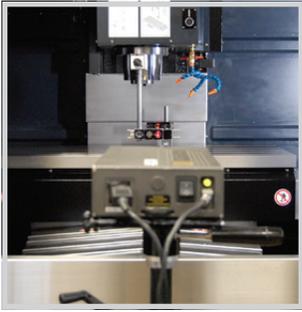
For extra cutting power, the heavy-duty belt-driven spindles on the VM-XP machines are equipped with a dual wound spindle motor.



SERVOS AND DRIVES

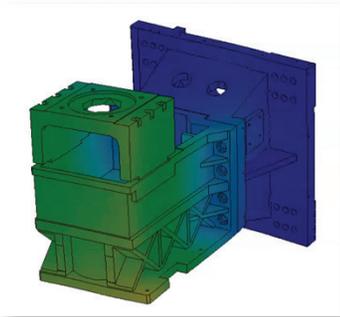
Milltronics uses state-of-the-art premium servos and drives from some of the world's largest manufacturers including Yaskawa, Mitsubishi, and Delta. All of these motors and drives feature:

- Exceptional velocity loop frequency response time
- Digital encoders
- Enhanced vibration suppression
- Faster speed acceleration and deceleration
- Worldwide service and parts support



LASER INTERFEROMETER

After assembly, Milltronics machines are tested, including the use of a laser interferometer. The laser interferometer provides comprehensive accuracy assessment of machine alignment and any roll-pitch-yaw errors in machine.



FINITE ELEMENT ANALYSIS

Finite Element Analysis (FEA) is used to evaluate structural rigidity, torsional stiffness, thermal characteristics and natural frequency to achieve the best frame design. This is critical with today's high velocities and accelerations - machine performance must be carefully optimized in order to maintain part quality.

ITX TECHNOLOGY

The modular design of the ITX rack provides highly reliable CNC operation as it uses fewer parts and features reduced connections. The CPU module uses less power and runs cooler for dependable operation.



SWING ARM ATC

Milltronics uses electric swing arm automatic tool changers on the VM/VM-IL/VM-XP Series. All arm movements are driven from a single cam ensuring reliable and smooth movements that never need adjustment.



CHIP MANAGEMENT

Milltronics machines are available with numerous coolant and chip removal options. Depending on model, coolant through the spindle, air through the spindle, programmable air blast and spray mist are available. Chip removal options include chip augers, chip conveyors and coolant washdown.





MILLTRONICS®

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Specifications subject to change without notice. Optimum machine performance is dependent upon installation conditions at the facility. Some machines shown with options.

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