



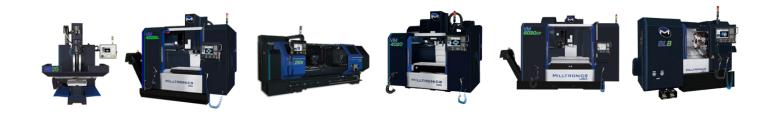


MILLTRONICS.EU



GROW WITH MILLTRONICS.

While Milltronics is well known for having the most comprehensive line of tool room machines equipped with a completely integrated control, we've grown our product line to over 50 models of CNC machines. Based in Indianapolis, Indiana, we have decades of experience in the machine tool industry. In 2015, we invested in growing our product line and enhancing the Milltronics control. Our purpose at Milltronics is to offer customers affordable and well-built CNC machines equipped with an advanced yet straightforward control that features an easy-to-use operator interface with the added benefit of a G-Code Visualization screen. This catalog is organized to highlight our five series of mills and two series of lathes, but we continue to grow! For the latest information, go to Milltronics.eu. We hope you will choose to grow your business with Milltronics.





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.



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. Milltronics offers better built machines with more standard features for the price. We are continually working with our distribution partners innovating new ways to seamlessly surround manufacturers and machine shop owners with the reliable products they need.

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 9000 Series control, and more.



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
- 24 pocket double arm ATC
- BT 40
- Automatic positive displacement lubrication system
- High torque AC digital servo drives
- High torque closed loop vector spindle drive system
- Work light (right side)
- 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
- Edit key lockout switch
- Spindle load meter
- Feedrate and spindle speed overrides
- Spindle air purge
- End of cycle light

OPTIONS

- Coolant through spindle system
- Part and tool probes
- 4th axis options
- Chip auger chip removal system
- Lift up chip conveyor chip removal system
- Remote handwheel
- Auxiliary industrial grade keyboard
- Electronic spindle chiller
- Air gun
- Coolant wash down gun
- Additional work light (left side)
- BT style tooling
- ChipBoss™ Trochoidial Milling Software
- Milltronics Shop View
- Digital Setup Assistant

4 ATTRACTIVE FEATURE SET AT AN AFFORDABLE PRICE.

VM SERIES

SPECIFICATIONS	VM2515	VM3018	VM4020	VM5020	VM5020EZ
TABLE					
TABLE WORKING SURFACE	760 x 405 mm	860 x 460 mm	1,170 x 510 mm	1,320 x 510 mm	1,320 x 510 mm
TABLE T-SLOTS	18 mm				
MAXIMUM WEIGHT ON TABLE	680 kg	790 kg	910 kg	910 kg	910 kg
TRAVELS					
X-AXIS	635 mm	760 mm	1,015 mm	1,270 mm	1,270 mm
Y-AXIS	380 mm	460 mm	510 mm	510 mm	510 mm
Z-AXIS	510 mm	510 mm	510 mm	510 mm	510 mm WITH 150 MM RISER
SPINDLE MOTOR		'			
SPINDLE POWER (MAXIMUM)	11/7.5 kW	15/11 kW	15/11 kW	15/11 kW	15/11 kW
SPINDLE TORQUE (MAXIMUM)	75 Nm	105 Nm	105 Nm	105 Nm	105 Nm
SPINDLE					
SPINDLE TAPER	BT 40				
SPINDLE NOSE TO TABLE	100-610 mm	100-610 mm	100-610 mm	100-610 mm	250-760 mm
SPINDLE SPEED (MAXIMUM)	10,000 RPM (12,000 RPM Option)				
TOOL CHANGER					
TOOL CAPACITY / TYPE	20 DOUBLE ARM				
MAXIMUM TOOL DIAMETER	80 mm				
MAXIMUM TOOL LENGTH	240 mm				
MAXIMUM TOOL WEIGHT	7 kg				
FURTHER DETAILS					
X/Y/Z RAPID TRAVERSE RATE	24 m/min				
MACHINE HEIGHT	2,565 mm	2,590 mm	2,590 mm	2,590 mm	2,725 mm
MACHINE FOOTPRINT	1,905 x 2,550 mm	2,350 x 2,780 mm	2,540 x 2,800 mm	4,115 x 3,175 mm	4,115 x 3,175 mm
MACHINE WEIGHT	2,820 kg	4,100 kg	4,125 kg	4,250 kg	4,300 kg
POWER REQUIRED	16 KVA/40 Amps	21 KVA/53 Amps	21 KVA/53 Amps	21 KVA/53 Amps	21 KVA/53 Amps
VOLTAGE REQUIRED	208-240 Volts/ 3 Phase				

VERTICAL MACHINING CENTERS 40 TAPER INLINE | IL SERIES

The IL stands for inline 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 10,000 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.



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
- BT 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

OPTIONS

- Coolant through spindle system
- Work offset probing
- 4th axis options
- Auxiliary industrial grade keyboard
- Electronic spindle chiller
- BT style tooling
- 15,000 RPM spindle
- Thermal head mapping
- ChipBoss[™] Trochoidial Milling Software
- Milltronics Shop View
- Digital Setup Assistant
- Programmable spray-mist and air-blast

6 CNC MILLS EQUIPPED WITH INLINE SPINDLES FOR INCREASED PERFORMANCE.

SPECIFICATIONS	VM3018IL	VM4222IL	VM5025IL	VM6030IL
TABLE				
TABLE WORKING SURFACE	860 x 460 mm	1,170 x 560 mm	1,370 x 635 mm	1,680 x 760 mm
TABLE T-SLOTS	18 mm	18 mm	18 mm	18 mm
MAXIMUM WEIGHT ON TABLE	1,360 kg	1,360 kg	1,360 kg	1,360 kg
TRAVELS				
X-AXIS	760 mm	1,070 mm	1,270 mm	1,525 mm
Y-AXIS	460 mm	560 mm	635 mm	760 mm
Z-AXIS	560 mm	610 mm	610 mm	610 mm
SPINDLE MOTOR				
SPINDLE POWER (MAXIMUM)	18/11 kW	18/11 kW	26/18 kW	26/18 kW
SPINDLE TORQUE (MAXIMUM)	115 Nm	115 Nm	165 Nm	165 Nm
SPINDLE				
SPINDLE TAPER	BT 40	BT 40	BT 40	BT 40
SPINDLE NOSE TO TABLE	150-710 mm	125-735 mm	150-760 mm	100-710 mm
SPINDLE SPEED (MAXIMUM)	12,000 RPM (15,000 RPM Option)			
TOOL CHANGER				
TOOL CAPACITY / TYPE	30 DOUBLE ARM	30 DOUBLE ARM	30 DOUBLE ARM	30 DOUBLE ARM
MAXIMUM TOOL DIAMETER	80 mm	80 mm	80 mm	80 mm
MAXIMUM TOOL LENGTH	300 mm	300 mm	300 mm	300 mm
MAXIMUM TOOL WEIGHT	7 kg	7 kg	7 kg	7 kg
FURTHER DETAILS				
X/Y/Z RAPID TRAVERSE RATE	30/25 m/min	30/25 m/min	25/20 m/min	25/20 m/min
MACHINE HEIGHT	3,025 mm	3,060 mm	3,100 mm	3,125 mm
MACHINE FOOTPRINT	2,180 x 2,685 mm	2,800 x 2,935 mm	3,250 x 2,620 mm	3,810 x 2,920 mm
MACHINE WEIGHT	4,850 kg	6,700 kg	8,120 kg	9,900 kg
POWER REQUIRED	27 KVA/66 Amps	28 KVA/70 Amps	32 KVA/80 Amps	32 KVA/80 Amps
VOLTAGE REQUIRED	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase

IL SERIES

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 26 kW 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.



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
- BT 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

OPTIONS

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

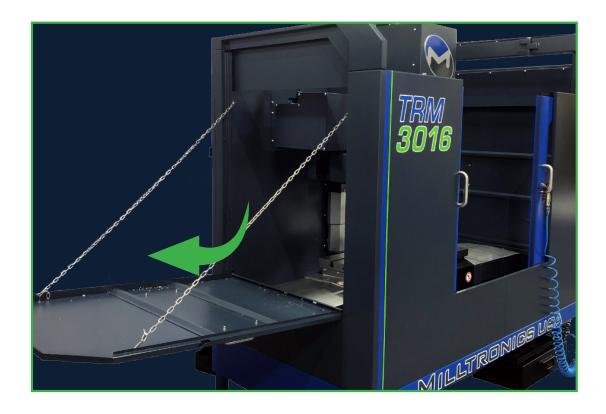
8 XP FOR EXTRA PERFORMANCE IN A 50-TAPER MACHINE.

SPECIFICATIONS	VM5025XP	VM6030XP	VM8434XP
TABLE		11	
TABLE WORKING SURFACE	1,370 x 635 mm	1,680 x 760 mm	2,185 x 865 mm
TABLE T-SLOTS	18 mm	18 mm	18 mm
MAXIMUM WEIGHT ON TABLE	1,360 kg	1,360 kg	2,270 kg
TRAVELS			
X-AXIS	1,270 mm	1,525 mm	2,135 mm
Y-AXIS	635 mm	760 mm	865 mm
Z-AXIS	610 mm	610 mm	760 mm
SPINDLE MOTOR			
SPINDLE POWER (MAXIMUM)	26/18 kW	26/18 kW	26/18 kW
SPINDLE TORQUE (MAXIMUM)	495 Nm	495 Nm	495 Nm
SPINDLE			
SPINDLE TAPER	BT 50	BT 50	BT 50
SPINDLE NOSE TO TABLE	150-760 mm	100-710 mm	115-875 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
MAXIMUM TOOL DIAMETER	125 mm	125 mm	125 mm
MAXIMUM TOOL LENGTH	300 mm	300 mm	300 mm
MAXIMUM TOOL WEIGHT	15 kg	15 kg	15 kg
FURTHER DETAILS			
X/Y/Z RAPID TRAVERSE RATE	25/20 m/min	25/20 m/min	18/13.5 m/min
MACHINE HEIGHT	3,124 mm	3,124 mm	3,616 mm
MACHINE FOOTPRINT	3,250 x 2,630 mm	3,810 x 2,920 mm	7,575 x 4,000 mm
MACHINE WEIGHT	9,130 kg	10,100 kg	16,940 kg
POWER REQUIRED	43 KVA/108 Amps	43 KVA/108 Amps	43 KVA/108 Amps
VOLTAGE REQUIRED	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase

XP SERIES

TOOL ROOM MILL TRM 3016 | 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. The TRM3016 (pictured below) has "drop down" door openings for long part pass through to help accommodate oversize parts. Milltronics tool room mills are fitted with the 9000 Series control.



STANDARD FEATURES

- Solid box way construction (most models)
- X/Y axis metal way cover construction (most models)
- Auto lubrication
- BT 40
- Spindle load meter
- Spindle air purge (excluding MB models)
- Flood coolant
- Rigid tapping
- LCD hour meter
- One year warranty

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
- Printed manuals (PDF standard)
- Milltronics logo floor mat
- ChipBoss™ Trochoidal Milling Software
- Milltronics Shop View (MSV)
- Offline DGI software
- Quill scale

TOOL ROOM MILL

SPECIFICATIONS	TRM3016
TABLE	
TABLE WORKING SURFACE	900 x 405 mm
TABLE T-SLOTS	18 mm
MAXIMUM WEIGHT ON TABLE	450 kg
TRAVELS	
X-AXIS	760 mm
Y-AXIS	405 mm
Z-AXIS	510 mm
SPINDLE MOTOR	
SPINDLE POWER (MAXIMUM)	11/7.5 kW
SPINDLE TORQUE (MAXIMUM)	90 Nm
SPINDLE	
SPINDLE TAPER	BT 40
SPINDLE NOSE TO TABLE	100-610 mm
SPINDLE SPEED (MAXIMUM)	8,000 RPM
TOOL CHANGER	
TOOL CAPACITY / TYPE	16 CAROUSEL
MAXIMUM TOOL DIAMETER	100 mm
MAXIMUM TOOL LENGTH	280 mm
MAXIMUM TOOL WEIGHT	4.5 kg
FURTHER DETAILS	
X/Y/Z RAPID TRAVERSE RATE	17.8 m/min
MACHINE HEIGHT	2,565 mm
MACHINE FOOTPRINT	2,280 x 2,280 mm
MACHINE WEIGHT	3,130 kg
POWER REQUIRED	16 KVA/40 Amps
VOLTAGE REQUIRED	208-240 Volts/ 3 Phase



TOOL ROOM MILL

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		1	
X-AXIS TRAVEL	175 mm	200 mm	250 mm
Z-AXIS TRAVEL	355 mm	530 mm	790 mm
SWING OVER BED DIAMETER	405 mm	550 mm	580 mm
SWING OVER CROSS SLIDE DIAMETER	240 mm	300 mm	400 mm
MAXIMUM TURNING DIAMETER	315 mm	355 mm	450 mm
MAXIMUM TURNING LENGTH	340 mm	530 mm	760 mm
SPINDLE			
SPINDLE NOSE	A2-5	A2-6	A2-8
DRAW TUBE DIAMETER	45 mm	64.5 mm	81 mm
SPINDLE BORE DIAMETER	56 mm	78 mm	95 mm
CHUCK SIZE	150 mm	200 mm	250 mm
SPINDLE RANGE	0-6,000 RPM	0-4,000 RPM	0-3,000 RPM
AC SPINDLE MOTOR	13/7.5 kW	17/11 kW	22/15 kW
MAXIMUM SPINDLE TORQUE	115 Nm @ 1,090 RPM	220 Nm @ 725 RPM	350 Nm @ 600 RPM
TURRET			
TOOL CAPACITY	12	12	12
TOOL SIZE	19 x 19 mm	25 x 25 mm	25 x 25 mm
BORING BAR CAPACITY	32 mm	40 mm	40 mm
TOOL SELECTION	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL
TAILSTOCK OPTION			
TAILSTOCK QUILL TRAVEL	88 mm	88 mm	119 mm
TAILSTOCK QUILL DIAMETER	58 mm	58 mm	90 mm
TAILSTOCK THRUST	50 kgf	50 kgf	200 kgf
TAILSTOCK QUILL TAPER	MT4	MT4	MT5
ΜΟΤΙΟΝ			
MAXIMUM CUTTING FEED RATE	10 m/min	10 m/min	10 m/min
POSITIONING ACCURACY	+/- 0.005 mm	+/- 0.005 mm	+/- 0.005 mm
REPEATABILITY	0.005 mm	0.005 mm	0.005 mm
AXIS THRUST FORCE X/Z	8 kN	9 kN	14 kN

SPECIFICATIONS	SL6II	SL8II	SL10II
FURTHER DETAILS			
X/Z RAPID TRAVERSE RATE	30 m/min	30 m/min	30 m/min
MACHINE HEIGHT	2,130 mm	2,130 mm	2,250 mm
MACHINE FOOTPRINT	3,180 x 2,505 mm	4,490 x 2,650 mm	4,160 x 2,850 mm
MACHINE WEIGHT	3,200 kg	4,030 kg	4,840 kg
POWER REQUIRED	12.5 KVA/33 Amps	17 KVA/43 Amps	24 KVA/59 Amps
VOLTAGE REQUIRED	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase	208-240 Volts/ 3 Phase



STANDARD FEATURES

- 3-jaw hydraulic chuck with foot switch
- 12 position auto turret with 25.4 mm slots
- True slant bed with one-piece base casting
- Linear motion guideways with roller type bearings
- Full enclosure with sliding door
- Flood coolant
- Auto lubrication
- Part, wire frame & solid model graphics
- Constant Surface Speed (CSS)
- 120 GB solid-state hard drive
- 380 mm LCD color touch screen display
- Spindle load meter
- LCD hour meter
- One-year warranty

OPTIONS

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

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).



STANDARD FEATURES

- 305 mm LCD color display
- Solid model graphic display
- 1 GB program storage memory
- DXF file import
- Networking
- 35 mm linear way technology
- Automatic lubrication
- Spindle load meter
- Flood coolant with enclosure
- Thread chasing feature (most models)
- 13 m/min rapid traverse rate
- LCD hour meter
- One year warranty

OPTIONS

- 255 or 355 mm bore options for ML35 and ML40
- Live tooling option for ML22 and larger lathes
- Lift-up chip conveyor
- 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

ML SERIES

SPECIFICATIONS	ML1611/40	ML1811/60	ML2211/60	ML2611/40	ML2611/80	ML2611/120	ML2611/160
CAPACITY							
X/Z TRAVELS	280/1,130 mm	300/1,600 mm	330/1,600 mm	330/1,070 mm	330/2,130 mm	330/3,150 mm	330/4,140 mm
SWING OVER BED	440 mm	480 mm	580 mm	685 mm	685 mm	685 mm	685 mm
SWING OVER GAP	658 mm	710 mm	770 mm	870 mm	870 mm	870 mm	870 mm
GAP DISTANCE	320 mm	320 mm	320 mm	320 mm	320 mm	320 mm	320 mm
SWING OVER CROSS SLIDE	190 mm	235 mm	310 mm	410 mm	410 mm	410 mm	410 mm
SPINDLE							
SPINDLE NOSE	A2-5	D1-6	A1-8	A1-8	A1-11	A2-11	A2-11
SPINDLE BORE	52 mm	65 mm	82 mm	82 mm	106 mm	153 mm	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	11/7.5 kW	15/11 kW	18/11 kW 2-SPEED DELTA/WYE				
SPINDLE TORQUE	147 Nm	306 Nm	1,400 Nm	1,700 Nm	1,700 Nm	1,700 Nm	1,700 Nm
TAILSTOCK							
TAILSTOCK QUILL TRAVEL	150 mm	150 mm	150 mm	150 mm	150 mm	150 mm	150 mm
TAILSTOCK QUILL DIAMETER	65 mm	80 mm	100 mm	100 mm	100 mm	100 mm	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	20 mm	20 mm	25 mm	25 mm	25 mm	25 mm	25 mm
BORING BAR CAPACITY	32 mm	32 mm	38 mm	38 mm	38 mm	38 mm	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	13 m/min	13 m/min	13 m/min	13 m/min	13 m/min	13 m/min	13 m/min
MAXIMUM CUTTING FEED RATE	2,540 mm/min	2,540 mm/min	2,540 mm/min	2,540 mm/min	2,540 mm/min	2,540 mm/min	2,540 mm/min
POSITIONING ACCURACY	+/- 0.0060 mm	+/- 0.006 mm	+/- 0.006 mm	+/- 0.006 mm	+/- 0.006 mm	+/- 0.006 mm	+/- 0.0063 mm
REPEATABILITY	0.005 mm	0.005 mm	0.005 mm	0.005 mm	0.005 mm	0.005 mm	0.005 mm
AXIS THRUST FORCE X/Z	680 kg	680 kg	1,040 kg	1,815 kg	1,815 kg	1,815 kg	1,815 kg
MACHINE HEIGHT	2,030 mm	2,030 mm	2,100 mm	2,100 mm	2,100 mm	2,100 mm	2,108 mm
MACHINE FOOTPRINT	3,050 x 2,100 mm	3,510 x 2,100 mm	3,630 x 2,100 mm	3,200 x 2,130 mm	4,216 x 2,130 mm	5,235 x 2,130 mm	6,250 x 2,133 mm
MACHINE WEIGHT	2,730 kg	3,850 kg	4,500 kg	4,300 kg	5,200 kg	6,000 kg	7,800 kg
POWER REQUIRED	19 KVA/40 Amps	23 KVA/58 Amps	30 KVA/80 Amps	30 KVA/80 Amps	30 KVA/80 Amps	30 KVA/80 Amps	30 KVA/80 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	ML3511/200	ML3511/240
CAPACITY					
X/Z TRAVELS	480/2,210 mm	480/3,000 mm	480/4,000 mm	480/5,000 mm	480/6,000 mm
SWING OVER BED	920 mm				
SWING OVER GAP	1,150 mm				
GAP DISTANCE	370 mm				
SWING OVER CROSS SLIDE	550 mm				
SPINDLE					
SPINDLE NOSE	A2-11	A2-11	A2-11	A2-11	A2-11
SPINDLE BORE	153 mm				
SPINDLE RANGE	10-900 RPM				
AC SPINDLE MOTOR	26/18 kW 2-SPEED	26/18 kW	26/18 kW	26/18 kW	26/18 kW
SPINDLE TORQUE	2,500 Nm				
TAILSTOCK					
FAILSTOCK QUILL TRAVEL	200 mm				
TAILSTOCK QUILL DIAMETER	125 mm				
TAILSTOCK QUILL TAPER	MT6	MT6	MT6	MT6	MT6
AUTOMATIC TURRET					
NUMBER OF TOOLS	8	8	8	8	8
TOOLING SIZE	38 mm				
BORING BAR CAPACITY	50 mm				
TOOL SELECTION	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL
FURTHER DETAILS					
X/Z RAPID TRAVERSE RATE	13 m/min				
MAXIMUM CUTTING FEED RATE	2,540 mm/min				
POSITIONING ACCURACY	+/- 0.006 mm				
REPEATABILITY	0.010 mm				
AXIS THRUST FORCE X/Z	3,000 kg				
MACHINE HEIGHT	2,300 mm				
MACHINE FOOTPRINT	4,900 x 2,795 mm	5,890 x 2,795 mm	6,910 x 2,795 mm	7,900 x 2,795 mm	8,890 x 2,795 mr
1ACHINE WEIGHT	10,500 kg	11,500 kg	12,500 kg	13,500 kg	14,500 kg
POWER REQUIRED	48 KVA/125 Amps	48 KVA/125 Amps	48 KVA/125 Amps	48 KVA/125 Amps	48 KVA/125 Amp
VOLTAGE REQUIRED	208-240 Volts/ 3 Phase				

SPECIFICATIONS	ML4011/80	ML4011/120	ML4011/160	ML40II/200	ML4011/240
CAPACITY					
X/Z TRAVELS	550/2,210 mm	550/3,000 mm	550/4,000 mm	550/5,000 mm	550/6,000 mm
SWING OVER BED	1,010 mm				
SWING OVER GAP	1,280 mm				
GAP DISTANCE	370 mm				
SWING OVER CROSS SLIDE	675 mm				
SPINDLE					
SPINDLE NOSE	A2-11	A2-11	A2-11	A2-11	A2-11
SPINDLE BORE	153 mm				
SPINDLE RANGE	10-900 RPM				
AC SPINDLE MOTOR	26/18 kW				
SPINDLE TORQUE	2,500 Nm				
TAILSTOCK					
TAILSTOCK QUILL TRAVEL	230 mm				
TAILSTOCK QUILL DIAMETER	125 mm				
TAILSTOCK QUILL TAPER	MT6	MT6	MT6	MT6	MT6
AUTOMATIC TURRET					
NUMBER OF TOOLS	8	8	8	8	8
TOOLING SIZE	38 mm				
BORING BAR CAPACITY	50 mm				
TOOL SELECTION	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL	BI-DIRECTIONAL
FURTHER DETAILS					
X/Z RAPID TRAVERSE RATE	13 m/min				
MAXIMUM CUTTING FEED RATE	2,540 mm/min				
POSITIONING ACCURACY	+/- 0.0063 mm				
REPEATABILITY	0.010 mm				
AXIS THRUST FORCE X/Z	3,000 kg				
MACHINE HEIGHT	2,300 mm				
MACHINE FOOTPRINT	4,900 x 2,795 mm	5,900 x 2,795 mm	6,910 x 2,795 mm	7,900 x 2,795 mm	8,890 x 2,795 mm
MACHINE WEIGHT	11,000 kg	12,000 kg	13,000 kg	14,000 kg	15,000 kg
POWER REQUIRED	48 KVA/125 Amps	48 KVA/125 Amps	48 KVA/125 Amps	48 KVA/125 Amps	48 KVA/125 Amp
VOLTAGE REQUIRED	208-240 Volts/ 3 Phase				

COMBINATION LATHES

ML SERIES

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 380 mm 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

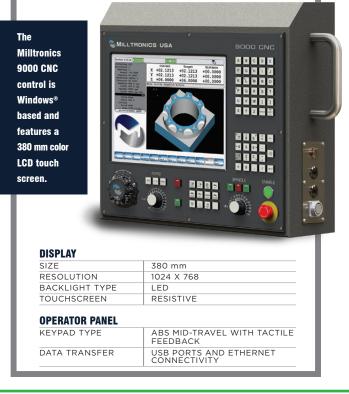
DATA STORAGE	120 GB
SYSTEM MEMORY INSTALLED	4 GB

GRAPHICS SPECIFICATIONS

GPU CORE SPEED	600MHZ
MEMORY	1024 MB

OPERATING SYSTEM

PRIMARY OS WINDOWS® EMBEDDED 7 REAL TIME EXTENSION INTERVALZERO RTX



PROGRAMMING FEATURES

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

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- Speed and Feed Calculator
- Prompting Help Screens

3D Solid Model Graphics

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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

+12.6111 +01.6202

Enhanced Tool Table with

Graphic Tool Representation

+12.6111 +01.6202

X +00.0000 Y +00.0000

- Spindle Load Meter
- Fine Tune Feed and Spindle Override
- Machine Status Light

-07.0006 -06.0006

Lettering Cycles

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+08.0000

X +08.0000 Y +02.0000 Z +05.0000 • 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

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)

+01.3750 +01.6550 +00.0000

The Pay Section Revealed States Printers Program Sector States 913 No.

Irregular Pocket Clearing with Islands

+01.3750

Aux Keyboard Port

Ctivetres 0 RextBod 0 Pctrm Length 00.0000/b0 Biamster 00.0000/CD WorkGoord (6500)1 Clearance 00.1000 FeedBac 055.5 jpm (1005) 0000 rpm (1005) 0000 rpm 0

Cycle None Dwell 000.0 Coolant Parte 0000 H Tise 1:36:20 PH POCKET CLEAR ISLAND

- Networking
- Calculator
- Service Diagnostics
- Parts Counter
- Program / Parameter (Edit Key)
- Remote Diagnostics
- Rigid Tapping
- Selectable Corner Accuracy

Handwheel Scroll through Menus

• 15" Color LCD Touch Screen Display

Cut, Copy, Paste and Move Editing

Selectable Languages

Automatic Homing

Two USB Ports

EDIT FEATURES

Background Editing

Overwrite and Insert

DISPLAY FEATURES

Solid Model Graphics

Wireframe over Solids

Transparent Graphics

Customizable DRO

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Sweep Pocket Clearing Cycles

• Handwheel through Text

• Global Find and Replace

• Printout a Program (Fastcam)

3D Part and Wire Frame Tool Path Graphics

Color Graphics — Tool Path and Part Profile

User Definable Image Display Window

• User Selectable Graphics in all Planes

+10.

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MILLTRONICS.EU

Sub-Program Loops for Pattern Repeat Cycles

19

• Hour Meter

PRODUCTIVITY SOFTWARE CHIPBOSS[™]

New optional software from Milltronics uses proprietary algorithms to calculate tool paths 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

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

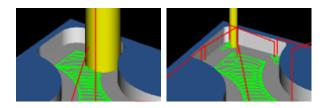
- Feed rates can be much higher than what conversational users are used to experiencing
- Reduces the number of times a machine needs to accelerate and decelerate — "less wear and tear"
- Includes "Rest Roughing" automatically calculates the areas to be machined and uses a smaller cutter to get just those areas that can't be cut with larger tool, saving even more time



HOW IT WORKS

To begin with, consider first a typical conversational program:

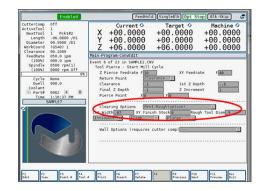
- To avoid overheating the tool the operator typically uses multiple incremental depth cuts
- Uses slower feeds and speeds
- Often needs to use coolant (not always desired)
- With incremental depth cuts, usually only the tip of the tool is used
- The majority of the usable flute length is being wasted



Rest Roughing

Use Rest Roughing to further improve cycle times:

- Select a large diameter tool to efficiently remove bulk material, followed by a smaller diameter tool to get what the larger tool can't reach
- Rest cycle does just the "rest" areas, no need to re-cut entire profile
- All automatic just select from drop down menu and the software calculates everything for you



MILLTRONICS SHOP VIEW

With Milltronics Shop View (MSV) you have instant access to your machine's status including programs, set-ups, digital readout, live snapshots of machine cutting video, spindle load, spindle hours, machine events log, file transfers, alarms and more — even when you're not there!

MSV uses advanced cloud based monitoring, communication and diagnostics technology through an Internet connection to your machine.

MSV is conveniently hosted in the cloud by Milltronics servers and eliminates the need of extensive IT infrastructure or expertise at your shop. All you need to do is point your PC, tablet or smart phone to msv.milltronics.com. The MSV platform is hosted on a secure network which users are able to log in and access their account through a responsive website with end-to-end encryption.



Milltronics Shop View (MSV) feature gives users instant access to their machine's status from anywhere.

DIGITAL SETUP ASSISTANT

Digital Set-Up Assistant (DSA) uses Wi-Fi to make a cell phone or tablet an extension of the Milltronics CNC machine's control. This optional software feature allows an operator to reduce setup time by easily accessing photos of parts and work holding, set-up data, tooling info and more.

How does DSA improve efficiency?

- Users can easily document part setup instructions for others to reference.
- Stores part-related files grouped as packages for easy recall.
- Packages associated with selected parts are automatically recalled and displayed.
- Part Setup Information is readily available on hand-held device.

FEATURES

- Industry 4.0 and MT Connect compliant
- Sortable and searchable dashboard list for quick selection
- Machine dashboard shows live data
- Tab view allows enlarged images/ videos of screens
- Searchable machine file directory, registry and event logs
- Machine settings allow a user defined name to be entered to easily identify program or part running

BI-DIRECTIONAL TURNING CYCLE

Milltronics Bi-Direction Conversational Turning:

- Improves productivity by up to 60%
- Increases tool life.
- Improves surface finish.

Improve turning speed and efficiency while taking advantage of the latest insert technology allowing for cutting forward and reverse, down to and up from.

YOUR MILLTRONICS CONTROL ON THE CUTTING EDGE!

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



VM5025XP FRAME



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

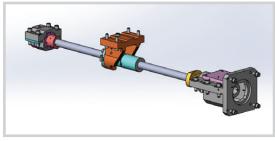
Oversized and widely spaced linear cross roller ways for rigidity and accuracy—provide 40% more rigidity than standard ball ways

- 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.



VM/VM-IL MODELS FEATURE BIG-PLUS[®]

BIG-PLUS[°] greatly improves rigidity by simultaneous fit of taper and face—better heavy or high speed cutting, deep or large diameter boring—also longer tool life.



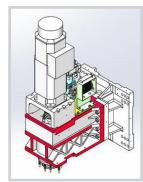
Direct coupled ballscrews.

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.

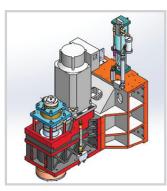
VMIL SPINDLE TRANSMISSION

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



VM5025XP AND VM6030XP SPINDLE

The VM5025XP and VM6030XP from Milltronics use a heavy-duty belt drive with a dual wound spindle motor for power and flexibility.

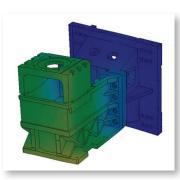


LASER INTERFEROMETER After assembly, Milltronics machines are tested, including the use of a laser interforomator. The

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.

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.



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 party quality.

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.



SERVOS AND DRIVES

Milltronics uses state-of-the-art premium servos and drives from Yaskawa* the world's largest manufacturer of motors and drives. Some of the features of the Yaskawa drives include:

- Yaskawa Sigma V digital drives .625 millisecond velocity loop frequency response time (1.6 kHz)
- Encoders: 1,048,576 pulses per revolution
- Enhanced vibration suppression delivers 5G resistance
- Faster speed acceleration and deceleration
- * The IL Series feature Mitsubishi motors and drives.



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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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