

### VK1 & VK2 - 2 AXIS CNC PRICING

### THE BETTER MANUAL MILL

Effective September 1, 2008 Rev. A

VK1

VK2

Spindle Types – Direct Drive with Inverter for Programmable RPM		R8 or #30	R8 or #30
<b>STANDARD ACCESSORIES</b>		<b>MILLTRONICS CNC</b>	
<ul style="list-style-type: none"> <li>• Two Year Parts Warranty</li> <li>• Fully Ground Solid Ways with Turcite Surfaces</li> <li>• Precision Ground Ball Screws</li> <li>• Precision Ground Table Surface</li> <li>• R8 or Optional #30 Spindle, 5/3 HP (3.7/2.2 kW) Head with 8:1 Back Gear</li> <li>• High Torque AC Digital Servo Drives</li> <li>• High Torque Vector Spindle Drive</li> <li>• Fully Programmable Accessories including Spindle On/Off, Spindle RPM, and Accessories</li> <li>• Automatic Metered Lubrication</li> <li>• Ball Screw Error Compensation</li> </ul>		<ul style="list-style-type: none"> <li>• PC-based Centurion 7 CPU includes 2 Mb Parts Storage Memory</li> <li>• 12" Active Matrix Color LCD Display</li> <li>• SLS (Skill Level Select) Software Allows the Operator to Choose a Simple or Full-featured System</li> <li>• Auxiliary Key Board Port for PC Style Key Board</li> <li>• Conversational plus G &amp; M Code Programming with Part and Tool Path Graphics</li> <li>• 6 Mb Virtual Disk / RS-232 with DNC Buffer</li> <li>• 1200 Block/Sec High Speed Processor</li> <li>• All Axes Laser Calibrated and Ballbar Inspected</li> </ul>	
<b>ACCESSORY PACKAGE A</b>			
Additional 10 MB Parts Storage (Total of 12 MB) Coordinate Rotating, Scaling, Mirror Image, Thread Mill 3.5" Floppy Drive Engraving, Helical Interpolation, Auto Routines, & User definable Macros with Trig Assist, & Irregular Pocket Clearing Front Panel Mounted Electronic Handwheel plus Handwheel Controlled Program Execution 24 MB Program Execution Memory with Large Program Management Software (edits 10 MB file) LCD Hour Meter Auto DXF File Import  <i>Items may be purchased separately</i>			
<b>ACCESSORY PACKAGE B</b>			
Flood Coolant System with Programmable On/Off			
Coolant Drip Pan			
Work Lamp			
Rear Splash Guards			
Power Drawbar System			
Networking Option Includes 30 Days Phone Support			
Fabric Way Covers in Front and Rear of Saddle  <i>Items may be purchased separately</i>			

<b>ACCESSORY PACKAGE C</b>		
Accessory Package C Not Available		
<b>OTHER ACCESSORIES</b>		
Specify Spindle type	R8	
	CT30, BT30, NMTB30	
Multi Format Flash Memory Card Device		
Quill Position Readout – Mitutoyo		
Upgrade Mechanical Handwheels to Larger Dia. with Retractable Handles		
Remote Cycle Start Button		
Off-line FastCAM Software for Programming and Training		
R8 Collet Set $\frac{1}{8}$ " - 1" 15 Piece Set		
Clamping Kit 52 Piece Set		
Spray Mist Programmable On/Off		
4" Riser Block – Not removable		
Edit Key Lock-out Switch		
Spare "M" Functions – Block of 4 <i>Maximum 2 blocks; price is for each block</i>		
RS-232 Cable, 50' 15 Meters		
Additional Programming Manual		
Programming Manual in Electronic Format on CD		
Additional Machine Manual		
Power Requirements 208-240 VAC, 50 – 60 hz, 3Ø		
Optional Voltage 208-240 VAC, 50 – 60 hz, 1Ø <i>May reduce spindle power by up to 20%</i>		
380-480 Transformer (Reduces Voltage to 208-240) – 20 kVA <i>Factory recommended sizes. Consult local electrical codes for proper transformer sizing.</i>		
CE Code <i>Required for European Union countries</i>		
UL/CUL Compliant		
International Packaging		
Two Year Parts Warranty <i>See Note</i>		
Factory Start-up and Training On Site, U.S. only <i>Does not include airfare</i>		
Training at Milltronics <i>Includes lunches, training, materials and manual</i>		
<p><i>Terms in USA: Cash or terms with approved credit; down payment due with order. Terms outside USA: Cash or approved Letter of Credit</i>  <i>F.O.B Waconia, Minnesota USA</i></p> <p><i>Milltronics reserves the right to amend or change without notice without incurring obligation; not responsible for typographical errors.</i>  <i>Consult Written Warranty Statement for Details of Two Year Parts Warranty</i>  <i>Prices do not include taxes, duties, transportation or rigging.</i></p> <p><i>All sales of equipment, parts, software and service are subject to Milltronics Standard Terms and Conditions of Sale.</i>  <b>These machines not offered outside of North America</b></p>		

### VK1 & VK2 - 2 AXIS CNC SPECIFICATIONS THE BETTER MANUAL MILL

Effective September 1, 2008

VK1

VK2

Control Type	Milltronics CNC	Milltronics CNC
CNC Software	SLS	SLS
Number of Axes	2	2
Spindle RPM	CNC Auto Prog. RPM	CNC Auto Prog. RPM
Functions <i>Automatic</i>	Spindle Start/Stop, Mist, Flood, RPM	Spindle Start/Stop, Mist, Flood, RPM
Functions	All functions operate both manually or automatically, except back gear is manual	
Manual Handwheels	Yes	Yes
<b>CAPACITY</b>		
Standard Table Size	49" x 9" <i>1245 x 230 mm</i>	53" x 10" <i>1350 x 250 mm</i>
Table Travel X Axis	30" <i>760 mm</i>	30" <i>760 mm</i>
Saddle Travel Y Axis	11" <i>280 mm</i>	15" <i>380 mm</i>
Quill Travel	5" <i>125 mm</i>	5" <i>125 mm</i>
Knee Travel		
Ram Travel	12" <i>305 mm</i>	17" <i>430 mm</i>
Turret Rotation	360°	360°
Throat <i>Spindle to column, adjustable</i>		15.3 – 27.5" <i>390–700 mm</i>
Spindle to Table Top <i>Quill up</i>	1.5 – 17" <i>35 – 440 mm</i>	1.2 – 20.5" <i>30 – 520 mm</i>
Optional Riser Block <i>Not removable</i>	4" <i>100 mm</i>	4" <i>100 mm</i>
Maximum Table Load	660 lbs. <i>300 kg</i>	1000 lbs. <i>450 kg</i>
Machine Weight	3000 lbs. <i>1350 kg</i>	3500 lbs. <i>1590 kg</i>
T Slots	(3) .63" <i>16 mm</i>	(3) .63" <i>16 mm</i>
Saddle, Knee Width		24.5, 15.5" <i>622, 393 mm</i>
Ball Screw Size X, Y	1.25"	1.25"
Ball Screw Grade	C5	C5
Ball Screw Pitch	.2"	.2"
Head Swivel – Side to Side	± 90°	± 90°
Head Tilt – Front to Back	± 45°	± 45°
<b>SPINDLE</b>		
Horsepower <i>1 Minute / 30 Minutes</i>	5 / 3 HP <i>3.7 / 2.2 kw</i>	5 / 3 HP <i>3.7 / 2.2 kw</i>
Spindle Drive System	Direct	Direct
Back Gear For High Torque	Standard	Standard
Spindle RPM Select	Auto	Auto
Spindle Speeds: Low	60-500 RPM	60-500 RPM
High	500-4000 RPM	500-4000 RPM
Standard Tool Holder Type <small>See Note</small>	R8	R8
Optional Tool Holder Type <small>See Note</small>	CT30, BT30, NMTB30	CT30, BT30, NMTB30
Quill Size	3.375" <i>85 mm</i>	3.375" <i>85 mm</i>

<b>PERFORMANCE</b>		
Servo Type	AC	AC
Rapid Traverse	200 ipm <b>5 mpm</b>	200 ipm <b>5 mpm</b>
Feedrate Range	.1 – 150 ipm <b>2 – 3800 mmpm</b>	.1 – 150 ipm <b>2 – 3800 mmpm</b>
Position Accuracy <sup>See note</sup>	±0.0004" <b>0.01 mm</b>	±0.0004" <b>0.01 mm</b>
Repeatability <sup>See note</sup>	.0002" <b>.005 mm</b>	.0002" <b>.005 mm</b>
Resolution	.0001" <b>.001 mm</b>	.0001" <b>.001 mm</b>
Thrust, Machine Duty Rating	X, Y: 1000 lbs. <b>450 kg</b>	X, Y: 2000 lbs. <b>900 kg</b>
<b>MISCELLANEOUS</b>		
Auto Metered Lubrication	Standard	Standard
1/8 HP Flood Pump Capacity <i>Optional in Performance Pkg C</i>	7.5 gal. <b>28 L</b>	7.5 gal. <b>28 L</b>
Drawbar Air Pressure Required	80 psi <b>5.5 bar</b>	80 psi <b>5.5 bar</b>
Power Requirements 208-240 VAC, 50 – 60 hz, 3Ø	30 amps, 11 kVA	30 amps, 11 kVA
Power 208-240 VAC, Single Phase	Optional	Optional
Power 380-480 VAC, 50 – 60 hz, 3Ø	Requires Transformer	Requires Transformer
Way Surface	Dovetail X & Y Axis	Box Y, Dovetail X Axis
Warranty	Parts: 2 Years (or 4200 hours, whichever occurs first) on all normal failures. Service: 1 Year (or 2100 hours, whichever occurs first) from dealer or available from distributor.	
Floor Space Required		98" x 72" <b>249 x 1830 mm</b>
<p><i>Notes: # 30 spindles should not utilize end mills of greater than 3/4" diameter. Measurements performed with Renishaw laser and ballbar systems. Measurements are linear over entire travel, and temperature changes and table loading may affect tolerances. Tolerances are guaranteed over 10" sq. area. Additional Centurion 7 features covered under separate literature. Miltronics reserves the right to change specifications at any time without incurring obligation.</i></p>		