

RHC Rigid Head Large Travel Bed Mill Pricing

Effective September 1, 2008



Machine Model	RHC33	RHC35	RHC33XP	RHC35XP
Travel (XYZ")	78 x 33 x 28	120 x 35 x 30	78 x 33 x 28	120 x 35 x 30
Spindle Taper / RPM / Size	40 / 8000 / 70 mm	40 / 8000 / 70 mm	50 / 8000 / 90 mm	50 / 8000 / 90 mm
FANUC Spindle Horsepower <i>1 min/30 min</i>	26/20 HT HP	26/20 HT HP	26/20 HT HP	26/20 HT HP
Two Speed High Torque Motor	<i>19/15 kw</i>	<i>19/15 kw</i>	<i>19/15 kw</i>	<i>19/15 kw</i>
Standard Carousel ATC	24 Carousel	24 Carousel	20 Carousel	20 Carousel
Optional Carousel ATC	24 Arm	24 Arm	32 Arm	32 Arm
Optional Spindle RPM	15,000	15,000	N/A	Gear Box / 8000

MACHINE FEATURES

<ul style="list-style-type: none"> • Two Year Parts Warranty • Heavily Ribbed Cast Iron Construction • Fully Ground Solid Ways with Turcite Surfaces • Precision Ground Double Anchored Ball Screws • Precision Ground Table Surface • Metal Way Covers in Front and Rear of Saddle • Box Way Construction with 4 Way RHC33 6 Ways RHC35 Base to Saddle • Automatic Metered Lubrication with Low Lube Fault • High Torque AC Digital Servo Drives • High Torque Closed Loop Vector Spindle Drive System • #40, Five Bearing 8000 RPM Air Purged Spindle, #50 on XP Configuration with Optional Gear Box on RH35XP 	<ul style="list-style-type: none"> • Spindle Taper Blow-out and Tool Release Push Button • Fully Programmable Accessories including Spindle On/Off, Spindle RPM, and Accessories • Rigid Tap • All Axes Laser Calibrated and Ballbar Inspected • LCD Hour Meter • Six Nozzle High Volume Multi Height Flood Coolant System with Through Head Cooling and Flow Valve • End of Cycle Light • Coolant Drip Pan and Rear Splash Guards • Edit Lock Out Key Switch • Optional Full Enclosure with Chip Auger
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GE FANUC 0i-MC CONTROL FEATURES

<ul style="list-style-type: none"> • ManualGuide™ Conversational Programming System • Dynamic Graphic Display • 256 Kb Program Storage • Macro Executor • 10.4" Color LCD Display • Scaling, Rotation & Mirror Imaging 	<ul style="list-style-type: none"> • PCMCIA Slot • Electronic Handwheel • 8ms Block Processing Speed (4ms with AICC Option) • Manuals on CD ROM (Bound Manuals are Optional) • RS232 Port with DNC Capability • Ethernet Port
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GE FANUC CONTROL OPTIONS

Data Server with 256 MB Parts Storage	
AICC – 4ms Block Processing	
Remote Electronics Handwheel	

SPINDLE CONFIGURATIONS

	RHC33	RHC35	RHC33XP	RHC35XP
Specify Tool Holder: CT40				
Optional Tool Holder: BT40 or DIN69871				
Optional Tool Holder: BT50				
Spindle Upgrade to 15,000 RPM Spindle				
Optional Gear Box – 4:1 Ratio				
Coolant Through Spindle – 300-PSI Low Pressure System <i>Requires full enclosure, includes drawbar assembly for ANSI retention knobs and rotary coupling.</i>				

ROTARY ACCESSORIES

	RHC33	RHC35	RHC33XP	RHC35XP
Rotary Tables <i>Includes 4th axis amp & motor Application may require riser</i>	6.5" (165 mm)			
	9.0" (228 mm)			
	10.0" (254 mm)			
Tail Stock for Rotary Table	6.5" (165 mm)	9.0" (228 mm)	10.0" (254 mm)	

4 th Axis Servo Amplifier & Motor (Electrics only) – Contact factory for 5 axis <i>Included with Rotary Table Accessory</i>				
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ATC ACCESSORIES

	RHC33	RHC35	RHC33XP	RHC35XP
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24 Pocket Arm Type ATC (40 Taper) instead of 24 Carousel Must Purchase Full Enclosure Option				
32 Pocket Double Arm ATC (50 Taper) instead of 30 Carousel Must Purchase Full Enclosure Option				
Spindle Chiller Loop (Reduced Flood System to Two Nozzles)				
OTHER ACCESSORIES	RHC33	RHC35	RHC33XP	RHC35XP
Table Chip Guard				
Full Machine Enclosure with Chip Auger				
Programmable Spray Mist <i>On/Off</i>				
Work Lamp				
Chip Buckets for Dual Auger System – 2 Buckets				
4" Riser Block – <i>Not Removable</i> <i>Consult factory for other sizes and special applications</i>				
Tool Release Floor Switch				
Spare “M” Functions – Block of 4 <i>Maximum 2 blocks; price is for each block</i>				
Contact Tool Offset Probing with Macros				
Work Offset Probing with Macros				
Combo Pack – Contact & Work Tool Offset Probing with Macros				
Laser Tool Setter				
Electrical Cabinet A/C Unit – <i>Recommended in shops exceeding 90° F / 32° C</i>				
RS-232 Cable, 50' 15 Meters				
Additional Programming Manual				
Programming Manual in Electronic Format on CD				
Additional Machine Manual				
Fanuc Power Requirements 208-240 VAC, 50 – 60 hz, 3Ø				
380-480 Transformer (Reduces Voltage to 208-240) <i>Factory recommended sizes. Consult local electrical codes for proper transformer sizing.</i>	40 kVA			
	80 kVA			
UL/CUL Compliance				
CE Code <i>Required for European Union Countries –Requires Full Enclosure</i>				
International Packaging				
Two Year Parts Warranty ^{<i>See Note</i>}				
On Site Factory Installation, U.S. only <i>Does not include airfare Training available through Fanuc</i>				
<p><i>Terms within USA: Cash or terms with approved credit; down payment due with order. Terms outside USA: Cash or approved Letter of Credit F.O.B Waconia, MN USA. Prices do not include taxes, duties, transportation, rigging or start-up.</i></p> <p><i>Milltronics reserves the right to amend or change without notice without incurring obligation; not responsible for typographical errors.</i></p> <p><i>Consult Written Warranty Statement for Details of Two Year Parts Warranty</i></p> <p><i>All sales of equipment, parts, software and service are subject to Milltronics' Standard Terms and Conditions of Sale.</i></p>				

RHC Rigid Head Large Travel Bed Mill Specifications

Effective September 1, 2008

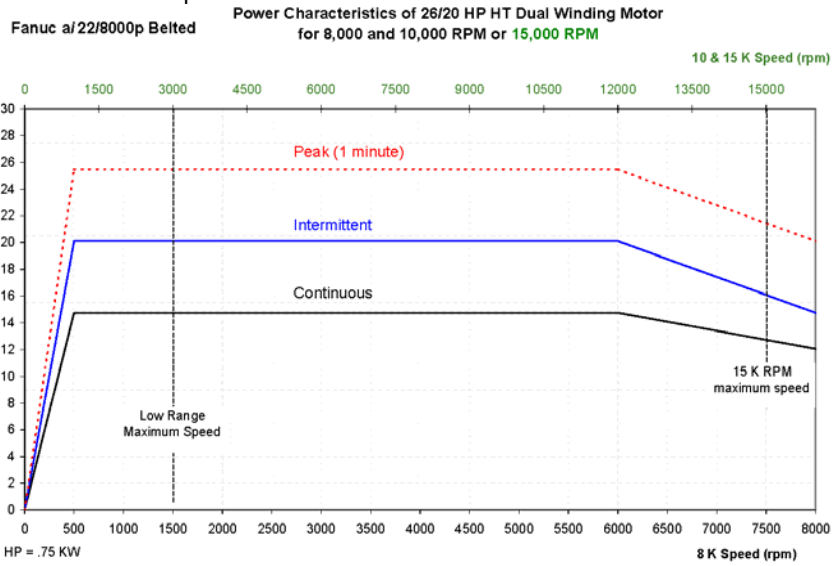


MACHINE MODEL	RHC33	RHC35	RHC33XP	RHC35XP
Control Type	GE Fanuc 0i-MC			
Number of Axes	3 (Optional 4 or 5)			
Functions: <i>Automatic</i>	Auto operation of spindle start/stop, mist, flood, RPM			
CAPACITY				
Standard Table Size	86 x 32" <i>2185 x 810 mm</i>	126 x 32" <i>3200 x 810 mm</i>	86 x 32" <i>2185 x 810 mm</i>	126 x 32" <i>3200 x 810 mm</i>
Table Travel - X Axis	78" <i>2000 mm</i>	120" <i>3050 mm</i>	78" <i>2000 mm</i>	120" <i>3050 mm</i>
Saddle Travel - Y Axis	33" <i>840 mm</i>	35" <i>890 mm</i>	33" <i>840 mm</i>	35" <i>890 mm</i>
Head Travel - Z Axis	28" <i>710 mm</i>	30" <i>760 mm</i>	28" <i>710 mm</i>	30" <i>760 mm</i>
Throat Distance <i>Spindle to Column</i>	34" <i>860 mm</i>	35" <i>890 mm</i>	34" <i>860 mm</i>	35" <i>890 mm</i>
Spindle to Table Top	4 - 32" <i>100 - 810 mm</i>	4 - 34" <i>100 - 860 mm</i>	4 - 32" <i>100 - 810 mm</i>	4 - 34" <i>100 - 860 mm</i>
Spindle to Table Top with #50 20 Pkt ATC	N/A	N/A	3 - 31" <i>80 - 790 mm</i>	3 - 33" <i>80 - 840 mm</i>
Maximum Table Load	3500 lb <i>1600 kg</i>	5000 lb <i>2270 kg</i>	3500 lb <i>1600 kg</i>	5000 lb <i>2270 kg</i>
Machine Weight	15,000 lb <i>6800 kg</i>	40,000 lb <i>18,150 kg</i>	15,000 lb <i>6800 kg</i>	40,000 lb <i>18,150 kg</i>
T Slots	(5) .63" <i>16 mm</i>	(7) .71" <i>18 mm</i>	(5) .63" <i>16 mm</i>	(7) .71" <i>18 mm</i>
Saddle Width	87" <i>2220 mm</i>	229" <i>5820 mm</i>	87" <i>2220 mm</i>	229" <i>5820 mm</i>
Ball Screw Size: X,Y/Z Axis	50mm Dbl Nut	80/63 mm Dbl Nut	50mm Dbl Nut	80/63 mm Dbl Nut
Ball Screw Grade	C5	C5	C5	C5
Ball Screw Pitch X,Y,Z	10 mm	10 mm	10 mm	10 mm
SPINDLE				
Spindle Taper/Configuration	#40	#40	#50	#50
Heavy Duty Spindle Cartridge Assembly with Triplex Bearing Design	70 mm	70 mm	90 mm	90 mm
Spindle Horsepower GE FANUC <i>1 minute / 30 minutes</i>	26/20 HT HP <i>19/15 kw</i> <i>Two speed</i>	26/20 HT HP <i>19/15 kw</i> <i>Two speed</i>	26/20 HT HP <i>19/15 kw</i> <i>Two speed</i>	26/20 HT HP <i>19/15 kw</i> <i>Two speed</i>
	Reference Torque Chart 26/20/2/B/FHT			
Standard Triplex Bearing Spindle RPM	50 - 8000	50 - 8000	50 - 8000	50 - 8000
Optional Ceramic Duplex Bearing Spindle RPM <i>Requires balanced tooling, Recommend HP Upgrade</i>	100 - 15,000	100 - 15,000	N/A	N/A
Optional Gear Box Range 4:1	Low Range:	N/A	N/A	15 - 2000
	High Range:			50 - 8000
Spindle Motor & Torque Charts	For Standard Fanuc HP 26/20/2/G/FHT (Optional gearbox)			
Balanced Tooling Requirements	Tools Should Be Balanced to 2.5 G's at 15,000 RPM			
PERFORMANCE				
Servo Type	AC Digital	AC Digital	AC Digital	AC Digital
Rapid Traverse X, Y & Z	500 ipm <i>12.7 mpm</i>	400 ipm <i>10.2 mpm</i>	500 ipm <i>12.7 mpm</i>	400 ipm <i>10.2 mpm</i>
Maximum Feedrate	300 ipm <i>7620 mmpm</i>	300 ipm <i>7600 mmpm</i>	300 ipm <i>7620 mmpm</i>	300 ipm <i>7600 mmpm</i>
Position Accuracy <i>See note</i>	±0.00039" <i>0.01 mm</i>	±0.00039" <i>0.01 mm</i>	±0.00039" <i>0.01 mm</i>	±0.00039" <i>0.01 mm</i>
Repeatability	.0002" <i>0.005 mm</i>	0.0002" <i>0.005 mm</i>	.0002" <i>0.005 mm</i>	0.0002" <i>0.005 mm</i>
Resolution	0.00004" <i>0.001 mm</i>	0.00004" <i>0.001 mm</i>	0.00004" <i>0.001 mm</i>	0.00004" <i>0.001 mm</i>

MACHINE MODEL	RHC33	RHC35	RHC33XP	RHC35XP	
Thrust, Machine Duty Rating	X, Y: 3000 lb <i>1360 kg</i> Z: 4000 lb <i>1800 kg</i>	X, Y: 3000 lb <i>1360 kg</i> Z: 4000 lb <i>1800 kg</i>	X, Y: 3000 lb <i>1360 kg</i> Z: 4000 lb <i>1800 kg</i>	X, Y: 3000 lb <i>1360 kg</i> Z: 4000 lb <i>1800 kg</i>	
OPTIONAL AUTOMATIC TOOL CHANGER					
24 Pocket #40 Automatic Carousel	Standard	Standard	N/A	N/A	
20 Pocket #50 Automatic Carousel Tool Changer	N/A	N/A	Standard	Standard	
24 Pocket #40 32 Pocket #50 Automatic Arm Tool Changer	Optional – Requires Enclosure	Optional – Requires Enclosure	Optional – Requires Enclosure	Optional – Requires Enclosure	
Maximum Diameter / Length / Weight – 40 Taper Carousel and Arm	4" / 11" / 10 lb <i>100mm/280mm/4.5kg</i>	4" / 11" / 10 lb <i>100mm/280mm/4.5kg</i>	N/A	N/A	
Maximum Diameter / Length / Weight – 50 Taper Carousel 5" Dia requires empty adj pkts	N/A	N/A	5" / 13" / 25 lb <i>125mm/330mm/11kg</i>	5" / 13" / 25 lb <i>125mm/330mm/11kg</i>	
Maximum Diameter / Length / Weight – 50 Taper Arm	N/A	N/A	N/A	5" / 13" / 25 lb <i>125mm/330mm/11kg</i>	
Tool Change Time	7 Sec.	7 Sec.	9 Sec	9 Sec.	
MISCELLANEOUS					
Way Surface Design	X Axis:	Dove Tail Ways	Box Ways	Dove Tail Ways	Box Ways
	Y Axis:	4 Box Ways	6 Box Ways	4 Box Ways	6 Box Ways
	Z Axis:	Box Ways	Box Ways	Box Ways	Box Ways
1/4 HP Flood Pump Capacity	90 Gal. <i>150 L</i>	90 Gal <i>150 L</i>	90 Gal <i>150 L</i>	90 Gal <i>150 L</i>	
Optional Electrical Cabinet Air Conditioning Unit	4000 BTU	4000 BTU	4000 BTU	4000 BTU	
Drawbar Air Pressure Required	100 psi <i>6.8 bar</i>	100 psi <i>6.8 bar</i>	100 psi <i>6.8 bar</i>	100 psi <i>6.8 bar</i>	
Fanuc Power Requirements 208-240 VAC, 50 – 60 hz, 3Ø	100 amps 38 kVA	150 amps 57 kVA	150 amps 57 kVA	150 amps 57 kVA	
Floor Space Requirement	222" x 130" <i>5660x3320 mm</i>	300" x 116" <i>7620 x 2950 mm</i>	222" x 130" <i>5660x3320 mm</i>	300" x 116" <i>7620 x 2950 mm</i>	
Floor Space Requirement – Full Enclosure	226" x 130" <i>5740x3320 mm</i>	302" x 116" <i>7660 x 2950 mm</i>	226" x 130" <i>5740x3320 mm</i>	302" x 116" <i>7660 x 2950 mm</i>	
Warranty	Parts: Two years or 4200 hours, whichever occurs first on all normal failures. Service: One year or 2100 hours (whichever occurs first) from distributor.				
<i>Measurements performed with Renishaw laser and ballbar systems. Measurements are linear over entire travel. Temperature changes and table loads may affect tolerances. Tolerances are guaranteed over 10" sq. area. Milltronics reserves the right to change specifications at any time without incurring obligation.</i>					

Fanuc Torque Chart 26/20/2/B/FHT – Belted Spindle

Used on: Standard RHC33, RHC33XP, RHC35, RHC35XP
 Optional N/A



Fanuc Torque Chart 26/20/2/G/FHT – Gear Box Spindle

Used on: Standard N/A
 Optional RHC35XP

