

FTC Flat Bed Turning Center Combination Lathe Pricing

Effective September 1, 2008



Machine Model	FTC18/60	FTC22/60	FTC26/40
Base Price			
Bed Lengths	Spindle Bore		
Available Configurations			
40" 1 M	3.22" 82 mm	N/A	N/A
60" 1.5 M	2.56" 65 mm	Standard	N/A
60" 1.5 M	3.22" 82 mm	N/A	Standard
80" 2 M	4.17" 106 mm	N/A	N/A
80" 2 M	6" 153 mm	N/A	N/A
120" 3 M	6" 153 mm	N/A	N/A
160" 4 M	6" 153 mm	N/A	N/A
*****Chip Conveyor Chip Removal System Standard On 120" & 160" Bed Option*****			
Swing	19"	23"	27"
Swing Over Cross Slide	9.25"	12.1"	16.1"
Spindle Horsepower FANUC 1 minute / 30 minutes 2 Speed WYE/Delta motor	26/20 HP 19/15 kw		

MACHINE FEATURES	
<ul style="list-style-type: none"> • Two Year Parts Warranty • Fully Ground Solid Ways with Turcite Surfaces • Automatic Metered Lubrication with Low Lube Fault • Flood Coolant Pump with Nozzle • Chuck Guard with Safety Switch • Heavy Duty Metal Enclosure with Full Front Guarding and Sliding Doors up to 120" (160" Bed has Traveling Guard) • Door Interlock Safety Switch 	<ul style="list-style-type: none"> • LCD Hour Meter • Tail Stock • Work Lamp • Gap Bed Design – Contact Factory for Information • High Torque AC Digital Servo Drives • High Torque Closed Loop Vector Spindle Drive System • All Axes Laser Calibrated and Ballbar Inspected • Chip Drawer Chip Containment System (Optional Conveyor)

GE FANUC 0i-TC CONTROL FEATURES	
<ul style="list-style-type: none"> • ManualGuide™ Conversational programming system • Dynamic graphic display • 256 Kb program storage • Macro executor • Scaling, rotation & mirror imaging • 10.4" color LCD Display 	<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

GE FANUC CONTROL OPTIONS	
Data Server with 256 MB Parts Storage	
AICC – 4ms Block Processing	
Remote Electronic Handwheel	

WORK HOLDING	
8" 200 mm Manual 3 Jaw Chuck, Mounted – 2.17" Bore D1-6 Adaptor	
10" 250mm Manual 3 Jaw Chuck, Mounted – 2.99" Bore D1-6 Adaptor	
10" 250mm Manual 3 Jaw Chuck, Mounted – 2.99" Bore A1-8 Adaptor (FTC22/60 and FTC26/40)	
12" 300mm Manual 3 Jaw Chuck, Mounted – 4.08" Bore A1-8 Adaptor (FTC22/60 and FTC26/40)	
12" 300mm Manual 3 Jaw Chuck, Mounted – 4.95" Bore A1-11 Adaptor (FTC26/80)	
8" 200mm 3 Jaw Hydraulic Chuck "Strong"	
10" 250mm Hydraulic 3 Jaw Chuck "Strong" (FTC18, FTC22/60 & FTC26/40)	
12" 300mm Hydraulic 3 Jaw Chuck (FTC26/80)	
5C Air Operated Royal Collet Closer with Footswitch	
Rear Chuck Mount with A2-11 Spindle Nose (FTC26 with 6" bore Option)	
Hydraulic Tail Stock Option – Purchased with hydraulic chuck option	
Hydraulic Tail Stock Option – Purchased without hydraulic chuck option	
Steady Rest, Roller Type .75"-7.8" 20-200 mm	

WORK HOLDING		
Steady Rest, Roller Type 5.9"-11.8" 150-300 mm		
Follow Rest, Brass Tips .4" – 4" 10-100 mm		
Follow Rest, Brass Tips .75" – 7.8" 20-200 mm		
TOOLING		
Tooling Riser Block (No Tooling) – Specify Tooling Type or Height <i>Will require machining on site</i>		
Super Dorian Tool Post & Riser Block, ¾" 20mm <i>No tooling included</i>		
Super Dorian Tool Post & Riser Block, 1" 25mm <i>No tooling included</i>		
Dorian Quadra Post & Riser Block, ¾" 20mm <i>No tooling included</i>		
Dorian Quadra Post & Riser Block, 1" 25mm <i>No tooling included</i>		
Automatic Turret, 8 Station with Riser Block, ¾" 20mm <i>(must specify metric) Includes 1 Boring Bar Holder & 1 Axial Holder (Specify front or rear mount. With rear mount a tool post can also be in front.)</i>		
Automatic Turret, 8 Station with Riser Block, 1" 25mm <i>(must specify metric) Includes 1 Boring Bar Holder & 1 Axial Holder (Specify front or rear mount. With rear mount a tool post can also be in front.)</i>		
Automatic Turret, 12 Station with Riser Block, 1" 25mm <i>(must specify metric) Includes 1 Boring Bar Holder & 1 Axial Holder (Can mount in front or rear - specify. With rear mount a tool post can also be in front.)</i>		
1.25" Boring Bar Holder For ¾" Turret		
1.5" Boring Bar Holder For 1" Turret		
¾" 20mm Axial Tool Holder For ¾" Turret		
1" 25 mm Axial Tool Holder For 1" Turret		
VDI Upgrade for Turrets <i>No tool holders</i>		
Metric 20mm Turret Face to Replace ¾"		
LIVE TOOLING – Contact Distributor for Application		
Spindle Orient <i>Required with Live Tooling</i>		
Baruffaldi TBMA Live Tooling, Servo Turret, 8 Station, S6, 10 minute Live Tooling Duty Cycle Rating (Rear Mounted) <i>Consult factory for tool limitations on the FTC18</i> <i>No tooling supplied with Live Tool Turret, Fixed or Rotating</i>	VDI 40, 7.5 HP – Model 160	
Spindle Brake <i>Required with Live Tooling</i>		
Standard Axial Holder VDI 40		
Standard Radial Holder VDI 40		
OTHER ACCESSORIES		
Spray Mist – Programmable On/Off		
Single Spare “M” Function and CNC “Wait” Channel		
Spare “M” Functions – Block of 4 <i>Maximum 2 blocks; price is for each block</i>		
Chip Conveyor	40"	
	60"	
	80"	
	120"	
	160"	
Chip Bucket for Chip Conveyor		
End of Cycle Light		
Edit Key Lock-out Switch		
Barfeeder (No Spindle Sleeves Included)		
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		

OTHER ACCESSORIES - Continued			
380-480 Transformer (Reduces Voltage to 208-240) <i>Factory recommended sizes. Consult local electrical codes for proper transformer sizing.</i>	40 kVA		
UL/CUL Compliance			
CE Code <i>Required for European Union Countries</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. Milltronics reserves the right to amend or change without notice without incurring obligation; not responsible for typographical errors. Consult Written Warranty Statement for Details of Two Year Parts Warranty All sales of equipment, parts, software and service are subject to Milltronics' Standard Terms and Conditions of Sale.</i></p>			

FTC – Flat Bed Turning Center Combination Lathe Specifications



Effective September 1, 2008

MACHINE MODEL	FTC18/60	FTC22/60	FTC26/40
CAPACITY			
Swing Over Bed	19" <i>480mm</i> (dia.)	23" <i>580mm</i> (dia.)	27" <i>685mm</i> (dia.)
Swing Over Gap	27.9" <i>710mm</i> (dia.)	31" <i>790mm</i> (dia.)	35" <i>890mm</i> (dia.)
<i>Contact factory for limitations</i>	12.75" <i>320mm</i> Gap	12.75" <i>320mm</i> Gap	12.75" <i>320mm</i> Gap
Swing Over Cross Slide	9.25" <i>235mm</i> (dia.)	12.1" <i>310mm</i> (dia.)	16.1" <i>410mm</i> (dia.)
Cross Slide Tool Holder Mounting Surface	T-Slots	T-Slots	T-Slots
Cross Slide "T" Slots	14 mm	14 mm	14 mm
Travel (X Axis) Cross Slide	12" <i>300 mm</i>	13" <i>330 mm</i>	13" <i>330 mm</i>
Standard Travel (Z Axis) Long Slide – with tail stock	63.5" <i>1600 mm</i>	63.5" <i>1600 mm</i>	42" <i>1066 mm</i>
<i>*Optional turret may limit Z axis travel due to tail stock interference</i>			
80" Bed Machine <i>*See note above</i>	N/A	N/A	84" <i>2130 mm</i>
120" Bed Machine <i>*See note above</i>	N/A	N/A	124" <i>3150 mm</i>
160" Bed Machine <i>*See note above</i>	N/A	N/A	163" <i>4140 mm</i>
Z Cutting Length with Standard Turret	Reduce center-to-center distance by 4" <i>102 mm</i>		
Z Cutting Length with Live Tooling Turret	Consult factory	Consult factory	Consult factory
Centerline to Turret Face	Consult factory	Consult factory	Consult factory
Standard Center Distance	66.9" <i>1700 mm</i>	64.5" <i>1638 mm</i>	45" <i>1140 mm</i>
Center Distance 80" Bed Machine	N/A	N/A	84" <i>2130 mm</i>
Center Distance 120" Bed Machine	N/A	N/A	118" <i>3000 mm</i>
Center Distance 160" Bed Machine	N/A	N/A	163" <i>4150 mm</i>
Bed Width	14" <i>355 mm</i>	16" <i>405 mm</i>	16" <i>405 mm</i>
Standard Machine Weight	8500 lb <i>3850 kg</i>	10,000 lb <i>4500 kg</i>	9,500 lb <i>4300 kg</i>
80" Bed Machine	N/A	N/A	11,500 lb <i>5200 kg</i>
120" Bed Machine	N/A	N/A	13,200 lb <i>6000 kg</i>
160" Bed Machine	N/A	N/A	17,200 lb <i>7800 kg</i>
Ball Screw Size 40" & 60" Bed Machine	X 25 mm Z 40 mm	X 32 mm Z 45 mm	X 32 mm Z 45 mm
Ball Screw Size 80" Bed Machine	N/A	N/A	X 32 mm Z 50 mm
Ball Screw Size 120" Bed Machine	N/A	N/A	X 32 mm Z 50 mm
Ball Screw Size 160" Bed Machine	N/A	N/A	X 32 mm Z 50 mm
Ball Screw Grade, Precision Ground	C5	C5	C5
Ball Screw Pitch X axis / Z axis	5 mm / 10 mm	5 mm / 10 mm	5 mm / 10 mm
Maximum Weight of Part With Chuck and No Support From Center	220 lb <i>100 kg</i>	250 lb <i>114 kg</i>	300 lb <i>135 kg</i>
Maximum Weight of Part With Chuck and Supported From Center	2200 lb <i>1000 kg</i>	2500 lb <i>1140 kg</i>	2850 lb <i>1300 kg</i>
Maximum Weight of Part Between Centers With Steady Rest	3300 lb <i>1500 kg</i>	4400 lb <i>2000 kg</i>	4850 lb <i>2200 kg</i>
***** <i>Consult Factory for applications with larger weight requirements</i> *****			
SPINDLE			
GE FANUC Horsepower 1 minute / 30 minutes	19/15 HP <i>14/11 kw</i>	26/20 HP <i>19/15 kw</i>	26/20 HT HP <i>19/15 HT kw</i>
Reference Torque Chart:	19/15/1/B/F	26/20/2/B/F	26/20/2/B-1/FHT
Optional FANUC Horsepower Upgrade 1 minute / 30 minutes	26/20 HP <i>19/15 kw</i>	26/20 HP HT <i>19/15 HT kw</i>	N/A
Reference Torque Chart:	26/20/B/S	26/20/2/B/FT	
Standard Spindle Bore	2.56" <i>65 mm</i>	3.22" <i>82 mm</i>	3.22" <i>82 mm</i>
Spindle Bore 80" Bed	N/A	N/A	4.17" <i>106 mm</i>
Optional Spindle Bore ML26 x 80	N/A	N/A	6" <i>153 mm</i>
Spindle Bore 120" & 160" Bed	N/A	N/A	6" <i>153 mm</i>
Standard Spindle Nose	D1-6	A1-8	A1-8
Spindle Nose 80" Bed	N/A	N/A	A1-11
Spindle Nose 80" Bed with Optional 6" 153 mm Bore	N/A	N/A	A2-11

MACHINE MODEL	FTC18/60	FTC22/60	FTC26/40
Spindle Nose 120" & 160" Bed	N/A	N/A	A2-11
Spindle Taper	MT#4	MT#5	MT#5
Spindle Speed <i>*Important notice: RPM may need to be limited due to chuck size and workpiece</i>	100 - 2600	40 - 2000	30 - 1600
Programmed by CNC <i>Low</i>	N/A	40 - 375	30 - 300
Programmed by CNC <i>High</i>	N/A	75 - 2000	60 - 1600
Optional Chuck Size(s)	8" <i>200 mm</i> 3 Jaw	10" <i>250 mm</i> 3 Jaw 12" <i>300 mm</i> 3 Jaw	10" <i>250 mm</i> 3 Jaw 12" <i>300 mm</i> 3 Jaw
Optional 3 Jaw Hydraulic Chuck(s)	8" <i>200 mm</i> 10" <i>250 mm</i>	10" <i>250 mm</i> 12" <i>300 mm</i>	10" <i>250 mm</i> 12" <i>300 mm</i>
Bar Capacity with 8" Hydraulic Chuck Option	2.03" <i>51 mm</i>	N/A	N/A
Bar Capacity with 10" Hydraulic Chuck Option	2.03" <i>51 mm</i>	2.74" <i>70 mm</i>	2.74" <i>70 mm</i>
Bar Capacity with 12" Hydraulic Chuck Option	N/A	2.74" <i>70 mm</i>	2.74" <i>70 mm</i> 3.58" <i>91 mm</i>
Tailstock Quill Travel	6" <i>150 mm</i>	6" <i>150 mm</i>	6" <i>150 mm</i>
Tailstock Quill Diameter	3.15" <i>80 mm</i>	3.94" <i>100 mm</i>	3.94" <i>100 mm</i>
Tailstock Quill Taper	MT5	MT5	MT5
SPINDLE "C" axis (optional)			
Spindle Programming Resolution	½°	½°	½°
Spindle Orient Positioning Accuracy	± ½°	± ½°	± ½°
TOOLING ACCESSORIES – Contact Factory for Live Tooling Specifications			
Super Dorian Tool Post Option	SD35CXA	SD40CA	SD40CA
Dorian Quadra Post Option	¾" <i>20 mm</i> , (QITP 35)	1" <i>25 mm</i> (QITP 40)	1" <i>25 mm</i> (QITP 40)
8 Station Auto Turret Option – <i>Specify if metric</i>	¾"x4" <i>20x100 mm</i>	¾"x4" <i>20x100 mm</i> 1"x6" <i>25x150 mm</i>	¾"x4" <i>20x100 mm</i> 1"x6" <i>25x150 mm</i>
12 Station Auto Turret Option – <i>Specify if metric</i>	N/A	1"x6" <i>25x150 mm</i>	1"x6" <i>25x150 mm</i>
Turret Boring Bar Capacity – 8 Station	1.25" <i>31.75mm</i>	1.25" <i>31.75mm</i> or 1.5" <i>38mm</i>	1.25" <i>31.75mm</i> or 1.5" <i>38mm</i>
Turret Boring Bar Capacity – 12 Station	N/A	1.5" <i>38mm</i>	1.5" <i>38mm</i>
Turret Boring Bar Sleeve – 8 Station	1.25" dia x 2.375" <i>31.75 x 60 mm</i>	1.25" dia x 2.375" <i>31.75 x 60 mm</i> or 1.5" dia x 3" <i>38 mm x 76 mm</i>	1.25" dia x 2.375" <i>31.75 x 60 mm</i> or 1.5" dia x 3" <i>38 mm x 76 mm</i>
Turret Boring Bar Sleeve – 12 Station	N/A	1.5" Dia x 3"	1.5" Dia x 3"
Steady Rest <i>Roller Type</i>	.75 - 7.8" <i>20 - 200 mm</i>	.75 - 7.8" <i>20 - 200 mm</i>	.75 - 7.8" <i>20 - 200 mm</i>
Follow Rest <i>Brass Tip</i>	.4 - 4" <i>10 - 100 mm</i>	.75 - 7.8" <i>20 - 200 mm</i>	.75 - 7.8" <i>20 - 200 mm</i>
Steady Rest <i>Roller Type</i>	N/A	5.9 - 11.8" <i>150 - 300 mm</i>	5.9 - 11.8" <i>150 - 300 mm</i>
PERFORMANCE			
Servo Type	AC	AC	AC
Rapid Traverse	XZ: 500 ipm <i>12.7 mpm</i>	XZ: 500 ipm <i>12.7 mpm</i>	XZ: 500 ipm <i>12.7 mpm</i>
Feedrate Range	0 -200 ipm <i>0 - 5080 mmpm</i>	0 -200 ipm <i>0 - 5080 mmpm</i>	0 -200 ipm <i>0 - 5080 mmpm</i>
Position Accuracy <i>See note</i>	±.00025" <i>.0063 mm</i>	±.00025" <i>.0063 mm</i>	±.00025" <i>.0063 mm</i>
Repeatability <i>See note</i>	.0002" <i>.005 mm</i>	.0002" <i>.005 mm</i>	.0002" <i>.005 mm</i>
Live Tooling Spindle Programming Resolution	½°	½°	½°
Live Tooling Spindle Positioning Accuracy	0.088°	0.088°	0.088°
MISCELLANEOUS			
Optional Barfeeder - Bar Diameter	.2 - 2.55" <i>5 - 65 mm</i>	.2 - 2.55" <i>5 - 65 mm</i>	.2 - 2.55" <i>5 - 65 mm</i>
Optional Barfeeder - Maximum Bar Length	50" <i>1250 mm</i>	50" <i>1250 mm</i>	50" <i>1250 mm</i>

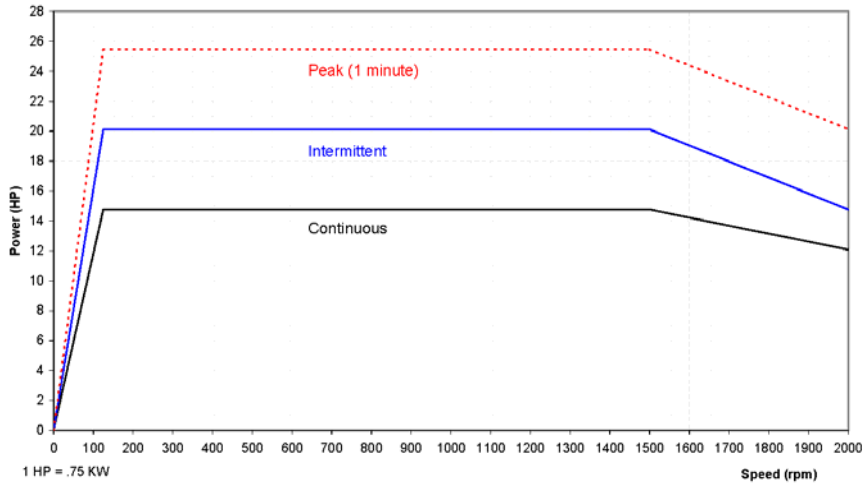
MACHINE MODEL	FTC18/60	FTC22/60	FTC26/40
Optional Barfeeder - Loading Capacity	10 Bars x 2.55" <i>65 mm</i>	10 Bars x 2.55" <i>65 mm</i>	10 Bars x 2.55" <i>65 mm</i>
Flood Pump	¾ HP	¾ HP	¾ HP
Flood Coolant Capacity	26 gal. <i>100 L</i>	50 gal. <i>190 L</i>	50 gal. <i>190 L</i>
Fanuc Power Requirements 208-240 VAC, 50 – 60 hz, 3Ø	100 amps 38 KVA	100 amps 38 KVA	100 amps 38 KVA
Floor Space Requirement 40" Bed Machine	N/A	N/A	94" x 120" <i>2390 x 3050 mm</i>
Floor Space Requirement 60" Bed Machine	71" x 138" <i>1800 x 3510mm</i>	83" x 137" <i>2100 x 3480 mm</i>	N/A
Floor Space Requirement 80" Bed Machine	N/A	N/A	94" x 158" <i>2390 x 4000 mm</i>
Floor Space Requirement 120" Bed Machine	N/A	N/A	118" x 205" <i>3000 x 5200 mm</i>
Floor Space Requirement 160" Bed Machine	N/A	N/A	90 x 244" <i>2390 x 6190 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.		

Measurements performed with Renishaw laser and ballbar systems. Measurements are linear over entire travel, and 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.

Fanuc Torque Chart 26/20/2/B/FHT – FTC22

Used on: Standard FTC18, FTC22, FTC26
 Optional N/A

Fanuc a/22/8000p Belted 4:1 Power Characteristics of ML22
 With 26/20 HP HT Dual Winding Motor



Fanuc a/22/8000p Belted 4:1 Torque Characteristics of ML22
 With 26/20 HP HT Dual Winding Motor

