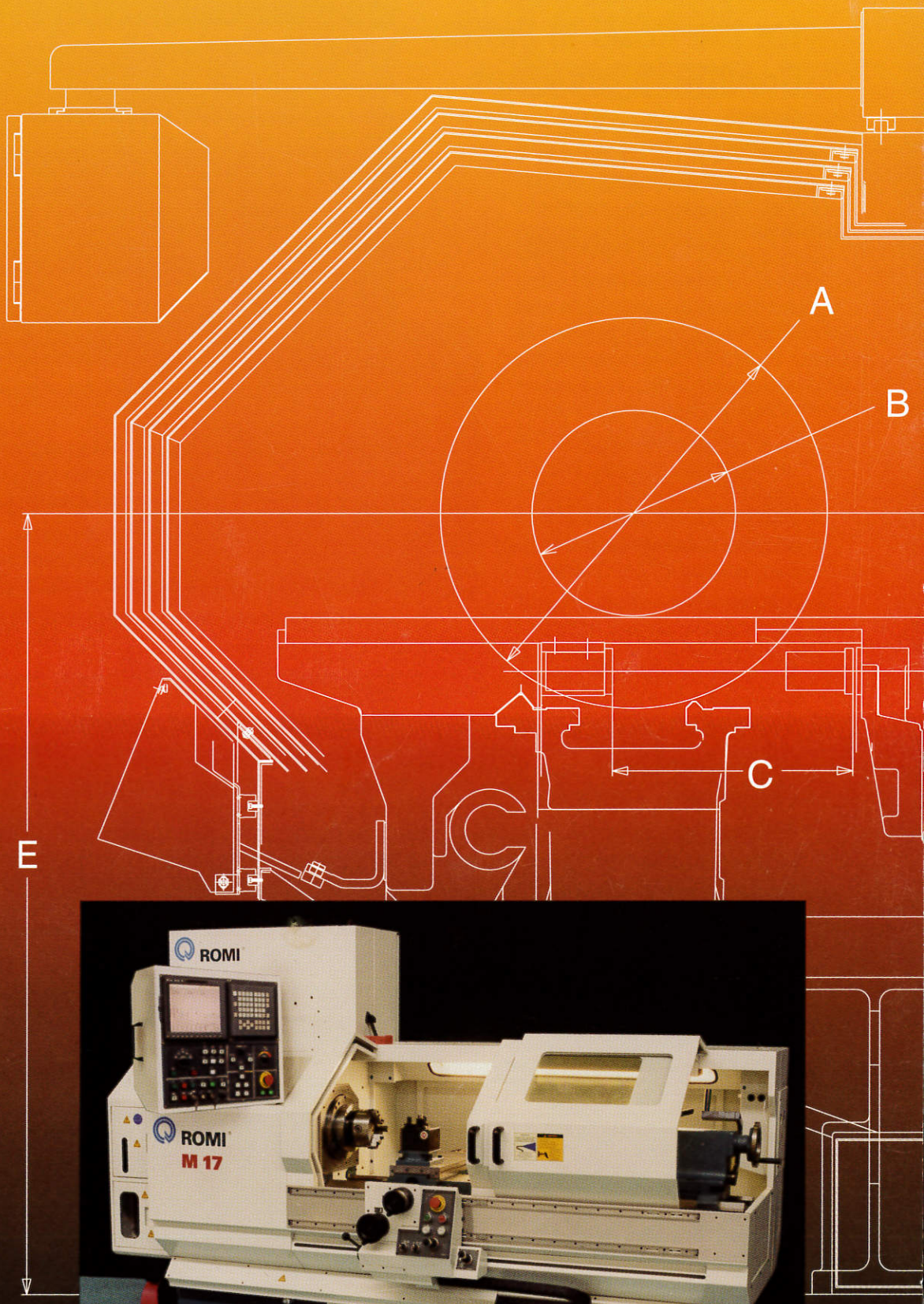
ROMI M Series

Combination Lathes



Standard Equipment for the ROMI M Series Combination Lathes

GE/Fanuc 21i-T CNC with New Machine Guidance Software

- 10.4" Color Monitor
- Programming Functions
  - Rough and Finish Profiles
  - Drilling and Boring
  - Threading
  - Rigid Tapping
  - Grooving
- 3D Graphic Display
- Playback of Programs
- Conversion to G Code

GE/Fanuc Servo Drives and Motors

GE/Fanuc Spindle Drive and "P" Style Spindle Motor

Dual Electronic Handwheels for Manual Operation

Tailstock with Manual Quill

Large Sliding Doors

Automatic Lubrication System

Complete Coolant System

Large Sealed Work Light

Removable Chip Box

Leveling Screws and Nuts

Complete Set of Manuals

Electrical Drawings

Standard Colors –
- Munsell Blue 10B-3/4
- Pale Gray RAL7035

Optional Equipment

Transformer for 200/210/220/230/240/250/380/420/440/460/480 VAC 50/60 Hz Operation

Chip Conveyor

Tailstock with Pneumatic Quill

Pneumatic Chucks

Collet Chucks

Quick Change Tool Holders

Automatic Turrets

Gang Tooling Plates

Rear Mounted Tool Holders

Steady Rests

Romi M17

The Romi M17 structure is a rigid cast iron "H" bed design. The M17 features a Turcite-coated carriage and cross slide that move on hardened and ground vee and flat guideways ensuring rigidity, accuracy, improved cutting performance and long machine life. GE/Fanuc servos are used on both axes.

The M17 spindle is driven by an extra wide, multi-ribbed belt. The GE/Fanuc extended horsepower range motor provides full horsepower at spindle speeds as low as 375 RPM.

To provide the rigidity required for heavy cutting, the spindle is supported by angular contact ball bearings at the spindle nose and double row cylindrical roller bearings at the rear. The cartridge spindle is lubricated for life.

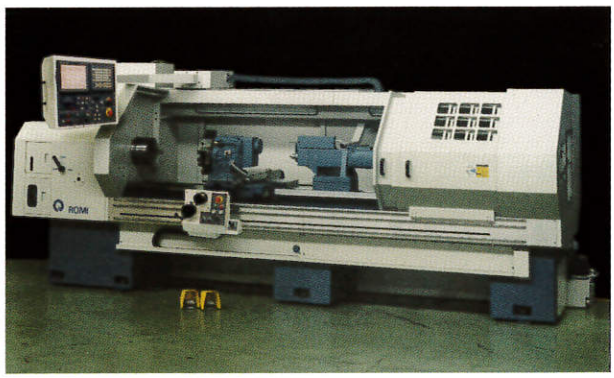
The tailstock is provided with two bed clamps. These clamps allow turning of heavy loads without vibration and large diameter manual drilling. The tailstock has a large manually operated quill with cast-in tang stop and a tool knock-out.

Automatic lubrication and a complete coolant system are standard.

Romi M20

The Romi M20 utilizes the same construction techniques as the M17 but it has a larger bed and is available in longer bed lengths. The M20 offers larger swing, larger through hole and increased horsepower.

Romi M23 & M27



The Romi M23 and M27 are larger versions of the M17 and M20 with larger spindles and larger and longer beds. The headstock has two gear ranges to provide the heavy cutting necessary for larger-sized components. The operator control panel is mounted on a swiveling pendant that moves along the Z axis.

Romi M33

Call or e-mail for information and specifications.

Romi M43

ROMI M Series Standard Specifications

Romi M17

SPINDLE MOTOR ..... 10 HP

CAPACITY
Center height ..... 8.46" (215 mm)
Longitudinal travel ..... 42.85" (1088 mm)
Swing over bed ..... 16.9" (430 mm)
Swing over cross slide ..... 8.03" (204 mm)
Swing over carriage wings ..... 15.75" (400 mm)
Cross slide travel ..... 8.66" (220 mm)
Distance between centers .....43.46" (1104 mm)

RAPID TRAVERSE SPEEDS
X axis .....394 ipm/10 mpm
Z axis .....295 ipm/7.5 mpm

HEADSTOCK

SPINDLE NOSE	THRU HOLE	SPEED RANGE
A2-5"	2.09" (53 mm)	4 to 4,000 rpm
A2-6"	2.56" (65 mm)	3 to 3,000 rpm
D1-6"	2.09" (53 mm)	3 to 3,000 rpm

TAILSTOCK
Quill diameter .....2.36" (60 mm)
Quill taper ..... MT 4
Maximum quill travel ..... 4.7" (120 mm)

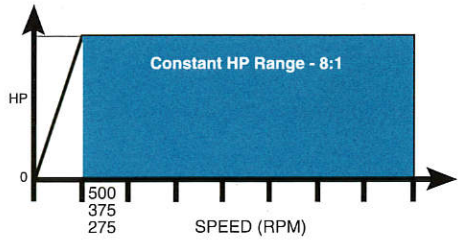
MEASUREMENTS
Floor space required
107.09" (2,720 mm) x 49.76" (1,264 mm)

WEIGHT ..... 4,840 Lbs (2,200 kgs)

TOOLING (OPTIONAL - M17 & M20)
- Quick Change Tool Holder
- Rear Mounted Turning and Boring Tool Holders
- Eight Station Automatic Turret
- Manual Indexing Turret
- Gang Tool Plate

WORK HOLDING (OPTIONAL - M17 & M20)
- Manual Chucks
- Collet Chucks
- Pneumatic Chucks and Actuators

STEADY RESTS (OPTIONAL - M17 & M20)
- Open style (5/16" to 3-1/8" capacity)
- Closed style (5/16" to 6" capacity)



M17 A2-5"	10 HP @ 500 RPM
M17 A2-6" / D1-6"	10 HP @ 375 RPM
M20 A2-6"	15 HP @ 375 RPM
M20 A2-8" / D1-8"	15 HP @ 275 RPM

Romi M20

SPINDLE MOTOR ..... 15 HP

CAPACITY
Center height ..... 10.24" (260 mm)
Longitudinal travel ..... 41.97" (1066 mm)
61.65" (1566 mm) / 81.34" (2066 mm)
Swing over bed ..... 20" (508 mm)
Swing over cross slide .. ..10" (254 mm)
Swing over carriage wings .....17.7" (450 mm)
Cross slide travel .....11.02" (280 mm)
Distance between centers ..... 43.15" (1096 mm)
62.84" (1596 mm) / 82.52" (2096 mm)

RAPID TRAVERSE SPEEDS
X axis .....394 ipm/10 mpm
Z axis .....295 ipm/7.5 mpm

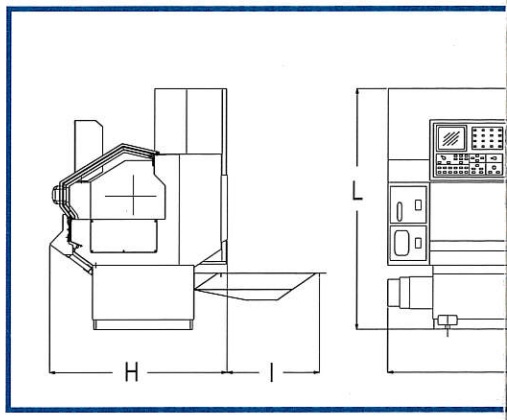
HEADSTOCK

SPINDLE NOSE	THRU HOLE	SPEED RANGE
A2-6"	2.56" (65 mm)	3 to 3,000 rpm
A2-8"	3.15" (80 mm)	2 to 2,200 rpm
D1-8"	3.15" (80 mm)	2 to 2,200 rpm

TAILSTOCK
Quill diameter ..... 3.15" (80 mm)
Quill taper ..... MT 4
Maximum Quill travel .....5.11" (130 mm)

MEASUREMENTS
Floor space required (M20 x 40")
124.02" (3,150 mm) x 64.96" (1,650 mm)

WEIGHT .....6,600 Lbs (3,000 kgs)



Romi M23

SPINDLE MOTOR ..... 20 HP

CAPACITY
Center height ..... 11.41" (290 mm)
Distance between centers ..... 42.36" (1076 mm)
87.73" (2076 mm) / 121.1" (3076 mm)
Swing over bed .....22.83" (580 mm)
Swing over cross slide .....12.0" (305 mm)
Swing over carriage wings .....17.32" (440 mm)
Cross slide travel ..... 14.17" (360 mm)
Longitudinal travel ..... 40.91" (1039 mm)
80.78" (2039 mm) / 119.65" (3039 mm)

RAPID TRAVERSE SPEEDS
X axis ..... 394 ipm/10 mpm
Z axis ..... 295 ipm/7.5 mpm

HEADSTOCK

SPINDLE NOSE	THRU HOLE
A2-8"	3.15" (80 mm)
D1-8"	3.15" (80 mm)

SPEED RANGE	
	2 to 2,500 rpm
Range 1	2 to 629 rpm
Range 2	8 to 2,500 rpm

TAILSTOCK
Quill diameter ..... 3.94"(100 mm)
Quill taper ..... MT 5
Maximum Quill travel ..... 7.08"(180 mm)

MEASUREMENTS
Floor space required (M23 x 40")
114.6" (2,910 mm) x 74.8" (1,900 mm)

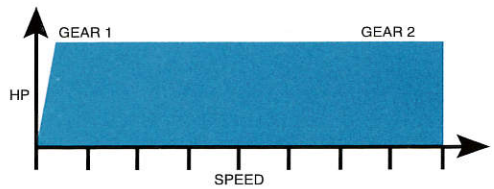
WEIGHT ..... 7,700 Lbs (3,500 kgs)

TOOLING (OPTIONAL - M23 &M27)
- Quick Change Tool Holder
- Four Station Automatic Turret
- Eight Station Automatic Turret
- Manual Indexing Turret
- Rear Mounted Turning and Boring Tool Holders

WORK HOLDING (OPTIONAL - M23 & M27)
- Manual Chucks
- Collet Chucks
- Hydraulic Chucks and Actuators

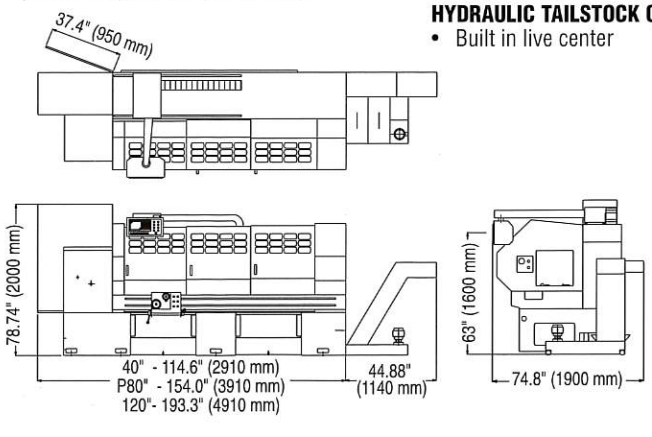
STEADY RESTS (OPTIONAL - M23 & M27)
- Closed Style (1/2" to 6" capacity)

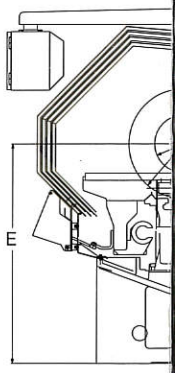
HYDRAULIC TAILSTOCK QUILL (OPTIONAL - M23 & M27)
- Built in live center

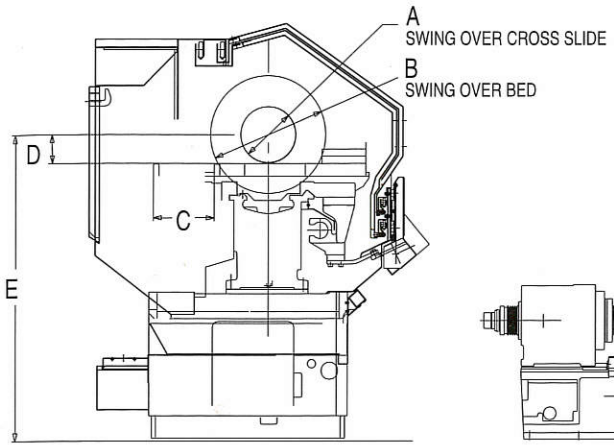


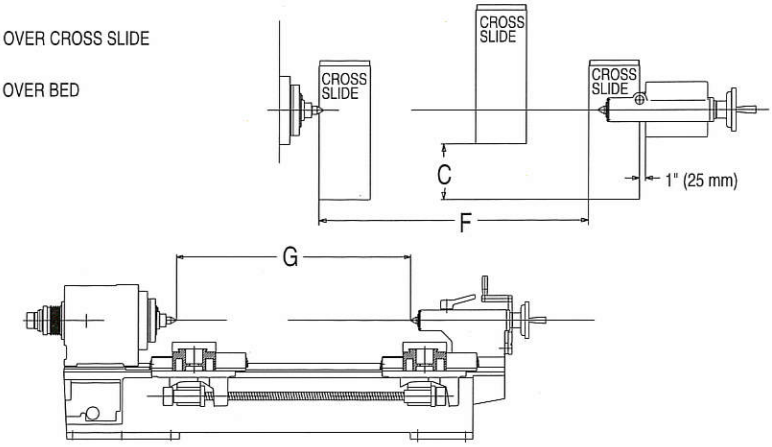
M23	A2-8" / D1-8"	79 to 2,500 rpm
M27	A2-8" / D1-11"	56 to 1,800 rpm
M27	A2-11	31 to 1,000 rpm

CONSTANT HORSEPOWER RANGE



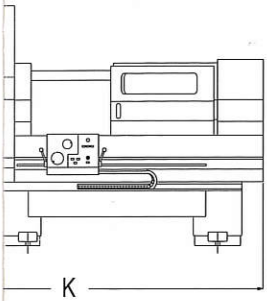


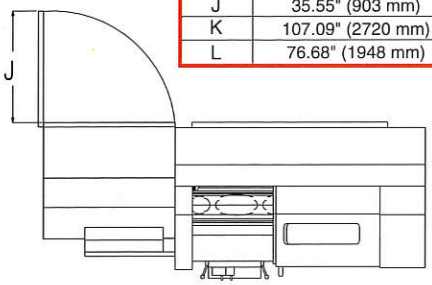




	M17	M20
A	8.03" (204 mm)	10.0" (254 mm)
B	16.9" (430 mm)	20" (508 mm)
C	8.66" (220 mm)	11.02" (280 mm)
D	4.02" (102 mm)	5.12" (130 mm)
E	42.91" (1090 mm)	42.91" (1090 mm)

	M17 by 40	M20 by 40	M20 by 60	M20 by 80
F	42.85" (1088.5 mm)	41.97" (1066 mm)	61.65" (1566 mm)	81.34" (2066 mm)
G	43.46" (1104 mm)	43.15" (1096 mm)	62.84" (1596 mm)	82.52" (2096 mm)
NOTE: Dimension G will be slightly smaller with the D1 spindle				





	M17 by 40	M20 by 40	M20 by 60	M20 by 80
H	49.76" (1264 mm)	64.96" (1650 mm)	64.96" (1650 mm)	64.96" (1650 mm)
I	25.91" (658 mm)	31.5" (800 mm)	31.5" (800 mm)	31.5" (800 mm)
J	35.55" (903 mm)	37" (940 mm)	37" (940 mm)	37" (940 mm)
K	107.09" (2720 mm)	124.02" (3150 mm)	143.7" (3650 mm)	163.39" (4150 mm)
L	76.68" (1948 mm)	77.95" (1980 mm)	77.95" (1980 mm)	77.95" (1980 mm)

Romi M17 & M20

Romi M27

SPINDLE MOTOR ..... 30 HP

CAPACITY

Center height .....13.85" (352 mm)
Distance between centers ..... 42.36" (1076 mm)
87.73" (2076 mm) / 121.1" (3076 mm)
Swing over bed .....26.97" (685 mm)
Swing over cross slide .....16.93" (430 mm)
Swing over carriage wings .....21.26" (540 mm)
Cross slide travel ..... 14.17" (360 mm)
Longitudinal travel
40.91" (1039 mm) / 80.78" (2039 mm)
119.65" (3039 mm)

RAPID TRAVERSE SPEEDS

X axis ..... 394 ipm/10 mpm
Z axis ..... 295 ipm/7.5 mpm

HEADSTOCK

SPINDLE NOSE	THRU HOLE	SPEED RANGE
A2-8"	4.1" (104 mm)	2 to 1,800 rpm
A2-11"	6.3" (160 mm)	2 to 1,000 rpm
D1-11"	4.1" (104 mm)	2 to 1,800 rpm
SPEED RANGE		
Range 1	2 to 441 rpm	2 to 245 rpm
Range 2	8 to 1,800 rpm	8 to 1,000 rpm

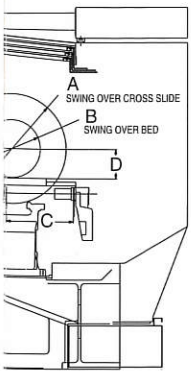
TAILSTOCK

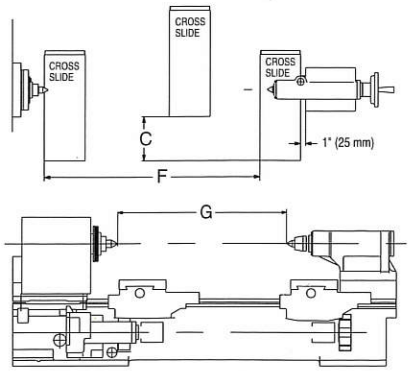
Quill diameter .....3.94" (100 mm)
Quill taper ..... MT 5
Maximum quill travel .....7.08" (180 mm)

MEASUREMENTS

Floor space required (M27 x 40")
114.6" (2,910 mm) x 74.8" (1,900 mm)

WEIGHT .....8,360 Lbs (3,800 kgs)





	M23	M27
A	12.0" (305 mm)	16.93" (430 mm)
B	22.83" (580 mm)	26.97" (685 mm)
C	14.17" (360 mm)	14.17" (360 mm)
D	6.1" (155 mm)	8.54" (217 mm)
E	45.67" (1160 mm)	48.11" (1222 mm)

	M23/M27 by 40	M23/M27 by 80	M23/M27 by 120
F	40.91" (1039 mm)	80.78" (2039 mm)	119.65" (3039 mm)
G	42.36" (1076 mm)	87.73" (2076 mm)	121.1" (3076 mm)

Romi M23 & M27

Features of a Combination Lathe

All ROMI M series machines are controlled by a GE/Fanuc 21i-T CNC with brand new Machine Guidance software. The GE/Fanuc 21i-T features the latest technological advancements in a uniquely small space. The 10.4" color Liquid Crystal Display (LCD) and full keyboard are conveniently located on a swiveling operator station.

The 21i-T with the new Machine Guidance software is the ideal CNC for operators with varying levels of experience. Machine Guidance software simplifies the transition from manual programming to G code programming. As the operator's skill increases and/or the complexity of the part increases, he can easily move through the four levels of part program generation.

Manual Cutting

The operator uses the electronic handwheels and the CNC's position registers to cut the part manually. This is the simplest mode and the moves are limited to "X" and "Z" cuts.

Guidance Single Cutting

The operator uses the electronic handwheels and the CNC's position registers to cut the part. He enters additional data and uses one handwheel to cut tapers and radii on the part. In this mode, the axis moves and other commands can be recorded as a part program. The "taught" program can be "played back" to produce additional parts.

Guidance Cycle Cutting

The 21i-T CNC has built-in machining cycles for...profiling (roughing and finishing), grooving, threading, drilling and tapping...which will generate a part program based on information the operator enters, as prompted, to describe the part. The CNC automatically generates the part program. The part program can be converted to a standard G code format.

G Code Programming

The 21i-T can be programmed using G code language, allowing the use of standard G code features available from GE/Fanuc.

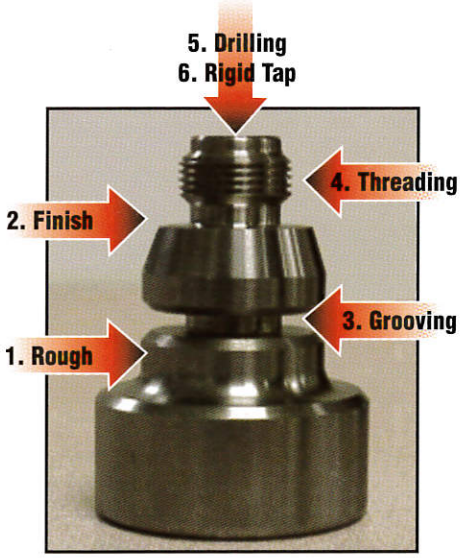
Program Creation

Programming the Guidance Cycle Cutting is easy with the **"All-In-One"** Screen. The operator enters basic machining information (feedrate, speed, depth of cut, etc.) as prompted. The part geometry is entered as a series of lines or circles (arcs). As the part geometry is being entered, the shape is shown graphically on the screen. Once the part is described and the part program developed, it can be verified by the powerful 3D graphic tools. The part program can be converted to G code by pressing one softkey.

The part program is developed by dividing the part into the different Guidance Cycles called Processes. The Processes are combined in an orderly sequence to cut the part.

Tool change commands, spindle speed commands and miscellaneous functions such as spindle direction and coolant control are automatically recorded and entered at the proper point in the program by pressing a softkey.

Part Processes



Manual Guidance Function

Benefits of Guidance Programming

- No G-code knowledge required
- Input data from part drawing on easy-to-understand conversational/ graphical screens
- No calculations for end points or imaginary tool nose
- Teach and playback functions allow quick prove out of part machining using graphical simulations
- Easy-to-understand set-up screens for work shift offsets and tool offsets
- Graphical simulations of tool and part to minimize prove-out time and reduce errors
- Easy conversion to G-code format.

Machine Features

Romi combination lathes give you the opportunity to select the spindle design and speed range that best suits your needs: A2 spindles where a larger through hole is required or higher speeds are a priority; D1 CamLock spindles for quick chuck changing between 3 and 4 jaw chucks.

The Romi M Series is based on a rigid cast iron "H" bed design. All guideways are induction hardened and ground. They feature a Turcite-coated carriage and cross-slide that move smoothly on the solid cast iron bed and saddle guideways; thus ensuring superior rigidity, increased accuracy, improved cutting tool performance and longer machine life.

ROMI M Series Available in Six Models

Models	Six Power Levels	Spindle Choice
M17	10Hp	A2-5"/A2-6"/D1-6"
M20	15Hp	A2-6"/A2-8"/D1-8"
M23	20Hp	A2-8"/D1-8"
M27	30Hp	A2-8"/A2-11"/D1-11"
M33	50Hp	A2-11"/A2-15"
M43	75Hp	A2-11"/A2-20"

The Romi M17 and M20 incorporate a new belt-driven cartridge-style gearless headstock featuring a high torque AC spindle motor with a variable speed drive.

To provide the rigidity required for heavy-duty cutting, the spindle is supported by angular contact ball bearings and double-row cylindrical roller bearings, lubricated for life. This spindle design eliminates the need for an oil recirculation system or a refrigeration system to maintain spindle temperature, thus offering years of reliable performance with reduced operating and maintenance costs.

A rigid tailstock with dual clamping affords rigidity for turning heavy parts or manual drilling. The tailstock has a large, manually operated quill with cast-in tang stop and drill knock-out.

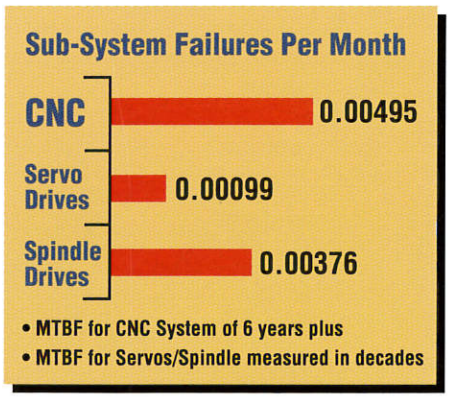
The automatic lubrication system, a complete coolant system and splash guards with overlapping doors are standard.

CNC Features

FANUC

The GE Fanuc 21i-T features the latest technological advancements in a uniquely small space. The 10.4" color Liquid Crystal Display (LCD) and full keyboard conveniently swivel for ease of operation. A shock absorber keeps the control in position when keys are pressed. The 21i-T with Machine Guidance software is the ideal CNC for operators with varying levels of experience.

GE Fanuc CNC's and associated spindle and servo drives have an exceptional reputation for reliable operation and the 21i-T CNC is one of the latest series of GE Fanuc Controls.



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