

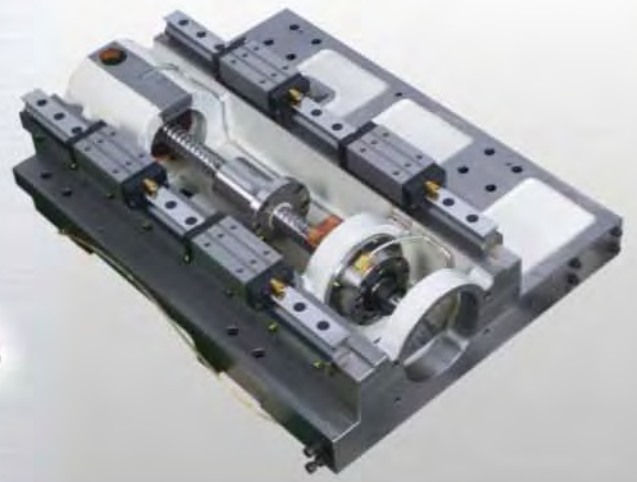
LITZ[®]



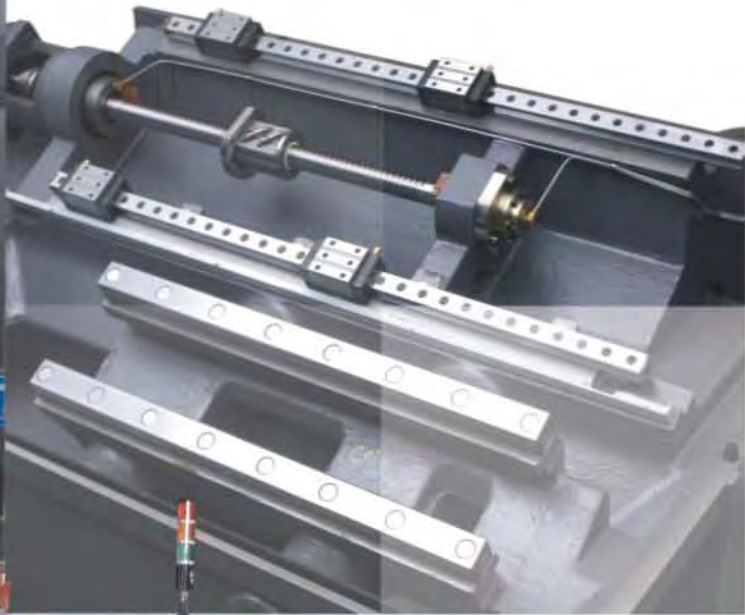
ISO 14001



ISO 9001



LT-M Series CNC TURNING CENTERS



LITZ HITECH CORPORATION.

High Performance Turning Center

- High rigidity, high precision linear guide ways prolong the machine service life.
- Fast travel speed increases the cutting efficiency.
- The live turret with super rigidity, heavy duty capability.

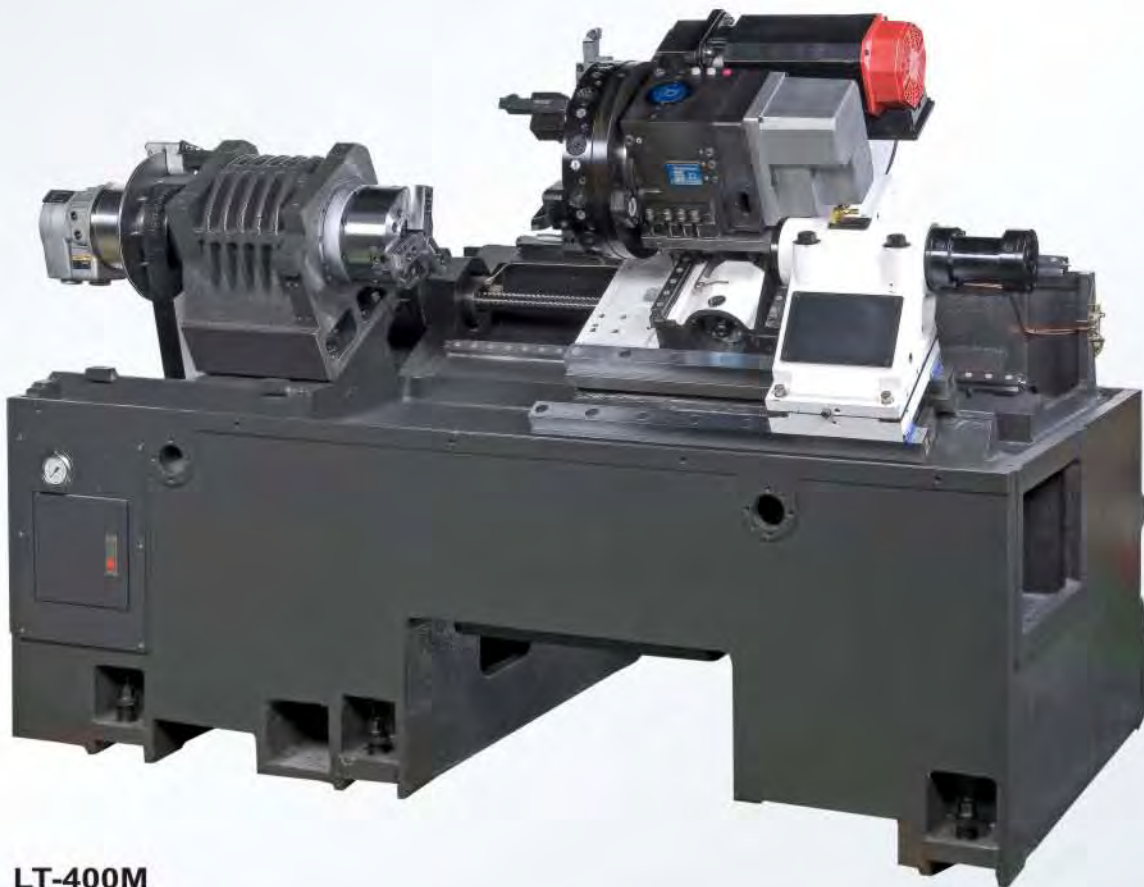


LT-400M

- The full enclosure design escapes the chips and coolant from splashing. The safety and clean working environment can be kept.
- The auto oil lubrication system provides rails, ballscrews and key units the precise but adjustable oil volume control.

High Rigidity, High Accuracy Construction Design

- The main body is a one-piece in construction. The 30 degrees slant bed provides the spindle head, turret, and the tail stock an excellent supporting base, with low gravity.
- The enhanced ribs in major construction parts provide the super rigidity for heavy duty cutting or high speed cutting. The service life of the cutting tool is prolonged due to the machine's excellent rigidity.
- The major construction parts are based on the FC30 Meehanite cast iron. They are stable and precision-proved in structure.



LT-400M

- The X and Z axes are driven by absolute AC servo motors. The powerful motor provides fast acceleration and deceleration movement and tremendous thrust force. The absolute encode technology eliminates the usage of limit switch. The home position operation is no more need when the machine is powered on.

High Accuracy Transmission System



- The servo motor and high precision ballscrew are directly coupled in X/Z axes.
- The ballscrew is pretensioned to increase its rigidity, to lower its thermal deformation.
- At the X/Z ballscrew fix/supporting bracket, the lubrication system is applied to offer best lubrication on the bearings. It is the most suitable for the high precision application.
- The extreme big ballscrews with C3 grade are adopted for its high rigidity and high precision.

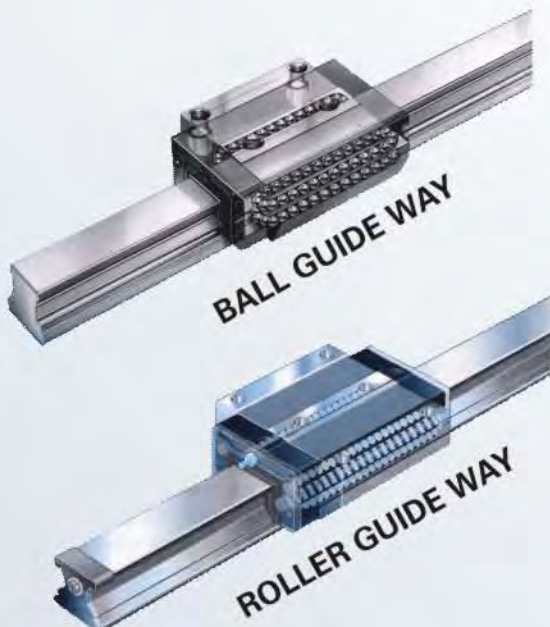
Collision Protection Device

- The machine is equipped with an axis collision protection device which can absorb and reduce the collision force. The machine accuracy is still maintained when any axis malfunction happens.
- The X/Z axes adopt heavy duty linear guide ways. It ensures the characteristics of high rigidity, low noise and low friction. The high speed feedrate and contour cutting accuracy are achieved.
- Feedrate is 20 m/min in X axis; 24 m/min in Z axis.



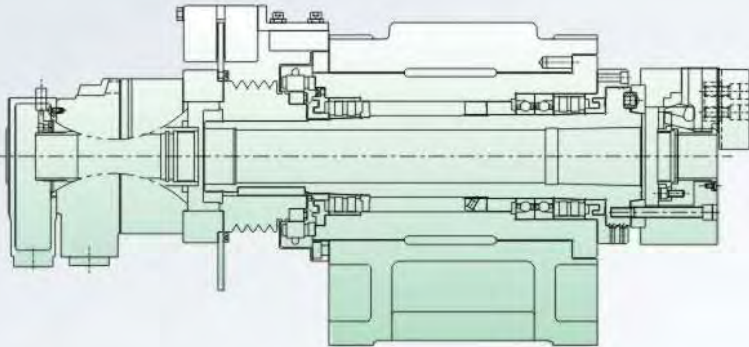
High Speed and High Accuracy Linear Guide Way

- The Linear guide way with zero backlash ensures the consistent cutting surface on curve or slope cutting.
- Suitable for high travel speed and the power consumption is minimized.
- By rolling contact instead of sliding contact, linear guide way reduces friction loss but increases positioning accuracy.
- The loading capacity is excellent on multiple directions. Cutting rigidity can be ensured.
- The linear guide way is interchangeable in specification, easy for lubrication and maintenance.
- Long service life is guaranteed by its highest durability.



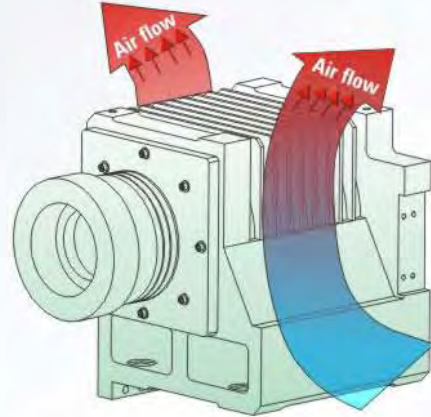
Spindle Head and Spindle System

Spindle System



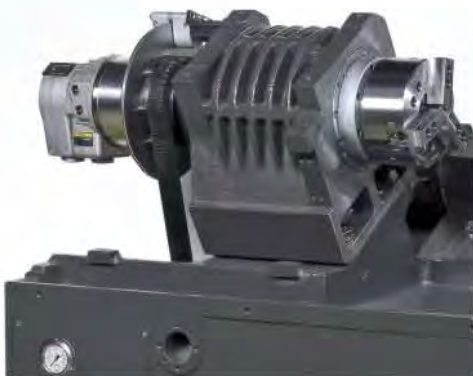
- The super precision P4 grade is adopted for the spindle bearings. The optimal span of the bearings arrangement is designed for its optimal capability. The super cutting accuracy and long cutting time can be ensured.
- Spindle bearing arrangement: double row roller bearing x 1 and angular ball bearing x 2 at the front side; double row roller bearing x 1 at the rear side.

The Heat Emission System



- The thermal fin design is standard on the spindle head. The generated heat can be taken away efficiently by the air circulation.

Spindle Power Transmission System



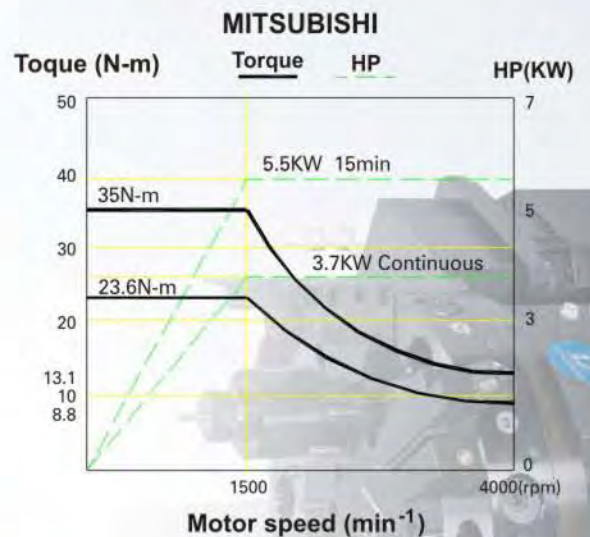
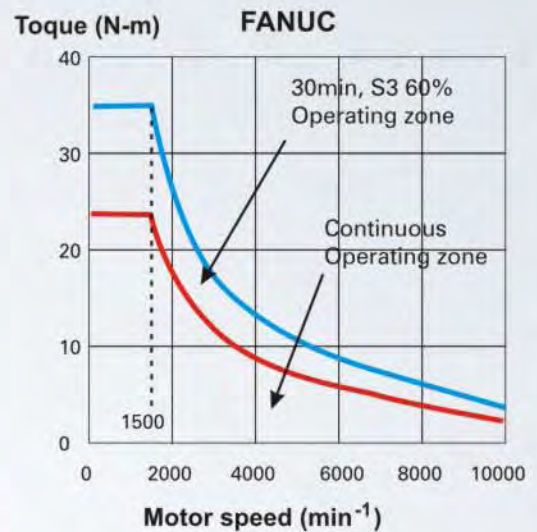
- The high performance V type belt is adopted for the power transmission. The belt maintenance is easy and the heat generated by the belt is reduced. By the gear ratio on the pulleys, the maximum spindle torque can be obtained and the maximum cutting capacity is achieved.
- The rigid tapping capability is standard on the machine. The thread operation setting is easy and the accuracy is high. The maximum product output rate can be achieved.
- The spindle can be orientated and stopped at multiple positions. It is handy for particular angle operation and for manual workpiece loading/unloading process.

High Performance Live Turret

Live Turret



- LT-M series with C axis and live turret became a milling-turning complex machining center. To finish milling, turning, drilling, tapping jobs in a single machine for preventing inaccuracy when reset workpieces and save working time.
- 12 live tools on turret (Rotate turret at working position, turret does not need to be pushed out when changing tool.
- Live turret with latest servo system, next tool change time 0.6 sec, opposite tool change time 0.8 sec.
- Live tool with advanced AC servo drive to provide high torque. To finish difficult jobs easily.

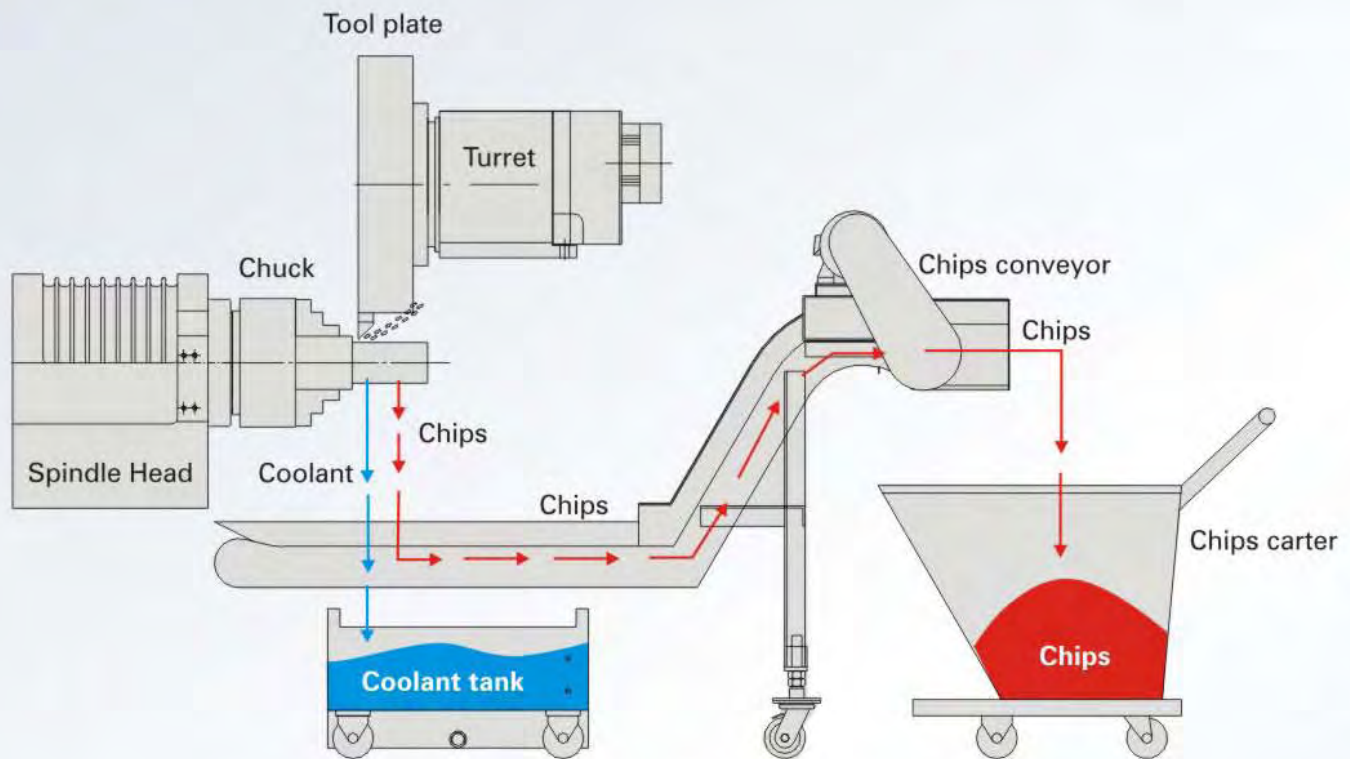


Tail Stock Unit

- The high accuracy tail stock provides highest rigidity and the highest loading durability. The movement of the quill of the tail stock is programmable. The thrust force is adjustable by the pressure of the oil pump.

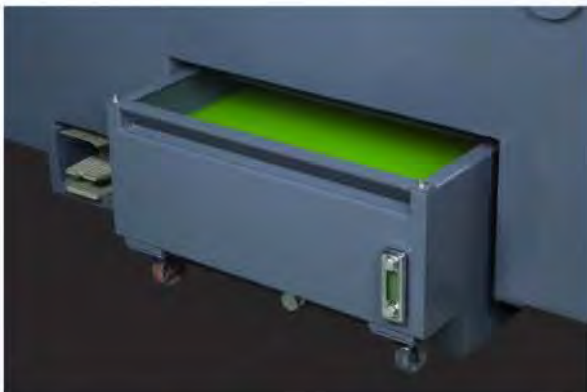


High Efficient Chips Removal System



- The chips conveyor system is located under the front side of the machine. This system can easily convey the large volume of chips generated by the turning process.

Separated Coolant Tank System



- The isolated coolant tank is easy for maintenance. The high pressure pump and the large coolant flow capacity can take away the generated heat efficiently.

Excellent Performance of C axis

Turning-Milling complex function

- LT-M series is a turning-milling complex center with multiple automatic function.

Practically, 50% workpieces need to be milled and drilled after turning process to complete whole processes.

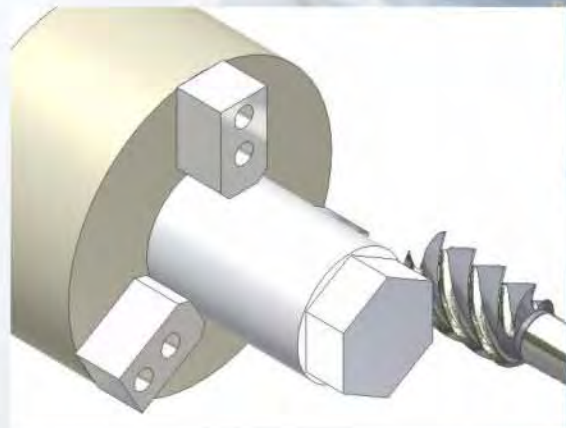
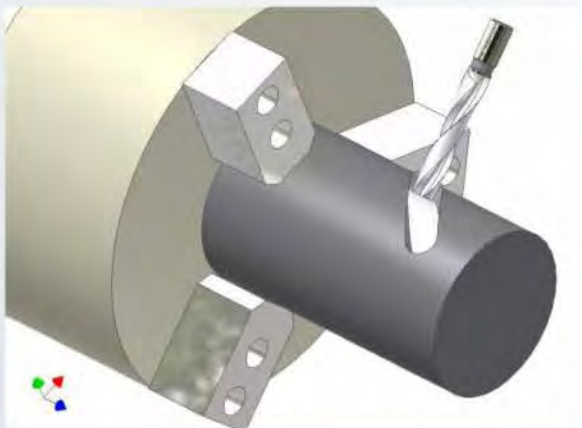
All of above jobs can be finished by this high performance turning-milling complex center.

It ensures the workpiece geometrical accuracy and production efficiency.



C axis

- C axis indexing incremental accuracy: 0.001 degree
- C axis rapid rotation speed: 40 RPM
- Simultaneous moving of C-X and C-Z axes. It's convenient for drum cam and plate cam machining.
- Package unit design to shorten installation time.
- Multiple functions to save extra expense.

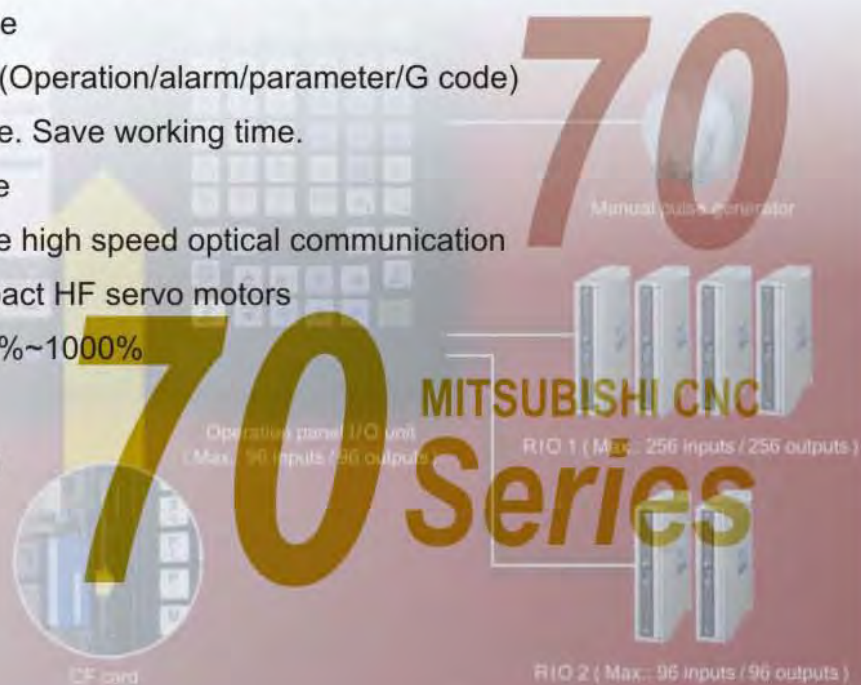


Excellent controller Mitsubishi M70



Most of functions are standard

- 8.4 inch color TFT screen
- 64 bytes RISC CPU
- IC card, data server & ethernet
- G05P100000 high speed & high accuracy control mode II
- 10 nanometer interpolation control
- Forward integration with M700 interface and backward to combine M60S function
- Large program editable on machine
- PC general auxiliary help function (Operation/alarm/parameter/G code)
- Part machining function is available. Save working time.
- Program restart after power outage
- Axes servo driver/spindle sever are high speed optical communication
- High speed, high torque and compact HF servo motors
- Encoder capacity is promoted 250%~1000%
- High quality operation panel
- NAVI conversational programming
- Multi languages display



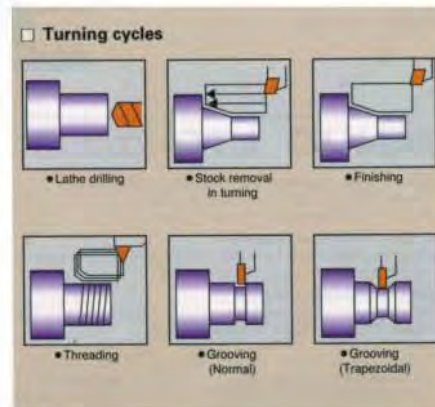
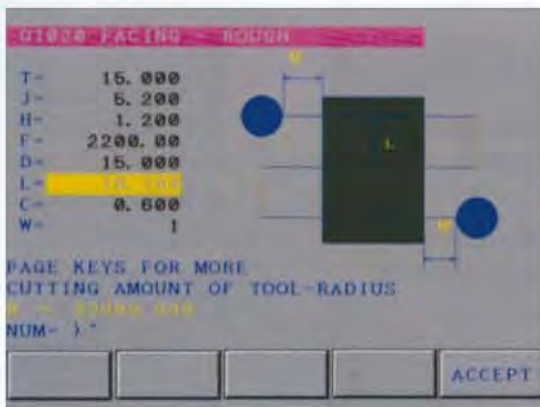
Operation System (FANUC)

Controller



- The user friendly operation panel offers the most useful function keys for the operators. This is a big advantage to avoid many page up/down operation to select the function. The membrane keys are durable at the bad environment such as oil, dust and high humidity.
- Standard 8.4" LCD screen is adopted. Small full key, graphic display and program storage 320M.
- Equipped with program memory and super fast processor (as 18i-T). Rigid tapping, canned cycle operation, customer oriented Macro B.... are standard.

Manual Guide Oi Program Interactive Function

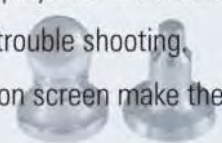


- The standard Manual Guide Oi program interactive function makes it easy for the program edit. The operator can learn the operation processes easily and quickly.

Friendly Machine-operator Interface



- The control panel meets the safety requirement and it rotates easily for the operation.
- The automatic diagnosis function displays the malfunction information on the screen for quick trouble shooting.
- The touch switch, diagram and text on screen make the programming very convenient.



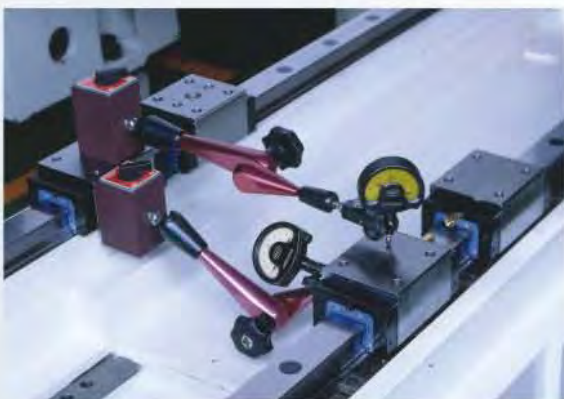
Advanced Quality Control

Laser Inspection



- All the machines are manufactured under the control of ISO9001 quality management system.
- The full stroke is inspected and compensated by the laser measurement instrument.
- The 100 hours run-in test is done in the standard process for every machine.

Rail Parallelism Inspection



- The linear guide ways are calibrated to ensure the parallelism in the installation.

Standard Workpiece Test



- The standard workpiece test is executed to ensure the turning accuracy.

Rail Straightness Measurement



- Every rail is inspected by the electrical level gauge.
- To ensure the linear guide way accuracy before installation.

Automation Capability

Tool Setter



- The Renishaw HPMA automatic tool setter is chosen as an optional function. The tool measurement process is fully automatic. The system can measure the tool automatically while the pre-set workpiece quantity is reached. The performance and accuracy of the production are enhanced.



Part Catcher Mechanism



Part catcher

- Max. workpiece dia. : $\varnothing 50$ mm
- Max. workpiece length: 130 mm
- Max. workpiece weight: 2kg



Workpiece buckle

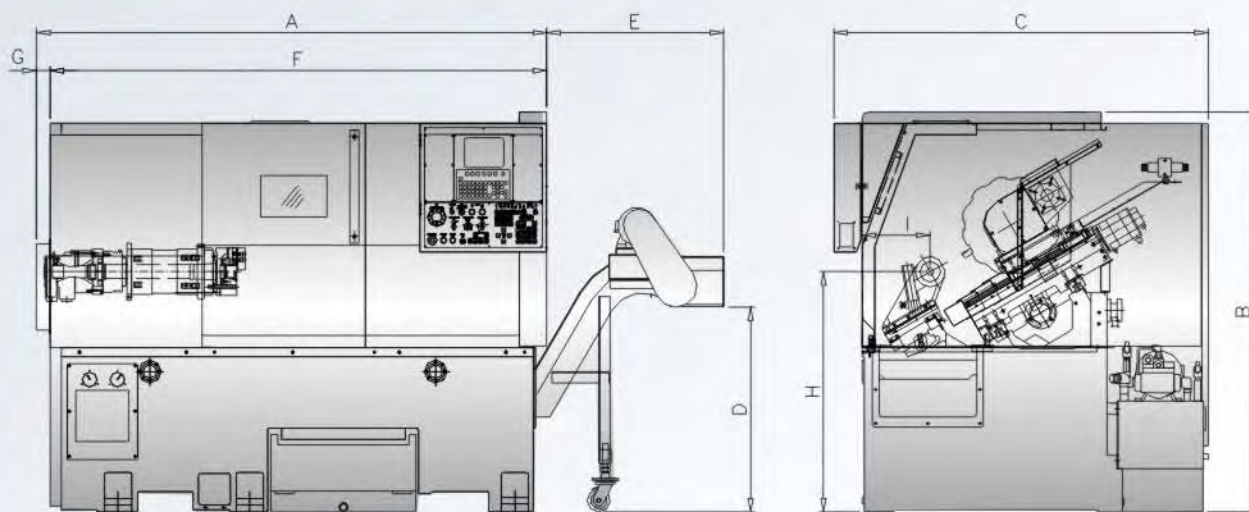
- The workpiece buckle is large in size, convenient for the automation mode.

Bar Feeder System

- The bar feeder is very useful for the mass production application. The Bar feeder system can be integrated with the part catcher for full automation.



Machine Dimension

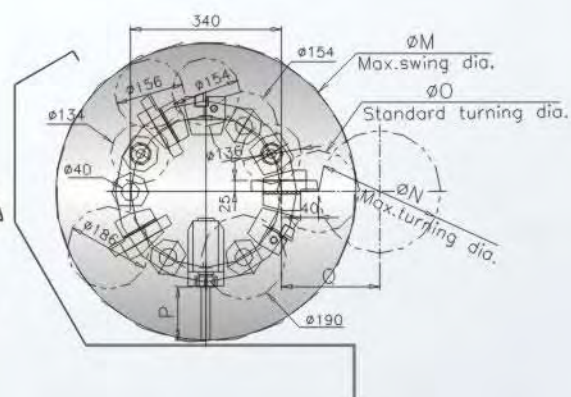
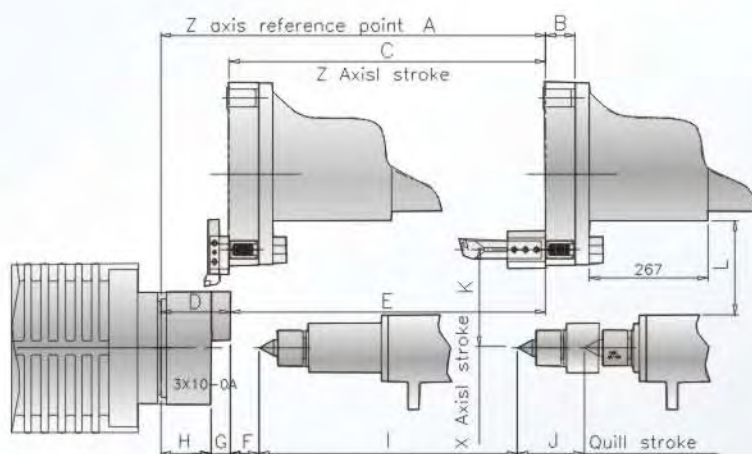


Unit:mm

Model	A	B	C	D	E	F	G	H	I
LT-400M	2250	1770	1670	916	1069	2140	180	1060	300
LT-520M	2850	1895	1800	1000	905	2600	250	1060	340

Work Range

Tool Interferencer



Unit:mm

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
LT-400M	654	66	530	142	512	48	38	104	440	100	190	195	570	215	186	70	190
LT-520M	864	66	710	156	708	65	43	113	580	100	220	211	676	275	188	120	220

Machine Specification

		LT-400M	LT-520M
Travel			
X-axis	mm	190	220
Z-axis	mm	530	710
Spindle			
Spindle speed	RPM	30-4000	30-3500
Spindle nose		A2-6	A2-8
Front bearing inner dia.	mm	100	130
Thru-hole dia.	mm	63	88
Capacity			
Swing over bed	mm	400	520
Swing over slide	mm	320	400
Center distance	mm	645	845
Standard turning dia.	mm	186	186
Max turning dia.	mm	215	275
Max turning length	mm	530	710
Bar capacity	mm	52	78
Chuck size	inch	8"	10"
Live Turret			
Max. cutting length	mm	570/1200	539/1169
Turret station		12	12
No. of live tools		12	12
Milling motor power	KW	3.7 / 5.5	3.7 / 5.5
Milling motor torque	N-M	35	35
Exchange time	sec	0.6(next tool)/0.8(oppsite)	0.6(next tool)/0.8(oppsite)
Size of holder (sq)	mm	□ 25	□25
Boring holder dia.	mm	Ø40	Ø40

Machine Specification

		LT-400M	LT-520M
Live tool spec.	mm	2-20	2-20
Milling speed	RPM	10-5000	10-5000
Tailstock			
Travel	mm	435	580
Quill stroke	mm	100	150
Size of taper		MT5	MT5
Quill I.D.	mm	90	110
Feedrate			
X-rapid	M/min	20	20
Z-rapid	M/min	24	20
Motor			
Spindle motor	kw	7.5 / 11	15 / 18.5
X-servo motor	kw	1.5	1.5
Z-servo motor	kw	3.0	3.0
Turret-servo motor	kw	1	1
Controller			
MITSUBISHI / FANUC		M70-2A/0iTC-package A	M70-2A/0iTC-package A
Miscellaneous			
Power requirement	KVA	20	25
Coolant capacity	L	200	230
Machine size			
Weight	kg	4300	5000
Width	mm	2250	2850
Height	mm	1770	1910
Depth	mm	1670	1800

Standard and Optional Accessories

Standard Accessories

	LT-400M	LT-520M
3-jaw thru-hole chuck (Soft/hard jaw, T block) 1 set each	√	√
Work light	√	√
Alarm light	√	√
Tool box	√	√
Operation manual	√	√
Programmable hydraulic tailstock quill	√	√
Programmable hydraulic chuck	√	√
Foot-step switch	√	√
Auto power off system	√	√
Chip conveyor (including chips cart)	√	√
Axial drilling & milling head	DA-40×1	DA-40×1
Radial drilling & milling head	BR-40×1	BR-40×1
OD tool. Radial static holders	B3-40×6	B3-40×6
OD tool. axial static holders	C3-40 × 2	C3-40 × 2
Boring bar bush	Ø10, Ø12, Ø16, Ø20, Ø25, Ø32 2 pcs each	
Boring tool static holders	E2-40×40×6	E2-40×40×6
Drill static holders	E4-40×ER32×1	E4-40×ER32×1

Optional Accessories

● Parts catcher	● Auto front door system
● Bar feeder interface	● Robot interface
● Bar feeder	● Tool setter
● Workpiece counter	● Collet chuck
	● Transformer (380V~415V)

■ This catalogue is only for reference. The machine may differ to this specification.

■ The company reserves the rights to modify or to stop adopting the specification of this catalogue.



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