



Grinding Machines



Grinding Machines



Turning Machines



Milling Machines

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ISO 9001



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CHEVALIER®

Grinding / Turning / Milling



FBL Series

Heavy-Duty Horizontal Turning Lathes

FBL-230 • 300

FBL-230 Series

Slant-Bed Lathe With Box Ways

The Series is designed with its 45-degree slant bed, rigid box ways structure, programmable tailstock and Fanuc control. The machine design is engineered with ease of access and trouble-free maintenance in mind.

The structure of the FBL Series is ribbed Meehanite cast iron mono-block casting—with hardened and ground hand-scraped slideways—helps resist deflection and vibration during heavy machining and ensures stable end-to-end cutting of long shafts.

The FBL-230 series offers a flexible, accurate and efficient solution for mixed-volume, short run or dedicated high-volume applications, delivering fast parts machining of bars up to 2.02" in diameter at speeds up to 4,000 rpm. The maximum swing is up to 21.6" and the turning diameter is 11.8". The center distance is 20". The X- and Z-axes positioning accuracy is ± 0.0002 " while repeatability is ± 0.0001 ".

The lathe features up to 20 HP and up to 8" hydraulic chuck. It produces 177 ft-lb torque at a lower rpm. The fast 10-position servo turret offers 0.23 second tool indexing time and the O.D. shank is 1". The carousel is held by a large curved coupling and clamped by hydraulic pressure.



FBL-230 Series

Swing Over Bed (Z cover): 25.7"

Spindle Motor: 20 HP

Bar Capacity: 2.02"

Cutting Length: up to 15.9"

Tailstock: Programmable Quill With Manual Positioning



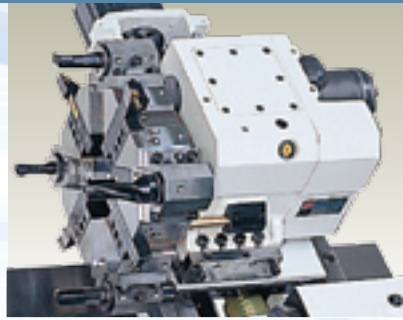
FBL-230 Series

Construction and Features



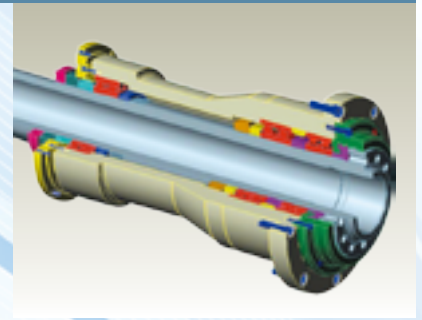
Programmable Tailstock

- Easy access manual tailstock with programmable hydraulic quill.



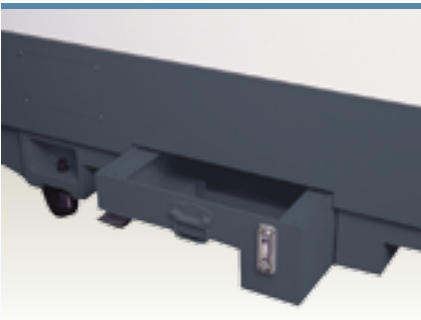
10-Station Turret

- Fitted with powerful hydraulic turret for heavy-duty machining. Structured features a large curvic coupling and hydraulic clamping pressure to meet strict requirements for machining efficiency.
- A 12-station turret is optional



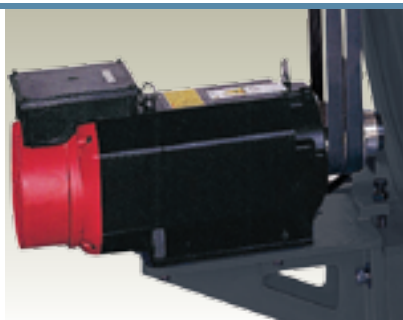
High-Precision Spindle System

- Module cartridge type spindle design and roller bearings are used as support for enhanced accuracy and service life than stock type spindle structure.



Coolant Tank

Coolant tank is easy access and easy to maintain. Removal from front or rear of machine.

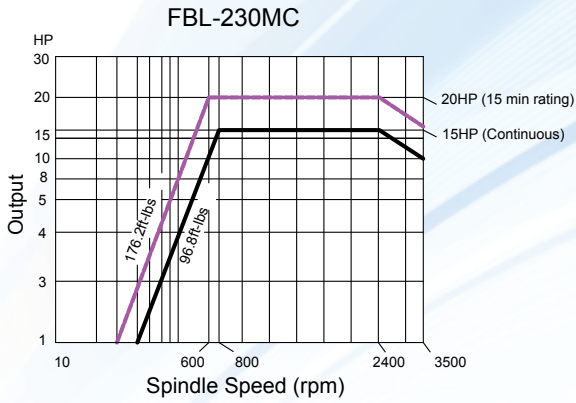


Spindle Motor

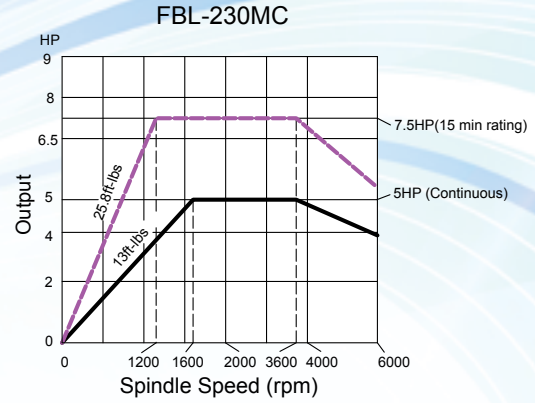
Wider timing belt grabs solidly without slipping. Powerful FANUC digital spindle motor produce large torque during lower RPM and low noise operation.

FBL-230

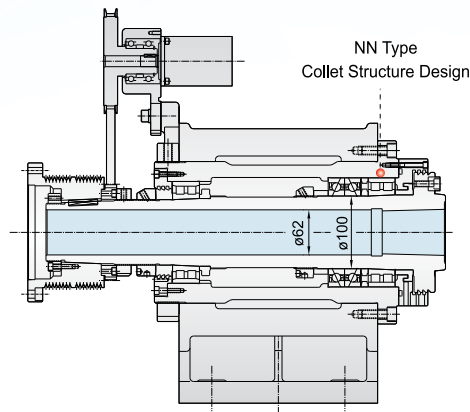
Spindle Torque Chart



Live Tooling Torque Chart

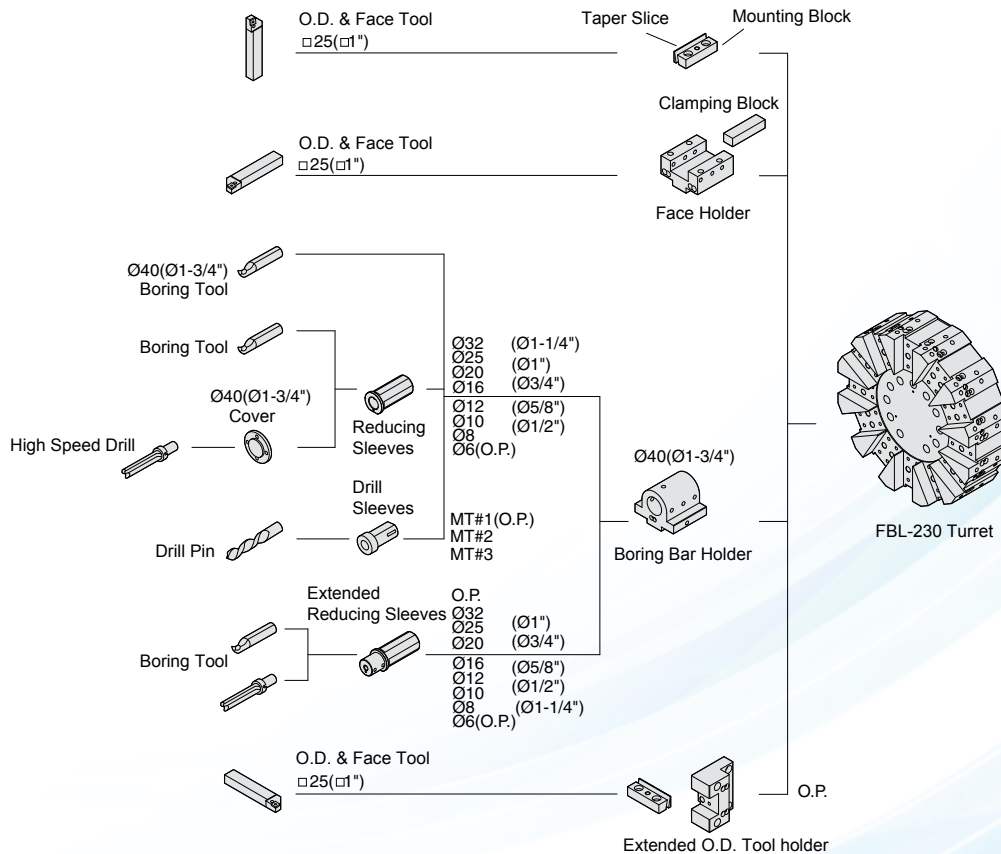


Tooling System



Spindle Structure

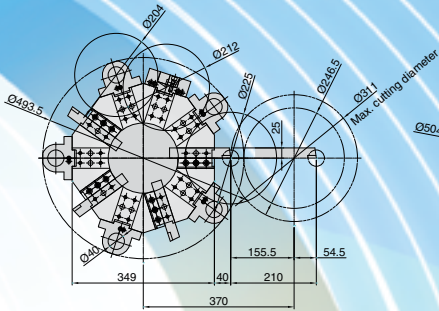
Turret Type



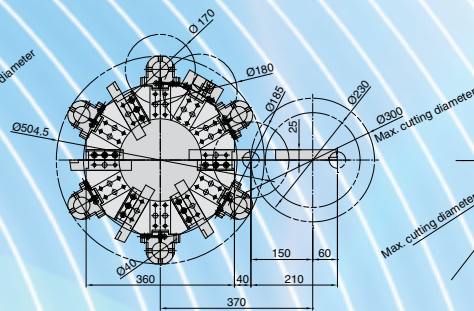
FBL-230

Unit: mm

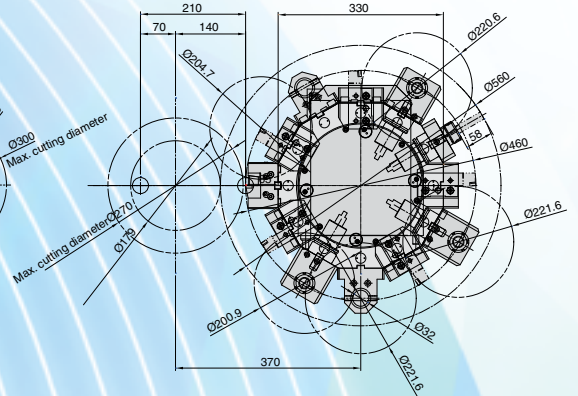
Standard 10 Station Tool Interference



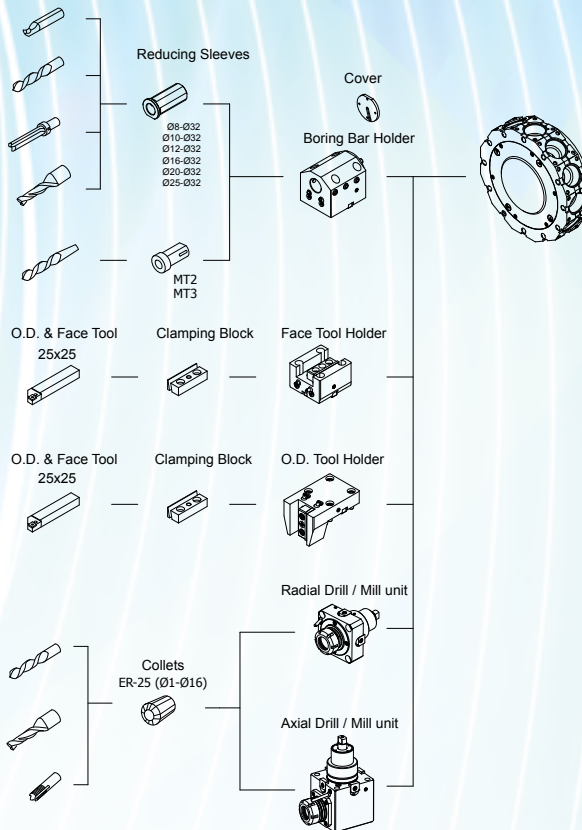
Optional 12 Station Tool Interference



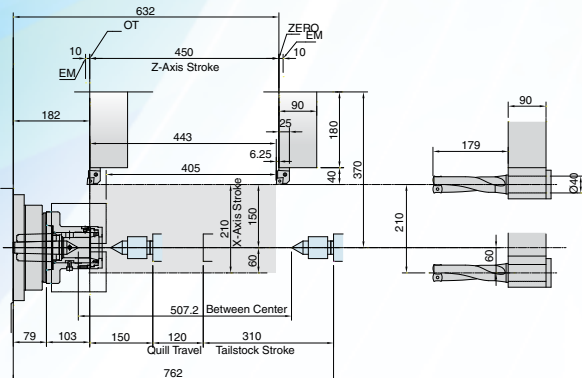
FBL-230MC Tool Interference



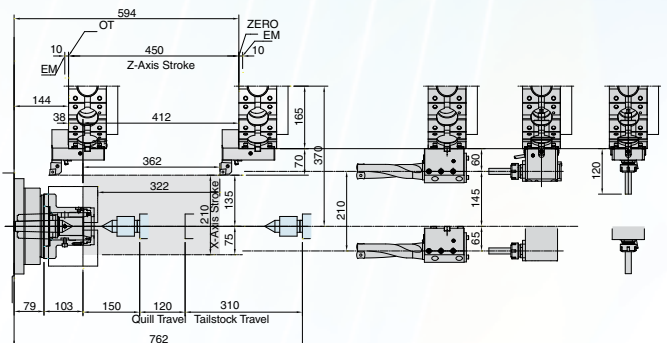
FBL-230MC+BMT55 Tool System Diagram



FBL-230 Machining Area



FBL-230MC Machining Area



FBL-300

Slant-Bed Lathe With Box Ways Structure

The series is designed with its 45-degree slant bed, rigid box ways structure with torque tube design. The machine design is engineered with ease of access and trouble-free maintenance in mind.

The series' structure, ribbed Meehanite cast iron mono-block casting—with hardened and ground hand-scraped slideways, helps resist deflection and vibration during heavy machining and ensures stable end-to-end cutting of long shafts.

The FBL-300 series offers rigidity and accuracy for heavy-duty tough machining on mixed-volume, short-run or dedicated high-volume applications. Operators can depend on the delivery of fast parts machining of bars up to 3" in diameter at speeds up to 2,500 rpm. The X- and Z-axes positioning accuracy is ± 0.0002 "; repeatability is ± 0.0001 ". The lathe features up to a 25 HP, AC digital spindle motor with a two-speed winding, producing up to 454 ft-lb torque at lower rpm.

The fast, 12-position servo-indexing turret offers 0.5-second tool indexing time. The O.D. shank and the boring bar holds up to 1 3/4". The carousel is held by a large curved coupling and clamped by hydraulic pressure.



FBL-300 Series

Swing Over Bed (Z cover): up to 25.7"

Spindle Motor: up to 25 HP

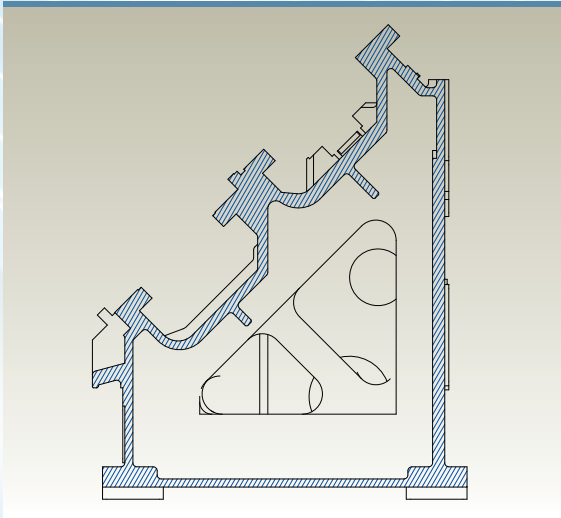
Bar Capacity: up to 3"

Cutting Length: up to 23.5"

Tailstock: Programmable Body Position and Quill

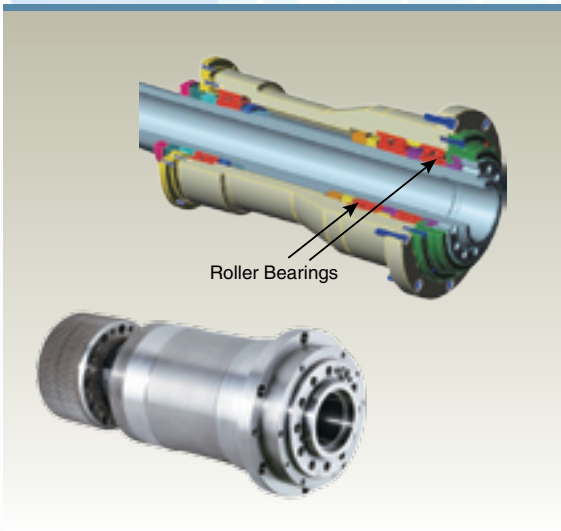
FBL-300 Series

Construction and Features



Robust CNC Slant Bed Lathe

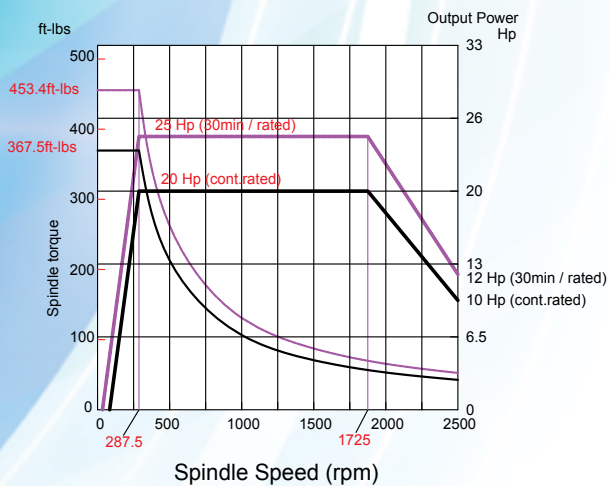
- 45-degree slant bed rigid box ways structure.
- Ribbed Meehanite cast iron mono-blocking casting provides strong support and excellent damping absorption reducing deflection and vibration during heavy machining.



High-Precision Spindle System

- Cartridge design spindle for ease of service life and collet type bearings are used as support for enhanced accuracy.
- Two sets of roller bearings provide stronger support compared to singular roller bearing.

Spindle Torque Chart

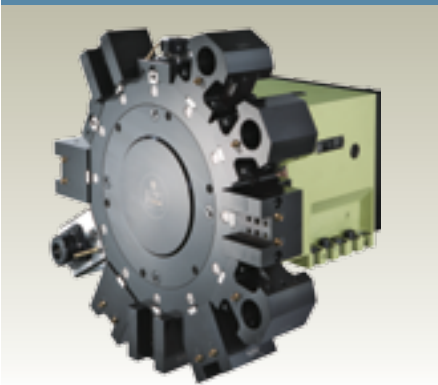


FBL-300 Spindle Torque Diagram



Powerful 12-Station Turret

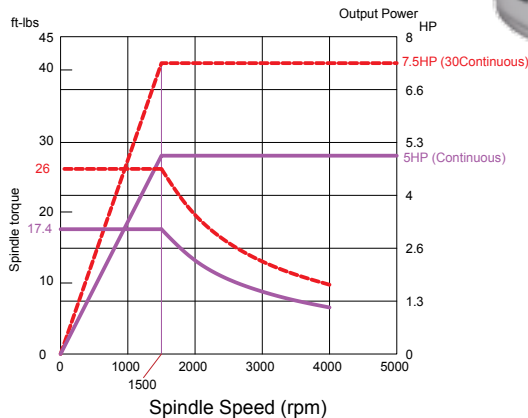
- Fitted with powerful servo indexing turret for heavy-duty machining.
- Fast index time with 0.5 second to next station.
- Indexing is 1.3 second for 180-degrees.



BMT 65 Live Turret

- German made Sauter® 12-station BMT 65 live turret offers smooth and fast indexing time.
- Driven by a big power 7HP, providing ultra high power to meet any difficult milling task, drilling and tapping application.
- Machine includes a heavy-duty curvic coupling that feature a positive from-locking, self-centering, accurate repetition connection.
- Indexing is 1.03 secs. for 180-degrees.

Tooling Torque



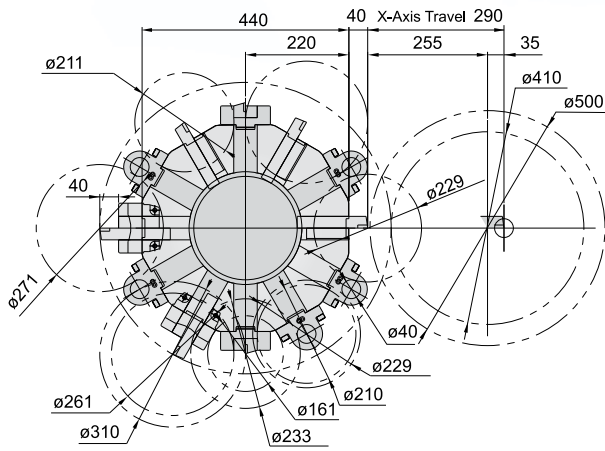
C-axis Machining Area

- The C-axis is capable of 0.001 degree of control.
- Contour machining with the C-axis is also possible, enabling the operator to machine outer shapes and pockets using rotating tools.
- C-axis provides interpolation bidirectional motion at precise speeds and feeds for part positioning and repeatability.
- C-axis is equipped with a disc brake, ensuring improved stability of machining and enabling spindle orientating accuracy.

FBL-300 Work Range

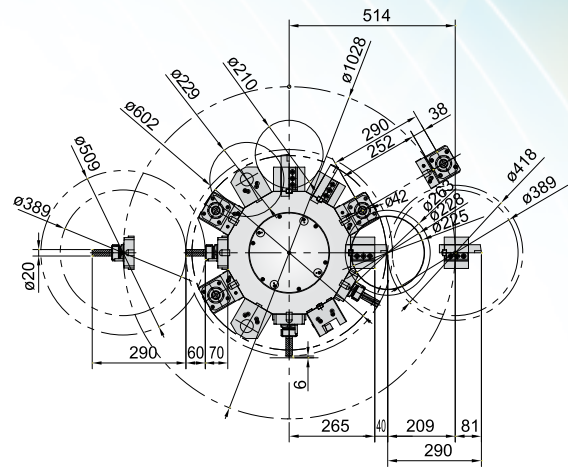
Unit: mm

FBL-300 Tool Interference

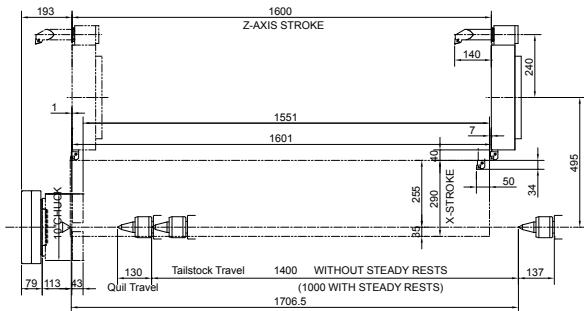


Optional 12 Tools

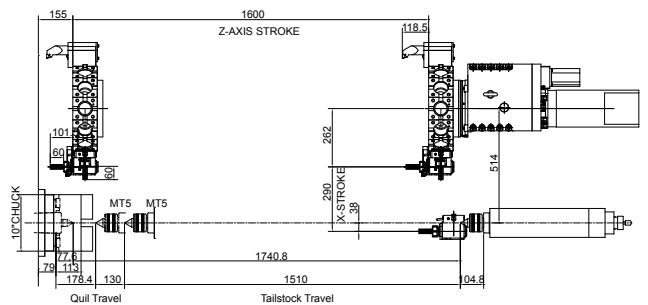
FBL-300MC Tool Interference



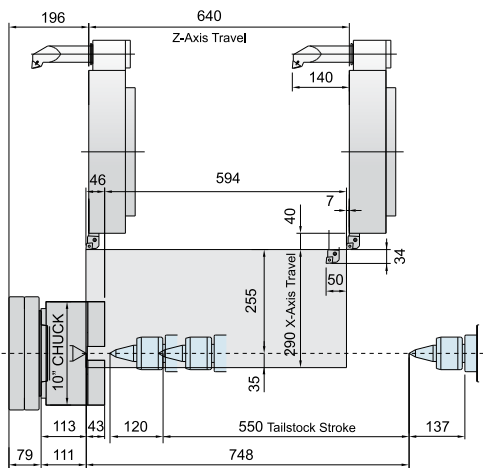
FBL-300L Machining Area



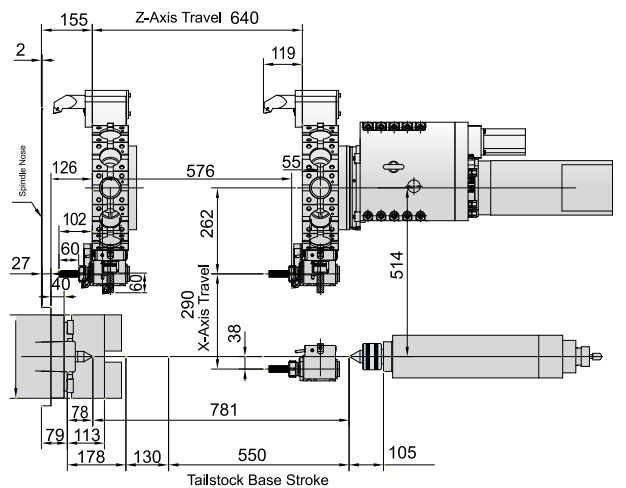
FBL-300LMC Machining Area



FBL-300 Machining Area



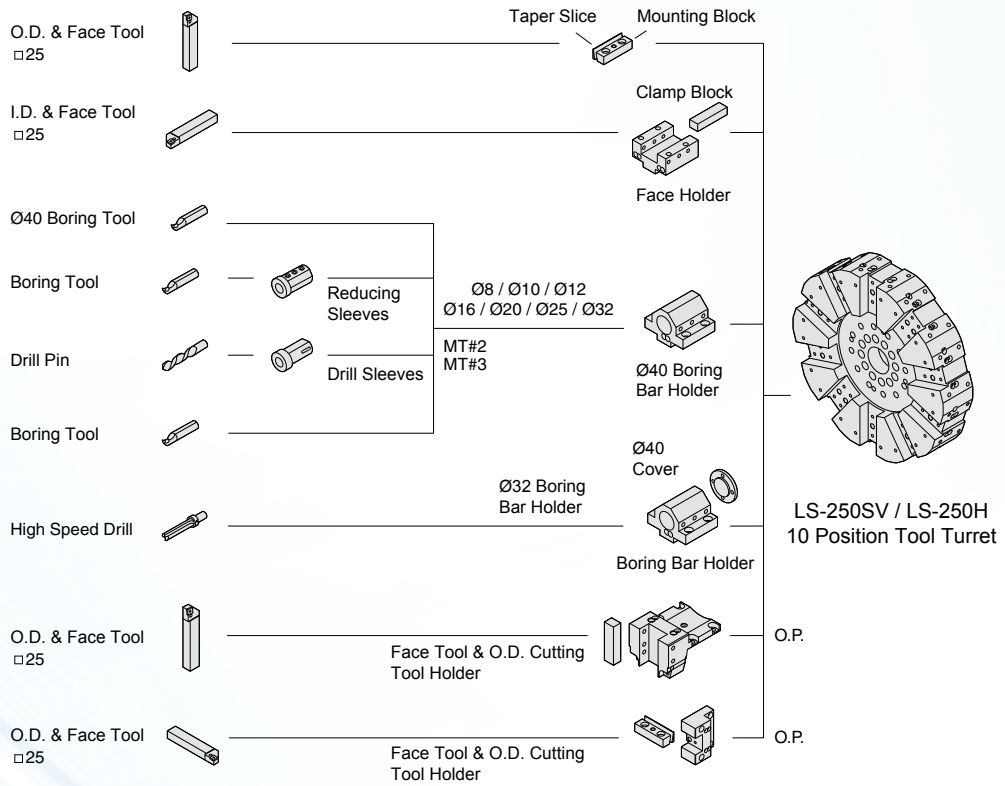
FBL-300MC Machining Area



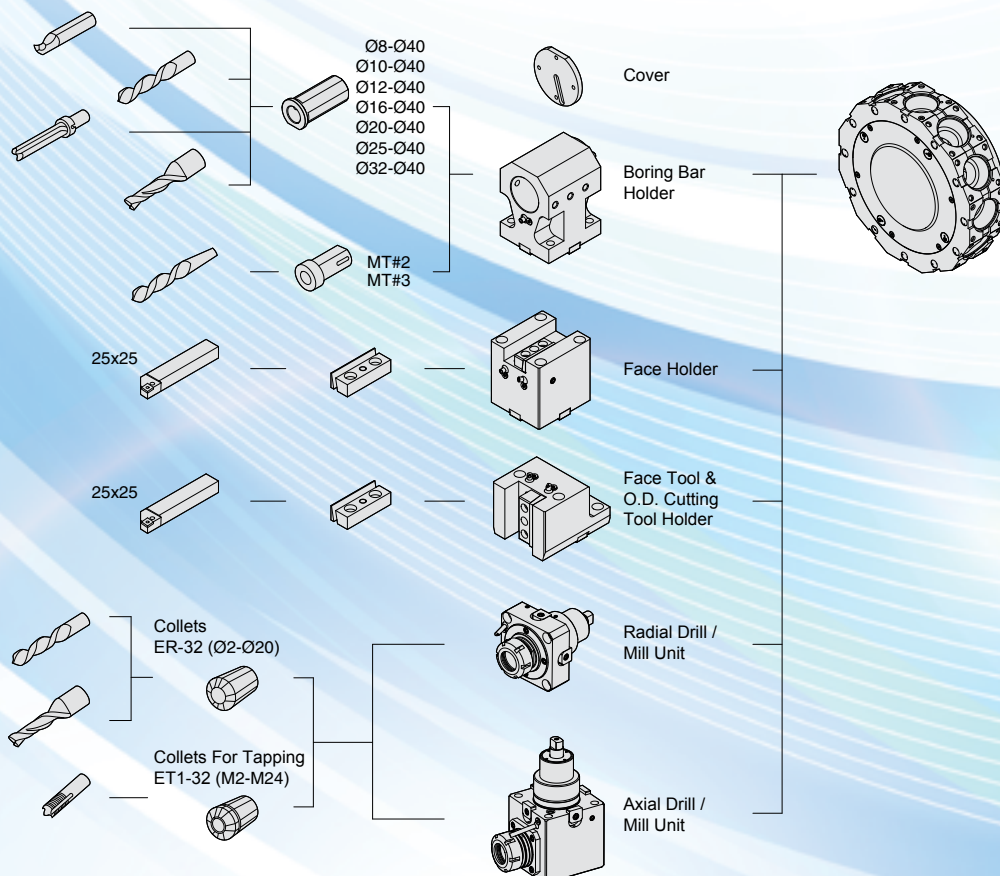
FBL-300 System Diagram

Unit: mm

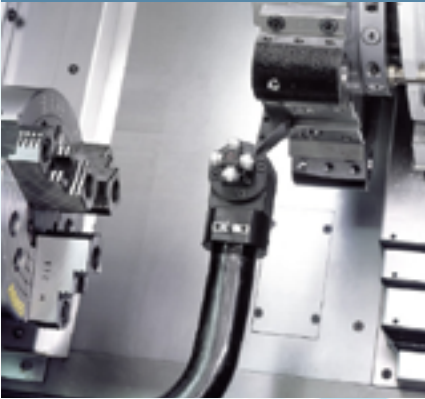
FBL-300 12-station Turning Turret



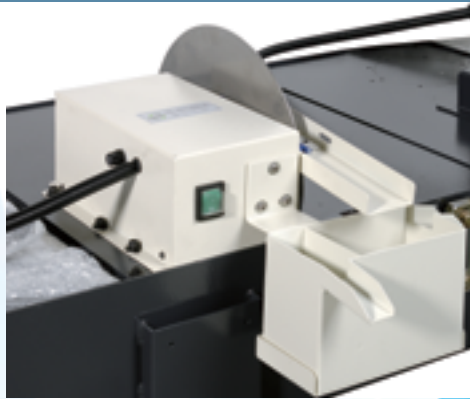
FBL-300 BMT Live Tooling System



FBL-300 Series Standard/Opt. Accessories



Standard Manual Tool Setter
Reduce set-up times and keep non-machining times to a minimum.



Standard Oil Skimmer



Optional C Type Manual Steady Rest



FBL-300 - 3" Bar Material Diameter 10" (12" optional) , Hollow Hydraulic Chuck



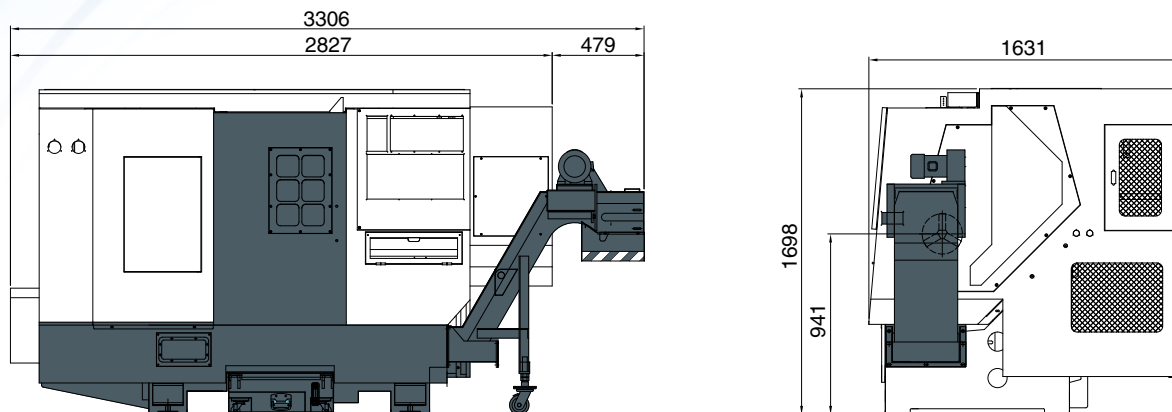
Optional Parts Catcher



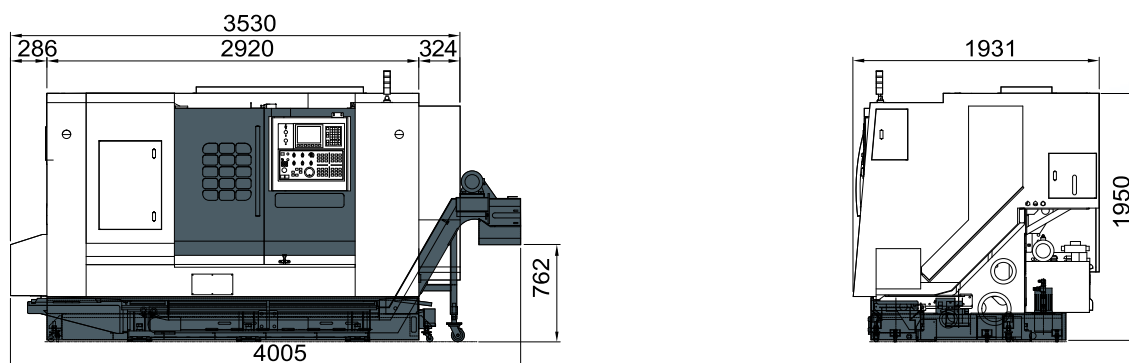
Optional 150psi High-pressure Pump

FBL-230/MC and 300/MC/L/LMC Dimensions Unit: mm

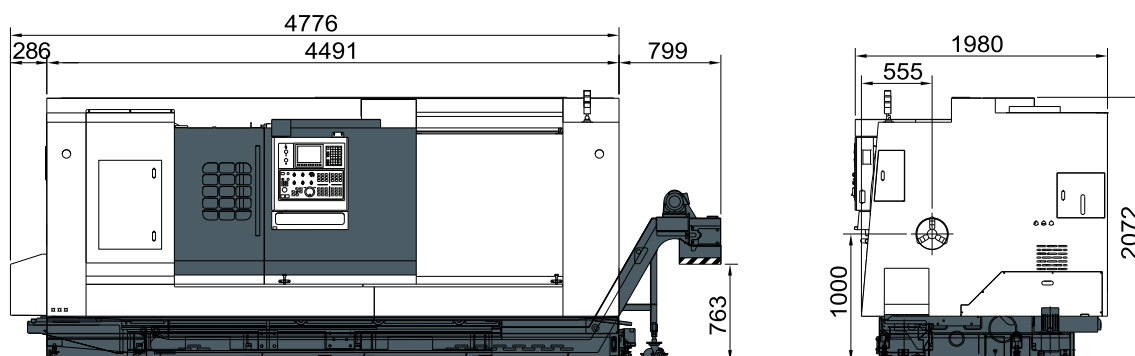
FBL-230/MC



FBL-300/MC



FBL-300/L/LMC



FBL-230 and 300 Series FANUC 0i-TF Control Features

- Simultaneously controllable axes: 8
- Minimum programmable increment: 0.001mm (0.0001")
- 8.4" TFT LCD
- Simply sym servo controlled
- Inch/metric conversion
- Mirror image
- Backlash compensation

Multi-function Touch Screen

Manual Guide i

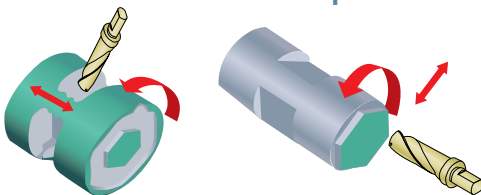


Graphic simulation



Polar Coordinate

Cylindrical Interpolation



Thread repair function



Features

- Control Axis 8
- Simultaneous controlled axis 4
- 8.4" TFT LCD
- Cs-axis control
- Inch/metric conversion
- Over travel
- Store stroke check 1
- Stroke limit check before move
- Chuck and tail stock barrier
- Mirror image
- Chamfering on/off
- Backlash compensation
- Backlash compensation for each rapid traverse and cutting feed
- Stores pitch error compensation
- Position switch

TF controller



FBL-230/MC and 300/MC/L/LMC Dimensions

Description		FBL-230	FBL-230MC	FBL-300	FBL-300MC	FBL-300L	FBL-300LMC
Swing over bed	in/mm	21.6 / 550	21.6 / 550	25.7 / 654	25.7 / 654	25.7 / 654	25.7 / 654
Swing over cover	in/mm	13 / 330	13 / 330	16.4 / 418	16.4 / 418	16.4 / 418	16.4 / 418
Max. cutting diameter	in/mm	12.2 / 311	10.6 / 270	20 / 510	15.4 / 390	20 / 510	15.4 / 390
Max. cutting length	in/mm	17.4 / 443	14.2 / 362	23.4 / 594	21.8 / 554	61.2 / 1554	59.6 / 1514
Distance between centers	in/mm	20 / 507	20 / 507	29.4 / 748	29.4 / 748	67.2 / 1708	67.2 / 1708
Spindle nose	ASA	A2-6	A2-6	A2-8	A2-8	A2-8	A2-8
Chuck size	inch	8	8	10 (12)	10 (12)	10 (12)	10 (12)
Spindle hole diameter	in/mm	3.4 / 62	3.4 / 62	3.5 / 88	3.5 / 88	3.5 / 88	3.5 / 88
Spindle speed	rpm	4000	4000	2500	2500	2500	2500
Spindle motor	Kw	11 / 15	11 / 15	15 / 18.5	15 / 18.5	15 / 18.5	15 / 18.5
Spindle runout	mm	0.003	0.003	0.003	0.003	0.003	0.003
Max. bar material diameter	in/mm	2 / 52	2 / 52	3 / 77	3 / 77	3 / 77	3 / 77
Z axis travel	in/mm	17.7 / 450	17.7 / 450	25.2 / 640	25.2 / 640	63 / 1600	63 / 1600
X axis travel	in/mm	8.2 / 210	8.2 / 210	11.4 / 290	11.4 / 290	11.4 / 290	11.4 / 290
Z axis rapid traverse	M/min	787 ipm (20)	787 ipm (20)	787 ipm (20)	787 ipm (20)	708 ipm (18)	708 ipm (18)
X axis rapid traverse	M/min	787 ipm (20)	787 ipm (20)	787 ipm (20)	787 ipm (20)	708 ipm (18)	708 ipm (18)
Tool system			BMT-55		BMT-65		BMT-65
Number of tools		10 (12)	12	10 (12)	12	10 (12)	12
Turning tool size	in/mm	1x1 / 25x25	1x1 / 25x25	1x1 / 25x25	1x1 / 25x25	1x1 / 25x25	1x1 / 25x25
Boring tool size	in/mm	1 3/4 / 40	1 3/4 / 40	1 3/4 / 40	1 3/4 / 40	1 3/4 / 40	1 3/4 / 40
Tailstock travel	in/mm	12.2 / 310	12.2 / 310	21.7 / 550	21.7 / 550	59.4 / 1510	59.4 / 1510
Quill travel	in/mm	4.7 / 120	4.7 / 120	5.1 / 130	5.1 / 130	5.1 / 130	5.1 / 130
Quill diameter	in/mm	3 / 75	3 / 75	3.5 / 90	3.5 / 90	3.5 / 90	3.5 / 90
Quill taper hole	MT	5	5	5	5	5	5
Quill drive		Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic
Tailstock positioning		Manual	Manual	Manual	Manual	Manual	Manual
Dimensions (L x W x H)	in/M	110x70x70 / 2.8x1.7x1.7	110x70x70 / 2.8x1.7x1.7	135x76x79 / 3.5x1.95x2	135x76x79 / 3.5x1.95x2	185x79x79 / 4.7x2x2	185x79x79 / 4.7x2x2
Machine weight	lb/kg	7700/3500	7700/3500	12760 / 5800	12760 / 5800	9000 / 19800	9000 / 19800

FBL-230/MC and 300/MC/L/LMC Accessories

● Standard ▲ Optional

Description	FBL-230	FBL-230MC	FBL-300	FBL-300MC	FBL-300L	FBL-300LMC
8" Hydraulic chuck	●	●	–	–	–	–
10" Hydraulic chuck	–	–	●	●	●	●
Hard jaws(set)	8" x 1	8" x 1	10" x 1	10" x 1	10" x 1	10" x 1
Soft jaws (set)	8" x 1	8" x 1	10" x 1	10" x 1	10" x 1	10" x 1
Hydraulic turret	●	–	●	–	●	–
Servo turret	▲	●	▲	●	▲	●
Boring bar holder	5	4	5	▲	5	▲
Face holder	2	1	2	▲	2	▲
Tool sleeve (set)	1	1	1	▲	1	▲
O.D. tool holder	–	4	–	▲	–	▲
Coolant system	●	●	●	●	●	●
Moveable coolant tank	●	●	●	●	●	●
1 set leveling bolts and pads	●	●	●	●	●	●
Grease lubrication system	▲	▲	▲	▲	▲	▲
Centralized lubrication system	●	●	●	●	●	●
Work lamp	●	●	●	●	●	●
Foot pedal for hydraulic chuck	●	●	●	●	●	●
Tool kit	●	●	●	●	●	●
Manual	●	●	●	●	●	●
Chip conveyor and bucket	●	●	●	●	●	●
MT5 live center	●	●	●	●	●	●
Programmable tailstock	▲	▲	▲	▲	▲	▲
3 color warning light	▲	▲	▲	▲	▲	▲
High pressure cooler	●	●	●	●	●	●
Parts catcher	▲	▲	–	–	–	–
Manual toolsetting probe	▲	▲	▲	▲	▲	▲
Auto tool setting probe	▲	▲	▲	▲	▲	▲
Oil skimmer	▲	▲	▲	▲	▲	▲
Oil mist collector	▲	▲	▲	▲	▲	▲
Transformer	▲	▲	▲	▲	▲	▲
CE safety accessories	▲	▲	▲	▲	▲	▲
Automatic door (pneumatically driven)	▲	▲	▲	▲	▲	▲
Pedal switch for tailstock	▲	▲	▲	▲	▲	▲
Bar feeder and interface	▲	▲	–	–	–	–
Collet chuck	▲	▲	–	–	–	–
Work blower	▲	▲	▲	▲	▲	▲