



Grinding Machines

Grinding Machines

Turning Machines

Milling Machines

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CHEVALIER®

Grinding / Turning / Milling



FBL-360 • 460 Series
Heavy-Duty Horizontal Turning Lathes

FBL-360 • 460 Series

Slant-Bed Lathe With Box Ways

The series is designed with a 45-degree slant-bed, rigid box ways structure with torque tube design. The machine's new 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-360 and 460 offer 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 4.5" in diameter at speeds up to 2,500rpm (FBL-360) and up to 5.5" in diameter at speeds up to 1,400rpm (FBL-460). The X- and Z-axes positioning accuracy is ± 0.0002 "; repeatability is ± 0.0001 ". The lathe features up to a 50HP, AC digital spindle motor with a two-speed gearbox and 15" hydraulic chuck, producing up to 1,901 ft.-lbs. torque at lower rpm. The fast, 10- or 12-position servo-indexing turret offers 0.5-secs. tool indexing time. The OD shank is 1.25" and the boring bar holds up to 2.5". The carousel is held by a large curved coupling and clamped by hydraulic pressure. Tool setters that help reduce set-up times and keep non-machining times to a minimum are additional assets.



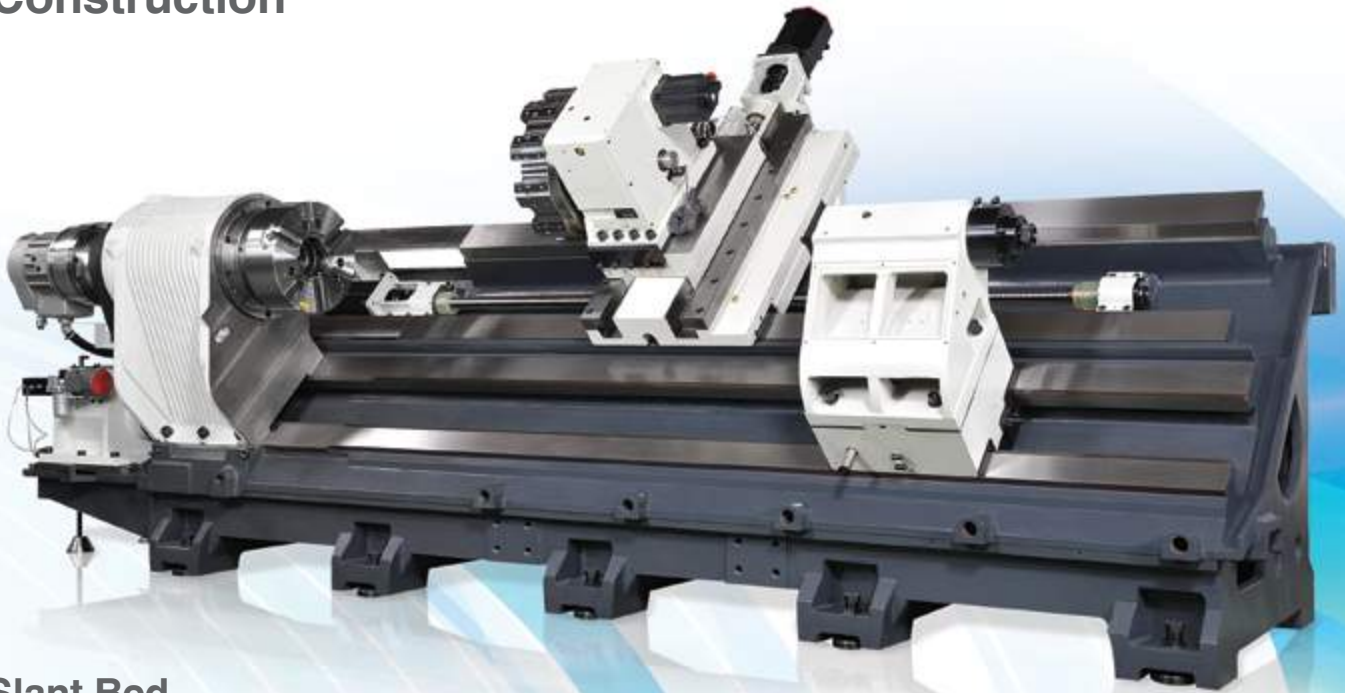
FBL-360 • 460 Series

Swing Over Bed: FBL-360 up to 30.32" and FBL-460 33"
Spindle Motor: up to 50HP
Bar through draw tube: up to 5.5"
Spindle bore: up to 6.3"
Turning Length: up to 78"
Transmission: 2-speed Gearbox
Live Tooling with C-Axis Available

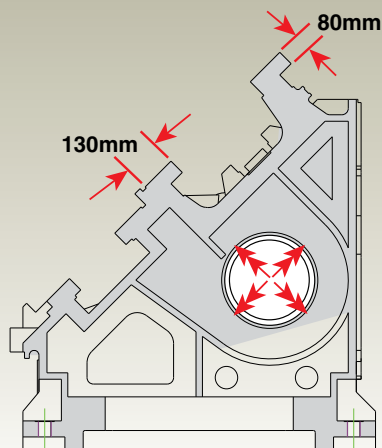


FBL-360 • 460 Series

Construction



Slant Bed



FBL-360L/460L

45-degree slant bed design with torque tube design.

45-Degree Slant Bed One Piece Casting

- Slant bed structure with low center of gravity, easy access and workpiece changeovers. Improved chip removal helps prevent thermal deformation.
- High torque 7118NM at low speeds.
- On-piece thermally balanced bed and casting components, rigid foundation for the headstock, turret and tailstock.
- Torque tube design structure that withstands greater stress without deforming and providing maximum vibration damping.

Structure

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

Capacity

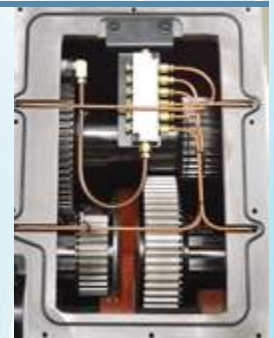
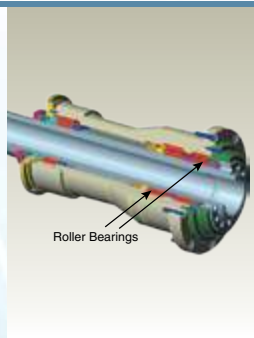
Highly rigid bed design with swing at 1030mm, 1160mm width. The box guide way is 130mm W x 80mm H and maintains highperformance for maximum workpieces at 940mm in diameter. FBL-360 bar capacity is up to 30" and the FBL-460 is up to 33".



Bar capacity and chucking job capacity.

FBL-360 • 460 Series

Spindle and Gearbox



High-Precision Spindle System

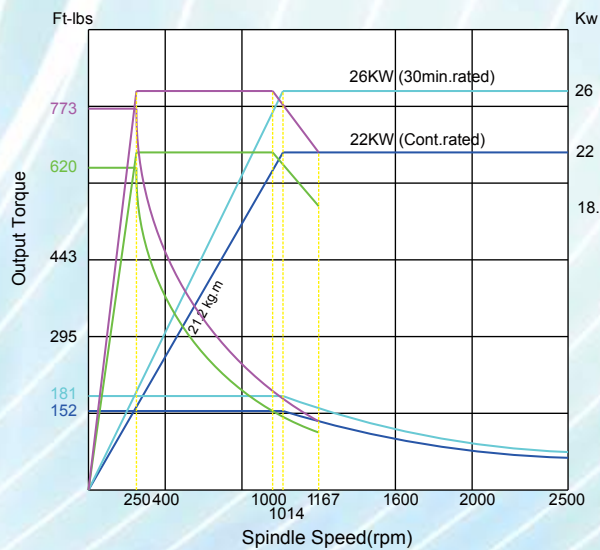
Module design spindle and cylindrical type roller bearings are used as support for enhanced accuracy, service life and stronger for bigger cuts than ball type bearings.

Gearbox

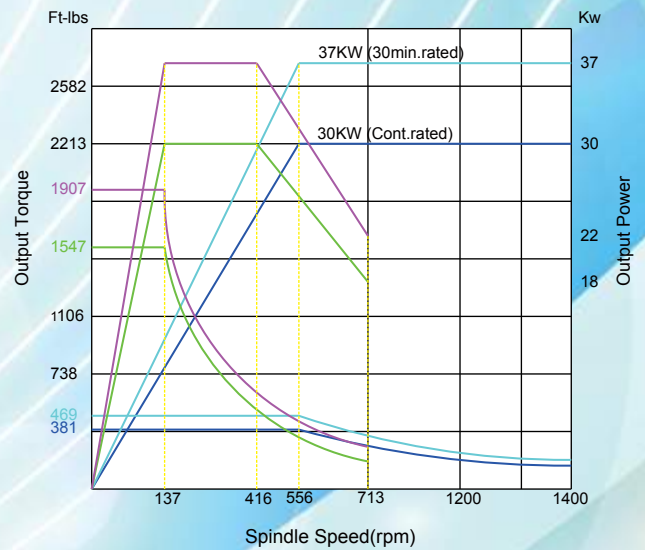
FBL-360 features a standard 35HP and the FBL-460 comes with standard 50HP. The imported pitch type belt grabs solidly without slipping. Out-fitted transmission device produces low-noise and heat transmission for heat radiation. Designed for easy maintenance and adjustment.

Spindle Power

FBL-360 FANUC α22i + Gear Box

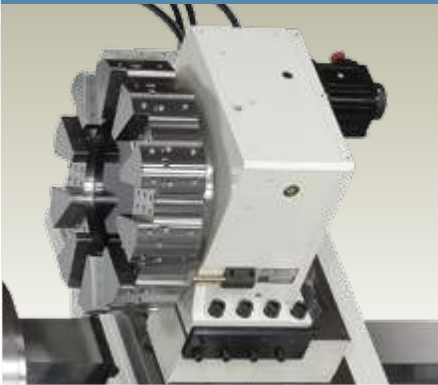


FBL-460 FANUC α30i + Gear Box



FBL-360 • 460 Series

Turret



Powerful 10- or 12-Station Turret

Fitted with powerful servo indexing turret for heavy-duty machining. Structured with rigid mechanical parts to meet strict requirements for machining efficiency.



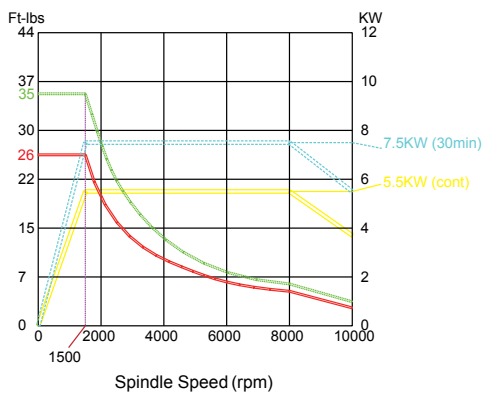
BMT 75 Live Turret

Driven by a big power 7.5/11Kw, providing ultra high power to meet any difficult milling task, drilling and tapping application. Machine includes a heavy-duty Hirth coupling that feature a positive from-locking, self-centering, accurate repetition connection.



Toolig Torque

FBL-360MC FANUC α6/10000i



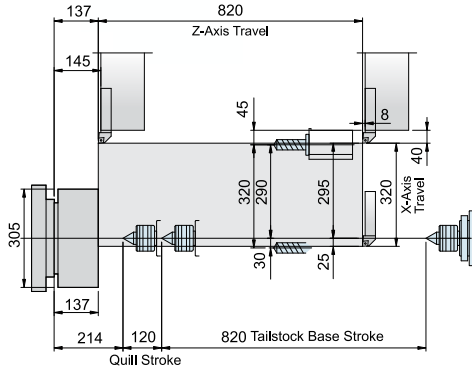
C-axis Machining Area

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.

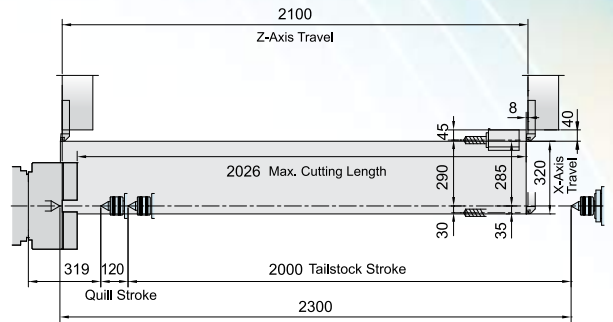
FBL-360 System Diagram

Unit: mm

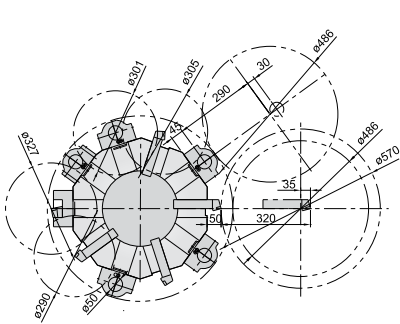
FBL-360 Machining Area



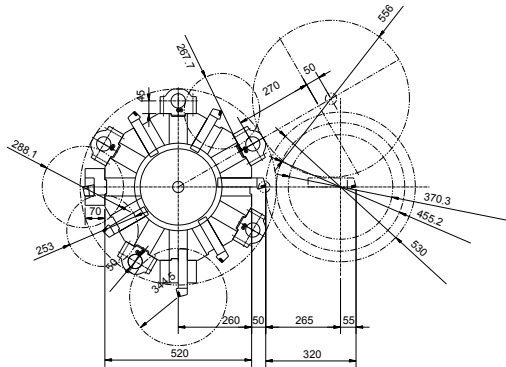
FBL-360L Machining Area



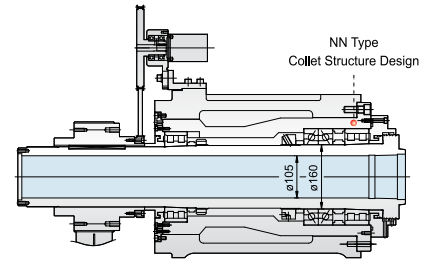
FBL-360 10 Station Tool Interference



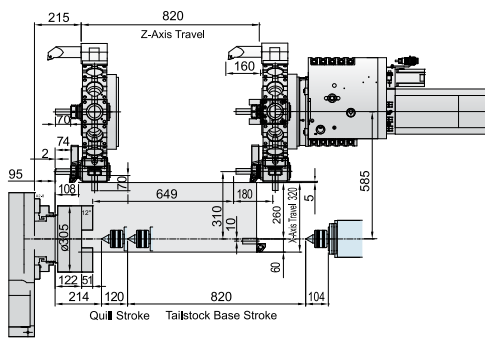
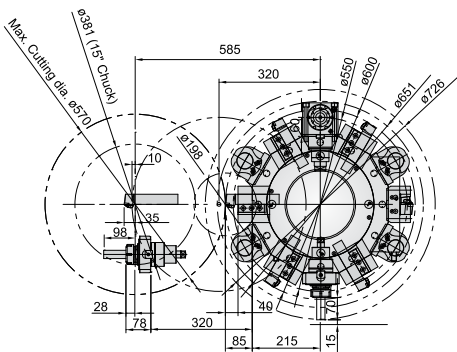
FBL-360 12 Station Tool Interference



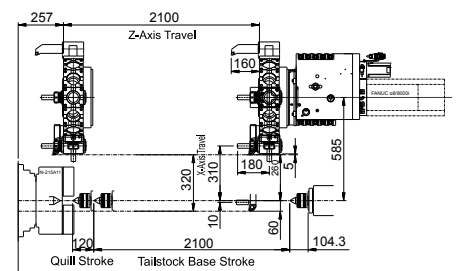
FBL-360 Spindle Structure



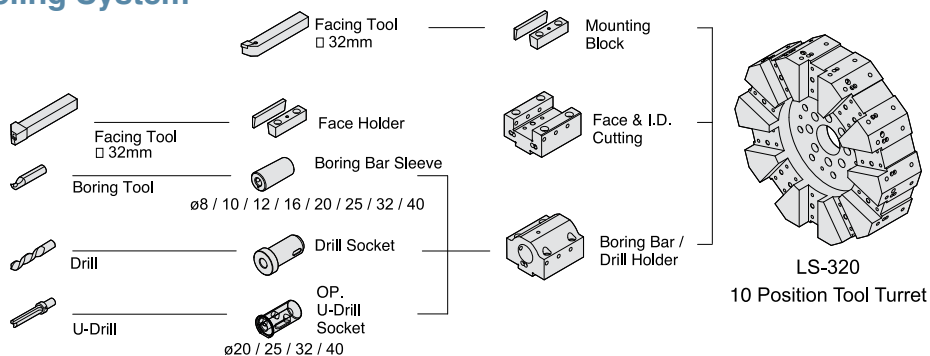
FBL-360MC Live Turret



FBL-360LMC Machining Area



FBL-360 Tooling System

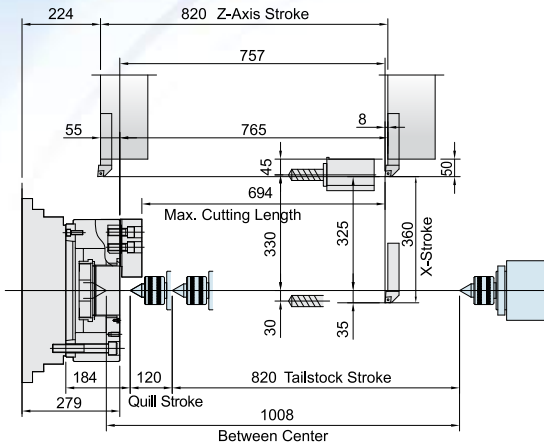


LS-320
10 Position Tool Turret

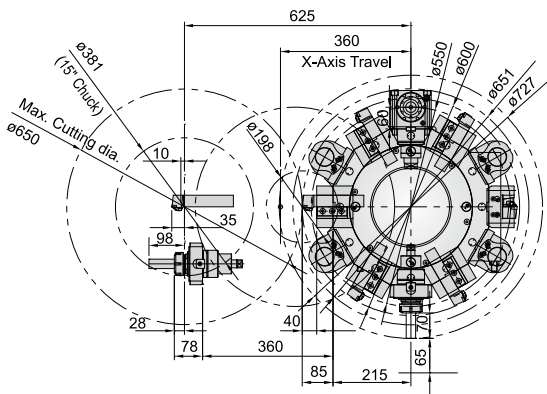
FBL-460 System Diagram

Unit: mm

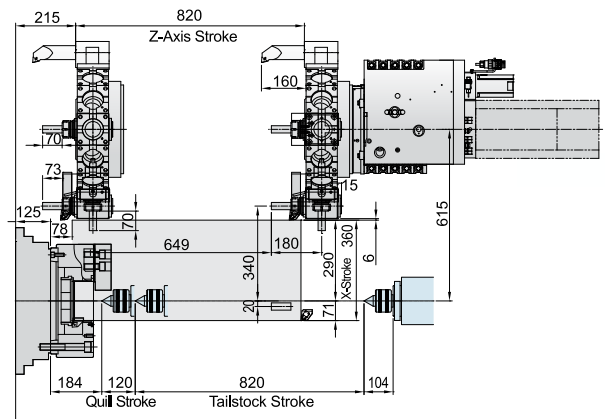
FBL-460 Machining Area



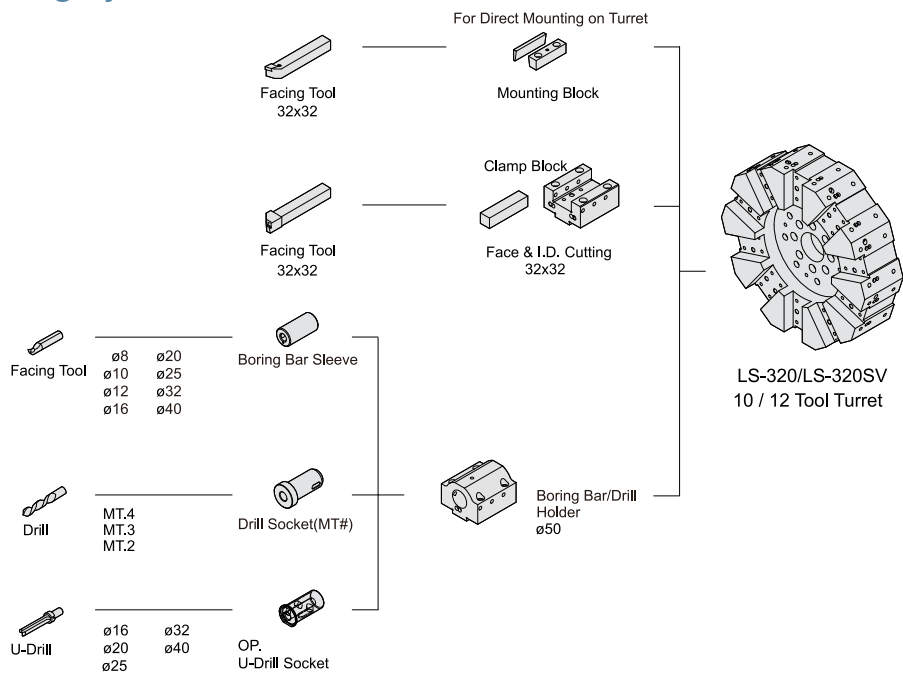
FBL-460MC Live Turret



FBL-460MC Machining Area BMT 75



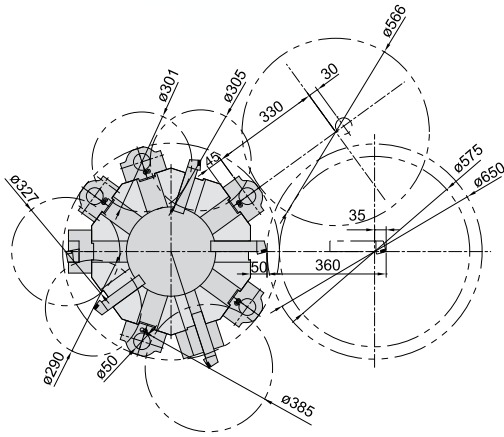
FBL-460MC Tooling System



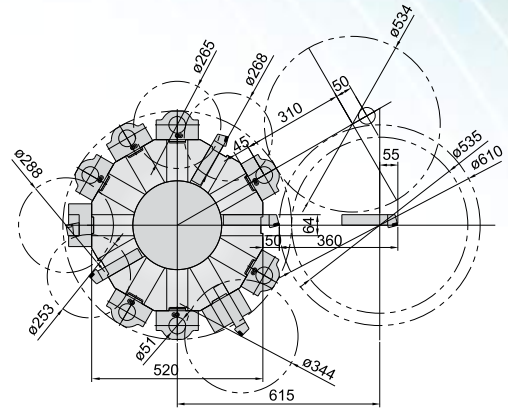
FBL-460 System Diagram

Unit: mm

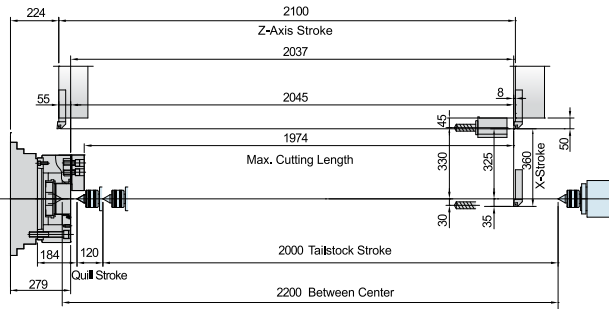
FBL-460 Tool Interference-10T



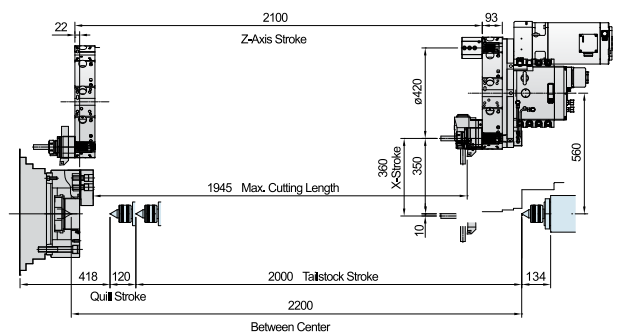
FBL-460 Tool Interference-12T



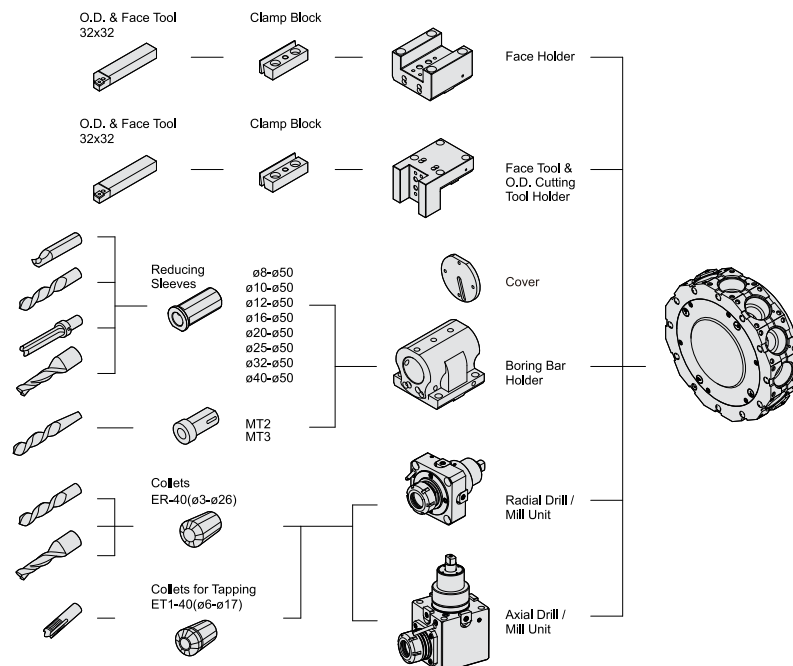
FBL-460L Machining Area



FBL-460LMC Machining Area



FBL-360MC/460MC Tooling System BMT 75



FBL-Series Standard and Optional Accessories



Standard Auto. Tool Setter



Standard Oil Skimmer



Standard Coolant Pump



FBL-360B - 4.5" Bar Material Diameter
15", (18" optional) Hollow Hydraulic Chuck
FBL-460 - 5.5" Bar Capacity
18", (21" optional) Hollow Hydraulic Chuck



Optional C Type Manual Steady Rest



Dual Chuck

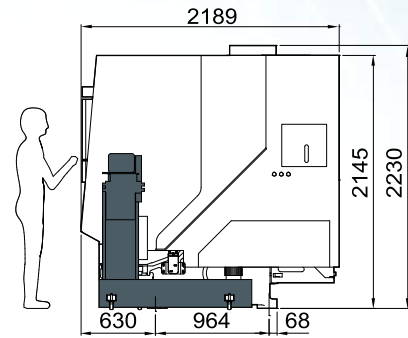
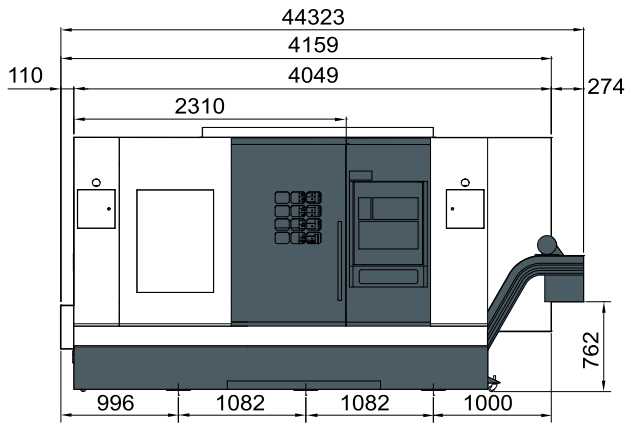


Standard Programmable Tail Stock

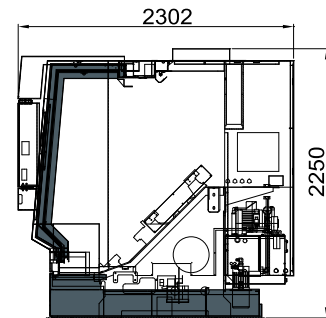
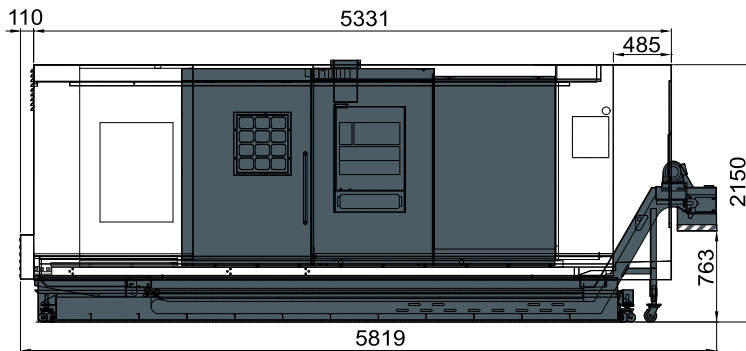
FBL-360 • 460 Dimensions

360 / 460

Unit: mm



360L / 460L



FBL-360 • 460 Series

FANUC 0i-TD Control Features

- Simultaneously controllable axes: 4
- Minimum programmable increment: 0.001mm (0.0001")
- Program storage length: 1280m (512k)
- 8.4" TFT LCD
- Mirror Image
- Backlash Compensation
- Stored Pitch Error Compensation
- Chuck And Tail Stock Barrier

Manual Guide i

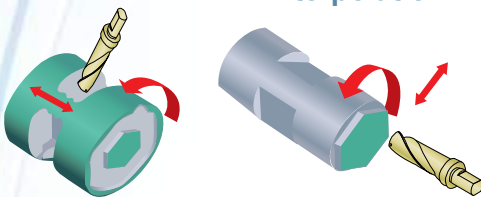


Graphic simulation



Polar Coordinate

Cylindrical Interpolation



Thread repair function



Programming Features

- DNC Operation With Cf Card
- Program and Sequence Number Search
- Dry Run
- Single Block
- JOG Feed
- Manual Reference Position Return
- Skip Function
- Linear and Circular Interpolation
- Helical Interpolation
- Rigid Tapping
- Rotary Axis Roll Over Function
- Coordinate System Settings
- Direct Input Of Coordinate System Shift
- Direct Drawing Dimension Programming
- Canned Cycles For Drilling
- Manual Guide i
- Constant Surface Speed Control
- Part Program Editing
- Background Editing
- Operator Message History Display
- Actual Cutting Feed Rate Display
- Display Of Spindle Speed and T Code at All Screens
- Dynamic Graphic Display
- Data Protection Key



FBL Series

Automation For Productivity



Automation maximizes business productivity and increase production and efficiency in various operations. The process speeds up production and lead time is reduced. The FBL series is the best machine in the market for mixed volume, short-run or dedicated high-volume applications. This is just another example of how Chevalier can adapt automation to existing machine tools to boost productivity. Let us show you how automation can work for you.

FBL-360 • 460 Specifications

Description	FBL-360/B	FBL-360L/BL	FBL-360MC/BMC	FBL-360LMC/BLMC	FBL-460	FBL-460L	FBL-460MC	FBL-460LMC
Controller brand	Fanuc Oi-T							
Swing Over Bed	770 (30.3")		770 (30.3")		840 (33")		840 (33")	
Swing Over Cover	550 (21.6")		550 (21.6")		662 (26")		662 (26")	
Max. Cutting Diameter	570 (22.4")		452 (17.7")		680 (26.7")		650 (25.5")	
Max. Cutting Length	762 (30")	2,026 (79.7")	739 (29")	1,997 (78.6")	760 (30")	2,000 (78.7")	748 (29.5")	2,000 (78.8")
Distance Between Centers	1,020 (40.1")	2,300 (90.5")	1,020 (40.1")	2,300 (90.5")	820 (32")	2,000 (78.7")	820 (32")	2,000 (78.8")
Spindle Nose	A2-8 (12")		A2-8 (12")		A2-15 (15")		A2-15 (15")	
Number Of Tools	10 (Opt. 12)		12		10 (Opt. 12)	12	12	
Max. Spindle Speed	2,500		2,500		1,500		1,400	
Spindle Hole Dia.	105 (4.1") / 134 (5.2")		105 (4.1") / 134 (5.2")		153 (6")		153 (6")	
Spindle Motor	22/26		18.5/22		22/26		22/26	
Max. Bar Material Dia.	91 (3.5") / 115 (4.5")		91 (3.5") / 115 (4.5")		139.7 (5.5")		139.7 (5.5")	
X-Axis Travel	320 (12.5")		320 (12.5")		360 (14")		360 (14")	
Z-Axis Travel	820 (32.2")	2,100 (82.6")	820 (32.2")	2,100 (82.6")	820 (32.2")	2,000 (78.7")	820 (32.2")	2,000 (78.7")
X-Axis Rapid Traverse	787 (20)	708 (18)	787 (20)	708 (18)	708 (18)		708 (18)	
Z-Axis Rapid Traverse	708 (18)	590 (15)	708 (18)	590 (15)	590 (15)		590 (15)	
System Tool	-	-	BMT-75		-	-	BMT-75	
Turning Tool Size	32x32 (1 1/4")		32x32 (1 1/4")		32x32 (1 1/4")		32x32 (1 1/4")	
Boring Bar Size	50 (2")		50 (2")		50 (2")		50 (2")	
Tailstock Travel	820 (32.2")	2,008 (79")	820 (32.2")	2,000 (78.7")	820 (32.2")	2,000 (79")	820 (32.2")	2,000 (79")
Quill Travel	120 (4.7")		120 (4.7")		120 (4.7")		120 (4.7")	
Quill Diameter	110 (4.3")		110 (4.3")		110 (4.3")		110 (4.3")	
Quill Taer Hole	5		5		5		5	
Quill Drive	Hydraulic		Hydraulic		Hydraulic		Hydraulic	
Tailstock Positioning	Programmable		Programmable		Programmable		Programmable	
Dimensions (LxWxH)	4.4x2.1x2.2 (173.2"x82.6"x86.6")	5.8x2.2x2.2 (228.3"x86.6"x86.6")	4.4x2.1x2.2 (173.2"x82.6"x86.6")	5.8x2.2x2.2 (228.3"x86.6"x86.6")	4.4x2.1x2.2 (173.2"x82.6"x86.6")	5.8x2.2x2.2 (228.3"x86.6"x86.6")	4.4x2.1x2.2 (173.2"x82.6"x86.6")	5.8x2.2x2.2 (228.3"x86.6"x86.6")
Machine Weight	8,880 (18,577)	12,760 (28,131)	8,880 (18,577)	12,760 (28,131)	9,500 (20,944)	13,500 (29,762)	9,500 (20,944)	13,500 (29,762)

FBL-360 • 460 Accessories

● Standard ▲ Optional

Description	FBL-360	FBL-360MC	FBL-360L	FBL-360LMC/BLMC	FBL-460	FBL-460MC	FBL-460L	FBL-460LMC/BLMC
12" Hydraulic Chuck	●	●	●	●	–	–	–	–
15" Hydraulic Chuck	–	–	–	–	●	●	●	●
Hard Jaws (Set)	12" x 1	12" x 1	12" x 1	12" x 1	15" x 1	15" x 1	15" x 1	15" x 1
Soft Jaws (Set)	12" x 1	12" x 1	12" x 1	12" x 1	15" x 1	15" x 1	15" x 1	15" x 1
Hydraulic Turret	▲	–	▲	–	▲	–	▲	–
Servo Turret	●	●	●	●	●	●	●	●
Boring Bar Holder	5	●	5	●	5	●	5	●
Face Holder	2	●	2	●	2	●	2	●
Tool Sleeve (Set)	1	●	1	●	1	●	1	●
OD Tool Holder	–	●	–	●	–	●	–	●
Coolant System	●	●	●	●	●	●	●	●
Moveable Coolant Tank	●	●	●	●	●	●	●	●
1 Set Leveling Bolts & 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 Tail Stock	●	●	●	●	●	●	●	●
3 Color Warning Lights	●	●	●	●	●	●	●	●
High Pressure Cooler	●	●	●	●	●	●	●	●
2-step Gear Box	●	–	●	–	●	–	●	–
Parts Catcher	–	–	–	–	–	–	–	–
Manual Tool Setting 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	▲	▲	▲	▲	▲	▲	▲	▲