

# Heavy Duty CNC Lathe

FBL-510/520/530/540 MC Series



## Contents

01

Designed for Easy and Convenient Operations

02

Controller

03

Structure and Components

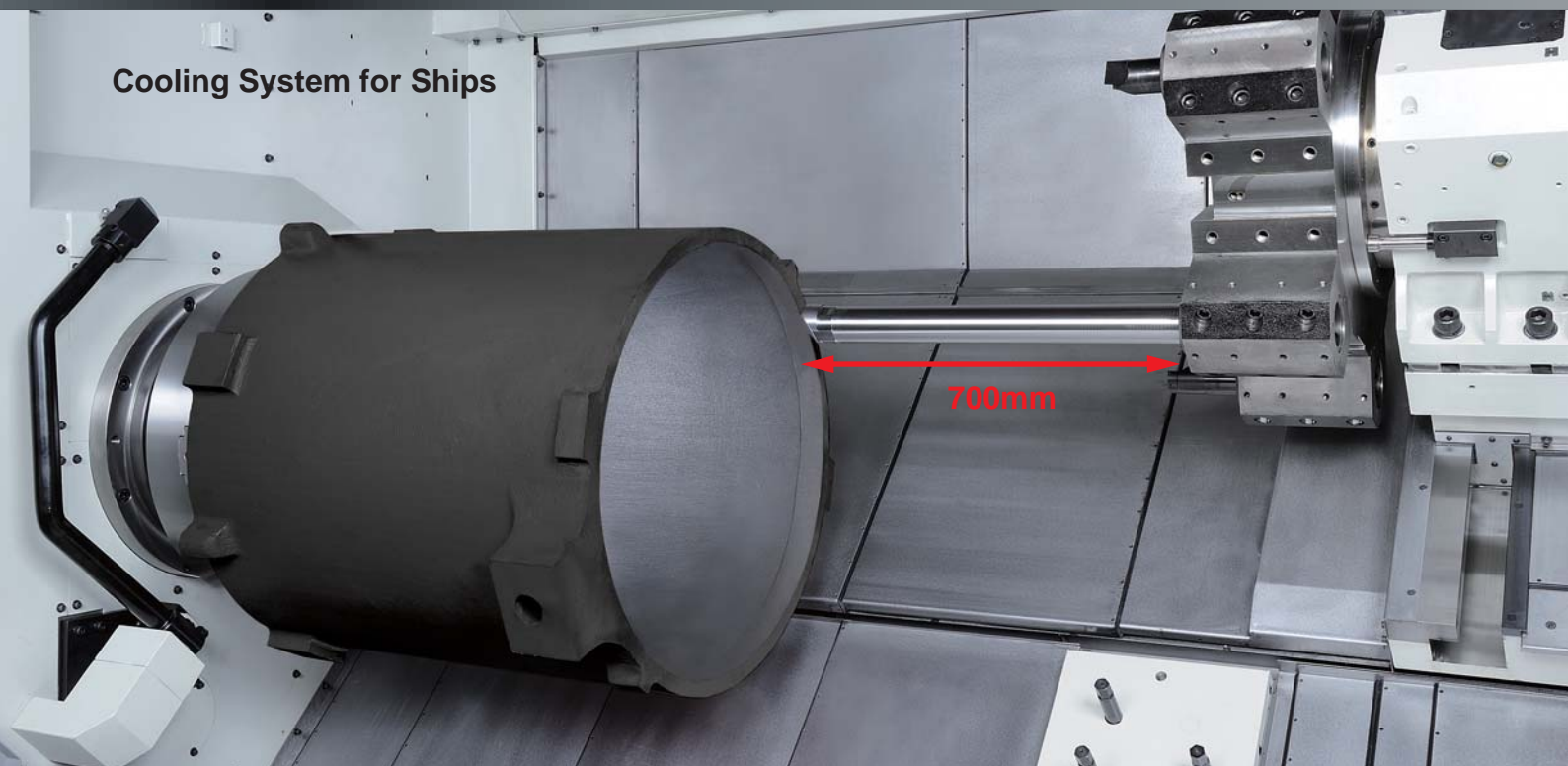
05

Application

06

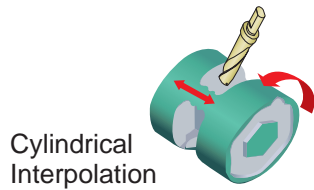
Optional Accessories

Cooling System for Ships

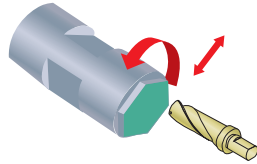


# Controller

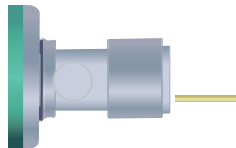
## FANUC



Cylindrical Interpolation



Polar Coordinate Interpolation



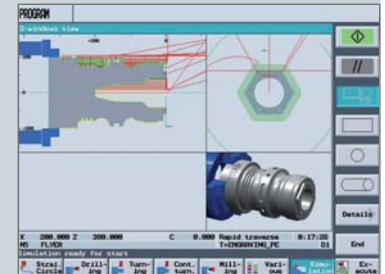
**Manual Guide i (Opt.)**  
Conversational editing with 3D simulation available.

## SIEMENS



Uses a 10.4" screen for easy operation. Optional Shop Turn function with integrated operating system. Finish programming without having to use G code.

- 2 window view dynamic simulation
- 3D finished part simulation (Opt.)
- 3D section view (Opt.)



**07**  
Tooling System

**08**  
System Diagram

**09**  
Specifications

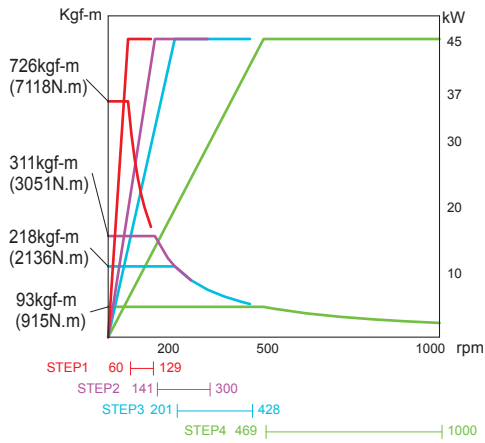
**10**  
Standard & Optional Accessories

The concave spindle guard prevents any tool interference.

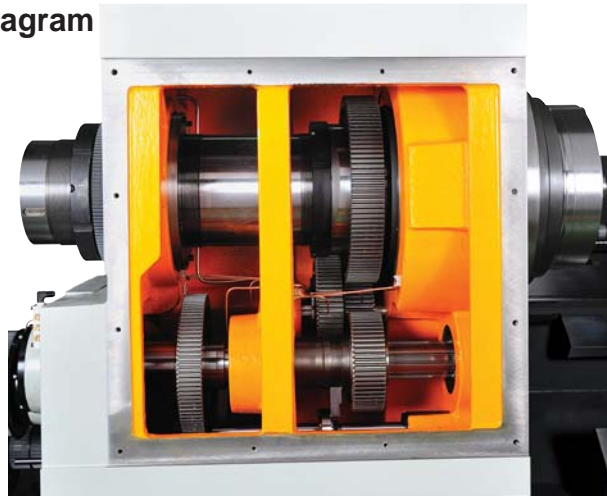
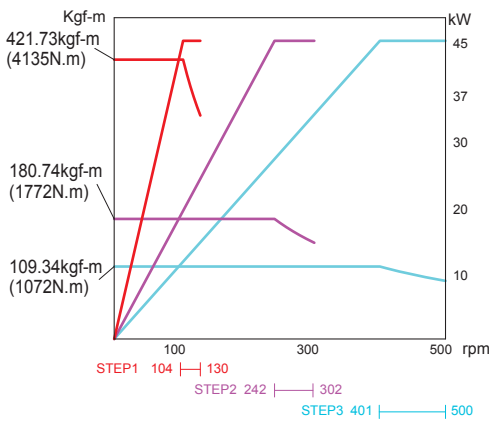
The easy to operate control box makes motion control of the linear guides convenient and almost effortless.

## FBL-510/520/530/540 Spindle Torque Diagram

196mm Capacity



320mm Capacity



Powerful 4 stage spindle gear box provides 45kW horsepower available for large diameter workpieces and heavy duty cutting. Spindle hole diameter  $\varnothing 196\text{mm}$  suits numerous bar sizes. Double row roller bearing increases stability and rigidity for heavy cutting.

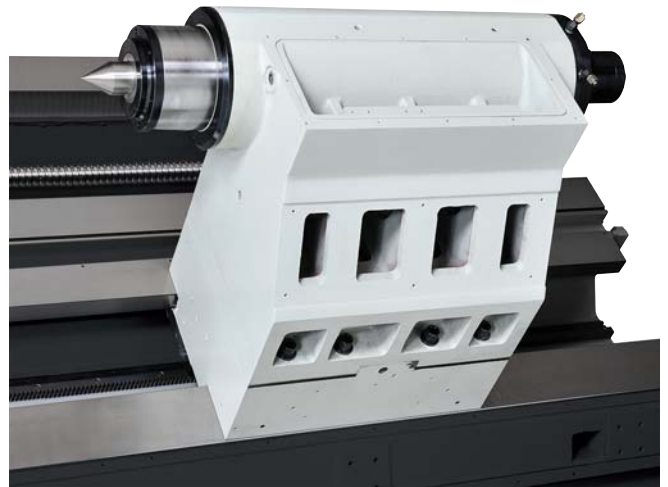
**Diameter 320mm opt.**



## Structure and Components



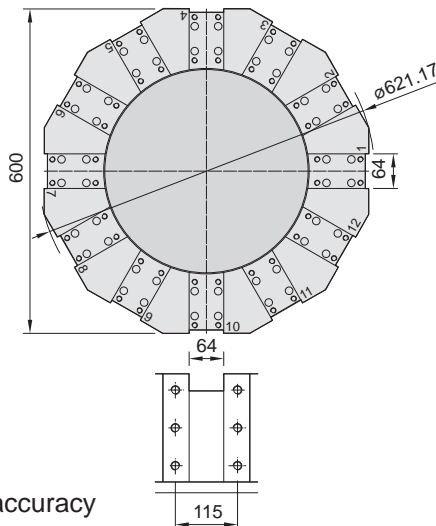
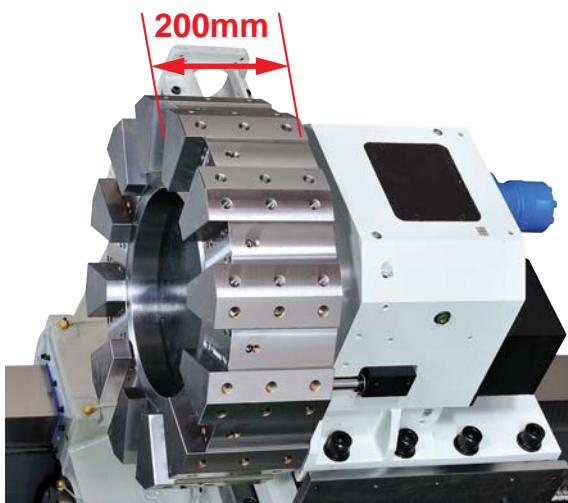
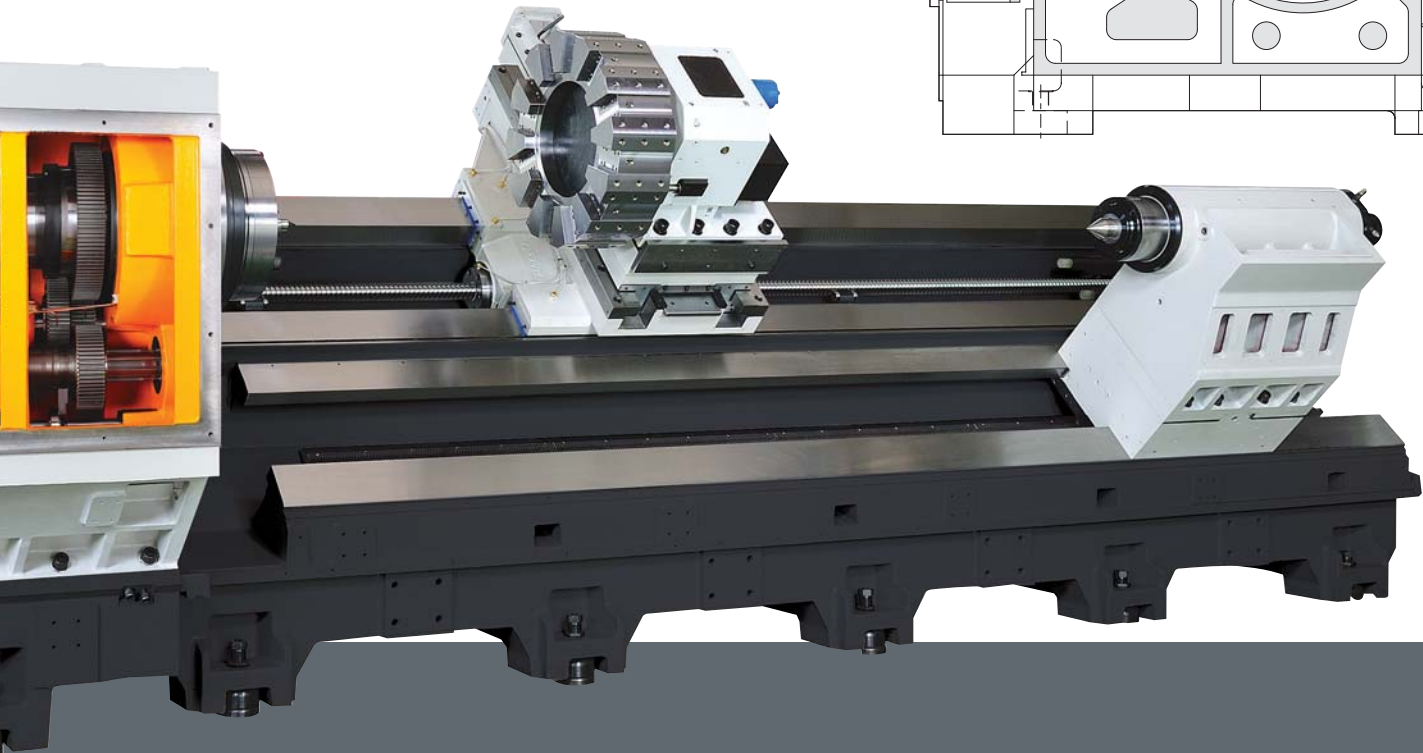
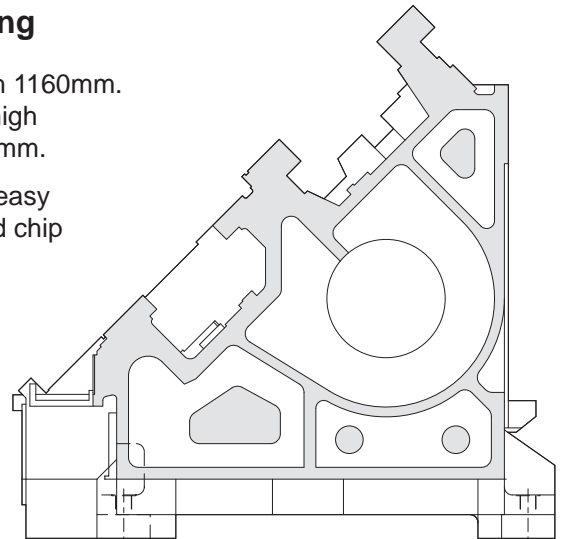
FBL-530/540 Z axis ball screw support maintains high precision and stability.



Standard MT6 rotary quill. Increases rigidity for heavy loading and makes optional live centers unnecessary. Upgraded  $\varnothing 200\text{mm}$  quill offers heavy loading. Hydraulically driven tailstock improves machining efficiency.

## 45 Degree Slant Bed One Piece Casting

- High rigidity bed design, swing 1030mm, width 1160mm. Box guideway width 130mm x height 80mm, high performance for max workpiece diameter 940mm.
- 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.



Curved teeth clutch ensures tool turret clamping accuracy and stability. 200mm thick turret disc delivers stable support and reduced vibration. Optional  $\varnothing 80$ mm boring bar holder available.



Optional BMT85 power tool turret available for remarkably improved rigidity and comes with 11kW (15hp) milling motor.

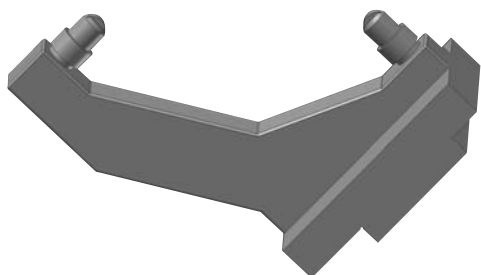
# Application



## Oil Field



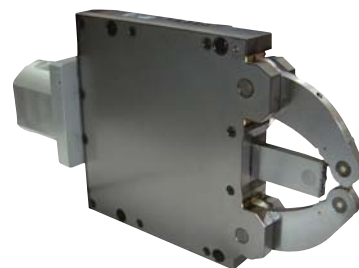
# Optional Accessories



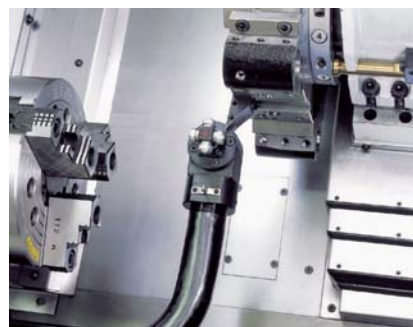
**C Type Manual Steady Rest**  
Max range 700mm (customized)



**Manual Steady Rest**  
Cutting range 240~400mm



**Hydraulic Steady Rest**  
ø30~245mm  
ø45~310mm  
ø85~350mm



**Manual Tool Setter**

**18", 21", 24" Solid Hydraulic Chuck**

**18", 20", 21", 24" Hollow Hydraulic Chuck**  
(Capacity ø115, ø165, ø205mm)

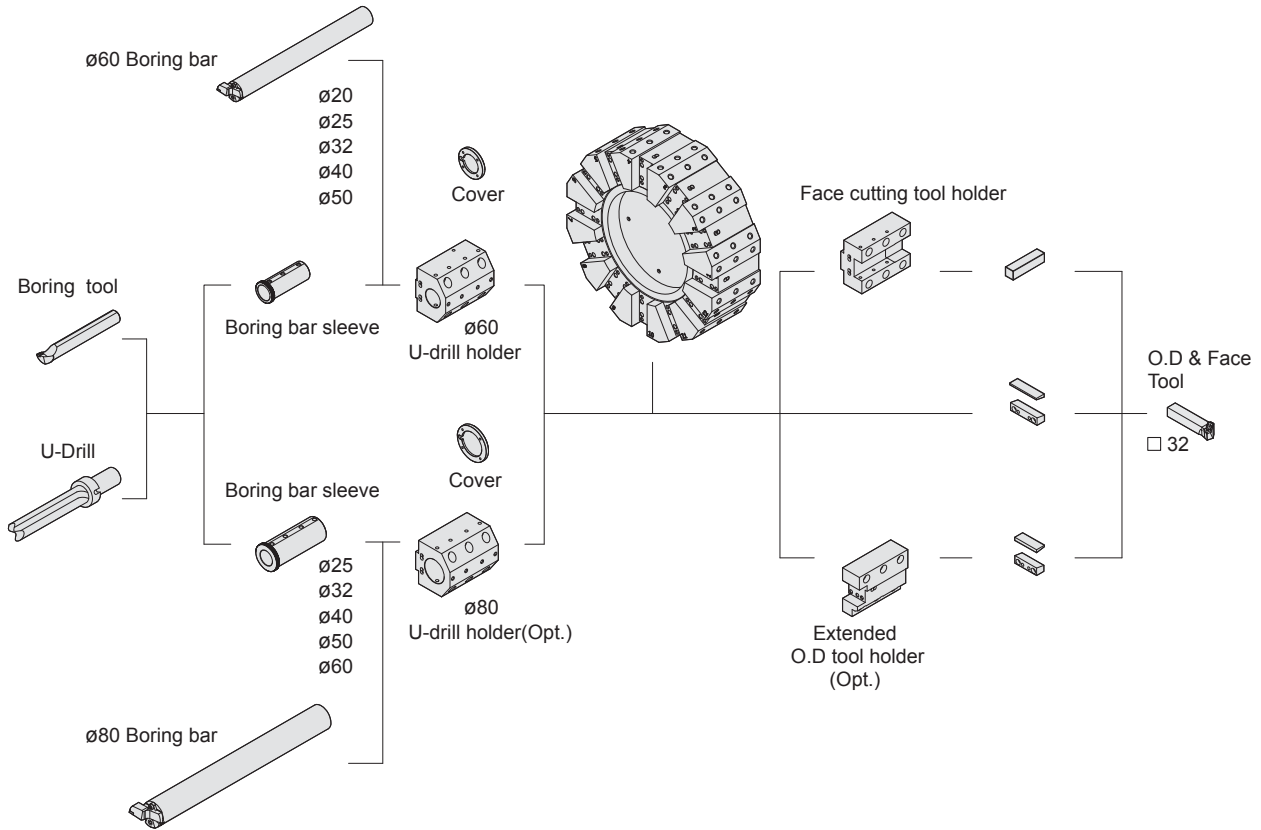
**24", 26", 28", 32" Independent 3 or 4 Jaw Chuck**



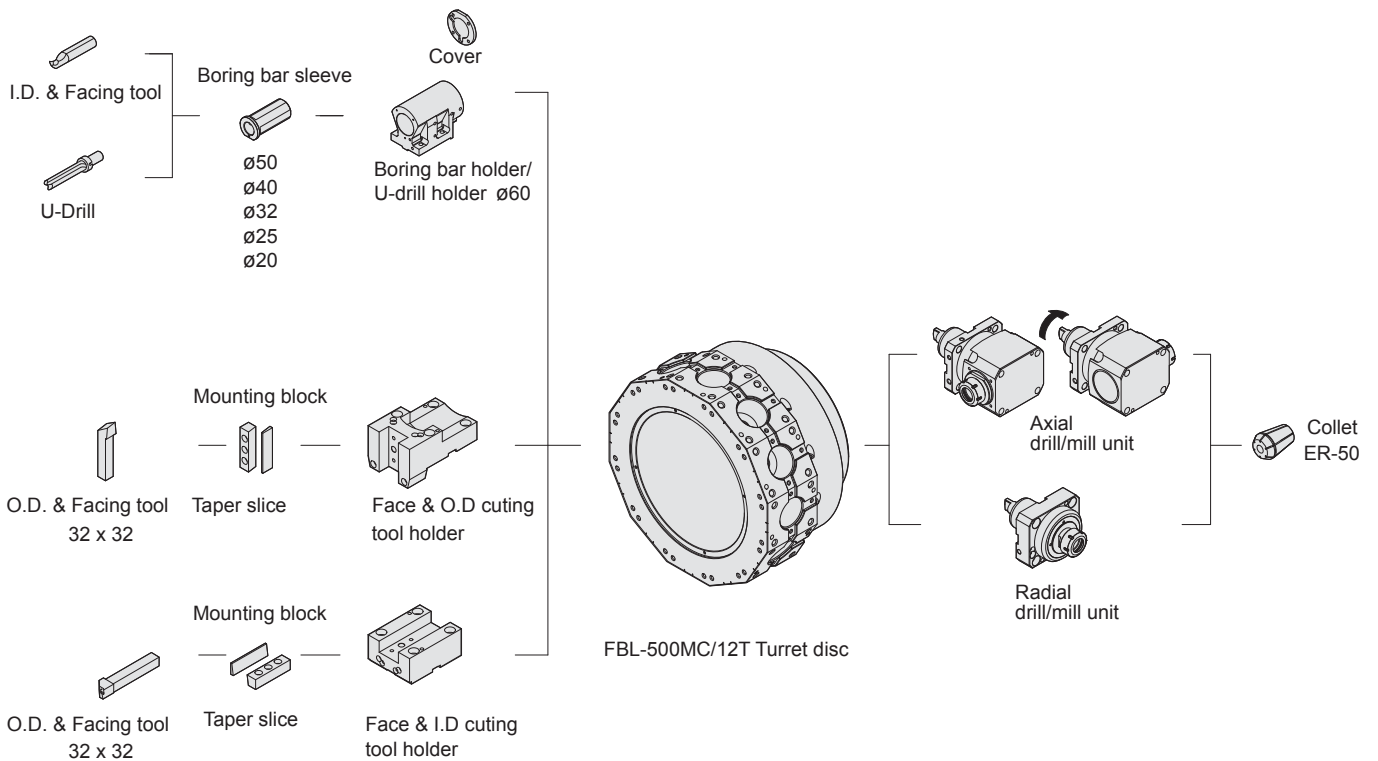
# Tooling System

Unit: mm

## FBL-510/520/530/540



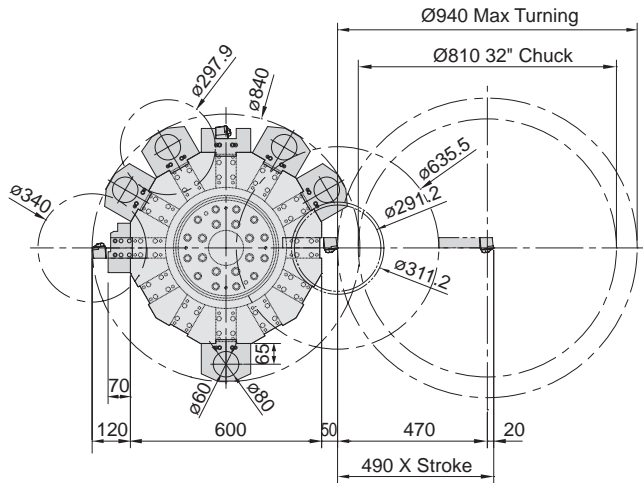
## FBL-510/520/530/540MC



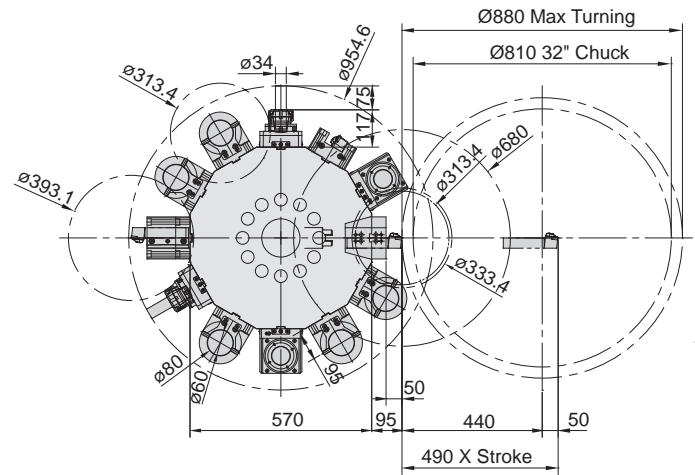
# System Diagram

Unit: mm

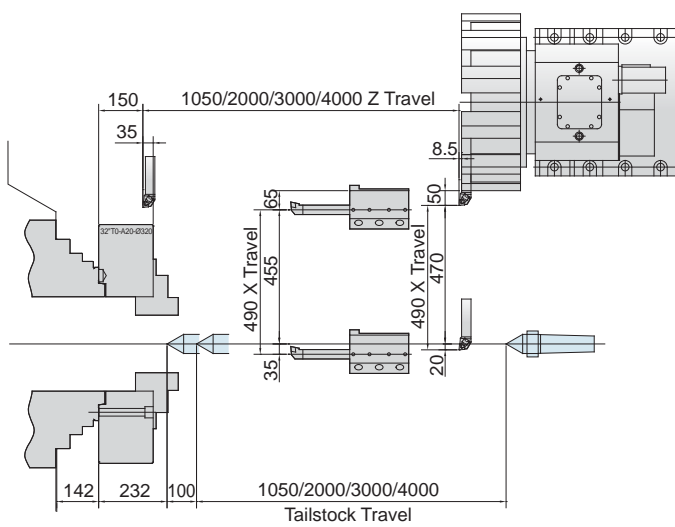
## FBL-510/520/530/540 Tool Interference



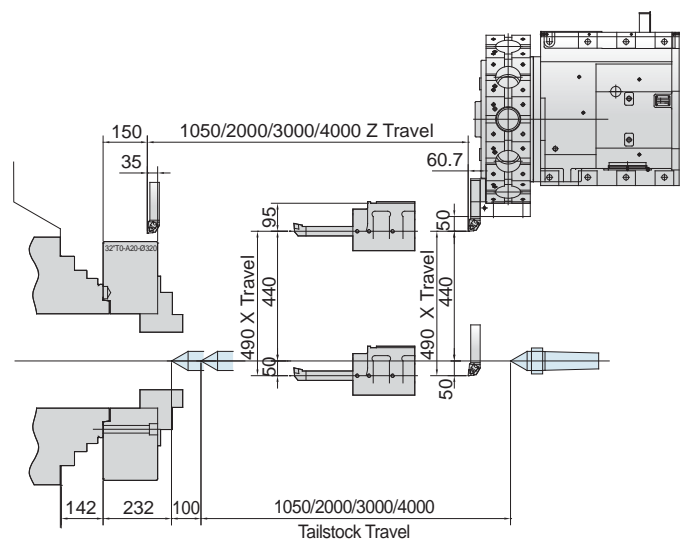
## FBL-510/520/530/540MC Tool Interference



## FBL-510/520/530/540 Machining Area



## FBL-510/520/530/540MC Machining Area





# Specifications

MODEL		FBL-510	FBL-520	FBL-530	FBL-540	FBL-510MC	FBL-520MC	FBL-530MC	FBL-540MC
Control		FANUC 0i-TD $\alpha$ 40/ $\alpha$ 30B/ $\alpha$ 30							
<b>Turning range</b>									
Swing over bed	mm	$\phi$ 1136	$\phi$ 1000			$\phi$ 1136	$\phi$ 1000		
Swing over cross slide	mm	$\phi$ 816	$\phi$ 800			$\phi$ 816	$\phi$ 800		
Max turning diameter	mm	$\phi$ 940	$\phi$ 940			$\phi$ 880	$\phi$ 880		
Max turning length	mm	1050	2000	3000	4000	1050	2000	3000	4000
Standard turning diameter	mm	$\phi$ 60= $\phi$ 311 ( $\phi$ 80=291 opt.)				$\phi$ 60= $\phi$ 333 ( $\phi$ 80=313 opt.)			
Distance between centers	mm	1050	2000	3000	4000	1050	2000	3000	4000
Bar capacity	mm(inch)	$\phi$ 165 (6")							
<b>Headstock</b>									
Spindle nose		A2-15 / A2-20 ( $\phi$ 320 opt.)							
Chuck diameter	inch	18"~24"							
Through spindle hole diameter	mm (inch)	$\phi$ 196 (7.5") / $\phi$ 320 (12.5") opt.							
Spindle speed	step	4 step / 3 step ( $\phi$ 320 opt.)							
Max spindle speed	rpm	$\phi$ 196 1000rpm / $\phi$ 320 500rpm							
Spindle motor	kW	37 / 45 ( $\alpha$ 40 / 6000)							
Maximum CF axis speed	rpm	N/A				33			
<b>Turret</b>									
Turret tool station	tools	12							
Shank height of square tool	mm	32 x 32							
Shank diameter of boring bar	mm	$\phi$ 60 ( $\phi$ 80 opt.)							
<b>Travel</b>									
X axis travel	mm	490							
Z axis travel	mm	1050	2000	3000	4000	1050	2000	3000	4000
Feed motor X axis	kW	9							
Feed motor Z axis	kW	9							
Rapid feed rate X / Z axis	m/min	X: 10 / Z: 12							
<b>Tailstock</b>									
Tailstock travel (Without steady rest)	mm	1050	2000	3000	4000	1050	2000	3000	4000
Quill travel	mm	100							
Quill diameter	mm	$\phi$ 200							
Quill taper	rotary	MT#6 rotary quill							
Slideway slant	degree	45°							
Coolant pump	kW	STD: MTH4-30 / 3A (L/min , 3kg / cm <sup>2</sup> ) OPT: SPK4-8 (67L/min , 5kg / cm <sup>2</sup> )							
Machine weight	kg	15000	19000	23000	27000	15000	19000	23000	27000

■ Specifications are subject to change without notice.

# Standard & Optional Accessories

● Standard △ Optional

MODEL	FBL-510	FBL-520	FBL-530	FBL-540	FBL-510MC	FBL-520MC	FBL-530MC	FBL-540MC
Hydraulic turret	●	●	●	●	-	-	-	-
Servo turret	△	△	△	△	-	-	-	-
BMT85 power turret	-	-	-	-	●	●	●	●
Boring bar holder	4	4	4	4	4	4	4	4
Face holder	1	1	1	1	1	1	1	1
Tool sleeve (set)	1	1	1	1	1	1	1	1
O.D. tool holder	-	-	-	-	1	1	1	1
O.D. tool holder (extended)	△	△	△	△	△	△	△	△
Radial power tooling holder	-	-	-	-	△	△	△	△
Axial power tooling holder	-	-	-	-	△	△	△	△
Coolant system	●	●	●	●	●	●	●	●
Moveable coolant tank	●	●	●	●	●	●	●	●
1 set leveling bolts and pads	●	●	●	●	●	●	●	●
Centralized lubrication system	●	●	●	●	●	●	●	●
Work lamp	●	●	●	●	●	●	●	●
Foot pedal for hydraulic chuck	●	●	●	●	●	●	●	●
Tool kit	●	●	●	●	●	●	●	●
Manual	●	●	●	●	●	●	●	●
Chip conveyor and bucket	●	●	●	●	●	●	●	●
MT 6 rotate center	●	●	●	●	●	●	●	●
Programmable tailstock	●	●	●	●	●	●	●	●
3 color warning light	●	●	●	●	●	●	●	●
Manual Guide 0i	●	●	●	●	●	●	●	●
Manual tool setting probe	△	△	△	△	△	△	△	△
Auto tool setting probe	△	△	△	△	△	△	△	△
Oil skimmer	△	△	△	△	△	△	△	△
Oil mist collector	△	△	△	△	△	△	△	△
Transformer	△	△	△	△	△	△	△	△
CE safety accessories	△	△	△	△	△	△	△	△
Pedal switch for tailstock	△	△	△	△	△	△	△	△
Work blower	△	△	△	△	△	△	△	△
High pressure cooler	△	△	△	△	△	△	△	△
Hydraulic steady rest	△	△	△	△	△	△	△	△
Manual steady rest	△	△	△	△	△	△	△	△
Manual steady rest C type	△	△	△	△	△	△	△	△
Pneumatic chuck	△	△	△	△	△	△	△	△
Solid chuck+rotary cylinder	△	△	△	△	△	△	△	△
Hollow chuck+rotary cylinder	△	△	△	△	△	△	△	△
Independent chuck	△	△	△	△	△	△	△	△
Soft/Hard jaw	△	△	△	△	△	△	△	△
Steady rest base	△	△	△	△	△	△	△	△
ø80mm Boring bar holder	△	△	△	△	△	△	△	△

# CHEVALIER®

Grinding / Turning / Milling

## FBL-510/520/530/540 MC Series Heavy Duty CNC Lathe



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## Dimensions

Unit: mm

