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# FTC/FTB *SERIES*

Slant Bed CNC Turning Center

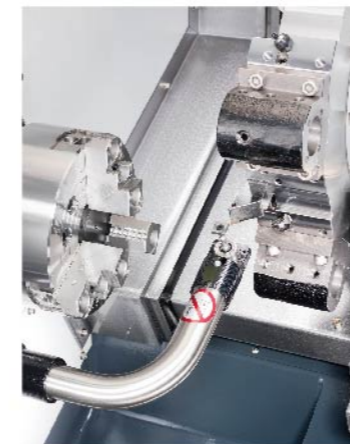
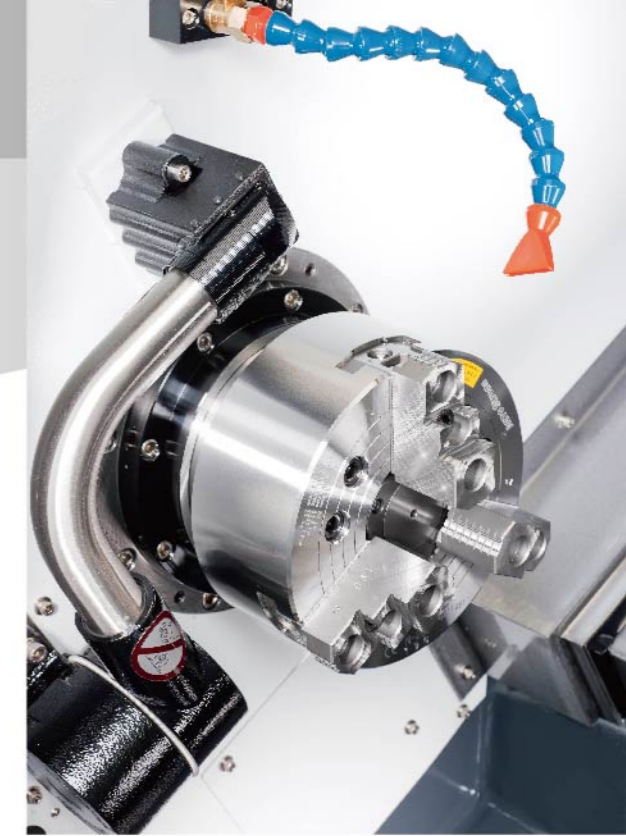
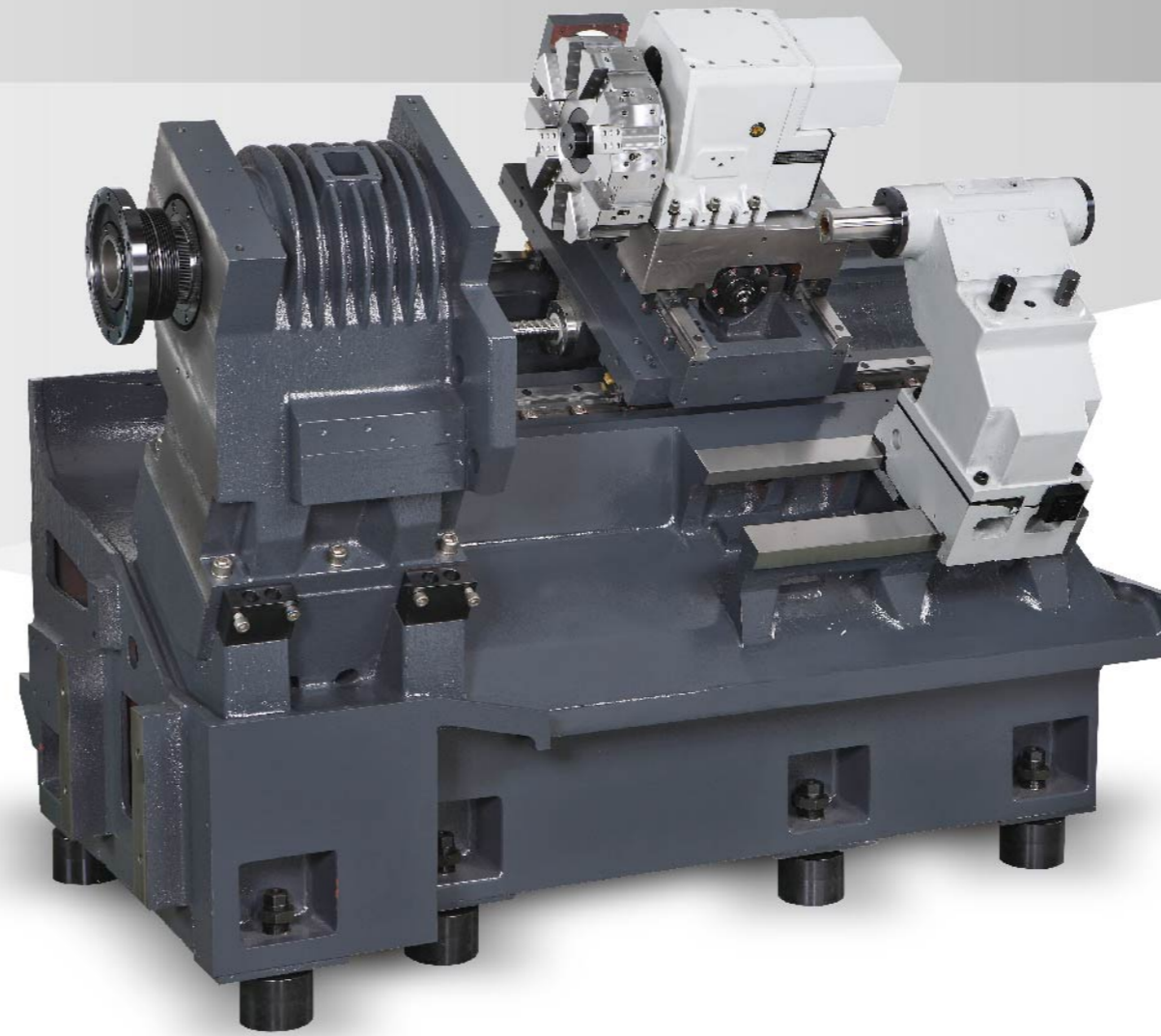
# SLANT BED STRUCTURE FEATURES BEST FORCE FLOW DESIGN

## FTC-300

### Slant Bed CNC Turning Center 30° Slant Bed

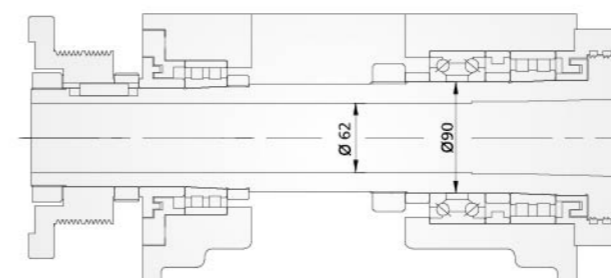
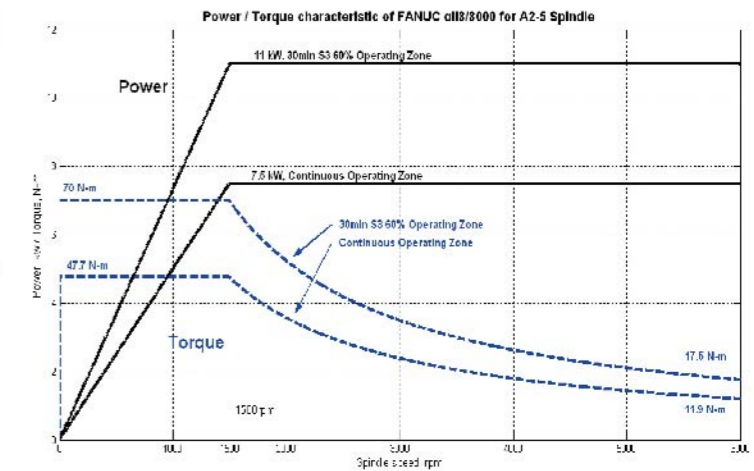
#### Features:

- 2.5 x 1.5 meter small footprint to save installation space.
- Linear guide ways on X, Z axis.
- 30° slant bed is one-piece constructed.
- Oil / coolant separation device prevents coolant deterioration and prolongs coolant life
- 6,000 rpm spindle speed
- 6" chuck
- Bar capacity Ø52 mm.
- Programmable tailstock (Option)



#### Automatic Tool Setter (OPT)

The tool setter has a touch sensor that can measure vary tool lengths and detect broken tools. It can be easily programmed to store all the tool information to reduce tool changing time.



#### HIGH PRECISION SPINDLE

High precision double direction angular contact thrust ball bearings are equipped on the spindle unit to meet the needs of heavy cutting. The special dissipation design on headstock eliminates heat from the spindle bearings, which also prolongs life of bearings and ensures spindle reliability.

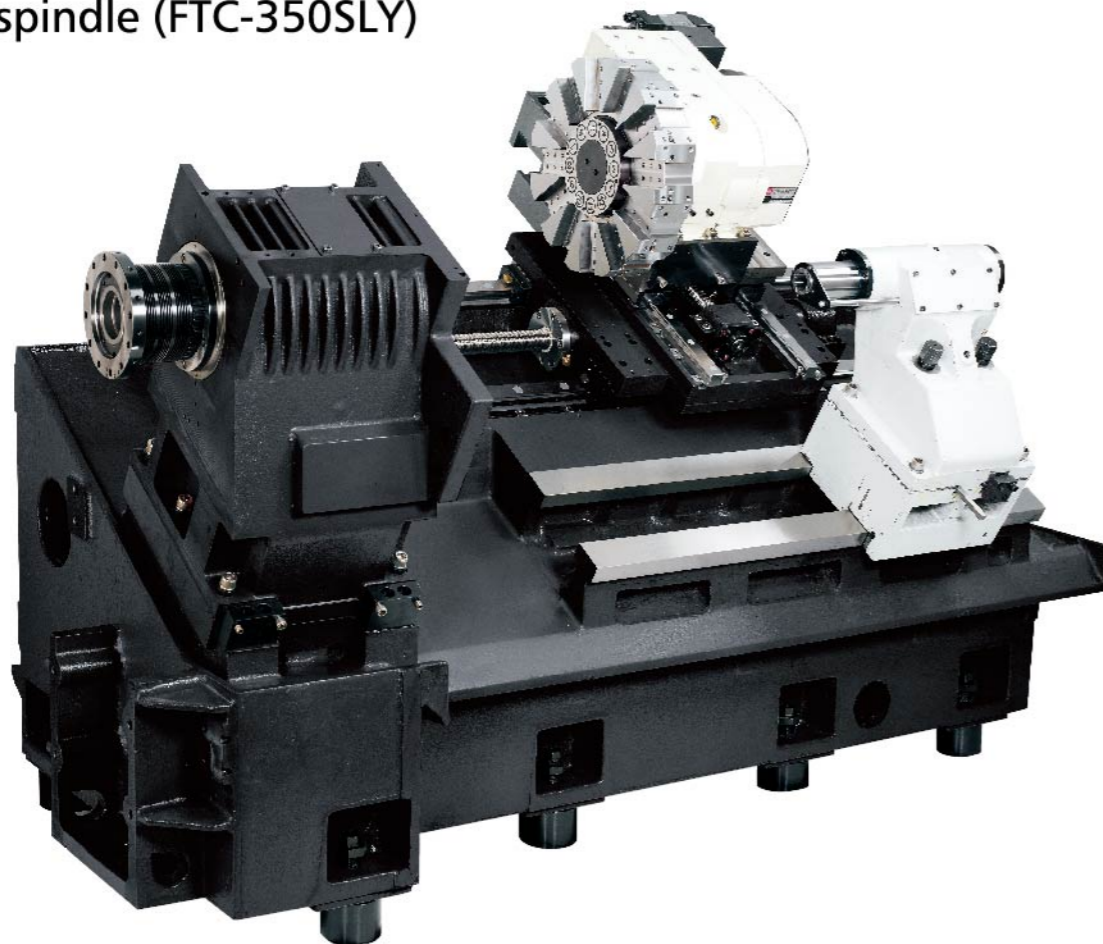
COMBINING RIGIDITY, EFFICIENCY AND VERSATILITY

## FTC-350, 350L, 350XL, 350LY, 350SLY

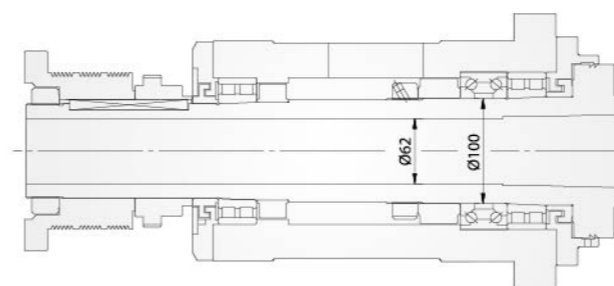
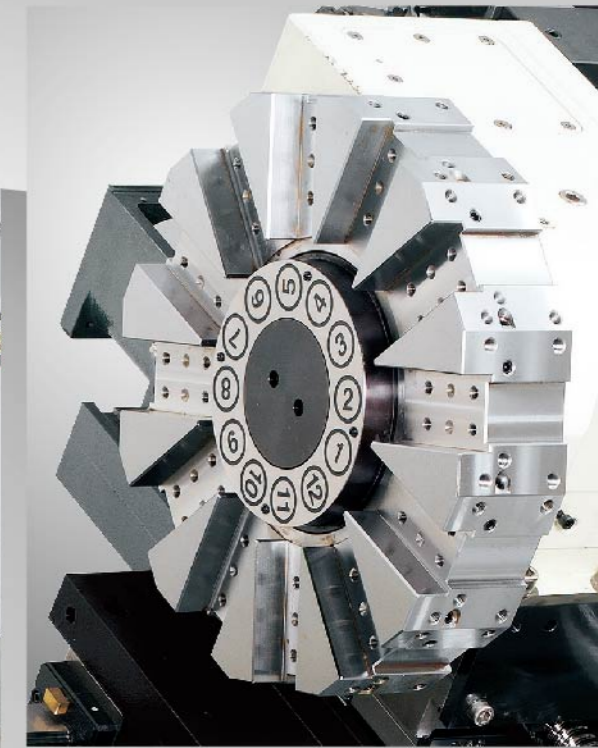
### Slant Bed CNC Turning Center 30° Slant Bed

#### Features:

- 2.6 x 1.6 meter small footprint to save installation space
- Linear ways on X, Z-axis
- X, Z-axis rapid traverse 30 m/min
- 30° slant bed is one-piece constructed
- 4,500 rpm spindle speed
- 8" chuck
- Bar capacity Ø52 mm (Ø66 mm OPT.)
- C axis + power tooling (FTC-350MC/ LMC/ XLMC)
- Twin spindle (FTC-350SLY)



FTB-350L(BOXWAY)



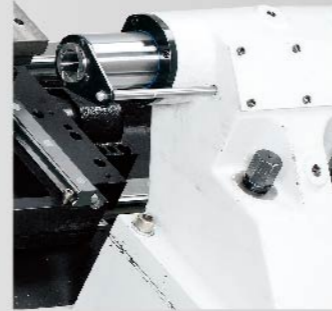
#### HIGH PRECISION SPINDLE

The special heat dissipation design on headstock eliminates thermal built-up on the spindle bearings. This feature also prolongs bearing service life and ensures spindle reliability. P4 grade angular contact ball bearings are equipped on the spindle unit to meet the needs of heavy cutting.

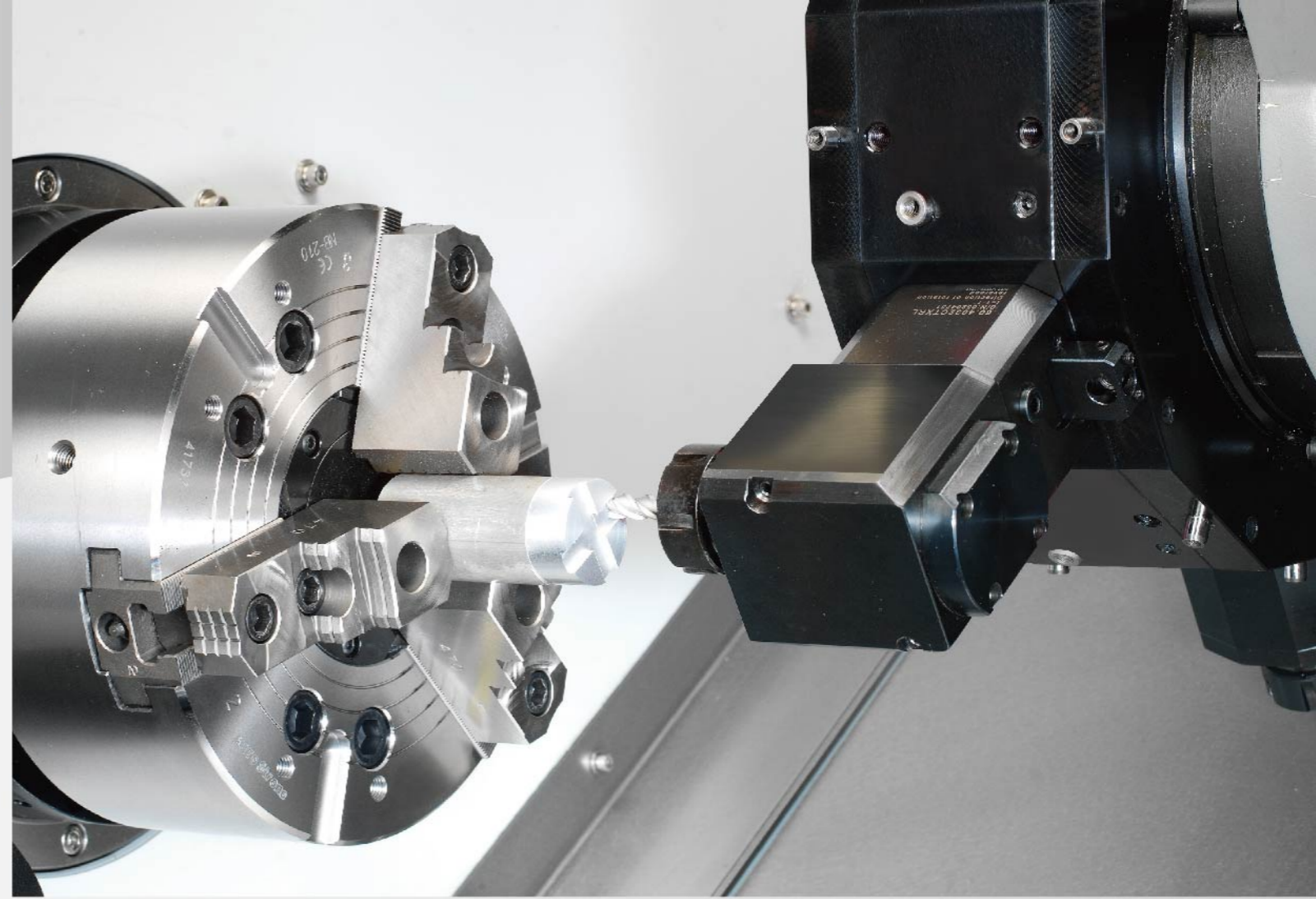
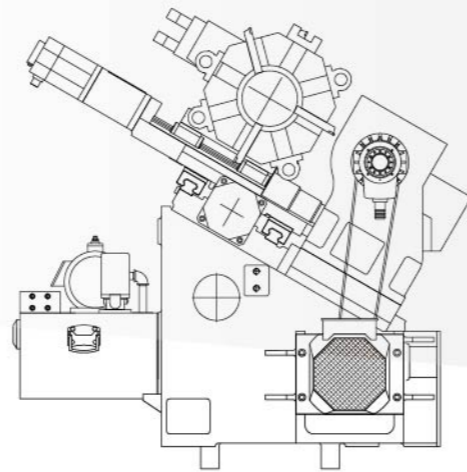
# FTC-350, 350L, 350XL, 350LY, 350SLY

Max. Turning Diameter: Ø350 mm  
Max. Turning Length:

MODEL	TURNING LENGTH
FTC-350	340 mm
FTC-350L	660 mm
FTC-350XL	1,000 mm
FTC-350LY	585 mm
FTC-350SLY	515 mm

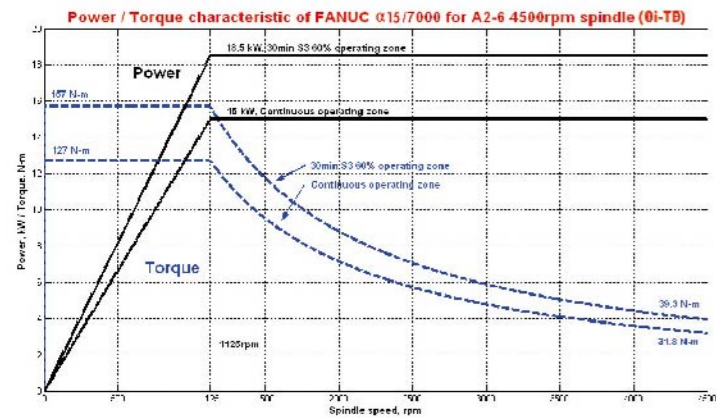


New Design

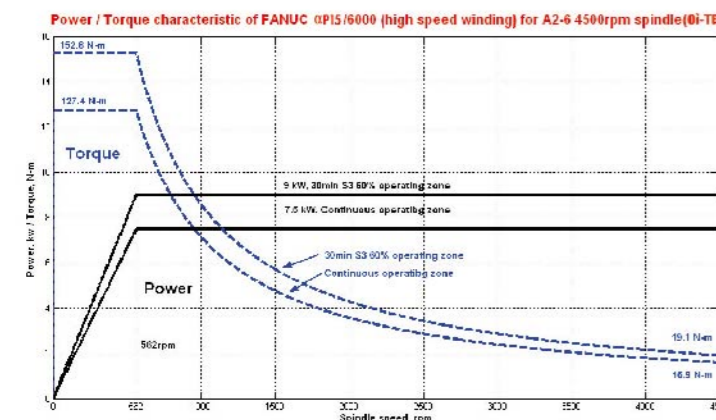
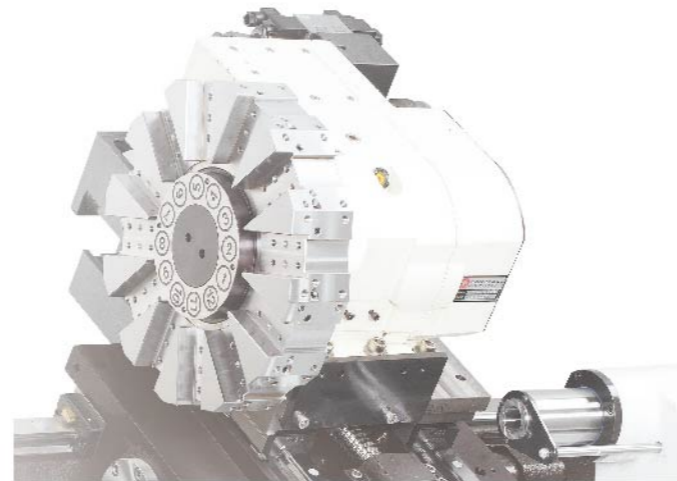


## Advantageous Machine Design

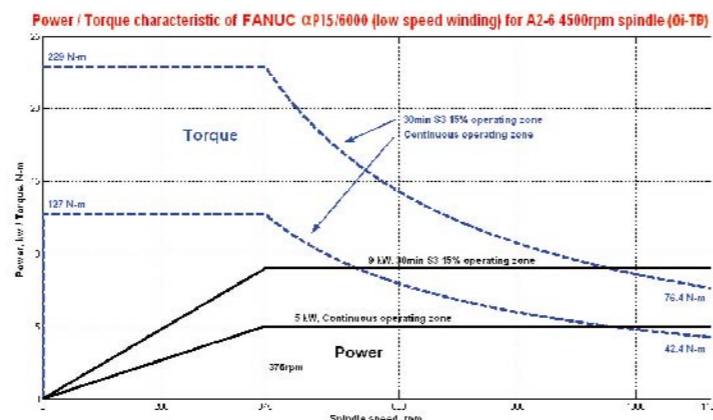
30-degree slant bed box type design assures operational safety, high speed turning accuracy and easy chip disposal.



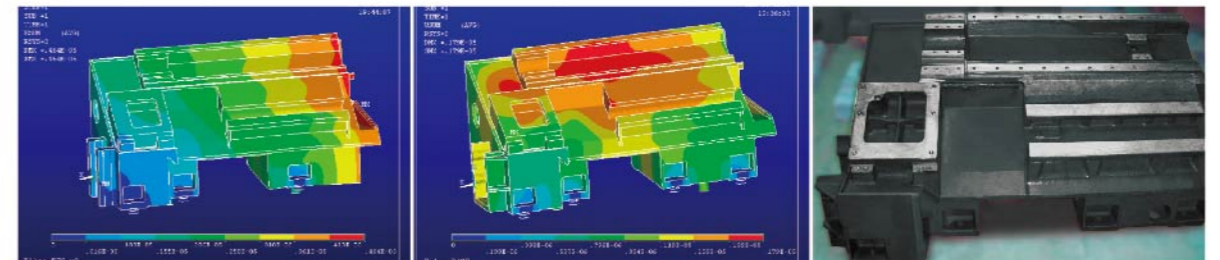
FTC-350, 350L, 350XL



FTC-350LY, 350SLY



FTC-350LY, 350SLY



## High Rigidity Structure for Ultimate Performance

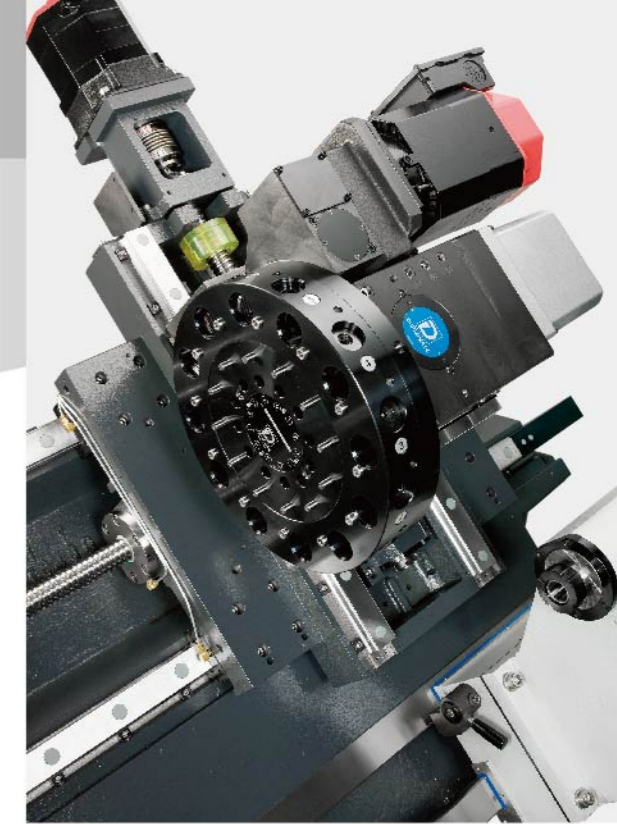
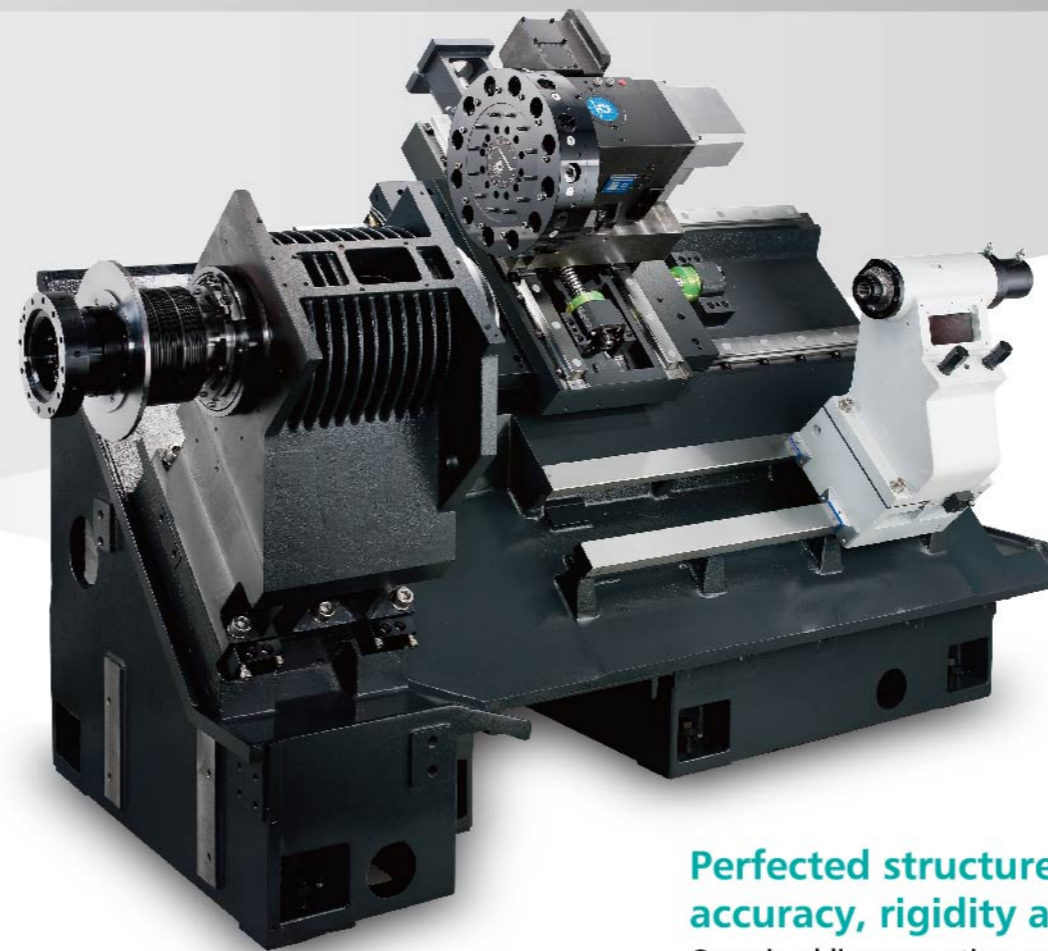
The machine structure and major parts are manufactured from MEEHANITE cast iron for outstanding material stability and assures long-term deformation-free performance. The entire machine construction underwent ANSYS and NASTRAN Finite Element Analysis to achieve optimum rigidity and stability.

**ROBUST STRUCTURE TO DEAL WITH HEAVY DUTY JOBS**

# FTC-450, 450MC Slant Bed CNC Turning Center 45° Slant Bed

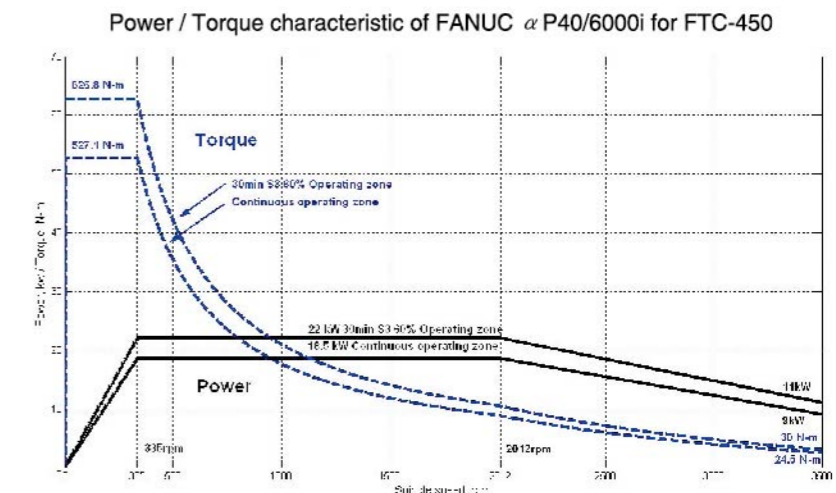
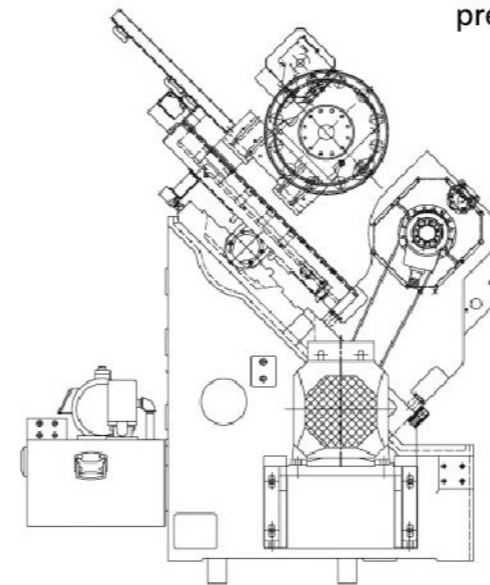
## Features:

- Max. turning diameter Ø450mm (FTC-450MC, Ø270)
- Max turning length 650mm (FTC-450MC, 600mm))
- Ø78 mm bar capacity turret
- 12-position servo motor driven (FTC-450MC)
- C axis + Power tooling (FTC-450MC)
- 45° Slant bed is one-piece constructed
- Auto tool length measuring device (Opt.)
- Linear ways on X, Z-axis



**Perfected structure design brings you lifetime accuracy, rigidity and stability**

Oversized linear motion guideways are applied on X and Z axis, the rapid feedrate reach 30 m/min. High accuracy ball screws are pretensioned, which ensures best performance and reliability.



## HIGH PRECISION SPINDLE

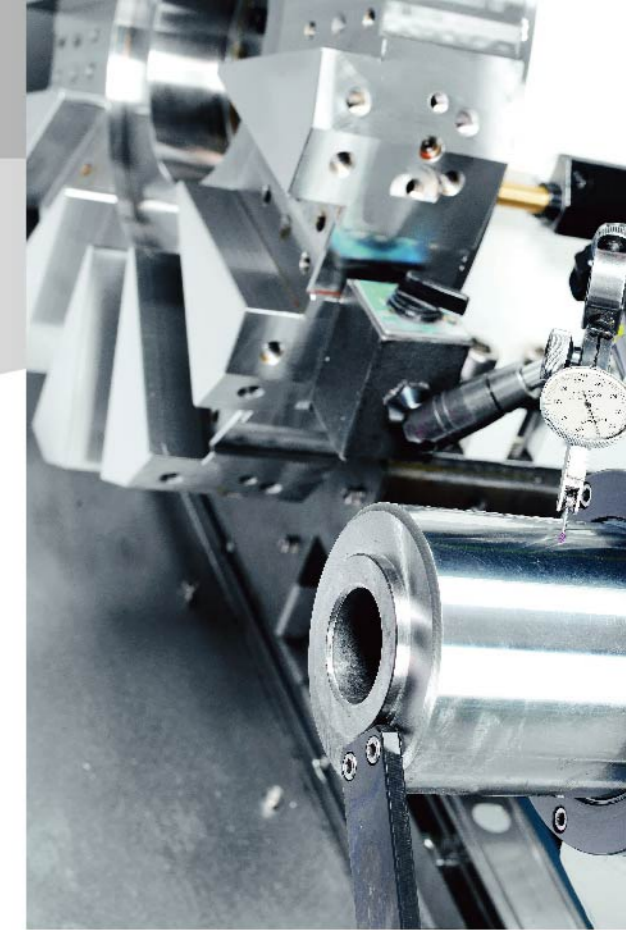
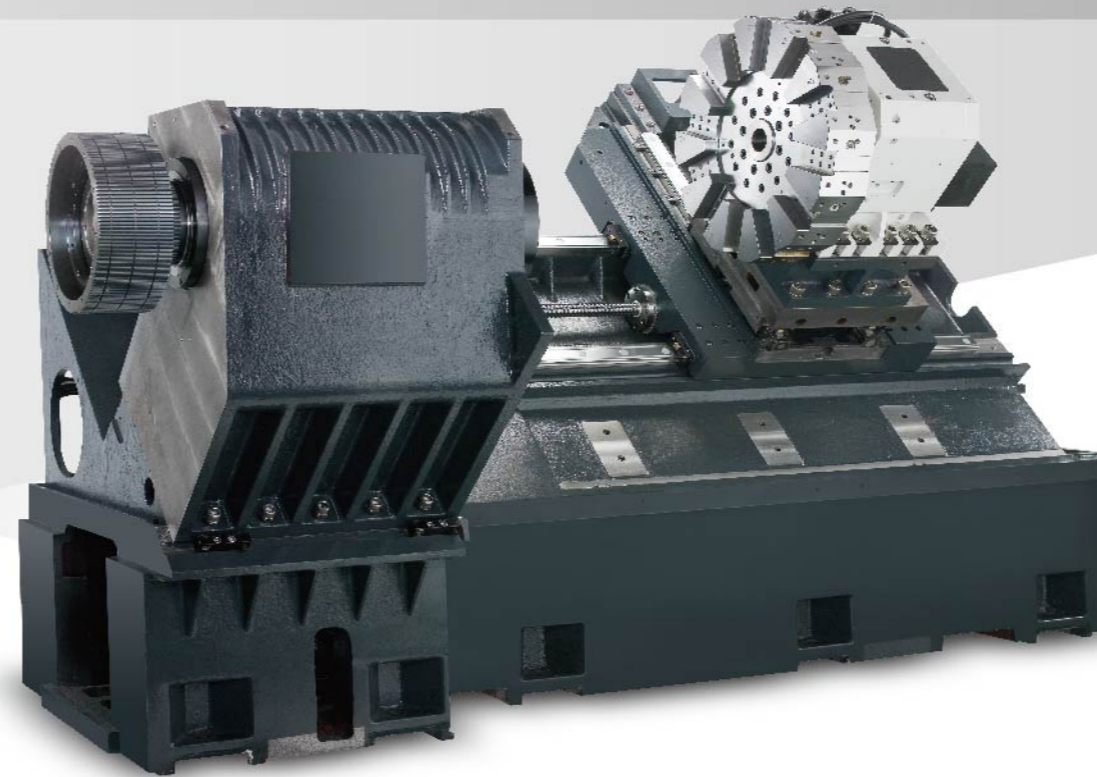
The special heat dissipation design on headstock eliminates thermal built-up on the spindle bearings. This feature also prolongs bearing service life and ensures spindle reliability. P4 grade angular contact ball bearings are equipped on the spindle unit to meet the needs of heavy cutting.

# IMMENSE POWER COMES FROM ULTIMATE RIGIDITY

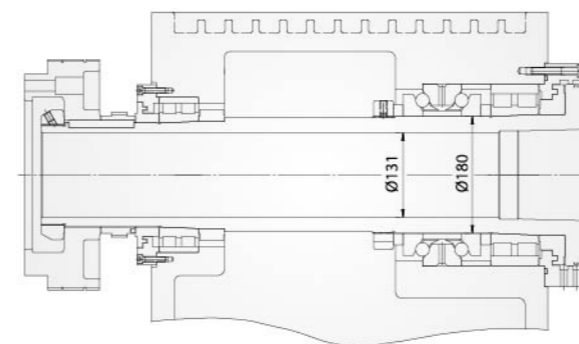
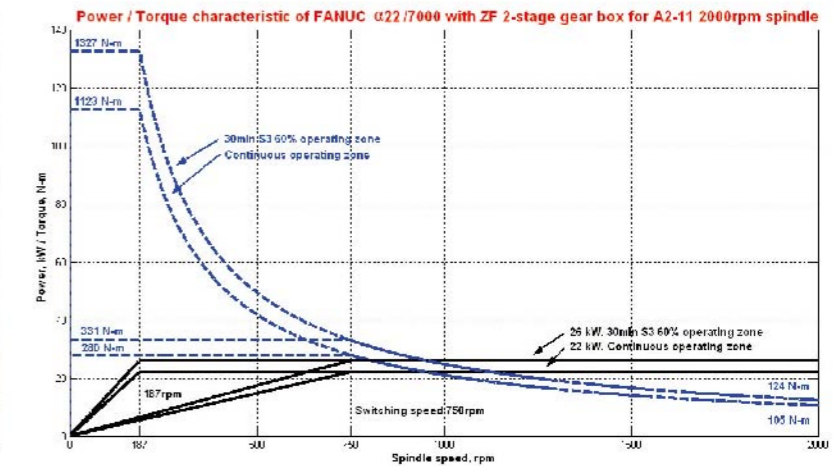
## FTC-640, 640L Slant Bed CNC Turning Center 45° Slant Bed

### Features:

- Two-step speed ranges with gear drive offers great torque output
- 15" hydraulic chuck
- Ø117.5 mm bar capacity
- Powerful 22 / 26 kW spindle motor
- A2-11 heavy duty spindle
- 45° Slant bed is one-piece constructed
- Linear ways on X, Z-axis
- Programmable tailstock
- Especially ideal for turning large workpieces, such as aluminum alloy wheel



**Extra Large Cutting Capacity**  
**Max. Turning Diameter: Ø640 mm**  
**Max. Turning Length:**  
**808 mm (FTC-640), 1,440 mm (FTC-640L)**

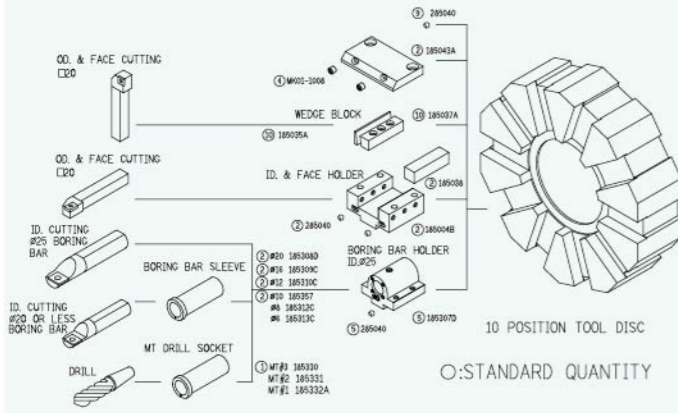


### HIGH PRECISION SPINDLE

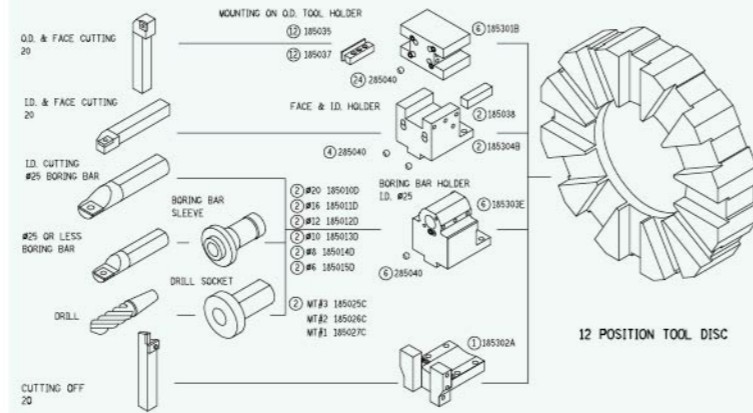
Grade double direction angular contact thrust ball bearings are equipped on the spindle unit to meet the needs of heavy cutting. The special dissipation design on headstock eliminates heat from the spindle bearings, which also prolongs life of bearings and ensures the spindle reliability.

# Tooling System

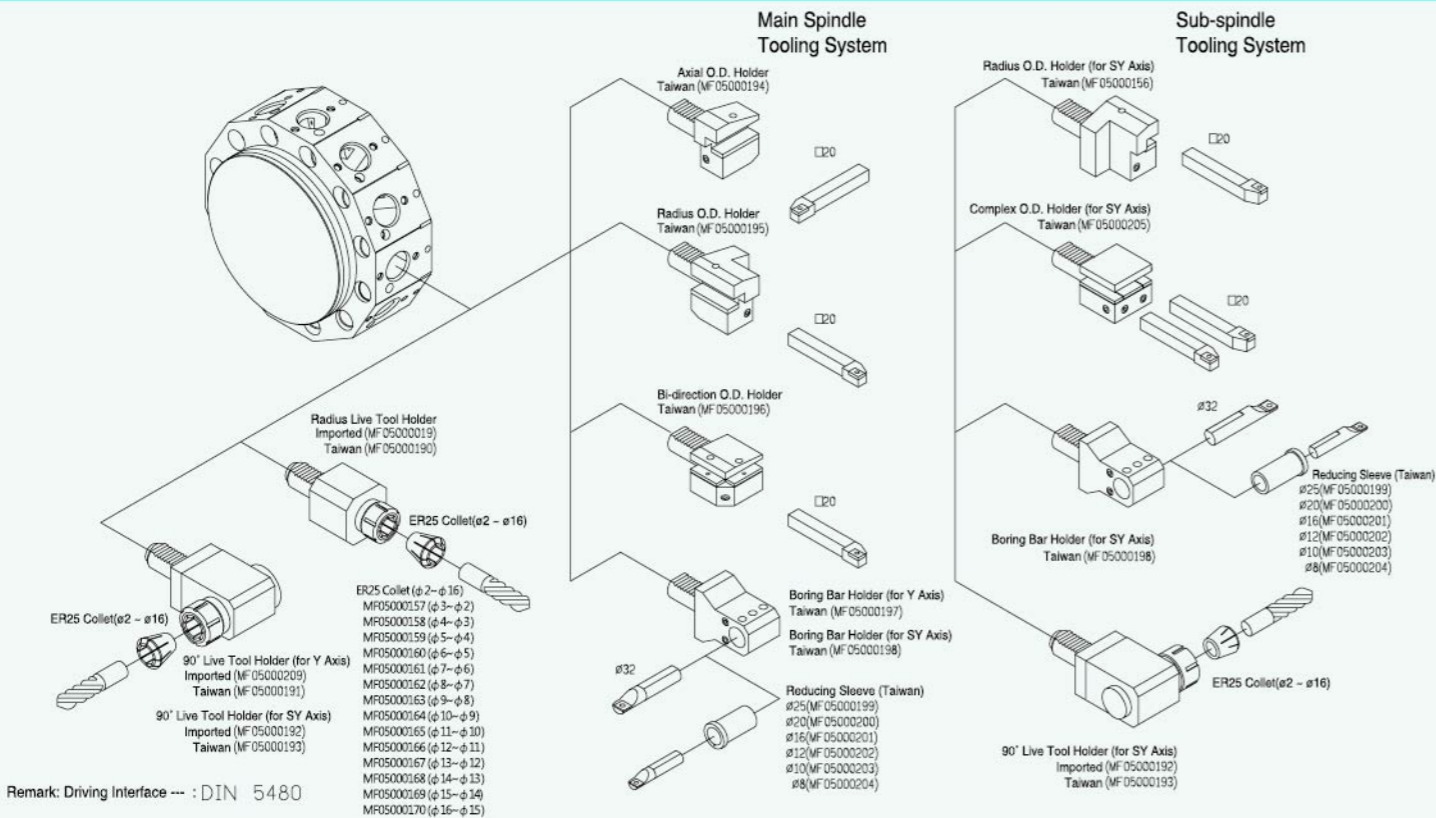
## FTC-300



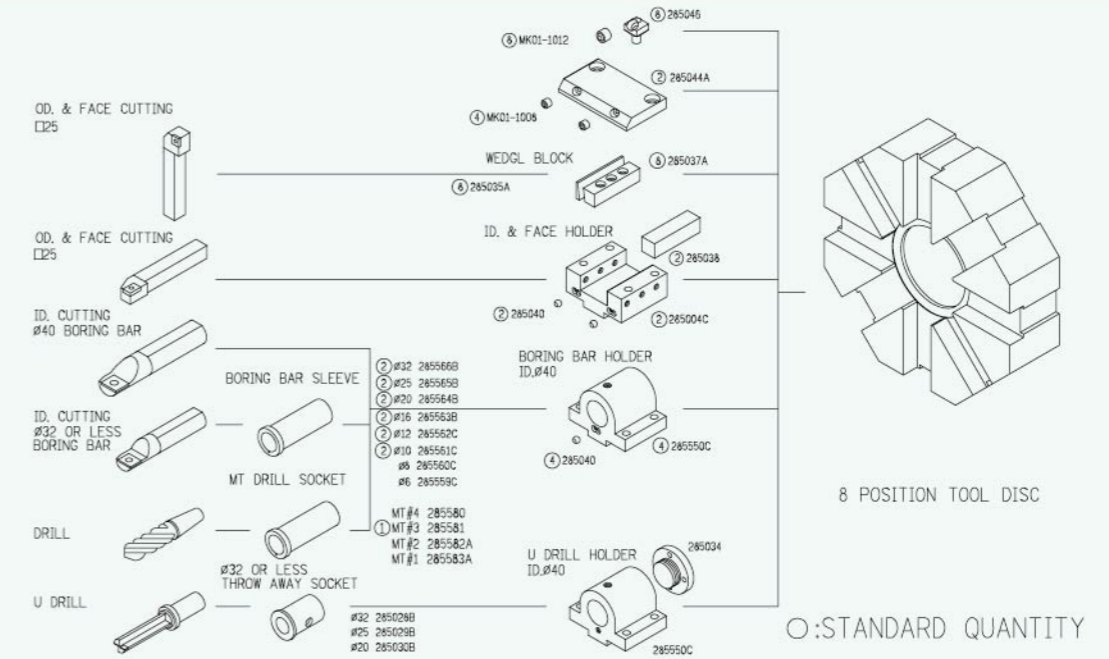
## FTC-350S



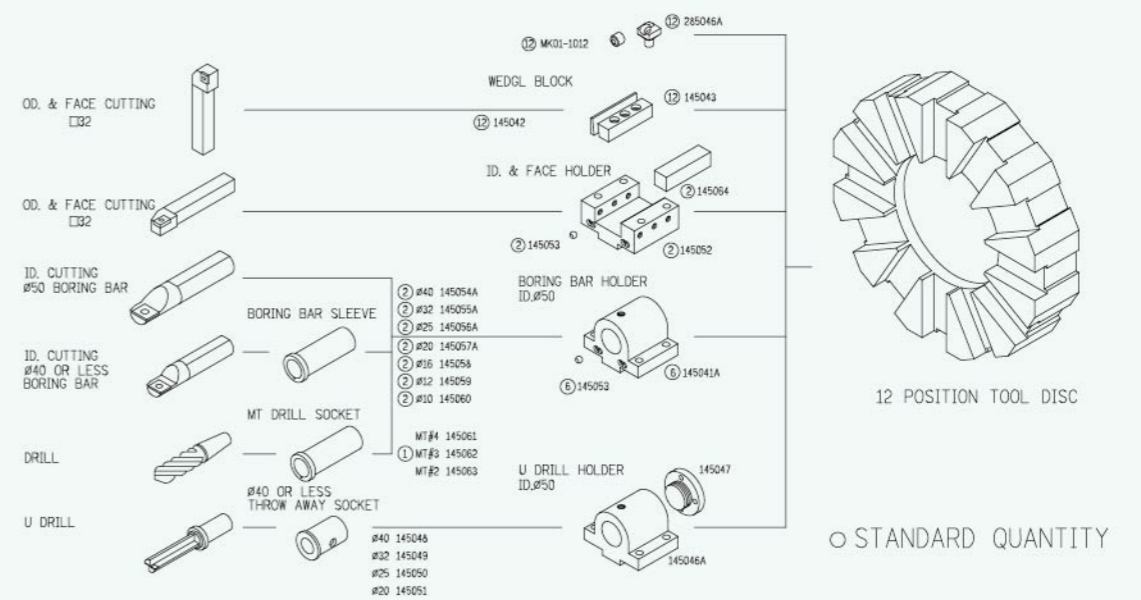
## FTC-350LY / 350SLY



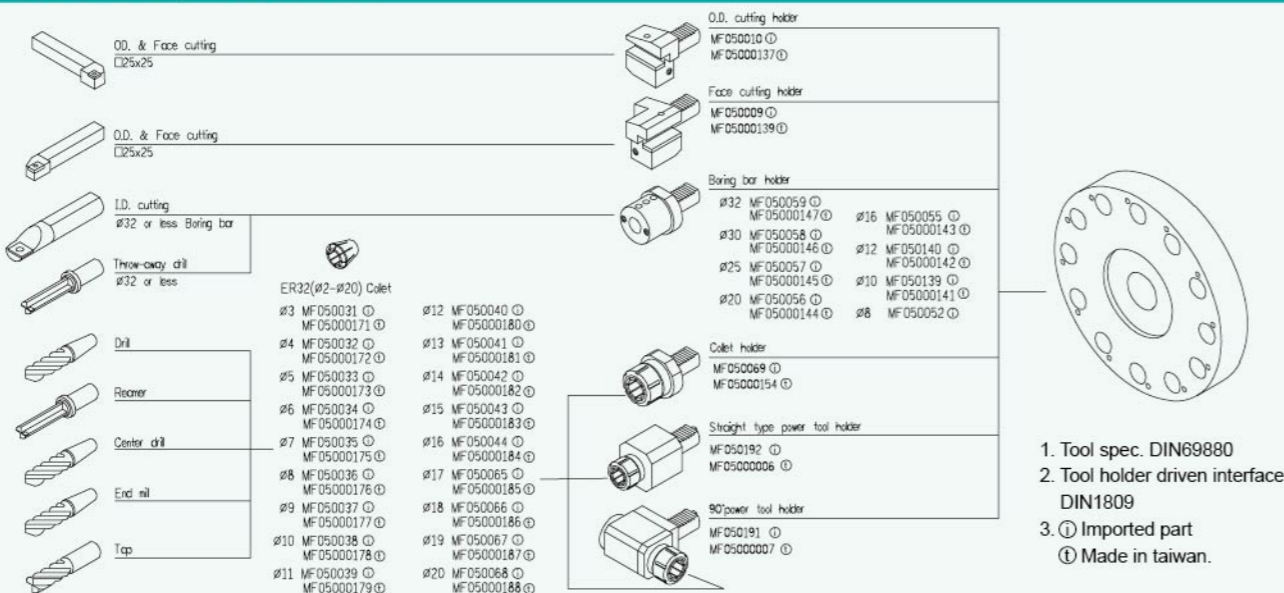
## FTC-350 / 450



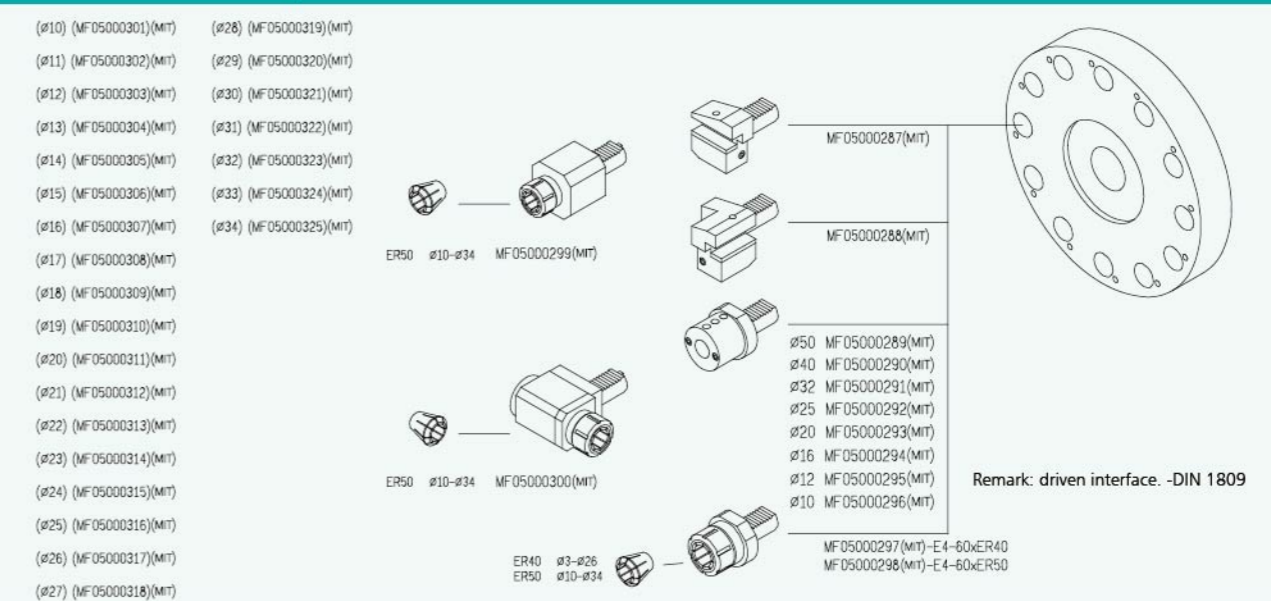
## FTC-640 / 640L



## FTC-350MC / 450MC

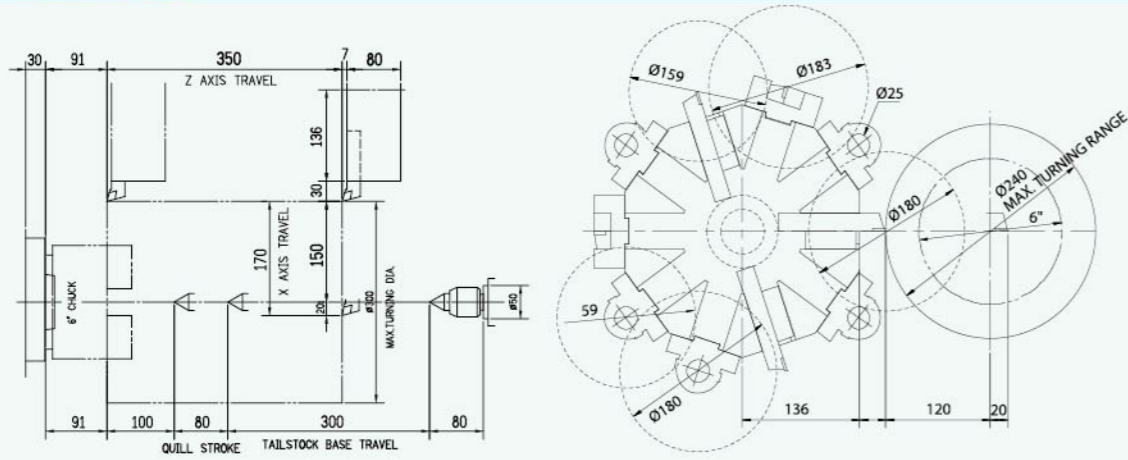


## FTC-640MC / 640LMC



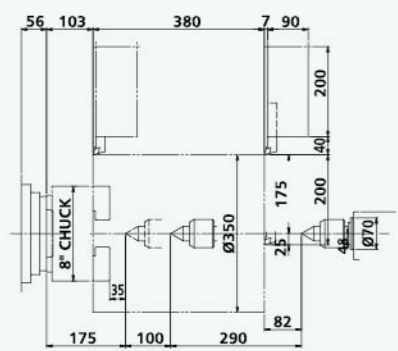
# Working Capacity

## FTC-300

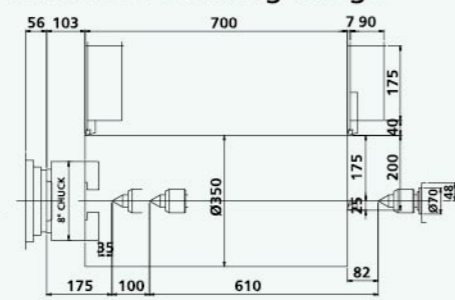


## FTC-350 / FTC-350L / FTC-350XL

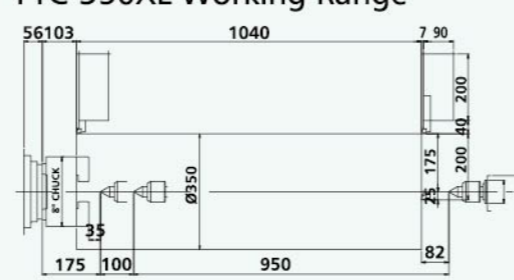
FTC-350 Working Range



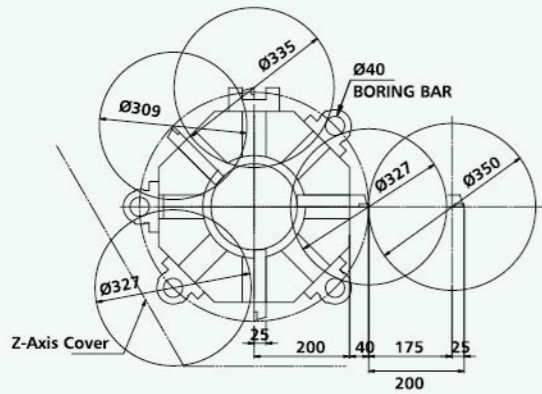
FTC-350L Working Range



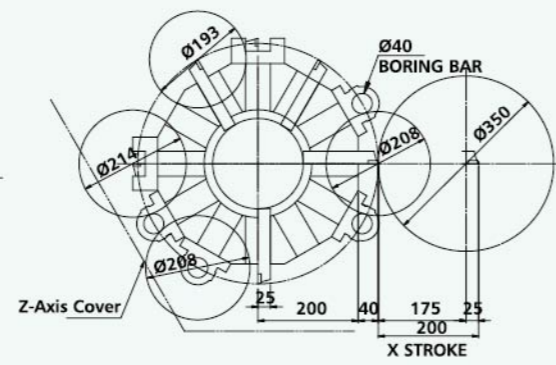
FTC-350XL Working Range



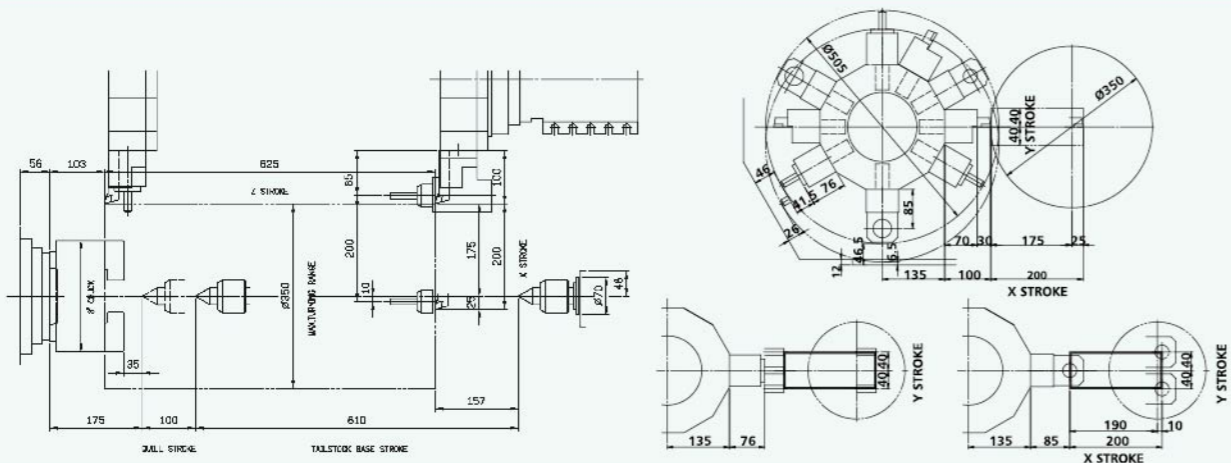
8-Position Turret Tool Interference Diagram (STD)



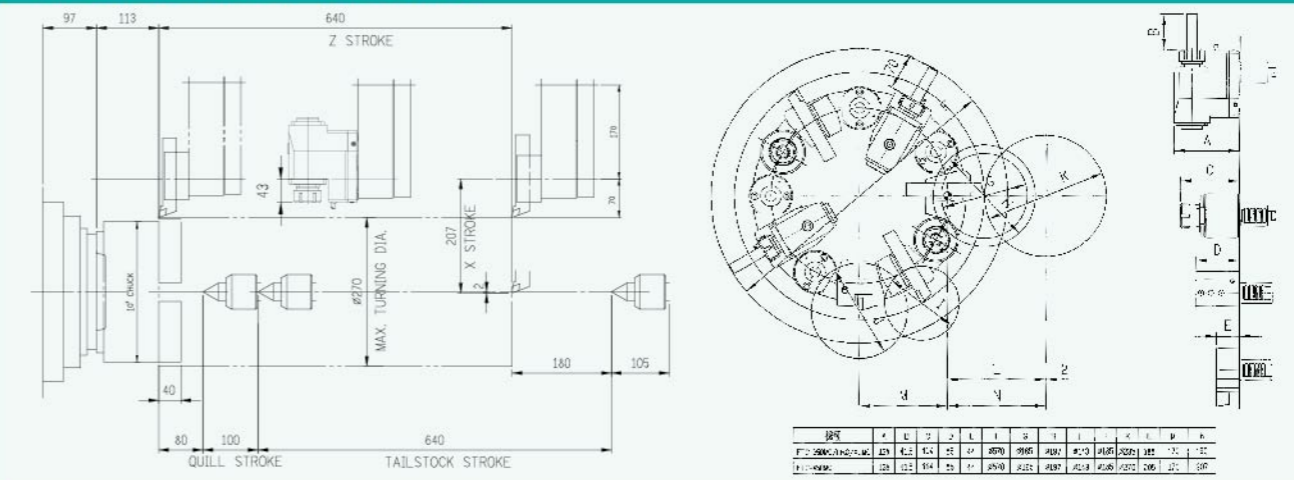
12-Position Turret Tool Interference Diagram (OPT)



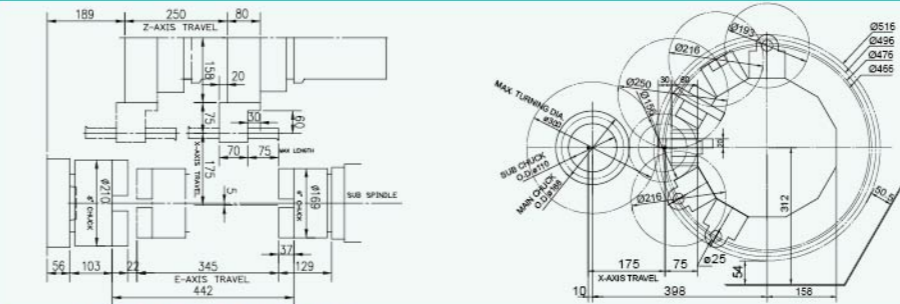
## FTC-350LY



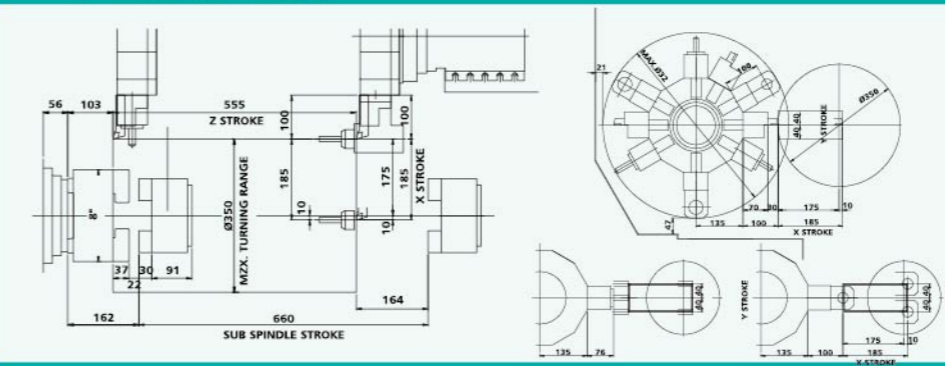
## FTC-350MC/ 450MC



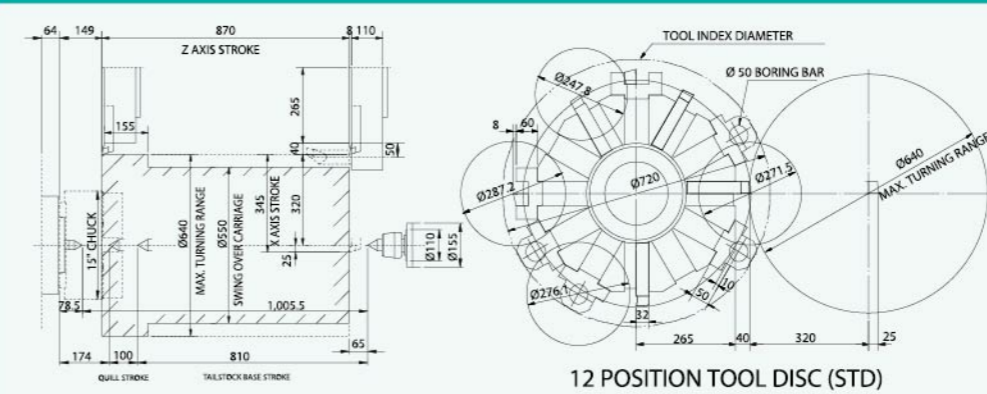
## FTC-350S



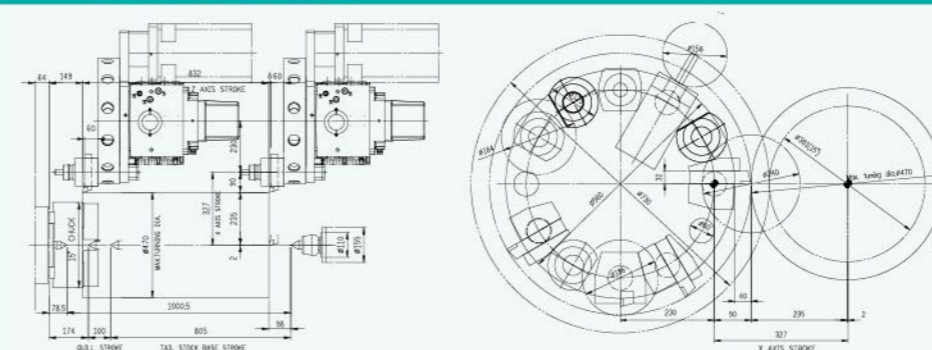
## FTC-350SLY



## FTC-640 / FTC-640L



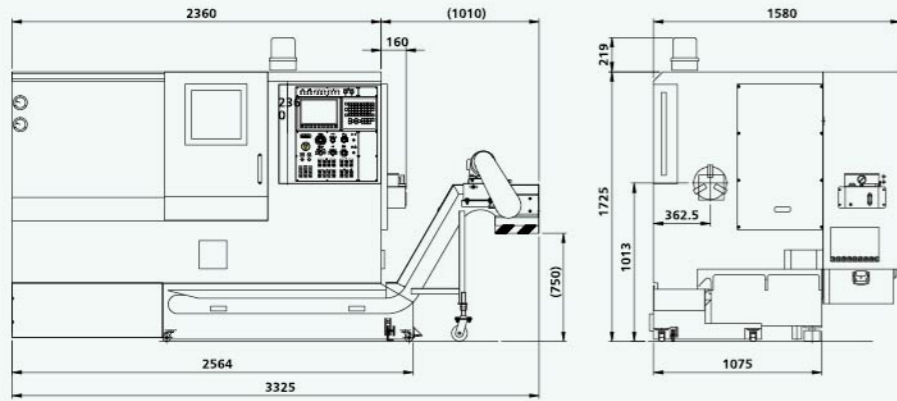
## FTC-640MC



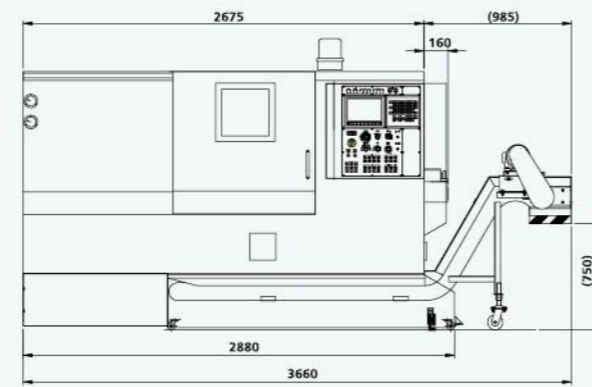


# Machine Dimensions

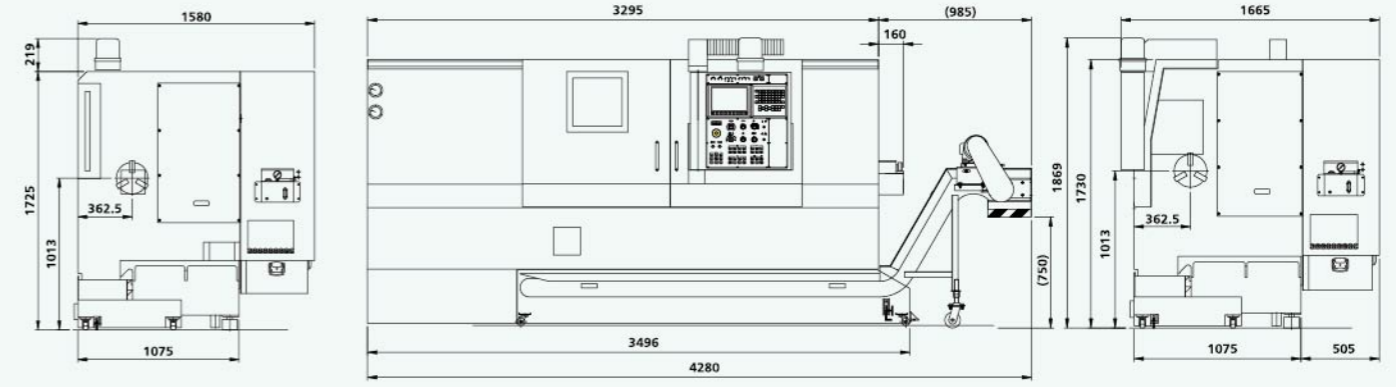
## FTC-350



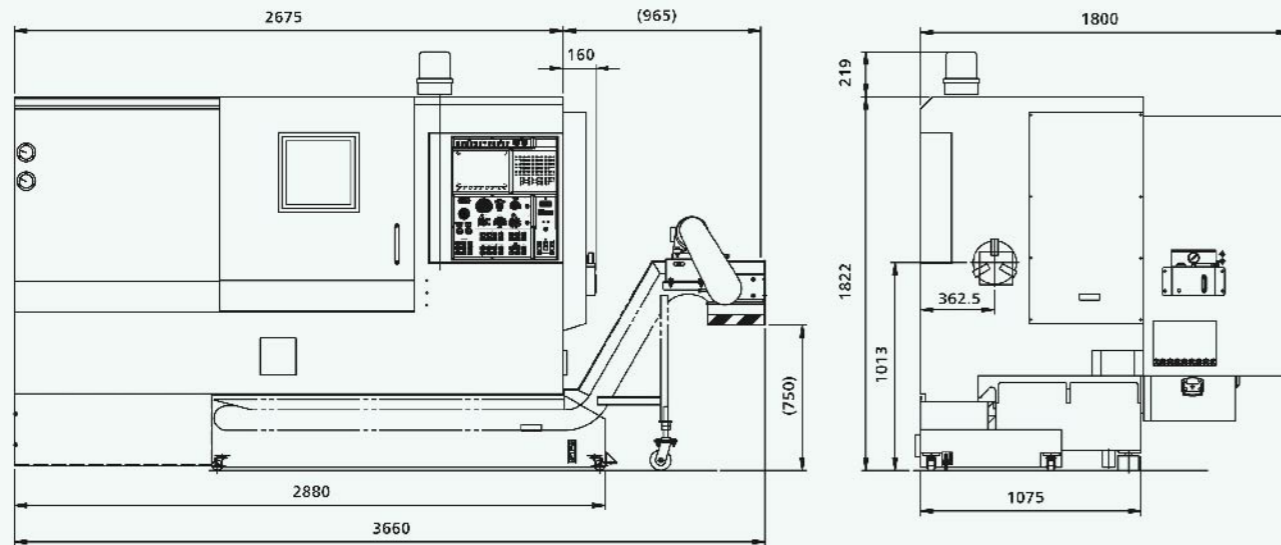
## FTC-350L



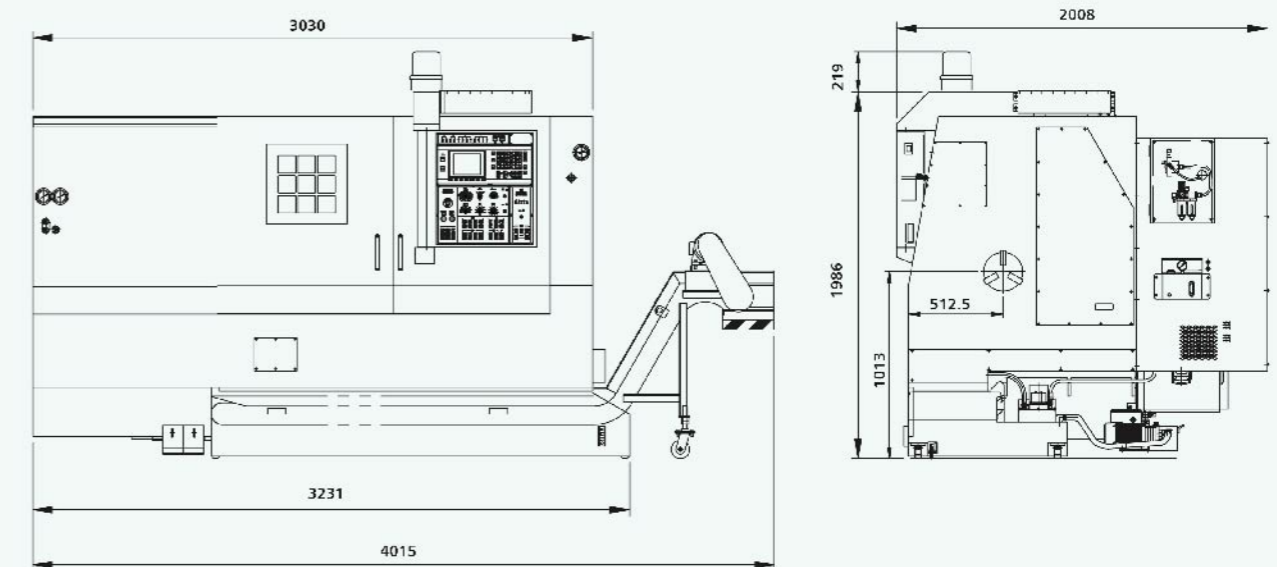
## FTC-350XL



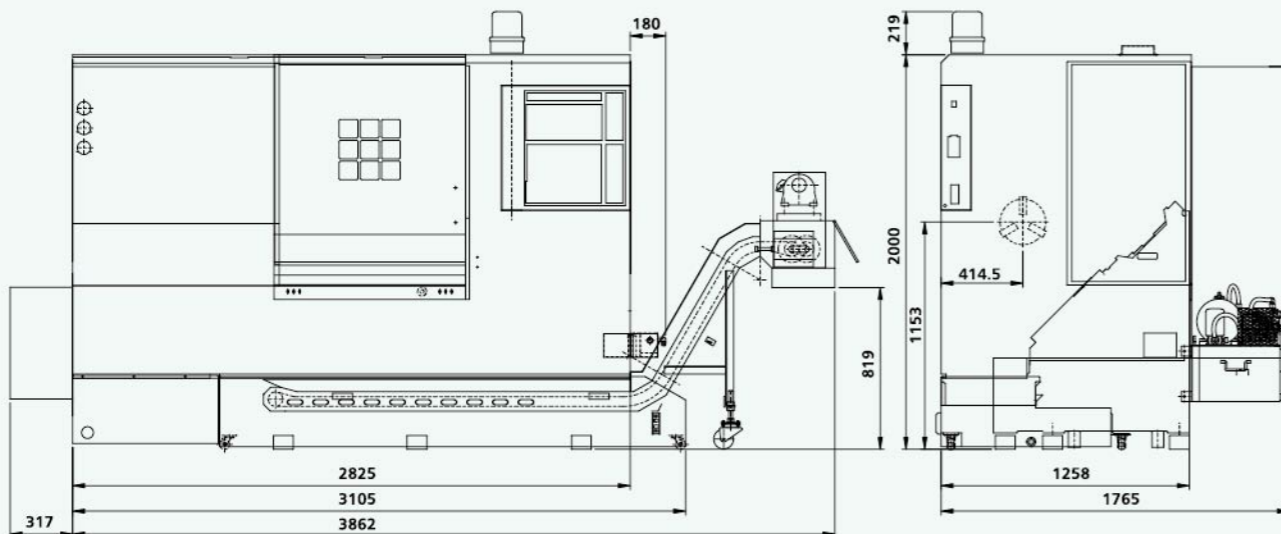
## FTC-350LY



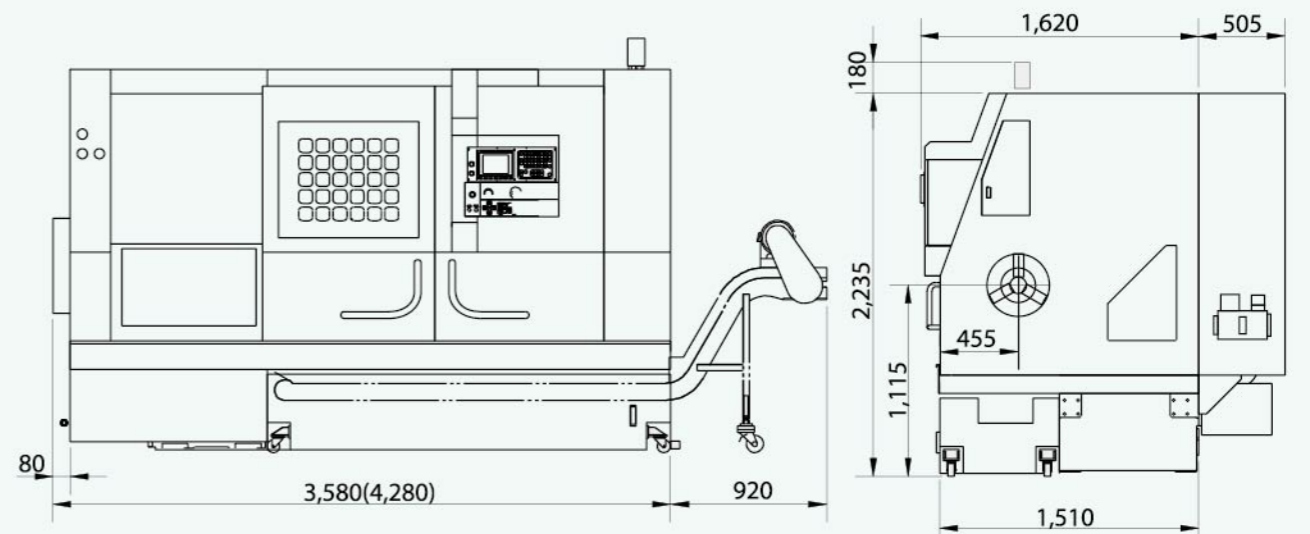
## FTC-350SLY



## FTC-450



## FTC-640 / FTC-640L



# FTC MACHINE SPECIFICATIONS

MODEL		FTC-300	FTC-350 (MC)	FTC-350L (MC)	FTC-350XL (MC)	FTC-350S	FTC-350LY	FTC-350SLY	FTC-450 (MC)	FTC-640(MC)	FTC-640L(MC)	FTB-350	FTB-350L	FTB-350XL
<b>WORKING RANGE</b>														
Swing over bed	mm	ø550	ø600	ø600	ø600	ø650	ø600	ø650	ø670	ø750	ø750	Ø600	Ø600	Ø600
Swing over saddle	mm	ø260	ø400	ø400	ø400	ø450	ø400	ø450	ø450	ø550	ø550	Ø400	Ø400	Ø400
Standard turning diameter	mm	ø180	ø327 (165)	ø327 (165)	ø327 (165)	ø156	ø200	ø200	ø327 (ø165)	ø271 (ø240)	ø271 (ø240)	-	-	-
Max. turning diameter	mm	ø300	ø350 (235)	ø350 (235)	ø350 (235)	ø300	ø350	ø350	ø450 (ø270)	ø640 (ø470)	ø640 (ø470)	Ø400	Ø400	Ø400
Max. turning length	mm	320	340 (310)	660 (600)	1000 (970)	210	585	515	650 (600)	808 (760)	1,440 (1,170)	340	660	1000
Bar capacity	mm	ø52	ø52 (ø52)/ (ø66)	ø52 (ø52)/ (ø66)	ø52 (ø52)/ (ø66)	ø52   ø45	ø52	ø52   ø45	ø78	ø117.5	ø117.5	Ø52	Ø52	Ø52
<b>TRAVEL</b>														
X-axis travel	mm	150+20	175+25 (188+2)	175+25 (188+2)	175+25 (188+2)	150+10	175+25	175+10	225+25 (205+2)	320+25 (325+2)	320+25 (325+2)	200+25	200+25	200+25
Y-axis travel	mm	-	-	-	-	-	80(±40)	80(±40)	-	-	-	-	-	-
Z-axis travel	mm	350	380 (350)	700 (640)	1040 (1,010)	250	625	555	700 (640)	870 (830)	1,500 (1,240)	380	700	1040
E-axis travel	mm	-	-	-	-	345	-	660	-	-	-	-	-	-
Tailstock travel type	type	Manual	Manual	Manual	Manual	-	Manual	-	Manual	Programmable	Programmable	Manual	Manual	Manual
Tailstock travel	mm	300	290	610	950	-	610	-	610	810	1,440	290	610	950
Quill travel type	type	Hydraulic	Hydraulic	Hydraulic	Hydraulic	-	Hydraulic	-	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic
Quill diameter	mm	ø50	ø70	ø70	ø70	-	ø70	-	ø100	ø110	ø110	Ø70	Ø70	Ø70
Quill stroke	mm	80	90	90	90	-	90	-	100	100	100	90	90	90
Quill taper	MT	MT-3	MT-4	MT-4	MT-4	-	MT-4	-	MT-4	MT-5	MT-5	MT-4	MT-4	MT-4
<b>FEEDRATE</b>														
Rapid traverse X-axis	m/min	24	30	30	30	24	24	24	30	20	20	30	30	30
Rapid traverse Y-axis	m/min	-	-	-	-	-	12	12	-	-	-	-	-	-
Rapid traverse Z-axis	m/min	24	30	30	30	24	24	24	30	20	20	30	30	30
Rapid traverse E-axis	m/min	-	-	-	-	12	-	12	-	-	-	-	-	-
<b>SPINDLE</b>														
Spindle speed	rpm	6000	4500	4500	4500	4500   6000	4500	4500   6000	3500	2000(2 Step)	2000(2 Step)	4500	4500	4500
Spindle nose	type	A2-5	A2-6	A2-6	A2-6	A2-6   A2-5	A2-6	A2-6   A2-5	A2-8	A2-11	A2-11	A2-6	A2-6	A2-6
Hydraulic chuck diameter	mm	ø169 (6")	ø210 (8")	ø210 (8")	ø210 (8")	ø210 sub:ø169	ø210 (8")	ø210 sub:ø169	10"	15"	15"	Ø210	Ø210	Ø210
Spindle bore diameter	mm	ø62	ø62 (ø76)	ø62 (ø76)	ø62 (ø76)	ø62   ø56	ø62 (ø76)	ø62   ø56	ø88	ø131	ø131	Ø62	Ø62	Ø62
Spindle bearing diameter	mm	ø90	ø100 (ø110)	ø100 (ø110)	ø100 (ø110)	ø100   ø90	ø100 (ø110)	ø100   ø90	ø130	ø180	ø180	Ø100	Ø100	Ø100
Spindle taper	mm	MT-6	1:20	1:20	1:20	1:20 sub:MT#6	1:20	1:20 sub:MT#6	1:20	1:20	1:20	1:20	1:20	1:20
Live tooling spindle speed	mm	-	-(4000)	-(4,000)	-(4,000)	-	3,000	3,000	-(4,000)	-(3,000)	-(3,000)	-	-	-
<b>TURRET</b>														
No. of tool	set	10	8 (12VDI40)/(12)	8 (12VDI40)/(12)	8 (12VDI40)/(12)	12	12-VDI30	12VDI30	8 (12VDI40)/(12)	12 (VDI60)	12 (VDI60)	8(12)	8(12)	8(12)
Standard O.D. tool size	mm	□20	□25	□25	□25	□20	□20	□20	□25	□32	□32	□25	□25	□25
I.D. tool size (Max.)	mm	ø25	ø40	ø40	ø40	ø25	ø32	ø25	ø40	ø50	ø50	Ø40	Ø40	Ø40
Tool changing time	sec	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
<b>MOTOR OUTPUT</b>														
Spindle motor (cont / 30)	kW	7.5/11	15/18.5 (7.5/15)	15/18.5 (7.5/15)	15/18.5 (7.5/15)	15/18.5 sub:5.5/7.5	5/9	5/9 sub:5.5/7.5	13/22	22/26	22/26	15/18.5	15/18.5	15/18.5
X / Y / Z / E servo motor	kW	1.6(X) / 1.6(Z)	3(X)/3(Z)	3(X)/3(Z)	3(X)/3(Z)	3/1.6/1.6	3/1.6/3	3/1.6/3/3	3(X)/3(Z)	4(X) / 4(Z)	4(X) / 4(Z)	3(X)/3(Z)	3(X)/3(Z)	3(X)/3(Z)
Live tooling spindle power (cont/30)		-	-(2.2/3.7)	-(2.2/3.7)	-(2.2/3.7)	-	3	-	- / (2.2/3.7)	-(11/15)	-(11/15)	-	-	-
<b>ACCURACY</b>														
Positining accuracy X / Y / Z	µm	10(X) / 10(Z)	10(X) / 10(Z)	10(X) / 10(Z)	10(X) / 10(Z)	10/10/10	10/10/10	10/10/10	10(X) / 10(Z)	10(X) / 25(Z)	10(X) / 25(Z)	10(X) / 10(Z)	10(X) / 10(Z)	10(X) / 10(Z)
Repeatability accuracy X / Y / Z	µm	6(X) / 6(Z)	6(X) / 6(Z)	6(X) / 6(Z)	6(X) / 6(Z)	6/6	6 / 6 / 6	6/6/6	6(X) / 6(Z)	6(X) / 6(Z)	6(X) / 6(Z)	6(X) / 6(Z)	6(X) / 6(Z)	6(X) / 6(Z)
<b>TANK CAPACITY</b>														
Power capacity	KVA	15	25	25	25	40	30	45	30	45	45	-	-	-
Coolant tank capacity	l	100	90	110	135	120	110	150	185	200	350	90	110	135
<b>MACHINE DIMENSION</b>														
Machine width	mm	2,500	2,564	2,880	3,500	2,920	2,880	3,235	3,425	3,580 (3,680)	4,280 (4,380)	2564	2880	3496
Machine depth	mm	1,530	1,580	1,580	1,665	2,010	1,800	2,010	1,770	2,125	2,125	1580	1580	1665
Machine height	mm	1,650	1,945 (2,045)	1,945 (2,045)	1,870 (2,180)	1,967	2,050	2,205	2,220 (2,280)	2,415 (2,550)	2,550	1944	1944	1869
Machine weight	kg	3,100	3,500 (4,000)	4,000 (4,500)	4,500 (5,000)	4,000	4,500	5,000	6,000	9,550 (10,050)	10,050 (11,000)	3500	4000	4500

\* Specifications and design characteristics are subject to change without prior notice.

## Standard Accessories

- \* 3-Jaw power chuck
- \* Manual tailstock
- \* Programmable tailstock (FTC-640 / 640L)
- \* Hydraulic quill movement
- \* Heat exchanger
- \* Hard jaw (1 Set)
- \* Soft jaw (3 Sets)
- \* Chip conveyor (FTC-640/640L)
- \* Fanuc Oi-TF
- \* Door Inter lock

## Optional Accessories

- \* Extra hard / soft jaw
- \* Automatic door
- \* Parts catcher
- \* Tool setter
- \* Programmable tailstock
- \* Chip conveyor / chip bucket
- \* Bar feeder
- \* Power tooling + C axis
- \* Collet chuck
- \* Oil mist collector
- \* Air blower
- \* Coolant gun
- \* Live tool holder
- \* High pressure pump
- \* Oil water skimmer
- \* VDI turret
- \* CE modification