



Company profile



Groups



Groups



CHEVALIER Headquarter

CHEVALIER

FOCUS CNC

CHEVALIER (USA)



- Falcon Machine Tools Co., Ltd (brand Chevalier) is public traded company, established in year 1978.
- Production: Grinding Machine 、 Milling 、 Turning
- Capital : US\$180M
- Number of employees : 550 persons
- Factory :
 - Taichung Taiwan Grinding machine
 - Changhua Taiwan VMC machine
 - Taichung Taiwan FOCUS CNC Co., Ltd
Established in year 2001
Sales exceeded 30 countries
machines exceeded 5000 sets
 - CHEVALIER CHINA
 - Sheet-metal factory (Taiwan)
 - CHEVALIER (USA)





Factory outline



Factory inside



Production: 55 sets /month

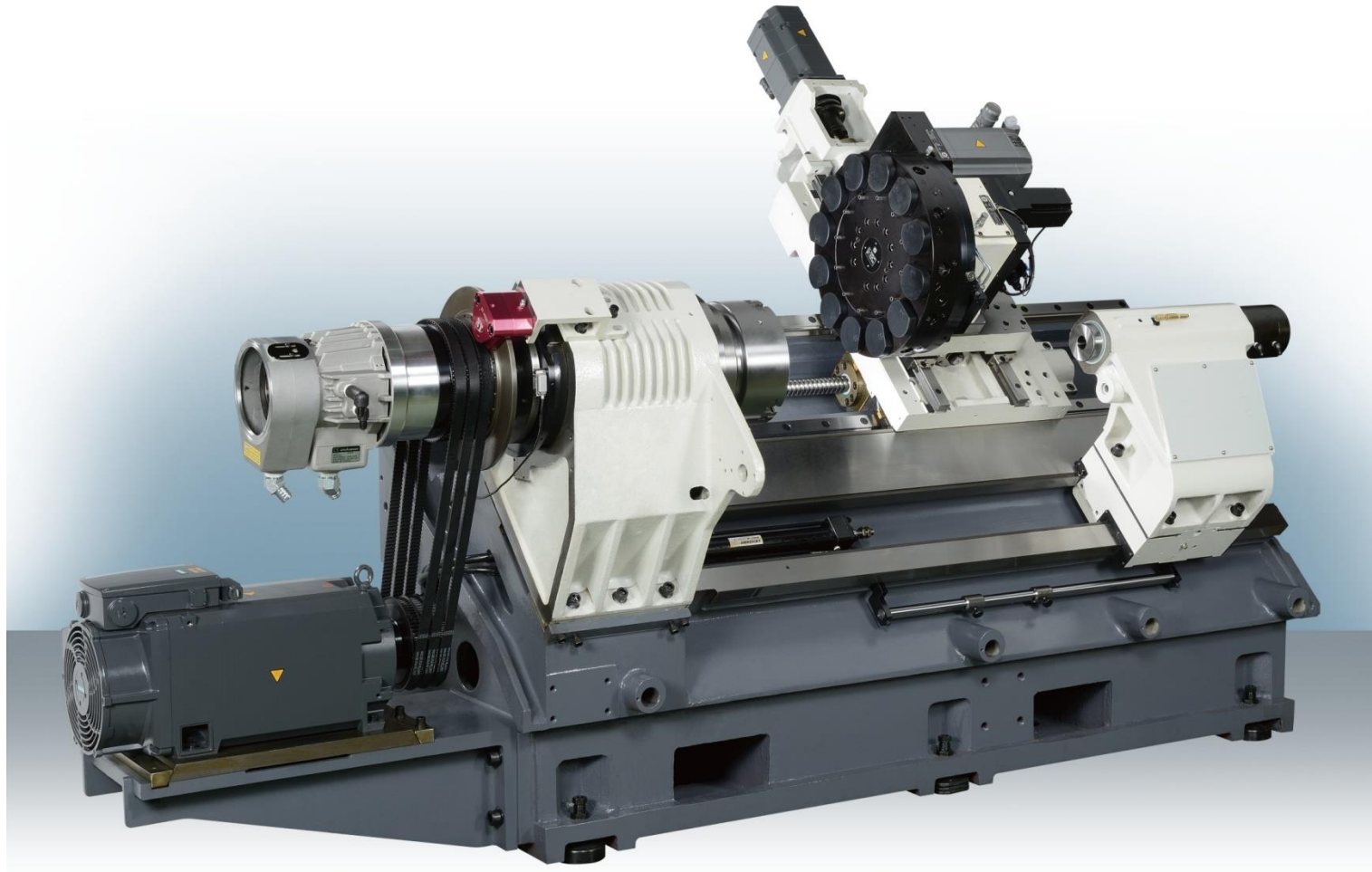
Product Tree

Horizontal CNC slant bed lathe

- Linear guide way (model FCL)
- Box way (model FBL)
- Multi-function (FNL / FBL series)
- Wheel machine
- Heavy duty (FBL-500 series)



2-axis Machine



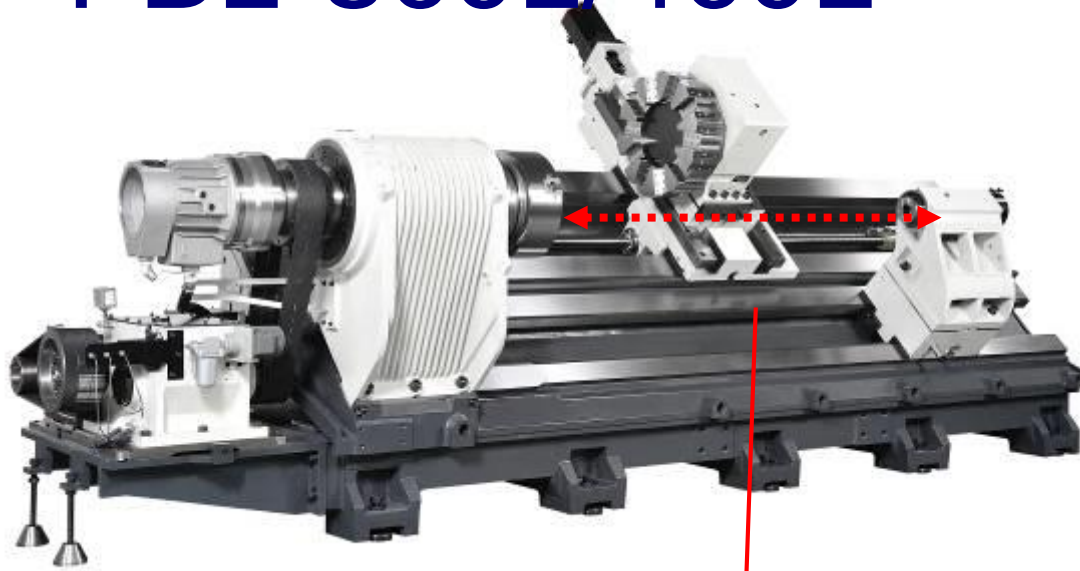
Linear Guideway Spec

Specifications	unit	FCL-120	FCL-140	FCL-200	FCL-200HT	FCL-200MC	FCL-300	FCL-300E	FCL-300MC
		FCL-120A	FCL-140A				FCL-300P		
Swing Over Bed	mm	400	470	470	470	470	600	600	600
Max Turning Diameter	mm	220 / 98	260 / 280	292	300	172	450	450	330
Max Turning Length	mm	164	290	500	479	444	700	450	669
Max Bar Material Diameter	mm	Φ45	Φ45	52	52	52	75	75	75
Spindle Nose	ASA	A2-5	A2-5	A2-6	A2-6	A2-6	A2-8	A2-8	A2-8
Chunk Size	inch	6"	6"	8"	8"	8"	10"	10"	10"
Max Spindle Speed	rpm	6000	6000	4500	4500	4500	3400	3400	3400
Main Spindle Motor	kW	3.7 / 5.5	7.5 / 11	7.5 / 11	11 / 15	5.5 / 7.5	15 / 18.5	15 / 18.5	15 / 18.5
Live Tooling Max Speed	rpm	-	-	-	-	5000	-	-	4000
Live Tooling Motor	kW	-	-	-	-	3.7	-	-	5.5
Rapid Traverse X/Z-axis	m/min	30	30	30	30	30	20 / 24	20 / 24	20 / 24
Slant Bed Degree	degree	30°	45°	45°	45°	45°	45°	45°	45°
Machine Weight	kg	2000	2800	3850	3850	3950	5600	5200	5700

Box Guideway Spec

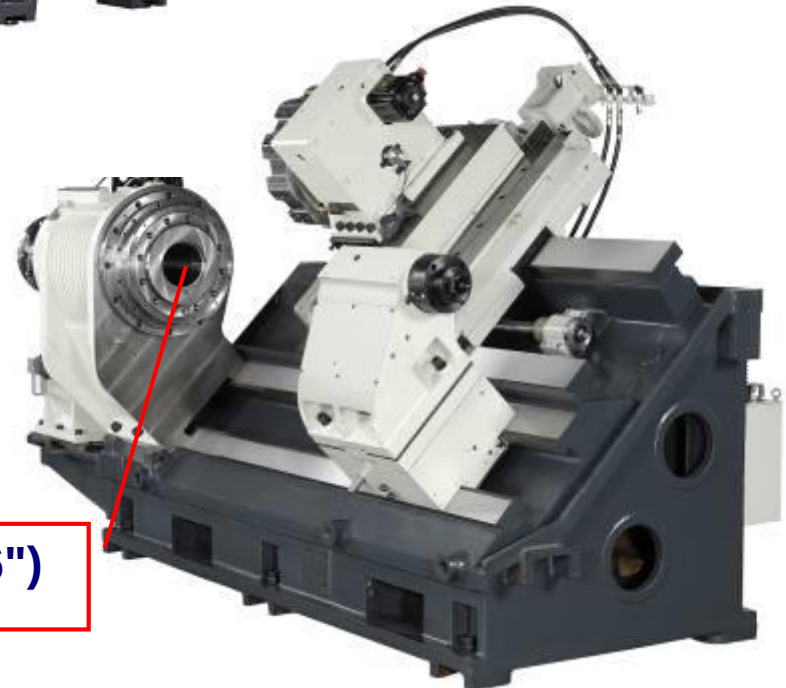
Specifications	unit	FBL-200	FBL-230	FBL-230MC	FBL-300	FBL-300MC	FBL-360	FBL-360MC	FBL-460	FBL-460MC
		FBL-200L			FBL-300L	FBL-300LMC	FBL-360L	FBL-360LMC	FBL-460L	FBL-460LMC
Swing Over Bed	mm	470	550	550	654	654	770	770	840	840
Max Turning Diameter	mm	260 / 280	300	266	510	390	570	452	680	650
Max Turning Length	mm	408 / 610	405	322	594 / 1554	555 / 1514	762 / 2000	740 / 2000	750 / 2000	665 / 2000
Max Bar Material Diameter	mm	52	52	52	75	75	91 (115)	91 (115)	139	139
Spindle Nose	ASA	A2-6	A2-6	A2-6	A2-8	A2-8	A2-8	A2-8	A2-15	A2-15
Chunk Size	inch	8"	8"	8"	10(12)"	10(12)"	12(15)"	12(15)"	15"	15"
Max Spindle Speed	rpm	3500	3500	3500	2500	2500	2500 (1500)	2500 (1500)	1400	1400
Gear Box	step	N/A	Y△	Y△	Y△	Y△	2-step	Y△	2-step	2-step
Main Spindle Motor	kW	11 / 15	11 / 15	11 / 15	15 / 18.5	15 / 18.5	22 / 26	18.5 / 22	22 / 26	22 / 26
Slant Bed Degree	degree	45°	45°	45°	45°	45°	45°	45°	45°	45°
Machine Weight	kg	3490 / 4500	3800	3800	5800 / 9000	5800 / 9000	8880 / 12500	8880 / 12760	9500 / 13500	9500 / 13500

FBL-360L/460L



Cutting length 2026mm (80")

Spindle nose A2-8/A2-11/A2-15



Spindle bore 105/135/153mm (4"/5"/6")

Processing application



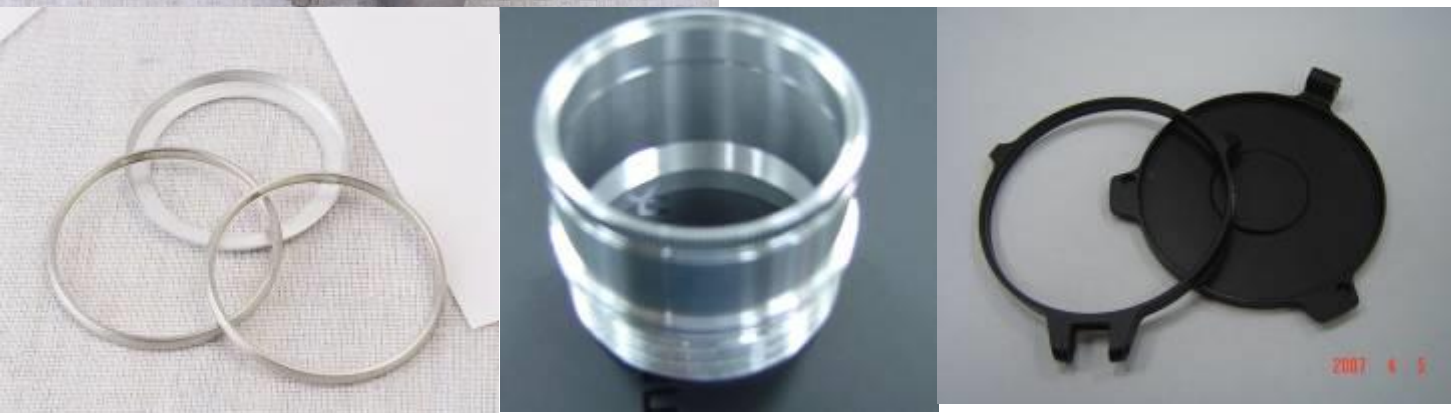
All kind of
industrial parts



Valve parts



Shaft parts



Electronic products



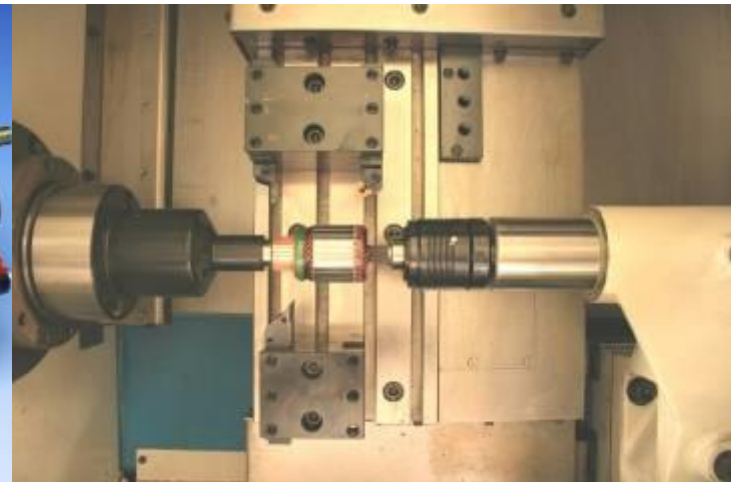
Engine cylinder liner

Machine model: FCL-300P



Auto motor rotor

Machine model: FCL-140A



Automobile Camshaft

Machine model: FBL-200L



Airbag Parts

Machine model: FCL-120



Car Pulley

Material: cast iron

Machine model:

FBL-200 200HT

FCL-200MC



Car screw and nut

Machine model: FCL-120/FCL-140



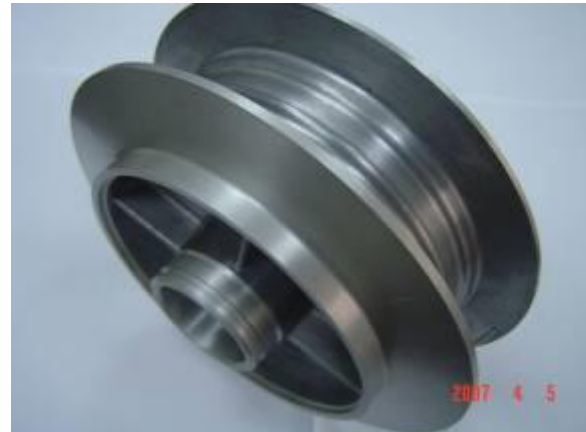
Motorcycle cylinder
Machine model: FBL-200



Block Support
Material: polyethylene
Machine model : FBL-200



Motorcycle rims
Machine model FBL-200



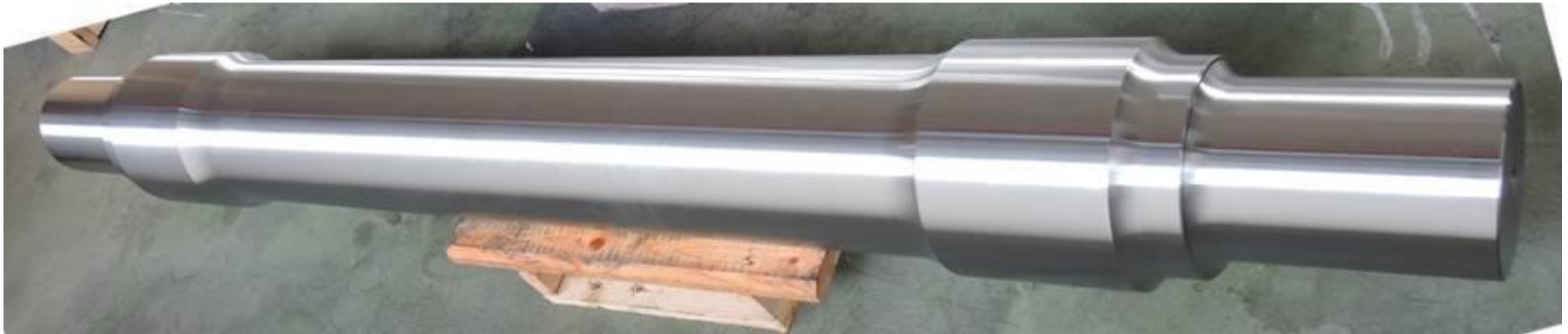
Motorcycle pulley
Machine model FBL-200



Train brake cylinder/bolt

Material : 42CR

Machine model : FBL-250Y



Train drive shaft

Machine model : FBL-360L



Air compressor eccentric shaft

Material : nodular cast iron

Machine model : FBL-200



Bicycle hubs shaft

Material : Aluminum 7075

Machine model : FCL-140



Lampshade

Material : Aluminum

Machine model : FCL-140



Bicycle hubs

Material : Aluminum

Machine model : FCL-200HT

Wheel Machine



Wheel Machine Spec

Specifications	unit	FBL-300W17	FBL-300W20	FBL-360W22	FBL-360W24
Swing Over Bed	mm	653	770	800	840
Swing Over Saddle	mm	417	600	613	662
Max Turning Diameter	mm	510	560	630	680
Max Turning Length	mm	594	594	762	762
Wheel Size	mm	17"	20"	22"	24"
Spindle Nose	ASA	A2-8	A2-8	A2-8	A2-8
Spindle Bearing Diameter	mm	Φ130	Φ130	Φ160	Φ160
Max Spindle Speed	rpm	2500	2500	2500	2500
Main Spindle Motor	kW	22 / 26	30 / 37	30 / 37	37 / 45
Machine Weight	kg	5800	6500	9500	9500



Automotive parts

Car brake disc

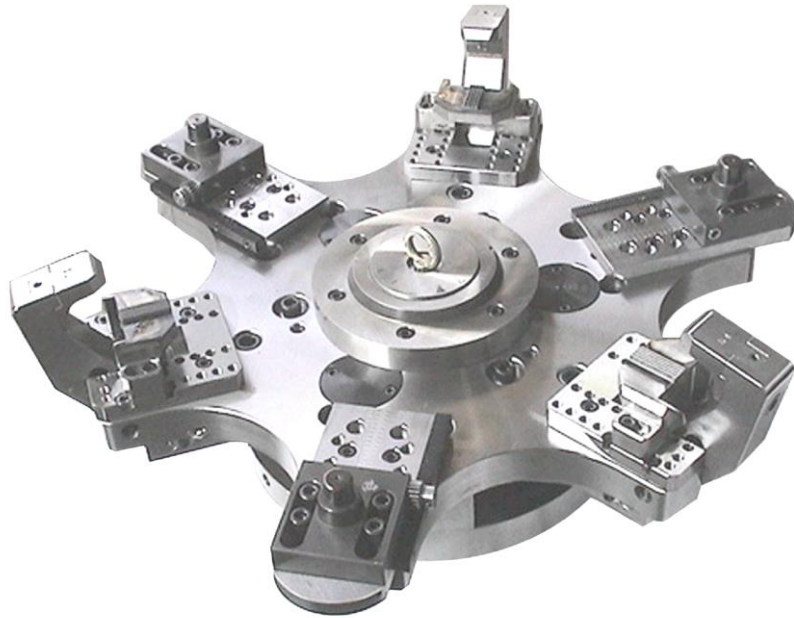


Aluminum wheel 13"~24"

Machine model : FBL-300W/360W

Aluminum rim machine

Apply to wheel 13"~24"



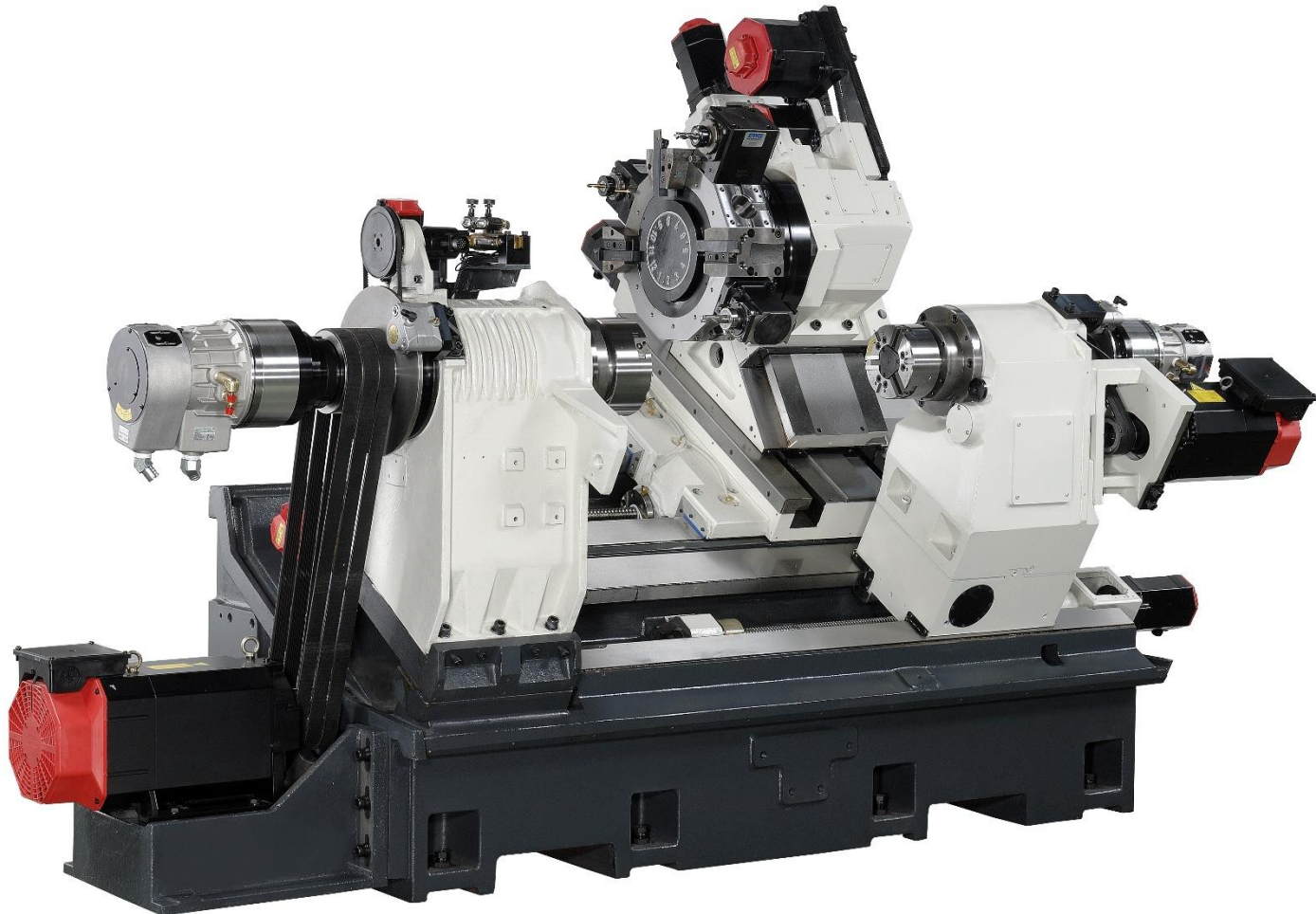
**Hydraulic finger
chuck**



**Aluminum wheel
cutting example**



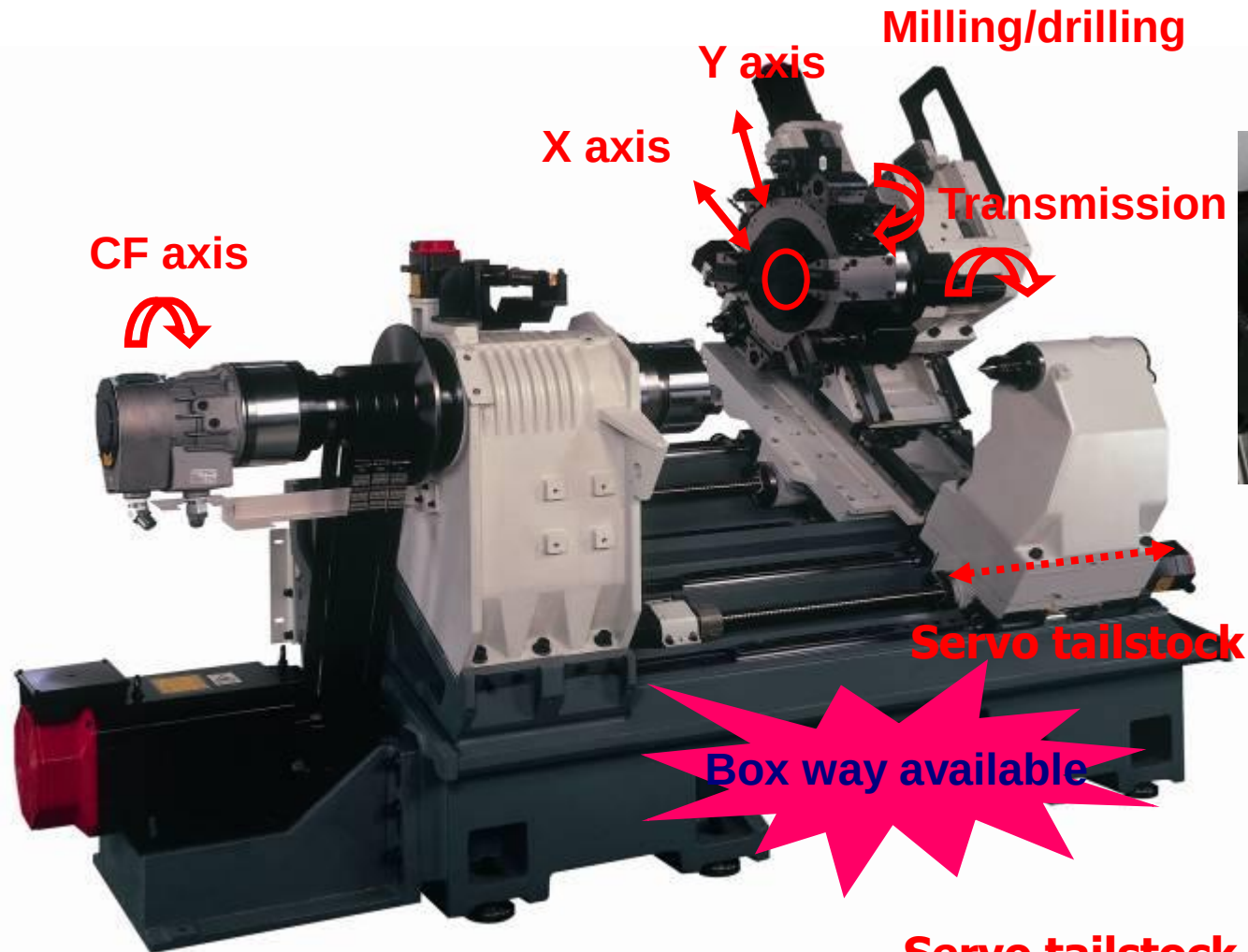
Turning-Milling Y-axis Machine



Turn-mill Y-axis machine spec.

			FNL-250Y FBL-250Y	FNL-250SY FBL-250SY	FNL-320Y FBL-320Y	FNL-320SY FBL-320SY
Main spindle	Chuck size	inch	8 (10)"		10"	
	Max spindle speed	rpm	4500		3500	
	Max turning diameter	mm	350 /13.8"	460 /18"	460 /18"	
	Bar capacity	mm	65 /2.6"		77 /3"	
	Y axis travel	mm	±55 /2"			
	Spindle nose		A2-6		A2-8	
	Spindle motor	Kw	11/15			
Sub spindle	Chuck size	inch	Nil	6"	Nil	6"
	Max spindle speed	rpm		6000		6000
	Spindle nose			A2-5		A2-5
Milling tool	Type		BMT 60			
	Max speed	rpm	6,000			
	Motor power	Kw	4.5(55Nm)			

Multi-function with sub spindle



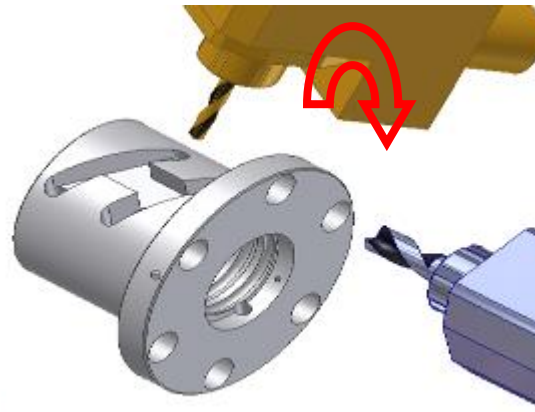
Sub spindle



Servo tailstock with high speed drill



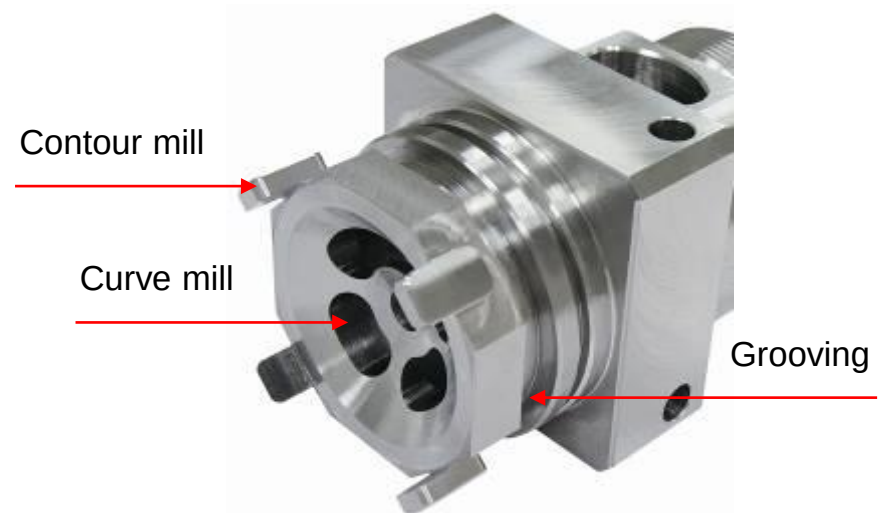
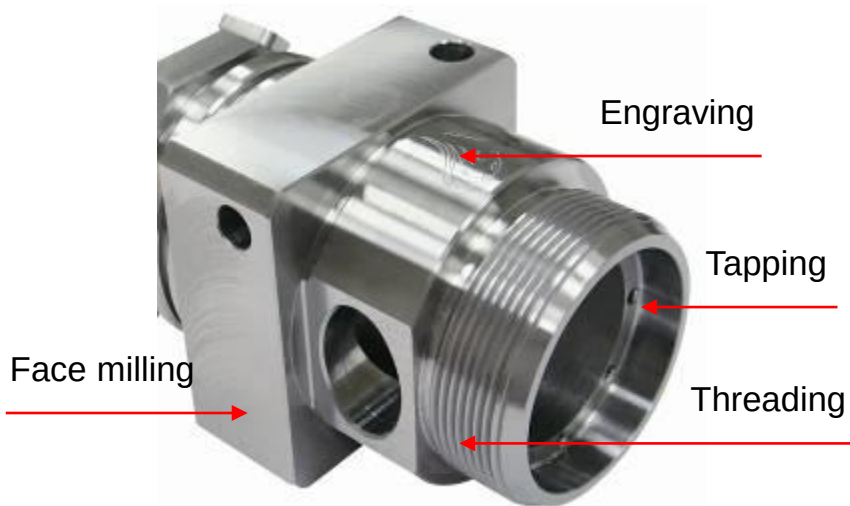
CF axis that provided high precision, high torque C axis dynamic milling



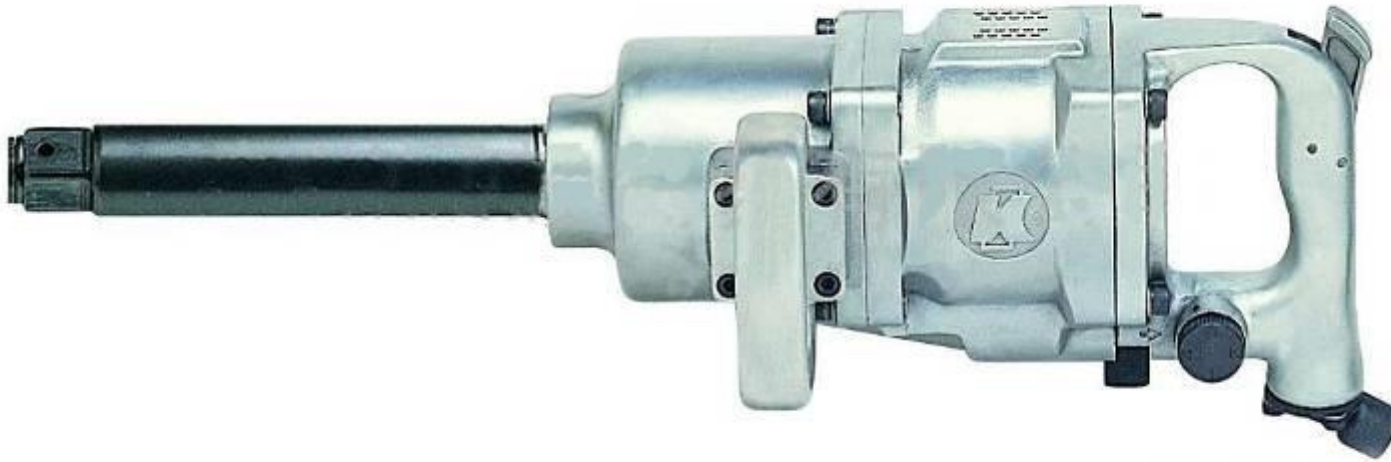
With C axis and Y axis that is good for milling, drilling and tapping multi-function.



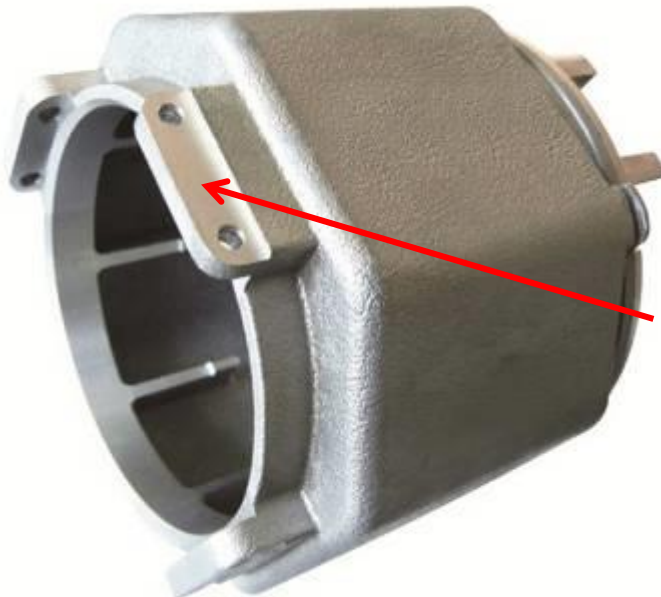
New high rigidity BMT power turret, the large diameter curvic coupling, ensure accuracy and rigidity of cutting tools and work-piece



Work piece apply to automobile industry

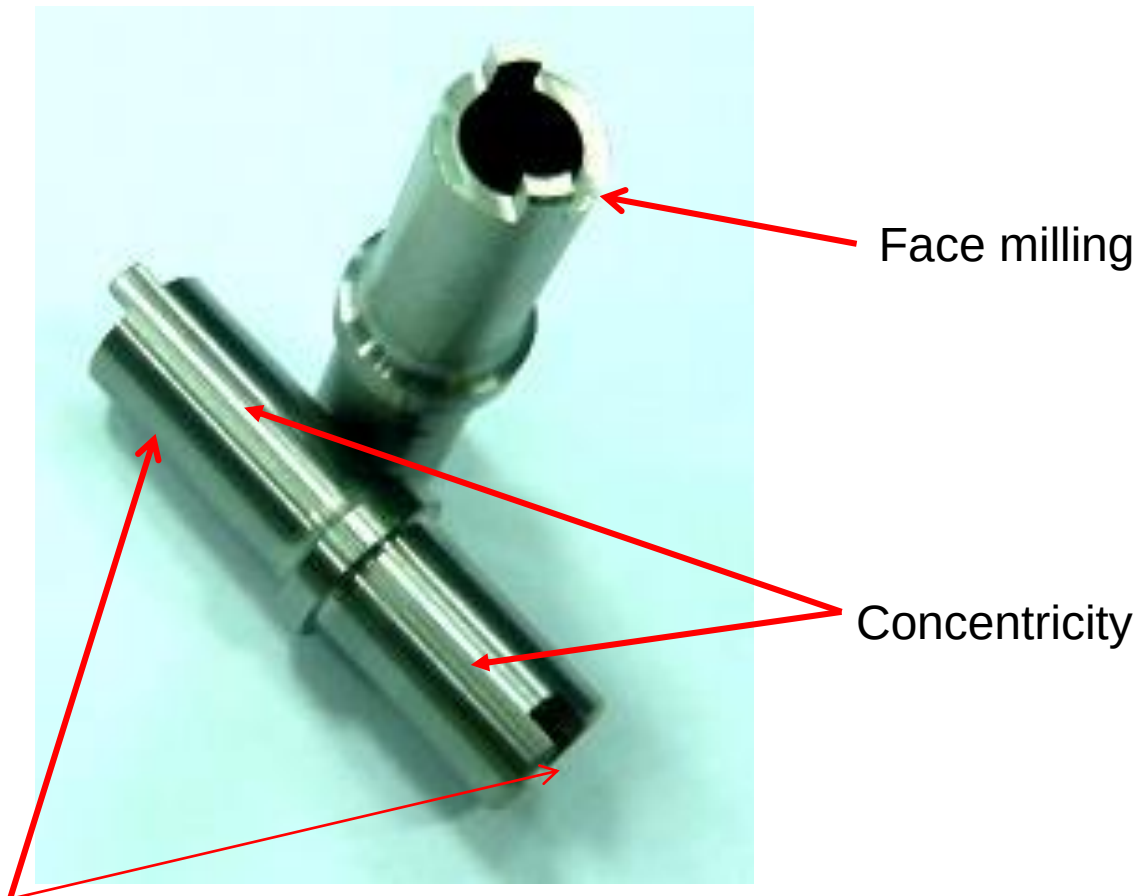


Power/ Pneumatic tools
Housing



Face milling side hole

Jet system parts
(automobiles, ships, aircraft industrial)
Machine model : FNL-250SY



Both ends groove angle and parallel

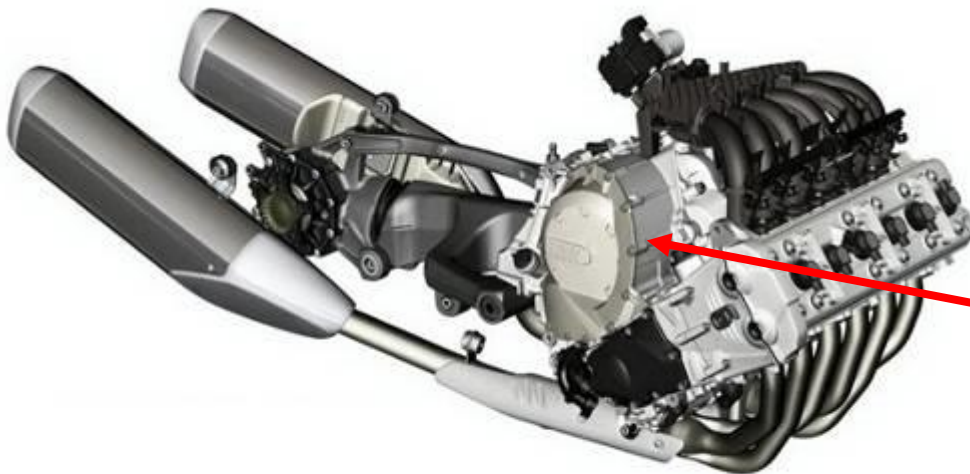


Motorcycle parts

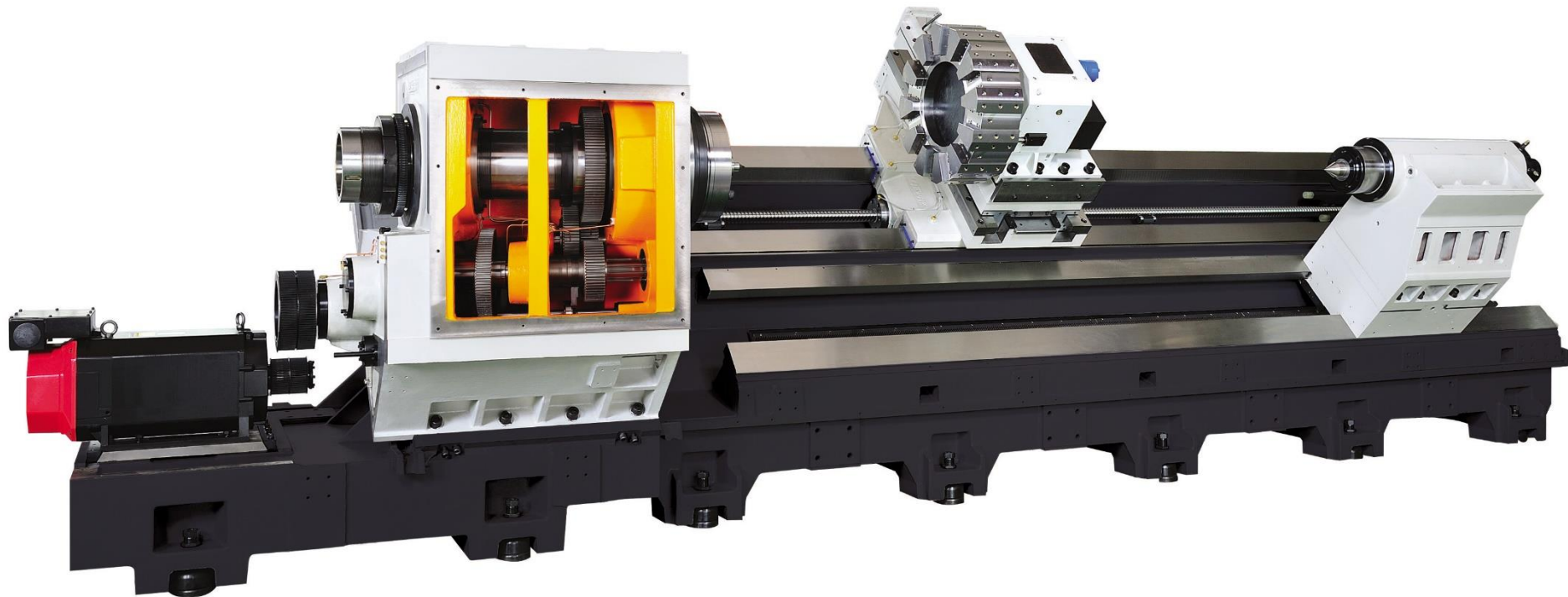
Machine model: FNL-250Y

O.D. surface milling

Face positioning/ drilling/tapping



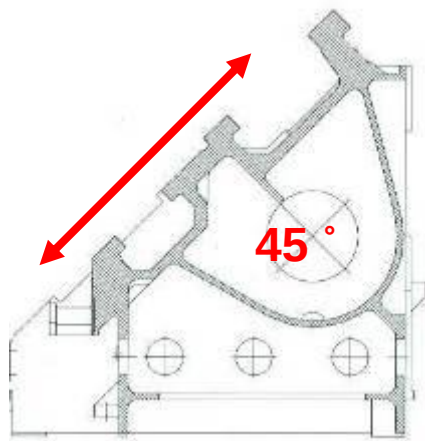
Heavy Duty Lathe



FBL-500 series specification

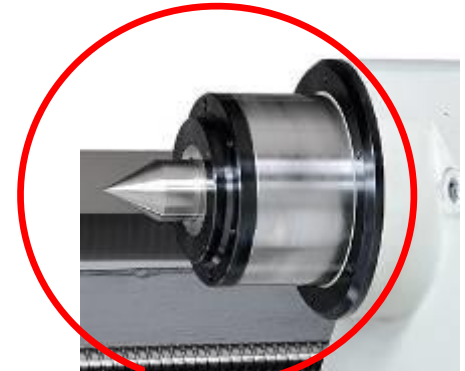
Item	Unit	FBL510	FBL520	FBL530	FBL540	FBL510 MC	FBL520 MC	FBL530 MC	FBL540 MC
Controller	mm	FANUC Oi-TD (alpha 40i 60hp)							
Swing over bed	mm	Ø1030/ 40.5"							
Max turning diameter	mm	Ø940/ 37"				Ø880/ 34.6"			
Max turning length	mm	1050/ 41"	2000/ 78.7"	3000/ 118"	4000/ 157.5"	1050/ 41.3"	2000/ 78.7"	3000/ 118"	4000/ 157"
Between center	mm	1050/ 41"	2000/ 78.7"	3000/ 118"	4000/ 157.5"	1050/ 41.3"	2000/ 78.7"	3000/ 118"	4000/ 157"
Spindle hole	mm	A2-15 Ø196 / 7.5" A2-20 Ø320 / 12.5" Ø381 / 15" (opt.)				A2-15 Ø196 / 7.5 " A2-20 Ø320 / 12.5" Ø381 / 15" (opt.)			
Tool shank Boring bar	mm	32x32/ 1 ¼" Ø60/ 2 ½" Ø80 / 3 ¼" (opt.)				32x32/ 1 ¼" Ø60/ 2 ½" BMT85 ER50			

Construction and Features



Swing 1 meter

200mm

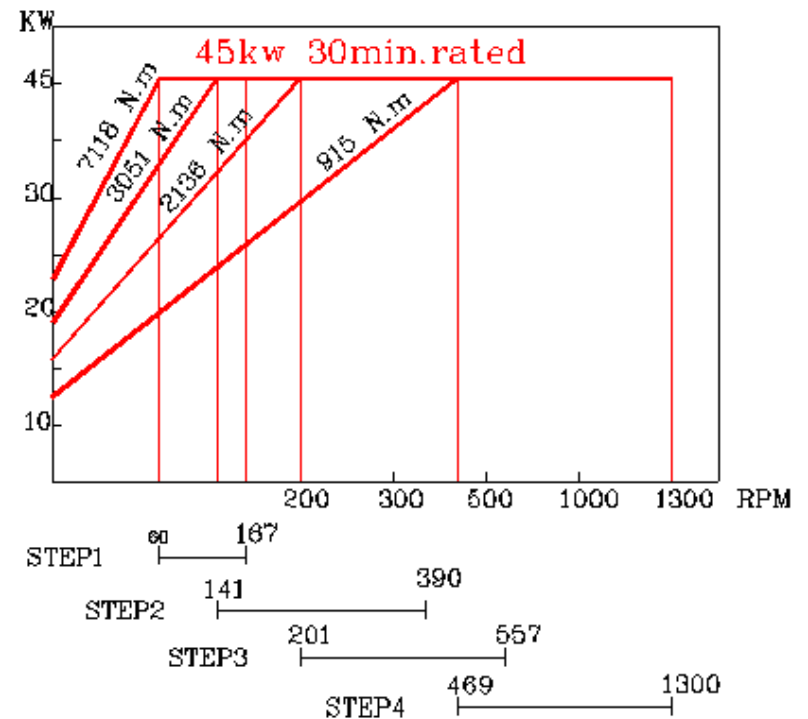


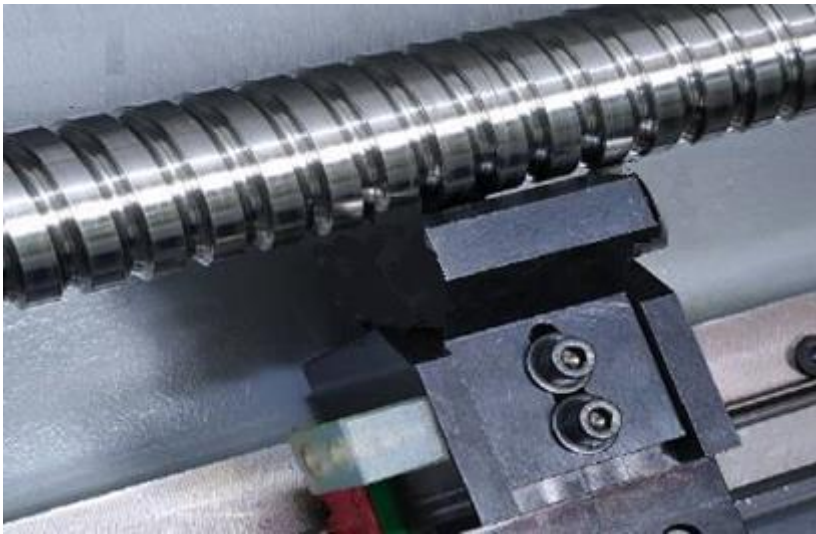
MT#6 live center

High torque 7118Nm
at low speed

Slant bed structure with low center of gravity, easy access and work-piece changeovers. Improved chip removal helps prevent thermal deformation.

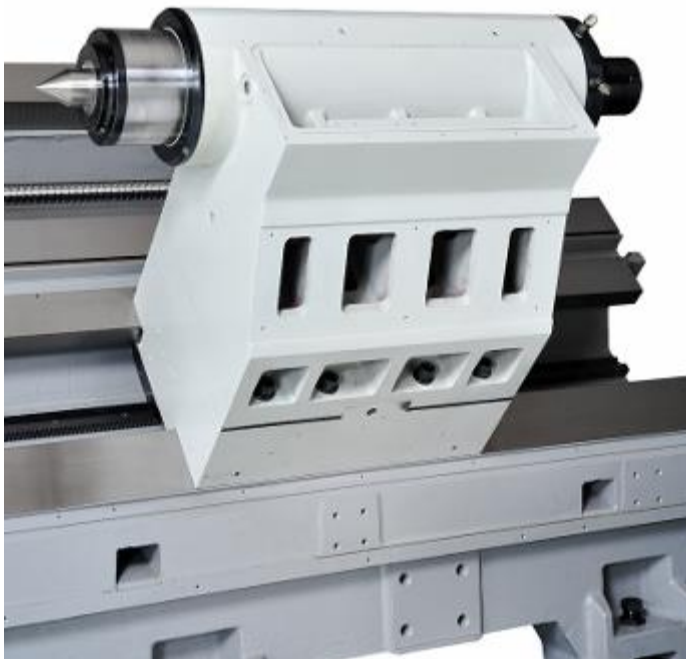
Powerful 4 stage spindle gear box provides 45kW horsepower available for large diameter work-piece and heavy cutting. Spindle hole diameter $\varnothing 196\text{mm}$ (optional $\varnothing 320/381\text{mm}$) suits numerous bar size. Double row roller bearing increases stability and rigidity for heavy cutting



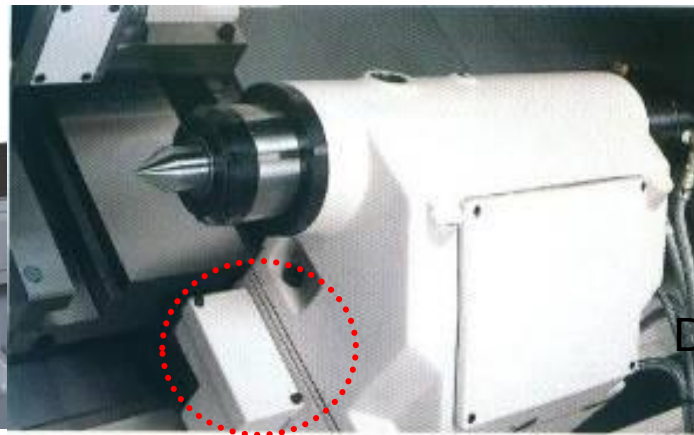


FBL-530/540 Z axis ball screw support maintains high precision and stability.

Standard MT6 rotary quill, increases rigidity for heavy loading and makes optional live center unnecessary.



Upgraded Ø200mm quill offers heavy loading, **hydraulically driven** tailstock improves machining efficiency



Doosan, Kia, Dakang

Standard and Optional accessories



**BMT 85 live tooling
come with 11kW(15hp)
milling motor**

Manual steady rest



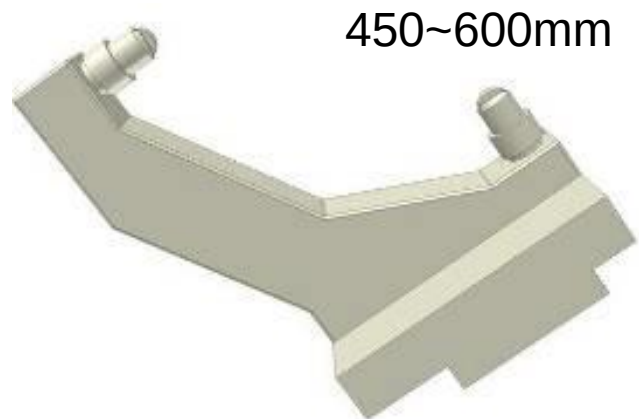
**Spindle supported by
cylindrical bearings**



Dual chuck



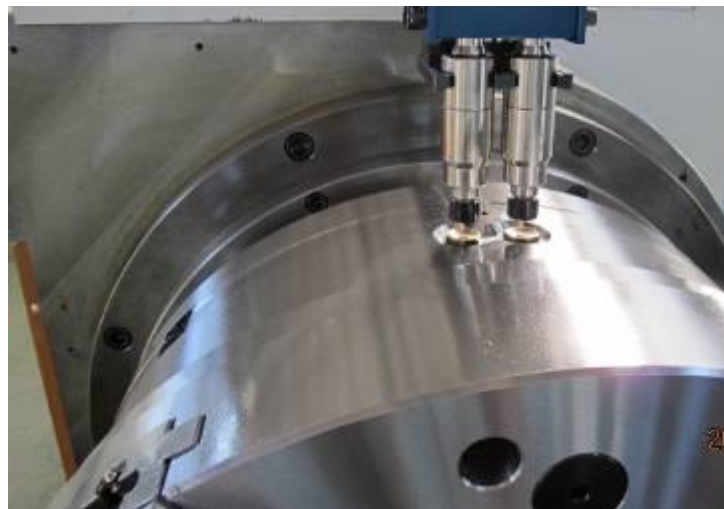
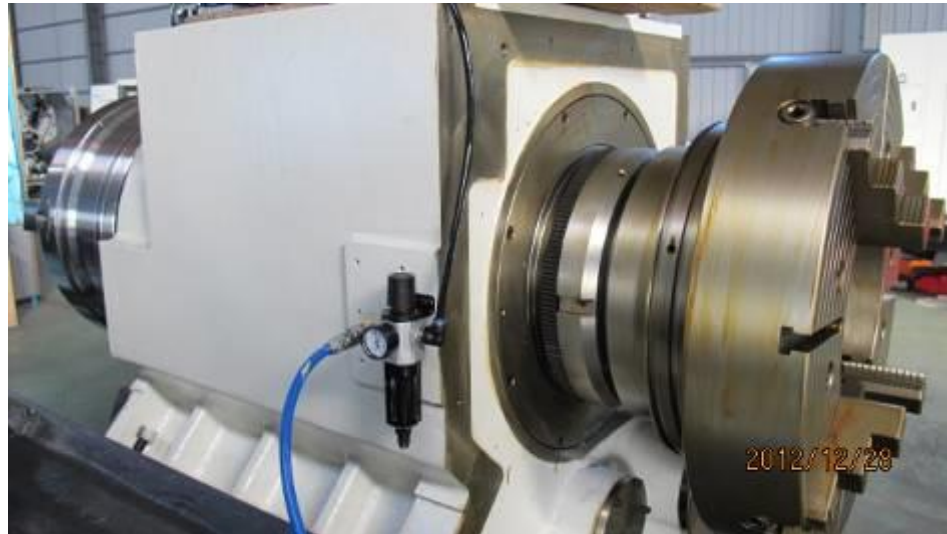
Manual steady rest
clamping range 40~400mm



450~600mm

C type manual steady rest
Max. range 700mm (customized)

Independent chuck 24"~32"



Air chuck capacity
Ø180/205/320mm



The concave spindle guard prevents any tool interference



Comfortable and convenient environment for ergonomic operation

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



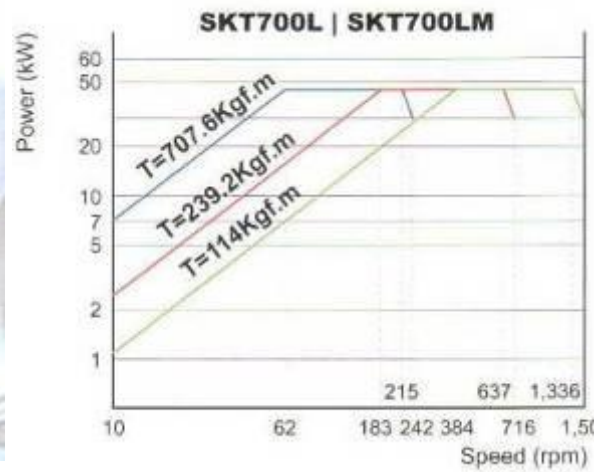
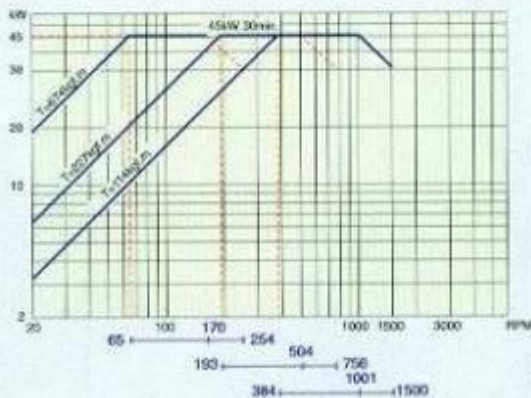
Front valve, very convenient to adjust and operate it



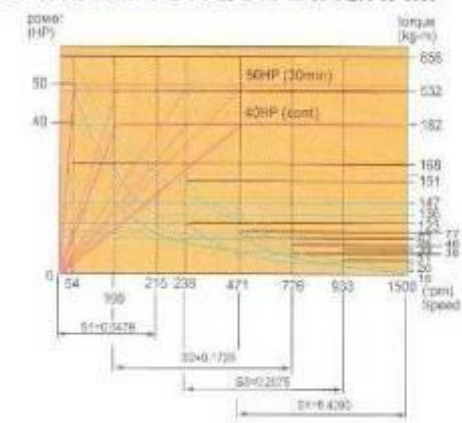
Comparison sheet

	Focus FBL-500	PUMA 700	KIA SKT700	Dakang VS40
Spindle stage	4	3	3	4
Maximum torque	7118 NM	6605 NM	6928NM	6600NM

● PUMA 700/700L/700M/700LM (Max.1,500 rpm)



■ SPINDLE TORQUE DIAGRAM



Oil & gas industrial equipment

	Parts	Equipment demand	Customer
1	Pipe (Gas pipe 4~6" Oil pipe 6~14")	FBL-360 spindle bore 115mm FBL-510/520 spindle bore 320mm	North West Company (Texas) Axis Machine (Scotland)
2	Valves 、 pump	FBL-360/MC FBL-530	TianJin SianJia Co., Ltd (China) Weir Group (Dubai)
3	Rig equipment (X'mas tree case)	FBL-520 Vertical lathe 1.6M/2M Horizontal Boring Milling Machine	Solar Alert SDN BHD (Malaysia)
4	Rig equipment (X'mas mandrel, bushings)	FBL-360/MC FBL-510 540	Leong Jin Corp. (Malaysia) (Singapore)
5	Rotary joint 、 fittings	FBL-510 FBL-530MC	Weir Group (Dubai)

FBL-520/530 application



- Engineering machinery
- Mining equipment
- Hoist equipment
- Large cylinder
- Pipeline



A recommended model: FBL-520



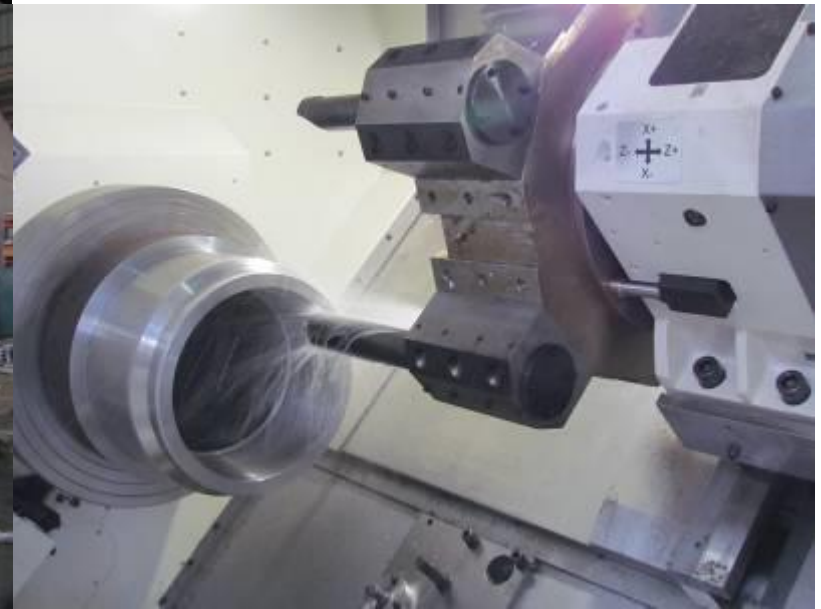
I.D/O.D turning & threading (Texas Houston, U.S.A)

- RSMC Inc. (FBL 520, QP2448)
- Textool Co Inc. (FBL520, FBL360)
- Geospace Technologies (FBL360*5)





Solar Alert SDN BHD (Malaysia)





Solar Alert SDN BHD (Malaysia)

Machining parts is known as part of the Christmas tree housing, O.D. 600mm, length 730mm, weight 600kgs.





Leong Jin Corp. (Singapore)

Machining parts for X'mas
mandrel, bushings



Oil & gas industry



1. Gas piping Ø 4.5" ~6 " (FBL-360)

Oil piping Ø 6" ~14" (FBL-530)



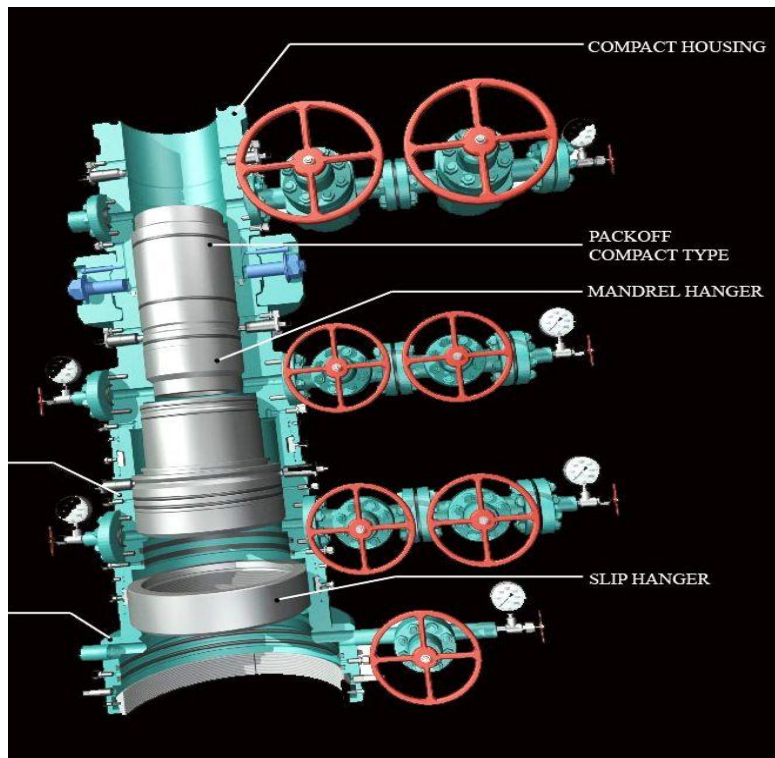


2. Valves

Parts name: Oil valve manufacturing

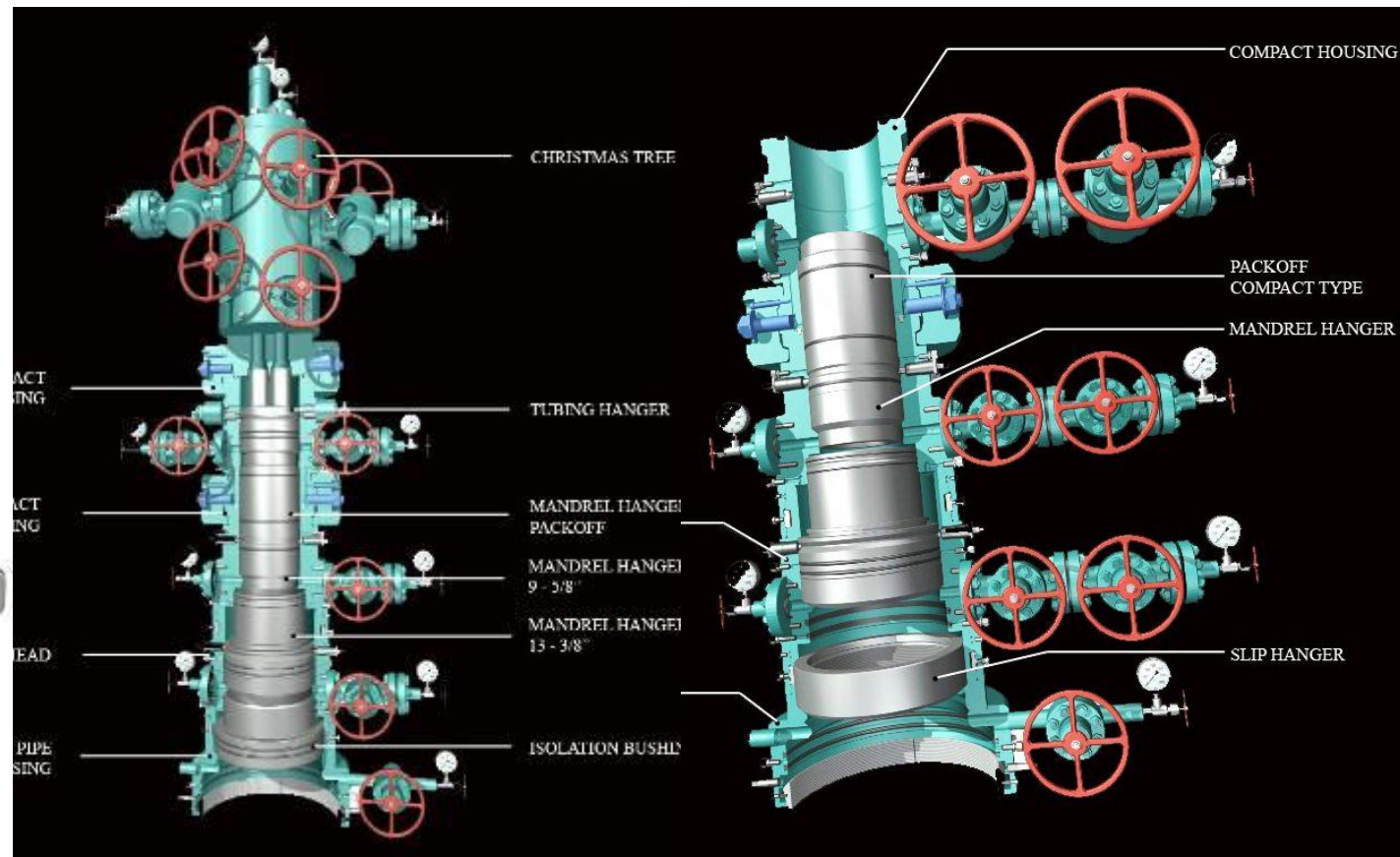
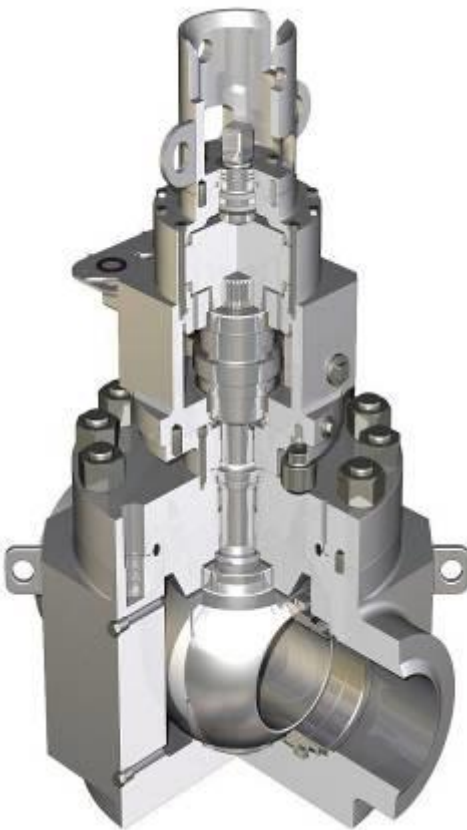
Equipment: FBL-360

Customer data: TianJin SianJia Flow Control System Co., Ltd



3. Oil rig equipment:

Such as valve, pump, sleeve, mandrel. It is high toughness hard material, e.g. INCONEL, CUPRONICKEL, STAINLESS STEEL.





Oil wells drill holder



All kinds of hydraulic cylinders

Japanese companies produce all kinds of hydraulic cylinders
invest and build factories in Zhangjiagang, China

The customer purchasing FBL-360 spindle bore 115mm



Engineering Machinery cylinder



Die Casting Machine cylinder

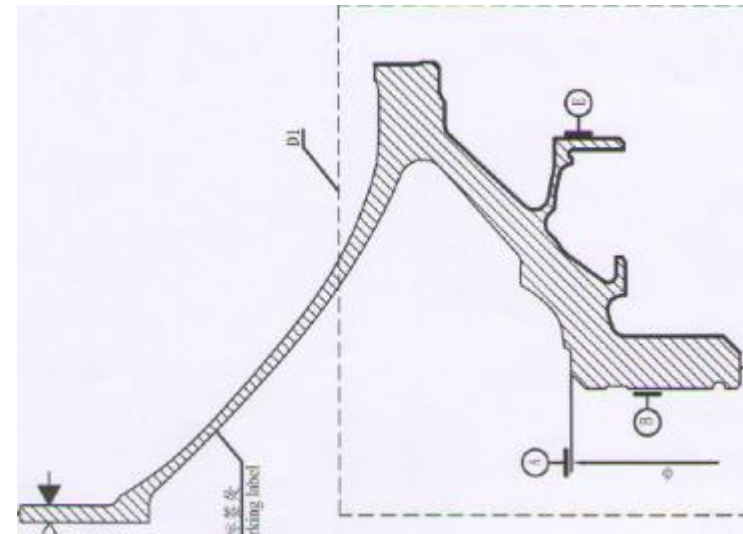


Water gate cylinder



Hydraulic Cutting Machine

Fan shaft, taper shaft

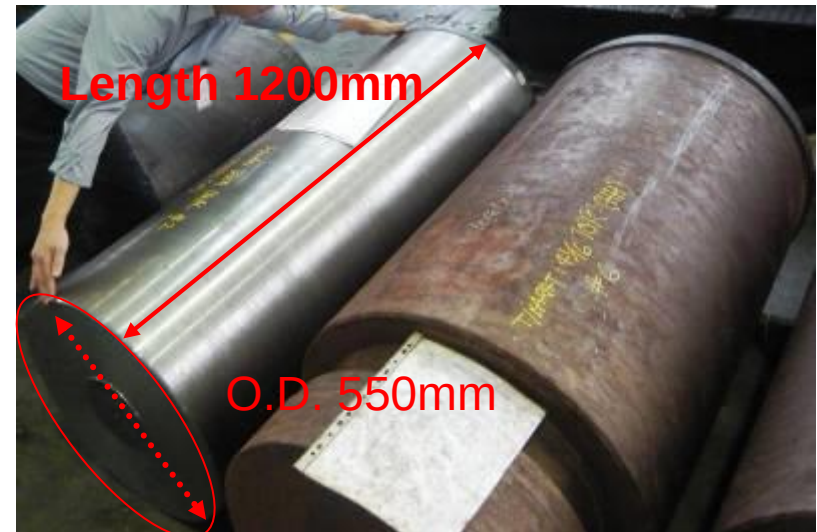




USA customer

- O.D/I.D. machining
- internal/external (big pitch)



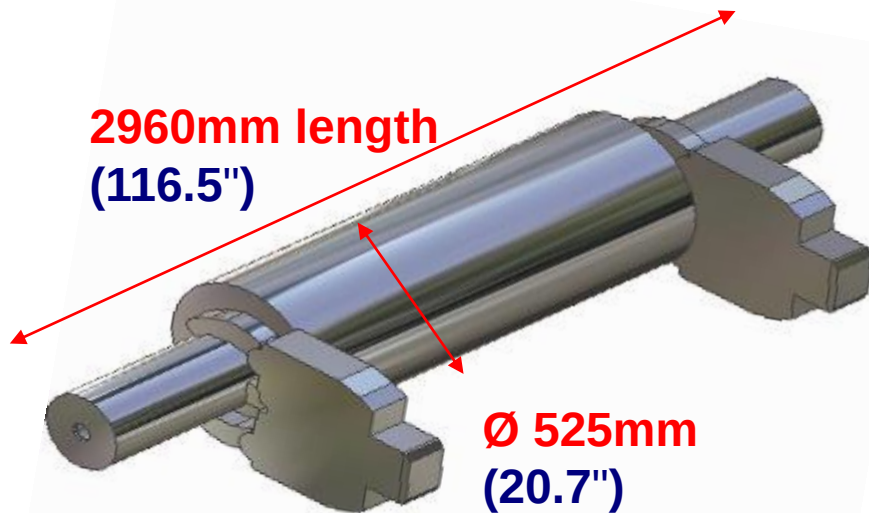


Capacity

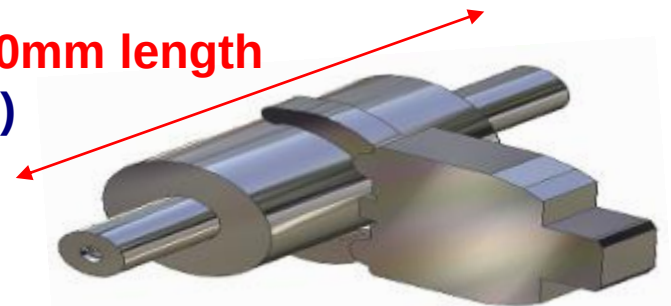
Elevator cable roller



Ø 650mm
(25.6")



1200mm length
(47")

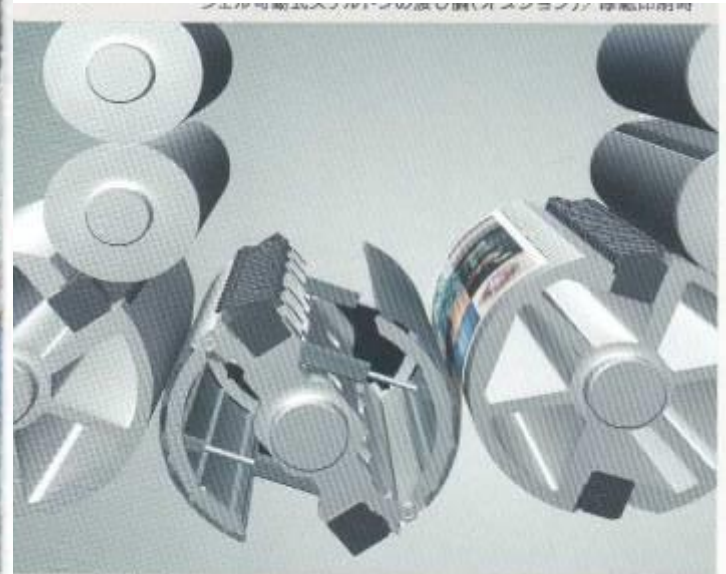


Mandrel maximum load 3000kgs
(6600lbs)

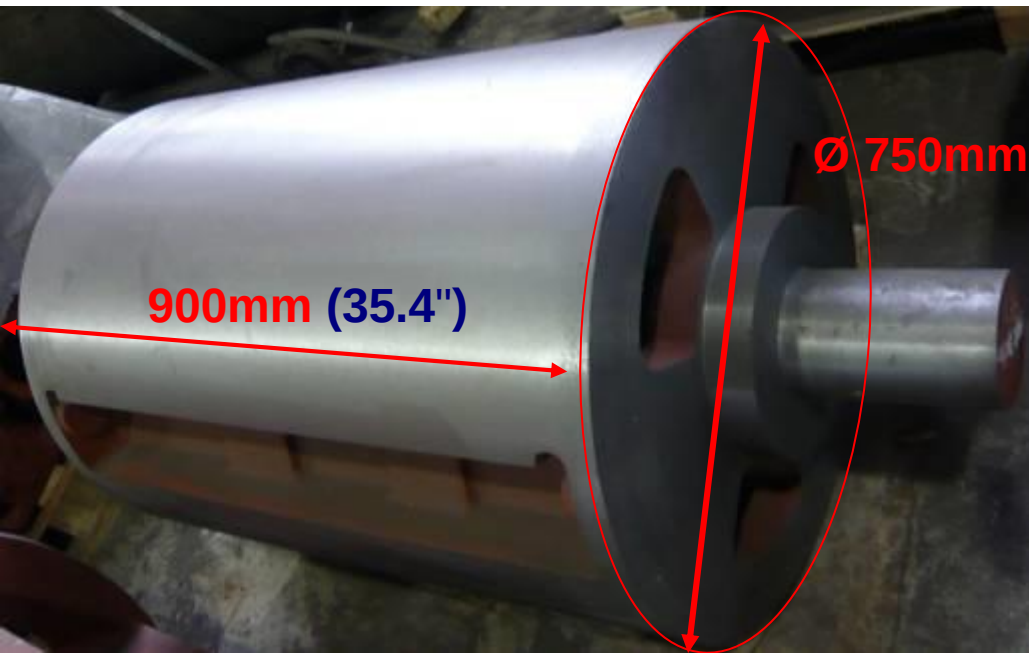
Print roller



インライン印刷品質管理システム RYOBI PQS (オプション)

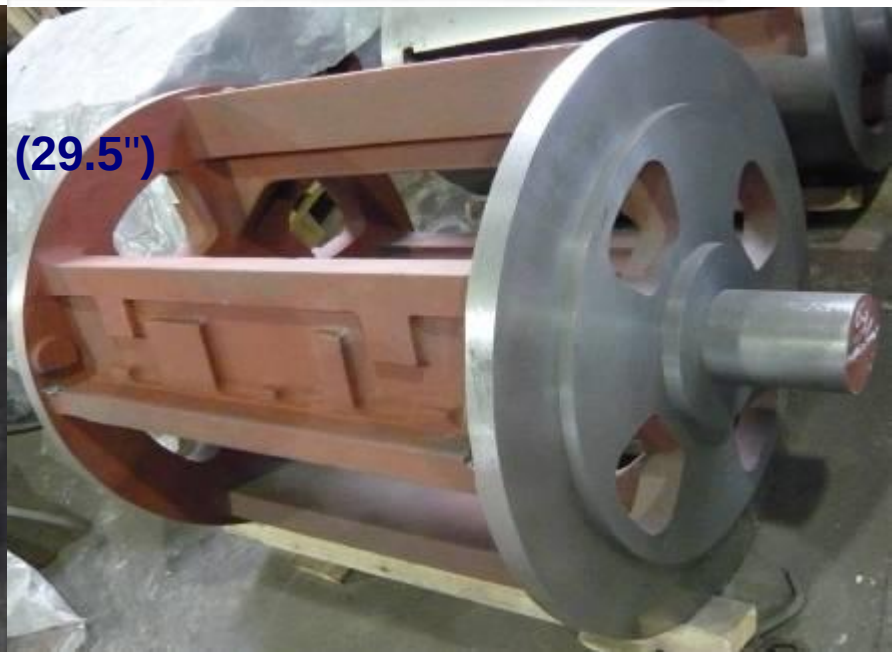


シェル可動式スケルトンの渡し胴(オプション) / 薄紙印刷時



900mm (35.4")

Ø 750mm (29.5")



O.D. machining by FBL-520
I.D. machining by Chevalier vertical lathe



Robot system



Built-in Robot



Gantry Robot



6-Axis Joint Robot



Gantry Robot System

- Apply to following models (Generally 6"~12" Chuck)
FCL-140 FCL-200 FCL-300 FNL-250 FNL-320
FBL-230 FBL-200L FBL-300 FBL-360 FBL-250 FBL-320
- Material load capacity in 5 classes:
3kg / 5kg / 10kg / 20kg / 30 kg
(weight includes pneumatic jaws)

Gantry Robot System

- Pallet disc loader in 3 classes according to material diameter
 $\Phi 120\text{mm}$ $\Phi 150\text{mm}$ $\Phi 200\text{mm}$
- Pallet system in 3 types according to material shape



Rotary stack type



Chain type



Slant tray type

- Pallet quantity in 3 type
10 pallets / 16 pallets / 20 pallets

Built-In Robot System

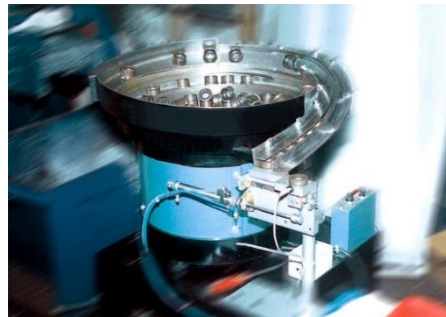
- Apply to following models (Generally small size machine)
FCL-120 / FBL-120 / FCL-140
- Pallet system in 4 types according to material shape



Single tray type



Double tray type



Vibration type



Rotary stack type

6-Axis Jointed-Arm Robot

Degrees of freedom	6
Nominal load capacity	5kg
Maximum reach radius	710 mm (Point P)
Motion Range J1	$\pm 165^\circ$
Motion Range J2	$+85^\circ \sim -125^\circ$
Motion Range J3	$+185^\circ \sim -55^\circ$
Motion Range J4	$\pm 190^\circ$
Motion Range J5	$\pm 115^\circ$
Motion Range J6	$\pm 360^\circ$
Position repeatability	$\pm 0.02\text{mm}$
Cycle time	0.5s
Weight	40kg



Thanks for your visiting

