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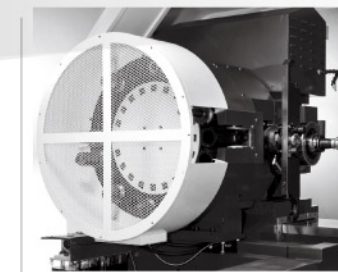
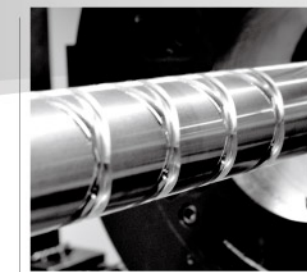
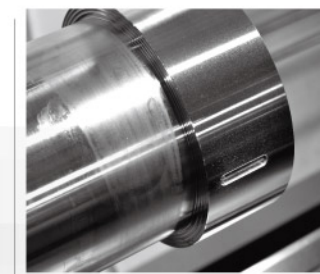
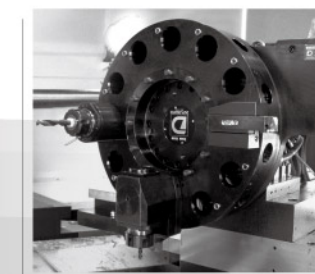
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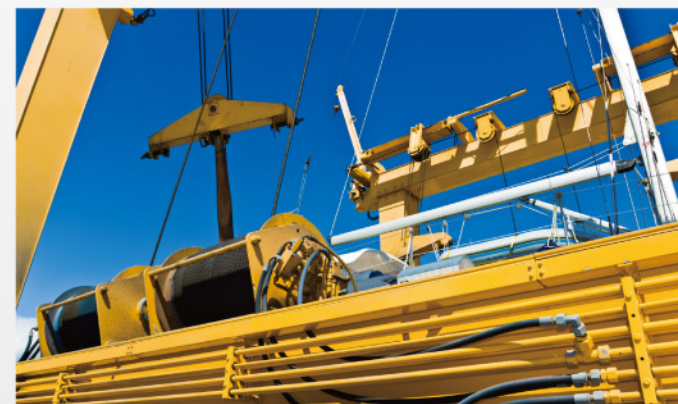
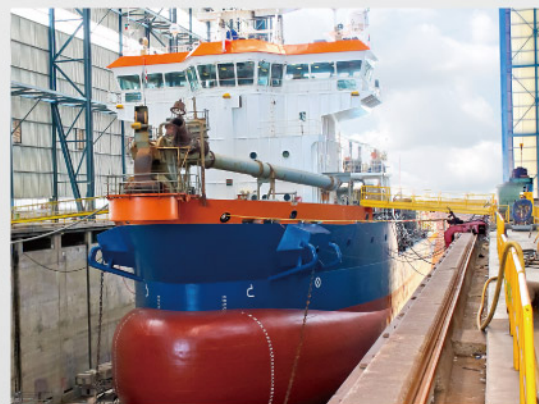
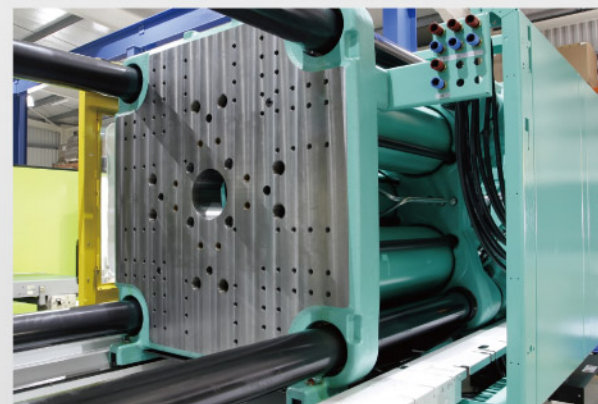
CNC LATHE

■ CLA / CLB series

Four Axis turning and Milling CNC Lathe



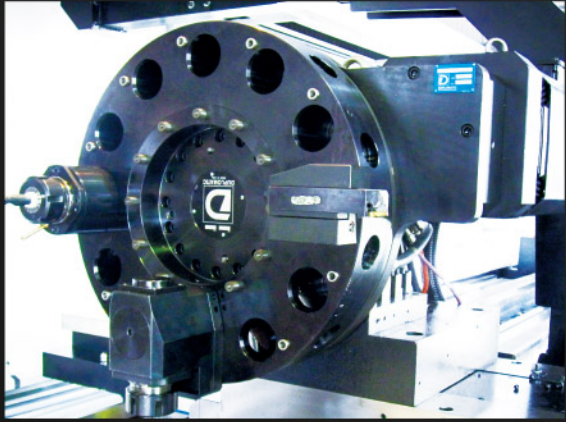
Design Concept for Applicable Industries



Features

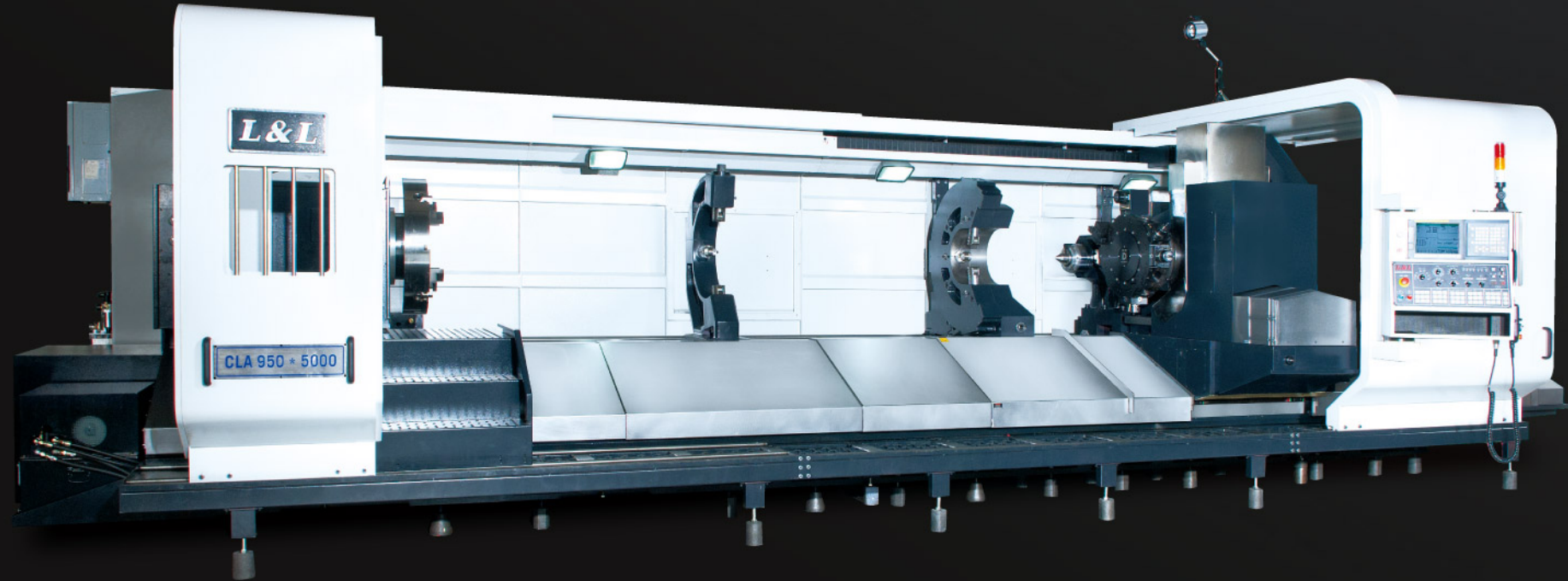
- The common problem for slant bed type turning center is the interference between the machine bed and steady rest, which is necessary for turning large diameter and extra long workpieces. The CL-Series eliminates this problem with the revolutionary 5 guideways design.
- This design allows tools to cut pass steady rest without interference with improved efficiency. The CL-series is designed to perform multi-tasking process on complex parts that require turning, milling, drilling, tapping and even boring.
- The X, Y, Z, C axes can be controlled simultaneously to support complex parts with high degree of machining difficulty.

CLA 950x3,000-16,000 ▼

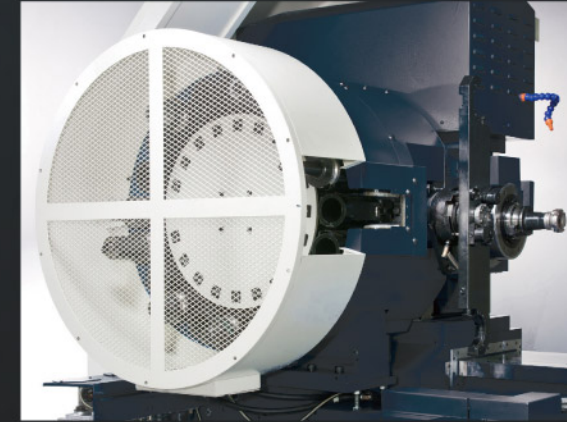


Advantage:

- Incorporates the rigidity of flat bed lathe with the efficiency of the slant bed design.
- Steady rest and tailstock does not interfere with turret's movement.
- Multi-tasking machining capability
- Heavy duty workpiece loading capacity

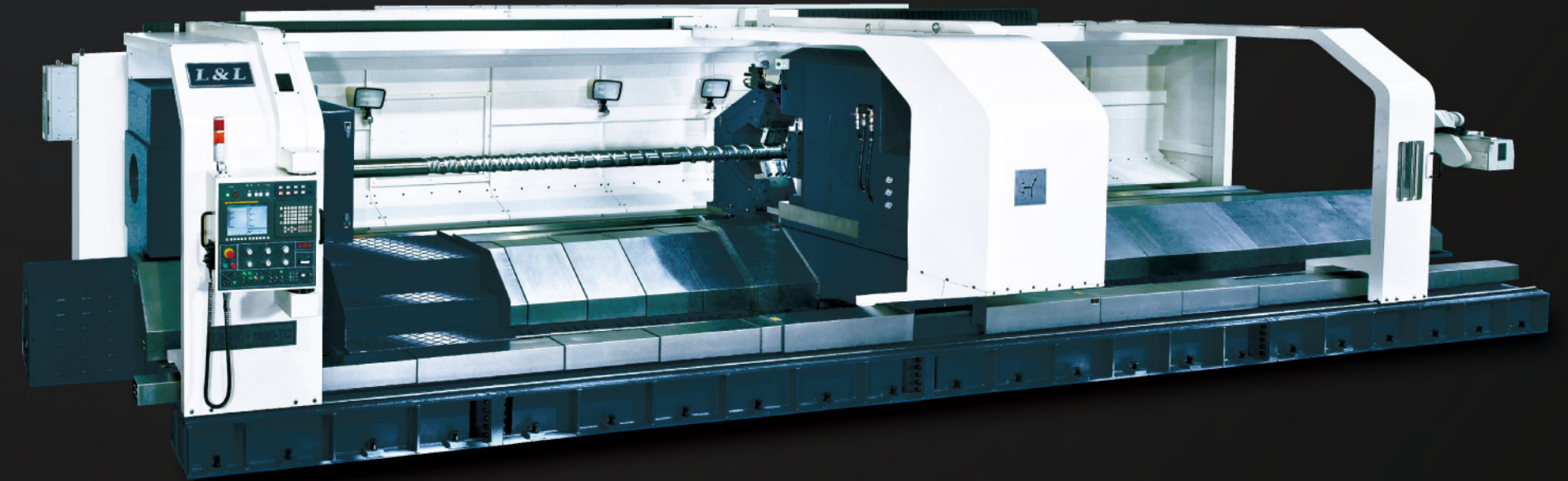


CLB Auto Tool Change System ▼



Advantage:

- Mounting 20pcs ATC system can provide the multi-tasking machining choice.
- Independent guide way can provide the strong support for the sub spindle system.
- The sub spindle can provide the biggest torque 470NM
- Have better performance on the milling.
- Bed width: 1750mm





BED

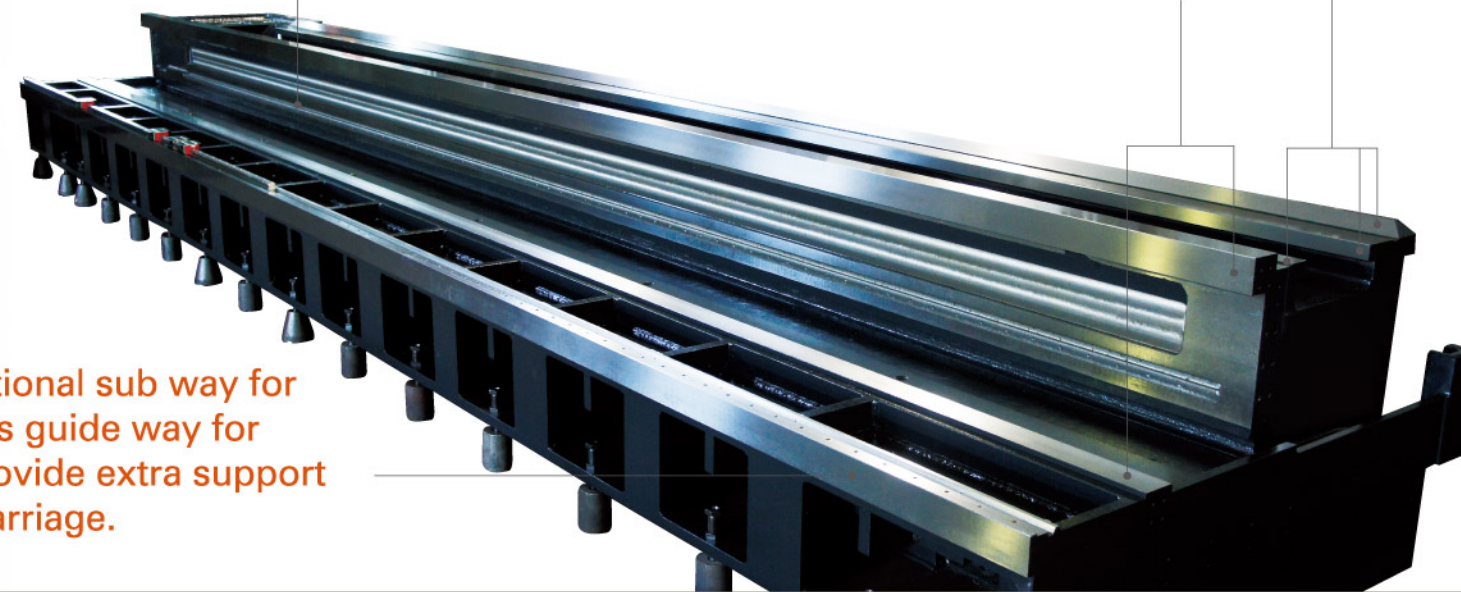
- The completely new bed and base structure incorporates MEEHANITE cast iron.
- Special 5 bed way design isolates the bed way from carriage from the bed-ways for tailstock and steady rest.
- The hardness of the bed ways are maintained to HRC50-55 to provide exceptional stability and rigidity to support heavy duty machining and turning.
- Both Z and X-axis ball screws are center mounted to create a balanced environment to avoid drifting and improve motion smoothness.

Linear slide for ball screw support

1 V way and 2 flat ways for tailstock and steady rest

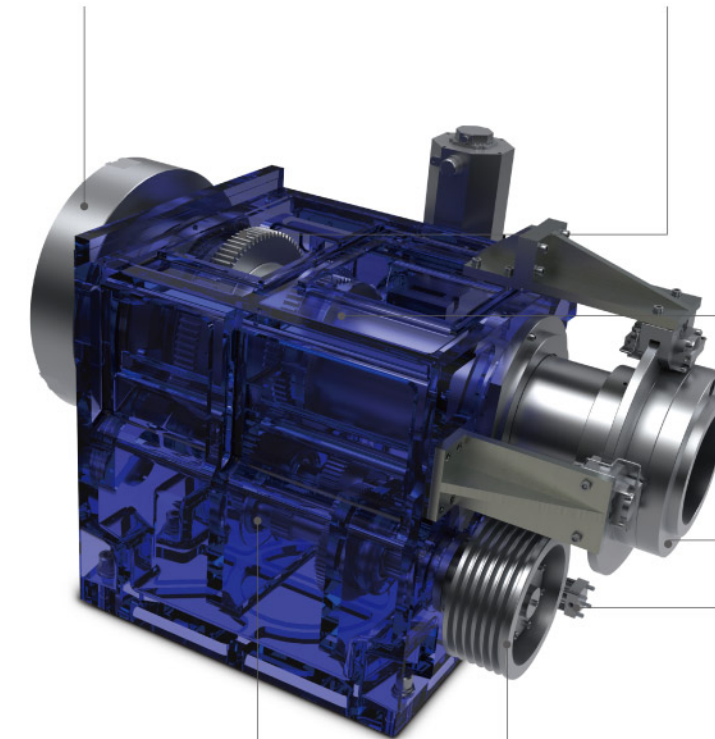
2 box ways for carriage

Additional sub way for Y-axis guide way for to provide extra support for carriage.



Manual Hydraulic and air chucks are available

Hardened and ground spindle gear module 5



Ultra rigid and precise spindle

Rear adapter for double chuck

4 steps auto gear change

4 steps auto gear change

Hydraulic cylinder for gear change

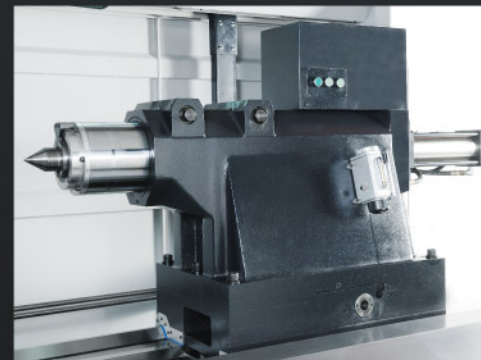
CS axis system:

- C-axis system is driven through spindle motor for precise orientation
- Hydraulic disk brake system to hold spindle firmly and avoid spindle rotating after braking.
- Contouring machining is available
- Equip with angle encoder in order to provide real-time feedback response

Model	CLA / CLB
CS axis rotating angle range	0° ~ 360°
CS axis indexing accuracy	30 arc sec
CS axis rapid traverse	2 M/min
CS axis transmission	0.1 mm/min ~ 1,000 mm/min

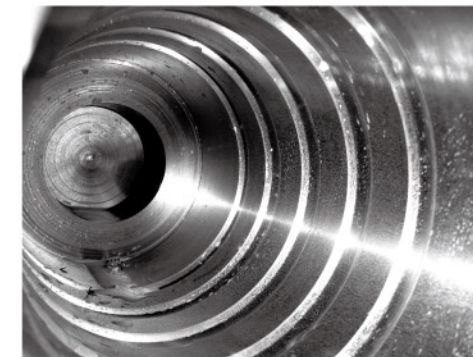
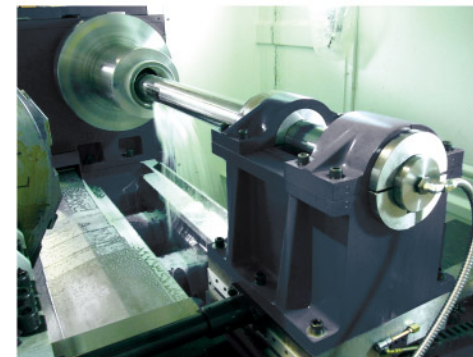


Tailstock



- Rotating quill
- MT #6 dead center
- Hydraulic, electric or manual quill movement are available.
- Tailstock positioning can be controlled through M Code with hydraulic cylinder.
- Tailstock center can be retracted through M code for convenience.

Boring attachment and sub carriage



- Capable of deep hole boring.
- The boring attachment can be separated from carriage with ease if user requires OD work with tailstock support.
- The boring attachment includes boring bar and support. The boring depth and diameter can be controlled by program when boring attachment is installed on cross slide.
- Various sizes of boring sleeves are available depending on user's requirements.





Optional Accessories

Hydraulic/Manual Steady Rest



Hydraulic Steady Rest

- Automatically adjusted to clamp various work-piece sizes.
- Precise concentricity.
- Time saving setup
- Clamping and unclamping controlled by M code
- Steady rest is positioned by attachment to carriage. Thus, steady rest position can be controlled through M-code.

Manual Steady rest



- Quill diameter: Ø80mm
- Three-point heavy duty needle roller bearing
- Tool can pass steady rest without interference
- Capacity:
Ø100-300mm,
Ø300-500mm,
Ø500-750mm

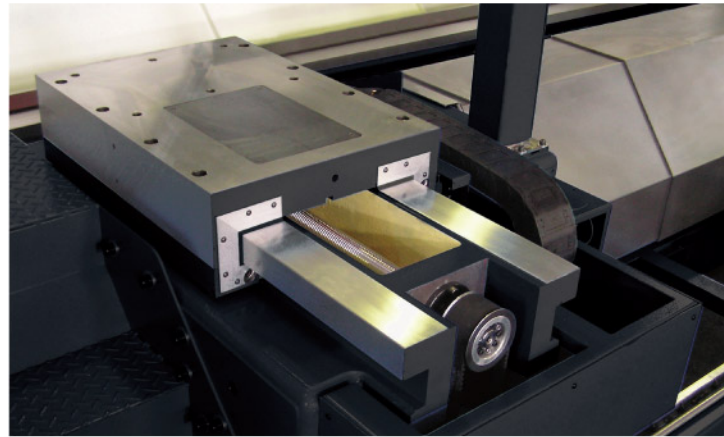


- FANUC 0iTD controller standard with 10.4" color TFT-LCD screen
- Built-in "Manual guide i" with 3D graphic and thread repair function.
- MPG handwheel with LCD monitor for displaying position of each axes. (Optional)
- SIEMES 840 D sl and FANUC 31i(OPT)



CLA Live Tooling Turret

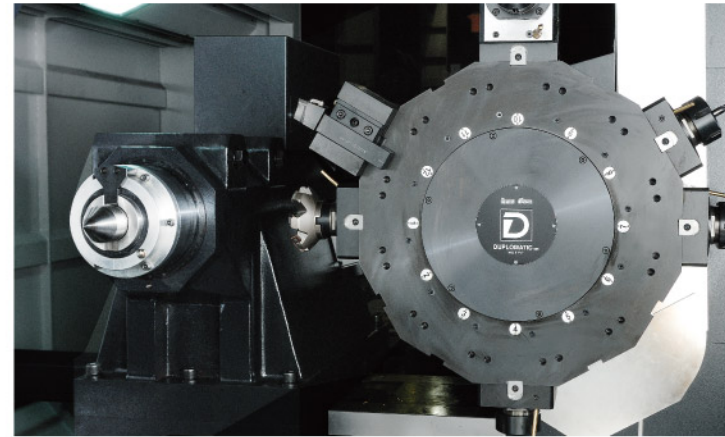
Carriage, Cross Slide, Turret & Y axis system ▼



- No interference between carriage and support (steady rest and tailstock).
- "Box type" carriage and cross slide.
- Concealed conduit design to avoid damage from coolant and chips.
- Y axis travel 100mm (±4").
- Dual brake system on Y axis.

Radial type

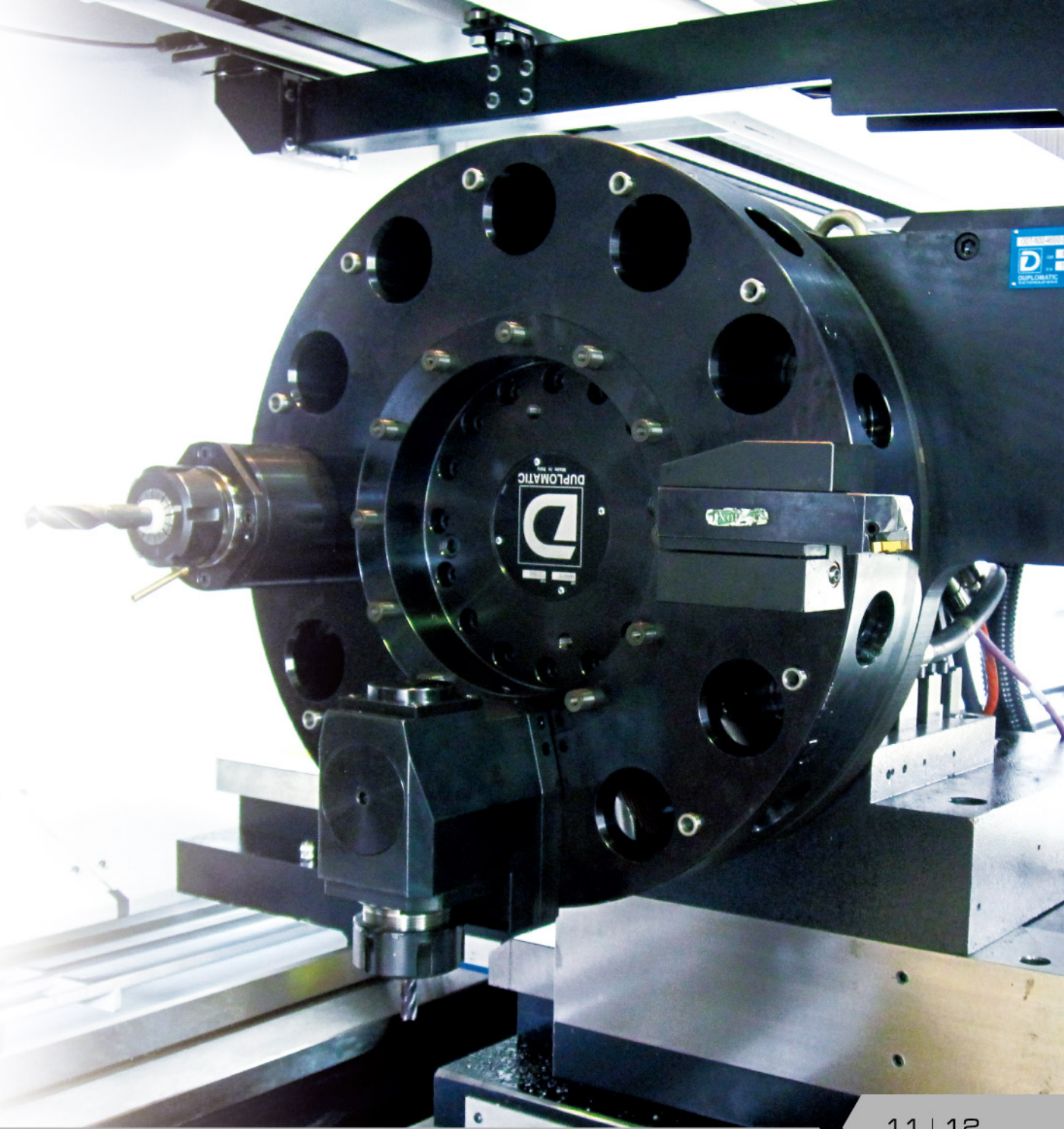
Same with Axial type instead of Axial System

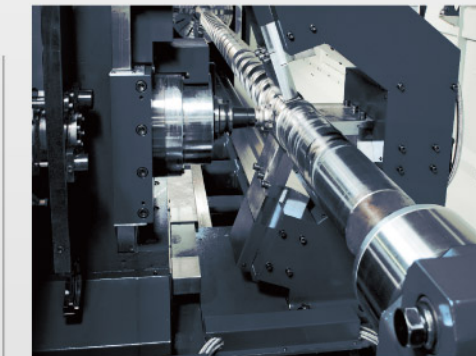
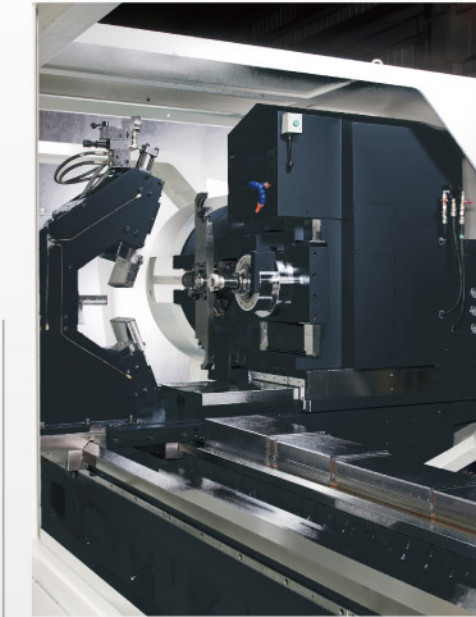
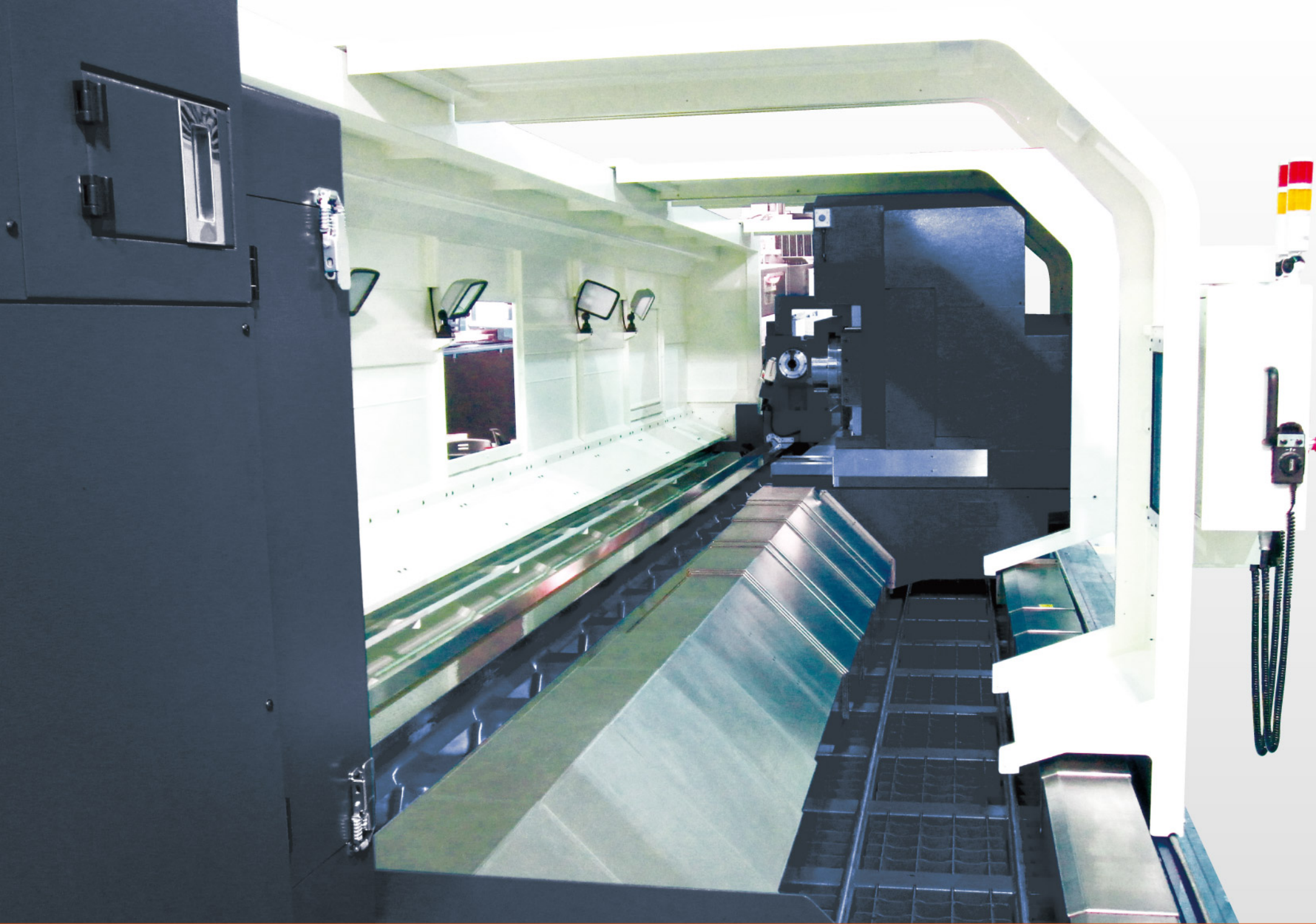


- Tool size: BMT 85 (OPT: VDI 60)
- Tool number: 12 stations
- Servo motor: Fanuc α15
- Turret max. torque: 130 Nm
- Max. spindle speed: 3200 rpm

Axial system live tooling turret: ▶

- Tool size: VDI 60
- Tool number: 12 stations
- Servo motor: Fanuc α15
- Turret max. torque: 130 Nm
- Max. spindle speed: 3200 rpm



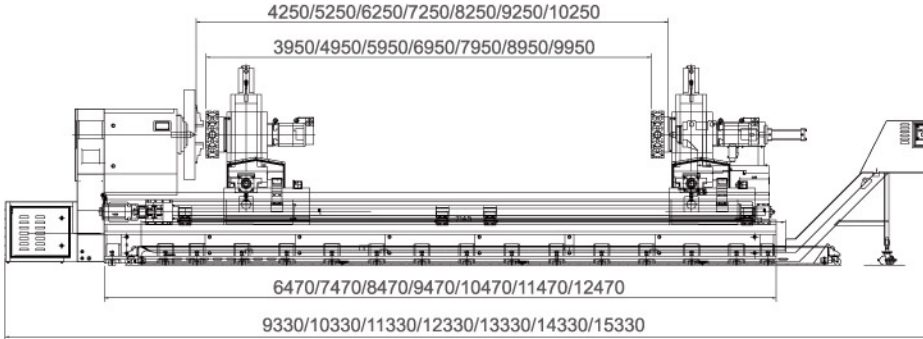


CLB

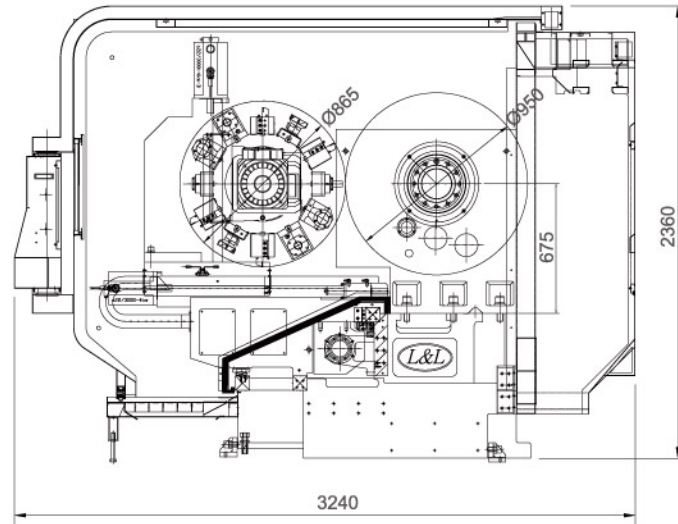
Milling spindle + Y-Axis

- Y axis travel 100mm ($\pm 4''$)
- Programmable Y axis
- Sub-spindle motor: $\alpha 15KW$
- Max. sub-spindle speed: 3,000 rpm
- Dual-speed gear reducer provides high torque output in low speed
- Central coolant is available
- All axes can be controlled simultaneously
- Standard 20 tools Auto tool changer system

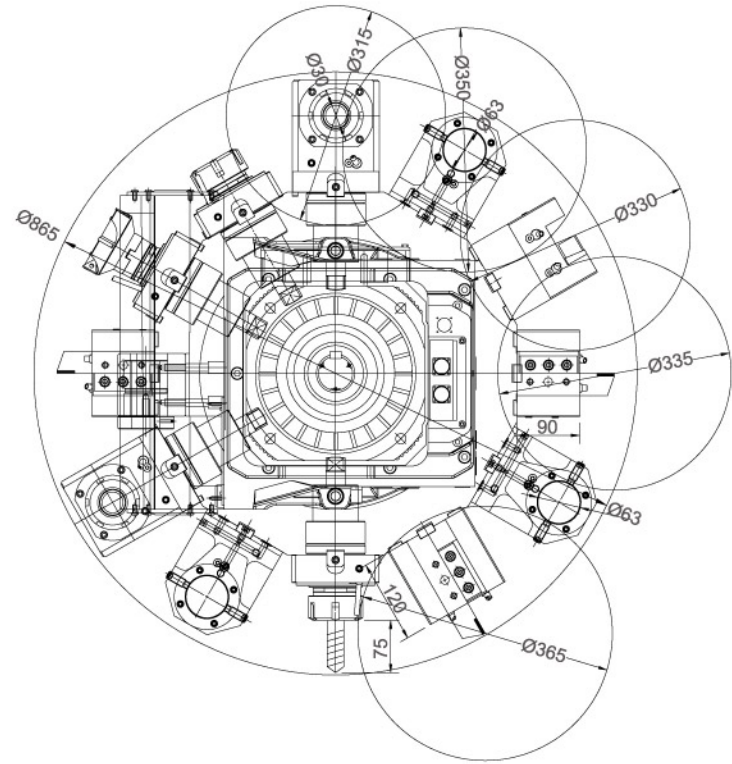
Travel Diagram



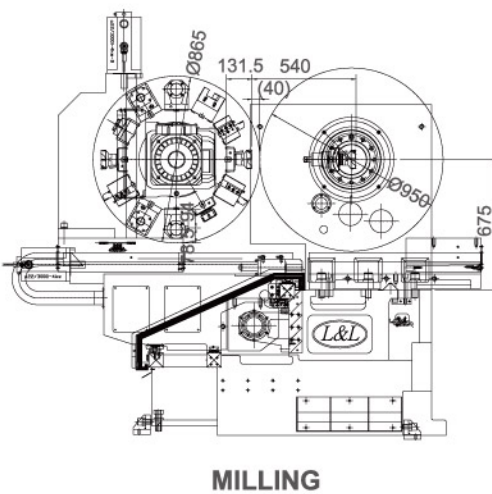
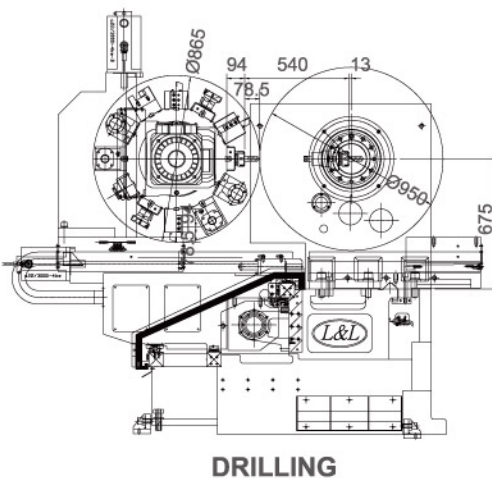
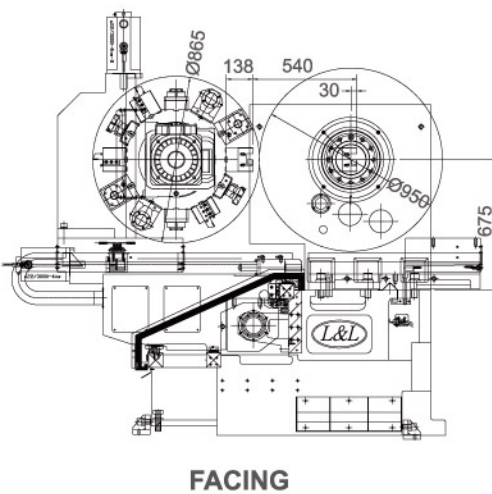
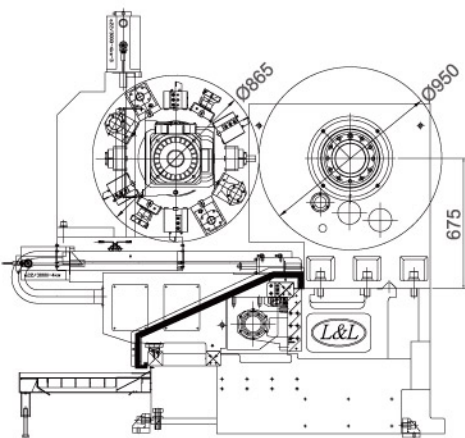
Tooling Diagram



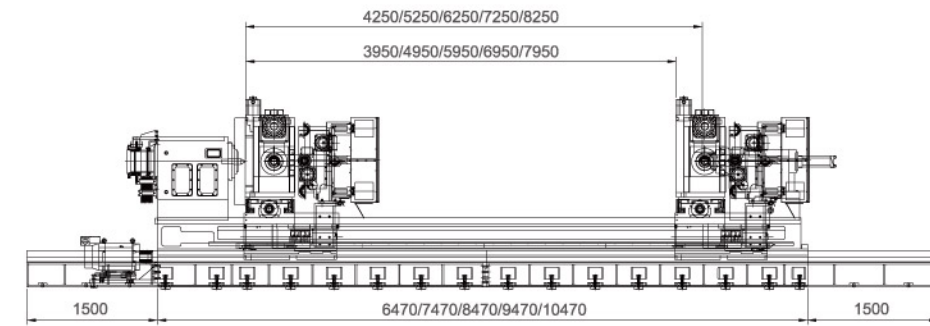
Tooling Diagram



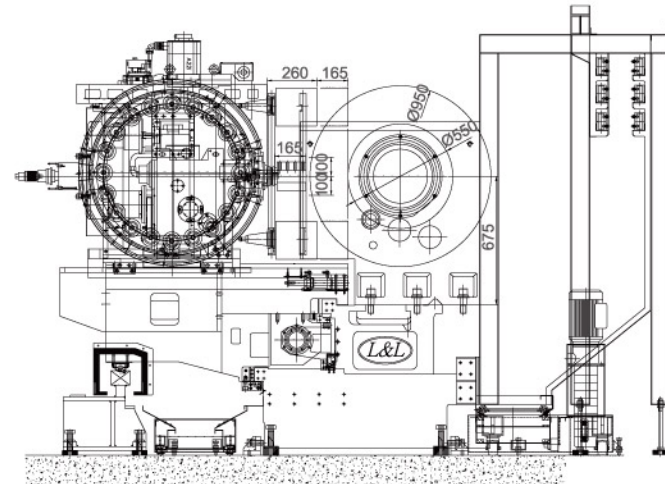
Interference Drawings



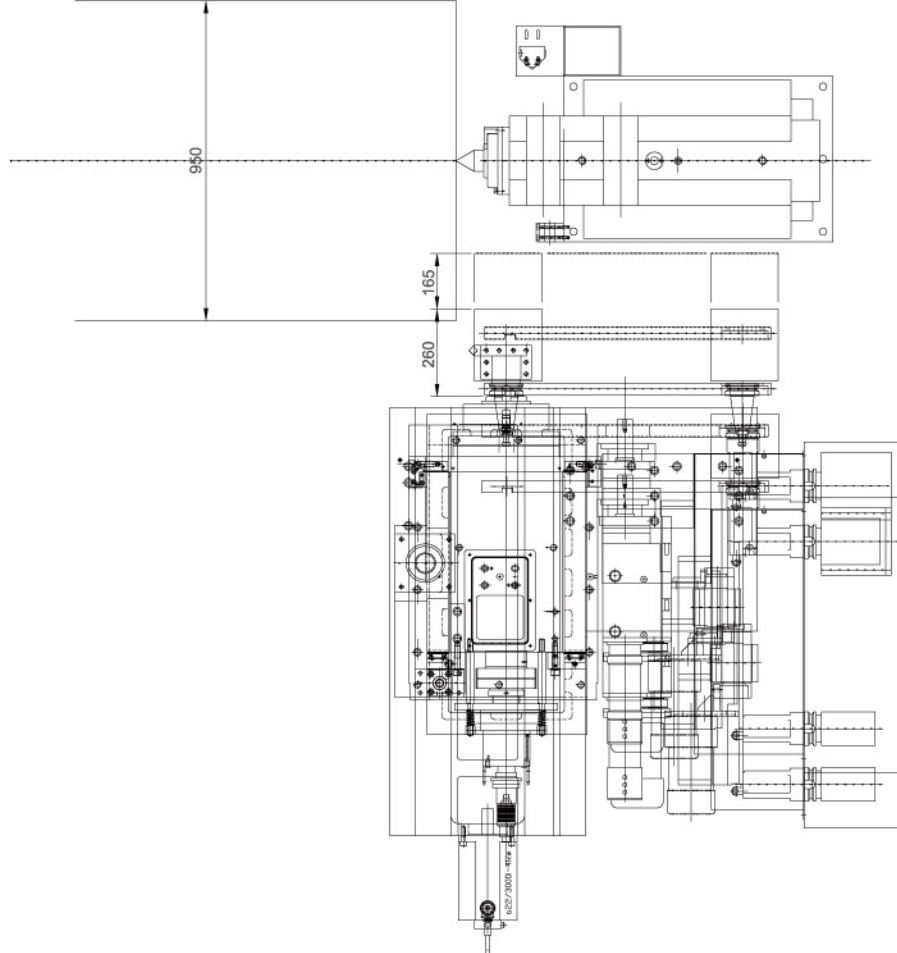
Travel Diagram



Interference Drawings

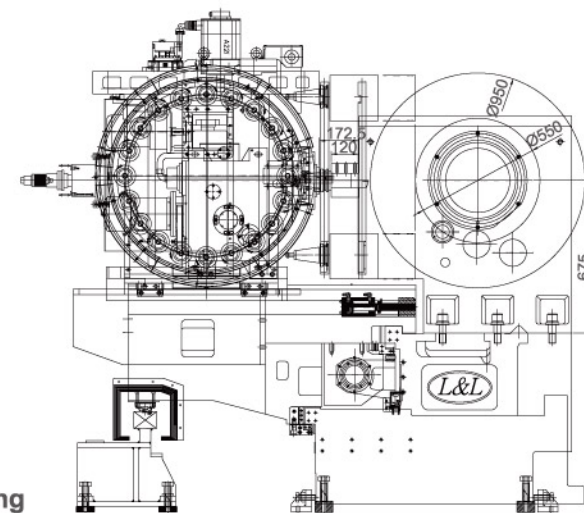


Tool change position

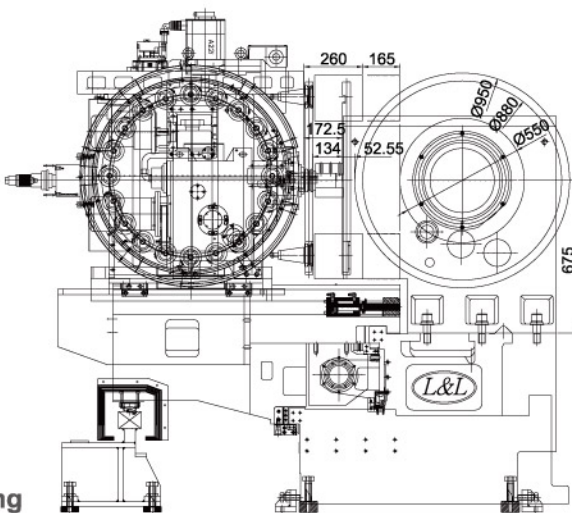


Interference Drawings

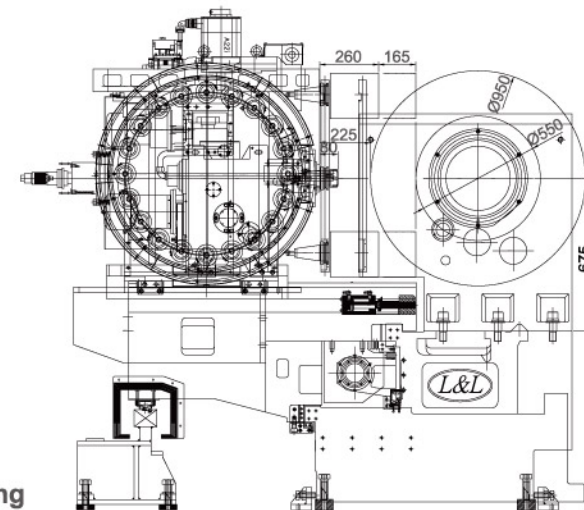
OD cutting



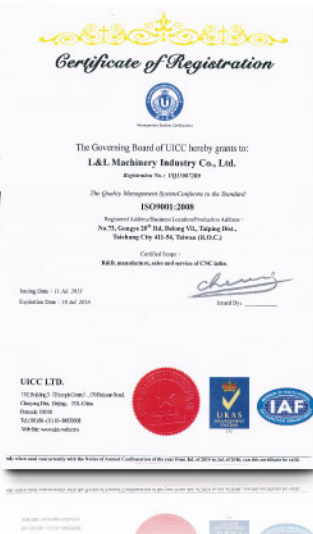
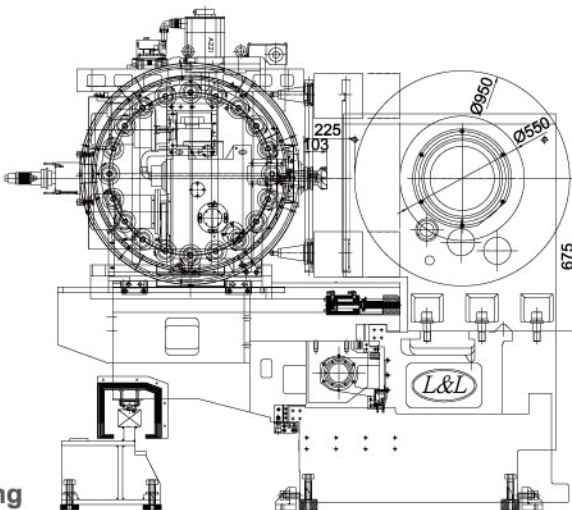
Facing



Drilling



Milling



LOADING CAPACITY ▼

Model	CL	CL	CL
Spindle bore	200 mm	200 mm	200 mm
Tailstock quill diameter Max. load between centers	8000 kgs	9000 kgs	9000 kgs
Max. load between centers plus 1 steady rest	9500 kgs	10500 kgs	10500 kgs
Max. load between centers plus 2 steady rest	10500 kgs	11500 kgs	11500 kgs
Max. load with one chuck only	2200 kgs	2400 kgs	2800 kgs

Specifications

Model		CLA	CLB		
Maximum cutting diameter		950mm(37.4")			
Center height		675mm(26.5")			
Turning length		3000-16000mm(118" ~ 630")			
Control	STD.	FANUC 0i TD			
	OPT.	SIEMENS 828D			
Bed way		2 box way for carriage 1-V way with 2 flat way for tailstock			
Bed width		1290mm	990mm with guide way		
Headstock					
Spindle bore		Ø153mm(6")	Ø 230mm(9")	Ø 305mm(12")	Ø 405mm(16")
Spindle nose		A2-11	A2-15	A2-20	A2-28
Spindle speed		9~900rpm	9~650rpm	7~400rpm	5-250rpm
Spindle center		MT#6			
Spindle Power	STD.	30/37 KW (40 / 50hp)			
	OPT.	37/45 KW (50 / 60hp)			
Turret					
Turret mode	STD.	Live tooling turret-SMHTR32(BMT85)		Sub Spindle+ATC System(20pcs) BT50 / CAT/ ISO50	
	OPT.	Live tooling turret-ODTN32(VDI60)		-	
Tailstock					
Quill diameter		STD.	3~6M: 200mm rotating quill (6.5"), 8~16M: 250mm rotating quill (9.84")		
Quill		OPT.	3~6M: spindle nose:A2-6 8~16M: spindle nose:A2-8		
Quill traverse		200mm(7.87")			
Tailstock center		MT#6			
Body movement		By carriage and clamp by hydraulic cylinder tailstock center			
Quill movement		STD.	Hydraulic		

Model	CLA	CLB
Feed		
X-axis rapid traverse	6M/min	
X-axis ballscrew diameter	Ø50mmxP5	
X-axis travel	550mm	550mm
X-axis servo motor	4kw	
Z-axis travel	3000~16000mm(118" ~ 630")	
Z-axis ballscrew diameter	Ø80mmxp10(In the center)	
Z-axis transmitting	B.C 3~5M ball screw rotate	
	B.C 6~10M nut rotates through helical gear	
Z-axis rapid traverse	B.C over 10 M by pinion and rack	
	B.C 3~5M: 6M/min	
	B.C 6~10M:5M/min	
	B.C OVER10M:6M/min	
Z-axis servo motor	7kw+1:4 plenty gear reducer	
Y-axis travel	±100mm(±4")	
C axis function	CS axis	
Y-axis ballscrew diameter	Ø40mmxp5	
Y-axis servo motor	4kw with brake	
Standard Accessories		
Lubrication unit	Pressure-Relief Electric Lubricator	
Coolant pump	STD.	15 Bar with Oil skimmer
	OPT.	20 Bar, 30 Bar, 50Bar, 70Bar
Hydraulic system	5HP	
Guard	STD.	Front two doors and rear splash guard
	OPT.	Fully enclosed guard
Chip removing system	3~10M:1x front chip conveyor and 1x rear chip system Over10M: 2 x front chip conveyor and 2xrear chip conveyor	
Machine color	Machine body block(RAL9011)+Splash white(RAL7047)	

