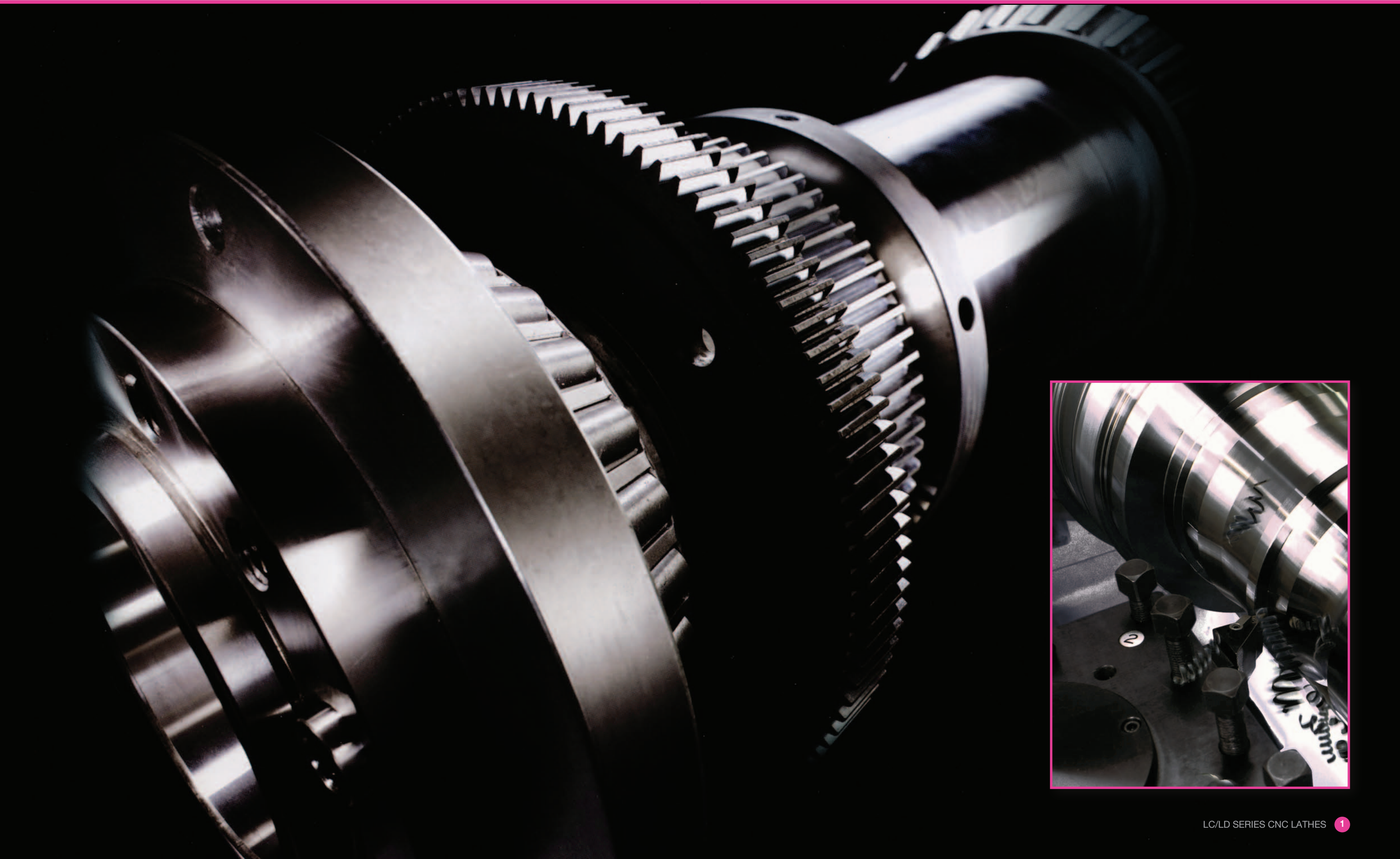




Axe & Status

CNC Lathes

TUSCAN
LC/LD SERIES



LC Series

LC34 (34.2" Swing) / LC38 (38.1" Swing)

Choice of distance between centres:
1,150 / 2,150 / 3,150 / 4,150 / 5,150 / 6,150 / 7,150 / 8,150 mm
Spindle Bore: 153 to 660 mm

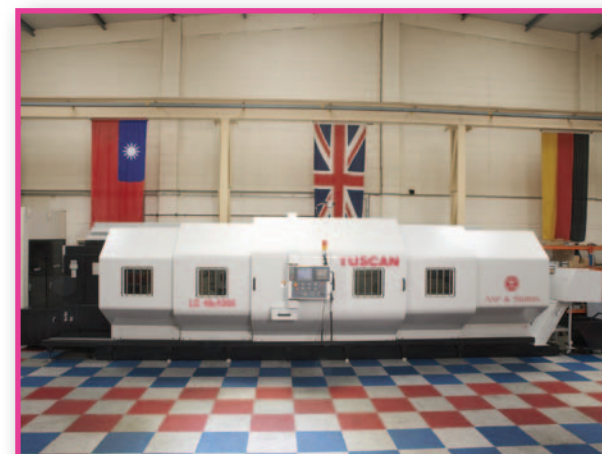
- H4-250 ,V8-100 hydraulic turret.
- Free running centre to quill with 165 mm diameter.
- Motorised tailstock body movement.
- Fanuc Oi-TD build-In manual guide i.
- Bed width: 560mm.

LD Series

LD45 (44" Swing) / LD48 (48" Swing)

Choice of distance between centres:
1,200 / 2,200 / 3,200 / 4,200 / 5,200 / 6,200 / 7,200 / 8,200 mm
Spindle Bore: 153 to 660 mm

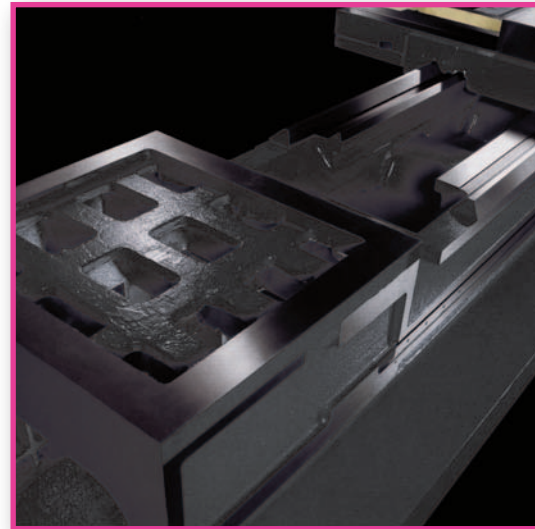
- Heavy duty flat bed construction.
- Choice of turrets: H4, H6, V8.
- Choice of chucks: 3-jaw hydraulic chuck, 3-jaw pneumatic chuck, or double chucks.
- Bed width: 610 mm.
- Free running centre to quill with 165 mm diameter.
- Turn-Mill function (Opt.).
- Hydraulic, V8 electric, live tooling or double turrets.



Features

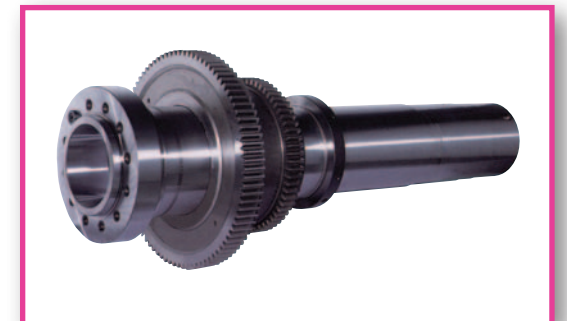
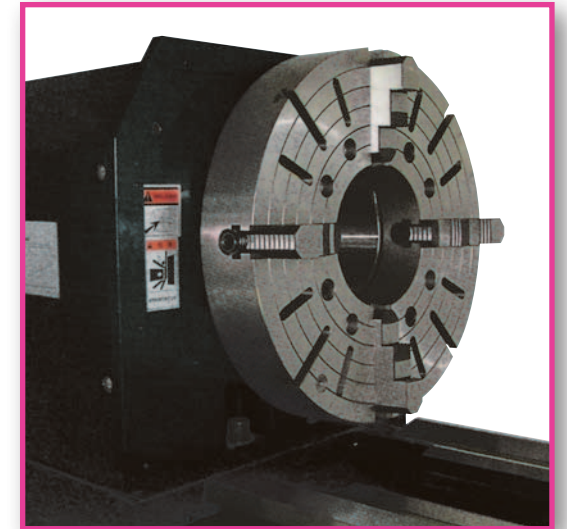
Bed and Base

- Perfect one piece rigid construction.
- Bed and base are made of “Meehanite” cast iron. After proper stress relieving processes, the bed way is induction heat treated to HRC 52~54 and precisely ground. The hardened bed provides excellent stability and rigidity.
- Machine bed consists of triple “V” and 1 flat bedway.
- The front chip auger and rear chip conveyor make up an optimum chip removing system.



Headstock and Spindle

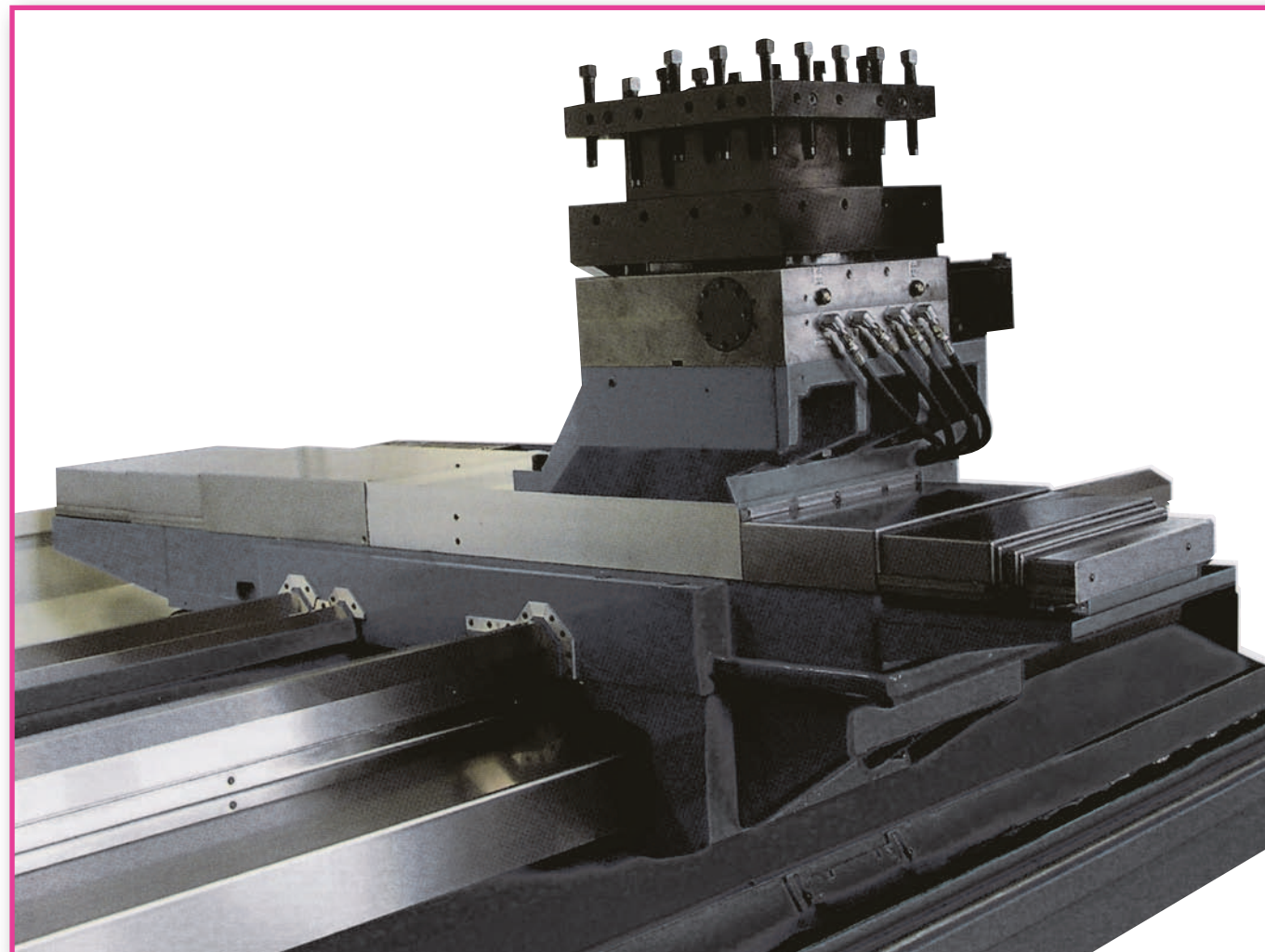
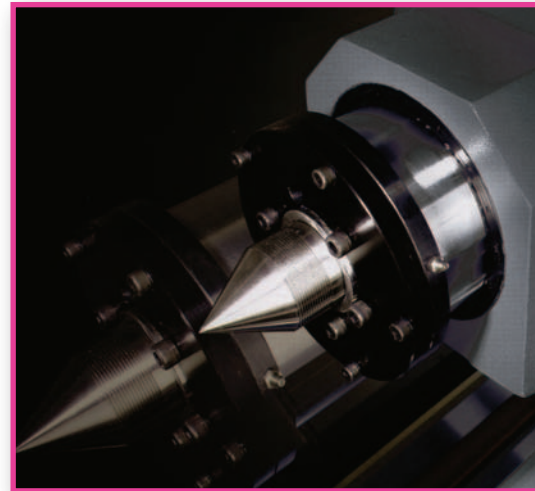
- The solid box construction casting provides excellent rigidity for heavy cutting.
- All gears in the headstock are hardened and precisely ground.
- Rigid spindle is supported by high precision taper roller bearings.
- 4 steps auto gears change.
- Spindle speed ranges are automatically changed by M code.
- Infinitely variable speeds are commanded by S code.
- An auto-lubrication system is equipped for headstock gears and spindle.
- Double chucks strengthen the stability for turning a long workpiece through spindle.



Features

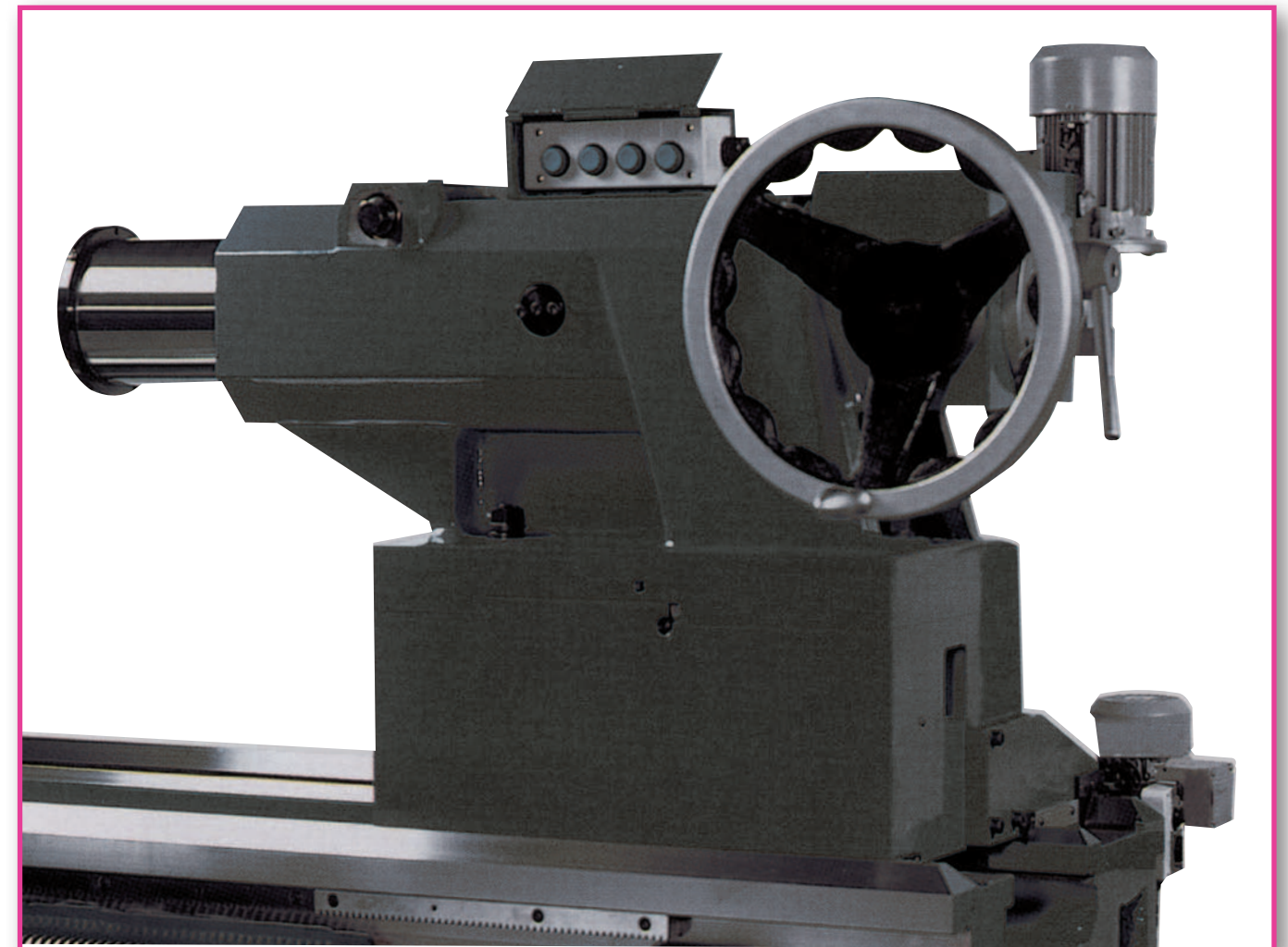
Turret, Carriage and Cross Slide

- Turcite B lining is applied on cross slide and carriage for reducing friction.
- Precision ball screws are equipped on the X and Z axes.
- Z-axis ball screws are protected by a stainless steel shield to prevent rusting and chip damage.
- Rigid hydraulic H4 or V8 auto tool change turret.

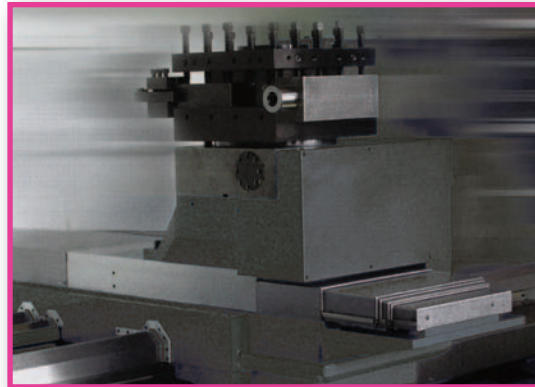


Tailstock

- Precision taper roller bearings are equipped on the spindle of the built-in tailstock.
- The quill is heat treated and precisely ground.
- The quill adopts a MT#6 dead centre or live centre for small workpieces. A chuck with nose (AI-5) can be mounted on it for larger workpieces.
- The tailstock is rigidly fastened by a stopper to prevent slippage.
- The tailstock body and quill position are powered and can be controlled from the control panel.
- A selection of manual or electric operation provides easy quill positioning which saves time.



Optional

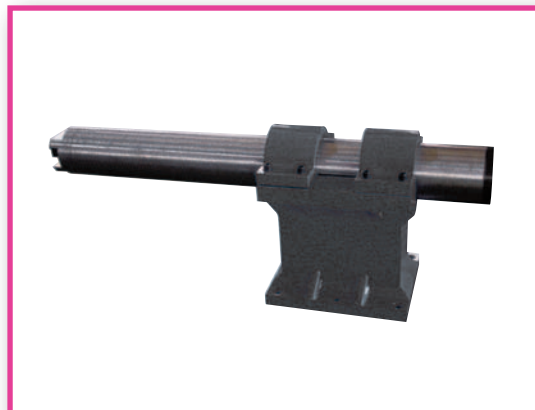


H4 Hydraulic

- Holds 4 tools.
- Each can be quickly swiveled and clamped into cutting positions.
- Suitable for turning, facing and boring.

Double Chuck Adapter and Chuck Guard

- Installed in the rear of spindle where an extra chuck can be mounted.
- A workpiece, such as long shaft or pipe, clamped at both ends of spindle gets better support.

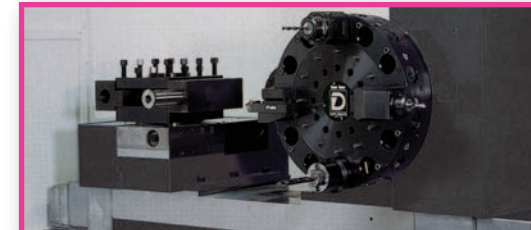
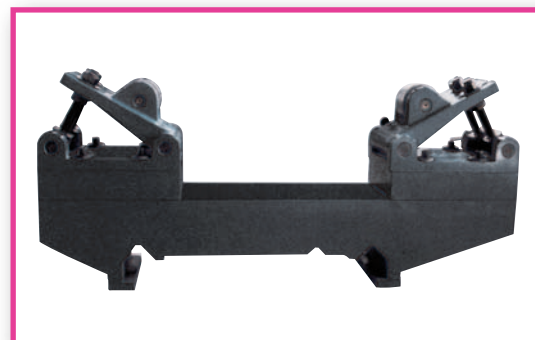


Heavy Duty Boring Attachment

- Boring bar diameter: 6".
- Tool size: 32mm.
- Sleeve: 050mm~0120mm for option.
- Installed on cross slide easily.
- The boring depth and diameter can be controlled by program.
- Depending on client applications, different size sleeves are available.
- Length: 1200/1500mm.
- Clamping diameter: 6".

Roller Bracket

- Equipped on the machine especially for heavy duty big diameter workpieces.
- Has a wide range of clamping capacity.

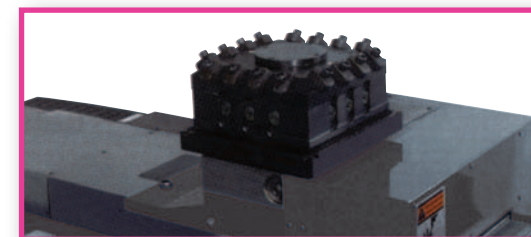
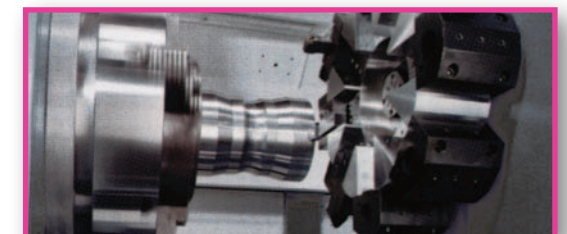


Double Turrets

- A combination of two turrets for machining complex workpieces at one time.
- Suitable for high production requirements.

V8 Hydraulic Turret

- Holds 8 tools.
- High indexing accuracy and quick tool change.
- Turret clamping is controlled by hydraulic power for outstanding rigidity and stability.
- Random tool selection.

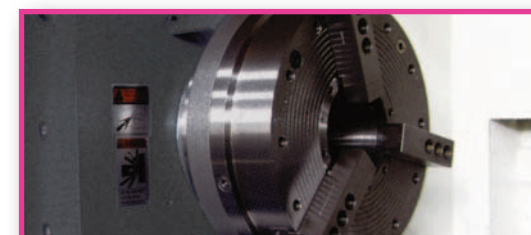
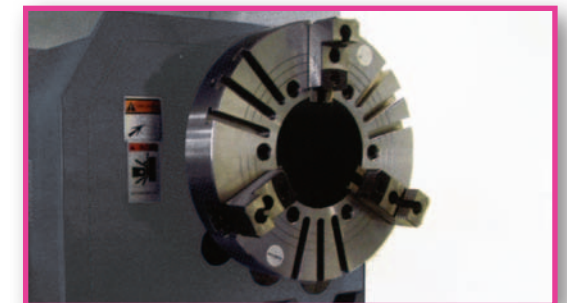


H4-VDI Quick Change Hydraulic Turret

- 4 way quick change.
- High repeat accuracy.
- Rapid index.

3-Jaw Hydraulic Chuck

- Holds workpieces firmly and provides efficient chucking.
- Various chuck diameters to choose from.
- Both hard jaws and soft jaws are available.

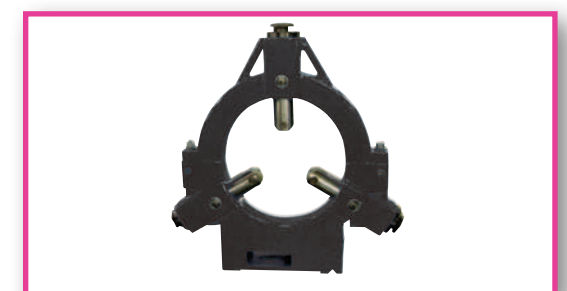


3-Jaw Pneumatic Chuck

- With super concentricity and speedy clamping.
- Clamping pressure is adjustable, preventing workpieces from squeezing.
- Applicable to big spindle bores.

Steady Rest

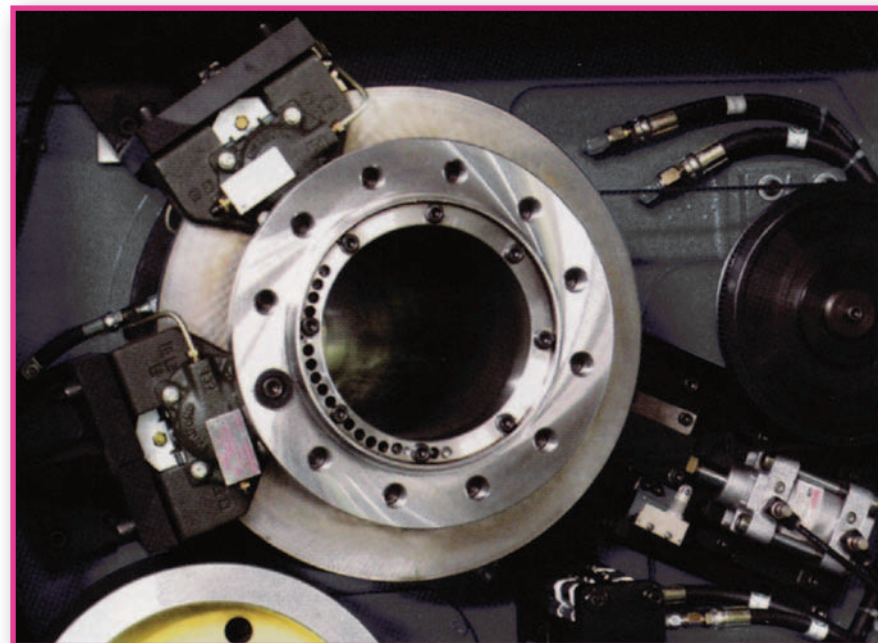
- 80mm quill diameter with heavy loaded bearing.
- Enhance rigidity and stable performance in machining.
- Clamping capacity from 30~750mm for client's difference requirements.



Milling Function

Integrated Spindle Index System with Live Tooling Turret

- 1 Multiple functions: turning, milling, drilling, boring, tapping and threading.
- 2 Enhanced accuracy: Prevent accuracy loss on loading and unloading.
- 3 Save time: Complete different jobs on one machine.

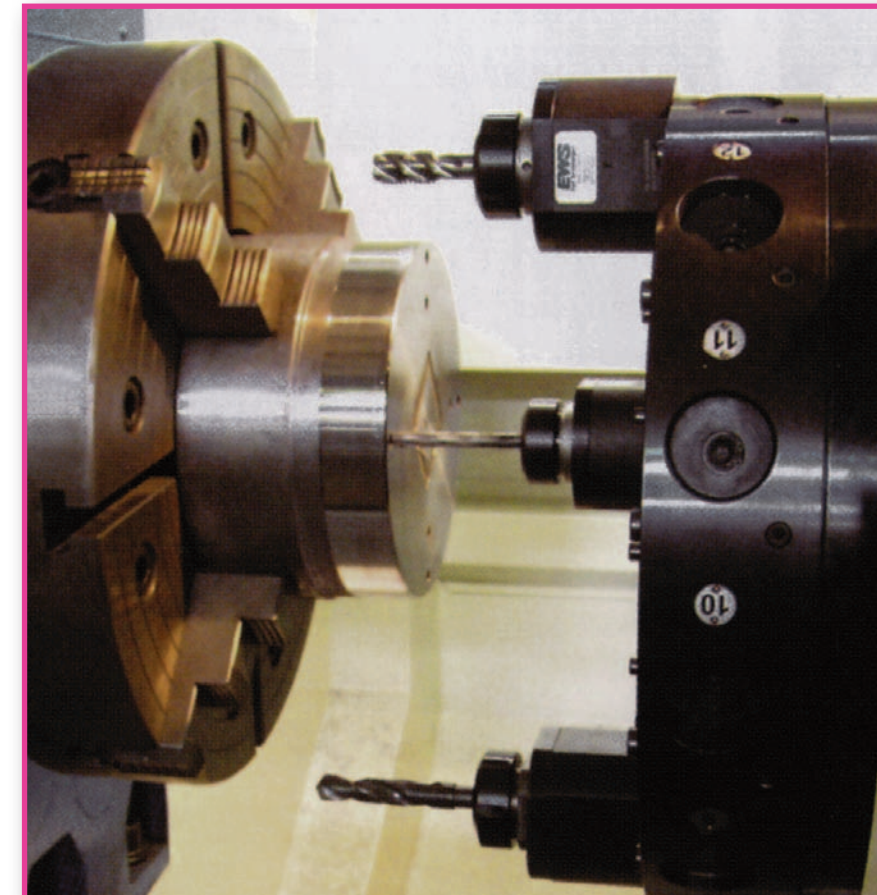
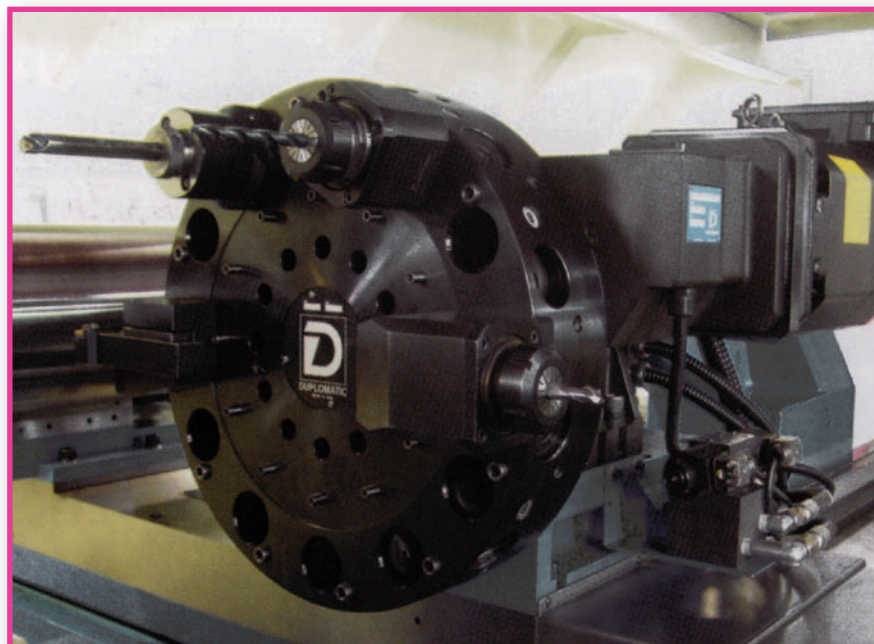


Five Degree Spindle Indexing System

- Spindle can be indexed in every five degrees.
- M code controls spindle indexing.
- More economical.
- Equipped with hydraulic disk brake.

Live Tooling Turret

- 12 stations live tooling turret with rapid tool change.
- Easily manageable tools.
- Powerful drilling, tapping and milling capacity.
- All of the 12 positions can use rotating tools.

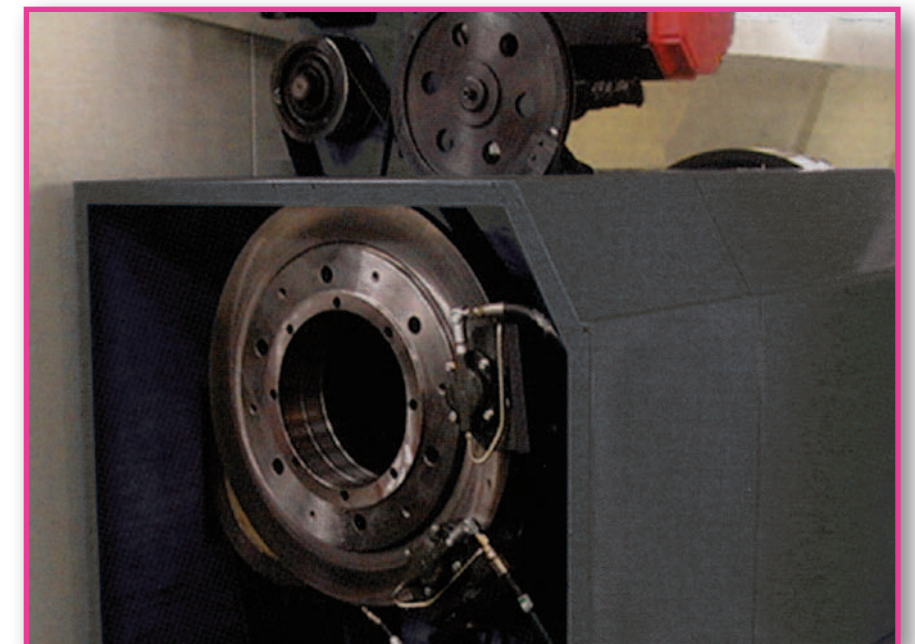


Contouring Machining

- X,Z and C axes can be operated synchronously to do irregular and difficult machining.

C-Axis Spindle Orientation System

- High analytic servo motor integrates with high accuracy reduction gear to control the spindle micro orientation.
- Contouring machining is available.
- Spindle micro index at the required position.
- Equipped with linear scale to ensure the indexing accuracy.



CNC Controller

Fanuc Oi-TD is the standard control with a user-friendly control panel. The control is designed on the movable door which allows it to rotate 120 degrees and getting closer to the workpiece. It is very convenient for checking the tooling and observing the machining situation.

STD: Fanuc Oi-TD

- TFT-LCD colour screen.
- "Manual guide i" conversational system for option.
- Powerful built-in PMC.
- Variety of display units.
- User friendly operation.
- 3D dynamic graphic display.
- Help function.
- Alarm history / operation history.
- Simple operation programming support tool.
- Thread repair function.

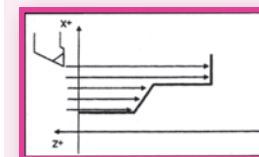


Siemens 828D

- High-performance panel-based CNC control.
- Robust panel front made of magnesium die-cast.
- 10.4" colour TFT display.
- Maintenance-free design (no buffer battery required).
- 4-axis simultaneous interpolation (X,Y,Z rotary axis).
- 100 settable work piece zero offsets.
- Built-in ISO code interpreter.
- Wide range of turning cycles for standard geometrics.
- Graphic CNC simulation plane data.
- All-in one for tool and magazine data.
- Extension of CNC memory by user CF-card on front panel.

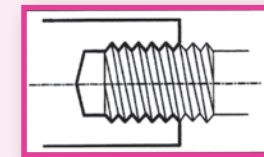


Conversational Function – Manual Guide i



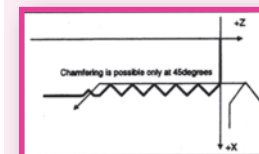
Bar Machining (Roughing):

Including general thread, metric thread, unified thread, PT thread and PE thread.



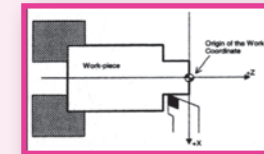
Canned Cycle for Drilling:

Including centre drilling, drilling, reaming, boring and tapping.



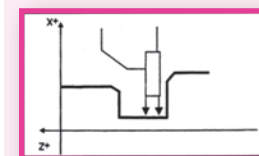
Threading:

Including general thread, metric thread, unified thread, PT thread and PE thread.



X Area Cutting Function:

When the optional function "X Area Cutting Function" is available, it is possible to select the cutting in +X area in the cycle motions excepting hole machining processes.



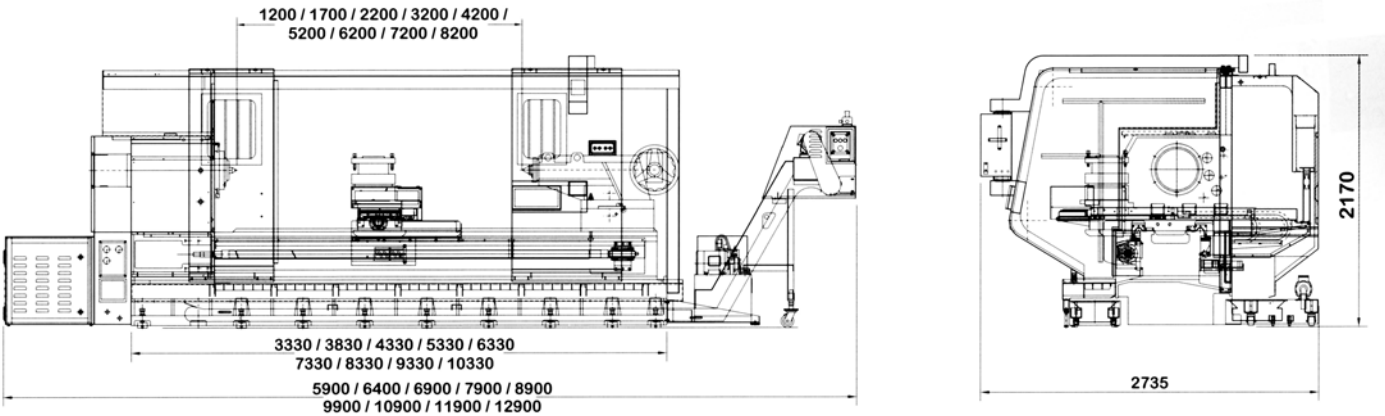
Grooving:

Including outer, inner and face grooving.



Dimension Drawings:

LC Series

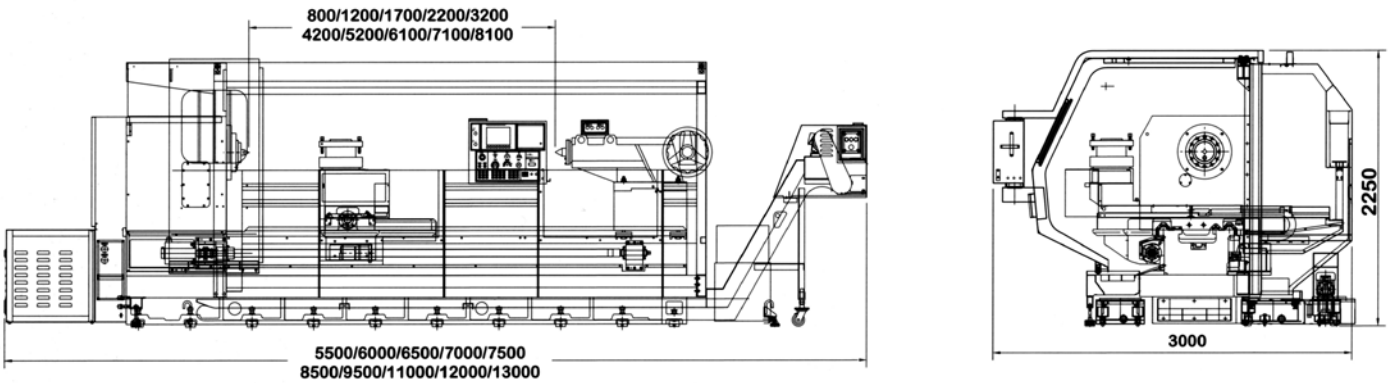


Machine Dimensions and Weight

LC series	Between centres	1000	1500	2000	3000	4000
34"	LxWxH (mm)	5900x2735x2170	6400x2735x2170	6900x2735x2170	7900x2735x2170	8900x2735x2170
	N.W/G.W (kg)	10000 / 12000	10500 / 12500	12000 / 14000	13500 / 15700	15000 / 17400
38"	LxWxH (mm)	5900x2735x2170	6400x2735x2170	6900x2735x2170	7900x2735x2170	8900x2735x2170
	N.W/G.W (kg)	10500 / 12500	11000 / 13000	12500 / 14500	14000 / 16200	15500 / 17900

LC series	Between centres	5000	6000	7000	8000
34"	LxWxH (mm)	9900x2735x2170	10900x2735x2170	10900x2735x2170	12900x2735x2170
	N.W/G.W (kg)	16500 / 19100	18600 / 20800	18600 / 20800	21000 / 24200
38"	LxWxH (mm)	9900x2735x2170	10900x2735x2170	10900x2735x2170	12900x2735x2170
	N.W/G.W (kg)	17000 / 19600	18500 / 21300	20000 / 23000	21500 / 24700

LD Series



Machine Dimensions and Weight

LD series	Between centres	800	1000	1500	2000	3000
45"	LxWxH (mm)	5500x3000x2250	6000x3000x2250	6500x3000x2250	7000x3000x2250	7500x3000x2250
	N.W/G.W (kg)	11000 / 13000	9800 / 11400	11500 / 13300	13200 / 15200	14900 / 17100
48"	LxWxH (mm)	5500x3000x2250	6000x3000x2250	6500x3000x2250	7000x3000x2250	15400 / 17600
	N.W/G.W (kg)	11500 / 13500	10300 / 13800	12000 / 13800	13700 / 15700	

LD series	Between centres	4000	5000	6000	7000	8000
45"	LxWxH (mm)	8500x3000x2250	9500x3000x2250	11000x3000x2250	12000x3000x2250	13000x3000x2250
	N.W/G.W (kg)	16600 / 19000	18300 / 20900	20600 / 22800	21700 / 24700	23400 / 26600
48"	LxWxH (mm)	8500x3000x2250	9500x3000x2250	11000x3000x2250	12000x3000x2250	13000x3000x2250
	N.W/G.W (kg)	17100 / 19500	18800 / 21400	20500 / 23300	22500 / 25200	23900 / 27100



Specifications – LC Series

Model		LC 34		LC 38	
Swing Over Bed		870mm		970mm	
Swing Over Cross Slide		500mm		600mm	
Centre Height		440mm		490mm	
Width of Carriage		885mm			
Width of Cross Slide		350mm			
Between centres		1200 / 1700 / 3000 / 2200 / 3200 / 4200 / 5200 / 6200 / 7200 / 8200 mm			
Control	STD.	FANUC 0iT D			
	OPT.	FANUC 2i iTB / SIEMENS 810D / FAGOR 8055TC			
Width of Bed		560mm (22")			
Bed Way		3-V way with 1 flat way			
Machine Length		5900 / 6400 / 6900 / 7900 / 8900 / 9900 / 10900 / 11900 / 12900 mm			
Headstock:					
Spindle Bore		Ø105mm (4")	Ø153mm (6")	Ø230mm (9")	Ø305mm (12")
Spindle Nose		A2-8	A2-11	A2-15	A2-20
Spindle Speed		13~1200rpm	6.5~600rpm	6~400rpm	4~400rpm
Spindle Centre		MT#6			
Spindle motor		22/26KW (FANUC αi) (STD) / 30/37KW (OPT)			
Turret					
Turret Mode	STD.	H4-250 hydraulic / V8-100 hydryalic			
	OPT.	H4-250 VDI hydraulic / Quick change turret / V12-100L hydraulic / V12-live tooling (ODT-N-25)			
Tool Size		32mm			
Tailstock:					
Quill Diameter		165mm rotary quill			
Quill Traverse		200mm			
Tailstock Centre		MT#6			
Body Movement		Motorised			
Quill Movement		Electrical/Manual (STD) / Hydraulic (OPT)			
Feed:					
X-Axis Rapid Traverse		6M/min			
X-Axis Ballsrew Diameter		Ø40mm*p5			
X-Axis Feed Range		0.1mm/min~3000mm/min			
X-Axis Traverse		500mm			
X-Axis Servo Motor		3KW (FANUC αi)			
Z-Axis Rapid Traverse		1M~5M:6M/min / 6M~8M:5M/min			
Z-Axis Ballscrew Diameter		1M~5M:Ø63mm*p10 / 6M~8M:Ø80mm*p10			
Z-Axis Feed Range		0.1mm/min~3000mm/min			
Z-Axis Traverse		1000 / 1500 / 2000 / 3000 / 4000 / 5000 / 6000 / 7000 / 8000 mm			
Z-Axis Transmitting		1M~3M: Directly coupling			
Z-Axis Servo Motor		4M~8M: Servo motor tranmitted through 1:4 precision gear reducer			
Z-Axis Servo Motor		4KW (FANUC αi)			
Standard Accessories					
Lubrication Pump		25W			
Coolant Pump	STD.	1/2HP high pressure			
	OPT.	15 bar high pressure			
Hydraulic Pump		2HP			
Chip Removing		Front chip conveyor + Rear chip conveyor			
Guard	STD.	Rear splash guard + Front two doors			
	OPT.	Fully enclosed guarding			

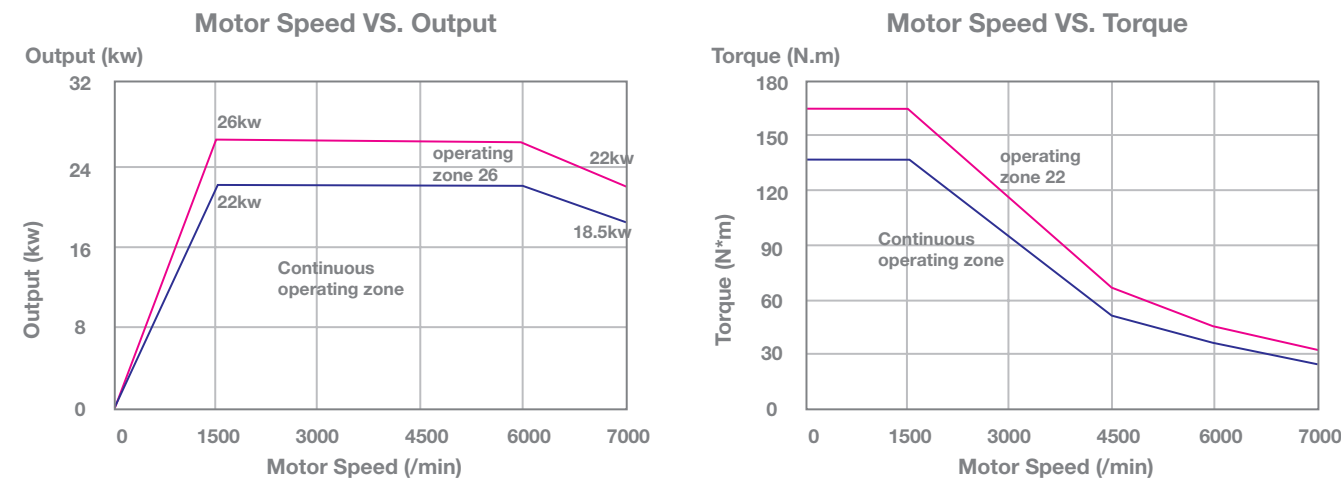
Notes: 1. X and Z axes actual cutting diamtere will change when euipped with different turrets.
2. Spindle speed will change according to different motors.
3. Distance between centres will change based on installing different types of tailstocks.
4. Machine between centre over 6000mm, Z-Axis linear is required to option.
5. Specification subject to change without prior notice.

Specifications – LD Series

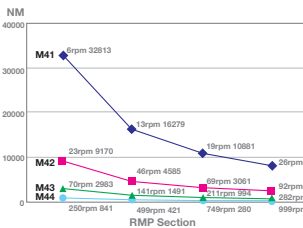
Model		LD 45			LD 48	
Swing Over Bed		1120mm			1220mm	
Swing Over Cross Slide		750mm			850mm	
Centre Height		575mm			625mm	
Width of Carriage		950mm				
Width of Cross Slide		400mm				
Between centres		800 / 1200 / 1700 / 2200 / 3200 / 4200 / 5200 / 6100 / 7100 / 8100 mm				
Control	STD.	FANUC 0iTD				
	OPT.	FANUC 2iITB / SIEMENS 810D / FAGOR 8055TC				
Width of Bed		610mm (24")				
Bed Way		3-V way with 1 flat way				
Machine Length		5500 / 6000 / 6500 / 7000 / 7500 / 8500 / 9500 / 11000 / 12000 / 13000 mm				
Headstock:						
Spindle Bore		Ø153mm (6")	Ø230mm (9")	Ø305mm (12")	Ø305mm (12")	Ø505mm (20")
Spindle Nose		A2-11	A2-15	A2-20	A2-28	A2-28
Spindle Speed		9~600rpm	9~500rpm	7~400rpm	6~300rpm	5~250rpm
Spindle Centre		MT#6				
Spindle motor		22/26KW (FANUC αi) (STD) / 30/37KW (OPT)				
Turret						
Turret Mode	STD.	H4-350 hydraulic / V8-160 hydryalic				
	OPT.	H4-350 VDI hydraulic / Quick change turret / V12-100L hydraulic / V12-live tooling (ODT-N-25)				
Tool Size		H4-350: 32mm / V8-160: 40mm hydraulic				
Tailstock:						
Quill Diameter		165mm rotary quill				
Quill Traverse		250mm				
Tailstock Centre		MT#6				
Body Movement		Motorised				
Quill Movement		Electrical/Manual (STD) / Hydraulic (OPT)				
Feed:						
X-Axis Rapid Traverse		6M/min				
X-Axis Ballsrew Diameter		Ø40mm*p5				
X-Axis Feed Range		0.1mm/min~3000mm/min				
X-Axis Traverse		650mm				
X-Axis Servo Motor		3KW (FANUC αi)				
Z-Axis Rapid Traverse		1M~5M:6M/min / 6M~8M:5M/min				
Z-Axis Ballscrew Diameter		1M~5M:Ø63mm*p10 / 6M~8M:Ø80mm*p10				
Z-Axis Feed Range		0.1mm/min~3000mm/min				
Z-Axis Traverse		800 / 1000 / 1500 / 2000 / 3000 / 4000 / 5000 / 6000 / 7000 / 8000 mm				
Z-Axis Transmitting		1M~3M: Directly coupling				
Z-Axis Servo Motor		4M~8M: 1:4 precision gear reducer				
Z-Axis Servo Motor		4KW (FANUC αi)				
Standard Accessories						
Lubrication Pump		25W				
Coolant Pump	STD.	1/2HP high pressure				
	OPT.	15 bar high pressure				
Hydraulic Pump		2HP				
Chip Removing		Front chip conveyor + Rear chip conveyor				
Guard	STD.	Rear splash guard + Front two doors				
	OPT.	Fully enclosed guarding Only available for 1M~5M)				

Notes: 1. X and Z axes actual cutting diamtere will change when euipped with different turrets.
2. Spindle speed will change according to different motors.
3. Distance between centres will change based on installing different types of tailstocks.
4. Machine between centre over 6000mm, Z-Axis linear is required to option.
5. Specification subject to change without prior notice.

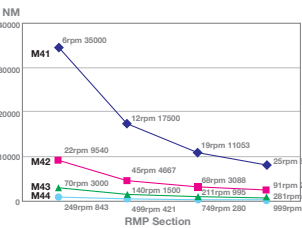
LC Equiped Fanuc 22/26 KW Spindle Motor (STD)



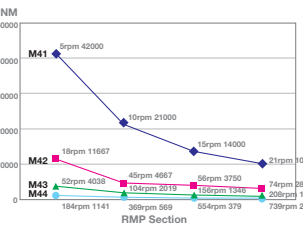
105mm Spindle Bore



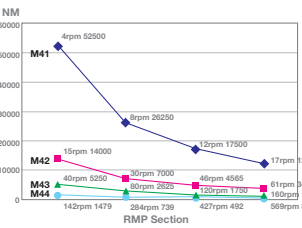
153mm Spindle Bore



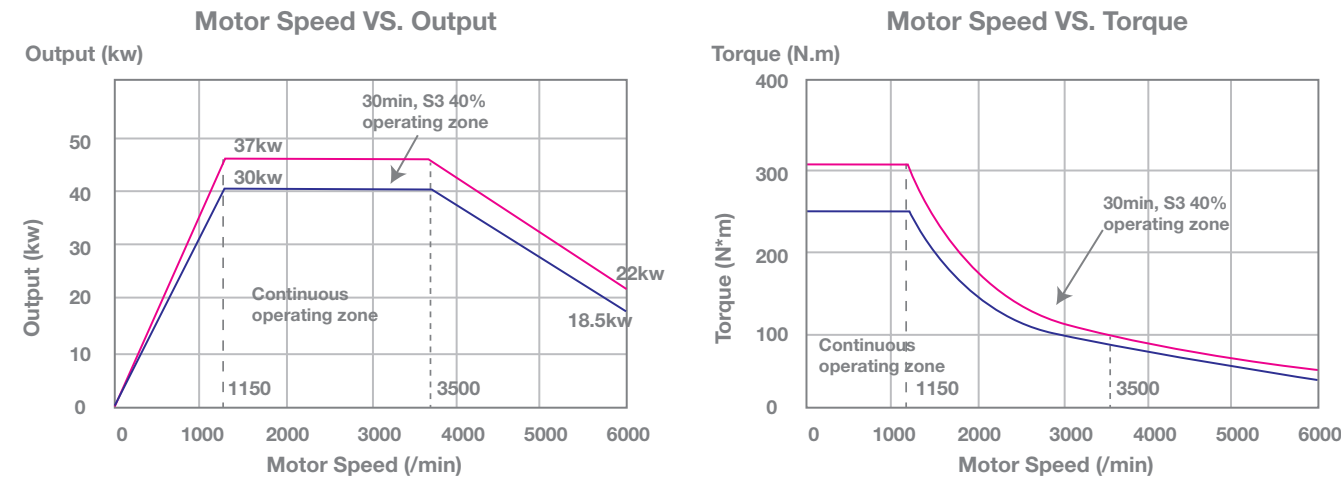
230mm Spindle Bore



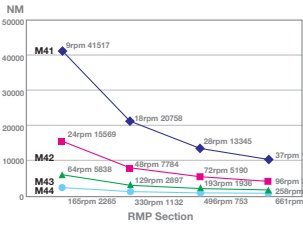
305mm Spindle Bore



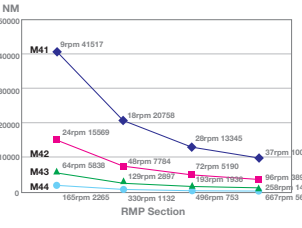
LD Equiped Fanuc 30/37 KW Spindle Motor (OPT)



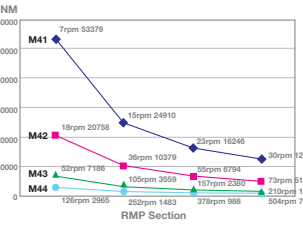
105mm Spindle Bore



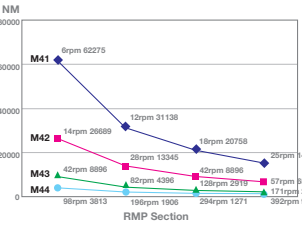
153mm Spindle Bore



230mm Spindle Bore



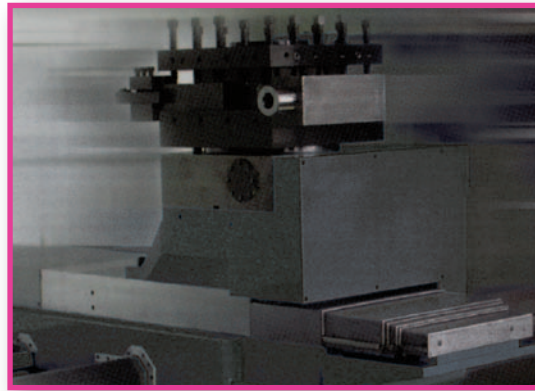
305mm Spindle Bore



Loading Capacity

Model	LC	LC	LC	LD	LD	LD	LD
Spindle Bore	6" A2-11	9" A2-15	12" A2-20	6" A2-11	9" A2-15	12" A2-20	16" A2-28
Tailstock Quill Diameter	165mm	165mm	165mm	165mm	165mm	165mm	165mm
Max. load between centre							
1		6000Kgs	7000Kgs	7500Kgs	7000Kgs	8000Kgs	9000Kgs
Max. load between centre plus 1 steady rest							
2		8000Kgs	8500Kgs	8000Kgs	8000Kgs	9000Kgs	10000Kgs
Max. load between centre plus 2 steady rest							
3		9000Kgs	9500Kgs	9000Kgs	9000Kgs	10000Kgs	11000Kgs
Max. load with one chuck only							
4		2200Kgs	2400Kgs	2200Kgs	2200Kgs	2400Kgs	2800Kgs

Side Version Interference

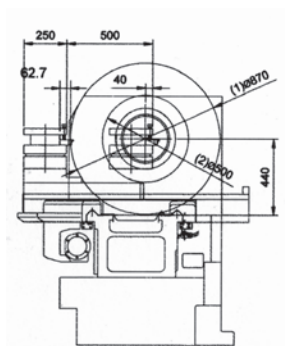


H4 Hydraulic

- Holds 4 tools.
- Each can be quickly swiveled and clamped into cutting positions.
- Suitable for turning, facing and boring.

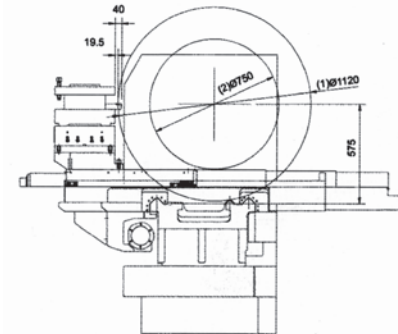
LC34 – H4-250

- Tool size: 32mm.
- (1) Swing over bed.
- (2) Swing over cross slide.



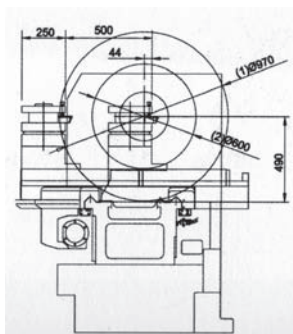
LD45 – H4-350

- Tool size: 40mm.
- (1) Swing over bed.
- (2) Swing over cross slide.



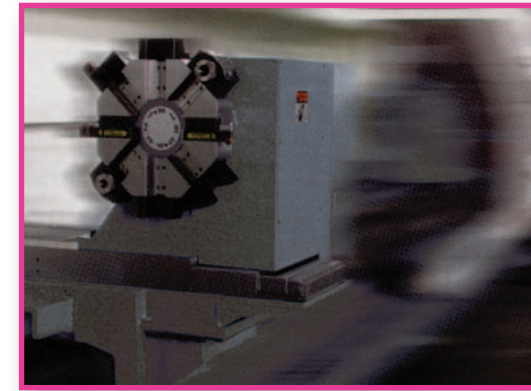
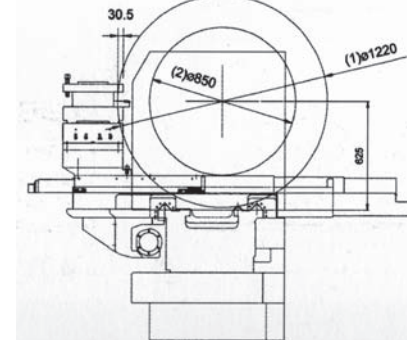
LC38 – H4-250

- Tool size: 32mm.
- (1) Swing over bed.
- (2) Swing over cross slide.



LD48 – H4-350

- Tool size: 40mm.
- (1) Swing over bed.
- (2) Swing over cross slide.

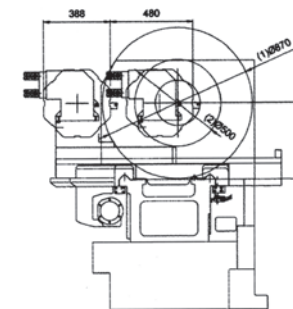


V8 Hydraulic Turret

- Holds 8 tools.
- High indexing accuracy and quick tool change.
- Random tool selection.
- Turret clamping is controlled by hydraulic power for outstanding rigidity and stability.

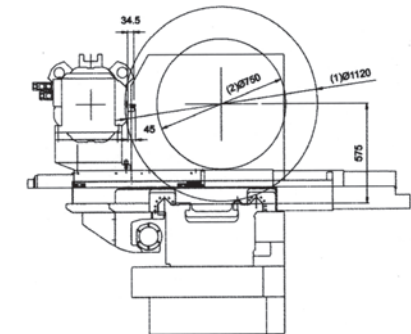
LC34 – CLT-V8-100

- Tool size: 32mm.
- (1) Swing over bed.
- (2) Swing over cross slide.



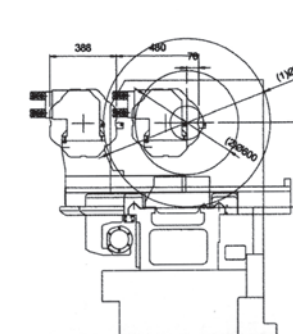
LD45 – CLT-V8-100

- Tool size: 32mm.
- (1) Swing over bed.
- (2) Swing over cross slide.



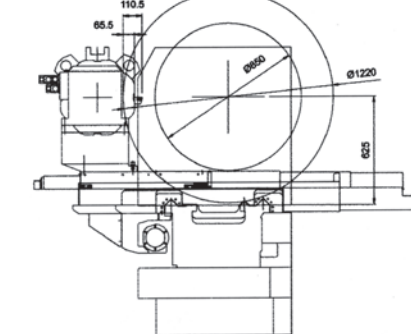
LC38 – CLT-V8-100

- Tool size: 32mm.
- (1) Swing over bed.
- (2) Swing over cross slide.



LD48 – CLT-V8-100

- Tool size: 32mm.
- (1) Swing over bed.
- (2) Swing over cross slide.





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