



Let L&L's Outstanding Experience  
Work for You

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**L&L**  
**CNC LATHES**  
LC / LD Series

Full Line of High Quality CNC Lathes  
to Meet Your Turning Challenges.



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CNC LATHES  
L&L Machinery Industry Co., Ltd.

# LC Series

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

# LC Series

Choice of Distance Between Centers :

1,150 / 2,150 / 3,150 / 4,150 / 5,150 / 6,150 / 7,150 mm  
Spindle Bore: 105, 153, 230, 305 mm

- H4-250 ,V8-100 hydraulic turret
- Rotatory tailstock quill with 165 mm diameter
- Motorized tailstock body movement
- Fanuc Oi-TD built-in manual guide
- Bed width: 560mm



# LD Series

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

# LD Series

Choice of Distance Between Centers:

1,200 / 2,200 / 3,200 / 4,200 mm  
5,200 / 6,200 / 7,200 mm  
Spindle Bore: 105, 153, 230, 305 mm

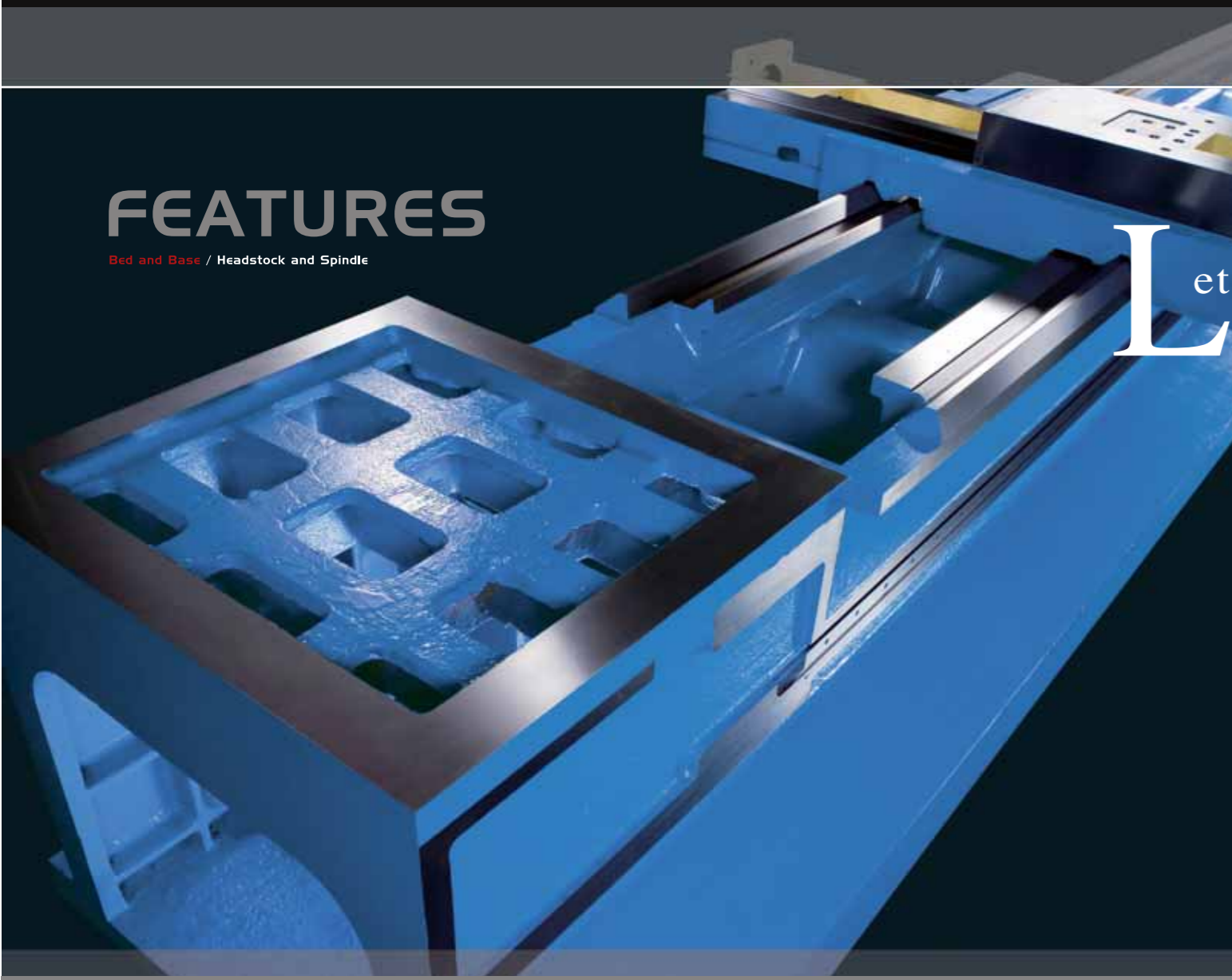
- Heavy duty flat bed construction
- Choice of turrets: H4-350, H6, V8-160A
- Choice of chucks: 3-jaw hydraulic chuck, 3-jaw pneumatic chuck, or double chucks, 4-jaw
- Bed width: 610 mm
- 165 mm rotary tailstock quill
- Turn-Mill function (Opt.)
- Hydraulic, V8 electric, live tooling or double turrets (Opt.)



Full enclosed guarding (Opt.)

# FEATURES

Bed and Base / Headstock and Spindle



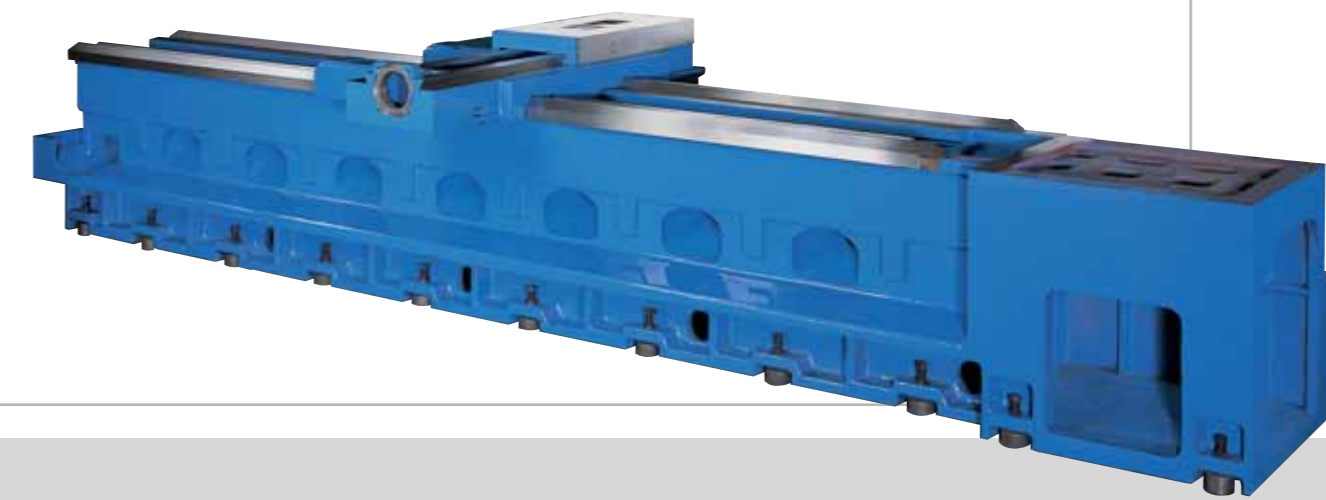
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## Bed and Base

- 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 55±2 and precisely ground. The hardened bed provides excellent stability and rigidity.
- Machine bed consists triple "V" and one flat bedway.
- The front chip auger and the rear chip conveyor make up an optimum chip removal 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 step auto gear 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

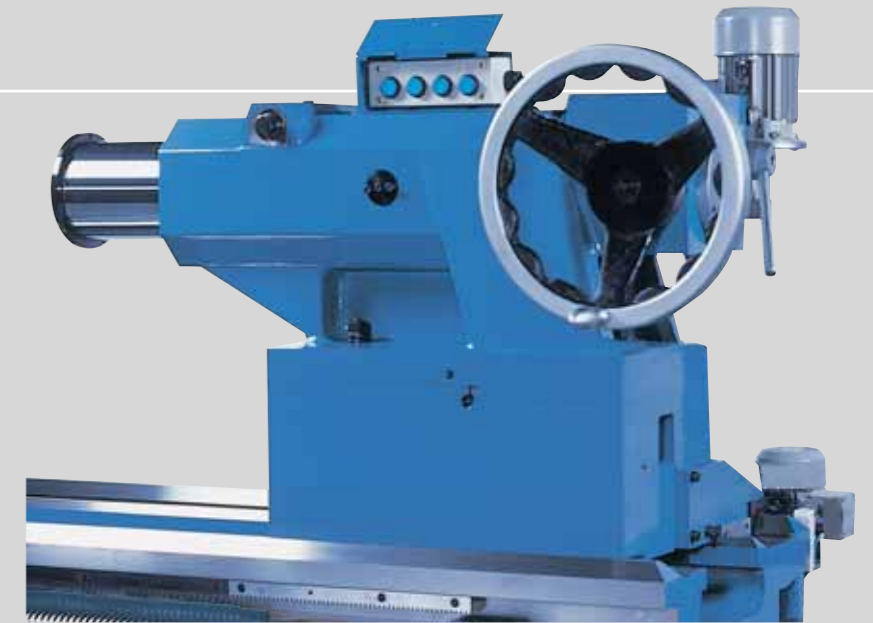
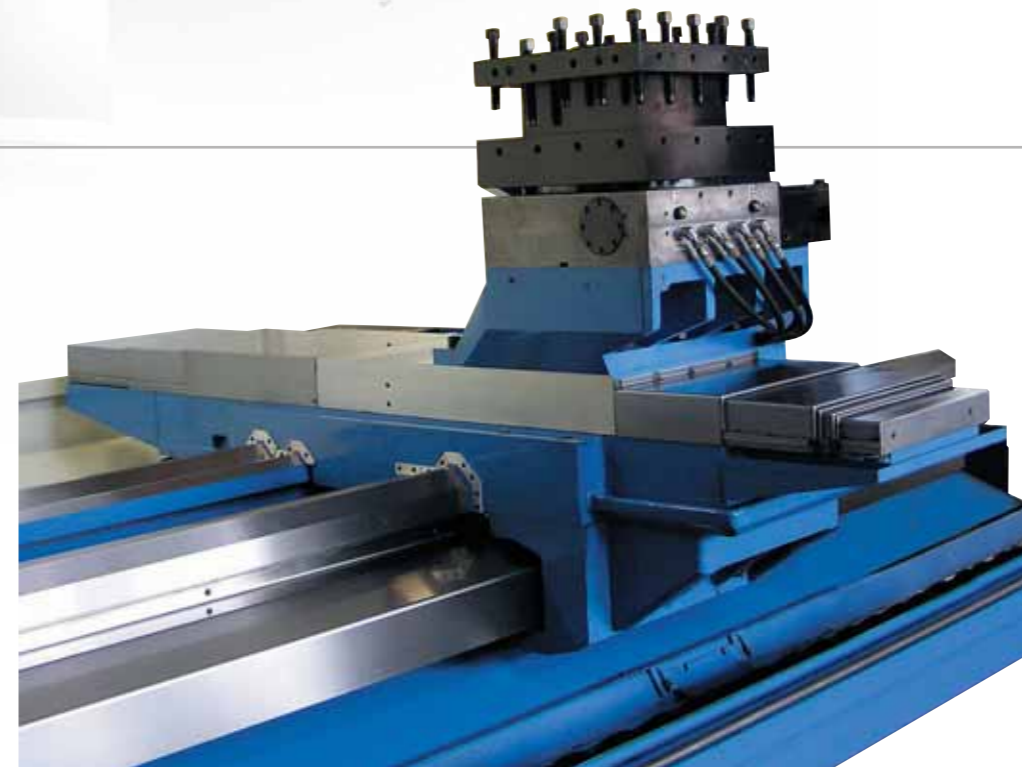
Tailstock / Turret, Carriage and Cross Slide



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## 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 tapered roller bearings are equipped on the spindle of the built-in tailstock quill.
- The quill is heat treated and precisely ground.
- The quill adopts a MT#6 dead center or live center for small workpieces. A chuck with nose (AI-5) can be mounted 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 setup time.

# OPTIONAL



## H4 Hydraulic

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



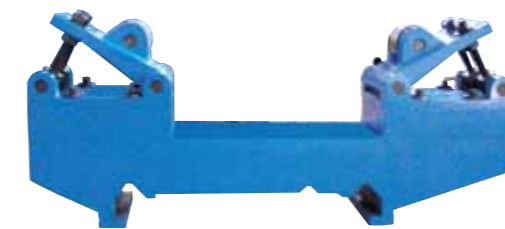
## Heavy Duty Boring Attachment

- Boring bar diameter : 6"
- Length : 1200 mm / 1500mm
- Tool size : 32 mm
- Clamping diameter : D 6"
- Sleeve : Ø50 mm~Ø120 mm 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.



## Roller Bracket

- Equipped on the machine especially for heavy duty large 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.



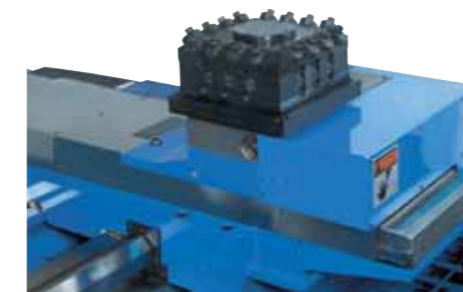
## V8 Hydraulic Turret

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



## H4-VDI Quick Change Hydraulic Turret

- 4 way quick change
- High repeat accuracy
- Rapid indexing



## 3-Jaw Hydraulic chuck

- Holds workpieces firmly and provides efficient chucking.
- Various chuck diameters to chose 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 large spindle bores.



## Steady Rest

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



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## TURN-MILL (Optional)

# 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. Saves time: Complete different jobs on one machine.



### Five Degree Spindle Indexing System

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



### Live Tooling Turret

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

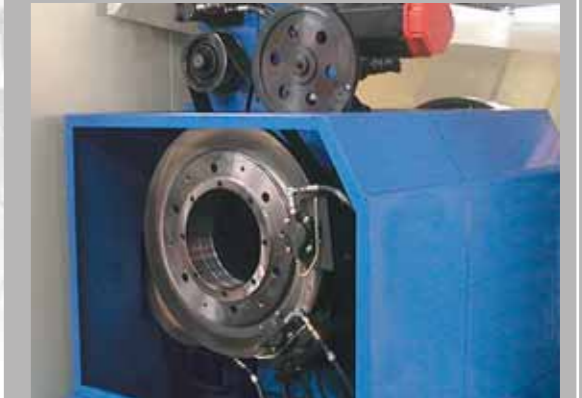


### C-axis Spindle Orientation System

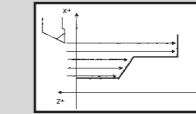
- High analytic servo motor integrates with high accuracy reduction gear to control the spindle micro orientation.
- Contour machining is available.
- Spindle micro index at the required position
- Equipped with linear scale to ensure indexing accuracy.

### Contouring Machining

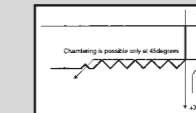
- X, Z, and C axes can be operated synchronously to do irregular and difficult machining.



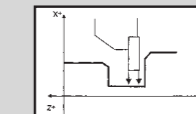
**MANUAL GUIDE i**



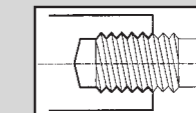
**BAR MACHINING (ROUGHING):**  
Including general thread, metric thread, unified thread, PT thread and PE thread.



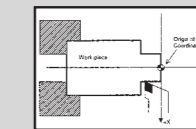
**THREADING:**  
Including general thread, metric thread, unified thread, PT thread and PE thread.



**GROOVING:**  
Including outer, inner and face grooving.



**CANNED CYCLE FOR DRILLING:**  
Including center drilling, drilling, reaming, boring and tapping.



**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.

FANUC Oi-TD is the standard controller with a user-friendly control panel. The controller is designed on the movable door which allows it to rotate 120 degrees and get close to the work piece. It is very convenient for checking the tooling and observing the machining operations.

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**STD: FANUC Oi-TD**

- TFT-LCD color 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" color 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 geometries
- Graphic CNC simulation plane data
- All-in one tool and magazine data
- Extension of CNC memory by user CF-card on panel front

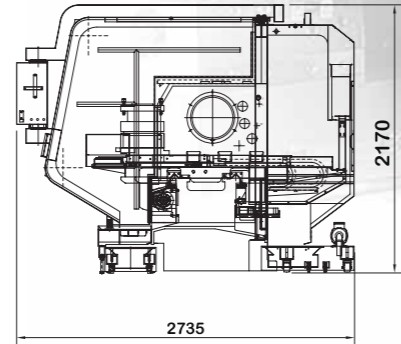
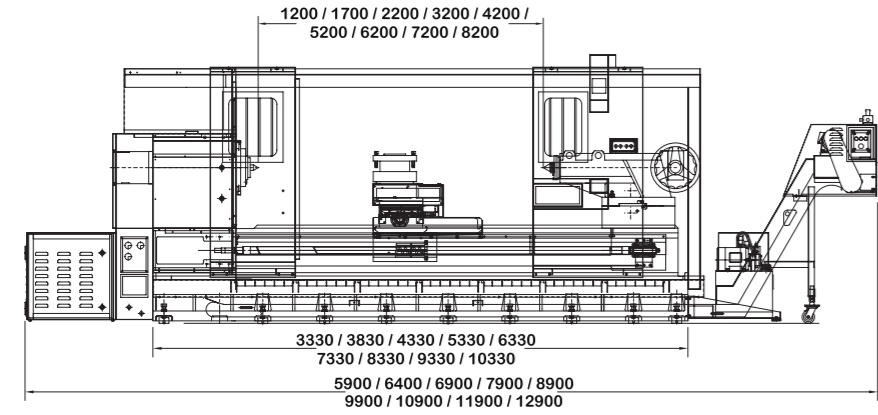


**CNC CONTROLLER**

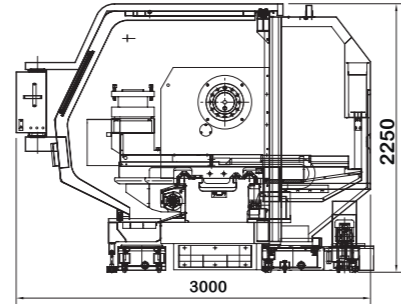
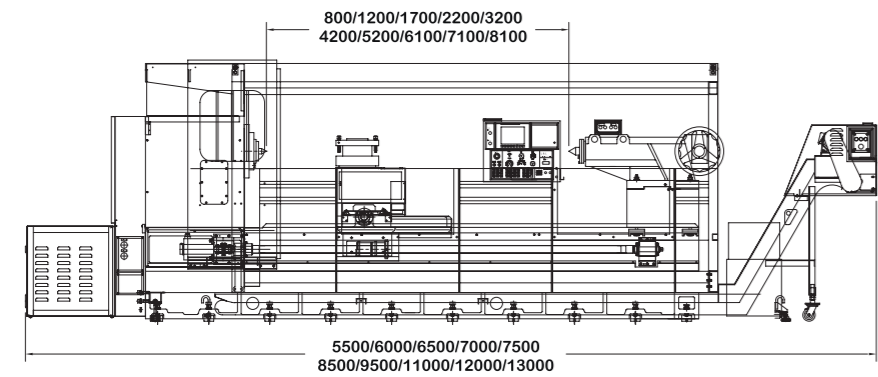


# DIMENSIONAL DRAWING

LC series



LD series



## Machine Dimensions & Weight

LC Series	1000	1500	2000	3000	4000	5000	6000	7000	8000	
34" LxWxH (mm)	5,900x2,735x2,170	6,400x2,735x2,170	6,900x2,735x2,170	7,900x2,735x2,170	8,900x2,735x2,170	9,900x2,735x2,170	10,900x2,735x2,170	11,900x2,735x2,170	12,900x2,735x2,170	
N.W/G.W	10,000/12,000 kg	10,500/12,500 kg	12,000/14,000 kg	13,500/15,700 kg	15,000/17,400 kg	16,500/19,100 kg	18,000/21,000 kg	19,500/22,500 kg	21,000/24,200 kg	
38" LxWxH (mm)	5,900x2,735x2,170	6,400x2,735x2,170	6,900x2,735x2,170	7,900x2,735x2,170	8,900x2,735x2,170	9,900x2,735x2,170	10,900x2,735x2,170	11,900x2,735x2,170	12,900x2,735x2,170	
N.W/G.W	10,500/12,500 kg	11,000/13,000 kg	12,500/14,500 kg	14,000/16,200 kg	15,500/17,900 kg	17,000/19,600 kg	18,500/21,500 kg	20,000/23,000 kg	21,500/24,700 kg	
LD Series	800	1000	1500	2000	3000	4000	5000	6000	7000	8000
45" LxWxH (mm)	5,500x3,000x2,250	6,000x3,000x2,250	6,500x3,000x2,250	7,000x3,000x2,250	7,500x3,000x2,250	8,500x3,000x2,250	9,500x3,000x2,250	11,000x3,000x2,250	12,000x3,000x2,250	13,000x3,000x2,250
N.W/G.W	11,000/13,000 kg	9,800/11,400 kg	11,500/13,300 kg	13,200/15,200 kg	14,900/17,100 kg	16,600/19,000 kg	18,300/20,900 kg	20,000/22,800 kg	21,700/24,700 kg	23,400/26,600 kg
48" LxWxH (mm)	5,500x3,000x2,250	6,000x3,000x2,250	6,500x3,000x2,250	7,000x3,000x2,250	7,500x3,000x2,250	8,500x3,000x2,250	9,500x3,000x2,250	11,000x3,000x2,250	12,000x3,000x2,250	13,000x3,000x2,250
N.W/G.W	11,500/13,500 kg	10,300/13,800 kg	12,000/13,800 kg	13,700/15,700 kg	15,400/17,600 kg	17,100/19,500 kg	18,800/21,400 kg	20,500/23,300 kg	22,200/25,200 kg	23,900/27,100 kg

Universal machining capacity

Drilling

Threading

Heavy cutting

Heavy duty boring

# SPECIFICATIONS - LC SERIES

MODEL	LC 34	LC 38		
SWING OVER BED	870 mm	970 mm		
SWING OVER CROSS SLIDE	500 mm	600 mm		
CENTER HEIGHT	440 mm	490 mm		
WIDTH OF CARRIAGE	885 mm			
WIDTH OF CROSS SLIDE	350 mm			
DISTANCE BETWEEN CENTERS	1,200mm / 1,700mm / 2,200mm / 3,200mm 4,200mm / 5,200mm / 6,200mm / 7,200mm / 8,200mm			
CONTROL	STD.	FANUC 0iTD		
	OPT.	FANUC 2iTB ; SIEMENS 810D ; FAGOR8055TC		
WIDTH OF BED	560mm (22")			
BED WAY	3-V way with 1 flat way			
MACHINE LENGTH	5,900mm / 6,400mm / 6,900mm / 7,900mm / 8,900mm 9,900mm / 10,900mm / 11,900mm / 12,900mm			
<b>HEADSTOCK</b>				
SPINDLE BORE	Ø105mm(4")	Ø153mm(6")	Ø230mm(9")	Ø305mm(12")
SPINDLE NOSE	A2-8	A2-11	A2-15	A2-20
SPINDLE SPEED	13~1,200rpm	6.5~600rpm	6~400rpm	4~400rpm
SPINDLE CENTER	MT#6			
SPINDLE POWER	22/26 KW (FANUC α i) (STD.); 30/37KW (OPT.)			
<b>TURRET</b>				
TURRET MODE	STD.	H4-250 hydraulic ; V8-100 hydraulic		
	OPT.	H4-250 VDI hydraulic ; Quick change turret V12-100 hydraulic ; V12-live tooling (ODT-N-25)		
TOOL SIZE	32 mm			
<b>TAILSTOCK</b>				
QUILL DIAMETER	165mm rotary quill			
QUILL TRAVERSE	200 mm			
TAILSTOCK CENTER	MT#6			
BODY MOVEMENT	Motorized			
QUILL MOVEMENT	Electric/Manual (STD.) ; Hydraulic (OPT.)			

FEED	LC 34	LC 38
X-AXIS RAPID TRAVERSE	6M/min	
X-AXIS BALLSCREW DIAMETER	Ø40mm*P5	
X-AXIS FEED RANGE	0.1mm/min~3000mm/min	
X-AXIS TRAVERSE	500mm	
X-AXIS SERVO MOTOR	3KW (FANUC α i)	
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	1,000mm / 1,500mm / 2,000mm / 3,000mm / 4,000mm 5,000mm / 6,000mm / 7,000mm / 8,000mm	
Z-AXIS TRANSMITTING	1M~3M: Directly coupling 4M~8M: Servo motor transmitted through 1:4 precision gear reducer	
Z-AXIS SERVO MOTOR	4KW (FANUC α i)	
<b>STANDARD ACCESSORIES</b>		
LUBRICATION PUMP	25 W	
COOLANT PUMP	STD.	1/2HP high pressure
	OPT.	15 bar high pressure
HYDRAULIC PUMP	2HP	
CHIP REMOVAL	Front chip conveyor + Rear chip conveyor	
GUARD	STD.	Rear splash guard + Front two doors
	OPT.	Fully enclosed guarding

## NOTE:

- (1) X and Z axes actual cutting diameter will change when equipped with different turrets.
- (2) Spindle speed will change according to different motors.
- (3) Distance between centers will change based on installing different types of tailstocks.
- (4) Machine between center over 6000mm, Z-axis linear is optional.
- (5) Specification subject to change without prior notice.

# SPECIFICATIONS - LD SERIES

MODEL	LD 45	LD 48			
SWING OVER BED	1,120 mm	1,220 mm			
SWING OVER CROSS SLIDE	750 mm	850 mm			
CENTER HEIGHT	575 mm	625 mm			
WIDTH OF CARRIAGE	950 mm				
WIDTH OF CROSS SLIDE	400 mm				
DISTANCE BETWEEN CENTERS	800mm / 1,200mm / 1,700mm / 2,200mm / 3,200mm 4,200mm / 5,200mm / 6,100mm / 7,100mm / 8,100mm				
CONTROL	STD.	FANUC 0iTD			
	OPT.	FANUC 2iTB ; SIEMENS 810D ; FAGOR8055TC			
WIDTH OF BED	610mm(24")				
BED WAY	3-V way with 1 flat way				
MACHINE LENGTH	5,500mm / 6,000mm / 6,500mm / 7,000mm / 7,500mm 8,500mm / 9,500mm / 11,000mm / 12,000mm / 13,000mm				
<b>HEADSTOCK</b>					
SPINDLE BORE	Ø153mm(6")	Ø230mm(9")	Ø305mm(12")	Ø405mm(16")	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 CENTER	MT#6				
SPINDLE POWER	22/26KW (FANUC α i) (STD.); 30/37KW (OPT.)				
<b>TURRET</b>					
TURRET MODE	STD.	H4-350 hydraulic ; V8-160 hydraulic			
	OPT.	H4-350 VDI hydraulic ; Quick change turret V12-160 hydraulic ; V12-live tooling (ODT-N-25)			
TOOL SIZE	H4-350: 32 mm V8-160: 40 mm				
<b>TAILSTOCK</b>					
QUILL DIAMETER	165mm rotary quill				
QUILL TRAVERSE	250 mm				
TAILSTOCK CENTER	MT#6				
BODY MOVEMENT	Motorized				
QUILL MOVEMENT	Electric/Manual (STD.) ; Hydraulic (OPT.)				

FEED	LD 45	LD 48
X-AXIS RAPID TRAVERSE	6M/min	
X-AXIS BALLSCREW DIAMETER	Ø40mm*P5	
X-AXIS FEED RANGE	0.1mm/min~3000mm/min	
X-AXIS TRAVERSE	650mm	
X-AXIS SERVO MOTOR	3KW (FANUC α i)	
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	800mm / 1,000mm / 1,500mm / 2,000mm / 3,000mm 4,000mm / 5,000mm / 6,000mm / 7,000mm / 8,000mm	
Z-AXIS TRANSMITTING	1~3M: Directly coupling ; 4~8M: 1:4 Precision gear reducer	
Z-AXIS SERVO MOTOR	4KW (FANUC α i)	
<b>STANDARD ACCESSORIES</b>		
LUBRICATION PUMP	25 W	
COOLANT PUMP	STD.	1/2HP high pressure
	OPT.	15 bar high pressure
HYDRAULIC PUMP	2HP	
CHIP REMOVAL	Front chip conveyor + Rear chip conveyor	
GUARD	STD.	Rear splash guard + Front two doors
	OPT.	Fully enclosed guarding (only available for 1M~5M)

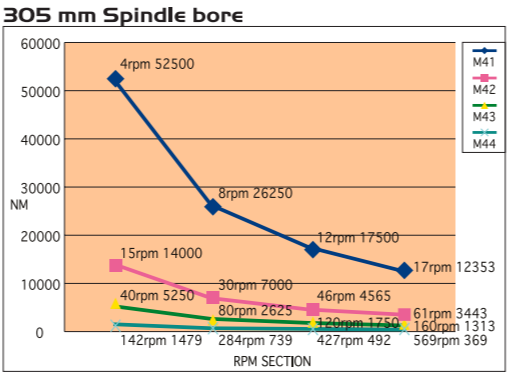
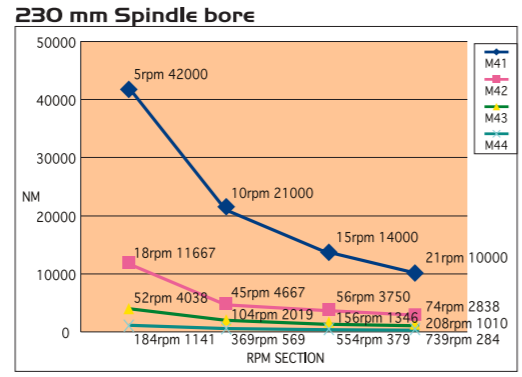
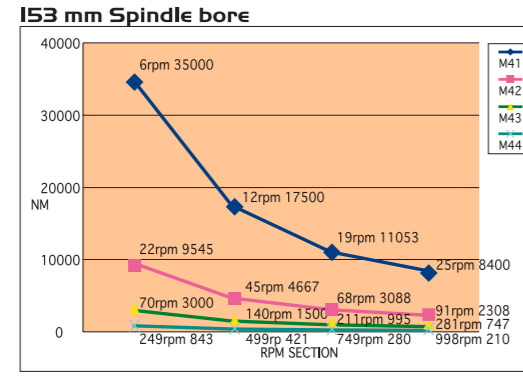
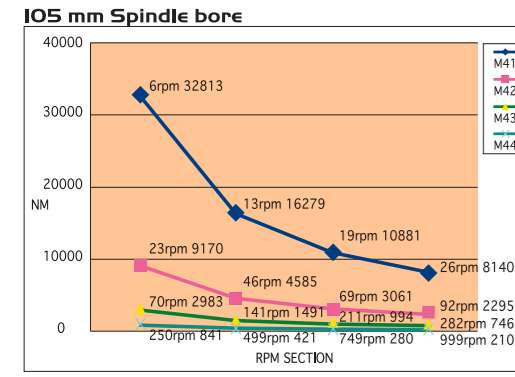
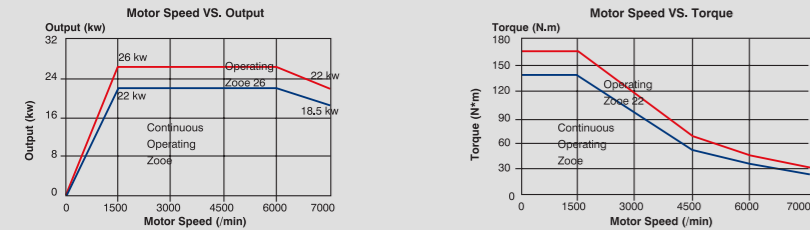
## NOTE:

- (1) X and Z axes actual cutting diameter will change when equipped with different turrets.
- (2) Spindle speed will change according to different motors.
- (3) Distance between centers will change based on installing different types of tailstocks.
- (4) Machine between center over 6000mm, Z-axis linear is optional.
- (5) Specification subject to change without prior notice.

# LC EQUIPED FANUC 22/26 KW SPINDLE MOTOR(STD)

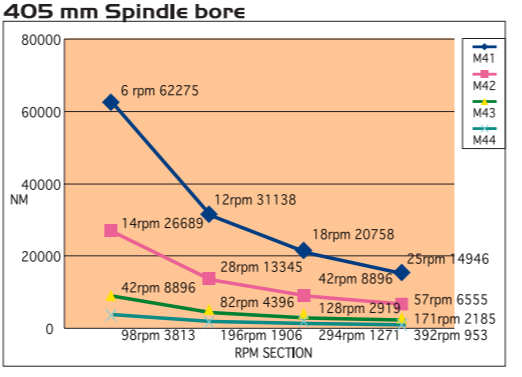
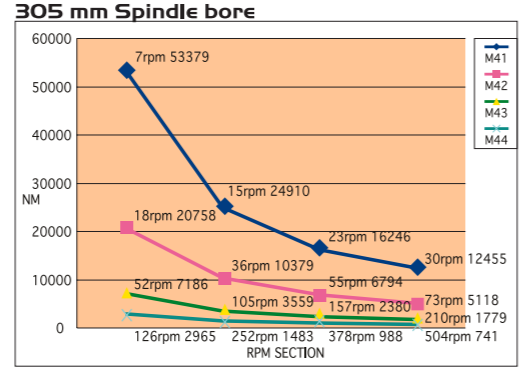
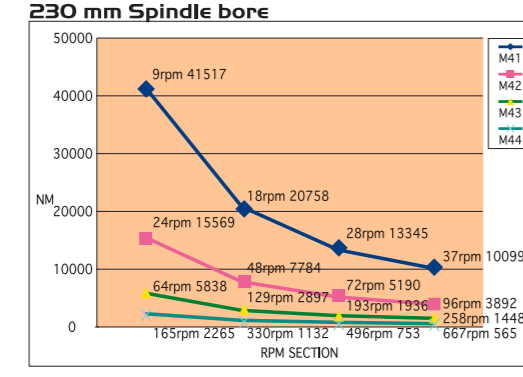
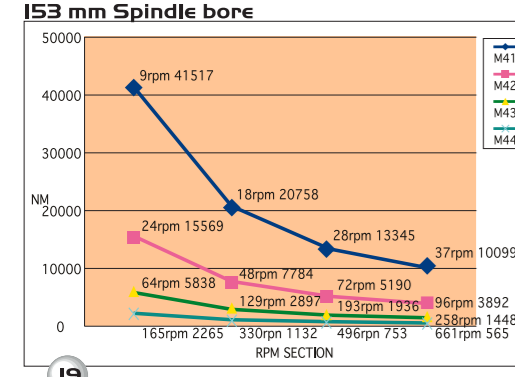
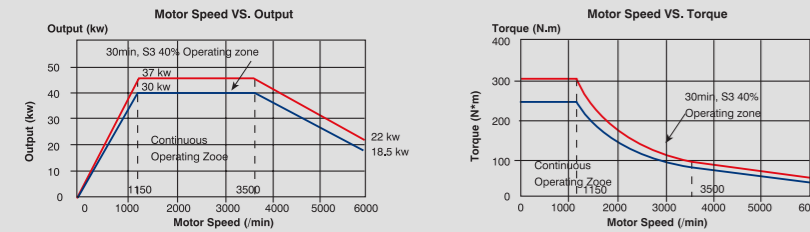
# LOADING CAPACITY

## Model $\alpha$ 22/7000i



# LD EQUIPED FANUC 30/37 KW SPINDLE MOTOR(OPT)

## Model $\alpha$ 30/6000i



MODEL	LC	LC	LC	LD	LD	LD	LD
SPINDLE BORE	6" A2-11	9" A-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 center	6000kgs	7000kgs	7500kgs	7000kgs	8000kgs	9000kgs	9500kgs
1							
Max. load between center plus 1 steady rest	8000kgs	8500kgs	8000kgs	8000kgs	9000kgs	10000kgs	10500kgs
2							
Max. load between center plus 2 steady rest	9000kgs	9500kgs	9000kgs	9000kgs	10000kgs	11000kgs	11500kgs
3							
Max. load with one chuck only	2200kgs	2400kgs	2200kgs	2200kgs	2400kgs	2600kgs	2800kgs
4							

# Side Version Interference



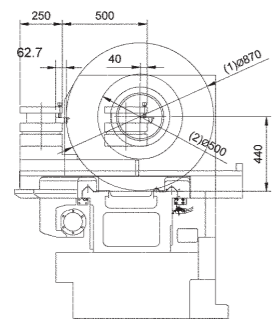
## H4 Hydraulic Turret

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

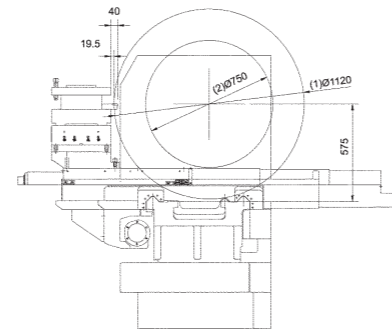


## V8 Hydraulic Turret

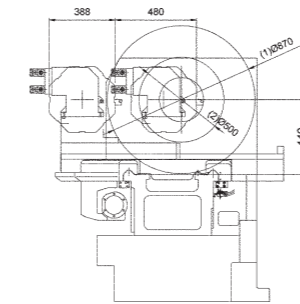
- Holds 8 tools.
- High indexing accuracy and quick tool change.
- Random tool selection.
- Turret clamping is controlled by hydraulic power for outstanding rigidity and stability.



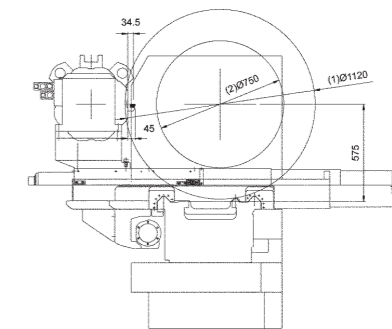
**LC34  
H4-250**  
Tool size : 32 mm  
(1) Swing over bed  
(2) Swing over cross slide



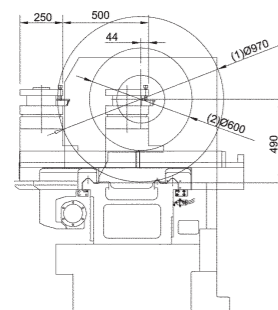
**LD45  
H4-350**  
Tool size : 40 mm  
(1) Swing over bed  
(2) Swing over cross slide



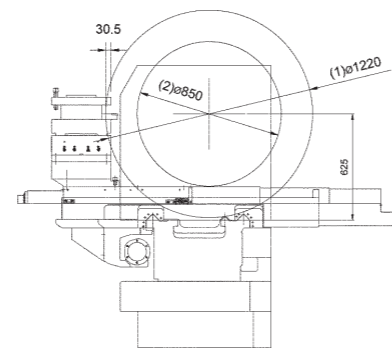
**LC34  
CLT-V8-100**  
Tool size : 32 mm  
(1) Swing over bed  
(2) Swing over cross slide



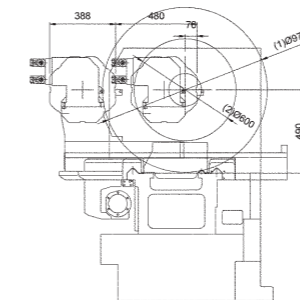
**LD45  
CLT-V8-160**  
Tool size : 32 mm  
(1) Swing over bed  
(2) Swing over cross slide



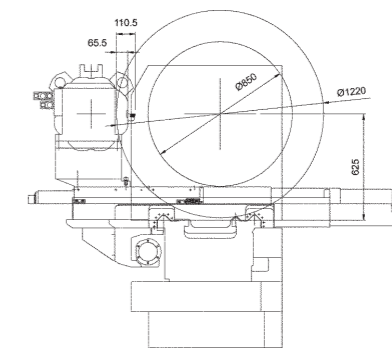
**LC38  
H4-250**  
Tool size : 32 mm  
(1) Swing over bed  
(2) Swing over cross slide



**LD48  
H4-350**  
Tool size : 40 mm  
(1) Swing over bed  
(2) Swing over cross slide



**LC38  
CLT-V8-100**  
Tool size : 32 mm  
(1) Swing over bed  
(2) Swing over cross slide



**LD48  
CLT-V8-160**  
Tool size : 32 mm  
(1) Swing over bed  
(2) Swing over cross slide