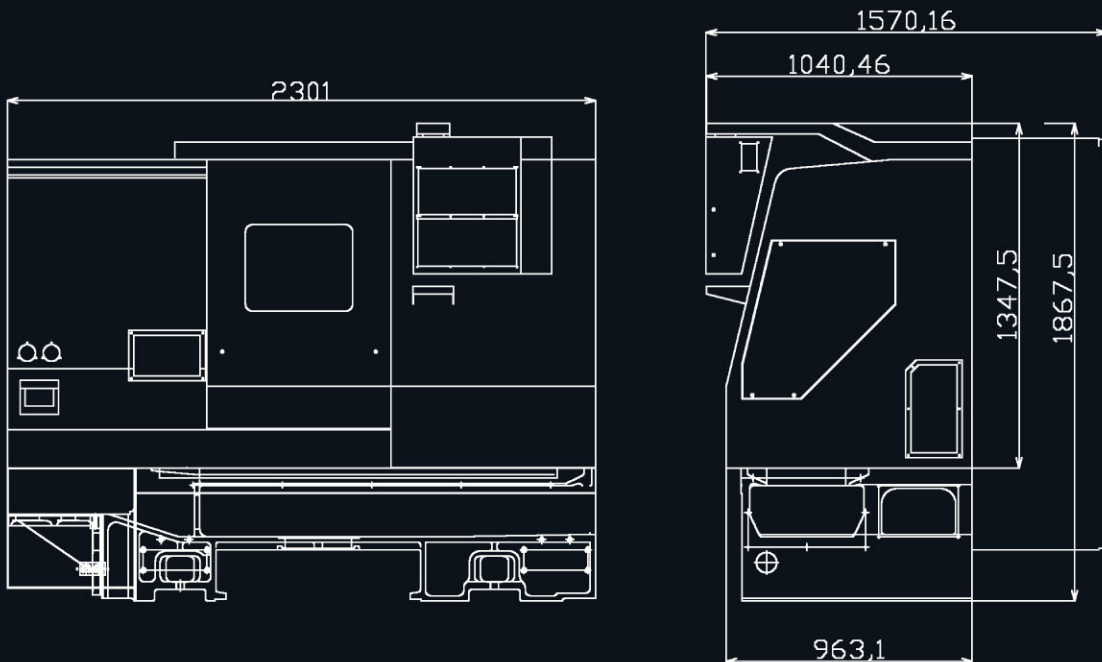


SLANT BED CNC PRECISION TURNING CENTERS



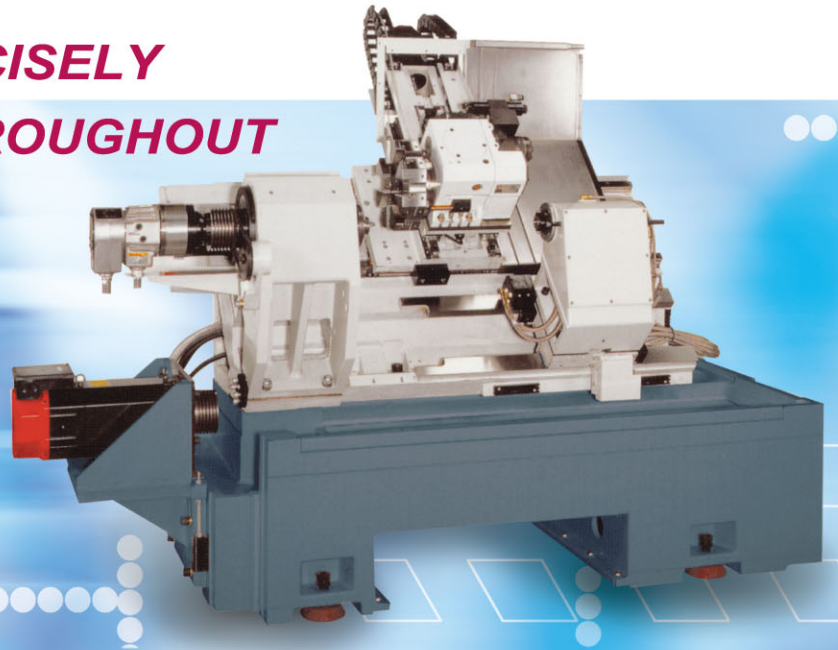
cyclone

FCL series



RUGGEDLY AND PRECISELY CONSTRUCTED THROUGHOUT

- The major machine parts, such as the base, saddle, headstock, slide and sub spindle are made of Meehanite castiron and tempered to relieve stress thereby ensuring lifetime accuracy.
- High performance servomotors are directly coupled to the pre-tensioned ball screws.
- Linear guide way on both X and Z axes.
- 45 degrees slant bed construction features efficient chip removal and firm support.



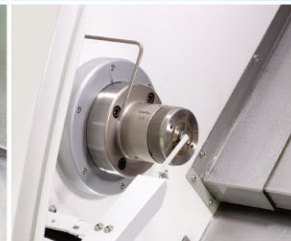
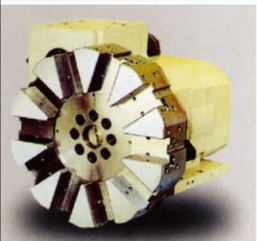
Hydraulic turret

Tool setter (OPT)

Parts catcher (OPT)

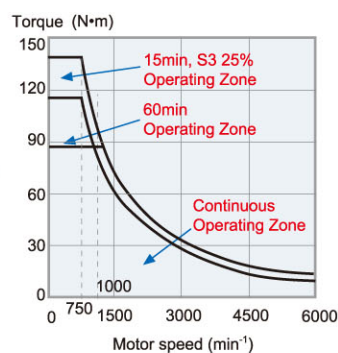
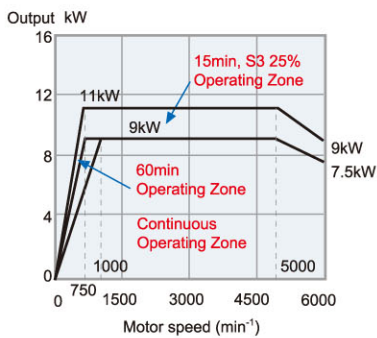
Parts cut off detector (OPT)

Precision Spindle

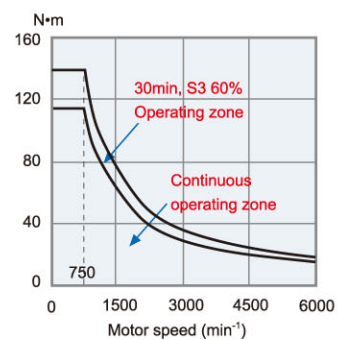
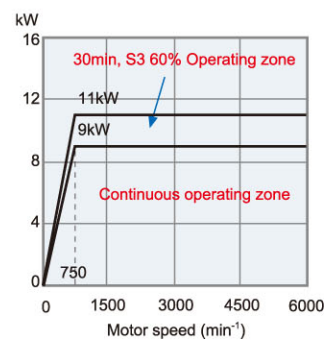


Main Spindle Output and Torque

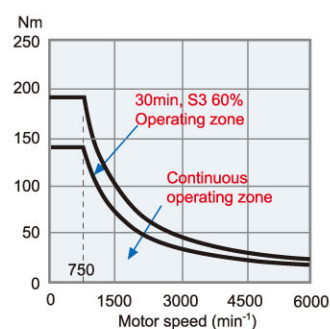
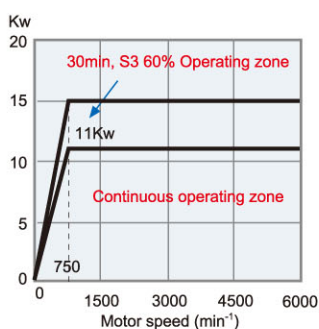
FANUC spindle motor β P18i / 6000 (FCL-200S)



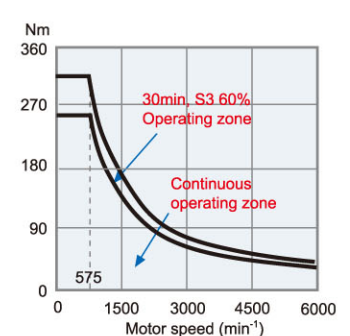
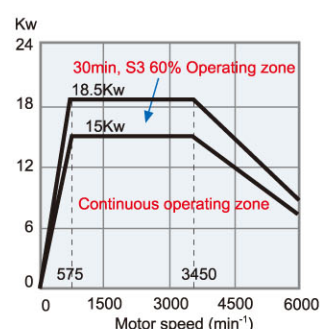
FANUC spindle motor α p18i / 6000 (FCL-200S)



FANUC spindle motor α p22i / 6000 (FCL-250S/L)

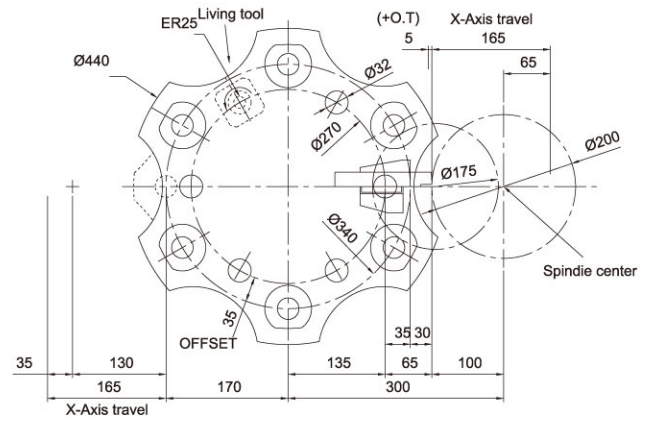
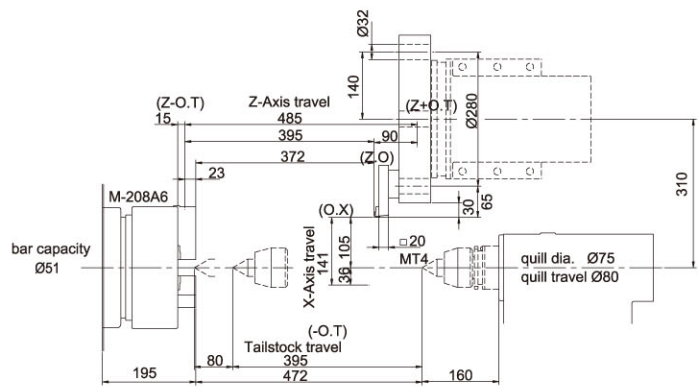
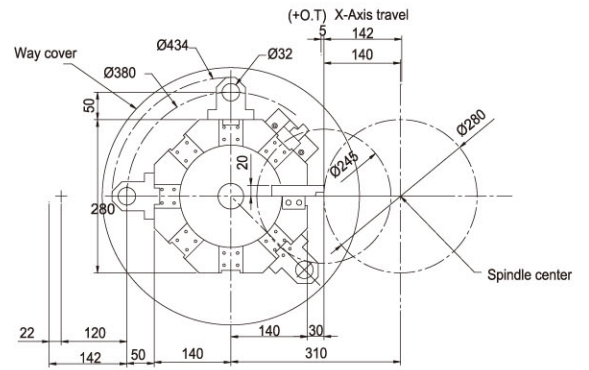
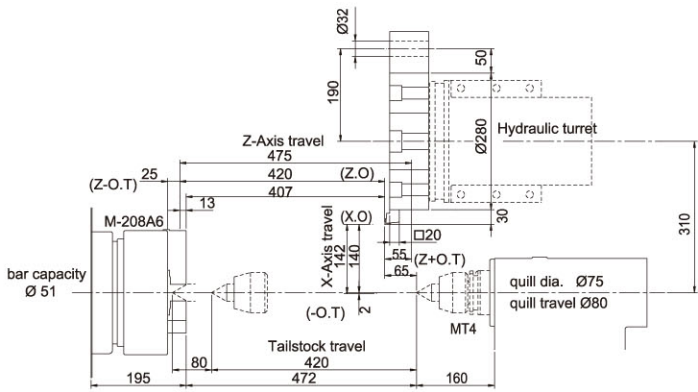


FANUC spindle motor α p30i / 6000 (FCL-300S)

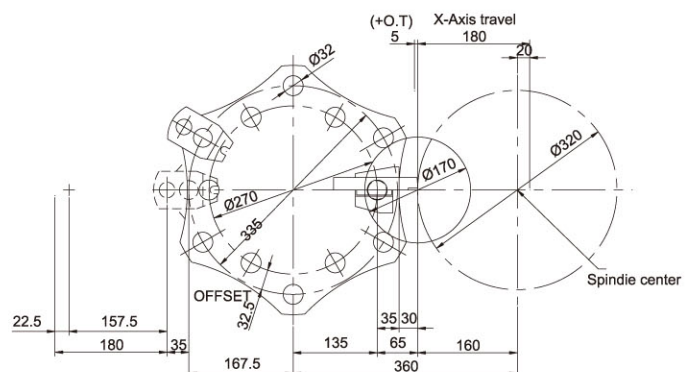
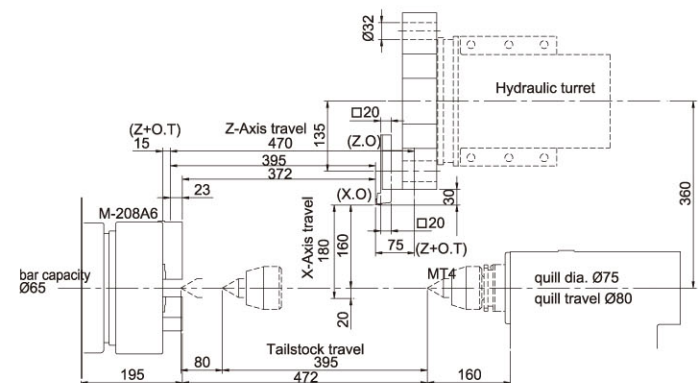
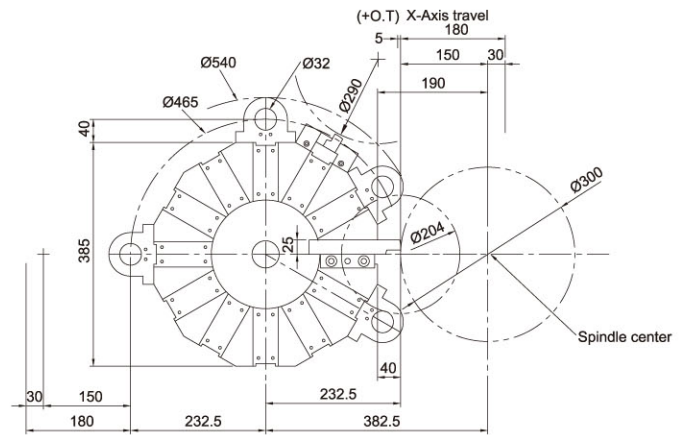
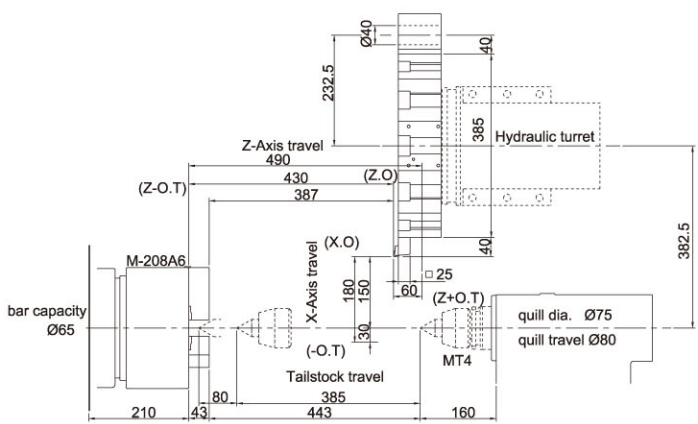


TURRET MOVING RANGE & RELATION BETWEEN TOOL AND WORK DIA.

FCL-200S

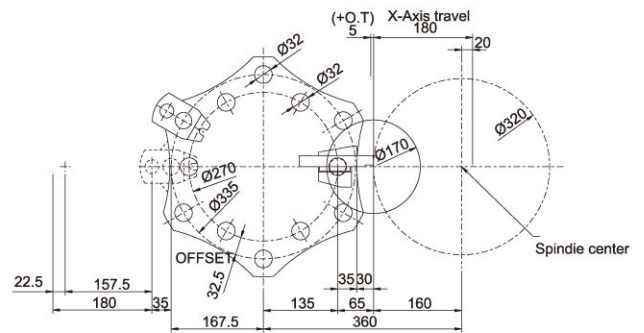
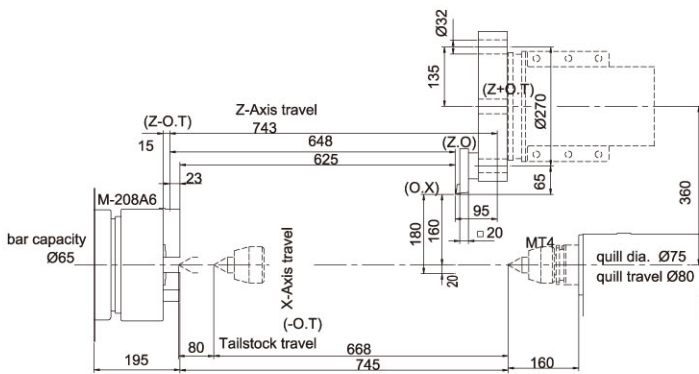
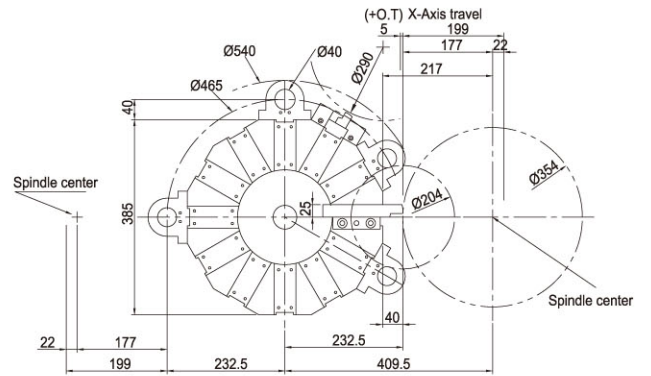
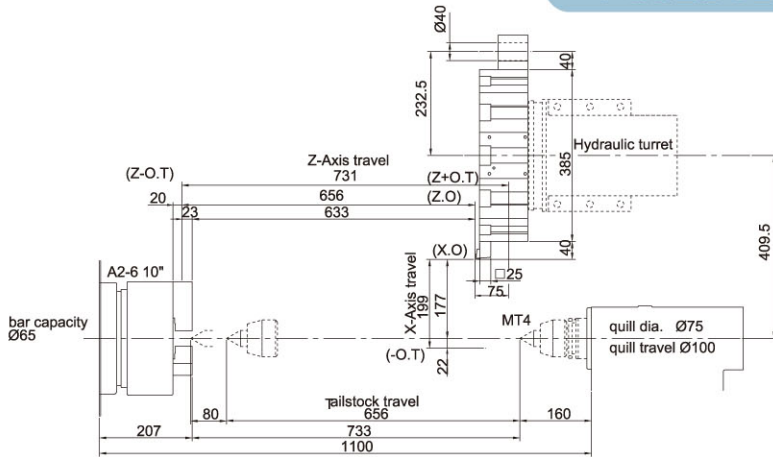


FCL-250S

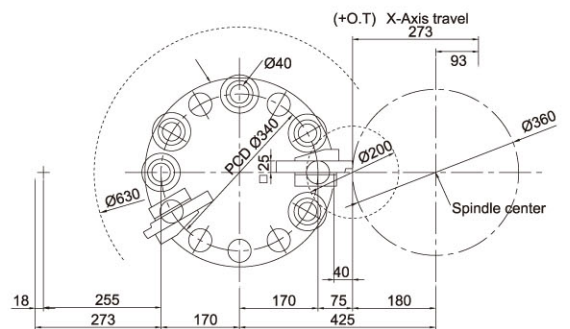
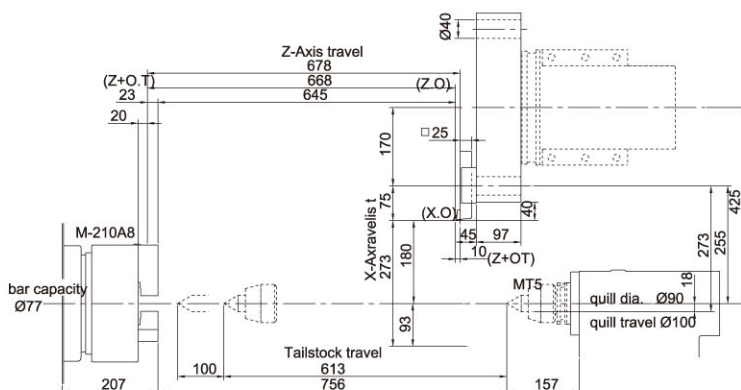
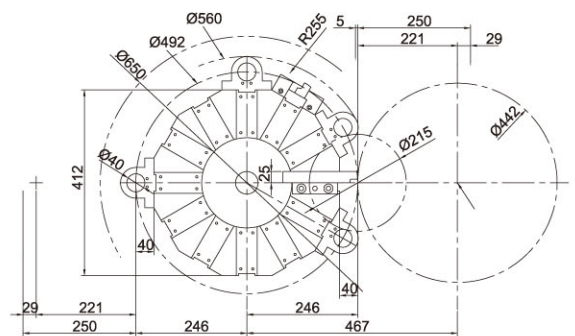
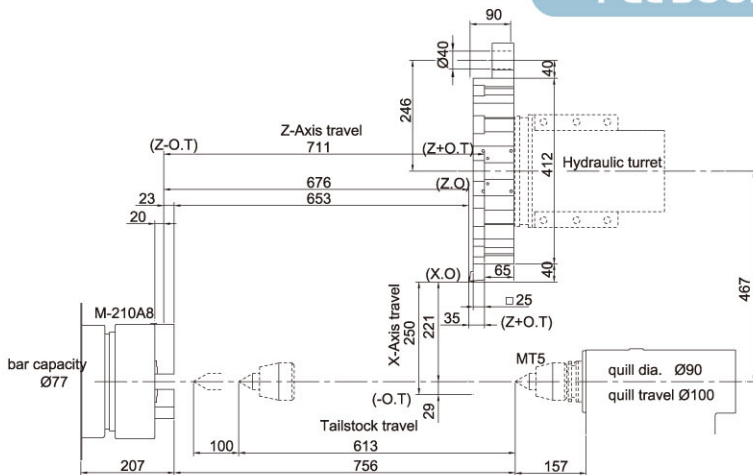


TURRET MOVING RANGE & RELATION BETWEEN TOOL AND WORK DIA.

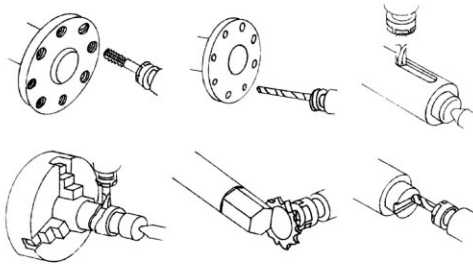
FCL-250SL



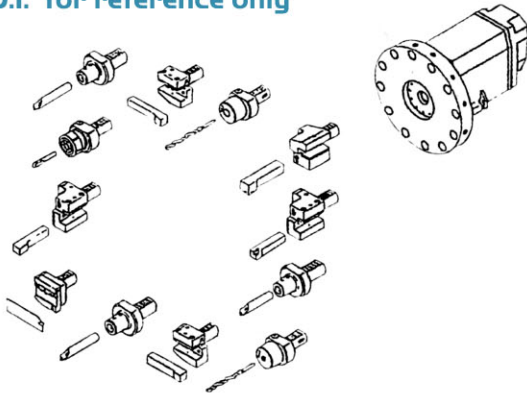
FCL-300S



C-AXIS Process Drawing



V.D.I. for reference only



Specifications :

Model	FCL-200S/250S/250SL	FCL-300S
C-axis precision	0.001	0.001
Power turret	Type 16	Type 20
Max. RPM	4000 rpm	4000 rpm
Drilling	Ø 1-13 mm	Ø 2.5-20 mm
Milling	Ø 1-13 mm	Ø 2.5-20 mm
Taper	M1-M10	M3-M12
Tool shank size	Ø 32mm	Ø 40mm
Motor	AC 2.2kw	AC 2.2kw

Direct Mount :

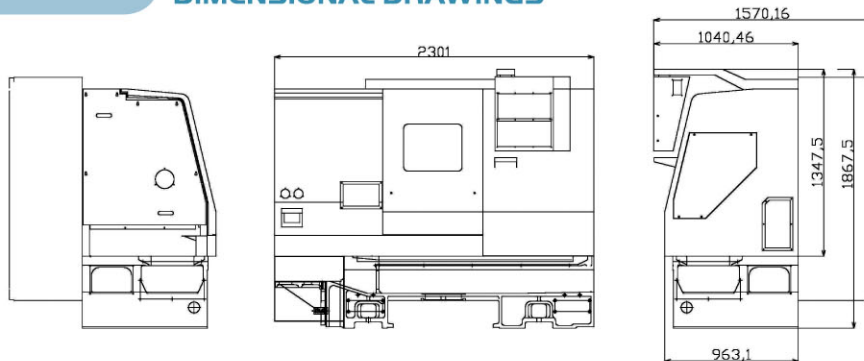
No.	Tool / Model	FCL-200S/250S/250SL	FCL-300S
1	Bore	Ø8,10, 12, 16, 20, 25, 32	Ø8,10,12,16,20,25,32,40
2	Shank dia.	□ 20 (25 opt.)	□ 25
3	End	□ 20 (25 opt.)	□ 25
4	Cut	20 (25 opt.)	25
5	Tap	Ø16	Ø20
6	Drill	MT #2, #3	MT #2, #3, #4

VDI :

No.	Tool / Model	FCL-200S/250S/250SL	FCL-300S
1	Bore	Ø8,10, 12, 16, 20, 25, 32	Ø8,10,12,16,20,25,32,40
2	Shank dia.	□ 20 (25 opt.)	□ 25
3	End	□ 20 (25 opt.)	□ 25
4	Cut	20 (25 opt.)	25
5	Tap	M10	M16
6	Drill	MT #1, #2, #3	MT #2, #3, #4

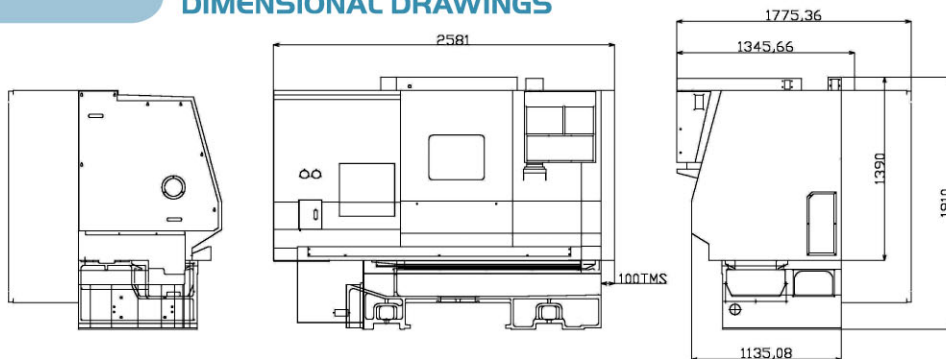
FCL-200S

DIMENSIONAL DRAWINGS



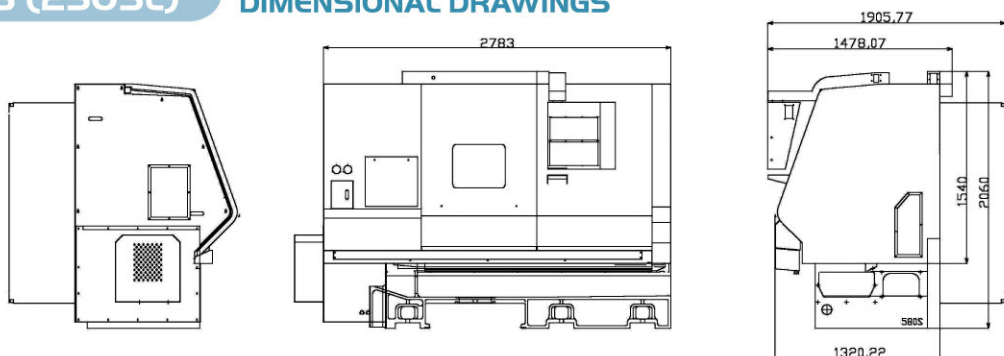
FCL-250S

DIMENSIONAL DRAWINGS



FCL-300S (250SL)

DIMENSIONAL DRAWINGS



Specifications :

ITEMS	FCL-200S	FCL-250S	FCL-250SL	FCL-300S		
Capacity	No. of axes STD:2-axis / OPT: 3-axis (C-axis) (available with Fanuc oiTC)					
	Swing over bed	Ø 480 mm (8.9")	Ø 600 mm (23.62")	Ø 630 mm (24.8")		
	Max. turning dia.	Ø 280 mm (11.02")	Ø 330 mm (12.99")	Ø 442 mm (17.4")		
	Working length	462 mm (18.18")	430 mm (16.92") 690 mm (27.16")	700 mm (27.56")		
Spindle	Spindle nose bar internal taper	ASA A2-6 MT No.6	ASA A2-6 MT No.6	ASA A2-8 Ø96 mm Taper 1/20		
	Spindle bore	Ø61mm (2.4")	Ø77mm(3.03")	Ø 90 mm (3.54")		
	Bar capacity	Ø51mm (2.0")	Ø65mm(2.56")	Ø 77 mm (3")		
	Range of spindle speed	25-4200 rpm	25-3500 rpm	STD:25-3500rpm (10") / OPT: 25-2800rpm (12")		
	Living tools speed	OPT: 25-4000 rpm (available with Fanuc oiTC)				
	No. of spindle speed	Infinitely variable				
Chuck	Hydraulic chuck	Ø210 mm (8")	Ø254 mm (10")	STD:Ø254mm (10") / OPT:Ø304mm (12")		
Turret	Tool station (random)	STD:HYD. LS-160A-8T	STD:Hyd LS-240-12/ OPT:SERVO LS-240-12			
	O.D. tooling	□ 20 x20 mm	□ 25 x25 mm			
	I.D. tooling	32 mm	40 mm (1.57")			
X / Z axis	X-axis travel	142 mm (5.59")	180 mm (7.08")	250 mm (9.84")		
	Z-axis travel	475 mm (18.7")	460 mm(18.11") 743 mm(29.25")	720 mm (28.35")		
	X & Z axis rapid traverse	30 m/min (1181 ipm)	30 m/min (1181 ipm)	30 m/min (1181 ipm)		
	X & Z cutting feedrate	0.001-500 mm/rev.	0.001-500 mm/rev.	0.001-500 mm/rev.		
Motor	Spindle motor	Fanuc oiTC øP18i - 9/11 kW Fanuc oiMate øP18i - 9/11 kW	Fanuc oiTC	ø P22i - 11/15kW	Fanuc oiTC	ø P30i - 15/18.5kW
	Axial motor	Fanuc oiTC ø8i - 1.6 kW Fanuc oiMate ø12i - 1.8 kW		ø 8i / 1.6kw		ø 12i / 3.0 kw
	Hydraulic oil pump	2 HP	1.5kw (2HP)	1.5kw (2HP)		
	Coolant pump	1/4 HP	750 w (1HP)	750 w (1HP)		
Programmable	Quill dia.	Ø 75 mm (2.95")	Ø 75 mm (2.95")	Ø 90 mm (3.54")		
	Quill stroke	80 mm (3.15")	80 mm (3.15")	100 mm (3.94")		
Tailstock	Taper of center	MT No.4	MT No.4	MT No.5		
	Tailstock travel	420 mm (16.53")	420 mm (16.53") 668 mm (26.29")	625 mm (24.6")		
Tank Capacity	Hydraulic tank	40 Liter	60 Liter	60 Liter		
	Coolant tank	100 Liter	100 Liter	100 Liter		
Measurements	Floor space (LxW)	3350 x 1575 mm	3550x2000mm	4000x2100mm	4000 x 2100 mm (157.5"x82.7")	
	Height	1800 mm	2000 mm	2000 mm	2130 mm (84")	
	Weight (NW/GW)	4400 kgs / 5330 kgs	4850kgs / 5350kgs	6150kgs / 6400kgs	6250 kgs / 6500 kgs	

• L&W Machine Tools, Inc. reserves the right to alter any mechanical specification without prior notice in the interests of product development.

Standard Accessories :

- 1/4 HP coolant pump (FCL-200S)
- 3-bar-750w high pressure coolant pump (FCL-250S, 250SL, 300S)
- 100 liter capacity cooling tank
- Hydraulic turret
- Auto. lubrication system
- Tools & tool box
- Work lamp
- Three-color alarm light
- Hydraulic unit
- Heat exchanger unit of electric box cooling
- Chip conveyor and bucket
- Programmable tailstock

Optional Accessories :

- C.E. electric control
- Auto tool setter
- Manual tool setter
- C-axis contour capability
 - Diplomatic SMODT, VDI, 12-position power turret with Fanuc alpha spindle motor (Excluding rotating tool holder and tools)
 - High resolution magnetic pulse coder incorporated into main AC spindle motor for precision contour/index control
 - Hydraulic disk brake for locking and stabilization during milling and contouring
- Main power transformer
- Auto door & safety switch
- Auto parts catcher
- Prevent crash install of each axis. (Safety equipment)
- Bar feed
- Parts cut off detector
- Larger spindle motor
- Larger hydraulic chuck
- LS servo turret

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