



FREJOTH INTERNATIONAL LTD.

MACHINE TOOLS & INDUSTRIAL SUPPLIER

8F #501, SEC.2, WU CHUAN W.RD., TAICHUNG, TAIWAN, R.O.C.

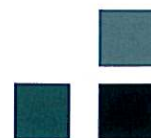
TEL:886-4-23816977 FAX:886-4-23813584.23813769

E-Mail:frejoth@lcts.seed.net.tw



FCL- S series

Single Spindle / Single Turret CNC Precision Lathe



FCL-200S CNC PRECISION LATHE



RUGGEDLY AND PRECISELY CONSTRUCTED THROUGHOUT

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

HYDRAULIC TURRET INDEXING



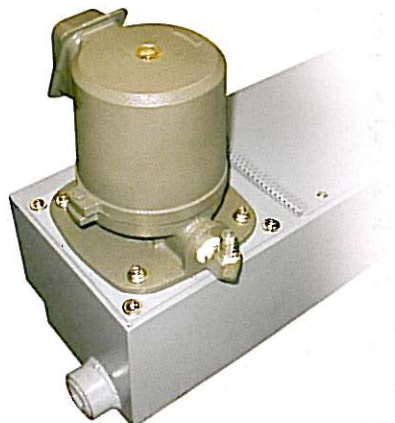
- The 8-position turret features bi-directional random tool selection. Fast indexing time of 0.6 seconds. The turret accommodates 20 x 20 mm. O.D. tooling and 32 mm I.D. tooling.

PRECISION SPINDLE

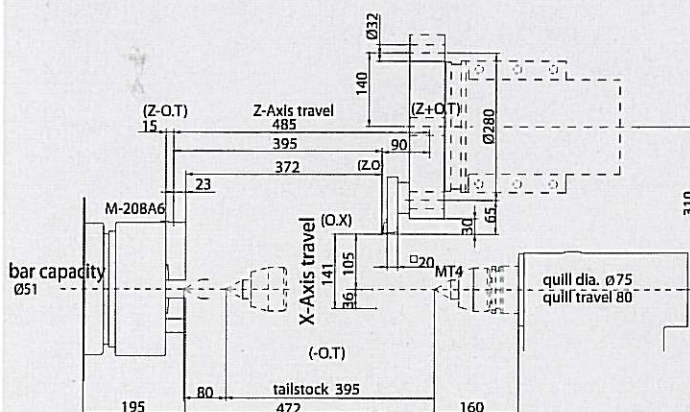
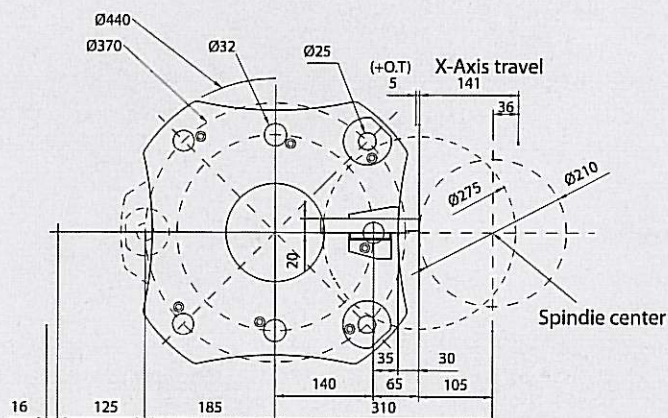
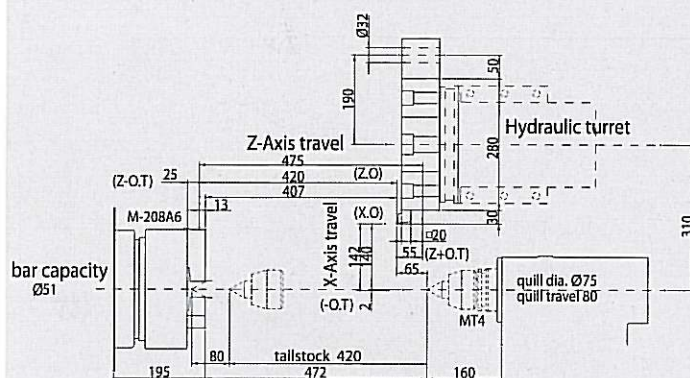
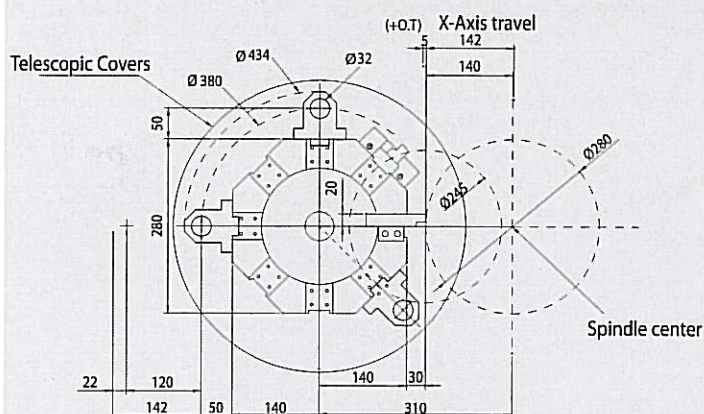


- The cartridge type is conveniently removed allowing for convenient servicing. The spindle runs on class P4 precision bearings providing high axial thrust capacity and superior radial stability. This ensures high precision during heavy duty turning.

COOLANT PUMP (FCL-200S)

**FCL-200S**

RELATION BETWEEN TOOL AND WORK DIAMETER



FCL-250S(250SL) CNC PRECISION LATHE



STANDARD ACCESSORIES

- **FANUC CNC CONTROL**
User-friendly operations are designed and more convenient for users.
- **HYDRAULIC TURRET INDEXING**
The 12-position turret features bi-directional random tool selection.
Fast indexing time of 0.6 seconds.
The turret accommodates 25×25mm O.D. tooling and ϕ 40mm I.D. tooling.
- **HYDRAULIC POWER UNIT**
The hydraulic power unit employs high quality components for long service life and stable motions. The unit delivers high pressure to the turret, CS Brake and 3-jaw chuck.
- **HIGH PRESSURE COOLANT PUMP** (250S · 250SL · 300S)
- **PROGRAMMABLE TAILSTOCK**
Designed for saving time and manpower. The orientation of tailstock is high-precision.

FCL-300S

CNC PRECISION LATHE



OPTIONAL ACCESSORIES

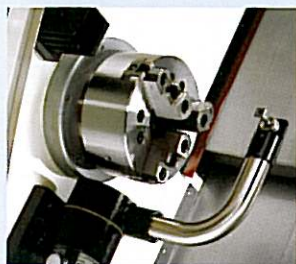
- **C AXIS**
- **VDI POWER TURRET**
TD-axis driven by a spindle motor fast tool change driven by a motor.
- **TOOL SETTER**
Designed for reducing tool set-up time, the tool setter automatically detects tool wear condition.
- **BAR FEEDER**
Designed for feeding bars automatically. It can make an automatic production line.
- **PARTS CUT-OFF DETECTOR**
Designed for ensuring workpiece cutting-off.
- **PART CATCHER**
Collect the workpiece automatically.

VDI FOR REFERENCE ONLY (OPT)



(DN turret disk for FCL-300S)

TOOL SETTER (OPT)



BAR FEEDER (OPT)



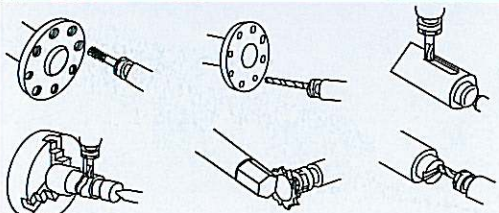
PARTS CUT-OFF DETECTOR (OPT)



PART CATCHER (OPT)

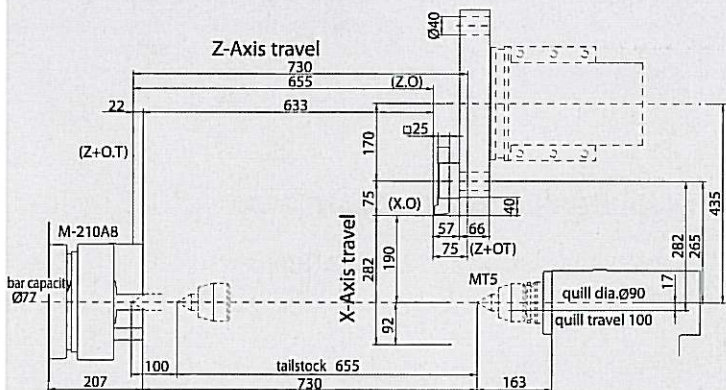
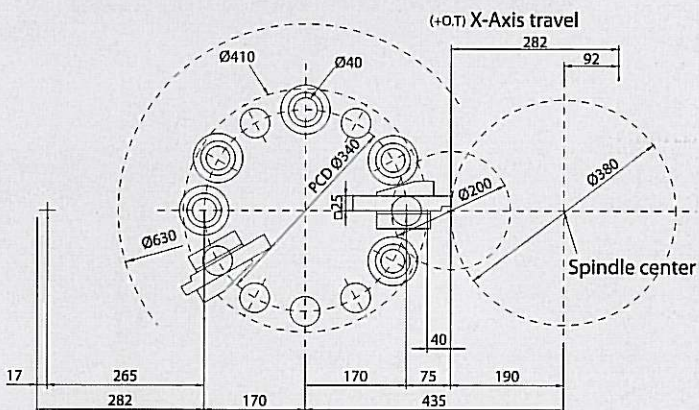
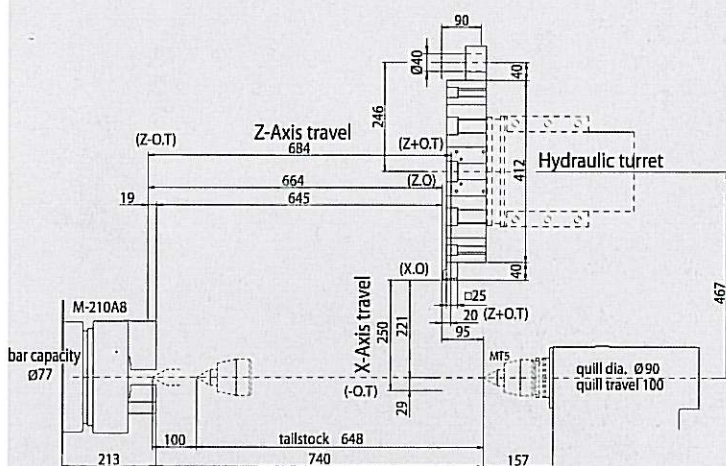
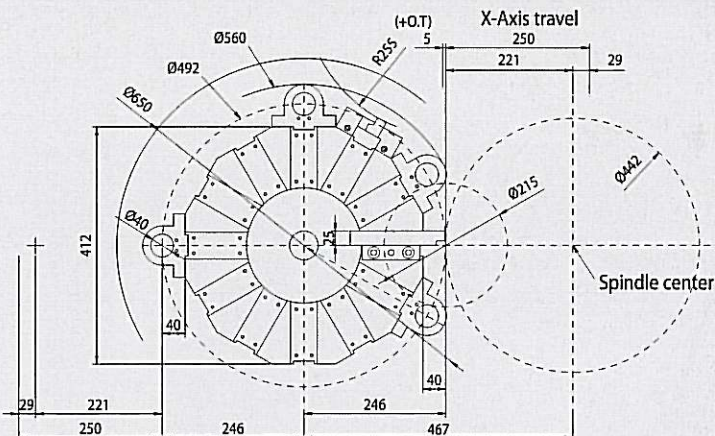


C-AXIS PROESS DRAWING (OPT)



FCL-300S

RELATION BETWEEN TOOL AND WORK DIAMETER



Specification:

Model		FCL-200S			
		FANUC Oi-MATE TC		FANUC Oi-TC	
Capacity	No.of axis	STD: 2-axis			
		NONE		OPT: 3-axis (C axis)	
	Swing over bed	ϕ 480 mm (8.9")			
	Max turning dia.	ϕ 280 mm (11.02")			
	Working length	462 mm (18.18")			
Spindle	Spindle nose bar internal taper	ASA A2-6			
	Spindle bore	ϕ 61 mm (2.4")			
	Bar capacity	ϕ 51 mm (2")			
	Range of spindle speed	25~4200 rpm			
	Living tools speed	NONE		Option:25-4000 rpm	
	No.of spindle speed	Infinitely variable			
Chuck	Hydraulic chuck	ϕ 210 mm (8")			
Turret	Tool station (Random)	Std:Hydraulic Turret LS-160A-8T			
	O.D.tooling	□20 x 20 mm			
	I.D.tooling	ϕ 32 mm (1.25")			
Cross slide (X-axis) & Carriage (Z-axis)	X-axis travel	142 mm (5.59")			
	Z-axis travel	475 mm (18.7")			
	Rapid traverse speed (X-axis)	30 m/min (1181 imp)			
	Rapid traverse speed (Z-axis)	30 m/min (1181 imp)			
	Cutting feed rate (Both-axis)	0.001-500 mm/rev.			
	Dia.of ball screw (X-axis)	ϕ 32 mm (1.26")P10			
	Dia.of ball screw (Z-axis)	ϕ 36 mm (1.42")P10			
Motor	Main spindle (continuous)	β P18 i	9 kw (12HP)	α P18 i	AC 9 kw (12HP)
	Main spindle (30 min.rating)		11 kw (15HP)	750/6000 rpm	AC 11 kw (15HP)
	X-axis	β 12is	1.8 kw (2.4HP)	α 8Bi 1.6 kw (2.15 HP)	
	Z-axis	β 12is	1.8 kw (2.4HP)	α 8i 1.6 kw (2.15 HP)	
	Hydraulic oil pump	1.5kw (2 HP)			
	Coolant pump	1/4 HP			
	Programmable Tailstock	Quill dia.	ϕ 75 mm (2.95")		
Quill stroke		80 mm (3.15")			
Taper of center		MT No.4			
Tailstock travel		420 mm (16.53")			
Tank Capacity	Hydraulic Tank	40 Liter			
	Coolant Tank	100 Liter			
Measurement	Floor space (LxW)	3350 mm x 1575 mm (131.9"x62")			
	Hight	1800 mm (70.86")			
	Weight (NW/GW)	4550 kgs / 5038 kgs			

※ All specifications, design and characteristics shown on this catalogue are subject to change without prior notice

Standard Accessories:

- 1/4HP coolant pump(200S)
- 3 bar-750w coolant pump(250S、250SL、300S)
- 100 liter capacity cooling tank
- Hydraulic turret 8-position, type:LS-160A (200S)
- hydraulic turret 12-position, type:LS-240 (250S、250SL、300S)
- Automatic lubrication system
- Tools & tool box
- Work lamp
- Three color alarm light
- Hydraulic unit
- Heat exchanger of electric box cabinet
- Chip conveyor and bucket
- Programmable tailstock

FCL-250S		FCL-250SL		FCL-300S	
STD: 2 axis / OPT: 3 axis (C axis)		STD: 2 axis / OPT: 3 axis (C axis)		STD: 2 axis / OPT: 3 axis (C axis)	
ϕ 600 mm (23.62")		ϕ 600 mm (23.62")		ϕ 630 mm (24.8")	
ϕ 300 mm (11.81")		ϕ 300 mm (11.81")		ϕ 442 mm (17.4")	
447 mm (17.59")		715 mm (28.14")		700 mm (27.56")	
ASA A2-6 MT No.6		ASA A2-6 MT No.6		ASA A2-8 ϕ 96 mm Taper 1/20	
ϕ 77 mm (3.03")		ϕ 77 mm (3.03")		ϕ 90 mm (3.54")	
ϕ 65 mm (2.56")		ϕ 65 mm (2.56")		ϕ 77 mm (3")	
25~4000 rpm (8")		25~4000 rpm (8")		STD: 25~3500 rpm (10") OPT: 25~2800 rpm (12")	
OPT: 25-4000 rpm		OPT: 25-4000 rpm		OPT: 25-4000 rpm	
Infinitely variable		Infinitely variable		Infinitely variable	
ϕ 210 mm (8")		ϕ 210 mm (8")		STD: ϕ 254 mm (10") OPT: ϕ 304 mm (12")	
STD: Hyd LS-240-12 OPT: SERVO LS-240-12		STD: Hyd LS-240-12 OPT: SERVO LS-240-12		STD: Hyd LS-240-12 OPT: SERVO LS-240-12	
$\square$ 25x25 mm		$\square$ 25 x 25 mm		$\square$ 25 x 25 mm	
ϕ 40 mm (1.57")		ϕ 40 mm (1.57")		ϕ 40 mm (1.57")	
180 mm (7.08")		180 mm (7.08")		250 mm (9.84")	
460 mm (18.11")		743 mm (29.25")		720 mm (28.35")	
20 m/min (787 ipm)		20 m/min (787 ipm)		20 m/min (787 ipm)	
20 m/min (787 ipm)		20 m/min (787 ipm)		20 m/min (787 ipm)	
0.001-500 mm/rev.		0.001-500 mm/rev.		0.001-500 mm/rev.	
ϕ 32 mm (1.26")P10		ϕ 32 mm (1.26")P10		ϕ 32 mm (1.26")P10	
ϕ 36 mm (1.42")P10		ϕ 36 mm (1.42")P10		ϕ 36 mm (1.42")P10	
α P22 i 750 / 6000 rpm	AC 11 kw (15HP) AC 15 kw (20HP)	α P22 i 750 / 6000 rpm	AC 11 kw (15HP) AC 15 kw (20HP)	α P30 i 575 / 6000 rpm	AC 15 kw (20HP) AC 18.5 kw (25HP)
α 8Bi / 1.6kw (2.15 HP)		α 8Bi / 1.6kw (2.15 HP)		α 12Bi / 3 kw (4 HP)	
α 8i / 1.6kw (2.15 HP)		α 8i / 1.6kw (2.15 HP)		α 12i / 3 kw (4 HP)	
1.5kw (2 HP)		1.5kw (2 HP)		1.5kw (2 HP)	
750 w (1 HP)		750 w (1 HP)		750 w (1 HP)	
ϕ 75 mm (2.95")		ϕ 75 mm (2.95")		ϕ 90 mm (3.54")	
80 mm (3.15")		80 mm (3.15")		100 mm (3.94")	
MT No.4		MT No.4		MT No.5	
420mm (16.53")		668 mm (26.29")		625 mm (24.6")	
60 Liter		60 Liter		60 Liter	
100 Liter		100 Liter		100 Liter	
3550 x 2000 mm (140" x 78.7")		4000 x 2100 mm (157.5" x 82.7")		4000 x 2100 mm (157.5" x 82.7")	
2000 mm (78.7")		2000 mm (78.7")		2130 mm (84")	
4850 kgs / 5342 kgs		6120 kgs / 6393 kgs		6230 kgs / 6503 kgs	

Optional Accessories:

- C. E. electric control
- Automatic tool setter
- Manual tool setter
- C axis and TD axis contour capability
- Main power transformer
- Automatic door & Safety Switch
- Automatic parts catcher
- Prevent crash install of each axes. (Safety equipment)
- Bar feed intertace
- Parts cut off detector
- Larger spindle motor
- Larger hydraulic chuck
- LS Servo Turret