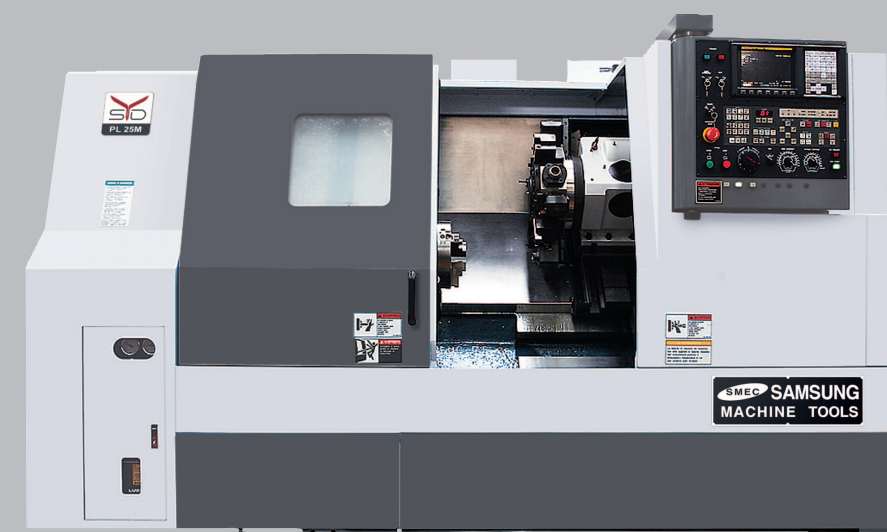


SAMSUNG Machine Tools

PL 20M/25/25M/30 CNC TURNING CENTER



■ NC Unit Specifications / FANUC Series

	Item	Specification	0i-TD
Controlled axis	Max. feed axes		4 AXIS
	Feed axes		X/Z/(Cs)
	Max. simultaneously controlled axis		4
	Least command increment	0.001mm / 0.0001"	○
Operation functions	Pulse handle feed	X1, X10, X100	○
	Feedrate per minute	G98	○
	Feedrate per revolution	G99	○
Interpolation functions	Linear interpolation	G01	○
	Circular interpolation	G02, G03	○
	Dwell	G04	○
	Polar coordinate interpolation	G12.1, G13.1	○
	Cylindrical interpolation	G70.1	○
	Variable lead thread cutting	G34	○
	Continuous threading		○
	Reference position return	G28	○
	Reference position return check	G27	○
Feed function	Rapid traverse rate override	F0, 25%, 50%, 100%	○
	Feedrate override		0~150%
Spindle function	Spindle orientation		○
	Rigid tapping		○
Tool functions	Tool number command	T4-Digt / T2-Digt	○
	Tool nose radius compensation	G40 ~ G42	○
	Tool offset pairs		○
	Tool geometry/wear offset	GEOMETRY & WEAR DATA	○
	Tool life management		○
	Tool path graphic display		○
	Automatic tool offset	G36, G37	○
	Direct input of tool offset value measured B		○
Program input	Absolute/incremental programming		○
	Multiple repetitive cycle	G70 ~ G76	○
	Canned cycles	G90, G92, G94	○
	Inch/metric conversion	G20 / G21	○
	Program restart		○
	Retraction for rigid tapping		○
	Max. programmable dimension	±99999.999mm/±9999.999"	○
	M function	M3 digit	○
	Custom macro		○
	Canned cycle for drilling		○
	Direct drawing dimension programming		○
	Programmable data input	G10	○
	Optional block skip		○
	Workpiece coordinate system	G52 ~ G59	○
	Number of registerable programs		400EA
Setting and display	Alarm & Operator history display	ALARM & OPERATION DISPLAY	○
	Run hour and parts count display	RUNNING TIME & PART NO. DISPLAY	○
	Display spindle & servo overload	SPINDLE & SERVO LOAD DISPLAY	○
	Self-diagnosis function		○
	Extended part program editing	COPY, MOVE, CHANGE OF NC PROGRAM	○
	Display screen		10.4" color
Data input/output	Memory card input/output		○
	USB memory input/output		○
Editing operation	Part program storage size	512Kbyte(1280m)	○
Manual guide i	Manual Guide i		○

SMEC
SAMSUNG MACHINE TOOLS

SMEC Co., Ltd.

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Tel +82 55 250 4800 Fax +82 55 253 5355

<http://www.esmec.com>



www.esmec.com

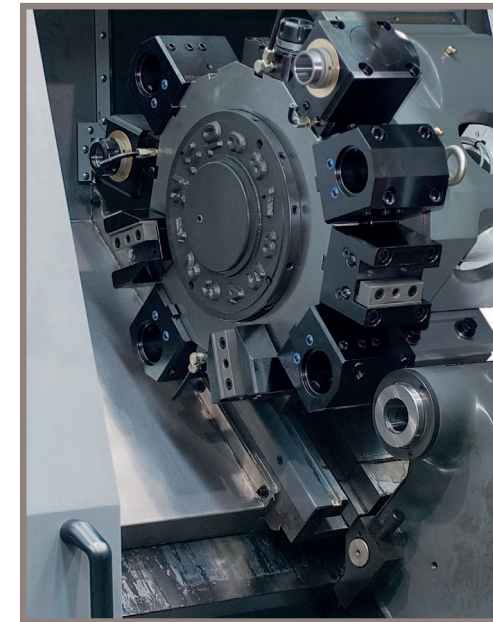
SMEC
SAMSUNG MACHINE TOOLS

SAMSUNG'S Advanced Engineering and Machine Design

- Cast iron structure for superior dampening characteristics and thermal displacement
- Rigid 30 degree slant bed design for heavy-duty machining
- Torque tube design to minimize bending and twisting
- Integrated box ways for long-term rigidity and heavy-duty machining



PL 20M/25/25M/30 is a heavy duty, ultra precision Turning Center, combined with Samsung's advanced technological features.



Spindle Speed

4,000 rpm (PL 20LM)

3,500 rpm (PL 25)

2,500 rpm (PL 30)

Spindle Motor(30min/cont.)

15/11 kW (PL 20LM)

22/18.5 kW (PL 25/25LM/30)

Rapid travel(X/Z)

18/24 m/min

Feed Motor(X/Z)

3/3 kW

■ Highly Reliable and Rigid Structural Design

- One piece Meehanite casting with heavily ribbed torque tube design
- Rigid bed supports for powerful cutting
- Excellent vibration dampening and thermal displacement design

Max. Turning Diameter

Ø380 mm (PL 25)

Ø365 mm (PL 20LM/25LM)

Ø400 mm (PL 30)

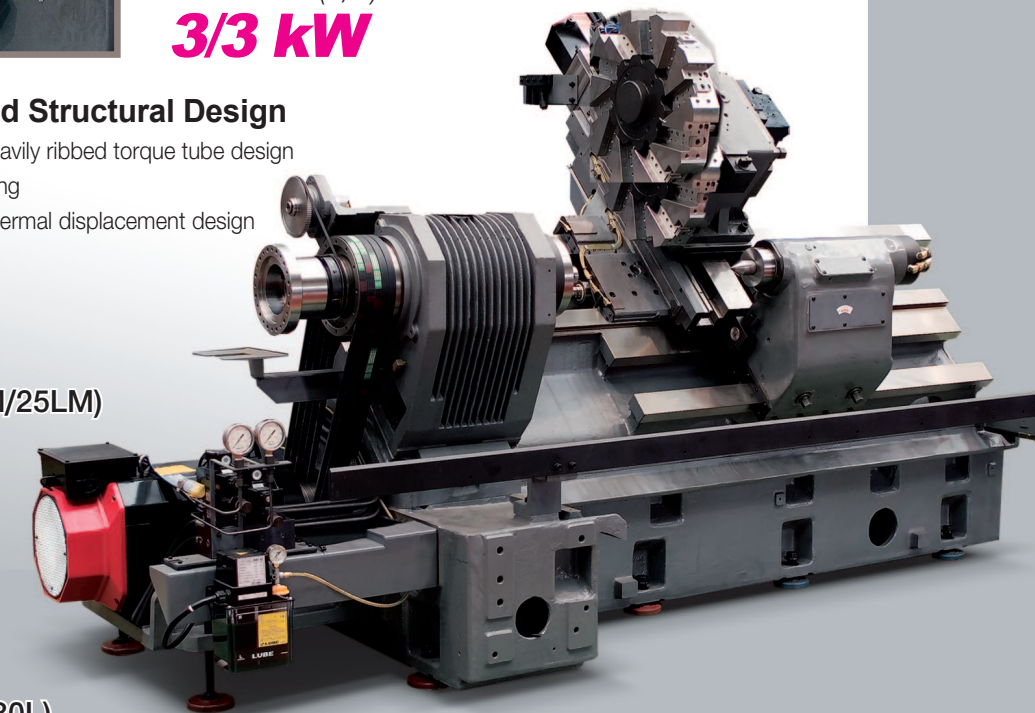
Max. Turning Length

530 mm (PL 25)

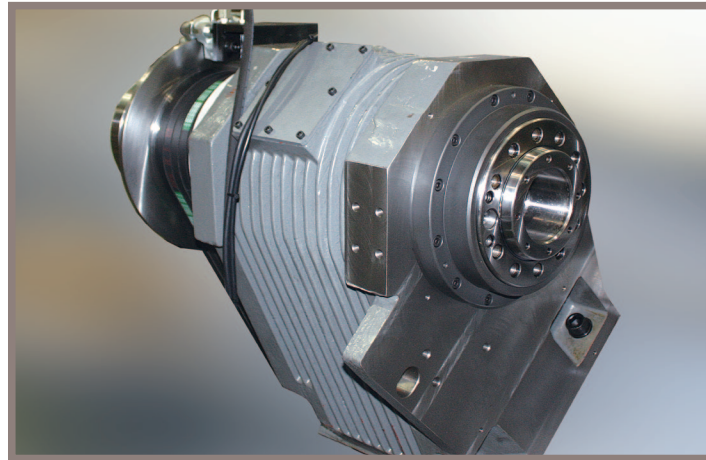
520 mm (PL 25LM)

1,030 mm (PL 25L/30L)

1,020 mm (PL 25LM)



High Accuracy, High Rigidity Spindle



■ Pin Tube Rib Design for Minimal Axis Heat Transfer

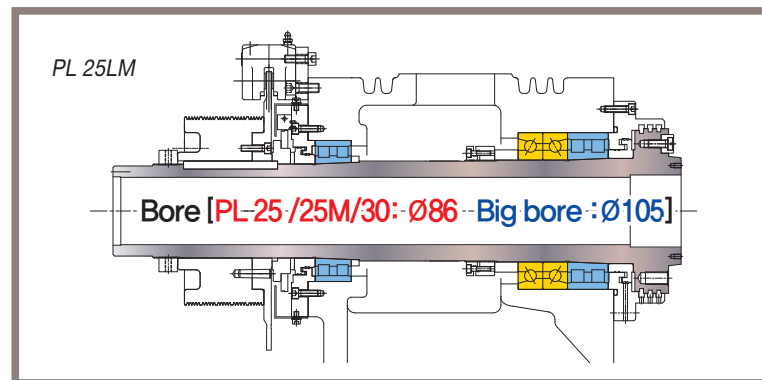
Radiator fan-like pin tube rib design dissipates heat generated by axis movements, maintaining minimal thermal expansion.

■ C-Axis

With C-axis control, users get synchronized control on 3axes which enables integrated processing, such as milling, drilling & rigid tapping.

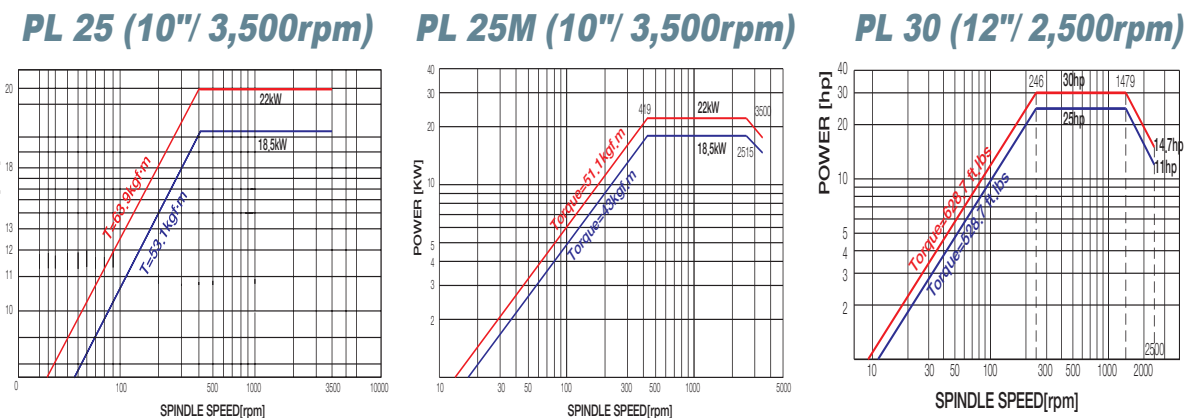
■ SPINDLE & HEADSTOCK

The Spindle and Headstock are machined and ground in temperature controlled environment and assembled in a clean room.



Precision double row cylindrical roller bearings and angular contact ball bearings are located at the front of the spindle, and a double row of cylindrical roller bearings is located in the rear to ensure heavy cutting capabilities with precision.

■ Spindle Power & Torque Diagram



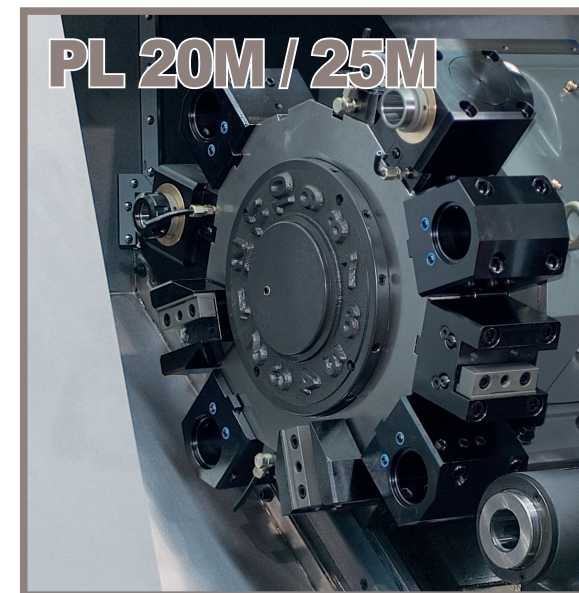
■ Machine Structure

■ High Speed, Heavy Duty Hyd. Index Turret

Driven by a high torque hydraulic index motor, the 12-station heavy-duty turret can accept tools on both the left and right side of each station. Turret indexing (repeatability $\pm 0.0002''$) is non-stop, bi-directional with a fast 0.25 second next station index time. A large diameter ($\phi 8.27''$) Curvic coupling with 6,404 lbs clamping force enables precision as well as heavy-duty cutting.



■ High Speed Servo Turret (BMT Milling Turret)

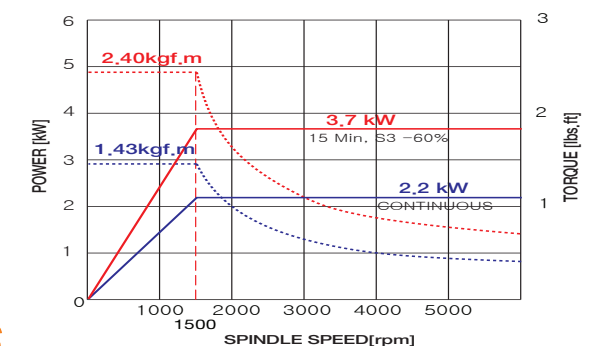


Indexing time
0.2 sec.

Number of tool positions
12 stations

PL 25LM is equipped with standard 12-station BMT turret capable of accepting rotary tools at any station, providing flexible machining thru various machining operations in just one set-up. Each BMT holder is securely tightened by 4 screws, allowing the turret to perform heavy-duty cutting, milling and drilling operations. Turret indexing is non-stop, bi-directional with a fast 0.2 second next station index time.

■ Turret Torque Diagram

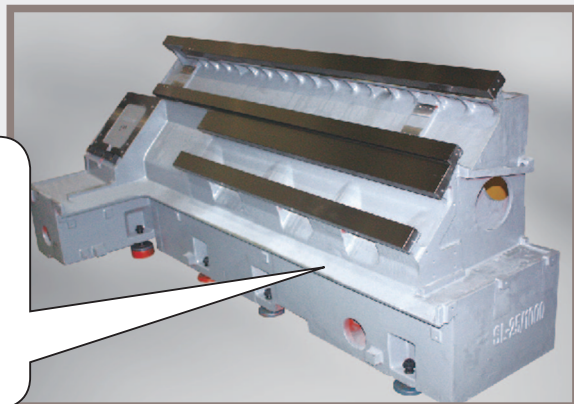
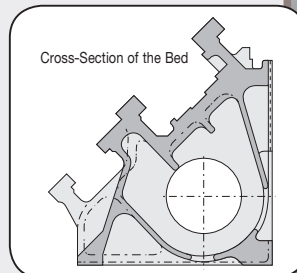


Machine Structure

Rigid 45 degree Slant Bed

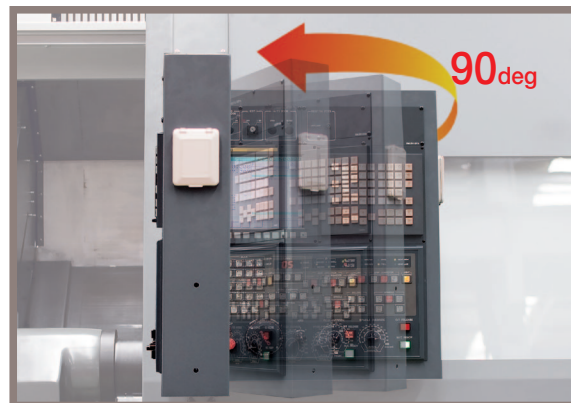
45 degree slant torque tube design bed and wide guide slide way ensure long term rigidity and machining accuracy.

Featuring superior workability and chip-discharging capability, the bed is designed in a single tube structure boasting strong durability even in heavy-duty cutting.

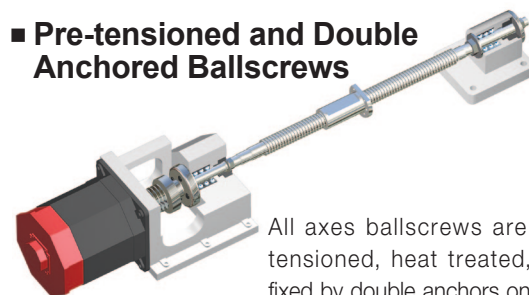


Swivel Operation Panel

Swivel operation panel of 10.4 inch color TFT LCD monitor can turn to 90 degree, providing operators with easy access to the control panel while working on the machine.



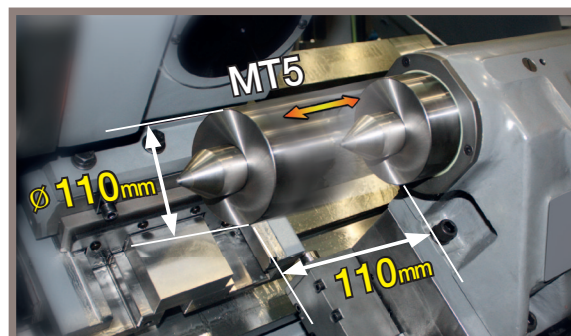
Pre-tensioned and Double Anchored Ballscrews



All axes ballscrews are pre-tensioned, heat treated, and fixed by double anchors on both ends, providing ultimate rigidity and minimal thermal growth.

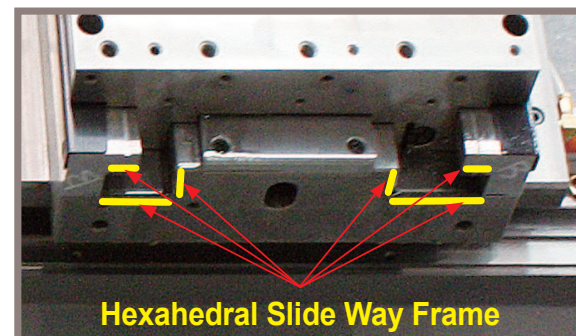
Programmable Tailstock [PL 20M/25M:Std.] (carriage direct-coupled)

The programmable tailstock body mounted is on wide guide ways to ensure rigid work piece support.



Hexahedral Slide Way Frame

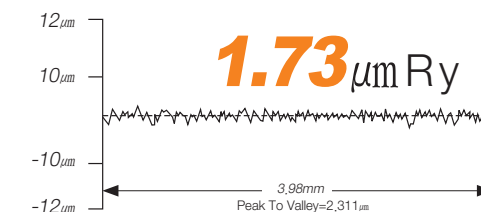
Wide integral way is machined from the casting, induction hardened and precision ground to ensure long-term rigidity, machining accuracy and heavy-duty machining.



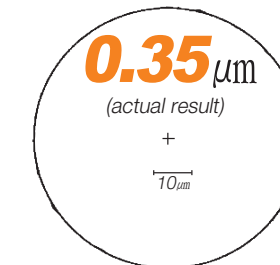
High Precision

Surface Roughness <O.D. cutting>

Roundness



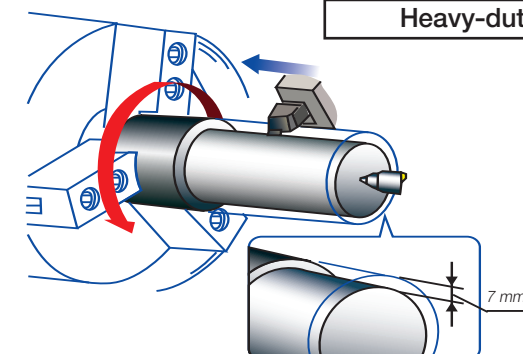
Model : PL 30



Cutting condition	
Tool	Diamond tool (nose radius 0.020 inch)
Material	AL150 (Aluminum)
Cutting speed	230 m/min
Feedrate	0.05 mm/rev
Depth of cut	0.1 mm
Outer diameter	ø 200 mm
Filter	1-50

Processing Speed

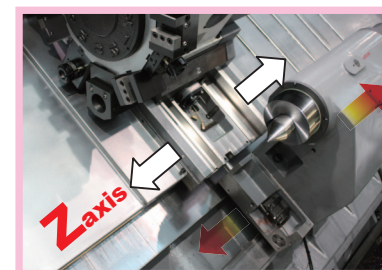
Turning Performance (material:SM45C) PL 30



Heavy-duty cutting (O.D.) <1 inch x 1 inch qualified tool>

Spindle speed
940 rpm
Cutting speed
130 m/min (426 fpm)
Depth of cut
7 mm <Spindle Load 50%>
Feedrate
0.3 mm/rev (0.08 ipr)

Standard Accessories

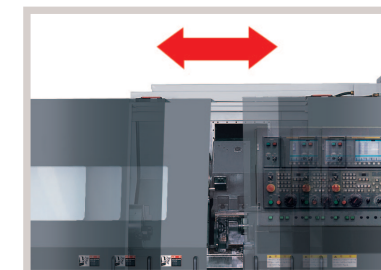


Programmable Tailstock

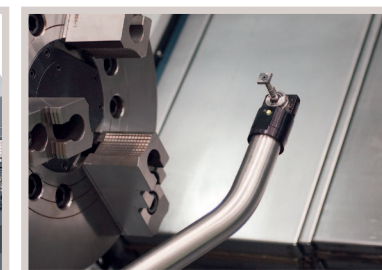


Automatic Lubricator

Optional Accessories



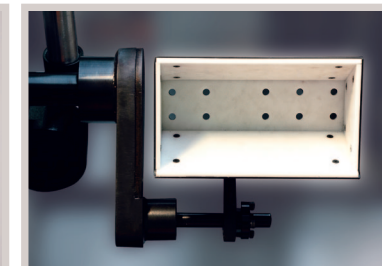
Auto Door



Tool Presetter



Chip Conveyor



Parts Catcher

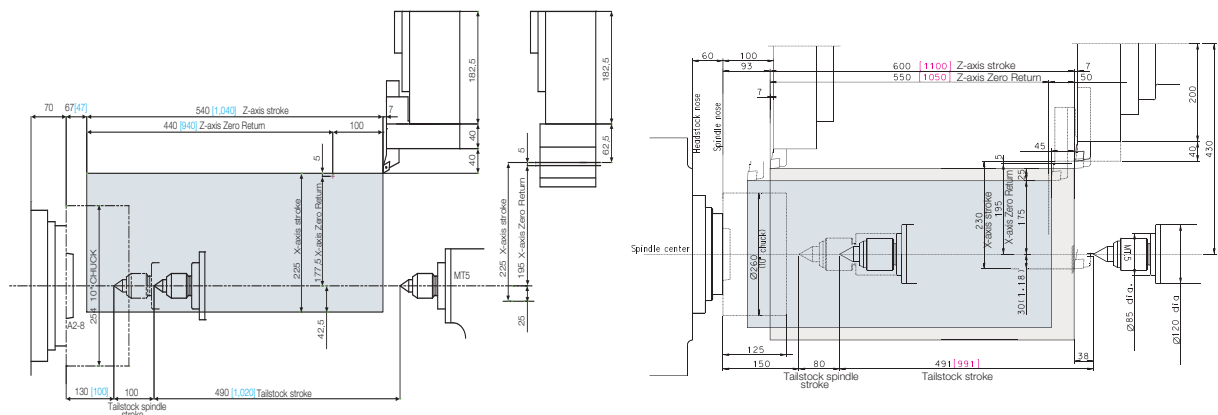
Machine Dimensions

PL 30/25M/20M

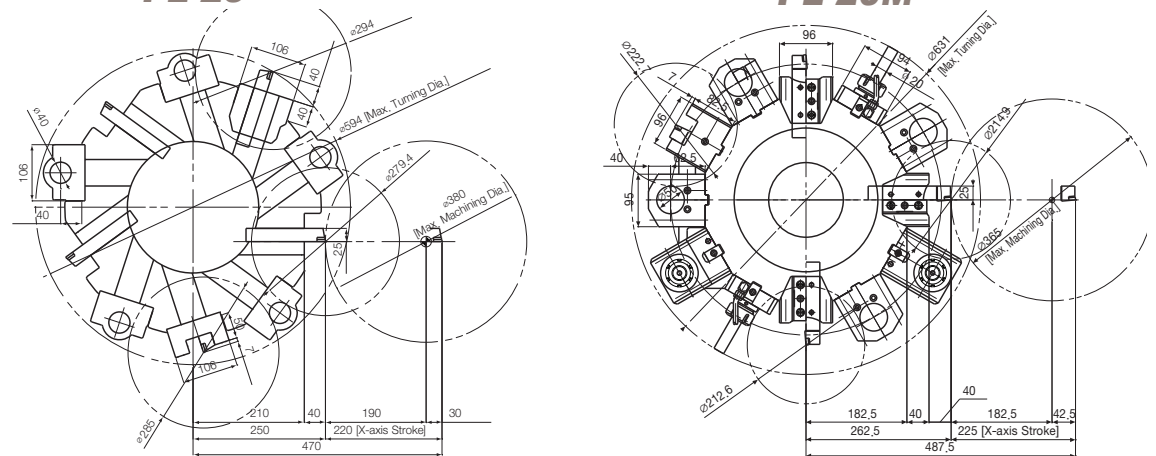
Dimensions (mm):

- Front View:
 - Total Width: 3,023 [3,305] (3,043) (3,023)
 - Width to Crane Base: 1,328 [1,155]
 - Crane Base Width: 78 [53]
 - Crane Arm Extension: 680 [705] (Door Open)
 - Height: 1,766 [1,750] (1,750)
 - Crane Arm Height: 1,000
- Side View:
 - Depth: 1,670 [1,681] (1,722) (1,722)
 - Height: 1,946 [1,935] (1,935) (1,890)
 - Crane Arm Height: 1,032 [975] (1,021) (1,021)

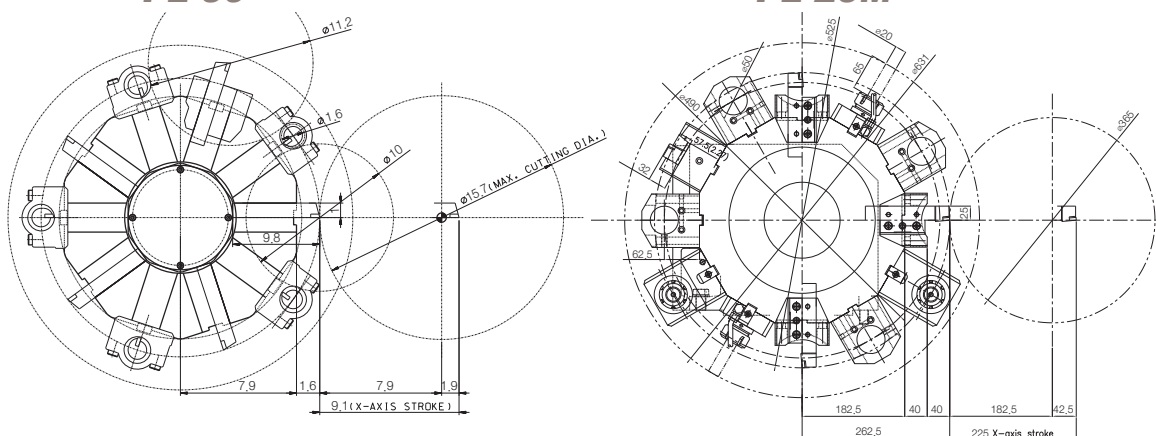
Unit : mm



Unit : mm



12-Station Turret

PL 25M

12-Station Turret

DESCRIPTION			PL20M	PL25	PL25L	PL25M	PL25LM	PL30	PL30L	
CAPACITY	Swing over the bed	mm	ø 650	ø 520		ø 650				
	Swing over the cross slide	mm	480	350		480				
	Max. machining diameter	mm	ø 365	ø 380		ø 365		ø 400		
	Max. machining length	mm	520	530	1,030	520	1,020	550	1,050	
MAIN SPINDLE	Chuck size	inch	10	10						
	Speed	rpm	4,000	3,500				3,500 (Big Bore:2,500)		
	Spindle nose	ASA	A2-6	A2-8						
	Bore diameter	mm	ø 78	ø 86				ø 86 (Big Bore: ø 105)		
	Draw tube I.D.	mm	66	77				77 (Big Bore:91)		
	Motor(30min/cont.)	kW	15/11	22/18,5						
TRAVEL	X/Z axis travel	mm	225/540	220/590	220/1,090	225/540	225/1,040	230/600	230/1,100	
	X/Z rapid traverse rate	m/min	18/24	18/24						
	X/Z feed motor	kW	3/3	3/3						
TURRET	Number of tool positions	st.	12	10(12)		12		10(12)		
	Indexing time	sec	0,20	0,25		0,2		0,25		
	Shank size for square tool	mm	□25	□25						
	Shank diameter for boring bar	mm	ø 50	ø 50						
	Live tool speed	rpm	4,500	-		4,500		-		
	Milling motor	mm	3,7 / 2,2	-		3,7 / 2,2		-		
TAILSTOCK	Tailstock quill travel	mm	100	80(100)	100	100		80(100)	100	
	Tailstock quill diameter	mm	110	85(110)	110	110		85(110)	110	
ELECTRIC POWER SUPPLY		kVA/V	39 / 220		39 / 220					
REQUIRED FLOOR SPACE		mm	3,190×1,675	3,305×1,681	3,880×1,681	3,300×1,722	3,800×1,722	3,305×1,740	3,880×1,740	
MACHINE WEIGHT		kg	5,100	5,000	6,200	5,300	6,600	5,100	6,500	
CONTROLLER			Fanuc Oi-TD							

- HARD JAWS 1 SET
- CHIP CONVEYOR
- PARTS CATCHER
- AUTO DOOR
- AIR BLOW UNIT
- AUTO MEASURING SYSTEM
- PROGRAMMABLE TAILSTOCK
(PL 25, PL 30)
- TOOL PRESETTER