

■ NC Unit Specifications / FANUC Series

Item		Specification	0i-TD	32i-B
Controlled axis	Max. feed axes		4 AXIS	4 AXIS
	Feed axes		X/Z/(Cs)	X/Z/(Cs)
	Max. simultaneously controlled axis		4	4
Operation functions	Least command increment	0.001mm / 0.0001"	○	○
	Pulse handle feed	X1, X10, X100	○	○
	Feedrate per minute	G98	○	○
Interpolation functions	Feedrate per revolution	G99	○	○
	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	○	○
Feed function	Reference position return check	G27	○	○
	Rapid traverse rate override	F0, 25%, 50%, 100%	○	○
Spindle function	Feedrate override		0~150%	0~150%
	Spindle orientation		○	○
Tool functions	Rigid tapping		○	○
	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	○	○
Program input	Direct input of tool offset value measured B		○	○
	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/±9999.9999"	○	○
	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	○	○	
Setting and display	Number of registerable programs		400EA	1000EA
	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	○	○
Data input/output	Display screen		10.4" color	10.4" color
	Memory card input/output		○	○
Editing operation	USB memory input/output		○	○
	Part program storage size	512Kbyte(1280m)	○	256Kbyte(640m)
Manual guide i	Manual Guide i		○	○

SAMSUNG Machine Tools

PL 2000Y/SY PL 2500Y/SY CNC TURNING CENTER



SMEC
SAMSUNG MACHINE TOOLS

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SMEC
SAMSUNG MACHINE TOOLS

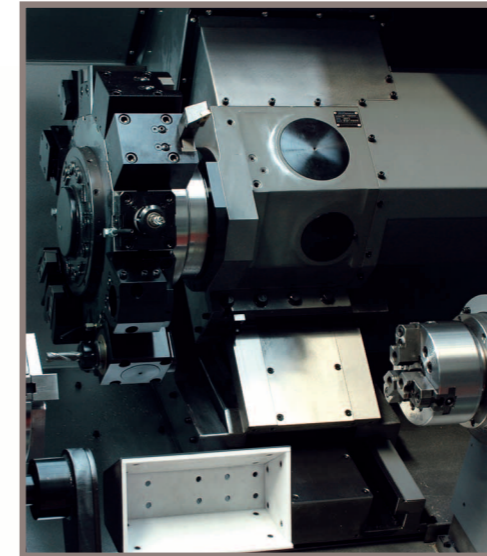
SAMSUNG'S Advanced Engineering and Machine Design

- 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 2000Y/SY PL 2500Y/SY



PL 2000Y/SY, 2500Y/SY is a heavy-duty, ultra precision Turning Center, combined with Samsung's advanced technological features.



Spindle Speed

Main **4,000 rpm** (PL 2000Y/SY)
3,500 rpm (PL 2500Y/SY)

Sub(6") **6,000 rpm** (PL 2000SY/2500SY)
(8") **4,500 rpm** (PL 2500SY) **Opt.**

Spindle Motor(30min/cont.)

Main **15/11 kW** (PL 2000Y/SY)
22/18.5 kW (PL 2500Y/SY)

Sub(6") **7.5/5.5 kW** (PL 2000SY/2500SY)
(8") **11/7.5 kW** (PL 2500SY) **Opt.**

Rapid travel(X/Z/Y/B)

18/24/12/24 m/min

Feed Motor(X/Z/Y/B)

3/4/3/4 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

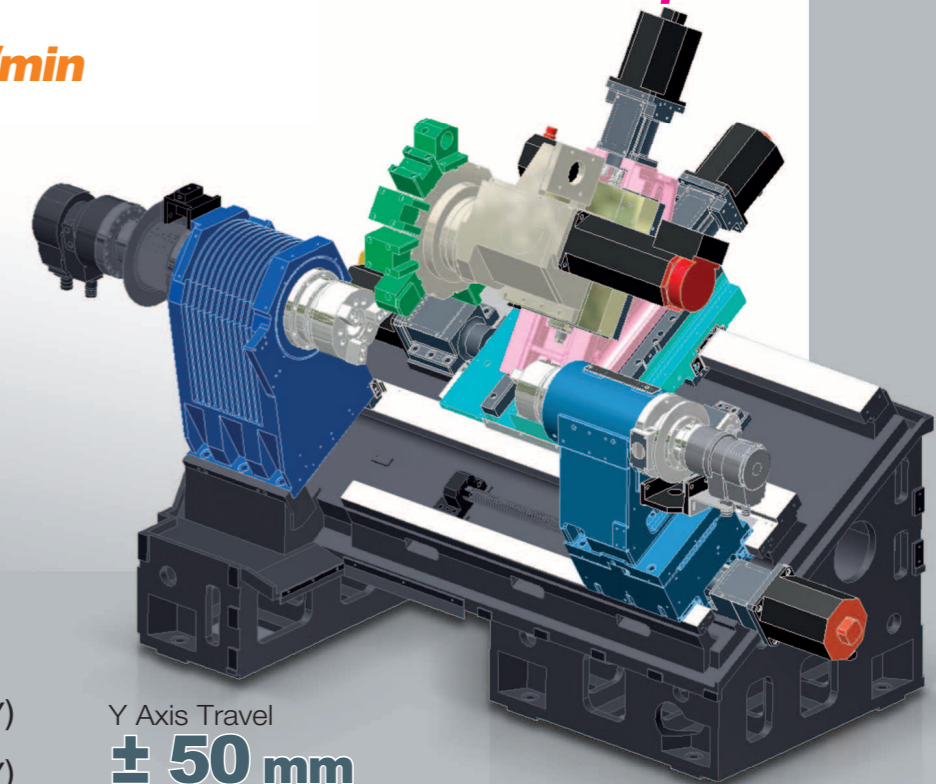
Max. Turning Diameter

360 mm

Max. Turning Length

520 mm (PL 2000SY)

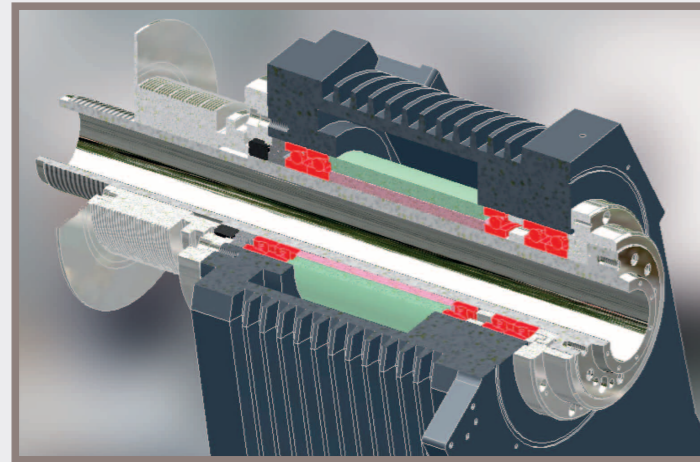
505 mm (PL 2500SY)



Y Axis Travel

± 50 mm

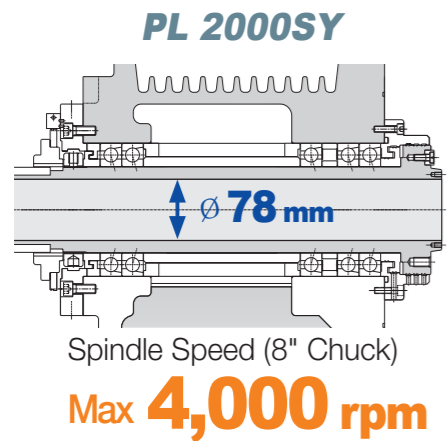
High Precision, High Rigidity Spindle



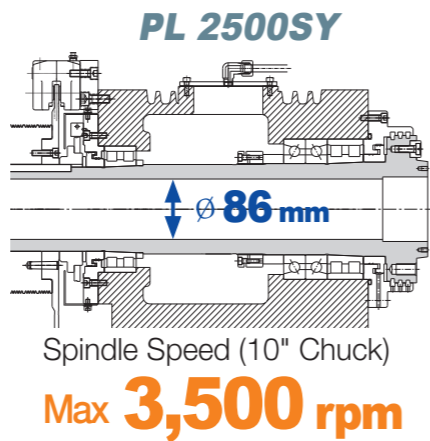
■ Pin Tube Rib Design for Minimal Thermal Growth

The pin tube rib design of the Headstock ensures minimal thermal growth, and precision (class P4) angular contact ball bearings in the front and rear provides high rigidity for heavy-duty machining and unsurpassed surface finish.

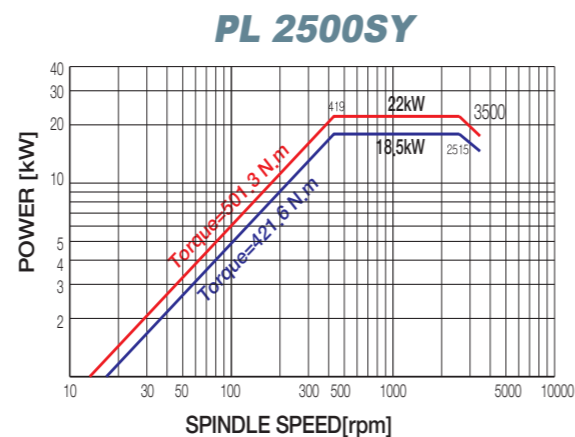
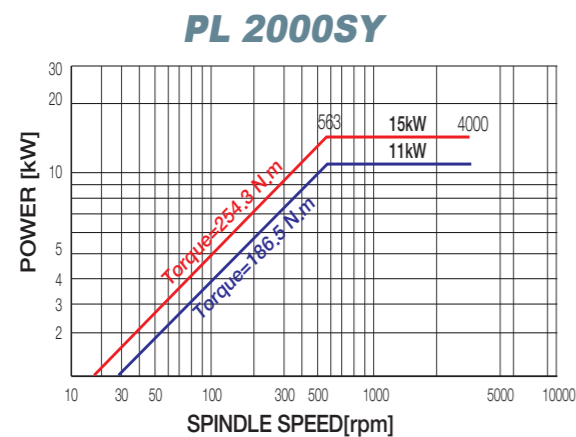
■ Main-Spindle & Headstock



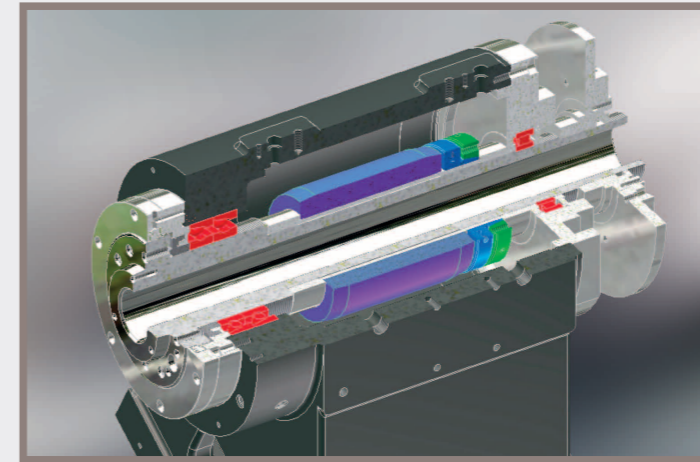
The Spindle and Headstock are machined and ground in temperature controlled environment and assembled in a clean room.



■ Main-Spindle Power & Torque Diagram



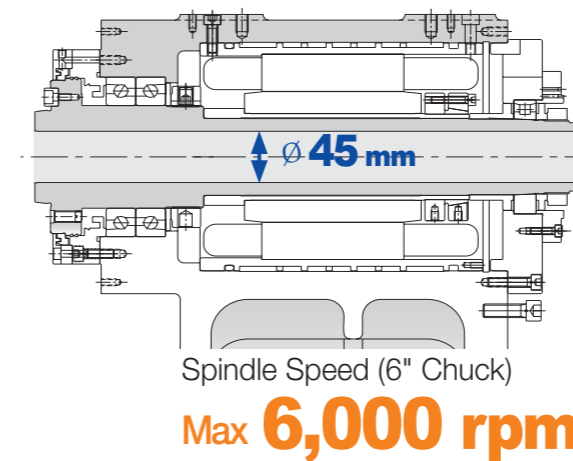
High Accuracy, High Rigidity Sub-Spindle



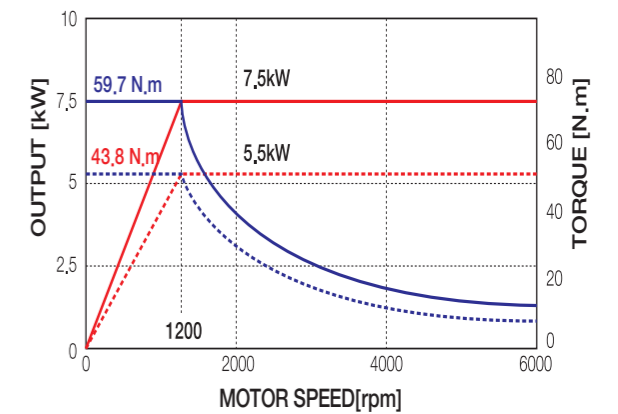
■ Built-in Sub-Spindle Motor

- The sub-spindle with full C-axis capability allows milling, drilling and tapping on the back side of parts, and a powerful 7.5kW Fanuc built-in motor provides fast acceleration with high torque (6kgf.m)
- Precision angular contact ball bearings located in the front and double row cylindrical roller bearings in the rear of the sub-spindle ensure heavy-duty cutting as well as unsurpassed surface finish.

■ Sub-Spindle & Headstock



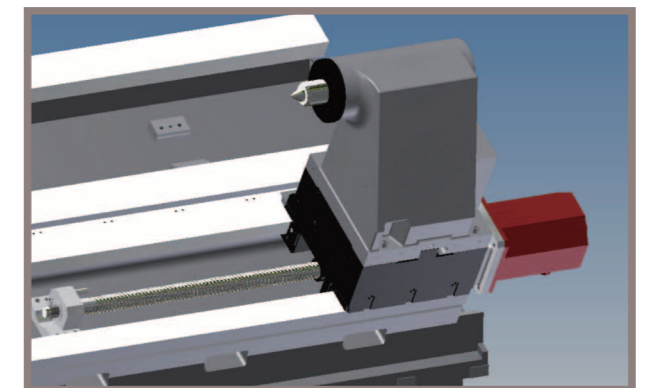
■ Sub-Spindle Power & Torque Diagram



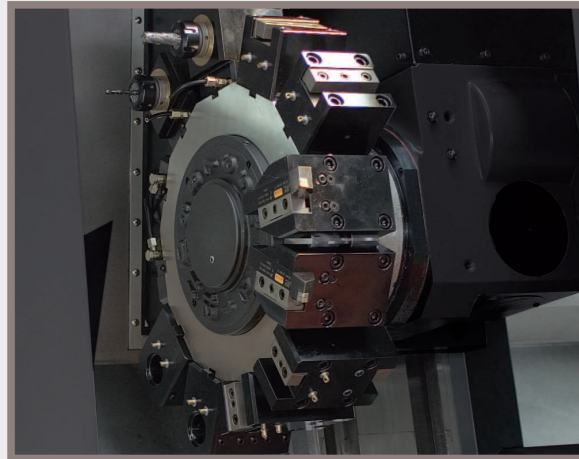
■ Servo Tailstock Interface

Tailstock positioning and quill thrust force are simple to set up using the specially designed servo tailstock interface.

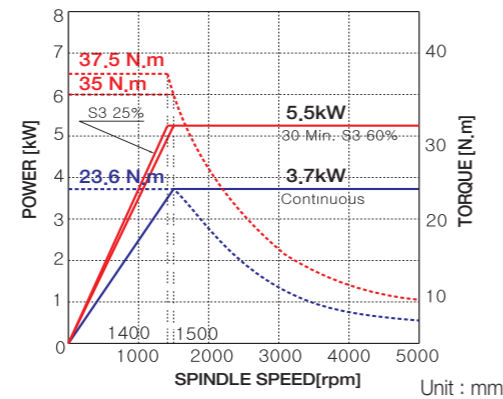
The high speed servo driven tailstock offers high speed high precision positioning and digitally controlled thrust force settings. Quill thrust force can be set according to part length & diameter. This results in reduced down time and increased manufacturing efficiency.



■ Turret Structure



■ Milling Motor Torque Diagram



■ Fast Indexing and Heavy-Duty Turret Design

The 12 station heavy-duty turret features a large diameter 3-piece Curvic coupling and 7,816 lbs of hydraulic clamp force. The heavy-duty design provides high rigidity for heavy cutting, unsurpassed surface finishes and long tool life. Turret rotation, deceleration and clamp are all controlled by a reliable high torque servo motor. Turret indexing is non-stop bi-directional with a 0.2 second next station index time. Each turret station is capable of accepting both milling and turning tools.

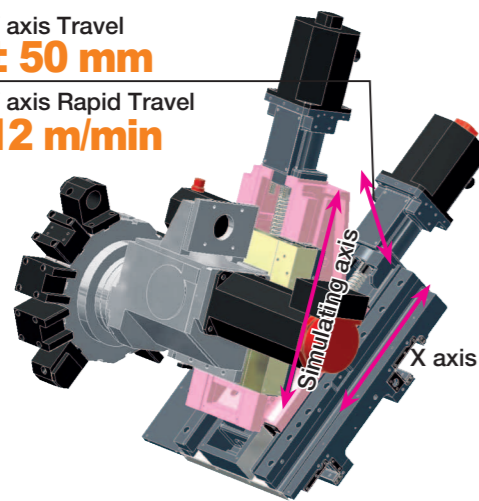
■ Variations

■ Y-Axis Machining

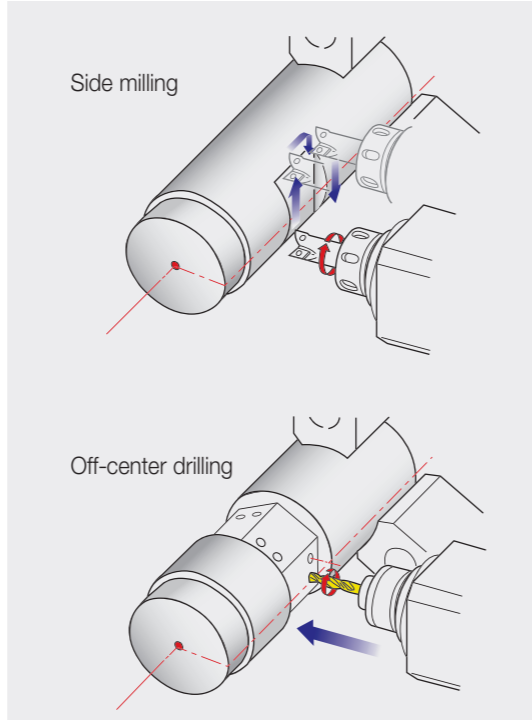
Y-axis adds integrated machining feature to a conventional turning center, providing machining capability on the workpiece that is not parallel or perpendicular to the spindle center line.

Y axis Travel
± 50 mm

Y axis Rapid Travel
12 m/min



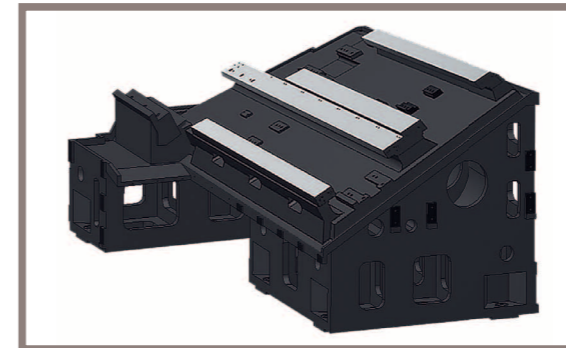
■ Bar machining with Y-axis control



■ Machine Structure

■ Rigid 30 degree Slant Bed

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



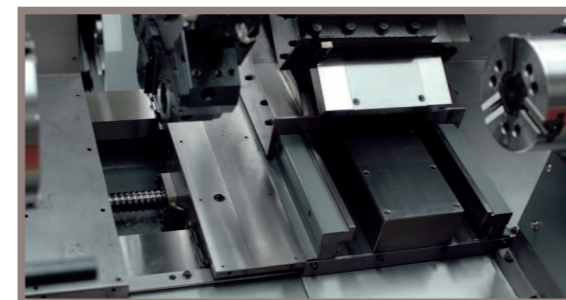
■ Swivel Operation Panel

Swivel operation panel of 10.4 inch color TFT LCD monitor can turn to 81 degree, providing operators with easy access to the control panel while working on the machine.



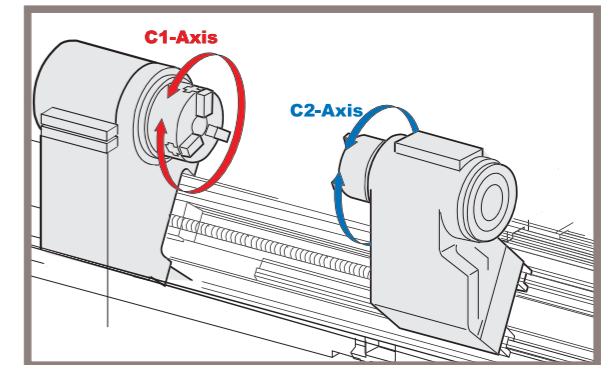
■ Hexahedral Slide Way Frame

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



■ Synchronized C1 and C2-Axis Indexing

Synchronized C1-axis(main spindle) and C2-axis(sub-spindle) indexing provides machining flexibility in a wide variety of workpiece configurations. From simple turning and milling to multi-axis simultaneous machining, all operations can be completed in one set-up.



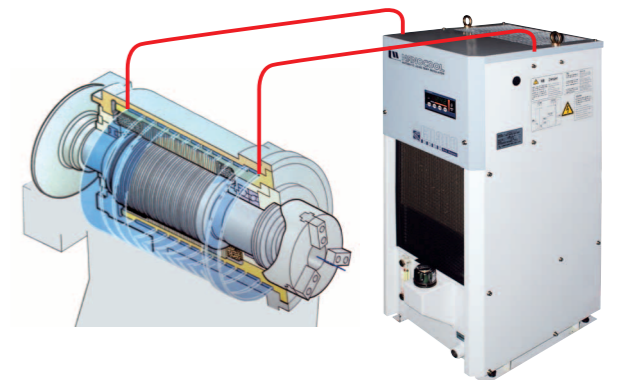
■ Pre-tensioned and Double Anchored Ballscrews

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



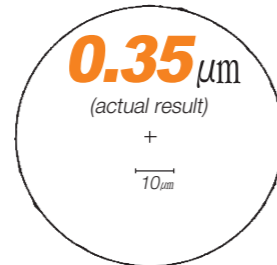
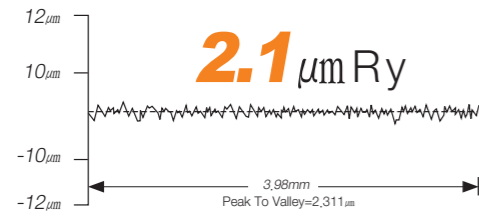
■ Sub-Spindle Oil Cooling Unit

Sub-spindle is surrounded by an oil jacket cooling system to minimize thermal displacement and to ensure machining accuracy regardless of different machining conditions.



High Precision

Surface Roughness <O.D. cutting> Roundness

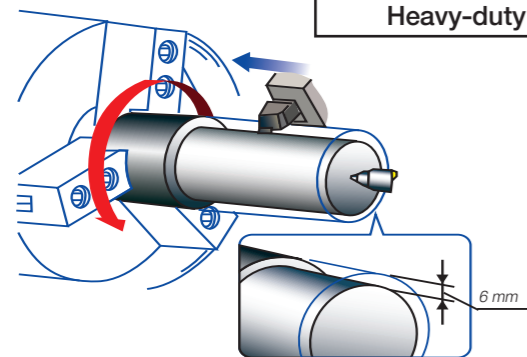


Cutting condition	
Tool	Diamond tool (nose radius 0.020 inch)
Material	AL150 (Aluminum)
Cutting speed	230m/min
Feedrate	0.05mm/rev
Depth of cut	0.1mm
Outer diameter	200mm
Filter	1-50

Processing Speed

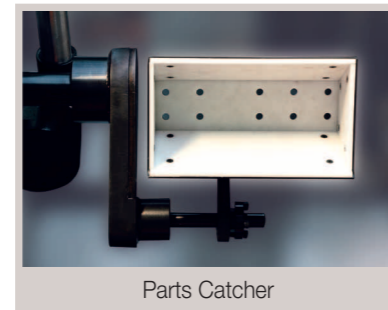
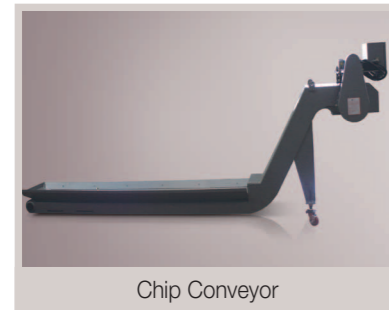
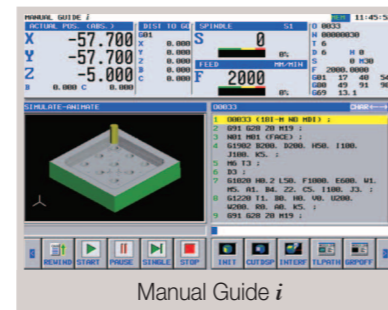
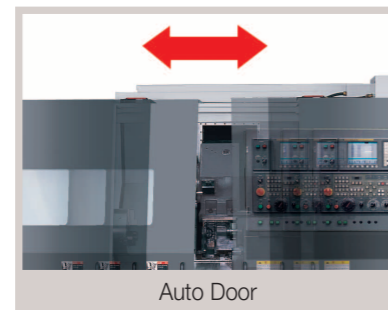
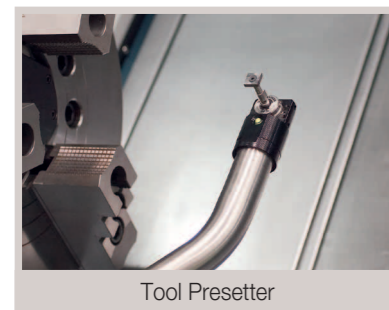
Turning Performance (material:SM45C) PL 2500SY

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



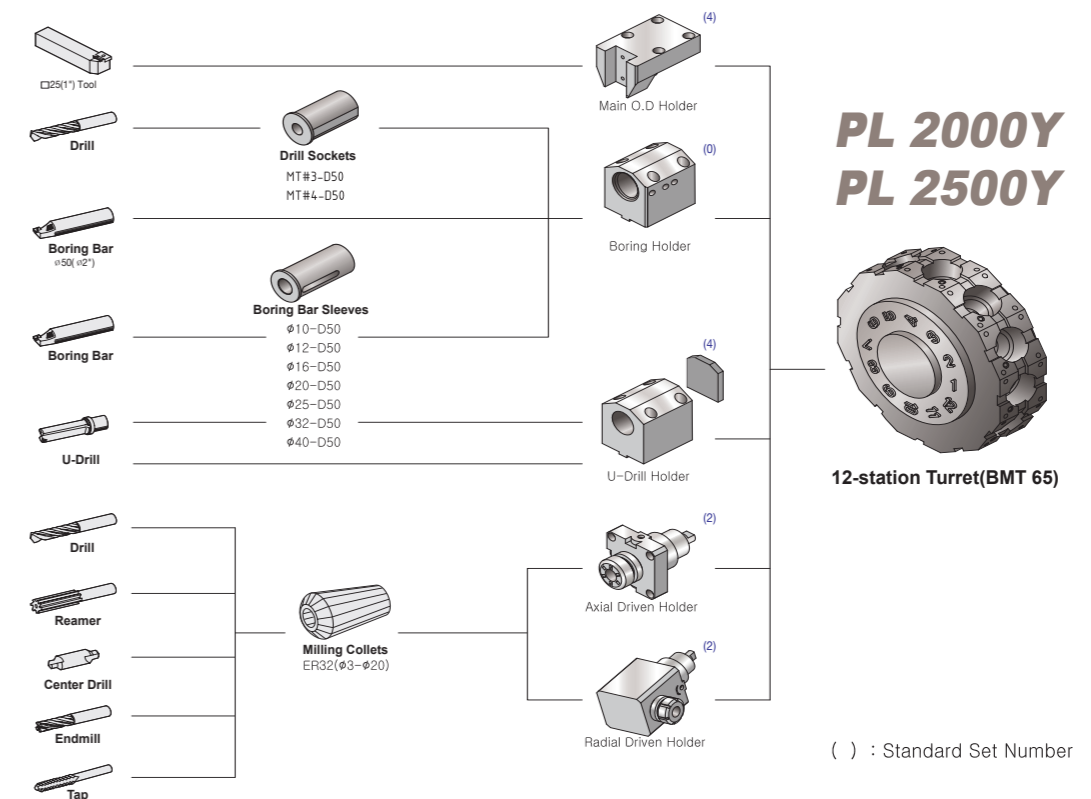
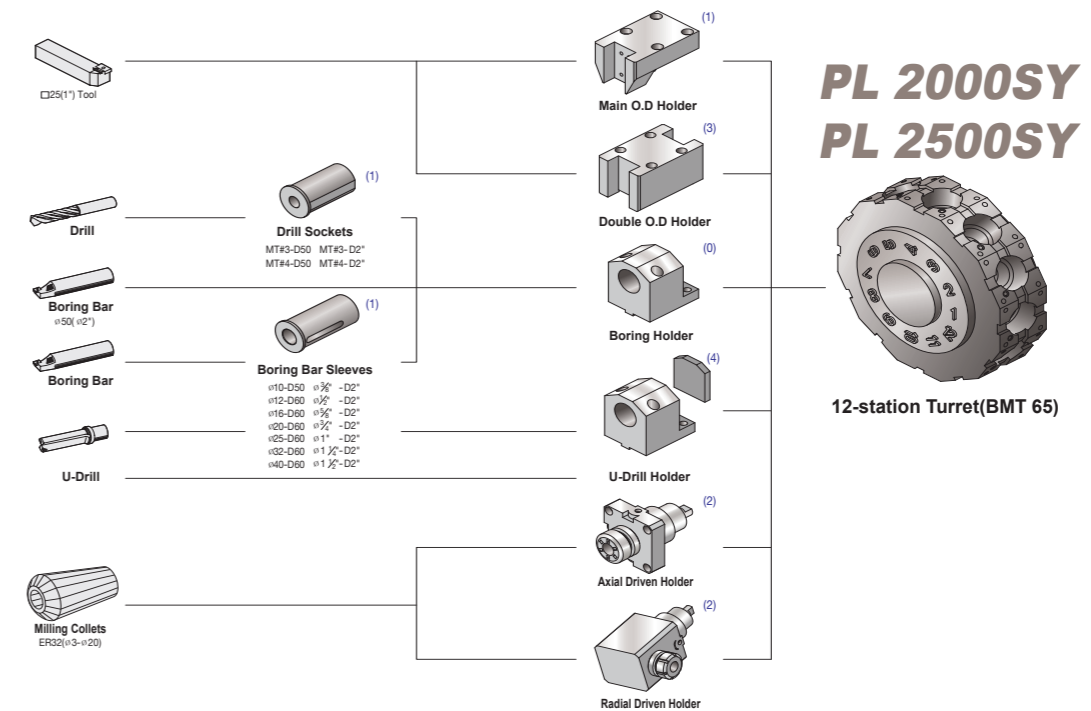
Spindle speed
518 rpm
Cutting speed
120 m/min (393 fpm)
Depth of cut
6 mm <Spindle Load 40%>
Feedrate
0.3 mm/rev (0.08 ipr)

Optional Accessories

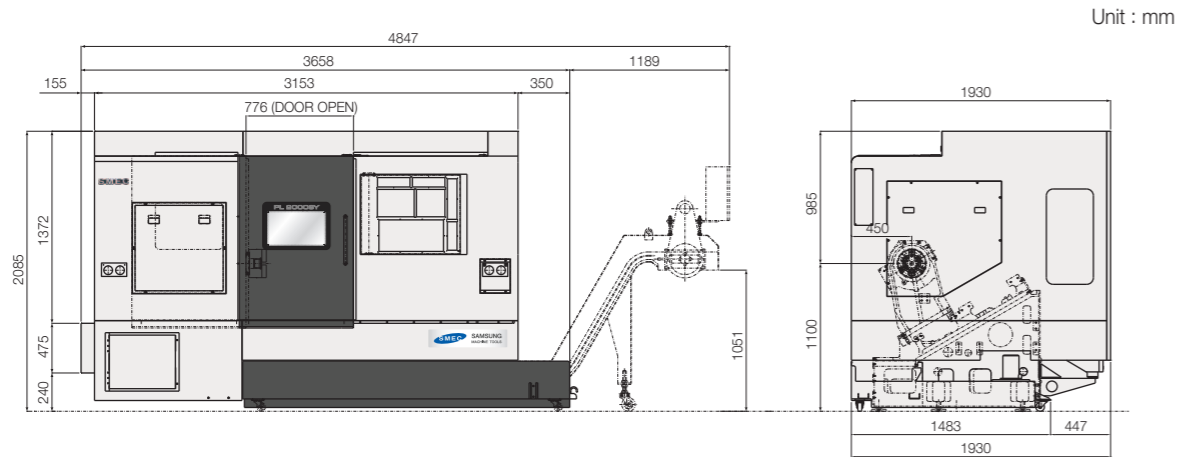


Standard Accessories

Tooling System



Machine Dimensions

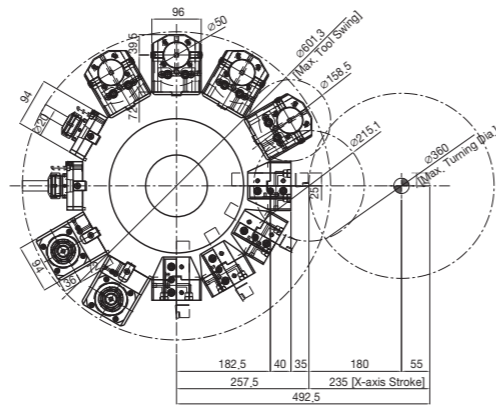
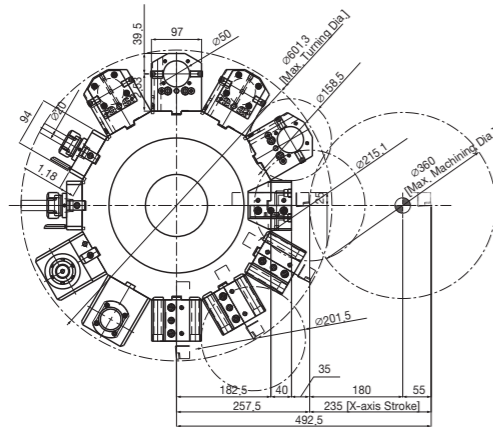


Turret Head Interference

PL 2000SY/2500SY

PL 2000Y/2500Y

Unit : mm

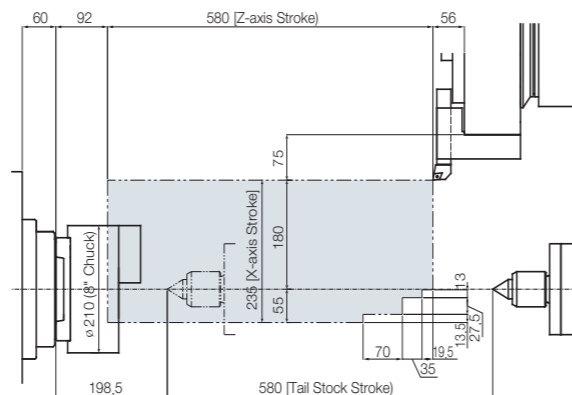
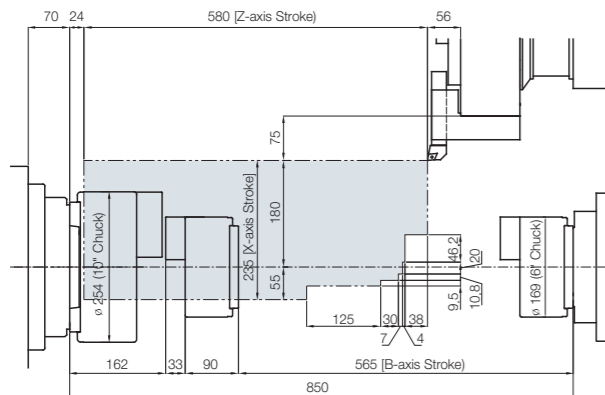


Work Range

PL 2000SY/2500SY

PL 2000Y/2500Y

Unit : mm



Major Specifications

DESCRIPTION		PL 2000Y	PL 2000SY	PL 2500Y	PL 2500SY	
CAPACITY	Swing over the bed	mm	ø 650			
	Swing over the cross slide	mm	540			
	Max. machining diameter	mm	360			
	Max. machining length	mm	535	520	535	520
MAIN SPINDLE	Chuck size	inch	8		10	
	Speed	rpm	4,000		3,500	
	Spindle nose	ASA	A2-6		A2-8	
	Bore diameter	mm	ø 78		ø 86	
	Draw tube I.D.	mm	66		77	
	Motor(30min/cont.)	kW	15/11		22/18.5	
SUB SPINDLE	Chuck size	inch	-	6	-	6 [8]
	Speed	rpm	-	6,000	-	6,000 [4,500]
	Spindle nose	ASA	-	A2-5	-	A2-5 [A2-6]
	Bore diameter	mm	-	45	-	45 [61]
	Draw tube I.D.	mm	-	36	-	36 [52]
	Motor(30min/cont.)	kW	-	7.5 / 5.5	-	7.5 / 5.5 [15/11]
TRAVEL	X/Z/Y/B axis travel	mm	235/580/100/580		235/580/100/565	
	X/Z/Y/B rapid traverse rate	m/min	18/24/12/24			
	X/Z/Y/B feed motor	kW	3/4/3/4			
	Number of tool positions	st.	12(BMT65)			
TURRET	Indexing time	sec	0.2			
	Shank size for square tool	mm	□25			
	Shank diameter for boring bar	mm	ø 50			
	Live tool type		BMT65			
	Live tool speed	rpm	5,000			
	Milling motor (30min/cont.)	kW	5.5 / 3.7			
	ELECTRIC POWER SUPPLY	kVA	33	34	40	41
REQUIRED FLOOR SPACE	mm	3,658 × 1,930				
MACHINE WEIGHT	kg	5,600	5,800	5,700	5,900	
CONTROLLER		Fanuc 0i-TD	Fanuc 0i-TD [32i-B]	Fanuc 0i-TD	Fanuc 0i-TD [32i-B]	

• Design and specifications subject to change without notice.

• [] : Option

Standard Accessories

- COOLANT SYSTEM
- BUILT-IN WORK LIGHT
- SPLASH GUARD
- HAND TOOLS
- TOOL HOLDER
- 8" HYDRAULIC CHUCK
- 6" HYDRAULIC CHUCK
- SOFT JAW
- 8", 6" each 3 SET
- LEVELING BLOCK

Optional Accessories

- HARD JAW
- 8", 6" each 1 SET
- CHIP CONVEYOR
- PARTS CATCHER
- AUTO DOOR
- AIR BLOW UNIT
- AUTO MEASURING SYSTEM
- TOOL PRESETTER