

■ NC Unit Specifications / FANUC 0i-TD

	Item	Specification
Controls	Simultaneous controllable axes	X, Z axes
	Least command increment	0.001 mm (0.000039")
	Least input increment	0.001 mm (0.000039")
Feed functions	Feedrate override	0 ~ 150% (10 % unit)
	Dwell	G04
	Zero return	G27, G28, G30
	Pulse handle feed	x1, x10, x100
	Rapid traverse rate override	F0, 25%, 50%, 100%
	Feedrate per minute	G98
	Feedrate per revolution	G99
	3rd and 4th reference return	
	Feed forward function	
Tool functions	Tool number command	T4 - digit
	Tool nose radius compensation	G40 - G42
	Number of tool offsets	16 pairs
	Tool geometry/wear offset	Geometry & wear data
	Tool life management	
	Tool path graphic display	
Programming functions	Absolute/ incremental programming	X, Z & U, W
	Constant surface speed control	G96, G97
	Multiple repetitive canned cycle	G70 - G76
	Simple canned cycle	G90, G92, G94
	Decimal point input	Decimal point value
	Inch/metric conversion	G20, G21
	Circular interpolation by radius programming	Radius R instead of I, K
	Chamfering & corner R programming	Chamfer & corner R can be machined
	Sub program call	4 Nested holes
	Thread cutting cycle retract	Thread cutting is temp. stop, return to start point
	Work coordinate system selection	G54 - G59
	Local/ machine coordinate system	G52, G53
	Maximum programmable dimension	±99999.999mm (9999.9999")
	M function	M3 digit
	User macros	
	Variable lead thread cutting	
	Continuous thread cutting	
	Drilling canned cycle (G80 series)	
	Line/ angle (direct dimension) programming	
	Three G code system (selectable)	
Tape functions	Input code	ISO, EIA
	I/O interface	RS-232C
	Part program storage length	1,280m
	Number of stored programs	400EA
Other functions	Search function	Sequence, program, address search
	MDI/CRT unit	10.4" LCD
	Stored stroke check 1	Overtravel control
	Background editing	Program editing during automatic operation
	Help function	Alarm & operation display
	Running time / Parts number display	Automatic running time & parts Number display
	Load meter display	Spindle load display
	Self diagnostic function	Self-design Test
	Expanded program editing	Copy, move, change of NC program
	Stored stroke 2 and 3	
	Spindle orientation	



SAMSUNG Machine Tools

PL45 CNC TURNING CENTER



SMEC

SAMSUNG MACHINE TOOLS

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SMEC

SAMSUNG MACHINE TOOLS

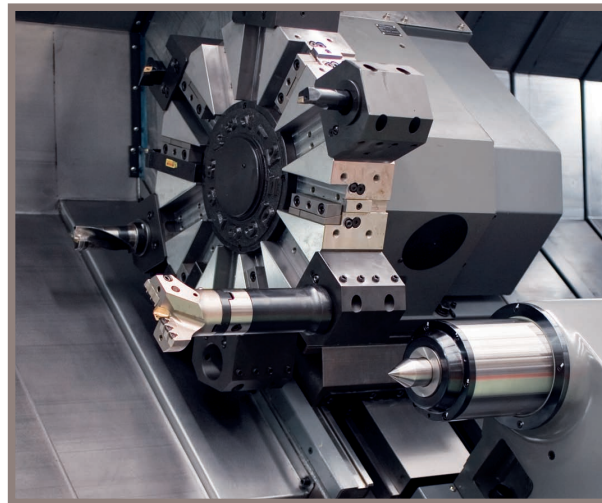
SAMSUNG'S Advanced Engineering and Machine Design

- Cast iron structure for superior dampening characteristics and thermal displacement
- Rigid 45 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 45 / 2200
PL 45 / 3000
PL 45MC / 2200
PL 45MC / 3000



SL45 is a heavy duty, ultra precision Turning Center, combined with Samsung's advanced technological features.



Spindle Speed

2,000 rpm

Spindle Motor(30min/cont.)

37/30 kW

Rapid Travel(X/Z)

20/18 m/min

Feed Motor(X/Z)

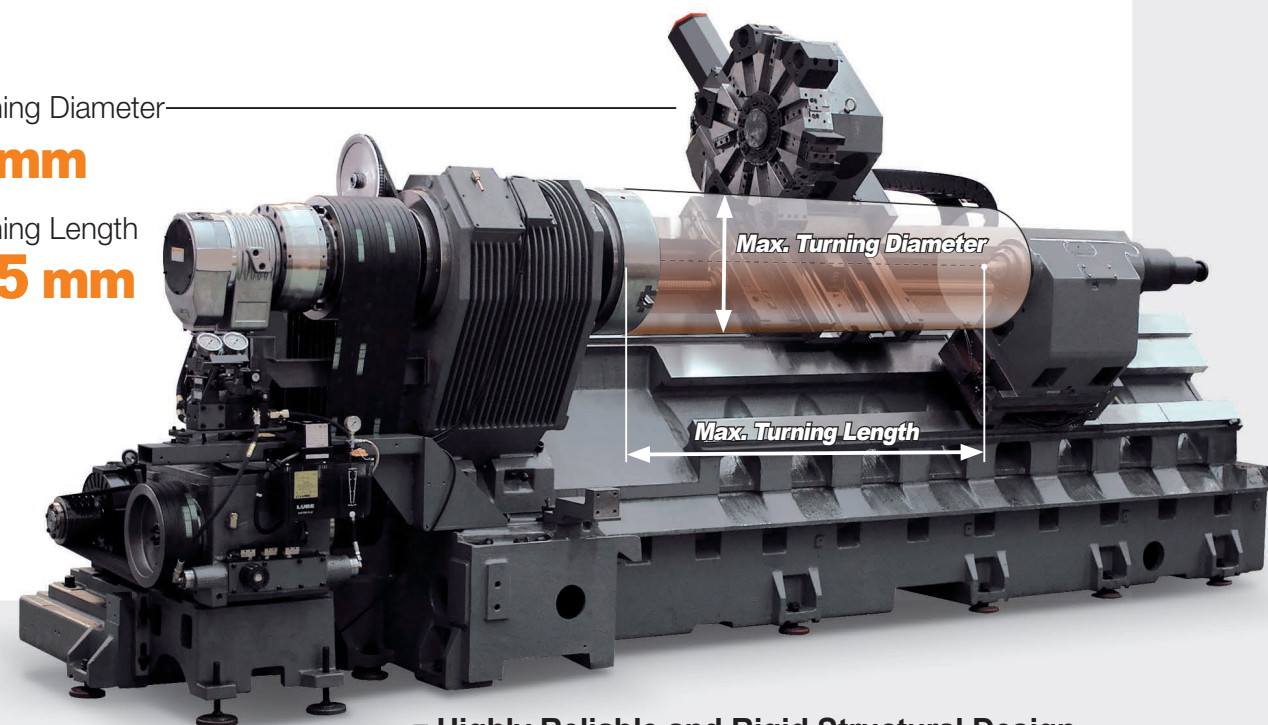
7/7 kW

Max. Turning Diameter

620 mm

Max. Turning Length

2,255 mm



■ Highly Reliable and Rigid Structural Design

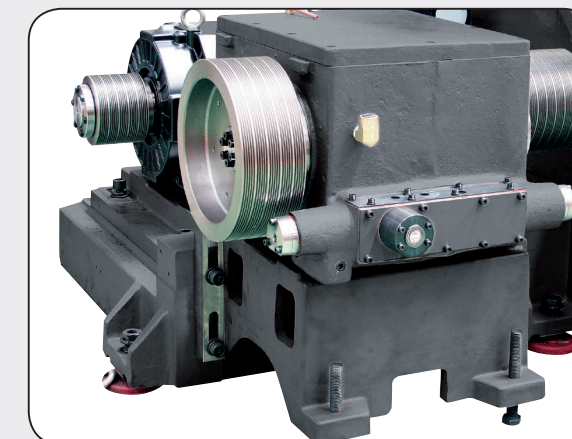
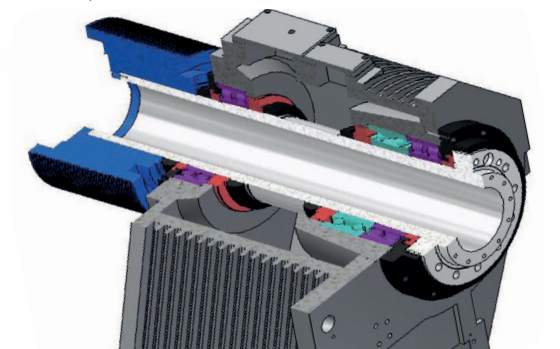
- One piece Meehanite casting with heavily ribbed torque tube design
- Rigid bed supports for powerful cutting
- Excellent vibration dampening and thermal displacement design

High Accuracy, High Rigidity Spindle



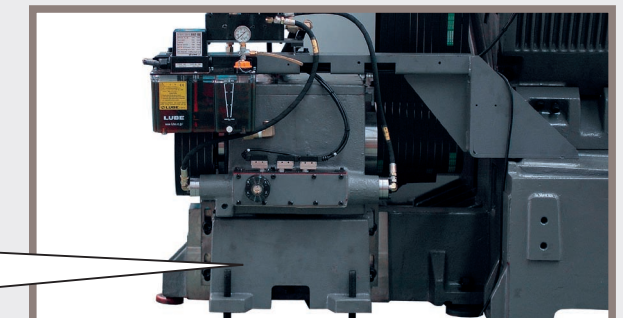
■ Pin Tube Rib Design for Minimal Axis Heat Transfer

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



■ Output Converting Transmission

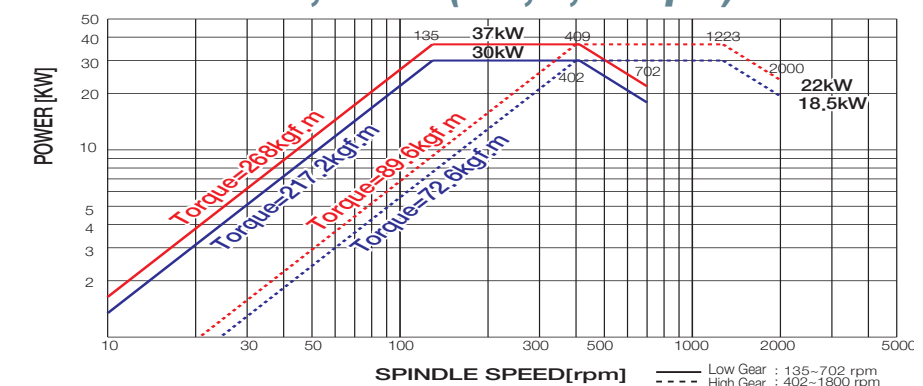
Equipped as standard feature, high Output Converting Transmission provides heavy-duty machining.



■ Spindle Power & Torque Diagram

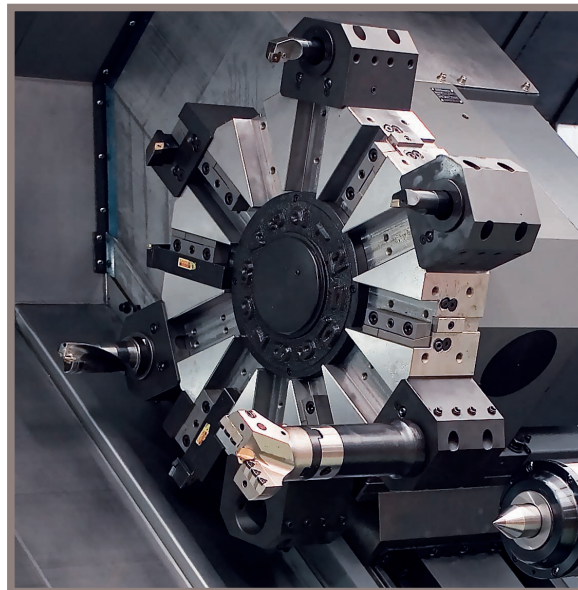
Unit : mm

PL45, 45MC (15", 2,000rpm)



■ Turret Structure

■ PL45 (High Speed Servo Turret)



Indexing time

0.25 sec.

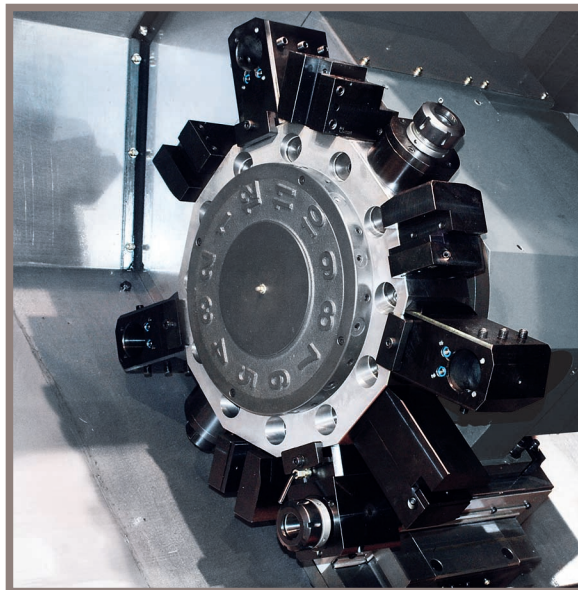
Number of tool positions

12 stations

■ High Speed, Heavy Duty Servo Turret

Driven by a high torque servo motor, the 12-station heavy-duty turret can accept tools on both 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. Large diameter ($\phi 9.05''$) precision Curvic coupling with 24,692 lbs clamping force enables precision as well as heavy-duty cutting.

■ PL45MC (BMT High Speed Turret)



Indexing time

0.25 sec.

Number of tool positions

12 stations

Spindle Speed

4,000 rpm

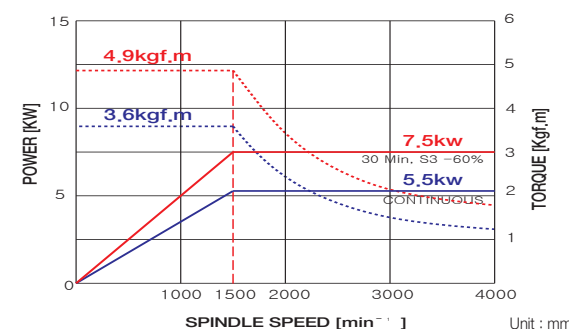
Tool Holder

BMT 75

■ BMT Milling Turret (M Type)

SL45MC 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 0.25 second next station index time.

■ Turret Torque Diagram

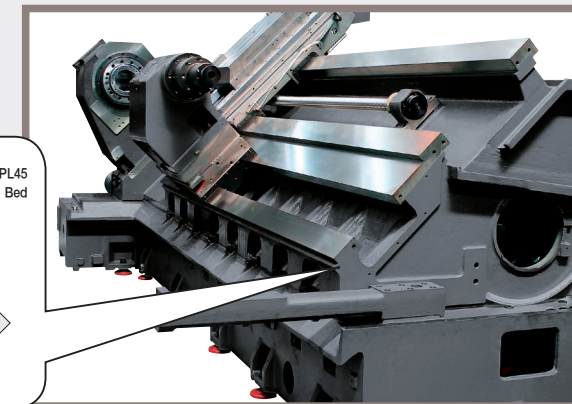
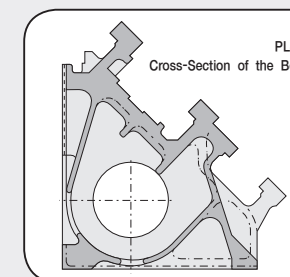


■ Machine Structure

■ Rigid 45 degree Slant Bed

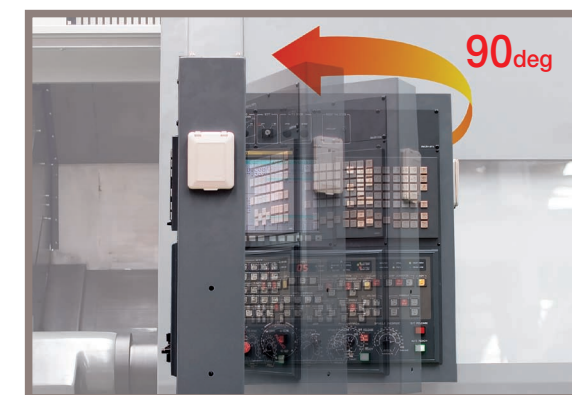
45 degree slant torque tube design bed and wide guide slide way ensure long term rigidity and machining accuracy.

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

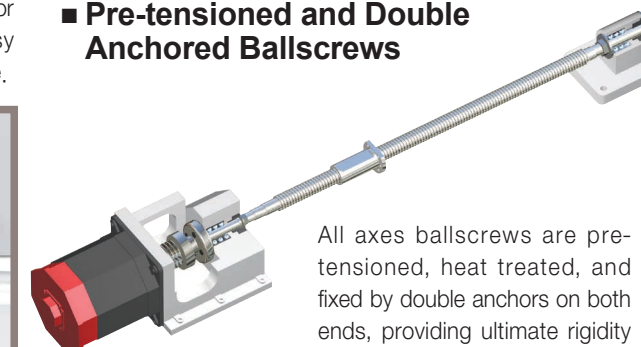


■ Swivel Operation Panel

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.



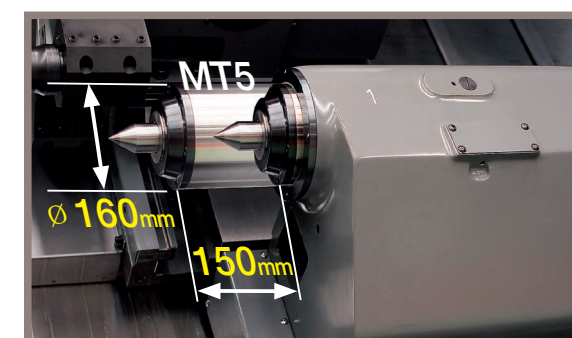
■ Pre-tensioned and Double Anchored Ballscrews



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

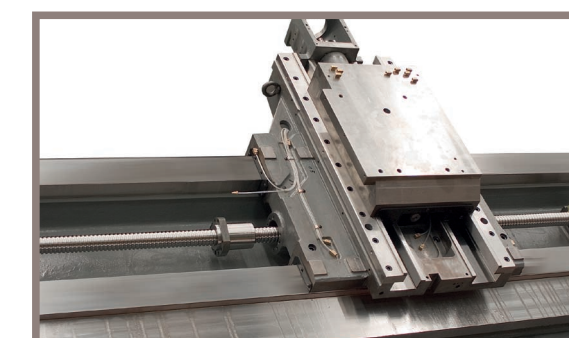
■ Programmable ailstock (Carriage direct-coupled)

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



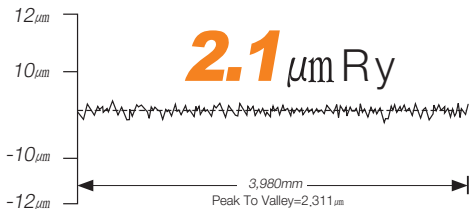
■ Hexahedral Slide Way Frame

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



High Precision

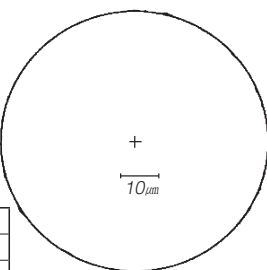
Surface Roughness <O.D. cutting>



Machine type	PL45
Tool	Diamond tool (nose radius 0.5mm)
Material	AL150 (Aluminum)

Cutting speed	230m/min
Feedrate	0.05mm/rev
Depth of cut	0.1mm
Outer diameter	200mm

Roundness

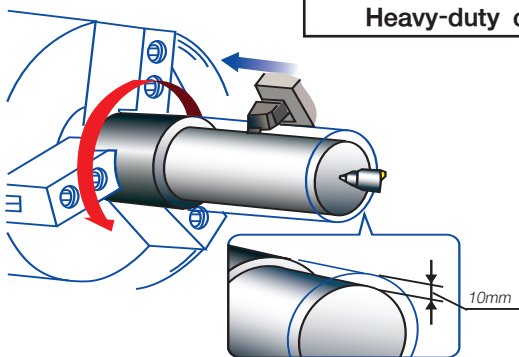


0.45 μm (actual result)

Machine type	PL45
Tool	Diamond tool (nose radius 0.5mm)
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) PL45/2200



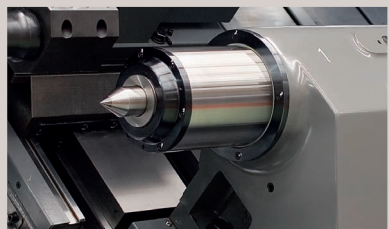
Heavy-duty cutting (O.D) <32mm × 32mm qualified tool>

Spindle speed
367 rpm
Cutting speed
150 m/min
Depth of cut
10 mm <Spindle Load 65%>
Feedrate
0.4 mm/rev

Accessories



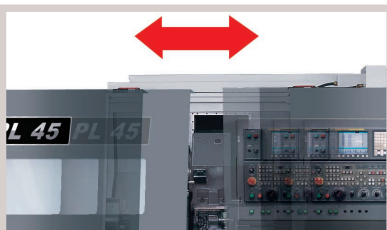
Automatic Lubricator (Standard)



Programmable Tailstock (Standard)



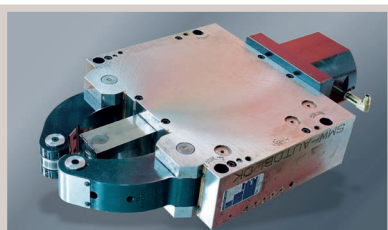
Tool Presetter (Option)



Auto Door (Option)

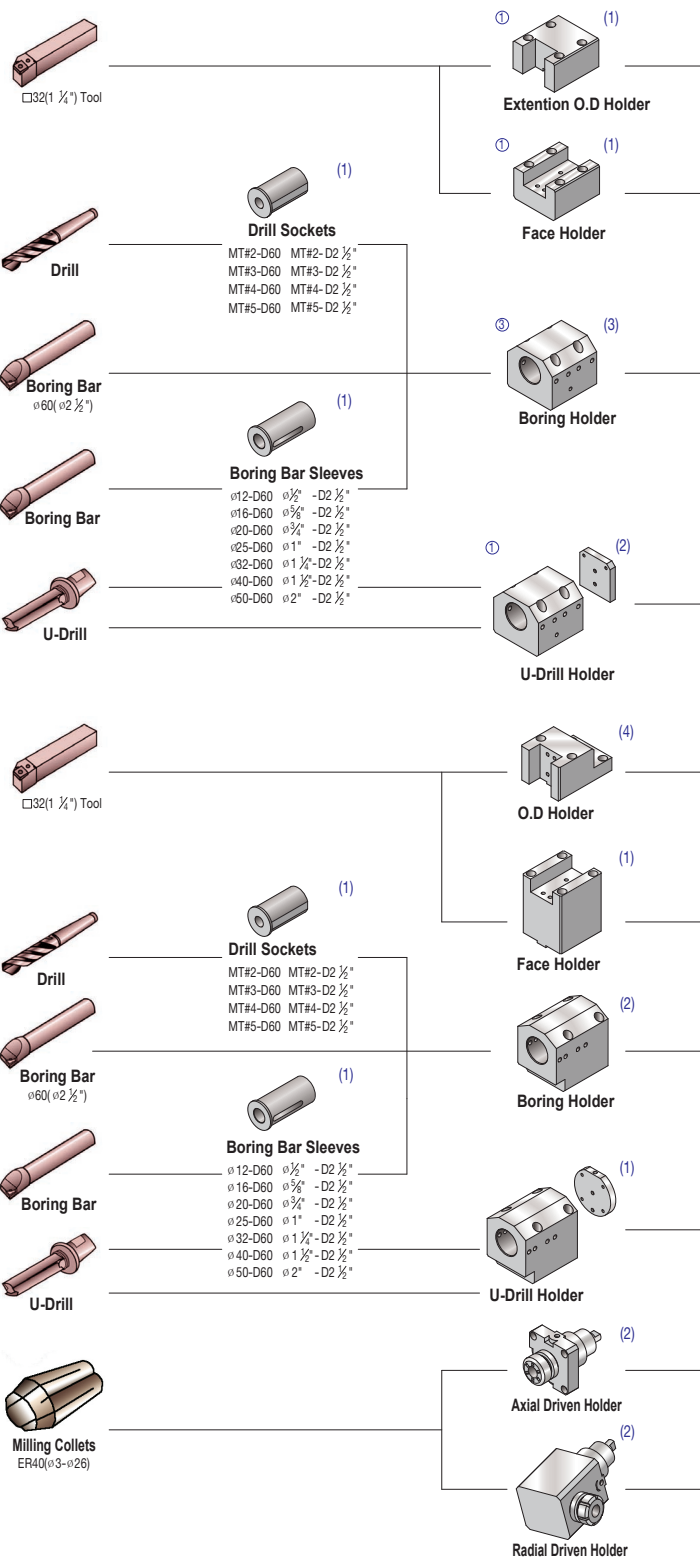


Chip Conveyor (Option)

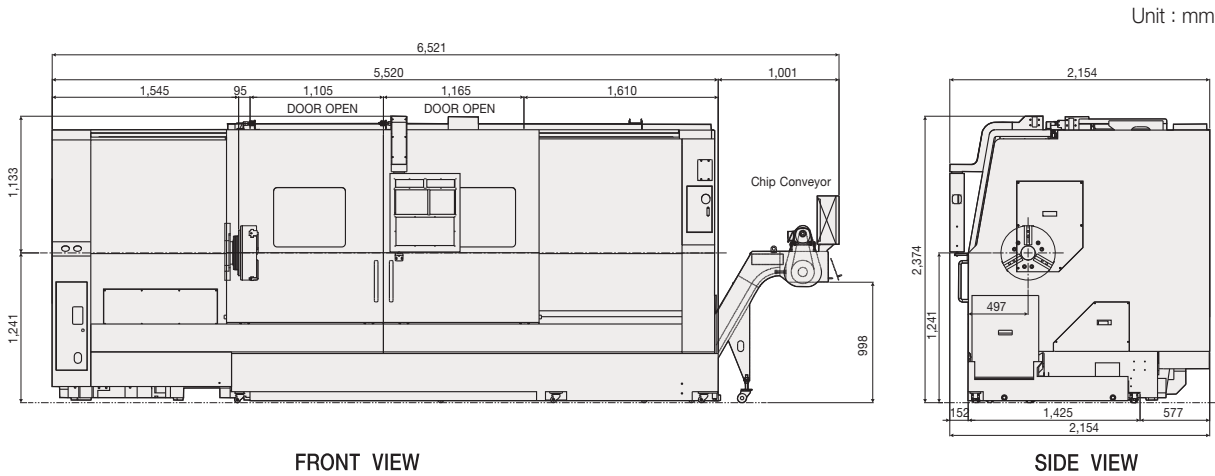


Steady Rest (Option)

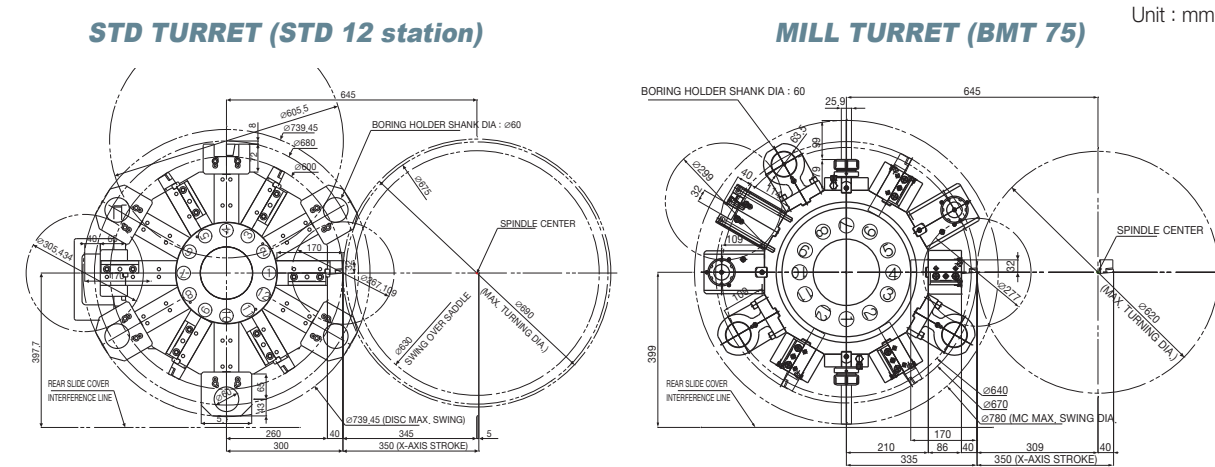
Tooling System



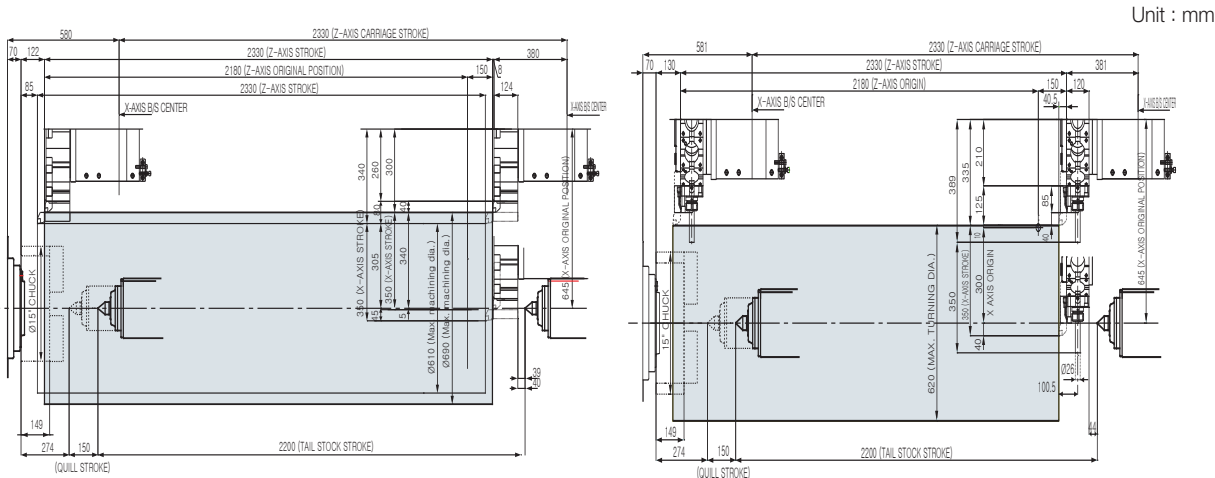
Machine Dimensions



Turret Head Interference



Work Range



Major Specifications

DESCRIPTION		PL45/2200	PL45/3000	PL45MC/2200	PL45MC/3000
CAPACITY	Swing over bed	mm		ø 775	
	Swing over saddle	mm		ø 630	
	Recom. turning diameter	mm		ø 380	
	Max. machining diameter	mm		690	
	Max. machining length	mm		2,255	3,055
	Bar working diameter	mm		ø 117	
TRAVELS	X-axis travel	mm		350	
	Z-axis travel	mm		2,330	3,130
MAIN SPINDLE	Spindle speed	rpm		2,000	
	Spindle nose	ASA		A2-11	
	Spindle through hole diameter	mm		132	
	Min. spindle indexing angle	deg		-	
TURRET (STD, MC)	Number of tool stations [option]	ea		12 [10]	
	Shank size for square tool	mm		□ 32	
	Shank diameter for boring bar	mm		ø 60	
	Indexing time	sec		0.2	
	Rotary tool spindle speed	rpm		-	
FEED RATE	Rapid traverse (X/Z)	m/min		20 / 18	20 / 10
	Feed per revolution	mm/rev		0.0016~500	
MOTOR	X axis feed motor	kW		7	
	Z axis feed motor	kW		7	
	Spindle drive motor(cont./30min)	kW		30 / 37	
	Rotary tool spindle motor(cont./30min)	kW		-	
TAILSTOCK	Tailstock travel	mm		2,255	3,055
	Quill diameter	mm		ø 160	
	Quill bore taper	MT		MT-5(BUILT-IN)	
	Quill travel	mm		150	
ELECTRIC POWER SUPPLY		kVA/V		46 / 220	
REQUIRED FLOOR SPACE(L × W)		mm		5,520 × 2,154	6,705 × 2,154
MACHINE WEIGHT		kg		13,200	17,200
CONTROLLER				Fanuc Oi-TD	

• Figures in inches are converted from metric measurements. • Design and specifications subject to change without notice.

Standard

- COOLANT SYSTEM
- BUILT-IN WORK LIGHT
- SPLASH GUARD
- HAND TOOLS
- 15 " HYDRAULIC CHUCK
- SOFT JAW 3 SETS
- TOOL HOLDERS

- LEVELING BLOCK
- PROGRAMMABLE TAILSTOCK
- DOOR INTERLOCK

Optional Accessories

- HARD JAW 1 SET
- CHIP CONVEYOR WITH BUCKET
- AIR BLOW UNIT
- 18 " HYDRAULIC CHUCK
- STEADYREST:SLU-4
- TOOL PRESETTER
- OIL SKIMMER
- GUN COOLANT