■ NC Unit Specifications / FANUC Series

Item		Specification	0*i*-TD
Controlled axis	Max. feed axes		4 AXIS
	Feed axes		X/Z/(Cs)
	Max. simultaneosly 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 cordinate 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/±9999.9999"	○
	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	○
	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.
667-1, Gasul-ri, Daesan-myeon, Changwon-si Gyeongsangnam-do, Korea 641-921
Tel +82 55 250 4832(4800) Fax +82 55 250 4901(4902)
http://www.esmec.com

www.esmec.com

SAMSUNG Machine Tools

PL 35/35M/40

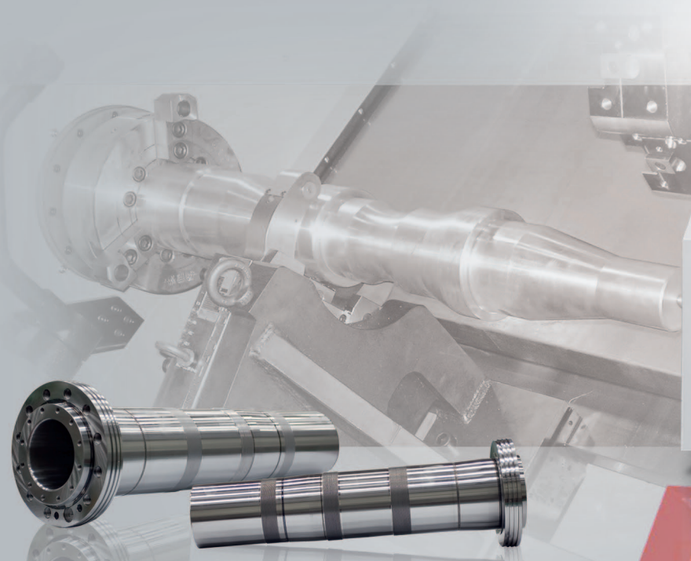
CNC TURNING CENTER

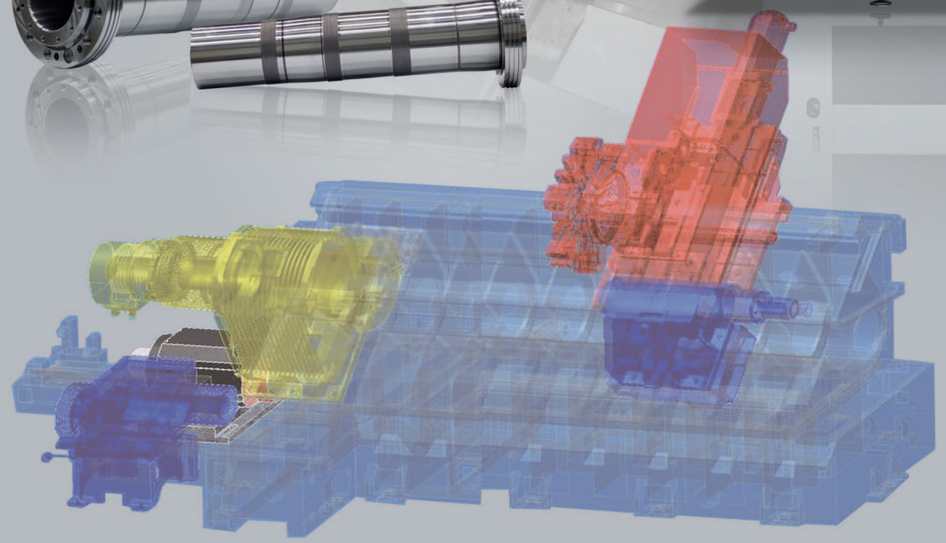
SMEC
SAMSUNG MACHINE TOOLS

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 35
PL 35L
PL 35M
PL 35LM
PL 40
PL 40L





PL 35/35M/40 is a heavy duty, ultra precision Turning Center, combined with Samsung's advanced technological features.

Spindle Speed
2,500 rpm (PL 35, 35M)
2,000 rpm (PL 40)

Feed Motor(X/Z)
3/4 kW (PL 35)
4/7 kW (PL 35M)

Spindle Motor(30min/cont.)
22/18.5 kW

Rapid Travel(X/Z)
12/15 m/min (PL 35, 40)
20/24 m/min (PL 35M)

Max. Turning Diameter
420 mm (PL 35)
500 mm (PL 35M)
490 mm (PL 40)

Max. Turning Length
780 mm (PL 35, 40)
1,500 mm (PL 35LM, PL 40L)
1,530 mm (PL 35L)

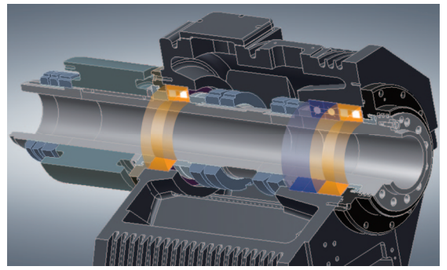
■Highly Reliable and Rigid Structural Design

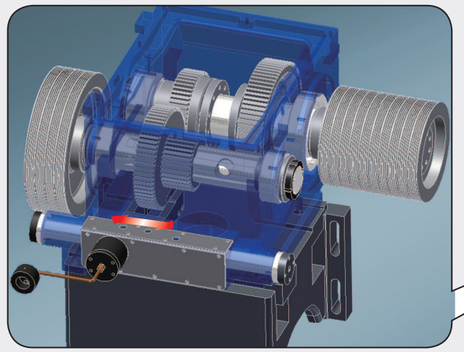
- Meehanite casting with heavily ribbed torque tube design
- Rigid bed supports for powerful cutting
- Excellent vibration dampening and thermal displacement design

High Accuracy, High Rigidity Spindle

■Pin Tube Rib Design for Minimal Axis Heat Transfer

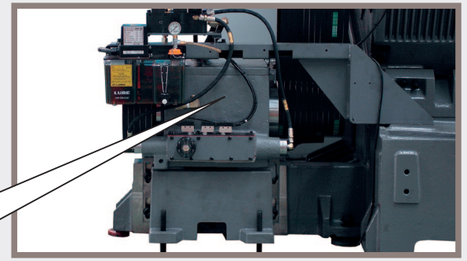
Radiator fan-like pin tube rib design dissipates heat, maintaining minimal thermal expansion.





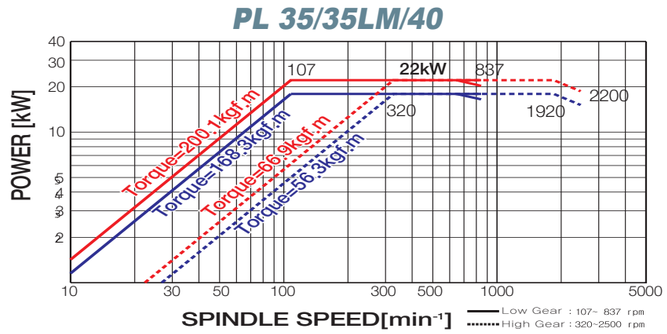
■Output Converting Transmission

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



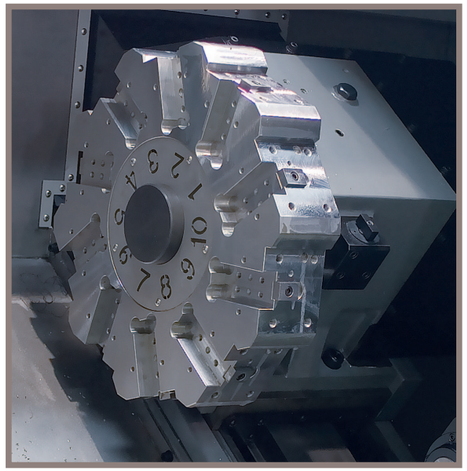
■Spindle Power & Torque Diagram

Unit : mm



■ Machine Structure

■PL 35, 40 (High Speed Hydraulic Turret)

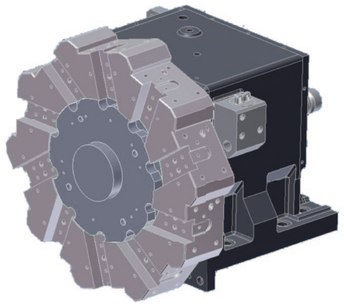


Indexing time
0.25 sec.

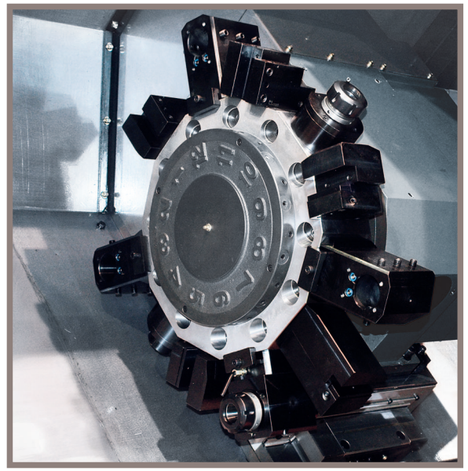
Number of tool positions
10 stations

■High Speed, Heavy Duty Hyd. Index Turret

Driven by a high torque hydraulic index motor, the 10-station heavy-duty turret can accept tools on both left and right side of each station. Turret indexing (repeatability ± 0.005)is non-stop, bi-directional with a fast 0.25 second next station index time. A large diameter (ø250) Curvic coupling with 6,377kgf clamping force enables precision as well as heavy-duty cutting.



■PL 35LM (BMT High Speed Turret)



Indexing time
0.25 sec.

Number of tool positions
12 stations

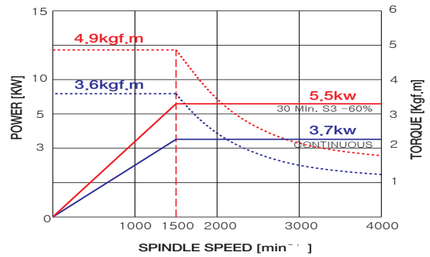
Milling Spindle Speed
4,000 rpm

Tool Holder
BMT 65

■BMT Milling Turret (M Type)

PL35MC 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 0.25second next station index time.

■Turret Torque Diagram

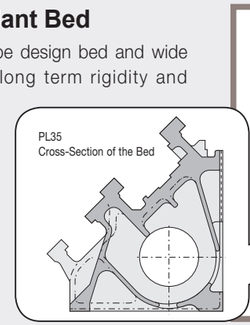


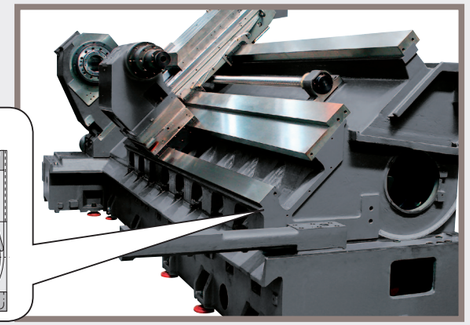
■ Machine Structure

■Rigid 45 degree Slant Bed

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

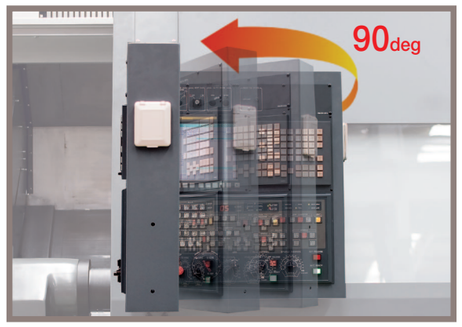
Featuring superior workability and chip-discharging capability, the bed is designed in a single tube structure boasting strong durability even in heavy-duty cutting.





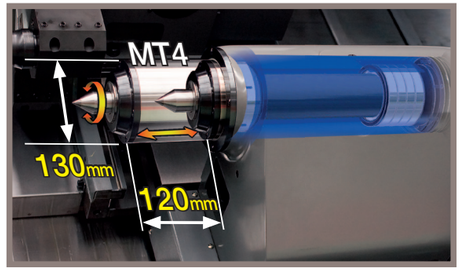
■Swivel Operation Panel

Swivel operation panel of 8.4 inch color TFT LCD monitor can turn to 90 degree, providing operators with easy access to the control panel while working on the machine.



■Programmable Tailstock (carriage direct-coupled)

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

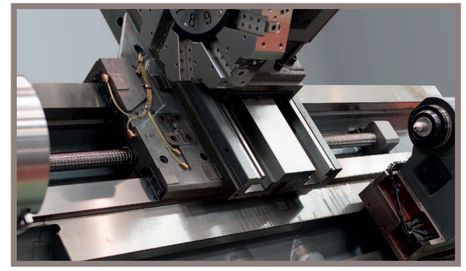


■Pre-tensioned and Double Anchored Ballscrews

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

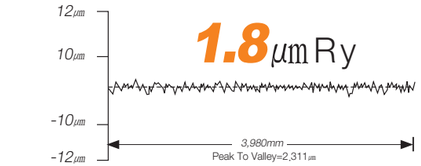
■Hexahedral Slide Way Frame

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

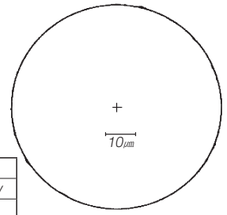
■Surface Roughness 〈O.D. cutting〉



Machine type	PL 35
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



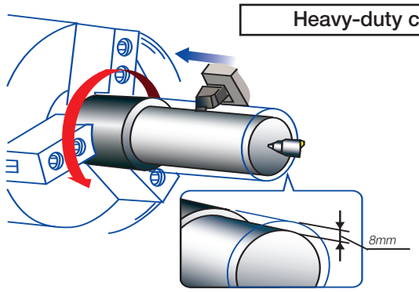
0.40㎛ *(actual result)*

Machine type	PL 35
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) PL 35L

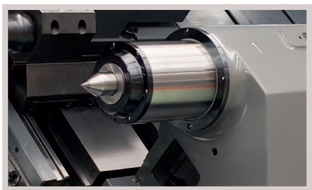
Heavy-duty cutting (O.D) 〈25mm×25mm qualified tool〉



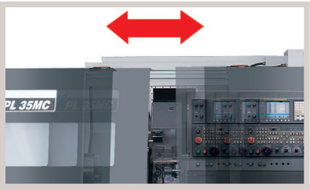
Spindle speed
370 rpm
Cutting speed
150 m/min
Depth of cut
8 mm <Spindle Load 60%>
Feedrate
0.4 mm/rev

■ Accessories

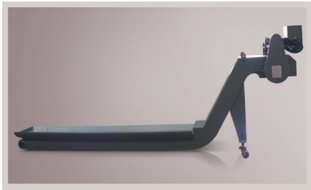

Automatic Lubricator (Standard)

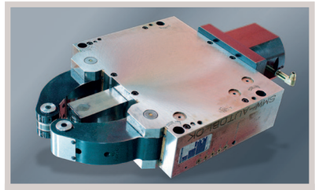

Programmable Tailstock (Standard)


Tool Presetter (Option)

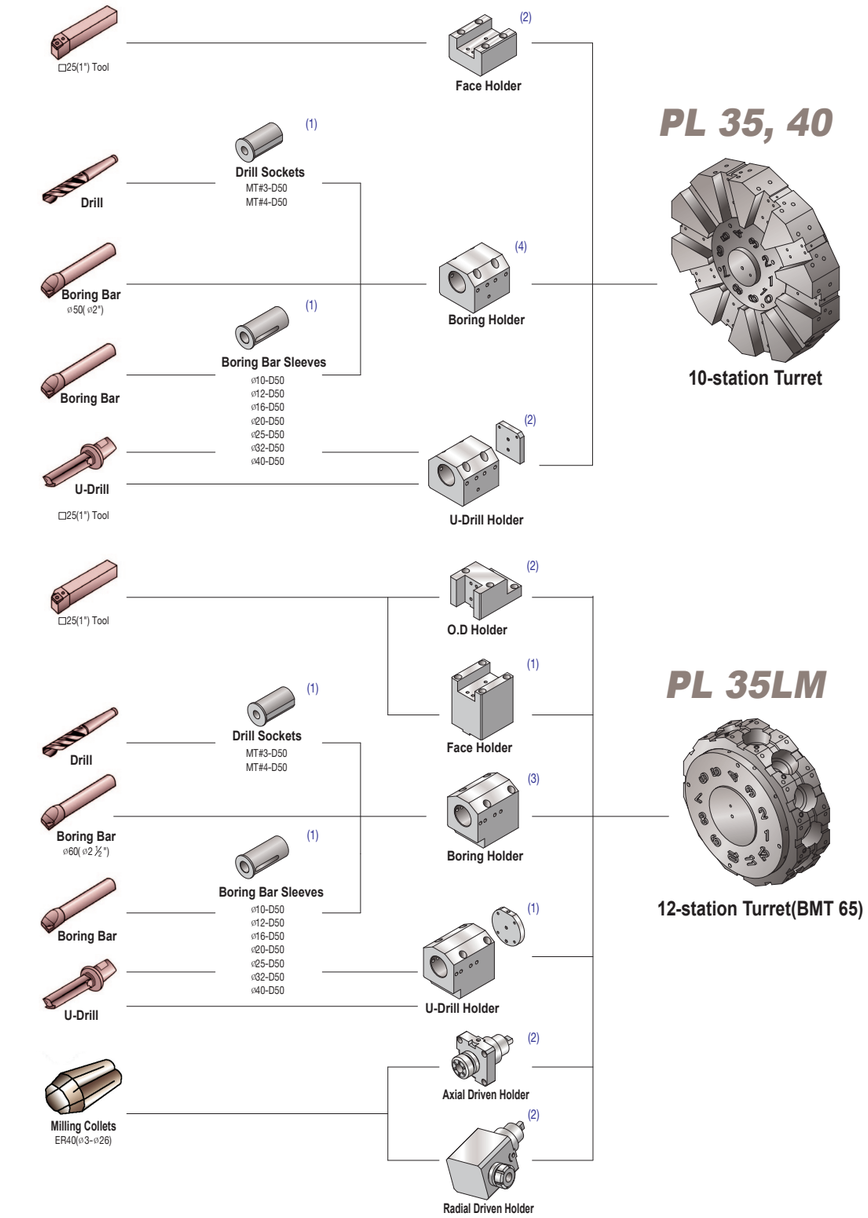


Auto Door (Option)


Chip Conveyor (Option)


Steady Rest (Option)

■ Tooling System

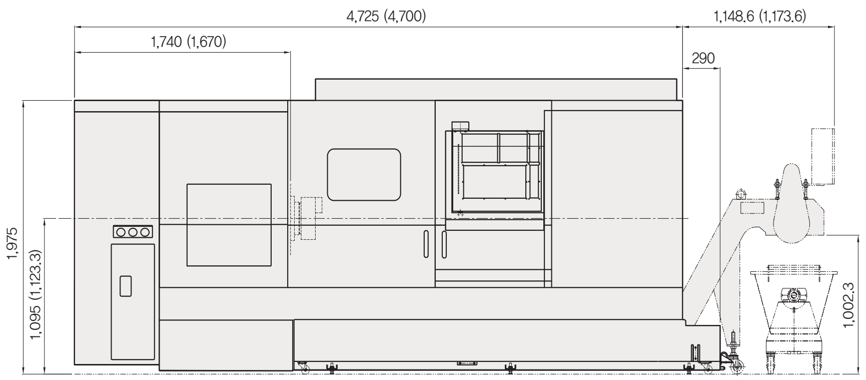


Machine Dimensions

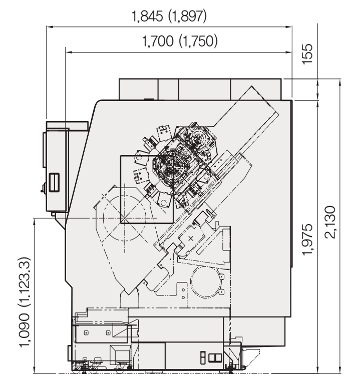
( ) : PL 35LM

Unit : mm

PL 35



FRONT VIEW

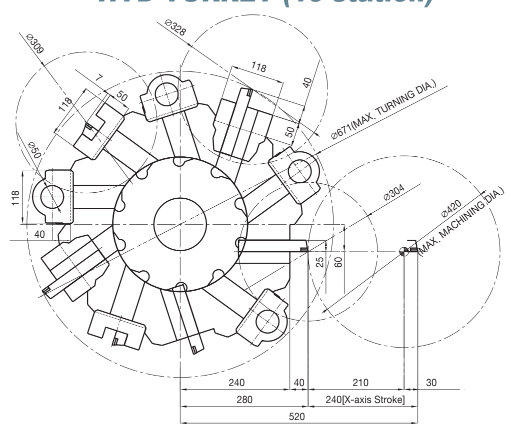


SIDE VIEW

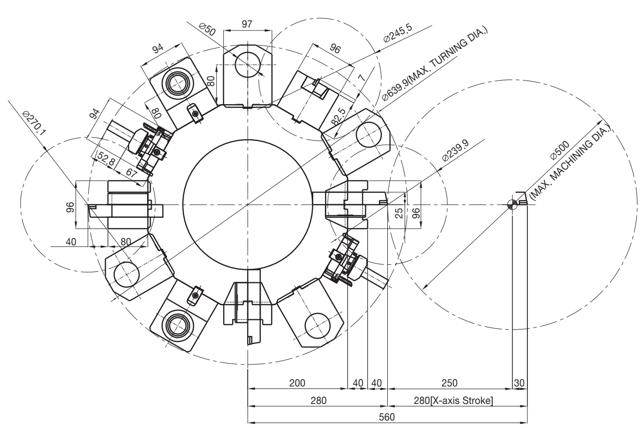
Turret Head Interference

Unit : mm

HYD TURRET (10 station)



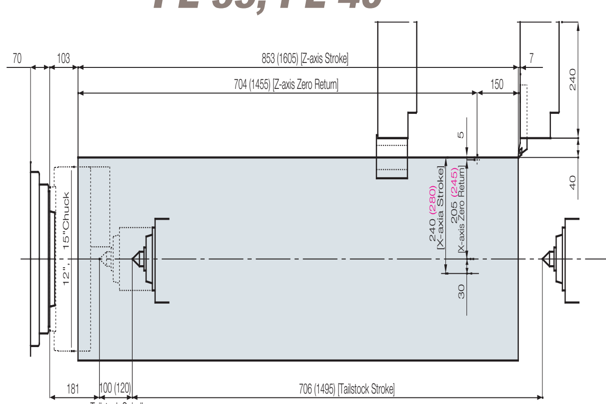
MILL TURRET (BMT 65, 12 station)



Work Range

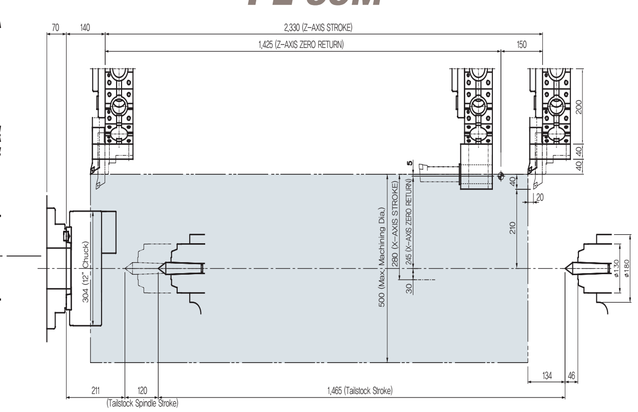
Unit : mm

PL 35, PL 40



■ PL 35 ■ PL 40

PL 35M



Major Specifications

DESCRIPTION			PL 35	PL 35L	PL 35M	PL 35LM	PL 40	PL 40L
CAPACITY	Swing over bed	mm	ø 600		ø 680			
	Cross slide over Swing	mm	ø 425		ø 505			
	Recom. turning diameter	mm	420		500		490	
	Max. machining diameter	mm	780	1,530	780	1,500	780	1,500
	Bar working diameter	mm	ø 92 [ø 118]				ø 118	
TRAVELS	X-axis travel	mm	240		275		280	
	Z-axis travel	mm	855	1,605	855	1,575	855	1,605
MAIN SPINDLE	Spindle speed	rpm	2,500 [2,000]				2,000	
	Spindle nose	ASA	A2-8 [A2-11]				A2-11	
	Spindle through hole diameter	mm	105 [132]				132	
	Min. spindle indexing angle(C-Axis)	deg	-		0.001		-	
TURRET	Number of tool stations	ea	10 [12]		12(BMT65)		10 [12]	
	Shank size for square tool	mm	□25					
	Shank diameter for boring bar	mm	ø 50					
	Indexing time	sec	0.25					
	Rotary tool spindle speed	rpm	-		4,000		-	
FEED RATE	Rapid traverse (X/Z)	m/min	12 / 15		20 / 24		12 / 15	
	Feed per revolution	m/rev	0.0016~500					
MOTOR	X axis feed motor	kW	3		4		3	
	Z axis feed motor	kW	4		7		4	
	Spindle drive motor(cont./30min)	kW	18.5 / 22					
	Rotary tool spindle motor(cont./30min)	kW	-		3.7 / 5.5		-	
TAILSTOCK	Tailstock travel	mm	780	1,530	745	1,500	745	1,495
	Quill diameter	mm	ø 130					
	Quill bore taper	MT	MT-4(BUILT-IN)					
	Quill travel	mm	120					
ELECTRIC POWER SUPPLY		kVA/V	42 / 220		45 / 220		42 / 220	
REQUIRED FLOOR SPACE(L×W)		mm	3,620×1,845	4,990×1,845	3,620×1,897	4,990×1,897	3,620×1,897	4,990×1,897
MACHINE WEIGHT		kg	8,000	9,000	8,300	9,300	8,200	9,200
CONTROLLER			Fanuc O*i*-TD					

※Figures in inches are converted from metric measurements.

※Opt. : [BB]

Standard Accessories

- COOLANT SYSTEM
- BUILT-IN WORK LIGHT
- SPLASH GUARD
- HAND TOOLS
- 12 ″ HYDRAULIC CHUCK
- SOFT JAW 3 SETS
- HARD JAW 1 SET
- TOOL HOLDERS
- LEVELING BLOCK
- PROGRAMMABLE TAILSTOCK
- DOOR INTERLOCK

Optional Accessories

- CHIP CONVEYOR WITH BUCKET
- AIR BLOW UNIT
- 15 ″ HYDRAULIC CHUCK(Big-Bore)
- STEADYREST:SLU-4
- TOOL PRESETTER
- OIL SKIMMER
- GUN COOLANT