

CNC LATHE TURNING CENTER  
**PL-30A**



SAMSUNG MACHINE TOOLS



CNC LATHE TURNING CENTER

# AnyTurn PL-30A

## High reliability by excellent structure design

- High rigidity bed supporting powerful cutting
- High efficiency reducing significantly non-cutting
- Vibration Prevention, Establishment of Heat Change Measurement

{ High reliability, Minimum Maintaining cost, }  
Wide scope of machining area. }

### Double panel of tempered glass

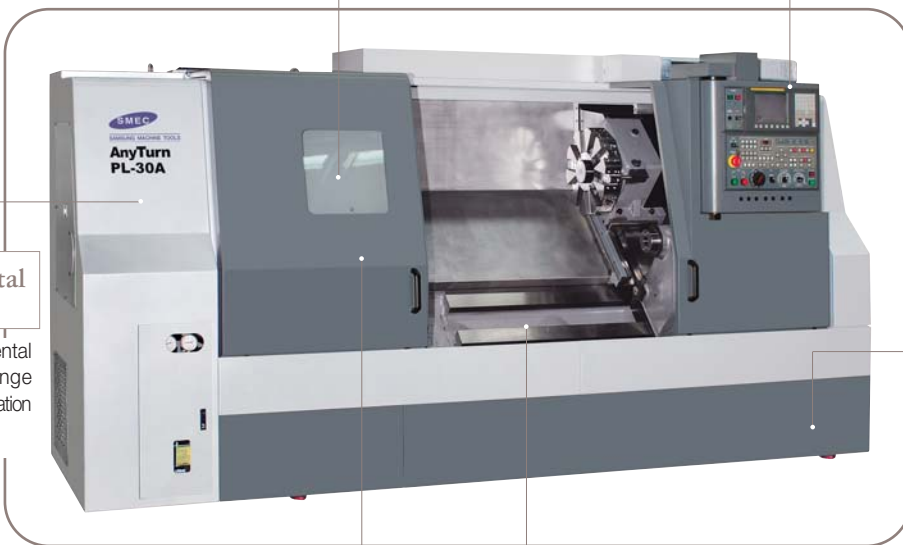
To safe the customer in the front door, double panel of tempered glass had been adapted.

### Centering operation panel

Centering operation panel of 8.4 inch color LCD monitor can turn to 90 degree, support of wide alarm message for each error of machine and control unit highly provides the comfortable of worker

### Ambient environmental control mounting

By installing ambient environmental control type of fan, heat change between outside air and synchronization axis had been minimized.



### Separated type of cutting oil tank

Separated type of cutting oil tank can suppress the heat inflation of machine body that results during cutting. Separated type of cutting oil tank

### Axis for minimizing the heat change

The heat change of axis had been minimized, the change rate by temperature's increasing of radiator fan type of pin tube rib can be minimized and security machining is possible.

### High Rigid Slant Bed

Chip discharge applying the 45° Slant Bed ensures high rigid pipe rib type of bed and wide guide surface of hex section slide way ensures the security and long period of life.

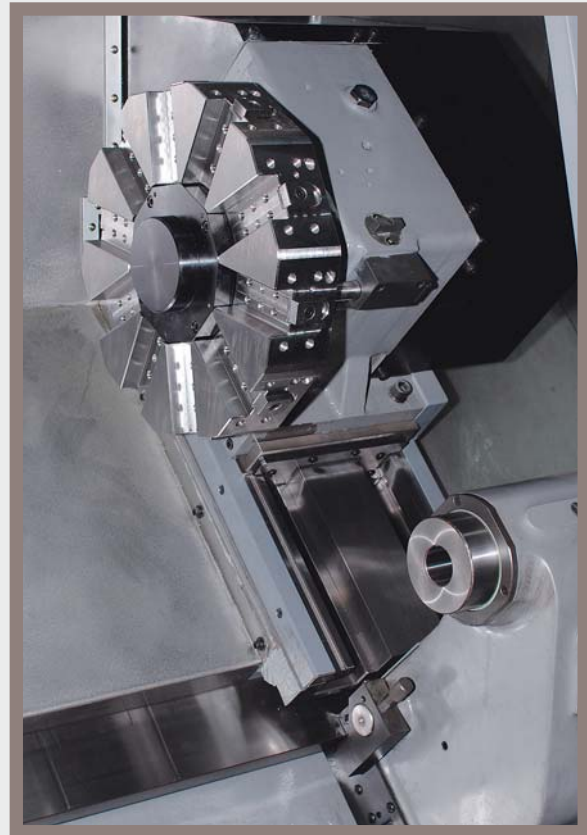
# Model PL30A is the latest product manufactured by Samsung utilizing all its FA know-how available

## ■ Implementation the security machining as backlash and anti vibration mechanism.

AC Servo Motor of transmitting coordinate is engaged in the ball screw and vibration with backlash is not existed. In particular, main coordinate had been equipped with (1:12)AC Spindle Motor. Due to no gear, vibration is very low and high machining degree can be obtained.

## ■ Reducing no-cutting time equipped the high partition turret of 0,5 second.

Turret's separation adapts the Nonstop Random Index method using the Index Motor developed by Smac and tool can be selected by 0,5 second (5 section: 1.0 second). Also, position is determined by fast seed of Rapid feed speed degree X axis : 18m/min, Z axis : 24m/min. Reducing the idle time significantly we promise the high efficiency.



## ■ Centering operation panel.

Centering operation panel of 8.4 inch color LCD monitor can turn to 90 degree, support of wide alarm message for each error of machine and control unit highly provides the comfortable of worker

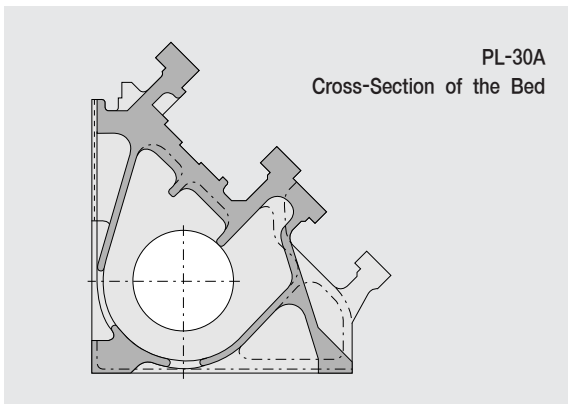


# “High reliability requiring the Automation · No-person corresponding the advanced mechanism”

## ■ TOOLING SYSTEM

### ■ High rigid SLANT TYPE BED showing high stability among the powerful cutting machining

As body is excellent pipe type of structure in the rotation rigidity · bending rigidity, cutting kick back is suppressed in the powerful heavy cutting, security machining is possible. Also by applying the Slant Type, accessible to machining object and chip's discharge is more convenient



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

### ■ Establishment of Heat Change Measurement and correspondence with security long successive machining.

Heat radiation prevention of axis and Heat Change Measurement according with high speed of axis rotation speed is major subject.

Axis of PL30A was not used the gear that occurs the heat, during designing the axis, structure with heat removing function is adapted. Also the back of machine is installed, thorough heat change preventing measure has been taken, feed instrument, X, Z axis ball screw has 3 point support structure, also applying the pre-pressured, heat inflation by heating is prevented.

### ■ Detailed consideration, installation of separated coolant oil tank, easily cleaning

As coolant oil tank is separated from machine body, chip and coolant oil has no effect, easily cleaned.

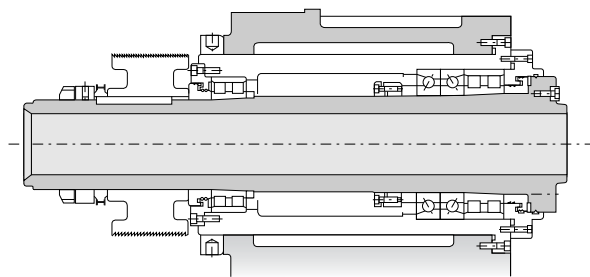
### ■ Fault such as, lubricant leakage, etc can rapidly detect by pressure detection unit installed type of wet type oil supply unit

lubricant supply of wet type surface is static capacity lubrication system, detects the quantity shortage and ensures the proper quantity. Additional, fault such as, lubricant leakage of guide pipe is detected by lubricant pressure detecting unit, also increases the reliability highly.

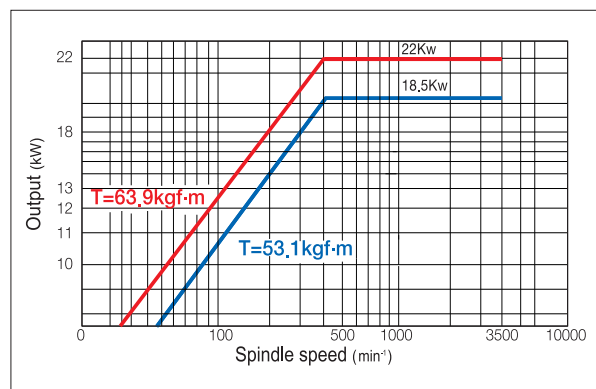
### ■ High precision, security of axis structure

To operate and stop the axis rapidly, powerful axis motor had been used, the inertial of axis had been minimized.

Axis is supported in the front and rear by 2 P4 class of high precision bearing, double Angular Thrust Ball Bearing between its, is supported, maintains good stability in the heavy cutting.



## ■ Spindle power and torque diagram



## Tooling System

### O.D. & FACE CUTTING

□ 25 CUTTING TOOL  
(□ 1")



### TURRET HEAD

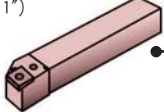
B27007 ⑩  
B27008 ⑩  
[B27009 ⑩]

### CENTER WORK HOLDER

T00074 [T00075]  
B44047

### FACE & I.D. CUTTING

□ 25 CUTTING TOOL  
(□ 1")



### FACE & I.D. HOLDER

T00068 ② [T00069 ②]  
B44047 ②

### I.D. CUTTING

φ 40 BORING BAR  
(φ 1 1/2")



### BORING BAR HOLDER

T10036(φ 40) ④  
[T10037(φ 1 1/2") ④]

BORING BAR



BORING BAR SLEEVE



T20098(φ 32) ① [T20099(φ 1 1/4") ①]  
T20096(φ 25) ① [T20097(φ 1") ①]  
T20094(φ 20) ① [T20095(φ 3/4") ①]  
T20092(φ 16) ① [T20093(φ 5/8") ①]  
T20090(φ 12) ① [T20091(φ 1/2") ①]  
T20088(φ 10) ① [T20089(φ 3/8") ①]  
T20086(φ 8) ①

DRILL



DRILL SOCKET



T22042(MT.3) [T22043(MT.3) ①]  
T22046(MT.2) [T22047(MT.2) ①]

φ 45 BORING BAR  
(φ 1 3/4")



### BORING BAR HOLDER

T10040(φ 45) [T10041(φ 1 3/4")]

φ 50 BORING BAR  
(φ 2")



### BORING BAR HOLDER

T22044(MT.4) [T22045(MT.4)]  
T10044(φ 50) [T10045(φ 2")]

DRILL



U-DRILL



### U-DRILL HOLDER

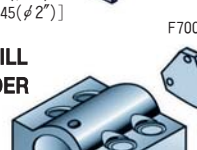
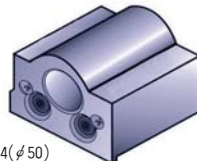
φ 40 (φ 1 1/2")  
T20100(φ 32) [T20101(φ 1/4")]  
T20102(φ 25) [T20103(φ 1")]  
T20104(φ 20) [T20105(φ 3/4")]



U-DRILL SOCKET

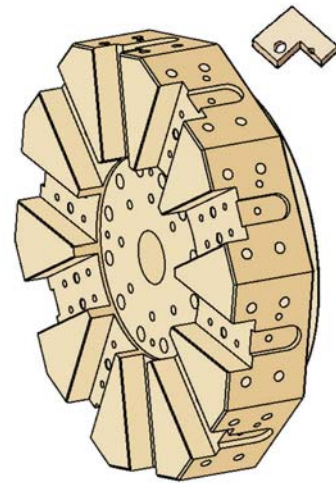
F70031

### BORING BAR HOLDER



T13064(I.D. φ 40) ②  
[T13065(I.D. φ 1 1/2")]

B52059 ⑥



**TURRET HEAD**  
(10-Station Turret)

○ : Standard Set Numbers  
[ ] : Inch Type

### Machine Specifications

Item		Unit	PL-30A/500	PL-30A/1000
Capacity	Swing over bed	mm	ø650	
	Swing over saddle	mm	ø480	
	Distance between centers	mm	625	1,125
	Maximum machining diameter	mm	ø400	
	Maximum machining length	mm	550	1,050
Travel	X-axis	mm	230(30+200)	
	Z-axis	mm	600	1,100
Spindle	Spindle speed	inch	35~3,500	
	Spindle nose	mm <sup>1</sup> ,rpm	A <sub>2</sub> -8	
	Bore diameter		86	
	Bearing inner diameter	mm	130	
	Spindle torque	mm	63,9(91.8)	
	최대봉재가공경	mm	74(76)	
Turret	Number of tool positions		10	
	Shank size for square tool	mm	□25	
	Shank diameter for boring bar	mm	ø40(50)	
	Indexing time	sec	0.5	
Feedrate	Rapid traverse rate (X/Z)	m/min	X:18,Z:24	
	Feed per revolution (X/Z)	mm	X:0.0003~342, Z:0.0002~428	
	JOG feedrate (X/Z)	m/min	X,Z:1,260	
Tailstock	Tailstock travel	mm	490	990
	Tailstock spindle diameter	mm	ø85	ø110
	Taper of tailstock spindle		MT5, Live center	
	Tailstock spindle travel	mm	80	100
Motor	Spindle drive motor (cont./30min.)	kW	18,5/22	
	X-axis	kW(HP)	3	
	Z-axis	kW(HP)	3	
Electric power supply		KVA	34	
Coolant tank capacity		l (gal.)	100(26.4)	130(34.3)
Required floor space		mm	3,040x1,722	3,615x1,722
Machine weight		kg(lb.)	4,300(9,240)	5,300(11,660)
CNC System			FanucF-0iTC	

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

( ) : Option

### Standard Accessories

- Coolant System
- Built-in work light
- Splash guard
- Turret Holder
- Hand tools
- 10 " Hydraulic chuck(hollow)
- Soft JAW 3set
- Leveling block

### Optional Accessories

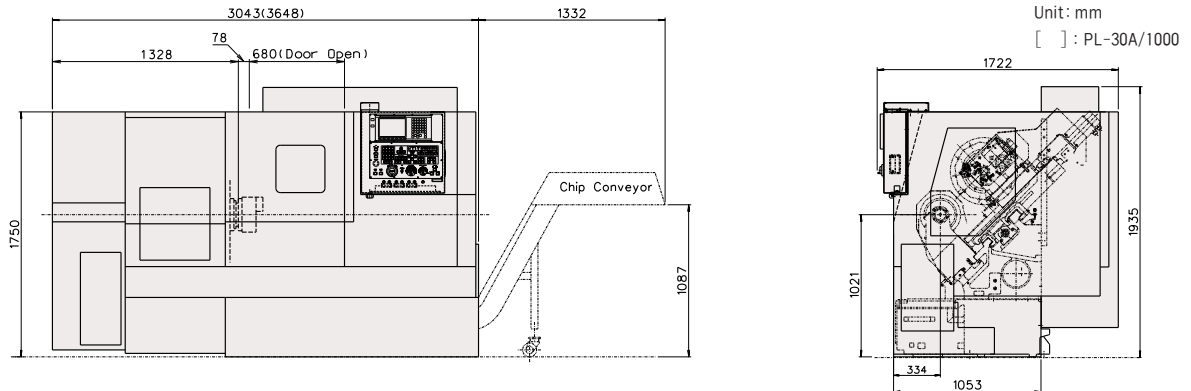
- Hard JAW 1set
- Chip Conveyor(right side)
- Programmable Tailstock
- Collet Chuck
- Tool Presetter
- Parts Catcher
- Bar Feeder
- Auto Door
- Automatic Measuring System

## ■ NC Unit Specifications / FANUC 0i-T

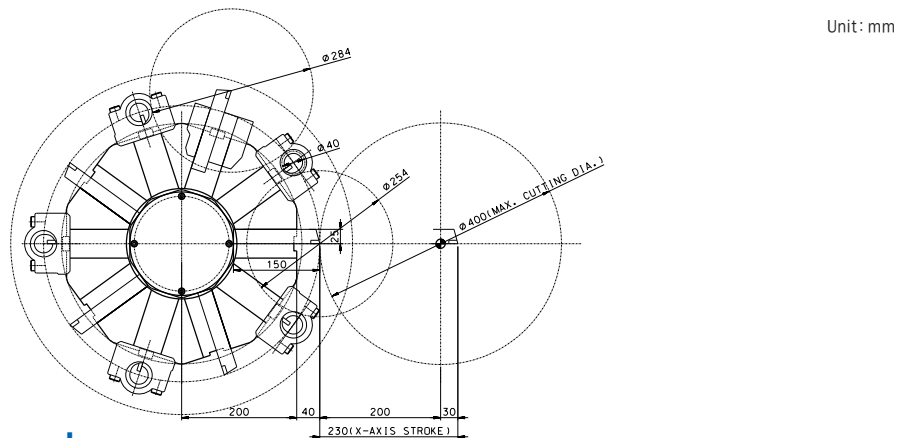
	Item	Specification
<b>Controls</b>	Simultaneous controllable axes	X, Z axes
	Least command increment	0,001 mm (0,000039")
	Least input increment	0,001 mm (0,000039")
<b>Feed functions</b>	Feedrate override	0 ~ 150% (10% unit)
	Dwell	G04
	Zero return	G27, G28, G30
	Pulse handle feed	x1, x10, x100
	Rapid traverse rate override	F0, 25%, 50%, 100%
	Feedrate per minute	G98
	Feedrate per revolution	G99
<b>Tool functions</b>	3rd and 4th reference return	
	Feed forward function	
	Tool number command	T4 - digit
	Tool nose radius compensation	G40 - G42
	Number of tool offsets	16 pairs
	Tool geometry/wear offset	Geometry & wear data
<b>Programming functions</b>	Tool life management	
	Tool path graphic display	
	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 holds
	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	± 99999,999 mm (9999,9999")
	M function	M3 digit
	User macros	
<b>Tape functions</b>	Variable lead thread cutting	
	Continuous thread cutting	
	Drilling canned cycle (G80 series)	
	Line/ angle (direct dimension) programming	
	Three G code system (selectable)	
<b>Other functions</b>	Input code	ISO, EIA
	I/O interface	RS-232C
	Part program storage length	640m
	Number of stored programs	200EA
<b>Other functions</b>	Search function	Sequence, program, address search
	MDI/CRT unit	8,4" TFT
	Stored stroke check 1	Overtravel control
	Background editing	Program editing during auto. operation
	Help function	Alarm & operation display
	Running time / Parts number display	Auto. running time & parts No. display
	Load meter display	Spindle load display
	Self diagnostic function	Self-dgn.Test
	Expanded program editing	Copy, move, change of NC program
	Stored stroke 2 and 3	
Spindle orientation		

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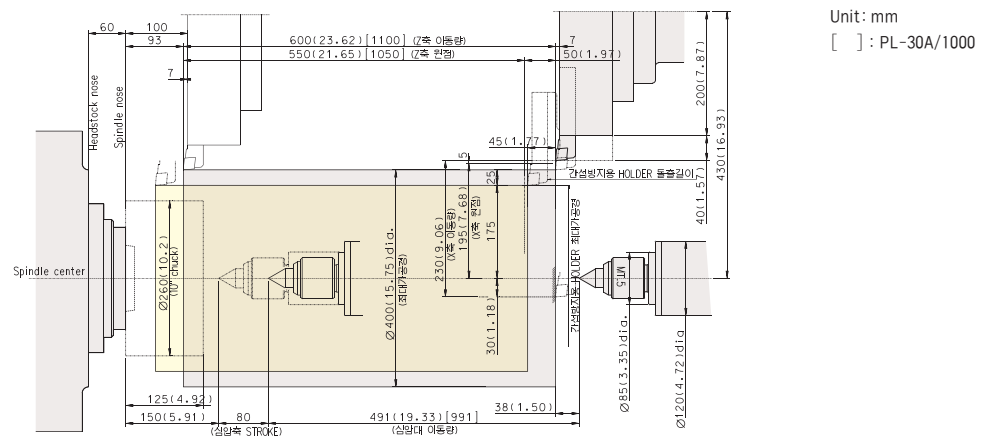
## Installation Drawing



## Turret Head Interference



## Range of Movement



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