NC Specifications / Fanuc Series

Item		Description
Controlled axes	Controlled axes	2-axis(X,Z)
	Max. simultaneously controlled axes	Positioning(G00) / Linear Interpolation(G01) Circular Interpolation(G02, G03)
	Least input increment	0.001mm
Spindle function	Spindle speed control	S5 (5 Digit)
	Spindle speed override	0~120%
	Spindle orientation	M19
Feed function	Feedrate override (10% increase)	0~150%
	Dwell	G04
	Reference position return	G27, G28
	Manual pulse generator	0.001/0.01/0.1mm
	Dry run	F0(Fine Feed), 25/50/100%
	Rapid traverse override	F0(Fine Feed), 25/50/100%
Tool function	Tool number command	T2 (2 Digit)
	Tool nose radius compensation	G40 ~ G42
	Tool offset pairs	128EA
	Tool geometry / wear offset	GEOMETRY & WEAR DATA
Programming function	Canned cycle	G70~G72, G74~G76
	Decimal point input	Able to input up to decimal point
	SUB program	4 phase
	Work coordindate system	G52~G59
	Max program dimension	±99999.999mm
Tape Functions	M function	M3 (3 digit)
	Input code	ISO/EIA auto recognition
	I/O interface	RS232C
	Program storage space	1280M(512kb)
	Number of stored programs	400ea
Other features	Display unit / MDI	8.4"[Opt : 10.4"] color LCD / Soft input type MDI
	Synchronized tapping	Rigid tapping function
	Background editing	Program saving / editing during automatic operation
	Backlash compensation	Pitch error offset compensation for each axis
	Search function	Sequence / program number search
	Safety function	Emergency stop / overtravel
	Program test function	Machine Lock / Single Block
	Control function	Memory / MDI / Manual
	Mirror image	
	Run hour and parts count display	
	Custom macro	#100 ~ #199, #500 ~ #999

SMEC CO.,LTD.

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SMEC Smart One, Global One

❖ Design and specifications subject to change without notice.

Ⓒ SMEC 2018.08-NO.1

SMEC

SL 2000 series

6"- 8" HORIZONTAL TURNING CENTER



SMEC CO.,LTD.

SMEC *Smart One, Global One*

- 1988 - Started as Samsung Heavy Industries Machine Tools Business
- 1989 - Horizontal and vertical machining center technology partnership with OKK Japan
- 1991 - Turning center and vertical machining center technology partnership with Mori Seiki
- 1996 - 5-sided processing center technology partnership with Toshiba
- 1999 - Spun out from Samsung Aerospace Industries and established SMEC Co., Ltd

Samsung **M**achine Tools **E**ngineering **C**ompany



SL 2000 series (A Type : 6", B Type : 8")

SL 2000(A/B Type), SL 2000M(A/B Type)

Strongest in class with superb structural design
Simultaneous heavy duty and precision turning

- 45 degree torque tube type bed to support heavy duty turning
- Significantly reduced non-cutting time and efficient turning
- SERVO TURRET for performance improvement
- Low-center of gravity reducing vibration, thermal deformation and improving rigidity

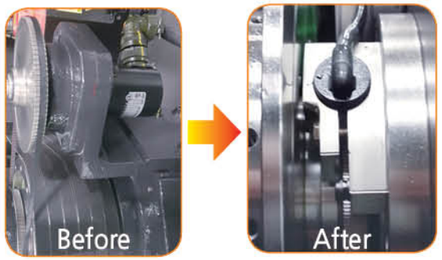
High Accuracy, High Rigidity Spindle

Head assembly with radiator fan to minimize thermal expansion

The radiator fan structure of head assembly minimizes thermal expansion of the spindle, preventing loss of precision due to increasing temperature. Also, thermal expansion is minimized with the symmetric design.



BZi sensor used to reduce field servicing needs

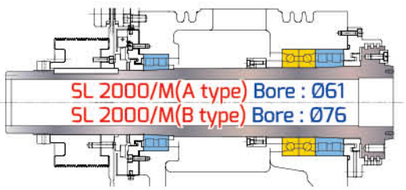


changing spindle orientation sensor from position encoder to Bzi sensor, there is no need for timing belt and we have realized high accuracy of rotation sensor, eliminating field service.

SPINDLE & HEADSTOCK

The Spindle and Headstock are machined 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.

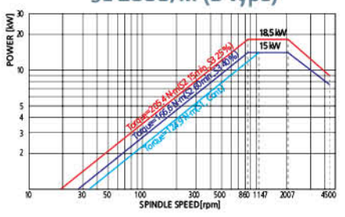


Spindle Power & Torque Diagram

SL 2000/M (A type)



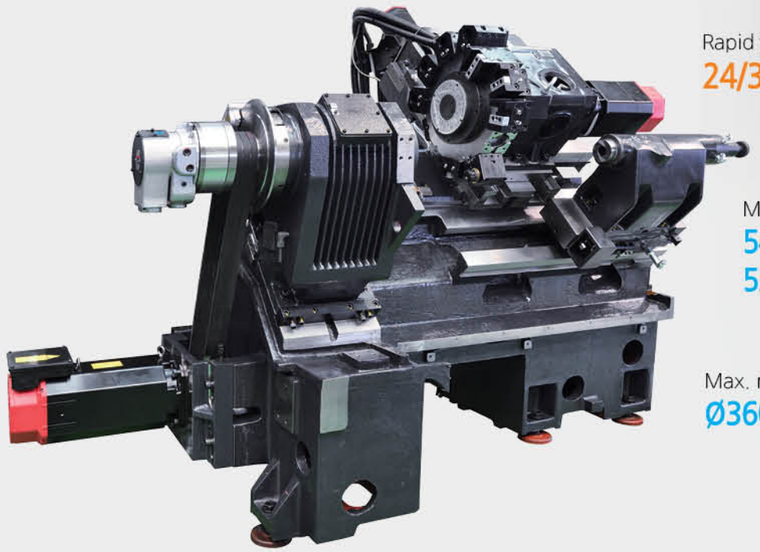
SL 2000/M (B type)



SL 2000 series is a heavy duty, ultra precision Turning Center, combined with SMEC's advanced technological features.

Spindle motor(Max./Cont.)
18.5/11 kW (A type)
18.5/15 kW (B type)

Spindle speed
6,000 rpm (A type)
4,500 rpm (B type)



Rapid traverse(X/Z)
24/30 m/min

Max. machining length
540 mm (A type)
520 mm (B type)

Max. machining diameter
Ø360 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



SL 2000

High Speed, Servo Index Turret



Indexing Time
0.15sec (60Hz)

Number of tool positions
12stations

Non-Cutting Time Significantly Reduced with Installation of High Speed Turret with 0.15 Sec Indexing Time

A 0.15 second 1 station indexing time is made possible by employing the Nonstop Random Index method using the SMEC developed high-power Servo Index Motor. The Ø 160mm large diameter Curvic Coupling significantly improves the clamping power and indexing precision.

SL 2000M

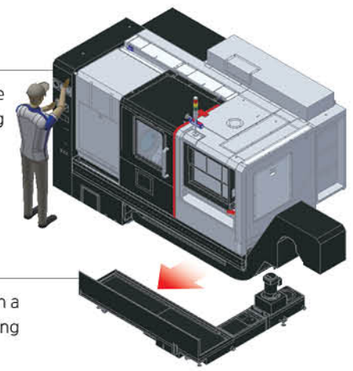
High Speed Servo Turret (Tool Holder BMT55)



SL1500M/2000M is equipped with standard 12-station BMT55 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 0.20 second next station index time.

Easier HYD Valve Control

The gauge and control valve for HYD valve is raised to the operator's eye level making maintenance easier.



Easier Coolant Tank Cleaning

Cleaning the coolant tank is made easier with a coolant tank that can be removed while leaving the chip conveyor bolted to the machine.



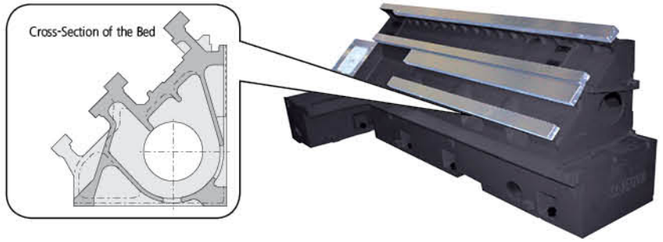
Centralized Operation Panel

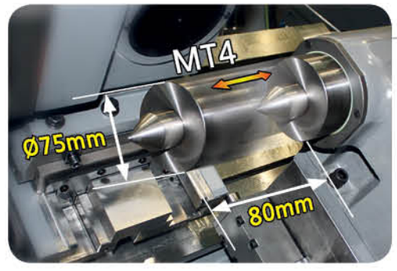
The centralized operation panel with its 10.4 inch color TFT LCD monitor [Opt.] is able to swivel 90 degrees, providing operators with easy access to the control panel while working on the machine.



Rigid 45 degree Slant Bed

45 degree slant torque tube design bed and wide guide slide way ensure long term rigidity and machining accuracy.
Also, Slant Bed type provides excellent chip disposal and user access to workpiece.



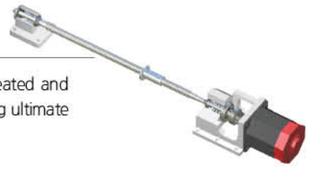


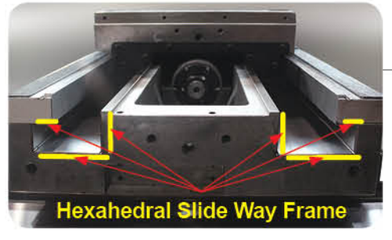
Programmable Tailstock

The tailstock that maintains superb high precision during heavy duty cutting can be manually traversed using the MPG handle. Also, With programmable tailstcok(opt.), the tailstock and quill may be operated back and forth automatically using M-codes.
(SL1500M/2000M : Standard)

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.



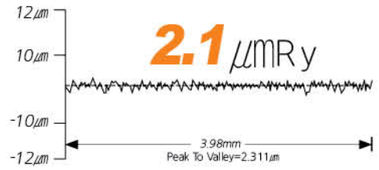


Hexahedral Slide Way Frame (X-axis)

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

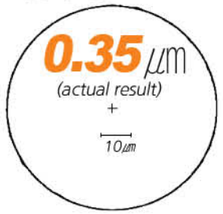
High Precision

Surface Roughness



Model : SL 2000

Roundness

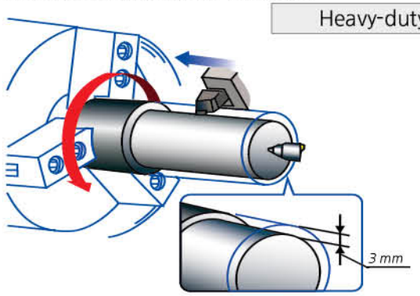


Cutting condition	
Tool	Diamond tool <nose radius 0.020 inch>
Material	AL150<Aluminum>
Cutting speed	230 m/min
Feedrate	0.05 mm/rev
Depth of cut	0.1 mm
Outer diameter	200 mm
Filter	1-50

Processing Speed

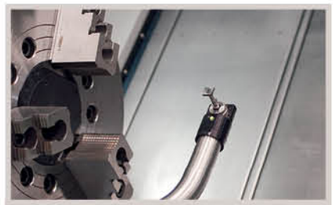
Turning Performance (material:SM45C) SL 2000

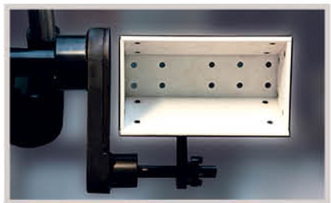
Heavy-duty cutting (O.D) <25mm×25mm qualified tool>

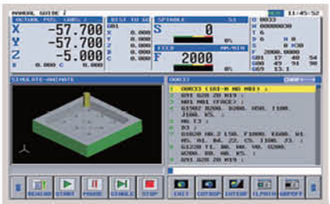


Spindle speed
847 rpm
Cutting speed
290m/min
Depth of cut
3 mm **<Spindle Load 75%>**
Feedrate
0.4 mm/rev

Optional Accessories


Tool Presetter


Parts Catcher


Manual Guide i

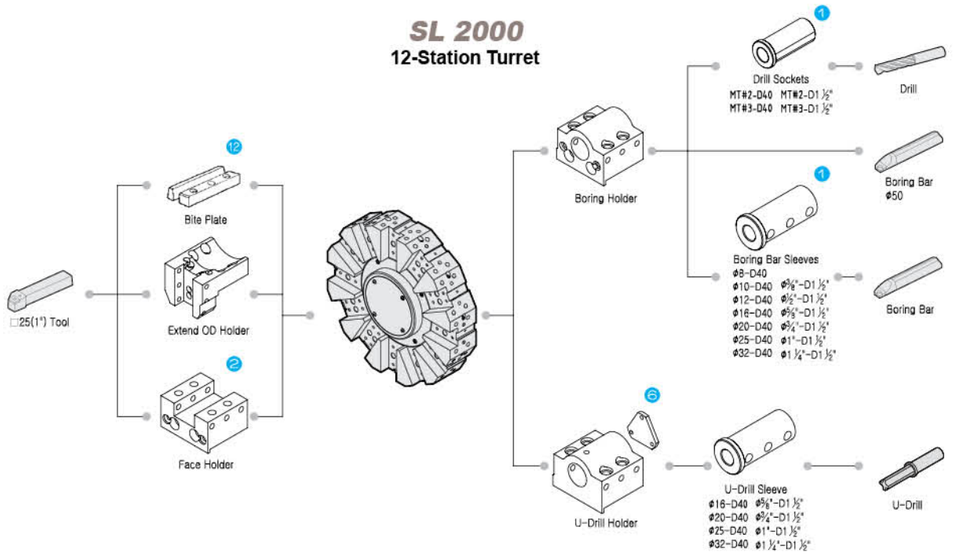


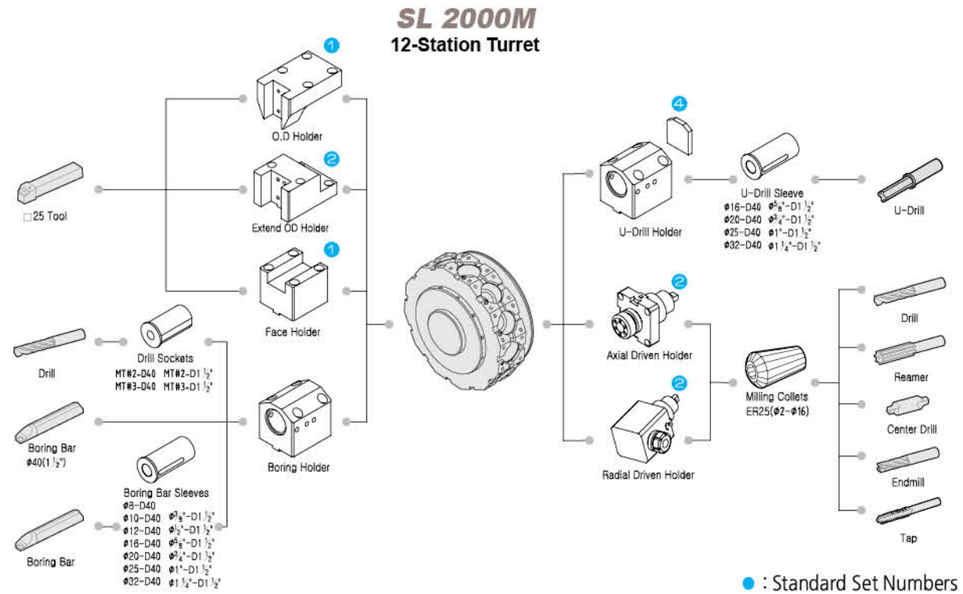
Auto Door


Chip Conveyor


Air Blow

Tooling System

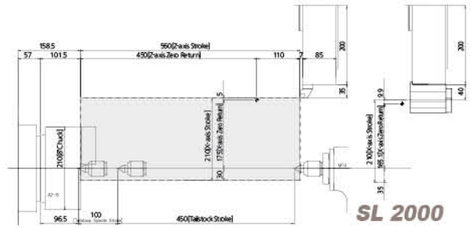


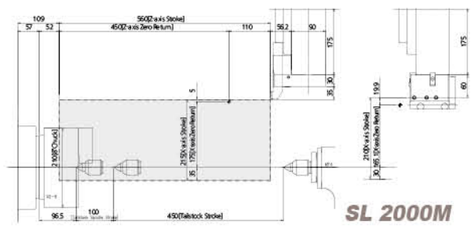


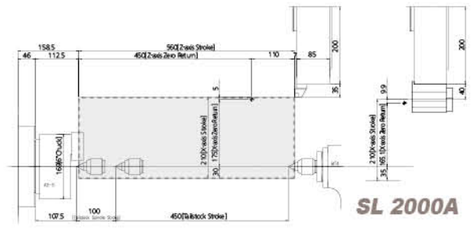
● : Standard Set Numbers

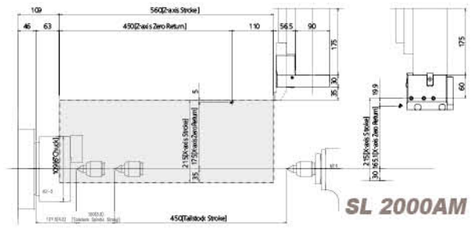
Work Range

Unit : mm





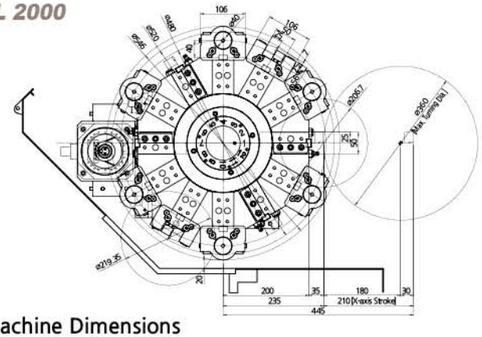




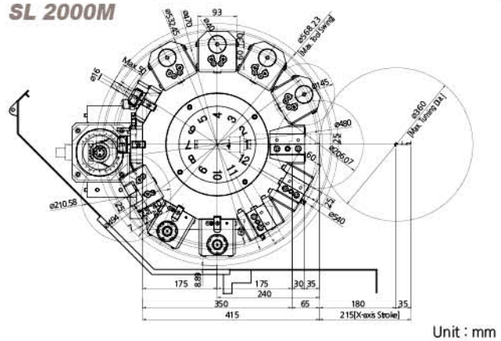
Turret Interference

Unit : mm

SL 2000

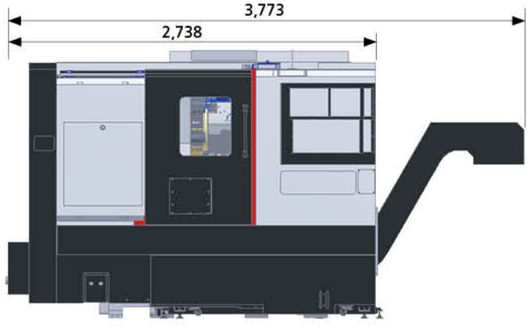


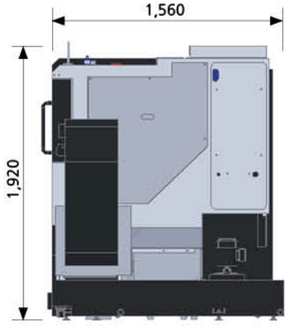
SL 2000M



Machine Dimensions

Unit : mm





Major Specifications

DESCRIPTION			SL 2000		SL 2000M	
			A Type	B Type	A Type	B Type
Chuck	Chuck size	inch	6"	8"	6"	8"
왕복대	Swing over the bed	mm	570	570	570	570
	Swing over the cross slide	mm	460	460	460	460
	Max. machining diameter	mm	360	360	360	360
	Max. machining length	mm	540	540	520	520
Spindle	Speed	rpm	6,000	4,500	6,000	4,500
	Spindle nose	ASA	A2-5	A2-6	A2-5	A2-6
	Bore diameter	mm	61	76	61	76
	Draw tube I.D.	mm	52	68	52	68
	Motor (Max./Cont.)	kW	18.5/11	18.5/15	18.5/11	18.5/15
Travel	X/Z axis travel	mm	210(180+30)/560	210(180+30)/560	215(180+35)/560	215(180+35)/560
	X/Z rapid traverse rate	m/min	24/30	24/30	24/30	24/30
Turret	Number of tool positions [OPT.]	st.	12	12	12[24](BMT55)	12[24](BMT55)
	Indexing time	sec	0.15	0.15	0.2	0.2
	Shank size for square tool	mm	25	25	25	25
	Shank diameter for boring bar	mm	40	40	40	40
	Live tool motor(Max./Cont.)	kW	-	-	5.5/3.7	5.5/3.7
	Live tool speed	rpm	-	-	5,000	5,000
Tailstock	Tailstock travel / quill diameter	mm	450/75	450/75	450/75	450/75
	Tailstock quill stroke	mm	100	100	100	100
	Tailstock spindle taper	MT	MT4(LIVE CENTER)	MT4(LIVE CENTER)	MT4(LIVE CENTER)	MT4(LIVE CENTER)
Electric Power Supply		kVA/V	31	31	31	31
Floor Spac(L×W) [With Chip Conveyor]		mm	2,738[3,773]×1,560	2,738[3,773]×1,560	2,738[3,773]×1,560	2,738[3,773]×1,560
Machine Height		mm	1,920	1,920	1,920	1,920
Machine Weight		kg	3,700	3,900	3,800	4,000
Controller			Fanuc Series			

※Design and specifications subject to change without notice.

Standard Accessories

- Coolant unit (4.5bar-60Hz)
- Work light (Led lamp)
- Splash guard with side coolant tank
- Tool/Work box
- Hyd. Hollow chuck
  6" (SL 1500/M)
  8" (SL 2000/M)
- Soft Jaw (3set)
- Hard Jaw (1set)
- Leveling unit
- Main spindle orientation
- Chuck clamp foot switch
- Chuck clamp confirmation
- Chuck pressure switch
- Manual/Part list
- Safety precaution name plate
- Door interlock

Optional Accessories

- Chip Conveyor(Side)
- Chip Conveyor (Rear)
- Chip bucket
- Special chuck
- Dual pressure chucking
- Autodoor with Edge Sensor
- Air gun
- Air blower
- Part catcher
- Oil skimmer
- Chuck coolant
- Shower coolant
- Coolant gun
- Coolant chiller
- 3 step patrol lamp