

■ NC Unit Specifications / FANUC 0i-TF

Item	Description	
Controlled axes	Controlled axes	4-axis(X,Z,Y,B)
	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	50~120%
	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%
Tool function	Rapid traverse override	F0(Fine Feed), 25/50/100%
	Tool number command	T2 (2 Digit)
	Tool nose radius compensation	G40 ~ G42
	Tool offset pairs	128EA
Programming function	Tool geometry / wear offset	GEOMETRY & WEAR DATA
	Canned cycle	G70~G72, G74~G76
	Decimal point input	Able to input up to decimal point
	SUB program	4 phase
	Work coordinate system	G52~G59
Tape Functions	Max program dimension	+99999.999mm
	M function	M3 (3 digit)
	Input code	ISO/EIA auto recognition
	I/O interface	RS232C
	Program storage space	1280M(512kb)
Other features	Number of stored programs	400ea
	Display unit / MDI	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

SL 2500Y series

8"- 10" Y AXIS HORIZONTAL TURNING CENTER



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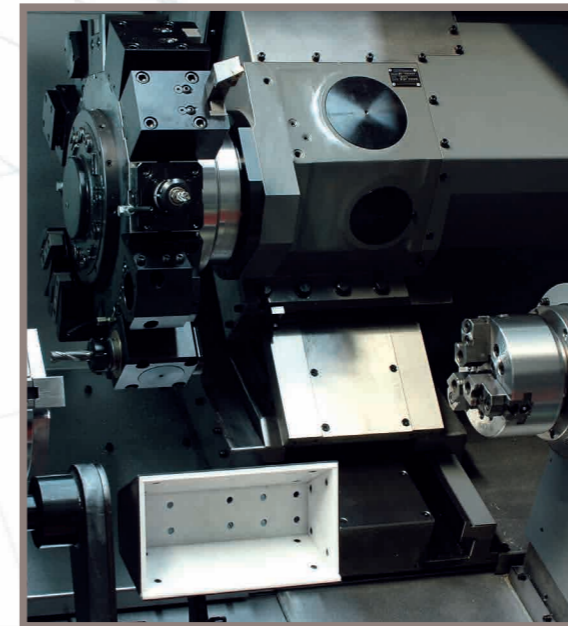
Company History

- 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**
- 2018 - **SMEC America Corp** established to provide factory support to the distributor network and customers

SL 2500ASY/BSY



SL 2500ASY/BSY is a heavy-duty, ultra precision Turning Center, combined with SMEC's advanced technological features.



Spindle Speed [] : BSY
Main 4,500(3,500) rpm
Sub 6,000(4,500) rpm

Spindle Motor(30min/cont.)
Main 25.1/14.9(35.3/25.1) hp
Sub 10.2/7.5(20.4/14.9) hp

Rapid travel(X/Z/Y/B)
708.7/944.9/472.4/944.9 ipm

Feed Motor(X/Z/Y/B)
4.1/5.4/4.1/5.4 hp

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

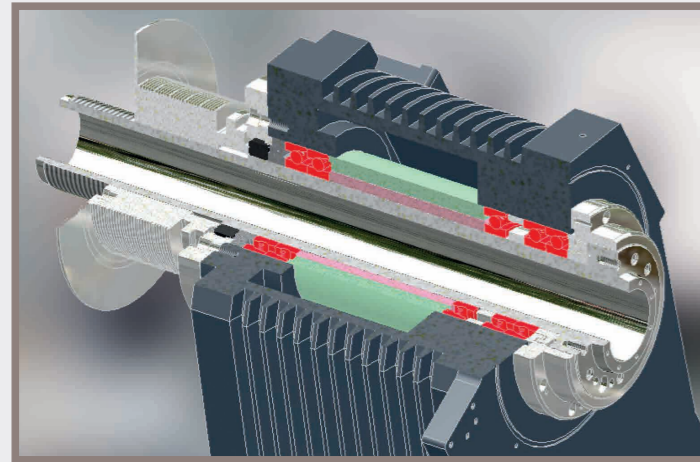
Max. Turning Diameter
14.2 inch

Max. Turning Length
19.3 inch

Y Axis Travel
3.94(±1.97) inch



High Precision, High Rigidity Spindle

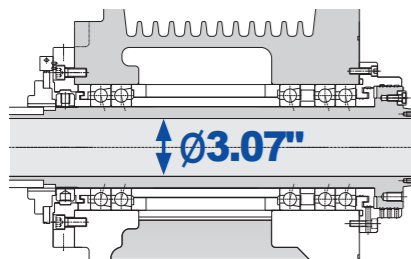


Pin Tube Rib Design for Minimal Thermal Growth

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.

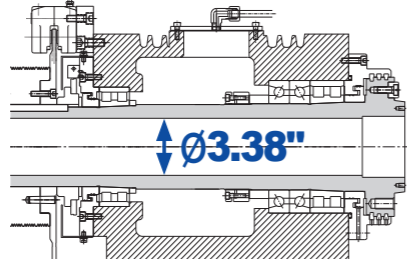
■ Main-Spindle & Headstock

SL 2500ASY



Spindle Speed (8" Chuck)
Max **4,500 rpm**

SL 2500BSY



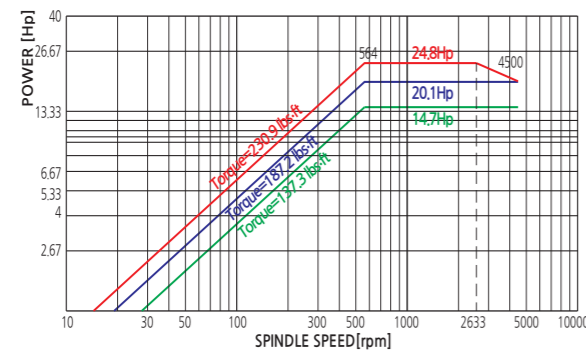
Spindle Speed (10" Chuck)
Max **3,500 rpm**

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

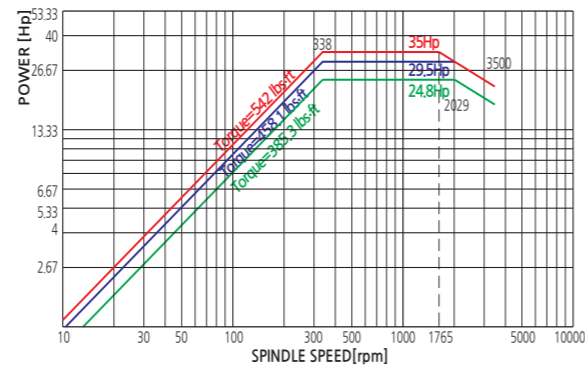
■ Main-Spindle Power & Torque Diagram

Unit : inch

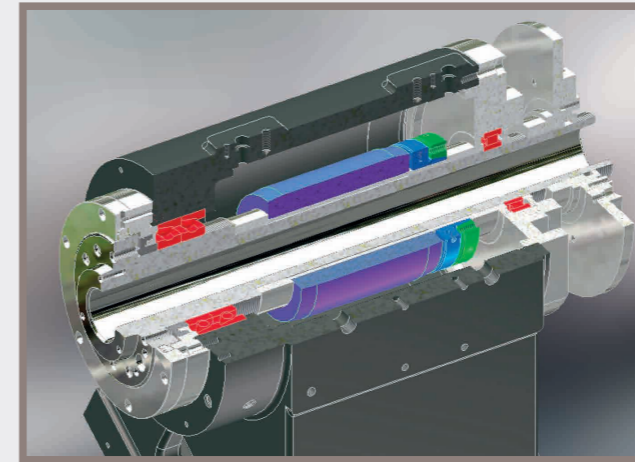
SL 2500ASY



SL 2500BSY



High Accuracy, High Rigidity Sub-Spindle

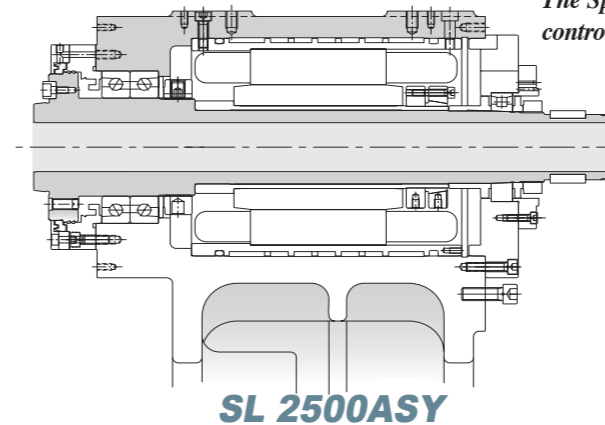


Built-in Sub-Spindle Motor

- The sub-spindle with full C-axis capability allows milling, drilling and tapping on the back side of parts, and a powerful 10 hp Fanuc built-in motor provides fast acceleration with high torque (44.1 ft-lbs)
- 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

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



Draw Tube I.D. [] : BSY
Ø1.42(2.04) inch

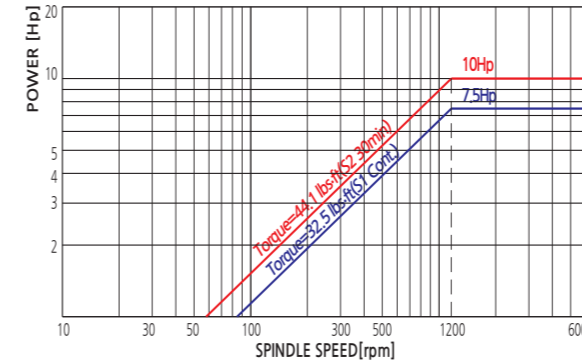
Bore diameter [] : BSY
Ø1.77(2.4) inch

Spindle Speed (6" Chuck)
Max **6,000(4,500) rpm**

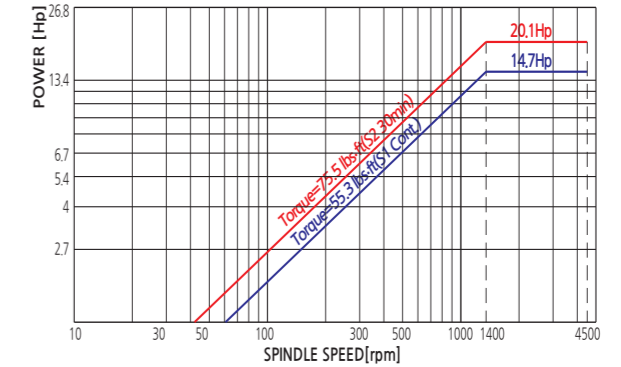
■ Sub-Spindle Power & Torque Diagram

Unit : inch

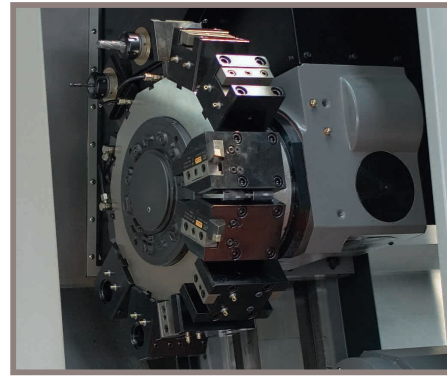
SL 2500ASY



SL 2500BSY



■ Turret Structure



Fast Indexing and Heavy-Duty Turret Design

The 12 station(24 Positions) 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.

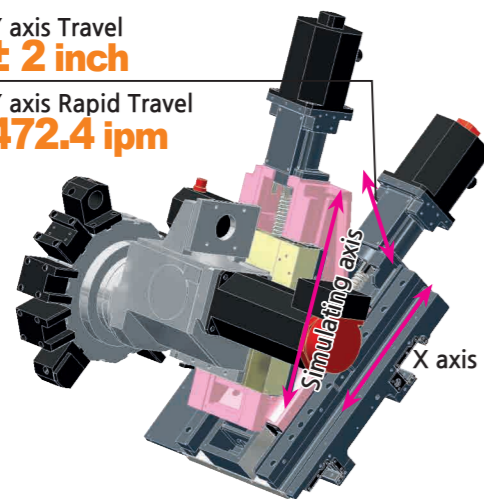
■ Variations

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.

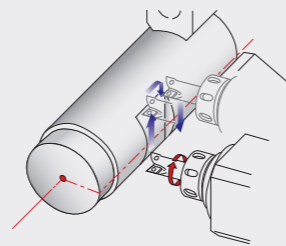
Y axis Travel
± 2 inch

Y axis Rapid Travel
472.4 ipm

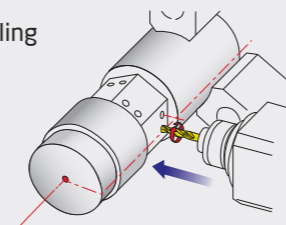


Bar machining with Y-axis control

Side milling



Off-center drilling

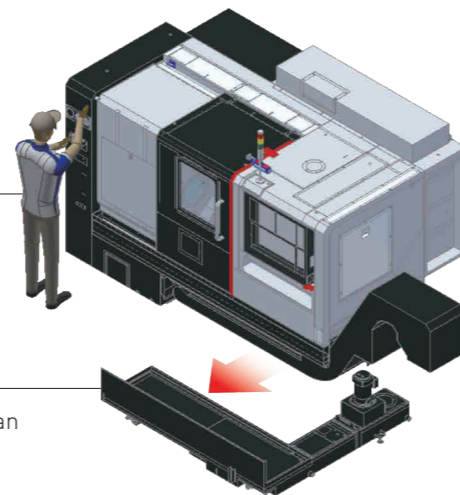


Easier Hydraulic Valve Control

The gauge and control valve for Hydraulic valve is raised to the operator's height making maintenance easier.

Easier Coolant Tank Cleaning

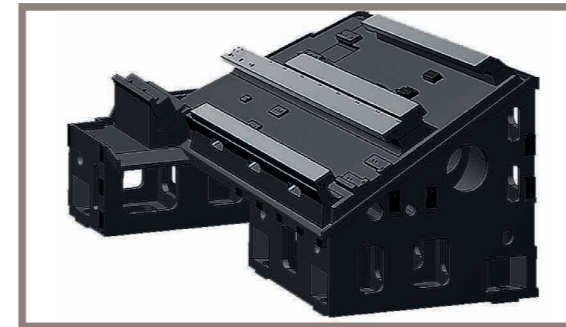
Cleaning the coolant tank is made easier with a coolant tank that can be removed while leaving the chip conveyor bolted to the machine.



■ 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.



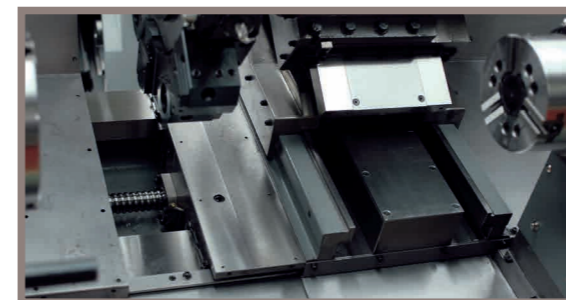
Swivel Operation Panel

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.



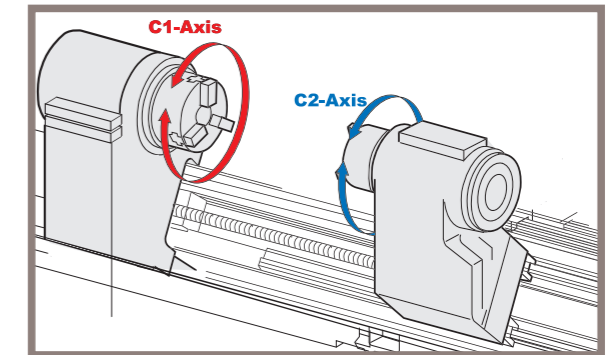
Hexahedral Slide Way Frame

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



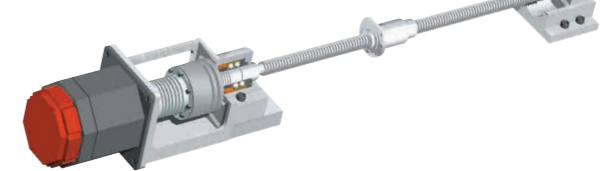
Synchronized C1 and C2-Axis Indexing

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.



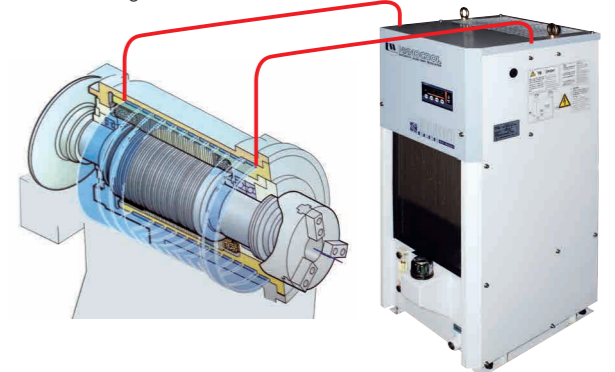
Pre-tensioned and Double Anchored Ballscrews

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

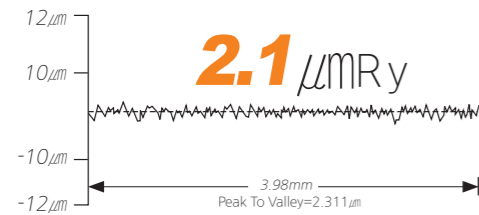
Sub-spindle is surrounded by an oil jacket cooling system to minimize thermal displacement and to ensure machining accuracy regardless of different machining conditions.



High Precision

Surface Roughness <O.D. cutting>

Roundness

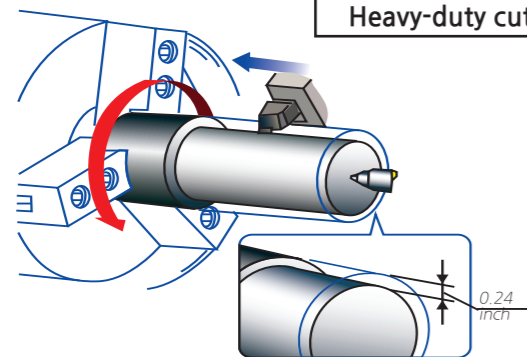


Cutting condition	
Tool	Diamond tool (nose radius 0.020 inch)
Material	AL150(Aluminum)
Cutting speed	745.6 fpm
Feedrate	0.0020 ipr
Depth of cut	0.005 inch
Outer diameter	7.9 inch
Filter	1-50

Processing Speed

Turning Performance (material:SM45C) SL 2500ASY

Heavy-duty cutting (O.D) <0.98inch×0.98inch qualified tool>



Spindle Speed
518 rpm
Cutting Speed
120 m/min (393 fpm)
Depth Of cut
0.5 inch <Spindle Load 40%>
Feedrate
0.3 mm/rev (0.012 ipr)

Standard Accessories



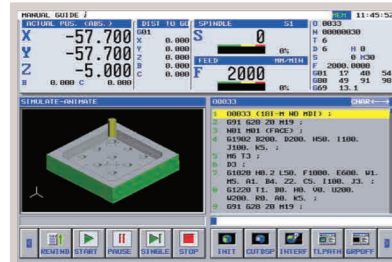
Tool Presetter



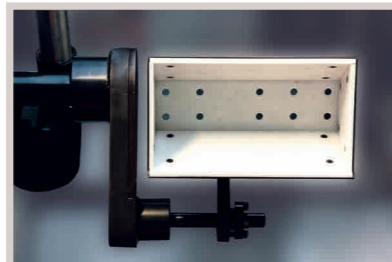
Automatic Lubricator



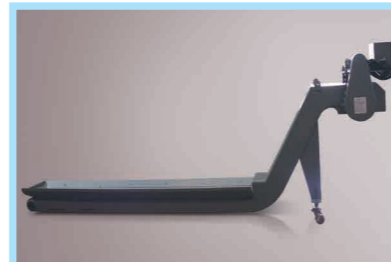
Auto Door



Manual Guide i



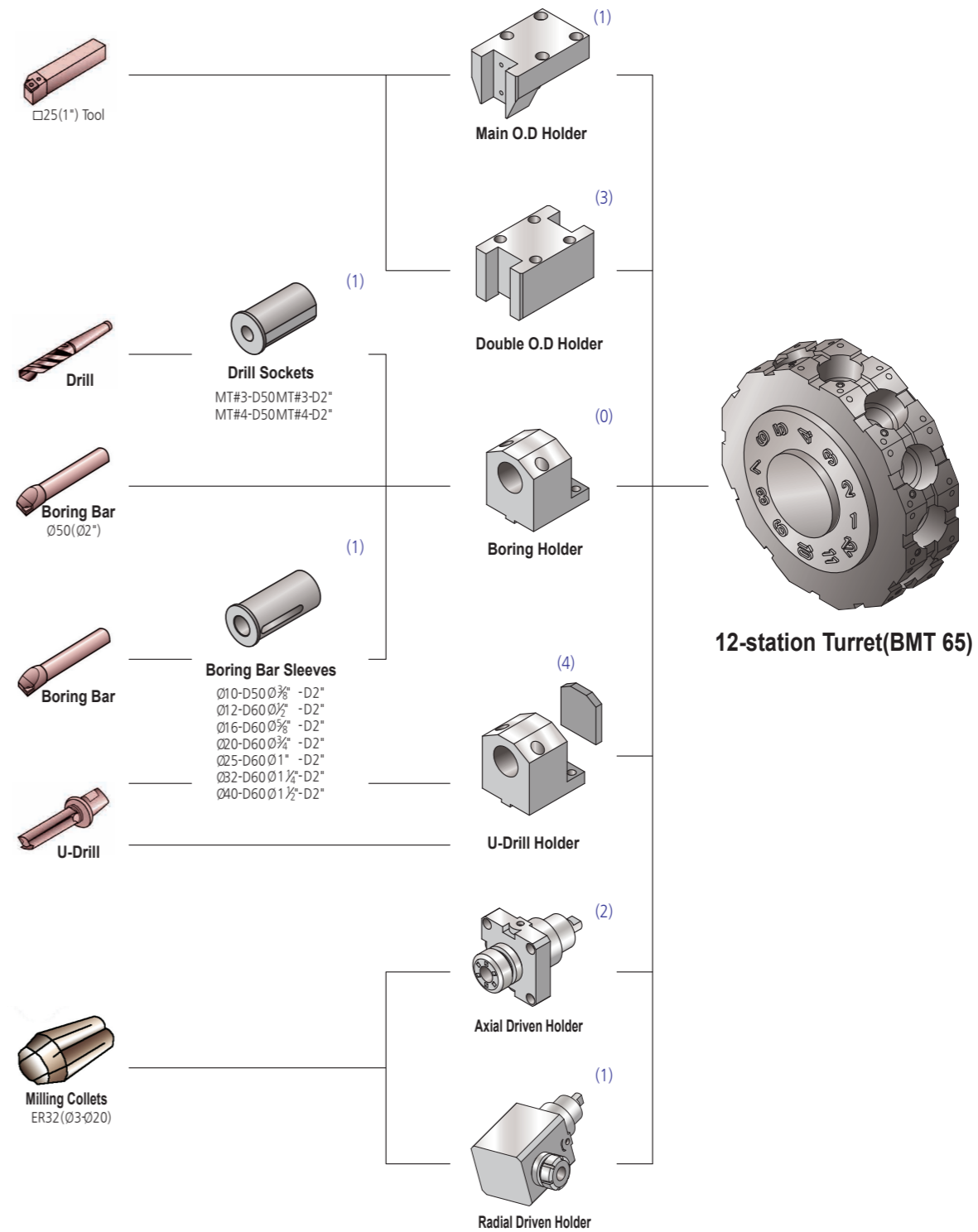
Parts Catcher



Chip Conveyor

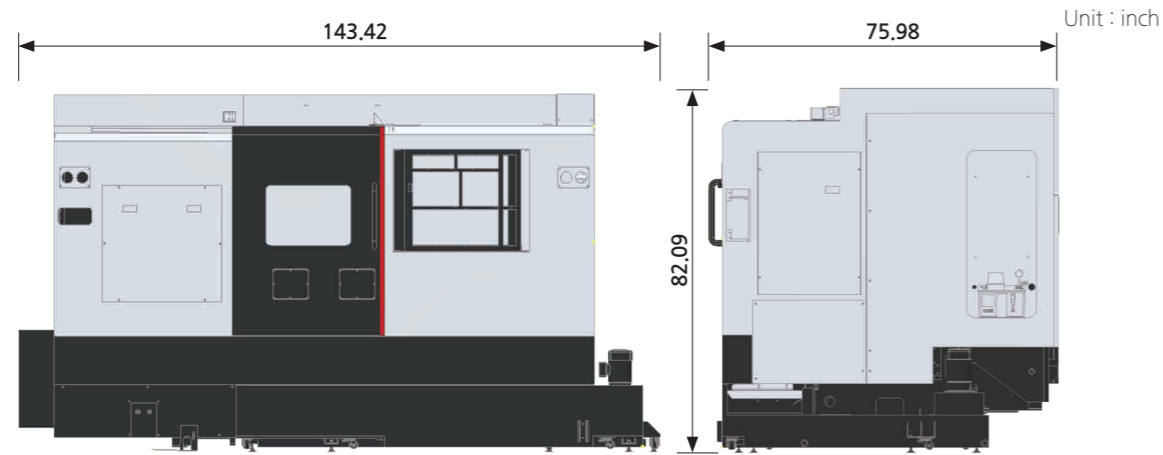
Optional Accessories

Tooling System

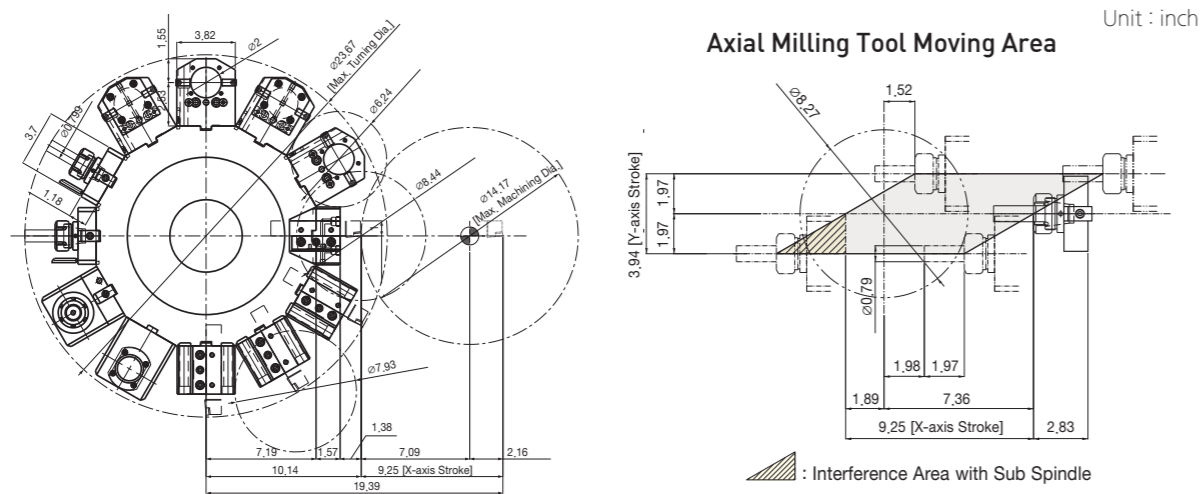


() : Standard Set Numbers

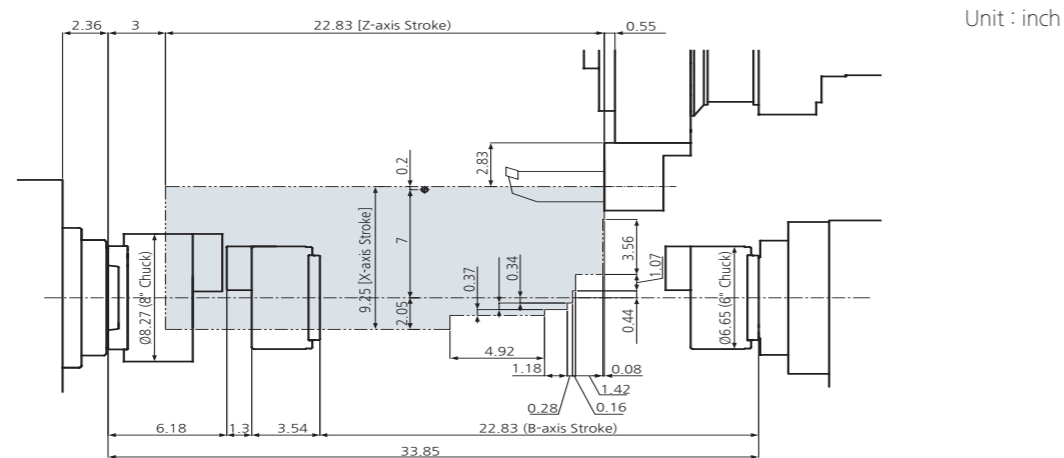
Machine Dimensions



Turret Head Interference



Work Range



Major Specifications

DESCRIPTION		SL 2500ASY	SL 2500BSY	SL 2500BY
CAPACITY	Swing over the bed	inch	ø 25.6	ø 25.6
	Swing over the cross slide	inch	21.3	21.3
	Max. machining diameter	inch	14.2	14.2
	Max. machining length	inch	19.3	18.7
MAIN SPINDLE	Chuck size	inch	8	10
	Speed	rpm	4,500	3,500
	Spindle nose	ASA	A2-6	A2-8
	Bore diameter	inch	ø 3.07	ø 3.38
	Draw tube I.D.	inch	2.68	3.03
	Motor(30min/cont.)	hp	25.1 / 14.9	39.3 / 25.1
SUB SPINDLE	Chuck size	inch	6	8
	Speed	inch	6,000	4,500
	Spindle nose	ASA	A2-5	A2-6
	Bore diameter	inch	1.77	2.4
	Draw tube I.D.	inch	1.42	2.04
	Motor(30min/cont.)	hp	10.2 / 7.5	20.4 / 14.9
TRAVEL	X/Z/Y/B axis travel	inch	9.3 / 22.8 / 3.9 / 22.8	9.3 / 22.8 / 3.9 / 22.2
	X/Z/Y/B rapid traverse rate	ipm	709 / 945 / 472 / 945	709 / 945 / 472 / 945
	X/Z/Y/B feed motor	hp	4.1 / 5.4 / 4.1 / 5.4	4.1 / 5.4 / 4.1 / 5.4
TURRET	Number of tool positions	st.	12(24)	12(24)
	Indexing time	sec	0.2	0.2
	Shank size for square tool	inch	□1	□1
	Shank diameter for boring bar	inch	ø2	ø2
	Live tool type		BMT65	BMT65
	Live tool speed	rpm	5,000	5,000
Milling motor (30min/cont.)	hp	7.5 / 5	7.5 / 5	
ELECTRIC POWER SUPPLY	kVA	45	58(66)	55
REQUIRED FLOOR SPACE(L×W×H)	inch	143.42×779.98×82.04	143.42×779.98×82.04	143.42×779.98×82.04
MACHINE WEIGHT	lbs	12,786.8	13,227.7	12,786.8
CONTROLLER		Fanuc Oi-TF		

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

Standard Accessories

- COOLANT SYSTEM
- BUILT-IN WORK LIGHT
- SPLASH GUARD
- HAND TOOLS
- TOOL HOLDER
- 8" / 6" HYDRAULIC CHUCK [SL 2500ASY]
- 10" / 8" HYDRAULIC CHUCK [SL 2500BSY]
- TOOL PRESETTER
- SOFT JAW
- - PER CHUCK 3 SET
- LEVELING BLOCK
- SERVO TAILSTOCK [SL2500BY ONLY]
- PARTS CATCHER

Optional Accessories

- HARD JAW
- - PER CHUCK 1 SET
- CHIP CONVEYOR
- AUTO DOOR
- AIR BLOW UNIT
- AUTO MEASURING SYSTEM