

SMEC

SL 8500 series

HORIZONTAL TURNING CENTER



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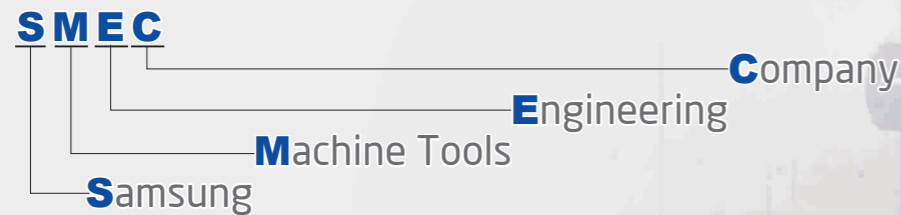


https://www.youtube.com/c/smecmachinetools

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



SL 8500/8500X/8500L/8500XL SL 8500M/8500XM/8500LM/8500XLM

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

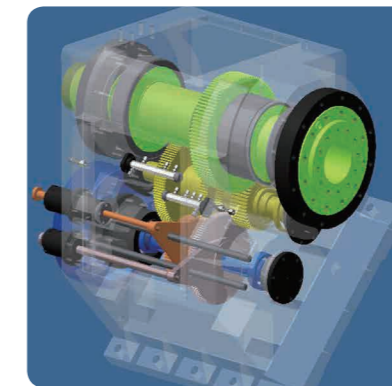
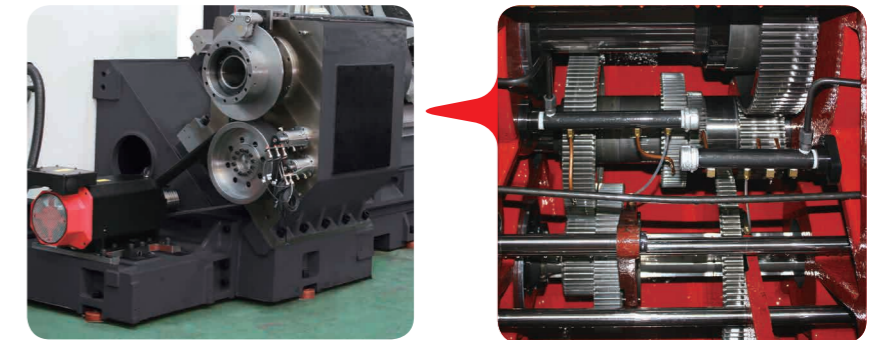
- 45 degree torque tube type bed to support heavy duty turning
- Significantly reduced non-cutting time and efficient turning
- Low-center of gravity reducing vibration, thermal deformation and improving rigidity



High Accuracy, High Rigidity Spindle

Main Spindle Motor and Geared Headstock

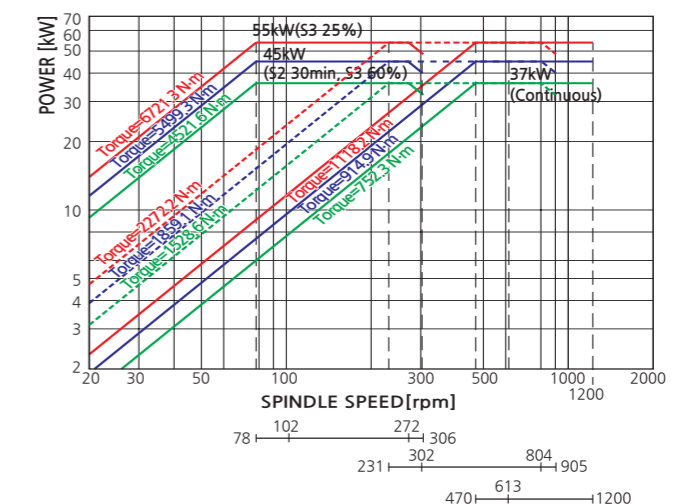
Heavy-duty cutting with a maximum 6,721 N.m of torque via 3-step gearbox transmission



One Body Spindle and Headstock Construction for Minimal Thermal Expansion

By integrated the gearbox and main spindle, we improve cooling efficiency by cooling the gearbox and main spindle at the same time. And through the integration, the usage of belts was reduced, which significantly reduced the amount of noise and vibration caused by belts.

Spindle Power & Torque Diagram SL 8500 32" Chuck



An innovative high precision, heavy duty CNC Lathe, integrated with all of SMEC's advanced technology
- SL 8500 series

Spindle speed
500 rpm

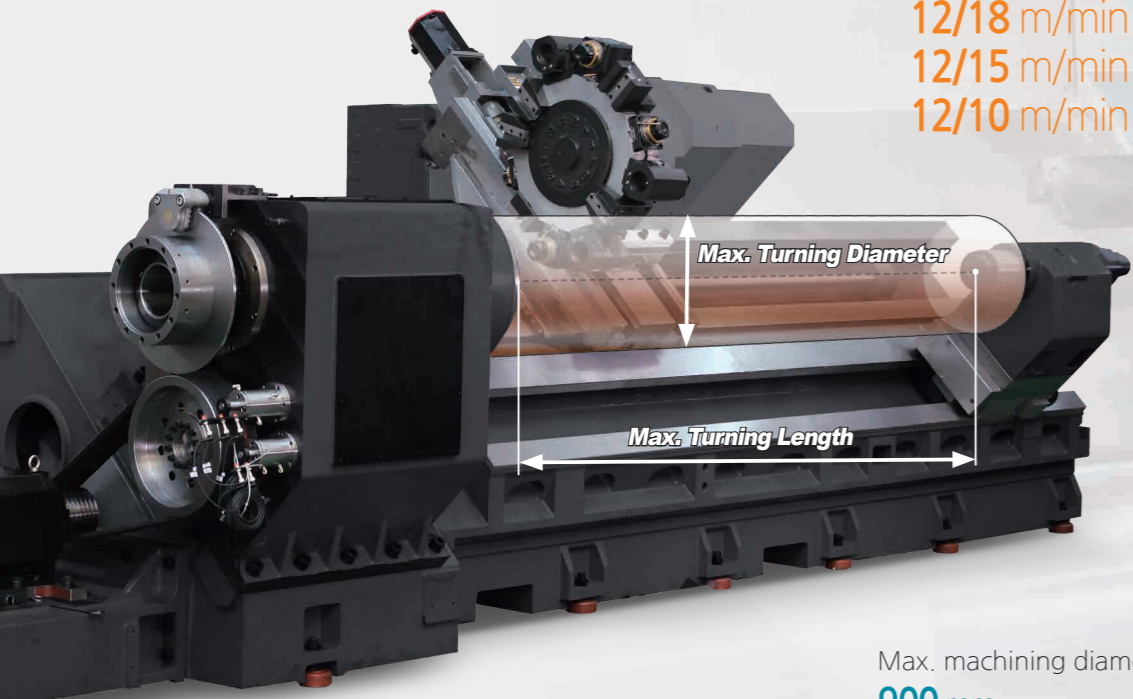
Spindle motor(cont./Max)
37/55 kW

Rapid traverse(X/Z)
12/18 m/min (SL 8500[M])
12/15 m/min (SL 8500X[M])
12/10 m/min (SL 8500L/XL[M])

Feed motor(X/Z)
7.5/11 kW

Max. machining length
1,000 mm (SL 8500[M])
2,000 mm (SL 8500X[M])
3,200 mm (SL 8500L[M])
5,050 mm (SL 8500XL[M])

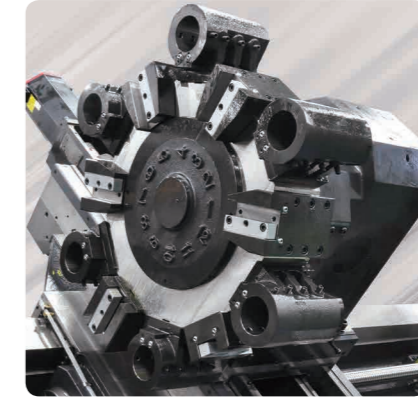
Max. machining diameter
900 mm



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 8500 (High Speed Servo Index Hydraulic Turret)



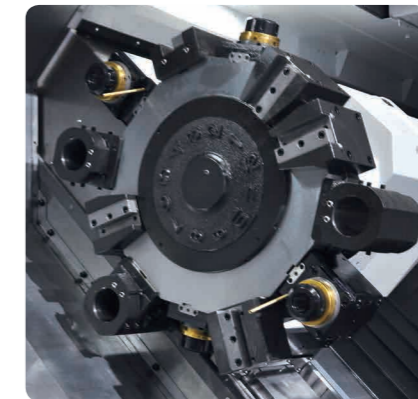
Indexing Time
0.25 sec(60 Hz)

Number of tool positions
12 stations

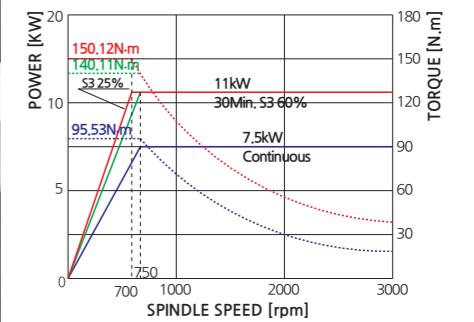
High Speed, Heavy Duty Servo Turret

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 ± 0.01) is non-stop, bi-directional with a fast 0.25 second next station index time. Large diameter (Ø287) precision Curvic coupling with 18,225kgf clamping force enables precision as well as heavy-duty cutting.

SL 8500M (BMT High Speed Turret)



Turret Torque Diagram



Indexing Time
0.25 sec(60 Hz)

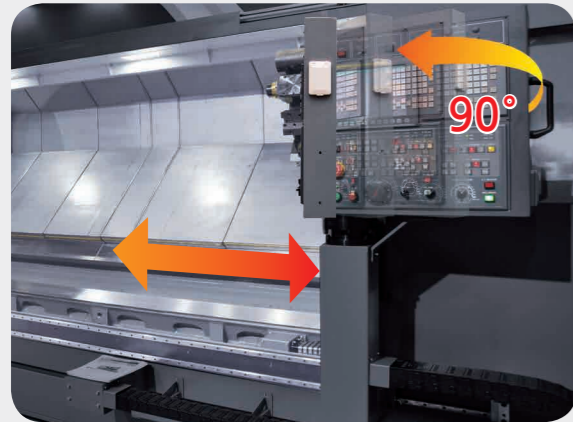
Number of tool positions
12 stations

Milling Spindle Speed
3,000 rpm

Tool Holder
BMT 85

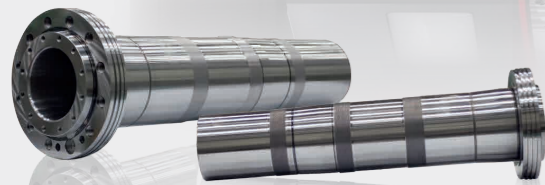
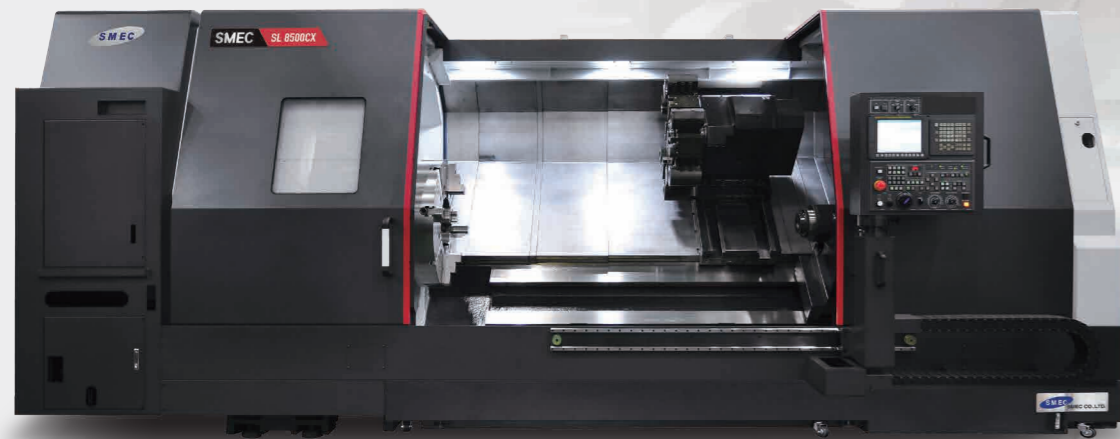
BMT Milling Turret (M Type)

SL 8500M 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.



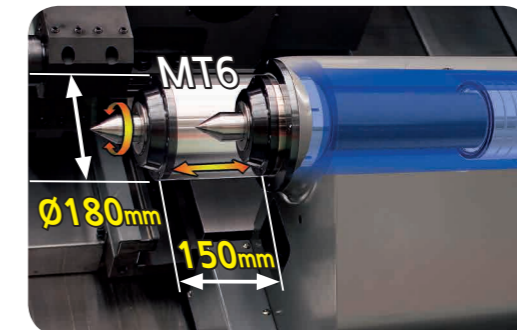
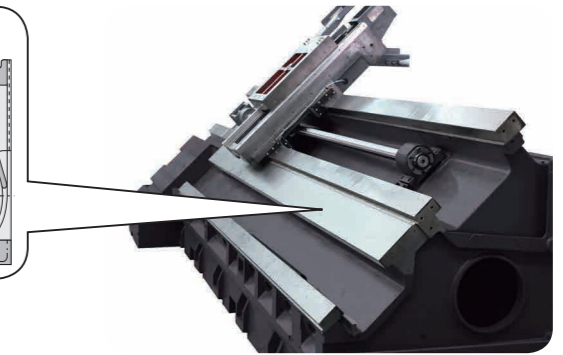
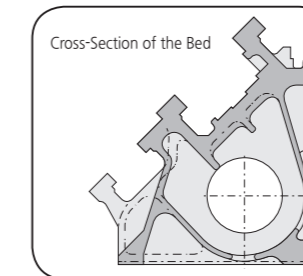
Centralized Operation Panel

The centralized operation panel with its 10.4 inch color TFT LCD monitor 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, the Slant Type structure allows for easier access to the workpiece and superb chip discharge.

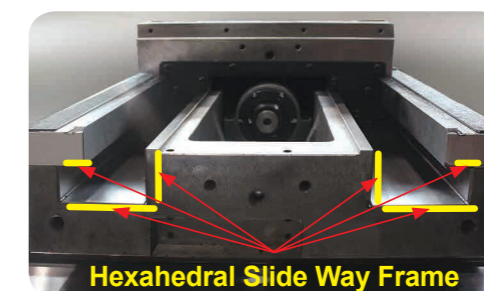


Programmable Tailstock (Carriage direct-coupled) [Std.]

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.

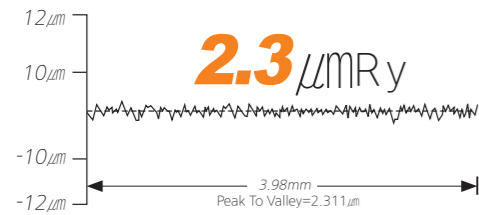


Hexahedral Slide Way Frame (X-axis)

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

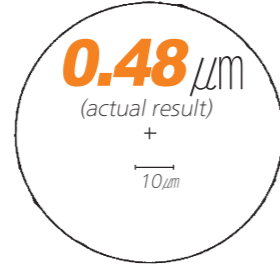
High Precision

Surface Roughness



Model : SL 8500L

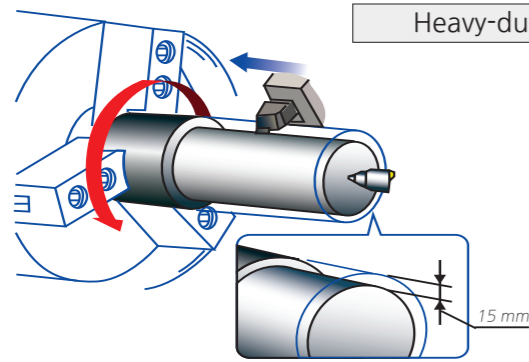
Roundness



Cutting condition	
Tool	Diamond tool <nose radius 0.5mm>
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 8500L

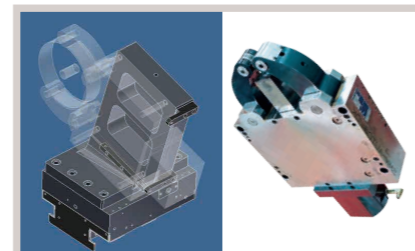
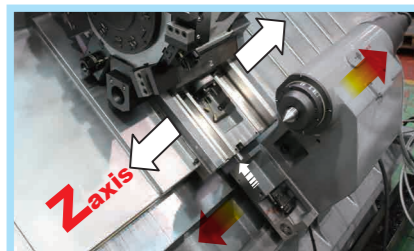
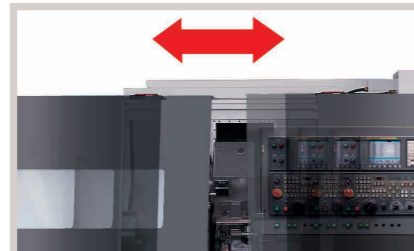


Heavy-duty cutting (O.D) <32mm×32mm qualified tool>

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

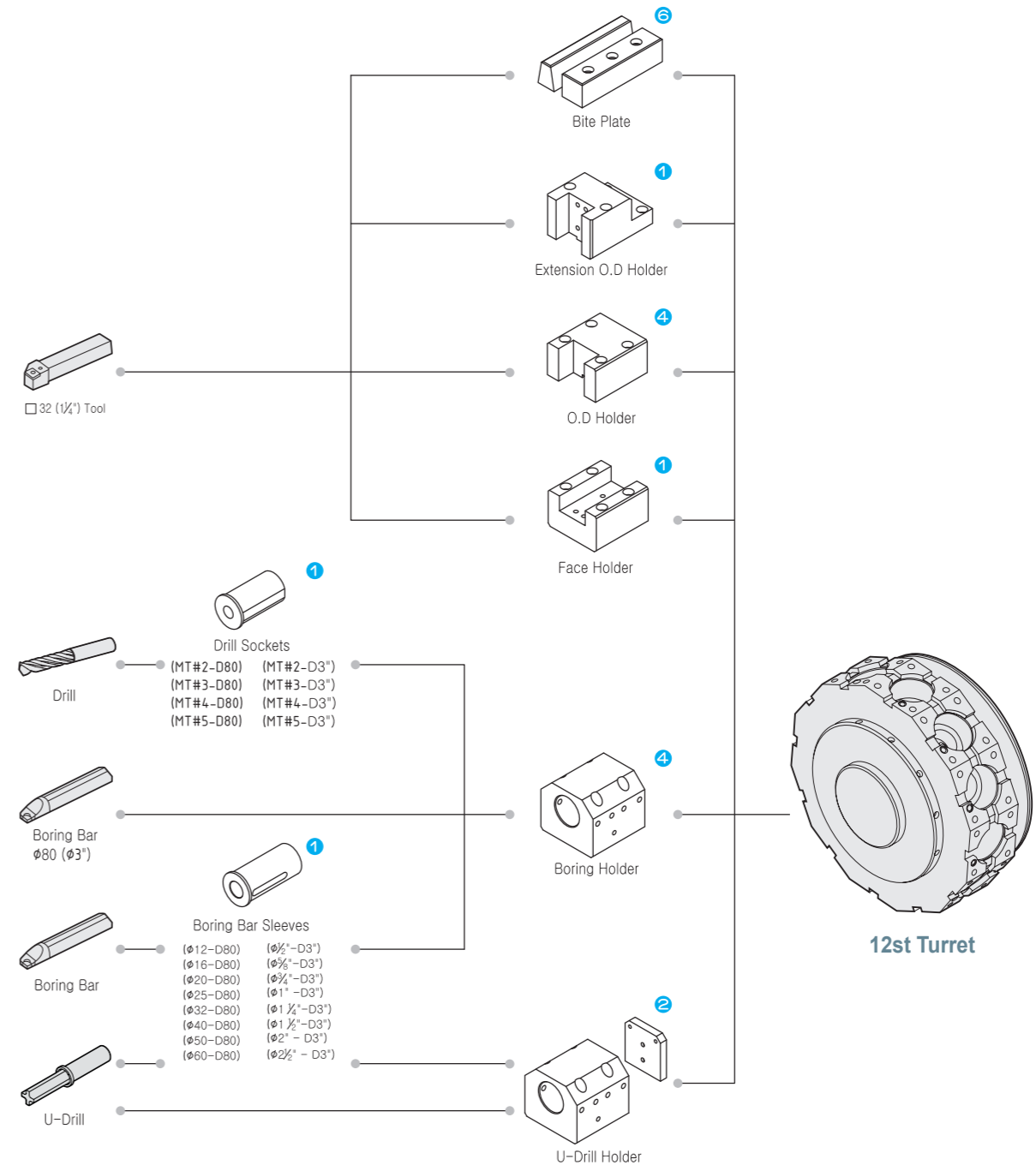
Standard Accessories

Optional Accessories



Tooling System

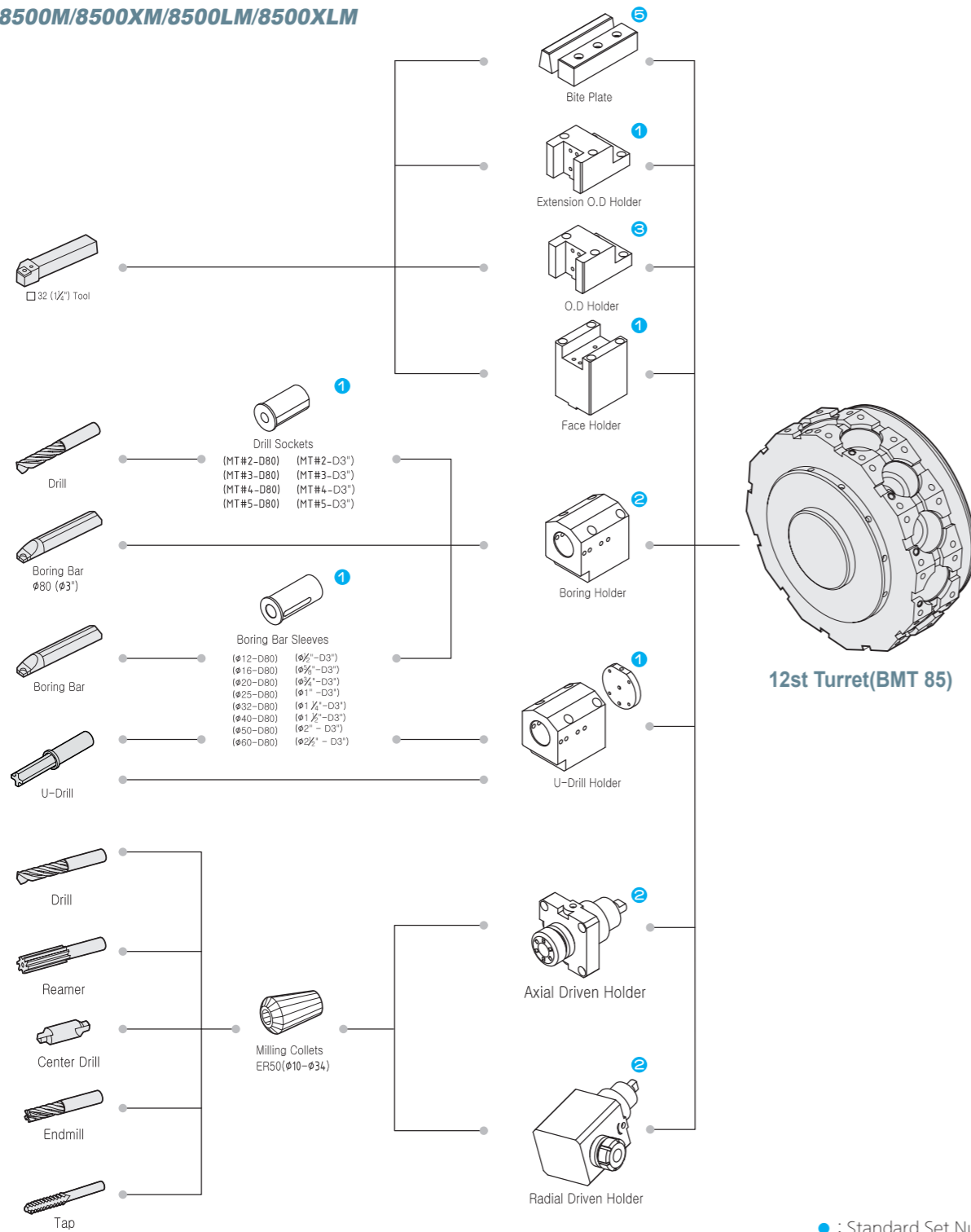
SL 8500/8500X/8500L/8500XL



● : Standard Set Numbers

Tooling System

SL 8500M/8500XM/8500LM/8500XLM

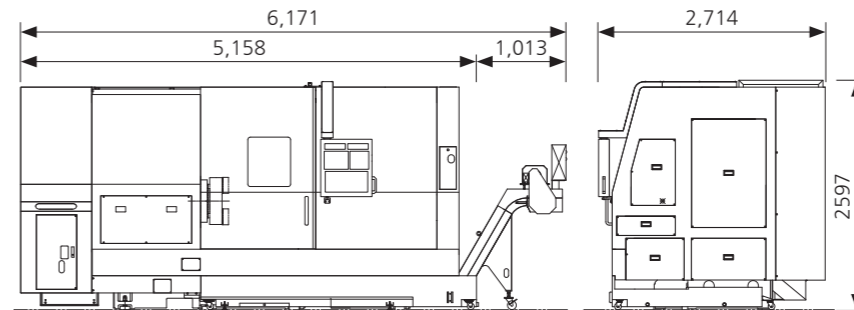


● : Standard Set Numbers

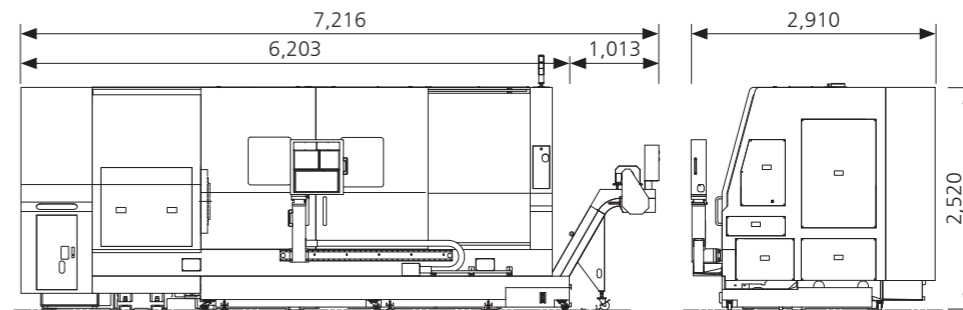
Machine Dimensions

Unit : mm

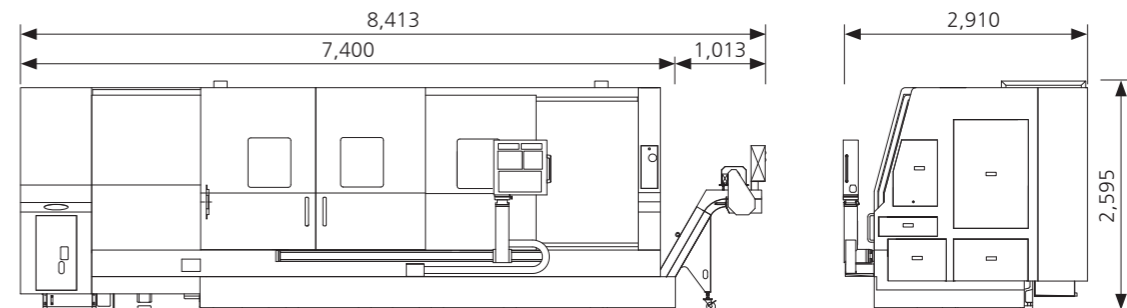
SL 8500/8500M



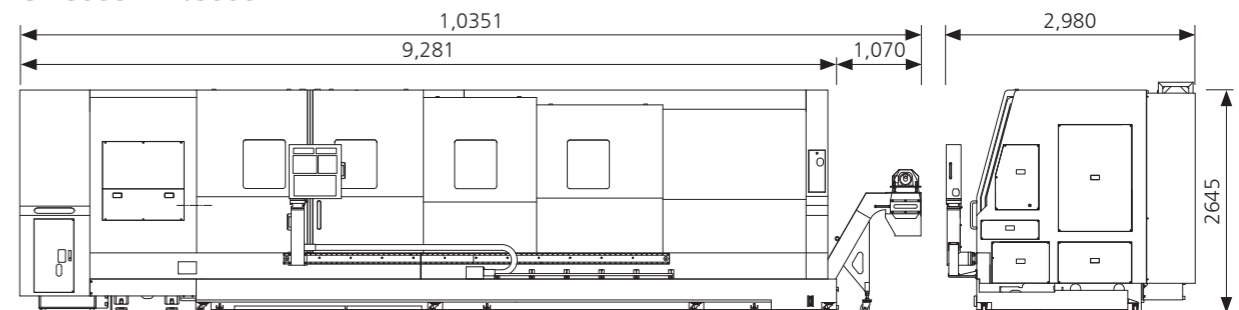
SL 8500X/8500XM



SL 8500L/8500LM



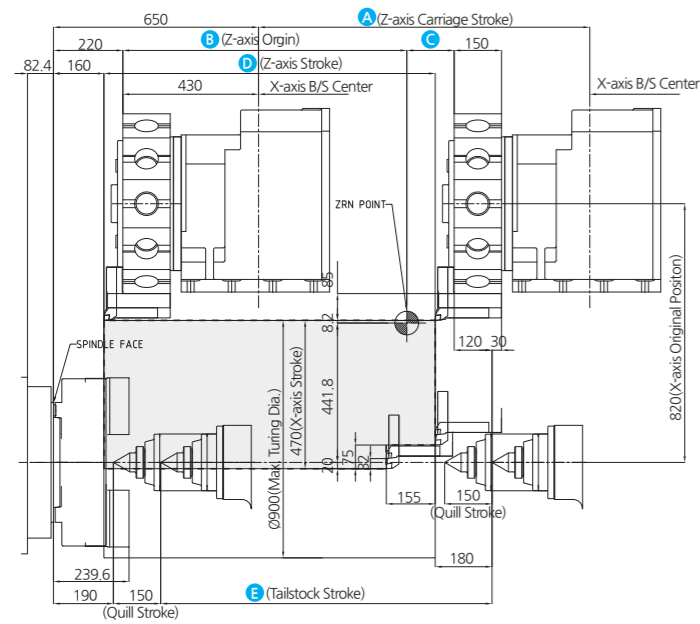
SL 8500XLM/8500XLM



Work Range

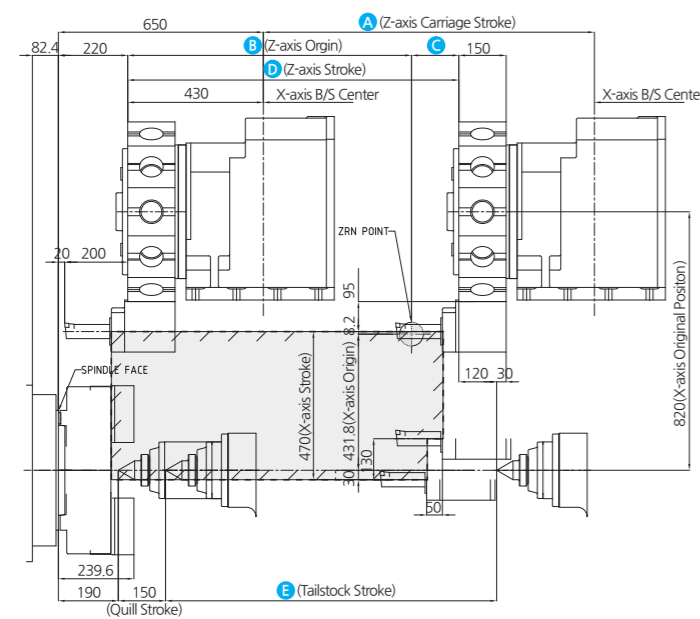
Unit : mm

FACE CUT



	SL 8500	SL 8500X	SL 8500L	SL 8500XL
A	1,050mm	2,050mm	3,270mm	5,100mm
B	900mm	1,900mm	3,070mm	4,900mm
C	150mm	150mm	200mm	200mm
D	1,050mm	2,050mm	3,270mm	5,100mm
E	1,050mm	2,050mm	3,270mm	5,100mm

BORING CUT

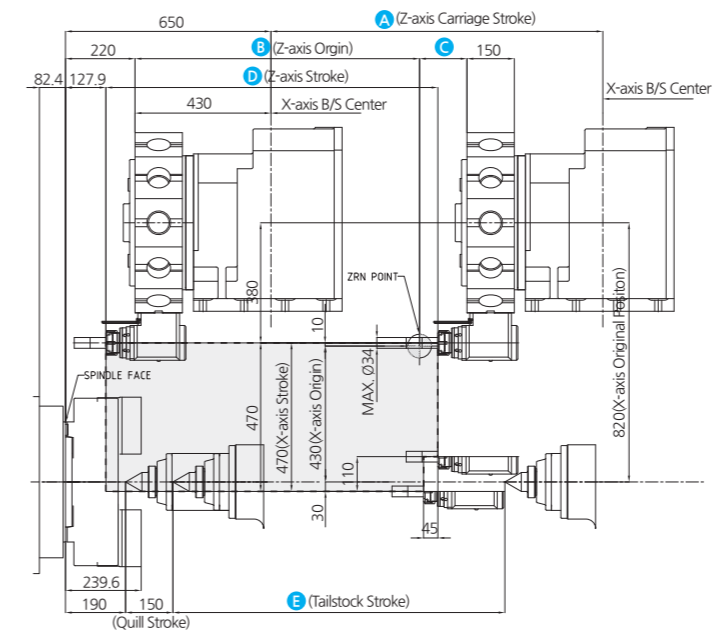


	SL 8500	SL 8500X	SL 8500L	SL 8500XL
A	1,050mm	2,050mm	3,270mm	5,100mm
B	900mm	1,900mm	3,070mm	4,900mm
C	150mm	150mm	200mm	200mm
D	1,050mm	2,050mm	3,270mm	5,100mm
E	1,050mm	2,050mm	3,270mm	5,100mm

Work Range

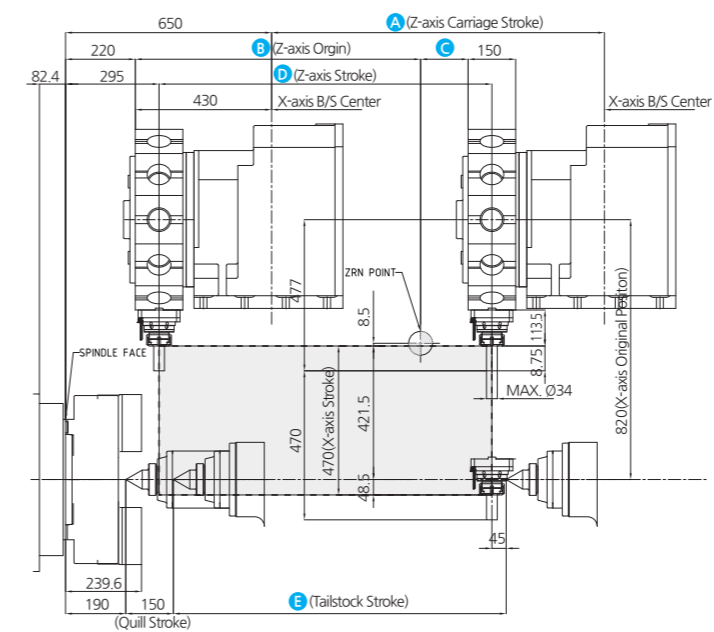
Unit : mm

BORING & RADIAL DRIVEN



	SL 8500M	SL 8500XM	SL 8500LM	SL 8500XLM
A	1,050mm	2,050mm	3,270mm	5,100mm
B	900mm	1,900mm	3,070mm	4,900mm
C	150mm	150mm	200mm	200mm
D	1,050mm	2,050mm	3,270mm	5,100mm
E	1,050mm	2,050mm	3,270mm	5,100mm

FACE & AXIAL DRIVEN

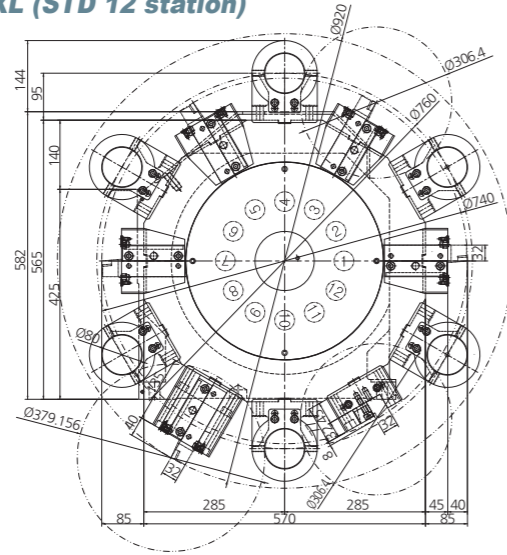


	SL 8500M	SL 8500XM	SL 8500LM	SL 8500XLM
A	1,050mm	2,050mm	3,270mm	5,100mm
B	900mm	1,900mm	3,070mm	4,900mm
C	150mm	150mm	200mm	200mm
D	1,050mm	2,050mm	3,270mm	5,100mm
E	1,050mm	2,050mm	3,270mm	5,100mm

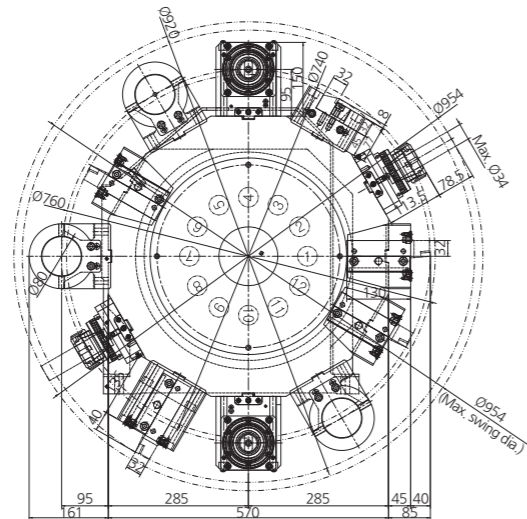
Turret Head Interference

Unit : mm

SL 8500/8500X/8500L/8500XL (STD 12 station)



SL 8500M/8500XM/8500LM/8500XLM (BMT 85)



Standard Accessories

- Chuck clamp confirmation
- Chuck clamp foot switch
- Chuck pressure switch
- Coolant system
- Door interlock
- Full splash guard with coolant tank
- Jaw (soft 3set, hard 1set)
- Leveling unit
- Manual/Part list (1set)
- Patrol lamp (3 colors)
- Safety precaution name plate
- Spindle orientation
- Tailstock (programmable)
- Tool box
- Tool holders
- Work light (LED lamp)

Optional Accessories

- Air blower
- Air conditioners (electric cabinet)
- Air gun
- Auto door
- Bar Feeder Interface
- Chip bucket
- Chip conveyor
- Coolant blower
- Coolant chiller
- Coolant gun
- Coolant level switch
- Counter (total, multi, tool, work)
- Dual pressure chucking
- Oil mist collector
- Oil skimmer
- Robot interface
- Special chuck
- Steady rest (single, dual)
- Tool presetter (manual/auto)
- Transformer

Major Specifications

DESCRIPTION	SL 8500		SL 8500M	
	A type	B type	A type	B type
Chuck	Chuck size	inch	32"	
Capacity	Swing over bed	mm	1,030	
	Swing over cross slide	mm	800	
	Max. turning diameter	mm	900	
	Max. milling diameter	mm	-	843
Spindle	Max. machining length	mm	1,000	
	Bearing type	-	Cylindrical Taper Roller [Taper]	Taper Roller(Big Bore)
	Spindle speed	rpm	500 [320, 300]	
	Spindle nose	ASA	A1-20 [A1-20]	A2-20
	Draw tube ID	mm	232	
	Spindle bore diameter	mm	321 [321]	365
Travels	Spindle motor (Cont./Max)	kW	37/55	
	X-axis travel	mm	470	
	Z-axis travel	mm	1,050	
	X-axis Rapid traverse rate	m/min	12	
Turret	Z-axis Rapid traverse rate	m/min	18	
	Number of tool stations	ea	12	12 (BMT85)
Tailstock	Turning tool shank size	mm	32	
	Boring bar diameter	mm	80	
	Turret index time(next station swivel time)	sec	0.25	
	Rotary tool speed	rpm	-	3,000
	Rotary tool motor (Cont./Max)	kW	-	7.5/11
Machine	Quill diameter	mm	180	
	Quill stroke	mm	150	
Machine	Spindle taper	MT	MT6 (Built-in)	
	Size (with Side Chip conveyor) LxWxH	mm	5,158(6,170) × 2,564 × 2,595	
	Size (with Rear Chip conveyor) LxWxH	mm	-	
	weight	kg	17,500	
ELECTRIC POWER SUPPLY	Coolant tank capacity	Liter	400	
		kVA/V	65/220	69/220
CONTROLLER			FANUC, SIEMENS	

*Figures in inches are converted from metric measurements.

Major Specifications

DESCRIPTION			SL 8500X		SL 8500XM	
			A type	B type	A type	B type
Chuck	Chuck size	inch	32"			
Capacity	Swing over bed	mm	1,030			
	Swing over cross slide	mm	800			
	Max. turning diameter	mm	900			
	Max. milling diameter	mm	-		843	
	Max. machining length	mm	2,000			
Spindle	Bearing type	-	Cylindrical Taper Roller [Taper]		Taper Roller(Big Bore)	
	Spindle speed	rpm	500 [320, 300]			
	Spindle nose	ASA	A1-20 [A1-20]		A2-20	
	Draw tube ID	mm	232			
	Spindle bore diameter	mm	321 [321]		365	
	Spindle motor (Cont./Max)	kW	37/55			
Travels	X-axis travel	mm	470			
	Z-axis travel	mm	2,050			
	X-axis Rapid traverse rate	m/min	12			
	Z-axis Rapid traverse rate	m/min	15			
Turret	Number of tool stations	ea	12		12 (BMT85)	
	Turning tool shank size	mm	32			
	Boring bar diameter	mm	80			
	Turret index time(next station swivel time)	sec	0.25			
	Rotary tool speed	rpm	-		3,000	
	Rotary tool motor (Cont./Max)	kW	-		7.5/11	
Tailstock	Quill diameter	mm	180			
	Quill stroke	mm	150			
	Spindle taper	MT	MT6 (Built-in)			
Machine	Size (with Side Chip conveyor) LxWxH	mm	6,203(7,216) × 2,760 × 2,595			
	Size (with Rear Chip conveyor) LxWxH	mm	-			
	weight	kg	20,000			
	Coolant tank capacity	Liter	400			
ELECTRIC POWER SUPPLY		kVA/V	65/220		69/220	
CONTROLLER			FANUC, SIEMENS			

*Figures in inches are converted from metric measurements.

Major Specifications

DESCRIPTION			SL 8500L		SL 8500LM	
			A type	B type	A type	B type
Chuck	Chuck size	inch	32"			
Capacity	Swing over bed	mm	1,030			
	Swing over cross slide	mm	800			
	Max. turning diameter	mm	900			
	Max. milling diameter	mm	-		843	
	Max. machining length	mm	3,200			
Spindle	Bearing type	-	Cylindrical Taper Roller [Taper]		Taper Roller(Big Bore)	
	Spindle speed	rpm	500 [320, 300]			
	Spindle nose	ASA	A1-20 [A1-20]		A2-20	
	Draw tube ID	mm	232			
	Spindle bore diameter	mm	321 [321]		365	
	Spindle motor (Cont./Max)	kW	37/55			
Travels	X-axis travel	mm	470			
	Z-axis travel	mm	3,270			
	X-axis Rapid traverse rate	m/min	12			
	Z-axis Rapid traverse rate	m/min	10			
Turret	Number of tool stations	ea	12		12 (BMT85)	
	Turning tool shank size	mm	32			
	Boring bar diameter	mm	80			
	Turret index time(next station swivel time)	sec	0.25			
	Rotary tool speed	rpm	-		3,000	
	Rotary tool motor (Cont./Max)	kW	-		7.5/11	
Tailstock	Quill diameter	mm	180			
	Quill stroke	mm	150			
	Spindle taper	MT	MT6 (Built-in)			
Machine	Size (with Side Chip conveyor) LxWxH	mm	7,400(8,413) × 2,760 × 2,595			
	Size (with Rear Chip conveyor) LxWxH	mm	-			
	weight	kg	23,000			
	Coolant tank capacity	Liter	400			
ELECTRIC POWER SUPPLY		kVA/V	65/220		69/220	
CONTROLLER			FANUC, SIEMENS			

*Figures in inches are converted from metric measurements.

Major Specifications

DESCRIPTION			SL 8500XL		SL 8500XLM	
			A type	B type	A type	B type
Chuck	Chuck size	inch	32"			
Capacity	Swing over bed	mm	1,030			
	Swing over cross slide	mm	800			
	Max. turning diameter	mm	900			
	Max. milling diameter	mm	-		843	
	Max. machining length	mm	5,050			
Spindle	Bearing type	-	Cylindrical Taper Roller [Taper]		Taper Roller(Big Bore)	
	Spindle speed	rpm	500 [320, 300]			
	Spindle nose	ASA	A1-20 [A1-20]		A2-20	
	Draw tube ID	mm	232			
	Spindle bore diameter	mm	321 [321]		365	
	Spindle motor (Cont./Max)	kW	37/55			
Travels	X-axis travel	mm	470			
	Z-axis travel	mm	5,100			
	X-axis Rapid traverse rate	m/min	12			
	Z-axis Rapid traverse rate	m/min	10			
Turret	Number of tool stations	ea	12		12 (BMT85)	
	Turning tool shank size	mm	32			
	Boring bar diameter	mm	80			
	Turret index time(next station swivel time)	sec	0.25			
	Rotary tool speed	rpm	-		3,000	
	Rotary tool motor (Cont./Max)	kW	-		7.5/11	
Tailstock	Quill diameter	mm	180			
	Quill stroke	mm	150			
	Spindle taper	MT	MT6 (Built-in)			
Machine	Size (with Side Chip conveyor) LxWxH	mm	9,400(10,413) × 2,860 × 2,595			
	Size (with Rear Chip conveyor) LxWxH	mm	-			
	weight	kg	27,000			
	Coolant tank capacity	Liter	400			
ELECTRIC POWER SUPPLY	kVA/V	65/220		69/220		
CONTROLLER		FANUC, SIEMENS				

*Figures in inches are converted from metric measurements.

NC 사양 / FANUC Series

	Item	Specification	FANUC series
Controlled axis	Max. feed axes		4 AXIS
	Feed axes		X/Z/(Cs)
	Max. simultaneously 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	T4-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)	○
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