



Whatever You Need for Milling and
Turning We Offer the Best



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SL CNC Super Lathes



SL - 300 | 500 | 650 | 700 | 800 | 1200

SL

300

500

650

CNC Super Lathes

Repeatable Accuracy & High Production Machining

Johnford's CNC Super Lathes are your first choice when machining heavy industry components for the Oil & Gas industry. These super lathes provide a wide range of features delivering the strength and rigidity to operate efficiently in your tough manufacturing environment.

From heavy roughing to high speed finishing, our SL series delivers the power, precision, and flexibility to meet any of your workshop requirements.



Outstanding Features

- High Speed Spindles - Up to 6,000rpm
- Swing Over Bed - Up to 700mm (27.6")
- Large Bar Capacity - Up to 116mm (4.6")
- Live Tooling & C+Y Axis Capabilities
- Sub Spindle Capabilities
- High Torque 2 Step Auto Gearbox

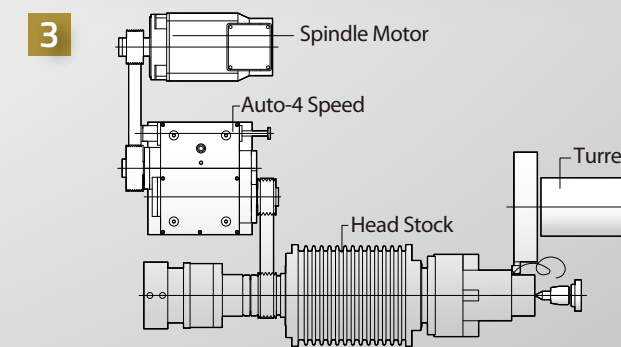
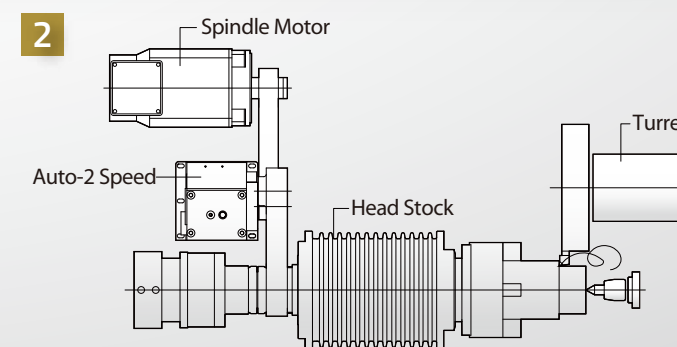
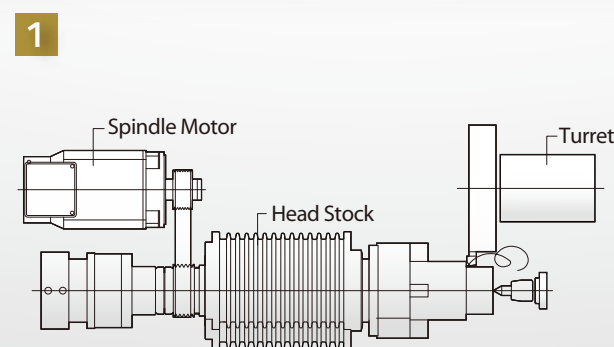


Transmission Systems

Powering your Production

Johnford delivers three transmission options with the SL series Super Lathes. This gives you maximum choice to ensure that your system matches precisely with your machining requirements:

- 1 Direct Drive Spindle
- 2 2 Step Auto Gearbox
- 3 Spindle With 4 Step Auto Gearbox



SL
800

Horsepower & Torque

Meeting the Needs of Modern Machine Shops

Engineered for ultimate performance, each model provides enhanced precision & repeatability in every application.

With rapid traverse speeds, faster acceleration/deceleration rates, and 2 Step / 4 step gearboxes delivering high-torque, our lathes will significantly reduce your cycle times and maximize your long term productivity.

- Rapid X/Y/Z Traverse (m/min) – 12/10/15
- Powerful 22/26 kW Spindle
- 5 Axis Capabilities with Sub Spindle (Optional)
- Enhanced Ergonomics- 45° True Slant Bed Design



SL
1200

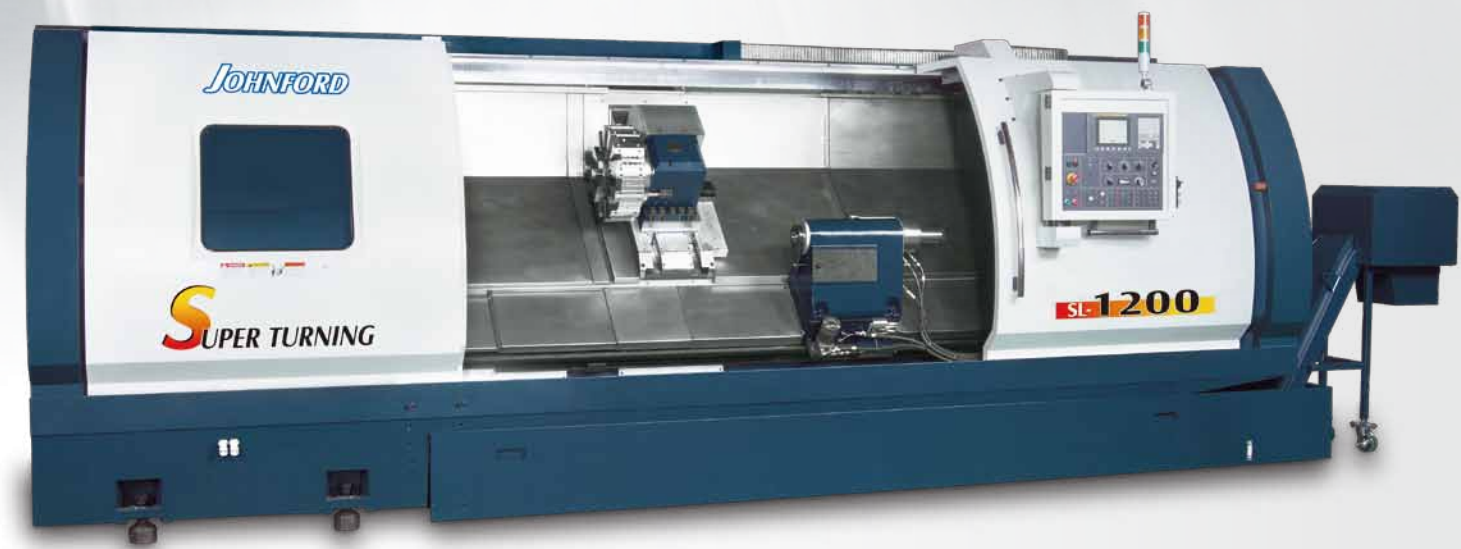
5 Axis Capabilities

Flexible – Accurate – Cost Efficient

Advanced Performance Tailor Made For Your Workshop

With a range of customization options including dual / single turret configurations, as well as C/Y axis machining these Super Lathes are designed to not only handle the heavy machining work, but also deliver precision for your production jobs as well. The extra wide box ways and heavy duty gearboxes on these machines deliver the performance you need where it counts.

- Multiple Servo Turret Configurations
- Live Tooling
- Heavy Duty Box Ways
- Powerful Gearboxes



Special Customization Options

Contact Tool Setting System (Renishaw / Blum)

The industry standard for tool setting and tool breakage detection. This delivers precise tool length and diameter measurement to guarantee your machining precision is maintained. This is available on all SL series machines from Johnford.



Steady Rests for Long Parts Machining

Our Johnford Super Lathes are the standard for large parts machining and with the longer lathes in the series we offer the options of hydraulic steady rests to facilitate super long parts machining. These are coupled with the tailstock for oil country and other long pipe machining applications.

Advanced Structure

1 Heavy Duty Meehanite Cast Bed

Our heavy-duty high quality meehanite cast iron bed is designed from the ground up to be extremely rigid. The design is optimized using finite element analysis (FEA) to ensure maximum thermal stability, maintain maximum rigidity, and guarantee repeatable accuracy under heavy machining.

2 Powerful Spindles

High precision spindles manufactured from alloy steel, heat treated, and precision ground, achieve high reliability under heavy loading requirements. Featuring a wide range of bar capacity sizes 42~116mm (1.7"~4.6"), the spindles are mounted on a combination of high precision double row cylindrical roller bearings and angular contact thrust bearings.

This design achieves high speed, low heat, and true concentricity under the most demanding loads.

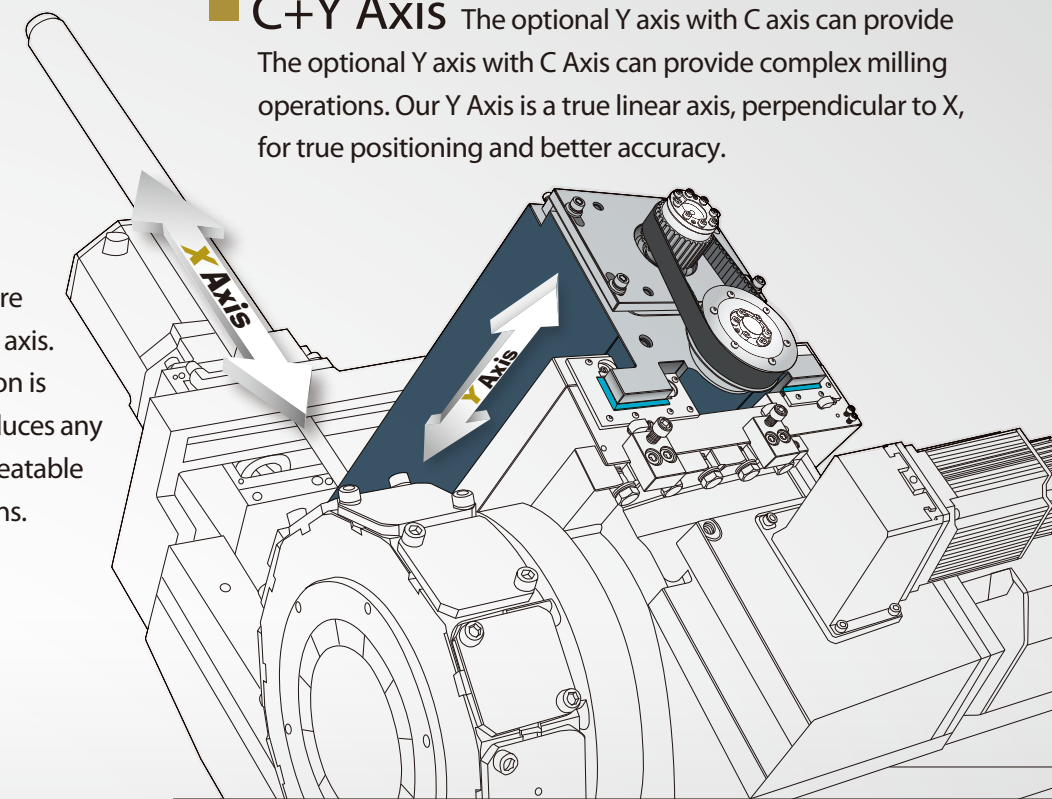
3 Horsepower & Torque

- 2 Speed Super Heavy-duty Gearbox (Standard)
- Direct Drive Spindle (Optional)
- 4 Step Gearbox (Optional)

Thermal Stability

The headstock, saddle, and tailstock are all on the same slanted plane as the X axis. This design means the heat distribution is uniform which in turn significantly reduces any thermal deformation and ensures repeatable accuracy in high production operations.

■ **C+Y Axis** The optional Y axis with C axis can provide complex milling operations. Our Y Axis is a true linear axis, perpendicular to X, for true positioning and better accuracy.



True Slant Bed Design

Johnford's SL series design offers two slant angles: 30 degree and 45 degree.

This type of design allows for improved ergonomics & better chip control in high volume production applications.

Another advantage to the True Slant bed design is increased X-axis travel without increase in footprint.

45°

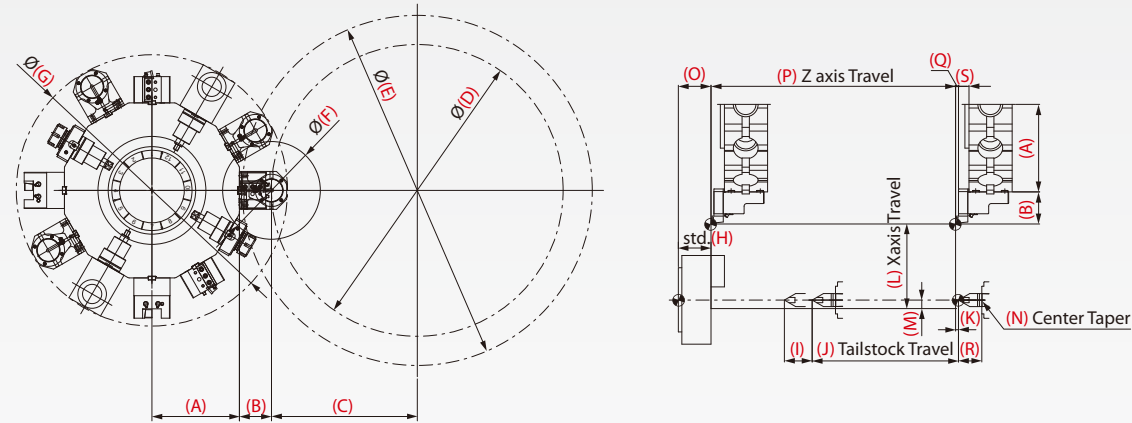


Box Ways

All the box ways are precision ground and hardened with all saddles lined with Turcite B for smooth precision movement and high accuracy.

Ball Screws

High precision large diameter ballscrews are pre-tensioned to compensate for any thermal expansion during machining operations.



Specification

Item	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
Model																			
SL-300		60	125	250	400	200	610	103	60	350		135		MT.4	103	450		68	44
SL-500	190	72	185	370	580	210	605	113	100	430		230			113	550			31
SL-650										1,200			10			1,400			
SL-700										1,100				MT.5		1,450		90	
SL-800	230	125	221	442	700	290	815	122	125	1,600		231			122	1,900			33
SL-1200										2,600						2,900			

Unit: mm

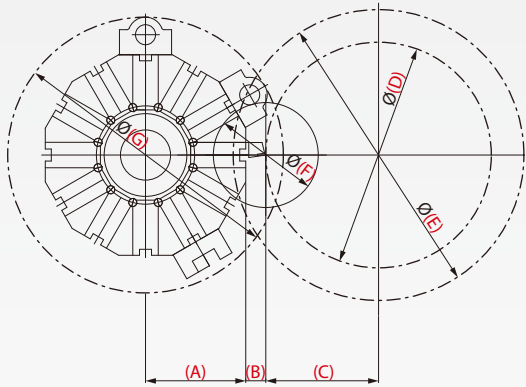


Specification

Item	SL-300	SL-500 / 650	SL-700 / 800 / 1200
Model			
Bore	Ø6, Ø10, Ø12, Ø16, Ø20, Ø25	Ø6, Ø10, Ø12, Ø16, Ø20, Ø25, Ø32	Ø12, Ø16, Ø20, Ø25, Ø32, Ø40, Ø50
Outer Dia.	□ 25	□ 25	□ 32
End	□ 25	□ 25	□ 32
Drill	MT#2, #3	MT#2, #3	MT#2, #3, #4, #5

Specification

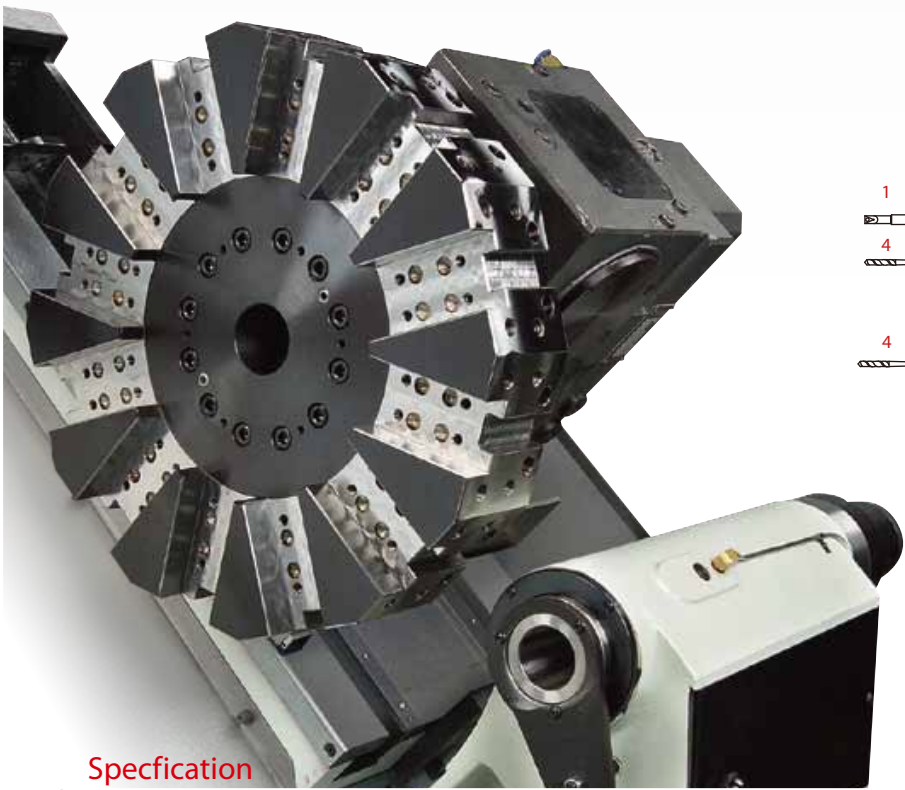
Item	SL-300+C	SL-500 / 650+C	SL-700 / 800 / 1200+C
Model			
Power Turret Model	BMT 55 / ER 25	BMT 65 / ER 32	BMT 75 / ER 40
Max. Speed of Turret	4,000 rpm	4,000 rpm	3,000 rpm
Twist Drilling	18 x 0.20	20 x 0.21	26 x 0.16
Slot Milling	20 x 10 x 110	24 x 12 x 120	30 x 15 x 115
Tapping	M16 x 2.0	M20 x 2.5	M22 x 2.5
Toolholder Shaft Size	Ø55	Ø65	Ø75
Motor Horsepower	AC 3.7 / 5.5 kW	AC 3.7 / 5.5 kW	AC 5.7 / 7.5 kW



Specification

Item	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Model																		
SL-300	170	35	165	330	400	165	460	103	60	500		180	15	MT.4	103	600		68
SL-500										530						650		
SL-650	210	40	225	450	580	209	550	113	100	1,300		250			113	1,500		
SL-700										1,200			25	MT.5		1,550		90
SL-800	234	36	270	540	700	246	658	122	125	1,700		295			122	2,000		
SL-1200										2,700						3,000		

Unit: mm



Specification

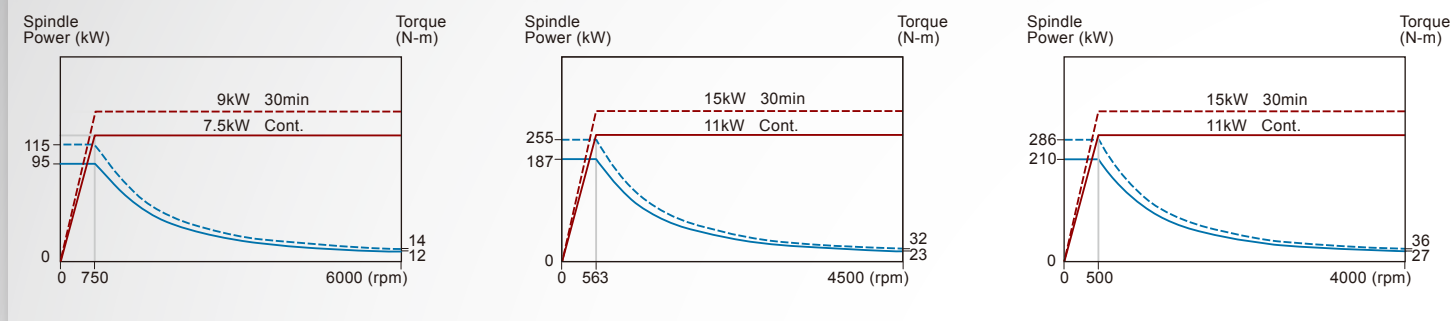
Item	SL-300	SL-500 / 650	SL-700 / 800 / 1200
Model			
Bore	Ø8, Ø10, Ø12, Ø16, Ø20, Ø25, Ø32	Ø8, Ø10, Ø12, Ø16, Ø20, Ø25, Ø32, Ø40	Ø12, Ø16, Ø20, Ø25, Ø30, Ø32, Ø40, Ø50
Outer Dia.	□25, □20 (Opt.)	□ 25	□ 32
End	□25, □20 (Opt.)	□ 25	□ 32
Tap	Ø16	Ø20	Ø32
Drill	MT#2, #3	MT#2, #3, #4	MT#2, #3, #4, #5

C/C+Y Axis Torque Charts

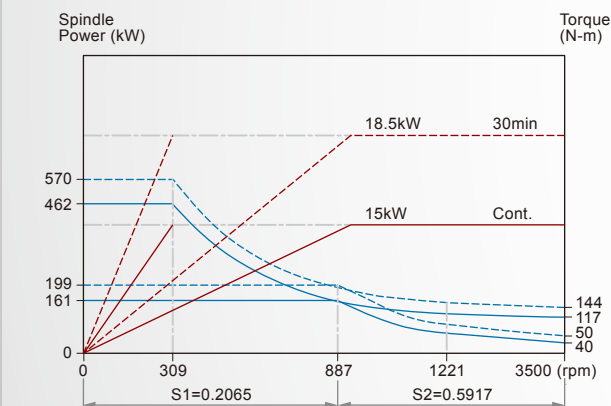
SL-300-I

SL-300-II

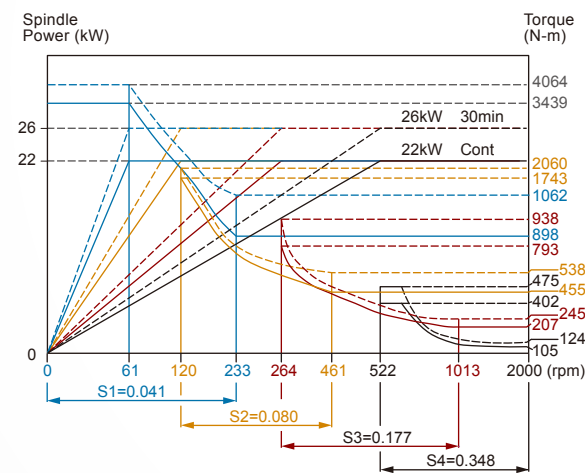
SL-300-III



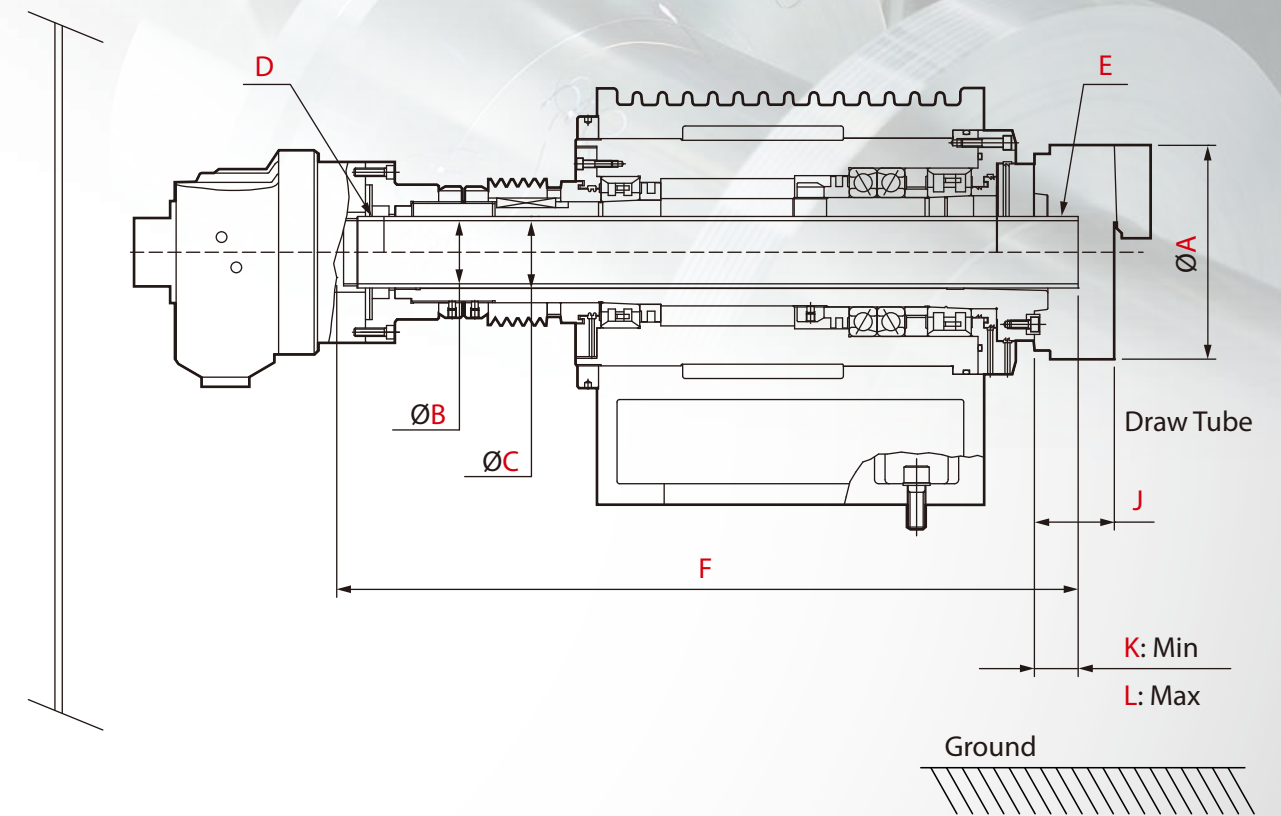
SL-500/650



SL-700/800/1200



Spindle Construction

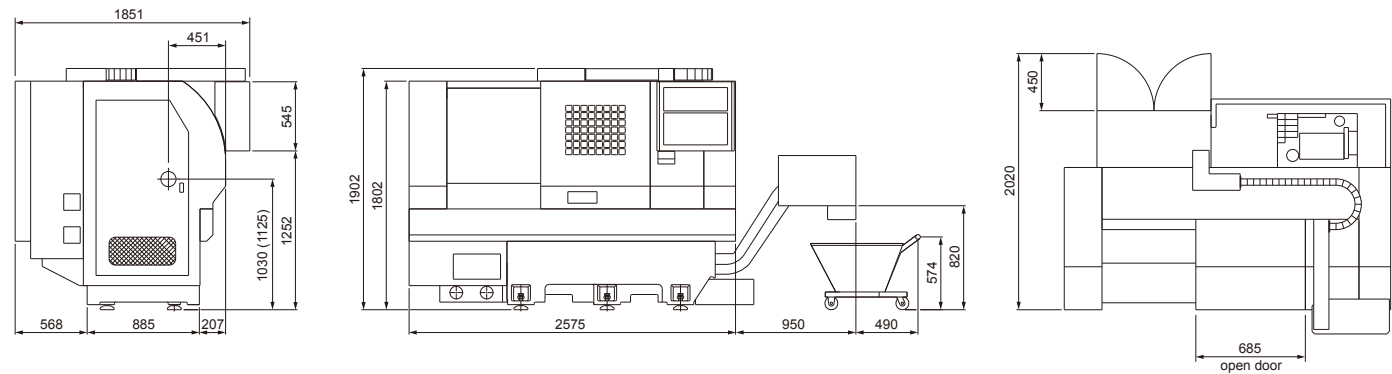


Item	Model	SL-300+C		SL-500/ 650+C		SL-700/ 800/ 1200+C	
Power Turret Model (* for Y-axis)		TBMA 160	TBYA 160*	TBMA 200	TBYA 200*	TBMA 250	TBYA 250*
Max. Speed of Turret (rpm)		4,800		3,800		3,276	
Twist Drilling	$d \times a$ (mm) x (mm/μ)	12 x 0.20		12 x 0.20		22 x 0.20	
Slot Milling	$d \times p \times a$ (mm) x (mm) x (mm/min)	20 x 10 x 40		25 x 14 x 40		25 x 20 x 40	
Tapping	$d \times p$ (mm) x (mm)	M8 x 1.25		M16 x 2		M18 x 2	
Toolholder Shaft		Ø30		Ø40		Ø50	
Motor Horsepower		AC 3.7 / 2.2 kW		AC 5.5 / 3.7 kW		AC 5.5 / 3.7 kW	

Model	Dimension	Ø A	Ø B	Ø C	D	E	F	J	K	L
SL-300		Ø210	Ø51	Ø65	M60 x P1.5	M60 x P2.0	665	103	32	54
SL-500 / 650		Ø254	Ø76.5	Ø86	M87 x P2.0	M85 x P2.0	871.5	113	32.5	51.5
SL-500A / 650A / 700A / 800A / 1200A		Ø304	Ø91	Ø115	M100 x P2.0	M100 x P2.0	1,071	122	31	54
SL-500A / 650A / 700A / 800A / 1200A (Opt.)		Ø315	Ø102	Ø115	M130 x P2.0	M115 x P2.0	1,118	134	47	70
SL-500B / 650B / 700B / 800B / 1200B		Ø381	Ø116	Ø132.5	M130 x P2.0	M130 x P2.0	1,084	149	49	72

Unit:mm

SL-300

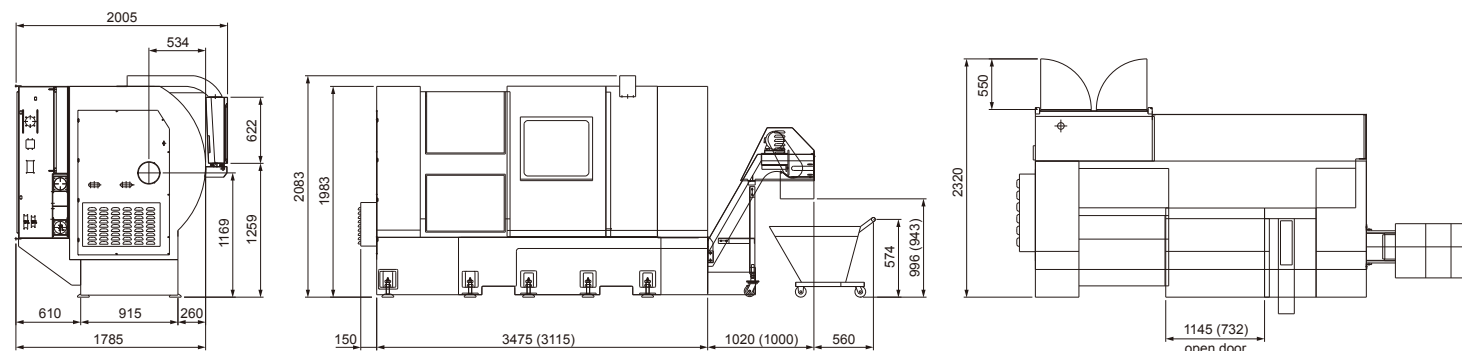


Side View

Front View

Top View (floor space required)

SL-500

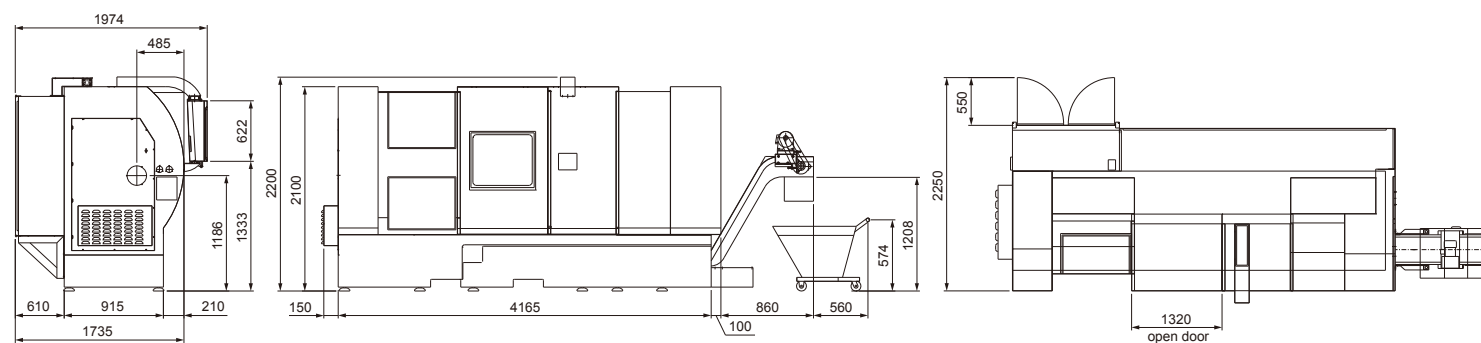


Side View

Front View

Top View (floor space required)

SL-650

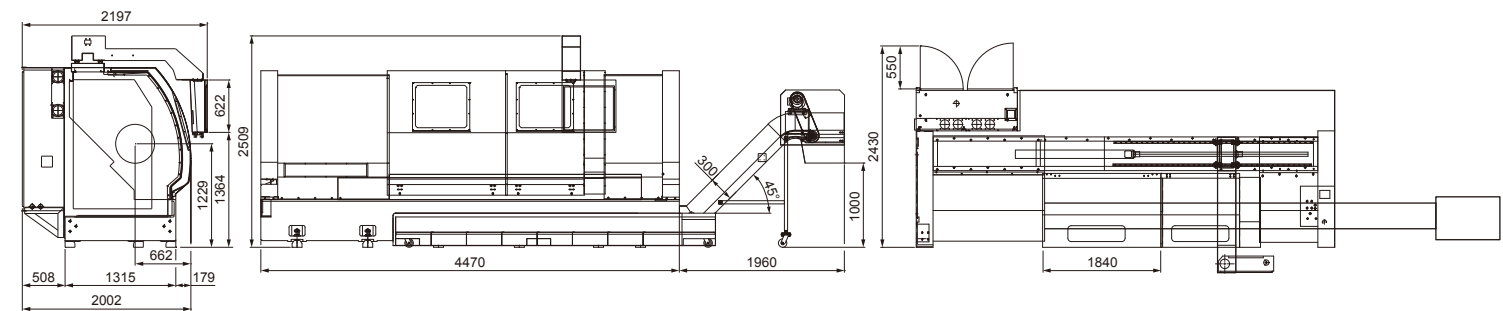


Side View

Front View

Top View (floor space required)

SL-700

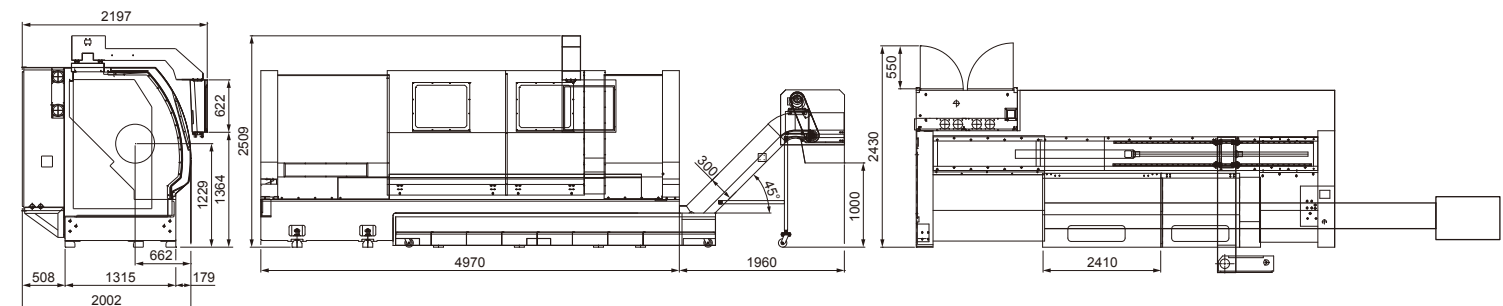


Side View

Front View

Top View (floor space required)

SL-800

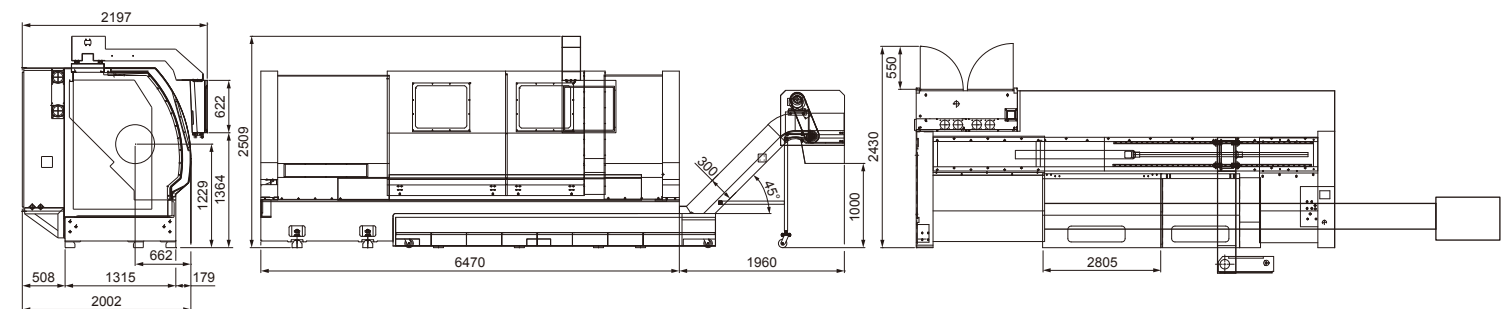


Side View

Front View

Top View (floor space required)

SL-1200



Side View

Front View

Top View (floor space required)

Specifications

Item		Model	SL-300-I	SL-300-II	SL-300-III	SL-500	SL-500A	SL-650	SL-650A
Swing Over Bed (mm)			Ø 400 (15.7")			Ø 580 (22.8")			
Swing Over Cross Slide (mm)			Ø 330 (13")			Ø 450 (17.7")			
Chuck Size (inch)			6"	8"	10"	10"	12"	10"	12"
Bar Capacity (mm)			Ø 42 (1.7")	Ø 51 (2")	Ø 76.5 (3")	Ø 76.5 (3")	Ø 102 (4")	Ø 76.5 (3")	Ø 102 (4")
Spindle Nose			A2-5	A2-6	A2-8	A2-8	A2-11	A2-8	A2-11
Spindle Bore (mm)			Ø 55 (2.2")	Ø 65 (2.6")	Ø 85 (3.4")	Ø 86 (3.4")	Ø 115 (4.5")	Ø 86 (3.4")	Ø 115 (4.5")
Spindle Transmission			One Speed			2 Step Auto			
Spindle Speed (rpm)			6,000	4,500	4,000	3,500	2,800	3,500	2,800
Spindle Motor (kW)			7.5 / 9 (12)	11 / 15 (20)	11 / 15 (20)	15 / 18.5	22 / 26	15 / 18.5	22 / 26
Spindle Bearing Diameter (mm)			Ø 90 (3.5")	Ø 100 (3.9")	Ø 120 (4.7")	Ø 130 (5.1")	Ø 160 (6.3")	Ø 130 (5.1")	Ø 160 (6.3")
No. of Tools			12						
Cross Travel (X-axis) (mm)			180			250			
Y-axis Travel (mm)			-			±50			
Longitudinal Travel (Z-axis)(mm) (for Y-axis)			600 (23.6")			650 (25.6") 〔 550 (21.7") 〕		1,500 (59.1") 〔 1400 (55.1") 〕	
Rapid Traverse (X/Y/Z) (m/min)			24 / - / 24			15 / 10 / 18			
Tailstock Travel (mm) (for Y-axis)			500 (19.7")			530 (20.9") 〔 430 (16.9") 〕		1,300 (51.2") 〔 1,200 (47.2") 〕	
Tailstock Quill Travel (mm)			60			100			
Tailstock Quill Diameter (mm)			Ø 60			Ø 85			
Tailstock Spindle Taper	Fixed	MT#4			MT#5				
	Rotary	MT#3 (Opt.)			MT#4 (Opt.)				
Servo Motor (X-axis) (kW)			1.6			3 / 4 (for Y-axis)			
Servo Motor (Y-axis) (kW)			-			1.6			
Servo Motor (Z-axis) (kW)			1.6			4			
Power Turret Motor (Y-axis) (kW)			-			3.7 / 5.5			
Bed Inclination / Saddle Inclination*			30° (*)			45°			
Weight (kg)			4,000			6,500		10,500	
Machine Dimensions (mm)	W x H	1,851 x 1,862 (72.9" x 73.3")			2,320 x 2,060 (91.3" x 81.1")		2,250 x 2,160 (88.6" x 85")		
	L	3,525 (138.8")			4,265 (168")		5,275 (207.7")		

■ All data subject to change without notice. ■ All the specifications are listed with the FANUC CNC system.

Standard Accessories :

1. Coolant System

2. Splash Guard

3. Through Hole 3-jaw Chuck

4. Programmable Hydraulic Tailstock
5. Hydraulic Tailstock Quill (for SL-300)

6. Chain Type Chip Conveyor

7. Tool Box & Manuals

8. Tool Holders (Direct Mounting Type)
9. Auto Lubrication with Alarm

10. Halogen Working Lamp

11. Type of Guide Ways: Box Ways

12. FANUC 0iTD Controller

Specifications

Item		Model	SL-700A	SL-800A	SL-1200A	SL-700B	SL-800B	SL-1200B
Swing Over Bed (mm)			Ø 700 (27.6")					
Swing Over Cross Slide (mm)			Ø 540 (21.3")					
Chuck Size (inch)			12"			15"		
Bar Capacity (mm)			Ø 102 (4") (Opt.)			Ø 116 (4.6")		
Spindle Nose			A2-11 (Opt.)			A2-11		
Spindle Bore (mm)			Ø 115 (4.5")			Ø 132.5 (5.2")		
Spindle Speed Step			2 Step Auto			4 Step Auto		
Spindle Speed (rpm)			2,800 (Opt.)			2,000		
Spindle Motor (kW)			22 / 26					
Spindle Bearing Diameter (mm)			Ø 160 (6.3")			Ø 180 (7.1")		
No. of Tools			12					
Cross Travel (X-axis) (mm)			295					
Y-axis Travel (mm)			±75					
Longitudinal Travel (Z-axis)(mm) (for Y-axis)			1,550 (61") 〔 1,450 (57") 〕	2,000 (78.7") 〔 1,900 (74.8") 〕	3,000 (118.1") 〔 2,900 (114.2") 〕	1,550 (61") 〔 1,450 (57.1") 〕	2,000 (78.7") 〔 1,900 (74.8") 〕	3,000 (118.1") 〔 2,900 (114.2") 〕
Rapid Traverse (X/Y/Z) (m/min)			12 / 10 / 15			12 / 10 / 15		
Tailstock Travel (mm) (for Y-axis)			1,200 (47.2") 〔 1,100 (43.3") 〕	1,700 (67") 〔 1,600 (63") 〕	2,700 (106.3") 〔 2,600 (102.4") 〕	1,200 (47.2") 〔 1,000 (39.4") 〕	1,700 (67") 〔 1,600 (63") 〕	2,700 (106.3") 〔 2,600 (102.4") 〕
Tailstock Quill Travel (mm)			125					
Tailstock Quill Diameter (mm)			Ø 125					
Tailstock Spindle Taper	Fixed	MT#5						
	Rotary	MT#5 (Opt.)						
Servo Motor (X-axis) (kW)			3 / 4 (for Y-axis)					
Servo Motor (Y-axis) (kW)			3.8					
Servo Motor (Z-axis) (kW)			4					
Power Turret Motor (Y-axis) (kW)			5.5 / 7.5					
Bed Inclination			45°					
Weight (kg)			14,000	15,000	17,000	14,000	15,000	17,000
Machine Dimensions (mm)	W x H	2,430 x 2,510 (95.7" x 98.8")				2,430 x 2,510 (95.7" x 98.8")		
	L	5,485 (215.9")	6,930 (272.8")	7,485 (294.7")	5,485 (215.9")	6,930 (272.8")	7,485 (294.7")	

■ All data subject to change without notice. ■ All the specifications are listed with the FANUC CNC system.

Optional Accessories :

1. C-axis (C.S Axis with Angle Encoder but no Gearbox / C.F Axis with Gearbox)

2. C+Y-axis

3. Contact Tool Setting System (Renishaw TS20 or BLUM NT-A2/NT-A3)
4. Parts Catcher

5. Tool Holders (VDI Type)

6. Programmable Hydraulic Tailstock (for SL-300)

7. Bar Feeder Interface (or Bar Feeder)
8. 2 Step Auto Gearbox (for SL-300)

9. Rotary Tailstock

10. Angle Encoder for C-axis