■ NC Unit Specifications / FANUC Series

Item		Specification	0*i*-TF
Controlled axis	Max. feed axes		4 AXIS
	Feed axes		X/Z/(Cs)
	Max. simultaneosly 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	T2-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)	○
Manual guide i	Manual Guide *i*		○

SMEC America Corp.

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Email: sales@esmecamerica.com

www.esmecamerica.com

SMEC

SL 4500 series

CNC TURNING CENTER

SMEC America Corp.

SMEC

Samsung Machine Tools Engineering Company

SMEC

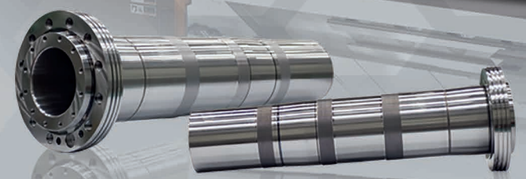
Company History

- **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

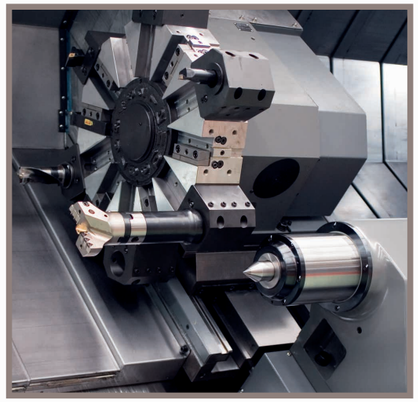
SMEC'S Advanced Engineering and Machine Design

- *Cast iron structure for superior dampening characteristics and thermal displacement*
- *Rigid 45 degree slant bed design for heavy-duty machining*
- *Torque tube design to minimize bending and twisting*
- *Integrated box ways for long-term rigidity and heavy-duty machining*

SL 4500CX
SL 4500CXM
SL 4500CLY



SL 4500CX(CXM/CLY) are heavy duty, ultra precision Turning Center, combined with SMEC's advanced technological features.



Spindle Speed
1,200 rpm

Spindle Motor(30min/cont.)
50/40 hp

Rapid Travel(X/Z/Y)
787/709 ipm(SL4500CX/4500CXM/2200)
787/394 ipm(SL4500CX/4500CXM/3000)
787/394/590 ipm(SL4500CLY)

Feed Motor(X/Z)
9.3/8 hp

Max. Turning Diameter
27.2 inch (SL4500CX)
24.4 inch (SL4500CXM, 4500CLY)

Max. Turning Length
88.78 inch
(SL 4500CX/2200
SL 4500CXM/2200)
120 inch
(SL 4500CX/3000
SL 4500CXM/3000)
114 inch
(SL 4500CLY)

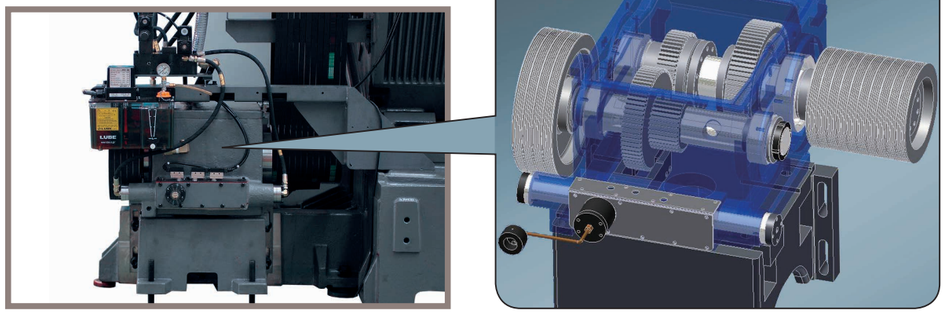
Highly Reliable and Rigid Structural Design

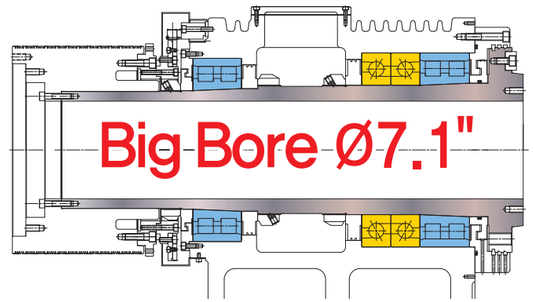
·One piece Meehanite casting with heavily ribbed torque tube design
·Rigid bed supports for powerful cutting
·Excellent vibration dampening and thermal displacement design

High Accuracy, High Rigidity Spindle

Output Converting Transmission

Equipped as standard feature, high Output Converting Transmission provides heavy-duty machining.



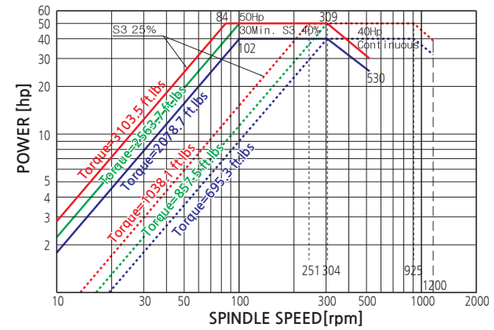


Pin Tube Rib Design for Minimal Axis Heat Transfer

Radiator fan-like pin tube rib design dissipates heat generated by axis movements, maintaining minimal thermal expansion.

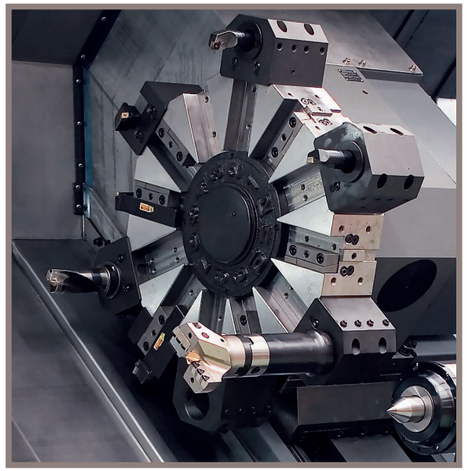
■ Spindle Power & Torque Diagram

Unit : inch



Machine Structure

SL 4500CX (High Speed Servo Turret)



Indexing time

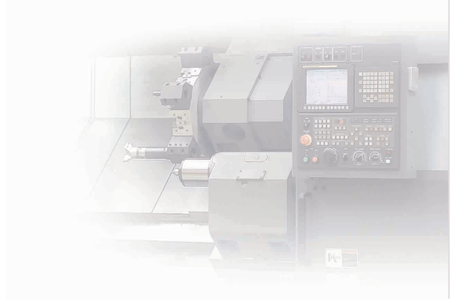
0.2 sec.

Number of tool positions

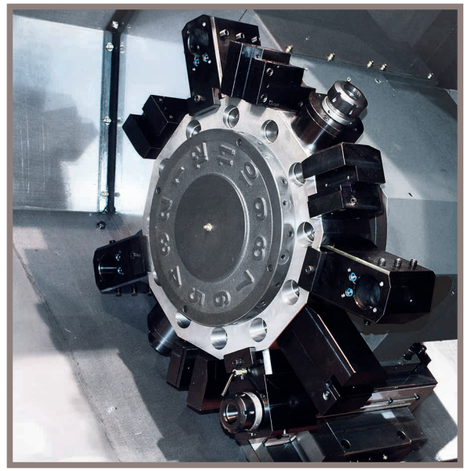
12 stations

High Speed, Heavy Duty Servo Turret

Driven by a high torque servo motor, the 12-station heavy -duty turret can accept tools on both the left and right side of each station. Turret indexing (repeatability ± 0.0002")is non-stop, bi-directional with a fast 0.2 second next station index time. Large diameter (Ø9.05") precision Curvic coupling with 25,000 lbs clamping force enables precision as well as heavy-duty cutting.



SL 4500CXM/4500CLY (BMT High Speed Turret)



Indexing time

0.2 sec.

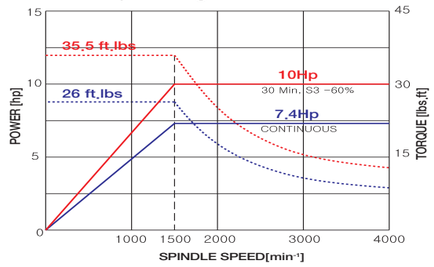
Number of tool positions

12 stations

BMT Milling Turret (M Type)

SL45MC is equipped with standard 12-station BMT turret capable of accepting rotary tools at any station, providing flexible machining thrugh 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 0.2 second next station index time.

Turret Torque Diagram

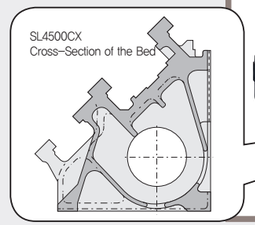


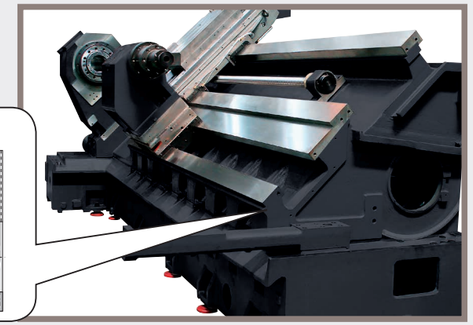
Machine Structure

Rigid 45 degree Slant Bed

45 degree slant torque tube design bed and wide guide slide way ensure long term rigidity and machining accuracy.

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



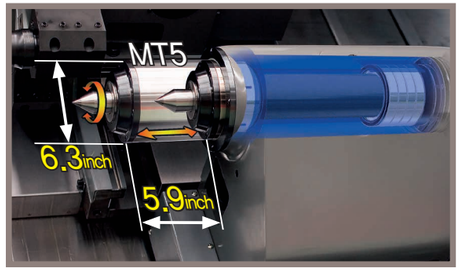


Swivel Operation Panel

Swivel operation panel of 10.4 inch color TFT LCD monitor can turn to 90 degree, providing operators with easy access to the control panel while working on the machine.

Tailstock

The programmable tailstock body mounted on wide guide ways ensure rigid work piece support.

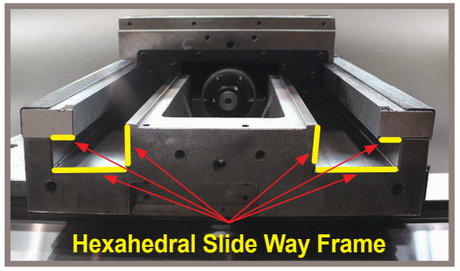


Pre-tensioned and Double Anchored Ballscrews

All axes ballscrews are pre-tensioned, heat treated, and fixed by double anchors on both ends, providing ultimate rigidity and minimal thermal growth.

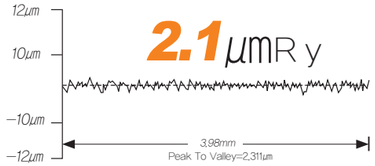
Hexahedral Slide Way Frame

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 <O.D. cutting>



Roundness

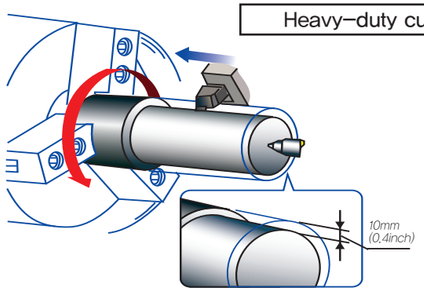
Cutting condition	
Tool	Diamond tool (nose radius 0.020 inch)
Material	AL150(Aluminum)
Cutting speed	745.6 fpm
Feedrate	0.0020 ipr
Depth of cut	0.004inch
Outer diameter	7.9inch
Filter	1-50

•Model : SL 4500CX

Processing Speed

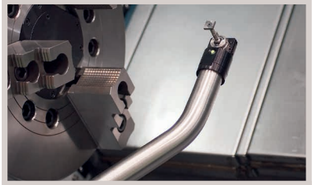
Turning Performance (material:SM45C) SL 4500CXM

Heavy-duty cutting (O.D) 〈1¼inch×1¼inch qualified tool〉

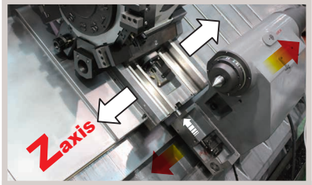


Spindle Speed
367 rpm
Cutting Speed
150 m/min (**492** fpm)
Depth Of cut
0.4 inch <Spindle Load 65%>
Feedrate
0.4 mm/rev (**0.11** ipr)

Standard Accessories

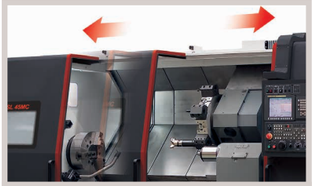

Tool Presetter


Automatic Lubricator

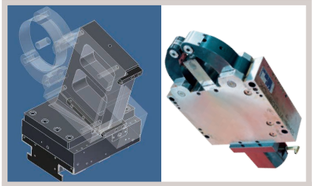


Programmable Tailstock

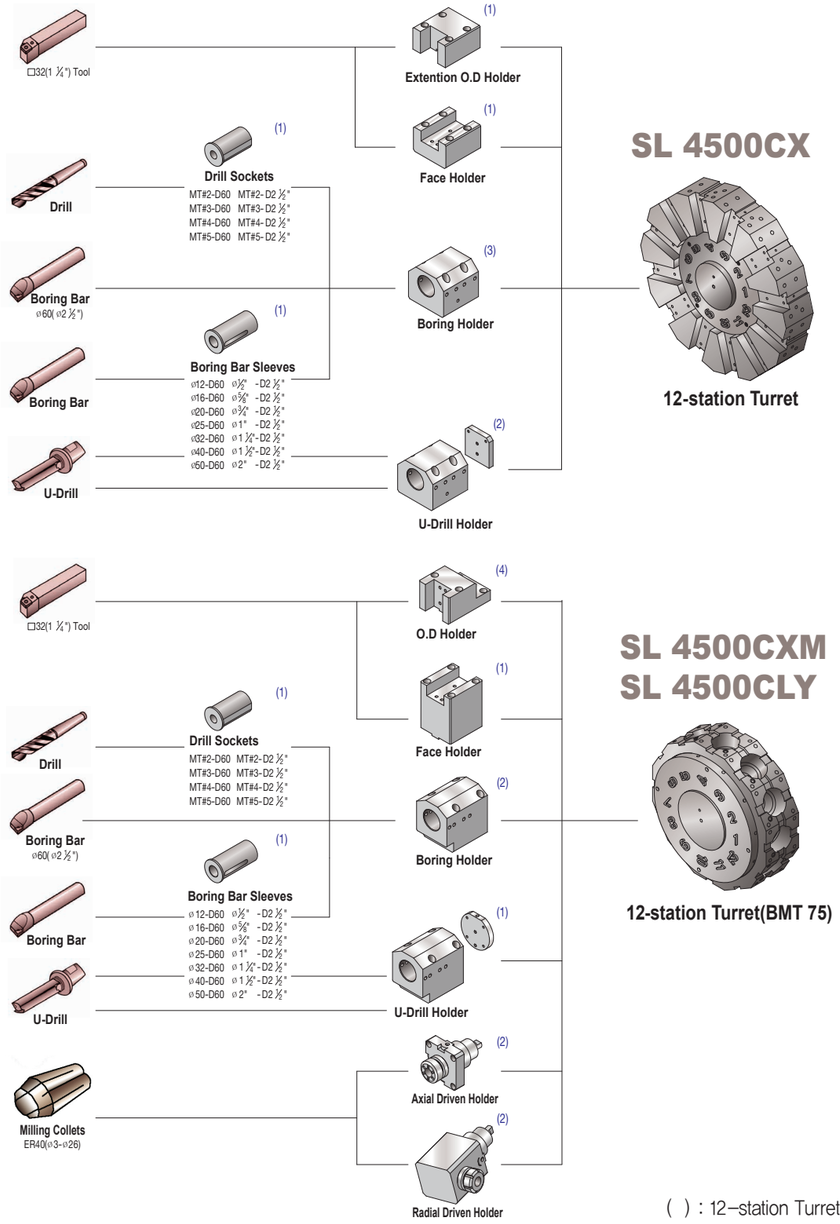
Optional Accessories


Auto Door


Chip Conveyor


Steady Rest & Preparation

Tooling System

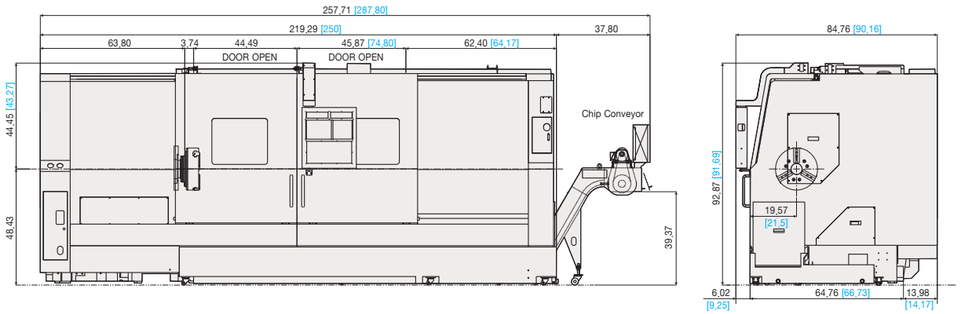


Machine Dimensions

Unit : inch

SL 4500CX(CXM)/2200BB

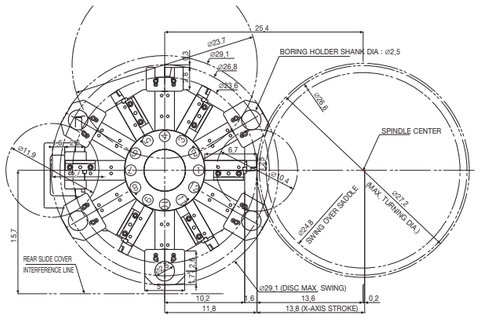
[ ] : SL 4500CX(CXM)/3000BB



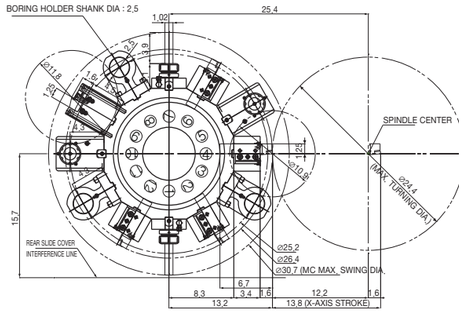
Turret Head Interference

Unit : inch

STD TURRET (STD 12 station)



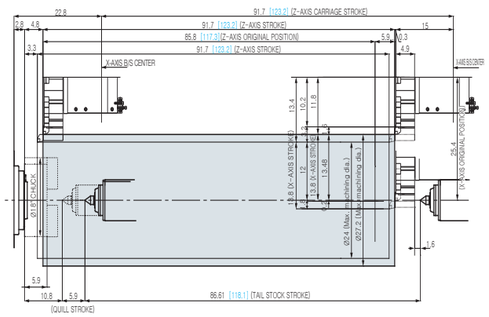
MILL TURRET (BMT 75)



Work Range

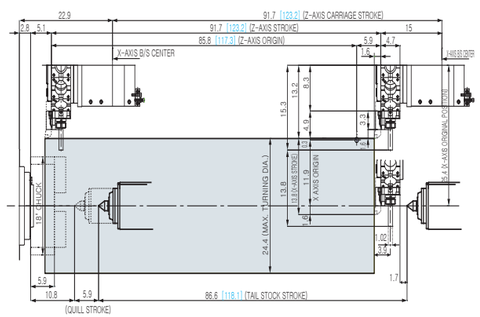
Unit : inch

SL 4500CX/2200



[ ] : SL 4500CX/3000

SL 4500CXM/2200



[ ] : SL 4500CXM/3000

Major Specifications

DESCRIPTION			SL 4500CX(CXM)/2200BB	SL 4500CX(CXM)/3300BB	SL 4500CLY
CAPACITY	Swing over bed	inch	30.5	30.5	38.4
	Swing over saddle	inch	24.8	24.8	32.7
	Max. machining diameter	inch	27.2	27.2	24.4
	Max. machining length	inch	88.8	120	114.2
TRAVELS	X-axis travel	inch	13.8	13.8	14.8
	Z-axis travel	inch	91.7	123	120.5
	Y-axis travel	inch	-	-	±3.94
MAIN SPINDLE	Chuck size	inch	24	24	24
	Spindle speed	rpm	1,200	1,200	1,200
	Spindle nose	ASA	A2-15	A2-15	A2-15
	Spindle through hole diameter	inch	7.1	7.1	7.1
	Min. spindle indexing angle	deg	(0.001)	(0.001)	0.001
TURRET	Number of tool stations	ea	12 [BMT75]	12 [BMT75]	12 [BMT75]
	Shank size for square tool	inch	□1.25	□1.25	□1.25
	Shank diameter for boring bar	inch	Ø2.5	Ø2.5	Ø2.5
	Indexing time	sec	0.2	0.2	0.2
	Rotary tool spindle speed	rpm	(4,000)	(4,000)	4,000
FEED RATE	Rapid traverse (X/Z/Y)	ipm	787 / 709 / -	787 / 394 / -	787 / 394 / 590
	Feed per revolution	inch/rev	0.00006~20	0.00006~20	0.00006~20
MOTOR	Spindle drive motor(30min/cont.)	hp	50/40	50/40	50/40
	Rotary tool spindle motor	hp	(10 / 7.4)	(10 / 7.4)	10 / 7.4
TAILSTOCK	Quill diameter	inch	Ø6.3	Ø6.3	Ø6.3
	Quill bore taper	MT	MT-5(BUILT-IN)	MT-5(BUILT-IN)	MT-5(BUILT-IN)
	Quill travel	inch	5.9	5.9	5.9
ELECTRIC POWER SUPPLY		kVA/V	60 / 220	60 / 220	63 / 220
REQUIRED FLOOR SPACE		inch	219×85	250×90	250×91
MACHINE HEIGHT		inch	93	92	93
MACHINE WEIGHT		lbs	29,000	44,100	48,500
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
- 18 ″ HYDRAULIC CHUCK
- 24 ″ HYDRAULIC CHUCK(BB)
- SOFT JAW 3 SETS
- TOOL HOLDERS
- LEVELING BLOCK
- TOOL PRESETTER
- PROGRAMMABLE TAILSTOCK

Optional Accessories

- HARD JAW 1 SET
- CHIP CONVEYOR
- AIR BLOW UNIT
- HYD. STEADYREST