FRYER
MACHINE SYSTEMS

Precision Built Solutions

TURNING CENTERS

DESIGNED, ENGINEERED
& ASSEMBLED IN USA

SL SERIES

High Precision Slant Lathe

FRYER SL SERIES

SL-6

20 HP Headstock 100-6,000 RPM
Swing Over Bed - 14” Max Turning Diameter - 12”
8 Station Turret / .750” Tooling
Bar Capacity - 1.75” 6” Hydraulic Chuck

ULTRA ACCURATE SLANT LATHE

HIGH PRECISION PRODUCTION TURNING

SL-8

30 HP Headstock 100-4,500 RPM
Swing Over Bed - 20” Max Turning Diameter - 12”
12 Station Turret / 1.0” Tooling
Bar Capacity - 2.00” 8” Hydraulic Chuck

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FRYER SL SERIES

SL-10

40 HP Headstock 100-3,500 RPM
Swing Over Bed - 24” Max Turning Diameter - 14”
12 Station Turret / 1.0” Tooling
Bar Capacity - 3.00” 10” Hydraulic Chuck

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ULTRA ACCURATE SLANT LATHE

HIGH PRECISION PRODUCTION TURNING

SL-12

40 HP Headstock 20-3,500 RPM
Swing Over Bed - 28” Max Turning Diameter - 18”
12 Station Turret / 1.0” Tooling
Bar Capacity - 3.60” 12” Hydraulic Chuck

INSIDE THE SL

DRY SUMP
A dry sump lubrication system is standard on all SL lathes. It features a separate oil tank that is located away from the headstock to keep the oil cool.

12 STATION TURRET
with available live tooling and Y axis

ONE PIECE BASE
The SL series features a rugged one piece base casting for added rigidity. Made from thermally stable Meehanite cast iron, it also contains coolant and chips with the integrated chip pan and flood coolant reservoir.

TRUE 45 DEGREE SLANT BED FRAME
with hardened and ground box way construction

DESIGNED, ENGINEERED & ASSEMBLED IN USA

WHY WE'RE BUILT BETTER

FRYER / SIEMENS 828-HS CONTROL

The ultimate toolroom CNC. Easy to use for single piece production but includes features unmatched by any other builder. Regenerative drives save you over 40% on electricity.

ABSOLUTE ENCODERS

Remembers your position with the power off. All fixture offsets and tool offsets are maintained so you don't have to re-indicate parts like on other controls.

PRECISION GROUND C3 GRADE DOUBLE NUT BALLSCREWS

Provides incredible 0.0002" accuracy for your most demanding jobs.

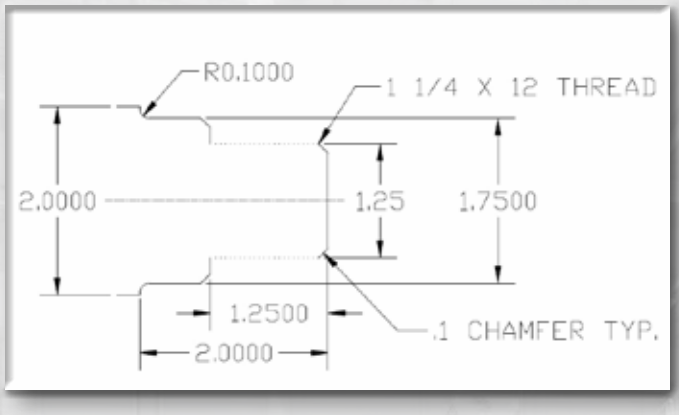
AVAILABLE TAILSTOCK

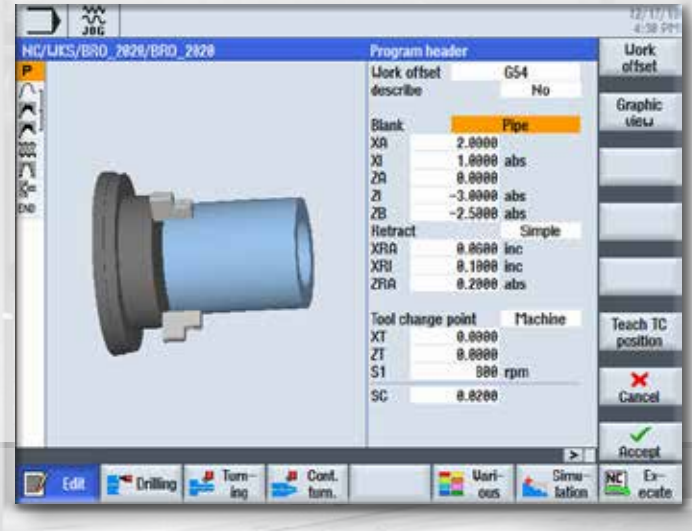
features a hydraulic lock and automatic positioning device

PROGRAMMING

PART PRINT

Programming in ShopTurn on the Fryer / Siemens 828-HS control is straight forward with no need for G codes. Enter dimensions directly off the print.



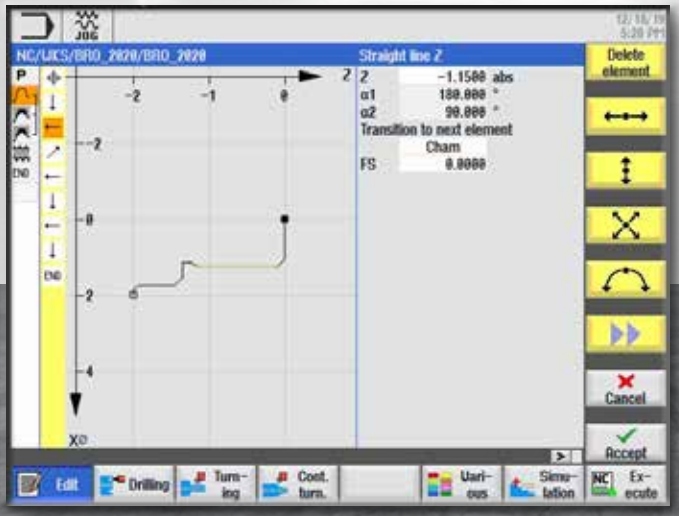


PROGRAM HEADER

Enter information about the diameter, length and shape of your blank and where you want to make tool changes

CONTOUR EDITOR

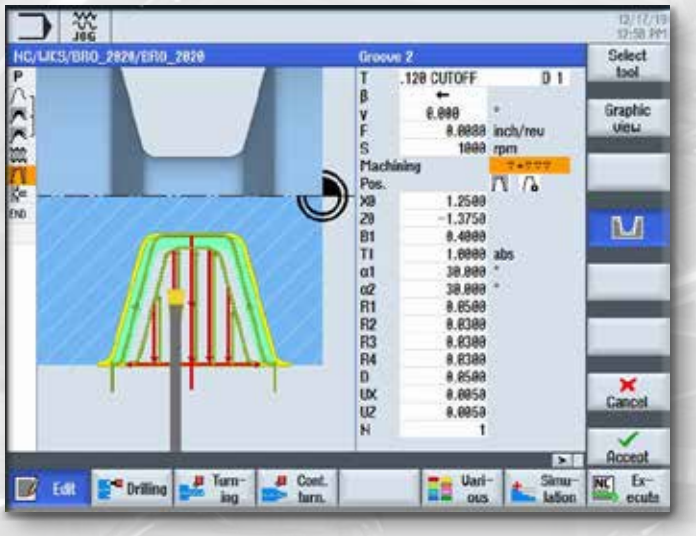
This feature lets you create a tool path with finished dimensions right from your print. Enter the numbers and the path generates visually as you go along.



MACHINE THE CONTOUR

This cycle connects to the tool path you created in the Contour Editor. Here you enter the tool, speeds and feeds, depth of cut and direction. An interrupted cut feature lets you break stringy chips during roughing.

FROM DRAWING TO FINISHED PART



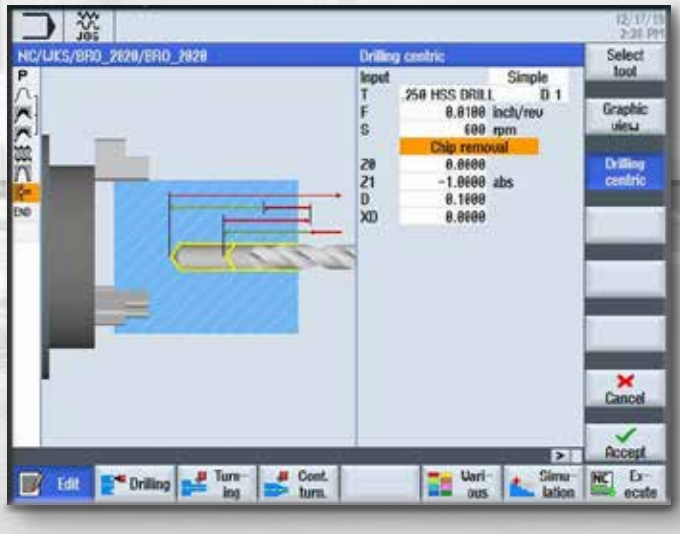
GROOVING CYCLE

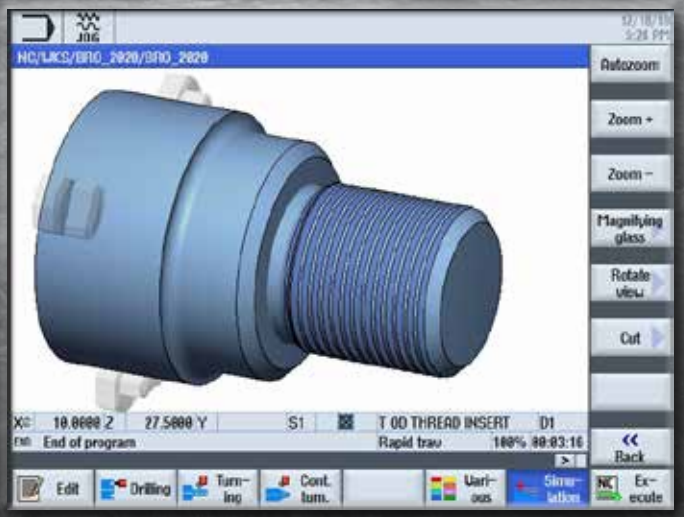
Any type of groove can be easily created with just a few keystrokes. V grooves with different wall angles and a radius at the bottom? No problem. Cycles can be switched to face or internal grooving with one key. Want multiples? Easy as adding how many and the spacing.

DRILLING CYCLE

Manual drilling from the tailstock is standard but maybe you have a lot of parts to make. Drill and tapping cycles make it automatic.

A time saving feature of the 828-HS is that it remembers all your previous values in any cycle. Open a cycle you used weeks ago and there are your last values. Now you only need to change one or two instead of starting over with empty boxes.





SIMULATION MODE

Before making any chips the full featured simulation mode lets you see the part in 3D to check if everything is correct compared to the print. Part can be rotated, zoomed and cut to see into different areas of the part. Groove in the wrong place? Fix it before you actually machine it. Simulation even shows cycle time.

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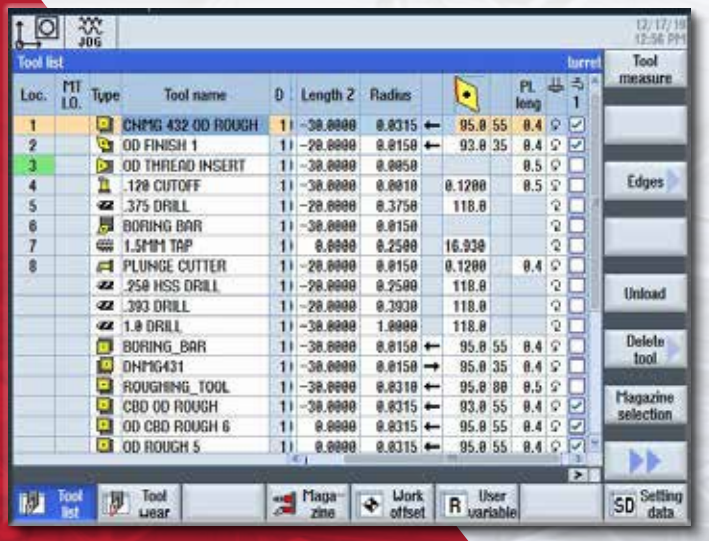
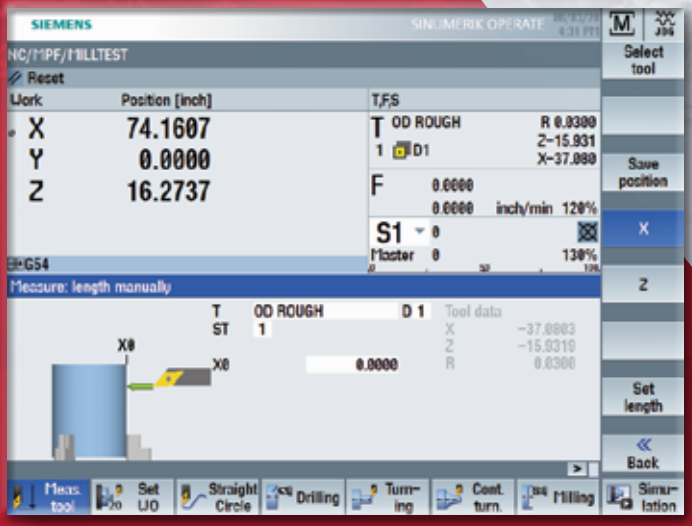
SETUP AND OPERATION



TOOL TABLE

Graphic display shows the type and name of tools. When you create a 55 degree insert it looks exactly like the tool. You can also control spindle direction and coolant. Tool life monitoring is also standard for time in cut or part count. Tool library has space for 250 tools with multiple edges available.



MEASURE TOOL

Touch off the tool on the part or chuck to set your X and Z lengths. Then use one of 99 work offsets to set your part Zero. All offsets are automatically saved.

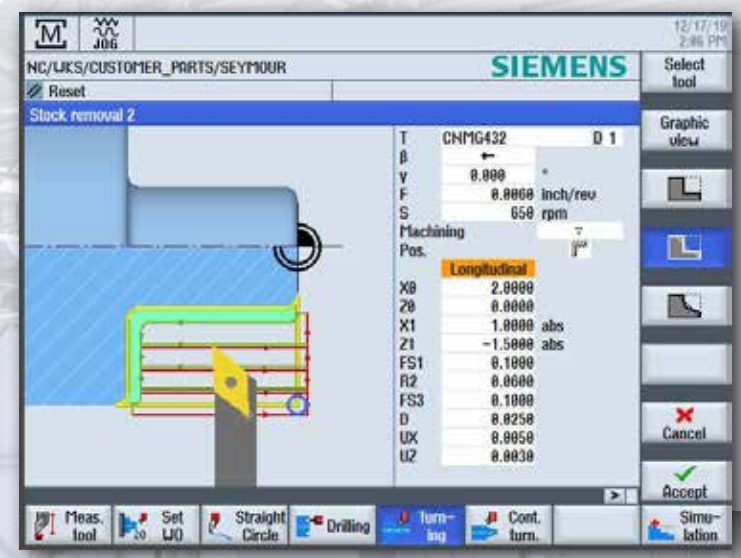
HANDWHEEL RUN

This feature allows you to control your program execution with the optional electronic handwheel. Turning the handwheel causes the program to run with you in charge of the axis feed. Turn it slow or speed things up by cranking faster. When you stop turning the axes stop moving, turn the handle the opposite direction and the axes move backwards though the program. Designed to make proving-out programs easier with safety and confidence. (optional)

NO CNC EXPERIENCE NEEDED

DO ONE CYCLES

The Do One cycles allow you to quickly drill, bore or tap holes automatically by filling out a simple screen. Once the operation is completed the machines returns to manual mode. Includes simple turning, threading, thread repair, drilling, tapping and boring cycles.

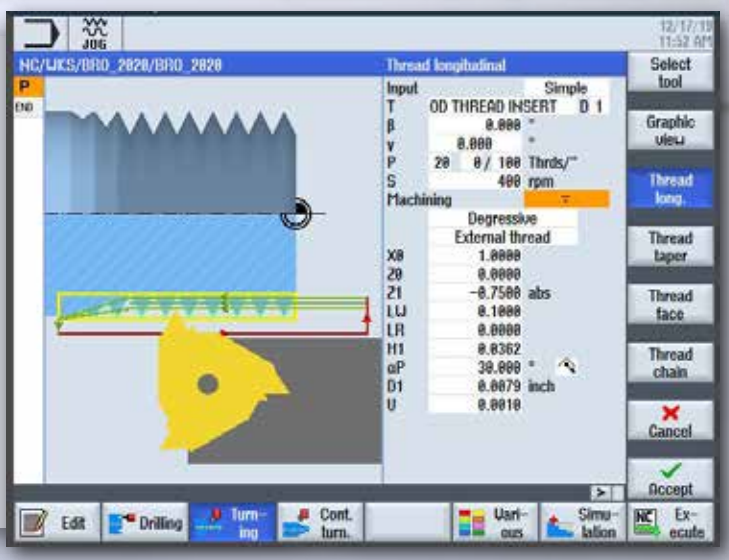


SIMPLE TURNING

You just need to make one simple turned part so why write an entire program? In Manual Mode all turning cycles are available to run by themselves with no program required. You choose your tool, speeds and feeds, depth of cut and the cycle does the rest.

THREADING

This operation becomes a simple fill in one box procedure. The thread cycle can run by itself in Manual Mode without having to write an entire program. Tapered, external/internal threads, inch/metric, right hand/left hand threads are all there in the same do-one cycle. The threading cycle also does thread repair with another click of a button.



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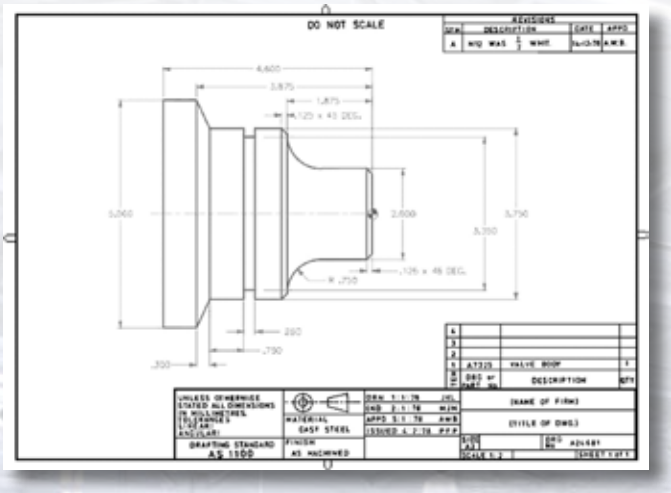
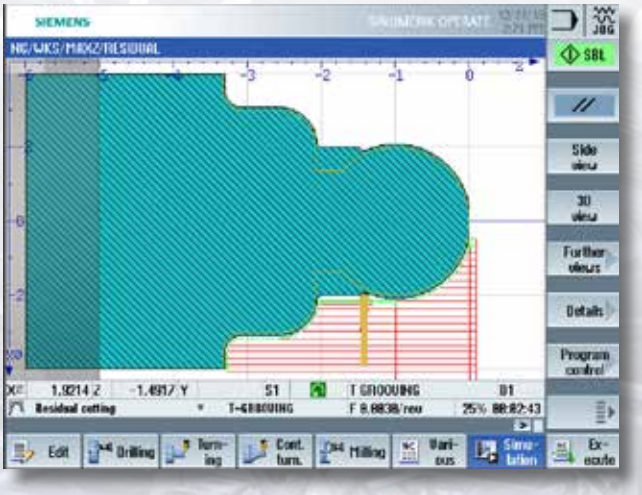
CONTROL OPTIONS



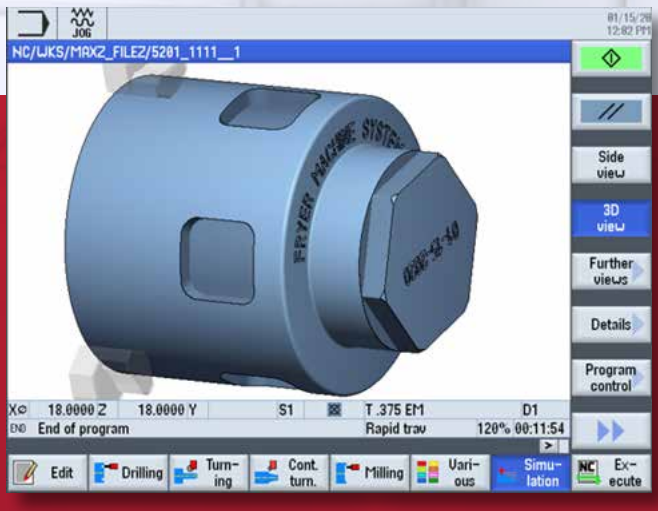
DXF FILE IMPORT FEATURE

Allows you to import DXF files and quickly convert to a conversational program. Automatically creates tool path for turning operations.



RESIDUAL MATERIAL DETECTION

This software option allows re-machining of relief contours with a tool smaller than the original tool. The control will remember where material has already been machined and will cut only residual material.



CONVERSATIONAL LIVE TOOL AND C AXIS CYCLES

Live tool part programming in C axis is simple with the canned cycles helping you fill in information. Tell the cycle what diameter you want to work on and it will wrap the cycle around the diameter or work on the front of the part to create pockets, keyways, drilling, engraving etc.

OTHER AVAILABLE CONTROL OPTIONS

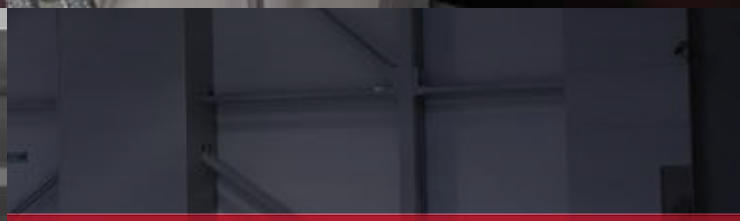
EXTENDED OPERATOR FUNCTIONS - Includes an automatic teach function to save positions to an MDI program, the ability to save tool data and tool offset data, save MDI programs and other features.

HIGH SPEED NETWORK INTERFACE - High speed Ethernet port is the ideal way to connect your machine to your LAN (local area network). Features 10/100 MB/s bandwidth for fast uploads and downloads of part programs. Also features a drip feed option that allows you to run part programs larger than the memory of the machine.

MACHINE OPTIONS

HYDRAULIC STEADY REST

Hydraulic steady rest allows full length turning of smaller diameter parts with full support.



AUTOMATIC TOOL PRESETTER

Motorized arm type pre-setter swings into position for automatically setting length and diameter offsets.

OTHER AVAILABLE MACHINE OPTIONS

TURRET MOUNTED PART PROBE

Wireless lathe part probe installs in turret for automatic measurement of part features.

MAGAZINE STYLE BAR FEED SYSTEM

4’ length bar capacity for 2.5” and 3.15” diameter bars

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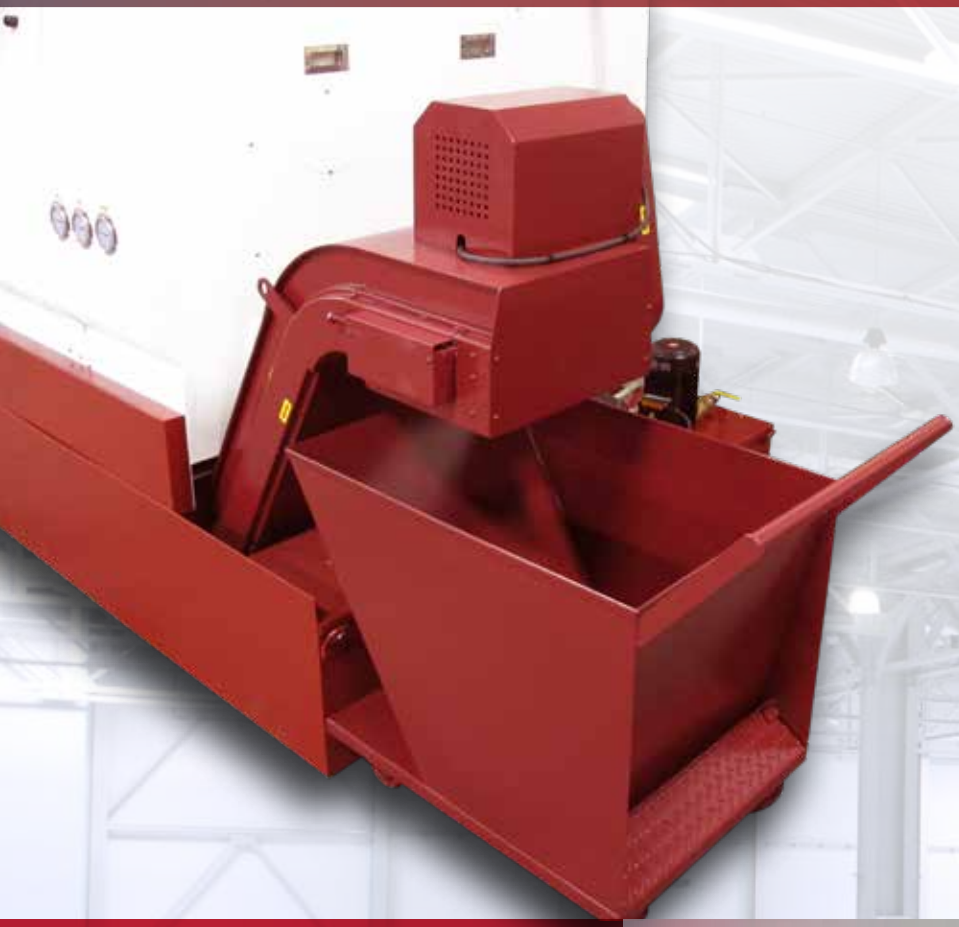
MACHINE OPTIONS

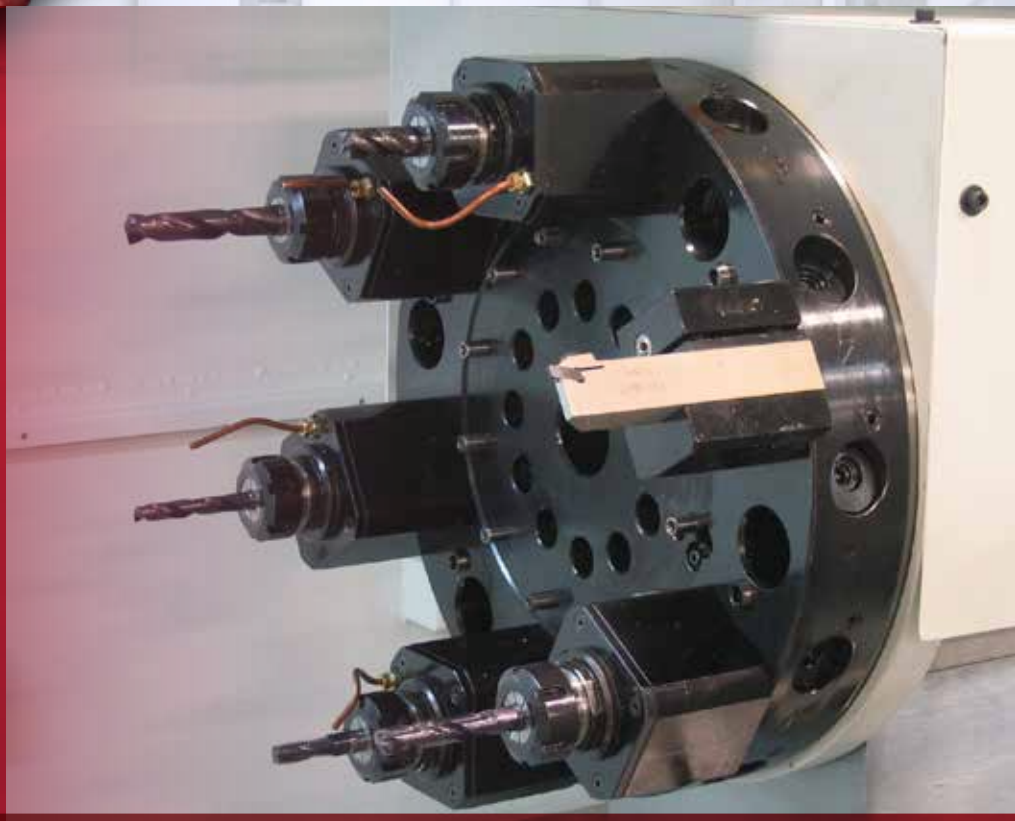


CHIP CONVEYOR

Chip Conveyors available for all bed lengths. Conveyor runs the length of the bed and exits at a standard height into a chip cart or drum.

LIVE TOOL TURRET

The Live Tool Turret package includes a 10 HP live tool spindle motor with rigid tap and a surface transformation feature. This feature provides full milling cycles such as pocketing and contouring to be easily programmed using the conversational menus. Also available with Y axis.



FRYER / SIEMENS ADVANCED 2300 CONTROL

The Fryer / Siemens Touch 2300 CNC provides world class technology and ultra-advanced features in an intuitive user interface. Based on the powerful Siemens 840D SL, this state of the art platform provides the ultimate for 5 axis and high speed machining. 19" touch screen features a high-resolution, digital color monitor with finger motions to control pinch, zoom and scroll. Shop floor programming, G code programming, large program storage, Ethernet connectivity, 3D solid model graphic verification speed the first article process.

FANUC 0I-F AND 30I-B SERIES CONTROLS

Industry standard Fanuc controls are available on all Fryer machines. The 0i series Model F features up to 4 axis simultaneous capability and the 30i series Model B for complex 5 axis capability and beyond. All Fanuc controls include matching digital drives and axis servo motors as well as powerful Fanuc spindle motors. Many control options available such as AI Contour Control, High Speed Machining and Nano Interpolation allow custom configurations.

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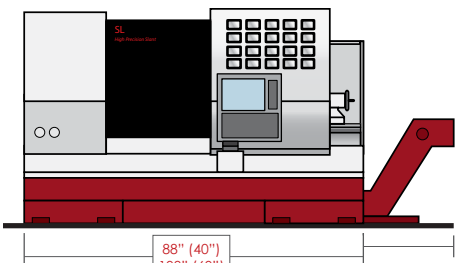
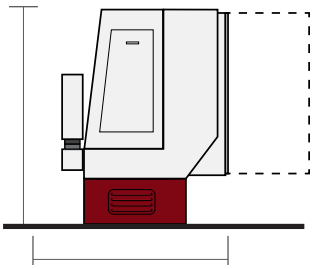
	SL SERIES SPECIFICATIONS	SL-6	SL-8	SL-10	SL-12
MACHINE CAPACITY	Swing Over Bed	14”	20”	24”	28”
	Max Turning Diameter	12”	12”	14”	18”
	Working Length	9.0”	16” (24”, 46”)	24” (46”, 80”)	
	Distance Between Centers	N/A	19” (27”, 51”)	27” (51”, 83”)	
	Cross Slide Travel (X)	7.5”	7.5”	8.5”	11”
	Longitudinal Travel (Z)	9.5”	16” (24”, 48”)	24” (46”, 80”)	
	Number of Turret Positions	8	12	12	
	Turret Tooling Size	3/4” BOT (VDI-30)	1” BOT (VDI-30, BMT-45)	1” BOT (VDI-40, BMT-55)	
	Turret Index Time (one tool)	1 sec	1 sec	1 sec	
SPINDLE	Spindle Nose	A2-5	A2-6	A2-8	
	Spindle Bore	2.2”	2.4”	3.4”	4.17”
	Bar Capacity	1.75”	2.0” (3.0”)	3.0” (3.6”)	3.6”
	Hydraulic Chuck Size	6”	8” (10”)	10” (12”)	12” (15”)
	Spindle Speed Max (RPM)	6,000	4,200	3,500	3,000
	Spindle HP (Peak)	20	30	40	40
TAILSTOCK	Quill Travel	N/A	4.0”	4.0”	4.0”
	Quill Diameter	N/A	3.15”	3.15”	4.15”
	Quill Taper Hole	N/A	MT-4	MT-4	MT-5
PERFORMANCE	Positioning Accuracy		‘+/-0.00010”		
	Positioning Repeatability		‘+/-0.00005”		
	Rapid Traverse (X,Z)		1,200 IPM		
	Servo Type		AC Digital Brushless		
	Axis Thrust (Peak)	3,360 lbs. X, Z	6,360 lbs. X, Z	6,360 lbs. X, Z	10,732 lbs. X, Z
GENERAL INFO	Coolant Capacity		40 Gallons		
	Coolant Flow		5 GPM		
	Power Requirements	40 AMP	40 AMP	80 AMP	80 AMP
	Voltage Requirements		430-500 VAC 3 PHASE	(205-245 VAC Optional)	
	Shipping Dimensions* (WxDxH)	70”x50”x60”	90”x69”x70	108”x69”x70”	128”x69”x70”
	Operating Dimensions (WxDxH)	70”x50”x60”	90”x69”x70”	108”x69”x70”	128”x69”x70”
	Machine Weight	5,500 lbs.	11,500 lbs.	14,500 lbs.	16,000 lbs.





	SL-6	SL-8	SL-10	SL-12
Overall Width (A)	70"	90"	108"	128"
Overall Depth (B)	50"	69"	69"	69"
Maximum Height (C)	60"	70"	70"	70"
Door Opening Width (D)	59"	34"	31"	59"
Side Door - Width x Height (E)	30"x30"	27"x34"	30"x30"	30"x30"
Side Door Swing (F)	N/A	29.5"	N/A	N/A
Electrical Cabinet Swing (G)	38"	34"	38"	38"
Approximate Machine Weight (H)	5,500 lbs.	11,500 lbs.	14,500 lbs.	16,000 lbs.

* Requires some disassembly to meet these minimum dimensions. Contact factory for more information.