FRYER
MACHINE SYSTEMS

Precision Built Solutions

TURNING CENTERS



MADE IN USA

VT SERIES

Vertical Turning Center

FRYER VT SERIES



VT-40

40” Swing
Max Cutting Length 32” (48”)
Cutting Diameter Range 0-40”
8 / 12 Station Turret

COMPACT LARGE SWING VTL

INNOVATIVE TRAVELING COLUMN DESIGN



VT-60

60” Swing
Max Cutting Length 32” (48”)
Cutting Diameter Range 0-60”
8 / 12 Station Turret

MADE IN USA

FRYER VT SERIES



VT-80

80” Swing
Max Cutting Length 32” (48”)
Cutting Diameter Range 12”- 80”
8 / 12 Station Turret

MADE IN USA

COMPACT LARGE SWING VTL

INNOVATIVE TRAVELING COLUMN DESIGN



OD LIVE TOOL

- Milling and drilling
- 10 HP live tool spindle
- Full contouring



FACE LIVE TOOL

- Milling and drilling
- Positioning and contouring
- 4,000 RPM



OD & ID GRINDING

- Wheels up to 8” diameter
- 10 HP with high torque
- OD and ID



MEASUREMENT PROBING

- High accuracy
- ID, OD and face probing
- Automatic probing cycles

INSIDE THE VT



HEAVY DUTY GEARED SPINDLE

The VT Series features a heavy duty gearbox with a dry sump oil system. The A2-15 spindle nose is driven by a 75 HP spindle motor producing 2,700 ft/lbs of torque. (VT-60/80 only)



ROLLER TYPE LINEAR WAYS

High rigidity with higher cutting speeds and rapid rates as well as more accurate positioning.

ONE PIECE BASE

The VT 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.

MADE 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. Fanuc also available.

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.

MANUAL OPERATION

THE FRYER / SIEMENS 828-HS

The Fryer / Siemens 828-HS offers the flexibility to run the machine manually when needed. All the ShopMill conversational cycles that are used in a program are available in manual mode to run as a do-one operation. Axis jog buttons and do one positioning let you position your tool, turn on the spindle and make your cut. No knowledge of G code is needed.



HANDWHEEL/HANDWHEEL RUN

Axis and resolution select as well as Cycle Start and Feed hold Buttons allows for easy manual positioning of tools or table. You can also run the program with the available Handwheel Run feature.

ELECTRONIC STOPS

Allows you to set a stop position for any axis. Turn the handwheel or axis push buttons and you can't move past the stop position.

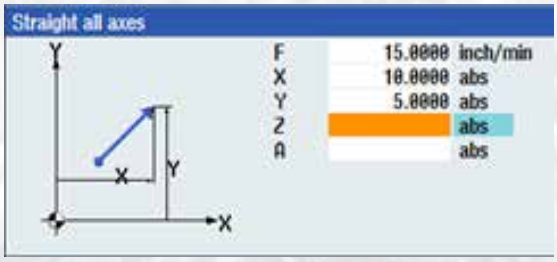


NEXT TOOL/PREVIOUS TOOL

Easy tool changes without commands using next tool/previous tool buttons.

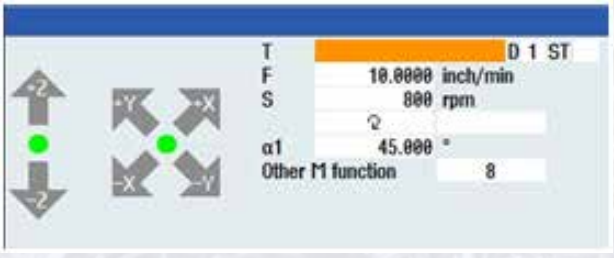
OTHER MANUAL FEATURES

- MANUAL SPINDLE CONTROL Enter the RPM and spindle direction and push cycle start
- JOG BUTTONS Select the axis and adjust the feed rate override dial to your desired feed rate
- TEACH MODE Records positions with a push of a button as you move X Y and Z around. Can then be used to create a program or run by itself.



PUSHBUTTON POSITIONING

Move one axis or all at once with a controlled feed rate or in rapid. Positioning moves can be made in absolute or incremental.



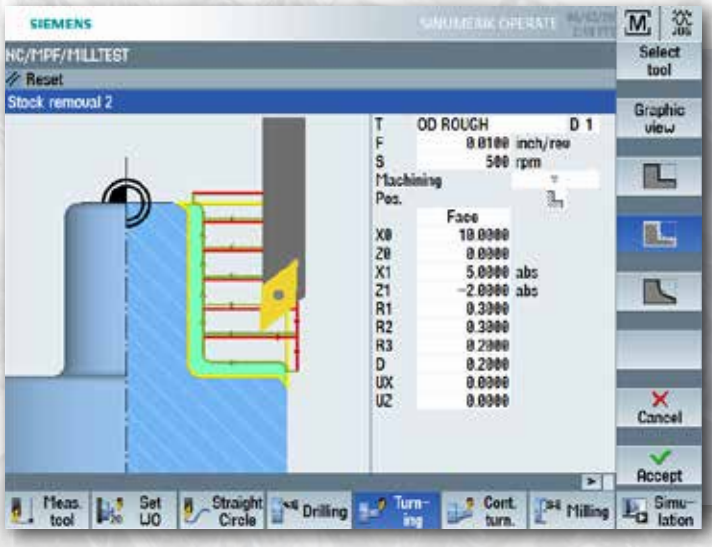
TAPERS AND CHAMFERS

Set the angle required and by turning the handwheel both axes move at the desired angle.

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.

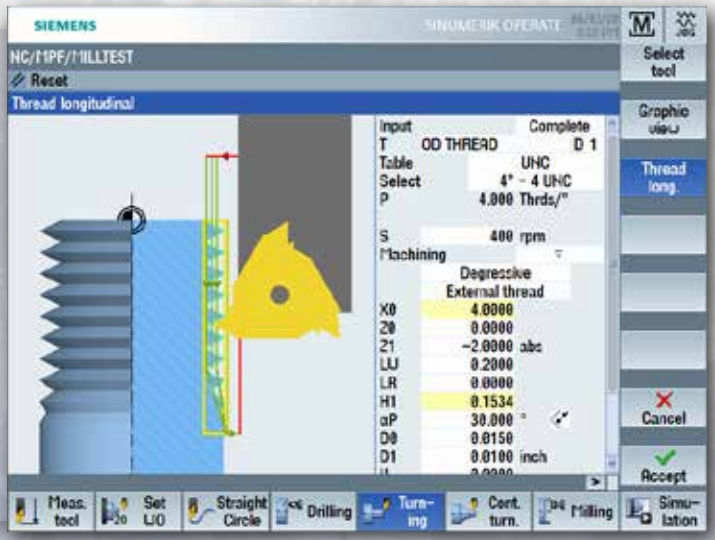


SIMPLE TURNING

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

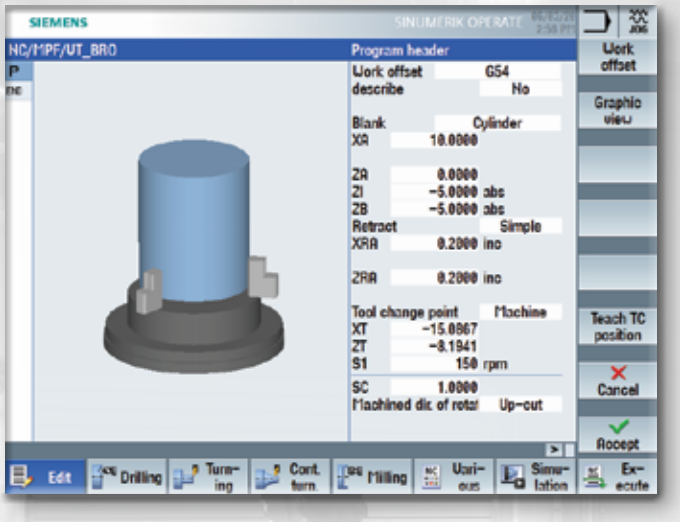
This operation becomes a simple fill in one box procedure. The thread cycle can run by itself in Manual Mode without having to write an entire program. Tapered, external/internal threads, inch/metric, right hand/left hand threads are all there in the same do-one cycle. The threading cycle also does thread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



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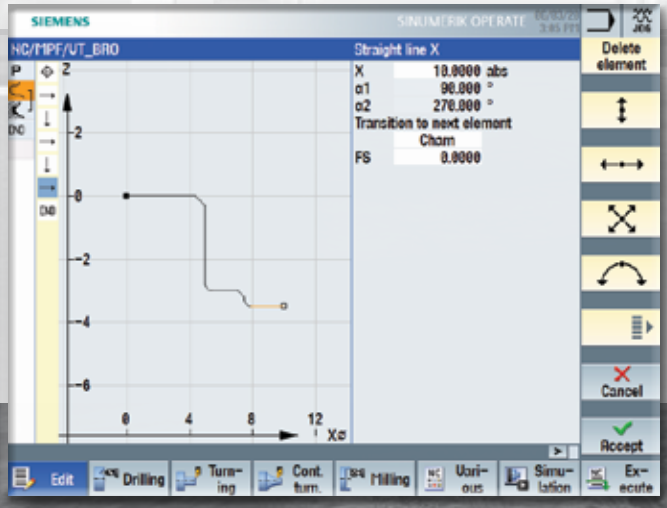
PROGRAMMING

Programming in conversational ShopTurn on the Fryer/Siemens 828 control is straight forward with no need for G codes. Menu style fill-in the blanks cycles offer visual help as well as access to the entire programming manual. Standard G and M codes can also be mixed into the ShopTurn program.



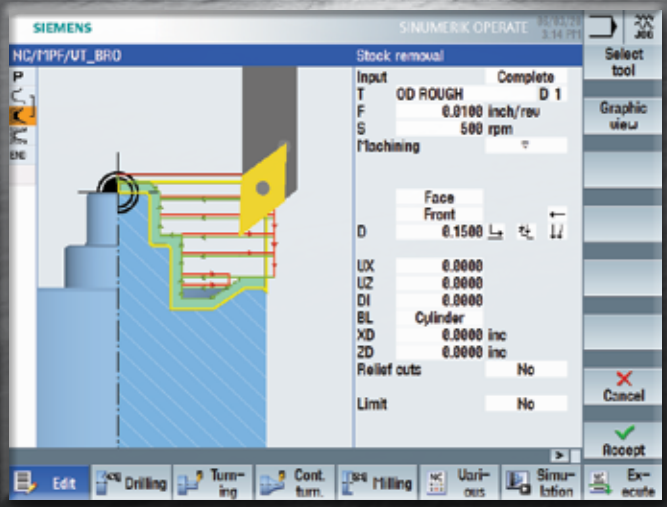
PROGRAM HEADER

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



CONTOUR EDITOR

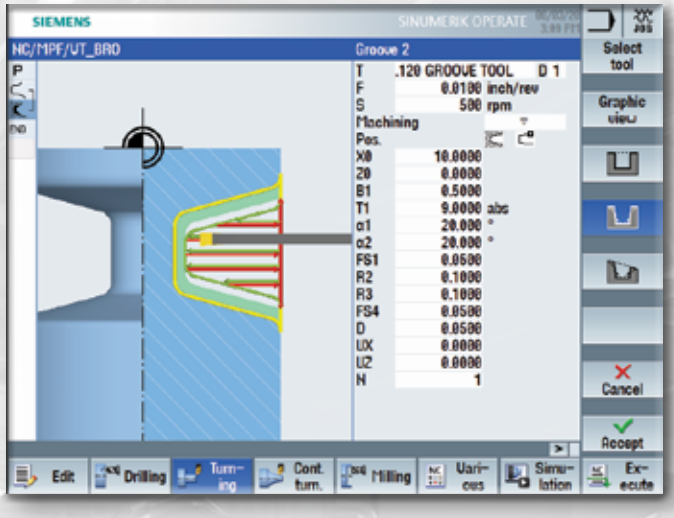
This feature lets you create a tool path with finished dimensions right from your print. Enter the numbers and the path generates visually as you go along.



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

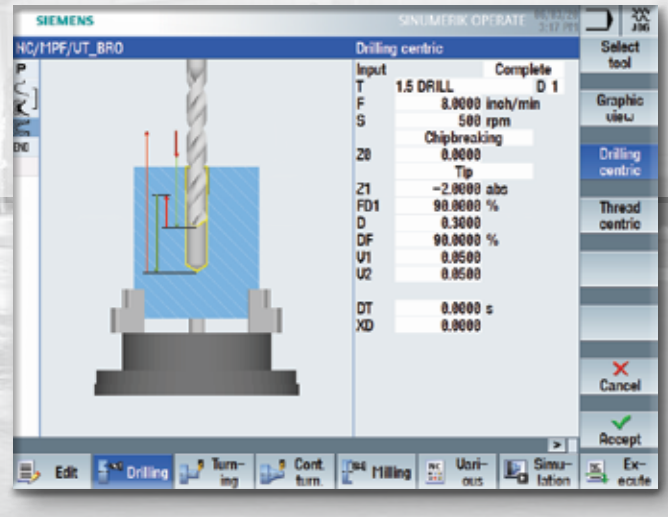


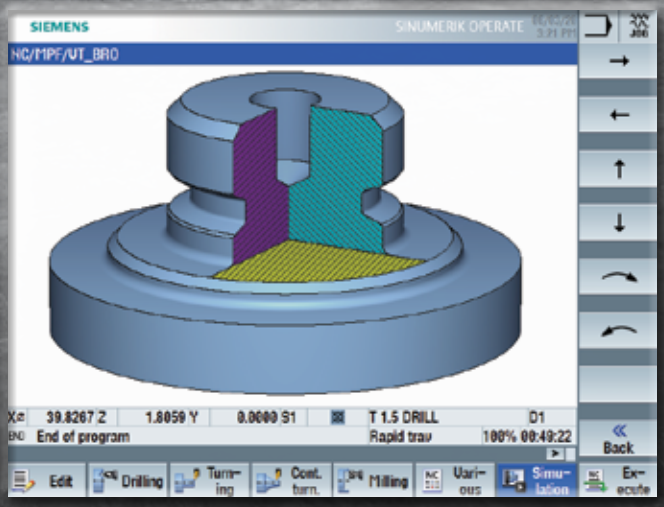
GROOVING CYCLE

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

Drilling cycles will peck, do chip removal, tap and ream. Live tooling will allow bolt circles and patterns. A time saving feature of the 828 is that it remembers all your previous values in any cycle. Open a cycle you used last and your values are still there. Now you only need to change one or two instead of starting over with empty boxes.



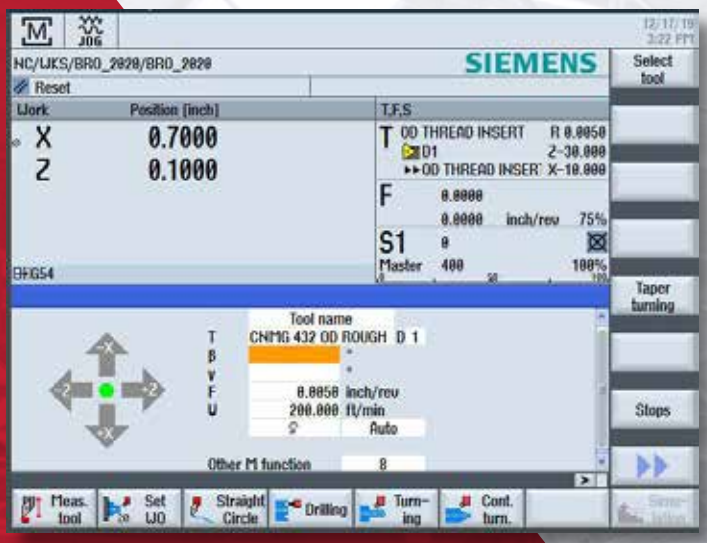


SIMULATION MODE

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

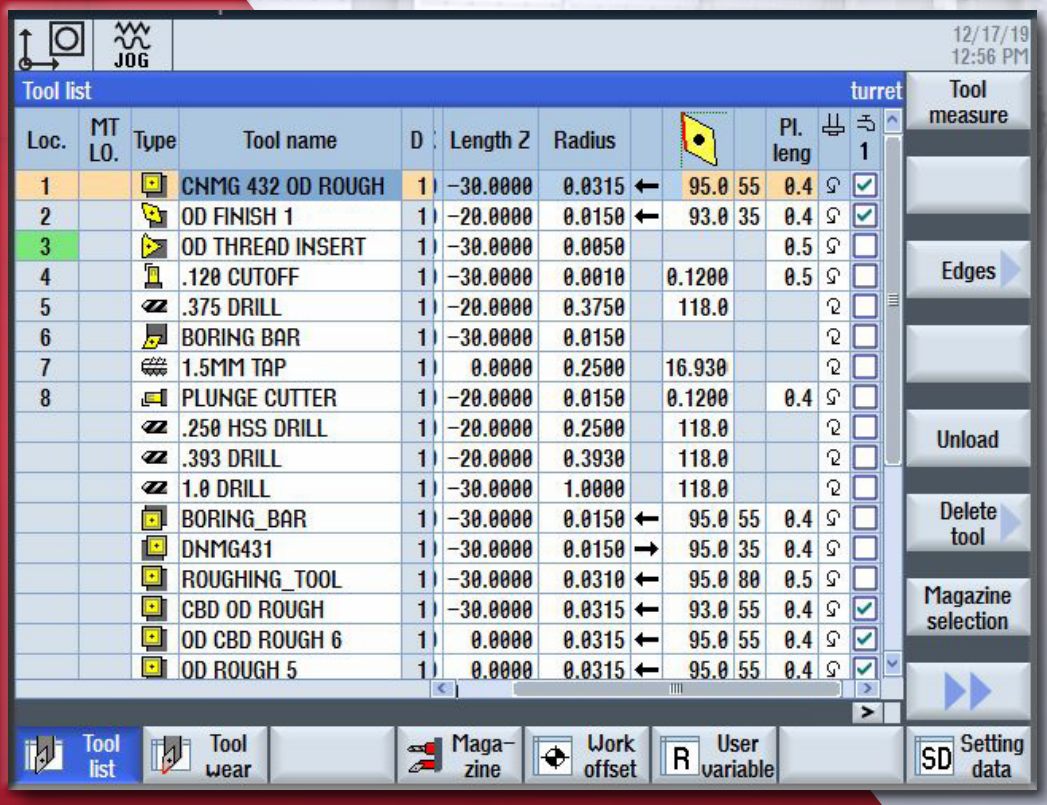


MANUAL SCREEN

All of your basic set-up operations begin here. You can call up tools, set part zeros and operate the machine manually. Want to turn on the spindle and drill a hole or face off a part with the electronic handwheels? Here's where it all starts.

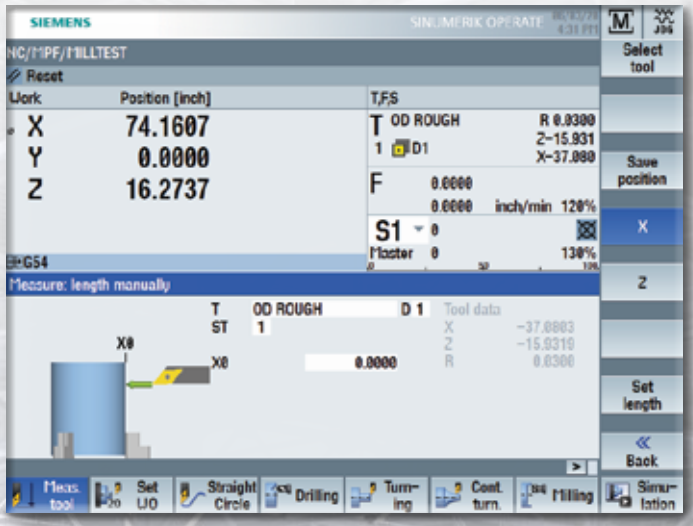
TOOL TABLE

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.



Loc.	MT LO.	Type	Tool name	D	Length Z	Radius				Pl. leng		1
1			CNMG 432 OD ROUGH	1	-30.0000	0.0315	←	95.0	55	0.4		☑
2			OD FINISH 1	1	-20.0000	0.0150	←	93.0	35	0.4		☑
3			OD THREAD INSERT	1	-30.0000	0.0050				0.5		☐
4			.120 CUTOFF	1	-30.0000	0.0010		0.1200		0.5		☐
5			.375 DRILL	1	-20.0000	0.3750		118.0				☐
6			BORING BAR	1	-30.0000	0.0150						☐
7			1.5MM TAP	1	0.0000	0.2500		16.930				☐
8			PLUNGE CUTTER	1	-20.0000	0.0150		0.1200		0.4		☐
			.250 HSS DRILL	1	-20.0000	0.2500		118.0				☐
			.393 DRILL	1	-20.0000	0.3930		118.0				☐
			1.0 DRILL	1	-30.0000	1.0000		118.0				☐
			BORING_BAR	1	-30.0000	0.0150	←	95.0	55	0.4		☐
			DNMG431	1	-30.0000	0.0150	→	95.0	35	0.4		☐
			ROUGHING_TOOL	1	-30.0000	0.0310	←	95.0	80	0.5		☐
			CBD OD ROUGH	1	-30.0000	0.0315	←	93.0	55	0.4		☑
			OD CBD ROUGH 6	1	0.0000	0.0315	←	95.0	55	0.4		☑
			OD ROUGH 5	1	0.0000	0.0315	←	95.0	55	0.4		☑

FASTER, SIMPLER & MORE PRODUCTIVE

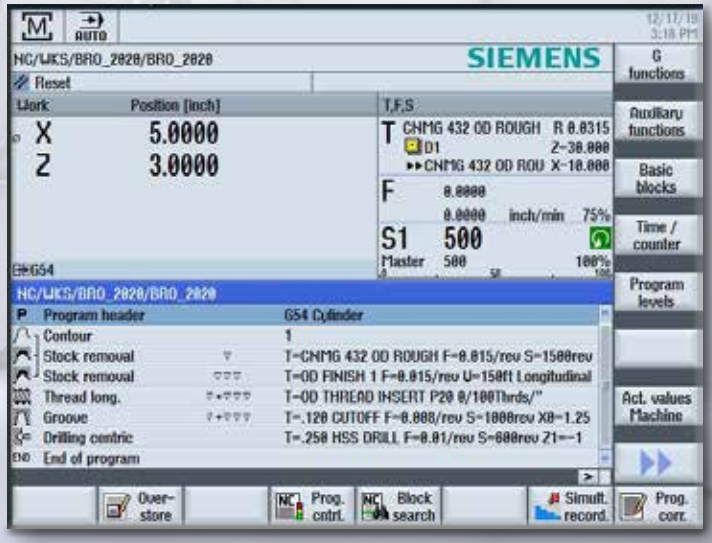


MEASURE TOOL

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.

AUTO SCREEN

After the program is proved out in simulation you are ready to run. The Auto screen Block Search function lets you start anywhere in the program. Part counters and run times are also included.





HANDWHEEL RUN

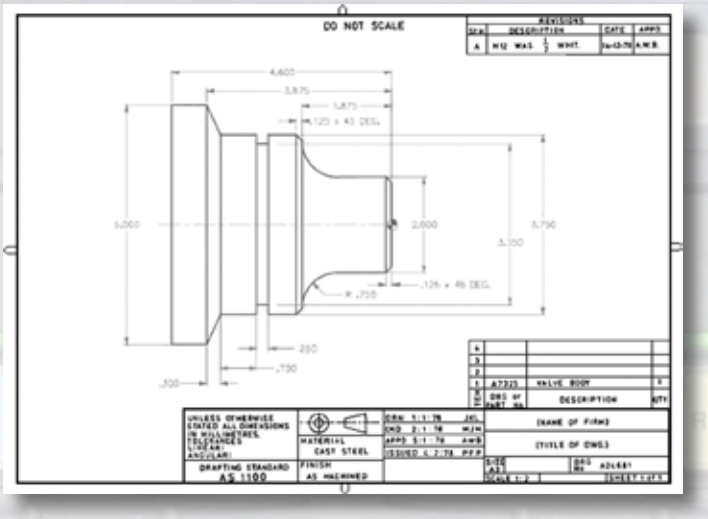
This feature allows you to control your program execution with the optional electronic handwheel. Turning the handwheel causes the program to run with you in charge of the axis feed. Turn it slow or speed things up by cranking faster. When you stop turning the axes stop moving, turn the handle the opposite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

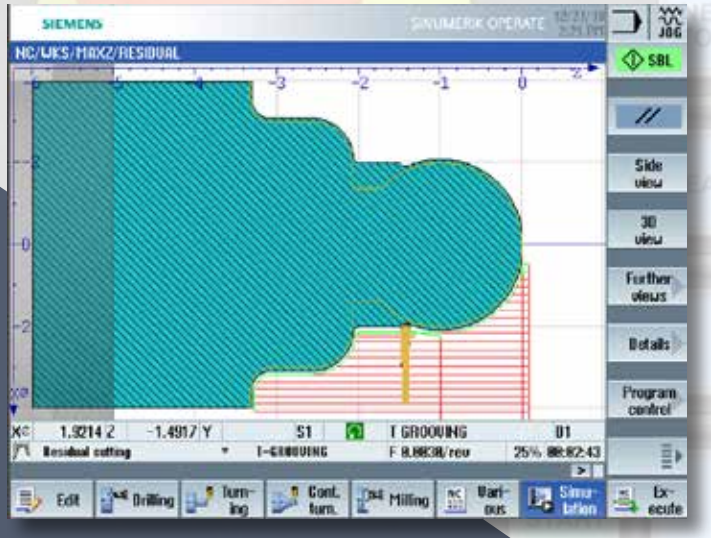
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CONTROL OPTIONS

DXF FILE IMPORT FEATURE

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



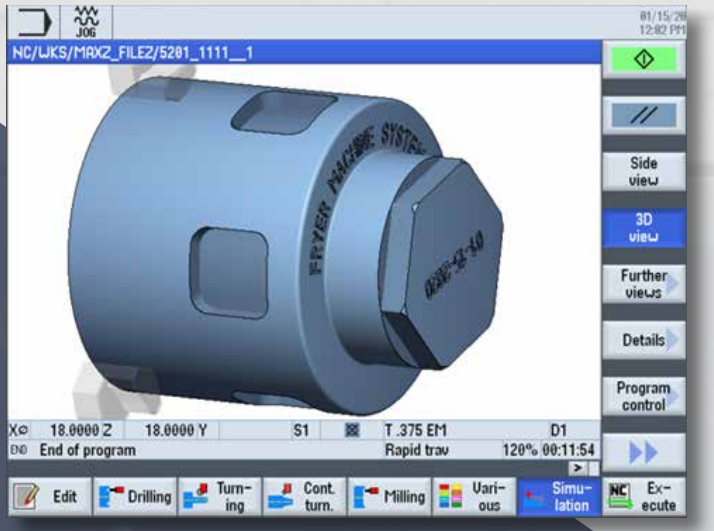


RESIDUAL MATERIAL DETECTION

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.

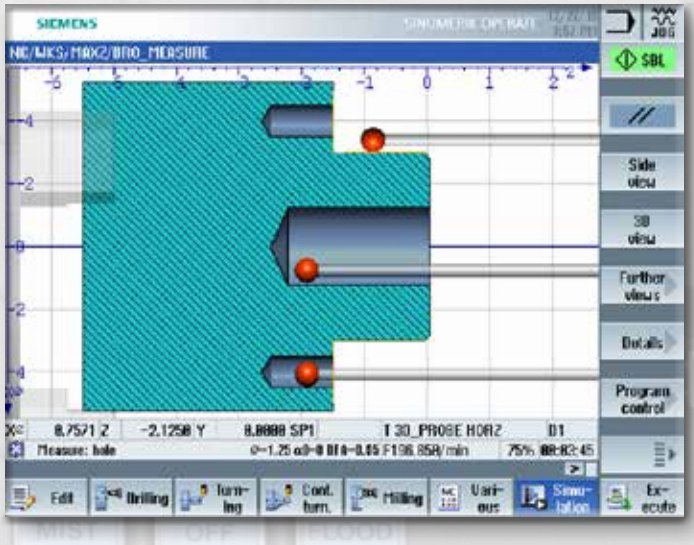


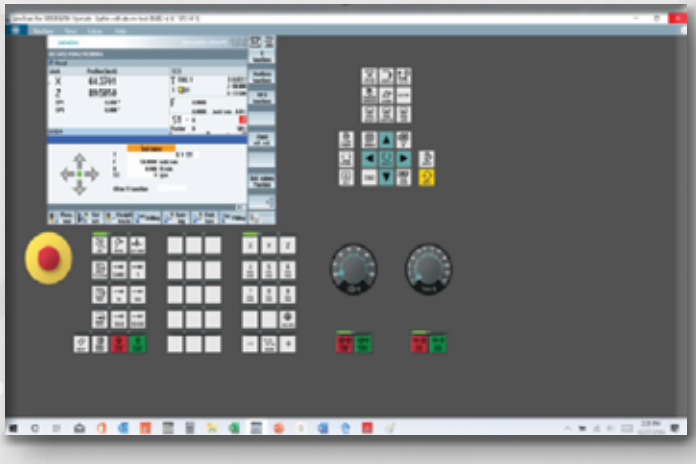
IN-PROCESS PART PROBE MEASUREMENT CYCLES

This feature allows you to measure part features during program execution. Can also be used in MDI mode after cutting the part to then measure certain features and display the measurement.

SIEMENS OFFLINE PROGRAMMING SOFTWARE

Easy-to-use software package that installs on a standard desktop PC and duplicates the control functions. Allows full programming and part program verification.





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.

REMOTE MONITORING

Allows monitoring of the CNC from any remote location where internet access is available. Check cycle times, spindle load, feedrate override position, program being run and more.

MACHINE OPTIONS



TOOL PRE-SETTER

Tool pre-setter automatically sets length and diameter offsets for all of your tooling.



LIVE TOOL TURRET

8 Station bi-directional live tool turret uses standard BMT65 tool holders. Also available in a Y axis configuration. Add a C axis contouring spindle for full multi axis turning, drilling and milling.



MANUAL AND HYDRAULIC CHUCKS AND FACEPLATES

Several sizes of manual chucks and faceplates available as well as programmable hydraulic chucks.



FRYER / SIEMENS SINUMERIK ONE (2400) CONTROL

The Fryer / Siemens SINUMERIK ONE (2400) CNC provides world class technology and ultra-advanced features in an intuitive user interface. 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.

FRYER / FANUC 0i PLUS CONTROL

The Fryer / Fanuc 0i Plus is the world’s leading CNC and provides ultra-advanced features in an industry standard user interface. Milling in vertical or horizontal and turning all use the same platform with up to 4+1 axis capability. Fast set-up cycles, one button hot keys and industry standard cycles speed the set-up process. Shop floor programming using Fanuc’s Manual Guide software, G code programming, large program storage and high speed ethernet connectivity speed the programming process. 3D solid model graphic verification, handwheel run and easy interrupt speed the first article process.

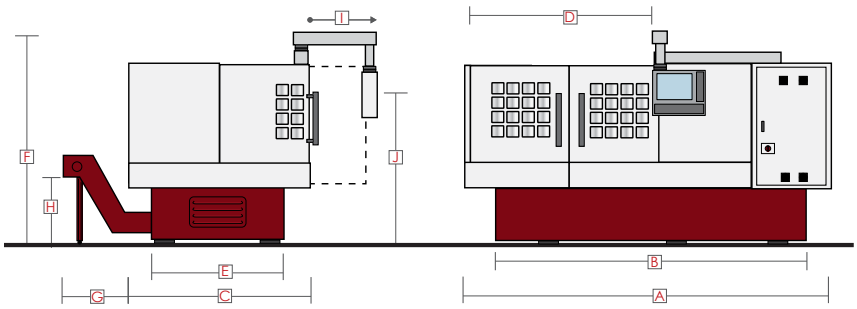


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	VT SERIES SPECIFICATIONS	VT-40	VT-60	VT-80
MACHINE CAPACITY	Maximum Swing Diameter	40”	60”	80”
	Cutting Diameter Range	0” - 40”	0” - 60”	12” - 80”
	Maximum Cutting Length	32” (48”)	32” (48”)	32” (48”)
	Width of Bed	32”	32”	32”
	Column Travel (X)	24”	34”	35”
	Turret Face to Spindle Center (X)	-3” - 21”	-3” - 31”	6” - 41”
	Longitudinal Travel (Z)	32” (48”)	32” (48”)	32” (48”)
	Turret Face (bottom) to Spindle Nose max/min (Z)	8” - 40” (8” - 56”)	8” - 40” (8” - 56”)	8” - 40” (8” - 56”)
	Number of Turret Positions	8 (12)	8 (12)	8 (12)
	Live Tooling Spindle (Opt)	10 HP 10 - 4,000 RPM	10 HP 10 - 4,000 RPM	10 HP 10 - 4,000 RPM
	Turret Tooling Size	BMT-65	BMT-65	BMT-65
	Ballscrew Size	2.00” X, Z	2.00” X, Z	2.00” X, Z
	Maximum Part Weight	8,000 lbs.	10,000 lbs.	10,000 lbs.
SPINDLE	Spindle Nose	A2-11	A2-15	A2-15
	Spindle Nose Taper	N/A	N/A	N/A
	Spindle Bore	2.625	2.625	2.625
	Spindle Motor HP (Peak)	40 HP	75 HP	75 HP
	Max Spindle Torque (peak	3,050 ft/lbs	2,700 ft/lbs	2,700 ft/lbs
	Spindle Speed (RPM)	20 - 1,500	10 - 500	10 - 500
PERFORMANCE	Positioning Accuracy	‘X, Z ‘+/-0.0002” (C +/-10 arc/sec)	‘X, Z ‘+/-0.0002” (C +/-10 arc/sec)	‘X, Z ‘+/-0.0002” (C +/-10 arc/sec)
	Positioning Repeatability	+/- 0.0001”	+/- 0.0001”	+/- 0.0001”
	Rapid Traverse (X, Z)	750 IPM	750 IPM	750 IPM
	Servo Type	AC Digital Brushless	AC Digital Brushless	AC Digital Brushless
	Axis Thrust (Peak)	6,504 lbs. X, Z	6,504 lbs. X, Z	6,504 lbs. X, Z
GENERAL INFO	Air Requirements	90 PSI - 5 CFM	90 PSI - 5 CFM	90 PSI - 5 CFM
	Coolant Capacity	75 Gallons	75 Gallons	75 Gallons
	Coolant Flow	8 GPM	8 GPM	8 GPM
	Power Requirements	80 AMP	120 AMP	120 AMP
	Voltage Requirements	380-500 VAC 3 PHASE	380-500 VAC 3 PHASE	380-500 VAC 3 PHASE
	Shipping Dimensions* (WxDxH)	140” x 67” x 115”	162” x 79” x 115”	185” x 100” x 115”
	Operating Dimensions (WxDxH)	140” x 67” x 148”	162” x 79” x 148”	185” x 100” x 148”
	Machine Weight	26,000 lbs.	32,000 lbs.	37,000 lbs.



	VT-40	VT-60	VT-80
Overall Machine Width (A)	140"	162"	185"
Floor Width (B)	116"	150"	170"
Overall Machine Depth (C)	67"	79"	100"
Door Opening (D)	42.5"	74.5"	86"
Floor Depth (E)	57"	77"	94"
Maximum Height (F)	148"	148"	148"
Conveyor Protrusion (G)	45"	45"	45"
Conveyor Height (H)	40"	40"	40"
Console Swing (I)	22"	22"	22"
Console Height (J)	60"	60"	60"
Net Machine Weight	26,000 lbs.	32,000 lbs.	37,000 lbs.

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

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Specifications subject to change without prior notice.