

The background of the entire advertisement is a high-contrast, close-up photograph of a CNC lathe in operation. A metallic cylindrical workpiece is being machined, with a cutting tool visible on the right side. The image is slightly blurred to convey a sense of motion and precision. In the top left corner, there is a white rectangular box containing the Siemens logo and tagline. In the bottom right, there is a teal rectangular box with white text, and a white rectangular box at the very bottom containing a URL.

SIEMENS

Ingenuity for life

Choose Siemens

Unique features of the SINUMERIK CNC
to keep your productivity in motion

usa.siemens.com/cnc4you

Get more...

from your CNC machine —and your CNC supplier

Siemens sets the benchmark when it comes to your shopfloor's productivity

Our SINUMERIK controls do not radically change every three to five years. Instead, our proven technology platform simply continues to evolve.

Siemens offers you such an easy-to-use graphical interface that has become the standard for efficient machine tool operation. New features are continually being developed to increase machine performance, usability and profitability.

Individual parts and mass production are no challenge for Siemens

Whether it's a basic part or a complex workpiece, the Siemens control system offers you a wealth of functionality with a very high degree of operator friendliness and manufacturing efficiency. Combined with service, spare parts and long-life repair, we deliver the greatest return on your CNC investment.

Proven capabilities of the SINUMERIK control platform

Throughout this handy guide, these icons will show you the most important benefits that separate us from the competition:



Time-savings



Reduced scrap /
wasted material



Cost efficiency



Improved surface
finish / part quality



Easy-to-use
Easy-to-learn



SINUMERIK 828

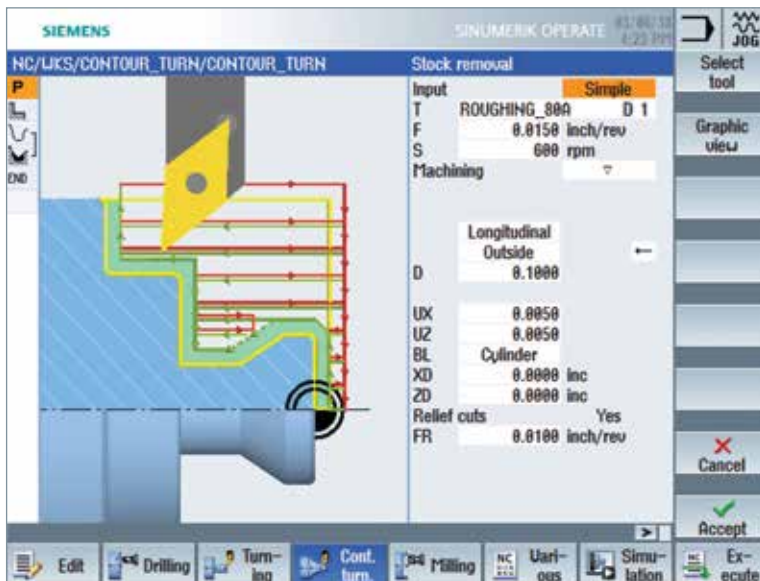


SINUMERIK 840D sl

Conversational programming

ShopMill and ShopTurn are true conversational programming interfaces that simplify even the most complex programming functions. These graphical help forms use content-sensitive prompts and “Animated Elements”—a short video clip of the tool performing the selected function—to assist you with the creation of part programs.

Siemens programGuide is a conversational G-code-assist feature that simplifies G-code programming using intuitive, easy-to-understand, interactive help forms, and is standard on the SINUMERIK 828D and 840D sl CNCs.



Your benefits



Time-savings



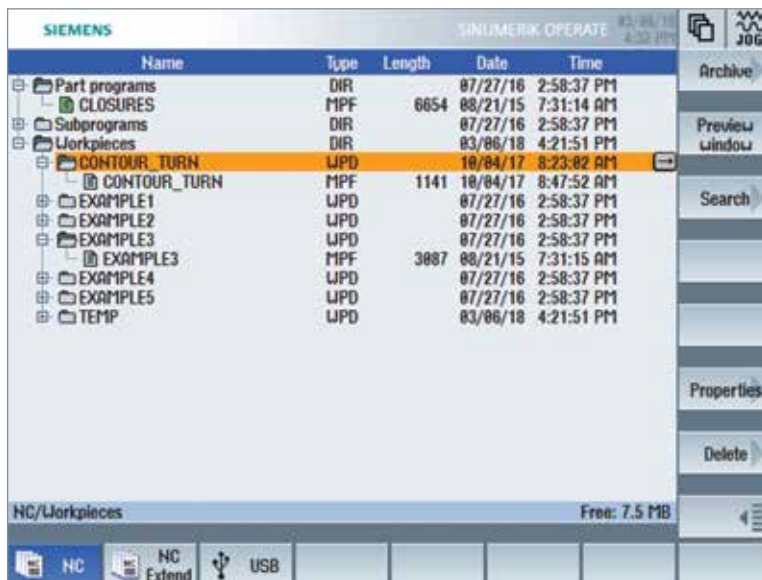
Cost efficiency



Easy-to-use
Easy-to-learn

Superior navigation

The SINUMERIK Operate graphical user interface has a PC-style directory and file management system that provide the ability to cut, copy and paste, as well as, many other PC keyboard shortcuts and hot keys. This advanced, yet familiar navigation allows you to open multiple programs side-by-side and freely cut, copy and paste between them. Combined with color-coded G-code technology functions and M-codes in the program, navigation and editing is quick and easy.



Your benefits



Time-savings



Easy-to-use
Easy-to-learn

Machine simulation

The digital twin

Optimize your entire production in the virtual world

SinuTrain is our control-identical NC-programming station that's the ideal tool for offline programming and even professional learning. Not only is it used in manufacturing, but also in schools and corporate apprenticeship programs across the U.S. and throughout the world.

Machine data adjustments with the target machine ensures 100% CNC program compatibility. The complete user interface works in setup (JOG), automatic, tool and offset parameters, machine parameters and data transfer. SinuTrain works with every programming method, including ISO, SINUMERIK high-level language with programGUIDE or ShopMill / ShopTurn workstep programming.

Use SinuTrain to simulate, test and optimize products and your production without the need for real-world prototypes or wasting real-world resources. You'll eliminate scrap parts and reduce your overall programming time.



Your benefits



Time-savings



Cost efficiency



Easy-to-use
Easy-to-learn



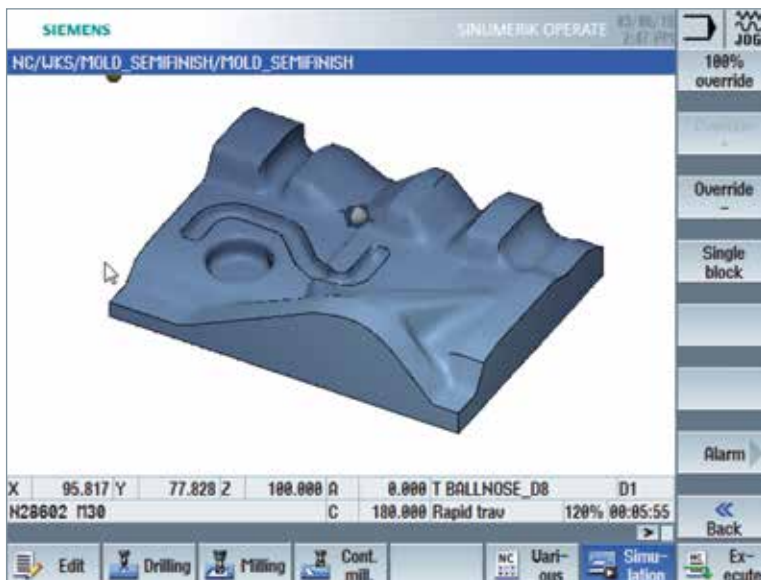
Reduced scrap /
wasted material



Shopfloor simulation

SINUMERIK controls can simulate programs either in ISO G-code, DIN G-code or ShopMill/ShopTurn. Our simulation guarantees maximum process reliability and safety as actual tool geometries are used. Whether face or peripheral surfaces, swiveled workpiece planes, or even machining in several channels, SINUMERIK simulates every machining type.

With the mold-maker quick view, very large part programs can be displayed in seconds. Simultaneous recording gives the ability to render the part while running the program in real-time.



Your benefits



Cost efficiency



Easy-to-use
Easy-to-learn



Reduced scrap /
wasted material

Tool, Spindle, M-code (TSM)

This is a conversational way of performing standard MDI functions, such as loading tools, activating a work coordinate, selecting a machining plane and turning on the spindle. All of these operations are activated using simple, intuitive, conversational prompts without any G-code input.



Your benefits



Time-savings



Easy-to-use
Easy-to-learn



Reduced scrap /
wasted material

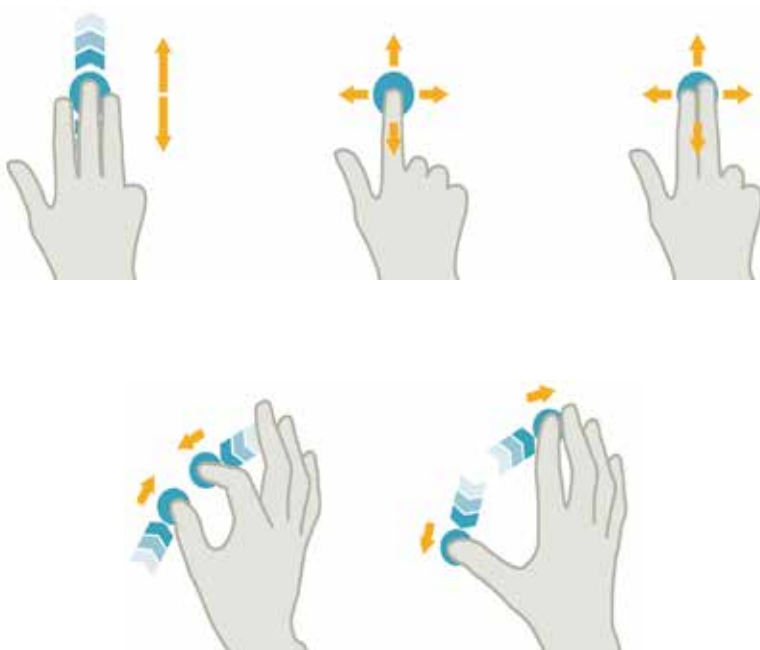


Smart operation

Multi-touch operator display

Touch and gesture operation make your daily work easy

The “Smart Operation with Multi-Touch” interface found on new SINUMERIK CNC operator panels will immediately be familiar to anyone comfortable with modern touch-screen devices. Computer interfaces have changed and so has the SINUMERIK control—functions that have become second nature to us, such as pinch-and-zoom and scrolling, are now available on the Siemens CNC.



Your benefits



Time-savings

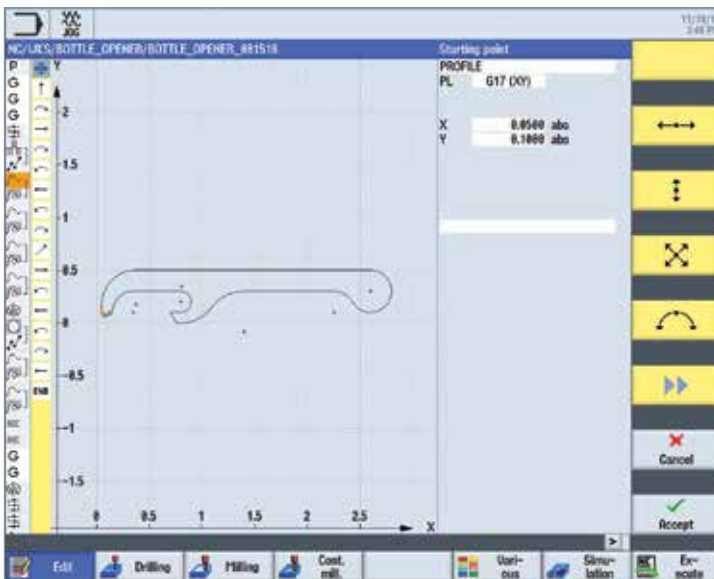


Easy-to-use
Easy-to-learn

Contour editor

Contour editor is a powerful tool that provides machine tool users with the ability to graphically create complex shapes and to find unknown tangents. These shapes can be used as islands and irregular pockets during the entire machining process.

DXF programs can also be loaded directly into the contour editor for the creation of the tool path. When directly entering freely-defined contours, you no longer need to worry about costly CAD-CAM systems.



Your benefits



Cost efficiency

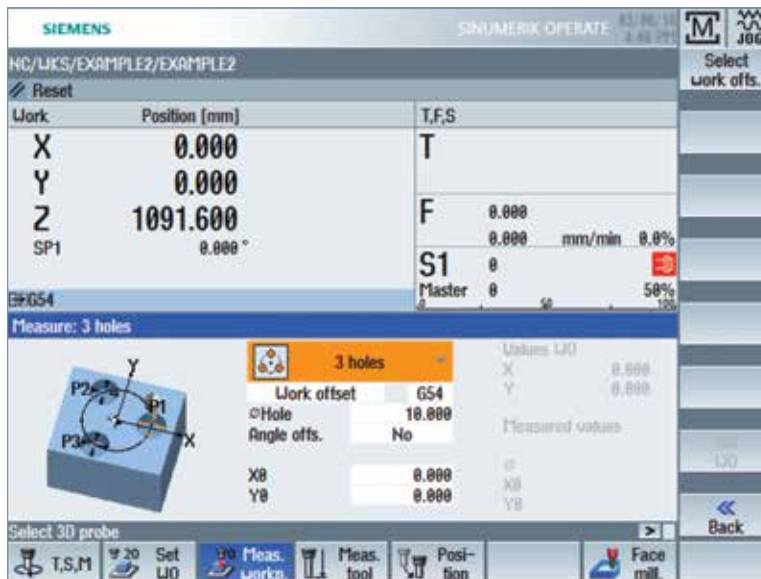


Easy-to-use
Easy-to-learn

Part probing

SINUMERIK 828D and 840D sl come standard with Jog mode probing cycles integrated directly into the control. These cycles are conversational and have graphical user interfaces with “Animated Elements”.

Probing cycles can be used with both manual and automatic probes, and they write directly to the selected fixture offset. In-process probing is also available. Measurement data from probing cycles can be written directly to a file.



Your benefits



Time-savings



Easy-to-use
Easy-to-learn

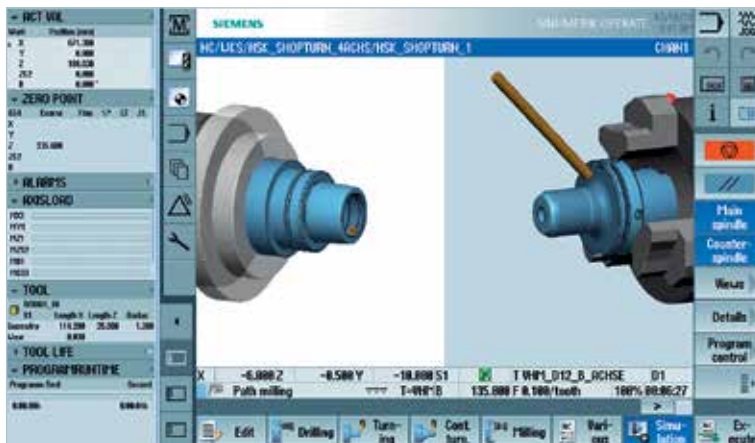


Reduced scrap /
wasted material

Mixed technologies

Advanced help cycles with powerful graphical capabilities within the control make multi-tasking easy

A machine using mixed technologies, such as combined milling and turning, can do the work that was previously done by two or more machines. Some of the benefits can include the production of complete parts, simplified scheduling, minimized work-in-process (WIP), fewer setups, and reductions in the number of times a part is touched during production. The process of combining milling and turning operations on the same machine tool not only improves part quality, but also reduces your manufacturing time.



Your benefits



Time-savings



Cost efficiency



Reduced scrap /
wasted material

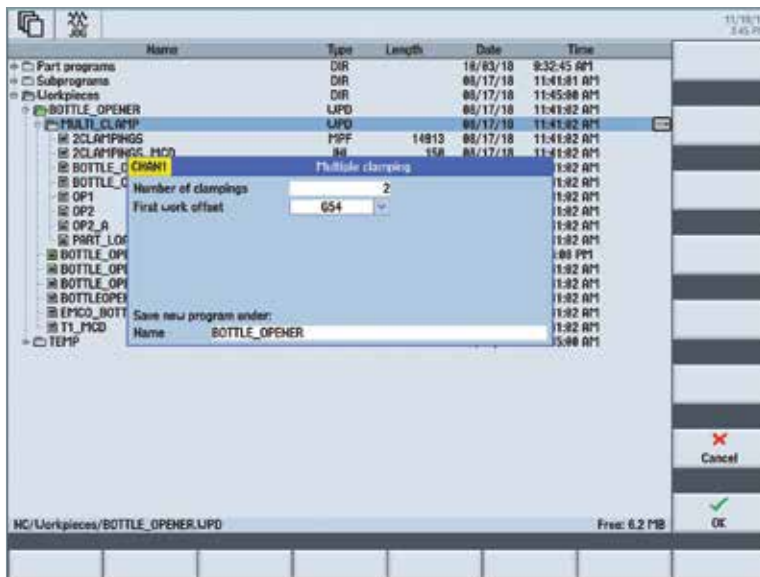


Improved surface
finish / part quality



Multiple clamping

This feature optimizes tool changes over several fixtures, separating tool changes so that each tool operation is performed at every fixture location in sequence. By limiting the number of tool changes required over multiple parts, cycle time can be greatly reduced. The SINUMERIK control also has the ability to perform this operation with dissimilar programs.



Your benefits



Time-savings



Cost efficiency



Easy-to-use
Easy-to-learn

Tool offsets

Setting tool offsets is a simple procedure with interactive graphical support and "Animated Elements". Operators can define the number of flutes, tip angle, cutting edges, holder angle, tool type and even tool life. There is even a graphical representation of the tools in the magazine.



Your benefits



Time-savings



Easy-to-use
Easy-to-learn

Kinematic independence

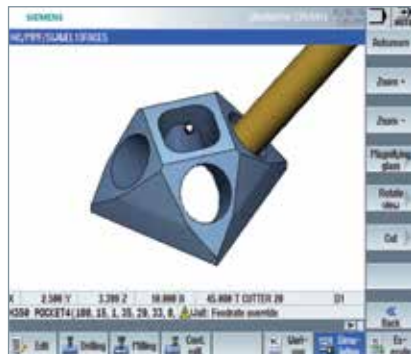
3+2/5-axis simultaneous

Programming your machines made easy

Today's advanced CNCs optimize program creation by simplifying the mastery of kinematics (the geometry of motion) that goes into the programming of machines. This approach allows the same program to run across multiple 5-axis machines that have different kinematics without the need for a separate post-processor for each machine tool.

Known as kinematic-independent programming, the part programs generated are also machine-independent, which results in greater flexibility for 5-axis machining. "CYCLE 800"—utilizing 3+2 programming—gives you even more flexibility with the ability to machine five sides with one setup, while using this simple kinematic independent cycle, which is easily programmed on the shopfloor or via a CAD-CAM system.

"TRAORI"—5-axis tool center point management maintains the optimum tool position dynamically using simple commands.



Your benefits



Time-savings



Cost efficiency



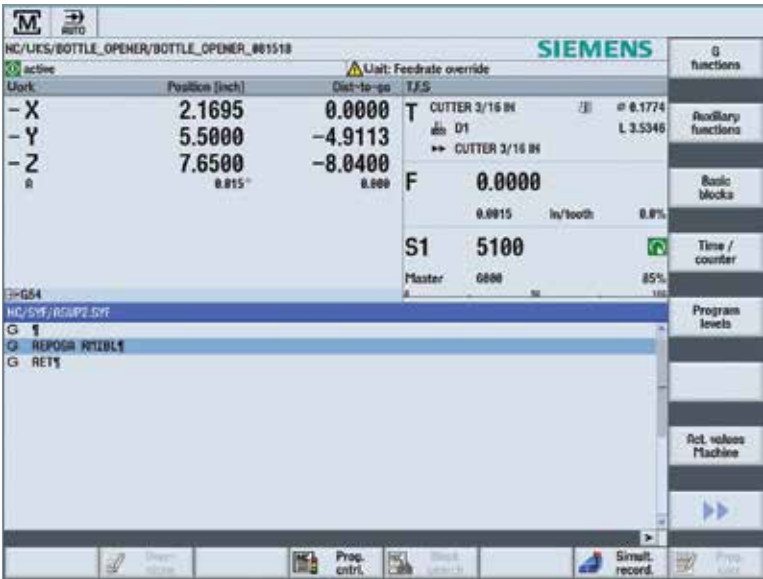
Improved surface
finish / part quality



Return from Jog (REPOS)

While you're running programs, the SINUMERIK CNC can halt the current operation and the tool tip can be jogged away from the part surface—allowing you to inspect the tool or part in mid-operation.

The REPOS feature gives users the ability to return to the point where machining was stopped.



Your benefits



Time-savings



Cost efficiency

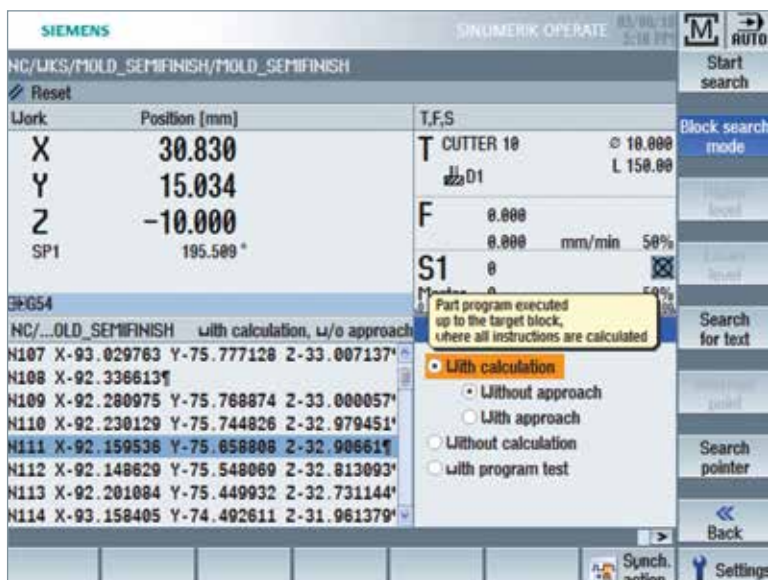


Reduced scrap /
wasted material

Mid-program start

Block search—a program can start from any block using block search. This feature can be activated with or without calculation. By selecting with calculation, all correct modals will be activated.

Interrupt point—this feature works with the block search mode and will set the start point for block search at the point where the program was interrupted (i.e. emergency stop).



Your benefits



Time-savings



Cost efficiency



Reduced scrap /
wasted material



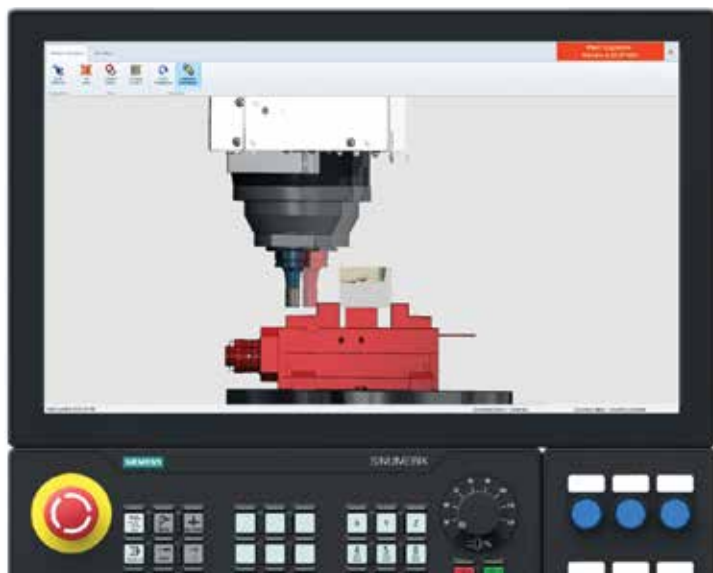
Collision avoidance

Real-time, 3D protection monitoring

Protection you can use

SINUMERIK Collision Avoidance provides protection by monitoring the static machine tool components in 3D and in real-time. 3D collision avoidance works in every operating mode including Jog, MDA and Automatic.

With Collision Avoidance, the potential for machine components colliding is greatly reduced or even eliminated, making the process more cost-efficient.



Your benefits



Cost efficiency



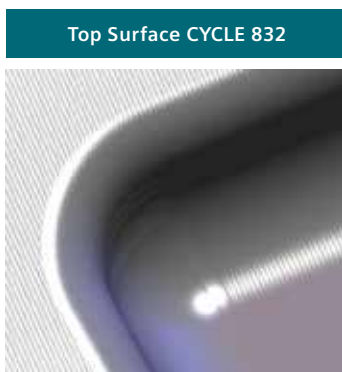
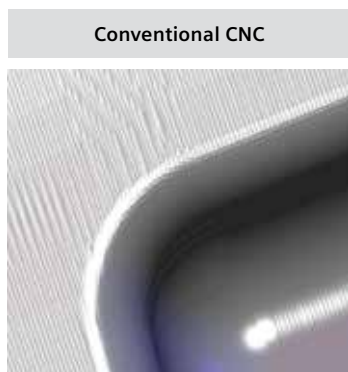
Easy-to-use
Easy-to-learn



High-speed machining

Top Surface

Advanced features in the SINUMERIK control system's software lead to unique machining accuracy and reduce wear on mechanical parts. Advanced Surface, along with Top Surface, are unique milling technology cycle packages that give the ability to increase speed, surface finish, part quality and accuracy simply by changing only one or two values in CYCLE 832.



Your benefits



Time-savings



Reduced scrap /
wasted material



Improved surface
finish / part quality

SINUMERIK sidescreen

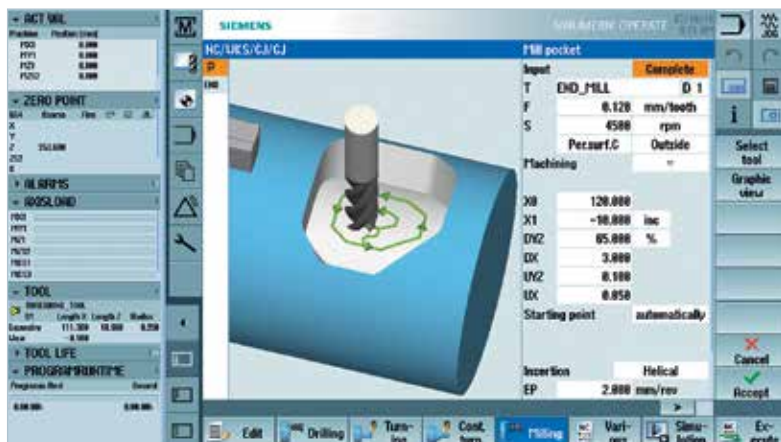
Space-saving, flexible and intuitive operation

Additional operator panel display surface with more functionality

Whether you're utilizing the new 15", 19", 22" or 24" SINUMERIK blackline plus panel, machine users now have the ability to customize their display with SINUMERIK sidescreen. You can quickly and easily layout the operator panel via drag-and-drop, and you can view documents, cameras, web server, access protection and even user administration.

Features and functionality—such as the permanent checking of the machine's status, quicker navigation, omitting mechanical keys and adding keyboards—allow for space-savings, plus greater design and arrangement flexibility.

SINUMERIK sidescreen can be opened or closed on either the left or right side of the operator panel and permits a high degree of individualization.



Your benefits



Time-savings



Easy-to-use
Easy-to-learn



The connected shopfloor

Control your future with digitalization

Digitalization can be implemented on every level of machine tool operation

With Manage MyMachines, an app specifically built for the CNC machine, you can display critical machine tool information, status, and the machine's history in a quick and easy way. Based upon MindSphere, the Siemens cloud for industry, this application creates the needed transparency by setting up a seamless connection to your CNC machines, allowing you to quickly identify unexpected standstills and downtimes and initiate the appropriate measures.

With MindSphere apps like Manage MyMachines and OEE Monitor, you can:

- increase the productivity, reliability and availability of your machine tools
- monitor and manage distributed machines
- ascertain the machine status, operating mode, and program status
- quickly and easily configure the machine's connections
- calculate the overall equipment effectiveness (OEE) to optimize your production efficiencies

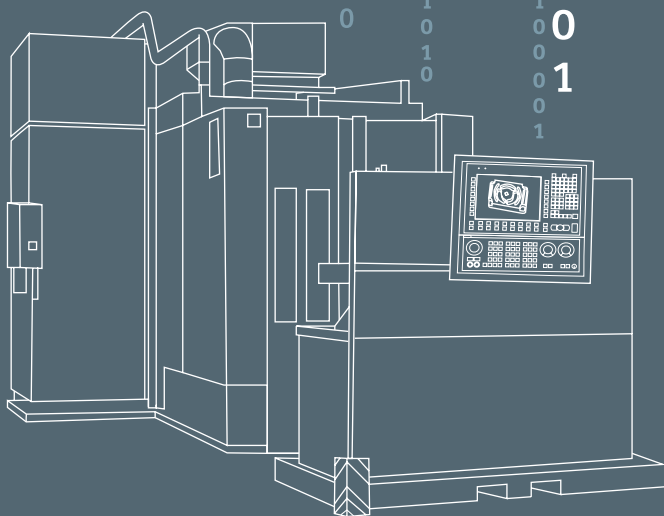
Your benefits



Time-savings




























Cost efficiency



Choose SINUMERIK for these unique features and get these benefits

Page	SINUMERIK feature	 Time-savings	 Cost efficiency
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 Easy-to-use Easy-to-learn	 Reduced scrap/ wasted material	 Improved surface finish/part quality
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		
		

Detailed information about our machine tool solutions, including videos and testimonials, can be found online.

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