SIEMENS

SINUMERIK 808D

**Outstanding performance. Simply smart.
Perfectly tailored CNC for standard machines**

siemens.com/sinumerik

Answers for industry.

Three-year warranty*

After the SINUMERIK 808D CNC has been delivered, if there are quality problems relating to components,

such as CNC, servo drive, motor and the cable during the warranty period, Siemens will replace the part and

the associated on-site service is free of charge.

support.automation.siemens.com

* 2-year warranty after 2nd commissioning (final acceptance) but no longer than 3 years after initial delivery ex works

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Content

SINUMERIK by Siemens

With SINUMERIK 808D, the latest CNC technology is now available for standard milling machines and lathes. It goes without saying that Siemens also ensures that entry level CNCs have the maximum degree of ruggedness. This means that coated electronic boards and assembly under strict German quality guidelines are an absolute must. With over 50 years of experience in CNC technology,

SINUMERIK CNCs guarantee maximum machining performance. In fact, SINUMERIK 808D also continues this long tradition by offering the latest CNC system architecture as well as proven CNC features. Since SINUMERIK 808D is a member of the SINUMERIK family, operators enjoy the benefits of fully-compatible CNC operation as well as CNC programming.

Compact, rugged, easy ... simply smart

Rugged and user-friendly

Thanks to a panel-based CNC design, SINUMERIK 808D reduces the number of sensitive system interfaces to a minimum. Together with an IP65 degree of protection at the front panel, SINUMERIK 808D offers a long service life, even under harsh environmental conditions. Besides the ruggedness, SINUMERIK 808D sets itself apart as a result of its user-friendliness. Mechanical keys guarantee maximum convenience when entering parameters on a daily basis – and hot keys and soft keys make CNC operation absolutely intuitive. Last but not least, data can be transferred via the USB port on the front panel. And what is really important in machining environments: full IP65 degree of protection is guaranteed when the front cover is closed!

Tailor-made for standard lathes and milling machines

SINUMERIK 808D Turning offers exactly what modern standard lathes require – a high contour accuracy coupled with a high dynamic performance. This guarantees maximum machine productivity, especially when it comes to the typical mass production of turned workpieces. With the milling version, SINUMERIK 808D Milling is the perfect fit for vertical machining centers. Thanks to the SINUMERIK MDynamics velocity control, SINUMERIK 808D Milling can also be used to machine basic mold & die parts. As a consequence, SINUMERIK 808D represents an unbeatable price-performance ratio when it comes to equipping standard machine tool applications for milling.

With an intelligent, rugged and easy-to-use hardware concept, SINUMERIK 808D sets the benchmark when it comes to standard turning and milling machines.

Communicative:
- Front panel USB (IP65)
- Serial interface RS232C

Optimal view:
- 7.5" LCD color display with 640x480 resolution

User-friendly:
- Technology-specific keyboard layout
- Hard keys with protective foil

Process-safe:
- LED tool number display
- MCP with rotary switch for feed and spindle override

Robust:
- No fan
- No hard disk

Maintenance-friendly:
- Durable buffer battery
- IP65 degree of protection on front

Surprisingly dynamic performance and precision for lathes and milling machines

Packed with innovative CNC features, SINUMERIK 808D offers an unbeatable workpiece accuracy,

which is usually only expected from more sophisticated CNC systems.

SINUMERIK 808D
80-bit NANO[FP] Accuracy[FP]

0.001 nm

Y

X nm
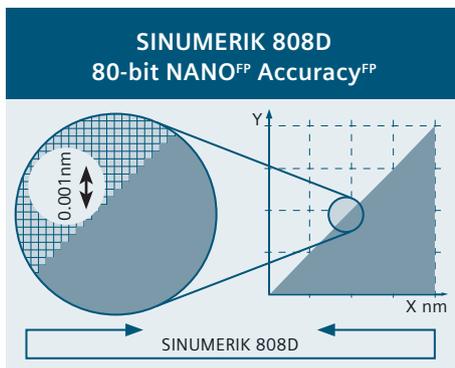
SINUMERIK 808D

Maximum precision and accuracy

As a result of the 80-bit NANO[FP] accuracy, SINUMERIK 808D offers a calculation accuracy in the nanometer range – far beyond what even a high-end machine tool can achieve. SINUMERIK 808D also features an intelligent jerk limitation function. This bell-profile acceleration characteristic not only guarantees smooth path behavior, but also reduces the stress on the machine mechanical system. In conjunction with a feed forward control in the SINAMICS V60 feed drive, SINUMERIK 808D guarantees maximum workpiece precision.
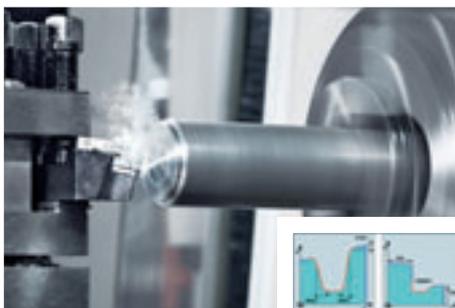
Perfect in turning...

When it comes to the typical mass production of machined parts on standard lathes, SINUMERIK 808D is at its best in terms of performance. Especially with mass production, every second counts and the non-productive times have a tremendous impact on productivity. To reduce these non-productive times, SINUMERIK 808D features for example a flying change-over from spindle to C-axis mode without the spindle coming to a standstill. It also offers many technology cycles for all kinds of grooves, which is a typical cutting element in turning applications.
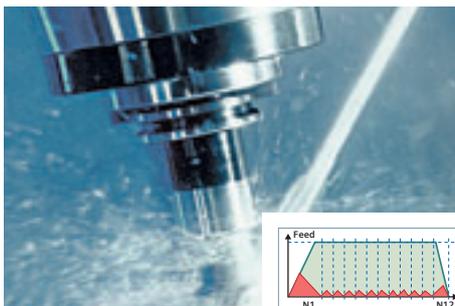
...and milling

What is the biggest challenge for a milling machine? Of course, mold & die applications. In order to allow free forms to be machined, SINUMERIK 808D features the same state-of-the-art SINUMERIK MDynamics path control as the bigger SINUMERIK controllers. Innovative "look-ahead" algorithms calculate the forward and backward path motions in the same way. This means that perfectly smooth workpiece surfaces can be achieved when carrying out line-by-line milling of molds. Thanks to SINUMERIK MDynamics, SINUMERIK 808D can be used to machine basic mold & die applications with standard vertical machining centers.
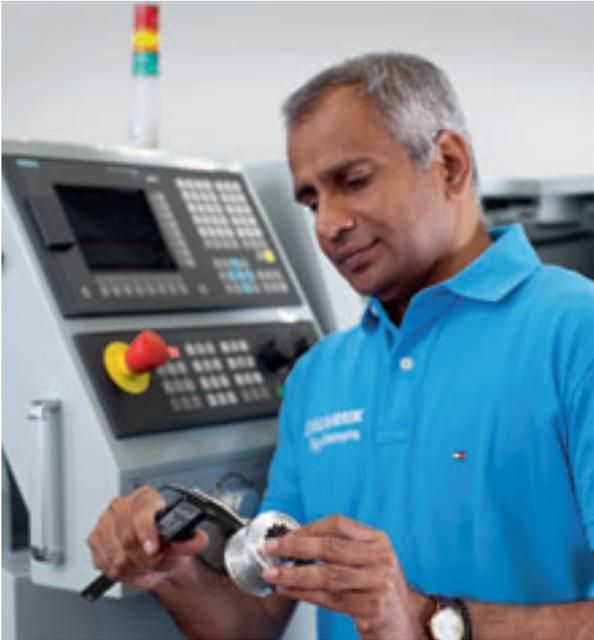
Operation just like a PC

Today's PCs couldn't be more user-friendly. But what about your CNC?
To offer you the same look and feel as a PC, SINUMERIK 808D with
its SINUMERIK Operate BASIC user interface provides many helpful
features.

Input from USB PC keyboard

Do you still feel uncomfortable about entering an NC program on the NC?
This is not a problem for SINUMERIK 808D. After connecting the USB keyboard to SINUMERIK 808D, you can easily enter the NC program using the USB PC keyboard.

PC-style file handling

Remember the days when part programs were in a linear memory and names were cryptic numbers? With SINUMERIK 808D, this is a thing of the past. Part programs can have readable names and the CNC memory can be easily structured by using subfolders. Just like a PC.
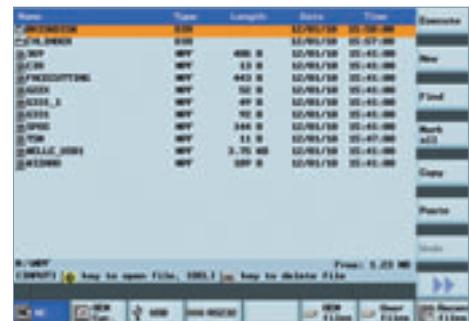
Convenient shortcuts

In order to open the most commonly used HMI screens, such as the tool offset list or the Program Manager, SINUMERIK 808D offers hot keys on the operator panel. Furthermore, HMI features are linked to convenient shortcut keys. With Ctrl+P for instance, screenshots from the HMI can be stored as bit-maps on the memory stick or Ctrl+S generates a complete CNC system backup file.
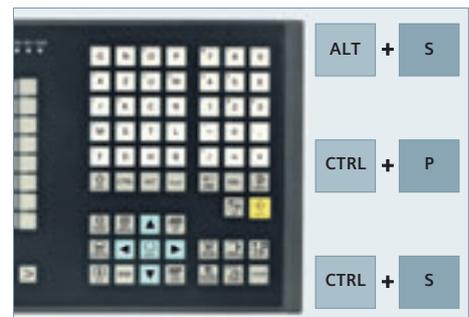
Optimal support for day-to-day operations

The machining process itself is not the only influencing factor when it comes to the overall productivity. The setup time also plays a role: For example, determining zero offsets or tool dimensions are decisive for the overall machining time. SINUMERIK 808D offers a whole raft of intelligent features to reduce these non-productive times.
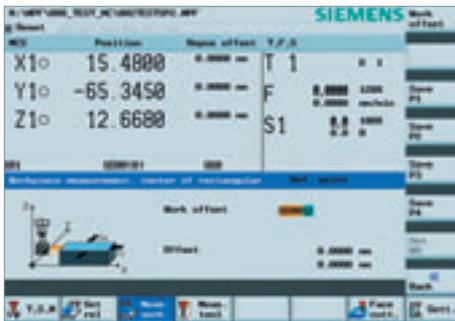
Intelligent JOG
The common JOG mode is certainly not adequate when it comes to preparing the machining job. As a consequence, SINUMERIK 808D offers additional intelligent JOG features: a fully graphically supported tool and workpiece probing and cutting cycles. These allow blank parts to be prepared without having to create a part program. Also simple machine functions, such as coolant on/off or the selection of the spindle gear, can be managed without having to key in cryptic G codes.

Tool handling
Precise tool data handling is very important in order to guarantee maximum process reliability. As a consequence, SINUMERIK 808D offers clearly structured and intuitive tool handling. Tools are displayed with easy-to-understand tool icons and tool wear data can be entered so that errors are completely ruled out.
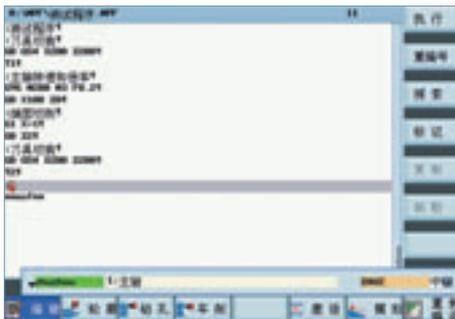
Chinese characters can be entered
What makes the life of a Chinese operator easier? Not only a Chinese operator interface! SINUMERIK 808D also allows Chinese characters to be directly entered at the operator panel. This allows the operator to define part program and subfolder names as well as CNC part program comments with Chinese characters.

Perfect in all CNC programming styles

Different operators request different CNC programming styles. On one hand, operators still use the ISO-style CNC programming. On the other hand, certain industries, such as the automotive industry or simply operators who need more flexibility and technological features, request a more modern CNC programming language. To address these demands, SINUMERIK 808D features two different styles of CNC programming.

ISO-style CNC programming
SINUMERIK 808D offers the common ISO code programming language. This allows operators familiar with other ISO-based CNC systems to quickly make a transition to SINUMERIK 808D. In addition to the standard G codes, such as G01, G02, canned cycles like G81 or G74 are also available. If an operator requires more technological features, the standard ISO codes can be mixed with high-level SINUMERIK CNC commands. This makes it easy to explore and understand the wealth of technological features provided by SINUMERIK 808D.

SINUMERIK high-level CNC language
In addition to the standard ISO codes, SINUMERIK 808D offers the SINUMERIK high-level CNC language, which has established itself around the world. This dramatically extends the technological scope as well as the flexibility. In addition to standard G codes, readable CNC commands for calculations and coordinate transitions are provided. A wide range of technology cycles are available in the form of programGUIDE BASIC. Fully graphic input screens perfectly support the entry of technology cycle parameters.
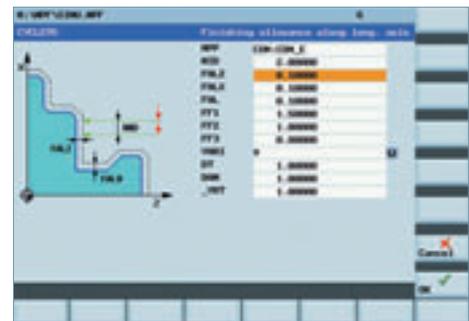
Technology cycles for turning
In order to fully leverage the technology of your lathe, SINUMERIK 808D features a best-in-class turning cycle package. A wealth of functions are integrated, such as machining standard contours, grooves and thread undercuts, cutting of various thread types or even a powerful contour stock removal cycle. These cycles allow you to obtain the optimum performance from your lathe with just a few parameter settings.
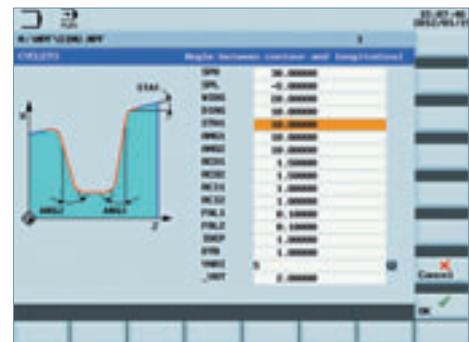
Maximum technology and CNC programming support

With a wide range of technology cycles, SINUMERIK 808D offers a best-in-class technological performance. CNC programs can be very efficiently generated thanks to intelligent help features such as a contour computer or powerful CNC program simulation.
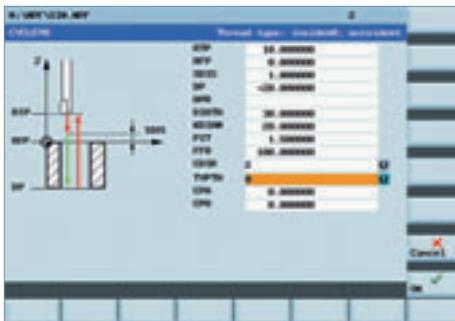

Technology cycles for drilling and milling

When it comes to drilling and milling operations, SINUMERIK 808D is a top performer. Boring, centering, drilling, thread milling, pocket machining? No problem! There is even a machine cycle to support parameter input for high-speed mold & die applications. And the best is yet to come: drilling and milling operations can be linked to a variety of position patterns, and of course, with graphic input screens.
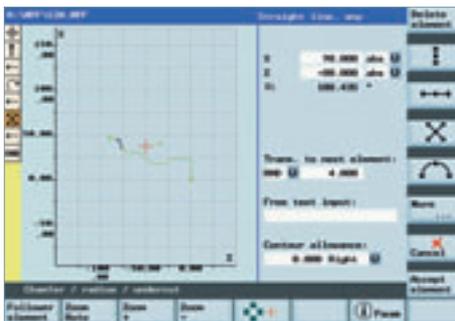
Contour computer

Using an integrated contour computer, even complex contours can be directly created at the CNC without requiring a CAD/CAM system. A pocket calculator is not required since the contour computer calculates partly defined contour elements automatically.
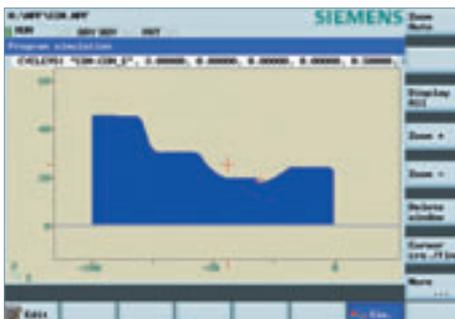

Simulation

In order to guarantee maximum process reliability, SINUMERIK 808D offers a powerful simulation routine. With its "solid graphics," the simulation perfectly displays how the blank part is machined and material removed. The simulation can be used to check the program prior to machining and during machining in order to display the tool path when it is difficult to see the machining operation, for example, as a result of coolant or spray mist.

Best-in-class operator support –
onboard as well as offline

With a context-sensitive online help, SINUMERIK 808D offers a unique feature to learn, explore and
simplify state-of-the-art CNC machining operations at the push of a button. Thanks to SINUMERIK 808D
on PC, CNC learning and offline programming can be done conveniently on a PC. Customers can also
choose from a variety of training materials that they are interested in.

Context-sensitive online help
The times of having to sit in front of your CNC flipping through a lot of
paper are now gone. Have you forgotten a G code number? No problem:
just push the info button on the operator panel and SINUMERIK 808D
provides comprehensive context-sensitive online help.
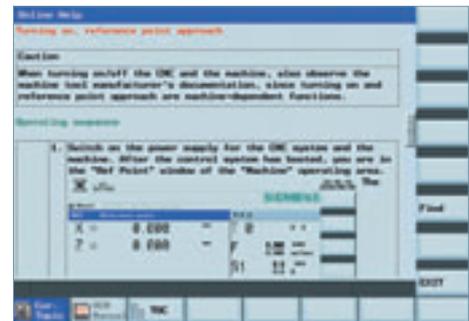
Multimedia training material
Is it too tedious for you to read through all the operator manuals when
getting to know the CNC system? There is a variety of options that opera-
tors have when it comes to learning about the SINUMERIK 808D. A tutorial
video and a well-organized training document that explains in a step-by-
step manner how easy it is to get from the drawing to the finished part.

SINUMERIK 808D on PC
SINUMERIK 808D on PC offers learning, training and offline programming
at your desk. A real SINUMERIK CNC kernel and a real SINUMERIK Operate
BASIC operator interface allow fully fledged CNC operation and CNC
programming. With its fully operable software machine control panel,
SINUMERIK 808D has the same look and feel as a real machine. And what
makes it especially interesting is that the SINUMERIK 808D on PC software
can be downloaded free of charge!

www.siemens.com/cnc4you

All-round technological competence

We are always available to give you expert support on all technological issues you might encounter. An extremely well-qualified team of machinists, trainers and service engineers can help you to optimally set up your machining process and keep your production running smoothly at top speed.

Well-trained with SITRAIN
Our SINUMERIK training program is extremely practical. In our operating and programming courses, you will gain theoretical knowledge accompanied by practical experience on real machines. Just visit our SITRAIN portal at www.siemens.com/sitrain, and select the training you need at one of our training centers close to you.

On-site service and support
Our service and maintenance technicians are always available to keep your production running smoothly. Their excellent technical training and quick response times ensure that machine downtimes are kept to a minimum. You will find our global experts by visiting www.siemens.com/sinumerik

Always close by: technology and application centers
We employ highly-qualified machining specialists in our technology and application centers (TACs), which are available to give you advice and support at all times. We regard our global TACs as "breeding grounds" for our technological advancement – to guarantee that all CNC functions are ideally geared to practical use and are as user-friendly as possible. Further information is available at:

www.siemens.com/cnc4you

CNC performance data (excerpt)

	SINUMERIK 808D	
	Turning	Milling
CNC Functions		
80-bit NANO^{FP} accuracy	●	●
Onboard CNC user memory	1.25 MByte	1.25 MByte
CNC user memory extension using USB stick	●	●
Maximum number of tools/cutting edges	64/128	64/128
Number of settable zero-offsets	6	6
Look Ahead (number of blocks)	1	50
SINUMERIK MDynamics	–	●
Flying spindle / C-axis switchover	●	●
Thread cutting with constant or variable pitch	●	●
Linear / circular / helix interpolation / feed-rate interpolation	●	●
Block search with calculation (T, S, F, M, Position)	●	●
Rigid tapping	●	●
Constant cutting speed (G96)	●	–
Metric / inch unit	●	●
CNC Programming and Operation		
SINUMERIK style programming language (DIN 66025 and high-level language expansion)	●	●
ISO code CNC programming language with canned cycles	●	●
programGUIDE BASIC programming support for technology cycles	●	●
programGUIDE BASIC technology cycles for drilling and milling	–	●
programGUIDE BASIC technology cycles for drilling and turning	●	–
Contour computer	●	●
Simulation in plane display with tool tip path and display showing material removal	●	●
Simultaneous recording (real-time simulation of current machining operation)	●	●
SINUMERIK Operate BASIC HMI with soft key operation	●	●
PC-style program editor with cut/copy/paste functions	●	●
Program management with subfolders	●	●
Readable names for part programs and subfolders	●	●
T, S, M function in JOG mode	●	●
Graphically guided tool workpiece measuring in JOG	●	●
Face milling cycle in JOG mode	–	●
Service planner	●	●
Context-sensitive online help	●	●
SINUMERIK 808D on PC (free of charge download)	○	○

● basic scope   ○ software / hardware option   – not available

CNC performance data (excerpt)

	SINUMERIK 808D	
	Turning	Milling
Technology cycles for SINUMERIK style programming language		
Drilling, centering – CYCLE81	●	●
Drilling, counter-boring – CYCLE82	●	●
Deep-hole drilling – CYCLE83	●	●
Rigid tapping – CYCLE84	●	●
Tapping with compensating chuck – CYCLE840	●	●
Reaming 1 – CYCLE85	●	●
Boring – CYCLE86	●	●
Boring with stop – CYCLE87	●	●
Drilling with stop – CYCLE88	●	●
Reaming 2 – CYCLE89	●	●
Position pattern: row/grid of holes – HOLES1	●	●
Position pattern: circle of holes – HOLES2	●	●
Groove – CYCLE93	●	–
Undercut (forms E and F to DIN) – CYCLE94	●	–
Contour cutting with relief cut – CYCLE95	●	–
Thread undercut – CYCLE96	●	–
Thread cutting – CYCLE97	●	–
Chaining of threads – CYCLE98	●	–
Face milling – CYCLE71	–	●
Contour milling – CYCLE72	–	●
Rectangular spigot milling – CYCLE76	–	●
Circular spigot milling – CYCLE77	–	●
Long holes located on a circle – LONGHOLE	–	●
Slots on a circle – SLOT1	–	●
Circumferential slot – SLOT2	–	●
Milling a rectangular pocket – POCKET3	–	●
Milling a circular pocket – POCKET4	–	●
Thread milling – CYCLE90	–	●
Canned cycle for ISO mode turning		
G33, G34, G70, G71, G72, G73, G74, G75, G76, G90, G92, G94	●	–
Canned cycle for ISO mode milling		
G33, G73, G74, G76, G81, G82, G83, G84, G85, G86, G87, G89	–	●

● basic scope ○ software / hardware option – not available

Everything you need to know about SINUMERIK CNC equipment:
www.siemens.com/sinumerik

Everything you need to know about shopfloor production:
www.siemens.com/cnc4you

Everything you need to know about our service portfolio:
SINUMERIK Manufacturing Excellence at:
www.siemens.com/sinumerik/manufacturing-excellence

Information on our training offer:
www.siemens.com/sinumerik/training