Mini CNC Lathe

PicoTurn CNC

High-tech and suitable for training purposes

- with advanced GPlus 450 CNC or Siemens 808 D control
- with autom. 4-station tool changer
- center width 550 mm

DESCRIPTION

SPECIFICATIONS

CNC CONTROL
GPLUS 450

CNC CONTROL
SIEMENS 808 D

PicoTurn CNC

Small CNC Machine for training as well as production of small complex turned parts

- automatic 4-station tool changer
- infinitely variable spindle speeds
- small footprint
- manual central lubrication
- preloaded ball screws
- equipped with the advanced GPlus 450 CNC control
- standard electronic hand-wheel

PicoTurn CNC is shown with Siemens 808 D

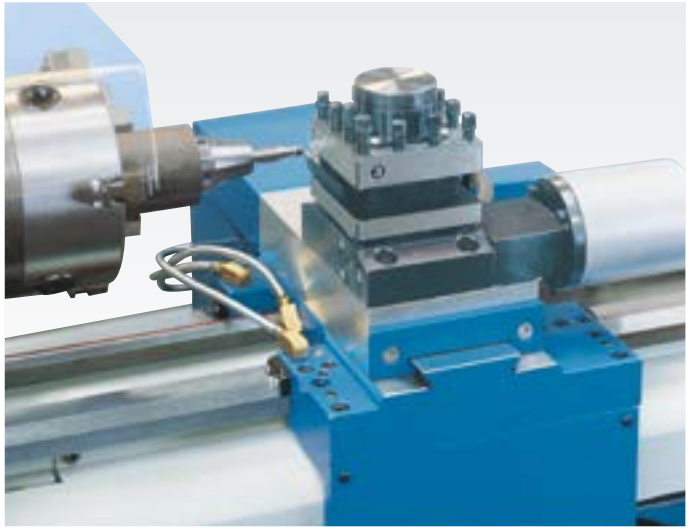
Siemens 808 D
www.knuth.de

GPlus 450
www.knuth-gplus.de

Touchscreen-Technologie

www.knuth.de

Specifications PicoTurn CNC	
Working Area	
turning diameter over bed (max)	250 mm
cross-slide travel	75 mm
bed width	135 mm
center width	550 mm
Headstock	
speed range	150 - 1750 min^{-1}
spindle mount	MK 3
Feed	
X axis rapid feed	1000 mm/min
Z axis rapid feed	2000 mm/min
feed speed, X axis	4 mm/s
feed speed, Z axis	8 mm/s
Tailstock	
tailstock quill stroke	50 mm
tailstock quill diameter	Ø 30 mm
tailstock taper	MK 2
tailstock cross adjustment	± 4 mm
Drive Capacities	
main motor rating	1 kW
total connected load	1,6 kVA
power supply	230 V
Dimensions/Weight	
dimensions	1200 x 530 x 1300 mm
weight	400 kg
Part No. with GPlus 450 control	180 501
Part No. with Siemens 808 D control	180 502



automatic tool changer included

Standard Equipment

- GPlus 450 or Siemens 808 D Control
- 3-jaw chuck Ø 125 mm
- autom. 4-station tool changer
- central lubrication
- base
- operation tools
- operating manual and programming instructions

Options

- Clamped Turning Tool Set 10 mm	Part No. 108 770

CNC Turning with GPlus

awarded with the TechStar 2008 for innovative future-oriented products

Intuitive programming

- **true intuitive control** - each input parameter is uniquely displayed with a graphic and plain text
- **thread cutting cycles** for creating female and male threads: standard threads, linear threads, tapered threads, plane threads, variable pitch threads, multiple threads function: thread repair - re-cutting of worn threads
- **additional cycles:** plain turning, facing, taper turning, radius turning (all of them outside and inside)
- **all cycles run as stand-alone programs** - fast and easy programming of a single program, which is integrated into a main program or available as a series of any number of cycles
- **quick data transfers** for external programs via USB port, or optional WLAN-connection

Compatible and powerful

- **easy adaptation** to most CAD/CAM systems
- **quick block processing** of 450 NC blocks per second and 200 Look Ahead sets ensure unprecedented fast and continuous program execution
- **standard networking-capability** - to create, manage and transfer external programs - the GPlus will adapt to your structures
- **manual operation** via 2 electronic hand-wheels or JOG buttons for easy handling and safe operation
- **a Feed-Override** button allows adjustment of the selected feed in many small increments

Easy tool and workpiece measuring

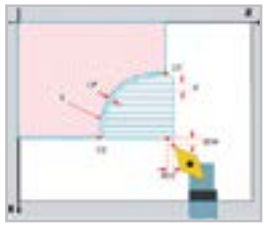
- **easy to understand graphics** and plain text support the intuitive operation
- **extremely simple collection** and implementation of values for tool length correction and zero offset

Accessories

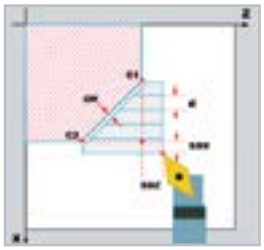
- **a multitude of function** can be implemented in the control: tool measuring, rod feed, tooling, unloading

NEXT ➤

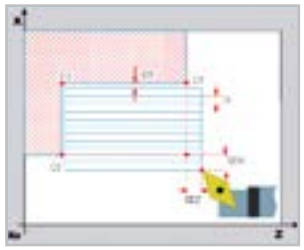
Samples of Parameter Help Graphics



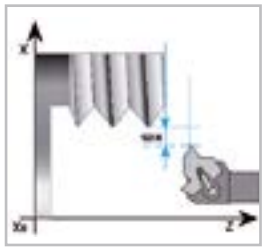
Radius turning



Taper turning (linear)



Plain turning

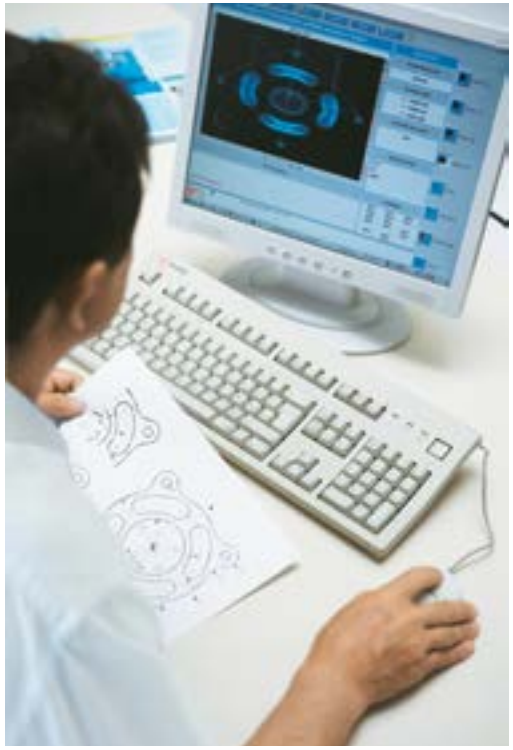


Female thread cutting

GPlus - our Windows-based CNC control system for Machine Tools

Quick - powerful - user-oriented: key hardware facts

- **Workshop-oriented programming** at the control or external programming (CAD/CAM)
- **450 NC blocks/sec**, 200 sets LookAhead
- The GPlus 450 features a **17“ TFT color monitor** with touch-screen display that shows all data for a user-friendly programming experience and easy operation
- Status messages show the user the current state of the control
- **Graphic simulation** with integrated Zoom function for a detailed display of the actual chip removal
- A standard 10/100 MBit Ethernet interface and **USB port** allow fast data transfers from externally created programs (CAD/CAM) and saving these on the GPlus 450 hard drive
- **Single CPU concept** (advantage: ties up only 2% of the system capacity)
- **40 GB storage**, 2.0 GHz Intel Celeron processor, 256 MB RAM
- **Worldwide remote diagnostics**
- Profibus, CANopen, DeviceNet implementation is possible
- **Easy integration** of the machine in factory networks
- **The mobile hand-held** device combines practical and compact controls to simplify machine setup



Your GPlus Advantage

- easy to learn without prior DIN-ISO programming knowledge - from newcomers to professional users
- short learning curve for experienced users - immediate productivity
- quick programming directly at the machine, or easy transfer of programs to minimize down-times
- GPlus Support for any programming questions and quick assistance for problems

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CNC Control

Siemens Sinumerik 808 D Manual Machine Plus

User-friendly solution for turning and milling applications with a small footprint

Precision and Productivity

- Calculations are performed with 80-Bit NanoFP accuracy without any internal rounding errors
- The 808D comes with the intelligent MDynamics motion control, including smart „Look-Ahead“ function for optimized speed guidance - allowing increased productivity and perfect surface quality
- The 808 series features powerful computing capacity and advanced technology cycles for superior performance

- Self-explanatory use and powerful CNC functions ensure highest workpiece precision and short machining times
- „Program Guide Basic“ for easy programming via cycle masks with graphic support, plus convenient contour calculator
- Allows re-using of part programs from other controls that support ISO code
- DIN and ISO programming code can be alternated within one program
- Manual Machine plus (MM+) allows control via hand-wheels like a conventional machine, however, with the added benefit of CNC-supported technology cycles
- The menu structure of the completely updated Sinumerik Operate Basic has been closely adapted to the larger Sinumerik Operate system‘s menu
- The interface at the front panel provides a connector for USB memory sticks for easy transfer of parts programs and tool data during everyday operation
- The user interface allows online change between languages
- This series features ergonomically designed rotary override switches
- Microswitch keys of the membrane keyboard ensure excellent tactility

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The Sinumerik 808D Software package on PC simplifies handling and complements the CNC control.
It can be used as practical training software to program and simulate workpieces offline. This software is included in the standard equipment and can also be used for presentation purposes.

BACK

Typical Applications

Perfectly pre-configured for:

- Lathes with up to 3 axes / 1 spindle with one machining channel
- System software for inclined bed and box-way CNC machines
- Box-way lathe with hand-wheel control (Manual Machine plus)

Benefits

SINUMERIK Operate BASIC

- Easy, intuitive user interface guides and supports the user via dialogs

SINUMERIK program GUIDE BASIC

- Comprehensive bandwidth of technology cycles for turning and drilling with graphical input masks
- High Performance and precision are ensured by advanced CNC functions

Machine Control Panel

- This machine control panel features ergonomically designed rotary override switches just like high-end CNC machines

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