

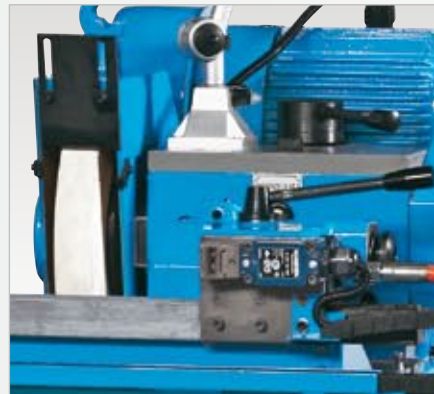
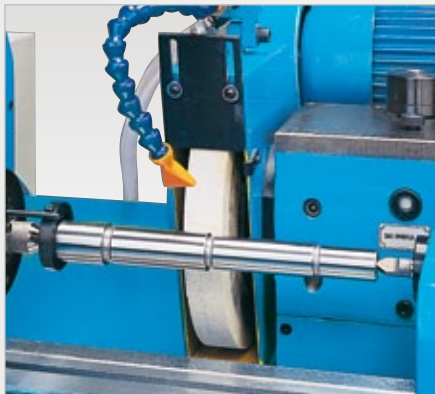
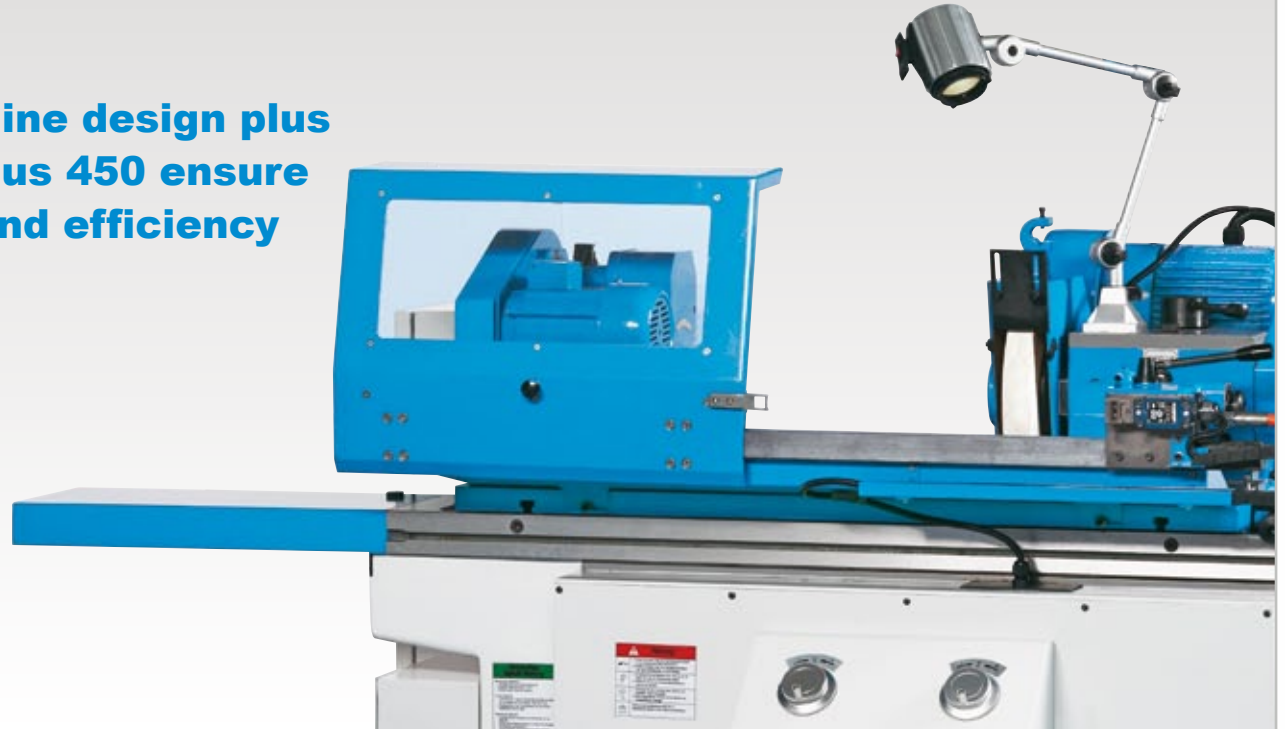


CNC Cylindrical Grinding Machine

## RSM 500 CNC

**Multi-functional machine design plus high-performance GPlus 450 ensure maximum precision and efficiency**

- Center height 4"
- Max. grinding diameter 6"
- Center width 20.5"



**RSM 500 CNC**

[www.knuth-usa.com](http://www.knuth-usa.com)



## Proven Machine Designs combined with advanced GPlus 450 CNC Control Technology for single part or series production

- Superior machining quality and high flexibility for small batch productions
- These proven, solid machine frames with wide V-guides and boxways ensure low vibrations for optimum work results
- Axes are driven by a servo drive and run on precision preloaded ball screws
- High-precision hydrodynamic bearings of the grinding spindle ensure optimum grinding results
- Graphic support for grinding cycles makes this machine especially easy to use
- Standard inside grinder
- Separate hand-wheels allow manual grinding on X and Y axis
- Automatic central lubrication system
- Infinitely variable work spindle speed
- Hydraulic tailstock is operated via foot pedal



RSM 500 CNC

DESCRIPTION



GPlus 450  
www.knuth-gplus.de

Touchscreen-Technologie

www.knuth-usa.com

## Specifications

### Working Area

Center height	4 in
Center width	20 in
Grinding length (max.)	20 in
Workpiece weight (max.)	77 lbs
Workpiece diameter (max.)	6 in
X axis travel	5 in
Inside grinding diameter	0.4 - 1.6 in
Inside grinding depth	2 in
Table feed, infinitely variable	0 - 175.5 in/min
Table swivel range (max.)	R=7° / L=7°
Top slide strokes (max.)	3 in

### Headstock

Work spindle speed, infinitely variable	50 - 600 rpm
Headstock swivel range r/l	10 - 90 °
Work spindle, taper	MT 4

### Grinding Headstock

Grinding spindle speed	2000 min <sup>-1</sup>
Inside grinding spindle speed	17000 min <sup>-1</sup>
Grinding headstock swivel range (r+l)	180°

### Tailstock

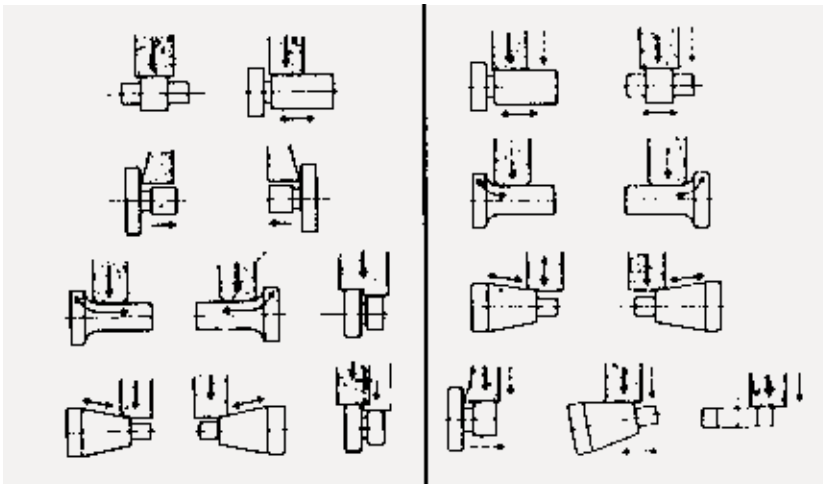
Tailstock taper	MT 2
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### Drive Capacities

Motor rating working spindle	0.5 Hp
Motor rating outside- / inside grinding	3 Hp / 0.25 Hp
Motor rating X- / Z axis feed	1.1 Hp / 1.7 Hp
Total power consumption	6 kVA

### Dimensions/Weight

Grinding wheel dimensions	12 x 2 x 5 in
Dimensions	48 x 49 x 45 in
Weight	4,840 lbs
Part No.	100 014



### Optional

Pulcom Measuring System	Part No. 250 600
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### Standard Equipment

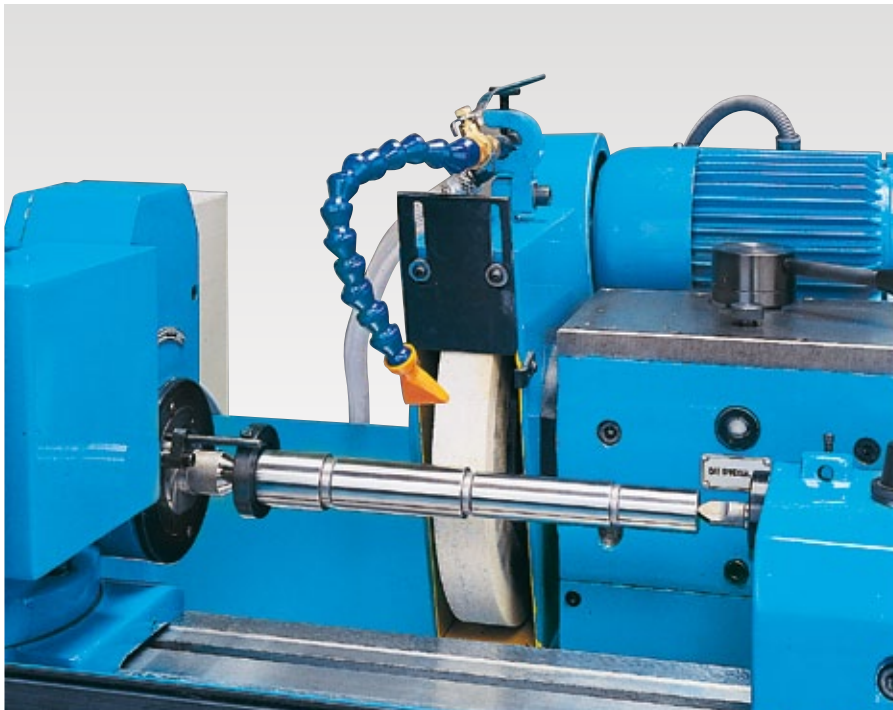
- GPlus 450 control
- Internal grinding equipment
- 3-jaw chuck Ø 3.15 in
- Balancing station
- Truing feature
- Center points
- Dress equipment
- Grinding wheel flange
- Coolant system
- Automatic central lubrication
- Operating manual and programming instructions

### Training

- Free 1-day training in Wasbek
- Including accommodations for 1 night in our guest house

## Measuring and Monitoring on Cylindrical Grinding Machines

- The part will be measured continuously during machining. This allows the grinding cycle to maintain a perfect adjustment dependent on the measurements.
- All applications ensure that the machine conditions (temperature fluctuations, cold starts, etc.) have a minimum effect on the performance.
- We offer various measuring heads for our grinding machines for the following tasks:
  - Measurement comparisons of inside and outside diameters for smooth and intermittent surfaces, with quick manual or automatic zeroing.
  - Absolute measurement of outside diameters on smooth or intermittent surfaces with automatic zeroing



Measuring System for RSM 500 CNC

Part No. 100 015

# CNC Grinding 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
- **Grinding cycles can be programmed easily and safely:** cylindrical grinding - oscillating, face grinding - oscillating, multiple plunge-cut (groove) - plane, multiple plunge-cut - linear, plane shoulders, linear shoulders
- **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

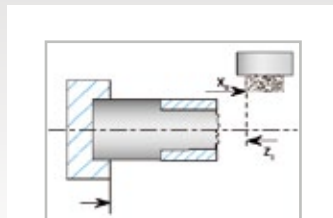
## Easy tool and workpiece measuring

- **Extremely simple collection** and implementation of values for tool length correction and zero offset with graphics support

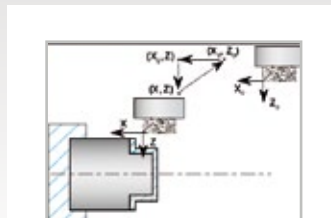
## Accessories

- **Measuring and monitoring** - the GPlus can be combined with a measuring device, whereby the workpiece is continuously measured during machining, and the grinding cycle can be perfectly adapted

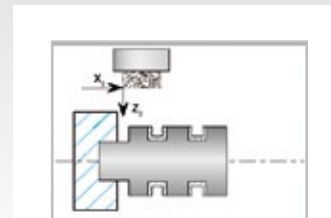
### Samples of Parameter Help Graphics



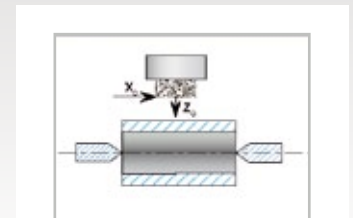
Shoulder plunge-cutting



Oblique plunge-cutting



Multiple plunge-cutting



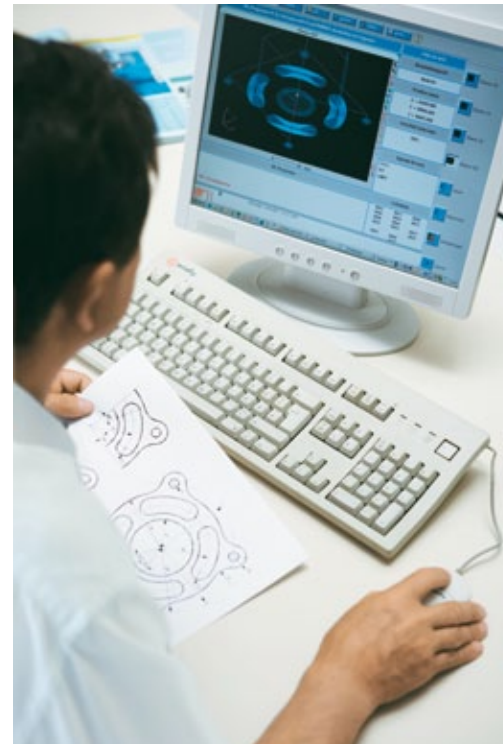
Zero offset



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

Awarded with the TechStar 2008 for innovative future-oriented products

- **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

RSM 500 CNC