

# CNC Grinding Center Model UW I F

with 5 fully controlled axes

**Fully Automatic Grinding Wheel Changer and Tool Loader**

***SAACKE-Precision in a Compact Form***



## Most modern technology

- Flexible grinding through the use of a fully automatic grinding wheel changer
- Highest precision grinding, resulting from the grinding wheel(s) being located closely to mechanical centerline of the spindle head/gearbox
- Integrated pick-up loader or chain loader (optional)
- Digital, vibration-free, variable speed controlled spindle motor
- Vibration-free grinding due to a rigid machine base

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## *For Economical Grinding*





The spindle motor is water cooled and direct-drive (belt-free)



## Pick-Up Loader

### Capacity:

3.0 to	5.0 mm shank diameter	40 tools
5.1 to	8.0 mm shank diameter	32 tools
8.1 to	11.0 mm shank diameter	28 tools
11.1 to	14.0 mm shank diameter	24 tools
14.1 to	20.0 mm shank diameter	20 tools

- **Automatic changing of the grinding wheels via HSK spindle adapters**



- **Optimized kinematics attributed to a rotating grinding wheel**



## Industry Leader with a High Degree of Automation



### Chain-driven loader – Capacity 64 tools

- including the tool loading device
- installed within the grinding enclosure
- for production and regrinding

### Chain-driven loader – Capacity 160 tools

- including the tool loading device
- for production and regrinding

**Automatic collet changeover simplifies a “chaotic” arrangement of tool types and diameters.**



**A-axis with direct-drive motor**  
up to 1,000 rpm for cylindrical  
grinding applications



## ***Exact Measuring and Positioning***



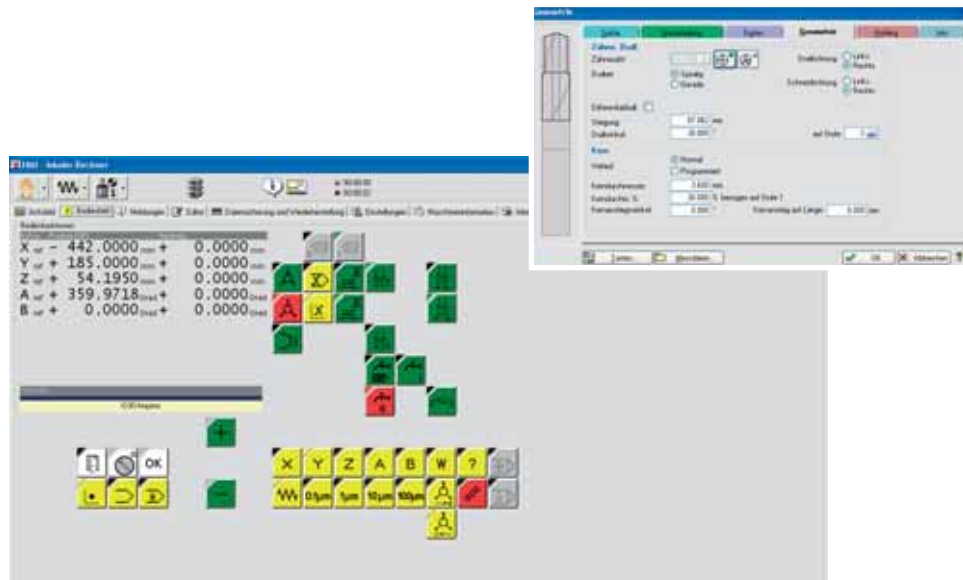
### **To The Point**

- Exact orientation of the tools via 3D-measuring probe
- Automatic measurement of grinding wheels (ie. diameter, flange length, grinding wheel angle and wheel width)
- Digital drives assure the highest dynamic control in all axes
- Table-mounted steady rest and tailstock



## Functionality and Design

- Modern designed operator's panel
- Standard PC architecture is used to simplify future upgradeability
- Software and operating system runs on the newest Windows® technology
- TFT-flat screen with superb brightness
- User-friendly software system
- Industry-standard control (not proprietary);  
**NUM Axium Power** with 1Mb CNC memory
- 16 available languages (ie. English, German, French, Spanish, etc.)
- Measuring system: inch or metric
- Interpolation: 5 out of 5 axes
- Digital servo drives

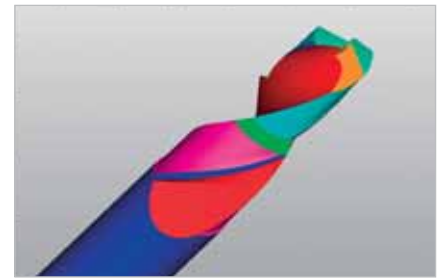


## NUMROTOplus® 3D

- Tool simulation with absolute precision animation of the grinding process
- Collision check via 3D machine simulation
- All internal fixtures (ie. probe, steady rest, tailstock etc.) will be detected and checked for possible collision in the simulation

# NUMROTOplus®

- Software updates are available for the entire life of the machine
- Interface to Zoller-measuring devices
- Ease of importing or drawing of DXF-contours onto form cutters and step angles
- The combining of different grinding software families and operations is possible
- Tool, Technology (speeds and feeds) and grinding wheel database management



## Greatest Variety with Highest Precision



Cylindrical and tapered end mill cutters



Burrs



Form cutters and special form tools



Wood working profile blades/tools



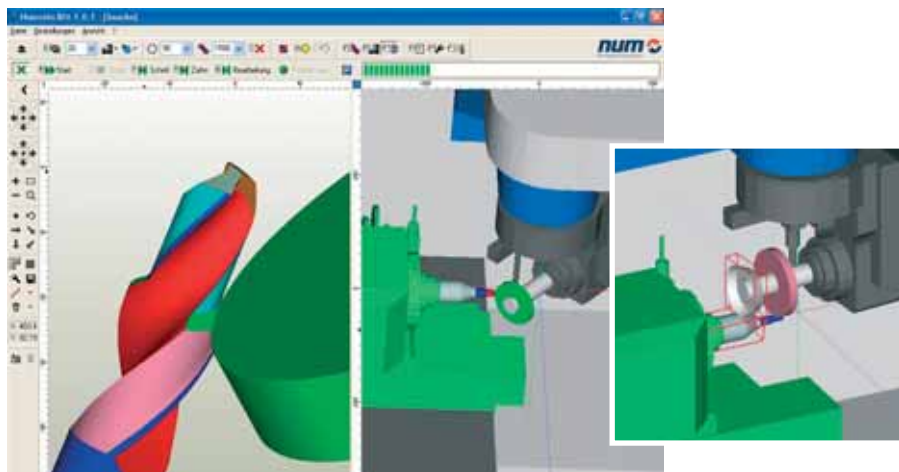
Drills and Stepdrills



Gundrills



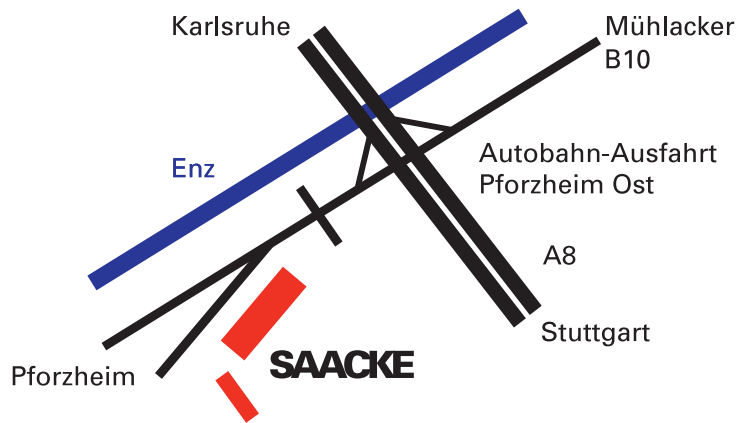
Taps



Shaper Cutters



Disc type Milling Cutters



## Technical Data

### Tool data

Max. diameter 200 mm  
 Max. edge length for complete grinding  
 measured at the front edge of the work head 230 mm

### X-axis (Longitudinal axis)

Travel length 530 mm  
 Feedrate range 0 - 15 m/min  
 Useable table area for tool support devices 245 x 140 mm

### Z-axis (Cross slide)

Travel length 320 mm  
 Feedrate range 0 - 15 m/min

### Y-axis (Vertical)

Travel Length 400 mm  
 Feedrate range 0 - 15 m/min

### B-axis (Grinding Head)

Swivelling travel in horizontal plane 240 deg.  
 Grinding wheel adapter with automatic clamping HSK - E50  
 Speed range, infinitely variable 2,000 - 12,000 rpm  
 (optional 20,000 rpm)

Max. Grinding wheel diameter 150 mm

### Grinding wheel changer

Number of grinding wheel packages 2 (optional 4)

### A-axis with direct drive

Workhead taper ISO 50  
 Indexing accuracy +/- 15"  
 Max. speed 600 rpm  
 (optional 1,000 rpm)

### Resolution

X-, Y- and Z-axis 0.0001 mm  
 B- and A-axis 0.0001 deg.

### Motor ratings

Spindle power (peak) 5 kW (optional 16 kW)  
 Longitudinal X-axis 2 kW  
 Workhead A-axis 2 kW  
 Cross slide Z-axis 2 kW  
 Vertical Y-axis 2 kW  
 Grinding head B-axis 2 kW

### Connected energy load

20 kW / 22.6 kVA

### Weight

3,500 kg

