**U-Grind : Specifications**

**LINEAR AXES**
- X-axis: Cross movement of the tool attachment 420 mm (16.5")
- Y-axis: Vertical movement of the motor spindle 250 mm (9.8")
- Z-axis: Horizontal movement of the motor spindle 485 mm (19.1")
- Rapid feed: 1.5 m/min (590'/min)
- Smallest increment: 0.0001 mm (.000004")

**ROTARY AXES**
- B-axis: Pivoting of the motor spindle with torque-motor 340°
- C-axis: Rotation of the tool cylindrical grinding 1000 rpm
- Smallest increment: 0.0001°

**MOTOR SPINDLE**
- Attachment: HSK 63F [50E]
- Speed: 500 - 12'000 rpm
- Torque - Power: 12.3 Nm - 10/12 kW (15 - 17 hp)
- Grinding wheel diameter: 150 mm (154 mm/6")

**AUTOMATIC CHANGER OF THE GRINDING WHEELS**
- 6 stations for grinding wheel arbors: HSK 63F [50E]

**TOOL ATTACHMENT C-AXIS**
- Interface - Taper: SK 50 ISO
- Collet chuck: BCR 32
- Loosening of the collet chuck (spring set) pneumatic: 6 bar (87 psi)

**GRINDING CAPACITY**  
- Tool Ø range production: 3 to 24 mm (1/8" to .945")
- Tool Ø range resharpening: 3 to 150 mm (1/8" to 6")
- Tool length max.: 500 mm (19.7")
- Tool cutting length: max. 300 mm (11.8")

**CNC CONTROL NUM FLEXIUM**
- Monitor: 19"
- Software: NUMROTO plus

**LAYOUT / WEIGHT**
- Length x Depth x Height: 2330 x 2300 x 2150 mm (92" x 91" x 85")
- Weight: ~ 3300 kg (7300 lbs)

**TOOL HANDLING (OPTION)**
- Palette vertical for tools: 18 x Ø 24 / 60 x Ø 3 mm (18 x Ø .945" / 60 x Ø1/8")
- Loading / unloading (pneumatic): Double gripper

* Specifications are subject to change without notice
U-Grind - Flexible grinding, designed for specialty tools, re-sharpening and short batch grinding of cutting tools

**U-Grind - 5 axis CNC-Tool Grinding Machine with Integrated Wheel Changer**

- Designed for specialty tools, re-sharpening and short batch grinding of cutting tools.
- Maximum flexibility for quick and easy machine setups. The powerful spindle motor allows for high feed rates even when fluting, while the torque motor on the B-axis provides rigid holding accuracy and guarantees stability during the grinding process.
- All axes are direct-drive, so the 5-axes system works free of backlash, offering greater precision.
- High structural rigidity and damping ensure smooth operation for the highest surface finish quality and tightest dimensional tolerances.
- Due to the flexibility of the machine, re-sharpening is an extremely economical process, allowing you to meet the highest demands in this competitive field.
- Flexible programming with NUMROTO Plus software and 3D simulation.

**FLEXIBLE & RIGID**

Large axes movements and a sizeable internal machine area allow for quick and straightforward setup and provide a comfortable working environment. High-torque and direct-drive axis control provide static and dynamic rigidity.

High stiffness and damping is achieved with an exclusive kinematic machine design which also facilitates minimal thermal expansion/contraction during setup and single-piece grinding. High resolution scales on all axes guarantee excellent accuracy and repetitiveness.

**WHEEL CHANGER**

The wheel changer is designed for 6 separate wheel packs with up to 3 grinding wheels per arbor to offer the highest programming flexibility. Wheel packs with different families of wheels can be loaded for mixed batch grinding or dissimilar materials such as carbide, HSS and stainless steel. If the stock removal is large, roughing/finishing and polishing wheels can be placed in different arbors.

Very easy access to the wheel changer from the side of the machine. Total wheel change takes no more than 15 seconds.

**PRODUCTION & RESharpenING**

Simplified and very quick setup system makes U-Grind the best solution for grinding of specialty cutting tools and for re-sharpening. The workhead includes a collet quick-change system whereby the operator can simply press a button to release the collet. To simplify programming, the electronic probe can digitize certain geometries on the cutting tool. High power and torque on the grinding spindle allow for optimal feedrates when grinding into solid. The in-process measuring system provides process stability and consistent accuracy for batch grinding and for unattended operation.

**NUMROTO PLUS**

Software for grinding of specialty cutting tools and for re-sharpening. All programming menus are graphically supported and simplify the entering of individual parameters. The electronic probe can digitize certain features on an existing cutting tool and assist in generating the grinding program.

The 3D machine animation and collision control can detect and avoid any axes crashes. A variety of software options offer optimal solutions for all applications. Strausak has been in cooperation with NUMROTO since more than 25 years.