



15

CNC Grinding Center Model UW I G

Complete grinding of tools up to 630 mm in cutting length

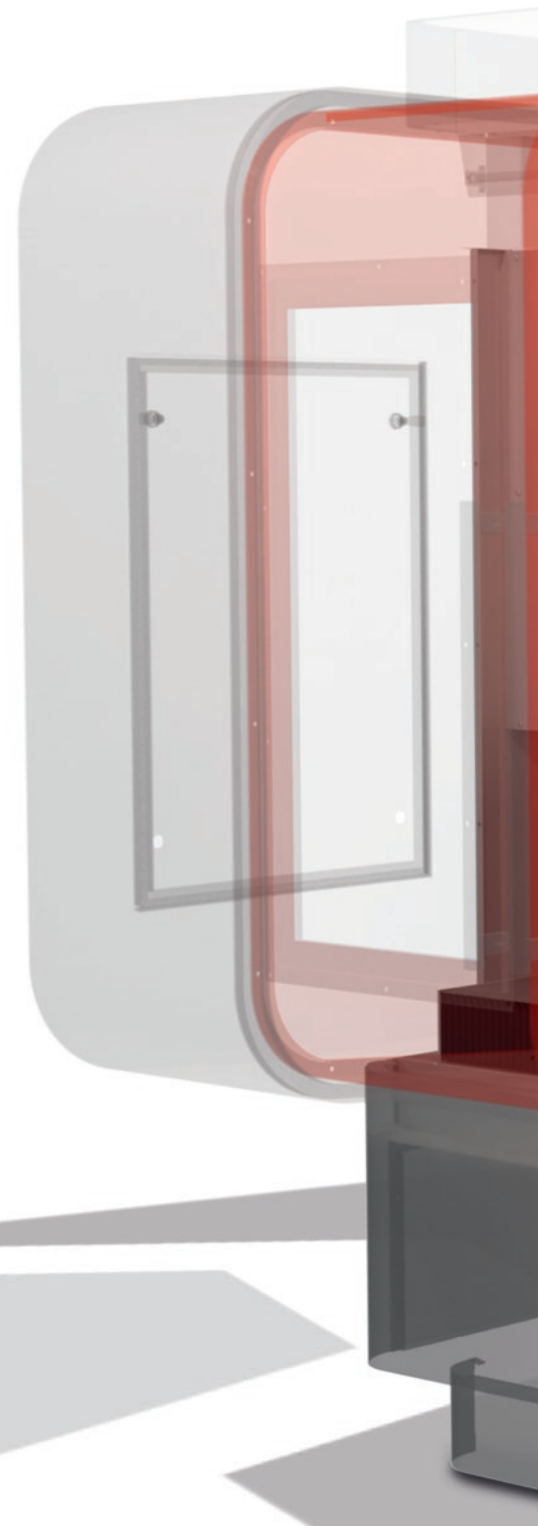
The newest dimension in tool grinding

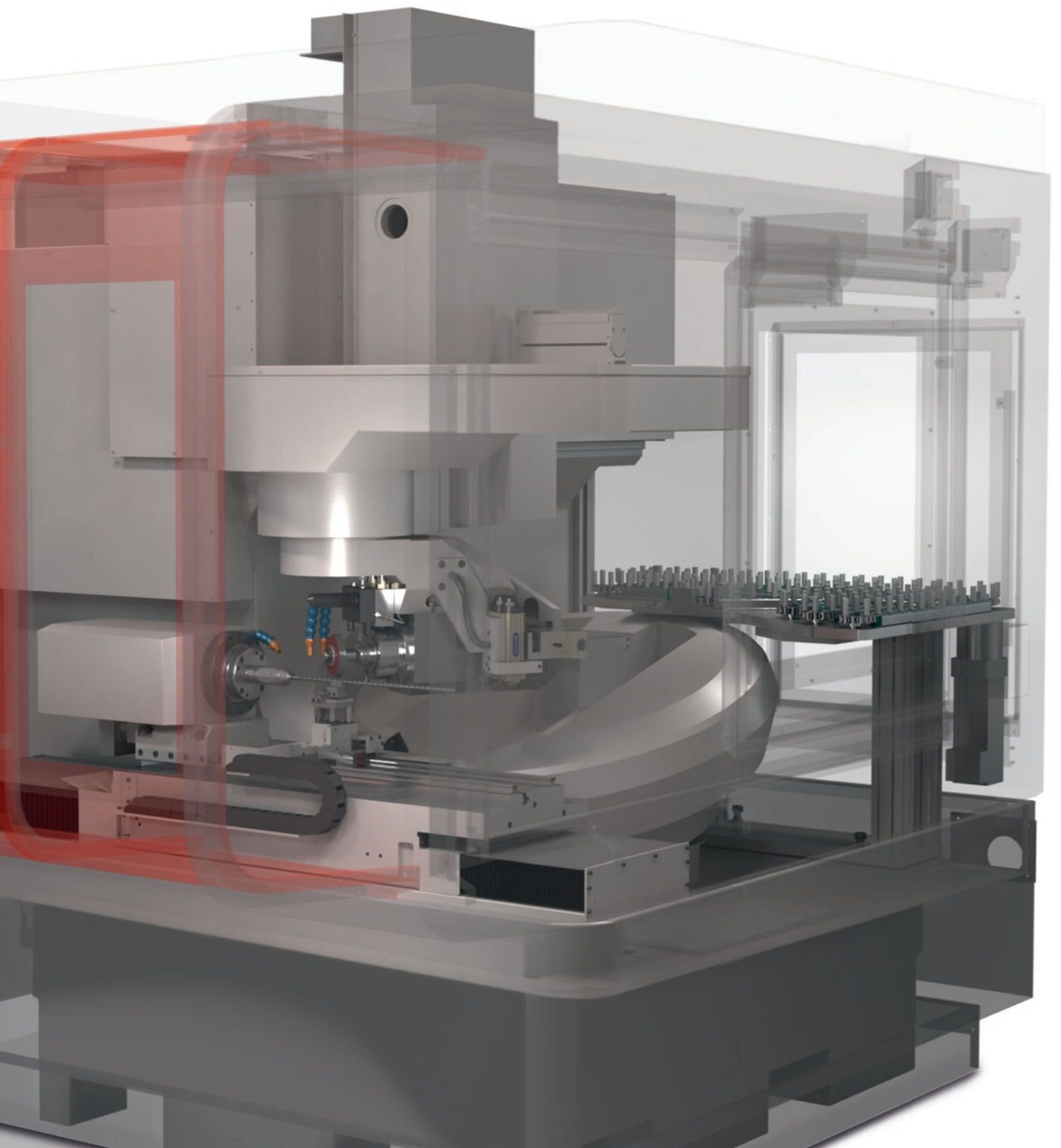




Highly flexible power plant

630 mm represents the “latest standard” for a grinding length obtained during the manufacturing process. Until now, such a length had not been achievable. This innovative machine concept has been made possible by the new SAACKE grinding center UW I G. The outstanding performance incorporates a grinding spindle capacity of up to 42 kW, a 12-station grinding wheel changer with an extremely short changeover time, and a CNC controlled steady rest. The grinding center allows maximum flexibility through the use of an Automatic Chain-Driven Tool Loader. In this highly flexible system, 160 tools and collets can be loaded and unloaded in a random sequence. In summary, its advantages begins with a grinding center which allows a complete new dimensions in productivity and cost-efficiency.





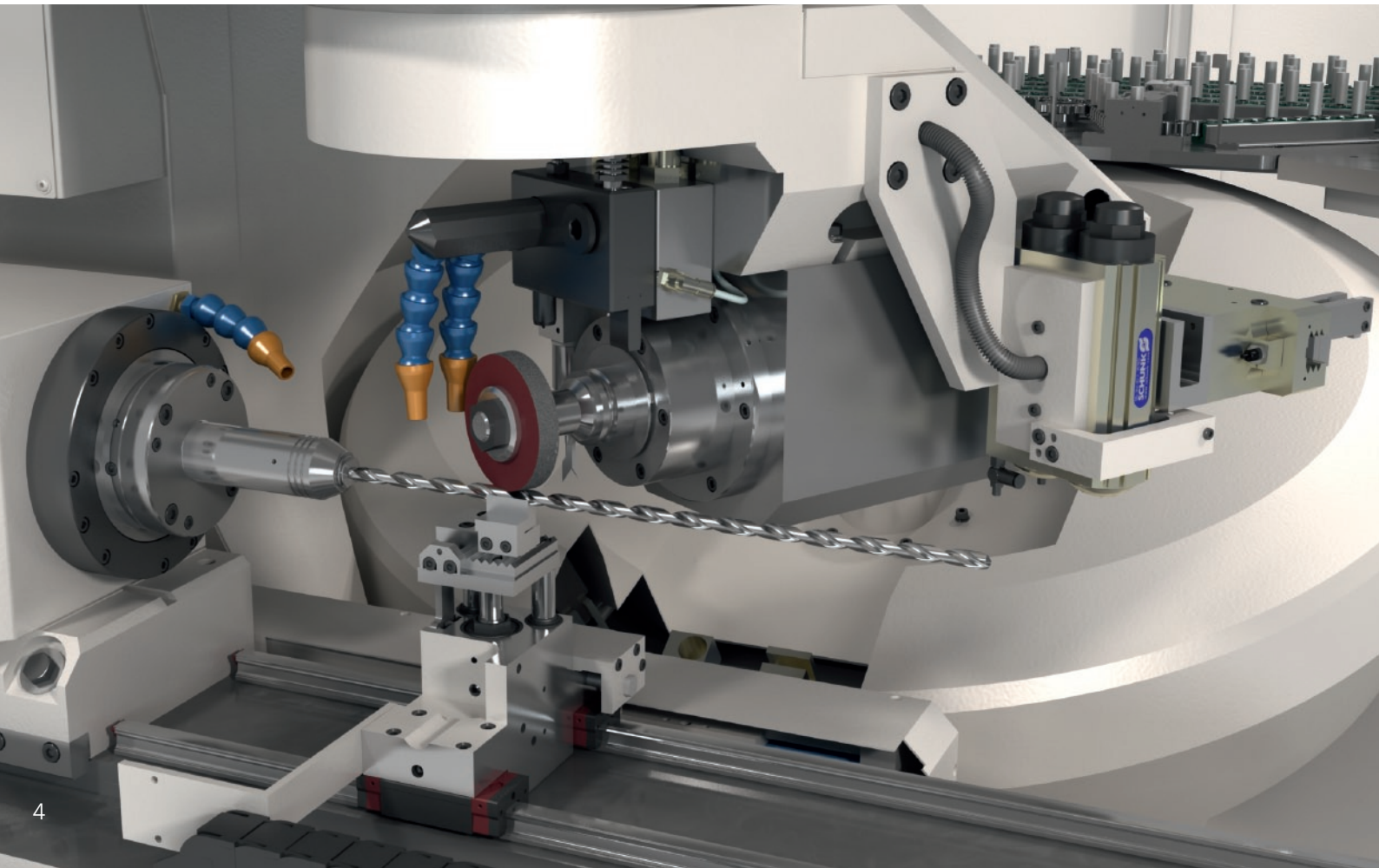
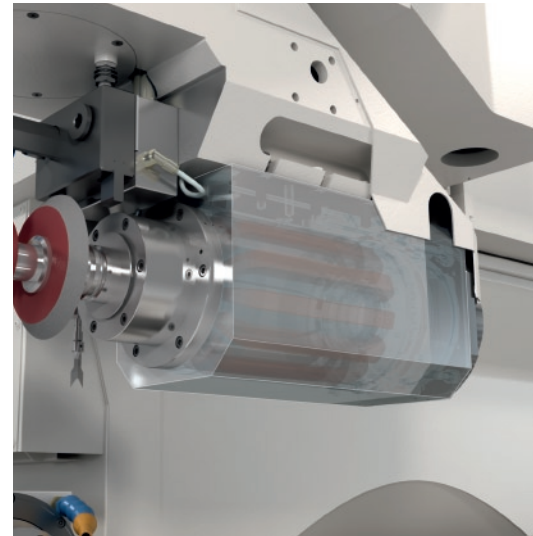


Kinematics without compromises

The direct driven motor spindle with adapter HSK-50 provides outstanding capability. The 3D-probing system detects tool positioning and also performs measurement of tools, allowing high efficiency.

Advantages at a Glance :

- Established kinematics having 5 or 6 axes
- Highest accuracy due to the position of the grinding wheel being located in the Center of the rotary Grinding Head centerline
- Liquid-cooled grinding spindle motor with a capacity of up to 42 kW
- Unique flexibility achieved via a 12-station grinding wheel changer
- Universal Tool Loading Systems
- Compatible to existing grinding centers
- Extremely high productivity
- Comfortable and ergonomic layout for the operator during operation and setup
- Work head equipped with a flat face and ISO 50 for μ -accurate repeatability
- Tool grinding length with complete grinding up to 630 mm is possible

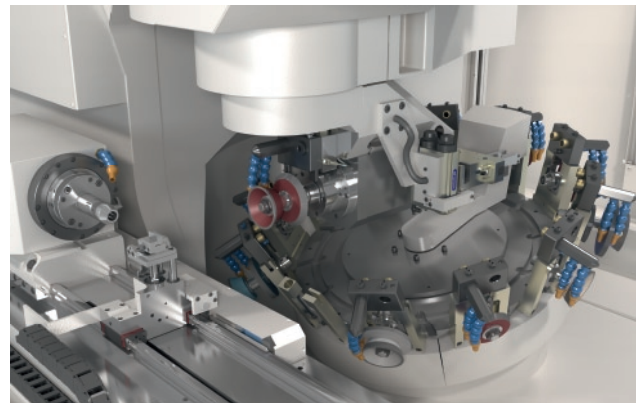


Highly efficient grinding wheel changer

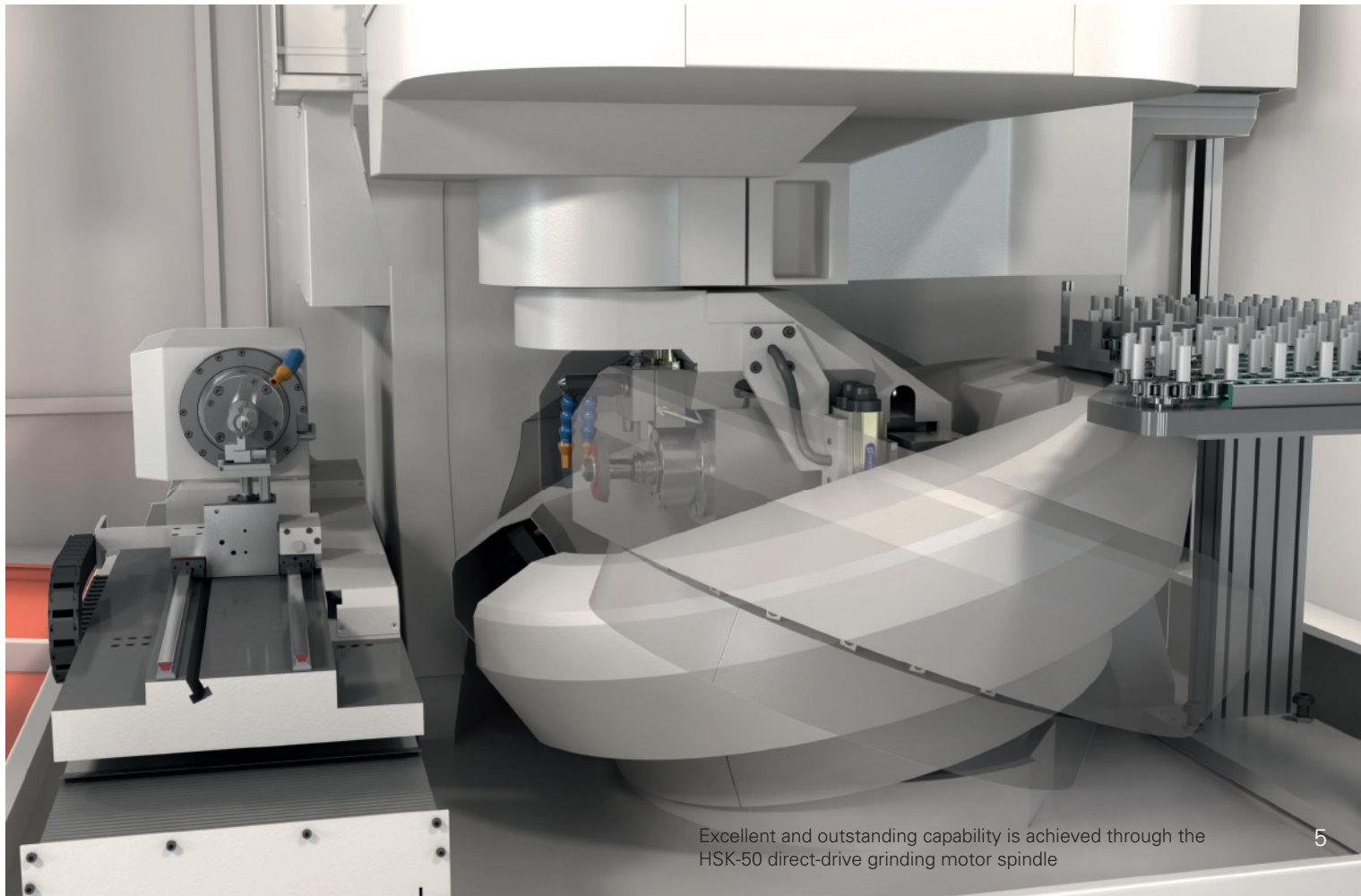
An extremely short changeover time of the grinding wheel packages sets the course for maximum productivity in the grinding process.

Serial grinding wheel changer:

- Enormous and a fast grinding wheel changeover through an innovative magazine arrangement
- Impressive short and direct changeover movements during the grinding process
- The standard configuration includes 6 magazine stations; an optional 12 positions magazine is available
- The grinding wheels will be changed along with their respective coolant nozzle sets
- Fully automatic selection and changeover of up to 200 mm diameter grinding wheels
- Each grinding wheel adapter can contain several grinding wheels
- Easy setup of the grinding wheel magazine stations
- Grinding wheel changeover occurs directly and without an additional transferring mechanism



Impressive short changeover times of the grinding wheel packages



Excellent and outstanding capability is achieved through the HSK-50 direct-drive grinding motor spindle

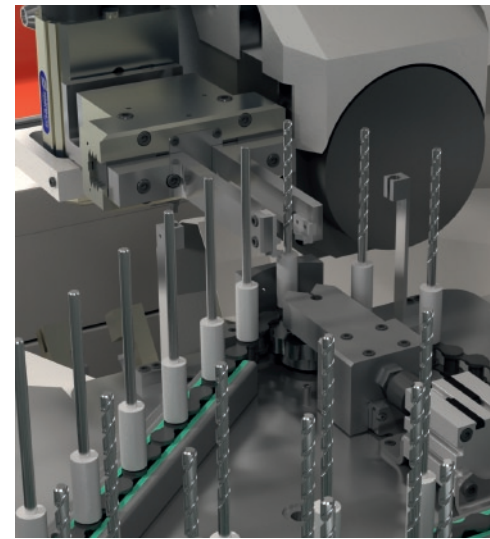


Profitable Dynamics

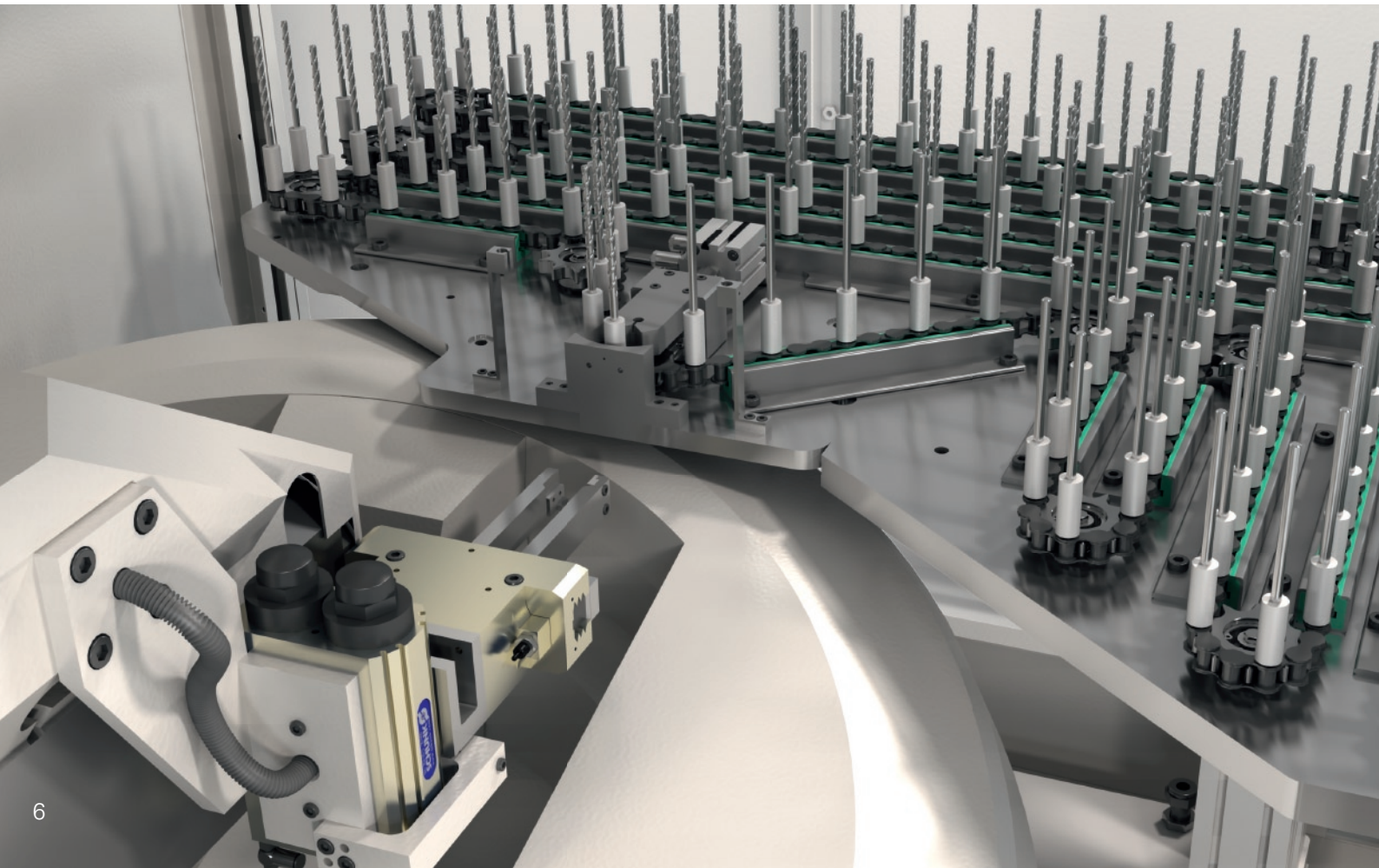
The flexible Chain-Driven Loader is also configured for a flexible handling of different tool types, tool materials as well as different tool diameters.

Chain-Driven Tool Loader with a maximum capacity of 160 tools

- Equipped for production and regrinding
- Flexible processing of different tool types and diameters in HSS and carbide
- Automatic collet changing



Flexible Chain-Driven Tool Loader



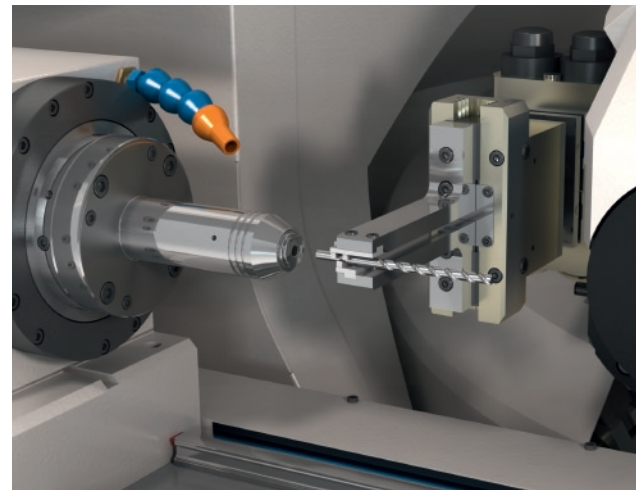
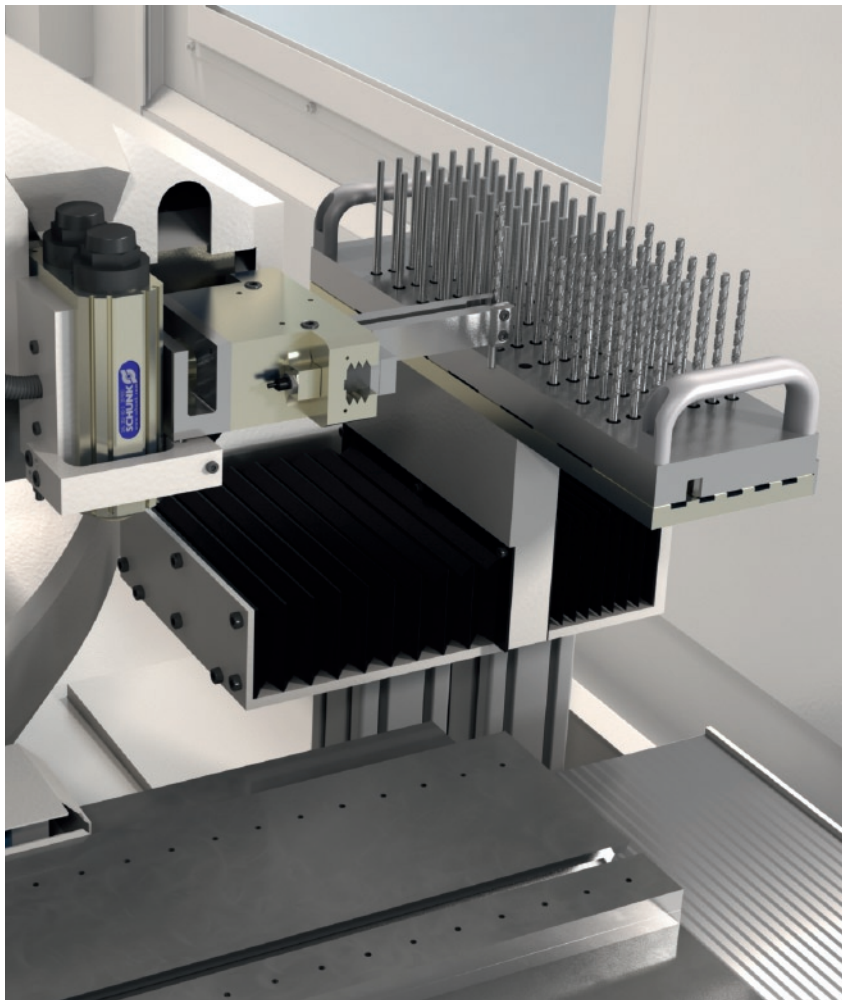
Fully developed process capability

An example for high functionality is the compact tool loading device, which is fixed on the grinding spindle.

Integrated Pick-Up Loading System

Capacity:

- 3.0 to 5 mm shank dia. 143 tools
- 5.1 to 9 mm shank dia. 90 tools
- 9.1 to 12 mm shank dia. 70 tools
- 12.1 to 16 mm shank dia. 54 tools
- 16.1 to 20 mm shank dia. 35 tools
- 20.1 to 32 mm shank dia. 18 tools



Compact tool loading device, fixed onto the grinding spindle

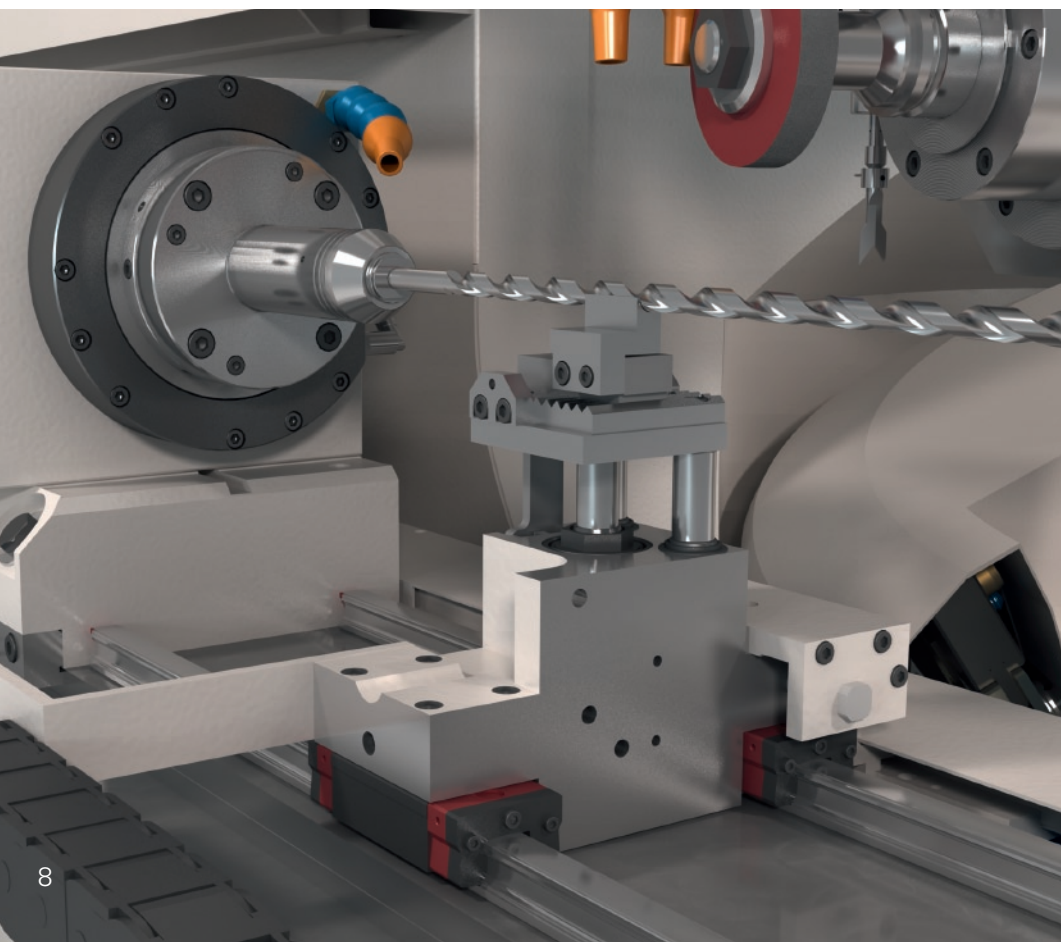


Optional Accessories for your specific application

A variety of CNC tool support systems exist.

Cycle times will decrease as a result of the CNC moving steady rest technology

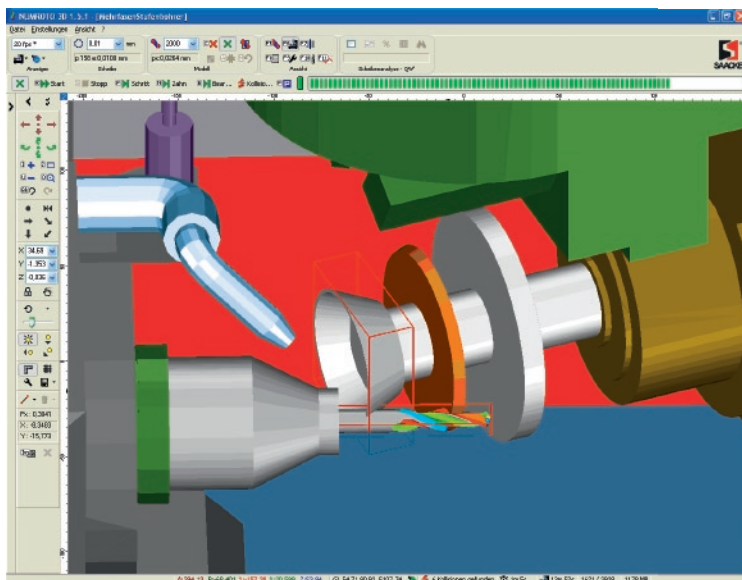
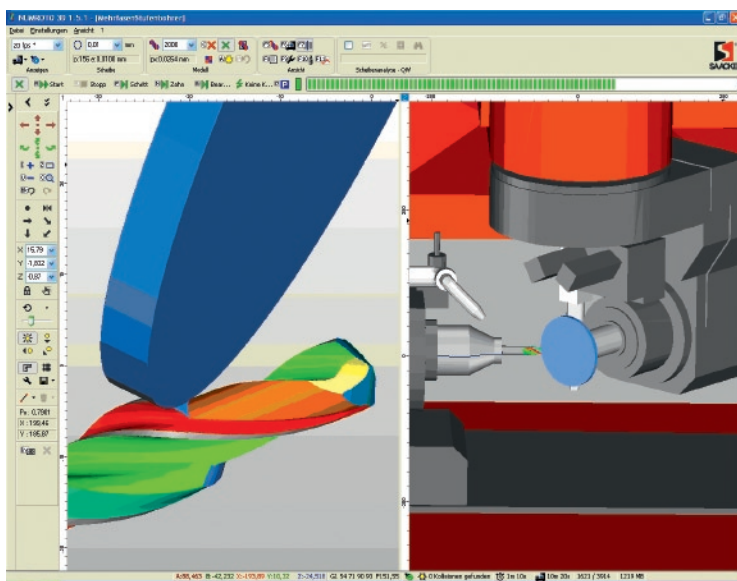
- Mounted on the grinding table as a 6th axis
- Equipped with low wear, high precision linear guide ways
- For support and guidance of long tools during the grinding process
- Optimal control of the grinding deflection over the complete grinding length
- Supported directly beneath the contact point of the grinding wheel
- Through a creative adaptable system, different solutions are possible
- Tailstock adapters available include a full or half-round bushing
- Special solution allows high precision guiding for tools with tapered diameters



CNC controlled steady rest in different executions

Adjustable and comfortable

- Multifunction control panel for stationary and portable handling
- Built-in height adjustment for ergonomic work
- Optimal access to the working space through centrally located cabin doors
- Direct view into the machine working area during the grinding process





Complex tool geometry, but very easy to program

NUMROTOplus® Software

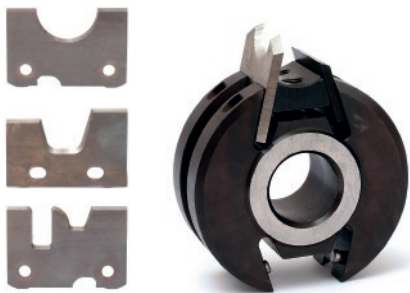
- The flexible and multifunctional NUMROTOplus® Software is perfect to program special tools in a short amount of time
- An exceptional variety of programs with a built-in database for tools, technology and grinding wheel packages
- Straightforward and easy to install Software updates are available over the complete machine life
- 3D collision monitoring and machine simulation
- The software is compatible with a commercially available and standard PC; from your local PC supplier



Cylindrical and Tapered Cutters



Profile – Form Cutters



Tools for the woodworking Industry



Drills and Step Drills



Deep-hole Drills



Shaper Cutter



Disc type Milling Cutter



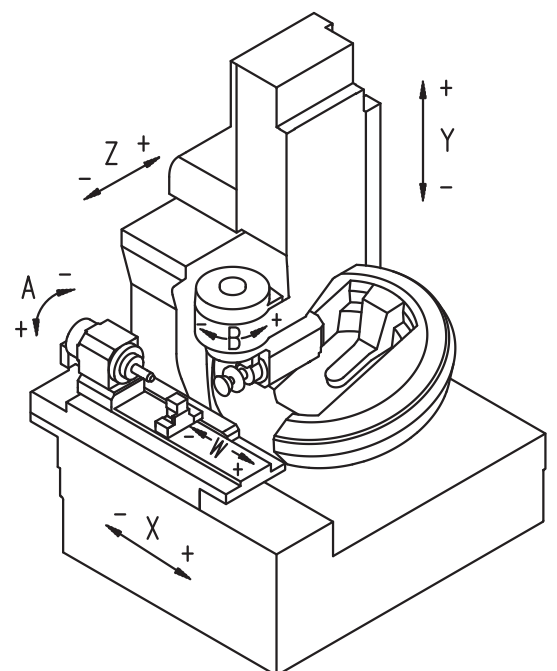
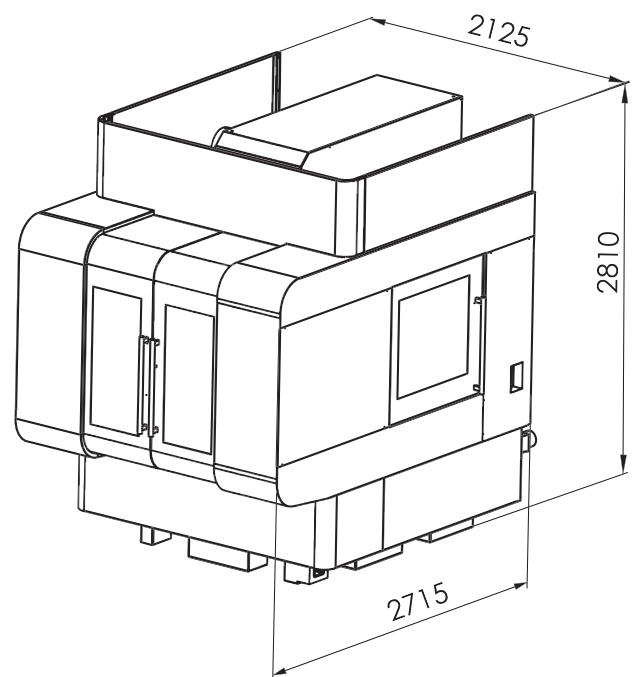
Burrs



Taps

Technical Specifications

Tool data	
Max. diameter	300 mm
Max. grind length during the complete grinding, measured at the front face of the work head	430 mm (optional 630 mm)
Tool length between centers	480 mm (optional 550 mm)
Center height	195 mm
Longitudinal X-axis	
Travel range	560 mm (optional 760 mm)
Feed rate	0 – 30 m/min
Useful table area for tailstock and steady rest	975 x 200 mm
Cross slide Z-axis	
Travel range	770 mm
Feed rate	0 – 30 m/min
Vertical travel Y-axis	
Travel range	320 mm
Feed rate	0 – 20 m/min
Grinding wheel head B-axis	
Swivel angle in horizontal plane	270°
Motor grinding spindle	180 x 470 mm
Grinding wheel arbor with rapid clamping	HSK-C / E50
Grinding spindle speed is infinitely variable	2.000 – 12.000 1/min (optional 18.000 1/min)
Max. Grinding wheel diameter	Ø 200 mm
Grinding wheel changer	
Number of magazine stations	6 (optional 12)
Work head A-axis with direct drive	
Work head spindle taper	flat face (ISO 50)
Through-bore capacity	Ø 32
Through bore capacity while automatic clamping	Ø 30
Indexing accuracy	+/- 15"
Max. rpm of work head spindle	600 1/min (optional 1.000 1/min)
Resolution	
X-, Y- and Z-axis	0,0001 mm
B- and A-axis	0,0001 degree
Drive output rating	
Grinding motor, peak capacity	26 kW (optional 42 kW)
Longitudinal path drive motor X-axis	4 kW
Work head drive motor A-axis	3 kW
Cross travel drive motor Z-axis	4 kW
Vertical travel drive motor Y-axis	7 kW
Grinding head B-axis	3 kW
Weight approx.	7.600 kg



Technical corrections may occur at anytime. We are not responsible for typographical errors. Descriptions and pictures illustrate only some of the many possibilities.



Gebr. SAACKE GmbH & Co. KG
Precision Tools and Tool & Cutter Grinding Machines
Kanzlerstr. 250
75181 Pforzheim
Fon (+49) 7231 / 956-0
Fax (+49) 7231 / 956-290
www.saacke-pforzheim.de
info@saacke-pforzheim.de

