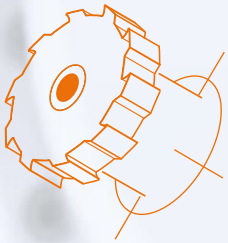
VOLLMER



////////// ROTARY TOOLS //

Grinding machine for the complete machining of solid carbide tools up to 50 mm diameter

Vgrind 160

OPENING NEW PATHS TO PRECISION: ONWARDS AND UPWARDS.

WITH THE INTRODUCTION OF THE Vgrind 160, VOLLMER HAS LAUNCHED A FIVE-AXIS GRINDING MACHINE FOR THE PRODUCTION OF SOLID CARBIDE TOOLS UP TO 50 MM DIAMETER – IN CONJUNCTION WITH MULTI-LAYER MACHINING.

THE PRINCIPLE: THE WORKPIECES CAN BE MACHINED ON TWO VERTICALLY CONFIGURED GRINDING SPINDLES – AT THE OPTIMUM C-AXIS PIVOT POINT.

THE RESULT: HIGH-LEVEL PRODUCTIVITY AND PRECISION. CHARACTERISTICALLY VOLLMER.

Vgrind 160 – EFFICIENCY SQUARED

Vgrind 160 – STANDS FOR EFFICIENCY AND PRECISION

//// 1 **NEW WALL CONCEPT**

Very rigid, compact construction with optimal accessibility and overview for the operator.

//// 2 **MULTI-LAYER MACHINING**

Two vertical grinding spindles with the grinding wheel set in the C-axis pivot point.
Reduced machining times thanks to shorter linear-axis travel distances.

//// 3 **MODERN CONTROL-PANEL CONCEPT**

Height-adjustable, with touchscreen, 19" diagonal screen size and optimum view into the machining chambers.

//// 4 **NUMROTO*plus*®**

The reliable, intuitively operated software with 3D workpiece and machine simulation, combined with collision monitoring.

//// 5 **TOOL AUTOMATION**

Even more flexibility for your manufacturing processes – with eight HSK-50 tool positions for the grinding wheel sets. Both grinding spindles can be loaded with complete flexibility.

//// 6 **WORKPIECE AUTOMATION**

Such as with the VOLLMER HP 160 pallet magazine or the HPR 250 free-arm robot for increased capacity and flexibility.

/// THE MACHINE CONCEPT

Precision and efficiency squared. As the world's first grinding machine with two vertically configured grinding spindles, the Vgrind 160 is setting new standards

/// Five-axis CNC grinding machine with innovative kinematics.
Short linear-axis travel distances and swivel ranges for increased efficiency and precision in Production

/// Two grinding spindles situated one above the other, with a grinding wheel set positioned in the C-axis pivot point, provide highly precise grinding results

/// Innovative wall concept with the highest possible rigidity and outstanding damping thanks to polymer concrete

/// The vertical spindle arrangement solves the well-known problems related to fixed and floating bearings

/// Effective motor and spindle cooling concept for higher thermal stability and lasting power and precision

/// Both grinding spindles can be fitted with various different tools. The automation option ensures incident-free retooling for both spindles

//// **Vgrind 160**
with a new and innovative machine concept

OPTIONAL EQUIPMENT

/// Flexible automation options for the tool supply and tool automation of both grinding spindles

/// Grinding spindle available with a direct motor or belt drive

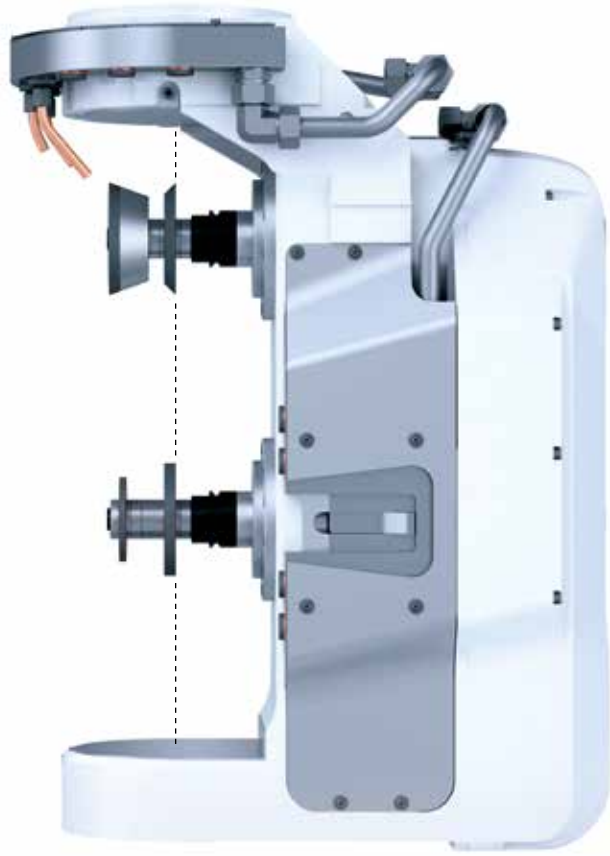
/// Linear scales: Even greater precision thanks to determining the position of the axes

/// Stable, flexibly adjustable steady rest with automatic stroke ensures optimal grinding results for longer workpieces

/// Disc probe: Tool measurement and wear control within the machine

/// Automated changing of intermediate sleeves with bayonet

//// **STEADY REST**
for precisely metered counterpressure for tool grinding



//// **PIVOT POINT FOR GRINDING WHEEL SETS**
located in the centre of the C-axis

/// THE OPERATING CONCEPT

When developing the Vgrind 160, we focussed on high user-friendliness. The new VOLLMER control panel is positioned so that you not only always have the LCD display in full view, but also the work area. Operation via touchscreen or keyboard is simple, intuitive and precise.

The multifunction handwheel is another new component, which ensures even more flexibility: It can be freely positioned on the enclosure and is designed for setting a required axis – without using the control panel. In short: Good ideas for simple, intuitive and precise operation.

//// **ERGONOMIC OPERATION**
Flexibly height-adjustable, swivelling control panel, variable multifunction handwheel, optimal view into the machine, simple access to grinding spindles

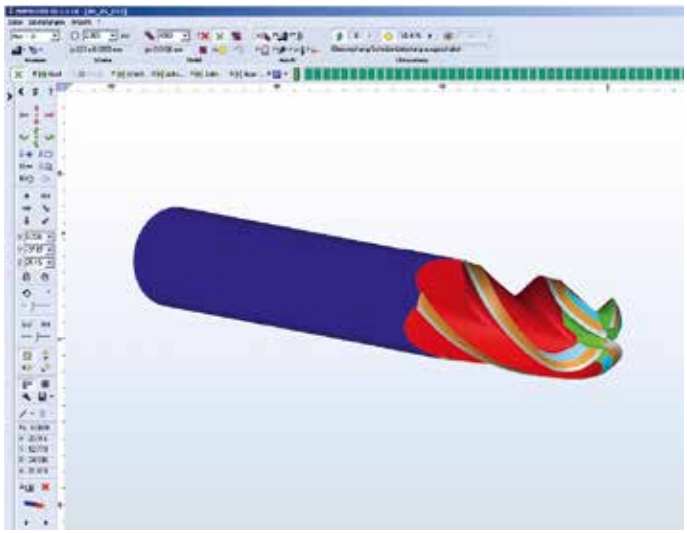
/// SOFTWARE NUMROTO*plus*®

VOLLMER consciously opted for a mature system that is already established on the market. The logically structured interface guarantees intuitive handling. With established programming systems, a huge variety of tools can be manufactured and resharpened. As a result, every detail on individual tools can be altered and adapted to individual needs.

Fully informed: Thanks to a perfect 3D diagram of the tool and machine. And with collision monitoring, you can always stay on the safe side.

/// Develop
/// Simulate
/// Monitor
/// Produce
/// Measure
/// Resharpen
/// Document

//// **PROVEN SOFTWARE SYSTEM**
NUMROTO*plus*®



//// **PROGRAMMING**
of profile tools

/// AUTOMATION

One of the key factors in modern tool production is automating the work processes. When developing the Vgrind 160, VOLLMER took this into consideration and offers meaningful equipment options, which ensure your manufacturing process is faster, safer and more precise.

/// TOOL MAGAZINE

Always the right tool – without needing manual intervention: The optional tool automation for eight tools changes the grinding wheels on both grinding spindles in the shortest possible time. This is a vital contribution to productivity within your manufacturing process.

//// **EIGHT-TOOL MAGAZINE**
for efficient tool changes and reduced non-productive time

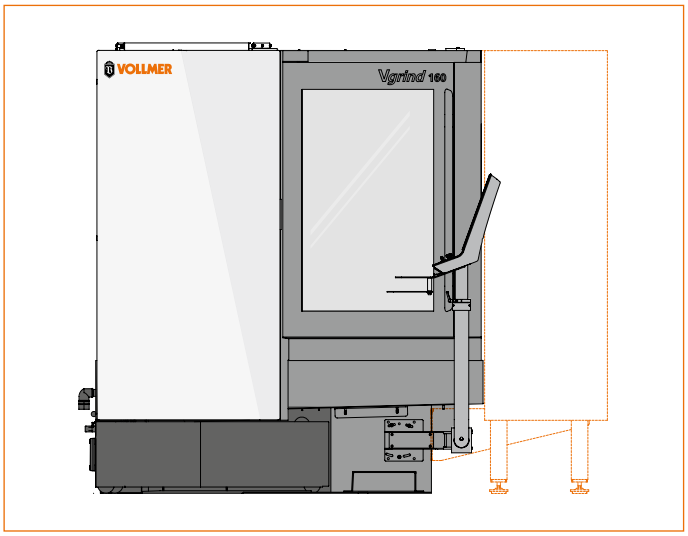
/// WORKPIECE AUTOMATION

In terms of workpiece automation, the Vgrind 160 is very flexible and can be adapted to meet your needs thanks to its compact construction. Thanks to the machine concept, the most varied automation solutions can be combined together, which has a clear positive effect on productivity.

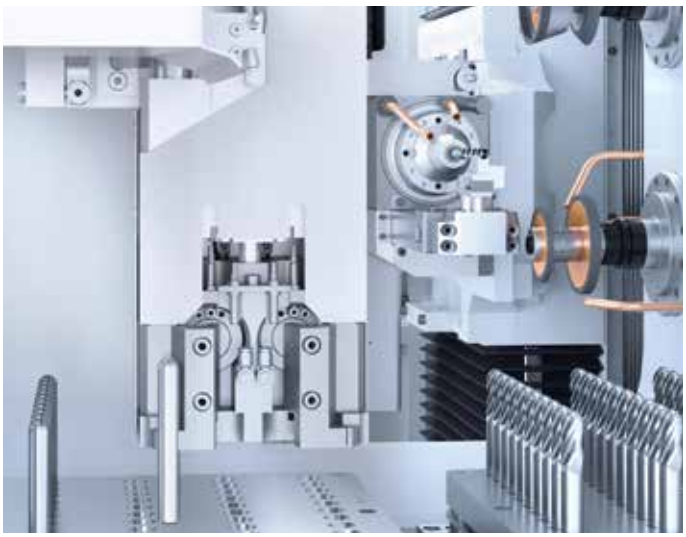
To get the most out of your manufacturing process, the HP 160 pallet magazine enables up to 272 workpieces to be supplied – all while releasing your operating staff.

It is possible to load and unload the workpiece storage during normal operation.

The HPR 250 free-arm robot allows the automated machining of tools with different shaft diameters for the first time, while also tripling capacity.



//// **WORKPIECE AUTOMATION**
an extremely wide variety of automation solutions can be fastened



//// **PALLET MAGAZINE HP 160**
for the quick supply of up to 272 workpieces.

//// **HPR 250 FREE-ARM ROBOT**
for triple the capacity and even more flexibility.

/// THE APPLICATION

The Vgrind 160 was designed to produce solid carbide cutters and drills of up to 50 mm diameter.

The high flexibility provided by the possibility to change both grinding wheel packages, the reduced changing times thanks to the positively guided system and the meaningful automation options provide the best prerequisites for efficient and high-quality manufacturing.

//// MACHINING SOLID CARBIDE CUTTERS

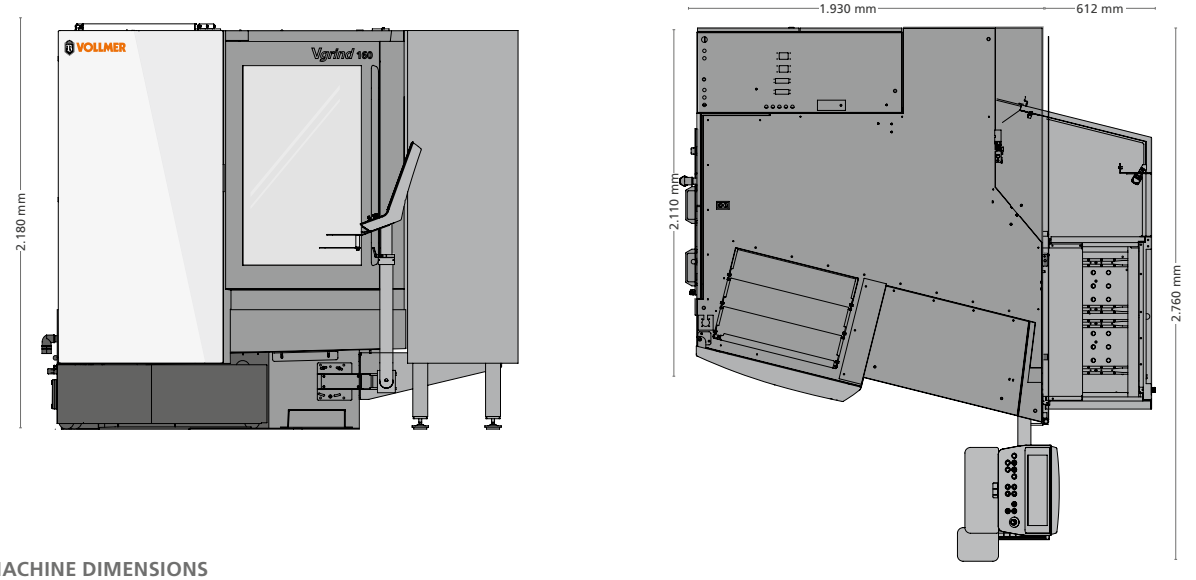
//// MACHINING SOLID CARBIDE DRILLS

/// SPECIFICATIONS

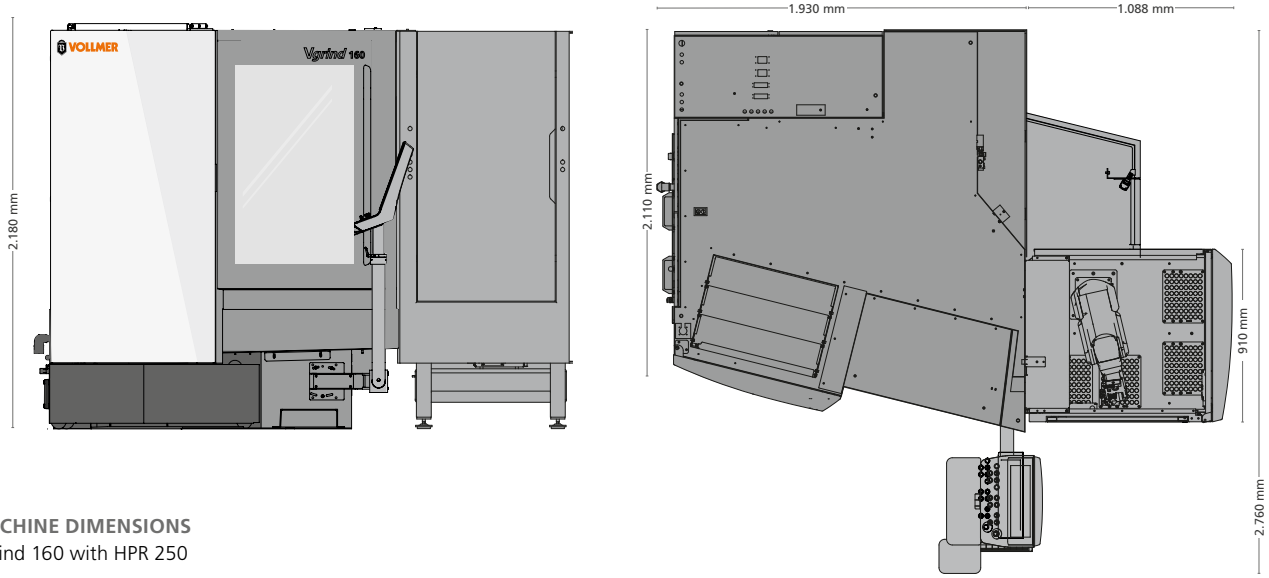
Workpiece		
Outside diameter	up to 50 mm*	
Workpiece length	up to 265 mm**	
Sharpening length	up to 200 mm**	
Tool		
Grinding wheel diameter	max. 150 mm***	
Grinding spindles		
	Belt spindle	Motor spindle
Speed	8,500 rpm	16,000 rpm
Driving power 100% ED	11 kW	10 kW
Maximum output	23 kW	21 kW
Spindle adaption	HSK50 ****	HSK50 ****

Traverse ranges	
Axis X1	350 mm
Axis Y1	450 mm
Axis Z1	500 mm
Axis A1	360°, 450 rpm
Axis C1	+15° to -200°
Connected load	approx. 18 kVA
Weight	approx. 4900 kg net

*Depending on the configuration, the machine kinematics also allow larger diameters.
**Depending on the machine configuration
***Max. 125 mm with supporting device.
****Up to three grinding wheels per spindle end.



//// MACHINE DIMENSIONS
Vgrind 160 with HP 160



//// MACHINE DIMENSIONS
Vgrind 160 with HPR 250

We reserve the right to make design changes in the interest of technical progress. Patent pending.

Vgrind 160 – THE MAIN ADVANTAGES AT A GLANCE:

/// INCREASED PRECISION

Innovative kinematics with multi-layer machining for maximum quality of results.
Impress with uncompromising precision.

/// INCREASED EFFICIENCY

Shorter process non-productive times thanks to intelligent and flexible automation.
Experience productivity on a new level.

/// INCREASED USER CONVENIENCE

Good accessibility, ergonomic, intuitively operated control panel and proven software.
Make your work easier.

Scan the code to find out more.

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