Grind 340S

Grinding machine for the complete machining of carbide tools upwards of 0.3 mm in diameter
THE GREATEST PRECISION FOR EVEN THE SMALLEST OF TOOLS.

VERTICAL MULTI-LEVEL MACHINING THAT SETS NEW STANDARDS. THE PRECISION AND EFFICIENCY OF THE VGrind SERIES IS NOW ALSO AVAILABLE FOR ROTATIONALLY SYMMETRIC SOLID CARBIDE TOOLS IN THE 0.3 MM TO 12.7 MM RANGE.

THE VGrind 340S: A FIVE-AXIS GRINDING MACHINE THAT IS EQUIPPED WITH ALL THE ATTRIBUTES THAT MODERN TOOL MANUFACTURING REQUIRES. AND, WHAT’S MORE, THERE ARE PLENTY OF INTUITIVE DETAILS FOR THE PRODUCTION OF SMALL SIZES TO BOOT.

NEW LINEAR INDUCTION MOTORS ON THE X, Y AND Z AXES PROVIDE A CLEAR INCREASE IN PERFORMANCE. THE RESULT: EVEN GREATER PRECISION, FOR AN EVEN BETTER SURFACE QUALITY.

VGrind 340S – AN ENTICING OPTION, DOWN TO THE SMALLEST DETAIL.
VGrind 340S – SUPERIOR IN EVERY WAY

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

2. MULTI-LAYER MACHINING
   Two vertically configured grinding spindles with the grinding wheel set at the C axis pivot point. Reduced machining times thanks to shorter linear-axis travel distances.

3. MODERN CONTROL-DESK CONCEPT
   Height-adjustable, with touchscreen, 19” diagonal screen size and optimum view into the machining chambers.

4. NUMROTOplus®
   The reliable, intuitively operated software with 3D tool and machine simulation, combined with collision monitoring.

5. GRINDING-WHEEL CHANGER
   Provides even more flexibility in your manufacturing processes – with eight HSK-S0 grinding wheel sets. Both grinding spindles can be loaded with complete flexibility.

6. 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: The VGrind 340S benefits from two vertically arranged grinding spindles. This principle is complemented by several useful details and options for machining small radii. The result: Maximum perfection at the lowest tolerances.

/// Five-axis CNC grinding machine with innovative kinematics

/// Two grinding spindles situated one above the other with the grinding wheel set positioned at the C axis pivot point – for ensuring extremely precise grinding results

/// The vertical spindle arrangement solves the well-known problems related to fixed and floating bearings
/// New wear-free linear induction motors on the X, Y and Z axes not only guarantee lasting consistency of quality and lower maintenance costs, but are also the key to improved surface quality

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

/// Equipped with a tool steady rest as standard for the best radial run-out quality on the workpiece, as well as linear scales for even greater precision

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

/// Both spindles can be fitted with various different grinding wheel sets. The automation option ensures seamless conversion

////// STEADY REST for perfect radial run-out for milling cutters and drills with a long cutting edge
/...// THE MACHINE CONCEPT

OPTIONAL EQUIPMENT

/// Flexible automation options for loading of carbide tools
/// Grinding spindle available with a motor or belt drive
/// Automatic changing of grinding wheel sets complete with coolant nozzles for optimum productivity
/// Automatic gripper compensation as an in-process solution: Maximum precision when loading and unloading tools and reduction sleeves for decreased wear and optimal radial run-out

/// COOLANT NOZZLES
for optimum coolant supply

/// GRIPPER COMPENSATION
Safe, precise loading and unloading
Internal grinding wheel dressing device: For consistently optimal radial and axial run-out

Wheel probe: Grinding wheel alignment and wear control within the machine

Automated changing of intermediate sleeves with bayonet

Automatic sticking unit enables the abrasive coating to be opened during production
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.

The **VGrind 340S** was designed to produce carbide drills and milling cutters with a diameter ranging from 0.3 to 12.7 mm.
MAXIMUM PRECISION
at the smallest scale: From 0.3 mm
In order to be able to exploit the full potential of your VGrind 340S, simple and intuitive operation is a fundamental prerequisite. This begins with the control panel, which is positioned so that not only the LCD display, but also the working area can always be observed in the best possible manner. Operation via the keyboard or touchscreen allows for precise machining of the tool.

The multifunction handwheel ensures even more flexibility: It can be freely positioned on the enclosure and is designed for setting a required axis – without using the control desk. In short: With the VGrind 340S, it becomes a simple pleasure to achieve the best results.
VOLLER consciously opted for a sophisticated system that is already established on the market. The logically structured interface guarantees intuitive handling. With established programming systems, a large 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

PROGRAMMING of different tools
One of the key factors in modern tool production is automating the work processes. The VGrind 340S therefore features a range of useful configuration options that allow you to implement large batches of small tools and make your manufacturing processes more precise, quicker and safer.
With the various automation options that are available, the VGrind 340S can be optimally adjusted to your requirements.

HP 160 pallet magazine with compact pallets (for up to 900 slots) and double gripper to guarantee a quick change between short machining times

HPR250 free-arm robot: Allows for the automatic machining of tools with various shaft diameters

HP 160 PALLET MAGAZINE
for the quick supply of up to 900 workpieces

HPR250 FREE-ARM ROBOT
for increased capacity and even greater flexibility
Always supply the right grinding wheel – with no manual intervention required: The optimum automation system for eight grinding wheel sets. If required, this can also include the coolant nozzles on both grinding spindles. This is a vital contribution to productivity within your manufacturing process.

/// EIGHT-TOOL GRINDING-WHEEL CHANGER

for efficient tool changes and reduced non-productive time

including coolant nozzles
/// SPECIFICATIONS

### Tool
- Outside diameter: up to 12.7 mm*
- Workpiece length: up to 340 mm**

### Grinding wheel
- Diameter: max. 150 mm***

### Grinding spindles
- Belt spindle: 10,500 rpm 11 kW HSK50****
- Motor spindle: 10,500 rpm 10 kW HSK50****

### Traverse ranges
- X1 axis: 330 mm
- Y1 axis: 450 mm
- Z1 axis: 500 mm
- A1 axis: 360°, 450 rpm optional 1000 rpm
- C1 axis: +15° to -200°

### Connected load
- approx. 18 kVA

### Weight
- approx. 4900 kg net

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*Depending on the tipping, the machine kinematics also allow for larger diameters.
**From the front edge of the workpiece carrier without measuring the cooling channel.
***Max. 125 mm with supporting device.
****Up to three grinding wheels per spindle end.

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/// MACHINE DIMENSIONS

**VGrind 340S** with HP 160

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/// MACHINE DIMENSIONS

**VGrind 340S** with HPR 250

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We reserve the right to make design changes in the interest of technical progress. Patents pending.
INCREASED PRECISION
Innovative kinematics with multi-layer machining and linear induction motors on all axes for maximum quality of results with the smallest of tools.
Impress with uncompromising precision.

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

INCREASED USER CONVENIENCE
Good accessibility, ergonomically operated control desk and reliable software.
Make your work easier.

INCREASED FLEXIBILITY
Efficient machining of carbide tools upwards of 0.3 mm in diameter.
For precision in the format of your choice.