
/ BACKGROUND INFORMATION //

VGrind 360: Grinding tools around the clock

Tool manufacturers are using the VOLLMER VGrind 360 grinding machine to machine carbide tools. Depending on the tool geometry, it can sharpen tools with diameters of up to 200 millimetres. Thanks to its two vertically arranged spindles, the VGrind 360 enables efficient multi-level machining, meaning that large numbers of milling cutters and drills can be manufactured quickly and precisely. Automated solutions, such as pallet magazines or free-arm robots, allow machining to continue unsupervised around the clock. VOLLMER is offering the VGrind 360 E as an entry-level model that is geared towards the specific requirements of service companies and smaller tool manufacturers.

VOLLMER, the sharpening specialist based in Biberach, Germany is offering two basic versions of the VGrind 360: One with two vertical spindles for grinding wheel packages and the other with one grinding wheel spindle and one high-frequency spindle (HF spindle) plus an automatic tool changer. The high-frequency spindle allows the grinding of special pocket areas for PCD plates (polycrystalline diamond). The VGrind 360 enables carbide tools to be machined – for example, drills and milling cutters, whose blanks are made from either solid carbide or carbide-tipped steel bodies. Thanks to enhanced travel distances, the VGrind 360 can machine tools (depending on their geometry) up to a diameter of 200 millimetres.

Proven kinematics with two spindles

The VGrind 360 has proven kinematics with two vertical spindles. Unlike with a single spindle or horizontal double spindle, multi-level machining can be carried out thanks to the vertical arrangement. This grinding machine therefore achieves more precise results because a workpiece is only ever machined on the fixed bearing side of a grinding wheel set. In addition, the grinding wheel set is always located at the C-axis pivot point, which allows an accurate sharpening process. A further guarantee for precision and accuracy is the polymer concrete design of the machine, as this solid foundation provides improved damping and vibration behaviour.

Intuitive operation with established software

With five perfectly harmonised CNC axes, the VGrind 360 achieves perfect interpolation with short travel distances for the linear axes and swivel ranges. This

enables tool manufacturers to reduce machining times for machining workpieces. Non-productive times are reduced because the two grinding spindles can be loaded with different tools.

Operation of the VGrind 360 can be easily and individually adjusted thanks to a height-adjustable, pivoting control panel. The display can be positioned in such a way that the operator has an optimal view of the graphic interface and the work area also remains constantly in sight. To control the machine, VOLLMER uses the NUMROTOplus software, which offers comprehensive applications for the production and resharpening of various tools.

Automation for unmanned machining

The VGrind 360 can be optionally fitted with different automation features to enable unmanned manufacturing. A tool magazine with eight grinding wheel packages ensures that tools on the vertical spindles can be changed over automatically. Users can use the HP 160 pallet magazine to supply up to 272 workpieces for around-the-clock machining – and the new compact pallets can supply as many as 900 workpieces. Another option is the HPR 250 free-arm robot, which enables carbide tools with different shaft diameters to be automatically manufactured.

Also available is the HC 4 automation solution, a compact machine that comprises a chain magazine with 39 spaces for standardised HSK 63-A (hollow shank tapers) or can optionally hold up to 158 shaft workpieces. A sticking unit enables the grinding wheel to be opened automatically. This means that loading within the grinding wheel surface can be automatically removed, which keeps the grinding wheel sharp for longer. It is also possible to automatically change the grinding wheel sets as well as their coolant nozzles within the VGrind 360 – this reduces set-up times.

VGrind 360E for easy entry

The "E" of the VGrind 360 E model stands for "entry". The E model possesses all the key functions of the VGrind 360, but has been adapted in terms of automation. It has no tool magazine, but is equipped with an internal workpiece automation system. The model also has a modified design and a more compact control panel. The adapted automation features, design and control panel have enabled VOLLMER to launch the VGrind 360 E at a greatly reduced price. The machine was primarily developed for tool grinding in service companies, tool manufacturers with smaller batches and end users.

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About the VOLLMER Group

With its comprehensive range of machinery, the VOLLMER Group – which has sites in Germany, Austria, Great Britain, France, Italy, Poland, Spain, Sweden, the USA, Brazil, Japan, China, South Korea, India and Russia – enjoys global success as a tool machining specialist in terms of both production and service. The technological leader's range of products contains the most advanced grinding, erosion and machine tools for rotary tools and circular saws in the woodworking and metalworking industries, as well as for metal-cutting band saws. In offering this, VOLLMER relies heavily on the company's tradition and its strengths: Local contacts for efficient communication channels, quick decisions and rapid action by a family-run company. The VOLLMER Group currently employs approximately 800 workers worldwide, with around 580 of these at the main headquarters in Biberach alone, including more than 75 trainees. The company invests around eight to ten percent of its turnover in the research and development of new technologies and products. As a provider of technology and services, the VOLLMER Group is a reliable partner to its customers.

Further information and relevant images are available at:

<https://www.vollmer-group.com/en/company/press/press-releases>

Link to VOLLMER's Facebook fan page:

<https://www.facebook.com/vollmergroup>

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