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GrindingHub 2024: The VOLLMER VGrind 360S grinding machine is suitable for PcBN machining

Biberach an der Riss, 15th May 2024 – The ultra-hard cutting material PcBN achieves the highest degree of hardness after PCD and is extremely temperature-resistant. To enable tool manufacturers to grind PcBN cutting edges with high precision, Biberach-based sharpening specialist VOLLMER has retrofitted its VGrind 360S grinding machine. An optional dressing unit for the grinding wheel is the key to high-precision grinding of PcBN cutting edges with the VGrind 360S in two work steps, i.e. roughing and finishing.

(The press release and accompanying images can be found at the following link:
<https://www.vollmer-group.com/en-uk/company/press/press-releases>)

It's a small step for the VGrind 360S, but a giant leap for the world of tool manufacturers. By adapting its VGrind 360S grinding machine, Swabian sharpening specialist VOLLMER was able to make it suitable for machining PcBN tools (polycrystalline cubic boron nitride). The ultra-hard cutting material PcBN is considered the hardest cutting material in the world after PCD (polycrystalline diamond). PcBN tools can achieve an operating life up to 25 times longer than solid carbide tools and have good chemical resistance even at high temperatures, meaning that PcBN retains almost its original hardness even at 1200 degrees Celsius. PcBN tools are used especially for machining ferrous metals such as grey cast iron and hardened steel.

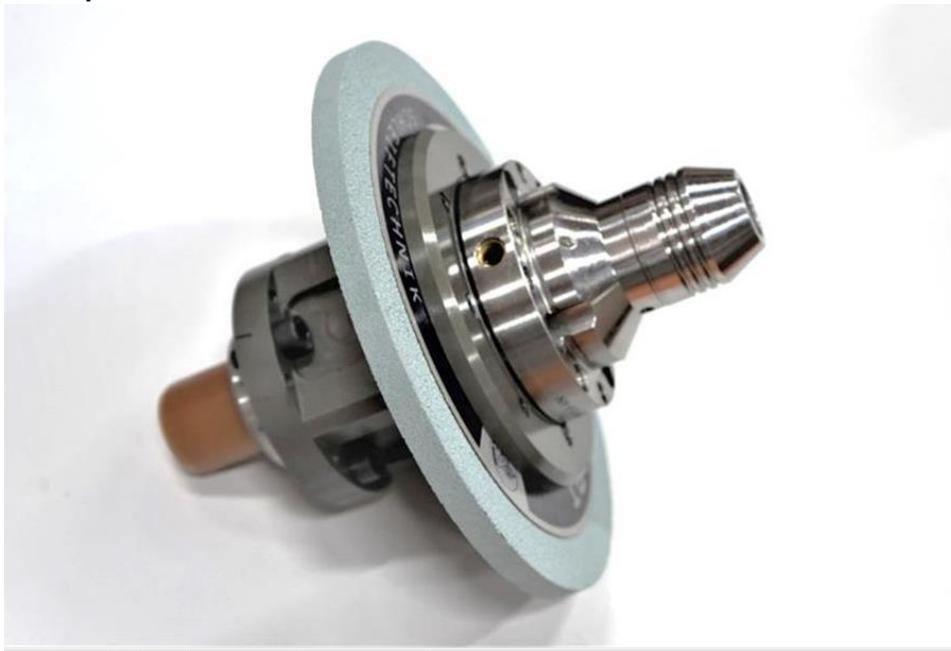
The fact that the VGrind 360S grinding machine is able to precisely machine tools with PcBN is due to its stable wall concept with a rigid and compact design. In addition, the two grinding spindles with grinding wheel set positioned at the C axis pivot point enable efficient multi-layer machining. The high system rigidity, in combination with the drive of the X, Y and Z axes via linear induction motors, allows tool manufacturers to machine a PcBN cutting edge in an oscillating manner. Thermal stability is ensured by a plate heat exchanger that effectively cools the spindles and motors. The integrated spindle indexing of the VGrind 360S stops a spindle at exactly the same position during grinding wheel replacement, thereby reducing planing and run-out errors in grinding wheel packages.

The new step that the VGrind 360S has taken is an optional dressing unit for the grinding wheel. After roughing of the PcBN cutting edge, the dressing unit ensures that each grinding wheel regains its precise concentricity and correct geometric shape. Subsequent finishing gives a PcBN tool the desired finishing touch. Customers can also retrofit the optional dressing unit with software update to existing VGrind 360S machines. Tool manufacturers can carry out the installation independently or with the support of the VOLLMER service team in just a few steps.

"We have seen a positive development in the market for PcBN tools worldwide for several years, which is why we have now further developed our VGrind 360S for PcBN machining," says Eric Scheffold, Product Manager at VOLLMER.

(Approx. 3100 characters)

Press picture



Caption: The optional dressing unit on the Vollmer VGrind 360S grinding machine reshapes the grinding wheel for finishing after scrubbing a PcBN tool.



Caption: Thanks to the optional dressing unit and its linear drives, the Vollmer VGrind 360S grinding machine is able to grind PcBN tools with high precision.

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, Russia and Thailand/Taiwan – enjoys global success as a tool machining specialist in the areas of both production and service. The technological leader's range of products includes the most advanced grinding, eroding, laser and machining 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, 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 headquarters in Biberach alone, including more than 75 trainees. The company invests around eight to ten per cent 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-uk/company/press/press-releases>

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