

User report

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Standardizing Individuality

ROT measures individual diamond tools in standard processes with ZOLLER

Diamond tools are a specialty of the ROT company – Reiner Oehlmann Tools from the Lower Saxon town of Celle in Germany – especially for industrial grinding tasks. In addition to extremely high precision with tolerances of just a few micrometers, completing batches of just a single tool is a major challenge – especially in light of the market’s demand for a good price/performance ratio.

Presetting and measuring machine manufacturer ZOLLER from the Baden-Württemberg city of Pleidelsheim also plays a key role in meeting these challenges. The company's focus is less on the presetting and measuring machines themselves, and more on adaptations to software technology. These adaptations are highly prized by ROT.

Inventive Spirit and Focus on Solutions

Although the distance between the two companies might seem great, they are united by features considered typical of Swabians: An inventive spirit, developmental prowess, and a high demand for quality. “We can help out where other suppliers falter, and we can do what other companies can't” says Managing Director Reiner Oehlmann, describing the motivation that applies to ZOLLER as well: Developing products as close to our customers as possible, and finding a solution long after other companies have given up.

ROT and ZOLLER came into contact with one another for the first time twelve years ago. At that time, the company was looking for a solution for handling target / actual comparisons for diamond-ground tools. Although the collaboration started off small, today it is shaped by deep trust, a high degree of innovation, and mutual dependability. Their joint developments have become more extensive and more sophisticated. The results have had a positive influence on both companies while moving them forward in their areas – especially to the benefit of their customers.

One specific example is reproducible manufacturing of diamond tools. Precision is key to high quality: The actual contour must conform closely to the target contour. But how can actual geometries be compared reliably with target geometries from CAD data, down to the micrometer? in the past, the company needed to use painstakingly configured and programmed measuring procedures for this purpose – for each individual diamond tool. This required a large amount of work, as “every tool is unique. We manufacture roughly 3,500 of these tools per year” says Managing Director Reiner Oehlmann, describing the ROT product range. “And they need to be measured over and over again during production as well, not just during final controlling. Finally, everything goes through final



Listening closely, accepting the challenge, and delivering a solution – that’s how both ROT and ZOLLER approach problems.



Measuring tool geometry in the measuring room for final controlling and recording.

logging. That's why we have machines not only in the measuring room, but in production as well" adds Jens Schröder, Head of Research and Development at ROT. The company uses »metis« tool analysis software by ZOLLER in production to check individual parameters quickly and precisely. The saved measuring procedures and simple operation make it possible.

Capturing Contours with the »lasso«

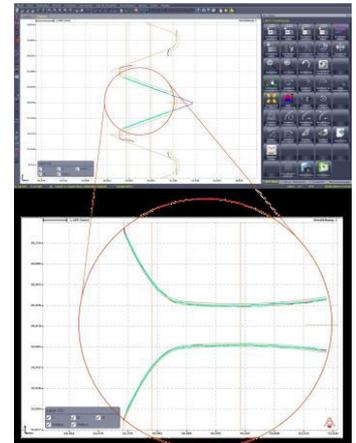
The »lasso« software function from ZOLLER is a contour measuring program. It can be used to scan and measure any number of tool and workpiece geometries – typically rotationally symmetrical – and use them to complete a target / actual comparison. This significantly reduces the work required to measure actual values on the ZOLLER presetting and measuring machine. Instead of programming a separate macro for each new tool, the »lasso« measuring program runs over the entire contour and records it. Down to the micrometer. Using target data from CAD values, the program can easily and clearly display deviations between the two contours. But that's not all. The »lasso« measuring program can also independently measure certain contours and output these values. Often, it is important not only to comply with the tolerances of the contour themselves, but also calculate specific measured values at a certain position. »lasso« delivers such calculations in high resolution.

Work that previously required a large amount of work and involved several measuring and evaluation steps is today reduced to just a few mouse clicks: The operator simply selects measuring parameters like a start and end point and the saved target contour, then receives the finished test report in a ready-to-print format – either the saved ZOLLER format or a customized version. In addition, data export can also be used to insert measured values or images into the customer protocol. "Reliable measurements save time and ensure absolute repeatability" says Jens Schröder, summarizing the high quality of the measuring results.

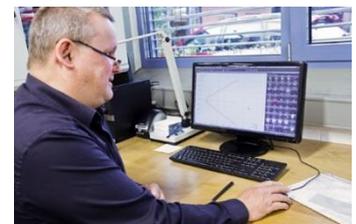
"We have absolutely no complaints, and customers can rely fully on the measuring results" adds Reiner Oehlmann. "We have now reached the goal we set with ZOLLER's help – 100 percent." ROT is now using seven CNC controlled measuring machines and one office workplace by ZOLLER. These are located both in the measuring room and in production, and work very well everywhere. They have been doing so for twelve years, despite everyday use. If there are any questions, the ZOLLER service hotline and on site service always provide answers quickly and competently. For Jens Schröder quality is "when I deliver something that works well from beginning to end." ZOLLER wholeheartedly agrees.

About ROT GmbH

The Reiner Oehlmann Tools corporate group has stood for forward-thinking precision tools and special grinding machines Made in Germany for over 23 years. The company offers innovative and customized customer solutions. Grinding technology is one of the company's key areas of expertise. It reliably achieves tolerances of less than 0.002 millimeters in precision profile grinding on diamond surfaces. The company develops and manufactures some of the processing machines it needs for this purpose. New processes and innovative products continuously generate added value for ROT and its customers. Other



Customer-specific adjustments to the software functions not only optimize user-friendliness, but also allow for specialized evaluations



Evaluating tool geometry with the help of »lasso« contour measurement at an external office workstation.



Manufacturing a highly precise steel base body for later diamond coating. They are also measured in production using ZOLLER machines.



Measuring machines in production

areas like machining are also growing steadily, continuing to implement new tasks and technologies.

www.rot-gmbh.de

About E. Zoller GmbH & Co. KG

E. Zoller GmbH & Co. KG., headquartered in Pleidelsheim near Stuttgart, has a passion for inspection and measuring technology, and has been developing innovative solutions for more economical production processes for almost 75 years. So far, we have installed over 38,000 presetting and measuring machines worldwide, with software solutions that are unmatched anywhere around the globe.

Today, ZOLLER offers everything your company needs for efficient, reliable tool handling in your machining process. ZOLLER solutions are used to physically and digitally record, measure, manage, store, and inspect tools throughout the entire tool life cycle. An international network of branch offices and representatives guarantees the highest possible quality of service through personal customer advising.

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