

PRESS INFORMATION 2/09

Saving time and cost: Measuring offsets from electrodes and cutting tools on one tool presetter

The new product for die and mold industries: the ZOLLER »smile EDM« tool presetter and measuring machine to measure offsets from electrodes as well as standard cutting tools. When so far several devices were needed now the ZOLLER »smile EDM« handles all measuring tasks: Precise measuring results in shortest time.

In die and mold it needs to be measured both, electrodes for use in erosion machines as well as standard tools such as drills, milling cutters and reamers before they go to the production machine. Only if cutting tools and electrodes correspond to their nominal values and their quality is good, machines can manufacture precisely. As a result, measured and preset cutting tools and electrodes reduce machine setup time and increase product quality and reduce scrap. This results in savings of time and money.

In the field of in tool preparation of standard tools a tool presetter and measuring machine is usually part of the process chain. Cutting tools are measured and preset on the shopfloor next to the CNC machines, which can run at full capacity at the same time. Measuring results are either electronically transferred from the tool presetter to the machine or the operator manually enters them into the machine control.

In the field of electrode measurement, however, there has not been a satisfying solution so far. Optical tool presetters cannot be used since the vision system or projector cannot capture the mostly quadratic electrode surface. Accordingly, electrodes are often measured in the erosion machine or on any coordinate measuring machine. A typically time-consuming and uneconomic method, especially considering that erosion is one of the most expensive manufacturing processes. An alternative until today has been the measurement of electrodes with coordinate measuring machines. However, also this method is rather uneconomic since these cost-intensive measuring machines should be used for measuring the geometry features from electrodes and workpieces as part of quality control after the manufacturing process.

The ZOLLER »smile EDM« now brings along the solution for both: for standard cutting tools and electrodes, the offsets can be measured especially fast and

simple. The ZOLLER »smile EDM« measures the position of the electrode which means offset in X-, Y- and Z coordinates, and angular offset. The ZOLLER »smile EDM« is equipped with a Renishaw measuring probe that measures the position of the electrode. The operator turns the spindle by 90° in order to scan the electrode's four sides. The system leads the operator through the measuring task step by step. Measuring results are displayed at a glance in table form. If the operator indicates the electrode's nominal values into the tool presetter's tool management function, the software automatically displays, whether the values are still within tolerance. According to manufacturing companies in the die and mold industry, they are excited about the ZOLLER »smile EDM«, especially since time savings during EDM machine setup from up to two hours are possible for some applications.

If standard tools such as drills, milling cutters, reamers and others should be measured on the »smile EDM«, the operator moves the Renishaw measuring probe back into the park position and the vision system measures the cutting edge without contact. In addition, standard tools can be checked for wear and tear with the cutting edge inspection.

Tool management functions such as setting sheets for tools and electrodes are standard features available in the ZOLLER »pilot 3.0« software. Measuring values are output on a label printer or as option with electronic data output directly to the machines in order to prevent machine crashes. Also data transfer via RFID technology is available. The ZOLLER »smile EDM« tool presetter and measuring machine is available in the measuring range Z = 400 mm, X = 200 mm, measurable diameter = 400 mm and, in addition, is equipped with a measuring system for the Y-axis, measuring range Y = +/- 40 mm.

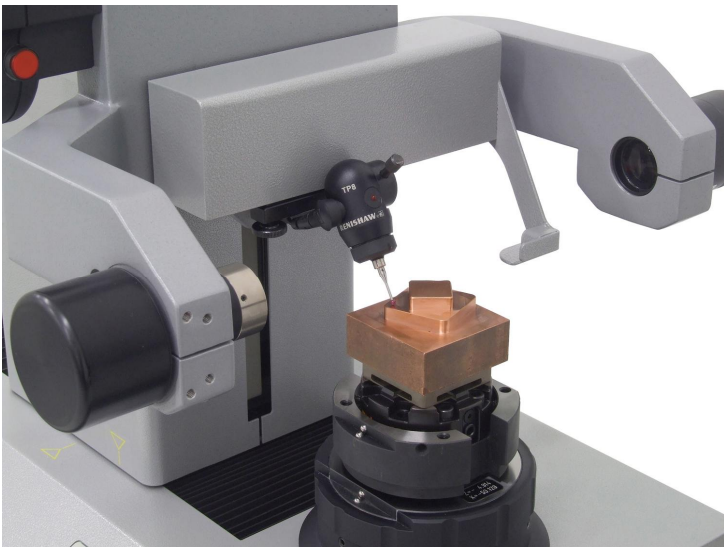
ZOLLER, the world leader in the field of tool presetting and measuring machines will present the ZOLLER »smile EDM« for the first time during the CIMT show in Peking from April 6 – 11, 2009. The ZOLLER »smile EDM«, as well as all ZOLLER models, is manufactured in ZOLLER's headquarter in Pleidelsheim in the South of Germany.

In order to see the ZOLLER »smile EDM« visit the ZOLLER booth XXXX during the CIMT show in Peking from April 6 – 11, 2009. You may also get more information from info@zoller-cn.com

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Picture 1: The ZOLLER »smile EDM«: Measuring electrodes and tools on one measuring machine



Picture 2: The measuring probe in order to measure electrode's offset and length

Subject to technical changes.