Press release

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**High precision sensor technology for the semiconductor industry**

**In the wafer production, precise sensors are used for cross-process monitoring of machine movements in numerous process steps, for sub-micrometer positioning and geometric wafer measurements. Micro-Epsilon has been working with leading manufacturers in the semiconductor industry for many years and offers a high-performance sensor portfolio that is not only used in semiconductor lithography machines, but throughout the entire manufacturing process.**

Micro-Epsilon's high-precision sensor technology is used in numerous process steps in the semiconductor industry, such as slicing, position determination during wafer handling, wafer tilt measurement and wafer stage positioning. Semiconductor machine building places the highest demands on the measurement technology used, which must prove itself in a vacuum, at high accelerations and in magnetic fields, among other things, while also delivering high precision and stability.

Special manufacturing technologies are required to produce sensors for such requirements. Therefore, all precision sensors and actuator systems are manufactured in the Micro-Epsilon company group. Due to the high demands of sensor production, all sensors and systems by Micro-Epsilon are put through rigorous manufacturing and test processes.

Production takes place in the clean room, which must comply with defined humidity and temperature values. Ultra-short pulse laser technology is also in use, as well as red and green lasers for excellent welding accuracy. High-temperature vacuum brazing processes are applied for hermetically sealed ceramic-to-metal connections.

Precision mechanical parts are machined on state-of-the-art 5-axis machines.

Extensive burn-in tests ensure that the high demands on the service life of Micro-Epsilon's products are met throughout the entire product life cycle. Completely bubble-free potting means excellent potting results and component longevity. In addition, modern coating processes allow for numerous surfaces to be coated almost entirely. This enables uniform application even in hard-to-reach places such as edges or gaps.

The manufacturing methods used make it possible to manufacture sensors, actuators and precision mechanics with the highest standards of quality. This enables the production of high-performance, high-precision, robust and individual application solutions that prove their worth in optics, precision mechanical engineering as well as electronics and semiconductor production.

approx. 2,500 characters including spaces



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