

Press release

A sensor for special purposes

Largest force sensor from Kistler even more durable and precise thanks to optimized production

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Following a thorough revision, the [Kistler 9091B sensor](#) is now more precise and durable than ever. The biggest force sensor in [Kistler's](#) portfolio is used in a wide variety of applications: For instance, the sensor delivers precise data in drop tower tests for material development or in the review of safety measures in nuclear power plants.

The 9091B sensor by Kistler ensures highly accurate measurements under extreme conditions. The same level of accuracy is required during the production process of the sensor itself: If, for instance, humidity gets into the sensor while it is being assembled, it can condense on the surfaces after some time and affect the electrical insulation. To rule out any potential contamination of the sensor during its manufacturing process, Kistler assembles the 9091B sensor entirely in a clean room and uses improved bakeout and cleaning processes. Overall, the performance and durability of the sensor has been optimized along 15 different influencing factors.

Precision for diverse measurements

The robust sensors measure small and large forces in various applications. For instance, they determine force peaks as well as force duration and distribution during the impact of objects in drop-tower tests in material development. When installing satellite dishes, they ensure a precise adjustment and help prevent any distortions on the surface of the dish. In test reactors, the sensors provide valuable data on the behavior of radioactive corium, a viscous mass that is formed during a core meltdown. On coming into contact with other materials, corium releases extreme energy and explosive substances such as hydrogen. Based on the results, researchers can reassess safety-relevant parameters in nuclear power plants. Last but not least, the high-precision force sensors play an important role in calibration devices, such as those used by Kistler itself.

A quartz crystal inside the sensor always ensures precise results when dynamic forces need to be assessed. Thanks to optimized manufacturing, users can now rely even more on the durability and consistently high precision of these robust sensors.

Image material (please name the Kistler group as picture source)



Several sensors of the type 9091B are built into the adjustable legs of this hexapod, which Kistler uses to calibrate other piezoelectric sensors.



The new sensor 9091B from Kistler features improved performance and durability.

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About the Kistler Group

Kistler is the global market leader for dynamic pressure, force, torque and acceleration measurement technology. Cutting-edge technologies provide the basis for Kistler's modular solutions. Customers in industry and scientific research benefit from Kistler's experience as a development partner, enabling them to optimize their products and processes so as to secure sustainable competitive edge. Unique sensor technology from this owner-managed Swiss corporation helps to shape future innovations not only in automotive development and industrial automation but also in many newly emerging sectors. Drawing on our extensive application expertise, and always with an absolute commitment to quality, Kistler plays a key part in the ongoing development of the latest megatrends. The focus is on issues such as electrified drive technology, autonomous driving, emission reduction and Industry 4.0. Some 2,200 employees at more than 60 facilities across the globe are dedicated to the development of new solutions, and they offer application-specific services at the local level. Ever since it was founded in 1959, the Kistler Group has grown hand-in-hand with its customers and in 2019, it posted sales of CHF 466 million. About 7% of this figure is reinvested in research and technology – with the aim of delivering better results for every customer.