

Press release

Test systems for measuring the coefficient of friction on bolted joints: Kistler accredited for traceable on-site calibrations

Kistler offers traceable on-site calibrations of test systems for friction coefficient measurements on bolted joints up to 60 kN·m

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Kistler Remscheid has now been accredited for traceable on-site calibrations of test systems for friction coefficient measurements. Traceable calibrations adhere to a strict, internationally approved standard. Users can now rely on this standard for friction coefficient testing systems for bolted joints up to 60 kN·m. They benefit from minimal downtimes and lower costs during on-site service, as well as from an integrated, standard-compliant calibration of the entire measuring chain.

The complexity of bolted joints is constantly increasing with new areas of application such as wind turbines or electromobility leading to a growing variety of surfaces and coatings. With this development, bolted joints are also becoming more complex. Wind turbines, for example, use high-strength, pretensionable screw sets that require complete traceability of the production history as well as special material controls and test procedures. Here, analysis systems help to investigate the effects of different bolt shapes, materials, lubricants and other factors and to determine and document their influence on friction values. Kistler has many years of experience in the construction of customized testing systems, which can also record very high torques to fulfill customer requirements.

Calibrations are the basis for reliable results

Like all measuring and test devices, these analysis systems also need to be calibrated regularly. This is the only way to reliably monitor the precision and stability of the measuring chain used and to ensure standard-compliant processes during production. Traceable calibrations – which means calibrations that are traceable to national or international standards – are a high internationally recognized standard.

Numerous norms, such as IATF16949 in the automotive industry, exclusively require traceable calibrations, which only accredited laboratories are permitted to carry out. The German Accreditation Body DAkkS issues accreditations for permanent calibration laboratories, for mobile laboratories or for on-site calibrations. Unlike in a permanent laboratory, external influences such as the ambient

temperature during calibration, can only be influenced to a limited extent in on-site calibrations. Kistler's expertise in the field of measurement technology therefore plays a particularly important role.

On-site calibration reduces cost

On-site calibrations have many advantages: the service time of the system is minimal there is no need for time-consuming dismantling and assembly work and the measuring system is calibrated holistically on site as the entire measuring chain is included. The current expansion of the scope of accreditation for on-site calibrations enables Kistler to traceably calibrate test systems for friction coefficient tests on bolted joints of up to 60 kN·m in the measurand torque. The achievable extended measurement uncertainty is 0.5%. Kistler Remscheid thus closes a gap in the field of accredited on-site calibrations.

Image material



Using a reference sensor, Kistler calibrates analysis systems for bolted joints traceable up to 60 kN·m on site.



Analysis system from Kistler for determining friction coefficients on bolted joints

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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 2023, it posted sales of CHF 465 million. About 9% of this figure is reinvested in research and technology – with the aim of delivering better results for every customer.