

Press release

New: RoadDyn S6GT by Kistler – flexible and reliable wheel load measurements for ultra-heavy commercial vehicles and off-highway machines

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The Kistler Group is adding another variant to what is already the world's most comprehensive portfolio of wheel force measurement systems: the new RoadDyn S6GT 6-component wheel force measurement system. Available as of now, this high-precision wheel force transducer with an extended measurement range can be individually configured for ultra-heavy commercial vehicles and off-highway machines. Kistler's new wheel force transducer will be premiered between 25 and 27 September 2018 at the Automotive Testing Expo (ATE) in Shanghai, China (stand 9018 in hall 3).

For over 25 years now, Kistler has been setting standards with its wheel force measurement systems. RoadDyn wheel force transducers by Kistler are used in research and development work on chassis and chassis components, for load spectra measurements and physical simulations on axle test stands. Ultra-heavy commercial vehicles and off-highway machines have to meet demanding requirements during operation. Now, the new RoadDyn S6GT 6-component wheel force measurement system implements a series of unique performance features so that load spectra can also be captured for vehicles in these classes.

Modular structure for maximum flexibility

In the words of Helmut Mayer, Durability Business Driver at Kistler: "Thanks to the modular structure of the individual load cells, these wheel force sensors can be set up for virtually any vehicle – even in cases where integrated ring-style sensors lack the necessary geometric flexibility."

Unlike passenger vehicles, ultra-heavy commercial vehicles and off-highway machines such as those used in forestry, agriculture and the construction industry do not have standardized wheel and hub designs. High static loads, oversized rims and relatively little clearance available to install measuring systems between wheel hub and rims: all these factors called for further advances in the development of existing wheel force transducers.

Because of its modular structure, the RoadDyn S6GT wheel force transducer can be adapted to every rim size, in line with customers' specific requirements: this applies not only to the diameter of the 6-component wheel force sensor, but also to the capacity or number of load cells to be

deployed. The six 3-component load cells and the mechanical structure have been reinforced so that measuring ranges of up to +/- 330 kN can now be implemented.

Protected telemetry and wheel electronics for reliable signal transmission without interference

Additional features in the RoaDyn S6GT ensure reliable, interference-free signal transmission: the system's telemetry unit for contactless signal transmission can also be mounted on the inside of the rim. This provides protection against potential damage by obstacles that are typically present in relevant work environments, such as tree branches, debris or boulders. Positioning the telemetry unit in this way eliminates the need to install extra components such as slip rings or anti-rotate devices which usually play key parts in signal transmission, but are highly vulnerable to damage. Instead, an additional wheel cover can be fitted to protect the measuring elements and electronic components.

High-precision measurement results thanks to Kistler's unique hexapod calibration system

Kistler's hexapod calibration system – ensuring traceability to national standards – is specifically designed for the real application load when a wheel force transducer is used. Just as in real operation, the force is applied continuously over the entire circumference of the wheel force transducer, using the push-pull method (i.e. from –FS to +FS). The hexapod principle also delivers another benefit: free forces and torques can be introduced to determine a 6 x 6 compensation matrix that is applied to provide maximum compensation for crosstalk. Kistler's wheel force transducers deliver measurement data with precision that is currently unparalleled anywhere in the world.

Visuals (Reproduction is free of charge provided that the Kistler Group is credited as the source of the image)



Kistler's RoadDyn S6GT wheel force measurement system scores with its extended measurement range (up to +/- 330 kN) and – unlike existing wheel force transducers – it can be adapted flexibly to all rim sizes in line with specific customer needs.



Onboard transmission eliminates built-on components such as slip rings or anti-rotate devices.



A protective cap can be used to protect the wheel electronics against damage by external obstacles, so reliable and troublefree load data acquisition is guaranteed.

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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 1 900 employees at 61 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 2017, it posted sales of CHF 422 million. About 8% of this figure is reinvested in research and technology – with the aim of delivering better results for every customer.