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Press Release

Control 2024: Kistler presents new solutions for process and quality control

Optical and mechanical testing solutions meet custom automation

Winterthur, March 2024

At this year's Control, the Kistler Group will be presenting new, adaptable quality inspection and assembly solutions at booth 8106 in hall 8. Visitors can look forward to the new Multicapture Device for precise optical lateral surface inspection with short cycle times. There will also be customizable combinations of automation and inspection solutions, precisely controllable assembly systems for highly complex processes and technical innovations for fastening technology.

Solutions for quality assurance and process control not only differ significantly from industry to industry, but also between manufacturers within the same industry. Depending on the production process and the part to be inspected, they have to adapt their quality and process control precisely to the complex requirements of the industry and the customer. To this end, Kistler combines expertise from measuring, testing and automation under one roof and presents new automated and modular solutions for precisely coordinated quality monitoring and assurance at Control 2024.

Multicapture device: 360-degree inspection of lateral surfaces in a single pass in the KVC 821
At its booth, Kistler will show the new Multicapture Device in the KVC 821 optical quality inspection system for the first time. Thanks to eight mirrors arranged in a circle, the camera station captures the entire lateral surface of the test part. Deformations such as scratches or dents are thus detected without the parts having to be mechanically rotated. This means that parts with high-quality requirements can be inspected in a single pass, allowing cycle times of up to 400 parts per minute.

Kistler generates high-resolution test images with one camera per mirror to ensure that even the smallest defects are visible, and identifies them with their own image processing software KiVision. With the help of algorithms based on artificial intelligence, the software also detects previously unknown anomalies. Kistler will demonstrate how different requirements in optical quality assurance can be handled by showcasing its complete imaging portfolio. The KVC 821 can be equipped with 2D, 2.5D as well as 3D inspection methods.

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Custom-automated assembly and testing processes

The Smart Single Station from Kistler makes detailed quality inspections and precisely controlled assembly processes possible including thermal bonding during the production of components for axial flux or other electric drives for high torques. The Smart Single Station can be automated in varying degrees. To this end, Kistler experts develop individual concepts tailored to the component, the cycle times, the production process or the manufacturer's testing requirements. From manually assembled stand-alone solutions to robot-supported systems, a broad range of solutions is available.

The Smart Single Station implements automatic 100% quality inspections or spot checks based on core technologies from Kistler: the entire range of sensors and electronics for pressure, force, acceleration, and torque measurement technology can be used in addition to the optical testing technology including the KiVision image processing software.

Custom solutions for inspection and calibration for fastening technology

At Control, Kistler also presents two new solutions for fastening technology: the cerTEST inspection system and the caliTEST-B calibration device offer easy, standard-compliant testing and calibration of torque tools, as required by the automotive and aviation industries or in the construction sector.

cerTEST allows mobile testing in a range from 0.2 to 500 N·m with up to four integrated fastening simulators. Torque tools like cordless, rotary, and impulse screwdrivers can be tested in accordance with standards such as VDI/VDE 2645 Sheet 2, VDI/VDE 2647 or DIN EN ISO 5393, even directly in the assembly line. With caliTEST-B, Kistler displays a calibration device for torque wrenches or tools with an effective length of up to 1320 mm. Thanks to individually usable sensors, these can be calibrated in a range between 0.2 and 1,000 N·m in accordance with DIN EN ISO 6789. The user-friendly CEUS software guides users step by step through the measurement on both devices, it saves different measurement settings and histories and it automatically creates test reports.

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

To download the images in a high resolution, please follow the link: https://smartfile.kistler.com/link/VimepArbTaE/

With the new multicapture device, the KVC 821 optical quality inspection system from Kistler detects the smallest defects on the surface of the test parts, even at high cycle times.

Kistler offers standardized variants as well as customer-specific Smart Single Stations both as a combination of automation and testing solution and as a production cell for complex assembly processes.

Torque tools such as cordless, rotary, and impulse screwdrivers can be tested in a standard-compliant and mobile manner with the cerTEST inspection system.

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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.