

Media release

Automatica 2018:

Kistler drives digitization ahead in test and assembly technology

Winterthur, 3 May 2018 – At Automatica 2018 in Munich (19 to 22 June 2018), the Kistler Group will turn the spotlight on diverse options for using sensors and process monitoring systems to support industrial production and achieve gains in quality and efficiency. Center-stage at Kistler's fair stand will be joining systems and strain sensors as well as new components for enhanced digital system integration.

Sensors and systems from Kistler make sure that technology works as it is expected to. Haptics for smartphones and electronic switches, manufacturing processes for transmissions, and welding: in all these applications and more, intelligent monitoring and control of production processes generates added value based on data. The result: improved product quality. At Automatica 2018, visitors can experience the latest technology from Kistler live (in hall A6, at stand 425) with the opportunity to learn about the benefits in detail.

Offline parameterization reduces machine downtime

Thanks to process monitoring systems in the maXYmos product group, quasi-static and highly dynamic force processes on machinery and plant can be monitored and controlled with high precision, even when ambient conditions are difficult (limited installation space and small forces). For example, maXYmos visualizes and evaluates force-displacement profiles – making it possible for users to optimize their production processes simply and accurately with the help of the graphic presentation. And the integrated *sequencer mode* enables reliable control of sequences across multiple measurement programs, with no need for extra PLC programming.

The new version 1.6 – to be premiered at Automatica 2018 – gives users the option of configuring the system entirely offline from a PC. Thanks to this capability, the machine or plant only needs to be stopped briefly to upload or download the parameterization when changes to the production process are wanted. This new function cuts the total cost of ownership (TCO); it is available as of now for maXYmos TL and NC (joining systems).

Flexible joining with electromechanical technology

Customers who opt for electromechanical joining systems from Kistler benefit from major gains in flexibility and efficiency in the assembly process. The forces applied during press-fit processes can be monitored and controlled with precision; efficiency is many times higher than for hydraulic or even pneumatic technologies. The spectrum ranges from the highly economical NCFE to the NCFR for complex applications. NCFE is especially suitable for simple joining processes in the 10 to 80 kN force range. NCFR has the extra advantage of hollow-shaft motors so that a rotary movement can be performed in addition to the press-fit process.

Keeping large forces reliably in check

Piezoelectric (PE) strain sensors from Kistler offer a simple but effective way of protecting machines and tools against overload and damage. Thanks to their high natural frequency and sensitivity, they can capture even the smallest changes in the structure, so they act as an early warning system for critical process deviations in production and assembly – in applications such as press-fitting, punching and other forming process. Surface strain sensors are mounted directly on the machine structure with just one screw. Strain measuring pins can even be integrated directly into tools with the help of blind holes. Compared to strain gage technology, PE sensors score high on long-term stability, insensitivity to temperatures and overload protection.

Simple automation with the digital charge amplifier

From now on, not only PE strain sensors but also all Kistler's other piezoelectric sensors can be integrated directly into the machine control via Ethernet. What makes this possible? The only digital charge amplifier on the market – our Type 5074A. For the first time, plant and machinery manufacturers can now integrate any desired piezoelectric sensors directly into a real time-capable Ethernet system (PROFINET, EtherCAT or EtherNet/IP) so they can easily make settings on the measuring amplifier via the control. This is a quantum leap along the path to Smart Automation and Industry 4.0.

Kistler at Automatica 2018: hall A6, stand 425



Figure 1



Figure 2



Figure 3



Figure 4

Captions

Figure 1: Kistler strain sensors are rugged and resistant to interference, and they are easy to install and retrofit.

Figure 2: The NCFR joining module combines maximum flexibility for special press-fit processes with partial rotation, thanks to integrated force-displacement / torque-rotation angle sensors in a compact design.

Figure 3: Thanks to their uniform operating philosophy, products in the maXYmos family are user-friendly and intuitive to operate. These features make commissioning simple and fast.

Figure 4: Kistler's new Type 5074A charge amplifier allows up to four sensors per unit to be connected. Each measurement channel can be individually configured and controlled. What's more, the Type 5074A covers the main Ethernet standards – EtherCAT, EtherNet/IP and PROFINET. This means that all parameters and measurement data can be set and called up directly via the machine control.

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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 1 860 employees at 61 facilities across the globe are dedicated to the development of new solutions, and they offer application-specific support 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.