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Press Release

Blechexpo 2025: Kistler and Nidec SYS present Inline Vision & Weld Marking-on-the-Fly

Kistler also showcases systems for 100% quality control, and seamless traceability in joining, press-fitting, machining, and screwing processes

Winterthur, September 2025

In cooperation with Nidec SYS, Kistler will present the next generation of its vision inspection system for optical quality control of punching strips for the first time at Blechexpo 2025: the new Inline Vision & Weld System with Marking-on-the-Fly (IV&WS Marking). It will be on display from October 21 to 24 in Stuttgart at Nidec SYS's booth (Hall 6, Stand 6315). The system inspects punched parts for dimensional accuracy and surface defects. It automatically removes defective parts from the strip, welds the strip back together, and marks each individual part for complete traceability. The integration of all these process steps into a seamless system is unique in the market. In addition, Kistler will showcase further solutions for automated production and quality assurance in sheet metal processing at its own booth (Hall 6, Stand 6317), near Nidec SYS: from flexible systems for joining and press-fitting tasks including 100% inspection, to tool monitoring and cutting force measurement in rotating systems.

Unplanned downtime in punched part production is costly. Thanks to the Inline Vision & Weld System (IV&WS 512) from Kistler, production continues even when a defective part is detected. This is made possible by the combination of optical quality inspection with precise cutting and laser welding technology (Cut & Welding) in a single, seamless system. The Inline Vision & Weld System fully automates the removal of NOK (defective) parts from the punching strip and subsequently reconnects the strip using Nidec SYS's wobble laser welding. The process ensures that only OK parts remain on the punched part coil – without manual intervention that could interrupt production or potentially damage surrounding OK parts.

For complete traceability: marking up to 1,600 punched parts per minute

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A new feature in the current version of the Inline Vision & Weld System is an integrated laser marking system, KLM (Marking-on-the-Fly). This allows punched parts to be marked, for example, with QR codes or barcodes. The system can mark up to 1,600 parts per minute, ensuring complete traceability of all punched parts – a critical factor in industries such as automotive and medical technology. The vision inspection system also continuously delivers quality data, which can be used to analyze and improve production processes.

Werner Borth, CEO of Nidec SYS, underscores the added value of the new solution: ”With this innovative development, we are empowering our customers in high-end connector manufacturing to future-proof their production processes. They gain greater efficiency, enhanced quality, and a higher degree of automation – delivering a decisive competitive advantage.”

Whether stamping, joining, or machining: 100% quality thanks to compact and flexible measurement solutions

“The integration of multiple production steps into a single system saves valuable production space, which manufacturers can then use for peripheral devices with longer autonomy times,” says Edgar Wuchrer, Business Development Manager at Kistler. “Inline Vision & Weld enables 100% inspection and marking of punched parts in the smallest possible space. Visitors to Blechexpo can experience just how compact the system is.”

At its own booth, Kistler will present further innovative solutions that help make production processes more efficient. Among the highlights are electromechanical NC joining systems, which offer significant advantages over conventional technologies for automated joining and press-fitting processes. The compact NCFC joining module will be demonstrating a clinching application live at Blechexpo. Its small size and lightweight design make it ideal for use in tight production spaces, on robots, or on robotic arms. The electromechanical servo presses can be flexibly integrated into existing production lines – either as individual components or as turnkey press assembly workstations (Smart Single Stations).

The ANALYSE system, a modular and automated testing system for quality assurance in screw assembly, will be on display as well as the PRODUCTOR assembly tool, which allows measurements before, during, and after assembly to continuously monitor screw processes. Kistler also demonstrates the future of resistance spot welding with its sample welding tong, which is equipped with intelligent force sensors for smarter, more transparent, and fully process-safe processes. For wireless cutting force measurements, Kistler offers innovative solutions with the Rotating Cutting Dynamometer (RCD) and the telemetric measurement system (TMS). The RCD is specifically designed for process development and qualification in dynamic machining processes. Here, it

enables precise measurements and analyses to optimize machining. The TMS is used in industrial series production and features wireless signal transmission for continuous tool monitoring, for example in turret lathes. This enables real-time monitoring of tool performance in production environments.

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The new Inline Vision & Weld System with Marking-on-the-Fly (IV&WS Marking) inspects punched parts for dimensional accuracy and surface defects. It automatically removes defective parts, welds the punched strip back together seamlessly, and laser-marks each part.

*Shown here: IV&WS 512
Current images of the IV&WS will be provided in calendar week 39 via the link.

The compact NCFC servo press with integrated sensors ensures precise clinching, even when operated by a robot.

The versatile ANALYSIS system consists of the proven test rig for determining friction coefficients and can be individually adapted. Fasteners of all types can be precisely examined through length and resistance measurements as well as fracture testing.

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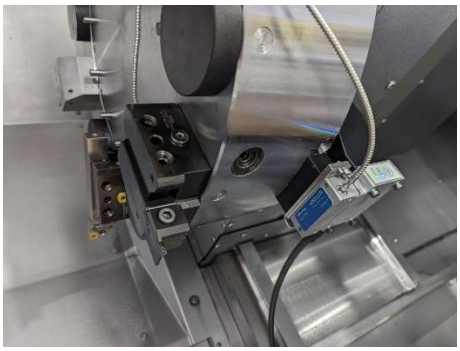

With Kistler's new telemetric measurement system, wireless, wear-free signal transmission is possible for the first time in tool monitoring of rotating structures.

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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 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 2,000 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 2024, it posted sales of mCHF 448. About 9 percent of this figure is reinvested in research and technology – with the aim of delivering innovative solutions for every customer.