

# KISTLER

measure. analyze. innovate.



## Making excellent connections

Measurement technology from Kistler helps Rosenberger guarantee efficiency and top quality



The display of Kistler's maXYmos process monitoring system guides a production employee through the assembly process.

**Rosenberger relies on quality monitoring by Kistler – not only during pre-series production, but also for its automated manufacturing processes. Kistler products used by this high-frequency technology specialist mainly comprise force sensors and process monitoring systems in the maXYmos series, together with other components and our new dragchain-compatible cable.**

High-frequency technology specialist Rosenberger is one of the „hidden champions“ that earn international renown for Germany. Well over 2,300 people are employed at the company's headquarters in Fridolfing, Upper Bavaria, close to the border with Austria. And across the globe, upwards of 11,300 employees work on solutions and services that focus on connectivity in high-frequency, high-voltage and fiber optic technology. Today, products from Rosenberger play their part in many vehicles, antennas, computing centers, hospitals and households all over the world.

This success story dates back to 1958, when Hans Rosenberger Senior founded the company. One of its first products was the „Stüpfler“ – an implement that bakeries could use to literally „stamp“ bread rolls into their characteristic shapes. Rosenberger's entry into the high-frequency technology segment in 1967 was a shining example of the strategic flair that still benefits the company today. From its base in Upper Bavaria, Rosenberger has achieved global success in six business fields. Especially in the last ten years, sales have continued to soar: in 2019, they reached almost EUR 1.3 billion – and Rosenberger now manufactures over three billion parts each year!

**Longstanding partnership leads to exclusive supplier status**

What are the critical factors behind Rosenberger's global success? Peter Rosenberger, Managing Director at Rosenberger, answers emphatically: „Our production has an extremely high level of vertical integration – we handle all our tool manufacture, surface processing and injection molding in house – and our quality standards are very high. These advantages make us the supplier of choice for many customers – in Europe as well as America, and especially in Asia.“

Since 2005, Kistler has contributed to this success story by equipping Rosenberger with tried-and-tested measurement technology – the key to reliable and efficient quality monitoring. Sensor technology and process monitoring systems from Kistler are deployed at manual workstations and also in semi-automated



Christian Wimmer, responsible for Tool Design and Engineering at Rosenberger, shows Stefan Schäfer, Product Manager at Kistler, how the maXYmos process monitoring system is integrated.

and fully automated plants. „Kistler systems are installed on many of our production lines. In fact, we now specify Kistler as the measurement technology provider for our external special-purpose machine manufacturers,“ Rosenberger adds.

Christian Wimmer holds a highly responsible position in the production operation at the Fridolfing facility. He joined Rosenberger back in 2003 as an industrial mechanic in the Tool Manufacture department. Since 2012, he has been a member of the 40-strong Manufacturing Equipment Design department, with responsibility for Tool Design and Engineering. In practice, Wimmer’s work focuses mainly on prototype assembly, ongoing optimization of production, and issues such as ergonomics, efficiency and consistency. „When I joined the design team in 2012, Kistler was already playing its part in many of Rosenberger’s production processes. Depending on production volumes, we sometimes opt for manual workstations – especially in the pre-series phase. To take one example, we use force sensors from Kistler to ensure that the components in a complex connector are assembled correctly,“ Wimmer explains.

---

„Properties such as high rigidity, overload capacity and high resolution make piezoelectric sensor technology from Kistler our preferred solution. What’s more, it’s easy to record the measurement data and forward it to the customer.“

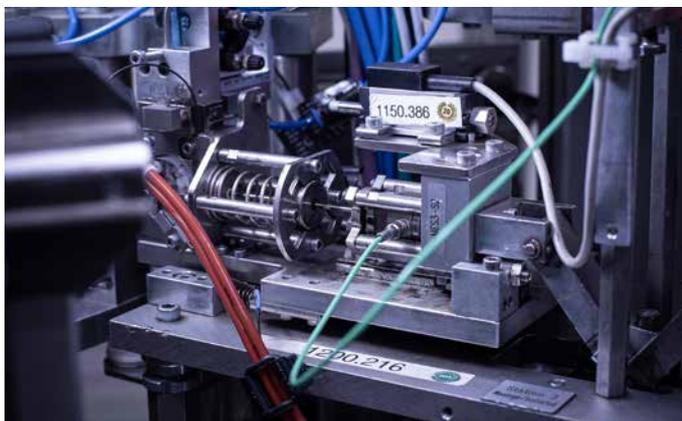
Christian Wimmer, Tool Design and Engineering at Rosenberger

---

Rosenberger also uses the maXYmos process monitoring and control system from Kistler to monitor entire processes, both for manual and automated assembly. „The system’s integrated Sequencer Mode means that we can use maXYmos as a small control – so no additional controls are needed. Production line employees get direct feedback via the display, telling them whether the individual steps were completed correctly and what needs to be done next,“ Wimmer continues.

#### Individually adapted solutions generate added value

Products from Kistler also demonstrate their strengths in the second area where they are in use at Rosenberger: semi-automated and fully automated machines. „Properties such as high rigidity, overload capacity and high resolution make piezoelectric sensor



View of a highly automated production cell at Rosenberger

technology from Kistler our preferred solution. What’s more, it’s easy to record the measurement data and forward it to the customer,“ Wimmer points out. Traceability and transparency are increasingly important factors, he notes, and zero defect production is set to become the standard in many industries. „Thanks to Kistler, we can send the OK/NOK signal (good or bad) for every single part directly to the MES (Manufacturing Execution System). But that’s not all: we can even provide the end customer with complete measurement records including the serial numbers, if required.“

Alongside the 9340A Force Link – developed by Kistler to meet the customer’s specific requirements – and the BL (Basic Level) and TL (Top Level) variants of the maXYmos process monitoring system, Rosenberger uses other Kistler solutions: „Thanks to a retrofit set for manual presses that Kistler developed, we’ve also been able to optimize some of our older workstations and connect them digitally to the production environment,“ Wimmer explains. „Another very helpful innovation is the new cable that is compatible with dragchains: we’ve already installed it in some of our machines. It’s highly resilient, so it makes the whole plant far more effective.“ The 190023A coaxial cable – robust, with low noise and high insulation – was specifically developed by Kistler for use with piezoelectric sensors in dynamic environments. Intensive laboratory testing has proven that this highly abrasion-resistant cable can withstand at least 10 million bending cycles.

#### Quality that leaves the competition standing – thanks to Kistler

Summing up his impressions, Wimmer comments: „We’re highly satisfied to be in partnership with Kistler. That applies to the quality of their products and solutions, and also to their readiness to adapt sensors and systems like maXYmos to meet Rosenberger’s specific needs.“ He concludes: „On top of all that, Kistler’s response times are fast, and they keep on developing solutions that span the critical range from assembly to software. For all these reasons, we shall continue to choose measurement technology from Kistler in the future.“



Two 9340A Force Links from Kistler monitor the forces that act during the joining process.

**Process monitoring and control**  
Efficiency in automated injection molding production

**Plastics processing**  
Optimal process for quality for injection molding

**Composites**  
Process engineering and quality control in the production of fiber-reinforced composite structural elements

Find out more about our applications:  
[www.kistler.com/applications](http://www.kistler.com/applications)

**Kistler Group**  
Eulachstrasse 22  
8408 Winterthur  
Switzerland  
Tel. +41 52 224 11 11

Kistler Group products are protected by various intellectual property rights. For more details, visit [www.kistler.com](http://www.kistler.com)  
The Kistler Group includes Kistler Holding AG and all its subsidiaries in Europe, Asia, the Americas and Australia.

Find your local contact at  
[www.kistler.com](http://www.kistler.com)

**KISTLER**  
measure. analyze. innovate.