Into series production with momentum

With its headquarters in Meppen, Lower Saxony, KUIPERS technologies was founded in 1920 and has been family-run for four generations. The international high-tech company specializes in the series production of assemblies and supplies customers from numerous industries with services along the entire sheet metal process chain. In production, KUIPERS technologies consistently relies on highly productive modern machines and automated processes. Especially in housing - but also in agricultural machinery - there are components that could previously only be processed manually. "Air bending becomes difficult when many successive bends and radii have to be implemented in the thin sheet metal," explains CEO Michael Kuipers. With the investment in the fully automatic TruBend Center 7020 panel bender, the entrepreneuring company has now also closed the automation gap in this area.

KUIPERS technologies GmbH

www.kuipers-technologies.de

Founded in 1920 in Meppen, Lower Saxony, KUIPERS technologies has been family-run for four generations. The transformation from a blacksmith shop to an international system provider is not least due to an openness to technology and the courageous decisions of the individual managing directors. Michael Kuipers has been managing the company since 2017 and consistently relies on the automated series production of system assemblies. With around 330 employees, KUIPERS technologies currently produces for 15 different industries and offers customers all services along the sheet metal process chain. KUIPERS technologies is characterized by modern machinery, manufacturing processes optimized for material flow, continuously trained production teams and the still-unbroken will for further development.

INDUSTRY	NUMBER OF EMPLOYEES	SITE
Metal processing system supplier	Around 330	Meppen (Germany)

TRUMPF PRODUCTS

- TruBend Center 7020
- TruBend 8400
- TruBend 5320
- TruBend 5230
- TruBend 5170
- TruBend 5130
- TrumaBend 1700S
- TrumaBend V85SX-6A
- TCL2530
- TruLaser 5030 fiber
- TruLaser 5030 classic
- TruLaser 5040
- TruLaser 5040 fiber
- TruLaser Center 7030
- TruMatic 6000
- TruMatic 7000
- TruMatic L 3050
- TruPunch 5000

APPLICATIONS

- Laser cutting
- Punch laser processing
- Bending

Challenges

In the highly competitive sheet metal processing market, KUIPERS technologies has established a secure position with high-tech machinery, automated processes and extensive know-how in the field of assembly manufacturing. "We now create assemblies with a length of up to nine meters and offer customers real added value with our experience," explains Michael Kuipers. Reliable machines and processes that are as fully automated as possible are essential for series production. "For us, panel bending is an interesting technology because it offers many advantages, especially in housing construction," says Michael Kuipers. "For this we need precise bends on thin-walled components that must not show any scratches or impression marks." In order to further improve performance in series production, such sheets - which were previously conventionally processed - must also be produced at high speed and with the best quality. "Fully automated machines not only help us to implement these requirements, they are also a good solution given the shortage of skilled workers," says Kuipers. "We have to make sheet metal processing jobs more attractive. With automated systems and robots, we can inspire the Playstation generation."

"With the fully automated TruBend Center 7020, we save two to three set-up operations compared to air bending."

MICHAEL KUIPERS
CEO, KUIPERS TECHNOLOGIES GMBH

Solutions

Since the beginning of 2022, the fully automatic TruBend Center 7020 has been among the machinery at KUIPERS technologies and increases the company's degree of automation. "The system offers a box height of 350 millimeters and is therefore perfectly suited to our requirements," explains Michael Kuipers. Complex geometries are the order of the day, especially in the construction of housings, electrical components and agricultural machinery. "In conventional processing, having many consecutive bends and radii in thin material were real challenges that could often only be mastered with a lot of scrap," says Kuipers. "We can now automatically implement these parts with the TruBend Center 7020."

The rotary part manipulator, for example, ensures high productivity and thus faster overall throughput times. It secures the blank and rotates it to the required position completely independently. The integrated ToolMaster Bend tool changer also contributes to the speed. "This way," according to Kuipers, "we save up to three set-up operations." While the bending processes run automatically, the employees can take care of quality control or pack up the sensitive finished parts.

Speaking of quality – in this case as well, the TruBend Center 7020 meets the most demanding challenges, explains Kuipers: "The machine delivers precise and, above all, repeatable results. That's important to me, because in series production the hundredth part has to be just as good as the first." Among other things, the non-contact, laser-based ACP angle measuring system ensures precision. In this system the laser projects a line onto the sheet, and a camera detects the angle. "But the simulation of the bending lines on the monitor also provides reliability," explains Michael Kuipers.

Implementation

The TruBend Center 7020 is equipped with a loading and unloading robot. At KUIPERS, various 2D laser cutting systems and numerous punch-laser machines from TRUMPF are connected to the 4,500-ton STOPA high-bay storage racks. "We explored the idea and found that connecting the panel bender to the high-bay storage racks doesn't make sense at the moment," explains Michael Kuipers, adding: "Compared to air bending, the TruBend Center 7020 is significantly more productive as it is."

The compact system processes a range of smaller parts that previously could only be processed manually. "We want to gain experience with this first and then scale it up," says Kuipers. The necessary development of expertise takes place mainly in-house on our own machine. "In addition, TRUMPF training staff and technicians come to us. That is simply more practical for us. Due to the 3-shift operation, we have to train several employees and we are happy to save ourselves the travel time to Ditzingen," explains Kuipers.

Forecast

With the TruBend Center 7020, KUIPERS technologies is further increasing its level of automation and offers an additional future-oriented processing method with swivel bending technology. It's no coincidence that the machine is made by TRUMPF. "My father worked with TRUMPF machines. I grew up with it," says Michael Kuipers, grinning. "The trusted cooperation, the exchange of ideas about new technologies and the all-around support are signs of mutual respect - that's important to me." He adds: "In series production, I rely on a high level of machine availability, and I'm on the safe side with machines from TRUMPF. If a problem should arise, I can rely on fast and good service. That's precisely the difference compared to the low-cost provider."