A good grip on everything during bending

Weber Maschinenbau GmbH is a family company founded in 1981 and headquartered in Breidenbach, Neubrandenburg. The company has made a name for itself with the development and manufacture of cutting and packaging machines for the food processing industry, especially for slicing sausage and cheese. In production, Weber mainly processes stainless steel. Weber relies on automation to work more productively, but also to provide employees with relief and offer them a pleasant working environment. When it comes to bending, the automated TruBend Cell 5000 bending cell is designed to bring momentum into production. However, lot sizes of only two to three parts slow down the speed - at least when the employees have to build and store an individual gripper for each bending part. Mike Herrmann, production manager at Weber, and his colleague Peter Schulz, head of sheet metal production and project manager, turn to TRUMPF. The multigripper medium is currently being developed there. The aim is to process the widest possible range of parts with just one gripper. That sounds good to Mike Herrmann and Peter Schulz. They offer a development partnership and significantly contribute to a future in which even small batch sizes can be bent easily and automatically.

Weber Maschinenbau GmbH

www.weberweb.com

Since it was founded in 1981, the family-owned company Weber Maschinenbau GmbH has made a name for itself as one of the leading system providers and partners to the food industry. From weight-accurate slicing to precise insertion and packaging of sausage, meat, cheese and vegan substitute products: Weber develops and produces complete slicing and packaging lines for food processing. True to the company motto "We make life easier for our customers", the company focuses on pioneering innovations and service. Tobias Weber, the eldest son of company founder Günther Weber, represents the second generation to run the company.

INDUSTRY
Complete solution provider for sliced meat/cheese applications

NUMBER OF EMPLOYEES
Around 1,500

LOCATION
Breidenbach, Neubrandenburg (Germany)

TRUMPF PRODUCTS

- TruBend Cell 5000

APPLICATIONS

- Laser cutting
- Bending
- Laser tube processing
- Laser welding

Challenges

Weber has known for a long time that success also brings challenges - at least since 2021, the most successful year in the company's more than 40-year history. Weber employs around 100 people in sheet metal production alone - and they have their hands full. "We can't produce as much as we could sell," explains Peter Schulz, Manager of Sheet Metal Processing and Project Manager at Weber. We are pleased about that, but we also have a responsibility to our employees. Therefore, despite all the productivity, we always think about how we can provide relief for our employees and offer them a pleasant working environment." Weber therefore relies on automation wherever it makes sense. However, finding suitable solutions is not easy, explains Schulz: "Due to the variety of our products and our customer-specific orientation, we have very small lot sizes. Two to three parts are the norm."

When it comes to investing in an automated bending cell, Mike Herrmann and Peter Schulz are already confronted with a huge number of grippers. "They have to be designed, built and stored," says Schulz. "This requires the expertise of skilled workers who are hard to find. And if we have them, we'd rather utilise them elsewhere. In addition, the whole thing negates the production advantage gained through automation." When his contact at TRUMPF mentions the development of a multigripper for the TruBend Cell 5000, the solution to the problem literally seems within reach and becomes the decisive factor in purchasing the system.

"With the setup plan and a scale applied to the guide rods, our operators can adjust the gripper within minutes and in just a few movements."

PETER SCHULZ
MANAGER OF SHEET METAL PROCESSING AND PROJECT MANAGER, WEBER MASCHINENBAU GMBH

Solutions

The multigripper medium from TRUMPF is of particular interest to customers with small lot sizes. But due to the gripper's easy operation, which does not require any special expertise, all users benefit from the "one for all" solution. "The concept provides us with real added value. That is why we offered TRUMPF the development partnership," says Schulz. To do this, Weber provided the TRUMPF experts with a large number of sample parts and carried out analyses of component sizes, weights and geometries from real-world production. The machine operators tested the grippers again and again and provided valuable practical tips for modification.

After almost three years of development, the multigripper medium now delivers what both TRUMPF and Weber promised: It is a valuable automation add-on that offers the advantages of automated production - even with small lot sizes. Due to the many advantages, the TRUMPF experts developed a second version simultaneously with the test phase of the medium multigripper: the small multigripper with four suction cups. This has a rotary unit that can rotate the component by 180 degrees without needing to change the grip. This saves valuable cycle time.

The multigripper is attached to the TruBend bending robot and, in the medium version used at Weber, is

equipped with eight suction cups. Each can be controlled individually, which further increases the flexibility of the gripper. Before the gripper goes into action, the machine operator creates a setup plan using the TRUMPF offline programming system. With just a few clicks of the mouse on a simulated model of the component, the operator determines the points at which the suction cups must be applied. Suction cups that are not required are switched off. "With the setup plan and a scale applied to the guide rods, our operators can adjust the gripper within minutes and in just a few movements," explains Schulz.

By using the multigripper medium, Weber can keep the number of grippers to a minimum. "In addition, the employees no longer have to load heavy parts and are available to work on other machines," says Schulz with satisfaction. "Overall, the bending process has become faster and more efficient. Where I used to have to assign two employees for bending, the BendMaster bending robot and the multigripper medium now make it possible to use only one employee for setting. The rest is taken care of automatically."

Implementation

Peter Schulz is enthusiastic about working with the TRUMPF development team: "We invested a lot of time in this collaboration and also took a risk. But we had a really good feeling right from the start and felt that the TRUMPF experts have a similar mindset to us. They think independently and enjoy their work." Mike Herrmann agrees, summarising: "At Weber we offer our customers tailor-made automation solutions. TRUMPF did the same with us when developing the multigripper. It was a true team effort."

Forecast

Weber is also currently testing the multigripper small in addition to the multigripper medium. "It has other functions that we might be able to use as well," explains Schulz, and he can definitely foresee continuing to design innovative products with TRUMPF as a development partner.