Automating bending operations relieves the burden on personnel

Martin Mitterhumer, CEO of PNH Kft., consistently relies on automation in Hungary. With the TruBend Cell 5000, bending operations are now also being automated. This saved time and relieves the burden on employees.

It took some time for the fully automatic bending cell TruBend Cell 5000 to be completely integrated into production at PNH Kft. in Vasvár in Hungary. This had nothing to do with the machine itself, but rather resulted from the highly particular applications for which CEO Martin Mitterhumer wanted to prepare the bending cell: "Our boiler plate manufacturing process at the plant operates on a very large scale, and we wanted to use the TruBend Cell 5000 to automate the rigging of the semicircular, bowl-shaped depressions required for this process". It turned out to be a real challenge: the depressions have a diameter of 120 millimeters and, at a sheet thickness of five millimeters, the sheet metal warped while it was being reshaped. Ultimately, the special tools developed by TRUMPF in Pasching especially for the client provided a solution. And our joint efforts paid off. Mitterhumer: "Before, we were battling with a terrible handling process and had to assign two employees for this. But now we can relieve the burden on our personnel and save a great deal of time."

The will to succeed

Martin Mitterhumer is renowned for sticking at things and never giving up. If he starts something, then he sees it through. And when a plan doesn't work out, he comes up with an appropriate solution. Without this perseverance, his company wouldn't even exist, as, originally, the now 36-year-old entrepreneur from Upper Austria procured welding orders from Austrian companies to Hungary. "It didn't work," he explains, "the prices, quality and adherence to delivery dates didn't meet my expectations. So out of necessity, I started my own production."

Mitterhumer started with just one employee and acquired a production building in Hungary in 2010, just a few kilometers away from his home town in Upper Austria. There were quite a number of skilled workers, specifically in the areas of welding technology and steelwork, in the neighboring country. After just a few months, the entrepreneur was already importing sheet metal parts from Upper Austria to process them in his plant.

Nowadays, 260 employees work at PNH Kft. which now covers the entire sheet metal process chain right through to the coated and assembled end product. On an area of 15,000 square meters, the contract manufacturer offers robot welding, laser cutting, bending, pressure container construction, as well as highly heat-resistant powder coating and two-component painting. Steel and aluminum with sheet thicknesses of 0.5 to 20 millimeters are mainly processed. Clients can even count on PNH employees' expertise during the development and design phase of complex assemblies and finished products. They come from the heavy-duty industry, the biomass industry, and noise protection technology.

On an area of 15,000 square meters, PNH Kft. in Vasvár in Hungary offers the entire sheet metal process chain. Founder and CEO Martin Mitterhumer has 260 employees.

– Stefan Fuertbauer

For boiler plate production, half-shell-shaped recesses must be made in the plate. First a hard nut for the TruBend Cell 5000. Today, the bending cell handles the forming process fully automatically, saving a lot of time.

– Stefan Fuertbauer

The special tools developed by TRUMPF in Pasching especially for PNH, enables to automate the rigging of semicircular, bowl-shaped depressions required for the boiler plate manufacturing process.

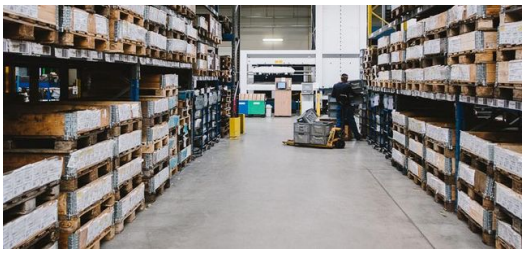
– Stefan Fuertbauer

It has become quite difficult to find skilled workers in Hungary. With automated systems like the TruBend Cell 5000 with Bendmaster 150, CEO Martin Mitterhumer gains decisive competitive advantages.

– Stefan Fuertbauer

With its 230-tonne press force, the TruBend Cell 5000 can process components of 3000 x 1500 millimeters conveniently.

– Stefan Fuertbauer



PNH mainly processes steel and aluminum with sheet thicknesses of 0.5 to 20 millimeters in series batches of between ten and 1,500 pieces.

– Stefan Fuertbauer

The processing of components with a weight of 60 to 80 kilograms are the order of the day at PNH. To promote the health of his employees, Martin Mitterhumer has equipped his installation with vacuum grippers and pivoted-jaw grippers.

– Stefan Fuertbauer

The TruBend Cell 5000 gives Martin Mitterhumer all of the options that are important for him, such as the camera-based, sensor-controlled position recognition and easy intuitive handling.

– Stefan Fuertbauer

PNH's three-shift operation could be cut back to two shifts after just a short period of time.

– Stefan Fuertbauer

Automatically more flexible

One of the reasons that things run so well at PNH is because Mitterhumer has consistently focused on automation from the outset. "It has become quite difficult to find skilled workers here, as well. Although the proximity to Austria gives us the advantage of short transport routes, companies across the border are taking away workers," he explains.

Consequently, after automating the laser cutting processes with two TruLaser 5040 fiber machines, along with a TruStore storage system, acquiring a bending cell was at the top of the agenda for 2017. Mitterhumer: "I was impressed with the TRUMPF TruBend Cell 5000, as it is a fully automated system that gives me all of the options that I think are important, such as the camera-based, sensor-controlled position recognition and correction functionalities. With our complex geometries, this is a huge advantage."

Greater efficiency and healthier employees

With its 230-tonne press force and the BendMaster 150, the bending cell provides Mitterhumer with great peace of mind and flexibility for his wide range of parts. As a result, you can process components of 3000 x 1500 millimeters, for example, conveniently. The entrepreneur also didn't skimp on the equipment. "We move large and very heavy components as well as small, delicate ones through our manufacturing process. Everything in series batches of between ten and 1,500 pieces," he explains. This diversity of materials is made possible in part due to the different vacuum grippers and pivoted-jaw grippers, which – thanks to the gripper changing console – can be adapted to the different orders without manual operator intervention. Mitterhumer has even taken the well-being of his employees into consideration here: "In the case of components with a weight of 60 to 80 kilograms, even handling them with a panel bending aid is hard work. The grippers are an ergonomic advantage, designed to promote the health of my employees. At the same time, they help us to work significantly more efficiently." PNH's three-shift operation could be cut back to two shifts after just a short period of time, and Mitterhumer has reassigned the employees whose time was freed up to quality control.

A forward-looking solution

In addition to boiler plate manufacturing, the TruBend Cell 5000 comes into its own in the production of a patented mobile construction for communications and control technology, developed by PNH. "It is essentially a mobile server room that can withstand pressure suction loads of up to 300 kilometers per hour – i.e. any trains whizzing past," explains Mitterhumer. The steel design is covered in sandwich panels and has an individual power supply in addition to an air conditioning system. "It is simply our experience in container construction and high-precision machines that enables us to satisfy the high demands of our clients," states Mitterhumer. The TruBend Cell 5000 bends the aluminum needed for the roof of the construction and for the housing of the air conditioning system with consistently high quality.

"We've already had approval from a large client and some others have also shown potential interest in the product," explains Mitterhumer. The entrepreneur has made preparations in order to be able to cope with the large quantities expected: in

addition to a further TruBend Cell 5000 with a BendMaster 60, he invested in a TruBend Cell 7000. For Mitterhumer this is an important investment for the future: "Those in Hungary who haven't yet identified the importance of automation will start to feel the pressure very soon."