



Ms Müller and Mr Förster manufacture exacting, high-quality products. That's why they rely on machining centres from HEDELIUS.

## Custom-milled parts on demand

Förster Sondermaschinen GmbH, based in Lindlar, near Cologne, specialises in the production of customised precision components. The milled parts are usually produced in batches of between 1 and 10. What makes it special? Thanks to highly flexible, customer-oriented manufacturing, the customer is able to have parts produced on demand.

Today, Stefan Förster can look back on 40 years of company history. He is one of the second generation of his family to run Förster Sondermaschinen GmbH, alongside his sister Susanne Müller. At the turn of the millennium, the siblings took over the company from their parents, who had started out making microswitches in 1979 from their garage at home. In the early 1990s they built bending machines and glass drills for the automotive industry. „As this required parts that we couldn't get in a sufficient quality on the market, we simply made them ourselves," explains Managing Director Stefan Förster. Today, Förster Sondermaschinen is a successful manufacturer of precision components. Most of its customers are regionally-based manufacturers of packaging machinery, machinery for the food industry and road building machines.

### Boosting competitiveness with modern machinery

When it comes to quality, Förster continues to brook no compromises. Stefan Förster explains why: „Our customers attach huge importance to high-precision parts. Generally speaking, they require a tolerance of between two and five hundredths, and sometimes the desired accuracy is even greater. We can deliver that kind of quality.“ The following application is a case in point: Förster's sliding rails for cutters for film packaging machines move at a speed of up to 400 km/h.

In order to guarantee quality in production, this medium-sized company relies on modernisation and technical advancement. As such, it is constantly investing in new tools and tool technology. „This enables us to maintain our standard of quality and remain competitive“, explains Förster. The company's latest acquisition is a HEDELIUS Tiltenta 9-3600, a 5-axis machining centre with a pivotable main spindle. The T9-3600, which is soon to be installed, is their fifth machine from the German maker. The first HEDELIUS to join the Förster machine pool, a Tiltenta 8-3200, is now twelve years old and still working reliably. „We completely

refitted it in 2017, and now it's as good as new,“ enthuses Stefan Förster.

### Flexibility in production

„We acquired the new T9 with a view to expanding our capacity and increasing our flexibility, so as to be able to respond even better to our customers' wishes,“ says Förster of the company's latest investment. The tool types, batch sizes and materials all demonstrate that flexible production is a must: the company machines components of between 10 and 6,000 mm, sometimes weighing up to 3.5 tonnes and generally in batches of 1 to 10. The material to be machined is often steel and aluminium, and occasionally high-strength bronze and stainless steel. The throughput time for the individual parts also varies greatly. Some are only on the machines for a few minutes, while others take several days.

Production must be configured in such a way as to handle these very different requirements. That's why Förster opted for the HEDELIUS Tiltenta 8-3200 back in 2006. Initially used for the production of long components measuring up to 3,000 mm, today the milling machine is also regularly used for 5-axis machining of a range of

## Förster Sondermaschinen GmbH

### Contract manufacturing

Established: 1979

Company headquarters:

Lindlar, Germany

Employees: 13

HEDELIUS Tiltenta 9-3600

HEDELIUS Tiltenta 7-4200

HEDELIUS Tiltenta 8-3200

HEDELIUS Forte 7-3200

HEDELIUS C60 Single

cubic parts. This simply requires it to be equipped with a rotary attachment table.

## Reducing set-up times and costs

In addition to the oldest and youngest HEDELIUS additions to its machine fleet, Förster uses three other machining centres of the Meppen-based factory: a T7-4200, a Forte 7-3200 and a C60 Single.

The T7-4200 has large X- and Y-travels of 4,200 mm and 750 mm respectively, a steplessly pivotable main spindle, 29 kW power output and a rotational speed of 12,000 min<sup>-1</sup>. The versatile 5-axis machining centre was acquired in 2014 to allow strips to be machined in one clamping position. Förster explains, „We had to drill head holes into the strips and wanted to do so in one clamping position, so the T7-4200 is ideal.“ However, it was clear from the outset that the machine would have to be used very flexibly, so a working space partition and a standby tool magazine were thus ordered at the same time.

Stefan Förster, who often works with the machines himself to this day, is delighted:

„The standby magazine allows us to equip the machine with tools while machining is taking place, thus reducing set-up time and costs. Due to the sheer variety of parts that we produce, we need many different tools, which are immediately on hand thanks to the magazine.“ The HEDELIUS standby magazine holds up to 190 tools. Förster has integrated a taper cleaning station that automatically cleans and oils the tools, allowing space for 180 items. The workspace partition can be used to create two separate working spaces, with machining taking place in one and setting-up in the other. This greatly reduces set-up times.

## Quick setting-up for company equipment

Förster is still using two 3-axis machining centres: the Forte 7-3200 and the C60 Single. The Forte 7 has large travels of 3,200 x 750 x 800 mm (X/Y/Z), again allowing separate working spaces to be created with a partition. „Simple preliminary work is carried out on this machine, such as milling strips and plates without drilling holes for bolts. More complex parts are machined on the 5-axis machines,“ says

Stefan Förster. Here, too, the range of parts can be extremely diverse. In order to keep everything as simple and thus as efficient as possible in spite of the complex production requirements, many aspects are standardised. For instance, Förster has manufactured its own equipment that can be set up very quickly on any of the HEDELIUS machines. This allows vices to be positioned on all machines easily and with a high level of precision.

## Configuring customer-oriented manufacturing

„What’s more, all of our machines are networked together, so every machine can access every programme,“ adds Susanne Müller. „We have a standardised style of programming so that any employee can work with one of his or her colleague’s programmes.“ To ensure that everything functions smoothly, all of the machines are equipped with Heidenhain controls. This type of networking and programming also makes it possible to manufacture all parts on multiple machines without too much effort, and thus make optimal use of the manufacturing capacity. This is also

important due to another special service that the 13-person family business offers its customers: they can store parts at Förster and request them as needed. „That makes production a bit more predictable, as we can pre-produce parts and don’t always need to plan afresh for new parts. Of course, we have to manufacture them in advance, but our clients appreciate this flexibility“, explains Stefan Förster.

## „A feeling of being in good hands“

Besides quality and flexibility, there are other reasons why Stefan Förster and Susanne Müller have repeatedly opted for HEDELIUS machining centres. These include the servicing provided. „Servicing response times are vital, and HEDELIUS makes it work. We clarify a lot of things on the phone or using the servicing app,“ says Susanne Müller, who is pleased with the service. Stefan Förster adds, „The servicing technicians are well trained. You simply have a feeling of being in good hands.“