*Press Release GÜNTHER Heisskanaltechnik GmbH*



**Less waste, less maintenance, faster production – A BlueFlow® success story**

Swiss company Lanker AG wanted to convert their injection moulding production of base plates for vacuum measuring devices from cold runner technology to hot runner technology. Ultimately, the only option considered to solve this problem was BlueFlow® technology from GÜNTHER Hot Runner Technology – it was the only one which could fulfil all the requirements.

Lanker AG, based in Montlingen in the St. Gallen region, have been involved in the production of plastic parts for more than 70 years. Over the past few decades, this family-run company have developed into a leading plastics company and specialists for precision injection moulding. With an inventory assortment of over 1,000 different items, Lanker is the largest Swiss manufacturer and supplier of standard operating devices. Together with customers, Lanker initiate production methods precisely aligned with their needs. For their 25 injection moulding machines, the experts at Lanker regularly build their own moulds as they need them.

A speciality of the Lanker portfolio is the production of plastic parts with integrated metal elements. This being the case, the company produce a base plate for vacuum measuring devices with a material volume of 25 cubic centimetres. This item is manufactured from PPS GF40 Fortron and supplemented with a metal insert part and three threaded bushes made of brass. To achieve the precision required with regard to surface quality and produce the three "domes," i.e. the sheathing of the threaded bushes, the item must be injected three times, which represents a challenge for this application. Lanker planned to accelerate the production process and reduce waste and the maintenance frequency of the moulds, which is why production had to be converted from cold runner to hot runner technology.

"An important prerequisite for the conversion to hot runner technology was that the new system could be integrated into the very limited installation space of our moulds," explained Beat Hutter, head of technology at Lanker AG. "After an in-depth market analysis, only GÜNTHER Hot Runner Technology were considered for this task. The only way to gain those decisive few millimetres that ultimately count was to use the space-saving BlueFlow® technology available only from GÜNTHER. So in this case, a three-plate mould had to be converted in order to implement a high-temperature application with the very demanding plastic PPS (polyphenylene sulphide). The reason for this is that the internal temperature of the vacuum measuring device climbs to over 100 °C when in use."

PPS is a partially crystalline plastic characterised by very high heat deflection temperatures and high chemical resistance and rigidity. During injection moulding, PPS is processed with mass temperatures in the range of 315 to 370 °C and with mould temperatures from 25 to 200 °C. Above a mould temperature of 120 °C, the moulded part's surface becomes smooth and shiny, and at 140 °C, the highest level of toughness is reached. As PPS exhibits very low melt viscosity, the filled types are also easily flowing moulding compounds. This means that minimal wall thicknesses can be injected.

The Hesse-based hot runner specialists quickly recognised the technology their customer Lanker needed. For precision injection moulding with PPS GF40, the treble hot runner system with the 3STF50 nozzle was installed. Thanks to space-saving BlueFlow® heating with a shaft diameter of just 12 millimetres, managing with the minimal amount of space available in the mould was no problem. The wear-protected heat-conducting tip ensures largely maintenance-free operation from now on. "With our BlueFlow® technology, we were able to provide an outstanding solution to Lanker's challenge," said Horst-Werner Bremmer, head of application consulting and sales at GÜNTHER Hot Runner Technology, with a smile. "The BlueFlow® nozzle sets new standards for high-quality applications. Thick-film heating makes especially slim nozzle design and homogeneous temperature control possible."

Thanks to BlueFlow® technology, heating output distribution can be optimally designed for the respective nozzle length. Since the plastic in the material pipe is barely thermally stressed in this way, the physical properties of the end product are as desired. Homogeneous temperature control in the material pipe also has considerable energy-saving effects. The combination of heating with the patented split nozzle shaft enables energy savings for technical applications of up to 50% in comparison to conventional hot runner nozzles.

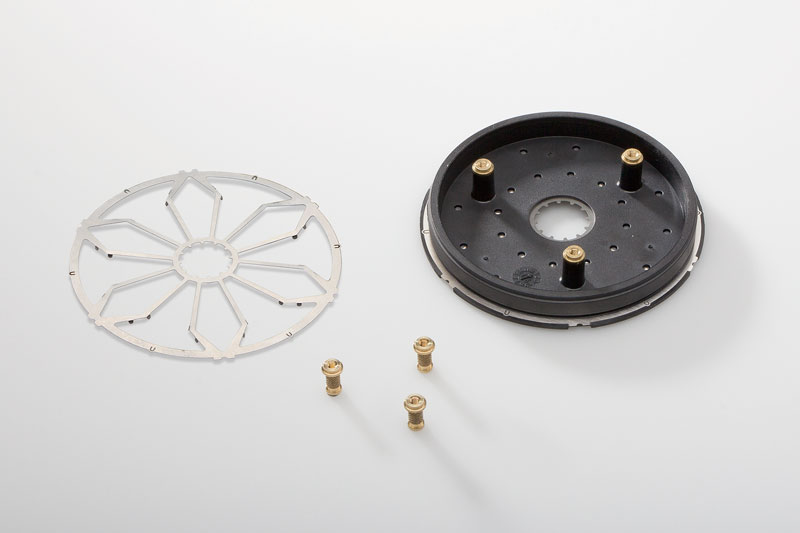
**BlueFlow® – The ideal solution**

"The GÜNTHER hot runner system has absolutely exceeded our expectations," stressed CEO Thomas Lanker. "With this new technology, we were able to reduce the waste rate to a hardly noticeable 1 to 2 percent and achieve very good vestige quality. This shortened the cycle time by a third, and that includes the insertion process. By considerably reducing our energy consumption, we have done something for both our budget and the environment. Investing in BlueFlow® technology was the ideal solution for this project. This prompted us to convert other production lines to this system as well. GÜNTHER Hot Runner Technology were the only ones considered as a partner for this work, as no other suppliers have technology comparable to BlueFlow®."

GÜNTHER Heisskanaltechnik GmbH, located in the north of Hessen in the city of Frankenberg, Germany, are leading manufacturers of hot runner nozzles and complex hot runner systems for the plastics industry. With more than 200 employees, the company produce innovative and user-friendly products, modular standardised systems and one-off special solutions sold at more than 33 representative locations worldwide. Customers include leading companies in the car, electrical/electronic, medical technology, packaging and consumer goods industries.

Images:

1.)



Caption:

Finished base plate with a metal insert part and threaded bushes

Photo credit:

GÜNTHER Heisskanaltechnik GmbH

2.)



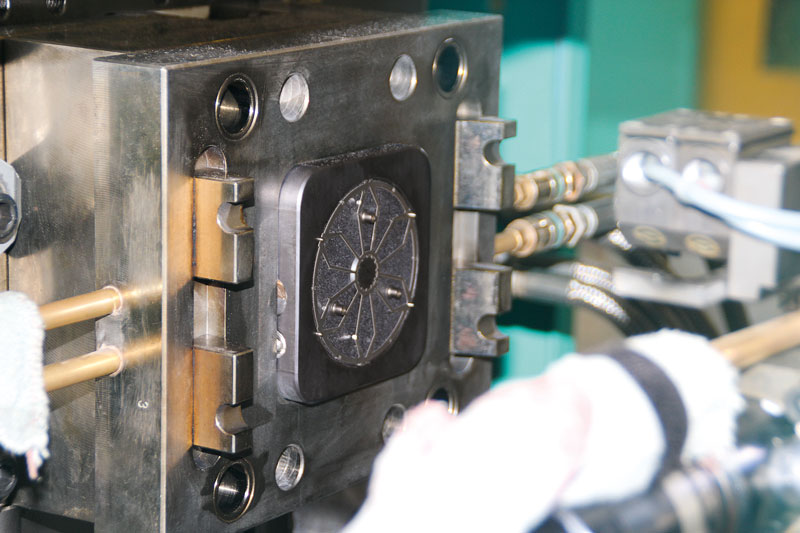
Caption:

Beat Hutter, head of technology at Lanker AG, with a feeder and a finished final product

Photo credit:

GÜNTHER Heisskanaltechnik GmbH

3.)



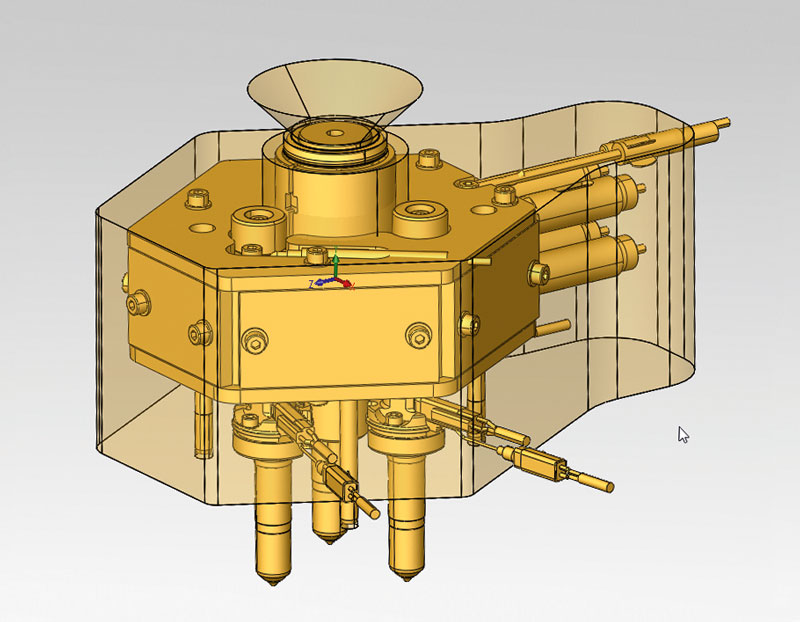
Caption:

A base plate in the production process

Photo credit:

GÜNTHER Heisskanaltechnik GmbH

4.)



Caption:

A technical diagram of the hot runner system

Photo credit:

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5.)



Caption:

Finished result of production

Photo credit:

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6.)



Caption:

The production hall of Lanker AG

Photo credit:

GÜNTHER Heisskanaltechnik GmbH

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