



Newsletter No. 1

There is an ongoing development of new products, processes and applications. PRIAMUS will therefore inform you on a regular basis about product news and interesting facts in injection molding processes.

It is our aim to provide our customer with substantial and practical information.

The PRIAMUS newsletter team

Cavity temperature sensor for very small parts

Cavity temperature measuring technology is becoming more and more important.

So far the sensors were not always applicable due to their size and nature.

PRIAMUS offers a new generation of cavity temperature sensors where even very small parts can be measured. These sensors have an extremely small sensor body and can be used for almost all applications. In addition the whole measuring chain has been optimized to very short reaction times so that also fast switchover operations such as switchover to holding pressure or switchover of valves can be virtually executed in real time.

Automatic temperature dependent switchover to holding pressure

A very important aspect for good part quality is the correct switchover to holding pressure at volumetric filling. In practice this is achieved more or less by the threshold value dependent switchover such as by screw position, hydraulic pressure or cavity pressure. All processes have one thing in common: threshold values have to be determined in fill studies and can not react to process variations like e.g. viscosity changes. This however leads to high part quality differences. It can be prevented by placing a miniature cavity temperature sensor at the end of the flow path. Due to the temperature increase, a switchover signal in real time will be sent to the injection molding machine as soon as the melt reaches the sensor position, independent of the melt viscosity and how fast the plastic melt is being injected.

Arburg, Demag Ergotech, Engel and Krauss-Maffei offer this already in their machine software.

Sequential control

Sequential control is used more and more frequently with large molding parts. This means that theoretically the valve gates will be only opened when the respective gate in the cavity is reached. But in reality it is not known at which point is the melt at this moment.

By placing a cavity temperature sensor after each gate a reliable sequential control can be guaranteed. Every time when the melt reaches the sensor, a signal will be sent to the sequential control which will then either close or open the valve gates.

In doing so supervised sequential control can be used for the first time. The necessary equipment is available at PRIAMUS and can be connected to existing sequential controls.

We hope that we were able to give you a couple of impulses and ideas to solve problems in injection molding processes. We are well aware that it needs more than words to solve problems. For any further information please do not hesitate contacting us.

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