



Easytherm temperature controller with VFS-QT flow & temperature sensor

Cost-effective, reliable & precise fluid flow monitoring in Temperature Control Systems.

The situation

Piovan has manufactured temperature control units for more than 20 years and has now introduced in the market the new generation *Easytherm*.

The necessity for a deep control of fluid temperature, pressure and flow rate has always had some difficulties in finding a cost-effective but reliable solution for the flow measurement, considering also the wide range of fluid temperature ranges (up to 180-200°C for pressurized water!).

Flow rate is the main influence in the heat exchange processes inside the mould, so its measurement has an important utility in checking constantly the correct process parameters, in comparison with project values. Eventual reduction along the life of the machine and/or mould (flow channel clogging overall, caused by scale or lime deposition) can cause a reduction in heat exchange process and in moulding performance and/or energy consumption. Moreover, flow rate measurement can be used to adjust process parameters in real time to optimize the heat exchange.

Topic:

Grundfos Direct Sensors™ used in Piovan's Easytherm temperature controller

Location:

S.Maria di Sala (VE) – Italy

Company:

Piovan – Piovan Group



*VFS-QT 2-40 & 5-100
Flow & temperature sensor*

The Grundfos solution

The idea behind *Easytherm* project was since the beginning to realize a range of machine that is a step further in terms of performances and reliability. With this idea in mind we designed a completely new machine from the optimization of the internal circuit to an user-friendly and unique operator interface and we, of course, looked for the best and most reliable components in the market. For this reason, we considered Grundfos, with its big experience in the instruments for flow control and expertise in this application, the right partner for this project.

We met Grundfos Direct Sensors™ in 2017 and appreciated very soon their proposal for a flow sensor having no moving parts, at a reasonable price. The only concern was related to the maximum temperature of 120°C, but Grundfos assured us they were working on a 160°C model.

We developed the control system for the new *Easytherm* considering integrating control for VFS flow rate sensor and bought the VFS-QT 2-40l/min and 5-100l/min sensors.

These samples have passed through a long period of testing, during which we checked integration, reliability, precision. We understood many elements related to correct range choice and working principle, and Grundfos has been very available in helping us in this task and analyse and improve according to our experience. At the end of the process we have been able to approve VFS v.5 sensor, that now is an important option of *Easytherm* temperature controller.

The outcome

The VFS flow sensor is now an important option of *Easytherm* temperature controllers, that can be offered to the customers at a competitive price.

We are now considering using also the integrated function of temperature measurement, so to use an unique sensor for both control parameters, always with the aim of maximum flexibility in process parameters control.