Application note

Panametrics, keeping it cool!

Summary

An industrial packaging company in Sweden was looking to upgrade its flow and energy metering systems as part of a wider drive to seek efficiencies, improve productivity and drive out emissions.

The customer's metering systems are used to monitor the cooling processes across various facilities including offices, server rooms and production areas.

After evaluating several technical options, the company concluded that it was essential to continue using an ultrasonic clamp-on flow meter, due to the critical nature of the energy cooling measurement.

Application

Medium:	Cooling water
Pipe size and material:	273mm x 6mm (10.75" x 0.24") Carbon Steel
Flow rate:	up to 200 l/s (3,170 GPM)
Temperature:	10°C to 40°C (50°F to 104°F)
Requested accuracy:	<±2% of reading

Benefits:

- Easy to set up and program
- No process interruption
- Reliable energy measurement
- Robustness and accuracy

Fig. 1: C-RS transducers in 2-traverse

Challenges

However, the customer faced challenges with its existing ultrasonic clamp-on energy flowmeter – it was an outdated product, lacking support and approaching the end of its lifecycle.

Accurate measurement of energy flow is essential as it contributes to improved energy efficiency and, consequently, reduced energy costs. It is also critical to maintain appropriate temperatures in the production areas and other parts of the building to ensure the well-being of staff and the proper operating conditions of server rooms.

Solution

Following a successful site demonstration, despite the pipes not being in optimal condition as shown in the picture, the customer opted for a Panametrics solution. This decision was based on Panametrics' expertise, experience of similar applications, local support and material reliability and efficiency.

A dual-channel DF868 was selected for dual pipes featuring energy measurement capabilities, surface mount temperature sensors, two pairs of transducers and a Modbus output. This solution proved ideal for live monitoring of the energy balance between the buildings and the cooling water tank.

The Modbus output was connected to the customer's digital control system, enabling live monitoring and trending of all parameters. With the Panametrics solution fully operational, the customer confirmed it is now benefiting from tight energy control and expects to save several thousand euros per year as a result.

Fig. 2: DF868 electronics

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