Decades of precision

OPTISONIC 8300 –
Highly precise ultrasonic flowmeter for superheated steam

Calibrate once, measure accurately for years – that is the outstanding feature of the OPTISONIC 8300, KROHNE’s new 2-beam ultrasonic flowmeter. It brings precision and cost-effectiveness to steam measurement. The device stands out with its measuring accuracy of 1 %, its broad range of applications and a large dynamic measuring range. It also offers long-term stability – without maintenance or subsequent calibration. OPTISONIC 8300 is particularly suited to high flow rates and is thus the ideal solution for boiler and power plant monitoring or steam billing.
No measurement method is more reliable.

OPTISONIC 8300 is based on the highly precise ultrasonic flow measurement. The device measures the flow velocity and then from that calculates the volume flow. It also measures the mass flow of steam while taking into account pressure and temperature and indicates the density, temperature and energy flow. Since two sensor pairs are used, distortions in the flow profile are compensated for.

Accurate measurements, even years later.

Its measuring accuracy of 1 %, the long-term stability of measurements and the wide dynamic measuring range make the OPTISONIC 8300 an economic miracle. Following the initial calibration, the device provides precise measuring results for years – without maintenance or further calibration. This holds true at steam temperatures up to +540 °C, pressures up to 200 bar and very high mass flows. If, however, verification of the measuring accuracy should become necessary, it can be provided without dismantling, which means no bypass is required.

Precision meets cost-effectiveness.

The converter contains an optional flow calculator for the direct calculation of mass flow or, alternatively, passes on the data to an external evaluation system. This is in addition to the robust design typical of KROHNE which boasts no moving parts, ensuring a long life cycle and low operating costs. The device is suitable for custody transfer and performs valuable services when it comes to measuring energy losses.

Highlights:

• Maximum accuracy and repeatability
• Maximum long-term measurement stability
• Nominal sizes DN 100 to DN 600
• Pressure rating up to 200 bar, higher on request
• Steam temperature up to +540 °C, higher on request
• No maintenance or recalibration
• Can be certified for custody transfer measurements
• Suitable for energy balancing

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Measuring accuracy of the ultrasonic flowmeters compared to orifice measurement with cyclical recalibration

While the measuring accuracy of the ultrasonic method remains consistently high for years, orifice measurement requires constant recalibration depending on the application.

Direct pressure and temperature compensated mass flow measurement

In combination with pressure and temperature sensors, the OPTISONIC 8300 is suitable for measuring the mass flow.