

NON-INVASIVE FLOW MEASUREMENT IN THE WATER TREATMENT INDUSTRY



Task	:	Non-Invasive flow detection of chemicals
Tubing OD	:	1/4" / 6.4 mm
Tubing ID	:	5/32" / 4.0 mm
Tubing Type	:	Hard material, chemical resistant
Solution	:	Ultrasonic Flow Sensor SONOFLOW CO.55/060

Application

A world leader in the water treatment industry was searching for a solution to continuously monitor the dosing process of chemicals. Because of the dynamic nature of many water treatment systems and the worldwide need for improved reliability and quality, a higher degree of precision is required in the monitoring and control of water treatment programs than that obtained through manual monitoring. In order to achieve the higher degree of precision needed, a continuous online monitoring with automatic instrumentation is required.

Due to the highly corrosive and destructive nature of the chemicals used, invasive sensors, such as paddle-wheel flow sensors, often fail. Furthermore, factors such as pH, corrosion rate, turbidity, dissolved oxygen, sodium, fouling, biological activity and halogens, all corrupt the readings of invasive devices.

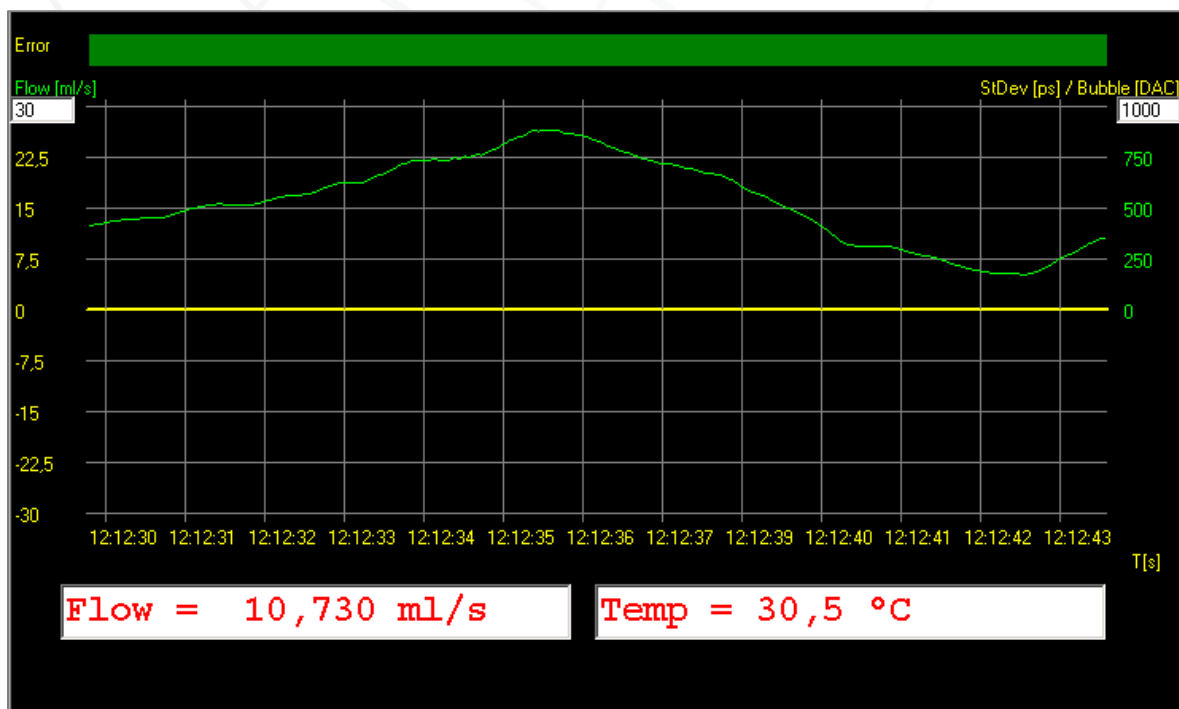


Solution

After several tests, SONOTEC determined that the non-invasive ultrasonic flow sensor SONOFLOW CO.55/060 is the optimal solution. The sensitivity of the ultrasonic sensor is very good and SONOTEC's engineering department demonstrated the measurement between 0.25 to 65.0 Oz/min (7.4 ml/min to 1,900 ml/min). Even without being tuned for the application an accuracy of +/- 2 % was achieved. Furthermore, a temperature sensor is integrated.

Software for Easy Parameterization and Testing

SONOTEC has developed an advanced, but easy to operate software – the SONOFLOW Monitor – as an optional tool. This software displays the measured data in real time, stores a predefined period and allows for a detailed analysis of the sensor performance. New parameter settings can be tested and assessed instantly.



Example of measured flow rate

Additional Information

www.sonotec.eu

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