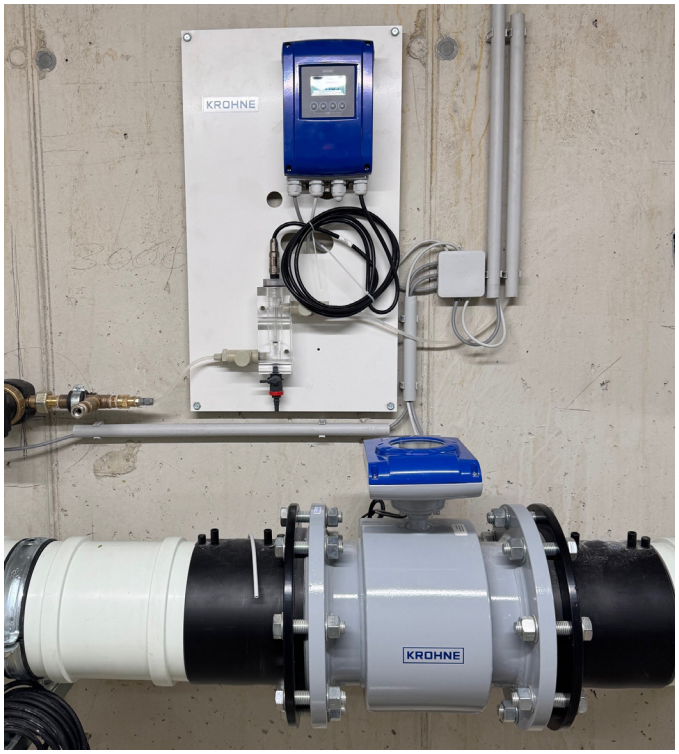


APPLICATION REPORT

Water & Wastewater

Monitoring wastewater from an industrial laundry

WÄSCHEREI OBERLAND

- Measuring pH, temperature and flow rate to ensure compliance with regulatory requirements
- Complete solution comprising water analysis panel, flowmeter and automation technology
- Enhanced process transparency through visualisation of all measurements in the control room

1. Hintergrund

WO Textilpflege GmbH is an industrial laundry based in Tyrol, Austria, specialising in cleaning bed linen, workwear, and other textiles for everyday use. Its customers include regional hotels and restaurants, ski schools, medical practices, care facilities, and retirement homes. The company processes several tonnes of laundry daily using state-of-the-art technology that meets high standards of quality, efficiency, and sustainability.

2. Measurement requirements

The operator discharges wastewater from the laundry into the local sewer system. The discharge of wastewater is subject to the applicable regulatory requirements for minimising emissions, requiring the operator to monitor relevant wastewater parameters. The Best Available Techniques (BAT) include continuous monitoring and recording of flow, pH and temperature. The laundry management is not only obliged to provide evidence of this monitoring, but must also ensure that the pH value remains within specified limits and that the temperature does not exceed +40°C / +104°F at any time during discharge.

To continuously monitor and document the measured values, the customer was looking for a combined solution for process instrumentation and visualisation. The measurement data needed to be processed and made available within the control system.

3. KROHNE solution

WO Textilpflege opted for a complete solution from KROHNE. This included both the measurement technology and the integration of instrumentation with the company's IT system, as well as the evaluation and visualisation of the measured values in the control room.

KROHNE

For pH and temperature measurement, the customer uses the water analysis panel with the OPTISENS PH 8300 sensor and the MAC 100 analytical transmitter. The compact measuring system was delivered fully wired for bypass measurement in wastewater and pre-assembled on a PVC panel. The OPTISENS PH 8300 pH sensor is a robust glass sensor with a dirt-repellent, low-maintenance PTFE ring diaphragm that is ideal for measuring alkaline media such as laundry wastewater. The sensor also has an integrated Pt100 RTD for temperature measurement and compensation. The pH and temperature measured values are recorded at a single point, transmitted to the MAC 100 transmitter and converted into analogue output signals.

Water analysis panel with OPTISENS PH 8300 and integrated temperature measurement

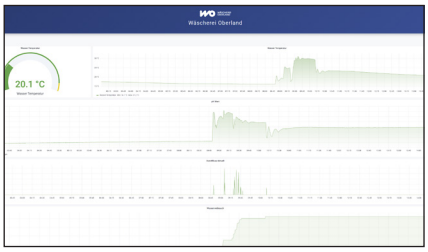
To monitor the flow, the operator also installed the OPTIFLUX 2050 electromagnetic flowmeter in the wastewater pipe (DN200). The flowmeter is equipped with a robust hard rubber liner and chemically resistant Hastelloy® C22 electrodes. It is a reliable flowmeter for water and wastewater applications.

Flow measurement of laundry wastewater with OPTIFLUX 2050

All measured values are transmitted via an input and control module and visualised in the control room. KROHNE used proven Phoenix Contact modules, also part of the complete package, to implement graphical processing and transfer the analogue measured values via TCP/IP to the customer's control system.

4. Customer benefits

Thanks to the pH, temperature and flow measurement, as well as the user-friendly visualisation of measured values in the control room, the operator now has a high level of transparency regarding current wastewater data. This enables the customer to respond quickly to changing process conditions. Reliable monitoring of the relevant wastewater parameters ensures that the customer meets regulatory requirements as defined by the BAT.



Visualisation of measured values in control room

Modules for data transmission to the customer's own IT system

KROHNE managed the entire project, from the design and quotation of instrumentation and transmission technology to implementation and commissioning. With close, long-term cooperation with partner companies, KROHNE also provides suitable transmission and automation technology, including graphical visualisation, from a single source. This allowed KROHNE to serve as a central point of contact throughout the project, reducing complexity for the customer.

5. Products used

Water analysis panel

- Multi-parameter measuring system for water quality monitoring
- Pre-assembled analysis panel for bypass installation: with analytical transmitter, pH sensor and temperature sensor; additional parameters optional

OPTIFLUX 2050

- Electromagnetic flowmeter for water and wastewater applications
- With hard rubber or PP liner for chemical resistance to laundry wastewater

Contact

Would you like further information about these or other applications?
Do you require technical advice for your application?
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Please visit our website for a current list of all KROHNE contacts and addresses.

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