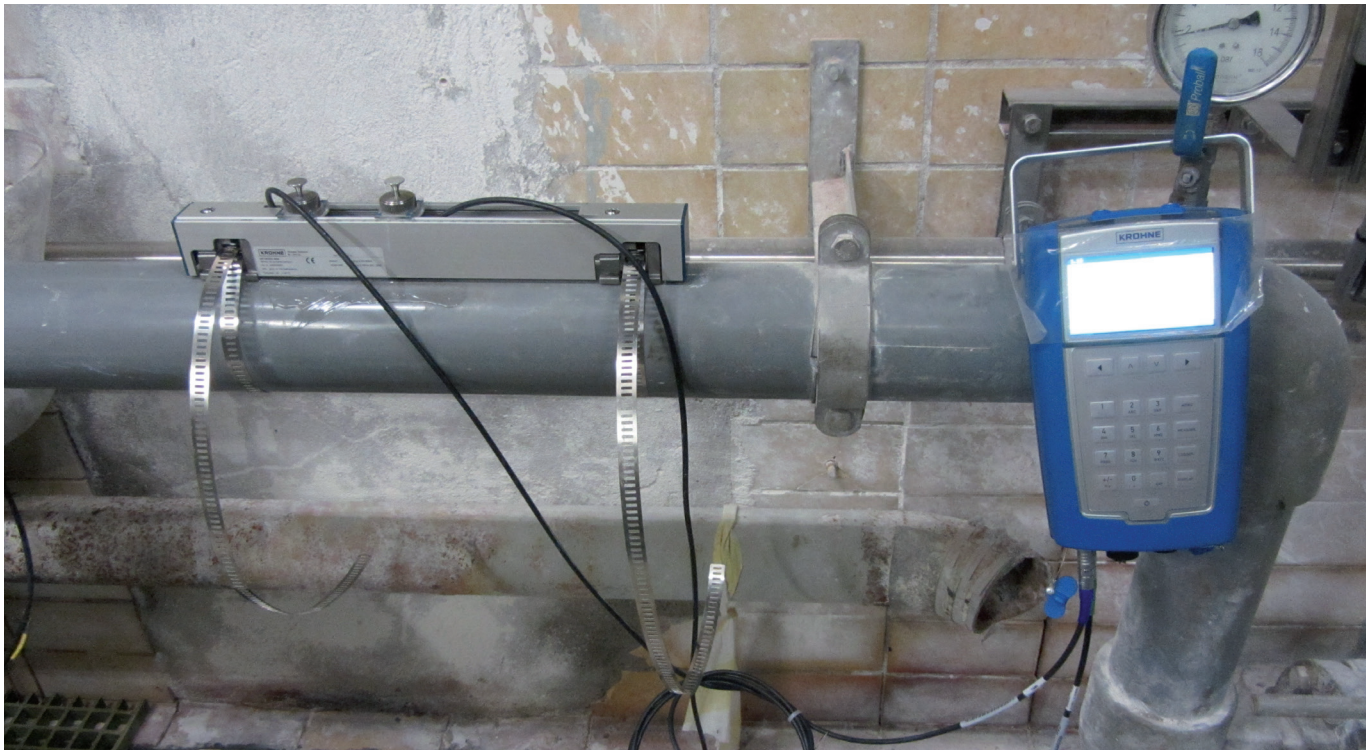


APPLICATION REPORT Chemical

On-site verification of process flows at catalyst plants

- Analysing errors in flow measurement processes
- Checking unexpected readings of inline flowmeters
- Avoiding process interruption and expensive opening of pipes

ALBEMARLE®

1. Background

Albemarle, a leading specialty chemical company, developes and produces catalysts for the petrochemical industry at its site in Amsterdam, the Netherlands. The facility comprises three different plants for fluid cracking catalysts (FFC), hydro processing catalysts as well as for isomerization, methyl chloride, methylamine, melamine and oxychlorination catalysts. These catalysts are used for the production of high quality fuels such as gas, petrol, diesel and kerosene from crude oil.

2. Measurement requirements

In order to control the flow process of the large variety of liquids, Albemarle uses over 500 inline meters, most of them electromagnetic flowmeters (EMF). Occasionally one of these meters measures an unexpected flow, showing a big deviation in flow rate or even no flow at all. In the past, Albemarle removed those inline flowmeters from the process in order to test their performance and functionality at the onsite repair department. However, as most of the removed inline flowmeters turn out to be fully functional, most of the errors indeed occur at another point in the process chain. Thus, opening the pipes causes an unnecessary and expensive interruption of the process. The customer was therefore looking for an on-site verification instrument to check the flow reading of the inline meters before dismounting.

KROHNE

3. KROHNE solution

KROHNE recommended the Ultrasonic clamp-on flowmeter OPTISONIC 6300 P. The portable ultrasonic device is battery powered and can be fitted on the outside of piping to measure the flow rate of liquids. As most of the pipes at the production site of Albemarle have only a diameter of DN 40 / 1 ½" and DN 50 / 2", the KROHNE device was delivered with small sensors which meet the requirements of the whole application.

The OPTISONIC 6300 P with mobile signal converter attached to a pipline

The compact evaluation unit measures the flow velocity, the current volume flow and a variety of diagnostic values. The readings are shown on the large colour LCD in a graphical format. The OPTISONIC 6300 P stores the readings in the integrated memory for data logging. They can also be transferred via USB stick to a PC for further analysis.

4. Customer benefits

The portable clamp-on flowmeter is the suitable diagnostic device for Albemarle to speed up repair and save a lot of effort with all costs involved. Before opening any pipe or removing an inline meter, the chemical company can easily check the process flow whenever a vast deviation of the flow rate is indicated by an EMF.

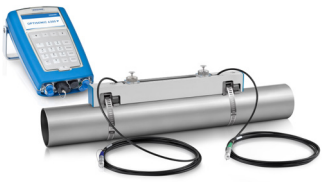
The OPTISONIC 6300 P offers a great deal of other advantages to the customer. Albermarle also benefits from the clamp-on flowmeter whenever one of the inline meters is broken and has to be temporarily replaced. The device can be installed within minutes and easily substitute the EMF, thus limiting downtime and avoiding a long term interruption of the process during repair time.

The clamp-on device also proved to be very useful during the extension of the customer's production site. Before a new production process is launched, the engineers of Albermarle test the process with water in order to detect possible leakage. During this test procedure the OPTISONIC 6300 P is used to check the water flow and to diagnose whether the installed pumps really achieve the expected capacity, thus also extending the customer's knowledge of the process even before production is started.

5. Product used

OPTISONIC 6300 P

- Portable, battery powered ultrasonic Clamp-on flowmeter for liquids
- Suitable for a broad range of process conditions
- No process shutdown required for diagnostic on meters
- Quick start-up and ease of installation (installation wizard)
- For tube diameters from DN 15 (1/2") to DN 4000 (160")



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