

## Virtual Reference: reduced costs and increased safety for chemical processes

Duisburg, January 20, 2009: Many chemical processes concern highly aggressive media. KROHNE's range of electromagnetic flowmeters OPTIFLUX with a high chemical resistance, is ideally suited to measure aggressive, toxic and abrasive fluids. Up to now for these applications grounding rings or grounding electrodes made of exotic thus expensive materials, such as tantalum, nickel or titanium had to be used. This involves considerable investments.



OPTIFLUX 4300 with virtual reference at Andritz

The possibility to omit grounding rings or –electrodes is the most economical solution. KROHNE now offers an alternative to classical grounding: virtual reference. The innovative and patented concept does not require the installation of grounding rings or grounding electrodes.

The technology company Andritz, headquartered in Austria, uses KROHNE's IFC 300 signal converter with the Virtual Reference option and OPTIFLUX 4000 flow sensors with diameters from DN 10 up to DN 300. The devices are used in lines in which acids are treated, like for example with high grade steel corrosives. Hydrofluoric acid, nitric acid and water are blended just before the flowmeter. The acids are measured at an operating temperature of 90 Degrees Celsius, under a pressure of 3 bar and at a flow velocity of approx. 1,5 m/s.

"The principle of virtual reference worked without problems from the first day of operation," says Helmut Platzer, automation engineer with Andritz. "Also in case of difficult applications, such as the blending of two media with different temperatures just before the electromagnetic flowmeter, it works without problems," he summarises his experiences with KROHNE devices.

Ralf Haut, Industry manager chemical at KROHNE, adds: "In this application substantial costs were saved by not installing very expensive grounding rings or electrodes, plus it simplified the installation of the flowmeter. In addition, safety was increased, because not using grounding rings reduces the number of potential leakage points".

IFC 300 Converter with Virtual Reference is as an option available for all OPTIFLUX applications from diameter DN 10 and for media with a electrical conductivity above 200 $\mu$ S/cm.

About KROHNE: Established in 1921, KROHNE is a family-owned business employing 2,510 people around the world with representatives on all continents. The company headquarters are based in Duisburg, Germany. KROHNE is a market leader in the development, and manufacture of innovative measurement technology and prides itself on exceeding customer expectations in terms of quality, performance capability, service and design.

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