

## Entrained Gas Management EGM now available for all OPTIMASS Coriolis mass flowmeters

- Continuous and repeatable mass flow or density measurement with liquid/gas 2-phase flows
- Proven in batch/loading/empty-full-empty applications in various industries
- New EGM course available on the KROHNE Academy online eLearning platform

## Text:

Duisburg, October 18, 2016: Entrained Gas Management EGM technology is now available for all KROHNE OPTIMASS Coriolis mass flowmeters. With the latest additions OPTIMASS 3400 and OPTIMASS 7400, now the whole OPTIMASS series offers continuous and repeatable mass flow or density measurement with 2-phase flows such as liquids mixed with gas, slurries with gases or highly viscous fluids with gas entrainments.

In the past, this presented a huge challenge for mass flowmeters: without gas entrainments, the measuring tubes in the Coriolis mass flowmeter have the desired regular oscillation. Gas entrained in the liquid dampens this regular oscillation, and as the gas content increases, it can come to a complete stop. To overcome this, KROHNE developed powerful control algorithms that allow the meter to maintain oscillation and continue to measure even with complex flow conditions. This is possible even during a complete transition from a pure liquid phase to a gas phase and back, i.e. from 0...100% gas content. Mass flow and density measurements remain stable, continuous and repeatable.

Since the introduction of the EGM technology in 2012, OPTIMASS flowmeters with EGM have proven themselves in 2-phase flow and batch/loading/empty-full-empty applications in various industries:

- Food & Beverage: raw milk, ice cream, dough, sirup, tomato concentrate, spinach, meat, margarine, mayonnaise, meat, syrup, coffee extract, coolants, sugar concentrates and molasses
- Chemical: hydrogen peroxide processing, viscous monomers/polymers, liquid removal from stirred tanks, highly concentrated assets such as fuming HCl or HNO3, polyurethane foams, push to empty tanks
- Oil & Gas: drilling fluids, truck loading/offloading, well heads, tank management

Together with the indication or configurable alarm for the user, EGM can also be used to improve processes by identifying transient gas entrainments.

To explain the technology and the applications in more detail, "Entrained Gas Management in Coriolis flowmeters" has been released as new course on the free KROHNE Academy online eLearning platform <a href="https://academy-online.krohne.com">https://academy-online.krohne.com</a>. The course consists of one learning module with a corresponding test that allows participants to assess their knowledge, and is currently available in English and German, other languages will follow.

About KROHNE: KROHNE is a full-service provider for process measuring technology for the measurement of flow, mass flow, level, pressure and temperature as well as analytical tasks. Founded in 1921 and headquartered in Duisburg, Germany, the company employs over 3,600 people all over the world and is



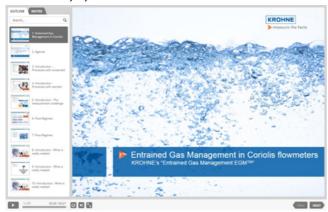
present on all continents. KROHNE stands for innovation and maximum product quality and is one of the market leaders in industrial process measuring technology.

## Picture 1:



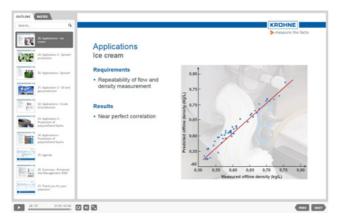
Caption: Entrained Gas Management EGM now available for all OPTIMASS Coriolis mass flowmeters

## Pictures 2, 3, 4:









**Caption:** "Entrained Gas Management in Coriolis flowmeters" has been released as new course on the free KROHNE Academy online eLearning platform

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