**Process instrumentation and solutions for the food and beverage industry**

**Weblinks**

- Detailed information on the KROHNE portfolio for the food and beverage industry: krohne.com/food
- Service directory to contact our service team: krohne.com/services
- Configure it – online configuration tool for KROHNE instrumentation and platform for 2D/3D CAD data: krohne.com/configure-it
- KROHNE eShop* – online shop for measurement technology at attractive prices: eshop.krohne.com/nl

**Contact**

- KROHNE Measured GmbH
  Ludwig-Wrcho-Str 5
  47058 Duisburg
  Germany
  Tel.: +49 203 301 0
  Fax: +49 203 301 10 389
  info@krohne.com
  www.krohne.de

- KROHNE Gesellschaft m.b.H.
  Almmannstraße 16/16/16/101A
  1120 Vienna
  Austria
  Tel.: +43 1 203 453 20
  Fax: +43 1 203 453 299
  info@krohne.at
  www.krohne.at

- KROHNE AG
  Uhrenkase 90
  4019 Basel
  Switzerland
  Tel.: +41 61 638 303 0
  Fax: +41 61 638 304 0
  info@krohne.ch
  www.krohne.ch

**Subject to change without notice**

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**KROHNE Food & Beverage – Your partner for the right measurement solution**

The food and beverage industry is subject to constant change and faces rather short product life cycles. On top of that, there are strict hygiene and legal regulations that must be adhered to. KROHNE Food & Beverage is a specialist division, facing these challenges. The company offers a complete range of flow, level, temperature and pressure measurement, as well as process analysis technology including complete solutions plus services.

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**Mass flowmeters with Entrained Gas Management**

- EGM™: no loss of measurement with a gas entrainment (GVF) of 0 to 100% in the medium
- Measurement of mass flow and density
- Continuous measurement, even during a transition from a pure liquid phase to a gas phase and back

**Typical applications:**

- Ice cream
- Margarine
- Chocolate
- Ground meat
- Syrup
- Spinach
- Oil

**High-performance ceramic for the most demanding situations**

- Permanently resistant to corrosive and abrasive media
- Resistant to temperature shocks
- Absolutely secure against permeation and leakage

**Analytical sensors with integrated transmitter**

- Complete circuitry has been condensed into the sensor head
- Cost advantage thanks to longer sensor service life due to regenera-
  tion before the offline calibration
- Integrated memory for configuration data

**Auxiliary and supply circuits**

- KROHNE provides suitable solutions for utility and supply circuits
- Process water/auxiliary water
- Compressed air/air
- Natural gas/combustion system consumption measurement
- Steam
- Heat/energy quantity measurement
- CIP/SIP

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The straight measuring tube design eliminates negative effects on the measurement at high viscous liquids or pastes.

EGMTM enables measurements of inhomogeneous mixtures, media with fibres or solid or gas entrainment.

Not susceptible to installation effects.

Minimal pressure loss with straight tube measuring devices: up to two sizes smaller than competitor devices if compared by pressure drop.

OPTICTEST – inline verification of meter accuracy

Sensors for filling applications

OPTIBATCH 4011
- Measurement independent of viscosity, conductivity or inlet runs, determines volume or mass flow in extremely short filling cycles.
- No separate electronic required.
- Entire electronic is integrated in the fully welded stainless steel housing.
- Standard deviation <0.04 %.

BATCHFLUX 5500
- Specifically developed for the precise cold and hot filling processes for beverages.
- High precision and long-term stability.
- Excellent repeatability due to ceramic measuring tube.
- Extremely short filling cycles <500 ms.

OPTIFLUX – electromagnetic flowmeters

- All KROHNE electromagnetic flowmeters are wet-calibrated in direct comparison of volumes.
- Electric conductivity of the medium can be used for detection of product change over.
- For high bubble content, high solids content and pulsating flow.
- 3x100% diagnostics (application and device diagnostic, out-of-spec test).

OPTITEMP – industrial temperature assemblies

- Very good repeatability and long-term stability.
- Standardised and customer-specific temperature assemblies.
- Compact, fast and precise measurement.
- Pt100 class A according to IEC 60751.
- In-situ verification.

OPTISWITCH – level switch

- Measurement independent of media properties.
- Not affected by adhesive media and foam.
- Hygienic, flush-mounted installation.

OPTIWAVE – FMCW radar in 80 GHz technology

- Distance, level, volume and mass measurement.
- Flat PEEK or PP antenna for liquids and solids.
- Not affected by process conditions: dust, foam, vapor, agitated or boiling surfaces, changes in pressure, temperature and density.
- No operation or maintenance costs for purging as purge air for cleaning is not necessary.

OPTIBAR – pressure and differential pressure transmitters series

- CIP/SIP compatible with continuous process temperatures up to +150 °C.
- Flush and recessed metallic (PM) and ceramic (PC) diaphragms.
- Excellent repeatability and long-term stability.
- 2-Wire HART, FF, PA, SIL2/3, 3A, EHEDG and FDA.

OPTISYS IND 8100 – conductivity measuring systems

- Fast temperature compensation.
- Configuration via touch display.

OPTISWITCH – level switch

- Measurement independent of media properties.
- Not affected by adhesive media and foam.
- Hygienic, flush-mounted installation.

SMARTPAT – digital analytical sensors

- Measurement of pH, ORP and conductivity.
- No external transmitter needed.
- Configuration and simplified offline calibration via FDT/DTM.
- Direct connection of the sensor to the control system.

OPTITEMP TRA-C61
- Very good repeatability and long-term stability.
- Standardised and customer-specific temperature assemblies.
- Compact, fast and precise measurement.
- Pt100 class A according to IEC 60751.
- In-situ verification.