



# APPLICATION REPORT Food & Beverage

## Volume and mass flow measurements of liquids and gases in breweries

- Reliable flow measurements to ensure constant beer quality
- Measurements not influenced by different process conditions
- Precise and constant dosing of different additives at all production levels

### 1. Background

When constructing a large new brewery near Enschede, the Netherlands, the beer producer GROLSCH was looking for a variety of devices to measure the volume and mass of liquid and gaseous products.

The GROLSCH brewery placed high demands on the devices, particularly in terms of measuring accuracy, reliability and being maintenance-free. All of the devices had to be equipped with the PROFIBUS PA communication interface to communicate with the ProLeit process control system. On top of that, the measuring devices were all to be supplied by the same manufacturer if possible.



New construction of GROLSCH brewery near Enschede, the Netherlands

### 5. Products used

#### 5.1 Electromagnetic flowmeters from KROHNE

##### OPTIFLUX 6000

- Hygienic and aseptic stainless steel version featuring unique gasket design
- Suitable for all CIP and SIP processes
- All industry-specific pipe connections
- PFA liner reinforced with stainless steel mesh for high dimensional stability and vacuum resistance
- Standard sizes DN 2.5...DN 150, corresponds to 1/10"...6"
- EHEDG and 3A-approved
- Wet-calibrated on officially certified calibration rigs according to EN 17025



##### OPTIFLUX 4000

- Measuring sensor for the process industry
- Sturdy and reliable, even at high temperatures up to 150° C / 302° F
- Electrical conductivity: water from 20 µS/cm, other liquids from 1 µS/cm
- Simple installation and start-up
- Standard sizes DN 2.5...>DN 1000, corresponds to 1/10"...>40"
- Wet-calibrated on officially certified calibration rigs according to EN 17025



#### 5.2 KROHNE mass flowmeters

##### OPTIMASS 7000

- Only mass flowmeter with a single straight measuring tube made of stainless steel, Hastelloy®, titanium or tantalum
- Minimal pressure loss
- Reliable measurement of mass and volume flow, density, temperature, concentration for liquids, even with solid content
- Any installation position, self-draining, easy to clean even using CIP and SIP, maintenance-free
- High measuring accuracy even with changing process conditions, outstanding zero point stability
- Compact and remote version



##### OPTIMASS 3000

- First choice for applications with low flow volume
- One installation length for all three sizes
- Z-shaped measuring tube made of Hastelloy® or stainless steel
- All common process connections available, including hygienic connections
- Certified secondary containment in Stainless Steel 316L
- Self-draining and easy to clean, even using CIP and SIP, maintenance-free
- Simple installation and start-up



**ETA Process Instrumentation**

**[www.etapii.com](http://www.etapii.com)**

**[sales@etapii.com](mailto:sales@etapii.com)**

**tel 978.532.1330**

**Martech Controls**

**[www.martechcontrols.com](http://www.martechcontrols.com)**

**[sales@martechcontrols.com](mailto:sales@martechcontrols.com)**

**tel: 315.876.9120**