

# HAFFMANS OGM

## IN-LINE O<sub>2</sub> GEHALTEMETER

### GENERAL PRODUCT INFORMATION

In the beer and beverage industries, the content of dissolved oxygen (DO) is extremely important to both product quality and taste. Excess oxygen (O<sub>2</sub>) can compromise the flavor stability and lead to significantly reduced product shelf life.

Because of this, breweries and other beverage manufacturers continuously seek to measure and control the O<sub>2</sub> concentrations throughout production.

The In-line O<sub>2</sub> Gehaltemeter, type OGM, combines high accuracy with excellent measurement stability. This new optical O<sub>2</sub> measurement technology provides greatly improved response times compared to traditional O<sub>2</sub> measuring devices and does not require frequent calibration.

The OGM is available in three measuring ranges:

- Low measuring range (LHO) for accurate DO measurement of beverages < 2,000 ppb (e.g. beer and deaerated water).
- Wide measuring range (WLO) for accurate DO measurement of beverages < 45.0 mg/l (e.g. wort, soft drinks and non-deaerated water).
- Ultra low range (LHG) high accuracy gas only measurement < 200ppm in gas (e.g., purified CO<sub>2</sub> to be used for carbonation, or oxygen in N<sub>2</sub>).

The OGM can be installed anywhere in the production process where the determination of the dissolved oxygen content is critical to the quality of the product. The O<sub>2</sub> sensor is hygienically designed, and is easily mounted. It is available in two executions:

- Varivent® connection.
- 25mm connection (that will fit in a classic 25mm connection typically used with traditional O<sub>2</sub> measuring devices).



Varivent® sensor



25 mm sensor



### CUSTOMER BENEFITS

- **Accurate process control:**
  - measurement data storage.
- **Cost saving:**
  - reduction of product losses.
  - low maintenance.
  - efficient operation of production processes.
  - ability to measure the purity of CO<sub>2</sub>.

### APPLICATIONS

- In-line, at critical locations in the production line where the determination of the dissolved O<sub>2</sub> content is required and adjustments within the process can be made.

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### TECHNICAL DATA

#### CONTROL UNIT

##### Power supply

85-264 V / 50-60 Hz (optional 24 VDC)

##### Dimensions

235 x 205 x 165 mm/9.25 x 8.07 x 6.50 in (LxWxH)

##### Mounting

Wall mounting

#### O<sub>2</sub> SENSOR

##### Varivent® connection

84 x 175 mm

##### 25 mm connection

84 x 240 mm

#### MEASUREMENT SPECS

##### Measuring units

ppb, µg/l, ppm, mg/l, % a.s.

##### Process temp.

max. 110 °C

##### Process pressure

max. 10 bar(g)/145 psi

##### Measuring interval

30 sec. (adjustable from 2 - 999 sec.)

##### Memory capacity

Up to 500 measurements

##### Protection class

IP-67

	O <sub>2</sub> SENSOR LHO	O <sub>2</sub> SENSOR WLO	O <sub>2</sub> SENSOR LHG
<b>LIQUID DISSOLVED OXYGEN</b>			
<b>Measuring range</b>	0.0 - 2,000 ppb	0.1 - 45.0 mg/l	n.a.
<b>Accuracy</b>	±(1 ppb + 2 % of m.v.*) ±	(0.1 mg/l + 5 % of m.v.*)	n.a.
<b>GAS O<sub>2</sub></b>			
<b>Measuring range</b>	0-4.18 % O <sub>2</sub>	0-100 % O <sub>2</sub>	0-0.0200 % O <sub>2</sub>
<b>Accuracy</b>	±(0.002% + 2% m.v.*)	±(0.230% + 5% of m.v.*)	±(0.0002% + 5 % of m.v.*)
<b>CO<sub>2</sub> PURITY (CALCULATED)</b>			
<b>Measuring range</b>	~80-100 % CO <sub>2</sub> purity	0-100 % CO <sub>2</sub> purity	~99.9 - 100 % CO <sub>2</sub> purity
<b>Accuracy</b>	±(2.0095 - 2% of m.v.*)	±(6.0979 - 5% of m.v.*)	±(5.0010 - 5 % of m.v.*)
<b>TEMPERATURE</b>			
<b>Measuring range</b>	-5.0 - 40.0 °C	-5.0 - 40.0 °C	-5.0 - 40.0 °C
<b>Accuracy</b>	±0.1 °C	±0.1 °C	±0.1 °C

\* m.v. = Measured Value

### SCOPE OF SUPPLY

- Control unit
- O<sub>2</sub> sensor
- Sensor communication cable
- Control unit wall or panel mounting set
- Mains cable
- I/O cable for analog output
- Calibration beaker with spare O-ring
- Instruction manual

### OPTIONS

- **HAFFMANS CONNECT+ INTERFACE MODULE**  
Connects Haffmans QC instruments to all modern PLCs with following standards:  
**PROFIBUS DP, PROFINET, EtherNet/IP, IoT ready!**
- Control unit pipe/sensor mounting set (DN 40 - DN 125)
- Certificate of measurement
- In-line housing with Varivent® connection, inspection glasses and clamps for O<sub>2</sub> sensor with Varivent® connection (pipe dimensions to be specified at time of enquiry)
- Welding socket for 25 mm O<sub>2</sub> sensor



#### HAFFMANS B.V.

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