

# PENTAIR HAFFMANS

## CO<sub>2</sub> / O<sub>2</sub> GEHALTEMETER, TYPE c-DGM

### PORTABLE AND VERSATILE MEASUREMENT

The Pentair Haffmans CO<sub>2</sub>/O<sub>2</sub> Gehaltemeter, type c-DGM measures dissolved CO<sub>2</sub> content and dissolved O<sub>2</sub> content in liquid, O<sub>2</sub> in gases, CO<sub>2</sub> purity in gases, and the Total Package Oxygen measurement in a beverage package.

The CO<sub>2</sub>/O<sub>2</sub> Gehaltemeter, type c-DGM, combines the internationally accepted determination of the dissolved CO<sub>2</sub> content based on Henry's Law with a highly accurate dissolved O<sub>2</sub> measurement. This state-of-the-art optical O<sub>2</sub> measurement technology is greatly improved compared to the traditional O<sub>2</sub> measuring instruments and doesn't require frequent calibration. Its design allows for higher product pressure, making it suitable for the soft drink industry. Up to 10 different product types can be programmed into the device. The bumper protects the c-DGM against physical impact in harsh environments.

#### How it works

When the CO<sub>2</sub> measurement is started, the O<sub>2</sub> content is stored. Automatically, equilibrium is created, followed by the measurement of pressure and temperature. The dissolved CO<sub>2</sub> content is then electronically calculated and displayed. The data can be securely transferred to a PC by using the interface cable. Data analysis can be done via Pentair Haffmans Navigator software. Besides the combined CO<sub>2</sub>/O<sub>2</sub> measurement, the c-DGM is suitable for single O<sub>2</sub>, continuous O<sub>2</sub> and single CO<sub>2</sub> measurements.

Also the Total Package Oxygen (TPO) value, based on the Uhlig method, is calculated in the CO<sub>2</sub> / TPO measuring mode and the single TPO measurement.



### CUSTOMER BENEFITS

- Durable design can be used in both laboratory and in the production process environment
- Suitable for both the brewing and soft drink industries due to its ability to handle high product pressure
- Reproducible results ensure accuracy
- Ability to measure the purity of CO<sub>2</sub> gas

### APPLICATIONS

- At-line, sampled directly during the production process
- Laboratory, after the filling sampling from bottles or cans by using the sampling device Pentair Haffmans ISD 2.0
- TPO calculation from bottles or cans using the sampling device Pentair Haffmans ISD 2.0

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### TECHNICAL DATA

#### O<sub>2</sub> Content

Measuring Range	0.0 to 2,000 ppb w/w (DO) 0 to 41,800 ppm vol/vol (gas)
Accuracy	± 1 ppb w/w + 2 % of m.v. (DO)* ± (20 ppm vol/vol + 2% of the m.v. (gas))*
Measuring Units	ppb w/w, µg/l, ppm w/w, mg/l, % a.s., % O <sub>2</sub> , ppm vol/vol

#### CO<sub>2</sub> Content

Measuring Range	2.0 - 10.0 g/l
Accuracy	± 0.05 g/l
Measuring Units	g/l, Vol., % b.w., kPa, kg/cm <sup>2</sup>

#### Temperature

-5.0 - 40.0 °C, 23 - 104 °F, acc. ± 0.2 °F

#### Pressure

0.0 - 10.0 barg, acc. ± 0.01 bar

#### Measuring Time Incl. Sampling

Approx. 120 sec.

#### Number of Measurements per Charge

Approx. 120

#### Interface

RS-232

#### Dimensions

210 x 130 x 260 (LxWxH mm)

#### Weight

ca. 3.2 kg

\* at 20 °C

### SCOPE OF SUPPLY

- CO<sub>2</sub> / O<sub>2</sub> Gehaltemeter, type c-DGM
- Bumper
- Service set with power supply (Euro or US plug)
- Software set (USB stick with Navigator software & interface cable to connect RS232 to USB)
- Set of two sample hoses
- Instruction manual

### OPTIONS

- Certificate of measurement
- Quick charger
- Sampling device Pentair Haffmans ISD 2.0



#### HAFFMANS B.V.

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