

# HAFFMANS c-TPO SELECTIVE INPACK TPO/CO<sub>2</sub> METER

## GENERAL PRODUCT INFORMATION

In the beer and beverage industries both oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>) are important gases. When it comes to product life and flavor stability, oxygen is detrimental. Preventing O<sub>2</sub> pick-ups during the entire production and packaging process is of paramount importance. As a result, beer and beverages are produced with very low dissolved oxygen (DO) levels, to achieve consistent quality and high flavor stability during the product's shelf life. The content of dissolved CO<sub>2</sub> is decisive to the quality and taste of beer and carbonated beverages. Therefore, brewers and beverage manufacturers continuously control and measure the CO<sub>2</sub> content in bottled and canned beverages.

The automatic Inpack TPO/CO<sub>2</sub> Meter, type c-TPO meets the demands. The differentiated measurement of headspace O<sub>2</sub> and DO provides immediate insight in the performance of the filling operation. The multiple routine determinations of TPO and CO<sub>2</sub> are fully automated. Up to 150 different product types/packages can be programmed and easily selected. The instrument is suited for the most common sizes of bottles and cans.

Beyond traditional TPO measurement methods and instruments, the c-TPO measures the headspace O<sub>2</sub> and DO by the filler, while at the same time the liquid remains in the package and is not consumed by the instrument. Sample preparation time is skipped and lab space is minimized. The c-TPO also supports the well-known z-factor method according to Uhlig. The CO<sub>2</sub> content is measured according to Henry's Law.



## CUSTOMER BENEFITS

- **High quality beer and beverages in every package**
  - prevent inferior product entering the market
  - save time and money and maximize the ROI
  - no sample preparation
  - fully automated measurement
- **All-in-one measurement: HSO, DO, TPO and CO<sub>2</sub>**
  - reduce process downtime
  - prevent product losses
  - low maintenance

## APPLICATIONS

- **Laboratory, applicable in breweries and soft drink industries**
- **Filling department, applicable in breweries and soft drink industries**

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## TECHNICAL DATA

### Measuring range

TPO, HSO, DO, Headspace Volume, CO<sub>2</sub>,  
Temperature, Pressure

### Measuring range

Oxygen content	0.00 - 4.18%
DO value	0.000 - 2.000 mg/l
CO <sub>2</sub> value	2.0 - 15.0 g/l
HS volume	0.0 - 500 ml
Temperature	-5.0 - 40.0 °C
Pressure	0.00 - 5.00 barg

### Accuracy

DO value	±(1 ppb + 2% m.v.)*
CO <sub>2</sub> value	± 0.1 g/l
CO <sub>2</sub> fraction	
Temperature	± 0.2 °C
Pressure	± 0.02 bar

### Memory capacity

Up to 250 measurements

### Bottle dimensions

Height	90 mm - max. 440 mm
Diameter	55 mm - max. 200 mm

### Can dimensions

Height	80 mm - max. 195 mm
Diameter	50 mm - max. 73 mm

### Voltage

80-240 V / AC 50-60 Hz

### Interface

USB, barcode reader

### Dimensions

max. 550 x 330 x 1120 (LxWxH mm)  
min. 550 x 330 x 680 (LxWxH mm)

### Weight

40 kg

\*at 20 °C

## SCOPE OF SUPPLY

- Inpack TPO/CO<sub>2</sub> Meter, type c-TPO
- Mains cable (Euro, US, UK or AUS plug)
- Service set with piercers and sealing rubbers
- Software set (CD + Interface cable)
- Instruction manual

## OPTIONS

- Certificate of measurement
- PET bottle holder
- Barcode reader



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