

# HAFFMANS CO<sub>2</sub>-SELECTOR

## NON-INVASIVE CO<sub>2</sub> MEASUREMENT

### GENERAL PRODUCT INFORMATION

When producing a beer, carbonated soft drinks, carbonated water and/or wine, the carbon dioxide (CO<sub>2</sub>) content is a key quality parameter and decisive to the product's taste. Therefore, beverage manufacturers frequently measure and control the CO<sub>2</sub> content during production and beyond, to determine shelf-life of the packaged products.

The Haffmans CO<sub>2</sub>-Selector provides an advanced solution for non-invasive CO<sub>2</sub> measurement in the filled package. Using an innovative laser technology, the Haffmans CO<sub>2</sub>-Selector measures the partial CO<sub>2</sub> pressure and total pressure of the headspace and accurately determines the dissolved CO<sub>2</sub> content in the package. Piercing is not required to perform the measurement. The bottle is not destructed and no product is lost.

#### How this works

The Haffmans CO<sub>2</sub>-Selector's laser transmitter sends a beam through the headspace of the package to a receiver. At a particular wavelength, the CO<sub>2</sub> molecules in the headspace absorb the infrared light of the laser. Based on the width of the absorption lines and the intensity, the total pressure and the partial CO<sub>2</sub> pressure in the package is determined. Other gases present in the headspace - such as oxygen (O<sub>2</sub>), nitrogen (N<sub>2</sub>) or hydrogen (H<sub>2</sub>) - do not have an impact on the partial CO<sub>2</sub> pressure, enabling a CO<sub>2</sub> selective measurement. In addition, the measurement is independent of the color or material of the bottle.

Only a few minutes are required to prepare the package by shaking it to equilibrium and performing the measurement. The procedure is simple and repeatable, which allows for an unlimited number of CO<sub>2</sub> measurements to be conducted on the same package.



### CUSTOMER BENEFITS

- High-precision laser technology
- One instrument for a wide range of carbonated beverages
- Non-invasive CO<sub>2</sub> measurement
- Suitable for all bottle closures incl. swing top, naturel cork, sport cap
- Selective and non-selective CO<sub>2</sub> values
- Safe, non-contact procedure
- No product loss
- Fast, repeatable measurement
- Temperature compensated results
- No consumables or wear parts
- Multi-lingual operator interface
- Maintenance-free

### APPLICATIONS

- Laboratory
- Filling department

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### TECHNICAL DATA

#### Measuring range

Total pressure	0.5 - 8.0 bar
Partial CO <sub>2</sub> pressure	0.08 - 8.0 bar
Temperature	+5 - 35 °C
CO <sub>2</sub> value	0.2 - 13.0 g/l

#### Measuring cycle

ca. 5 s.

#### Bottle dimensions

Height	max. 400 mm
Diameter	max. 190 mm

#### Laser

Type	IR, <1 mW
Class	1

#### Voltage

100 - 240 V / AC 50-60 Hz / 84 VA

#### Dimensions

Haffmans CO <sub>2</sub> -Selector	555 x 280 x 250 mm (H x W x D)
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#### Interface Panel

190 x 280 x 135 mm (H x W x D)

#### Weight

Haffmans CO <sub>2</sub> -Selector	11 kg
Interface	1.9 kg

### SCOPE OF SUPPLY

- Haffmans CO<sub>2</sub>-Selector
- Haffmans CO<sub>2</sub>-Selector Interface Panel, consisting of:
  - tablet
  - docking station
  - security lock
  - tablet brace set
- Power supply modules
- Mains cables for power supply modules
- USB A/B cable
- Inner measuring gauge
- Instruction Manual



#### HAFFMANS B.V.

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