

**STEINFURTH®**

# STEINFURTH CO<sub>2</sub>-TESTER CO<sub>2</sub>MS

## ...perfect CO<sub>2</sub> monitoring

Both, taste and shelf life of the product are affected by the amount of CO<sub>2</sub> dissolved in the product.

A reliable measuring method is the basis for maintaining a uniform carbon dioxide content in beer, carbonated water and soft drinks.

The demand for an accurate and user independent CO<sub>2</sub>-measurement device led to the development of the automatic Steinfurth CO<sub>2</sub> tester CO<sub>2</sub>MS

The Steinfurth System offers very quick return of investment combining automatic functioning with integrated sample preparation and easy operation.

The instrument can be operated in laboratory or outsourced to the filling line (with the possibility for optional extension to the modular Steinfurth CPA - Compact Package Analyzer).

The CO<sub>2</sub>MS is the perfect tool for high efficient QC in modern bottling facilities



### **BENEFITS:**

- Quick return of investment
- QS based automatic workflow management
- Extremely repeatable results based on the physical laws of Henry & Dalton
- Easy automatic operation
- Integrated automatic sample preparation
- Easy data evaluation & PC connection
- Easy check and calibration
- Operator independent functioning
- Suitable for all carbonated beverage types
- Robust construction & IP-65 waterproof housing
- Low maintenance requirements

### **OPERATION:**

Based on the laws of Henry and Dalton, the concentration of CO<sub>2</sub> dissolved in a liquid can be determined in a closed package by measuring the pressure and temperature when a state of equilibrium between the gas and the liquid phase exists

The CO<sub>2</sub>MS accurately computes the CO<sub>2</sub> by using these measurements in conjunction with the particular product CO<sub>2</sub>-formula.

A state of equilibrium is achieved in our process by evenly rotating the bottle in a vertical orientation for a short period of time prior to performing the measurement.

The overhead tumbling of the beverage packages provides an optimal equilibrium phase for accurate calculations of the CO<sub>2</sub> content.

The Steinfurth CO<sub>2</sub>MS device combines the perfect sample preparation with accurate measurement.

### **TECHNICAL DATA:**

Package type:	Bottle or can
Duration of 1 measuring:	approx. 2 minutes
Data output:	LCD and RS 232
Power supply:	230 VAC / 115 VAC
Accuracy (pressure):	+/- 0.03 bar (0.44 PSI)
Accuracy (temperature):	+/- 0.3 °C (0.54°F)
CO <sub>2</sub> repeatability:	+/- 0.05 g/l (0.025 vol)
Max. Pressure:	10 bar (145 PSI)

#### **Steinfurth, Inc.**

305 Etowah Trace • Suite 102 • Fayetteville, GA 30214

Phone: (678) 674 1096 • Fax: (678) 674 1097

e-mail: [info@steinfurth.com](mailto:info@steinfurth.com)

Internet: [www.steinfurth.com](http://www.steinfurth.com)

#### **Steinfurth Mess-Systeme GmbH (Germany)**

Bonifaciusring 15 • D-45309 Essen

Phone: +49 (201) 85517-0 • Fax: +49 (201) 85517-20

e-mail: [info@steinfurth.de](mailto:info@steinfurth.de)

Internet: [www.steinfurth.de](http://www.steinfurth.de)

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## Available versions:



**Model CO<sub>2</sub>MS-1**

The CO<sub>2</sub>MS-1, equipped with analogue manometer, displays the equilibrium pressure at the end of the shaking process.

The temperature needs to be measured with a thermometer and the carbon dioxide content read off a CO<sub>2</sub>-chart, or calculated manually.



**Model CO<sub>2</sub>MS-2**

The CO<sub>2</sub>MS-2, equipped with a high precision digital manometer, displays the equilibrium pressure at the end of the shaking process.

The temperature needs to be measured with a thermometer and the carbon dioxide content read off a CO<sub>2</sub>-chart, or calculated manually.



**Model CO<sub>2</sub>MS-2C**

The CO<sub>2</sub>MS-2C, measures pressure and temperature simultaneously, calculates the CO<sub>2</sub>-content and displays all three parameters on the LCD. The last CO<sub>2</sub>-measurement result is retained in the memory even after the device is switched off and can be recalled any time.



**Model CO<sub>2</sub>MS-3V**

The CO<sub>2</sub>MS-3V measures pressure and temperature simultaneously, calculates the CO<sub>2</sub> content and displays all three parameters.

The measurement procedure, including preliminary shaking, head pressure release, procedure "breaks" and measurement is fully automated.

The microprocessor controlled measuring head not only calculates and displays the carbon dioxide content, but also writes all the data in form of a measurement test report into the head memory.

A total of 649 such measurement results (CO<sub>2</sub>-value, pressure, temperature, date, time, identification code of the measuring head) are stored.

One input possibility for internal codes (beverage, line, package...) is included.

The measurement data can be transferred from the measuring head via RS 232 interface directly into the evaluation software on the PC or to the printer.

Extended to CPA (Compact Package Analyzer) and connected with a barcode scanner the system is building a modular QC system for combined CO<sub>2</sub>, Torque and Fill Level measurement (other modules are in preparation).

## Accessories:



**Bottle, can inserts / PET-holder**



**Service adapter / software / PC-cable**



**Keyboard**

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