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**MEASURING DEVICE  
OF CO<sub>2</sub> CONTENT IN PET BOTTLES ICS  
USER'S GUIDE**

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## 1.0 Equipment ICS

### Basic Package:

the measuring device ICS .....1 unit  
nomogram .....1 unit  
user's guide.....1unit

### Accessories: spare parts

Note: accessories are not part of the basic package however they are available by request for an additional fee

## 2.0 Installation and Maintenance

The device is ready for measurement at the moment of delivery.

Preceding the own measurement open carefully the screw cap of the PET bottle with the measured beverage, pour 1-2 cm of the beverage out then screw the measuring device tightly on. Take care not to release the dissolved CO<sub>2</sub> during handling the bottle before screwing the measuring device on.

### ***Cleaning after measurement***

Clean the apparatus always when you finish working with it. Keep the apparatus and place around it clean. The device cleaning after all measurements (before storing) is easy and fast.

Clean all parts of the device with water. Fill the empty pet bottle with clean rinsing water screw ICS tightly on and pull out and consequently press down (several times) the button of the pump to rinse (clean) with water both the pump and the capillary.

In the end dry the measuring device carefully with flannel. After this handling the device is ready for the next measurement.

## 3.0 Safety recommendations

Measuring device of CO<sub>2</sub> content - types ICS may be operated only by person who became completely acquainted with its function within the framework of the training, or who became thoroughly acquainted with the user's guide of this device.

Measuring device ICS can be used only for determination of CO<sub>2</sub> content in the range of measured values determined by technical conditions. Never connect the measuring device to the withdrawal spots where measured parameters are over measuring capacity of the device.

It could cause device destruction and staff injury.

Check device before each measurement. Do not use visibly damaged device and contact the qualified service personnel who provides service for delivered device.

**Warning!** It is forbidden to use the device for pressure higher than 400kPa and temperatures different from 0 – + 25 degrees Celsius.

## 4.0 Technical data:

measurement range of CO<sub>2</sub> .....2 - 7,8 g/litre  
measurement range of temperature .....0 - +25 degrees Celsius  
measurement range of pressure .....0 - 250kPa  
accuracy of CO<sub>2</sub> content measurement.....+ - 0,2g/litre  
accuracy of temperature measurement.....+ - 0,1 degrees Celsius  
accuracy of pressure measurement..... 2,5  
dimensions.....240x120x170 mm  
weight (of empty device).....about 0,7 kg

## 5.0 Operating Instructions

Measuring device makes it possible to determine CO<sub>2</sub> content in beer, saturated soft drinks packed in PET bottles with screw cap. Before measurement check visually if the device is not damaged. Do not use visibly damaged device.

### Measurement in beer and sweetened saturated beverages:

Button on the top of the device must be ensured in the secured position (by its moving round a slight amount) before measurement.

Preceding the own measurement open carefully the screw cap of the PET bottle with the measured beverage, pour 1-2 cm of the beverage out then, screw the measuring device tightly on. Take care not to release the dissolved CO<sub>2</sub> during handling the bottle before screwing the measuring device on.

Unlock the button on the top of the device and pull out and consequently press down (4x) quickly the button (1) after this step the dissolved CO<sub>2</sub> in PET bottle is fluttered. Arrest the button of pump in secured down position by moving round a slight amount. **Notice!** Always turn the button in clock-wise direction.

Read the value of pressure in kPa on pressure gauge and value of temperature on the thermometer. If it is not possible because the color of the bottle is too dark then screw the measuring device out and jack it up reasonably to read the temperature on the thermometer scale.

Adjust the measured pressure against the measured temperature on device's nomogram. Then one can read corresponding CO<sub>2</sub> content in g/l on CO<sub>2</sub> scale.

**Note:** Take care and screw up the measuring device carefully to avoid splashing of the beverage.

### Measurement in sugerless carbonated beverages:

Dip the lower end of the measuring device into a vessel with prepared saccharic solution or juice. Jack up the button of the pump into the upper position to suck saccharated solution or juice in the pump.

Preceding the own measurement open carefully the screw cap of the PET bottle with the measured beverage, pour 1-2 cm of the beverage out then, screw the measuring device tightly on. Take care not to release the dissolved CO<sub>2</sub> during handling the bottle before screwing the measuring device on.

Push down the button into the down position quickly.

Pull out and consequently press down (4x) quickly the button after this step the dissolved CO<sub>2</sub> in PET bottle is fluttered. In the end jack up the button into the upper position.

Read the value of pressure in kPa on pressure gauge and value of temperature on the thermometer. If it is not possible because the color of the bottle is too dark then screw the measuring device out and jack it up reasonably to read the temperature on the thermometer scale.

Adjust the measured pressure against the measured temperature on device's nomogram. Then one can read corresponding CO<sub>2</sub> content in g/l on CO<sub>2</sub> scale.

**Note:** Take care and screw up the measuring device carefully to avoid splashing of the beverage.

## 6.0 Service

Service is provided by company:

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**tel 569433 620, fax 569422 144, e-mail. 1-cube@1-cube.com**

At the end of the apparatus life we recommend proceed in the liquidation of the waste according to Waste Act.

Mercury thermometer has to be treated as hazardous waste, all the other parts of the equipment are not dangerous neither to health nor environment.

The metallic parts made of iron, brass, plastic elements and packing material comes to the sorted waste as a secondary raw material.

## Pump in secured down position



## Pump in the upper position

