

**1-CUBE s. r. o.**

Hamry 3567, 580 01 Havl. Brod, Czech Rep.  
tel + 420 569 433620, fax + 420 569 422144  
e-mail: [1-cube@1-cube.com](mailto:1-cube@1-cube.com), [www.1-cube.com](http://www.1-cube.com)

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# OP

## DECARBONIZER: USER'S GUIDE

### Contents:

- 1.0 Equipment
- 2.0 Installation and maintenance
- 3.0 Safety recommendations
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## 1. Equipment

### Basic Package:

Decarbonizer - type OP - 1 unit  
user's guide  
Certificate of guarantee

### Optional Accessories

glass measuring vessel  
holders of measuring vessel  
densimeter for breweries with range 0-7, 6 -13%  
densimeters with thermometer with range: 1,0000 - 1,0060 / 1,0060-1,0120 / 1,0120-1,0180 (g/ml)  
alcoholometer with thermometer with range: 3 - 7 / 7-13 / 13- 23 (volume %)  
defoamer 45 ml  
rod made of stainless steel  
glass measuring flask: 200 ml

Note: Optional accessories is not part of the supply - only on customer's demand

## 2. Installation and maintenance

At the moment of delivery the device is supplied packed in sleeve together with the ordered optional accessories.

First unpack all supplied parts incl decarbonizer. The device is supplied to be ready for measurement once it is unpacked. We recommend you to get acquainted with the pictures No.1 and No.2. (of this user's guide) where all parts are figured and described.

Place the decarbonizer on the horizontal and flat support plate close to el. socket and sinking. The lighting intensity should be 300Lx at the workplace. Keep the desk where the decarbonizer stands dry and do not store any chemicals there. Infringement of this rule may shorten the lifetime of the device or even damage the device or result in injury to the operator.

Cleaning and maintenance of decarbonizer after working day has to be done at the room temperature. Wash the dirty spots carefully with wet flannel (the decarbonizer has to be cut off the electricity).

We recommend you to check the orientation of the of the top cover (9) on the decarbonizer vessel (18) at the moment of delivery and before you start to work with decarbonizer. It will make your work with the instrument easier.

Clean the decarbonizer vessel (18) out of the decarbonizer with water and wet flannel, do not dry it in the drier!!!

Once the decarbonizer is in its stillstand, unfix the withdrawable cover (9) (press on the cover by hand little by little) of the decarbonizer vessel (18), take it off and place the mixer spindle (14) (the other parts of the withdrawable cover (9) have to be above the top cover of the decarbonizer) into the slit in the top cover of the decarbonizer.

All decarbonizer vessels have 1 mark. The mark one helps during filling (at angle 45 degrees) to reach the right maximum level. **Fill the decarbonizer vessel at angle 45 degrees and let the sample flow slowly along the side wall to avoid foaming.** Fence the decarbonizer against scratch.

In case the nitrogen blowing-through of the decarbonizer vessel (18) inner space is required during the decarbonization, we recommend to install output of the reduced compressive nitrogen (output reduced pressure max 10 kPa). In this case take the little silicon hose (8) off the withdrawable cover (9) and put on the corresponding hose leading the nitrogen.

## 3. Safety recommendations

The device may be operated only by individuals who have received hands-on training, or who are thoroughly acquainted with the user's guide of this device.

OP can be used only in the range of measured values determined by technical conditions.

Inspect the device before each measurement. Do not use a visibly damaged device. Contact a qualified service technician to arrange for the repair of a damaged device.

**Warning!** Start the spindle (14) by pushing start button (2) only in working position (11)!!!! It is impossible to blow through the decarbonizer vessel with oxygen.

#### 4. Technical data:

The device is designed for fast preparation of the samples of the saturated drinks for laboratory tests requiring decarbonization i.e.

\*\*\*analysis

\*\*\*fast determination of degree of attenuation

\*\*\*determination of sample density

\*\*\*preparation of the samples with particular required content of dissolved gas (within limited range after consulting with the manufacture)

The device is industrial and working measuring instrument.

Voltage system.....TN-S, 230 V, 50 Hz

Protection.....IP40

Prevention against dangerous touching voltages – by automatic disconnection from supply

Circuit breaker.....1 A fusible cut-out

Max. range of the allowed temperature measurement.....+ 5 degrees - + 40 degrees Celsius

Dimensions..... 320x330x300 mm

Max. volume of the decarbonized sample..... about 0,1 l

Max. period of the decarbonization..... about 600 sec

(multiplied extension of the period by repeated pushing of the Start (2) button)

weight (of empty device).....about 10 kg

Noise parameters.....max. noise made by device 6dB

#### 5. Operating instructions

Inspect the device before each measurement. Do not use a visibly damaged device. Check if the decarbonizer vessel is empty and clean.

**5.1.** Take off the withdrawable cover (9) see. procedure described above. Take the decarbonizer vessel off the working position (10). If the decarbonizer vessel is dry and clean, pour the sample in up to the mark (13) (mark helps to reach the right maximum level of the sample during filling) on the decarbonizer vessel see. procedure described above in the second chapter. Fill the decarbonizer vessel at angle 45 degrees and let the sample flow slowly along the side wall to avoid foaming.

We recommend to add one or two drops of defoamer. Note: apply defoamer only in case that its use is not impeding for example for the following analysis.

Place the decarbonizer vessel (18) into the working position (10), put on the withdrawable cover (9) well to the decarbonizer vessel (18). Push the cover (9) during the spindle (14) is running to avoid spindle expulsion (caused by CO<sub>2</sub> overpressure) out from the decarbonizer vessel (18). Put the capturing vessel under silicon hose - the gas outlet (12) that catches the foam that is running out. Push the button start (4). After this step the spindle (14) starts to run. Once decarbonization is over and spindle is stopped take off the withdrawable cover (9) see. procedure described above and **filter the decarbonized sample** into the suitable flask.

**5.2.** Period of the spindle (14) running is preadjusted for 50 sec at the moment of delivery. This period is suitable for the sample decarbonization in the most of the cases. For your information the general rule says that the period of decarbonization is inversely proportional to decarbonized sample temperature. Samples with temperature around 0 degrees Celsius needs longer period of decarbonization in comparison with samples with temperature around 20 degrees Celsius. If the preadjusted period of decarbonization doesn't suit your demands you can adjust the period according to your demands in the following way. Move round the adjusting screw (3.2.) on the time relay (2.2.) see picture No.2. Follow the time scale on the time relay (2.2.) when you move round the adjusting screw (3.2.). Set the exact period of the spindle (14) running with the help of stop-watch and recorection of the adjusting screw (3.2.) position, see. procedure described above.

**5.3.** If the various samples (one after another) are decarbonized in the same decarbonizer vessel, it is necessary to wash the inner space of the decarbonizer vessel (18) with the following sample and to dry the withdrawable cover (9). Pour out the contaminated sample and fill the decarbonizer vessel with the new sample which is supposed to be decarbonized, see. procedure described above.

**5.4.** In case the nitrogen blowing-through of the decarbonizer vessel (18) inner space is required during the decarbonization, it is necessary to connect the withdrawable cover (9) to the nitrogen input, see. procedure described above. **Note:** Please take into account that decarbonizer does not control nitrogen input and it is controlled fully just by the laboratory staff or additional gas accessories (which is not included in the basic package). The description of the work with decarbonizer is described above in paragraph 5.0.

**5.5.** Clean the apparatus always when you finish working with it. Keep the apparatus and place around it clean.

Clean the inner space of the decarbonizer vessel (18) with water. Once the decarbonizer is in its stillstand, unfix the withdrawable cover (9) – (press on the cover by hand little by little) of the decarbonizer vessel (18), take it off and place the mixer spindle (14) (the other parts of the withdrawable cover (9) have to be above the top cover of the decarbonizer) into the slit in the top cover of the decarbonizer.

Fill the decarbonizer vessel with water at angle 45 degrees up to the decarbonizer mark to reach the right maximum level of the wash water. Read the level of the liquid in the decarbonizer vessel (18) always at angle 45 degrees.

Place the decarbonizer vessel (18) into the working position (10), put on the withdrawable cover (9) well to the decarbonizer vessel (18).

Put the capturing vessel under silicon hose - the gas outlet (12) that catches the wash water that could be possibly running out.

Push the button start (4). After this step the spindle (14) starts to run. Once the mixing (cleaning) is over and spindle is stopped take off the withdrawable cover (9) see. procedure described above and pour the wash water into the sink. Dry the decarbonizer vessel (18) and the withdrawable cover (9) with the flannel.

Place the decarbonizer vessel (18) into the working position (10), put on the withdrawable cover (9) with the mixer spindle (14) into the slit in the top cover of the decarbonizer, see. procedure described above and leave it in this position till the moment you start to work with the decarbonizer again.

## **6.0 Service**

Service is provided by the manufacturer:

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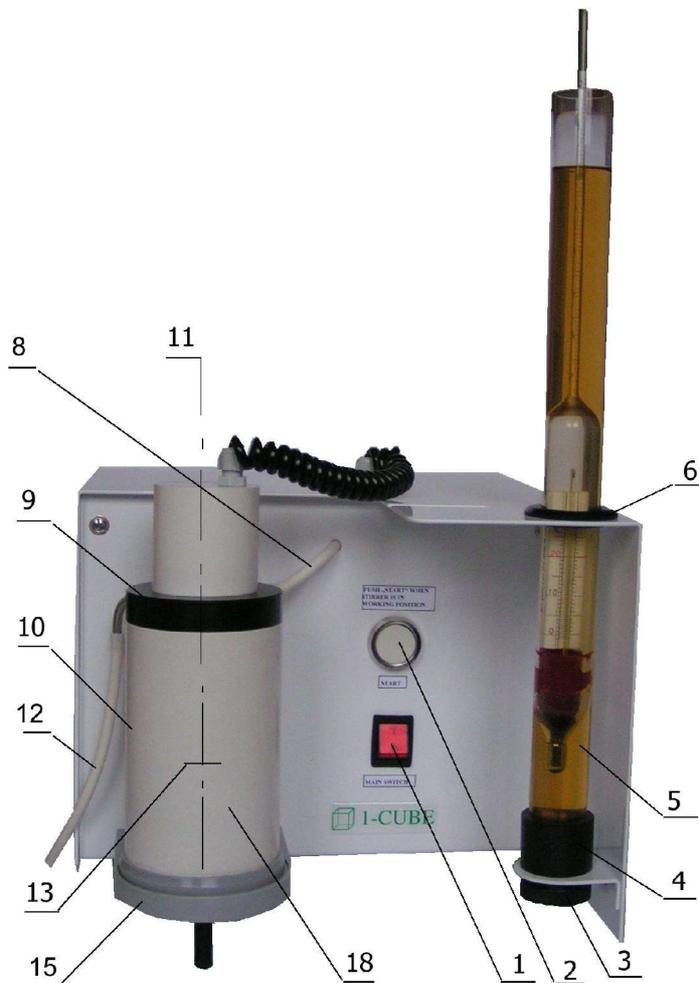
NOTICE: It is forbidden for anyone except for the manufacturer or authorized company to repair the apparatus.

At the end of the apparatus life we recommend that it is disposed of according to corresponding waste categorization.

Take the metallic parts made of iron, brass, plastic elements and packing material to the separated collection as a secondary raw material. You can also order the apparatus liquidation at the above mentioned company that ensures the liquidation of the waste according to Waste Act.

**Symbol description for pic. No.1 (pic. 1 view of the front panel of the Decarbonizer):**

- 1 - Main switch
- 2 - Button - start
- 3 - Plastic nut of the measuring vessel
- 4 - Lower holder of the measuring vessel
- 5 - Glass measuring vessel
- 6 - Top holder of the measuring vessel
- 7
- 8 - Silicon hose - gas input
- 9 - Withdrawable cover of the vessel with the spindle engine
- 10 - Working position of the vessel
- 11 - Working position for decarbonization
- 12 - Silicon hose - the gas outlet
- 13 - Filling mark on the vessel
- 14 - Spindle
- 15 - Holder of decarbonizer vessel
- 16 -
- 17
- 18 - Decarbonizer vessel



**Symbol description for pic. No.2 (pic. 2 view of the rear panel of the Decarbonizer)**

- 1.2. - Instrument cord - 230V, 50Hz or 110 V ,60 Hz
- 2.2. - Time relay
- 3.2. - Adjusting screw - choice of the period of the decarbonizer
- 4.2. - Fuse - 1A or ( 2A - 110V,60Hz )

