



**Operation manual  
for the  
*pH-controller*  
*PH 2001 C***

**Digital pH measuring and controlling unit**

**With the purchase of this digital pH controller, you have decided to work with a quality instrument. It has been especially developed for aquarium use.**

**With this unit, you are able to measure and control the pH value of your aquarium water**

## 1. Theory

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The pH value is an electrical value, that is a parameter for the acidity of water. In the aquarium, the pH value, together with the carbonate buffer system is of special interest.

- in a freshwater aquarium the pH value is responsible for the percentage of free CO<sub>2</sub>, that is used by the green plants for photosynthesis. Fertilisation with CO<sub>2</sub> has been well established for freshwater aquariums as the base for a good plant growth. With the controller pH 2001C the pH value can be adjusted to a given set point and kept constant by adding CO<sub>2</sub> automatically.

- in a seawater aquarium, the pH value and the CO<sub>2</sub> - addition are used in combination with a calcium reactor. The addition of CO<sub>2</sub> into the calcium reactor is controlled with the pH controller.

### 2 . Delivery:

The **AQUA MEDIC** pH controller pH 2001 C needs a separate pH electrode and the corresponding calibration liquids to start working. The solenoid valve can be connected to the main plug.

Description of the front panel

switch	1. display
pH 7	2. display/relay on/off
pH 4	3. set/measuring
electrode	4. calibration knob,
	5. calibration knob,
	6. set point adjustment
	7. connection for
	( BNC-plug)
	8. 220 V- plug
	for solenoid valve

### 3. Starting

### 3. Starting and calibration

1. plug in the main plug, 220 V/ 50 cycles, if not noted otherwise
2. connect the pH- elektrode ( 7)
3. switch (3) to „M“ (measuring)
4. insert the elektrode into the buffering solution pH 7. After 3 minutes, turn the knob (4),  
until the display shows pH 7. ( use a small screw driver)
5. flush the elektrode with distilled water
6. insert the electrode in buffer solution pH 4 ( or pH 9, depending on the desired range)  
After 3 minutes, turn the knob until the display shows pH 4 ( or 9).

The controller is now calibrated and ready to use.

To ensure a trouble free use, the unit should be recalibrated every 4 weeks. Measuring and controlling with a pH controller is only as exact as the calibration. The electrode shall be emerged into the water, that the top part remains dry. Best is the use of the AQUA MEDIC Electrode holder ( article no: 230.00).

### 4. controlling

Adjustment of the set point:

- turn knob 3 to „set“
- Adjust knob 4 ( set point adjustment) to the desired set value.

Turn switch 3 back to „M“ ( measuring). The unit is now ready to use. As soon as the actual pH value rises over the adjusted value, the plug (8) with the solenoid valve is activated.

### 5. troubles

- The unit shows wrong values on the display - recalibrate the electrode
- The electrode cannot be recalibrated. -- check the electrode optically for breakage (diaphragma), glas electrodes for glass breakage and the electrolyte level of refillable electrodes. Take care of the operation manual of the corresponding electrodes.

If the electrode cannot be recalibrated, it has to be renewed.

PH - elektrodes have only a limited life span, depending on the kind of use between 1 and 3 years.

## 6. Technical Data

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Display:	0.5 " LED, 3-1/2 digits
measuring range:	pH 0 - 14
resolution :	0,01 pH
accuracy:	± 0,01 pH ( +1 digit) after calibration
relay contact:	5 amps. at 240 V (1000 W)
working temperature:	0-50 °C
humidity:	below 80%
control range:	pH 3,5 to pH 10,5, digitally adjustable
control accuracy:	± 0,05 pH (+1digit)
Power connection:	220V, 50 Hz, if not noted otherwise
Dimensions:	150 x 85 x 40 mm
Weight:	550 g

## 7. warranty

**AQUA MEDIC** GmbH warrants for 12 months for material failures. Further claims are excluded.

The Warranty is proved by the original purchase invoice