

Water thermostat
TW-2.02



User's manual



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Introduction

Dear users!

Water thermostat TW-2.02 is simple and reliable device. We ask you to consider technical requirement for exploitation to provide the use of the equipment without problems for a long period of time.

Water bath TW-2.02 is composed of the stainless-steel water tank with the transparent lid and control block. The control block has LED displays and control buttons on top. Control block should be placed on the water tank and fixed with screw. On the bottom side of the control block heater and water pump are situated. On the back side of the control block two pipes are situated for connecting the water thermostat to an outer contour and maintaining the temperature in the outer contour same as in the stainless-steel water tank.

The device is designed to maintain the desired temperature regime with high level of accuracy. This device is fully controlled by the microprocessor system with memory independent from the source of energy.

Technical specifications

| | |
|---|-------------------------|
| Temperature range in the bath, °C | from room temp. to +100 |
| Accuracy of temperature maintenance in the bath, °C | +0,1 |
| Environmental temperature, °C | from +10 to +40 |
| Maximal time of set temperature achievement, min | 50 |
| Minimal water capacity in tank, L | 6 |
| Maximal water capacity in tank, L | 8,5 |
| Relative moisture of atmosphere (at the temperature of 20°C): | not more than 80% |
| Temperature stabilization above the environmental, °C | not less than 3 |
| Water pump productivity for external heating pipes (variable) L/min | 2 –5 |
| Voltage and frequency: | 220V, 50 Hz |
| Power consumption, kW | not more then 1,5 |
| Size of the device (length x width x height) mm: | 320 x 265 x 260 |
| Weight (without fluid), kg | 4,9 |

Delivery package

| Item | Quantity |
|----------------------------|----------|
| Control block | 1 |
| Stainless steel tank. | 1 |
| Lid | 1 |
| User's manual | 1 |
| Packaging | 1 |

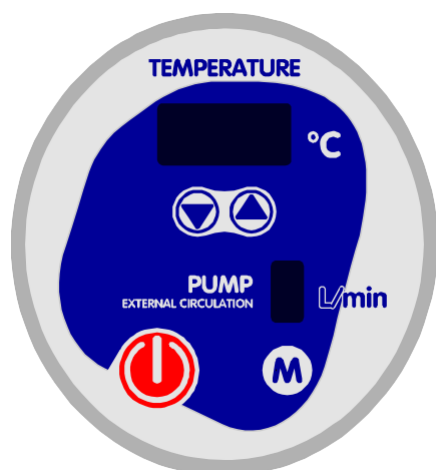
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Preparation to work

- 1) Unpack the device.
- 2) Inspect all parts of the water bath for damage.
- 3) Put device on horizontal solid surface.
- 4) Connect the control block to the tank by fixing the screw in the back.
- 5) Fill the reservoir with 6 liters minimum of **distilled** water (do not use any electrolyte solvents).
- 6) Plug the cord into the corresponding outlet.

Control description

Water thermostat consists of a stainless steel tank and control block. Water tank is covered with transparent lid. The control block displays and buttons have the following functions:



TEMPERATURE



— Displays the current or set temperature.



— Buttons to adjust the temperature.



L/min

— Displays the level of water circulation in tank or water flow speed in external heating pipes.





— Buttons to adjust the level of water circulation in tank or water flow speed in external heating pipes.




— Buttons to turn on or off the device.

Operation

Turn on the device by pressing  button and set the desired temperature by  buttons. The device will start heating up immediately. The set temperature is displayed for the first 10 seconds after adjusting, after wards the actual temperature is displayed.

To check the set temperature press one time on the button for adjusting the temperature. The dot on the temperature display separating the integers from tenths of a set temperature value indicates what temperature is displayed:

- if the dot is blinking - set temperature is displayed,
- if the dot is glowing - actual temperature is displayed.

Set the desired water circulation level in tank or water flow speed in external heating pipes form 2-5 liters per minute by pressing the  button.

Introduction

Error code table

| Error | Cause | Solution |
|--------------|---|--|
| No display. | No main power connection. Power failure. | Plug in power cord. Check the voltage in network. |
| ERR-1 | Failure of temperature sensor. | Replace the temperature sensor. |
| ERR-2 | Failure of water pump. | Replace the water pump. |
| LEVEL | Insufficient water level. | Add water to the tank. |

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Safety features

Service personnel are prohibited to:

- Plug the device in to a power outlet with that does not correspond to plug.
- Use the device with damaged power cord, water tank, control block.
- Move the device during work.

ATTENTION! Studied Samples may contain pathological material, including pathogens of serious diseases.

Disinfection and cleaning

Before you start disinfection or cleaning make sure the power cord is unplugged. It is recommended to perform cleaning with water and universal washing liquids. Afterwards the machine should be carefully dried. Do not let the water get inside the control block.

Transportation and storage

To ensure safety during the transportation, transported equipment should be packed in the original manufacturers packaging or similar packaging substitute. Equipment can be transported by any kind of closed transport make sure that equipment is tightly fixed, and transportation runs accordingly to regulations applied to this way of transport. Equipment should be stored in original manufacturers packaging in dry room with humidity not more than 80% and temperature range from +10°C up to +40°C. It is not recommended to store the equipment more than 36 month.

Warranty statements

- Warranty applies to 24-month period from the date of purchasing.
- Malfunctions arisen by the fault of manufacturer during warranty period, are removed free of charge.
- Warranty is not valid in the following cases:
 - If the serial number label of the manufacturer is damaged.
 - If damages appear because of the incorrect operation, transportation or storage.
- These documents are necessary if applying for warranty repair:
 - User manual with serial number of the machine.
 - Officially signed report, describing the reasons and conditions of equipment malfunction.
- Warranty repair could be performed only if the equipment is delivered in the original manufacturers packaging or equally safe packaging. Therefore, please save the packaging after unpacking the device.
- If the above warranty requirements are disturbed, repair charges are applied to the consumer.
- For all further questions concerning exploitation and maintenance please contact manufacturer or product vendor.

Introduction

Certificate of approval

Water thermostat TW-2.02__N_____has been inspected for the technical conditions and meets all regulations necessary for such class of device.

Quality control person _____
(name) (signature)

Date of manufacture_____.

Place for stamp.

Certificate of sale

Organization_____.

Address_____.

Phone_____.

Vendor _____
(name) (signature)

Date of sale_____.

Manufacturers' address.
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