BioLAB

Operation Manual

BBWA-3108

Water Bath

Index

01 Scope of Application

It is used for precise temperature keeping and auxiliary heating by industrial and mining enterprises, colleges and universities, scientific research institutes and various labs, etc.

02 Main Technical Parameters

Model	BBWA-3106 BBWA-3107	BBWA-3108 BBWA-3109
Mains voltage	220V 50Hz	
Power consumption9（W）	800W	1000W
Range of temperature control	RT+5～100℃ RT+5～80℃	RT+5～100℃ RT+5～80℃
Temperature fluctuation	± 0.2℃	
Tracking alarm	≤2℃	
Dimension of the working room（mm）	300×240×200	500×300×200

03 Structural Description

The shell of water tank is made of high quality steel plates, the surface is coated with plastic, internal liner, top cover and shelf are made of optimal corrosion-resistant stainless steel, on the bottom is a U-type electrical heating tube directly immersed into water, thus reducing largely heat energy loss, the interlayer adopts hard polyamine resin for insulation, the temperature control device on the right side has a power switch, instrument control panel has temperature-regulation knob, heating and tracking alarm indicator s and temperature digital display, the temperature control meter adopts micro-computer, thus making the temperature control precise and reliable.

04 Usage

1. Fill clean warm water into water tank up to 1/2 ~2/3 of the full height.
2. Set the power switch to "ON" and then figures will appear on the temperature control instrument panel, indicating the power supply is on; if the water pump switch exists, set it to "ON" too.
When the measured temperature reaches the set temperature, the heating will be interrupted and the heating indicator will go out, and the temperature will become stable after 60 minutes of temperature keeping. If the temperature in the water tank exceeds the set temperature over 2 ℃ (alarm temperature can be set arbitrarily), the alarm indicator of the temperature control instrument is on and the power of the heater will be automatically switched off in the meantime.

05 Operating methods

COMMANDS and DESCRIPTION
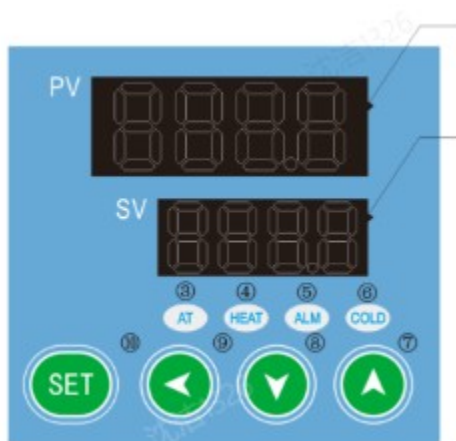
1.The [SET] button permits the working parameters setting

2.The [◄] button permits to change quickly the digital value (Program, units, tens, etc.) of the parameter you are editing.

3. In combination with the [SET] key allows access to menus with password.

4. [▼] and [▲] adjustment buttons allow you to increase or decrease the value of the operating parameter being edited.

Operation

1 Switching on the instrument

1. Connecting the power cord to a power outlet with a protective ground connection.
2. Turn on the instrument by pressing the ON / OFF Button and the display will light up. The display shows the initialization sequence and then the instrument is ready for use.
NOTE: Every time you turn the instrument beeps intermittently, the icon of visual alarm and the word "end" appear on the display, indicating that a heating cycle had been done before. Press any button to silence the audible signal and the icon appears.

2 Setting of parameters

2.1 Working temperature

1. When the instrument is switched on, pressing [SET] button, to set temperature value PV [SP] shows . Set the desired temperature value (in Celsius degrees) pressing keys.

2. It's possible a quick movement between the digits using the [◄] button.

3. Confirm the set value with another press of [SET] button.

2.2 Working time

1. After confirming the temperature, the last value of the set time (timer), Pv shows [St] Set the desired value, by pressing [▼] or [▲] keys. It's possible a quick movement between the digits using the [◄] button.

2. Confirm the set value with another press of [SET] button.

NOTE: the value indicates the operating mode "continuous", that means once you start the operating cycle by the START / STOP button, it continues maintaining the set temperature until it is stopped manually (START/STOP)

3. If you set a value of time, such as 1 hour, the instrument will reach the set temperature and maintain it for an hour.

2.3 Start/stop heating cycle

1. After setting the operating parameters, pressing [SET] and [▲] for few seconds button with long pressure (4-5 seconds), the heating cycle starts for the defined time in hh:mm or continuous (00:00). The word "end" at the top right corner of display disappears, the message RUN appears in the bottom left corner and display shows contemporary: timer, temperature

measured inside the chamber, set temperature and fan speed if present (see Picture 4).

2．At any time, you can always manually stop the cycle by pressing the pressing [SET] and

[▲] button with long pressure (4-5 seconds).

3．Once the set time or after manual stop, the instrument beeps intermittently, the icon of visual alarm and the word "end" appear on the display. Pressing any button, it's possible to silence the audible signal and the icon appears.

NOTE: the acoustic signal will not end until it is stopped by the operator, but the heating cycle is terminated so for the samples inside the instrument will remain exposed to the internal temperature the chamber.

2.4 Functions with password access

2.4.1 Access to menu with password

1. Simultaneously pressing the [SET] for 4 seconds, you can access some functions and parameters that are password protected.
2. To access these submenus and avoid mistakenly entering in the operating parameters setting, it is recommended to firstly press the SHIFT key, keep it pressed, and then press the SET / PROG for few seconds.
3. After have made this keys combination, on the right top part of display instead of word TIME, "Lk" (lock) appears close to "0000" (password).

Below the passwords and access sequence to the various parameters/functions.

PASSWORD	FUNCTION / PARAMETER	DESCRIPTION
0003	tm	Safety temperature limiter for samples protection
	Po	Restart mode after absence of power supply
	AL	Temperature range for over temperature alarm
	Pb	Temperature offset on single point
	PK	Temperature offset on the entire ramp
	LK	Input the password LK=3, the above parameters can be updated.

• Please don't change parameter value not listed above.

06 Precautions

1. The shell of the water tank shall be grounded effectively to guarantee the safe use.
2. Before filling water, never press down the power switch so as to prevent the electrical heating tube from being burnt.
3. When any sound and light alarms are sent out from the water tank, please check whether the set temperature deviates from the normal range or not, if not, stop use and invite the professional personnel to inspect it or hand it over to our factory for repair.
4. Unless necessary, never disassemble the side plate of the temperature control unit so as to guarantee the safety

07 Maintenance

1. Always keep the internal and external of the water tank clean; do not wipe the shell with the chemical solution, which can cause chemical reaction, to prevent any chemical reaction.
2. If the instrument is not to be used for a long time, cover it with a plastic thin film dust shroud and place it in a drying room so as to prevent the temperature control instrument from being moisturized and out of use.
3. The instrument is not suitable to be used in the environments of high voltage, heavy current, intense magnetic field or corrosive gases to prevent the instrument from being damaged by intervention and prevent the persons from the risks of the electroshock.

08 Trouble shooting

Problems	Causes	Handling methods
1. No supply	1. The plug is not inserted well or the wire is disconnected.	1. Insert the plug and connect the wire.
	2. Fuse is open.	2. Replace the fuse.
2. The temperature in the cabinet does not increase.	1. The set temperature is low.	1. Adjust the set temperature.
	2. The electric heater does not work.	2. Replace the electric heater.
	3. The temperature control instrument does not work.	3. Replace temperature control instrument.
	4. The cyclic fan does not work.	4. Replace the fan.
3. The set temperature has a big difference from the temperature in the cabinet.	1.The temperature sensor does not work.	1. Change temperature sensor.
	2. The fine tuning potentiometer for setting temperature is not adjusted well.	2. Adjust the potentiometer.

| 4.The over-temperature alarm is abnormal. | 1. The set temperature is low. | 1. Adjust the set temperature. |
| | 2. The temperature control instrument does not work. | 2. Replace the temperature control instrument. |

Packing list

No.	Type	Name	Unit	Qty.	Remarks
1	Document	Operating instructions		1	
2	Document	Packing list		1	
3	Spare part	Fuse core		2	

The articles in this list conform to those loaded in the box.　　Packing worker: No.2

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