



# **WATER BATH**

## **USER'S MANUAL**



MAKE EVERY EXPERIMENT MORE CONVENIENT



## ABOUT US:

**JOANLAB** is a company specializing in independent research and development and production of experimental equipment. An innovative enterprise integrated with sales, founded in 2010, has always been in a state of steady development.

The company has a complete independent research and development system and a complete industrial line, focusing on experimental needs, and is committed to creating higher. Effective instruments and equipment, using the product as a carrier to deliver the really needed technology to each experiment, continuously improving efficiency. And safety, make the best design of high quality and cost-effective products.

# Digital Display Thermostat Water Bath

HIGH QUALITY SPECIAL FOR YOU



## I. Introduction

Thermostat water bath is widely used for dryness, concentration, distillation and impregnation chemical reagents, impregnated medical products and biological products. In addition, thermostat water bath is also used in water-bath thermostat and other temperature tests. Therefore, thermostat water bath is an indispensable tool in the fields of biology, heritance, aquaculture, environmental protection, medical care, hygiene, biochemistry laboratory, analysis room, education and scientific research.

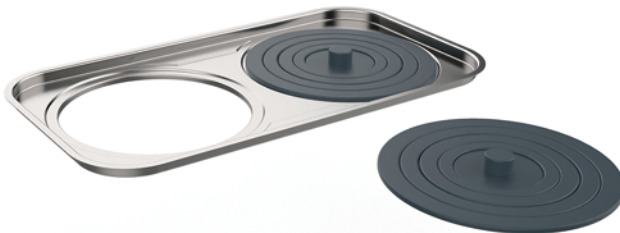
## II. Features

1. Temperature controller is covered with protection frames with male and female faces to prevent boiling water overflowing from the controller during the heating and resulting in damage or destroy temperature controller. Control panel has an inclined angle to increase the comfort of operator. Double-row blue LED display screens shows bright and soft digitals.



2. The liner of thermostat water bath is made by using one-step forming technology to keep the entire liner free from any joints or welds, so as to eliminate the problems of rust, corrosion and water leakage from the welds on the former water bath. Four corners of this water bath is arc-shaped and without dead ends, so that it is easy to clean and extend service life.





3. The liner and cover plate of thermostat water bath are made of imported high-quality 304 stainless steel. The surface is featured with anti-corrosion and rust-free after accepting re-treatment. The size of beaker hole can be arbitrarily changed to meet the users' needs.



4. The drain valve at the outlet is easy for use and beautiful in appearance.

### III. Technical Parameters

WB100 -1F series are anti-dry series

Picture	Specification & Model	Temperature Control Range	Power	Distingui Shability	Dimensions of Working Chamber
	WB100-1	Room temperature -99.9 °C	300W	0.1°C	160X160X130mm
	WB100-1F				
	WB100-2	Room temperature -99.9°C	600W	0.1°C	300X150X140mm
	WB100-2F				
	WB100-4	Room temperature -99.9 °C	800W	0.1°C	300X300X140mm
	WB100-4F				
	WB100-6	Room temperature -99.9 °C	1200W	0.1°C	450X300X130mm
	WB100-6F				

Power supply: 110V / 220V Constant temperature: room temperature+10°C-99.9°C

### IV. User Manual

#### 1. Set the temperature:

Press the SET button to set the temperature. Press the digitrons under the SET button to make data flash (normal temperature measurement above the SET button). In this moment, make the instrument to enter the state of setting temperature. Press the  $\Delta$  button to increase the set value, press the  $\nabla$  button to reduce the set value and then press the SET button to make the instrument back to normal operation state and complete temperature setting process.

#### 2. Correct sensor errors:

Press the SET button for three seconds to enter in the instrument menu, select the parameter SC and then press  $\Delta$  button or  $\nabla$  button to correct the error. For the sensor with display resolution of 0.1°, keep the sensor error correction range as  $\pm 19.9^\circ$ ; and for the sensor with display resolution of 1°, keep the sensor error correction range as  $\pm 50^\circ$ . Complete the correction and then press the SET button again to exit. The correction value is 0 when the instrument out of the factory.

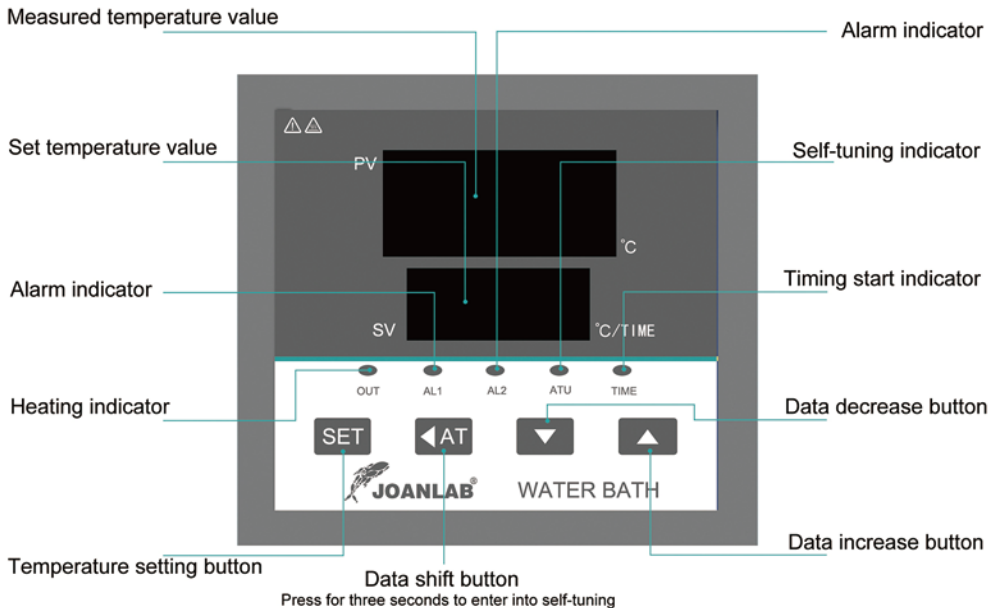
#### 3. Start self-tuning

This product can match with majority control systems. Self-tuning can be started only when control effect is particularly unsatisfactory.

**Method 1:** Supply the power to the instrument and then press SHIFT button for three seconds to start self-tuning.

**Method 2:** Press the SET button for three seconds to enter the instrument menu, select the parameter At and press the  $\Delta$  button to regulate the lower row into 1 and then press SET button for three seconds to start self-tuning. When self-tuning is activated, At indicator keeps flashing. The process shows that the instrument's heating control system fluctuates twice in the vicinity of the set point.

When At indicator turns off, self-tuning is completed and new PID parameters are latched and saved in the chip.



**HEAT light:** the left one is heating light, Light is on meaning heating up, Off meaning stopping heating.

**TIME light:** Timer light is in the middle, Off means Timer is switched off, flashing means timer is turned on, if the timer is always on which means timer is on and the time is up, instrument is in the stop output state.

**ALM light:** High temperature alarm light, On means temperature is over high limitation, Off means the temperature is not over.



## V. Common faults and Solutions

	Problems	Solution
1	The unit shows it is normal but not heating up.	Setting temperature is lower than testing temperature.
2	Heating light is on, but temperature doesn't go up.	1. Output connection is fault. 2. The connected between the control board and the power supply board is fault.
3	The unit always shows 0.0	Thermistor is short circuit or temperature is over lower.
4	The unit always shows 99.9	Thermistor is open circuit, no good connection, or temperature over limitation.
5	The temperature overshoot is large.	1. P value is too large, need to set down. 2. The temperature probe is near close to the heat source device.
6	Temperature heats up slowly.	1. P data is too large, need to set higher. 2. Heating device power is small, or temperature probe is too far.
7	The temperature fluctuation is unstable.	P value is too big or C value is too small.
8	Temperature feedback is insensitive.	C value is too big, please turn down.
9	The temperature error tolerance is big.	The temperature probe is in faulty or the probe is in incorrect position.
10	Slight error of displayed temperature.	The system has errors, please adjust the SC value.

## VI. After-sales service

1. Our company is responsible for providing warranty for any problems caused by the product quality within one year after the date of purchasing the product. However, our company will not assume any and related maintenance costs incurred by any product defaults caused by improper use or man-made damage by the user.

2. The product must accept the warranty service by depending on the warranty sheet.

3. Once the product's internal structure or the parts that is indicated for prohibiting disassembly in the User's Manual is disassembled, it shall be deemed as man-made damage.



4. The user shall pay maintenance costs incurred beyond the warranty period.










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## Notes and Main Points

### Safety Guide

-  **Warning:** The symbol reminds the user that the current operation is dangerous or harmful to person body.
-  **Note:** The symbol reminds the user that the current operation is an importance operation or maintenance instruction.

-  Do not attempt to disassemble the product without authorization.
-  Do not attempt to replace the power cord without authorization.
-  Without our company' s explicit permission, any changes or modifications to the product are likely to inconvenient and harmful to the user.
-  When any unusual circumstance occurs in the process of work, immediately turn off the instrument and disconnect the power. If necessary, appoint the qualified service personnel for maintenance.
-  Before cleaning or moving the water bath, turn off the power and pull out the plug.
-  The product does not apply to culture the toxic substances and articles containing volatile chemical solvents, low-concentration explosive gases and low-ignition-point gases.
-  In order to make the product work normally and prevent unnecessary accidents, pay attention to storage condition; avoid tilting and maintain balance; and try to avoid using the product in a cold environment.