



THERMOSTATIC WATER BATH LB-13TWB

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1. Introduction

Thermostatic water bath LB-13TWB is a laboratory unit with digital PID controller and LED display for optimized temperature uniformity. Insulated stainless steel chamber and high temperature powder coating exteriors provide protection against corrosion and chemical damage. It includes lid with concentric rings for easy placement of flasks and reduces heat loss.

2. Features

1. Microprocessor controlled system (consistent results)
2. Digital display (temperature)
3. Aluminium cover (high thermal conductivity)
4. Over temperature alarm for safety
5. Built-in internal drain
6. Easy to clean and operate

3. Specifications

Model	LB-13TWB
Interior dimension	300 x 300 x 120 mm
Capacity	10 L
Temperature range	RT+5 °C to 99 °C
Temperature tolerance	± 1 °C
Temperature homogeneity	± 1 °C
Power	1000 W
Voltage	110 V/60 Hz
	220 V/50 Hz
Exterior dimensions	370 x 370 x 240 mm
Weight	5.5 kgs

4. Applications

Used in industries, educational institutes, research and biological laboratories, food technology, waste water plants, environmental science to improve solubility of poorly soluble substance, warming of chemical reagent, facilitating chemical reaction, incubation of cell cultures, etc.

5. Instrument Introduction

This product is of water bath type. Its diameter of the maximum opening is 125mm, each opening is provided with 4 rings and 1 cover. The inner bath is of one-piece sheet copper molded by punching. The outer casing is made of choice sheet steel of high quality to be finished in spray lacquer. The gap between the outer casing and the inner bath is stuffed with glass wool for heat preservation. The heating element is immersed in water so that rapid heating can be obtained and power consumption economized. A metal regulator is also equipped for adjusting the temperature from 37 °C to 100°C according to requirements.

6. Operations

6.1 Set temperature

Press the SET key to set the temperature. After pressing the SET key, data on the lower line digital tube will flash (the upper low measure temperature normally), which means the meter enters the status of the temperature setting. Press Δ the key to increase the set value, and press ∇ a key to decrease the set value. If continuously press the increase key or decrease key, the set value will change rapidly. Press the SET key again, and the meter returns to temperature under normal working status. The setting is finished.

6.2 Parameter Setting

Press the SET key for 3 seconds to enter the setting status of the internal menu. The following parameters appear one by one.

- **E:** Offset of proportion zone, parameter E can move the actual control point. Even though the center of time proportion moves, value E can be positive or negative depending on the heating system.
- **P:** Proportion zone, that is, proportion control value. For easy understanding and for the proportion zone to have bigger representation space, the proportion zone of this meter is unilateral, that is, the actual proportion zone is twice the value P. With the actual control point as the center, output heating proportion within the range of value P from down to up is evenly distributed at 0%-100%.
- **T:** Heating output circulation period, that is the working circulation period of the relay. Value T is small, and the control effect is good, but if value T is too small, the relay's lifetime will shorten due to frequent working. Generally, value T is 20-40s.
- **For example:** If P is set to 4.0 (actual proportion zone is 8.0), temperature is set to 60.0°C, E is set to 2.0, and the actual control point is 58.0°C. When the temperature reaches 54.0°C, the meter will enter the status of proportion zone control.

6.3 Correction of error

To correct the displayed value on the meter when it doesn't match the measured value, follow these steps:

- Press and hold the SET key for 3 seconds to enter the internal menu. The first parameter, E, will appear.
- Press the SET key again, and the meter data will flash. This flashing value indicates the error correction parameter.
- Use the Δ or ∇ keys to adjust the error, with a correction range of -9.9°C to +9.9°C. After adjusting, press the SET key again.
- The parameters P and T will appear sequentially. Press the SET key once more to exit the menu.

- The meter's default correction value is 0 when it is shipped from the factory. Be sure to avoid making incorrect adjustments, as this could lead to inaccurate measurements.

6.4 Circuit

This equipment is operated on 220VAC. A rubber 3-strand main cord is provided, of which the black one is for grounding. One of the terminals of the cord is connected to the floorboard of the outer casing, while the other terminal is connected to the longest and thickest pin in the 3-pin plug. When in operation, the ground wire for the 3-pin receptacle must be connected effectively. Generally, the ground wire is welded to the water pipe or to a galvanized tube of 2m long and 25mm, in diameter to be buried underground, but do never connects to the gas pipe.



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