Thermostatic Water Bath

NTWB-101

www.labnics.com | info@labnics.com

Index

1. Introduction

Thermostatic Water Bath NTWB-101 features a 32.4L capacity, providing ample space for efficient operation. It offers a temperature range of RT+5 to 100°C with a 1°C resolution, ensuring consistent and stable thermal control. It provides constant temperature heating and controlled thermal testing for optimal performance. Our unit is designed with high-quality steel housing for enhanced durability and longevity. This water bath ensures reliable performance with accurate temperature regulation.

2. Features

- ✓ Stainless steel chamber
- ✓ Static spray coating
- ✓ Digital control panel
- ✓ High-precision temperature sensors
- ✓ Advanced control system

3. Specifications

Model	NTWB-101
Capacity	32.4 L
Temperature Range	RT+5 to 100°C
Temperature Resolution	1°C
Temperature Fluctuation	±0.2°C
Power Consumption	700 W
Power supply	220V, 50Hz
Internal Dimensions (W × D × H)	600 × 300 × 180 mm
External Dimensions (W × D × H)	745 × 340 × 295 mm
Packaging Dimensions	860 × 450 × 390 mm
Net Weight	15 Kg
Gross Weight	16 Kg

4. Applications

Thermostatic Water Bath NTWB-101 is used for precise temperature control in heating and incubation applications. It is widely used in laboratories, research facilities, and industrial testing environments.

5. Instrument Introduction

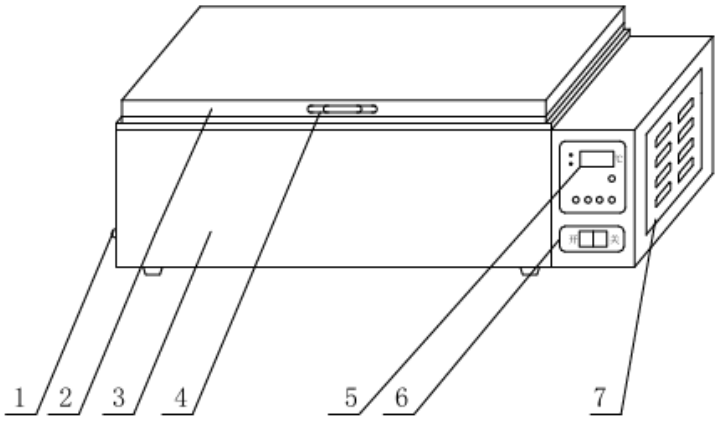


Figure-1

1) Drain plug
2) Cover
3) Outer Case
4) Cover handle
5) Control panel
6) Power switch
7) Temperature control device side plate

Structure

The outer of the electric heating constant temperature water bath is made of a high-quality cold-rolled steel plate and coated with plastic. The chamber cover and shelves are made of stainless steel plate. The U-shape heater is placed on the bottom. Temperature control adopts a microcomputer temperature controller.

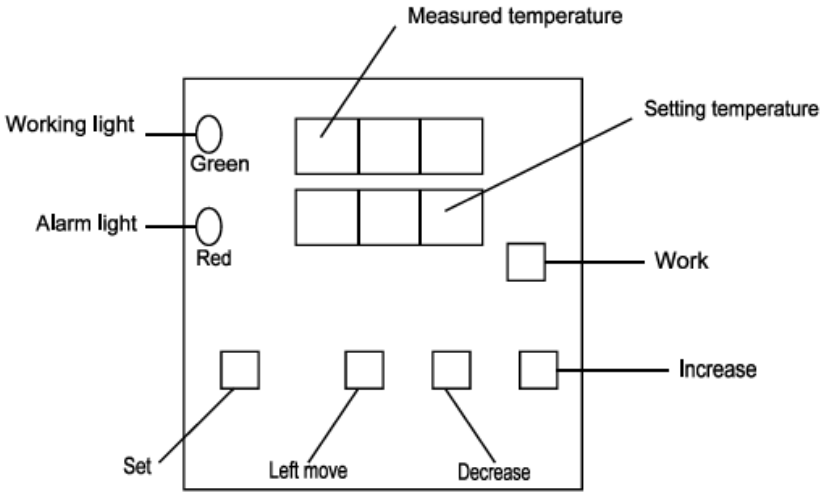
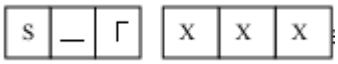
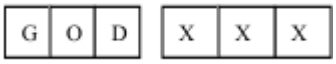


Figure-2

6. Operations

1) Add clean water into the bath to 1/2~2/3 of the total height.
2) Place the power switch to "ON", it indicates power connected when temperature control panel displays a number.
3) Open the power switch, power indicates the light is on, and the system begins work.
4) Alarm light is on when it is over temperature for 2℃, and the system stops heating automatically.
5) **Setting Method**

1) Press the Set key, and it displays 

the temperature value (℃).
2) Press the Set key again, and it displays 

, it returns to temperature display after 2 seconds and finishes the setting.
3) **Work Keys:** Press the Work key and the working light is on, the system begins sheat and temperature control.
4) **Left move key:** Press to move the cursor left.
5) **Increase/decrease key:** Increase/decrease the value that is set.

6.1 Internal Parameters

Long press the **SET** key (function key), and the controller can enter the user settings. The user menu is as follows:

Prompt	Name	Range	Note	Initial Value
AL	Alarm parameter setting	0.0…Full range ℃	When the temperature exceeds the SP+AL value, the Alm light is on and the buzzer calls.	2.0
P	Proportional	1.0…300℃	Adjust the proportion, the larger the P, the smaller the proportion, the lower the system gain; P=0, bit control, output when the temperature is higher than the set value, no output when lower than the set value	5.0
I	Integral time	20…999 sec	Integral action time constant, the greater the I, the weaker the integral action	200
d	Differential time	0…999 sec	Differential action time constant, the greater the D,	100

			the stronger the differential action	
Ar	Overrun suppression	0 (0.0) ~ 100% (100.0%)	PID: used to suppress overshoot, Ar determined as: 1.5 to 2 times the steady-state output duty cycle	100
t	Control cycle	1...100 sec	Relay output≮20s, SSR and SCR switch≮ 3s	6
Pb	Process offset	Full range	Correction of measurement error caused by compensating wire by sensor and thermocouple	0.0
PK	Full adjustment	-199 ~ 999	When the zero-position error of the instrument is small and the full-degree error is large, the value is adjusted. PK=4000 × (mercury thermometer reading value - meter display value)/ meter display value.	0
LK	Password lock	0-999	The above parameters can be modified when LK=18	0

The change of each parameter may change the control effect. Automatic return to standard mode without pressing **X** key in one minute.

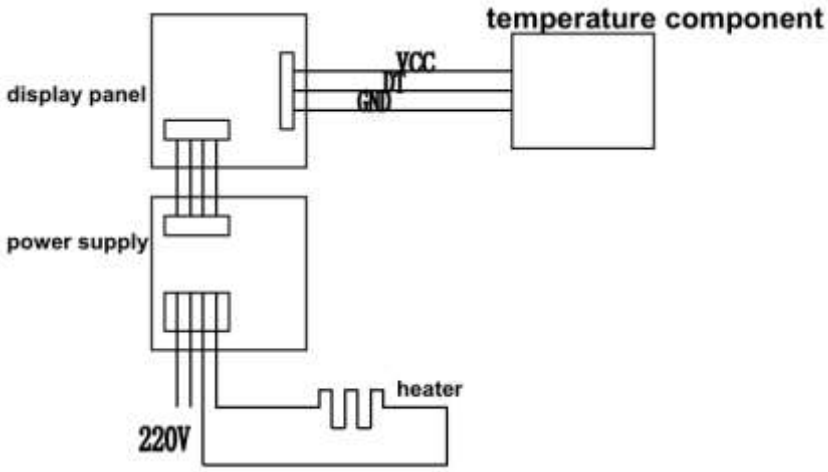
7. Maintenance

- Keep the water bath clean. Avoid cleaning it with corrosive chemical solutions and then a chemical reaction happens.
- If you don't use the equipment long-term, you should put it into a training room with a plastic film coverer to avoid wetting.
- Do not use the equipment in an environment with high-voltage, high current, high magnetic field, or corrosive gas to avoid equipment damage and the risk of electric shock.

Note:

- The water bath should have reliable grounding to ensure safe use.
- Don't press the power switch before adding water to prevent burning the heater.
- If it is unnecessary, please don't open the temperature control device for safety.

8. Circuit Diagram



Labnics Ltd.
Unit 2D Station House, 1 Pembroke Broadway, Camberley,
Surrey GU15 3XD United Kingdom
Email: info@labnics.com | Website: www.labnics.com