HZHW-G3 Thermostatic Bath

USER MANUAL

Huazheng Electric Manufacturing(Baoding) Co.,Ltd

Dear User:

Thank you for selecting our thermostatic bath, please read through this Instruction Manual before correctly using this product.

CONTENTS

Ⅰ.Overview

Low-temperature thermostatic bath in microcomputer temperature control adopts the single-chip microprocessor for self-tuning PID control and imported platinum resistor （Pt100） for temperature measurement, enjoying high precision of temperature control and small fluctuation; the application of advanced high quality compressor contributes to high refrigeration efficiency and low noise. The instrument, running stably and reliably, is safe and easy to operate. The product boasts advantages including:

1. Big-screen back-light LCD to distinctly display setting temperature, actual temperature, heating power and other working state;
2. High-performance single-chip microprocessor for self-tuning PID control and imported platinum resistor for temperature measurement, enjoying high precision of temperature control and small fluctuation;
3. High-performance agitator motor available to enable low noise, lower heating, totally-enclosed and a long working life;
4. Totally-enclosed brand compressor (certain models adopt imported compressor or compressor units) available to enable a quick drop in temperature and high efficiency;
5. Featured in multiple protections against failures as coupling fault, excess temperature, out of control and etc;
6. Circulating pump available for external circulation of thermostatic fluid;
7. Reliable working temperature, easy and safe operation.

The thermostatic bath is widely used in the field of bio-engineering, medicine, food, chemical, metallurgy, chemical analysis, such as oil, supporting the use of other equipment such as: spectrometers, mass spectrometers, viscometer, polarimeter, fermentation equipment, rotary evaporators. To provide users with a high-precision, controlled, uniform temperature constant field source, research institutes, universities, factories, lab, quality inspection departments ideal thermostatic bath.

Ⅱ. Main Technical Parameters

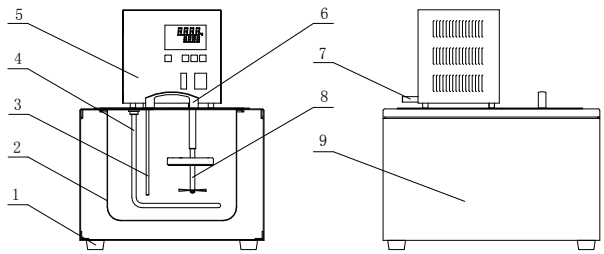
Model	HZHW-G3
Temperature	RT+15℃∽200℃

Temperature fluctuation	≤±0.2℃ （The liquid in the tank is the water or pure ethanol）
Display	Digital tube display
Temperature display resolution	0.1℃
Volume of the bath	6 L
Bath open size	145mm×145mm×150mm （L×W×D）
Dimensions	340mm×190mm×370mm （L×W×H）
Pump circulation mode	Internal circulation
Temperature control mode	Microcomputer temperature control, PID control
Temperature sensor	Pt100
Power supply	220V±10% 50Hz/60Hz
Total power	1.5 KW

Ⅲ. Instrument Construction

1、Overall structure diagram

HZHW-G3 products are composed of intelligent temperature control part, temperature sensor Pt100 platinum resistance, circulation and agitation parts, heater, internal stainless steel groove and housing (see below for the schematic diagram of the overall structure of CH-1006N thermostatic bath) .

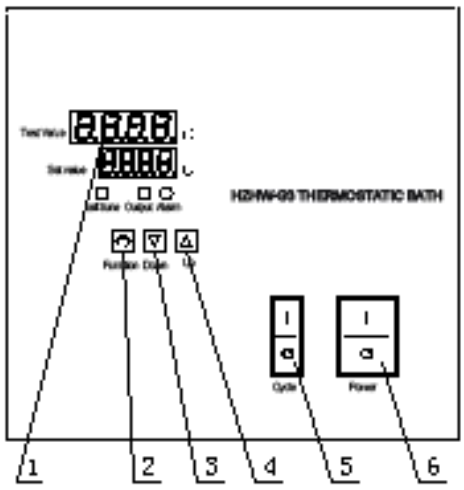


⑴Foot、⑵ Stainless steel inner tank、⑶Temperature Sensor、⑷Electric heaters、

⑸ Temperature control section、⑹ Superstructure、⑺ Outer loop interface、⑻ Circulation stirring device、

⑼ Shell

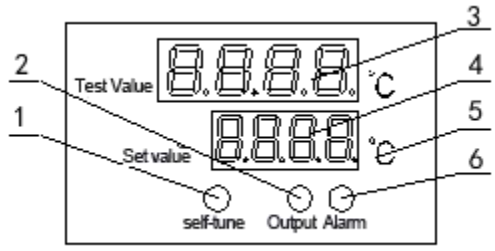
2、Operating panel schematic and the function of the switch button



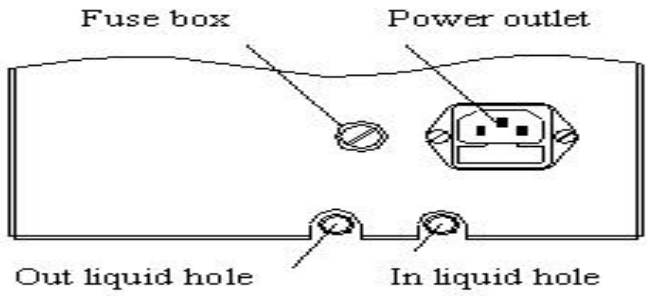
(1) Luminous digital display: Displays the operating parameters of the instrument.
(2) Function keys: Recall, set, modify, and determine instrument parameters.
(3) Down key: In the setting state, used to set the parameter to decrease downwards.
(4) Up key: In the setting state, it is used to increase the parameter setting.
(5) Cycle switch: used to start and shut down the circulation stirring device.
(6) Power switch: Used to turn the main power on and off.

Digital tube display symbol description

(1) Auto-tuning display
(2) Heat output display
(3) Display of measured value
(4) Display of set value
(5) Measurement unit symbol
(6) Alarm display



3、Machine rear cover sketch map



Ⅳ. Installation and Operation

1）Remove packing and clean, put it on a rigid platform;

2）Fill the groove with liquid medium, liquid level being about 20mm below the platform;

3）While no external circulation is required for the circulating pump, only connect inlets to outlets with

hoses;

4）While thermostatic liquid external circulation is performed for the circulating pump, separately connect outlets to the entrance of experiment containers out of the groove and connect inlets to the outlet pipes of experiment containers out of the groove;

5） Please note that the cycle is used, the amount of the volume of liquid in the tank. Please add insufficient liquid prevent unheated phenomenon.

6）Power is turned on, open the "power" switch first, and then open the "cycle" last "cooling" switch. This moment, the LCD screen will display all the symbols to enter the self-test, and after a few seconds display the temperature input range (upper row: "measured value" display input temperature of the upper limit, the lower row: " Set value "temperature as input the lower limit value), the machine self-test is passed, and into the working state the measurement value "is displayed as the actual temperature of the body fluid in the tank, the" Setpoint "is displayed as the last set temperature.

7）Set temperature

In working condition, press "function key", the measured values of the upper row shows the digital setting of" SP ", the next row of the right-most one flashing, press the" shift "key once, flashing digital move left abit and so on. Then press "up" or "down" key to set or modify the flashing numbers, until the completion of the required set temperature value, and then press the "function" key to confirm the set parameters, temperature setting.At this time the row on the display shows "ST", bottom row timing time is displayed, press "function key, and return to work status.The measured values tank temperature of the liquid in the body, and the setting is just modified temperature, automatic temperature control instrument run to state。

"St" is set to 0, the thermostatic bath cancel the timer function, the normal operation of the machine。Timing function starts when the "St" is not set to 0, the thermostat, the lower row displays "END", the buzzer sounds, temperature control stops working, press any key silencer。Because usually carried out in a constant temperature state, it is recommended to "St" is set to 0000 state。

When the measured temperature is higher than the set temperature, namely: measured value - settings value ≥ 5 ℃ （Absolute value）alarm buzzer tweet. At this point to remind users to check whether the temperature control failure, leading to temperature runaway, if no problem can eliminate the alarm sound, press any key.

Ⅴ. Environmental requirements

1）Temperature thermostatic bath should be placed in a sturdy workbench;

2) No vibration and no harmful gases;

3）Ambient temperature should be less than 30℃ and relative stability can not fluctuated, the impact of temperature control accuracy;

4）Ambient humidity should be less than 70%, the moisture content is too high, the bath at a low temperature, the compressor may be condensation.

Ⅵ. Notes

1)The liquid medium for the groove shall be properly selected by the following instructions:

a. While the working temperature is below 5℃, absolute ethyl alcohol or ethylene alcohol will be generally used;

b. While the working temperature is 5～95℃, water will be generally used.

Note: the working temperature means the temperature required by the liquid medium in the groove.

2) Power: 220V、50Hz Power should be greater than the total power of the instrument, the power supply must be good "grounding" device;

3) The refrigeration compressor is a continuous work (refrigerators, air conditioning, intermittent work), so after work continuously for long periods of time (about 5 days) downtime.

4) The instrument should be placed in a dry and well-ventilated place, no obstructions within the instrument around 300mm.

5) When the bath temperature is lower or higher, you should be careful not to open the top cover, the hands do not enter the tank, to prevent frostbite or burns.

6) after use, all switches in the off state, cut off the power.

7) The instrument shall do the regular cleaning to keep the work surface and the cleanliness of the operation panel.

8) often observe the level of tank liquid level, when the liquid level is too low, it is timely to add liquid medium.

9) When the set temperature is higher than the ambient room temperature 15 ° C, refrigeration switch must not be opened, so easy to damage the compressor.

10) Temperature range is controlled to minus 40 ℃ to 100 ℃ of the machine, because of adding the liquid of the tank is less, or the machine running the work for some time, the volatilization phenomenon reduces the liquid. Lead to the the groove body heat pipe produce dry phenomenon, the slot in vivo install anti-dry level float.(Open the cover plate can be observed, the cylindrical metal ball is level float) if the machine is at work, a temperature control is not accurate the groove body of the temperature of the liquid in the cooling or unheated phenomenon, replenish the liquid into the tank body submerged buoy.

Ⅶ. Failures and Trouble-shooting

No.	Failure	Cause	Trouble-shooting
1	No display	Not normally switching on Fusible links damaged	Check the cause of no power connection, and connect again Replace the damaged fusible links, or contact the manufacturer if damaged again
2	No refrigeration	The setting temperature is higher than the actual temperature Compressor failures Poor contact of temperature sensor or damaged	Re-set temperature Contact the manufacturer and call for repairs Check sensor wiring, connect or call for repairs
3	No heating	The setting temperature is lower than the measurement The heater damaged Poor contact of temperature sensor or damaged	Re-set temperature Contact the manufacturer and call for repairs Check sensor wiring, connect or call for repairs

Ⅷ. List of a complete set

No.	Description	Qty
1	Host machine	1 Unit
2	Power cord	1 PCS
3	Upper cover	1PCS
4	Fuse	2PCS
5	Conformity Certificate	1 Sheet
6	Operation Instruction	1 Copy