INSTRUCTION MANUAL

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DC-4006

WATER BATH

OPERATIONAL MANUAL

1. General

Energy Saving Intelligent Water Bath (Low temperature thermostatic bath) is common and necessary instrument for laboratories, extensively used in Petrochemical industry, National Defense, Metallurgy, Chemical Industry, Physics, Biology Engineering, Chemistry, Pharmaceutical, life science, electronic instrument, quality inspection and measurement, plant laboratory, colleges, Research and Development Institutes and so on.

2. Characteristics

1) With complete enclosed air- cooling compressor for refrigeration, low temperature thermostatic bath has outstanding advantages such as quick refrigeration and low noise.

2) Refrigeration system is equipped with multi-purpose protection devices such as over heating, over current and so on.

3) Temperature can be controlled by microcomputer, which can be operated simply, has alarming device for temperature under low temperature limit and over high temperature limit, and is equipped with PID automatic control.

4) Use double windows in red and green, upper window displays measurement value in red, and lower window displays measurement value in green, both in LED.

5) Intelligent microcomputer can adjust temperature setting allowance so that digital display distinguish-ability reaches 0.1℃.

6) Special user PID can be adjusted.

7) It has internal and external cycles, external cycle will discharge thermostatic liquid inside the bath, and establish No. 2 thermostatic bath, also it can discharge liquid outside as cooling or heating source, to lower (raise)temperature of external experimental vessels, and enlarge use scope.

3. Technical parameters

Model No.	DC-4006
Temperature scope (℃)	-40~100
Temperature change range (℃)	±0.1
Work bath volume (L×W×H) mm	260×200×140
Open slot of work bath (L×W) mm	180×140
Bath Depth(mm)	140
Flow rate of Exterior cycling pump L /min	6
Voltage	240V 50Hz

4. Operational steps:

1) Add liquid media in bath, with liquid level no less than 30mm lower than work bench.

2) Selection of liquid media

A. When work temperature is below 5 ℃, liquid media shall be alcohol.

B. When work temperature is between 5 ℃-80℃, normally liquid media shall be pure water.

C. When work temperature is between 80℃-90℃, normally liquid media shall be 1 5 %glycerin water solvent.

D. When work temperature is between, normally liquid media shall be oil.

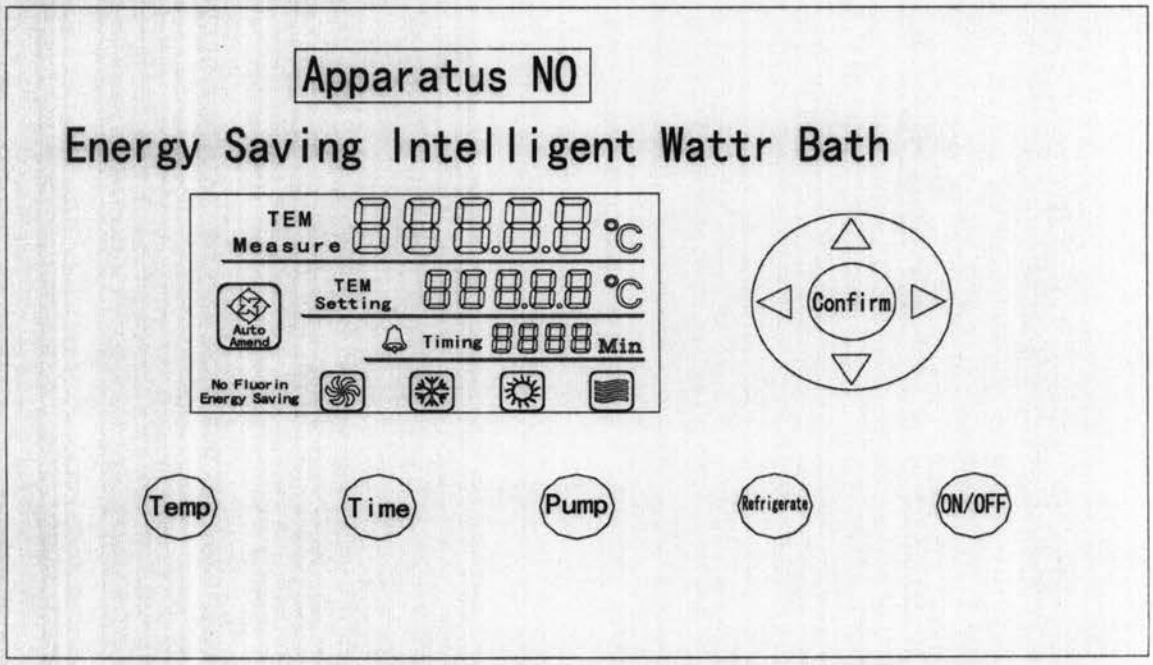
3) Connection of cycling pump：

A. For connection of internal and external cycling pumps, the user only need to connect liquid outlet tube to liquid inlet tube with hose which will be provided with the machine).

B. Connect external cycle of external cycling pump, connect liquid outlet tube to inlet of vessel outside the bath, and connect liquid inlet tube to outlet vessel outside the bath. (Note : tube on the left side of front panel of instrument is liquid inlet tube, and the one on the rack panel of the instrument is liquid outlet tube) .

4) Put on the power (on rack control panel)

5) Instrument shall be operated as follows :



(Fig. 1) Control Interface energy-saving intelligent thermostatic bath

A. Description of instrument buttons : (button positions are as Figure 1)

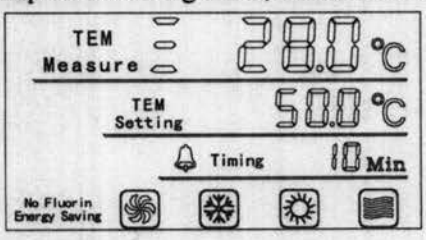
(start) (refrigeration) (temperature) (time) (switch of pump) (set)

(◀) left (▶)right (▼)increase (▼) decrease

B. Temperature setting :

①Insert the plug into receptacle, and turn on the power;

②Control interface enters temperature setting status, details shown in Figure 2.



(Figure 2) Start interface

And then, push (temperature) button to set temperature, push (time) button to set time.

③Push button(start) and remain 1 second, start to carry out temperature control

After entering temperature control status, the pump will run automatically, pump running signal will light, indicating the pump is running, if it extinguish, indicating the pump stops running

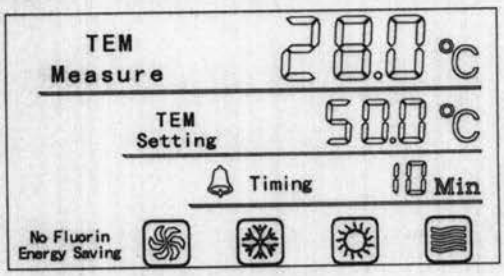
If refrigeration is permitted (set temperature is lower than actual temperature), refrigeration starts, and refrigeration signal on the panel lights, indicating refrigeration is being performed.

Heating signal  lights, indicating heating is being performed

④Temperature and time setting during running of instrument, as shown in (Figure 3)

Push temperature button to set temperature, and then push button "temperature" or "set" to store setting and exit.

Push button(time) to set the time, and then push button "time" or "set" to store setting and exit (when actual temperature reaches set temperature, timing function will run, and bell on the left of timing button will wink, till time is over, it bell stops to wink, and produce sound).



(Figure 3) Start Interface

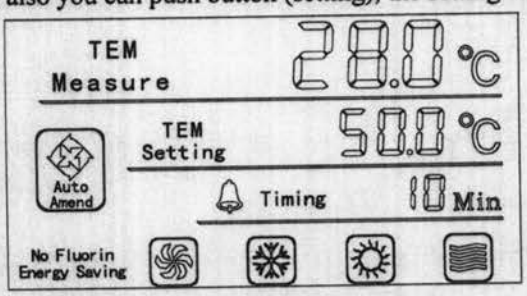
When setting the parameters, push (▲) and(▼) to increase or decrease the value, and push(◀)and(▶)to move the parameter left and right

C. Automatic setting of temperature

When actual temperature displayed is different from solution temperature in refrigeration bath, temperature can be adjusted through automatic setting, and no need to adjust temperature through complicated parameter setting.

Push and hold (◀) and (▶) 3 seconds, automatic setting signal winks, indicating the machine enters temperature automatic setting mode.

During automatic setting period, if you want to finish automatic setting, push and hold (◀) and (▶) for 1 second, also you can push button (setting), the setting will be invalid.



(Figure 4) Automatic setting interface

Note: Temperature setting shall not be adjusted during automatic setting process of the machine.

5. Precautions :

1)Add liquid media into bath before using

2) Use 50Hz 220V power supply, power shall be no less than total power of instrument, and power supply receptacle shall be earthed properly.

3)Instrument shall be put on a place that is dry and has good ventilation, rack panel and two sides shall be 300mm away from obstruction.

4)After using, all switches shall be turned off, and power plug shall be pulled out.