



Biochemical Incubator
Series Model YR02036

Instruction Manual

Thank you very much for purchasing our Series Biochemical Incubator Series Model YR02036.

Please read the "Operating Instructions" and "Warranty" before operating this unit to assure proper operation. After reading these documents, be sure to store them securely together with the "Warranty" at a hand place for future reference.



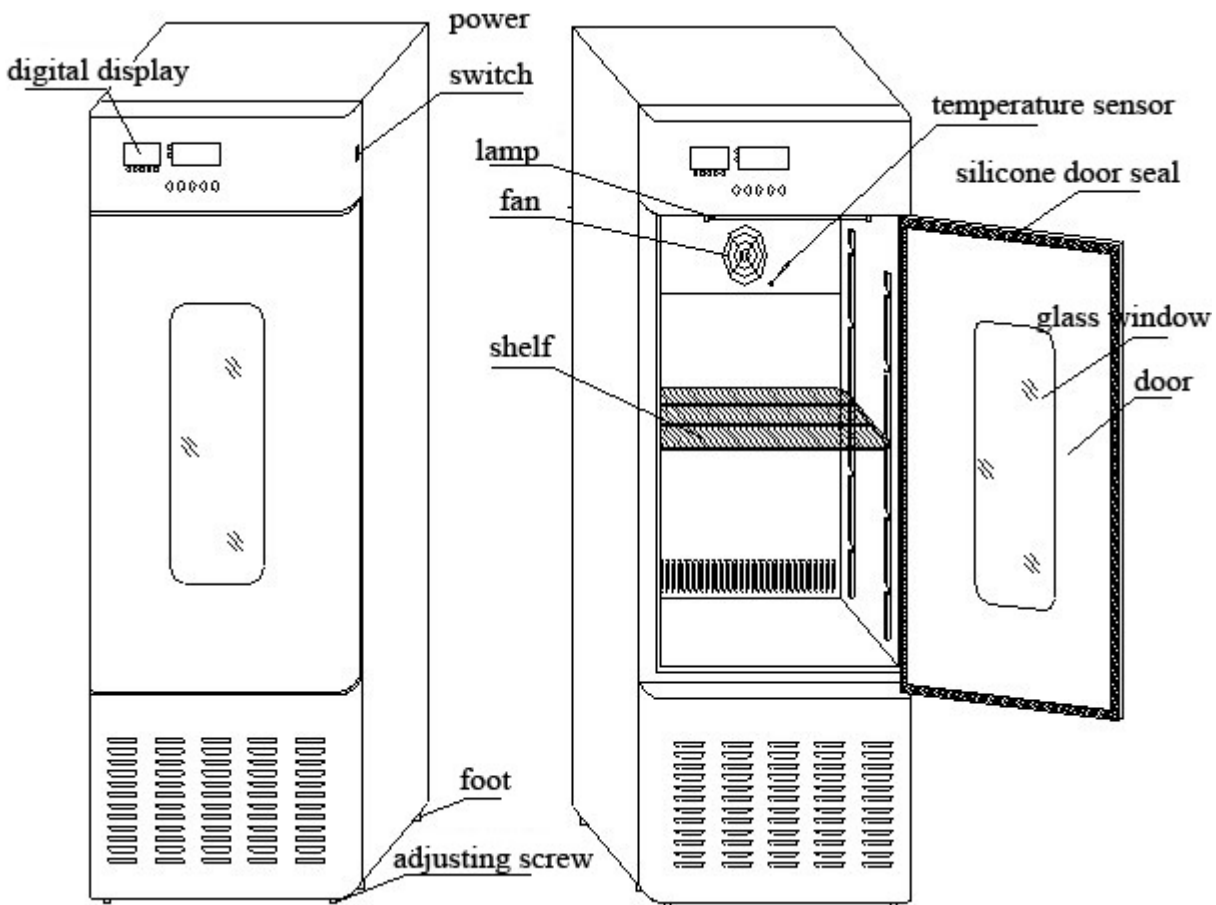
Warning: Before operating the unit, be sure to read carefully and fully understand important warnings in the operating instructions.



1. Application

YR02036/ YR02037/ YR02038/ YR02039 series biochemical incubator is thermostatic equipment with precise and highly sophisticated cooling function. It is widely used in biological genetic engineering, medical treatment, health and epidemic prevention, medical test, agriculture and animal husbandry, aquaculture. And other scientific research institutions for plant cultivation, breeding test, bacteria, mould, microbial cultivation & preservation, BOD determination, etc.

2. Product Structure



3. Feature

The incubator is made of high-quality steel sheet with sharp appearance. Equip with large observation glass window and built-in lighting lamp. Samples inside can be observed clearly. The inner chamber is made of stainless steel, equipped with adjustable shelves. Easy to clean and durable.

4. Working principle

The actual temperature is detected from temperature sensor which transferred into signal. The signal is transmitted through microcomputer and then sent to the heater and compressor to function towards required temperature.



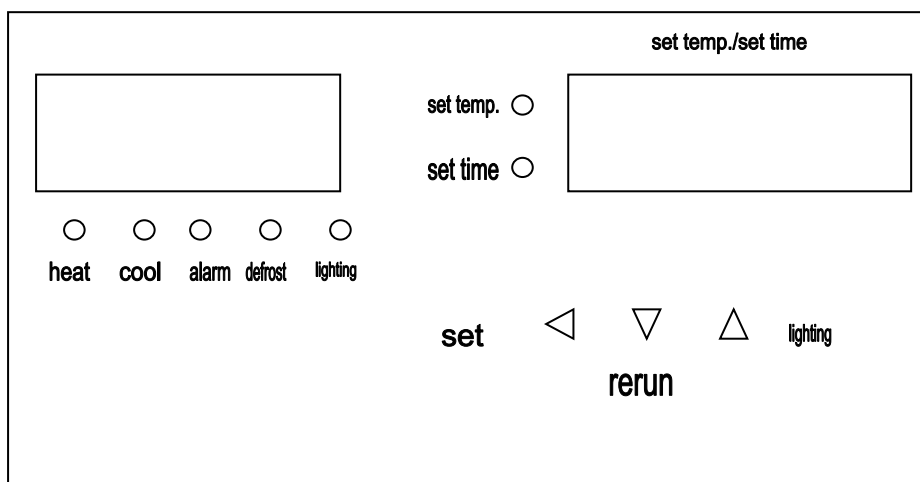
5、 Technical parameter

- 1.Volume: 70L、 100L、 150L、 250L.
- 2.Temp. range: 5~50°C.
- 3.Temp. fluctuation: $\pm 1^{\circ}\text{C}$ (70L、 100L、 150L) $\pm 1.5^{\circ}\text{C}$ (250L) .
- 4.Temp. uniformity: $\pm 1.5^{\circ}\text{C}$ (70L、 100L、 150L) $\pm 2^{\circ}\text{C}$ (250L) .
- 5.Power voltage: AC 220V/50Hz.
- 6.Input power: 385W (70L、 100L) 420W (150L、 250L) .
- 7.Working ambient temp.10~30°C Relative humidity below 70%
- 8.Refrigeration: R134a.
- 9.Equipment classify: class I type B

6. Installation

1. The equipment should be installed in a ventilated place and avoid direct sunlight. The distance between the equipment and the wall must be more than 10 CM
2. Keep the incubator balance via adjustable screw. (Refer to technical diagram)
3. AC 220V/50HZ power supply, in order to be safe, please connect a protective conductor thermal.
4. Please install this equipment in a place where is far away from fire source

7. Control panel



Indicator and button instruction



1. “heat” indicator: turns on if there is heating output, or turns off
2. “cool” indicator: turns on if there is cooling output, or turns off
3. “alarm” indicator: turns on if temperature is abnormal or over-temperature alarm, or turns off
4. “defrost” indicator: no defrost function under intermittent mode
5. “lighting” indicator: turns on when lighting lamp is on, or turns off
6. “set temp.” indicator: turns on if the right screen displays set temperature, or turns off
7. “set time” indicator: turns on if right screen displays running time, or turns off
8. “set” button: set or view temperature, time and other parameters
9. “◀” shift button: press this button to modify set value in setting mode
10. “▼” decrease / rerun: press this button to decrease set value in setting mode, hold this button decrease continuously. After running is over, in non-setting mode, hold this button to reboot.
11. “▲” increase: increase set value in setting value, hold this button increase continuously
12. “lighting” button: lighting lamp button, press this button to turn on or turn off the lighting lamp

8. Operation

1. After power is connected, left screen displays “index number and version number”, right screen displays “the max setting temperature”. It will access home interface after 3 seconds

2. View and set temperature and time of constant temperature

1) if without timer

Press “set” button to access temperature setting mode, left screen displays “SP” right screen displays setting temperature (it will flash from single digit), modify required setting value via shift, increase or decrease button; re-press “set” button to log out this mode, the modified data will be saved automatically.

2) if with timer

Press “set” button to access temperature setting mode, left screen displays “SP” right screen displays setting temperature (it will flash from single digit), modify required setting value via shift ,increase or decrease button; re-press “set” to access timing setting mode , left screen



displays “ST”, right screen displays timing time (it will flash from single digit);re-press “set” button to log out this setting mode, the modified data will be saved automatically.

When timing is “0”, it means no timer, controller keeps running, right screen displays setting temperature; when timing time is not “0”, right screen displays running time or setting temperature. If display running time, the decimal point of the single digit which is on the right screen is on, when measured temperature reaches setting temperature, the timer start timing, the decimal point of the single digit which is on the right screen is flashing, timing time is over and stop running, the right screen displays “End”, beeper beeps, it will stop beeping after 1 minute. After running is over, hold “decrease” button for 3 seconds to reboot

Notice: if change setting temperature during timing, the controller will start timing from 0

3. Sensor alarms abnormally

If the left screen displays “---“, it means that there is something wrong with temperature sensor or controller or temperature is in outside of temperature range, controller will disconnect heating output automatically, beeper beeps, alarm indicator is on, please check the temperature sensor and other connections.

4. When oven-temperature alarming, beeper beeps, “ALM” is on. if oven-temperature alarm because of setting temperature changed, “ALM” is off and without beep

5. Press any button to mute if beeper beeps

6. Without press any button within 1 minute in setting mode, it will be back to normal mode automatically.

9. View and set Internal Parameters

Hold set button for 3 seconds, the left screen displays “Lc”, right screen displays password, you can modify required value via “increase” “decrease” or “shift” button. re-press “set” button, if the password is incorrect, controller will be back to normal mode, if the password is correct, it will access temperature setting mode. re-press “set” button modifies parameters of. Re-hold “set” button for 3 seconds to log out this mode, the data will be saved automatically.



Internal Parameter -1

Parameter code	Parameter	Parameter instruction	(range) factory default
Lc-	Password	When "Lc=3" view or set parameters	0
AL-	Over-temperature alarm	When measured temp. >setting temp. +AL", alarm indicator is on, beeper beeps, disconnect heating output	(0~20.0°C) 5.0
Ct-	Compressor delay started function	Compressor starts delay protection time, the mixed interval time from compressor stops to compressor reboots	(0~600 seconds) 60
uP-	Compressor starts threshold	When compressor works in intermittent mode If measured temp. ≥ setting temp.+ uP" And delay time is up, start compressor Notice: this parameter is only available when start or stop compressor manually (Internal Parameter-2, Crc=1) but it is unavailable in automatic mode	(-1.9~2.0°C) 0.4
dn-	Compressor closes threshold	When compressor works in intermittent mode If measured temp. ≤setting temp. +dn" turn off compressor Notice: this parameter is only available when start or stop compressor manually (Internal Parameter-2, Crc=1) but it is unavailable in automatic mode	(-2.0~(uP-0.1)) 0.2
Lt-	Light lamps off delay function	When turn on light lamp, it will be off automatically after delay Lt. if "Lt=0" , delay is unavailable, you have to turn off light lamp manually	(0~30 mins) 2
T-	Control cycle	Heating control cycle	(1~30seconds) 5
P-	Proportion	Timing proportion adjustment	(1~50.0) 16.0
I-	Integral time	Integral acting in regulation	(1~2000 seconds) 600
d-	Differential time	Differential acting in regulation	(0~1000 seconds) 150
Pb-	Zero adjustment	Modify error margins of sensor (low temp.) during test Pb=actual temp.-test temp.)	(-12.0~12.0°C) 0
PK-	Full scale adjustment	Modify error margins of sensor (high temp.) during test PK=1000*(actual temp.-test temp.)/ test temp.	(-999~999) 0



Internal Parameter -2

Parameter code	Parameter	Parameter instruction	(range) factory default
Lc-	Password	When "Lc=9" view or set parameter	0
ndc-	Working way of compressor	0: compressor only works in intermittent mode 1: compressor will work in balanced mode or in intermittent mode according to CP (details as below) 2: compressor will work in balanced mode or in intermittent mode according to Htd (details as below)	(0~2) 0
CP-	The fixed switch point of compressor running mode	When ndc=1 If setting temperature \geq CP, compressor works in intermittent mode, on the contrary, it will work in balanced mode	(0~100.0°C) 30.0
Htd	The auto-switch point of compressor running mode	When ndc=2 If setting temperature \geq ambient temperature + Htd, compressor works in intermittent mode, on the contrary, it will work in balanced mode	(-50.0~50.0°C) 0.0
Crc	Start/stop mode of compressor	When compressor works in intermittent mode 0: the compressor will be started or closed automatically (depend on ambient temp. and setting temp.) 1: start or close the compressor manually (depend on up and dn which on the Internal Parameter-1)	(0~1) 0
Cnp	prohibited working temp. of compressor	When setting temperature \geqCnp, compress stops working Notice: this running mode is in priority; it means the controller will proceed with this first instead of balanced mode or intermittent mode	(0~100.0°C) 42.0
ndt	Timer mode	0: no timer. 1: with timer, when reach setting temperature (start timing), right screen displays running time 2: if without timer, right screen displays running time	(0~2) 0
Hn-	Timer unit	0: minutes ; 1: hour	(0~1) 0
nP-	The max power	The max power percentage of heating output	(0~100%) 100
Co-	Disconnect heating output margins	When measured temperature \geq setting temperature +Co, disconnect heating output	(0~20.0°C) 5.0
SPL-	The mix setting temp.	The mix setting temperature	(-15.0~5.0°C) 0.0
SPH-	The max setting temp.	The max setting temperature	(5.0~100.0°C) 60.0



Internal Parameter -3

Parameter code	Parameter	Parameter instruction	(range) factory default
Lc-	Password	When "Lc=18" view ambient temperature	
Ht-	Ambient temp.	surrounding temperature of the controller	

Notice: these Internal Parameters had been adjusted well; it is not necessary to re - adjust again

10. Maintenances

1. Keep upright when moving this biochemical incubator
2. In order to prolong the life of use of equipment, don't change setting value frequently
4. This equipment is equipped with two fuses, if there is something wrong with this equipment when running, please disconnect power supply first, check the fuse whether is undamaged then check other parts
5. In order to maintain the appearance of equipment, don't clean the equipment appearance with corrosive solution and clean inner chamber with dry cloth and alcohol
6. If set this equipment aside, please keep inner chamber dry and disconnect power supply
7. In order to make sure uniform temperature, frequently check fan whether works normally. The



samples should not be overloaded in the inner chamber.

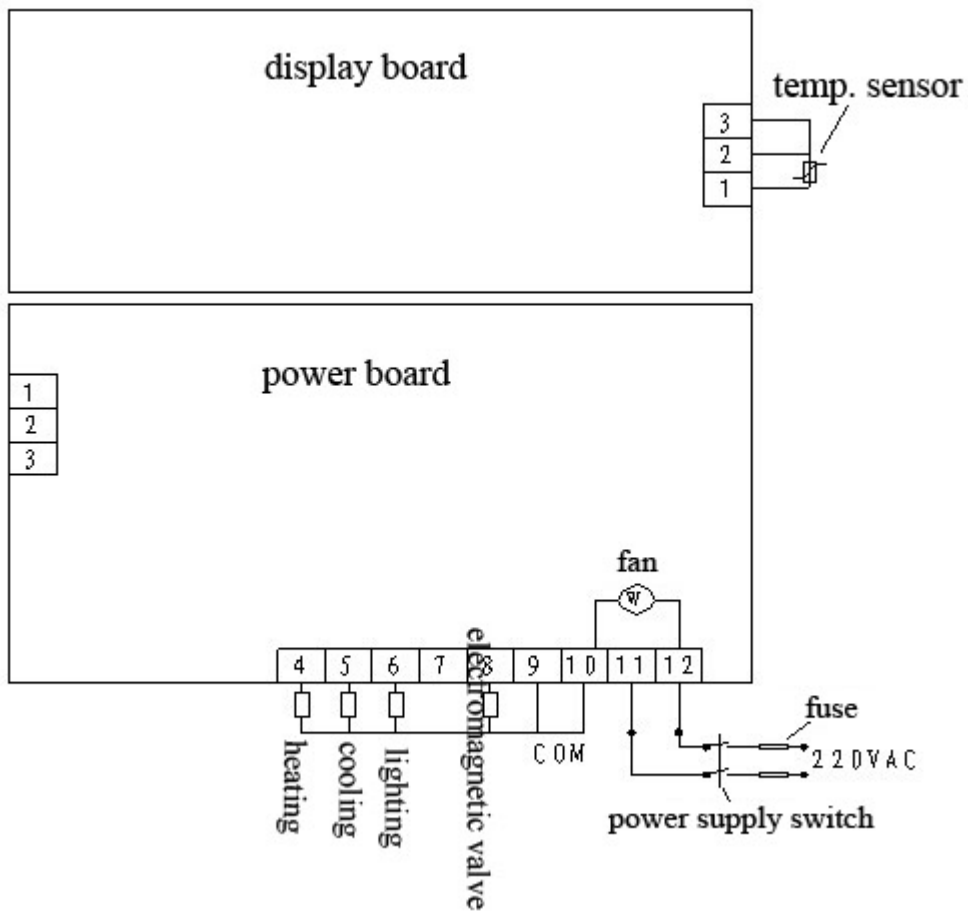
8. In order to make sure good temperature effect, don't touch or collide the temperature sensor

10. This equipment is equipped with cooling function, which is cooling mode. When cooling stops, it is normal that if there is **pull-in** of magnet valve or refrigerant backflow sound

11. Troubleshooting

Troubleshooting	Handling
Screen displays (----)	·There is something wrong with temperature sensor, check the temperature sensor, model: PT100
Temperature can't reach setting value	·Setting temperature is lower than display temperature Check whether the heater is damaged Check the controller board and other connections
Temperature rises slowly	Check whether the fan stops working 1. The fan is broken 2. There is something wrong with relative connections
Screen displays nothing	3. check whether power switch is on 4. check whether the plug cord is 220V 5. check failures according to wiring layout

11. Wiring layout



12. Packing list



NO.	Name	Quantity	Remarks
1	Finish Product	1	
2	Instruction Manual	1	
3	Certification	1	
4	Quality Warranty Card	1	
3	Shelf	2 (70L) 2 (100L) 2 (150L) 2 (250L)	

After-sales service

- (1) One year warranty, lifetime service. and this product is warranted for a period of twelve months from the date of original purchase, please retain your receipt to establish proof of purchase!
- (2) Don't dismantle, repair or refit equipment without authorization and guidance from our company. This warranty does not extend to the repair or refit of any products.
- (3) This warranty does not cover any damages which is caused by improper operation, improper power output, or improper cable connection.
- (4) This warranty applies only to products sold in china. If the product is located outside in china, during the warranty period, we will offer the parts for free. but not bear freight charge. If outside of warranty period, you need to pay for the parts and the freight charge.
- (5) The warranty does not cover consumable parts, such as light lamp or glass door and so on.

