Constant temperature and constant humidity incubator HT100B/HT150B/HT200B/HT250B/HT400B

User Manual

Version 2021.06

Introduction

Respected users：Thank you for buying constant temperature and constant humidity incubator, and I would like to thank you here!

Temperature temperature and humidity incubator is suitable for production, testing, scientific research, college experiments in medical units, medicine, chemical, environmental protection, agriculture and other industries.

It is widely used in the aseptic tests of drugs, textile, food processing and so on, the stability inspection and the performance of raw materials, product packaging and product life of industrial products.It is a kind of constant temperature and constant humidity equipment.

It is a device that simulating the constant temperature and humidity environment in the incubator.

I sincerely hope that our products will bring the greatest help to your work.In order to have more understanding of the constant temperature and humidity incubator, be sure to read the instructions carefully before use. The contents of this manual are very important for your safe and correct use of the machine!

After reading the instructions, please keep this manual where it is easy to use.

Preface

Introduction **1**

I. Points for attention **3**

2.Installation **4**

II. Directions for use **6**

1. Overview 6

2.Performance index 7

3.Operating process 7

4. Operating Instructions 7

5.Use precautions 11

6 Maintenance and Maintenance 12

7.Circuit diagram 13

III. Common fault analysis **14**

IV. Warranty **15**

Appendix A **15**

I. Points for attention

1. Important safe operation information

1.1 This manual includes important safety regulations to follow.

All the matters and procedures described here are intended to give users the correct and safe use of the equipment; to protect users and others from possible injury

1.1.1 ! Hazanger (may constitute serious property loss or casualty)

I, This product must be reliably grounded and kept away from the electromagnetic interference source (the zero line or middle line cannot be used as the ground line).

II, Please confirm the equipment nameplate indicating consistent power parameters and use an independent socket before use.

III, shall not insert fingers or objects into any holes (grooves) of the equipment to prevent affecting the air duct or electric shock or injury resulting from the movement of such objects.

IV, does not allow products to unplug or power plug during operation.

V, Do not damage the power plug and the wire. If removing the plug from the power socket, hold the power plug and do not pull the power plug wire, avoid using loose power plug, do not allow to connect or cut the power wire, so as not to cause fire or electric shock.

VI、The user shall not remove, repair or modify the equipment itself. If any of these operations are performed by unauthorized personnel, a fire or personnel injury may result from improper operation.

VII、Equipment shall not be placed in flammable or corrosive gases or storing volatile or flammable items in the equipment. Otherwise, it may cause an explosion or a fire.

1.1.2! Warning (possible loss of property or personal injury)

I、The operating instructions must be fully read and understood.

II、304 stainless steel, please pay attention to corrosion prevention measures, do not use acid medium in the box.

III、The product power supply wire must be removed during the following operations:

a, when replacing the fuse;

b,When product failure for inspection and maintenance;

c, Whenproduct is stopped using for a long time;

d, mobile device.

IV,Use a power socket with ground wires to prevent electric shock. If the power socket is not grounded, it must be installed by qualified engineering technicians.

V,Put the product on the working bench and fix the foot of the box to avoid moving, falling and damaging the product and causing personal injury accidents.

1.1.3! Note (may cause the product to work properly or affect service life)

I、The tilt angle shall not be greater than 45 when moving or handling, and should be careful to not damage the instrument;

II、The equipment shall be installed on solid ground to remain horizontal. Keep more than 50cm on the wall and more than 30cm on both sides.

III、Dry the internal bile moisture after each test to avoid affecting the service life of the internal bile corrosion.

IV、Do not open or close the product box door by gravity, otherwise it is easy to cause the box door shedding and product damage.

V、The equipment has a refrigeration system, which shall not be tilted, and shall be placed for 1-2 days after unpacking. The indoor temperature shall be kept around 25 ℃ in summer for continuous cooling, one heating (50 ℃, 4 hours), defrosting treatment.
VI、Do not place the water containing container or heavy objects on the product, to avoid splashing water on the product resulting in short circuit or electric shock danger, or the heavy objects slide and damage;
VII、This product shall not be used outdoors to prevent equipment from rain, which may cause leakage or electric shock.
1.2service environment；operating environment；environmental conditions
To prevent incubator contamination, select a suitable installation site and completely sterilize the container components.
1.2.1 Avoid high temperatures and high wetland sites because more bacteria exist in the air in such locations than in normal ambient air. Install air conditioning in the room if necessary to keep the ambient temperature at around 25-27 C. Ensure that the difference between ambient temperature and setting temperature of constant temperature and humidity incubator is not less than 5-7 C.
1.2.2Avoid locations near doors, air conditioners, fans, etc., as a breeze in such locations may make bacteria easily accessible to the incubator.
1.2.3 Use of clean containers
Hybrid bacteria contamination is mainly caused by containers such as petri dishes or bottles stored in boxes. Be sure to keep the container clean.

2.Installation

2.1Remove the packaging materials and adhesive tape
Remove all shipping packing materials and tape, open the box doors and vent the equipment. If the housing panel is dirty, remove the dirt with a neutral detergent and use clean water to remove the residual neutral detergent (the undiluted detergent destroys the composition of the plastic, refer to the instructions of the detergent to dilute the detergent). Clean clean with a wet cloth and then wipe the panel with a dry cloth.
2.2 Installation position
2.2.1 A location that is not directly affected by direct sunlight or air flow from the air conditioner.
2.2.2 A place with clean air and adequate ventilation (not installed in small and confined rooms).
2.2.3 A location away from the heat source.
2.2.4 A site with a solid and flat ground.
2.2.5 A site where no combustible or corrosive gas exists.
2.2.6 A place to avoid splashing into water.
2.2.7 A place with low high humidity.
2.2.8 A site without a combustible or volatile gas

2.3 Earthing

⚠ Warning

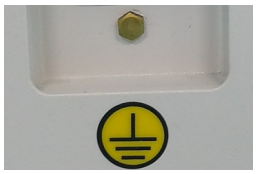
Use a power outlet with a grounding wire to prevent electric shock. If the electrical outlet is not grounded, qualified engineers must install the grounding wires.Do not ground the equipment through the gas pipe, power supply pipe, telephone line or lightning rod. This kind of ground may cause electric shock due to the incomplete circuit.

Do not place the equipment in a wet place or where water may splash, otherwise cause leakage or electric shock due to reduced insulation.

2.4 Label Description



F10AL250V



Earthing identification



PurWater water Tlabel



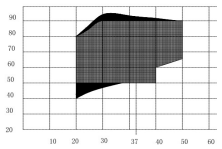
Outlet / optional water intake

II. Directions for use

1. Overview

This series of products are applicable to the medical units, production, testing, scientific research, college experiments, pharmaceutical, chemical, environmental protection, agriculture, electronics, military equipment and airborne equipment, widely applicable to aseptic testing of drugs, textile, food processing, stability inspection and testing of raw material performance, product packaging and product life of industrial products.

Technical parameters

Model / Qualification	BJPX-HT100 B	BJPX-HT150 B	BJPX-HT200 B	BJPX-HT250 B	BJPX-HT400 B
Volume	100L	150L	200L	250L	400L
Conection mode	Force convection mode				
Relative humidity fluctuation	±3～5%RH				
Humidity range	50～95％RH 				
Temperature control range	0～60℃				
Temperature resolution	0.1℃				
Temperature volatility	±1.0℃				
Temperature uniformity	±2.0℃（@37℃）				
Wet mode	Built-in humidification pipe				
Cryogen	R134a (Fluorinated environment-free refrigerant)				
Source	220V±10%；50Hz				
Work environment	Suitable ambient temperature is 25 ℃ (10-30 ℃)				
Display screen	7 " LCD touch screen				
Appendix	USB/ Optional printer				
	Optional UV/BOD socket				
Observation window	Compound plex tape observation window				
Power rating	1200（W）	1200（W）	1400（W）	1500（W）	1800（W）
Studio Size W×D×H（mm)	500*350*580	550*401*690	600*450*750	660*450*850	658*500*1238
Outline dimension W×D×H（mm)	644*647*1170	690*692*1270	742*743*1340	802*743*1440	845*800*1805
Carrier shelf (standard standard)	2	2	2	2	2
Net（kg）	98.5	115	120	135	200

Note: the performance parameter test under no-load conditions is: ambient temperature 25 ℃, ambient relative humidity 50%RH, is not used for long refrigeration;

It is recommended that this product is not used for the cultivation of human source samples.

2.Performance index

2.1 Partition: partition shall bear 15kg load with no obvious deformation; partition mesh holes shall be neatly arranged with no cracks, edge and burr defects; partition shall be stable on the partition frame and flexible.
2.2 The incubator has the function of triggering the overtemperature alarm due to too high temperature.
2.3 Heat up time: except water insulation incubator, not more than 40min.
2.4 Cooling time: incubator with active refrigeration device, cooling time of incubator no more than 40min.
2.5 Insulation performance: the incubator shall have good insulation performance, with a secondary temperature difference not more than 10.0 ℃.
2.6 Noise: the noise shall not be more than 65dB (A).
2.7 Timing function: Time time of incubator is 0~999: 59h.
2.8 Sealing: the door seal shall have good gas tightness, and the door seal shall be tight.
2.9 Temperature fluctuation: within the normal temperature control range of the instrument, the temperature fluctuation is within the range of ± 1 ℃.
2.10 Temperature uniformity: the temperature uniformity tolerance within the normal temperature control range is ± 1 ℃.
2.11 The incubator shall have good thermal insulation performance.
2.12 Appearance: the appearance of the training box shall be clean and smooth, without obvious mechanical damage and rust, and each indication switch is correct; the nameplate signs shall be neat and beautiful.
2.13 Electrical safety: the resistance value ≤ 0.10 Ω between the metal surface and the power plug is 0.10 Ω; under AC voltage 1390V for 5s; leakage current between exposed metal part and the power line, current value meeting ≤ 10mA.

3.Operating process

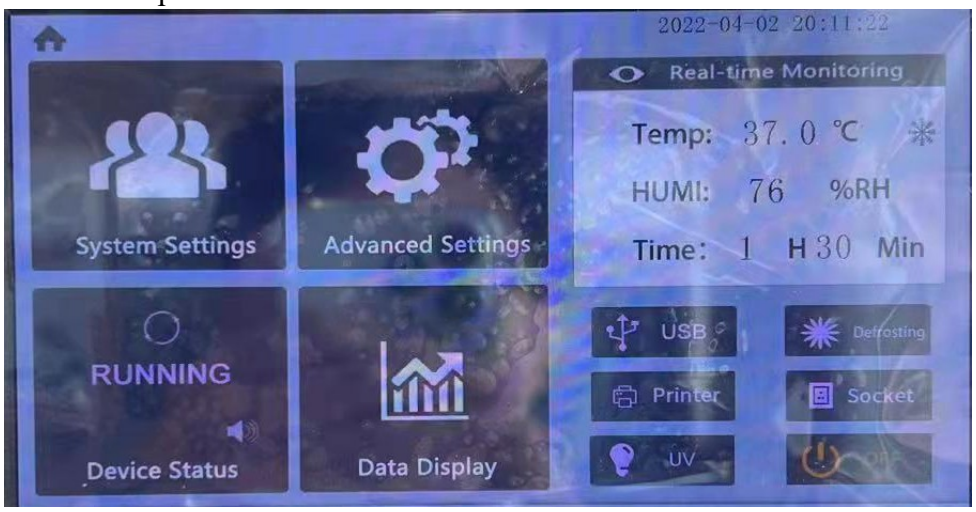
3.1 Open the box door, put the pending items on the shelf in the box, and close the box door.
3.2 Turn on the power supply, with a digital display, indicating that the equipment enters the working state.
3.3 Set the box temperature you want by operating the temperature controller on the control panel.
3.4 The instrument starts working, the temperature in the box gradually reaches the set value, and the processing work is completed; the instrument is in the normal working state.
3.5 During the article training, it is best not to open the glass door, except in the box outside, especially do not open the inner door for a long time to avoid affecting the temperature; if opening the box door for too long, the temperature in the box after temporarily closing the box door fluctuations, which is a normal phenomenon.
3.6 Turn off the power supply, open the box door after the temperature is close to the ambient temperature, and remove the items. If not remove the items immediately, please do not open the box door.

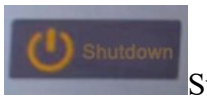
4. Operating Instructions

4.1 Preparation

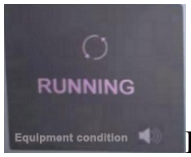
Plug in the power supply and the incubator is on standby to determine whether the voltage stabilizing voltage supply is required according to the installation ambient voltage to ensure that the power supply voltage fluctuation does not exceed 220V ± 5%.

4.2 Main interface description



1、

Switch the key: Press the button, the icon turns orange, meaning it is turned on; the icon shows white, meaning it is turned off.

2、

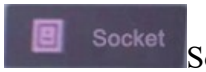
Device status display: On power off, not running; on power on, Running, and running icon. The small horn button in this position is the mute key, which can control the on and off of the alarm sound, but can not eliminate the alarm.

3、

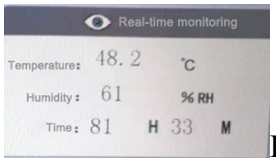
Printer button: When the button is pressed, the icon turns orange, the printer works normally, and the printer cannot print when the icon shows white (this function is optional).

4、

USB key: press the key after inserting the U disk, The icon turns orange, The U disk is working correctly in the middle of the current party, After a successful U disk connection, Store data every minute (every data buzzer), A WD01 EXCEL table is established during the stored data process, A table stores 120 temperature values and the corresponding time values, When storing these 120 data will automatically establish a WD02 EXCEL table, And so on; Press this key again before removing the U disk, Unremove the U disk when Remove Success is displayed.

5、

Socket key: When the button is pressed, the icon becomes orange with 220V in the socket. The icon shows that the socket is not energized when the socket is white. (External equipment power here shall be ≤ 500W) (this function is optional).



6、Real-time monitoring:

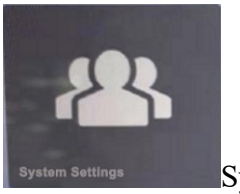
Temperature: Display the temperature in the incubator.

Humidity: Display the humidity in the incubator.

Time: countdown to culture time. When the training conditions are met, the countdown starts in minutes; when the hours and minutes are reduced to 0, the alarm sounds, and the "training completion" sign is displayed at the lower right position to reset the time to eliminate the alarm.



7.Data display: press the key to enter the temperature curve display interface, and can observe the temperature change in the nearly two hours.



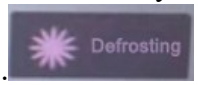
8、System settings: used for customer self-programming parameter setting.



9.Advanced setting: a password is required to enter the commissioning interface for technical testing and not accessible without authorization.

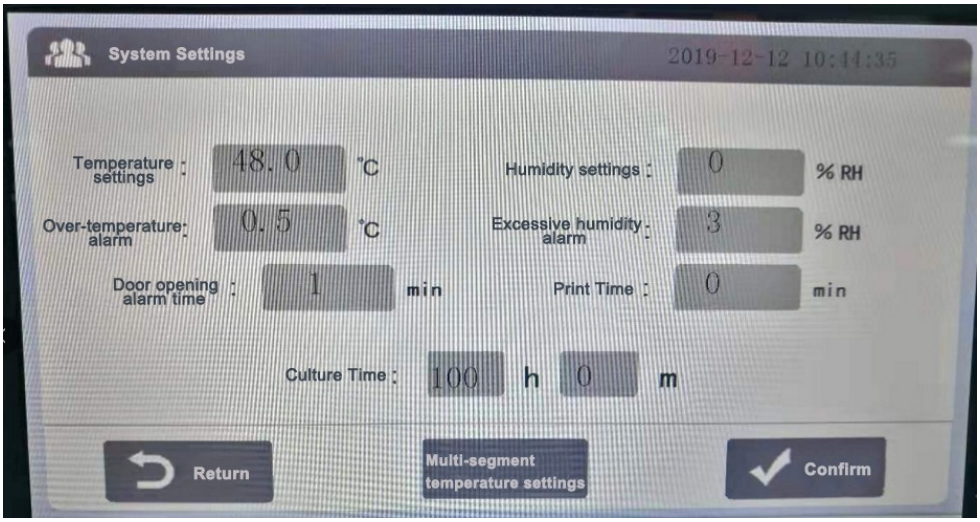


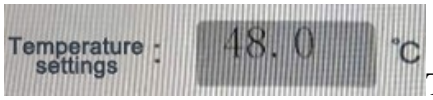
10. UV lamp key: when the button is pressed, the icon becomes orange, the UV light works normally, and the UV light is not on when the icon is white (this function is optional).



11. Manual frost button: when the button is pressed, the icon becomes orange, start the frost work, the icon does not work when white (the equipment is automatic timing cream from the factory).

4.3Description of the system setting interface:



1、

Temperature setting: click the icon to set the temperature in the incubator, with a temperature setting range of 0~60 ℃.

2、

Open door alarm time: Open door alarm time is set, in minutes. When the opening time exceeds the set time, the alarm sounds, and it can be eliminated when closing.

3、

Overtemperature alarm temperature: the set value. When the temperature exceeds the set value, the alarm is generated and the "super high temperature" sign is displayed on the lower right. The "High high" flag disappears only when the temperature returns to this range; 1.0 ℃ is recommended.

4、

Humidity setting: click the icon to set the temperature in the incubator, and the humidity setting range is 0~100%RH.

5、

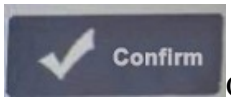
Hyperwet alarm humidity: the set value. When the humidity exceeds the set value, the alarm will occur, and the "super high humidity" sign is displayed on the lower right. The ultra high humidity sign disappears only if the humidity returns to this range; 3%RH. is recommended

6、

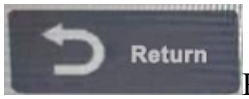
Print Time Set: Set the time for the printer to print once, in minutes.

7、

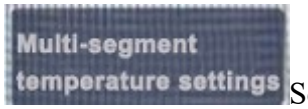
Training time: set the training time in minutes. After the time is set, the corresponding value will be displayed at the TIME position of the main interface. Start countdown when training conditions are reached; maximum of 999 hours 59 points.

8、

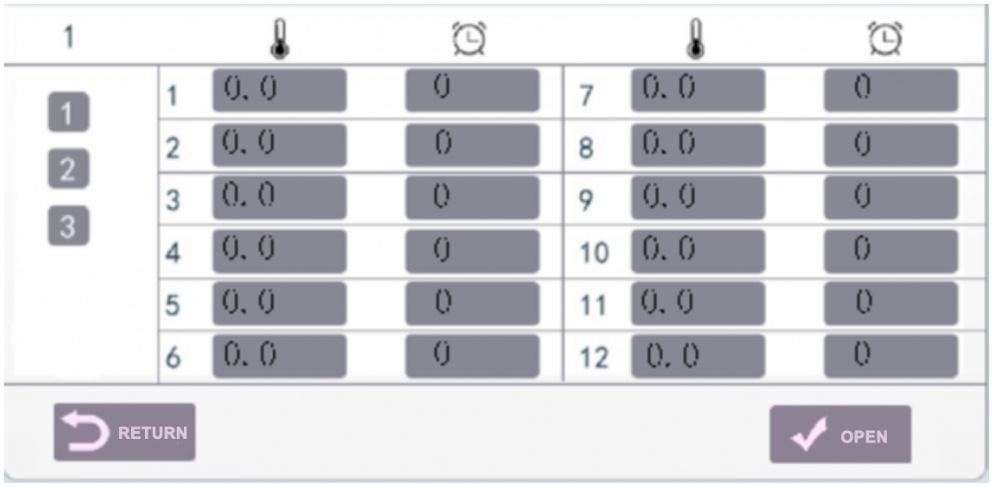
OK key: Press this key and all set values are saved, otherwise the original value is displayed.

9、

Return key: All set values are not saved.

10、

Set multiple speed operation. When clicked on, the following icon appears at the main interface temperature, the program runs automatically according to the set temperature value and time value, and no longer set the temperature according to the parameter setting interface. After section 12, the temperature is maintained at section 12. The three sets of multiple speeds can be set, and only one set can run. The three sets of no multiple speed can click the cancel button.



5.Use precautions

5.1 Special attention: before training should be carried out after the incubator reaches the corresponding temperature, humidity and other environment!

5.2 The equipment shall be placed in a dry, flat, no toxic and harmful, no strong electromagnetic field and radiation energy room, and shall avoid direct sunlight. To ensure temperature control accuracy, it is recommended in (15~28) ℃.

5.3 The equipment has a refrigeration system, which shall not be tilted, and shall be electrified for 1-2 days after unpacking. The indoor temperature should be kept around 25 ℃ in summer for continuous refrigeration, about 10 days (50 ℃, 4 hours), defrosting treatment.

5.4 In units with unstable power supply, it is best to be equipped with high-performance voltage stabilization appliances (UPS) to reduce faults caused by voltage instability.

5.5 The equipment shall be horizontal. there must be more than 50cm on the wall and more than 30cm on both sides.

5.6 Do not open / close the product box door by gravity, otherwise it is easy to cause the box door shedding and product damage.

5.7 Do not place the water containing container or heavy objects on the product, to avoid water splashing on the product resulting in short circuit or electric shock danger, or the heavy objects slide

and damage;
5.8 Equipment with no humidifier. If humidity is required, please inject 2 / 3 of distilled water into the bottom reservoir, place it at the bottom of the studio, and close the box door.
5.9 Scrub the working room of the constant temperature and humidity incubator with alcohol, and turn on the sterilization lamp for 30min to complete the disinfection.
5.10 Under normal use, make abnormal shut off or wipe the water vapor of the inner bladder before turning off again, and open the glass door for ventilation and drying.

Solemnly solemnly: for the operation of not according to the risk caused by the company does not assume its responsibility!

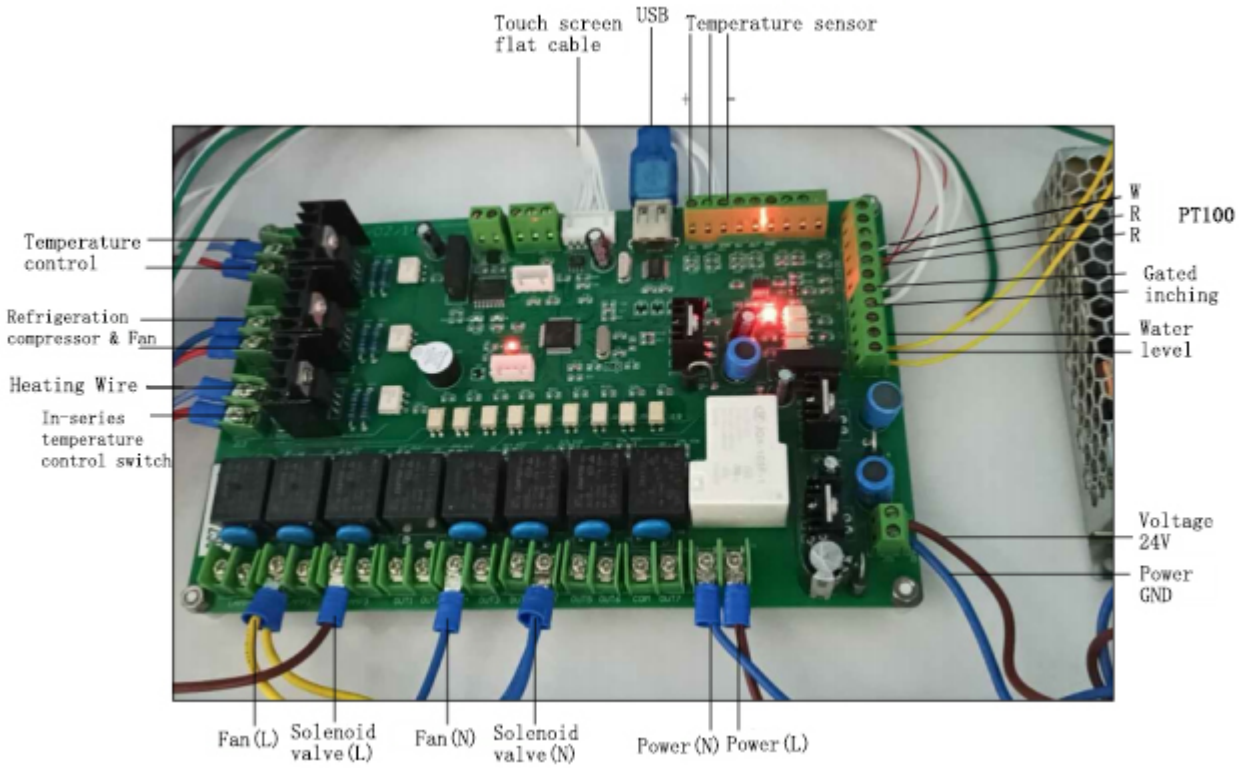
6 Maintenance and Maintenance

frequency	operate
q.d.	Clean the interior cavity and compartment, perspective window glass
weekly	Clean door seal strip
Every 1-3 years	Replace door seal strip

quick-wear part	CPC fast plug connector
	Fuses (insurance pipe)
	glasswork

6.1 Regularly check the compressor pipeline without leaking refrigerant;
6.2 Check the leakage pipes and excuses of the constant temperature and humidity incubator for water leakage or blockage;
6.3 Dust dust the machine regularly to prevent dust from blocking the pipeline.
6.4 The incubator shall be stored in the relative humidity not exceeding 80%, free of corrosive gas and good room.
6.5 Earthquake, moisture and other necessary protective measures during transportation. Do not excessively tilt or inverted transportation, carefully put lightly.
6.6 During use, the inside of the box shall be kept clean, and the surface is found with dust and oil pollution shall be wiped in time.

7.Circuit diagram



III. Common fault analysis

Please confirm that the power supply is well connected, the power cord has obvious damage and the safety pipe is good before troubleshooting the fault.

Fault phenomenon	checkpoint	Exclclusion
Touch screen touch touch	control panel	Determine that the power supply is connected and the insurance pipe is intact
		Make sure that the key is not damaged
		Determine connecting connection is not in bad contact
		Replace the control board
Fan fan fan	inches switch	Check the microswitch for damage and normal
	draught fan	Damdamaged damaged, replace fan
	circuit	Check the line
	control panel	Replace the control board
Temperature anomaly	pickup	Built-in temperature tester box temperature
	heating pipe	Check the heating pipe line for damage
	compression	Check for damaged compressor lines or compressor
relative humidity	Low humidity	Increase the evaporation area
	High humidity	Reduce the evaporation area
Glass door not closed	Door rotary knob	Check whether the door knob is loose
	weatherstrip	Check the seal strips for warping or aging
Equipment is not energized	source	Power supply is not well connected;
	power line	Whether the power cord is obviously damaged
	protective tube	Whether the insurance pipe is good
	transformer	Whether the transformer output is normal
	control pulse	Replace the circuit board

(1) The operation of the above electrical components must be carried out by qualified electricians under safe conditions (cut off the power supply). And other parts are not allowed to be dismantled, otherwise the consequences will be borne by the users themselves;
(2) If the equipment is not the above fault, and the operator cannot eliminate it immediately, please notify the maintenance department of the company immediately, please do not repair the equipment for your safety;
(3) The maintenance of the equipment is only undertaken by trained and recognized technical personnel;
(4) If you need to order parts to find our technical service department, please indicate the model and number of the constant temperature and humidity incubator you have purchased.
Note: If the user can not solve the fault, please contact the acting engineer as soon as possible, do not deal with it by himself, otherwise the warranty will not be granted.

IV. Warranty

1. Warranty period is 24 months from the date of purchase.
2. Equipment during the warranty period, if due to improper use of the user caused failure or damage, the company does not undertake warranty obligations.

Appendix A

Packing list

Serial number	Name	Category	Quantity	Remarks
1	Constant temperature and constant humidity incubator	host computer	1	
2	bulkhead	Accessories	2	
3	Manual	Documents	1	
4	Product warranty card	Documents	1	
5	Product Certificate	Documents	1	
6	Packing List	Documents	1	
7	10A Insurance	Spare parts	2	
8	Power cord	Accessories	1	
9	CPC fast connector public connector	PLC Series, One-Way Deadline, 1 / 4"	1	

The items listed in this list are in accordance with the physical contents in the box