

# **Bio Filler Incubator**

## **Instruction Manual**

**(Read the Instruction Carefully Before Operation)**

Respected Customers:

Thank you very much for using our instrument. We are trying our best to provide products with good quality and performance. For easy operation, please read the manual carefully and conduct on the instruction steps before operation.

Whatever questions do you have during operation, please contact us. We will try our best to solve your problems.

Best regards!

This manual tells how to use the incubator correctly. Before using (installation, operation, maintenance and inspection etc.) please read the manual carefully. Operate the product after understanding the safety attentions.

#### Attentions

In order to describe the detailed parts, the graphic illustrations in this manual were showed without outer housing or protective cover. When you using this product, make sure the outer housing or protective cover is installed correctly and operate according to the instructions.

The graphic illustrations in this manual only for explanation, maybe different with the product you purchased.

In order to enhance the convenience and accuracy of the instruction manual, the content of the instruction manual would be changed with the product updating or specification changes.

If the instruction manual is damaged or lost, please contact with the local agent or us directly.

# Content

Chapter 1 Instructions for use.....	3
1.1.    Main Structure.....	3
1.2.    Operation Instructions of the Control Panel.....	4
1.2.1.    Incubator Control Panel.....	4
1.2.2.    Incubator Control Panel.....	4
1.2.3.    Fan Cooling Time Setting.....	6
1.2.4.    Heating Time Setting.....	7
1.2.5.    Temperature Setting.....	8
1.2.6.    Start and Stop.....	9
1.2.7.    Temperature Calibration.....	10
Chapter 3 Common trouble and trouble shooting.....	14
3.1.    Common trouble and trouble shooting.....	14
Chapter 5 Transportation and Storage.....	16

# Chapter 1 Instructions for use

## 1.1. Main Structure

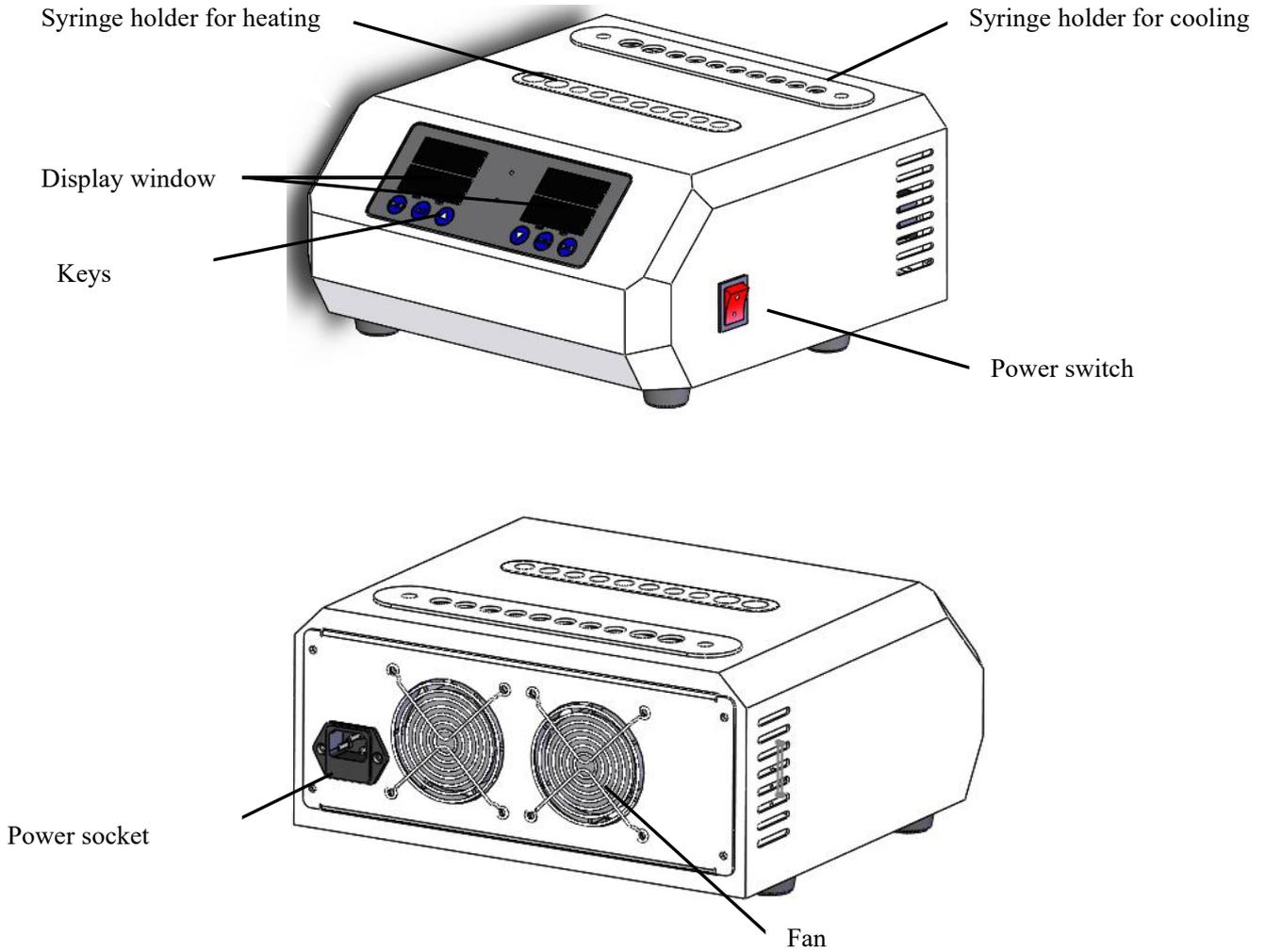


Figure 1.1 Outline drawing of the incubator

## 1.2. Operation Instructions of the Control Panel

### 1.2.1. Incubator Control Panel

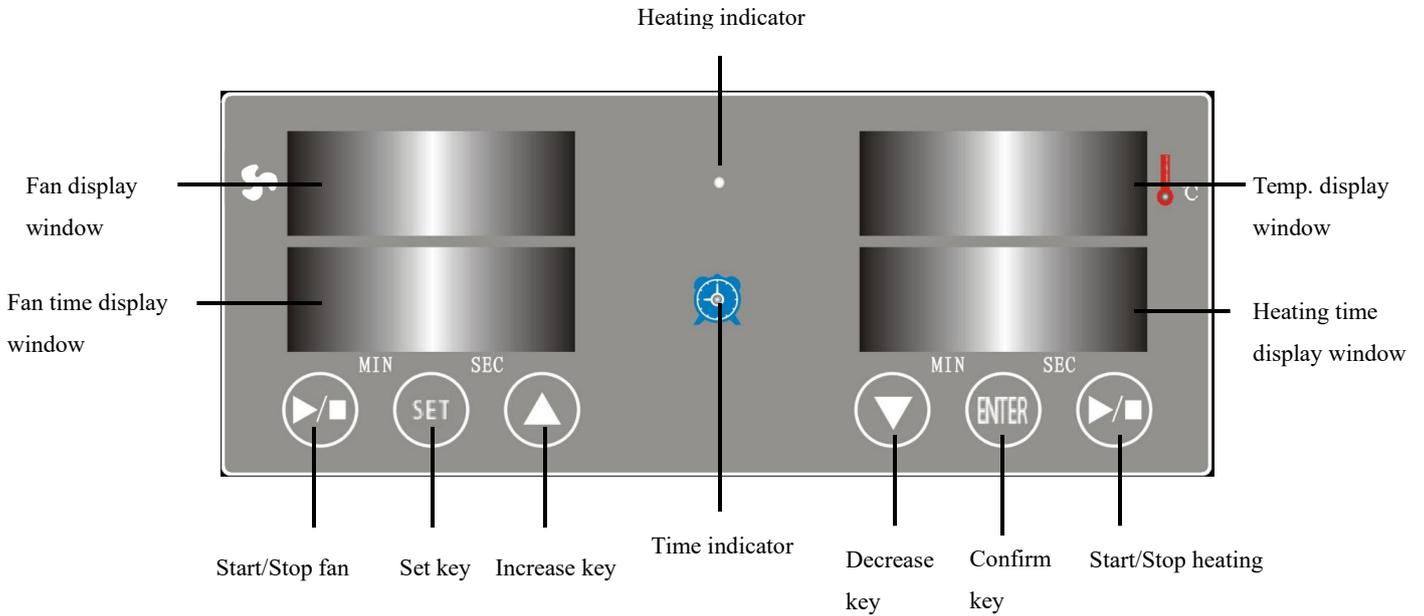


Figure 1.2-1 Incubator Control Panel

### 1.2.2. Incubator Control Panel

	<p>“Set” Key</p>
	<ul style="list-style-type: none"> <li>◆ Press  key, when the fan time display window shows “” with number flashing, and then press the  or  key to set the time you need.</li> </ul> <p>Attention: The speed you set shouldn’t exceed the Max speed of the Rotor you use.</p> <ul style="list-style-type: none"> <li>◆ Press  key until the temp display window shows “” with number flashing, now enter into the <b>A Program Temp</b> setting, and then press the  or  key to set the</li> </ul>

temperature for **A Program** you need.

- ◆ Press  key until the heating time display window shows “” with number in the second line flashing, now enter into the **A Program Time** setting, and then press the  or  key to set the time for **A Program** you need.

- ◆ Press  key until the temp display window shows “” with number flashing, now enter into the **b Program Temp** setting, and then press the  or  key to set the temperature for **b Program** you need.

- ◆ Press  key until the heating time display window shows “” with number in the second line flashing, now enter into the **b Program Time** setting, and then press the  or  key to set the time for **b Program** you need.

- ◆ Press  key until the temp display window shows “” with number flashing, now enter into the **Temp Calibration State**, and then press the  or  key to set the calibration temperature value.

#### “Start/Stop” Key



Press  Key on the left: the fan starts working and the cooling time counts down.

Press  Key on the right: the system starts heating and the heating time counts down.

▲	“Increase and Decrease ” Key
▼	
▲	Press ▲ key, it can add the value of the setting parameter.
▼	Press ▼ Key, it can add the value of the setting parameter.

ENTER	“Confirm” Key
ENTER	Press ENTER Key to confirm all parameters you set.

### 1.2.3. Fan Cooling Time Setting

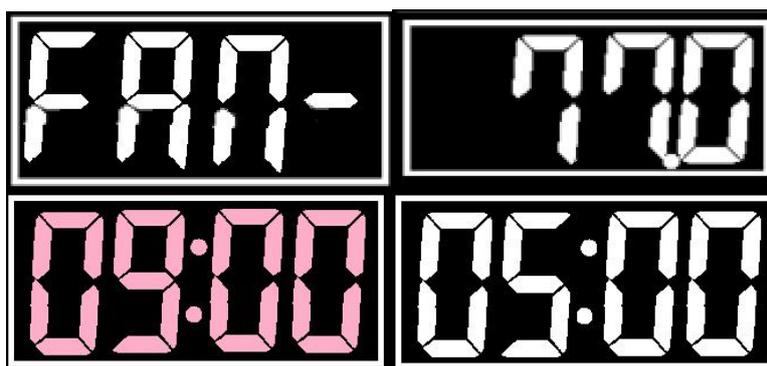


Figure 1.2-2 Cooling time setting

The default cooling time of the Bio Filler Incubator is 10min. If you want to change the setting time, for example: you need to set the cooling time to 9min,press **SET** enter cooling time setting mode. And then press“ ▲”or“ ▼”key to set cooling time(time range from10Sec to 99min50sec). The last digit of the time display window will flash, and press“ **ENTER**”key to save the current cooling time setting; If there is no operation for more than 6 seconds in the cooling time setting interface, the system will automatically exit the cooling time setting mode, the current cooling time setting value is invalid and will not be saved.

## 1.2.4. Heating Time Setting

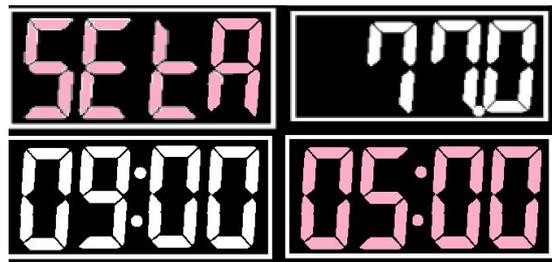


Figure 1.2-3 Heating time setting for **A Program**

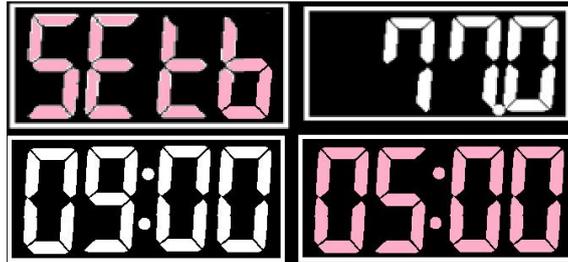


Figure 1.2-4 Heating time setting for **b Program**

The default heating time is 3min for **A Program** and 10min for **b Program**, If you want to change to another time, For example: You need to set **A Program** time to 9min and **b Program** time to 5min, Press  to enter the heating time setting interface. And then press “” or “” Key to set the heating time for **A or b Program**, the setting range is from 10Sec to 99min50sec.

The last digit of the time display window will flash, and press “” key to save the current heating time setting; If there is no operation for more than 6 seconds in the heating time setting interface, the system will automatically exit the heating time setting mode, the current heating time setting value is invalid and will not be saved.

## 1.2.5. Temperature Setting

The default setting temperature is 70°C for **A Program** and 90°C for **b Program**.

If you want to change to another temperature, For example: You need to set the **A Program** temperature to 57°C or **b Program** temperature to 77°C, press  Enter the temperature setting interface.

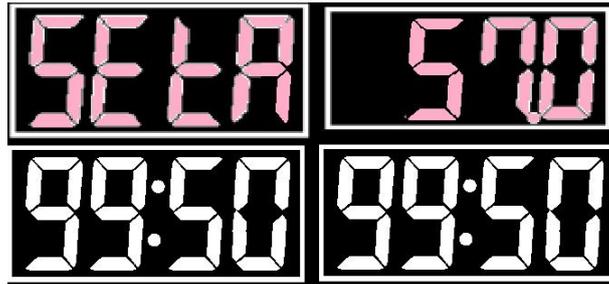


Figure 1.2-5 Temperature setting for A Program

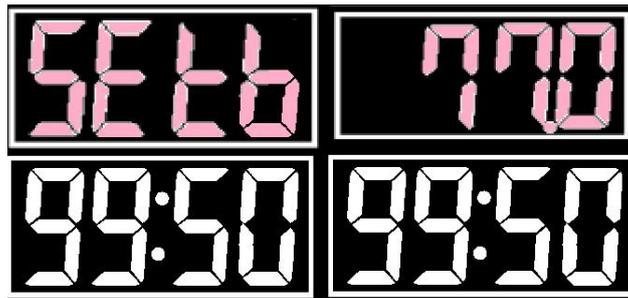


Figure 1.2-6 Temperature setting for b Program

Press “” or “” key to set heating temperature for **A Program** and **b Program**. and press “” key to save the current heating temperature setting; If there is no operation for more than 6 seconds in the heating temperature setting interface, the system will automatically exit the heating temperature setting mode, the current heating temperature setting value is invalid and will not be saved.

## 1.2.6. Start and Stop

After the instrument is turned on, the system automatically sets the temperature to the default value for **A Program**. After about 10 minutes, the temperature of the instrument is controlled near the temperature of **A Program**.

When pressing the key  on the left, The cooling fan starts with timing, the time is displayed as a countdown. Similarly, when the temperature of heating holder reaches the A Program value, press the key  on the right, the heating holder starts with timing, and the time is displayed as a countdown.

When the temperature of A Program counts down to zero, the system stops, and the buzzer alarms. The time is displayed as the last set time, but the temperature of the heating holder is still constant at 37°C, the system stands by for instructions. Press any key to exit the end interface. Press  key to restart timing.

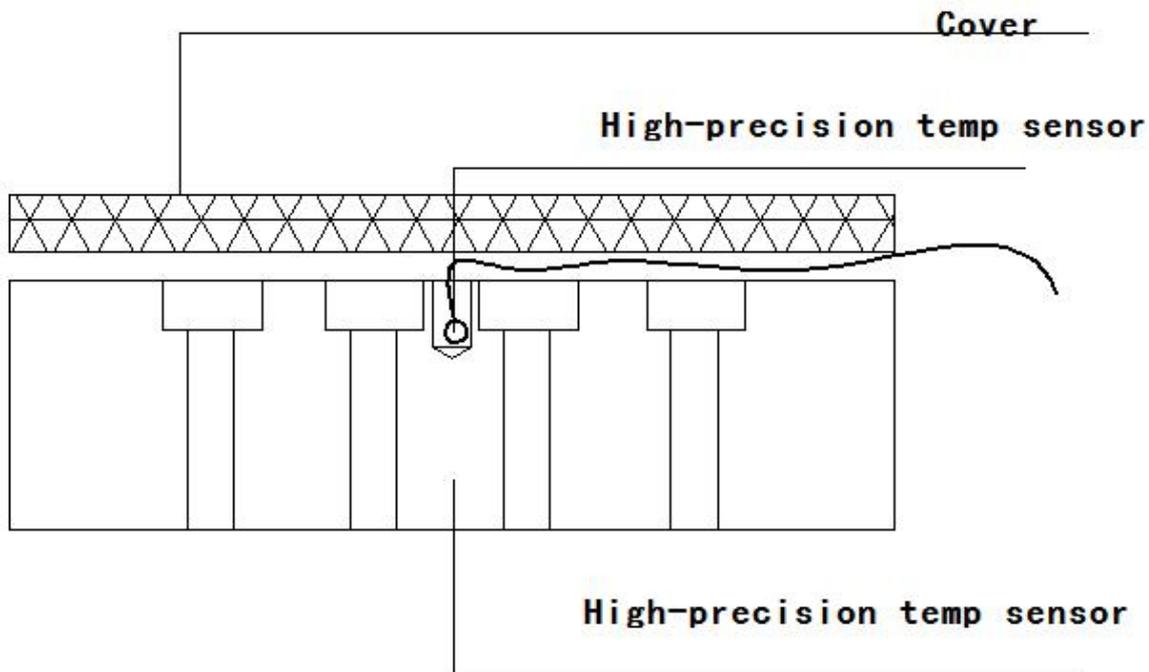
Press  key to start and stop timing, or suspends the operation and timing.

When the temperature of the heating holder has not reached the set temperature and press  key, the instrument automatically starts a countdown after it reaches the set temperature.

### 1.2.7. Temperature Calibration

The incubator temperature is calibrated before delivery. Please do not use the calibration function at will. But there will be some reasons which cause the actual temperature not match with the displayed temperature, You can recalibrate the temperature as following method. After calibrating the temperature, the temperature accuracy will be no more than 0.5°C .

Firstly, put a high-precision temperature sensor into the small hole in the center of the heating holders (The accuracy of high-precision sensors is required to be less than 0.1°C , The sensor must be fully inserted into the calibration hole, There must be thermal grease between the sensor and the small hole, which makes the sensor contacts with the heating very well, and then close the cover as follows:



**Attention!** To ensure the accuracy of temperature calibration, the ambient temperature must be lower than 30°C while calibrating the temperature. .

**Attention!** In order to ensure the accuracy of temperature calibration, the instrument

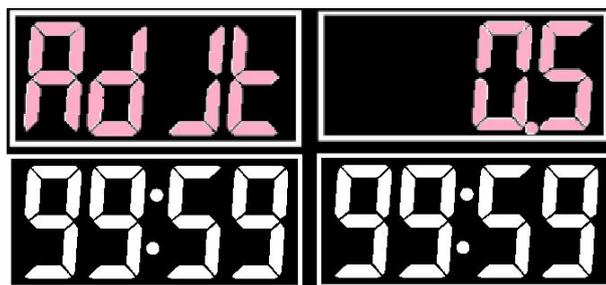
must be constant for 20 minutes before entering the new calibration value.

Place the instrument in a room with an ambient temperature less than 30°C and no strong convective air. Power on and set the temperature value. And then wait the temperature of the heating holder to reach the set value. When the temperature is constant to the set temperature for 20 minutes, record the display temperature of the instrument and the display temperature of the external standard thermometer separately. Calculate the temperature calibration value as following formula:

**Temperature calibration value = Display temperature value of external standard thermometer - the display temperature value of the instrument;**

And then, press  the key to enter the temperature calibration interface:

Press "" or "" key to set the temperature calibration value.



Attention! The input range of temperature calibration value is between -2.5°C and +2.5°C. If it exceeds this range, please confirm whether the temperature probe of the calibration thermometer is loose or poor contact, or you could contact the manufacturer.

Press "" key simultaneously to save the current calibration value and exit the calibration temperature interface; If there is no operation on the temperature calibration interface for more than 6 seconds, the temperature calibration interface is automatically exited. The current temperature calibration value is invalid and will not be saved.

## Chapter 2 Service and maintenance

- Please cut off the power before clean the instrument.
- While wipe up the instrument, it is forbidden to drop the washing solvent into the heating holders.
- It is forbidden to use corrosive liquid to clean the instrument.
- Turn off the power when the system stops working. When the instrument is not used for a long time, please pull off the plug and cover it with soft cloth or plastic paper to prevent the dust entering.

- Replace fuse

(1) Cut off the power, and unplug the plug the power cord connected with the external electric supply socket. Then draw another end of the power cord connected with the centrifuge.

(2) There is a fuse case equipped on the under part of electric outlet on instrument back. (See figure 3) There is a marking for fuse symbol, and find the V-shape slot on fuse case. (See figure 4) Pull out the fuse case with slotted point screw driver into the V-shape slot.

(3) Take out the damaged fuse and replace it. The model of fuse of the centrifuge is BGXP 5×20 、 250V $\sim$  2A.

(4) Put the fuse case into electric outlet.

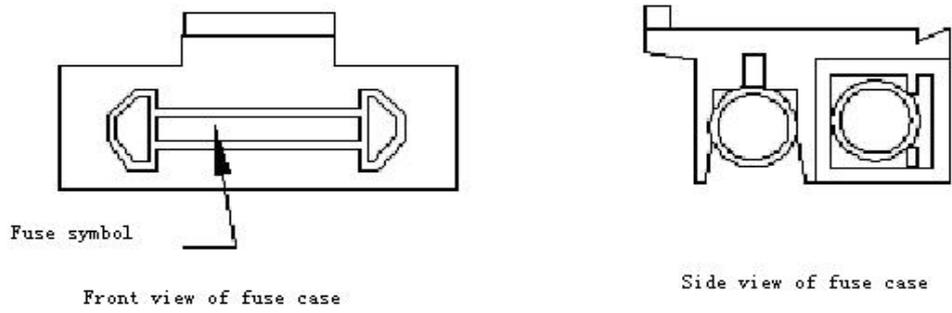


Figure 3

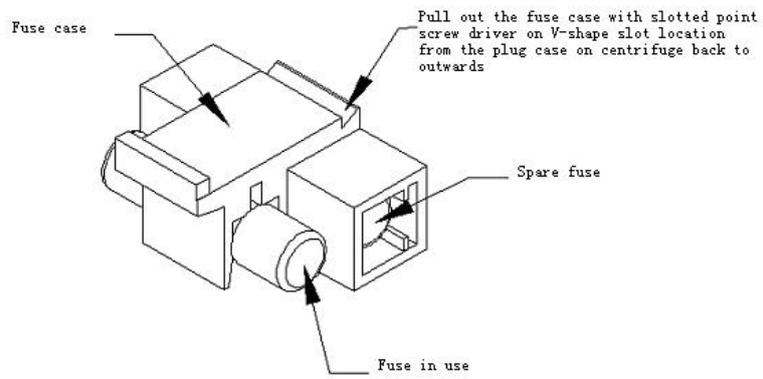


Figure 4

# Chapter 3 Common trouble and trouble shooting

## 3.1. Common trouble and trouble shooting

During operation, maybe there are following failures, please refer to following methods for easy troubleshooting:

◆ **Power on but no display:**

- 1) Check whether the input power is accordance with centrifuge rated voltage by multimeter. If it is the power problem, check and troubleshooting.
- 2) Check whether the power cord is connected with the mains jack. If it is loosen and not connected properly, check and troubleshooting.

Failure phenomenon	Reasons	Solution
Power display	Power cord connecting loosen	Connect the power cord properly
	Fuse is burned	Replace the fuse
	Power socket/outlet is damaged	Replace or contact the supplier
Temp counting down display window shows “ <b>off</b> ” with alarming sound “du.....”	The temperature sensor is damaged or the heating module is with a loose connection.	Replace or contact the supplier

<p>Temp counting down display window shows  with alarming sound “du.....”</p>	<p>Module temperature is over 92 °C.</p>	<p>Waiting for the temperature decreases</p>
	<p>The control board is damaged.</p>	<p>Replace or contact the supplier</p>
<p>Heating module not working</p>	<p>Heating module is damaged</p>	<p>Replace or contact the supplier</p>
<p>Keys not working</p>	<p>Touching keys are damaged</p>	<p>Replace or contact the supplier</p>

# Chapter 5 Transportation and Storage

## 5.1 Transportation

- You should use the carton package during long-distance transportation. Put the instrument into the case, and fill with foam or plastic shock absorption materials. It is forbidden to be hit, inverted, rolled and soaked by rain and snow or with large vibration and rough loading/unloading.
- You can directly move the centrifuge in room, but avoid big vibration, hitting and inversion.

## 5.2 Storage

- If it is leaving unused for long time, you should open the door lid and store it in ventilated, dry and clean room where is no corrosive, flammable and explosive matters.
- If it is leaving unused for long time, please pack it into cartons according to the original packing method.
- If it is leaving unused more than one week, please clean it with neutral detergent and wipe up by cloth.

## Warranty

Respected customers,

Thank you for purchase of our company's products. To protect your legal rights and avoid your worries, we provide warranty service for one year with the main machines. If it is broken under warranty with inartificial reason, we will supply free maintenance service. The customer needs to pay an amount of money if the product has exceeded the warranty period. We will not supply free maintenance if any following matter is happened:

- Exceed of the warranty period or without the warranty card.
- The trouble is caused by wrong installation, operation and maintenance.
- The trouble is caused by the unauthorized uninstalling and repairing by our company.
- The trouble is caused by using the rotor not equipped with this centrifuge.
- The trouble is caused by war, natural disasters or other irresistible factors.

## Packing List

Item	No	Name	Quantity	Unit	Remark	Check
Main machine	1	Bio Filler Incubator	1	set		
Option of rotor and accessories	2	Fuse BGXP 5×20 250V 10A	5	pc	Two in fuse case	
	3	Power cord	1	pc		
	4					
	5					
	6					
Attached tool	1			pc		
	2			pc		
	3			pc		
Attached file	1	Packing List	1	copy		
	2	Instruction Manual	1	copy		
	3	Qualified Certificate	1	copy		
	4			copy		

# Quality Certificate

Product Name: \_\_\_\_\_ Bio Filler Incubator

Serial No.: \_\_\_\_\_

This product is tested and qualified for delivery.

Checker:

Date: