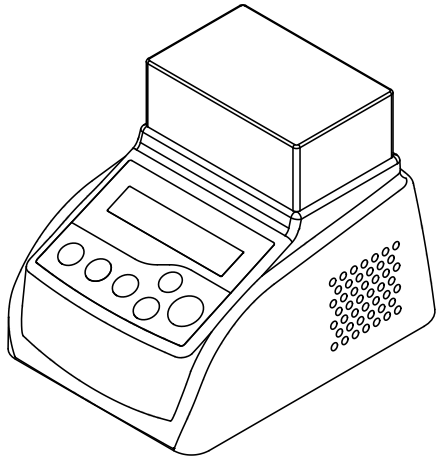
Biological Indicator Incubator

Operations Manual

Version 1.0



Hangzhou Ruicheng Instrument Co.,Ltd.

Contents

Foreword

Thank you for purchasing our products:Biological Indicator, This Manual for users contains function and operation of the Instrument. In order to use the instrument properly, please read this manual carefully before using the Instrument.

Opening Check

Please check the Instrument and Appendix with the packing list when you first open the instrument packing case. If you find there is something wrong with the Instrument and the Appendix, do contact the vendor or the producer.

1 Introduction

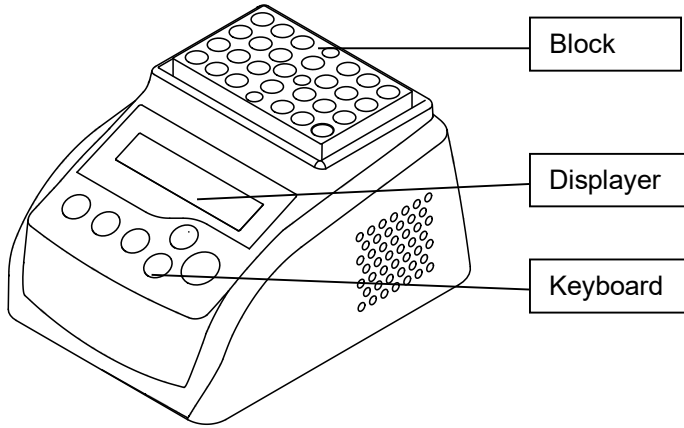
This biological indicator incubator is the special equipment for the biological indicator, small volume, in light weight, which is suitable for the pressure steam sterilizer biological indicator, ethylene oxide sterilization biological indicator and kinds of biological indicators to detect the sterilization effect.

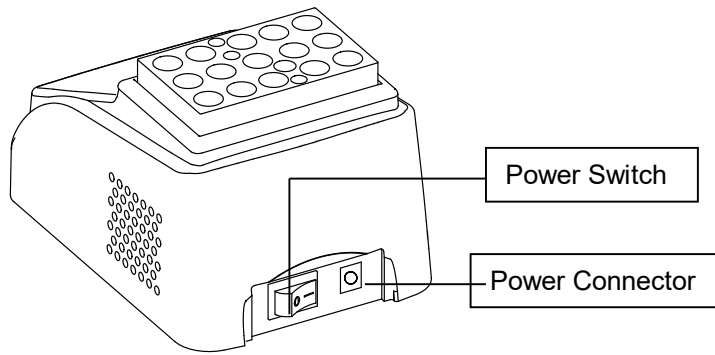
Before first use of this instrument, please read the manual carefully.

1.1 Delivery package

Incubator	1set
transparency cover	1pc
Adapter	1pc
Operations manual	1pc
Certification	1pc

1.2 Structure Description

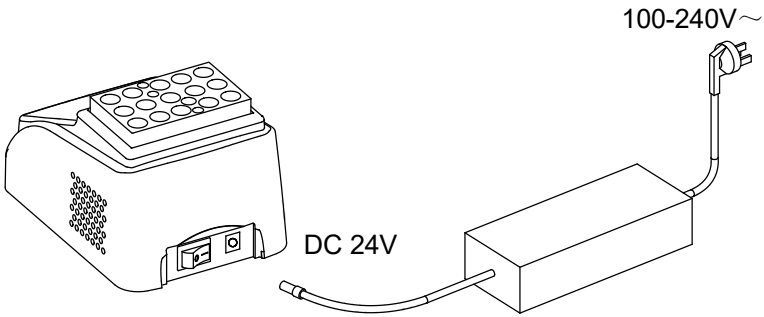




1.3 Installing the device

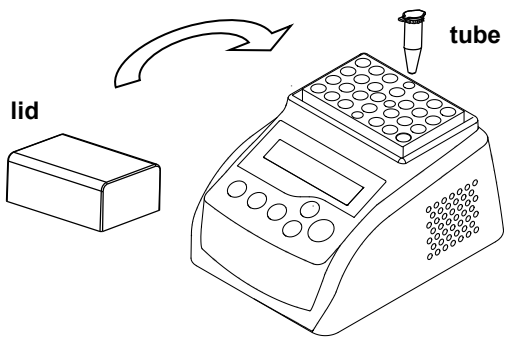
1.3.1 Place the incubator onto a level, horizontal surface.

1.3.2 Insert the column connector of the adapter to power connector of the device ,and insert another connector of the adapter to mains power supply. Voltage requirements within100-240v.



1.3.3 Press the power switch at the back of the instrument, the inst rument automatically heating up to the stated temperature, heating up generally takes around five minutes.

1.3.4 When the equipment arrived to the target temperature, then p ut the test tube into the constant temperature block with transparent insulation cover.



2 Technical data

Model	B80
Power supply	DC24V
Power	40W
Temperature range	RT+5 ℃ ～ 100 ℃
Timing range	1sec～999sec 1min ～ 999min 1hour～99hour
Accuracy of the temperature	≤± 0.3℃
Display accuracy	0.1℃
Heating time (from 20 ℃ to 56 ℃)	≤6min
Ambient temperature	5℃ ～ 35℃
Dimensions（L×W×H）	145mm×113mm×110mm
Weight	0.5 kg

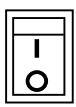
3 Safety precautions

This product is a normal and an indoor Instrument.

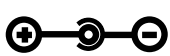
Before operating this equipment please read this manual carefully, otherwise it may cause personal injury. Only in the aspect of how to use electrical equipment installation trained and qualified personnel to operate the equipment.

The operator should not open or repair the Instrument by himself, which will result in losing the qualification of repair guarantee or occur accident. If there is some wrong with the Instrument, the company will repair it.

The Instrument should be put in the place of low temperature, little dust, no water and no sun or strong lamp. What's more, the place should be good aeration, no corrosively gas or strong disturbing magnetic field, far away from central heating, camp stove and other hot resource. Don't put the Instrument in wet and dusty place.



Mains switch is on the rear of the device, push "I" to power on the device, and push "O" to power off the device.



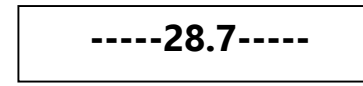
Power connector is on the rear of the device, DC24V input, inside is "+" , Out side is "-".

Power off when you finish your work. Pull off the connector plug when there's long time no use of the Instrument and cover it with a cloth or plastic paper to prevent from dust.

4. Operate guide

4.1 Create a new program

After startup, long press the Start/Stop button for more than 2 seconds into the programming interface. This instrument allows the user to custom 9 program, from P1 to P9.

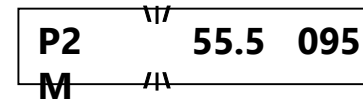


4.2 Program NO. setting：

Press “P” key, then press ▲ or ▼ to choose ID or section NO.

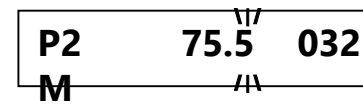
4.3 Temperature setting：

Press “Temp” “▲” or “▼”, the value of display windows for setting temperature will increase or reduce.

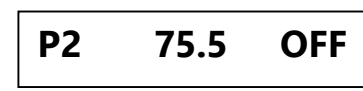


4.4 Time setting：

Press “Timer” “▲” or “▼”, the value of display windows for setting time will increase or reduce.

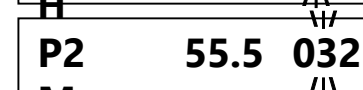


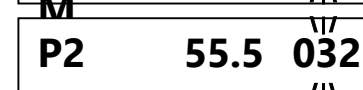
Timer parameters value is equal to “000” press”▼” key, then display “KEEP” means the program has been running. Press”▼” key, display “OFF” means this section program is closed.



4.5 Unit of time setting：

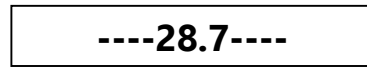
Short press the Timer, when the time unit flicker, user can press ▲or▼ to adjust the time parameters among seconds, minutes and hours.





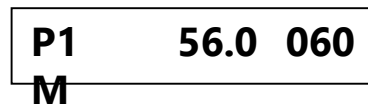
4.6 Operate and Stop

4.6.1 With the sound of “DI...”, instrument displays current temperature, and heat up to 56℃.



4.6.2 "WAIT," shows system is heating up, please WAIT.

4.6.3 When program reaches set temperature, the buzzer alarm “di”, then the system start to count down.



4.6.4 After the end of the countdown, the system run over, display "Finished", at the same time show the current block real-time temperature. Then short press any key, into the parameter configuration interface. If long press the start/stop button, the system will return to run programs in this section again.

During running the process, long press the START/STOP button, system stops running direct into parameter configuration screen.

4.7 Optional Configuration

after startup, Immediately press P and Timer keys at the same time, the system into the configuration menu.

4.7.1. Retain Temp. Function（RTF）：

Enable RTF function，system will be recorded current temperature after finish operating.

Disable RTF function, the temperature will be cooling after finish operating.

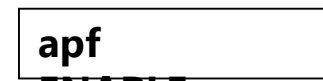
4.7.2. Power Outage Repeat Function（ORF）：

Enable ORF function，if the electricity goes off, the system will be auto re-operate last program when power recover.

Disable ORF function, the system will not be auto re-operate last program when power recover.

4.7.3.Auto Run When Power On Function（APF）：

Enable APF function, system will be auto re-operate last program when power on.



Disable APF, user need to press “Start/Stop” key to choose operation program after power on.

When the product leave factory, the APF system is open, ORF and RTF close, user can manually configure according to actual needs.

Under the conditions of APF and ORF function at the same time open, ORF priority than APF function.

Short press start/stop button, the program save the current configuration information, and exit the current mode.

4.8 Temperature Calibration

The temperature of the Instrument has been adjusted before it is sold out. But if there is deviation between the actual temperature and the displayed temperature due to some reasons, you can do as follows to correct the error.

Notes: The Instrument uses multipoint temperatures adjustment to ensure its veracity. The temperature veracity will be within ±0.3℃ after the multipoint temperature adjustment.

Ambient temperature must be below 35 ℃ when calibrate temperature.

Strongly recommended proceeding constant temperature calibration under indoor environment, and avoid the influence by some external exhaust equipment or cooling equipment cause the instrument ambient temperature fluctuation, which affect the calibration results.

Adjustment methods as follows:

4.8.1 After the startup of the Instrument, it enters waiting interface. Make sure the temperature in display is below 35℃. If the temperature is higher than 35℃, you should wait until the temperature is below 35℃.

4.8.2 Inject olefin oil into one of the cone-shaped wells, and then put a thermometer into this well (Make sure the precision of the thermometer should be within 0.1℃and the temperature ball should be absolutely immerged into the cone-shaped well). Heat insulation material is needed on the block to separate it from the circumstance. Seeing from Fig a.

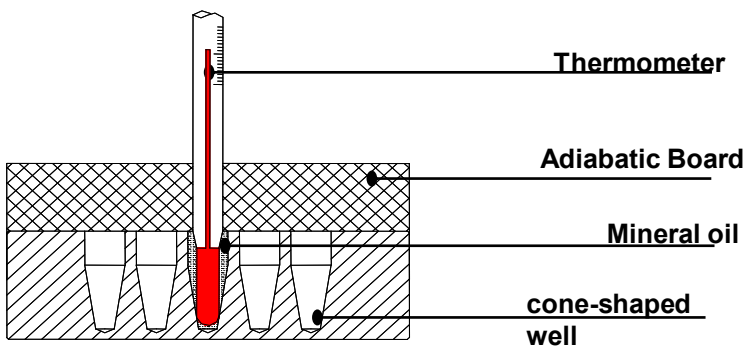


Fig a

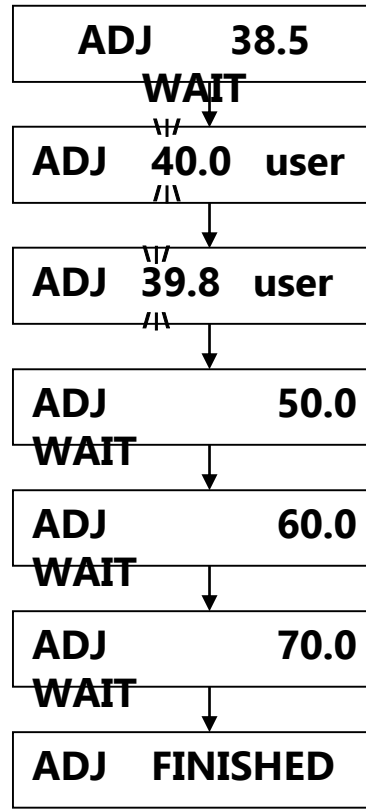
4.8.3 On the waiting interface, pressing "P" and "Temp" key simultaneously, temperature rises to 40℃.

4.8.4 When temperature reaches to 40℃, decimal digit begins to flicker, waiting for the calibrated value of 40℃.

4.8.5 If the actual temperature readout is39.8℃, press▲ and ▼ key to amend the display value to 39.8℃, press START/STOP key to confirm.

4.8.6 Then the system will be heated up to next temperature calibration point automatically, user needs to take the same steps to finish each calibration point's data entry.

4.8.7 After adjusting four calibration points, press "START/STOP " to confirm input value. Display shows " ADJ FINISHED" the equipment can be used normally after restart.



Note! During Temperature calibrating, the system will quit the temperature calibration system if Long press "p" more than 2 seconds, the fixed temperature value is invalid!

Strongly recommended proceeding constant temperature calibration under indoor environment, and avoid the influence by some external exhaust equipment or cooling equipment cause the instrument ambient temperature fluctuation, which affect the calibration results.

5 Maintenance and cleaning

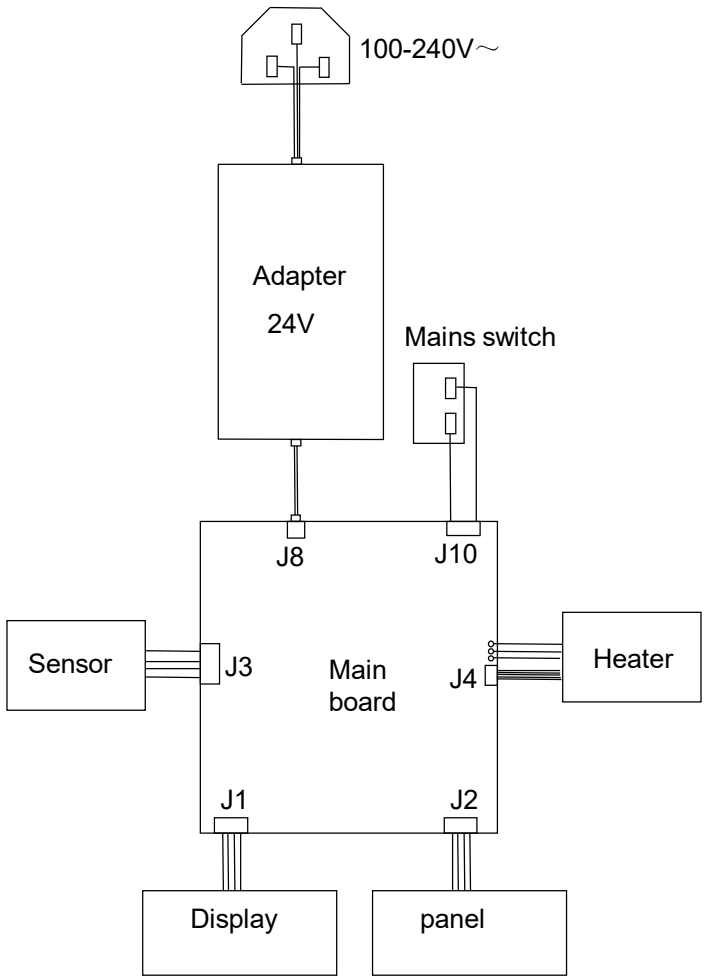
The well in the block should be cleaned by the cloth stained with alcohol to assure good heat translation between the block and the test tube and no pollution. If there are smutches on the Instrument, clean them with cloth.

Power off when cleaning the Instrument.
When cleaning the well, don't drop the cleaning liquid in the well.
Corrosive cleaning liquid is strongly prohibited.

6 Troubleshooting

Error	Cause	Solution
No display	Not plug in Switch is bad The controller is damaged	Check the power supply plug the power again transfer switch Contact with the supplier or manufacturer
"PT error" in the display with alarm	Temperature sensor is open circuit or open circuit	Contact with the supplier or manufacturer
No heating of the block	Heater fault	Contact with the supplier or manufacturer
Press invalid	Membrane switch damage	Contact with the supplier or manufacturer

Annex 1 Wiring Diagram for Incubator



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