Packing List

No.	Item	Type	Quantity
1	Main Device	MiniH-100D	1
2	Voltage	DC12V 48W	1
3	Manual		1
4	Certificate		1

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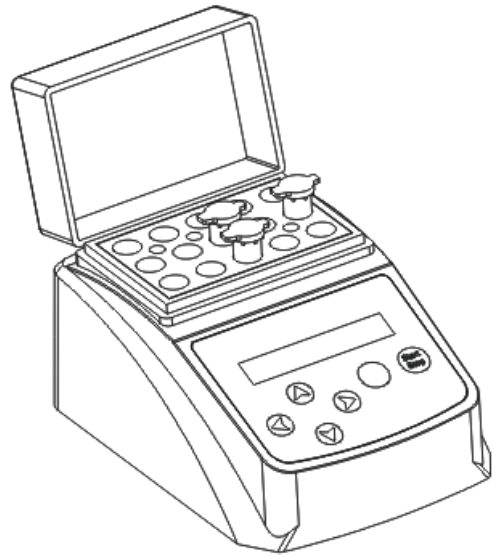
MiniH-100D Dry Bath

Manual

Version 1.0



Hangzhou Yooning Instrument co.,LTD

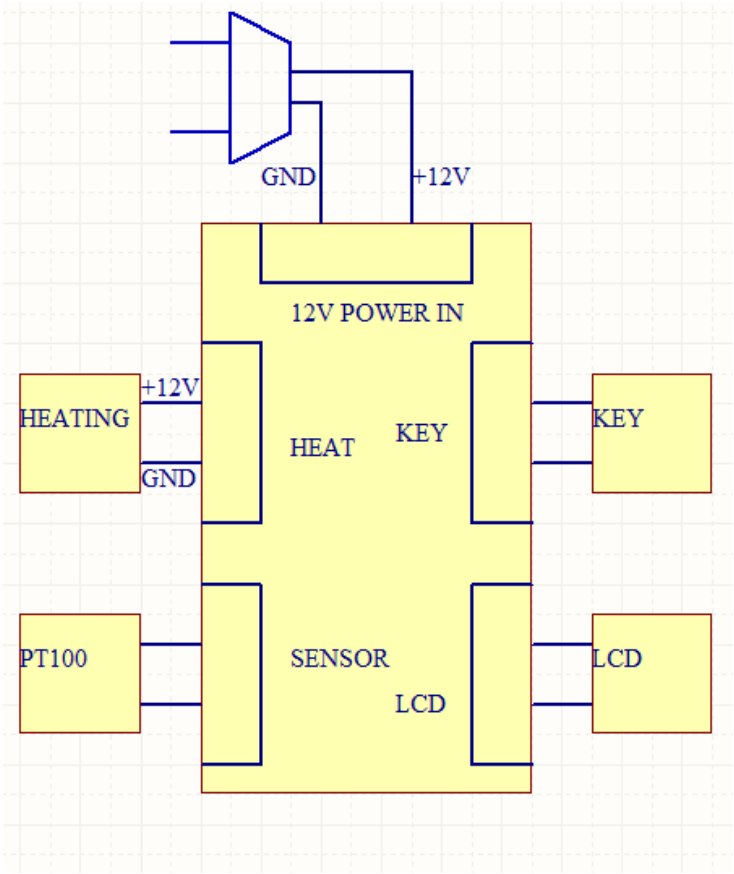
Foreword

Thank you for purchasing our Products: MiniH-100F. 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.

Appendix 1: MiniH-100 Wiring Diagram



5. The maintenance

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. Failure and Causes

	Cause	Recovery
No signals on the display	No power Broken switch Broken CU	Check the connection of power; Exchange the switch; Contact to the Seller.
"OPEN" in the display with the alarm	Temperature Sensor Open Circuit	Contact to the Seller.
"SHORT" in the display with the alarm	Temperature Sensor Short Circuit	Contact to the Seller.
The module not heating	Broken heater	Contact to the Seller.
The buttons not working	Broken Buttons	Contact to the Seller.

Contents

1. Introduction

Dry Bath is a micro-processor controlled heating block with heater (heating types) technology. It adapts onboard use, smart, light and convenient for movement. It's widely used in preservation and reaction of the samples, DNA amplification and pre-denaturation of electrophoresis, serum coagulation, etc. Read this Manual carefully before using it.

1.1 Instrument Integrity

Mini Dry Bath	1
Voltage	1
Manual	1
Certificate	1

Note: Press "Prog" to cancel the current temperature calibration during the operation, and the system will default to the last calibration. Please don't press the button ▲ and ▼at the same time.

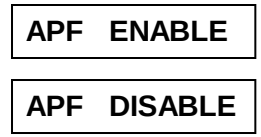
Be careful! In order to ensure the accuracy, the instrument must keep constant temperature for 20min after reaching any calibration

4.9 The System

Open the instrument, long press Prog for about 2s and then enter the system.

4.9.1 APF

Press Start to set, press ▲ and ▼ to choose "ENABLE" and "DISABLE" and set APF. The instrument will automatically heat up. Close APF, the instrument will not automatically heat up. Press Start and the instrument can heat up.



Note: The system default APF is enabled, and the user can manually configure it with needs.

Short press Start/Stop, the instrument saves the current configuration information and exits the system.

4.8.3 Press the button ▲and ▼ at the same time to set the temperature. Please refer to following Fig. It automatically warms up from 40℃. * flickers regularly. When the temperature reaches 40℃, * stops flickering. Five minutes later, the buzzer begins to sound regularly.

4.8.4 Read the figure on the thermometer after 15min. If it is 39.8℃, then press ▲ or ▼to modify the temperature, and press Start to correct.

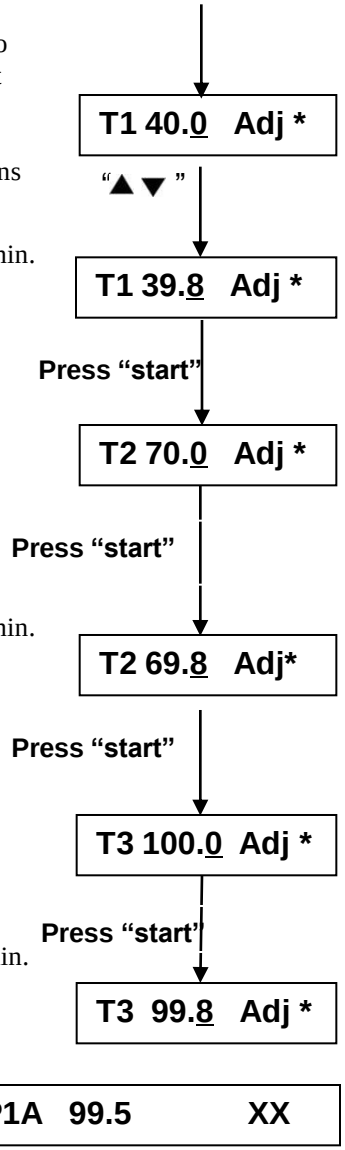
4.8.5 It automatically warms up from 70℃. * flickers regularly. When the temperature reaches 70℃, * stops flickering. Five minutes later, the buzzer begins to sound regularly.

4.8.6 Read the figure on the thermometer after 15min. If it is 69.8℃, then press ▲ or ▼to modify the temperature, and press Start to correct**.**

4.8.7 It automatically warms up from 100℃. * flickers regularly. When the temperature reaches 100℃, * stops flickering. Five minutes later, the buzzer begins to sound regularly.

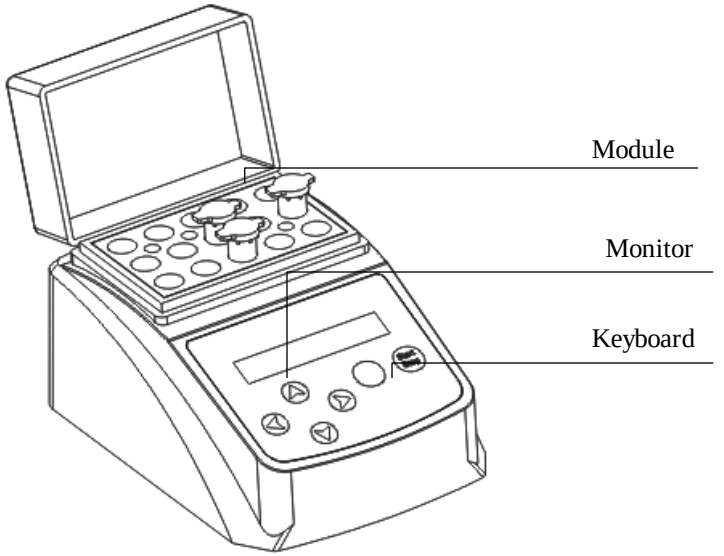
4.8.8 Read the figure on the thermometer after 15min. If it is 99.8℃, then press ▲ or ▼to modify the temperature, and press Start to correct**.**

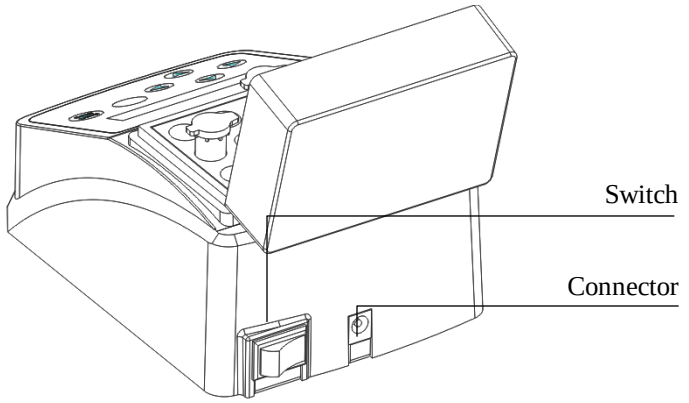
4.8.9 Return the Start page and correct the temperature again.



Note: After the temperature is calibrated, the measured temperature of the module is consistent with the displayed temperature.

1.2 Structure Description

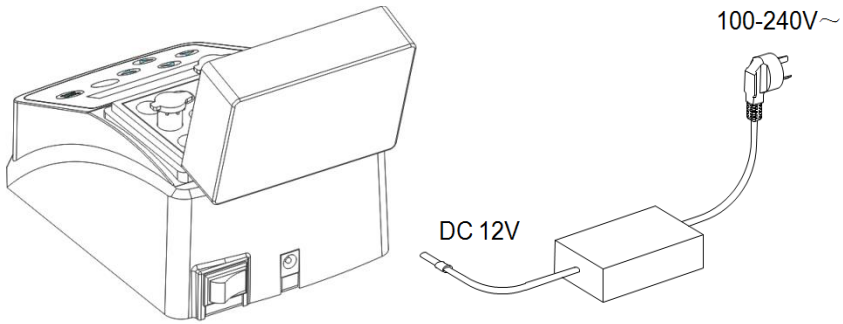




1.3 Operation Guide

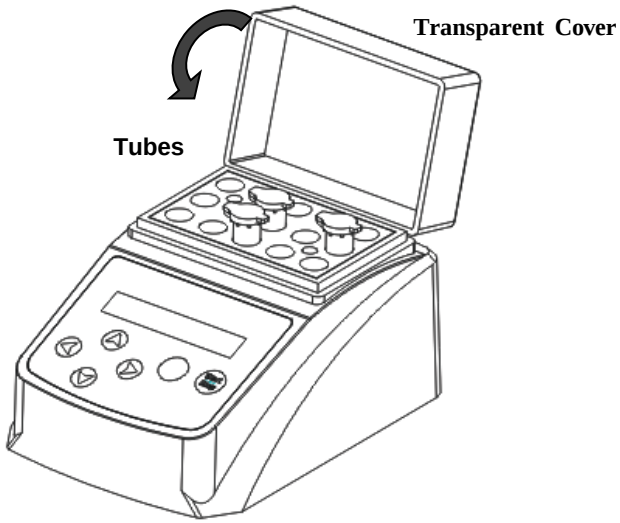
1.3.1 Place the instrument on a stable workbench.

1.3.2 Insert the power cord into the power socket on the back of the instrument as shown in the figure, and connect the other end of the external power cord to the power grid. The grid voltage is between AC 100V and 240V.



1.3.3 Open the switch, the instrument will automatically heats up to the set temperature for 5min.

1.3.4 Put the tubes into the instrument and then close the cover.



4.8 Temperature Calibration

The temperature has been calibrated. But there may be a deviation between the actual temperature and the display temperature. And the calibration function can be used to correct the temperature error;

Be care! In order to ensure the accurate temperature, the user can calibrate by 10 ℃ , 55℃ and 100℃。After calibration, the temperature accuracy is ≤±0.3° C.

When calibrating the temperature, the room temperature must be below 35℃.

Note: The temperature has been calibrated, please do not use this function at will!

Steps as the following:

4.8.1 After the startup of the instrument, it enters waiting interface.

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.

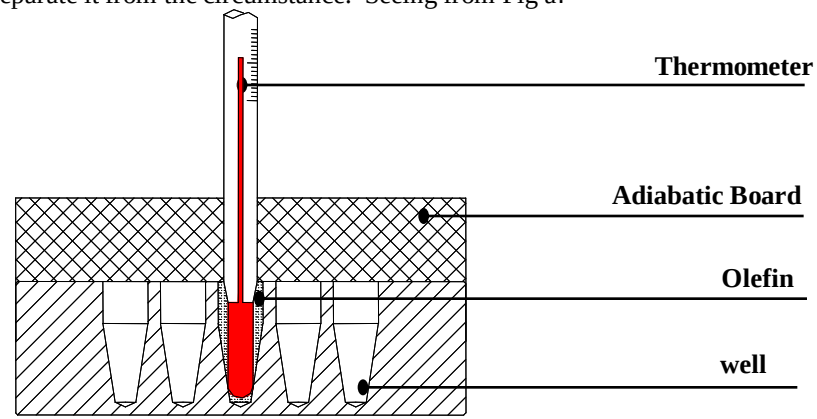
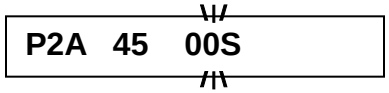


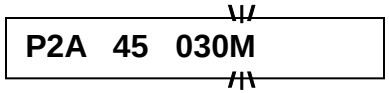
图 a

Note: The time is 00:00, the instrument starts to operate.



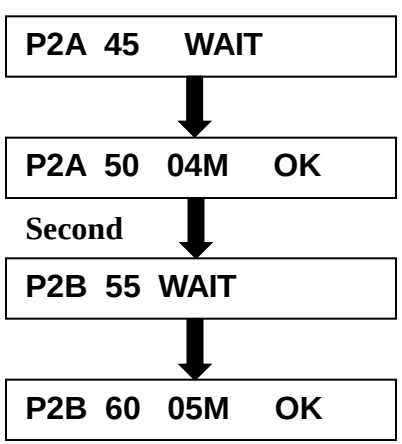
4.6 Time Units

Short press Prog, press ◀ and ▶ to set the time units, then press ▲ or ▼to set the time units: s, m, h.
When "**OFF**" is display, it can stop operating.

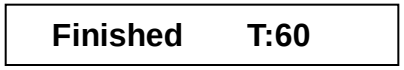


4.7 Start/Stop

4.7.1 The instrument begins to operate, the l ast temperature and time is displayed.
4.7.2 Press Start/Stop, the blocks start to heat up. WAIT and the current temperature is display. When it reaches the setting temperature, OK will replace WAIT and the instrument start countdown . Time is over, the instrument start Phase II, WAIT and the current temperature is display. When it reaches the setting temperature, OK will replace WAIT and the instrument start countdown.



4.7.3 Time is over and the buzzer alarms. The instrument will stop. Finished and the temperature is display. Then press the buttons to return the main page.



Note: Time is countdown, short press Start/Stop to suspend the instrument. Suspend the time, long press the Start/Stop for 2s to stop the instrument.

2. The Parameters

Parameter \ Type	MiniH-100D
Temperature Range	R.T.+5℃—100℃
Heating Time (20℃ to 100℃)	≤18min
Temperature Accuracy Discrepancy	±0.3℃
Temperature Control Discrepancy @40 °C	±0.3℃
Temperature control Discrepancy @100 °C	±0.3℃
Temperature Accuracy Display	0.1℃
Time Setting	0-99h, 0-99m, 0-99s
Max. Temperature	100℃
Max. Power	50W
Cooling Time	Natural Cooling
weight	≤1kg
Dimension(L×W×H) (mm)	160x110x136
Cover or not	Not

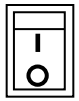
3. Safety and Warnings

This product is a normal and an indoor instrument.

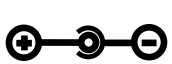
Read the Manual carefully before operation, the expert of wiring equipment can operate this Instrument.

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.



The power is DC12V.

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. Operation Guide

4.1 The Functions of the Keys

Start/Stop---------Control the instrument to operation

Prog ----------Set the system

- ▲▼---------- Set the temperature and the time

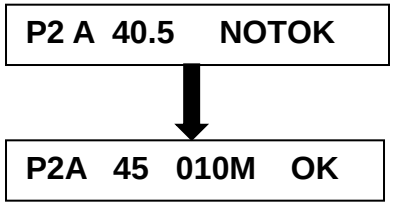
◀---------- Move left to set the figures

▶---------- Move right to set the figures

4.2 Program Setting

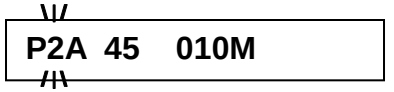
There are 9 programs, P1 to P9 including 3 steps each program. For example, there areP2A, P2B and P2C of program 2. The user can choose "OFF" to stop in the last two steps. The instrument starts again, it can heat up to the temperature of the first step set last time.

The user can set the any program manually. For example, if P2A and P2C operate, press Start and P2A and P2C can run.



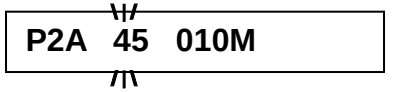
4.3 The Program

Short press Prog, and the program number flashes. Press ▲ and ▼ to choose the program.



4.4 Setting Temperature

Short press Prog, and press ◀ and▶ to set the temperature. Then press ▲and ▼to set the figures.



4.5 Setting Time

Short press Prog, and press ◀and ▶ to set the time. Then press ▲and▼to set the time.