# Dry Bath

## User Manual

LED Digital Dry Bath

*Please read the User Manual carefully before use, and follow all operating and safety instructions!*

*Technical specifications and outline are subject to change without prior notice.*

12300389

# Contents

# Preface

Welcome to the “Dry Bath User Manual”. Users should read this Manual carefully, follow the instructions and procedures, and be aware of all the cautions when using this instrument.

# Service

When help needed, you can always contact the service department of manufacturer for technical support .
Please provide the customer care representative with the following information：

- Serial number（on the rear panel）
- Certification
- Description of problem (i.e., hardware or software)
- Methods and procedures adopted to resolve the problems
- Your contact information

# Warranty

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
This instrument is warranted to be free from defects in materials and workmanship under normal use and service, for a period of 24 months from the date of invoice. The warranty is extended only to the original purchaser. It shall not apply to any product or parts which have been damaged on account of improper installation, improper connections, misuse, accident or abnormal conditions of operation.
For claims under the warranty please contact your local supplier. You may also send the instrument directly to manufacturer, enclosing the invoice copy and by giving reasons for the claim

# 1. Safety Instructions

Warning!

- Read the operating instructions carefully before use.
- Ensure that only trained staff works with the instrument.

Risk of burn!

- Caution when touch the housing parts and the dry bath which can reach temperature of 120°C.
- Pay attention to the residual heat after switching off.

Protective ground contact!

- Make sure that socket must be grounded (protective ground contact) before use.

• When working wear personal safety guards to avoid the risk from:

- Splashing and evaporation of liquids
- Release of toxic or combustible gases

• Set up the instrument in a spacious are on a stable, clean, non-slip, dry and fireproof surface. Do not operate the instrument in explosive atmospheres, with hazardous substances or under water.

• Temperature must always be set at least 50℃ lower than the fire point of the media used.

• Be aware of hazards due to:

- Flammable materials or media with a low boiling temperature
- Overfilling of media
- Unsafe container

• Process pathogenic materials only in closed vessels.

• Check the instrument and accessories prior to each use.

• Do not use damaged components. Safe operation is only guaranteed with the accessories provided by the manufacturer. Accessories must be securely attached to the device and can't come off by themselves. Always disconnect the plug before fitting accessories.

• The instrument can only be disconnected from the main power supply by pulling out the main or the connector plug.

• The voltage stated on the label must correspond to the main power supply.

• Ensure that the main power supply cable does not touch the dry bath. Do not cover the device.

• The instrument may only be opened by experts.

# 2. Proper Use

The instrument is designed for heating liquids in schools, laboratories or factories.

• Observe the minimum distances between the devices, between the device and the wall and above the assembly (min. 100 mm)

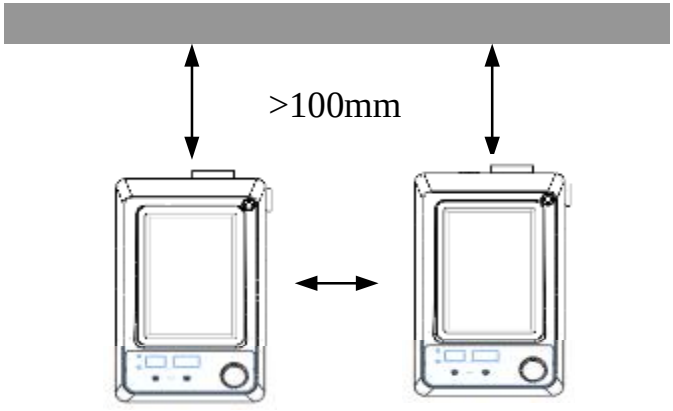


Figure 1

This device is not suitable for using in residential areas or other constraints mentioned in Chapter 1.

# 4. Control

## 4.1 Control elements

# 3. Inspection

## 3.1 Receiving Inspection

Unpack the equipment carefully and check for any damages which may have arisen during transport. Please contact manufacturer/supplier for technical support.

**Note:**
If there is any apparent damage to the system, please do not plug it into the power line.

## 3.2 Listing of Items

The package includes the following items:

| Items | Qty |
|---|---|
| Main unit | 1 |
| Power cable | 1 |
| User Manual | 1 |

Table 1

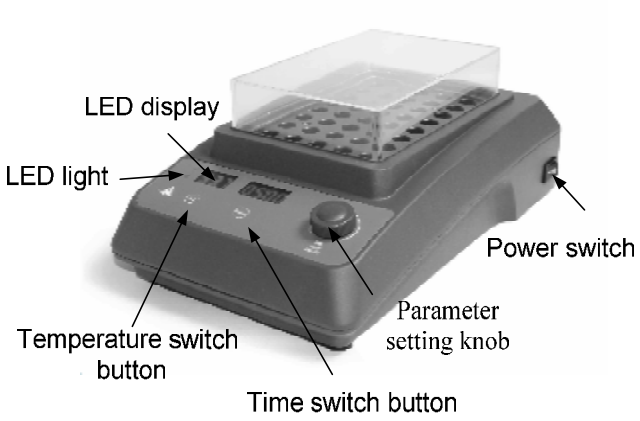


Figure 2 Dry bath

| Items | Descriptions |
|---|---|
| Temperature switch button | Press the button, can set the target temperature |
| Time switch button | Press the button, can set the target time |
| LED Display | LED displays the real working state and all settings. |
| LED Light | The LED light shows green when the parameter is set |
| Parameter setting knob | Rotate the knob to set the target parameters, press the knob to turn on the settings. |
| Power Switch | Switch ON or OFF the instrument. |

Table 2

## 4.2 Display

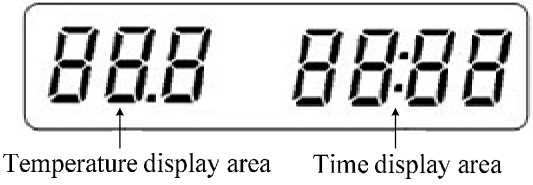

Figure 3 Digital hotplate model

| Characters | Descriptions |
|---|---|
| Temperature display area | Press the temperature switch button, the characters in temperature display area will be flashing, and then rotate the parameter setting knob to set the target temperature, press the parameter setting knob to turn on the setting.<br>When the heating function is switched ON, the LED temperature light will turn green, and the temperature display area displays the temperature real value until real temperature reaches the set point. |
| Time display area | Press the time switch button, the characters in time display area will be flashing, and then rotate the parameter setting knob to set the target time, press the parameter setting knob to turn on the setting. The LED time light will turn green, then start countdown. |

Table 3

# 6. Function: Heating

The device is controlled by digital temperature control technology, and it has a over temperature protection, the

# 5. Trial Run

• Make sure the required operating voltage and power supply voltage match.
• Ensure the socket must be properly grounded.
• Add the medium into the vessel
• Place vessel on the work plate.
• Plug in the power cable，ensure the power is on and begin initializing.
• Set the target temperature and begin.
• Set the time, if not, the machine will work continuously
• Observe the LED display
• Stop the heating and stirring functions.

If these operations above are normal, the device is ready to operate. If not, the device may be damaged during transportation, please contact manufacturer/supplier for technical support

safety temperature is 140℃

Press the temperature switch button, the characters in temperature display area will be flashing, and then rotate the parameter setting knob to set the target temperature,

press the parameter setting knob to turn on the setting.

Note:

- Set the temperature via rotating the parameter setting knob slowly to the target value.
- When the heating function is switched on, the LED displays the temperature value on the left-hand side.
- The heating function is switched on or off by pushing heating knob.

The instrument automatically displays the last running speed and temperature parameters once turned on.

Generally, the LED screen cannot display the actual temperature of sample in the vessel or dry bath surface, temperature differences as following:

- Dry bath center and outer edge.
- The sample in the vessel and dry bath surface.

# 7. Function: Timing

The device can work in accordance with the timing mode or continuous operation mode.

Timing Mode: Press the time switch button, the characters in time display area will be flashing, and then rotate the parameter setting knob to set the target time, press the parameter setting knob to turn on the setting.

During operation, motion can be stopped at any time by pressing the speed/timer control knob. If the knob is pressed again, motion will start again and the timer will restart countdown. When the timer reaches zero, the unit will be automatically halted.

Continuous Mode: Press the time switch button, the characters in time display area will be flashing, make sure the setting time is zero, press the parameter setting knob to turn on the continuous operation mode.

# 8. Faults

- Instruments can’t be power ON
  - Check whether the power line is unplugged
  - Check whether the fuse is broken or loose
- Fault in power on self test
  - Switch OFF the unit, then switch ON and reset the instruments to factory default setting.

*If these faults are not resolved, please contact manufacturer/supplier.*

# 9. Maintenance and Cleaning

- Proper maintenance can keep instruments working properly and lengthen its lifetime.
- Do not spray cleanser into the instrument when cleaning.
- Unplug the power line when cleaning.
- Only use recommended cleansers:

| | |
|---|---|
| Dyes | Isopropyl alcohol |
| Construction materials | Water containing tenside / Isopropyl alcohol |
| Cosmetics | Water containing tenside / Isopropyl alcohol |
| Foodstuffs | Water containing tenside |
| Fuels | Water containing tenside |

Table 4

- Before using other method for cleaning or decontamination, the user must ascertain with the manufacturer that this method will not harm the instrument. Wear the proper protective gloves during cleaning of the instrument.

**Note:**

- Electronic device can not clean with cleanser.
- If you require maintenance service, must be cleaned the instrument in advance to avoid pollution of hazardous substances, and to send back into original packing.
- If the instrument will not use for a long time, please switch off and place in a dry, clean, room temperature and stable location.

# 10. Associated Standards and Regulations

| Construction in accordance with the following safety standards: |
| --- |
| EN 61010-1 |
| UL 3101-1 |
| CAN/CSA C22.2(1010-1) |
| EN 61010-2-10 |
| Construction in accordance with the following EMC standards: |
| EN 61326-1 |
| Associated EU guidelines: |
| EMC-guidelines: 89/336/EWG |
| Instrument guidelines: 73/023/EWG |

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

# 11. Specifications

| Items | Specifications |
|---|---|
| Voltage [VAC] | 100~120/200~240 |
| Frequency [Hz] | 50/60 |
| Power [W] | 160 |
| Dimension of blocks[mm] | 150×95 |
| Heating temperature range | Room temp. +5° - 120 °C |
| Temperature display | LED |
| Control accuracy | ±0.5°C |
| Safety temperature | 140 °C |
| Timer | yes |
| Time setting range | 1 -99h59min |
| Operation type | Continuous/ timed operation |
| Dimensions[W×D×H mm] | 175×290×85 |
| Weight[kg] | 1.6（without heating block） |
| Permissible ambient temperature | 5 - 40 °C |
| Permissible relative humidity | 80% |
| Protection class according to DIN EN 60529 | IP 21 |

Table 5

# 12. Ordering Information

| Cat No. | Descriptions |
|---|---|
| *52111101xxxx | LED digital dry bath, USA plug, 100-120V, 50Hz/60Hz |
| *52111112xxxx | LED digital dry bath,, Cn plug, 200-240V, 50Hz/60Hz |
| *52111122xxxx | LED digital dry bath,, Euro plug, 200-240V, 50Hz/60Hz |
| *52111132xxxx | LED digital dry bath,, UK plug, 200-240V, 50Hz/60Hz |

Table 6

*The last four figures “xxxx” of Cat. No. can be provided by supplier.