

# User Manual

Dry Bath

SMB-MH ( Heating & Shaking Type )



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# 01 Important Instructions

## ⚠ Caution / Warning

- The precautions contain vital information. Please read them carefully. Failure to follow the instructions may result in equipment damage or malfunction.
- The warning message requires you to exercise extreme caution when performing a certain operation or method. Failure to follow the correct requirements may result in serious personal injury.

## Safety

During all stages of operation, maintenance, and repair of this instrument, it is imperative to adhere to the following basic safety measures. Failure to comply with these measures or warnings indicated elsewhere in this manual may compromise the protection provided by the instrument. Additionally, it may undermine the safety standards incorporated into the design and manufacture of the instrument as well as its intended use. Wuhan Servicebio technology Co., Ltd. shall not be held liable for any consequences resulting from the user's failure to comply with the requirements outlined below.

## ⚠ Caution

- This instrument is intended for indoor use.

### 1. Keep away from live circuits

Operator is not allow to open the instrument without permission . Component replacement or internal adjustments must be performed by certified professional maintenance personnel. Do not replace components while the power cord is connected.

### 2. Pay attention to the power supply

Before connecting the AC power, ensure that the voltage of the power supply matches the voltage required by the instrument (with a permissible deviation of  $\pm 10\%$ ). Also, make sure that the rated load of the power outlet is not less than the requirement of the instrument.

### 3. Pay attention to the placement of instrument

The instrument should be placed in a location without low humidity minimal dust, and away from water sources (such as pools or pipes). The indoor area should have good ventilation and be free from corrosive gases or strong magnetic filed interference.

The openings on the instrument are designed for ventilation. To prevent overheating, make sure not to block or cover these ventilation holes.

When using a single instrument, the distance between the ventilation holes on the left and right sides of the instrument and the nearest object should be no less than 25cm. High temperatures can affect the performance of the instrument or cause malfunctions. Avoid using the instrument in direct sunlight and keep it away from warm air, furnaces, and other heat sources. When the instrument is not used for a long time, unplug the power plug and cover the instrument with a soft cloth or plastic sheet to prevent dust from entering.

## ⚠ Caution

In the following situations, please immediately unplug the power plug of the instrument from the power outlet and contact the supplier or qualified maintenance personnel for assistance.

- Liquid has spilled into the instrument.
- The instrument has been dropped or casing is damaged.
- The instrument has been exposed to rain or water.
- There are obvious changes in the functionality of the instrument.
- The instrument is not functioning properly, especially if there are any abnormal sounds or odors.

## Module Installation and Instrument Maintenance

When securing or replacing a module, use a professional hexagonal wrench to tighten the four screws and fix the module. When tightening the screws, ensure that the force is as evenly distributed as possible and make sure that each screw is securely fastened.

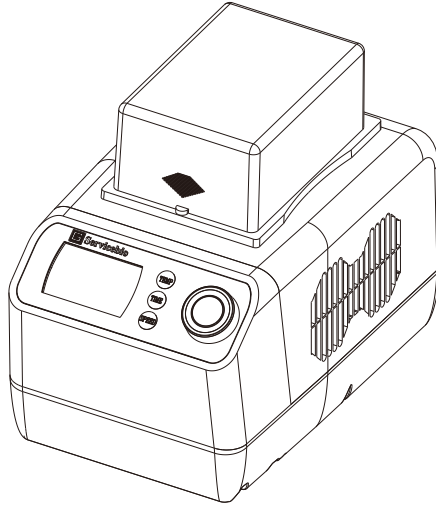
The instrument should be regularly cleaned by using a cotton swab dampened with water to clean the taper holes on the module. This ensures sufficient contact and good heat conduction between the test tubes and the taper hole walls.

If there are stains on the surface of the instrument, you can use a soft cloth soaked in water to clean it, and then dry it thoroughly.

## ⚠ Caution

- When cleaning the surface of the instrument, it is necessary to disconnect the power supply.
- It is strictly prohibited to use corrosive cleaning agents to clean the surface of the instrument.

# 02 Product Introduction



SMB-MH (Heating & Shaking Type)

The oscillating metal bath series features heating and mixing functions, high temperature accuracy, and good temperature uniformity. It is widely used in fields such as gene synthesis, gene purification, gene and protein denaturation, enzyme reactions, and bacterial growth.

## Product Features

- Utilizes a microcomputer-controlled metal bath device.
- High temperature control accuracy, precise oscillation speed, and low fluctuation.
- Multiple standard sample modules are available for selection, with convenient replacement. Customization is also possible according to user requirements.
- Equipped with a timing function, allowing users to set a cultivation time within the range of 1 minute to 99 hours and 59 minutes. An alarm will be triggered after the set time is completed.
- Driven by a brushless DC motor for long lifespan.

# 03 Product Features

This chapter mainly introduces the usage and transportation storage conditions of this instrument, as well as the basic parameters, performance, and functions of this instrument.

## 3.1 Normal working conditions

Ambient Temperature	10°C~30°C
Relative Humidity	≤70%
Input Power Supply	AC100~240
AC Power	50Hz / 60Hz
Product Power	300W

### ⚠ Caution

- Before using the instrument, please confirm the working conditions meet the above requirements

## 3.2 Transport & Storage Conditions

Ambient Temperature	-20°C~+55°C
Relative Humidity	≤80%

### 3.3 Basic Parameters

<b>Cat.No.</b>	SMB-MH	
<b>Standard Module</b>	A: 1.5ml×35	(Recommended Speed 1200-1800 RPM)
<b>Optional Module</b>	B: 0.5ml×54	(Recommended Speed 1100-1600 RPM)
	C: 0.2ml×96	(Recommended Speed 1100-1500 RPM)
	D: 2.0ml×35	(Recommended Speed 1200-1800 RPM)
	E: 5.0ml×24	(Recommended Speed 1500-1700 RPM)
	F: 10ml×15 (High lid)	(Recommended Speed 1600-1800 RPM)
	G: 15ml×12 (High lid)	(Recommended Speed 1400-1700 RPM)
H: 50ml×6 (High lid)	(Recommended Speed 1400-1500 RPM)	
<b>Dimensions</b>	178×278×226 mm	
<b>Net</b>	10.4 Kg	

#### ⚠ Caution

- The metal modules can be customized according to user requirements. If you need to customize the module, please contact the supplier.
- The recommended speed is for reference only. Please select the speed based on the actual situation.

### 3.4 Product Performance

<b>Temperature Range</b>	Room Temperature~100°C
<b>Timer Range</b>	1min~99h59min
<b>Heating Time</b>	(From Room Temperature to 100°C) ≤12min
<b>Temperature control accuracy</b>	≤±0.3°C
<b>Module Temperature uniformity</b>	≤±0.5°C
<b>Speed Range</b>	100-2000 RMP

#### ⚠ Caution

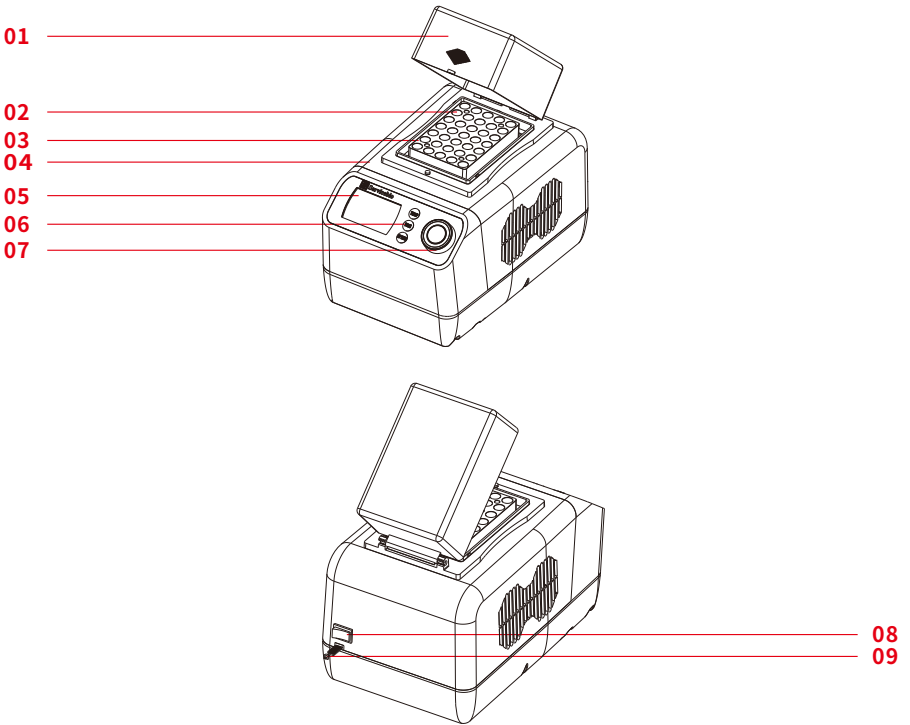
- The test parameter is an input voltage of 220V.



# 04 Preparation

This chapter mainly introduces the structure of this instrument, the function of the operation keyboard and various keys, as well as the preparation work before powering on. When using this instrument for the first time, it is necessary to familiarize yourself with the content of this chapter before powering on.

## 4.1 Product Structure



01 Lid

02 Centrifuge Tube

03 Module

04 Case

05 Screen Display

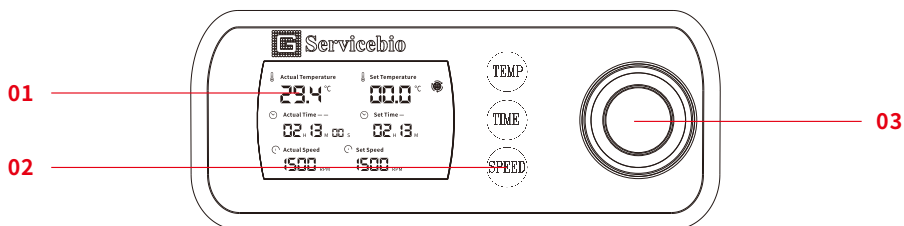
06 Function Button

07 Knob

08 Power Switch

09 Power Cord

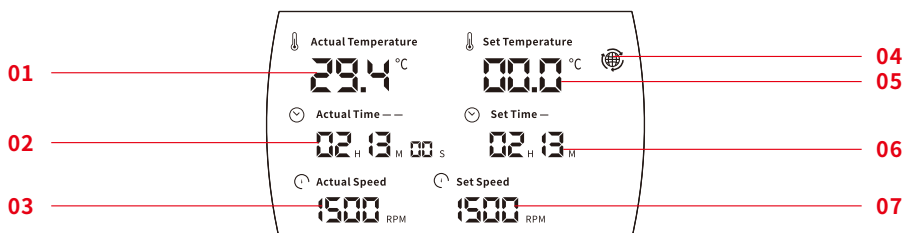
## 4.2 Screen Display



01 Screen Display

02 Function Button

03 Knob



01 Instant Temperature

02 Running Time

03 Instant Speed

04 Running Icon

05 Set Temperature

06 Set Time

07 Set Speed

## 4.3 Button Instructions



**Temperature Setting** can set the specific temperature and adjust it to the specific value with the knob.



**Time Setting** Can set the specific time and adjust it to the specific value with the knob.



**Speed Control** Can set the desired running speed and adjust to the desired value with the knob.



**Knob** Adjust the specific value by turning the knob, then press the knob to start or stop the operation program.

# 05 Operation Instructions

## 5.1 Inspection of Pre-Start

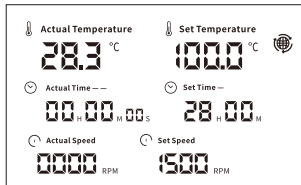
Before Plugging in the power plug to energize the device, please confirm the following:

1. Whether the power supply voltage matches the requirement of the instrument (see Chapter 2 of this document for power supply requirements).
2. Confirm that the power cord plug is securely inserted into the power socket.
3. Check if the module is securely fixed to the host.

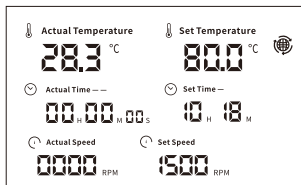
### ⚠ Warning

- If the instrument displays abnormal behavior after powering on, please immediately turn off the power and contact the supplier.

## 5.2 Temperature / Timer / Speed Settings



1. Turn on the power switch, after approximately 3 seconds, the instant temperature display shows a value of 28.3, which is the current temperature of the module. The value 100.00 displayed on the temperature setting window is the last temperature set before shutting down. The value 28H00M displayed on the timer setting window is the last time set before shutting down.



2. Press the Temp button, the temperature value starts flashing. Turn the knob to adjust it to the desired value, displayed as 80°C. Press the Time button, the hour value starts flashing. Turn the knob to adjust it to the desired value, displayed as 10H. Press the Time button again, the minute value starts flashing. Turn the knob to adjust it to the desired value, displayed as 18M.
3. Press the Speed button, and the speed value will start flashing. Rotate the knob to adjust it to the desired value. The display shows 1500RPM as an example.
4. Press the knob to start the program. After the program is completed, it will emit a 20-second beep as a reminder.

# 06 Fault Analysis & Handling

This chapter mainly introduces the possible fault phenomena, cause analysis, and troubleshooting methods of this instrument.

## Fault Analysis & Handling

No.	Fault	Cause Analysis	Handling Methods	Notes
1	The display window does not light up after turning on the power switch	The power supply is not connected	Check the power supply and turn it on	
		The switch is damaged	Change the switch	
		Other	Contact the supplier or manufacturer	
2	The humidity display is severely inconsistent with the actual temperature	The sensor is damaged or has poor contact	Contact the supplier or manufacturer	
3	Module not heating	The temperature sensor is damaged	Contact the supplier or manufacturer	
4	The module does not rotate	The motor is damaged	Contact the supplier or manufacturer	

### ⚠ Caution

- During the warranty period, users are strictly prohibited from opening the instrument casing for self-inspection. If a fault occurs in the device that requires opening the casing for inspection, please contact the supplier or manufacturer.

# 07 Product Packing List

No.	Name	Qty
1	Dry Bath	1
2	User Manual	1
3	Warranty Card	1
4	Maintenance Records	1
5	QC	1

## ⚠ Caution

- The main components of this product series are fragile. Please be careful not to let the product collide or fall during packaging, transportation, and use, as this may result in product damage and render it unusable.
- After daily use, please promptly wipe off any water stains and dust on the surface of the instrument.

# 08 After-sales Service

## Warranty content

During the warranty period, Wuhan Servicebio Technology Co., Ltd. will selectively repair or replace the product for damages caused by reasons other than human factors and unforeseeable circumstance.

For repairs outside the warranty period, Wuhan Servicebio Technology Co., Ltd. will charge appropriate maintenance costs.

## Scope of Warranty

The above warranty does not cover damages caused by improper user maintenance, use under non-compliant conditions, unauthorized self-repair, or modifications made without authorization.

### ⚠ Caution

- After unpacking, please promptly inspect the items inside the packaging box based on the inventory list provided.
- If any damage or shortage is found, please contact the supplier immediately.
- After a satisfactory inspection, fill in the relevant information on the product acceptance form and send a copy (or fax) to the shipping unit for documentation and repair purposes.
- Please keep the packaging box and materials properly after unpacking the instrument so that they can be used for repairs. Wuhan Servicebio Technology Co.,Ltd will not be held responsible for any damages to the instrument that occur during transportation to the repair department due to inadequate packaging.

# Warranty Card

User Name		Tel.	
Cat.No.		Manufacturing No.	

# Maintenance Records

Warranty date	Fault and repair log	Date of repair	Maintenance engineer



Wuhan Servicebio Technology Co., Ltd.



027-5111-3188



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