

JOANLAB JLCAHMSC1000

JOANLAB Digital Laboratory 1000ml Heating Mantle with Magnetic Stirrer

MODEL: JLCAHMSC1000

[Introduction](#) [Safety](#)

[Precautions](#) [Components](#) [Setup](#) [Operation](#) [Maintenance](#) [Troubleshooting](#) [Specifications](#) [Warranty](#)

1. Introduction

This manual provides essential instructions for the safe and efficient operation of the JOANLAB Digital Laboratory 1000ml Heating Mantle with Magnetic Stirrer (Model: JLCAHMSC1000). This device is designed for precise temperature control and magnetic stirring of liquids in round bottom flasks, suitable for various laboratory applications in colleges, petrochemical industries, medicine, and environmental protection institutions.

Please read this manual thoroughly before use to ensure proper setup, operation, and maintenance, and to prevent potential hazards.

2. Safety Precautions

- Always operate the heating mantle on a stable, level, and heat-resistant surface.
- Ensure proper ventilation to dissipate heat and fumes.
- Do not operate the device with flammable or explosive materials unless specifically designed and certified for such use.
- Wear appropriate personal protective equipment (PPE), including safety glasses and heat-resistant gloves.
- Avoid touching the heating surface during and immediately after operation, as it remains hot.
- Always disconnect the power supply before cleaning or performing maintenance.
- Do not immerse the unit in water or other liquids.
- Ensure the temperature probe is correctly inserted into the liquid for accurate temperature control.
- Use only round bottom flasks that fit securely within the heating mantle.
- Keep the power cord away from hot surfaces.

3. Product Components and Overview

The JOANLAB JLCAHMSC1000 heating mantle includes the following main components:

- Heating Mantle Unit with Digital Control Panel
- Stirrer Bar
- Bracket Assembly (Rod and Clamp)
- Temperature Probe
- Power Cable
- Fuse

● TECHNICAL DATA

Brand

JOANLAB

Model

HMSC

Capacity

1000ml

Heating Power

350W

Function

Heating & Digital display & Magnetic agitation

Heating Temperature

Room temperature to 300°C



Figure 1: Overview of the JOANLAB Digital Laboratory Heating Mantle JLCAHMSC1000.

3.1 Control Panel

The front panel features a digital display and control buttons for setting temperature and stirring speed.

● Multiple Advantages



Figure 2: Detailed view of the control panel with speed control knob, setting keys, and control buttons.

- **Speed Control Knob:** Adjusts the magnetic stirring speed.
- **Digital Display:** Shows current and set temperature/stirring values.
- **Set Key (S):** Enters temperature setting mode.
- **Increment/Decrement Keys (Up/Down Arrows):** Adjusts set values.

3.2 Rear Panel Connections

The rear panel provides connections for power and the temperature probe.

● Technical Data

Model	HMSC		
Capacity	500ml	1L	2L
Function	Heating & magnetic stirrer		
Heating Power	250W	350W	450W
Temperature Control	Digital temperature control		
Heating Temp.	Room temp - 300°C		

Figure 3: Rear view showing the temperature sensor port, power socket, and main power switch.

- **Temperature Probe Interface:** Connects the external temperature probe.
- **Power Cord Interface:** Connects the power cable.
- **Switch:** Main power on/off switch.
- **Bracket Installation Points:** For attaching the support rod.

4. Setup Instructions

Follow these steps to set up your heating mantle:

4.1 Bracket Installation

1. Assemble the adjustable bracket components (rod and clamp).
2. Insert the support rod into the designated bracket installation point on the rear of the heating mantle. Secure it firmly.
3. Attach the cross clip to the support rod at the desired height.

● Precise Temperature Control



Temperature Probe for Precise Control

Digital heating and stirring model with temperature sensor for more accurate experimental temperature control.

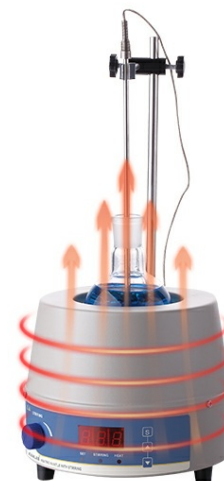


Figure 4: Visual guide for assembling and installing the support bracket.

4.2 Connecting the Temperature Probe

Connect the temperature probe to the temperature probe interface on the rear panel. Secure the probe using the cross clip so that its tip is immersed in the liquid within the flask, ensuring it does not interfere with the stir bar.

4.3 Power Connection

Connect the power cable to the power cord interface on the rear panel, then plug the other end into a suitable power outlet.

4.4 Flask and Stir Bar Placement

Place the round bottom flask containing the liquid and a magnetic stir bar into the heating mantle. Ensure the flask is centered and stable.

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Video 1: Demonstration of setting up the heating mantle, including bracket installation, probe placement, and initial operation.

5. Operating Instructions

5.1 Powering On/Off

Flip the main power switch on the rear panel to the "ON" position to power on the device. The digital display will illuminate. Flip to "OFF" to power down.

5.2 Setting Temperature

1. Short press the "S" (Set) key on the control panel. The temperature display will begin to flash, indicating it is in setting mode.
2. Use the Up and Down arrow keys to adjust the desired target temperature.
3. Press the "S" key again to confirm the setting, or wait a few seconds for the setting to automatically save. The heating mantle will then begin to heat to the set temperature.

● Product Detail

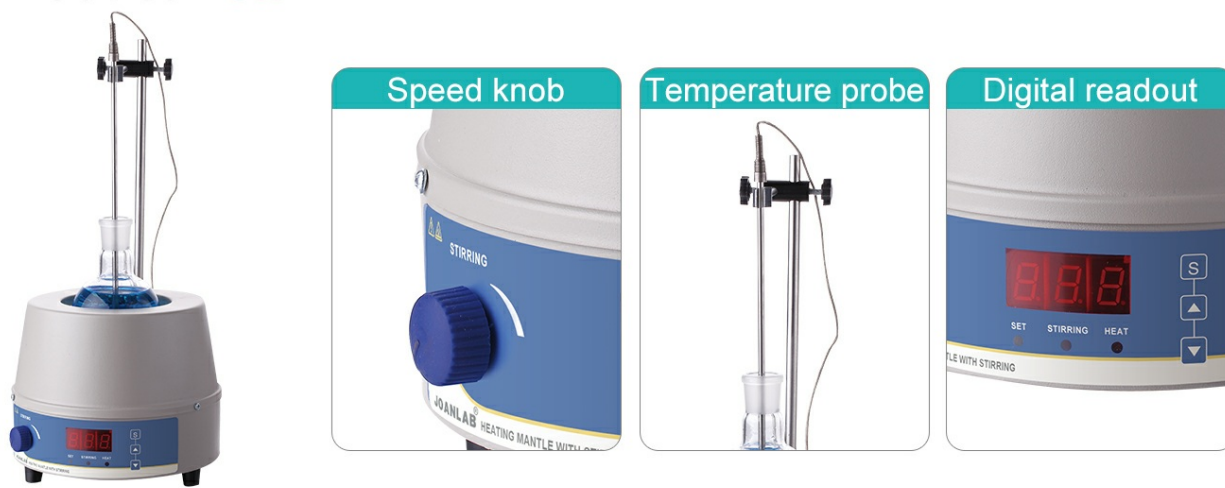


Figure 5: Illustration of the digital temperature control system and heating process.

5.3 Adjusting Stirring Speed

Rotate the speed control knob on the front panel clockwise to increase the stirring speed and counter-clockwise to decrease it. The stirring function can be used independently or simultaneously with heating.

5.4 Simultaneous Heating and Stirring

The JOANLAB JLCAHMSC1000 allows for simultaneous heating and magnetic stirring. Set your desired temperature and stirring speed as described above. The device will maintain the set temperature while continuously stirring the liquid, ensuring uniform heating and mixing.

6. Maintenance

- **Cleaning:** Disconnect the power before cleaning. Wipe the exterior surfaces with a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure no liquid enters the internal components.
- **Storage:** Store the heating mantle in a dry, clean environment when not in use. Protect it from dust and extreme temperatures.
- **Inspection:** Regularly inspect the power cord, temperature probe, and heating surface for any signs of damage or wear. If any damage is found, discontinue use and contact customer support.

7. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	No power supply; power switch off; blown fuse.	Check power connection; ensure switch is ON; check and replace fuse if necessary.
No heating.	Temperature not set; heating element malfunction.	Ensure temperature is set correctly; contact support if issue persists.
No stirring.	Stirring speed knob set to zero; stir bar not present or stuck.	Adjust speed knob; ensure stir bar is free and present in the flask.
Inaccurate temperature reading.	Temperature probe not properly immersed or faulty.	Ensure probe is fully immersed and not touching the flask bottom; contact support if probe is suspected faulty.

8. Specifications

● Heating Mantle

Max Temperature: Room temp - 300°C

Function: Heating/magnetic stirrer

Capacity: 500ml/1L/2L



Figure 6: Technical specifications including capacity, heating power, and temperature range.

Feature	Detail
Model	JLCAHMSC1000
Capacity	1000ml
Heating Power	350W
Function	Heating & Digital display & Magnetic agitation
Heating Temperature Range	Room temperature to 300°C
Temperature Control	Advanced Digital Electronic Temperature Regulation
Stirring Speed	Stepless adjustable
Heating Element	High-quality nickel-chrome resistance wire, hemispherical internal heater
Item Weight	4.6 kg
Parcel Dimensions	30 x 29 x 26 cm
Manufacturer	JOANLAB
Country of Origin	China

9. Warranty and Support

JOANLAB provides a **1-Year Warranty** for this heating mantle. For technical support, warranty claims, or any inquiries regarding the product, please contact JOANLAB customer service through your purchase platform or the official JOANLAB website. Please retain your proof of purchase for warranty validation.