Labotronics



Advanced Thermostatic Heating Mantle

LB-69HMT

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1. Safety Measures

Warnings:

- Use an electrical outlet that operates with a fuse or circuit breaker and a ground fault interrupt circuit (GFCI).
- Disconnect the mantle from the power supply before maintenance and Frequent service to avoid personal injury.
- Don't use in the presence of flammable or combustible materials, fire or explosion may result.
- Flask or vessels should be handled with care. Appropriate safety clothing, glasses, gloves, and coats should be worn when operating all mantles.

Caution

- To avoid electrical shock, completely cut off power to the unit by disconnecting the power cord from the unit or unplug from the wall outlet.
- Disconnect the unit from the power supply before maintenance and servicing. Spills should be removed promptly after the unit has cooled down.
- The heating mantle can reach 400°C, do not touch the heated surface. Always use caution. Keep the unit away from explosive vapors and clear of papers, drapery, and other flammable materials. Keep the power cord away from the heating mantle.
- Do not operate the unit at high temperatures without a vessel/sample in the heating mantle.
- Turn the heating power button off first, and then the stirring power button when the heating mantle is cooled down.
- Smoke and a pungent smell will occur the first-time use.
- It is normal for the changed brown or yellow color of the inner sleeve of the heating mantle when the heating mantle temperature exceeds 100 degrees, and the color can be returned when it works over 200 degrees.

2. Introduction

Advanced thermostatic heating mantle LB-69HMT is a table top heating mantle with a capacity of 20 L. It features a PID temperature controller and has an optimum temperature of 380 °C with maximum temperature resistance up to 450 °C. It consists of an outer thermocouple that measures and controls the liquid temperature value together with the front panel and an inner thermocouple that controls and measures the heating mantle temperature.

3. Features

1. Capacity of 20 L
2. Continuous working time
3. Alkali-free glass fiber
4. PID temperature control
5. Customized mantle available
6. Insulating course material of alumina silicate fiber
7. It has self-tuning mechanism by which it checks the temperature value reach the set temperature value

4. Specifications

Model No	LB-69HMT
Capacity	20 L
Power	5000 W
Temperature	380 °C
Temperature accuracy	± 1 °C
Voltage	160 V~ 240 V, 110 V~ 120 V

5. Applications

Used in laboratories to apply heat to containers , samples , for distillations that require high temperatures , health care and other fields

6. Instrument Introduction



Figure-1

7. Installation

7.1 Environmental Conditions

Operating Conditions: Indoor use only.
Temperature: 5 to 40°C (41 to 104°F)
Humidity: 20% to 80% relative humidity, non-condensing
Altitude: 0 to 6,562 ft (2000 M) above sea level
Non-Operating Storage
Temperature: -20 to 65°C (-4 to 149°F)
Humidity: 20% to 80% relative humidity, non-condensing

7.2 Installation

Upon receiving the heating mantle, check to ensure that no damage has occurred in product. After unpacking, place the heating mantle on a level bench or table, away from explosive vapors. Ensure that the surface on which the unit is placed will withstand typical heat produced by the unit and place the unit a minimum of 30 cm from vertical surfaces. Always place the unit on a sturdy work surface. The heating mantle can be plugged into a properly grounded outlet. The 110V unit plugs into a 110-volt, 50/60 Hz source. The 220V unit plugs into a 220-volt, 50/60 Hz source

8. Operations

8.1 Getting Ready

- Place a vessel with a solution and the appropriate accessories in the center of the heating mantle.
- Plug the power cord into a properly grounded outlet.
- Put the inner thermocouple on the heating mantle if it is not on it.

8.2 Operating Instruction

8.2.1 Set Temperature Adjustment

1) Turn on the power button for heating in the lateral (as in the following photos).



Figure-2

PV windows display the ambient temperature, and SV displays the setted temperature last time.

2) Press "" or "" button 3 seconds to quickly set the temperature you require.SV windows display the set temperature, and PV displays the inner heating mantle temperature. LED display. LED off when the inner heating mantle temperature reaches the setted temperature. The digital parts are as follows:



Figure-3

3) The heating mantle stops working when the liquid temperature reaches set one and can work again when the liquid temperature is below set one.
4) Pull out the inner thermocouple at the back of the heating mantle, and the heating mantle Stop working. The SV displays the last time setted temperature and the PV displays “HHH”.

8.2.2 Measured the liquid temperature adjustment

1) Pull out the inner thermocouple by hand. the PV windows display HHH, SV windows display the setted temperature last time. (as follows).



Figure-4

2) Connect the outer thermocouple 4 holes with the heating mantle 4 spins.
3) Put another stainless-steel part of the outer thermocouple into the liquid you measured.
4) The PV windows display the measured temperature.

9. Accessories

Standard Accessories

Accessory No.	Accessory	Quantity
A1	Removable holder	1
A2	Clamp with screw	1
A3	Inner Thermocouple (4 - spin)	1
A4	Outer Thermocouple (4 - spin)	1
	Stainless Steel Length: 235mm	
	Wire length : 1000mm	
A5	Magnetic bead	1
	Designed specifically for round bottom flasks	
	PTFE - coated	
	Length: 20mm	
	Diameter : 10 mm	