



ibx instruments HM01-D Heating Mantle with Digital Screen User Manual

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ibx instruments HM01-D Heating Mantle with Digital Screen



HM01 Heating mantle

HM02 Heating mantle with stirrer

HM01-D Heating mantle with digital screen

HM02-D Heating mantle with stirrer and digital screen










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Preface

Users should read this Manual carefully, follow the instructions and procedures, and beware of all the cautions when using this instrument.

Safety Instructions

	Connect the device to an earthed power supply to ensure the safety of the machine and the experiment. Make sure the voltage is the same as required by the device.
	The use of this instrument in inflammable, explosive, poisonous, or highly corrosive experiments is forbidden.
	Place the heating mantle on a horizontal, flat and stable surface.
	The heating mantle must only be used by qualified staff that has read the instructions manual and knows how to operate it.
	Do not place the heating mantle near any heat source.
	While in operation, dangerous materials such as flammable or pathological substances must be out of the device's safety area.
	An overfilling of the vessel could cause some working parts to overheat, which could dissolve flammable materials and cause a fire.
	While the machine is working you must not touch the hot surface, the vessel or the solution to prevent high-temperature burns.
	Read the instructions manual before using this device.

- When using the equipment, wear the necessary personal protective equipment to reduce the risk of:
 - Burns caused by splashing and evaporation of liquids
 - Intoxication caused by the release of toxic or flammable gases.
- Set up the instrument on a spacious, stable, clean, non-slip, dry, and fireproof surface. Do not operate the instrument in explosive atmospheres, with hazardous substances or under water.
- In models with stirring function, gradually increase or reduce the speed if:
 - The magnetic bar comes off due to a too high speed
 - The instrument is not running smoothly
- The set temperature must always be at least 25°C below the flash point of the media used.
- Beware of hazards due to:
 - Flammable materials or media with a low boiling temperature


- Overfilling of vessels
- Unsafe vessel
- Process pathogenic materials only in closed vessels.
- Check the instrument and accessories for damage prior to every use. Do not use damaged components. Safe operation is only guaranteed with the accessories described in the “Accessories” chapter. Accessories must be securely attached to the device and must not detach by themselves. Always disconnect the plug before the assembly or disassembly of accessories.
- The instrument can only be disconnected from the main power supply by pulling from the plug, not the cable.
- The voltage stated on the label must correspond to the main power supply.
- Ensure that the mains cable does not touch the heating base.
- Do not cover the device.
- Keep away from high magnetic fields.

Proper Use

The instrument is designed for heating and/or stirring mixtures of liquids in schools, laboratories or factories. It is not suitable for domestic use or for use in environments that can be hazardous for either the user or the instrument.

Inspection

Unpack the equipment carefully and check for any damages that may have arisen during transportation. If necessary, contact your supplier for technical support.

	Note: If there is any apparent damage to the equipment, do not plug it into the power outlet.
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The package includes the following items:

Items	Qty
Main unit	1
Power cable	1
Rod support and clamp	1
Magnetic bar (only for HM02 and HM02-D series)	1

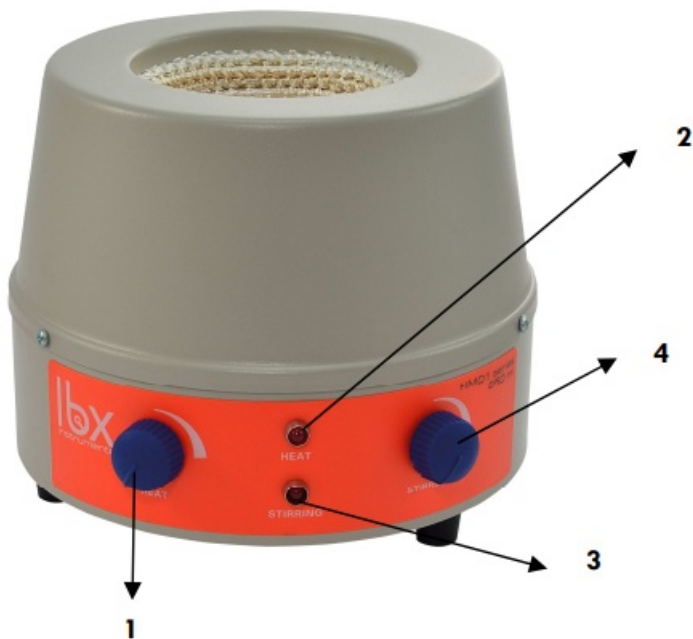
Description and Control

1. Power: Power intake indicator. When the device is plugged in, the red pilot lights up.
2. Off: Temperature adjustment knob with ON/OFF functions.
3. Heat: Green pilot that shows the temperature's intensity (the brighter the light is, the higher the temperature of

the sample).



1. Heat knob: Temperature adjustment knob with on/off functions.
2. Heat pilot: Red pilot which shows temperature's intensity (t the brighter the light is, the higher the temperature the sample has reached is).
3. Stirring pilot: Red pilot that shows stirring intensity (the brighter the light is, the higher the stirring speed is).
4. Stirring knob: Stirring adjustment knob with ON/OFF functions.



1. Digital screen
2. Heat pilot: turns on when the sample is being heated.
3. Control arrows: allow the user to adjust the temperature.
4. S button: allows the user to switch between set-up and working mode.



1. Digital screen
2. Heat and stirring pilots
3. Control arrows: allow the user to adjust the temperature.
4. S button: allows the user to switch between set-up and working mode.
5. Stirring knob: Stirring adjustment knob with **ON/OFF** functions.



Trial Run

- Make sure the required operating voltage and the power supply voltage match.
- Ensure the socket is properly earthed.
- Ensure the power is OFF.
- Pour the liquid to be heated in a vessel; if a stirring mantle is going to be used place the magnetic stirring rod inside the vessel.
- Place the vessel on the working space.
- Plug in the power cable and ensure the power is ON.
- Set the desired temperature; the equipment will start working.
- Observe the real temperature.
- In the models with stirring (HM02 series), select the stirring speed.
- Check the stirring rod.
- Stop the heating and stirring functions and power OFF the equipment.

If the operations above cause no abnormalities, the device is ready to operate. Otherwise, the device may have been damaged during transportation. In that case, please contact your supplier.

Operation

- Place the heating mantle on a horizontal, flat, and stable surface leaving at least 30cm clear on each side. Do not place it near any heat source.
- Plug the equipment into a power source; the red pilot (1) will light up showing that it is connected to the power and will stay lit whenever the equipment is connected to a power source.
- Turn the temperature knob (2) clockwise until you hear a “click”; this shows the heating mantle is ON. To adjust the temperature, keep turning the knob clockwise.
- Green pilot (3) Working shows the temperature variation. Thus, the more intense the light is, the higher the temperature of the sample is.
- Placing the thermometer: Assemble the two parts of the rod and insert the rod in its support at the back side of the equipment. Once the rod is placed, place the boss head at the desired height, hold it with the screw and place the thermometer clamp.



Note:

- The power used must match the device's requirement.
- Make sure the power line is at a safe distance from the heating mantle.
- In case of any fault, cut off the electricity immediately.

- Place the heating mantle on a horizontal, flat, and stable surface leaving at least 30cm clear on each side. Do not place it near any heat source.
- Connect the equipment to a power source.
- Turn the Heat Knob (1) clockwise until you hear a “click”; this shows the heating mantle is ON. The corresponding indicator will light up (2). To adjust the temperature, keep turning the knob clockwise towards the desired temperature.
- Turn the Stirring Knob (4) clockwise until you hear a “click”; this shows the heating mantle is ON. The corresponding indicator light will light up (3). To adjust the stirring speed, keep turning the knob clockwise until you reach the desired speed.

**Note:**

- The power used must match the device's requirements.
 - Adjust the power gradually and slowly.
 - Make sure the power line is at a safe distance from the heating mantle.
 - In case of any fault, cut off the electricity immediately
- Placing the thermometer: Assemble the two parts of the rod and insert the rod in its support at the back side of the equipment. Once the rod is placed, put the boss head at the desired height, hold it with the screw and put the thermometer clamp.

- Place the heating mantle on a horizontal, flat, and stable surface leaving at least 30cm clear on each side. Do not place it near any heat source.
- Connect the equipment to a power source.
- Set up the temperature sensor rods on the rod support. Place the sensor in the sample.
- Press the S button to go to set-up mode. Use the arrows to adjust the temperature. The digital screen displays the temperature set by the user.
- Press the S button to go back to working mode. The digital screen now displays the actual temperature of the sample.

**Note:**

- The power used must match the device's requirements.
- Make sure the power line is at a safe distance from the heating mantle.
- In case of any fault, cut off the electricity immediately.

- Place the heating mantle on a horizontal, flat, and stable surface leaving at least 30cm clear on each side. Do not place it near any heat source.
- Connect the equipment to a power source.
- Set up the temperature sensor rods on the rod support. Place the sensor in the sample.
- Press the S button to go to set-up mode. Use the arrows to adjust the temperature. The digital screen displays the temperature set by the user.
- Press the S button to go back to working mode. The digital screen now displays the actual temperature of the sample.

**Note:**

- The power used must match the device's requirements.
- Adjust the power gradually and slowly.
- Make sure the power line is at a safe distance from the heating mantle.
- In case of any fault, cut off the electricity immediately. Turn the knob clockwise and anticlockwise to adjust the magnetic stirrer power.

Faults

In the event that:

- The equipment does not turn ON
 - Make sure the power line is plugged in
 - Check for bad connection of the cable
- The temperature cannot reach the set point or stirring cannot be started by adjusting the control knob
 - Check whether the heating wire broke during transportation
 - Otherwise, the heating resistance of the equipment may be damaged.

If these faults are not resolved, please contact your supplier.

Maintenance and Cleaning

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

Dyes	Isopropyl alcohol
Construction materials	Water containing surfactants / Isopropyl alcohol
Cosmetics	Water containing surfactants / Isopropyl alcohol
Food products	Water containing surfactants
Fuels	Water containing surfactants

- Before using any other cleaning or decontamination methods, verify with the manufacturer that such method will not harm the instrument.
- Wear proper protective gloves when cleaning the instrument.
- In order to avoid contamination from hazardous substances, the instrument must be cleaned and put into the initial packaging before sending it in for repair.
- Use the instrument in a dry, clean room with a stable temperature.

Storage and transportation

- Keep the equipment in a dry and clean room with good ventilation and no corrosive gas.
- During transportation, protect it from wetting by the rain and avoid violent collision.

MA Specifications

Model	Capacity (ml)	Voltage (V)	Max. Temp.	Power (W)	Working Time	Exterior size (mm)	Packing size (mm)	N.W. (Kg)
HM01	100	220 (50-60 Hz)	450°C	100	Continuous	Ø200×160	230x230x170	2
	250			150				
	500			250		Ø260×200	290x290x220	3.5
	1000			350				
	2000			450		Ø300×230	330x330x250	4
HM02	100	220 (50-60 Hz)	450°C	100	Continuous	Ø200×160	230x230x170	2.5
	250			150				
	500			250		Ø260×200	290x290x220	4
	1000			350				
	2000			450		Ø300×230	330x330x250	5
HM01-D	100	220 (50-60 Hz)	450°C	100	Continuous	Ø220×165	230x215x195	2.5
	250			150				
	500			250		Ø270×220	280x280x300	5.5
	1000			350				
	2000			450		Ø330×230	345x290x350	6.5
HM02-D	100	220 (50-60 Hz)	450°C	100	Continuous	Ø200×160	230x230x170	2.5
	250			150				
	500			250		Ø260×200	290x290x220	4
	1000			350				
	2000			450		Ø300×230	330x330x250	5

Working conditions

Ambient temperature: 5~40° C

Relative humidity: ≤90%

Voltage: 220V±10%, 50/60Hz

Warranty

This instrument is guaranteed 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 claim under the warranty, please contact your supplier.

Service

If help is needed, you can always contact your dealer or Lab box via www.labbox.com (declare an incidence)
Please, provide the customer service representative with the following information:


- Serial number (on the back side)
- Description of the problem
- Your contact information

Customer Support

www.labbox.com



Documents / Resources

	<p>labbox instruments HM01-D Heating Mantle with Digital Screen [pdf] User Manual HM01, HM02, HM01-D, HM02-D, HM01-D Heating Mantle with Digital Screen, HM01-D, Heating Mantle with Digital Screen, Heating Mantle, Mantle, Digital Screen, Screen</p>
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References

-  [Lab supplies - Labbox Export](#)