



"Instructions for the Laboratory Furnace"

2.5 liter electric furnace





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Bone & Joint Research Lab



Technical specifications of the device:

Volume	2.5 liter
The material of the external body	steel with electrostatic paint coating
External device dimensions:	width 48 cm, height 33 cm, depth 50 cm
Internal dimensions:	width 13 cm, height 10 cm, depth 20 cm
control system	Digital device with timer and alarm
Power consumption	1.8 kw
The consumable	element is 1.2 mm
Type of fireproof cotton firebrick	fireproof cotton firebrick
Thermocouple	type k
Electricity	Single phase

Introduction and Application of Electric Furnace:

An electric furnace is an insulated heating chamber used to transform and process materials and samples, melt metals, and heat and ignite substances. The source of thermal energy for an electric furnace is electricity. Another characteristic of laboratory electric furnaces is that they have a high temperature accuracy, which has made them widely used. This device has very powerful elements around or on the ceiling of this insulated chamber, which allows it to withstand high temperatures and heat. For this reason, the electric furnace is made of special materials such as non-flammable cement, non-flammable bricks, and non-flammable cotton. This 2.5-liter electric furnace can produce a maximum temperature of up to 1200 degrees Celsius. However, this maximum temperature for a 2.5-liter electric furnace is recommended for less than ten minutes. The official temperature is 1100 degrees Celsius.



Steps for Operation

- Connect the device plug to the power supply.
- Switch the black button to position 1 to turn on the device.
- The device has a two-page black display screen.
- The display shows the ambient temperature at the top of the screen at the beginning of the work.
- The number 1 flashes on the bottom left corner of the screen, indicating the program number being executed.
- Hold down the Mode button for a few seconds to enter program 1.
- At this stage, adjust the desired temperature at the top of the display screen.
- Adjust the desired temperature using the "▲" and "▼" buttons.
- Press the Save button to store the temperature program in the device memory.
- Finally, enter the desired operating time for the device in the program and press the Save button to record the time.
- Open the furnace door and remove the samples with tweezers.
- Wearing gloves is mandatory when working with tweezers.
- After finishing the work, switch the black button to position O to turn off the device.
- Disconnect the power supply from the socket.



Figure 1. 2.5 liter electric furnace



Safety and Important Points

- This device produces high heat, so the door should not remain open for too long, as the heat generated inside the device quickly escapes.
- To operate the device continuously at a certain temperature, the timer should be set to zero.
- Place the furnace in a suitable location with adequate air circulation (near the exhaust fan) and at an appropriate height above the ground (at least 5 centimeters higher than the ground level).
- When working with tweezers to remove samples, wearing gloves is mandatory.
- Do not touch any part of the furnace during or immediately after operation, as it may cause burns.
- Make sure the furnace is properly grounded to prevent electric shock.
- Keep the furnace and its surroundings clean and free of any flammable materials.
- In case of any malfunction or abnormality, turn off the device immediately and seek professional assistance.