FOUR E'S SCIENTIFIC

Operating Instructions

Paraffin Wax Dispenser

WXD101201

Contents

Please read the operating instructions in full before starting up and follow the safety instructions.
The appearance and specifications are subject to change without notice.

1. Preface

Thank you for purchasing WXD101201 Paraffin Wax Dispenser. To get the best performance from this device, and for safety purposes, please read this operating manual completely before use. Also keep it in a place that is easily accessible. Any operation not described in this manual is strictly prohibited and will void the product warranty. Unauthorized use may also compromise device functionality and cause harm. Four E's Scientific disclaims all liability for damages arising from unauthorized use, modification, or misuse of the product.

2. Safety Instructions

- Please read this instructions carefully and follow the operating guides before use.
- Keep this manual in a place where users can easily access it.
- Only trained staff can operate and repair this device.
- Observe the safety regulations, personal safety guidelines, and accident prevention measures.
- Ensure that the power outlet is properly grounded before using the instrument.
- Always fill the paraffin dispenser with wax before switching on the device.
- Ensure the instrument is placed on a stable surface before powering it on.
- Be carefully of the hot surface of the lid.
- Avoid dry heating (Operating without sufficient medium).
- If the power switch can not be easily accessed, emergency stop must be installed in the work area for quick operation.

• Always disconnect the power supply before disassemble the device.
• After unplugging, some internal components may remain charged. Wait for a period before opening the instrument.

 Switch off the device immediately in the following situations:

- A burning smell occurs due to prolonged dry heating.
- The device is not placed on a stable surface as required.
- Power supply is insufficient, causing tripping after startup.
- The instrument malfunctions and cannot operate normally.

3. Correct Use

/// Application

A wax dispenser is an essential tool for embedding tissue samples in paraffin. This process is a critical step in preparing tissue specimens for microscopic examination. Below is an overview of its usage:

(1) Melting the Paraffin Wax: The wax dispenser melts paraffin wax and maintains it at a specific temperature (typically around 60°C) to keep it in a liquid state suitable for embedding.

(2) Embedding Tissue Samples: After processing (dehydration and solvent clearing), tissue samples are placed into a mold. The pour the liquid paraffin over the tissue. As the wax solidifies, it encases the tissue in a solid block.

/// Fields of use

Suitable for laboratory-style indoor environments in labs, universities, hospitals, and commercial settings.

User safety cannot be guaranteed under the following conditions:

(1) Use any accessories which are not authorized or recommended by the manufacturer.

(2) Improper operation or violation of the manufacturer's operating guidelines.

(3) Unauthorized modifications to the instrument or circuit board by third parties.

(4) The used voltage does not comply with the device nameplate.

4. Unpacking and Installation

/// Unpacking

Unpack the package carefully and examine the contents for potential damages that may have occurred during transit. If you observe discernible damage, please promptly contact your local seller for assistance. In the event of any discernible damage to the device, refrain from connecting the device to a power source to avoid any potential risks or further harm.

Box contents

Item	Quantity
Paraffin wax dispenser	1
Transparent lid	1
Temperature Probe mesh protector	1
Tap filter screen	1
Power cord	1
User manual	1

/// Installation

The inner tank is equipped with a protective mesh to safeguard the temperature sensor. Before operating the device, always ensure the mesh is properly positioned and the transparent lid is securely closed.

Note:

- For optimal temperature stability, ensure the transparent lid is properly fitted to the vessel rim during operation.
- The transparent lid may become hot during use. Be careful of the hot surface of the lid. Always lift the lid using the lid handle only.

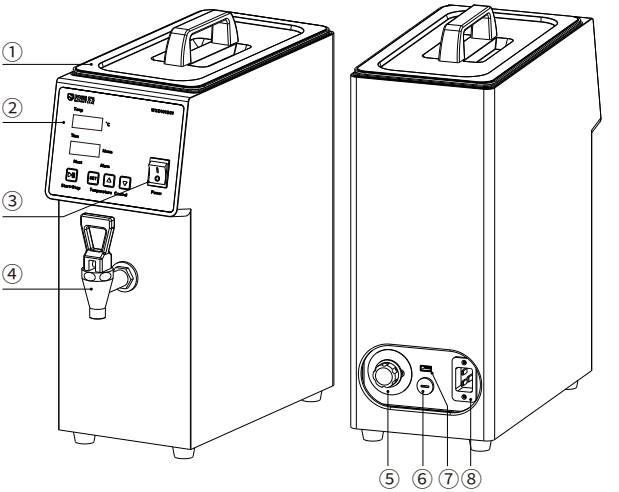
/// Placement

Place the device on a level surface in a non-flammable environment and ensure that the power plug and switch are easily accessible.

/// Power supply

- Ensure that the device nameplate matches your electrical outlet. The power outlet must be properly grounded.
- To disconnect power, pull the plug directly from the outlet (do not yank the cord).

5. Product Structure



① Transparent lid

② Control panel

③ Power switch

④ Wax Dispensing Faucet

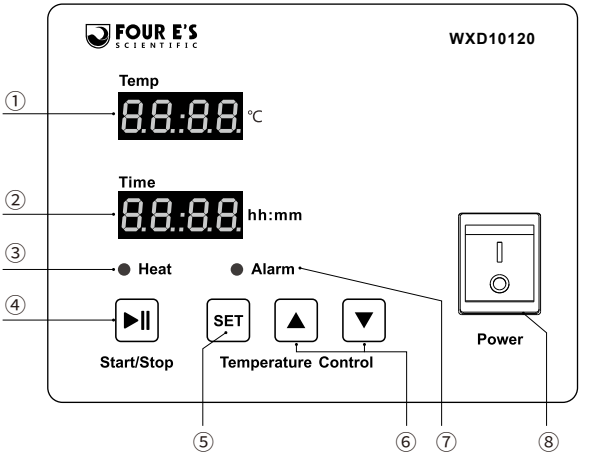
⑤ Faucet heater control knob

⑥ Power fuse

⑦ USB interface (Used for software upgrade. Contact manufacturer for servicing)

⑧ Power socket

6. Operating Instructions



① Temperature display

② Time display

③ Heat indicator

④ Alarm indicator

⑤ Start/stop button

⑥ SET button (toggle between temperature and time setting)

⑦ Up&down button (adjust values)

⑧ Power switch

Operating Instructions

1. Turn on/off heating function

Switch on the device, tap [▶II] button to start/stop heating.

2. Heating temperature setting

Tap [SET] button to select temperature setting. When the Temp value flashes, tap [▲] / [▼] button to set your desired temperature.

3.Timer setting

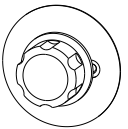
Tap [SET] button to select time setting. When the Time value flashes, tap [▲] / [▼] button to set your desired time.

• Timer setting range: 0min – 99Hr59min.

• Timer starts when it starts heating.

• Device will sound an alarm when timer ends.

4. Temperature setting for Wax Dispensing Faucet



The wax dispensing faucet is located at the rear of the device. Temperature is controlled via a 10-level rotary knob, adjustable from 30°C to 100°C with 6°C increments (±3°C accuracy).

Warning: The faucet surface becomes extremely hot during operation. Always handle with care to prevent burns.

5. Temperature calibration

To ensure the accuracy of temperature readings, it is recommended to calibrate both the high-temperature and low-temperature points of the device. This calibration process follows a fixed sequence and must not be altered.

1) High temperature calibration

① Enter Calibration Mode: Long press [SET] button until the display activates. The current high temperature calibration point will be shown as  .

② Set Target Temperature: Tap [▲] / [▼] button to adjust to desired calibration point (range: 90°C-99°C). Tap [▶II] to start temperature calibration.

③ Verify Calibration: When the device reaches the target temperature, press [SET] button, then input the actual temperature reading from external sensor. Long press [SET] button to save the calibration value. Long press [SET] button again to exit.

Note: Please always proceed high temperature calibration first.

2) Low temperature calibration

① Enter Calibration Mode: Long press button until the display activates. The current low temperature calibration point will be shown as  .

② Set Target Temperature: Tap [▲] / [▼] button to adjust to desired calibration point (range: 75°C-85°C). Tap [▶II] to start temperature calibration.

③ Verify Calibration: When the device reaches the target temperature, press [SET] button, then input the actual temperature reading from external sensor. Long press [SET] button to save the calibration value. Long press [SET] button again to exit.

Note: After the high temperature calibration is completed, start low temperature calibration.

7. Troubleshooting

Causes	Solutions
Device isn't working when powering on	- Check if the power cable is securely connected to both the device and the main power supply. - Verify that the power switch is in the "ON" position.
Overheating error during startup	Immediately power off the device and allow it to cool down to room temperature before restarting.
Dry heat alert	The dry heat protection function automatically activates upon startup. If the system detects an empty chamber during operation, it will trigger the dry heat alert, stop heating, and sound an alarm.

8. Error Code

Error code	Error message	Causes	Solutions
Er 1	Temperature sensor 1 < 0℃	Alarm indicator is on with alert sound.	Power off the device and restart it.
Er 2	Temperature sensor 1 > 150℃	Alarm indicator is on with alert sound.	Power off the device and restart it.
Er 3	Temperature sensor 2 < 0℃	Alarm indicator is on with alert sound.	Power off the device and restart it.
Er 4	Temperature sensor 2 > 150℃	Alarm indicator is on with alert sound.	Power off the device and restart it.
Er 5	Temperature sensor 3 < 0℃	Alarm indicator is on with alert sound.	Power off the device and restart it.
Er 6	Temperature sensor 3 > 150℃	Alarm indicator is on with alert sound.	Power off the device and restart it.

9. Cleaning and Maintenance

Cleaning Instructions

- Always disconnect the power supply before cleaning!
- Use only recommended cleaning agents: Surfactant-containing aqueous solutions, Isopropyl alcohol (IPA)
- Wear protective gloves during cleaning.
- Do not immerse electronic components in cleaning solutions.
- Prevent moisture from entering into the device.
- If using non-recommended cleaning methods, consult the manufacturer first.

Maintenance & Repair

- Before sending the device for servicing: Thoroughly clean the instrument. Ensure no hazardous material residues remain.
- For repairs: Return the device in its original packaging. If original packaging is unavailable, use suitable protective packaging to prevent damage during transit.

10.Specifications

Model	WXD101201
Temperature range	0~100°C
Accuracy	±1°C
Capacity	7.5L
Input voltage	AC100V~120V, 50HZ
Power	1100W
Dimensions	430x180x450mm
Weight	12kg
Tap Height	18cm
Tap heating intensity	Adjustable with the rotary knob at the back
Timer	0-99:59 min (Timer starts when it starts heating)
Dry run protection	Yes

11. Warranty

We guarantee that our scientific instruments adhere to the most rigorous engineering and quality standards. This instrument is warranted to be free from defects in materials and workmanship under normal use and service, for a period of 24 months from the date of dispatch. The warranty is extended only to the original purchaser. For claims under the warranty, please contact your local supplier. After the warranty period expires, the manufacturer retains the right to invoice the cost price for the repair or maintenance of a faulty device, along with any associated service fees.

Scope of Warranty

The following conditions are not covered under the warranty.

- Faults or damage caused by negligence, improper installation, improper operation, or failure to use and maintain the machine inaccordance with the instructions in this operating manual.
- Issues caused by unauthorized disassembly or modification.

Date：2025. 07.04
Version：V1.0