BOEKEL

Boekel Scientific

Illuminated Tissue Flotation Bath

Model
145702
145702-2
145951
145951-2

Operating Instructions

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1.   **Safety**

The following symbols marked on the equipment mean:

Caution: Read these operating instructions fully before use and pay particular attention to sections containing this symbol.

Attention: Suivre attentivement les instructions avant l'usage et prêtez une attention particulière aux sections comportant ce symbole.

Caution: Surfaces can become hot during use.

Attention: Les surfaces peuvent devenir brûlantes pendent l'usage.

Always observe the following safety precautions:

- Use only as specified by the operating instructions or the intrinsic protection may be impaired. After transport or storage in humid conditions, dry out the unit before connecting it to the supply voltage. During drying out the intrinsic protection may be impaired.
- Connect only to a power supply with a voltage corresponding to that on the serial number label.
- Connect only to a power supply that provides a safety ground terminal.
- Water should be placed only in the glass dish. Filling the chamber without the glass dish may damage the bath and pose an electrical hazard.
- Before moving, disconnect at the power supply socket.
- Do not touch surfaces that become hot during high temperature operation.
- Ensure that the operating temperature is less than the maximum operating temperature of your sample material.
- Ensure that the power switch is easily accessible during use.
- If liquid is spilled inside the unit, disconnect it from the power supply and have it checked by a competent person.
- It is the user's responsibility to carry out appropriate decontamination if hazardous material is spilled on or inside the equipment.
- This product must be used with an UL Listed / CSA Certified power supply cord set.
- The responsible body shall be made aware that, if the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

2.   **Product Information**

The Boekel Illuminated Tissue Floatation Bath is designed to help eliminate wrinkles and distortions in tissue specimens as they are being mounted on glass microscope slides. The Tissue Floatation Bath provides a temperature controlled glass dish water bath for specimen preparation, a digital temperature readout for determining bath temperature and LED illumination the bath and tissue specimen. The glass dish water bath has two molded side handles allowing easy removal for cleaning and quick water change.

The Tissue Bath has a water temperature range of ambient + 5°C to approximately 65°C under normal operating conditions. The unit has an Orienter Block which has a fixed temperature of 55°C ± 3°C and a Dryer Block which has a fixed temperature of 40°C ± 3°C.

3. **Assembly**

3.1   Unpacking
Remove packing materials carefully, and retain for future shipment or storage of the unit. Inspect for damage. Complete and return the Warranty Registration Card.
Package should contain 1 each of the following:

- Tissue Floatation Bath
- Glass Dish
- Operating Instructions
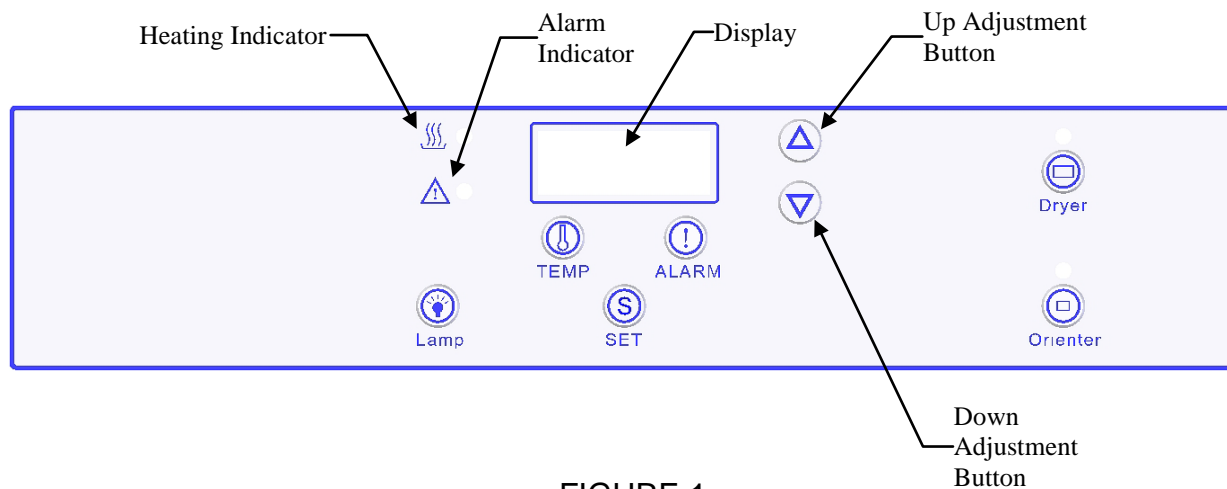- Power Cord
- Warranty Card

3.2   Installation
Place the Tissue Flotation Bath on a flat and stable surface, preferably away from drafts. Plug the power cord into a power supply that matches the voltage listed on the serial number label on the rear of the unit. Insure that the surface on which the unit is placed will withstand the radiated heat produced by typical laboratory equipment.

4. **Operation**

4.1   **Controls and Indicator Lamp** (see figure 1)
Please note that the Dryer and Orienter Blocks are only available on models 145951 and 145951-2.

Power Switch:	Located on the rear of the unit.
Heater Indicator:	Illuminates green when the unit is heating.
Alarm Indicator:	Illuminates when unit reaches an over-temp condition.
Lamp Button:	Used to turn the LED illumination on.
Display:	Displays actual bath temperature in normal operating mode, or high temperature alarm limit when alarm button is depressed.
Temp. Button:	Used to activate "Set Temperature Mode".
Alarm Button:	Used to set over-temp alarm limit when depressed.
Set Button:	Used to confirm mode and temperature changes.
Up Arrow Button:	Used to increment the set temperature.
Down Arrow Button:	Used to decrement the set temperature.
Dryer Block Button:	Used to activate the Dryer Block.
Orienter Block Button:	Used to activate the Orienter Block.

Heating Indicator — Alarm Indicator — Display — Up Adjustment Button

Down Adjustment Button

FIGURE 1

4.2 Filling the Bath

Fill the glass dish with water to a minimum depth of 2cm. **Caution: Water should be placed only in the glass dish. Filling the chamber without the glass dish will damage the bath and may pose an electrical hazard.** After filling the glass dish, push the temperature probe (located in the upper right corner of the bath compartment) downward into the water so that the tip is immersed at least 1cm and is not touching the glass dish.

During operation continue to add water to maintain the 2cm water level.

If it is necessary to remove the glass dish from the unit, first turn the unit off. Make sure the temperature probe is moved to its full upright position, and then remove the glass dish.

Caution: If the unit remains on with the temperature probe in its upright position, or the glass dish is removed or empty, the unit will go into an over-temperature condition.

4.3 Setting the Temperature

4.3.1 Depress the "Temp." button on the front panel, the display will change to "tSEt".
4.3.2 Depress the "Set" button to enter the set point adjust mode.
4.3.3 Use the up/down arrow keys to obtain the desired set temperature. The display will flash when in the set temperature mode.
4.3.4 When the desired set temperature is achieved, depress the "Set" button. This value is stored in memory and the unit will retain this value after the unit is switched off.
4.3.5 As the bath heats up the heater indicator will remain on steady, as the bath begins to reach equilibrium, the heater indicator will flash.

4.4   Setting High Temperature Alarm

4.4.1   The unit is programmed with an adjustable high temperature alarm. The high temperature alarm value is factory set at 5°C above the set temperature value. To change this value, follow the steps below.

4.4.2   Depress the "Alarm" button; the display will now alternate between "Alar" and the current high temperature alarm value. Depress the "Set" button and the display will now flash the current high temperature alarm value. If a different value is desired use the up/down arrow keys to obtain the desired high temperature alarm value.

4.4.3   When the desired alarm value is indicated, press "Set". This new value is now stored.

4.4.4   If a high temperature alarm condition is encountered the display will flash "Alar", the heater will shut off, and the "alarm" indicator will illuminate. This condition will persist until the bath temperature drops below the alarm set value, or the user raiser the High Temperature Alarm value above the actual bath temperature. This can be accomplished when the in the alarm mode by depressing the "alarm" button, and then pressing the "Set" button. The current high temperature alarm value is now displayed. Use the up/down arrow keys to adjust to desired value and then press "Set".

Note: If a change to the temperature set point is made, the high temperature alarm value will return to a default of 5°C above the set temperature value.

4.5   **Illuminating the Bath**

To illuminate the bath depress the "lamp" button on the front panel. To turn off lamp depress the lamp button again.

4.6   **Dryer Block**

Press the Dryer Block Button to turn the Dryer Block on. The 2" x 5" slide dryer/warmer block heats to 40°C ± 3°C.

4.7   **Orienter Block**

Press the Orienter Block Button to turn the Orienter Block on. The 2" x 2" specimen orienter block heats to 55°C ± 3°C. A brief touch of the prepared slide to the orienter block will instantly flatten wrinkled paraffin sections.

5. Fault Diagnosis

Symptom	Possible Cause	Action Required
1. Unit does not operate	a. Unit not switched on b. Unit not plugged into power supply c. Fuses blown d. Power supply failure	a. Switch on b. Plug in, turn on c. Replace fuses per 8.2 d. Check that other electrical appliances on the same circuit are working
2. Bath temperature does not rise when expected	a. Actual temperature is higher than set temperature b. Temperature control sensor is not positioned in the water c. Temperature control circuit fault	a. Check set temperature b. Position sensor in the water. c. Have unit checked by competent person
3. Temperature continues to rise when not expected	a. Actual bath temperature is lower than set temperature b. Temperature control circuit fault	a. Check set temperature b. Have unit checked by competent person
4. Lamp not illuminated	a. Lamp not switched on b. Lamp failure	a. Press lamp switch b. Have unit checked by competent person

6. Accessories

Part Number	Description
904-0013	Glass Dish

7. Technical Specifications

This equipment is intended for indoor use and will meet its performance figures within the ambient temperature range of 20°C to 30°C, with maximum relative humidity of 80% (non-condensing). Installation Category II (transient voltages). Pollution Degree 2 in accordance with IEC 664. Suitable for operation at altitudes of up to 6500 feet.

Specifications:

Temperature Set Range:	(Ambient +5°C) to 65°C
Operating Temperature Range:	20°C to 30°C
Temperature accuracy:	± 0.3°C at 55°C
Stability:	± 0.2°C
Supply Voltage Range:	
145702 and 145951	115V ± 10%, 60 Hz
145702-2 and 145951-2	230V ± 10%, 50/60Hz
Power Rating:	272W
Heating Rate:	Ambient to 55°C within 45 minutes

8.   **Maintenance and Service**

All Boekel laboratory products are designed to comply with IEC1010-1. No routine maintenance is required. There are no user serviceable parts in this product.

8.1   **Cleaning**

Disengage power cord prior to cleaning. The glass dish has molded handles to allow removal for easy cleaning. Paraffin build-up should be avoided around the top area of the Tissue Bath. Paraffin and liquids should also be cleaned as quickly as possible from the black chamber area to prevent glass dish heating problems. The outer casing may be cleaned with water and a damp cloth. Do not submerge or immerse the Tissue Bath in water. Before using any cleaning or decontamination method except those recommended by the manufacturer, users should check that the proposed method would not damage the equipment.

8.2   **Replacement of Fuses**

There are two supply fuses located in the fuse drawer. To replace the fuses:
- Disconnect the unit from the power supply.
- Remove the plug from the socket in the back of the unit.
- Pull back on the fuse drawer
- Pull out the fuse drawer
- Check and replace with the correct fuses if necessary. The fuses must be ¼" x 1 ¼" fast acting, rated 4A and 250V.
- Push the fuse drawer back in. Reconnect unit to the power supply.

9.   **Warranty**

When used in laboratory conditions and according to these operating instructions, Boekel Scientific warrants this product to be free of defective material and workmanship for a period of two years from the date of manufacture. The liability of Boekel Scientific for any defective equipment during the warranty period shall be limited to the repair of such equipment or replacement thereof without charge for parts or labor.

10.   **Service**

It is required to obtain a Returned Material Authorization (RMA) number before any Boekel products are returned for any reason. A Decontamination Certificate must be completed, signed by the user, and returned to Boekel Scientific prior to receiving the RMA number. Please be sure to mark the outside of the returned goods package with this RMA number to ensure prompt handling.

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