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Model: BSH1002

1. INTRODUCTION

This manual provides comprehensive instructions for the safe and efficient operation, installation, and maintenance of the Benchmark Scientific BSH1002 Double Position Digital Dry Bath Incubator. This instrument is designed for precise temperature control in laboratory applications, offering digital control over both temperature and time. Please read this manual thoroughly before operating the device.

2. SAFETY INFORMATION

Always observe standard laboratory safety procedures when operating this equipment.

- Ensure the unit is placed on a stable, level surface away from flammable materials.
- Connect the unit to a properly grounded electrical outlet with the specified voltage (115V AC, 60Hz).
- Do not operate the unit if the power cord or plug is damaged.
- Avoid direct contact with the heating blocks when the unit is operating or recently turned off, as they can reach high temperatures. Use the provided block lifter.
- Do not immerse the unit in water or other liquids.
- For research purposes only.

3. PRODUCT OVERVIEW

The BSH1002 is a double-position digital dry bath incubator designed for precise temperature control of samples in various tube sizes. It features a digital display for temperature and time, and intuitive controls.



Figure 1: Benchmark Scientific BSH1002 Double Position Digital Dry Bath Incubator. This image displays three views of the dry bath incubator. Each unit is a compact, rectangular device with a light gray casing and a blue and green accent stripe on the front panel. A digital display showing "37.0" is visible on the front, along with control buttons. The top surface features two recessed areas designed to hold heating blocks. One unit shows a block lifter inserted into a heating block.

Key Components:

- **Digital Display:** Shows current temperature and set time.
- **Control Buttons:** For setting temperature, time, and other functions.
- **Heating Blocks:** High-grade aluminum blocks, precision machined for various tube sizes (sold separately). The unit accommodates two blocks simultaneously.
- **Block Lifter:** Insulated handle for safe removal and insertion of hot blocks.
- **Power Inlet:** Located at the rear of the unit.

4. SETUP

1. **Unpacking:** Carefully remove the dry bath incubator and all accessories from the packaging. Retain packaging for future transport or storage.
2. **Placement:** Position the unit on a stable, level, and heat-resistant surface in a well-ventilated area. Ensure adequate clearance around the unit for proper airflow.
3. **Block Installation:**
 - Ensure the unit is unplugged and cool.

- Place the desired aluminum heating blocks into the two recessed chambers on the top surface of the unit. Ensure they are seated correctly.
4. **Power Connection:** Connect the power cord to the power inlet on the rear of the unit, then plug the other end into a grounded 115V AC, 60Hz electrical outlet.

5. OPERATING INSTRUCTIONS

1. **Power On:** Turn on the main power switch, usually located on the rear or front panel. The digital display will illuminate.
2. **Setting Temperature:**
 - Press the "Temp" button (or equivalent) to enter temperature setting mode.
 - Use the Up/Down arrow buttons to adjust the desired temperature. The range is ambient +5°C to 150°C, with 0.1°C increments.
 - Press "Enter" (or wait a few seconds) to confirm the setting. The unit will begin heating to the set temperature.
3. **Setting Timer:**
 - Press the "Time" button (or equivalent) to enter timer setting mode.
 - Use the Up/Down arrow buttons to set the desired incubation time (1 to 999 minutes).
 - Press "Enter" (or wait a few seconds) to confirm. The timer will start once the set temperature is reached.
 - An audible alarm may sound when the timer expires.
4. **Inserting/Removing Samples:**
 - Place samples (in appropriate tubes) into the wells of the heating blocks.
 - To remove or exchange blocks, use the provided block lifter. Insert the lifter into the designated hole in the block, lift, and carefully remove. This protects against high temperatures.
5. **Power Off:** When finished, turn off the main power switch and allow the unit to cool before handling or cleaning.

6. MAINTENANCE

- **Cleaning:**
 - Always unplug the unit and allow it to cool completely before cleaning.
 - Wipe the exterior surfaces with a soft, damp cloth and a mild detergent. Do not use abrasive cleaners or solvents.
 - Ensure no liquid enters the interior of the unit.
 - Clean heating blocks separately if necessary, ensuring they are dry before re-insertion.
- **Recalibration:** The BSH1002 features a built-in user recalibration function to maintain long-term temperature accuracy. Refer to the specific recalibration procedure detailed in the full manufacturer's manual or contact Benchmark Scientific support for guidance.

7. TROUBLESHOOTING

If you encounter issues with your dry bath incubator, refer to the following common problems and solutions.

Problem	Possible Cause	Solution
Unit does not power on.	No power supply; power cord loose or damaged.	Check power connection and outlet. Ensure power switch is ON.
Temperature not reaching set point or fluctuating.	Incorrect temperature setting; faulty heating element; poor block contact.	Verify temperature setting. Ensure blocks are seated correctly. If problem persists, contact support.
Timer not functioning.	Incorrect timer setting; timer not activated.	Ensure timer is set and activated after temperature stabilization.

For issues not listed here or if troubleshooting steps do not resolve the problem, please contact Benchmark Scientific customer support.

8. SPECIFICATIONS

Parameter	Value
Model	BSH1002
Temperature Range	Ambient +5°C to 150°C
Temperature Resolution	0.1°C
Temperature Accuracy	+/-0.2°C
Temperature Uniformity	+/-0.2°C
Timer Range	1 to 999 minutes
Dimensions (W x D x H)	20 x 23 x 8 cm (7.8 x 9 x 3.2 inches)
Block Dimensions	7.6 x 9.5 x 5 cm (3 x 3.75 x 2 inches)
Chamber Material	Fast heating aluminum
Operating Temperature Range	+4°C to +65°C
Electrical	115V AC, 60Hz

9. WARRANTY

The Benchmark Scientific BSH1002 Digital Dry Bath Incubator comes with a **2-Year Warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims. The warranty does not cover damage resulting from misuse, accident, unauthorized modification, or improper operation.

10. CUSTOMER SUPPORT

For technical assistance, service, or to inquire about replacement parts, please contact Benchmark Scientific customer support. Have your model number (BSH1002) and serial number ready when contacting support. *Contact information is typically found on the manufacturer's official website or product packaging.*