

BOD Incubator 171 L with Digital PID Controller

Operating Manual

Laboratory Equipment

Intended use

Refrigerated incubator with heating for holding samples at controlled temperatures from 5 C to 50 C, used for biochemical oxygen demand (BOD) testing, microbiology, stability studies, plant culture and seed germination.

Intended users

Trained laboratory personnel in environmental, wastewater, microbiology, pharmaceutical, agricultural and academic laboratories.

Read this manual completely before first use and keep it with the product. This document provides general operating, care and safety guidance. Where the product is supplied with manufacturer labeling or instructions, those take precedence. For questions, a replacement copy, or a digital copy of this manual, email sales@scimedstore.com.

1. Safety

Safety warnings and cautions

- Connect only to a grounded outlet with the supply voltage marked on the unit. Use a dedicated circuit; do not use extension cords.
- Unplug the unit before cleaning, moving or any maintenance.
- Do not allow liquids to enter the controller or electrical parts. Wipe up spills promptly.
- The unit is heavy. Use suitable lifting equipment and enough people to move it. Keep it upright during transport.
- Do not store flammable, explosive or volatile materials inside the incubator.
- Treat biological samples as potentially infectious and follow your laboratory's biosafety procedures.
- Leave clearance around the unit, including at least 200 mm behind it, for ventilation.
- Refrigerant system service must be performed only by qualified technicians.

2. Package contents

- BOD incubator
- Adjustable perforated stainless steel shelves (2 or 3, as ordered)
- Door lock key

Check contents on receipt. Report missing or damaged items to sales@scimedstore.com within 48 hours of delivery.

3. Specifications

Capacity	171 L (6.1 cu ft)
Internal dimensions (W x D x H)	505 x 415 x 830 mm
Temperature range	5 C to 50 C
Stability	+/- 0.5 C (typical, at 20 C setpoint)
Uniformity	+/- 1.0 C at 20 C
Controller	Digital PID controller with LED display
Recommended ambient	15-32 C
Inner chamber	Anodized aluminum or polished SS 304 (as ordered)
Doors	Outer double-wall door with magnetic gasket and lock; inner transparent acrylic door
Shelves	2 or 3 adjustable perforated stainless steel shelves (as ordered)
Interior light	LED, door-switch activated
Refrigeration	Sealed compressor system
Air circulation	Forced air
Protection	Compressor protection, over-temperature cut-out, low-refrigerant alarm
Power supply	110V or 220V AC, 50/60 Hz, single phase (as ordered; check the marking on the unit)
Shipping weight	Approx. 180 kg crated

4. Unpacking and setup

- 1 Unpack the unit and inspect for transport damage.
- 2 Place the incubator on a level, solid floor in a room within the recommended 15-32 C ambient, away from direct sunlight and heat sources such as ovens and autoclaves.
- 3 Leave at least 200 mm clearance behind the unit and space at the sides for air flow.
- 4 If the unit was transported on its side or tilted, leave it upright before switching on, as advised by the supplier, to let the compressor oil settle.
- 5 Fit the shelves at the required heights.
- 6 Check that the supply voltage marked on the unit matches your local supply and connect to a grounded outlet.
- 7 Switch on and let the chamber run empty until the temperature is stable at the setpoint.

5. Operation

Setting the temperature

- 1 Switch on the incubator with the main switch.
- 2 Enter the required setpoint on the digital controller following the controller instructions supplied with the unit.
- 3 Close both doors and allow the chamber to reach and stabilize at the setpoint.
- 4 Check the chamber temperature with an independent calibrated thermometer or data logger.
- 5 Record the temperature at the intervals required by your laboratory method.

Loading samples

- 1 Open the outer door and then the inner acrylic door only for as long as needed.
- 2 Place samples on the shelves with space between them for air circulation. Do not block the air vents.
- 3 Do not overload the shelves.
- 4 Close the inner door, then the outer door, and lock if required.
- 5 Observe samples through the inner acrylic door when possible to avoid temperature loss.
- 6 Allow the temperature to recover after loading before starting timed incubations, as required by your method.

6. Cleaning and disinfection

- Switch off and unplug the unit, and remove all samples before cleaning.
- Remove the shelves and wash them with mild detergent, rinse and dry.
- Wipe the chamber with mild detergent or a laboratory disinfectant compatible with the chamber material, then wipe with clean water and dry.
- Clean the acrylic inner door with a soft cloth and mild soapy water only. Do not use alcohol, solvents or abrasives on acrylic.
- Wipe the door gaskets and check that they are not damaged.
- Do not allow water to run into the controller, light or fan area.

7. Maintenance and storage

- Check door gaskets regularly for a tight seal.
- Keep the rear condenser area free from dust; clean it periodically with the unit unplugged.
- Verify temperature periodically against a calibrated reference, per your laboratory's quality procedures.
- If the unit will be stored, clean and dry the chamber and leave the doors slightly open to prevent odors and mold.
- Refer refrigeration, heating and electrical repairs to qualified service personnel.

8. Troubleshooting

Problem	Likely cause	What to do
Unit does not switch on	No power, loose cord or blown fuse	Check the outlet and cord; have the fuse checked by qualified personnel.
Temperature does not reach setpoint	Door open, poor seal, overloading or high room temperature	Close both doors, check gaskets, reduce load and check the room is within 15-32 C.
Temperature unstable	Frequent door opening or blocked air flow	Limit door openings and leave space around samples and vents.
Compressor runs constantly	Dirty condenser or poor ventilation	Clean the condenser and ensure clearance behind the unit.
Alarm active	Over-temperature or refrigeration fault	Check the controller display, protect samples and contact service.
Interior light does not work	Door switch or LED fault	Check the door switch; contact service if the light still fails.

9. Disposal

- Remove and dispose of samples per your laboratory's waste procedures.
- The refrigeration system contains refrigerant. Have it recovered by a qualified technician before disposal.
- Dispose of the unit as electrical waste in accordance with local regulations. Do not discard in household waste.

10. Warranty and support

Products are covered by SciMed's standard warranty (12 months from purchase unless a different period is stated on your invoice). Warranty terms: scimedstore.com/pages/warranty.

Support, spare parts and additional copies of this manual: sales@scimedstore.com. Please include your order number and a photo of the product or issue.

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