



# Boekel Incubator

## **Models 133000, 133000-2 & 133000S**

# 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 pendant 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.
- Before moving, disconnect at the power supply socket. Do not remove the plug from the rear of the unit.
- Do not check the temperature by touch, but instead use the temperature display.
- To reduce the risk of eye injury during high temperature operation, use safety goggles or spectacles.
- Do not touch surfaces that become hot during high temperature operation.
- Insure that the operating temperature is less than the maximum operating temperature of your sample material.
- Insure 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 rated for a minimum temperature of 90°C.
- 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 series of Incubators are designed for laboratories and clinics that require contemporary styling, accuracy and economy in a basic incubator package. The incubator uses a dial controlled thermostat and has the added features of a digital temperature display and a double walled chamber door. The incubator has a chamber volume of 0.8 cu. ft. (0.02 cu.m) and a chamber temperature range of ambient +5°C to 60°C. The incubator has a chamber uniformity of +/- 1°C at 37°C within the bounds of the shelf area.

## 3. Assembly

### 3.1 Unpacking

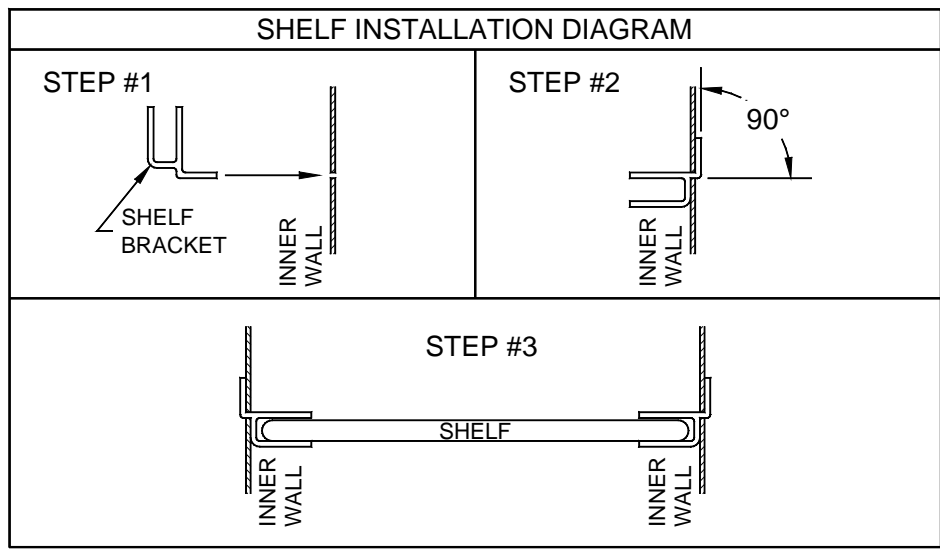
Remove packing materials carefully, and retain for future shipment or storage of the unit. Inspect for damage. Report all shipping damage to the carrier immediately. Shipping damage is covered by the carrier and repair/replacement for shipping damages must be coordinated through the carrier. Complete and return the Warranty Registration Card. Packs should contain:

- 133000 Incubator
- Power Line Cord
- Operating Instructions
- Two Shelves
- Eight Shelf Brackets

### 3.2 Installation

Place the Incubator on a flat and stable surface, preferably away from drafts. Insure that the surface on which the unit is placed will withstand the radiated heat produced by typical laboratory incubators. Fit the power line cord into the IEC power socket on the rear of the unit. Plug power cord into a power supply that matches the voltage listed on the serial number label on the rear of the unit.

Insert the wire rack shelves at the desired heights. Refer to the sketch below for proper shelf bracket installation.



## 4. Operation

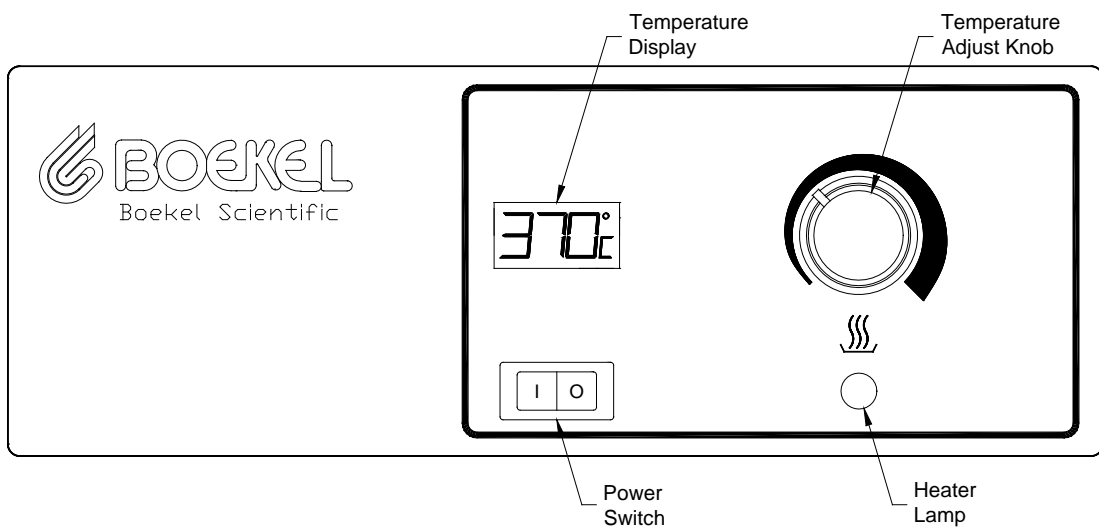
### 4.1 Controls and Indicator Lamps (see Figure below)

The power switch controls power to the unit.

The temperature display shows the chamber temperature in degrees Celsius.

The heater lamp indicated when the heater is operating.

The temperature adjust knob is used to control the chamber temperature.



## 4.2 Setting the Temperature

Use the temperature adjust knob to set the desired temperature. The knob is rotated clockwise to increase the chamber temperature and counter clockwise to decrease the chamber temperature.

## 4.3 Operating the Incubator

To turn the incubator on, switch the power switch to the on (I) position. Set the desired chamber temperature. The heater lamp will illuminate and remain lit until the chamber reaches the set temperature. After reaching the set temperature, the heater lamp will cycle on and off with heater operation. Allow a 60 minute chamber temperature equilibration when starting the incubator from a cold start. Allow at least 15 minutes for the re-equilibration when changing temperatures. To turn the incubator off, switch the power switch to the off (O) position. If the temperature adjust knob is not moved when the incubator is powered down, the incubator will return to its previously set temperature upon restart.

## 5. Accessories

5.1 Removable Shelf – Catalog Number C1902053

5.2 Shelf Bracket – Catalog Number A1903208

## 6. Fault Diagnosis

<b>Symptom</b>	<b>Possible Cause</b>	<b>Action Required</b>
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, switch on  c. Replace fuses per 8.2 d. Check that other electrical appliances on the same circuit are working
2. Chamber temperature does not rise when expected	a. Actual temperature is higher than set temperature b. Temperature control circuit fault	a. Check set temperature  b. Have unit checked by competent person
3. Temperature continues to rise when not expected	a. Actual temperature is lower than set temperature b. Temperature control circuit fault	a. Check set temperature  Have unit checked by competent person

## 7. Technical Specifications

This equipment is intended for indoor use and will meet its performance figures within the ambient temperature range of 10°C to 35°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 Range:	(Ambient +5°C) to 60°C
Temperature Uniformity:	+/- 1°C at 37°C
Temperature Display Resolution:	0.1°C
Supply Voltage Range:	120V +/- 10%, 50/60 Hz 230V +/- 10%, 50/60 Hz
Power Rating:	Model 133000: 90W Model 133000S: 90W Model 133000-2: 90W

## 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. There are no parts that are required to be examined or supplied by Boekel or our agent.

### 8.1 Cleaning

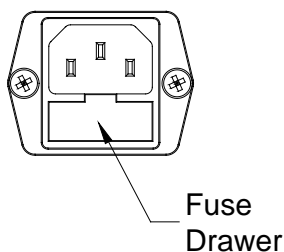
Disengage power cord prior to cleaning. If a spill occurs, use appropriate clean up procedures as required for radiation or biohazard control. The outer casing may be cleaned with water and a damp cloth. Do not submerge or immerse the Incubator in water. Before using any cleaning or decontamination method 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 change the fuses:

- Turn power switch to the off position
- Disconnect the unit from the power supply
- Remove the line cord from the power entry module on the back of the unit
- Pull back on the fuse drawer (see sketch below)
- Pull out the fuse drawer
- Check and replace with the correct fuses if necessary. The fuses should be 5mm x 20mm quick acting, rated 250V.

Model 133000, 133000S (115 V AC):	1AF
Model 133000-2 (230 V AC):	.5AF
- Push the fuse drawer back in. Reconnect unit to power supply.



## 9. Warranty

When used in laboratory conditions and according to these operating instructions, Boekel 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 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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