



Boekel Slide Moat

Model
240000 & 240000-2

Operating Instructions

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Figure 1
Front Panel

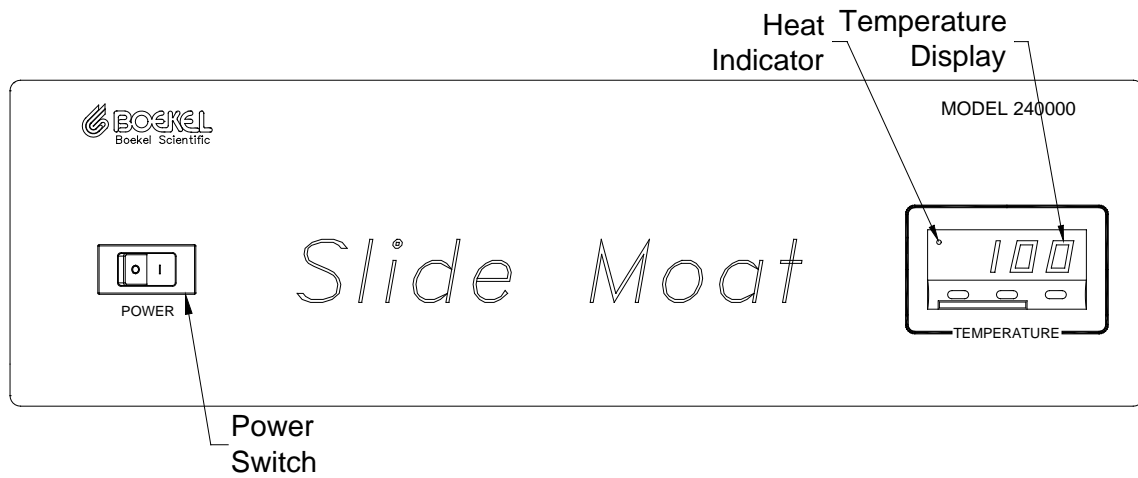
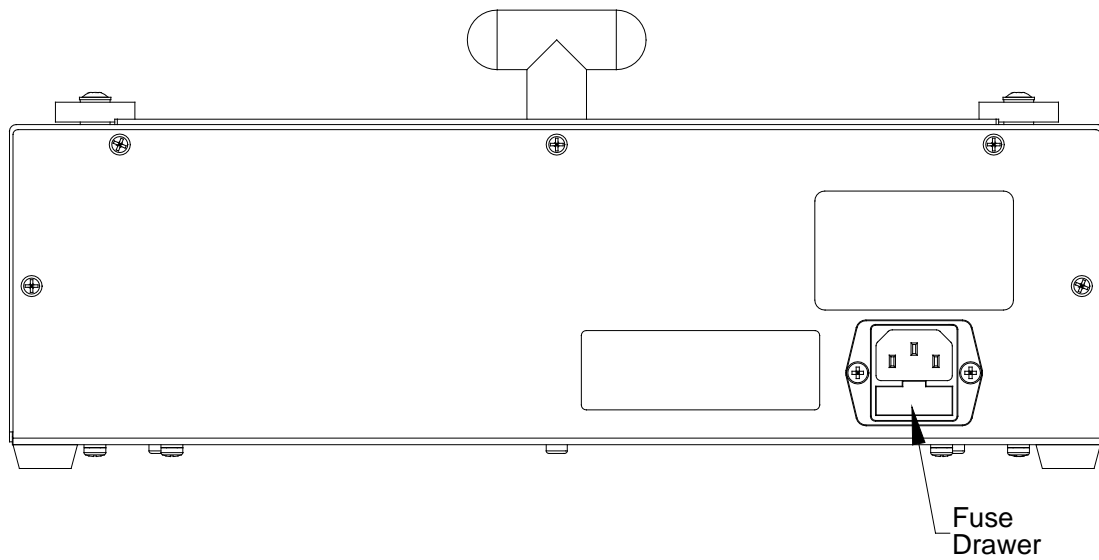


Figure 2
Rear of Unit



1.0 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 that provides a safety ground terminal.
- Before moving, disconnect at the power supply socket. Do not remove the plug.
- Do not check temperature by touch. Use the temperature display or a thermometer.
- 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.
- 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.
- Do not block or restrict ventilation slots.
- 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 the appropriate decontamination if hazardous material is spilled on or inside the equipment.

2.0 Product Information

The Boekel Slide Moat is designed to provide a heating platform and chamber capable of maintaining either dry or highly humid conditions for In-Situ Hybridization applications. Uses include in-situ RNA amplification, reverse transcription reactions, hybridization and DNA melt.

The Boekel Slide Moat can hold up to 30 standard microscope slides. The unit has an advanced PID temperature controller and high density heating plate for providing very stable and accurate temperatures from ambient plus 5°C to 100°C. The unit also provides eight humidity generation wells which can be used to create a humid environment for 12 or more hours. The unit comes with a see-through tempered glass lid for observing reactions and verifying humidity conditions. There is sufficient clearance (13/32"/1cm) between the heat plate and the glass lid bottom to allow for the use of most in-situ cell carriers and for adding a flat surface temperature gage to verify slide temperature.

Note: Boekel strongly recommends using covered and sealed slides for higher temperatures (> 37° C) or prolonged period incubations (> 1 hour).

3.0 Assembly

3.1 Unpacking the Unit

Remove the 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. Packages should contain:

- Slide Moat
- Glass Lid
- Power Line Cord
- Operating Instructions

3.2 Installation

Place the oven on a flat and stable surface, preferably away from drafts. Do not block the ventilation slots on each side of the unit. Fit the power line cord into the IEC power socket on the rear of the unit.

4.0 Operation

4.1 Identification of Controls (See Figure 1)

The Power Switch controls power to the unit.

The Heat Indicator is on continuously while the oven is heating up. As the required temperature is approached, it starts to flash. When the unit is controlling at the set temperature, the heater lamp flashes intermittently.

The Temperature Display shows the chamber temperature in degrees Celsius.

4.2 Preparing the unit

Switch the unit on (I) and set the PID Controller to the desired operating temperature. Although the unit heats rapidly, you may want to first pre-heat the unit to the desired operating temperature before incubating samples. If a humid chamber is desired, fill each of the eight humidity wells with 0.1ml of distilled water.

4.3 Loading the unit

Place slide samples on the land areas of the heat plate. Place the tempered glass lid on the gasketed perimeter of the heat chamber. Secure the glass lid by gently depressing the lid one corner at a time and rotating the plastic keeper over the lid edge. As you release the glass lid it will secure itself against the keeper. If water is being used, you will notice a slight fogging above each well as the unit generates and maintains the humid environment.

4.4 Removing the samples

Caution! The lid may be hot. Make sure the lid is cool before attempting to remove keepers. Release lid keepers by again depressing the lid at each corner and rotating the keeper off the lid. Remove the glass lid. **Caution!** The heating plate may be hot. Allow the heating plate and slides to cool before removing the slides.

4.5 Setting the Temperature

The temperature controller has three buttons. When the button on the left, '*', is depressed, the set temperature is displayed. When the left button '*' is depressed simultaneously with the middle button '▼', the set temperature value is lowered. When the left button '*' is depressed simultaneously with the right button '▲', the set temperature value is raised. When all buttons are released, the actual chamber temperature is displayed.

5.0 Technical Specifications

This equipment is 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. For operation at altitudes of up to 6500 feet.



Temperature Range	Ambient + 5°C to 100°C
Temperature Setting Range	10.0°C to 100.0°C
Stability	±0.2°C throughout operating temperatures
Uniformity	±0.35°C at 37°C; ±0.7°C at 65°C
Temperature Display Resolution	0.1°C
Supply Ratings	Model 240000: 115 VAC, 1.74 A, 60 Hz Model 240000-2: 230 VAC, 0.87 A, 50/60 Hz
Power Rating	Model 240000: 200 W Model 240000-2: 200 W
Heating Rate	Ambient to 65°C in 20 minutes

6.0 Fault Diagnosis

Symptom	Possible Cause	Action Required
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 (see section 8.2) d. Check that other electrical appliances on the same circuit are working
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 a competent service person
Temperature continues to rise when not expected	a. Actual temperature is lower than set temperature b. Temperature control circuit fault	a. Check set temperature b. Have unit checked by a competent service person

7.0 Accessories

Part Number	Description
C1303205	Light Shield Cover

8.0 Maintenance and Service

All Boekel laboratory products are designed to comply with IEC1010-1. No routine maintenance is required.

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 can be cleaned with a cloth dampened with water. Do not immerse the unit in water.

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 (O) 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 catch
- 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 240000 (115 V AC): 2AF

Model 240000-2 (230 V AC): 1AF

- Push the fuse drawer back in. Reconnect unit to power supply.

9.0 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.

10.0 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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