Boekel Scientific

Boekel *InSlide Out*™ Hybridization Oven

Models
241000 and 241000-2

Operating Instructions

N2400117 Rev. 4 01/2013

CONTENTS

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.

Caution: Risk of electric shock. Before attempting any service to this unit remove power cord from the rear of the unit.

Attention: Risque électrique! Débrancher la prise arrière de réparer l'appareil.

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. Allow unit to dry out for 4 hours minimum.
- 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 Protective Earth terminal.
- Before moving, disconnect at the power supply socket. Do not remove the plug.
- 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.
- To protect from fire and other possible hazards, 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.
- The Power Cord supplied with the unit is the disconnect means.

2. Product Information

The InSlide Out Hybridization Oven is designed so its sealed tray maintains a humid condition for In-Situ Hybridization applications without the need to use sealed cover slips. Uses include in-situ RNA amplification, reverse transcription reactions and hybridizations, and immunohistochemical reactions.

The InSlide Out can hold up to twenty standard microscope slides on the standard wire rack. An optional slide holder can hold up to eighteen standard microscope slides. The unit has an advanced PID temperature controller that provides stable and accurate chamber temperatures from ambient plus 10C to 75˚C. The unit utilizes a sealed tray to create a humid environment for overnight runs or weekend runs, depending on the operating temperature.

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:

- In Slide Out Hybridization Oven
- Power Line Cord
- Operating Instructions
- Tray Assembly (includes tray with gasket installed and lid)
- Frame Assembly (held in place during shipping with corrugated spacer)
- Wire Rack (shipped inside the Tray Assembly)
- Filter Paper

3.2 Installation

Place the InSlide Out on a flat and stable surface, preferably away from drafts. 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.

4. Operation

4.1 Controls and Indicator Lamps (see Figure 1)

The Power Switch controls power to the unit.

The temperature display shows the chamber temperature in degrees Celsius.

The heater lamp 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.

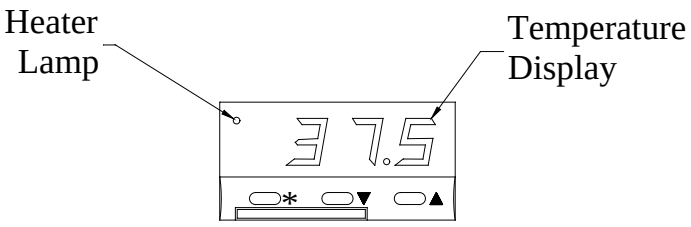

Figure 1

4.2 Setting the Temperature

The Temperature Controller has three buttons. When the button on the left '*' is depressed, it will display the set temperature. 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.

In the event of power loss, the Temperature Controller retains the last set temperature value.

4.3 Loading Tray with Slides

The tray with the standard wire rack can be loaded with up to 20 standard glass slides (see Figure 2). Using the optional slide holder, up to 18 standard glass slides can be loaded (see Figure 3). Use your standard protocol to prepare the slides with probe and buffer. Place filter paper at the bottom of the tray (Whatman* filter paper, Catalog Number 1823 025, is recommended). To provide humidity during the heating cycle, add approximately 2 ml of currently used hybridization solution on the filter paper in the bottom of the tray (see Figure 4). **Do not use water or distilled water.** If cover slips are used, it is not necessary to seal them; the hybridization solution and the sealed tray maintain a humid environment.

*Whatman is a trademark of Whatman International Ltd.

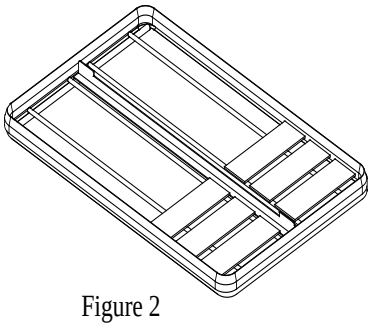

Figure 2

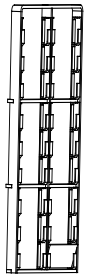

Figure 3

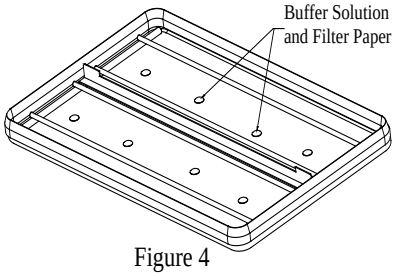

Figure 4

4.4 Loading Tray into Heating Chamber

Once the Tray Assembly is loaded and the slides prepared, the tray can be loaded into the heating chamber. Open the main door, lift the frame, pivot the latch forward (see Figure 5), and slide the Tray Assembly into the Frame Assembly until it is fully seated against the rear of the Frame Assembly (see Figure 6). Rotate the latch into a vertical position and position the latch over the keeper on the frame, then rotate the Latch Handle˚180 clockwise (see Figure 7). Rotate the Latch Handle down (see Figure 8). Close the main door.

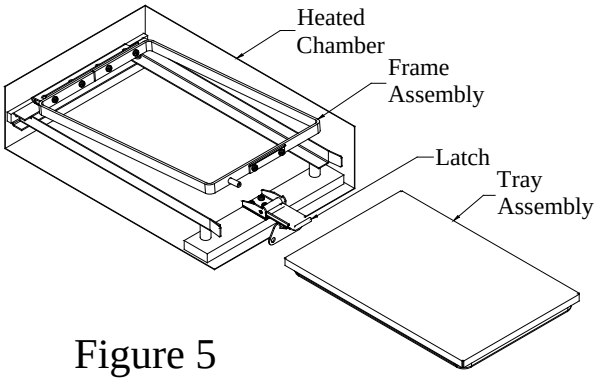

Figure 5

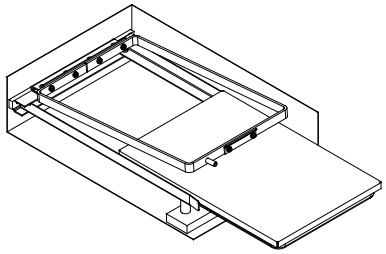

Figure 6
(Tray partially inserted)

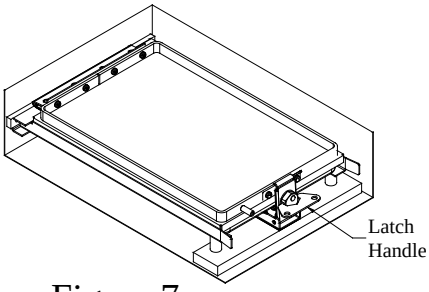

Figure 7
(Fully inserted and locked)

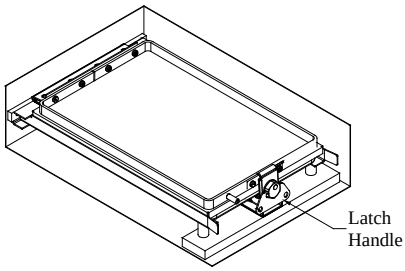

Figure 8
(Ready to close main door)

4.5 Removing Tray from Heating Chamber

Extreme care must be used when removing the tray due to the potentially high temperature. It may be necessary to use gloves when removing the tray. To remove the tray from the Heating Chamber, open the main door, lift the Latch Handle up and rotate it 180˚ in a counter clockwise direction. Rotate the latch down, lift the frame up and carefully slide the Tray Assembly out.

5. Accessories

5.1 Slide Holder – Catalog Number C2403765

This slide holder is made from polycarbonate and will hold 18 standard glass slides.

6. Fault Diagnosis

Symptom	Possible Cause	Action Required
1. Unit does not operate	a. Unit not switched on	a. Switch on
	b. Unit not plugged into power supply	b. Plug in, switch on
	c. Fuses blown	c. Replace fuses per 8.2
	d. Power supply failure	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	a. Check set temperature
	b. Temperature control circuit fault	b. Have unit checked by competent person
3. Temperature continues to rise when not expected	a. Actual temperature is lower than set temperature	a. Check set temperature
	b. Temperature control circuit fault	b. Have unit checked by competent person
4. Slides dry out during heating cycle	a. Gasket not sealing	a. Replace Tray and Gasket Assembly
	b. Lid bent	b. Replace Lid
	c. Insufficient buffer placed in bottom of tray	c. Place more buffer in bottom of tray
	d. Latch not fully engaged	d. Re-install Tray Assembly into chamber and re-tighten Latch

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 +10°C) to 75°C
Setting Range:	0°C to 75°C
Stability:	+/- 0.2°C
Overall Accuracy:	+/- 0.5°C at 65°C
Temperature Display Resolution:	0.1°C
Supply Voltage Range:	115V +/- 10%, 1.35A, 60 Hz
	230V +/- 10%, 0.67A, 50/60 Hz
Power Rating:	Model 241000: 155W
	Model 241000-2: 155W
Heating Rate:	Ambient to 50°C within 20 minutes

8. 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 may be cleaned with water and a damp cloth. Do not submerge or immerse the InSlide Out 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 (see Figure 11).
- Pull out the fuse drawer.
- Check and replace with the correct fuses if necessary. The fuses must be 5mm x 20mm quick acting, rated 250V.

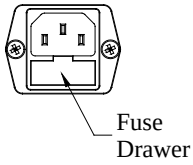

Figure 11

Model 241000: -2AF
Model 241000-2: -1AF

- 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 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

A Returned Goods Authorization (RGA) number must be obtained before any Boekel products are returned for any reason. A Decontamination Notice must be completed, signed by the user, and returned to Boekel Scientific prior to receiving the RGA number. Please be sure to mark the outside of the return goods package with this RGA number to ensure prompt handling.