# Labnet ProBlot™ 6 and 12 Hybridization Ovens

## Instruction Manual

**Catalog Numbers:**

H0600A
H600A-230V
H1200A
H1200A-230V

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## 1.0 Introduction

The Labnet ProBlot™ 6 and 12 hybridization ovens provide extremely stable temperature environments and smooth variable speed rotation that are ideal for blot hybridization and blot washing activities.

Labnet ProBlot hybridization ovens use microprocessor controls and mechanical convection to maintain a stable temperature environment and to achieve fast chamber temperature recovery after a door opening. The oven interior is constructed from stainless steel for corrosion resistance. ProBlot rotisseries are easily removed from the oven and are adjustable for either horizontal or more vigorous angled blot washing. All oven doors have an integral glass window to allow observation of samples without opening the door, and each door is fully thermal gasketed.

The ProBlot 6 and 12 ovens include a drip pan for easy clean-up of accidental spills. Hybridization bottles made of high quality borosilicate glass, which provide a high level of protection against heat and thermal expansion are recommended for optimum ProBlot oven performance.

## 2.0 Safety Information

Before using the Labnet ProBlot hybridization oven for the first time, please read this entire manual carefully. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Indicates a potential risk and alerts you to proceed with caution.

Indicates AC Power On.

°C

Indicates Degrees Centigrade.

Indicates the presence of a potential hazard which could result in electrical shock.

**CAUTION:** To avoid accidental bodily harming or burning be very careful touching the metal parts of the unit. It can be very hot after it is used at high temperatures. Allow the metal parts to cool down before handling.

Indicates Temperature.

Identifies a Protective Earth (PE) terminal, which is provided for connection of the supply system's protective earth (green or green/yellow) conductor.

### 2.1 Operation Safety Precautions

- Although the Labnet ProBlot hybridization oven has been designed to minimize user exposure to radioactive materials, proper precautions must be taken when using radioactive material.
- **Always inspect the hybridization bottles, caps and seals before use**. Do not use bottles, caps, or seals that are cracked or chipped. Cap seals should be replaced if they are severely deformed or discolored. Special attention should be paid to inspecting bottle rims/threads.

- **Do not take bottles to temperatures higher than 70°C** without opening and retightening the cap to relieve pressure build-up. Temperatures above 70°C can cause breakage of hybridization bottles. If chamber temperatures rise above 70°C when bottles are in use, **do not open the oven door**. Reduce the temperature setting to below 70°C or turn the power Off and allow sufficient time for the bottles to cool below 70°C before opening the door.

## 3.0 Specifications

| | |
|---|---|
| Exterior dimensions (W x D x H) | 19 x 17.5 x 19.5 in. (48.3 x 44.5 x 49.5 cm) |
| Chamber dimensions (W x D x H) | 14.5 x 11 x 13.5 in. (36.8 x 27.9 x 34.3 cm) |
| Chamber temperature range | Ambient, 5°C to 80°C |
| Environmental conditions | 5°C to 40°C, ≤80% RH, non-condensing |
| Accuracy | ±0.1°C |
| Uniformity | ±0.5°C |
| Optional rocker speed | 8 to 40 rocks per min. |
| Interior electrical outlet | 1A (120V) |
| Electrical rating | 120V ±10%, 50/60 Hz, 5x20MM T6.3A 250V<br>230V ±10%, 50/60 Hz, 5x20MM T6.3A 250V |

The Labnet ProBlot™ hybridization oven is designed to be safe at least when operated under the following conditions:

- Indoor use only
- Altitude up to 2,000 meters
- Pollution Degree 2

## 4.0 Package Contents

- Labnet ProBlot hybridization oven
- Adjustable feet (4)
- Rotisserie
- Rotisserie brass locking pin
- Drip pan
- Instruction manual

## 5.0 Installation

Remove the drip pan (if not already separated), adjustable feet, and rotisserie from the chamber (see Section 8.2).

Install the four adjustable feet and locate the Labnet ProBlot hybridization oven on a stable, flat surface near a grounded electrical outlet. The location selected should be out of direct sunlight and away from heat producing sources or hot or cold air drafts. At least 2 in. (5 cm) ventilation clearance is required around all sides of the oven. Level the oven using the four adjustable feet. Clockwise rotation of a foot raises the oven. You may wish to use a level placed in the chamber for optimum leveling. Check the rotisserie and set it for horizontal or angled use by adjusting the screws in the rotisserie hub (see Section 8.1). Plug in the unit to a properly rated and grounded electrical outlet and the unit will be ready for use.

## 6.0 Stacking Labnet ProBlot Hybridization Ovens

The ProBlot 6 and 12 models may be stacked up to two high. You may wish to remove the adjustable feet from the upper unit when stacking. The adjustable feet can slide off the top of the lower unit and/or scratching can occur if rubber cups or matting are not used. When stacking, it is advisable to use either rubber furniture cups under the feet of the upper unit or flat rubber matting at each corner of the upper unit or across the entire upper surface.

To stack a unit, place the upper oven on top of the lower oven slightly toward the back such that the upper oven does not prevent the lower oven door from moving freely.

## 7.0 Controls and Calibration

The controls for the Labnet ProBlot hybridization oven include power to the oven, temperature setting and display, and rotisserie power and speed. The controls are located at the bottom front of each oven. A safety electrical circuit breaker is also supplied on the back of each oven.

- **Main power switch:** Turns the power to the unit On/Off. Illuminates green when On.
- **Temperature controller and temperature set**: The controller has a 3-digit display for displaying chamber temperature or setpoint information. Up and Down arrows are used to change the setpoint and controller mode of operation. To enter the setpoint mode of operation, press either the Up or Down arrows one time. The display will start to blink, going from bright to dim and will show the setpoint. To change the setpoint, use the Up and Down arrows. If the arrows are not pressed for five (5) seconds, the display will stop blinking and will read the chamber temperature. After setting the temperature, allow at least one hour for the chamber temperature to stabilize and 24 hours for optimum stabilization.
- **Calibration:** The Labnet ProBlot™ hybridization oven is calibrated at 65°C at the factory. The unit can be recalibrated after the chamber temperature has stabilized at the setpoint for several hours. Suspend a certified reference thermometer in a hybridization bottle such that it does not touch the glass bottle sides, or (less accurate) tape the reference thermometer to the outside wall of a hybridization bottle. Mount the bottle on the rotisserie (and a second bottle for balance), and run the unit at the desired temperature for 2 hours. Compare the units display to the reference thermometer. If there is an unacceptable difference, put the controller into calibration mode by pressing both the Up and Down arrows at the same time until the two outside decimal points begin to flash. While the decimal points are flashing, the display can be calibrated to match the reference thermometer by pressing the Up or Down arrows until the display reads the correct value. Allow the oven to stabilize again, and recalibrate if necessary.
- **Heating Indicator:** Illuminates green when the controller is calling for heat from the heater. This indicator will be On continuously while the oven heats up to the set temperature and will then cycle On and Off at the set temperature.
- **Rotisserie power switch:** Turns On the power to the rotisserie, and is used to start and stop the rotisserie.
- **Rotisserie speed knob:** Controls the rotisserie speed. Clockwise rotation increases speed. The oven has a nominal speed range of 4 to 20 rpm.

## 8.0 Rotisserie

The rotisserie is stainless steel and has clips to hold hybridization bottles. Always load the rotisserie with an even number of bottles in a balanced pattern. The standard rotisserie will hold either six or twelve large (300 mm) bottles and double the number of small (150 mm) bottles. The clips may be squeezed inward to also hold 50 mL tubes. Optional rotisseries that hold other styles of bottles or vertical 50 mL tubes are available.

### 8.1 Setting Rotisserie Offset Angle

The rotisserie can be adjusted to hold bottles either horizontally or at a slight angle for more vigorous wetting action. To adjust the angle, first loosen the screws on one hub then rotate the hub to create an angle offset between the two hubs, then retighten the screws. Additional angle can be obtained by loosening the screws and rotating the second hub in the opposite direction from the first hub.

### 8.2 Rotisserie Removal and Installation

**CAUTION:** Rotisserie and oven sides may be hot.

Bottles may need to be removed before attempting to remove or install the rotisserie. The rotisserie is held and driven by a two-prong fork drive on one side and locked in a cradle on the other side by a brass locking pin. To remove the rotisserie, first remove the brass locking pin, then lift the rotisserie up from the cradle while simultaneously moving the rotisserie away from and off the two-prong fork drive. Rotisserie installation is the reverse.

## 9.0 Rocking Platform Installation

An optional rocker platform is available for the Labnet ProBlot hybridization oven. Before installing the rocker platform, the rotisserie must first be removed (see Section 8.2). To install the rocking platform, first install the fork adapter (rectangular bar with holes) on the rotisserie drive fork by pressing the adapter over the two prongs and tighten the Allen screw in the end of the adapter with the wrench provided. Do not overtighten.

Next, use the rotisserie speed control to bring the fork drive and adapter to a horizontal position.

Place the rocking platform in the oven and connect the platform drive arm to the fork drive adapter using the thumbscrew. Two positions are available on the adapter. Select the position that allows the platform to sit horizontal (or close to horizontal) when the fork drive and adapter are horizontal.

The platform drive arm can be adjusted and the second hole in the adapter used to obtain more or less rocking angle or to achieve a perfectly horizontal platform at mid-rock. If the length of the arm is adjusted, be sure to retighten the locking nuts on the arm. To operate the rocking platform, turn the rotisserie power switch to the On position and adjust the speed using the rotisserie speed knob.

## 10.0 Cleaning and Maintenance

**NOTE:** Be sure to disconnect the power cord before cleaning or decontaminating the oven.

No routine maintenance is required for the electrical or mechanical components of the unit. The incubator exterior, interior, and rotisserie should be wiped down periodically with a soft damp cloth with mild soap. **NOTE:** Do not use chlorine-based bleach or abrasives. Any spills in the incubator and/or on the rotisserie should be cleaned up immediately.

### 10.1 Decontamination

Should a spill occur in the oven, it is easily cleaned by wiping the affected area first with a dilute detergent solution. The area should then be cleaned with distilled water. This method works on the oven interior, drip pan, the rotisserie, and rocker platform. Bottles and caps may also be soaked in a dilute decontaminating detergent and then rinsed in distilled water.

## 11.0 Troubleshooting Guide

| Problem | Solution |
|---|---|
| Oven will not power On or will not heat | Check power cord, outlet, and unit circuit breaker. |
| Rotisserie will not turn On | Check rotisserie On/Off switch and speed setting. |
| Rotisserie speed is erratic/jumps | Check for balanced load on rotisserie. Even number of bottles loaded in opposing positions. |
| Rocker platform will not operate | Check if the timer is set to Run or a time setting. Check that nothing is blocking the rocker platform sides. |
| Temperature is too high | ◗ Check setpoint and readjust, if necessary.<br>◗ Check calibration. |
| Chamber temperature goes above set and settles back to setpoint | Normal operation in initial heat up or if point door is opened for a long period. |
| Temperature will not remain stable or the display shows “LO” | Check that setpoint is at least 5°C above ambient, which is minimum set and operating point. |
| Indicated temperature is unstable | A slight variation of ±0.1°C is normal. Larger fluctuations may be ambient variations from drafts, door opening and closing, a fan obstruction or failure, or electrical noise from RFI (motors, etc.). |
| Temperature is too low | If door was opened, the unit may not have recovered yet. Confirm temperature setpoint. |
| Unit will not heat above temperature that is below setpoint | Confirm setpoint. Check the temperature of the chamber with a thermometer, and recalibrate if needed. |
| Temperature display and reference thermometer do not match | Be sure the unit has been allowed to stabilize for 1 hour. Thermometer should be suspended in the rotating bottle and not touching the bottle surface. Only certified reference thermometers should be used. |
| Cannot adjust setpoint or calibration | Turn the unit Off for 5 seconds to reset. If problem persists, call Corning Customer Service. |
| Unit calibrated at one temperature but not at another | This can be a normal condition if temperatures or load vary widely. For best accuracy, calibrate at setpoint. |

Should you have a question about the operation of the Labnet ProBlot™ hybridization oven or if service is required, contact Corning Customer Service. Do not send in a unit for service without first calling to obtain a repair authorization number. Should the unit require return for service, it should be properly packed to avoid damage. Any damage resulting from improper packaging shall be the responsibility of the user.

## 12.0 Accessories

| Cat. No. | Description |
|---|---|
| H1200-RA | Rocking platform |
| H1212-40VA | Rotisserie, vertical, for 12 x 50 mL conical tubes |
| H1264-VA | Rotisserie, vertical, for 64 x 1.5 mL or 32 x 15 mL conical tubes |
| H1264-HA | Rotisserie, horizontal, for 64 x 1.5 mL or 32 x 15 mL conical tubes |

## 13.0 Limited Warranty

Corning Incorporated (Corning) warrants that this product will be free from defects in material and workmanship for a period of one (1) year from date of purchase. CORNING DISCLAIMS ALL OTHER WARRANTIES WHETHER EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. Corning's sole obligation shall be to repair or replace, at its option, any product or part thereof that proves defective in material or workmanship within the warranty period, provided the purchaser notifies Corning of any such defect. Corning is not liable for any incidental or consequential damages, commercial loss or any other damages from the use of this product.

This warranty is valid only if the product is used for its intended purpose and within the guidelines specified in the supplied instruction manual. This warranty does not cover damage caused by accident, neglect, misuse, improper service, natural forces or other causes not arising from defects in original material or workmanship. This warranty does not cover motor brushes, fuses, light bulbs, batteries or damage to paint or finish. Claims for transit damage should be filed with the transportation carrier.

In the event this product fails within the specified period of time because of a defect in material or workmanship, contact Corning Customer Service at: USA/Canada 1.800.492.1110, outside the U.S. +1.978.442.2200, visit **www.corning.com/lifesciences**, or contact your local support office.

Corning's Customer Service team will help arrange local service where available or coordinate a return authorization number and shipping instructions. Products received without proper authorization will be returned. All items returned for service should be sent postage prepaid in the original packaging or other suitable carton, padded to avoid damage. Corning will not be responsible for damage incurred by improper packaging. Corning may elect for onsite service for larger equipment.

Some states do not allow limitation on the length of implied warranties or the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights. You may have other rights which vary from state to state.

No individual may accept for, or on behalf of Corning, any other obligation of liability, or extend the period of this warranty.

For your reference, make a note of the serial and model number, date of purchase, and supplier here.

Serial No. _____ Date Purchased _____

Model No. _____ Supplier _____

## 14.0 Equipment Disposal

According to Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE), this product is marked with the crossed-out wheeled bin and must not be disposed of with domestic waste.

Consequently, the buyer shall follow the instructions for reuse and recycling of waste electronic and electrical equipment (WEEE) provided with the products and available at **www.corning.com/weee**.

To request certificates, please contact us at **www.labnetlink.com.**

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