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# LABORATORY REFRIGERATOR

## Installation, Operation and Maintenance Instructions

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### INSPECTION

When the equipment is received, all items should be carefully checked against the bill of lading to insure all crates and cartons have been received. All units should be inspected for concealed damage by uncrating the units immediately. If any damage is found, it should be reported to the carrier at once, and a claim should be filed with the carrier. This equipment has been inspected and tested at the manufacturing facility and has been crated in accordance with transportation rules and guidelines. Manufacturer is not responsible for freight loss or damage.

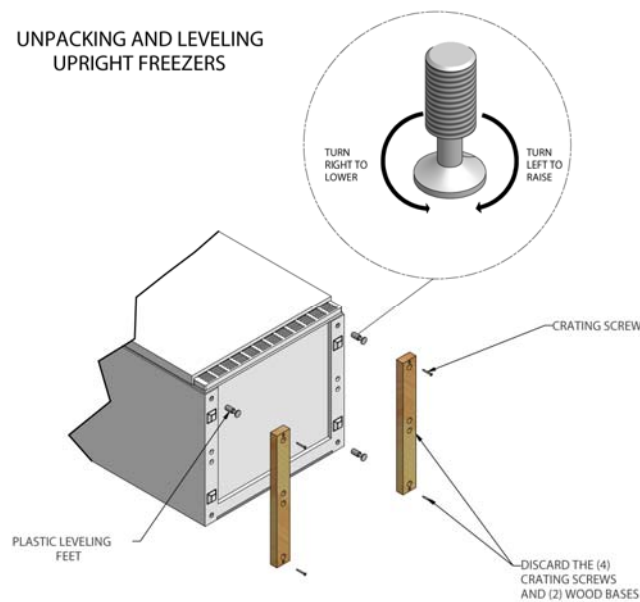
Before connecting the refrigerator to the power supply, let it stand for approximately two hours to reduce the possibility of malfunctions in the cooling system due to transport handling

### INSTALLATION

#### GENERAL

After the unit crate and crate base have been removed, use a carpenter's level to level the refrigerator from front-to-back. Adjust the plastic leveling feet in front ½ bubble higher to ensure that the door closes easily when left halfway open.

**Note:** It is extremely important that the refrigerator be level in order to function properly. If the refrigerator is not properly leveled during installation, the door may be misaligned and not close or seal properly causing cooling, frost or moisture problems. See the illustration below.



Choose a location near a grounded electrical outlet. For the most efficient operation, the refrigerator should be located where the temperatures will not drop below 10°F (-12°C) or exceed 110°F (43°C). The Freeze Control Feature in the refrigerator is designed to automatically maintain the selected interior refrigerator temperature within these temperature limits.

*Allow adequate space around the unit for good air circulation. A minimum of 3 inches (75 mm) space on all sides of the refrigerator is required for adequate air circulation.*

**Note:** The exterior walls of the refrigerator may become quite warm as the compressor works to transfer heat from the interior. Temperatures as much as 30°F (-1°C) warmer than room temperature can be expected. It is particular in hotter climates to allow adequate space for air circulation around the refrigerator.

## **ELECTRICAL**

Check the proposed outlet to be used to insure that the voltage, phase, and current carrying capacity of the circuit from the electrical panel correspond to the requirements of the cabinet. **NEVER** use an extension cord or adapter plug to wire any unit. Refer to the serial tag for all pertinent electrical information.

The refrigerator must be plugged into its own 115 volt, 60 Hz, single phase outlet. The power cord of the refrigerator is equipped with a three-prong grounding plug for protection against shock hazards. It must be plugged into a properly grounded three-prong receptacle. The receptacles must be installed in accordance with local codes and ordinances.

If voltage varies by more than 10%, refrigerator performance may be affected. Operating the refrigerator with insufficient power can damage the compressor.

To prevent the refrigerator from being accidentally turned off, do not plug the unit into an outlet controlled by a wall switch or pull cord. Do not pinch, knot or bend the cord in any manner.

**Observe all Warning Labels. Disconnect power supply to eliminate injury from electrical shock or moving parts when servicing equipment.**

## **OPERATION**

### **Cool Down Period**

For safe storage of product, allow a minimum of four hours for the refrigerator to cool down completely. The refrigerator will run continuously for the first several hours.

### **Temperature Control**

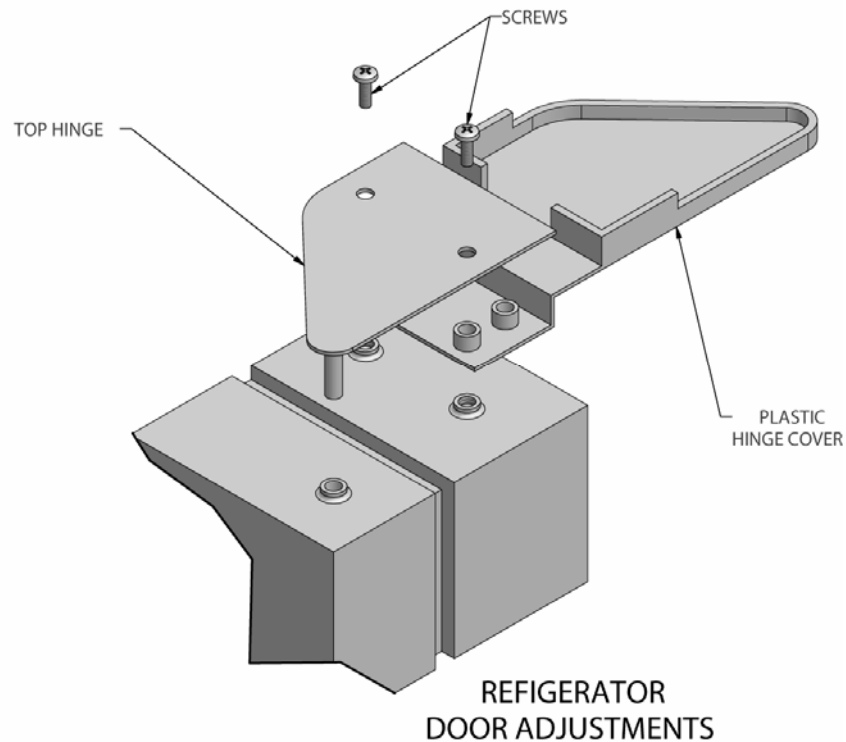
The temperature control is located inside the refrigerator. The temperature is factory preset to provide satisfactory product storage temperatures. The temperature control is adjustable to provide a range of temperatures for any desired application. If a colder temperature is required, turn the temperature control knob toward COLDEST and allow several hours for temperatures to stabilize between adjustments. The Automatic Freeze Control feature will maintain proper interior refrigerator temperature even when the ambient exterior temperature drops to 10°F (-12°C).

### **Door Removal**

If the door must be removed to fit through a narrow passageway:

1. Lay the refrigerator on its back on a cover protect its exterior surface.
2. Remove the base panel by unscrewing two screws from the front of the panel.
3. At the top of the cabinet, lift up the plastic hinge cover and fold back (see the illustration below).

4. Use a Phillips screwdriver to remove the screws on the top hinge.
5. Remove the top hinge from the cabinet and lift door off the lower hinge pin.
6. After the door is removed, remove the two screws from the bottom hinge.
7. Replace the door by reversing the above order.



## MAINTENANCE

### PERIODIC CLEANING

**Disconnect the power supply before cleaning the refrigerator.**

Beginning with the initial installation, the interior surfaces of the cabinet should be periodically wiped down with a solution of warm water and baking soda (two tablespoons in one quart of warm water). This solution will remove any odors from spillage that has occurred. The exterior of the cabinet should also be cleaned frequently with warm water and a mild liquid detergent. **Caution: Do not use an abrasive or alkaline solution. Do not wash any removable parts in a dishwasher.**

## MAINTENANCE SERVICE AND ANALYSIS GUIDE

<u>MALFUNCTION</u>	<u>POSSIBLE CAUSE</u>	<u>SOLUTION</u>
Refrigerator does not run.	<ol style="list-style-type: none"> <li>1. Refrigerator plugged into a ground fault interrupt circuit.</li> <li>2. Temperature control is in the OFF position.</li> <li>3. Fuse blown or tripped circuit breaker.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use another circuit.</li> <li>2. See <b>Temperature Control</b> Section.</li> <li>3. Check/replace fuse with a 15A time delay fuse. Reset circuit breaker</li> </ol>
Refrigerator runs too much or too long.	<ol style="list-style-type: none"> <li>1. Refrigerator recently disconnected for a lengthy period.</li> <li>2. Large amount of product recently stored.</li> <li>3. Doors opened too frequently or too long.</li> <li>4. Refrigerator door may be slightly open.</li> <li>5. Temperature control set too low.</li> <li>6. Refrigerator gasket is dirty, worn, cracked or poorly fitted.</li> </ol>	<ol style="list-style-type: none"> <li>1. 4 hours required for refrigerator cool down.</li> <li>2. Warm product will cause refrigerator to run more until desired temperature is reached.</li> <li>3. Open doors less often.</li> <li>4. Refrigerator may not be level.</li> <li>5. Reset temperature control.</li> <li>6. Clean or replace gasket.</li> </ol>
Vibrating or rattling noise.	<ol style="list-style-type: none"> <li>1. Refrigerator not level.</li> <li>2. Refrigerator is touching the wall.</li> </ol>	<ol style="list-style-type: none"> <li>1. Re-level the refrigerator as specified in the <b>INSTALLATION</b> section.</li> <li>2. Move the refrigerator away from the wall.</li> </ol>
Moisture forms on refrigerator interior.	<ol style="list-style-type: none"> <li>1. Weather is hot and humid.</li> <li>2. Door not seating properly.</li> <li>3. Door kept open too long or too frequently.</li> </ol>	<ol style="list-style-type: none"> <li>1. This is normal.</li> <li>2. Re-level the refrigerator.</li> <li>3. Open door less often.</li> </ol>
Moisture forms on refrigerator exterior.	<ol style="list-style-type: none"> <li>1. Door may not be sealing properly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Re-level the refrigerator.</li> </ol>
Door will not close.	<ol style="list-style-type: none"> <li>1. Refrigerator is not level.</li> </ol>	<ol style="list-style-type: none"> <li>1. Re-level the refrigerator.</li> </ol>
Light bulb will not turn on.	<ol style="list-style-type: none"> <li>1. Light bulb burned out.</li> <li>2. No electric current reaching the refrigerator.</li> <li>3. Defective light bulb holder or Light switch.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace light bulb with a new bulb of the Same wattage.</li> <li>2. Ensure refrigerator is plugged into power receptacle.</li> <li>3. Contact a service technician.</li> </ol>