

Puffer Hubbard

**Chest and
Upright Freezers**

**Installation
and Operation**

29498H04

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Important Tips for Installation and Operation

This installation and operating guide was written for Puffer Hubbard Chest and Upright Freezers. Any differences in operating the two types of units are highlighted with illustrations throughout the text. In your use of Puffer Hubbard Freezers, several steps can help ensure the best possible long-term performance.

1. Proper levelling at the time of installation is important to maintain optimum temperature control.
2. When you first set the Freezer temperature control, allow the unit to stabilize at the desired temperature before you load it.
3. Limiting how often the Freezer is opened will help maintain constant temperature control as will correct replacement of sublids when closing the Freezer lid on chest models. (Foam plastic sublids are functional parts of a chest freezer. Do not mistake them for packing materials when you uncrate the Freezer!)
4. If the electric power in your area is subject to fluctuating voltage, you can use an optional voltage conditioner to protect the Freezer compressors and fan motors.
5. For your own safety, do not touch any interior sections when the Freezer is in operation.

Receiving Inspection

The consignee is responsible for determining the condition of the shipment at the time it is received. Loss and damage claims for damage in transit are the responsibility of the consignee, and must be handled directly by the consignee with the carrier.

If the freezer has been damaged in transit, file your claim with the freight carrier immediately. For best response, use the following procedure.

Apparent Loss or Damage

If loss or damage is noted during the receiving inspection, the carrier can give you the necessary forms to file a report. The information should be noted on the carrier's delivery receipt as well, and signed by the carrier's agent. Failure to do so may result in the carrier's refusal to honor the claim.

Concealed Loss or Damage

The manufacturer is not responsible for loss and damage occurring during transit. If loss or damage is not discovered until the Freezer is uncrated, the consignee must make an immediate written request to the carrier for an inspection. Most carriers will not accept a damage claim filed more than fifteen days after receipt of goods. Keep the shipping container, and all packaging materials. The carrier will provide an inspection and will furnish all necessary forms to file the concealed loss and damage report.

IMPORTANT

Claims for reimbursement must be handled directly with the freight carrier.

Customer Support

1-800-438-4851

You can reach Customer Service by calling the toll-free number above. Hours are 8:00 am to 5:00 pm, Eastern Time.

For prompt service, please provide the cabinet model and serial number. This will help our customer department to respond to your inquiries more quickly and thoroughly.

Service Centers

The product literature you received also includes a directory of factory-authorized Service Centers. Service Centers honor all warranties, and can provide repair service if required.

IMPORTANT

Before returning equipment to a Service Center, first obtain a Return Materials Authorization (RMA) number from that Service Center location.

DO NOT SERVICE THE FREEZER YOURSELF

Unauthorized product service may cause the product warranty to become invalid.

Installation

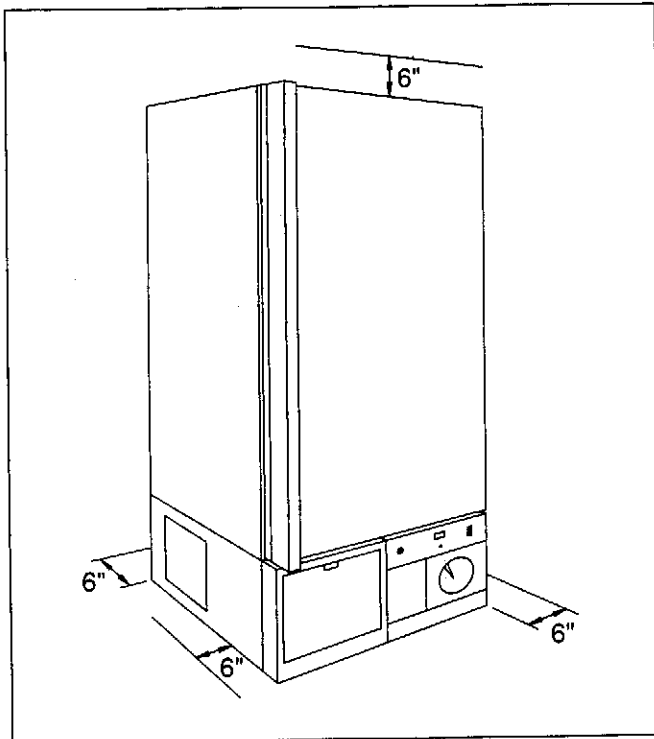


Figure 2 You should install Freezers with at least six inches clearance on all sides. Freezers must be levelled properly.

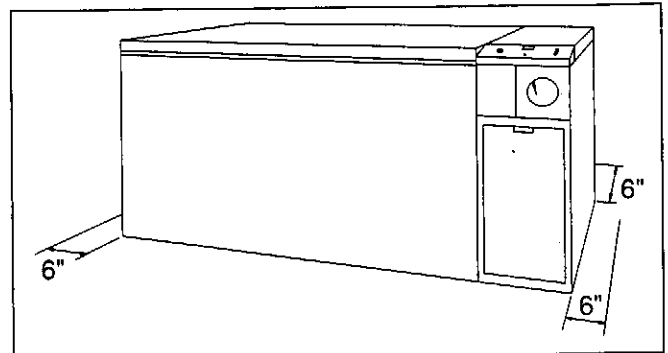


Figure 3 Clearance for Chest Freezers

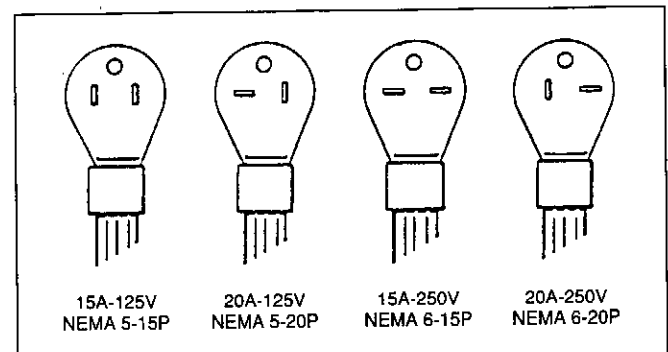


Figure 4 Single-phase Electrical Service

Choosing a Good Location

You should install the Freezer on a solid floor, in a location that allows at least six inches clearance on all sides of the Freezer for ventilation (Figures 2 and 3). There should also be ample clearance for the Freezer doors to swing open. You should install the Freezer in a dry space that is maintained at between 59°F and 90°F. Keep the Freezer out of direct sunlight and away from any heating vents.

Once the Freezer is moved to the installation site, you may need to level the cabinet if the floor is uneven. Do this by placing a spacer or shim (not provided) beneath the caster at one corner of the cabinet.

IMPORTANT

Failure to level the Freezer could cause loss of gasket seal, frosting or door misalignment, resulting in poor temperature control.

Electric Power Requirements

The electrical service required for your freezer is specified on the product serial plate on the lower left

side of the unit. Connect the Freezer to a properly sized, separate circuit that provides voltage within +10% to -5% of the voltage stated on the serial plate. If you note or anticipate larger variations in voltage, use a voltage booster to prevent motor burnout. Failure to supply proper voltage could void your warranty.

Your Freezer requires single-phase electrical service. It is equipped with a service cord and attachment plug to connect to a receptacle delivering the proper voltage (Figure 4).

IMPORTANT

In all cases, make sure the power receptacle is grounded. If you are uncertain about the polarization of the receptacle, have a qualified electrician check it for you. Under no circumstances should you remove the grounding prong from the power plug.

Puffer Hubbard Upright and Chest Freezers

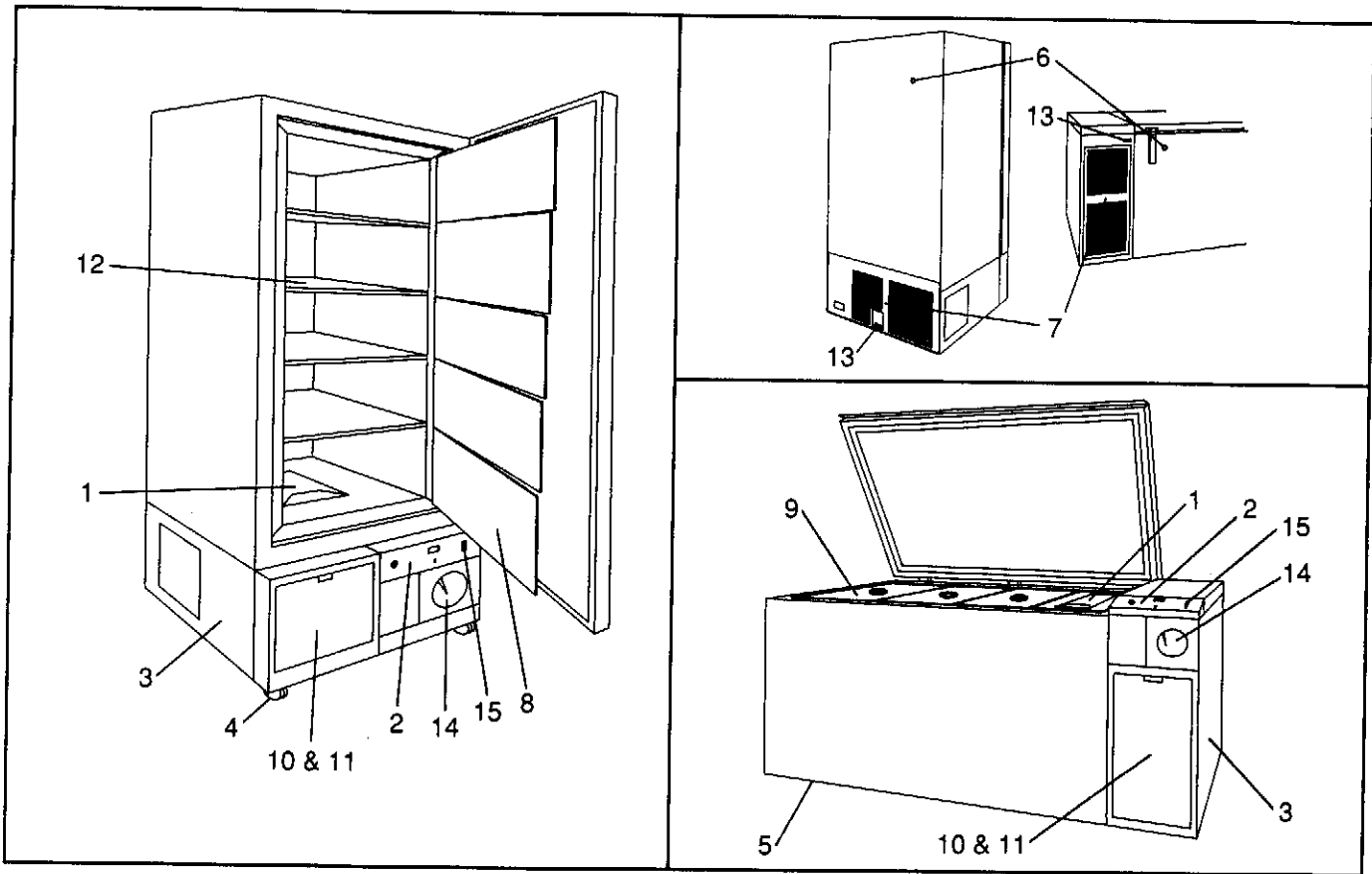


Figure 1 Puffer Hubbard Chest and Upright Freezers

1. Accessory and Information Package (Envelope)
 - A. Instructions
 - B. Recorder Charts (if required)
 - C. Electrical Diagrams
 - D. Refrigeration Diagram
 - E. Service Center Information
2. Control Panel
3. Machinery Panel
4. Locking Casters (upright only)
5. Casters (under cabinet)
6. Access Ports
7. Rear Grills
8. Inner Doors (upright only)
9. Foam Plastic Sublids (chest only)
10. Front Grill
11. Filter
12. Shelf (shipped in place)
13. Alarm Terminal Strip
14. Optional Seven-day Temperature Recorder
15. Alarm On/Off Rocker Switch

Operation

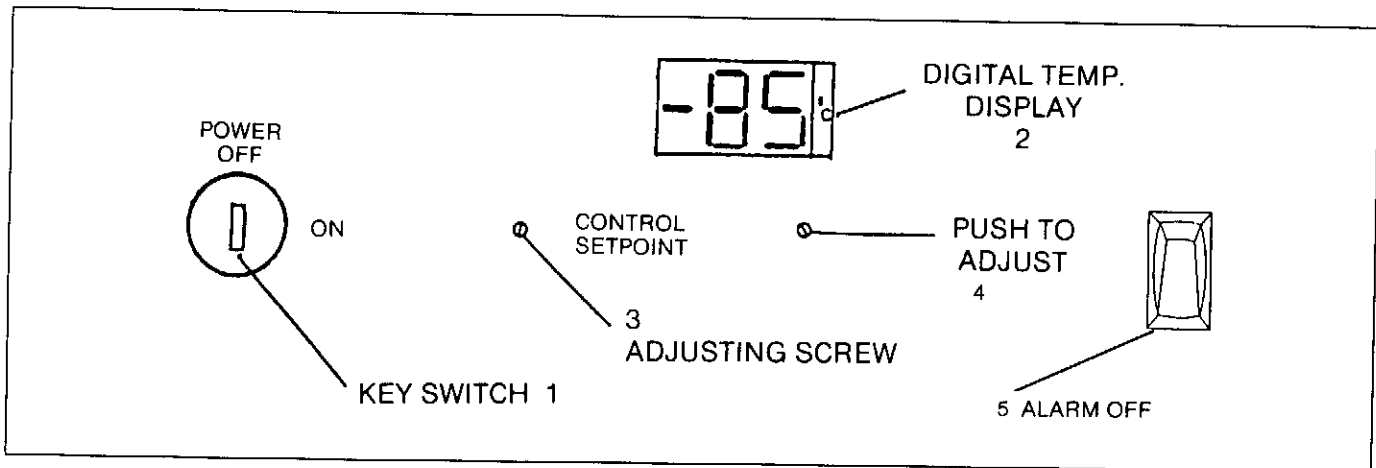


Figure 5 PUFFER HUBBARD CONTROL PANEL

Puffer Hubbard Chest & Upright Freezers Control Panel

Puffer Hubbard freezers are equipped with a basic control system providing a keyed "Power On" switch (1), LED digital temperature display (2) recessed temperature control setpoint adjustment (3), temperature setpoint adjust button (4) and alarm off rocker switch (5). See illustration above.

To Operate Freezer: Turn Key Switch (1) to "ON". The freezer is now operational. Insert small screwdriver into slotted screw labeled "Control Setpoint" (3) and turn, simultaneously pushing the Temperature Setpoint adjust button (4). The digital temperature display (2) will change to read the existing control setting. Turn the control setpoint screw (3) until the desired setpoint shows in the digital temperature display (2). For colder setting, turn screw clockwise. For warmer setting, turn screw counterclockwise.

Release pressure on the temperature setpoint adjusting button (4). The display will return to reading cabinet temperature.

Alarm:

Alarm is operated by the electronic control system of the freezer. It includes a gel-cell battery for supporting the alarm function during a power failure condition. The alarm is preset at the factory with a cold setpoint. A rocker switch (5) shown on the above panel disengages the alarm.

For units -75°C and -85°C:

Alarm setpoints are approximately 90% of the freezer

temperature setpoints (For example, if the freezer setpoint is -80°C, the alarm setpoint would be -72°C).

For units -50°C and warmer:

Alarm setpoints are preset at 80% of freezer temperature setpoints (For example, if the freezer setpoint is -45°C, the alarm setpoint would be -36°C).

Cleaning and Maintenance

Your Freezer requires very little maintenance. Periodic visual inspections, or periodic cleaning can only help prolong product life.

Cleaning

IMPORTANT

Before you clean the interior of the Freezer cabinet, empty the unit and allow it to return to room temperature. Never touch the interior of the Freezer when it is in operation. The extreme cold temperatures are hazardous to the touch. Do not try to hasten defrosting by scraping the Freezer interior with a sharp instrument.

Clean the interior and exterior of the Freezer with a mild, non-abrasive detergent. A mild solution of baking soda and warm water is also recommended for cleaning the interior. You can use various household kitchen waxes for exterior cleaning.

IMPORTANT

Cleaning the Filter and Condenser

The Freezer has a removable, cleanable condenser filter behind the front grill. You should clean this filter periodically with warm water to maintain efficient operation. Some models have a condenser behind the filter that you should also clean with a vacuum cleaner. A label is on the Freezer as a reminder.

Periodic Checks

IMPORTANT

Remember that unauthorized repair of your Freezer may void your warranty. If you experience operating

difficulties, contact Customer Service, or an authorized Service Center near you.

You will experience very few, if any, maintenance problems with your Freezer. If you should notice any of the following you can take steps to avoid future problems or inconvenience.

1. **FREQUENT POWER FAILURES** could indicate voltage problems. Irregular voltage could be a symptom of your Freezer's physical location. Most voltage requirements can be satisfied with equipment designed to eliminate voltage fluctuations. See Appendix A. Also consult your local power company for suggestions.
2. **PUNCTURED GASKETS** will jeopardize Freezer performance. Gaskets lining the interior edge of doors and lids must be intact to ensure correct temperature control. Punctured gaskets can be replaced. Contact Customer Service or an authorized Service Center.
3. **OBVIOUS FLUID LEAKAGE** from underneath your Freezer could indicate a problem. Contact Customer Service or an authorized Service Center immediately if you discover a leak.

Appendix A. Product and Accessory Information

Available accessories for your Freezer include; power failure and temperature alarm monitoring equipment; seven-day temperature recorders; voltage boosters; temperature backup systems; and storage box, divider, and rack components. You can obtain complete ordering information through your Freezer dealer or from Customer Sales at 1-800-221-4201.

Alarm System

The purpose of the alarm is to have a warning system for rising freezer cabinet temperatures, as well as to have a warning for power failure. This option must be factory installed.

Standard Remote Alarm System

The Standard Remote system provides remote alarm monitoring up to a third of a mile away from the Freezer. It can be used with normally-open or normally-closed contacts, and is adaptable to telephone switchboards. This system provides audible and visual signals. This must be used with the factory installed optional alarm system.

Seven-Day Recorders

A seven-day, six-inch diameter Circular Chart Recorder is available to track temperature deviations on a twenty-four hour basis. This option may be installed at the Factory, or at the customers location.

Safeguard Systems

Voltage Booster

Voltage Boosters can help eliminate start-up difficulties and protect electrical equipment from burnout by increasing voltage that has fallen below the minimum

required level. Boosters come with a terminal board for direct wiring, and are available for various voltage levels.

LN₂ Control Assembly

The LN₂ Control Assembly will maintain -73°C for thirty-two hours on a 160 liter tank for backup protection or fast freeze. $250\text{lb} \div 32\text{hr} = 7.81\text{ lb/hr}$

Liquid CO₂ Control Assembly

The CO₂ Control Assembly will maintain -70°C at a ten pound-per-hour flow rate for backup protection.

Storage Boxes, Dividers, and Racks

A wide range of storage boxes, dividers and racks are available for efficient storage and convenient access in both upright and chest model Freezers. You can order these modular storage components, constructed of water-repellent fiberboard, to accommodate both the specific volume of your Freezer and the dimensions of the articles you will store.

Complete ordering information can be sent to you on request. Contact your Dealer or Customer Service.