
ICE MERCHANDISER

Installation, Operation and Maintenance Instructions



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 in the manufacturing facility and has been crated in accordance with transportation rules and guidelines. Manufacturer is not responsible for freight loss or damage.

INSTALLATION

GENERAL

After the unit crate and crate base have been removed, locate the casters or legs found inside the cabinet. Attach the casters or legs to the unit base (if not already installed) by screwing them into the same threaded fittings that were used to secure the crate base to the cabinet. Insure that the legs or casters are screwed completely into the base. The cabinet should also be levelled when it is placed in its permanent location.

If the doors are out of alignment on the cabinet, the doors can be adjusted. This can be accomplished by opening the door(s) and loosening the screws that hold both the top and bottom hinges to the cabinet. After adjusting the door so that it is aligned correctly, tighten the screws to securely hold the hinges in place.

Ice Merchandisers are designed to operate at 20°F in a controlled environment. The operating ambient temperature should not exceed 75°F (24°C) with relative humidity (RH) of 55% or less. At temperatures higher than 75°F with the RH greater than 55% could adversely affect the cabinet's performance and diminish capacity.

The Ice Merchandiser should not be placed in a position where it is directly exposed to the rays of the sun or near a source of radiant heat or heated air flow.

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 to wire any unit. Refer to the serial tag for all pertinent electrical information.

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

GENERAL OPERATION

The Ice Merchandiser employs a unit cooler evaporator located inside the cabinet as the heat removing source. Through the refrigeration process, heat is captured in the evaporator, transferred to the condensing unit at the bottom of the cabinet, and expelled to the surrounding outside air. It is extremely important to allow a four (4) inch clearance on the top, rear, and sides of the unit for the refrigeration process to function properly.

The Ice Merchandiser utilizes a programmable controller to control the temperature and defrost settings. The controller, which is located on the facade of the unit, is factory set. Please see the default settings sheet and separate instructions that are included on the operation of this controller.

After shutting the door on freezer models, a short amount of time must be allowed before the door can be reopened. This is due to the tight seal maintained between the door and the cabinet. Waiting a few moments for the pressure to equalize permits the door to be opened easily.

A positive defrost is required to remove frost from the coil in freezer models. This is accomplished by energizing heaters during the defrost cycle that are positioned on the coil surface. The programmable controller is factory set to allow four defrosts per day.

As the preset defrost time is reached, the controller automatically terminates the refrigeration process by turning off the condensing unit and unit cooler fan motors, and energizes the defrost heaters. As the coil temperature increases, the frost begins to melt producing water which runs down the coil to the unit cooler drain pan and exits through the drain tube to the vaporizer. After all the frost has been removed and the coil temperature reaches approximately 50°F [10°C], the defrost is terminated through the action of the defrost termination control located on the unit cooler, and the refrigeration process resumes.

GENERAL MAINTENANCE

PERIODIC CLEANING

WARNING! To avoid electrical shock, disconnect all electrical power to the merchandiser prior to cleaning

The exterior of the Ice Merchandiser should be wiped with a damp cloth daily. A commercial grade glass cleaner may be used. ***Do not use a brush, scouring pad or any other abrasive material on the painted surfaces.***

The interior (and exterior if desired) may be cleaned with a soft cloth and a mild germicidal detergent. ***Do not use any ammonia-based products as this may damage electrical components within the unit.*** Do not use a brush, scouring pad or any other abrasive material on the painted surfaces. Care should be taken not to wet any electrical components, connections or controls.

Monthly cleaning of the condenser will aid the heat transfer characteristics of the refrigeration system and increase its efficiency. To accomplish this, remove the bottom facade from the cabinet by removing 2 screws located at the bottom of the facade on each side. Slide facade down off key slots and pull out to remove. Use a bristle brush to loosen any dirt particles that are attached to the fins. Use a vacuum cleaner to remove the loosened particles and other debris. If dirt is noticeable on the fan blades, simply wipe the blades with a damp cloth. **Failure to keep the condenser coil clean and clear of obstructions could result in temperature loss and damage to the compressor.**

All moving parts have been permanently lubricated and will generally require no maintenance.

MAINTENANCE SERVICE AND ANALYSIS GUIDE

<u>MALFUNCTION</u>	<u>POSSIBLE CAUSE</u>	<u>SOLUTION</u>
Compressor will not start - no hum	<ol style="list-style-type: none"> 1. Service cord unplugged 2. Fuse blown or removed 3. Overload tripped 4. Control stuck open 5. Wiring incorrect 	<ol style="list-style-type: none"> 1. Plug in service cord 2. Replace fuse 3. Determine reasons and correct 4. Repair or replace 5. Check wiring against the diagram
Compressor will not start - hums but trips on overload protector	<ol style="list-style-type: none"> 1. Improperly wired 2. Low voltage to unit 3. Starting capacitor defective 4. Relay failing to close 	<ol style="list-style-type: none"> 1. Check wiring against the diagram 2. Determine reason and correct 3. Determine reason and replace 4. Determine reason, correct or replace
Compressor starts and runs, but short cycles on overload protector	<ol style="list-style-type: none"> 1. Low voltage to unit 2. Overload defective 3. Excessive head pressure 4. Compressor hot-return gas hot 	<ol style="list-style-type: none"> 1. Determine reason and correct 2. Check current, replace overload protector 3. Check ventilation or restriction in refrigeration system 4. Check refrigerant charge, fix leak if necessary
Compressor operates long or continuously	<ol style="list-style-type: none"> 1. Short of refrigerant 2. Control contact stuck 3. Evaporator coil iced 4. Restriction in refrigeration system 5. Dirty condenser 6. Location too warm 	<ol style="list-style-type: none"> 1. Fix leak, add charge 2. Repair or replace 3. Determine cause, defrost manually 4. Determine location and remove restriction 5. Clean condenser 6. Ventilate area or change location.
Compressor runs fine, but short cycles	<ol style="list-style-type: none"> 1. Overload protector 2. Cold control 3. Overcharge 4. Air in system 5. Undercharge 	<ol style="list-style-type: none"> 1. Check wiring diagram 2. Differential too close - widen 3. Reduce charge 4. Purge and recharge 5. Fix leak, add refrigerant
Starting capacitor open, shorted or blown	<ol style="list-style-type: none"> 1. Relay contacts stuck 2. Low voltage to unit 3. Improper relay 	<ol style="list-style-type: none"> 1. Clean contacts or replace relay 2. Determine reason and correct 3. Replace
Relay defective or burned out	<ol style="list-style-type: none"> 1. Incorrect relay 2. Voltage too high or too low 	<ol style="list-style-type: none"> 1. Check and replace 2. Determine reason and correct
Refrigerated space too warm	<ol style="list-style-type: none"> 1. Control setting too high 2. Refrigerant overcharge 3. Dirty condenser 4. Evaporator coil iced 5. Not operating 	<ol style="list-style-type: none"> 1. Reset control 2. Purge refrigerant 3. Clean condenser 4. Determine reason and defrost 5. Determine reason, replace if necessary
Objectionable noise	<ol style="list-style-type: none"> 1. Fan blade hitting fan shroud 2. Tubing rattle 3. Vibrating fan blade 4. Condenser fan motor rattles 5. General vibration 6. Worn fan motor bearings 	<ol style="list-style-type: none"> 1. Reform or cut away small section of shroud 2. Locate and reform 3. Replace fan blade 4. Check motor bracket mounting, tighten 5. Compressor suspension bolts not loosened on applicable models - loosen them 6. Replace fan motor

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