

HUSSMANN®



NIM-6 ***Low Temperature*** ***Remote and Self Contained*** ***Novelty Ice Cream Island***



Installation & ***Service Manual***

IMPORTANT
Keep in store for future reference!

P/N 2402195_G

November 2010



ATTENTION

Merchandiser must operate for 24 hours
before loading product!

Regularly check merchandiser temperatures.

Do not break the cold chain. Keep products
in cooler before loading into merchandiser.

These merchandisers are designed
for pre-chilled products only.



IMPORTANT
KEEP IN STORE FOR FUTURE REFERENCE
Quality that sets industry standards!

HUSSMANN®

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REVISION HISTORY

REVISION G — NOVEMBER 2010

- 1. Added self contained location drawings, page 1-2
- 2. Added Remote Line Sizing, Koolgas, page 2-2
- 3. Added Koolgas and Remote Refrigeration, page 2-9
- 4. Added TEV drawing and adjustment, page 3-8
- 5. Added Cleaning Precautions, page 4-4
- 6. Added dimension drawings & technical data, pages, A-1, A-2, A-3 and A-4

REVISION F — OCTOBER 2009

ANSI Z535.5 DEFINITIONS



• **DANGER** – Indicate[s] a hazardous situation which, if not avoided, will result in death or serious injury.



• **WARNING** – Indicate[s] a hazardous situation which, if not avoided, could result in death or serious injury.



• **CAUTION** – Indicate[s] a hazardous situation which, if not avoided, could result in minor or moderate injury.

• **NOTICE** – *Not related to personal injury* – Indicates[s] situations, which if not avoided, could result in damage to equipment.

INSTALLATION

CERTIFICATION

These merchandisers are manufactured to meet ANSI / National Sanitation Foundation (NSF®) Standard #7 requirements. Proper installation is required to maintain certification. Near the serial plate, each case carries a label identifying the type of application for which the case was certified.

ANSI/NSF-7 Type I - Display Refrigerator / Freezer

Intended for 75°F / 55% RH Ambient Application

ANSI/NSF-7 Type II - Display Refrigerator / Freezer

Intended for 80°F / 55% RH Ambient Application

ANSI/NSF-7 - Display Refrigerator

Intended for Bulk Produce

HUSSMANN PRODUCT CONTROL

The serial number and shipping date of all equipment is recorded in Hussmann's files for warranty and replacement part purposes. All correspondence pertaining to warranty or parts ordering must include the serial number of each piece of equipment involved. This is to ensure the customer is provided with the correct parts.

SHIPPING DAMAGE

All equipment should be thoroughly examined for shipping damage before and during unloading. This equipment has been carefully inspected at our factory. Any claim for loss or damage must be made to the carrier. The carrier will provide any necessary inspection reports and/or claim forms.

Apparent Loss or Damage

If there is an obvious loss or damage, it must be noted on the freight bill or express receipt and signed by the carrier's agent; otherwise, carrier may refuse claim.

Concealed Loss or Damage

When loss or damage is not apparent until after equipment is uncrated, retain all packing materials and submit a written response to the carrier for inspection within 15 days.

LOCATION

These merchandisers are designed for displaying products in air conditioned stores where temperature is maintained at or below the ANSI / NSF-7 specified level and relative humidity is maintained at or below 55%.

**Recommended operating ambient
temperature is between
65°F (18°C) to 80°F (26.7°C).
Maximum relative humidity is 55%.**

Placing refrigerated merchandisers in direct sunlight, near hot tables or near other heat sources could impair their efficiency. Like other merchandisers, these merchandisers are sensitive to air disturbances. Air currents passing around merchandisers will seriously impair their operation. Do NOT allow air conditioning, electric fans, open doors or windows, etc. to create air currents around the merchandiser.

1-2 INSTALLATION

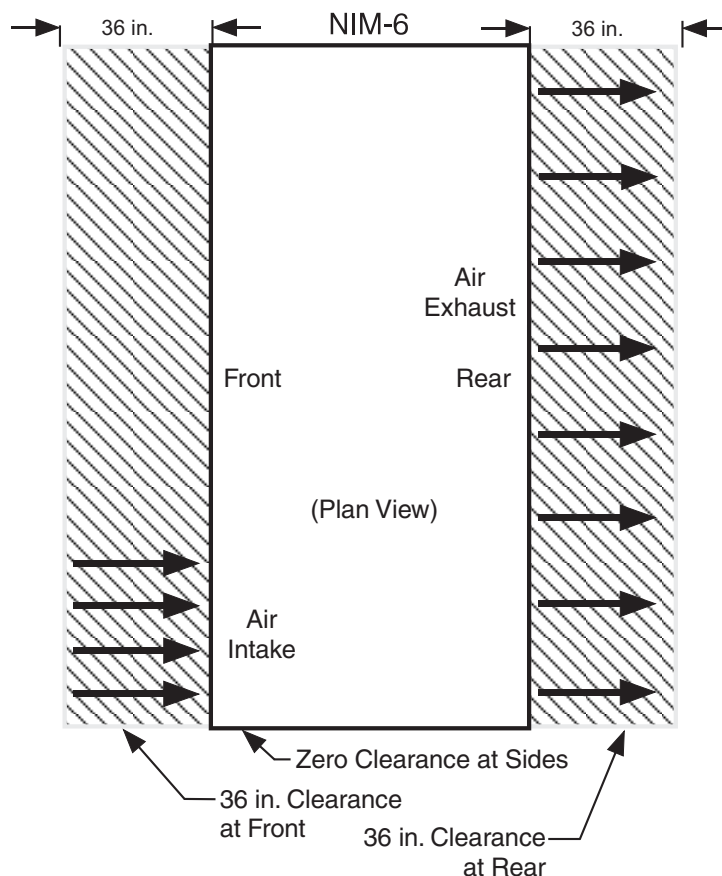
SELF CONTAINED (LOCATION)

Product should always be maintained at proper temperature. This means that from the time the product is received, through storage, preparation and display, the temperature of the product must be controlled to maximize the life of the product.

BE SURE TO POSITION SELF CONTAINED MERCHANDISERS PROPERLY.

SELF CONTAINED models have vented base panels to allow air circulation through the condensing unit.

Allow for a minimum 4 in. clearance from walls, merchandisers, and any other large objects near the merchandiser's vented base panels (for self contained models). Blocking or restricting air flow will adversely affect performance and may damage the refrigeration system.



MODEL DESCRIPTION

The NIM-6 is a low temperature self contained cabinet designed for pre-packaged frozen food or products that need freezing temperatures for their conservation. Design features include: self-closing glass doors, electronic controls, reversing condenser fan, CFC-free foam insulation, low side rails and an energy-saving, balanced refrigeration system.



UNLOADING

Unloading from Trailer:

Lever Bar (also known as a Mule, Johnson Bar, J-bar, Lever Dolly, or Pry Lever)

Move the merchandiser as close as possible to its permanent location and remove all packaging. Check for damage before discarding packaging. Remove all separately packed accessories such as kits and shelves.

Improper handling may cause damage to the merchandiser when unloading. To avoid damage:

1. Do not drag the merchandiser out of the trailer. Use a Johnson bar (mule).
2. Use a forklift or dolly to remove the merchandiser from the trailer.



EXTERIOR LOADING

Do NOT walk on top of merchandisers or damage to the merchandisers and serious personal injury could occur.

MERCHANDISERS ARE NOT STRUCTURALLY DESIGNED TO SUPPORT EXCESSIVE EXTERNAL LOADING such as the weight of a person. Do not place heavy objects on the merchandiser.

SHIPPING SKID

Each merchandiser is shipped on a skid to protect the merchandiser's base, and to make positioning the case easier.

Remove the top of the crate and detach walls from each other. Lift crate from the skid. Unscrew the case from the skid. The fixture can now be lifted off the crate skid. **Lift only at base of skid!** Remove any braces and/or skids attached (blanket wrapped merchandiser may have skids).

DO NOT TILT MERCHANDISER ON ITS SIDE OR END WHEN REMOVING SKID.

Tilting merchandiser could cause damage to the refrigeration system.

Once the skid is removed, the merchandiser must be lifted —NOT PUSHED— to reposition. To remove the skid, remove screws attaching skid to the merchandiser.

Check floor where cases are to be set to see if it is a level area. Determine the highest part of the floor.

Unpack door and all packaged accessories.

1-4 INSTALLATION

MERCHANDISER LEVELING

BE SURE TO POSITION MERCHANDISERS PROPERLY. Level the merchandiser by all four corners. Merchandiser(s) must be installed level to ensure proper operation of the refrigeration system, and to ensure proper drainage of defrost water.

Lock casters to prevent movement, then adjust top nut to level each corner.

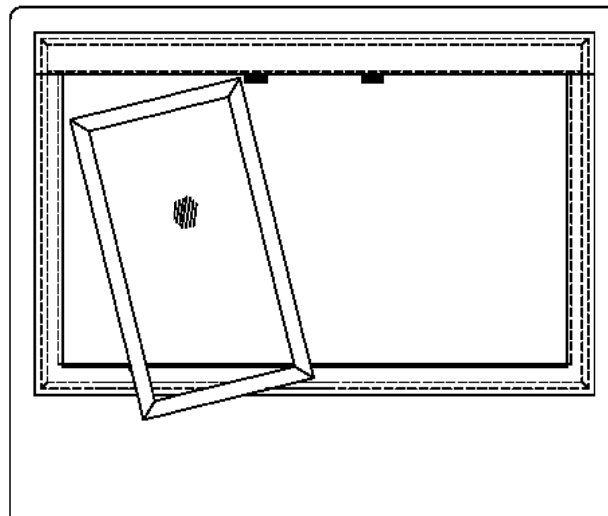
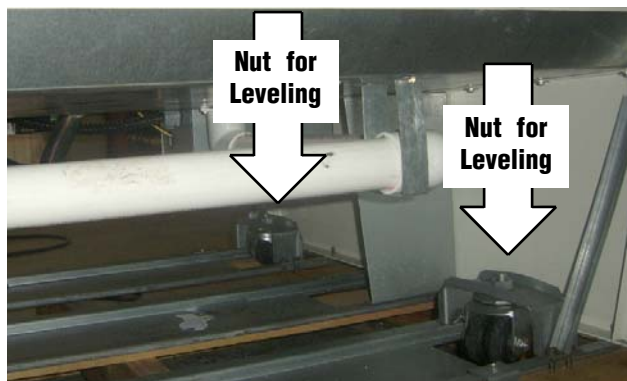


Figure 1 - Install Inside Door

INSTALLING DOORS

The doors are shipped in a separate crate located on top of the case crate. Install as follows:

1. Position the interior (left-hand) door as shown in Figure 1. Hook the upper right corner onto the automatic closing mechanism, then push to the right.
2. Rotate the top into the upper track, while keeping the bottom of the door angled out as shown in Figure 2.
3. Align the bottom of the door with the lower track, then push into place as shown in Figure 3.
4. Repeat 1, 2 and 3 for the exterior (right-hand) door.

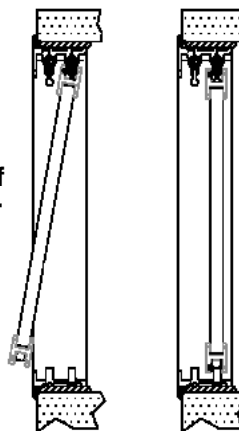
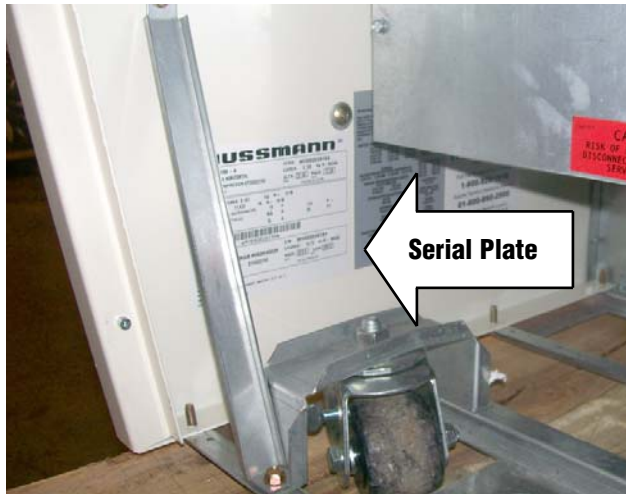


Figure 2 -
Align Top of
Inside Door

Figure 3 -
Inside Door
Positioned
in Upper
and Lower
Tracks

SERIAL PLATE LOCATION

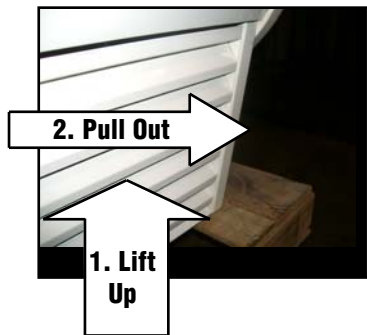
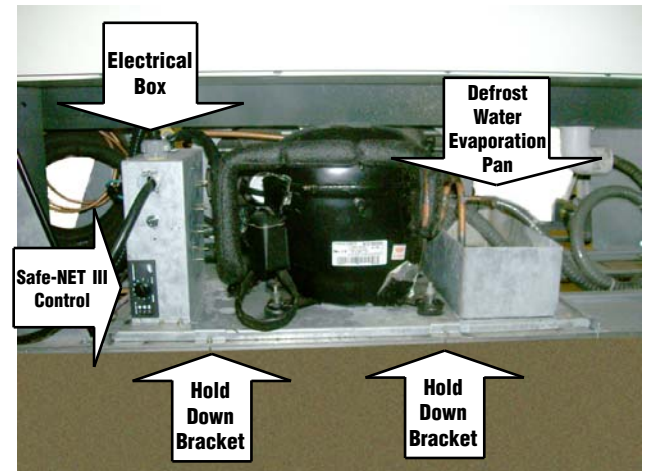
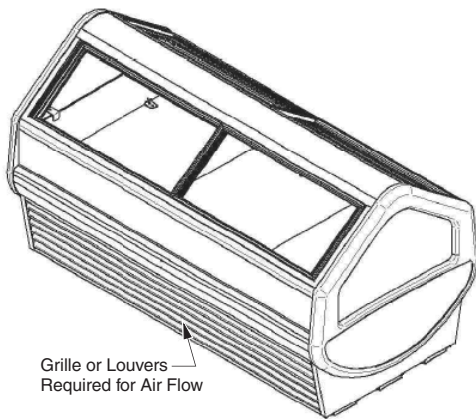
The serial plate is located **INSIDE** the condensing unit compartment, on the end opposite the condensing unit as shown on the following page. The grille must be removed for access to the serial plate. The serial plate contains all pertinent information such as model, serial number, amperage rating, refrigerant type and charge. **Do not remove the serial plate under any circumstance.**



REFRIGERATION UNIT ACCESS

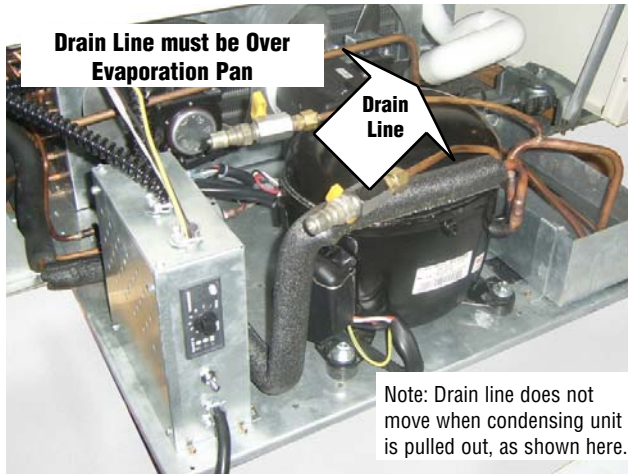
The louvered grille provides access to the condenser unit and the electric connection box. Remove the screw at each end. Lift the grille up, then pull it out from each side. The grille frame has slots that fit over studs in the cabinet, as shown in the photograph.

If the condensing unit needs to be serviced, it can be pulled out to gain access for hard to reach components like the condenser fans. To pull out the condensing unit, remove the two hold down brackets, at the unit base.



Condensing Unit Access

Care must be given to the drain line when re-inserting the condensing unit back into the case. The drain line must be inside the defrost water evaporation pan to prevent the discharge of water on the floor.

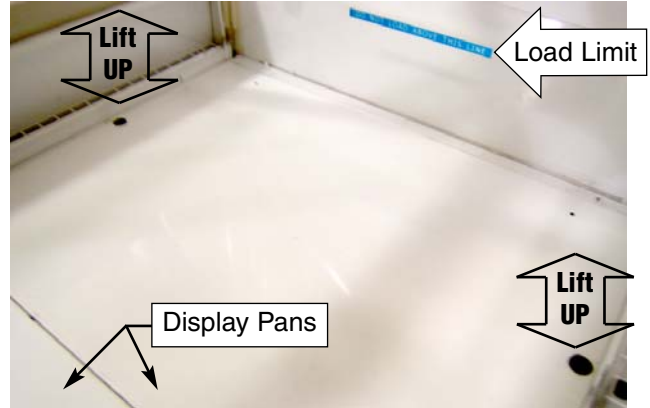
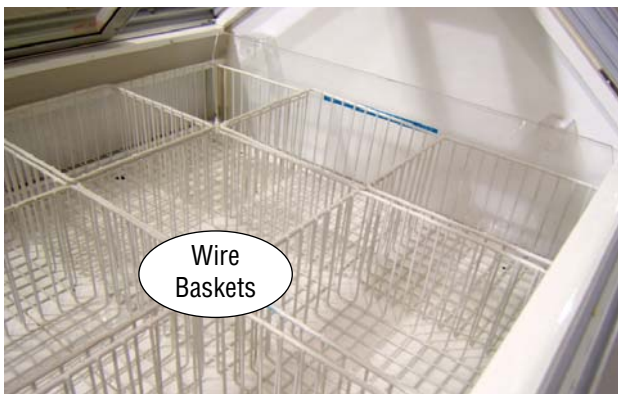


Defrost Water Evaporation Pan

DISPLAY PANS

The cabinet NIM-6 ships with three display pans which must be placed correctly at all times. Never operate the cabinet without the display pans as this would adversely affect the interior airflow and raise the temperature.

To access the display pans, first remove the wire baskets. Lift the pans using the holes at each side. The pans *MUST BE IN PLACE* for the merchandiser to operate properly.



AIR DISTRIBUTION

The NIM-6 is a cabinet are sensitive to air disturbances. Air currents passing around cabinets will seriously impair their operation.

DO NOT allow air conditioning, electric fans, open doors or windows, etc. to create air currents around the cabinets.

Follow the minimum clearance requirements: 36 inches (915 mm) on each side (service doors). Zero clearance for each end is acceptable. Tempered glass doors are self-closing. Keep doors closed during operation.

SEALING MERCHANDISER TO FLOOR

If required by local sanitary codes, or if the customer desires, merchandisers may be sealed to the floor using a vinyl cove base trim. The size needed will depend on how much variation there is in the floor, from one end of the merchandiser to the other. Sealing of the lower front and rear panels on self contained models may hamper their removal for servicing or maintenance of the condensing unit.

NOTE: Do not allow trim to cover any intake or discharge grilles located in the lower front panel.

ELECTRICAL / REFRIGERATION

MERCHANDISER ELECTRICAL DATA

Refer to Appendix A of this manual or the merchandiser’s serial plate for electrical information.

FIELD WIRING

Field wiring must be sized for component amperes stamped on the serial plate. Actual ampere draw may be less than specified.

ALWAYS CHECK THE SERIAL PLATE FOR COMPONENT AMPERES

ELECTRICAL CONNECTIONS

All wiring must be in compliance with NEC and local codes. All electrical connections (*for remote models*) are to be made in the electrical *Handy Box* located behind the removable base panel at the left end of the merchandiser when facing the discharge honeycomb.

ELECTRICAL OUTLET:

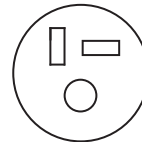
Before the merchandiser is connected to any wall circuit, use a voltmeter to check that the outlet is within the recommended voltage limits:

Nominal Volts	120V
Minimum Volts	108V
Maximum Volts	132V

The wall circuit must be dedicated for the merchandiser. Failure to do so voids the warranty.

Do not use an extension cord. Never plug in more than one merchandiser per electrical circuit.

- Always use a dedicated circuit with the amperage stated on the unit.
- Plug into an outlet designed for the plug.
- Do not overload the circuit
- Do not use long or thin extension cords. Never use adapters.
- If in doubt, call an electrician.



NEMA 5-20P
Receptacle
NIM-6

Self-contained models have factory-installed power cords attached at the electrical box.

REFRIGERATION (Self Contained Models)

Each self contained model is equipped with its own condensing unit and control panel located beneath the display area. The correct type of refrigerant will be stamped on each merchandiser’s serial plate. The merchandiser refrigeration piping is leak tested. The unit is charged with refrigerant, and shipped from the factory with all service valves open.



WARNING

— LOCK OUT / TAG OUT —

To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.

**CAUTION**

Risk of Electric Shock. If cord or plug becomes damaged, replace only with a cord and plug of the same type.

**WARNING**

Merchandiser must be grounded. Do not remove the power supply cord ground.

**CAUTION**

When brazing pipes, be sure to use the insulation blanket shipped with the merchandiser to prevent damage to the metal merchandiser bottom.

LINE SIZING**(Remote Models)**

Refrigerant line connections are made at the right end of merchandiser (facing front) beneath the refrigerated display area. The refrigerant line connection size is $\frac{3}{8}$ in. The suction line is $\frac{5}{8}$ in. Refrigerant lines should be sized as shown on the refrigeration legend that is furnished for the store or according to ASHRAE guidelines.

**WARNING**

Refrigeration lines are under pressure. Refrigerant must be recovered before attempting any connection or repair.

Oil Traps

P-traps (oil traps) must be installed at the base of all suction line vertical risers.

Pressure Drop

Keep refrigerant line runs as short as possible to avoid large pressure drops. Use a minimum number of elbows. Where elbows are required, USE LONG RADIUS ELBOWS ONLY.

WATER OUTLET AND WATER SEAL

The cabinet is provided with a factory installed outlet for defrost water. It runs from the bottom of the display area to an evaporation pan near the condenser unit.

The outlet is not connected to the waste water system for washing out the cabinet. This system is designed to evaporate normal condensate. This system should be checked regularly, especially during high relative humidity conditions, to verify the condensate tube is not blocked, and that the pan does not accumulate too much water which could spill out on the floor.

**WARNING**

Product will be degraded and may spoil if allowed to sit in a non-refrigerated area.

START UP / OPERATION



**... ATTENTION
INSTALLER**

**It is the contractor's responsibility to
install merchandiser(s) in accordance with
all local building and health codes.**

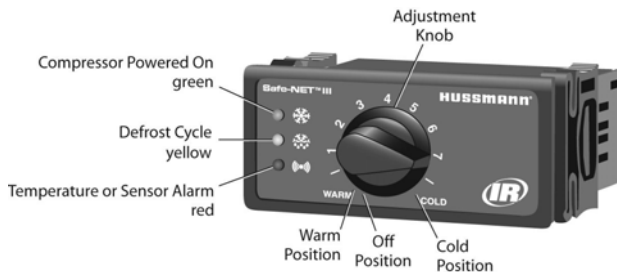
**Safe-NET III™
TEMPERATURE AND DEFROST
CONTROLLER**

SAFE-NET III™ USER INSTRUCTIONS

Your refrigerated case uses a Hussmann Safe-NET™ III temperature and defrost controller to precisely maintain the temperature and prevent frost buildup on the cooling coil. LEDs indicate when the compressor or refrigeration is on, when the case is in a defrost cycle, if the temperature is outside the desired range, or if there is a sensor failure.

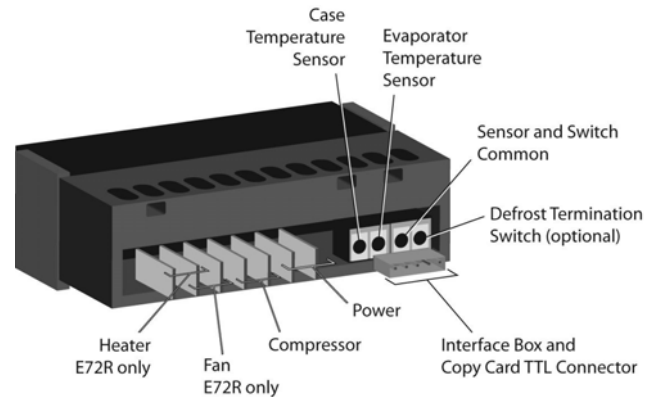
An adjustment knob allows the temperature to be set within the configured range and can power off the controller and compressor. Your controller has been custom-configured to provide the best temperature and defrost control for your chilled or frozen food.

The front of the controller has an adjustment knob and status LEDs. The back of the controller has connections for sensors and switched equipment.



The Safe-NET III controller includes the following features and connections.

- **Adjustment knob:**
Adjusts the temperature setpoint. Turn adjustment knob to OFF to turn off refrigeration system. Unplug merchandiser from power before servicing the unit.



- **Controller LEDs:**
 - ❄️ **Compressor Powered On LED (green):**
Lights while the compressor is running or the refrigeration valve is open.
 - ❄️ **Defrost Cycle LED (yellow):**
Lights while the refrigeration coil is defrosting.
 - 🔊 **Temperature or Sensor Alarm (red):**
Lights if the temperature is too warm or too cold. Flashes if a sensor fails.

- Rear connections:
 - Case temperature sensor:
 - Typically senses the temperature of the air in the case.
Used by the controller to determine when to power on or power off the compressor or refrigeration.
 - Evaporator temperature sensor:
 - Senses the temperature of the refrigeration coil.
Terminates a defrost cycle when refrigeration coil ice melts.
 - Compressor or refrigeration relay:
 - Switches on the compressor or refrigeration valve for cooling.

WARNING

The optional evaporator fan remains ON when the adjustment knob is in the OFF position.

DISPLAY

The display includes three red LEDs and two digits for temperature, defrost status, and error codes.

The three display LEDs are red, and their behavior matches the LEDs on the controller.



START-UP

1. Plug in the merchandiser.

WARNING

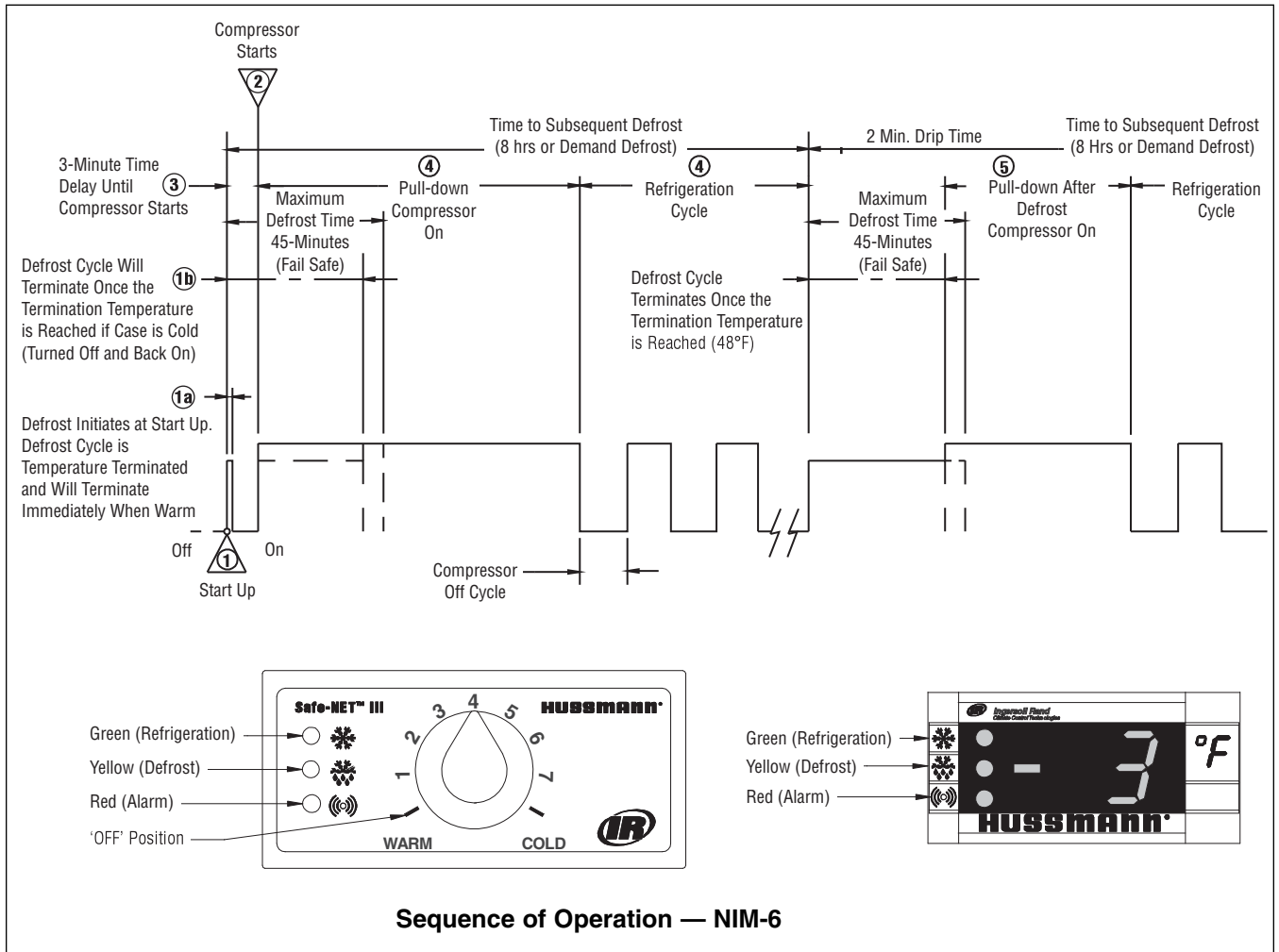
The OFF Position does not disconnect line voltage to the case, refrigeration unit, fan, or heater.

2. Wait for the self check to complete. During the self check, each LED flashes for one second, then all LEDs turn on for two seconds. If the LEDs do not flash, make sure the adjustment knob is not in the Off position.
 - After the self check, all LEDs turn off until the compressor starts. **There may be a delay before the compressor starts.** If the red Temperature or Sensor Alarm LED stays on after the self check.
 - The green Compressor Powered On LED turns on when the compressor starts.

NOTE: Do NOT load product until AFTER merchandiser operates for 24 hours and reaches desired operating temperature.

WARNING

Product will be degraded and may spoil if allowed to sit in a non-refrigerated area.



Sequence of Operation — NIM-6

- ① Apply power to the case.
Wait for the self-check to complete. During the self-check, each LED flashes for 1 second and then all LEDs turn on for 2 seconds. **IMPORTANT:** If the LEDs do not flash, make sure the adjustment knob is not in the 'OFF' position. If the adjustment knob is in the 'OFF' position, the display will also be blank.
- 1a. If the case is warm at initial start-up, the defrost will be initiated but will terminate almost immediately. (The display will show 'dF' until the defrost unlock time expires even though refrigeration has been initiated. The green LED will be ON.)
- 1b. If the case is cold (as if it is turned off and then back on), the defrost cycle will continue until the termination temperature is reached or the fail-safe time has expired.
- ② The compressor will start three minutes after the power is applied.
- ③ The compressor will continue to run until it reaches its cut-out temperature (pull down).
- ④ The refrigeration cycle will continue until the next scheduled (8 hours) or demand defrost.
- ⑤ ③ and ④ will repeat until power is interrupted.
- ⑥ If power is interrupted, sequence will start at ①. Defrost will be initiated and the time to subsequent defrost will reset.

TEMPERATURE ADJUSTMENT

Rotate the adjustment knob counter clockwise for a warmer setpoint or clockwise for a colder setpoint.

- While the temperature is being adjusted, the optional display shows the setpoint (cut out value). A few seconds after the temperature is set, the display reverts to showing the sensed temperature in the merchandiser.

ALARMS AND CODES

FLASHING TEMPERATURE OR SENSOR ALARM LED, E1 OR E2

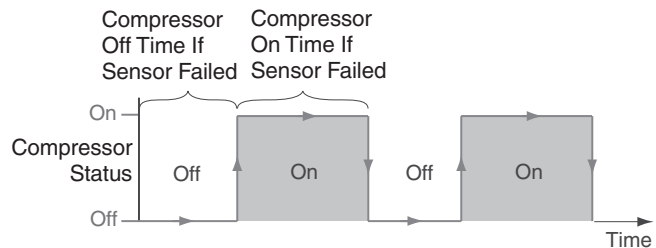
If the Temperature or Sensor Alarm LED (red) on the controller and display is flashing, a temperature sensor has failed. The display shows E1 if the case sensor has failed or E2 if the evaporator sensor has failed.



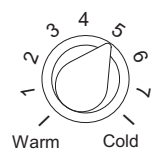
If the merchandiser sensor fails, refrigeration will run continuously. Turn off, or repeat a duty cycle of a few minutes on and a few minutes off.

DEFROST TERMINATION SWITCH

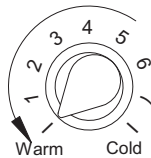
Merchandisers may use a defrost termination switch, instead of an evaporator sensor to terminate a defrost cycle. The defrost termination switch is temperature activated and senses the completion of defrost.



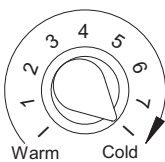
MANUAL DEFROST



1. Note location of knob setting



2. Rotate knob fully counterclockwise until it stops (full warm - "OFF" position)

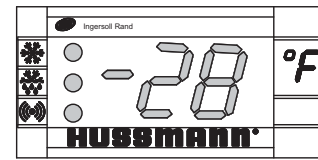
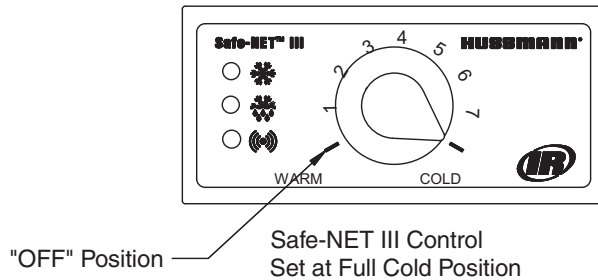


3. After 10 seconds, but before 20 seconds, rotate knob fully clockwise until it stops (full cold position)

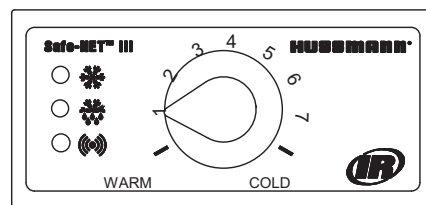
Note:

This procedure initiates a manual or forced defrost.

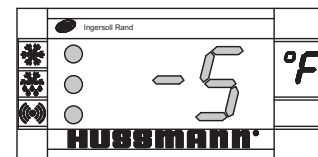
IMPORTANT: Return the control knob to its original setting (Step 1) once the manual defrost has been initiated.



Display - at Full Cold
Model NIM-6



Safe-NET III Control
1 Position



Display - at #1 Position
Model NIM-6

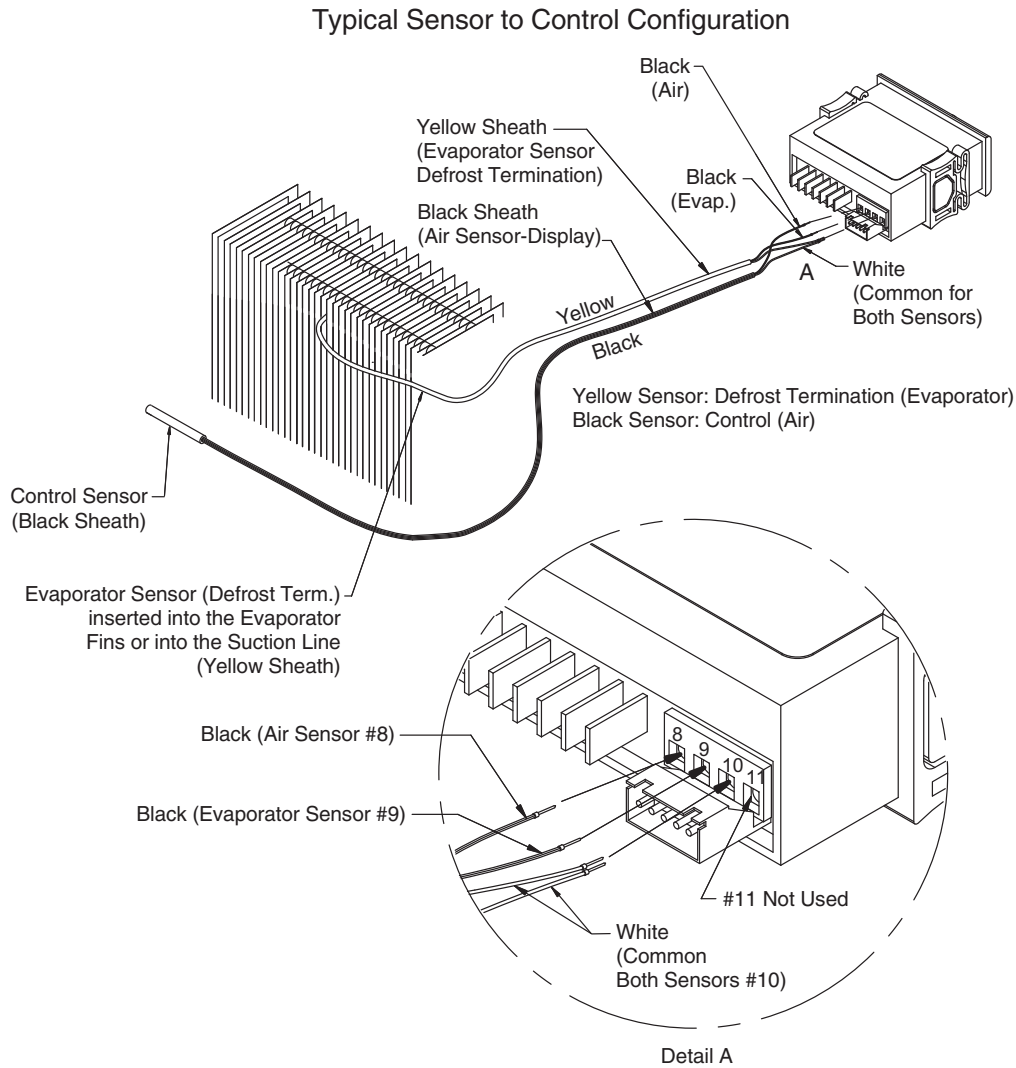
TEMPERATURE ADJUSTMENT

1. Rotate the adjustment knob counter clockwise for a warmer setpoint or clockwise for a colder setpoint.
2. While adjusting the temperature, the display shows the setpoint (cut out value). A few seconds after the temperature is set, the controller reverts to the sensed temperature in the merchandiser.
3. To verify merchandiser settings, turn the dial to warm and cold as shown above. Output readings should be within one degree of the temperatures shown above.

The control has protective settings to prevent short cycling of the compressor.

- A. The compressor may run for up to 60 sec. after Step 2 is completed. Start the 10 sec. count down for Step 3, once the display is blank.
- B. The defrost initiation may be delayed for up to 120 sec. after Step 3 is completed.

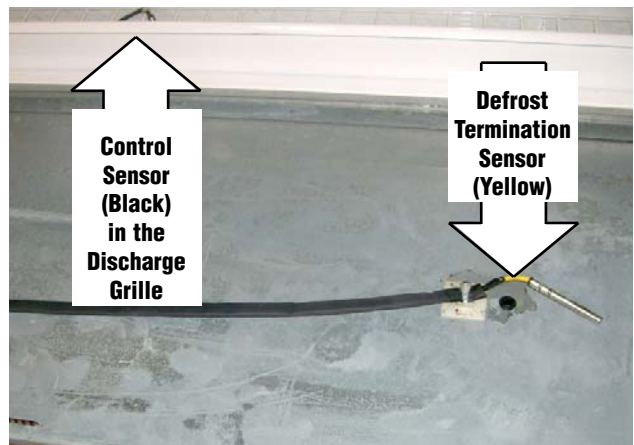
The display will show “dF” once Step 3 is completed, even with the protective delay timing out. The “dF” will display for awhile after defrost has terminated to allow the temperature to stabilize.



SENSOR TO CONTROL CONFIGURATION

The defrost termination sensor is located through a hole in the coil cover.

The control sensor, shown at right is located in the discharge air grille and the defrost termination sensor is inserted into the evaporator fins through an opening in the coil center. (This sensor is shown pulled out of the evaporator for illustration.)



Sensor Locations

CONTROLS and ADJUSTMENTS

Refrigeration Controls			Defrost Controls			
Model	Product Application	Discharge Air Temperature	Defrost Frequency (per day)	Type of Defrost	Termination Temperature	Failsafe Time (Minutes)
NIM-6 Remote & Self Contained	Frozen Food and novelty Ice-Cream	-20° F to -10° F	3	Electric	48° F	50

Your Case Configuration

Factory Setting	Average product temperature -10°F Knob position #5
Adjustment knob has OFF position	Yes
Delay before compressor runs after startup	Delay Time 30 sec.
Compressor operation if case sensor fails	Compressor On
What the display shows during defrost?	dF
The case defrosts when the power is turned on	Yes
The method used to end defrost	Evaporator Sensor Temperature
Defrost terminated by termination switch	No

1. The Safe-NET III Controller controls refrigeration temperature. This is factory installed in the control panel. Adjust this control knob to maintain the discharge air temperature shown. Measure discharge air temperatures at the center of the honeycomb.

Defrosts are time initiated and temperature terminated for self contained and remote, including Koolgas models. The defrost setting is factory set as shown above.

To ensure a thorough defrost, defrost must be terminated by the temperature termination setting — not by time.

THERMOSTATIC EXPANSION VALVE (TEV)

Each self contained merchandiser has its own evaporator coil and a **pre-set** thermostatic expansion valve (TEV). The TEV has been factory set at design conditions to provide the recommended performance.

Remove the fan panel to expose the thermostatic expansion valve.

TEV ADJUSTMENT

Expansion valves may be adjusted to fully feed the evaporator. Before attempting to adjust valves, make sure the evaporator is clear or only lightly covered with frost, and the merchandiser is within 10°F of its expected operating temperature.

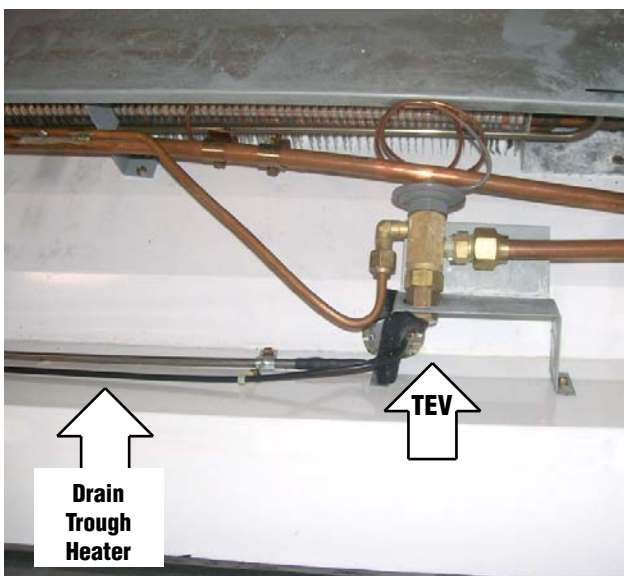
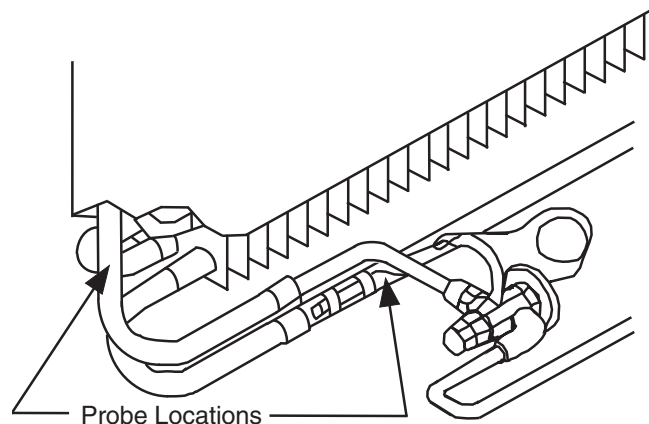
Adjust the valve as Follows:

a. Attach a probe to the suction line near the expansion valve bulb.

b. Obtain a pressure reading from the factory installed Schraeder valve. Convert the pressure reading to a saturated temperature for the refrigerant.

Temperature (b) minus Temperature (a) is the superheat. The valve should be adjusted so that the greatest difference between the two temperatures is 3°F to 5° F.

Make adjustments of no more than 1/2 turn of the valve stem at a time and wait for at least 15 minutes before rechecking the probe temperature and making further adjustments.



Sensor Locations

LOAD LIMITS

Each merchandiser has a load limit decal. Shelf life of perishables will be short if load limit is violated.



AT NO TIME SHOULD MERCHANDISERS BE STOCKED BEYOND THE LOAD LIMITS INDICATED.

DO NOT BLOCK HONEYCOMB.

STOCKING

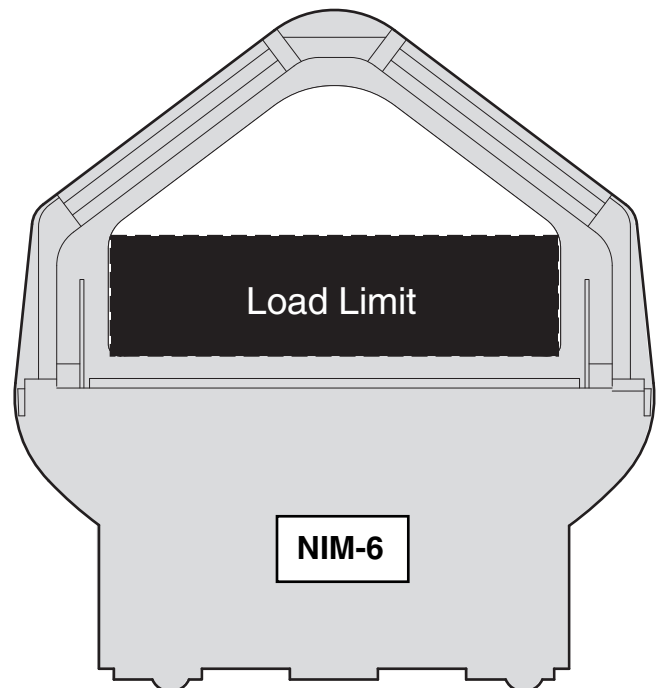
Product should **NOT** be placed inside the merchandisers until merchandisers are at proper operating temperature.

Allow merchandiser 24 hours to operate before loading product.

Proper rotation of product during stocking is necessary to prevent product loss. Always bring the oldest product to the front and set the newest to the back.

AIR DISCHARGE AND RETURN FLUES MUST REMAIN OPEN AND FREE OF OBSTRUCTION AT ALL TIMES to provide proper refrigeration and air curtain performance. Do not allow product, packages, signs, etc. to block these grilles. Do not use non-approved shelving, baskets, display racks, or any accessory that could hamper air curtain performance.

Do not allow product to be placed outside of the designated load limits in the illustration.

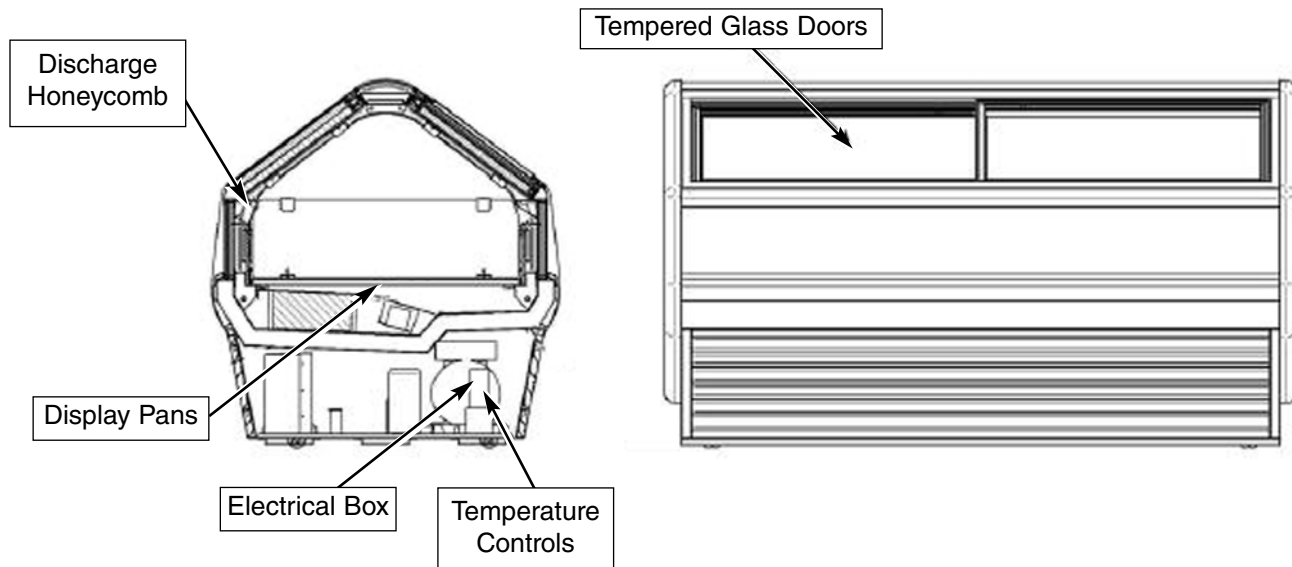


TEMPERED GLASS DOORS

Doors are manufactured with tempered glass mounted in PVC frames. Doors are self-closing to reduce the heat gain and increase energy efficiency.

Keep doors closed during start up.

Allow merchandiser 24 hours to operate before loading product. Load only with pre-chilled product.



MAINTENANCE

CARE AND CLEANING

Long life and satisfactory performance of any equipment is dependent upon the care it receives. To ensure long life, proper sanitation and minimum maintenance costs, these merchandisers should be thoroughly cleaned, all debris removed and the interiors washed down, weekly.

Exterior Surfaces

The exterior surfaces must be cleaned with a mild detergent and warm water to protect and maintain their attractive finish. **NEVER USE ABRASIVE CLEANSERS OR SCOURING PADS.**

Interior Surfaces

The interior surfaces may be cleaned with most domestic detergents, ammonia based cleaners and sanitizing solutions with no harm to the surface. Self contained models empty into a limited capacity evaporation pan, which will overflow if excess water is used in cleaning.

Do NOT Use:

- Abrasive cleansers and scouring pads, as these will mar the finish.
- Coarse paper towels on coated glass.
- Ammonia-based cleaners on acrylic parts.
- Solvent, oil or acidic based cleaners on any interior surfaces.
- Do not use high pressure water hoses.



WARNING

Product will be degraded and may spoil if allowed to sit in a non-refrigerated area.

Do:

- Remove the product and all loose debris to avoid clogging the waste outlet.
- Store product in a refrigerated area such as a cooler. Remove only as much product as can be taken to the cooler in a timely manner.
- Disconnect electrical power before cleaning.**
- Thoroughly clean all surfaces with soap and hot water. **DO NOT USE STEAM OR HIGH WATER PRESSURE HOSES TO WASH THE INTERIOR. THESE WILL DESTROY THE MERCHANDISERS' SEALING CAUSING LEAKS AND POOR PERFORMANCE.**
- Take care to minimize direct contact between fan motors and cleaning or rinse water.
- Do NOT flood merchandiser with water. **NEVER INTRODUCE WATER FASTER THAN THE WASTE OUTLET CAN REMOVE IT.**



WARNING

Do NOT allow cleaning agent or cloth to contact food product.

SELF CONTAINED MODELS EMPTY INTO A CONDENSATE EVAPORATION PAN THAT WILL OVERFLOW IF TOO MUCH WATER IS INTRODUCED DURING CLEANING.

- Allow merchandisers to dry before resuming operation.
- After cleaning is completed, turn on power to the merchandiser.



WARNING

— LOCK OUT / TAG OUT —

To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.

CLEANING DISCHARGE HONEYCOMB

Discharge air honeycomb should be cleaned every six months. Dirty honeycomb will cause merchandisers to perform poorly. The honeycomb may be cleaned with a vacuum cleaner. Soap and water may be used if all water is removed from the honeycomb cells before replacing. Be careful not to damage the honeycomb.

1. Using a flat object such as a screw driver, behind the rear edge of the honeycomb on on the right hand end, and gently pull down.
2. Clean with a mild detergent and warm water and dry the honeycomb.
3. After cleaning, replace in reverse order. Damaged honeycomb must be replaced.



CAUTION

DO NOT FLOOD!

Use only enough water necessary to clean surface. Water must not drip down the case!

Never use ammonia based cleansers, abrasive cleansers, or scouring pads.

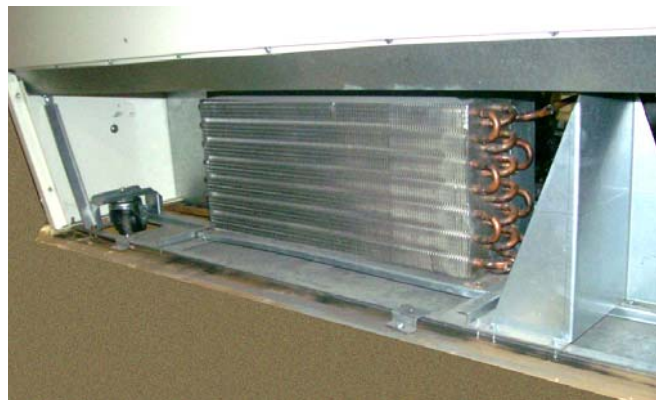
CLEANING COILS

The NIM-6 is equipped with a reversing condenser fan. During the defrost cycle, it reverses the air flow through the condenser to remove the collected debris. This feature will reduce condenser maintenance to occasional inspections. The condenser can be inspected without pulling the whole condensing unit out of the case. Simply remove the grille on the intake side of the condensing unit.

Condenser coils should be cleaned at least once per month. Additional cleaning may be needed depending on the operational environment. A dirty condenser blocks normal airflow through the coils.

Airflow blockage increases energy consumption and reduces the merchandiser's ability to maintain operating temperature.

To clean the coils, use a vacuum cleaner with a wand attachment and a soft (non-metallic) brush to remove dirt and debris. Do not bend coil fins. Always wear gloves and protective eye wear when cleaning near sharp coil fins and dust particles.



Clean the Intake Side of Condenser

CLEANING EVAPORATION PAN

(SELF CONTAINED ONLY)

The condensate water outlet for self contained models empties into a limited capacity evaporation pan.

Debris or dirt accumulation inside the condensate evaporation pan or on the heater coil will reduce the pan's evaporation capacity and cause premature heater failure. The evaporation pan waste water will overflow and spill onto the floor if the heater is not properly operating.

Remove accumulated debris from the evaporation pan. Wipe down heater coil with a cloth and warm water. Be sure to remove any dirt, debris or liquids from the heater coil.

Water introduced during cleaning will cause the evaporation pan to overflow.

**CAUTION**

Evaporation Pan is Hot!
and poses risk of bodily injury – Always Wear gloves and protective eye wear when servicing. Turn off evaporation pan heater, and allow pan to cool.



**PRECAUTION
CLEANING PRECAUTIONS**

When Cleaning:

- Do not use high pressure water hoses
- Do not introduce water faster than waste outlet can drain
- NEVER INTRODUCE WATER ON SELF CONTAINED UNIT WITH AN EVAPORATION PAN
- NEVER USE A CLEANING OR SANITIZING SOLUTION THAT HAS OIL BASE (these will dissolve the butyl sealants) or an AMMONIA BASE (this will corrode the copper components of the merchandiser)
- TO PRESERVE THE ATTRACTIVE FINISH:
- Use a water and a mild detergent for the exterior only
- Do NOT use a chlorinated cleaner on any surface
- Do NOT use abrasives or steel wool scouring pads (these will mar the finish)

CLEANING UNDER FAN PLENUM

To facilitate cleaning, the fan plenum is hinged.

After cleaning be sure the plenum is properly lowered into position OR PRODUCT LOSS WILL RESULT due to improper refrigeration.



Evaporator Fan Assembly

 **WARNING**
SHUT FANS OFF DURING CLEANING PROCESS.

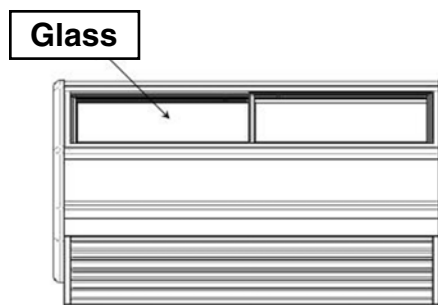
CLEANING STAINLESS STEEL SURFACES

Use non-abrasive cleaning materials, and always polish with grain of the steel. Use warm water or add a mild detergent to the water and apply with a cloth. Always wipe rails dry after wetting.

Use alkaline chlorinated or non-chlorine containing cleaners such as window cleaners and mild detergents. Do not use cleaners containing salts as this may cause pitting and rusting of the stainless steel finish. Do not use bleach.

CLEANING DOORS AND TRACKS

Wipe down doors, glass and tracks with a mild detergent or glass cleaner, frequently.



 **WARNING**
Do NOT use HOT water on Cold glass Surfaces. This can cause the glass to shatter and could result in personal injury. Allow glass fronts, to warm before applying hot water.

REMOVING SCRATCHES FROM BUMPER

Most scratches and dings can be removed using the following procedure.

1. Use steel wool to smooth out the surface area of the bumper.
2. Clean area.
3. Apply vinyl or car wax and polish surface for a smooth glossy finish.

SERVICE

REPLACING FAN MOTORS AND BLADES

Should it ever be necessary to service or replace the fan motors or blades be certain that the fan blades are reinstalled correctly.

THE BLADES MUST BE INSTALLED WITH RAISED EMBOSING (PART NUMBER ON PLASTIC BLADES) POSITIONED AS INDICATED ON THE PARTS LIST.

For access to these fans:

1. Remove product and place in a refrigerated area. Turn off power to the merchandiser.
2. Remove bottom display pans.
3. **Disconnect fan from wiring harness.**
4. Remove fan blade.
5. Lift fan plenum and remove screws holding bottom of motor to fan basket.
6. Replace fan motor and blade.
7. Lower fan plenum.
8. Reconnect fan to wiring harness.
9. Turn on power.
10. Verify that motor is working and blade is turning in the correct direction.

WARNING

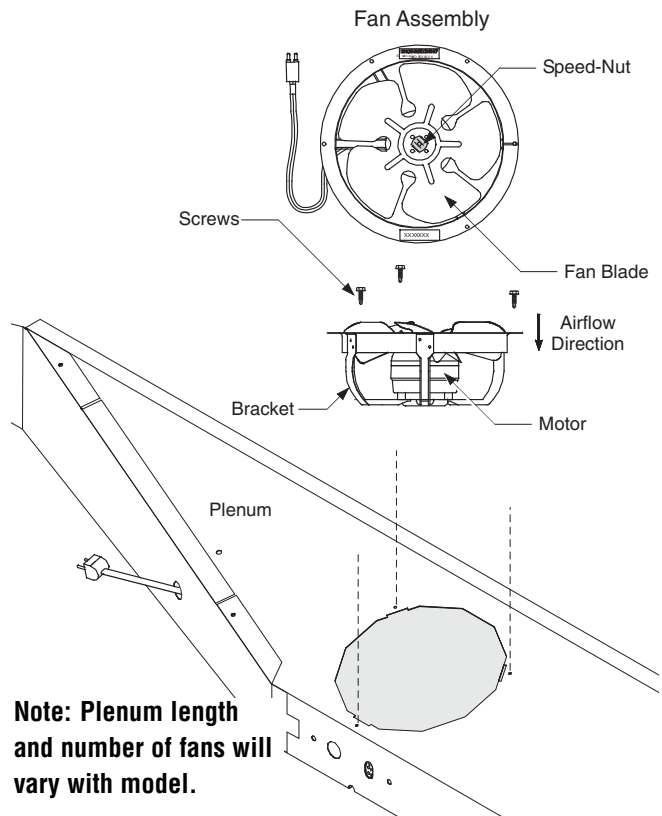
Product will be degraded and may spoil if allowed to sit in a non-refrigerated area.

WARNING

— LOCK OUT / TAG OUT —

To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.

11. Close air gaps under fan plenum. Warmer air moving into refrigerated air reduces effective cooling. If the plenum does not rest against the case bottom without gaps, apply foam tape to the bottom of the fan plenum to reduce improper air movement. Use silicone sealant to close other gaps.
12. Reinstall display pans. Bring merchandiser to operating temperature before restocking.

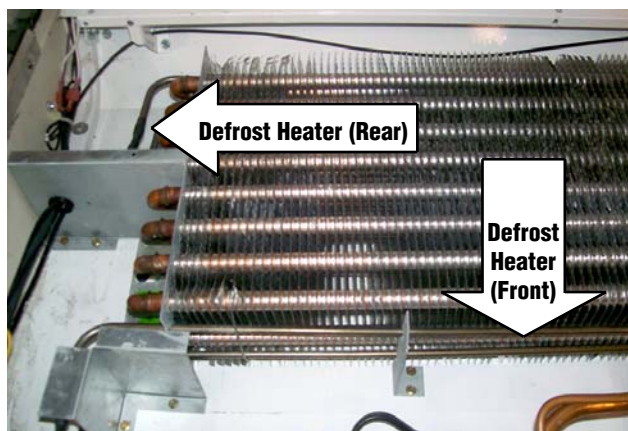


REPLACING DEFROST HEATERS

There are two defrost heaters: one located on the front of the evaporator and one on the rear. The defrost limit is located on the fan panel next to the evaporator fan plug.

Turn OFF power before servicing heaters.

1. Disconnect the heaters from the main harness. Heater connections are made inside the electrical box located in the condensing unit compartment.
2. Remove the wire leads. Remove the wire clips that attach the heater to the coil.
3. Remove heaters from coil. Heater sits on coil end plates.
4. Replace heater following previous steps in reverse order.

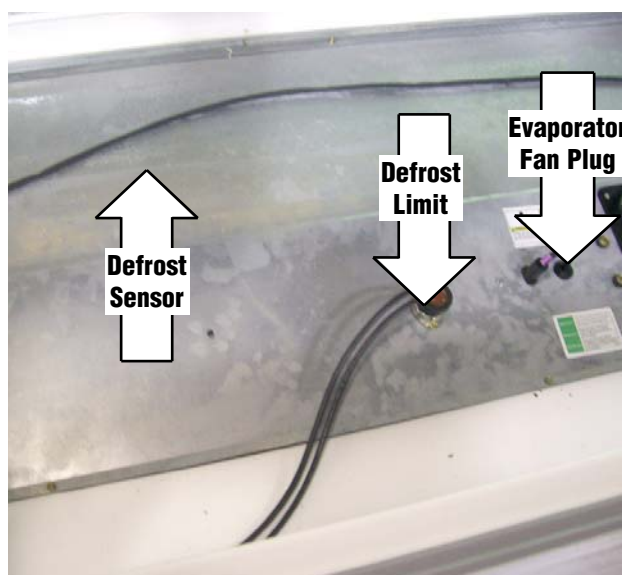


Defrost Heaters on Evaporator

WARNING

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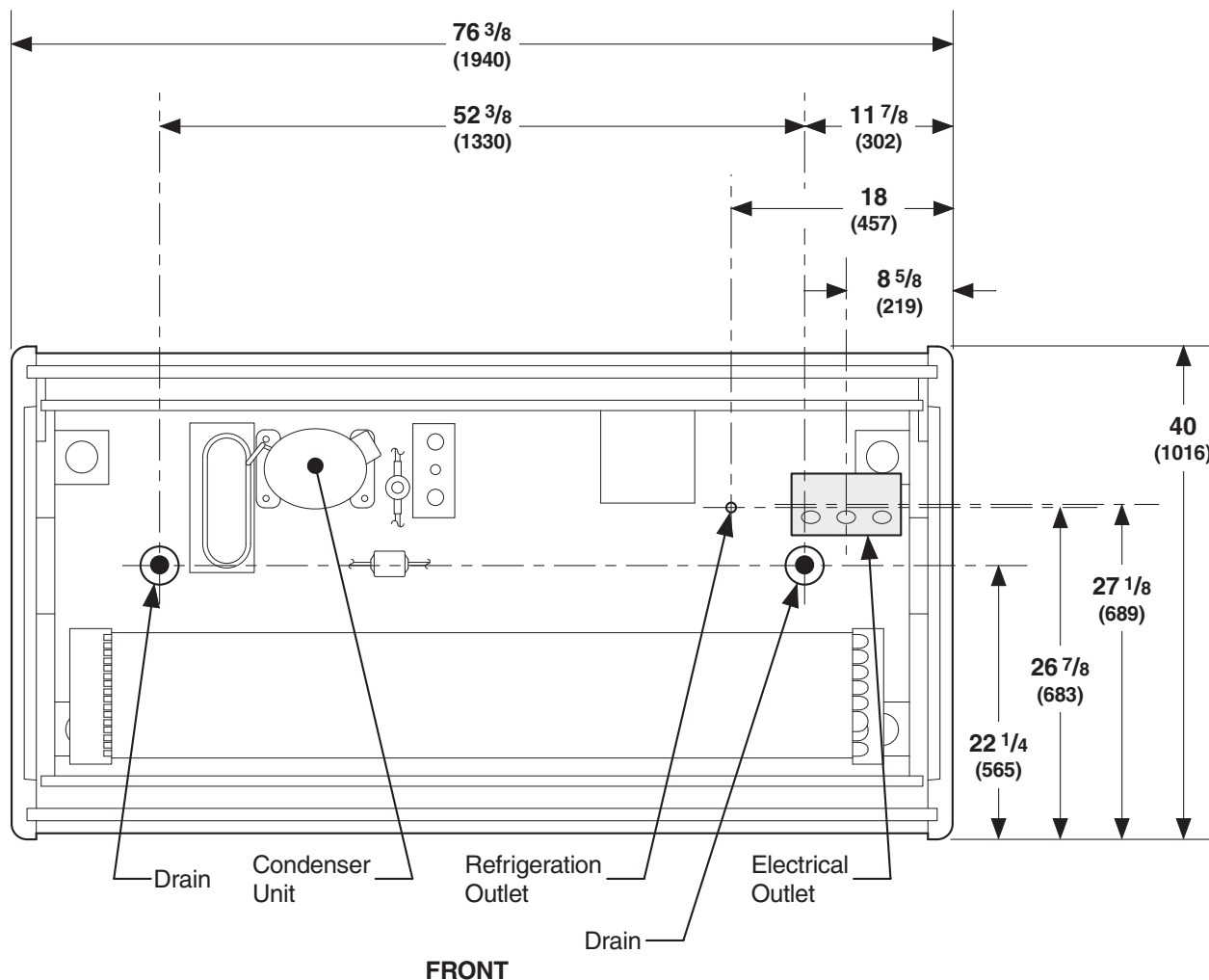
Fan Panel

A-1 APPENDIX A — TECHNICAL DATA

Item	Part #	Description	Item	Part #	Description
FAN ASSEMBLIES AND THERMOSTATS			REFRIGERATION		
	4W Standard	Fan Assembly	CU.4200694		Compressor - 115V
	MO.4410101	Fan Motor, 115V	EV.4671506		Evaporator
	FB.0409511	Fan Blade	MO.4411020		Reversing Condenser Fan Motor
	CT.4483050	Safe Net III Controller	FB.4780850		Condenser Fan Blade
	CC.4482991	Defrost Sensor (Yellow)	CO.4671499		Condenser
	CC.4482992	Air Sensor (Black) SS TIP	FI.4611347		Drier
	CT.4482926	Safe Net III Display with Audible Alarm(°F)	VR.4613234		Expansion Valve
	EP.4482541	Safe Net III Harness	VR.4613284		Orifice
HEATERS			LAMPS AND BALLASTS		
	DP.4919022	Condensate Pan	BA.4480870		Ballast, Lamp
	CT.4440261	Defrost Heater Limit			Fluorescent Lamps: Replace with Like Fixtures
	HE.4851013	Heater, Bottom Door Frame 30W	SW.4440541		Switch, Light
	HE.4850773	Nosing Anti-Sweat Heater			
	HE.4851198	Drain Heater			
CONTROL PANEL					
	SW.4440546	Disconnect Switch 25Amps			
	RL.4480238	Reversing condenser fan/Anti-sweat relays			
	EP.4441808	Power Cord			

NIM-6

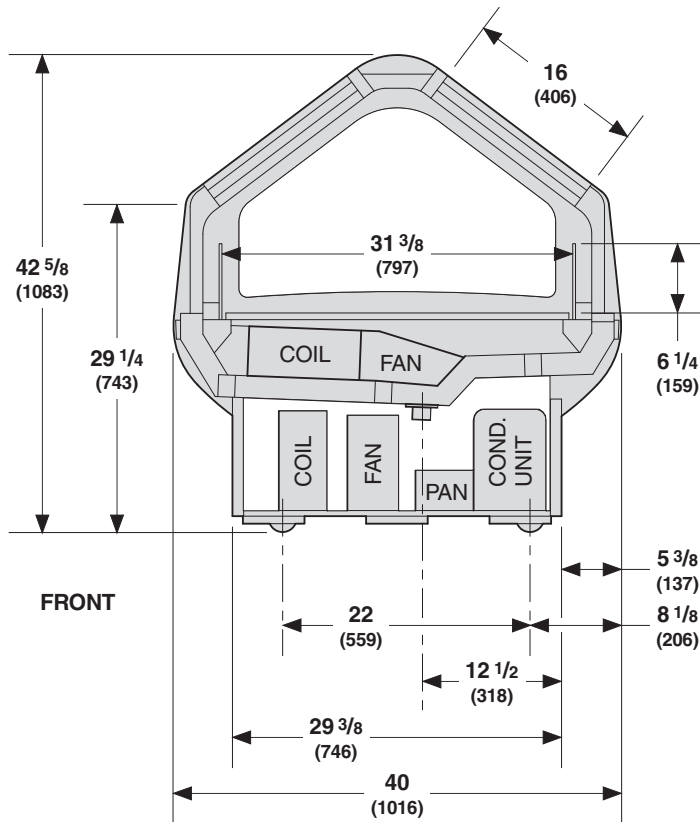
Dimensions shown as inches and (mm).



General

Case Length (<i>Note: Includes One Pair Ends</i>)	6 ft. (76 1/4) (1938)
Optional End Bumpers (<i>One Pair</i>)	2 (51)
Maximum O/S dimension of case back to front (<i>Note: Includes bumper</i>)	40 (1015)

NIM-6



REFRIGERATION DATA

Note: This data is based on store temperature and humidity that does not exceed 80°F and 55% R.H. unless otherwise stated. Schedule defrost at night while lights are off.

NIM-6

Thermostat Setting CI/CO (°F)
 Position #1 -5 / 5
 Position #7 -18 / -28

Condensing Unit (hp) 3/4

Condensing Unit Capacity 3100
 (Btu/hr at std. rating conditions)

DEFROST DATA

Frequency (hr) 3

OFFTIME
Failsafe (minutes) 50

Defrost Termination
Pressure (psig) 48°F

PHYSICAL DATA

Refrigerant Charge

NIM-6 34 oz 0.964 kg

Electrical Data

Note: These are rated values for individual components and should not be added together to determine total merchandiser electrical load.

NIM-6			
Number of Fans – 4W			
		1	
		Amperes	Watts
Evaporator Fans			
115V 60Hz Standard		0.29	16
Condensing Unit (208/230V, 1Ph, 60Hz) Standard			
Compressor LRA			56
Compressor RLA			11.8
Minimum Circuit Ampacity			
115V 1Ph	60Hz	Standard	13.5
Maximum Over Circuit Protection 208/230V			20

Product Data

NIM-6

<i>AHRI Total Display Area¹ (Sq Ft/Case)</i>	13.229 ft ² /case (1.229 m ² /case)
<i>Interior Useful Capacity (Cu.Ft/Case)</i>	21.27 (602.3 liters/case)
<i>Energy Consumption (tested per ARI 1200)</i>	15.82kWh/day

¹ Computed using AHRI 1200 standard methodology:
Total Display Area, ft² [m²] / Unit of Length, ft [m]

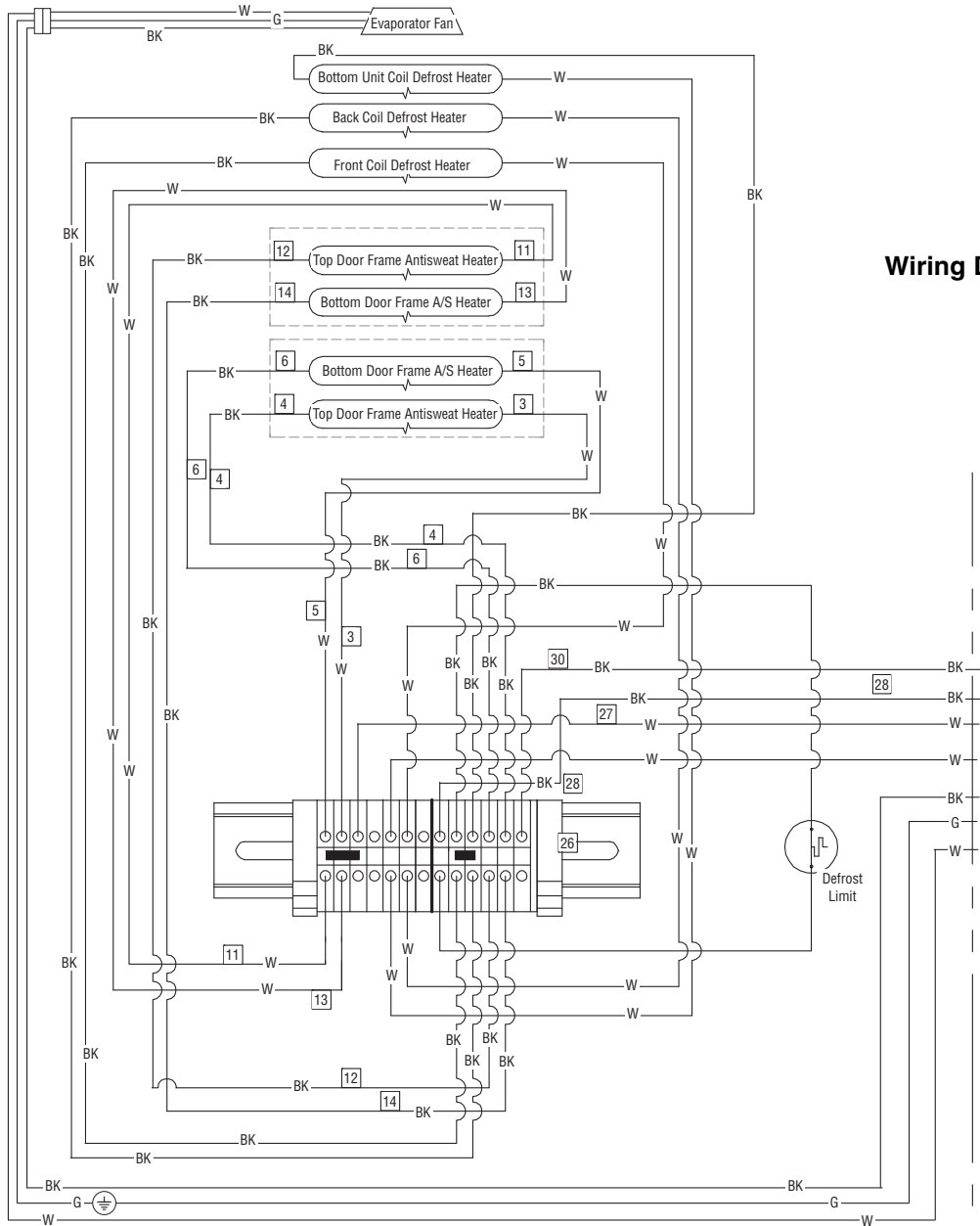
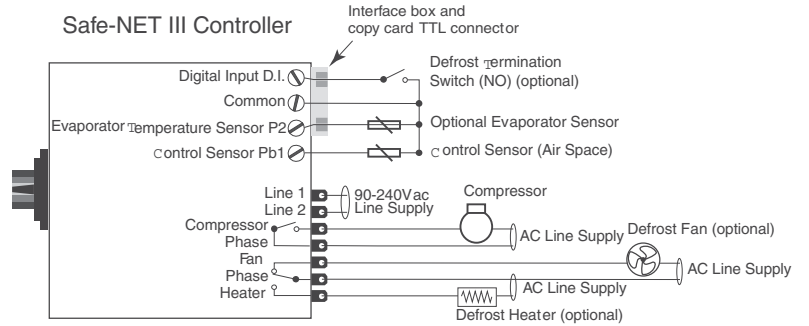
ESTIMATED SHIPPING WEIGHT ²

Case	<i>Self Contained</i>	<i>Remote</i>	<i>End</i>
lb (kg)	800 (363)	742 (337)	Included

² Actual weights will vary according to optional kits included.

NIM-6

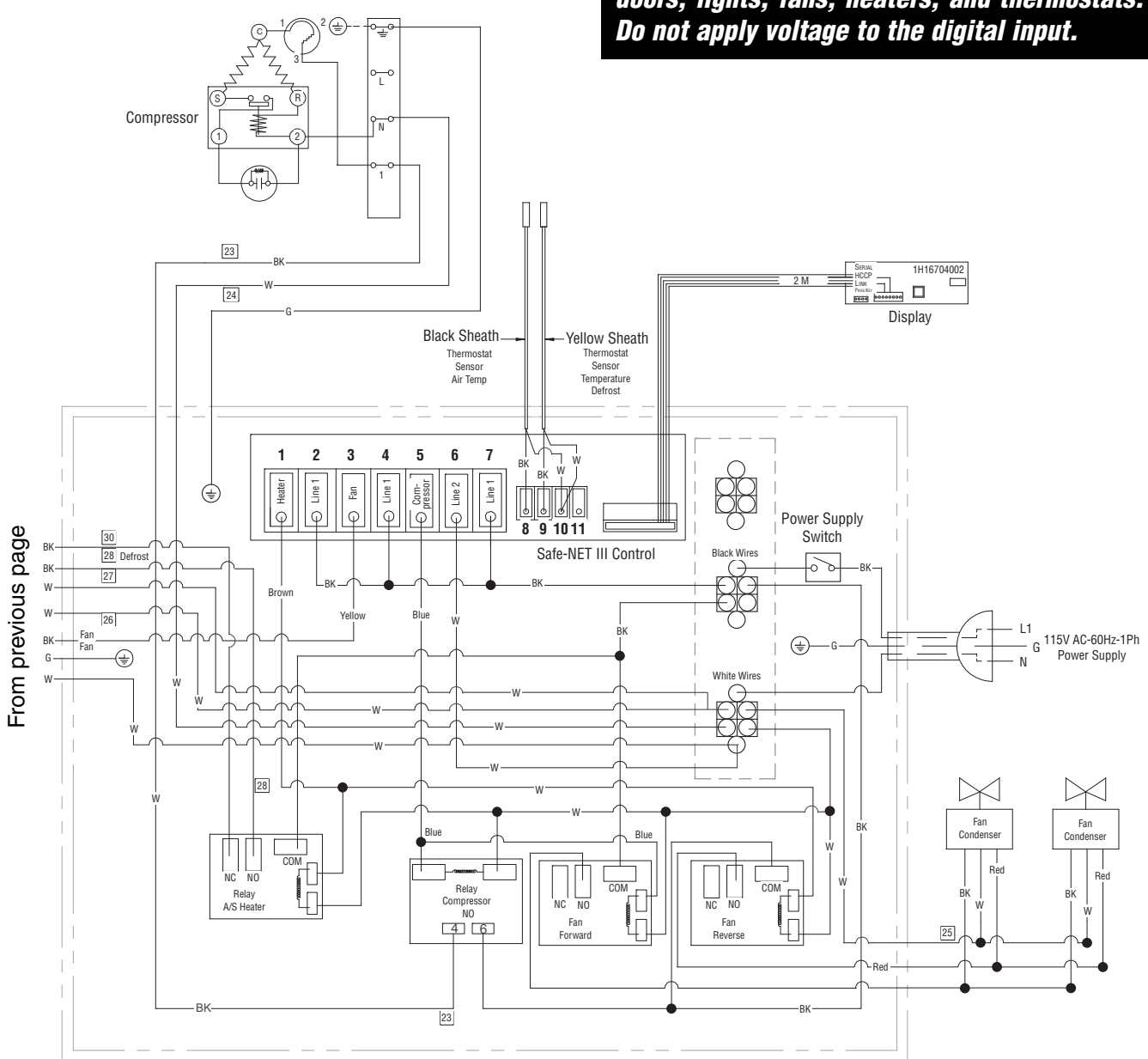
WIRING EXAMPLES



Wiring Diagram — NIM-6
(Part 1)

Connects
on
next page

Wiring Diagram — NIM-6
(Part 2)



WARNING

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From previous page

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