



Installation and Operation Manual

Open Air Island Merchandizer

Models NIC183R01, NIC183S01, NIC143S01



The Novelty Ice Cream Case has been safety and performance-test approved by Intertek, a safety regulatory testing agency. During new installations or periodic inspections, reference to agency approvals may be required. The regulatory agency file number is ETL File #4007858, complying with ANSI/UL 471, CSA C22.2 and NSF/ANSI 7.

ETL File #4007858



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SPECIFICATIONS

Model		NIC183R01	NIC183S01	NIC143S01
Performance at 75°F 55%RH		Integrated Average Temperature -15°F / 12°F Max.		
Environmental Conditions		Maximum indoor 80°F and relative humidity 55%		
External Dimensions	Width (inches)	72.4	55.9	
	Depth (inches)	35.8		
	Height (inches)	40.0		
Structure	Outer / Inner Box	Powder coated steel / zinc coated steel		
	Insulation	Rigid insulating foam		
Color		White		
Baskets		32 Baskets	24 Baskets	
Electrical	Power	220 VAC, 15 amp, 60 Hz, single phase		
	Outdoor condensing unit	230 VAC, 12 amp, 60 Hz, 3 phase	n/a	
	Power cord/plug	Length 8 ft. 3 wire 16 gauge / plug type NEMA L6-20P		
	Fan Motors	ECM high efficiency		
Compressor		Outdoor Reciprocating	Horizontal Scroll	
Refrigeration Connections	Liquid Line	3/8 inch OD	n/a	n/a
	Suction Line	1/2 inch OD		
Refrigerant		R404A	R449A	
Evaporator		Fin tube type forced convection		
Expansion Valve		Internally equalized automatic thermal expansion valve		
Controller		Digital programmable controller with Modbus communication protocol		
Casters		Five 2-inch diameter casters	Four casters	
Internal Volume (approximate)		16.4 ft³	12.7 ft³	
Weight		Approx. 450 lbs.	Approx. 520 lbs.	Approx. 385 lbs.
Agency Approvals		ANSI/UL 471, CSA C22.2, NSF/ANSI 7		
		ETL File #4007858		

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

SAFETY PRECAUTIONS

- Electrical service installation should only be performed by qualified, licensed Electricians.
- Mechanical service should only be performed by qualified, licensed Service Technicians.
- Use adequate equipment when moving the Novelty Ice Cream Case (NIC).
- Test for proper grounding to reduce the risk of electrical shock and fire.
- High voltage is present in the NIC. Disconnect power before servicing.
- Use only fully trained service technicians for power-on servicing.
- Use only authorized replacement parts.
- Lines in the remote units are pressurized with nitrogen. Use caution when opening lines.
- Use refrigeration lines with adequate wall thickness to handle refrigeration pressures.
- Replacement fuses must have identical ratings as the fuses being replaced.
- The NIC is designed for indoor use only, in a controlled environment that typically does not exceed 80°F (27°C). Check room and system airflow as described in this document to ensure food is maintained at required temperatures.

INITIAL SET-UP

It is the responsibility of the installer to ensure the unit is installed and working properly. The following instructions provide step-by-step set-up, piping, condensate drain connections (if applicable), electrical connection, start-up, performance and maintenance guidelines.

For Parts or Technical Service, please call: 1-800-344-7216 or FAX: 1-800-541-5684. Additional reference manuals can be obtained at www.vendoco.com

ELECTRICAL SUPPLY

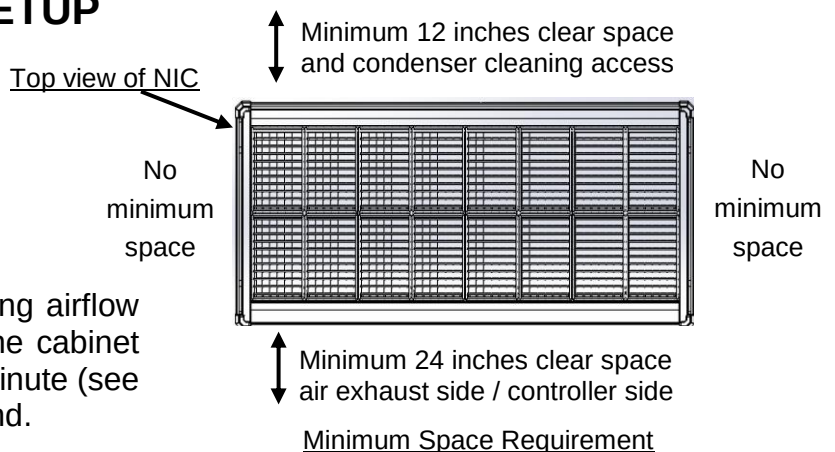
NIC: Provide 220 VAC, 12-amp, 60 Hz, single phase for plug type NEMA L6-20P.

Provide 230 VAC, 12-amp, 60 Hz, 3 phase power for the remote condensing unit (NIC183R01 only, refer to condensing unit manual)

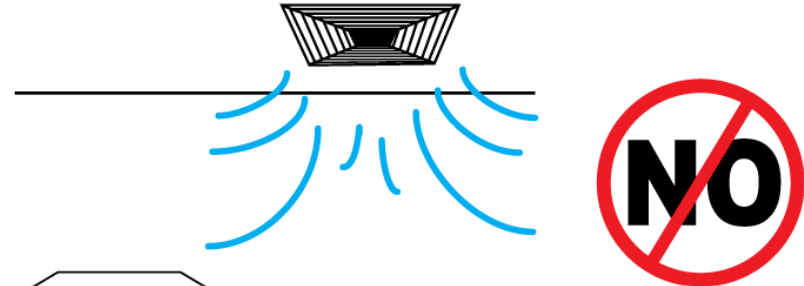
CABINET LOCATION AND SETUP

Choose a location for the NIC. Avoid placing the cabinet near equipment that releases heat, near an outside door, or in direct sunlight. To protect all electrical parts, do not place the cabinet where it will be subjected to rain, splashed liquid, or excessive humidity.

Check the airflow around the cabinet, since strong airflow may displace the cooled air in the NIC. Place the cabinet where the airflow speed is less than 50 feet per minute (see following figures). Also, avoid areas subject to wind.

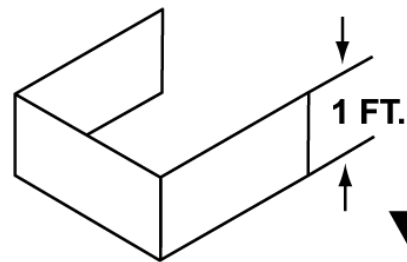
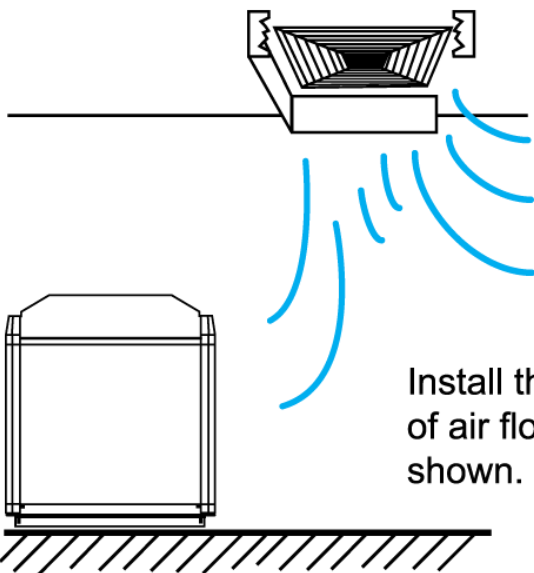


**AIR CONDITIONING DUCT
(CEILING TYPE)**



Air flow from air conditioning duct may interrupt cooled air curtain as shown.

FIGURE 1



**AIR DAM (REF.)
FIGURE 2**

Install the air dam to block the direction of air flow from air conditioning duct as shown.

FIGURE 3

YES

AIR CONDITIONING DUCT (WALL TYPE)



FIGURE 4

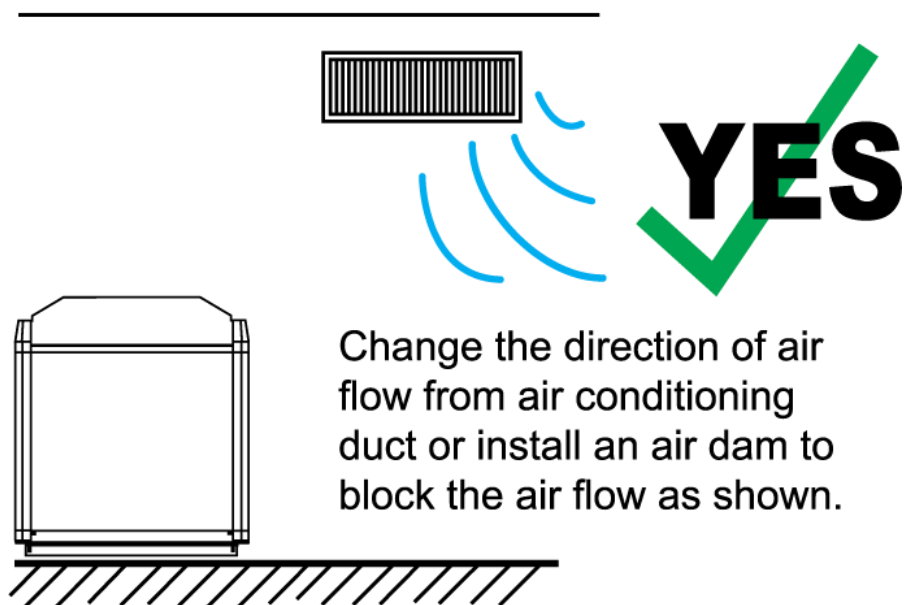


FIGURE 5

TO CHECK AIR CURTAIN

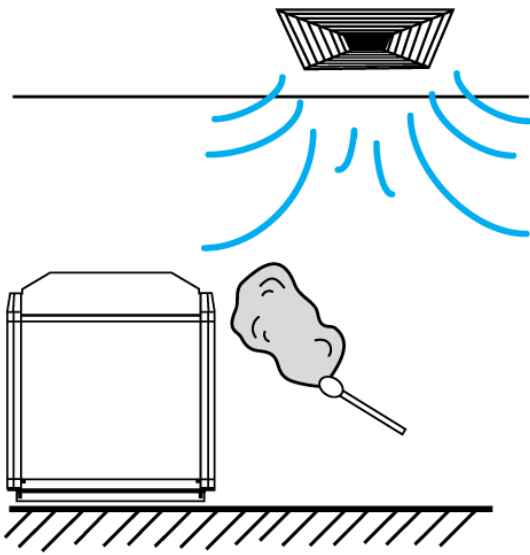


FIGURE 8

Hold matchstick 1 foot from front opening of showcase as shown. (Figure 8)

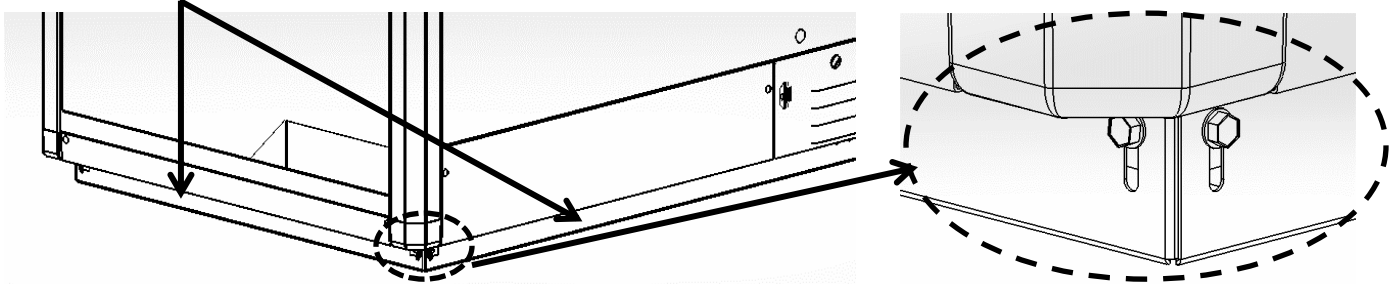
If smoke travels upward, then the air curtain is present.

If smoke travels into showcase the air curtain is not functioning correctly.

To insure the NIC doesn't roll, lower the leveling legs to lift the NIC up off the casters, and level the NIC.

If your facility is equipped with a floor drain, connect the drain hose on the bottom of the cabinet to the drain, or position the NIC so condensation will flow into the drain from the drain hose.

Install four panels next to the floor as shown using screws provided.



Plug unit into 208-220 VAC single phase 60 Hz grounded outlet to match the plug supplied with the NIC. If this outlet is not available, have one installed by a qualified electrician.

REFRIGERATION INSTALLATION (NIC183R01 only)

Have a qualified refrigeration technician connect the condensing unit to the NIC's refrigeration connection lines. Refer to the condensing unit manufacturer's installation instructions. Caution: lines are pressurized with nitrogen. Suction line 1/2", liquid line 3/8".

Route the insulated refrigeration lines up from below the NIC if possible. Otherwise, route the refrigeration lines through one of the side panels and notch the panel so it can be reinstalled.

Utilizing proper refrigeration practices, connect the refrigerant line set to the NIC refrigerant valves using long radius fittings. Trim the line set length to keep from creating oil traps in the lines. Connect line set to the remote mounted condensing unit. Turn on power to the NIC to open liquid line solenoid. **ALL** brazing should be done under a low pressure nitrogen purge. After brazing, pressurize system with nitrogen and

check brazed joints for leaks. After leak checking, release the nitrogen and evacuate the system to 400 microns or below. Verify the system holds this vacuum before weighing in the refrigerant charge. Break vacuum with liquid refrigerant through the HIGH side access port at the condensing unit. Turn power on to the condensing unit and continue charging through the LOW side port using a metering device such as a “Quik Charge” or Uniweld’s “VaporVue”. Stop charging when sight glass clears and check for required superheat of 10 °F to 12°F. Weigh in an additional two (2) pounds of refrigerant to insure proper sub cooling.

System operates with a controller set point and solenoid valve (pump down). The condensing unit must have a low pressure switch.

NIC183R01: 11,800 BTU/hour, evaporating temp: 15°F @ 80°F dry bulb, 68°F wet bulb

START-UP & OPERATING INFORMATION

START-UP AND PERFORMANCE CHECK

- Step 1: Turn on power switch located on the front of the power control box. Start the condensing unit (NIC183R01 only) per manufacturer’s instructions. Insure evaporator fans are operating. The control system is factory preset and does not need adjustment.
- Step 2: Verify that there is a flow of cold air from the outlet louvers, located on the side of the cabinet.
- Step 3: Observing the controller display, monitor the cabinet temperature, and verify that unit cools below 0°F within 1 hour.
- Temporarily covering the top of the NIC until it is below 0°F will reduce the cooldown time. The cover may be made from the shipping box, cut to 70” x 33” (NIC183) or 53” x 33” (NIC143).
- Step 4: Verify that all cover panels are installed. The NIC is ready to be loaded with frozen product.

OPERATING GUIDELINES

1. For best results, stock the NIC only with frozen product.
2. Load products only after the NIC has cooled below 0°F.
3. For proper air curtain operation, do not stack products above the top rim of the baskets.

CONTROLLER OPERATION AND ERROR CODES

NIC controller button functions:

- F1** - Scroll Up
F2 - Return / Escape
F3 - Scroll Down
F4 - Enter / Set



Alarms:

Item	Display		Condition
Case Temp	SrCA	AL01	Disconnected (return air sensor)
Case Temp	SrCA	AL02	Out of range (return air sensor)
Evaporator coil	SrCA	AL03	Disconnected (coil sensor)
Evaporator coil / cool down	SrCA	AL04	Out of range (coil sensor)



Condenser Temperature	SrCA	AL05	Disconnected (liquid line sensor)
Condenser / Filter	SrCA	AL06	Out of range (liquid line sensor)
Condenser insufficient air flow	-	COnd	>15 minutes above 109°F (NIC183S01, NIC143S01)
Drain Alarm	-	drPn	Drain pan full (open contact)
Fan Alarm	SrCA	AL09	Below set point rpm
Fan Alarm	SrCA	AL10	Below set point rpm
High Temperature Alarm	SrCA	AL11	Case temperature > 5°F for more than 2 hours

Display normally shows temperature. For alarms needing service, the display will alternate between “SrCA” (Service Call) and the error (such as AL02). For alarms the store can fix, the display alternates between “drPn” (Drain Pan is full) or “COnd” (need to clean the condenser) and the temperature.

To show firmware version: Press and hold F2 for 5 seconds. The version will show for 5 seconds.

GENERAL MAINTENANCE

PERIODIC CLEANING AND DEFROSTING

In order to maintain peak operating performance, 2 to 4 times per year, remove product, turn off the power, and remove the baskets and deck panels to allow any possible accumulations of ice to melt. During this time, clean the baskets and deck panels in running water. Also remove the drip pan, clean or discard and replace the sponge (remote only, part # 1250892), and reinstall the drip pan. Clean the inside and outside of the NIC with a damp cloth.

STORING THE CABINET

Step 1: After removing product, turn off unit and disconnect the unit from its power source.

Step 2: Wipe the interior of the NIC with a damp cloth.

Step 3: Cap off refrigeration connection lines (NIC183R01 only).

Step 4: Unit must be stored indoors in a clean, dry place. Do not choose a location where the unit will be exposed to direct sunlight, high temperature, or high humidity.

TROUBLESHOOTING

Before calling your Service Technician, please make these simple checks:

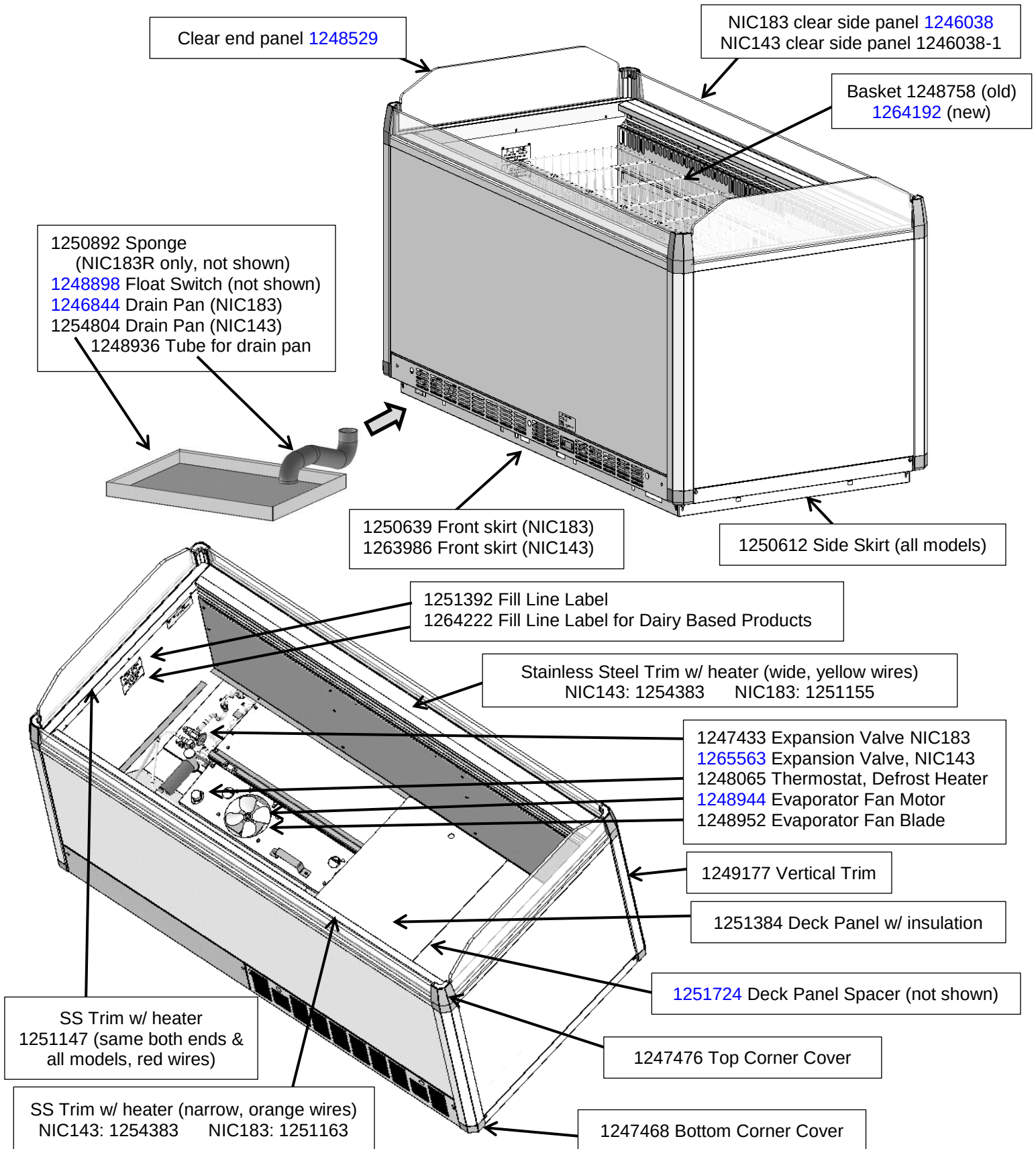
If the unit is not operating:

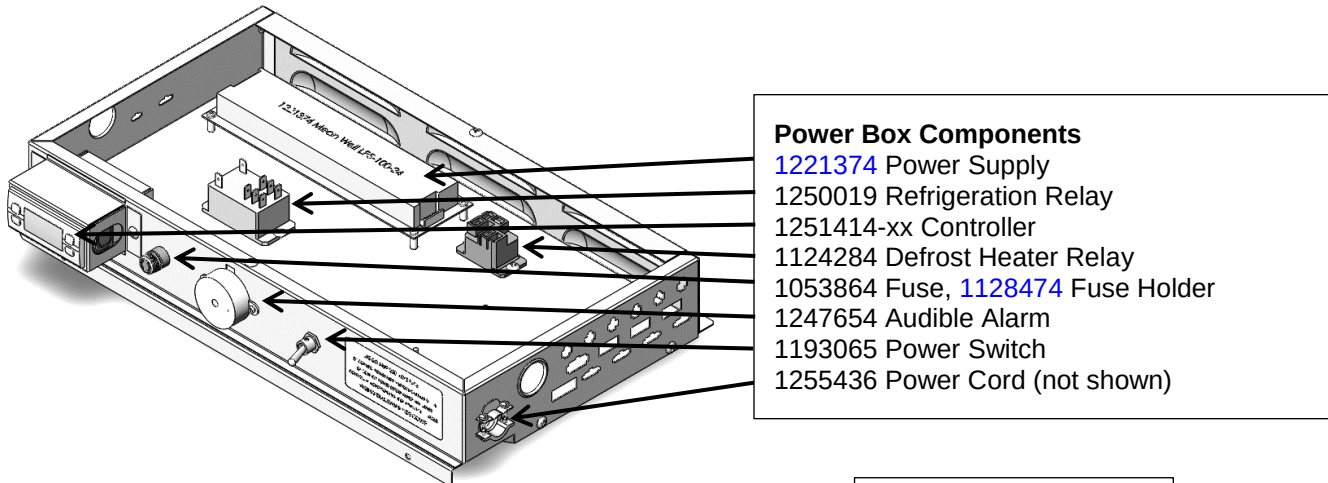
1. Is there 208 to 230 VAC power to the unit?
2. Is there a tripped breaker or blown fuse?
3. Has the refrigeration unit cycled off, because it is at the designated operating temperature?

If the cabinet temperature is too warm:

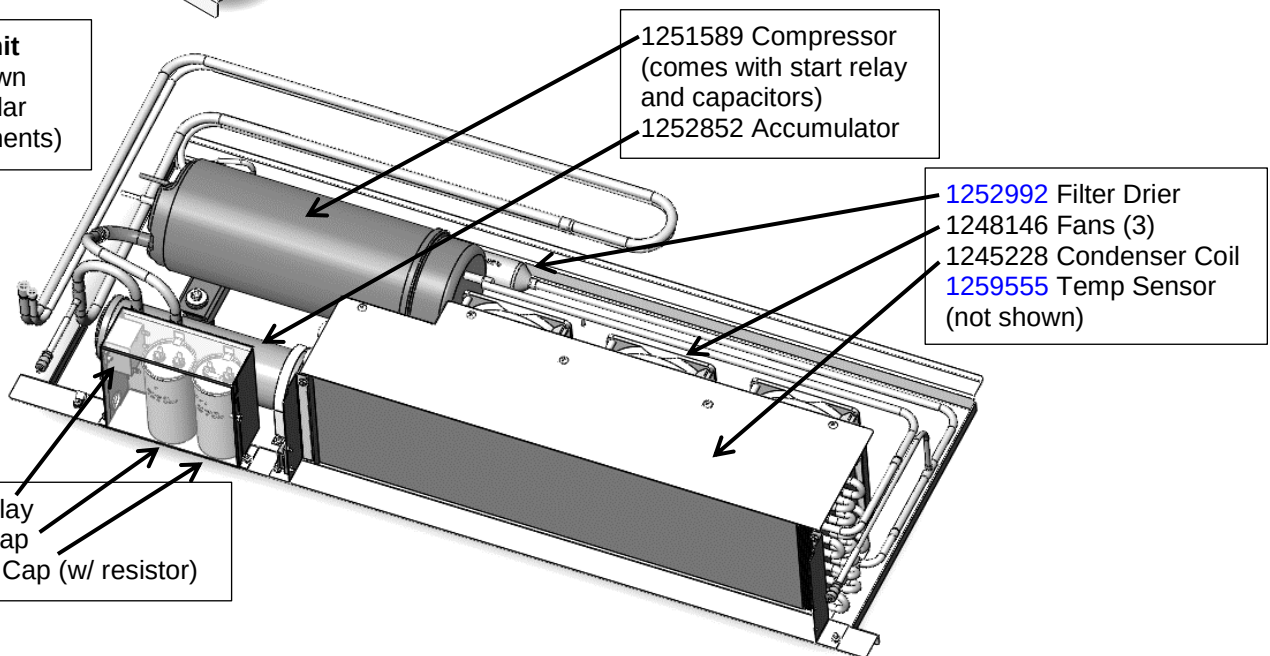
1. Is the controller set point set correctly?
2. Is the cabinet located in direct sunlight?
3. Is the cabinet located in a strong air-flow path?
4. Is the product above the fill limit line?
5. Is the air temperature around the cabinet above 80°F?
6. Is there reduced air flow, or no air flow, from the cold air outlet vent?

SERVICE PARTS and ELECTRICAL SCHEMATIC





Condensing Unit
 NIC143S01 Shown
 NIC183S01 Similar
 (uses same components)



END OF LIFE / DISPOSAL

- To protect the environment please recycle materials where possible.
- Remove / reclaim refrigerant gas and compressor oil in accordance with applicable laws and/or regulations. Examples include US EPA 40CFR Part 82, Subpart F.
- Do not dispose of the Novelty Ice Cream Case with other domestic waste. This unit contains electrical and electronic materials that may need to be processed in accordance with local laws and/or regulations. Examples include European Directive WEEE 2002/96/CE
- Recycling this product contributes towards reducing the need for new materials and reducing the accumulation of waste.

