

Operation & Installation Manual

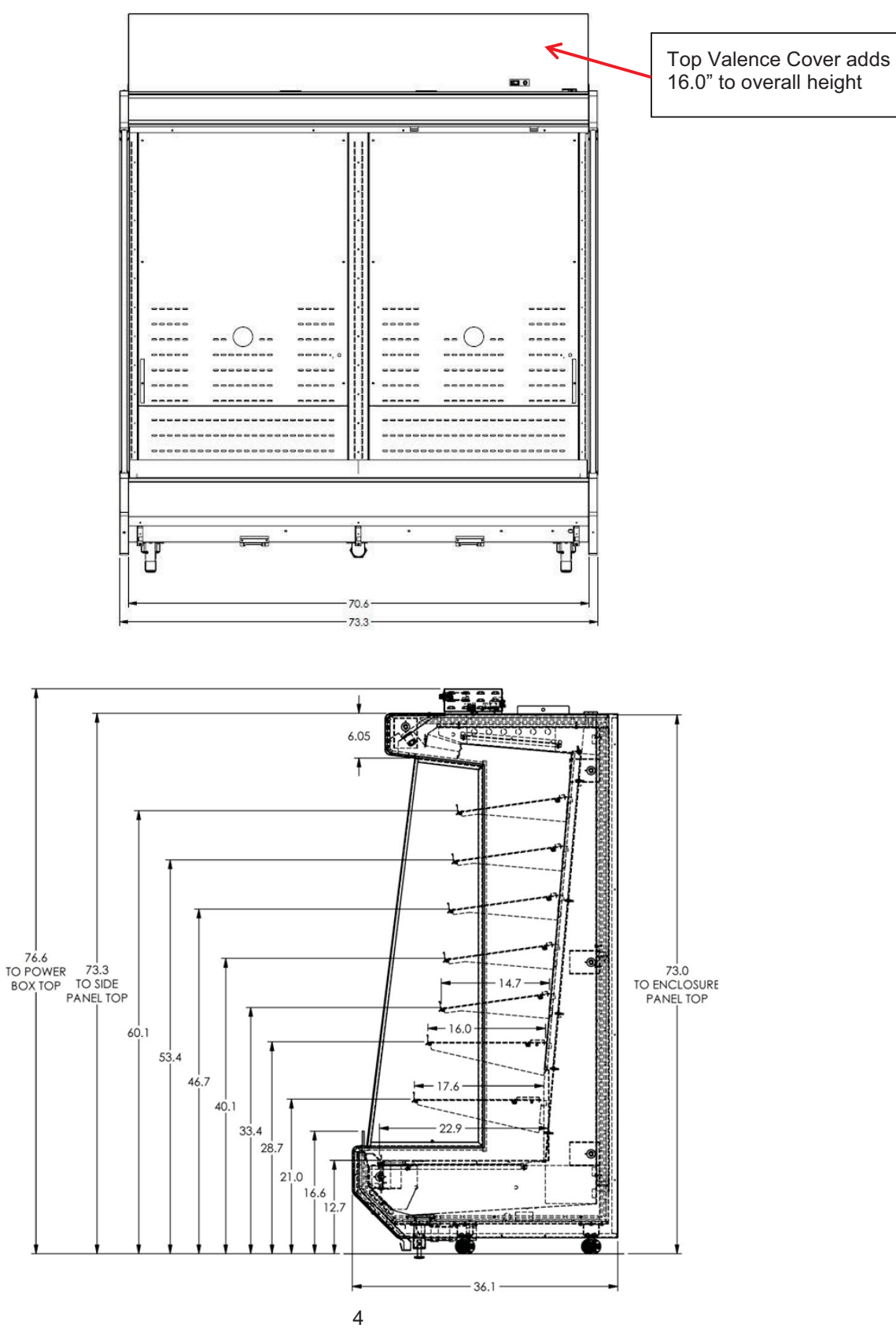
MODEL RSC Remote
REFRIGERATED SHOWCASE



Document Part #: 1221178
Rev: J

ECN: 56951
Date: 10-25-2017

DIMENSIONS RSC 6



SPECIFICATIONS RSC 4

Model	RSC4 (RAC)
Product Temperature	Maintain product temperature at or below 41°F
Environmental Conditions	NSF/ANSI 7 Type II Standard, maximum indoor 80°F, relative humidity 54%
External Dimensions	Width 49.9"
	Depth 36.1"
	Height 75.6" (91.6" with Valance)
Structure	Outer / Inner Box Powder coated steel / zinc coated steel Insulation Rigid insulating foam
Color	Internal: Black, External: Black (Optional: White/White available)
Shelves	7 shelves, adjustable powder coated steel frame, glass inserts standard (Optional: metal inserts)
Electrical Parts 115/60/1 (3 Amp)	Fan Motor ECM high efficiency
	Lighting LED
	Solenoid Valve Hermetic direct acting solenoid valve for refrigeration (24V DC)
Pipe Size of Connection Point	Liquid Line 3/8" OD Suction Line 5/8" OD
Refrigerant	R404A standard (Optional: R410A)
Evaporator	Fin tube type
Expansion Valve	External equalized automatic thermal expansion valve
Controller	Digital programmable controller with Modbus communication protocol
Casters	(4) 2" Casters
Drain Pipe Dimensions	1.5" NPT Male Connector
Thermometer	Product simulation thermometer
Internal Volume	27.75 ft ³
Weight	405 lb.
Noise	Less than 65 dB at 4 ft.
Agency Approvals	ETL File #4007858 Conforms to ANSI/UL 471, NSF Conforms to ANSI Std 7 Type II

NOTE: The manufacturer reserves the right to make product improvements and change specifications without notice

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 Refrigerated Showcase (RSC).
- Test for proper grounding to reduce the risk of electrical shock and fire.
- High voltage is present in the RSC. Disconnect power before servicing.
- Use only fully trained service technicians for power-on servicing.
- Use only authorized replacement parts.
- Be aware of inherent dangers in rocking or tipping the RSC.
- Lines are pressurized with nitrogen. Use caution when opening lines.
- Use refrigeration lines with adequate wall thickness to handle refrigeration pressures.
- Replacement fuse must have identical ratings as the fuse being replaced.
- If glass cracks or breaks, discard food items, and thoroughly remove all glass fragments.
- Do not place objects on top of the RSC that can fall or spill.
- The RSC is designed for indoor use only, in a controlled environment that typically does not exceed 80°F (27°C). Check system airflow as described in this document to ensure food is maintained at required temperatures.

The RSC refrigerated display showcase units have been safety and performance-test approved by Intertek, a safety regulatory testing agency. In the course of new installations or periodic inspections, reference to agency approvals may be required. The regulatory agency file number is listed below and at the bottom of the Specification table on page 5.

ETL File #4007858

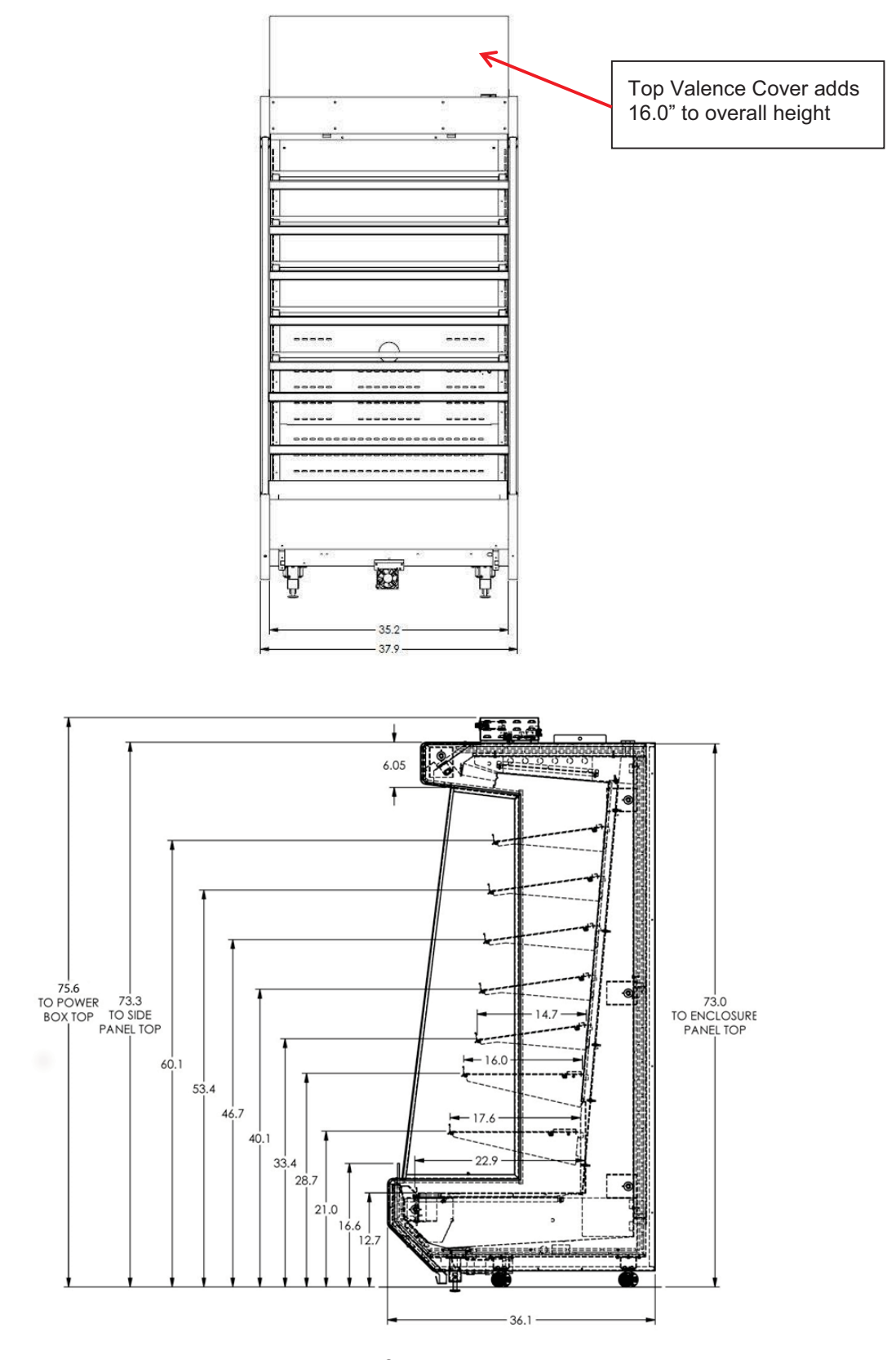


SPECIFICATIONS RSC 6

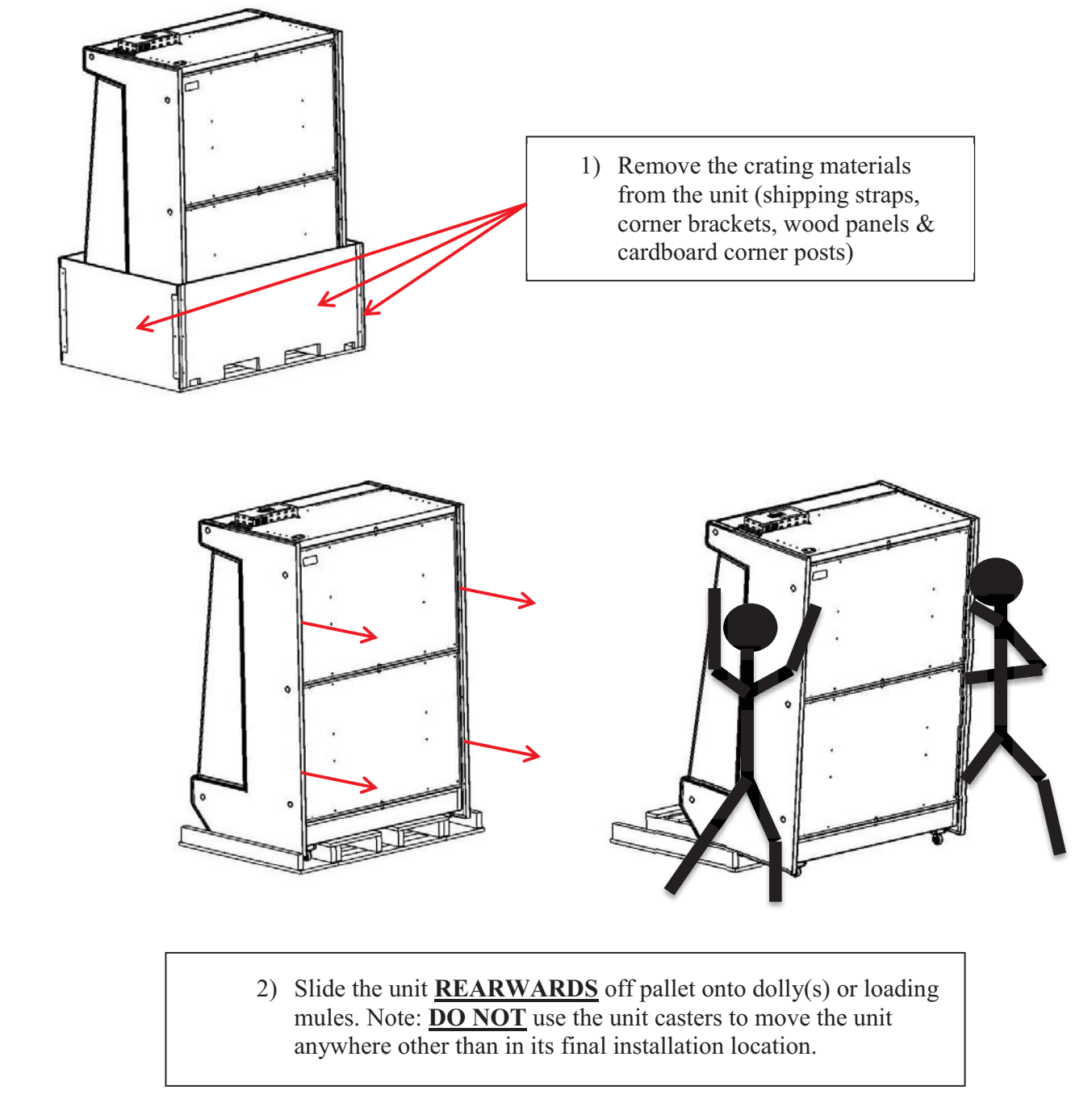
Model	RSC6 (RAC)
Product Temperature	Maintain product temperature at or below 41°F
Environmental Conditions	NSF/ANSI 7 Type II Standard, maximum indoor 80°F, relative humidity 54%
External Dimensions	Width 73.5"
	Depth 36.1"
	Height 75.6" (91.6" with Valance)
Structure	Outer / Inner Box Powder coated steel / zinc coated steel Insulation Rigid insulating foam
Color	Internal: Black, External: Black (Optional: White/White available)
Shelves	14 shelves (7 per side), adjustable powder coated steel frame, glass inserts standard (Optional: metal inserts)
Electrical Parts 115/60/1 (3 Amp)	Fan Motor ECM high efficiency
	Lighting LED
	Solenoid Valve Hermetic direct acting solenoid valve for refrigeration (24V DC)
Pipe Size of Connection Point	Liquid Line 3/8" OD Suction Line 5/8" OD
Refrigerant	R404A standard (Optional: R410A)
Evaporator	Fin tube type
Expansion Valve	External equalized automatic thermal expansion valve
Controller	Digital programmable controller with Modbus communication protocol
Casters	(4) 2" Casters
Drain Pipe Dimensions	1.5" NPT Male Connector
Thermometer	Product simulation thermometer
Internal Volume	41.46 ft ³
Weight	598 lb.
Noise	Less than 65 dB at 4 ft.
Agency Approvals	ETL File #4007858 Conforms to ANSI/UL 471, NSF Conforms to ANSI Std 7 Type II

NOTE: The manufacturer reserves the right to make product improvements and change specifications without notice

DIMENSIONS RSC 3



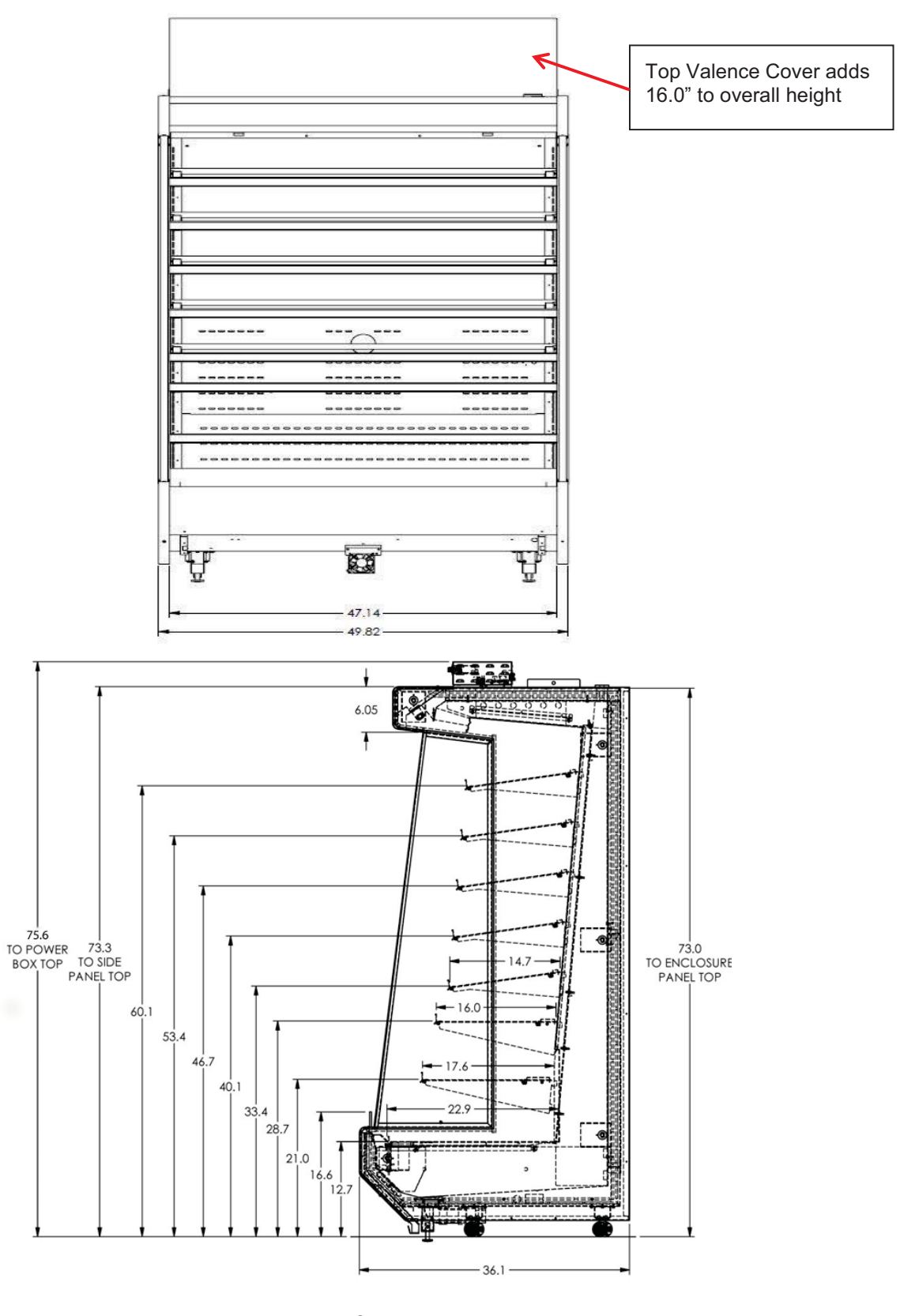
UNPACKING



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DIMENSIONS RSC 4



SPECIFICATIONS RSC 3

Model	RSC3 (RAC)
Product Temperature	Maintain product temperature at or below 41°F
Environmental Conditions	NSF/ANSI 7 Type II Standard, maximum indoor 80°F, relative humidity 54%
External Dimensions	Width 37.9"
	Depth 36.1"
	Height 75.6" (91.6" with Valance)
Structure	Outer / Inner Box Powder coated steel / zinc coated steel Insulation Rigid insulating foam
Color	Internal: Black, External: Black (Optional: White/White available)
Shelves	7 shelves, adjustable powder coated steel frame, glass inserts standard (Optional: metal inserts)
Electrical Parts 115/60/1 (3 Amp)	Fan Motor ECM high efficiency
	Lighting LED
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Refrigerant	R404A standard (Optional: R410A)
Evaporator	Fin tube type
Expansion Valve	External equalized automatic thermal expansion valve
Controller	Digital programmable controller with Modbus communication protocol
Casters	(4) 2" Casters
Drain Pipe Dimensions	1.5" NPT Male Connector
Thermometer	Product simulation thermometer
Internal Volume	20.73 ft ³
Weight	368 lb.
Noise	Less than 65 dB at 4 ft.
Agency Approvals	ETL File #4007858 Conforms to ANSI/UL 471, NSF Conforms to ANSI Std 7 Type II

NOTE: The manufacturer reserves the right to make product improvements and change specifications without notice

INITIAL SET-UP

The Model RSC Remote Refrigerated Showcase, when properly installed and maintained, is designed to provide years of trouble-free operation. This Operation & Installation Manual contains information necessary for proper installation, maintenance and cleaning of the unit.

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, wiring, start-up, performance and maintenance guidelines.

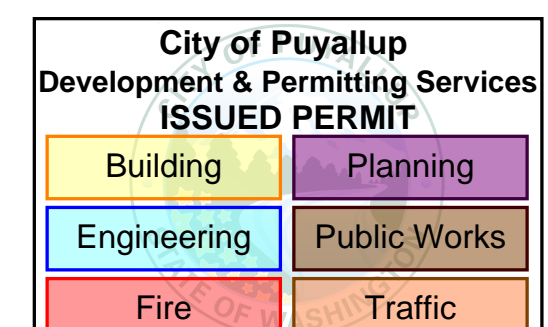
For Parts or Technical Service, please call: 1-800-344-7216 or FAX: 1-800-541-5684 or email: customerservice@vendoco.com

CABINET SET-UP

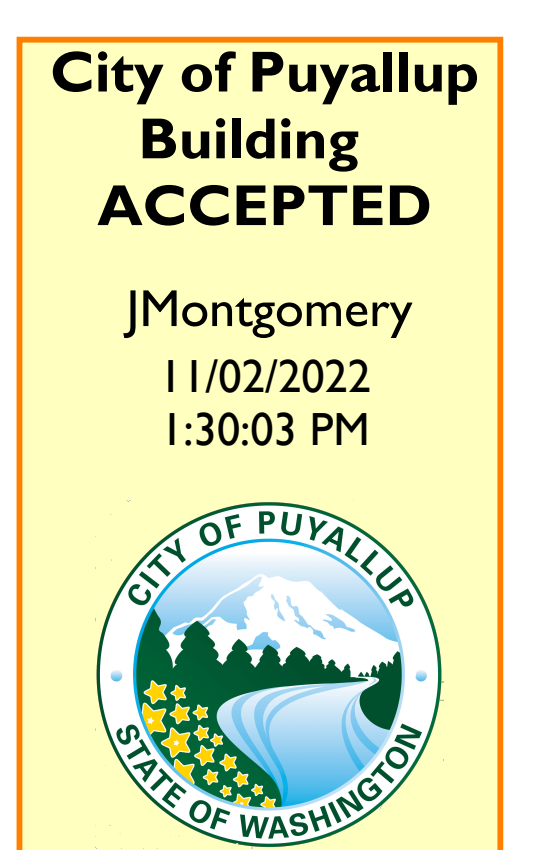
- Choose a location for your new refrigerated display case. Avoid placing the cabinet near equipment that releases heat. Avoid direct sunlight. To protect all electrical parts, do not place the cabinet where it will be subjected to rain, splashed liquid, or excessive humidity.
- Check the airflow around the cabinet, since strong airflow may displace the cooled air in the Showcase. Place the cabinet where the airflow speed is less than 60 ft/min. Also, avoid areas subject to strong winds (see figures 1-7).

THE APPROVED CONSTRUCTION PLANS, DOCUMENTS AND ALL ENGINEERING MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION.

FULL SIZED LEDGIBLE COLOR PLANS ARE REQUIRED TO BE PROVIDED BY THE PERMITEE ON SITE FOR INSPECTION



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AIR CONDITIONING DUCT (CEILING TYPE)

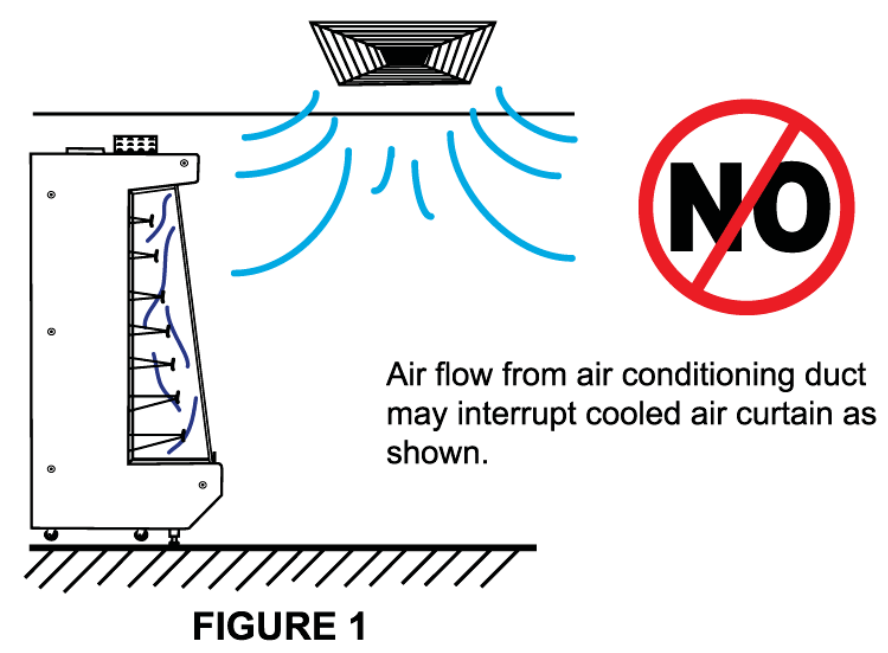


FIGURE 1

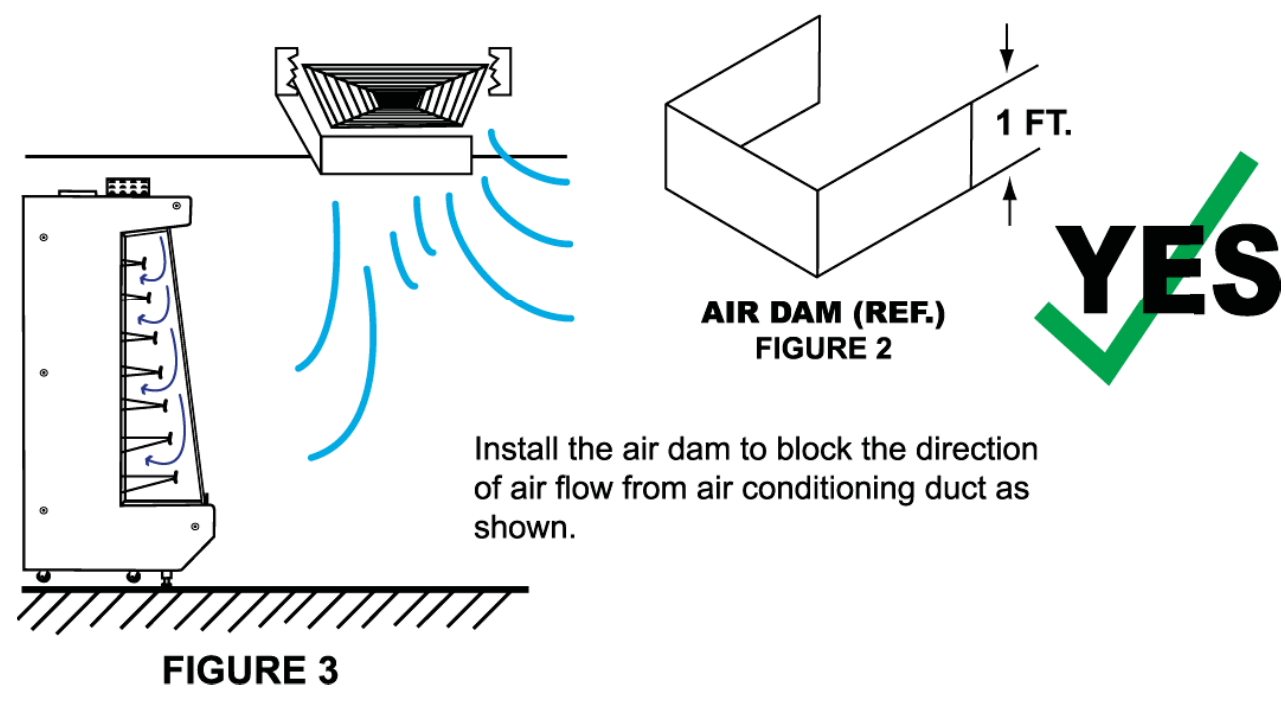


FIGURE 3

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AIR CONDITIONING DUCT (WALL TYPE)

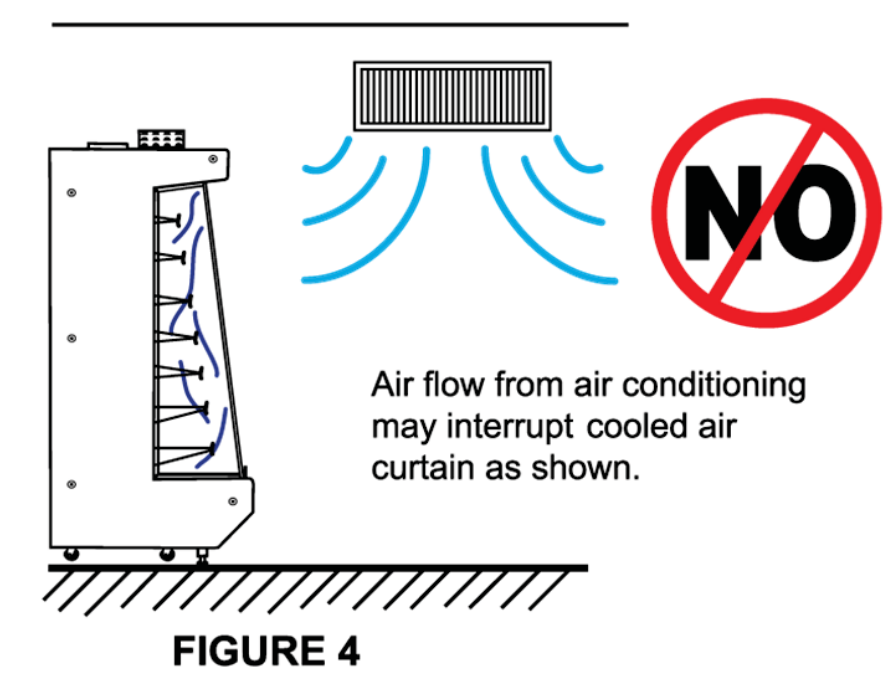


FIGURE 4

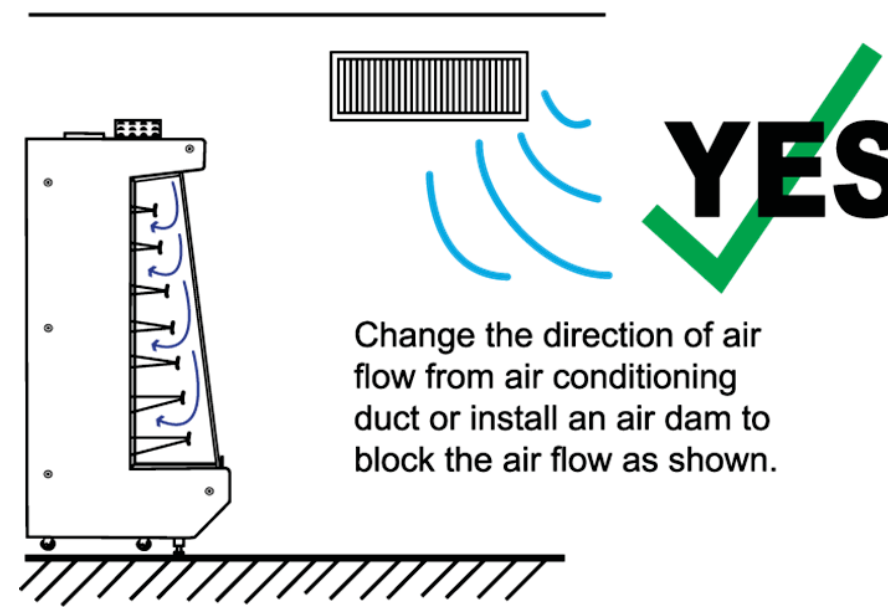


FIGURE 5

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TO CHECK AIR CURTAIN

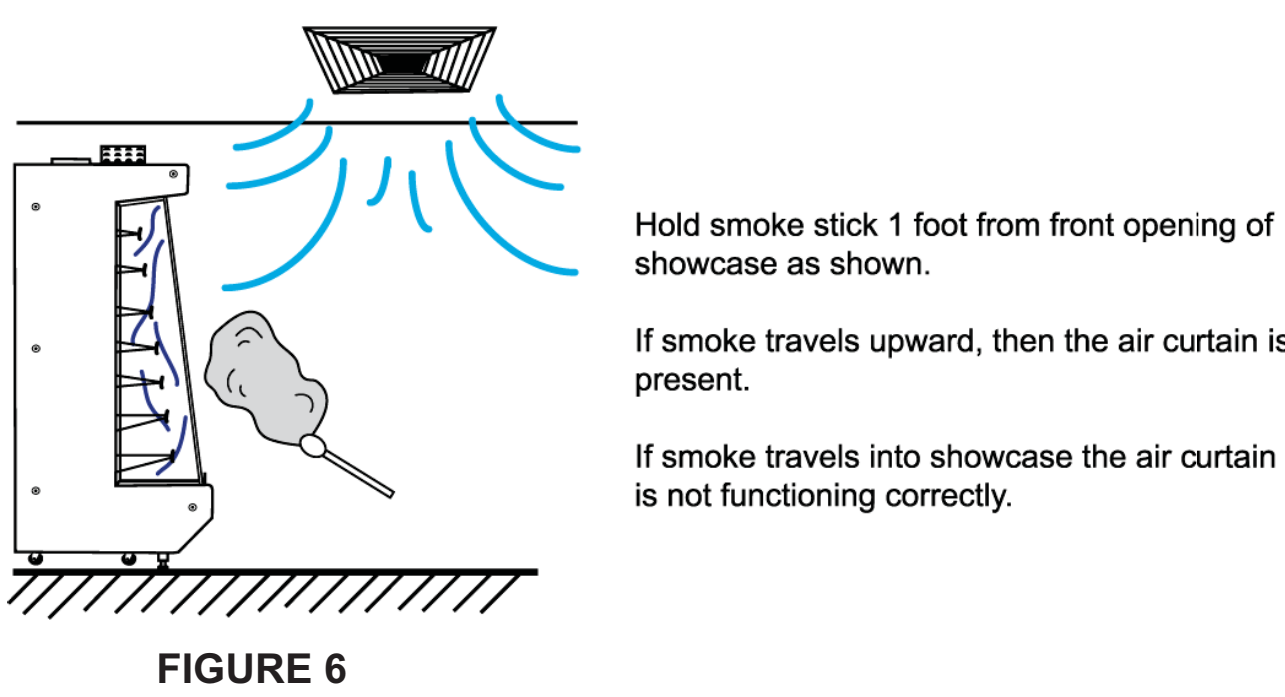


FIGURE 6

Another indication of a non-functional air curtain is the presence of condensation on the inside back surface of the showcase as shown.

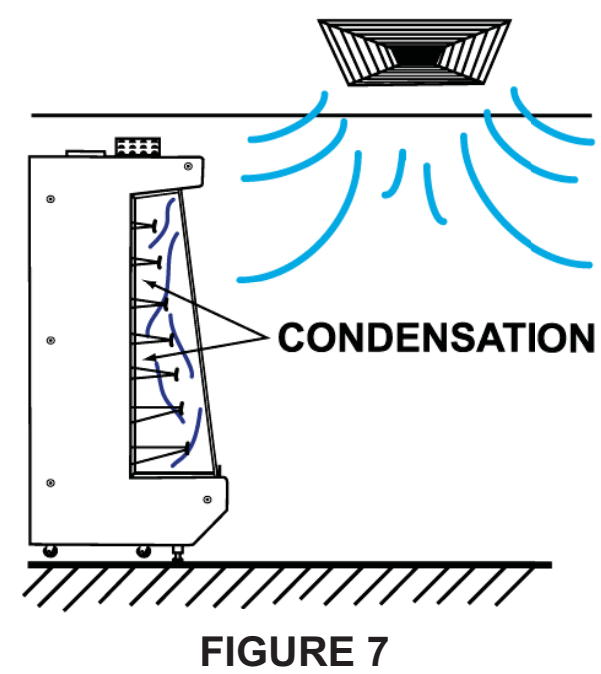
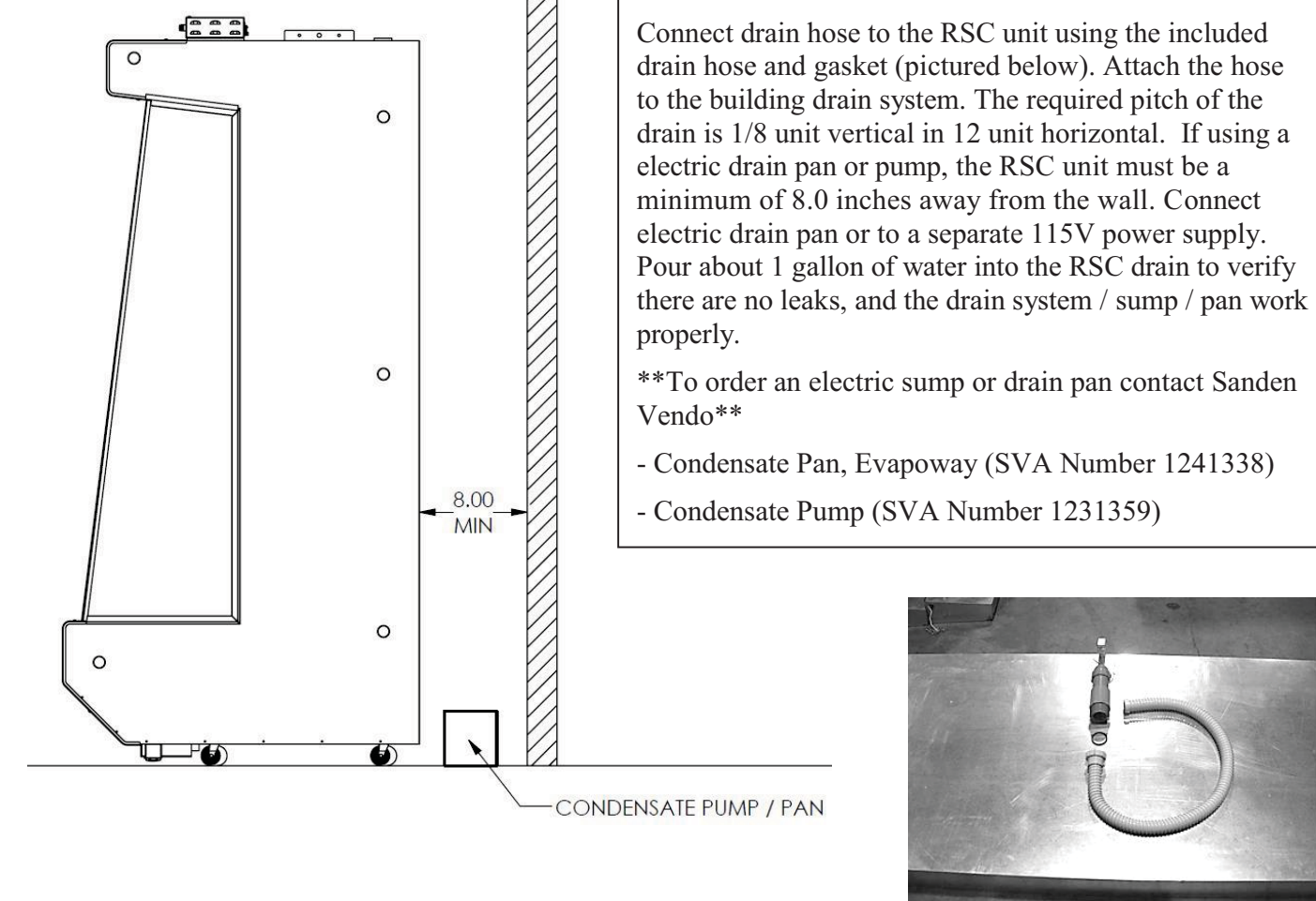
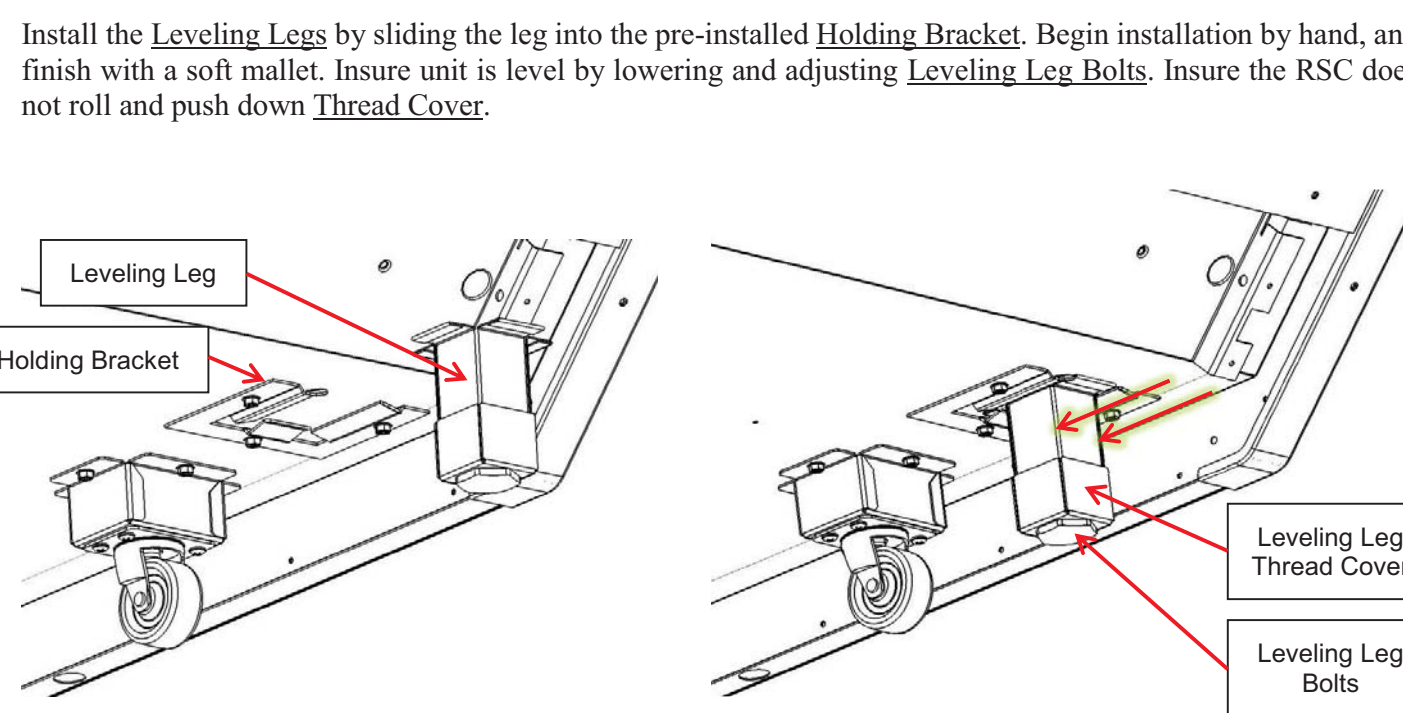


FIGURE 7

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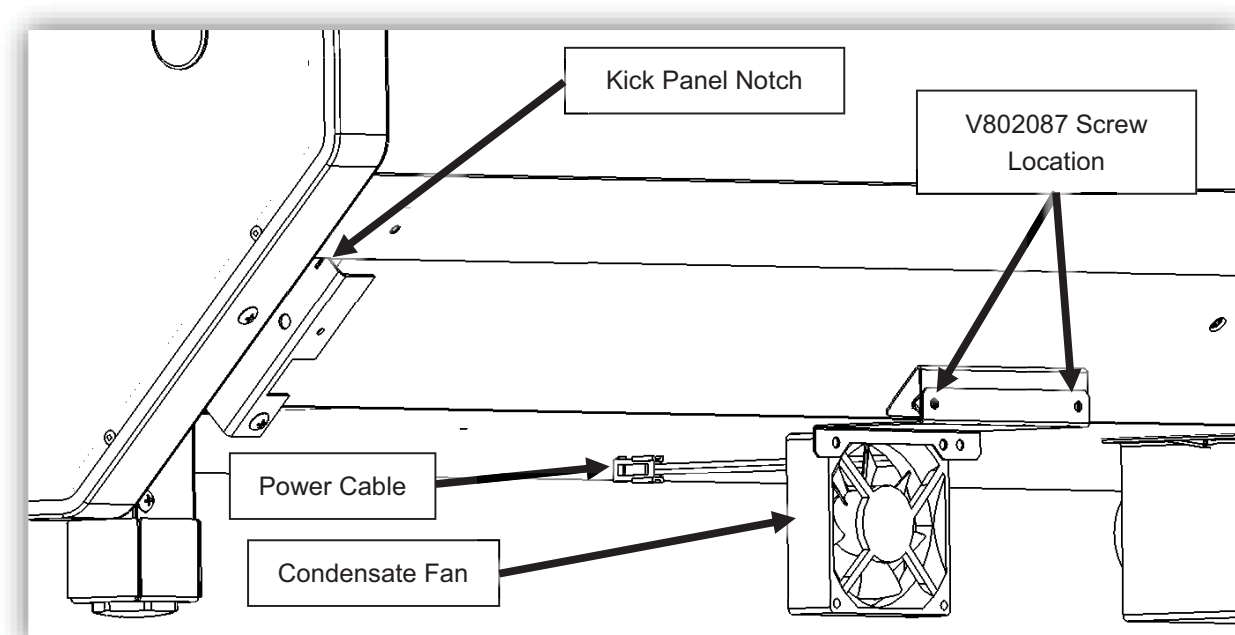
Connect drain hose to the RSC unit using the included drain hose and gasket (pictured below). Attach the hose to the building drain system. The required pitch of the drain is 1/8 unit vertical in 12 unit horizontal. If using an electric drain pan or pump, the RSC unit must be a minimum of 8.0 inches away from the wall. Connect electric drain pan or to a separate 115V power supply. Pour about 1 gallon of water into the RSC drain to verify there are no leaks, and the drain system / sump / pan work properly.
 To order an electric sump or drain pan contact Sanden Vendo
 - Condensate Pan, Evapoway (SVA Number 1241338)
 - Condensate Pump (SVA Number 1231359)



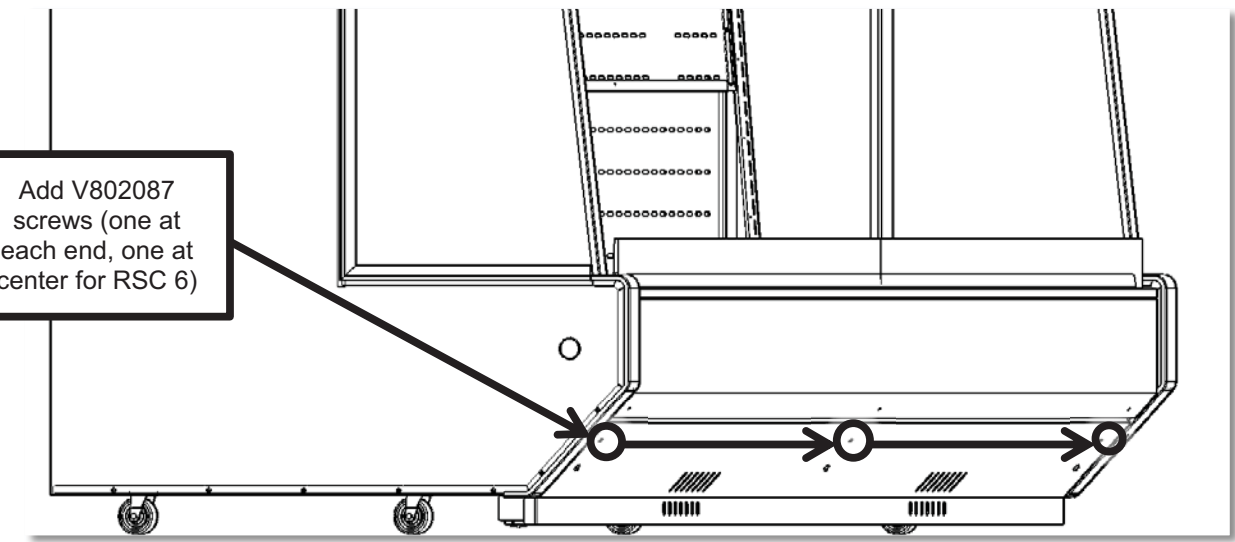
Install the **Leveling Legs** by sliding the leg into the pre-installed **Holding Bracket**. Begin installation by hand, and finish with a soft mallet. Inure unit is level by lowering and adjusting **Leveling Leg Bolts**. Inure the RSC does not roll and push down **Thread Cover**.

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Install **condensate fans** (one each side for RSC 6 model, or one in the center for the RSC 3 & RSC 4 models) using two V802087 screws (one at each end, one at center for RSC 6). (NOT USED ON UNITS PRODUCED AFTER 9-5-17)



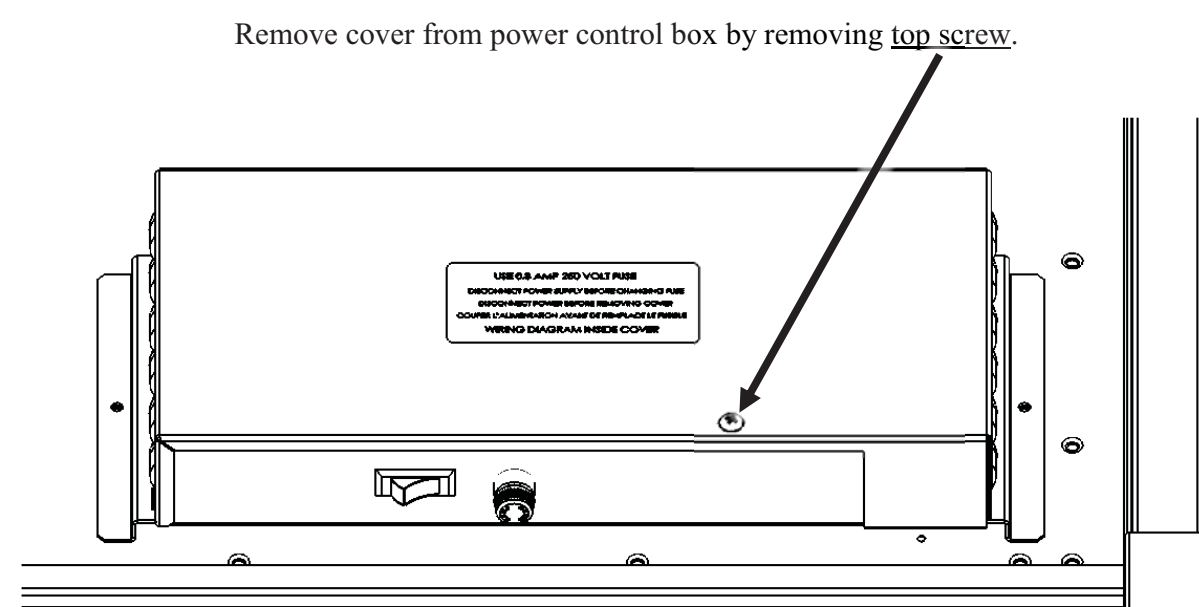
Install lower **kick panel** and engage upper lip in **notches**.



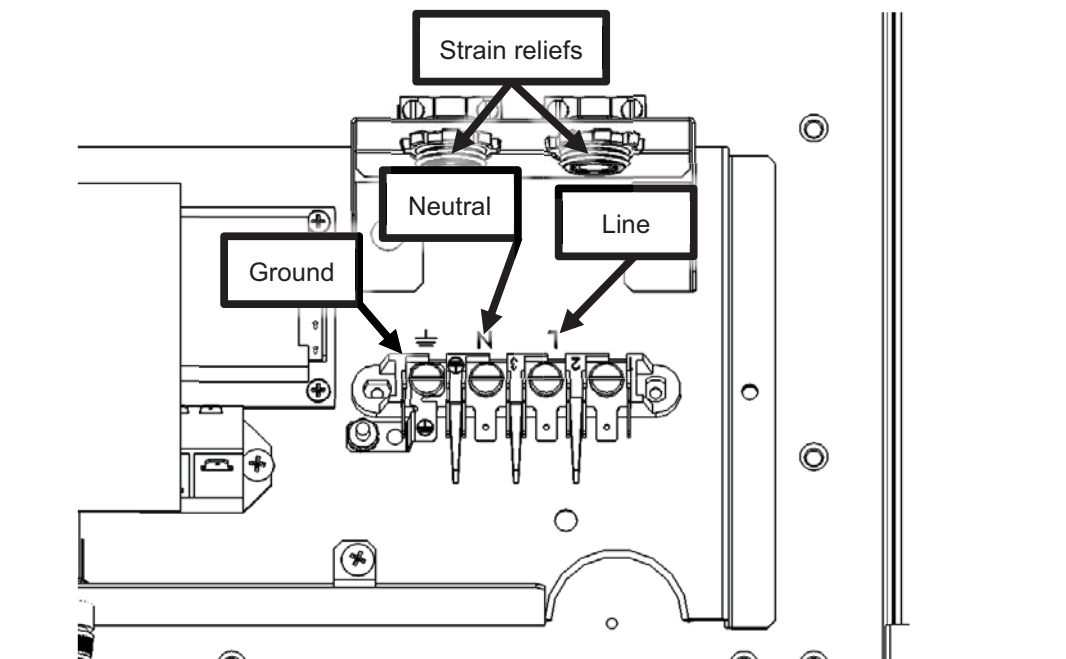
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ELECTRICAL INSTALLATION

Have a qualified electrician remove the electrical box cover and connect electrical service (115 VAC, 3 amp 1 phase, copper conductors only) through one of the strain reliefs to the line, neutral and ground connections on the terminal block according to the labels stamped in the metal.

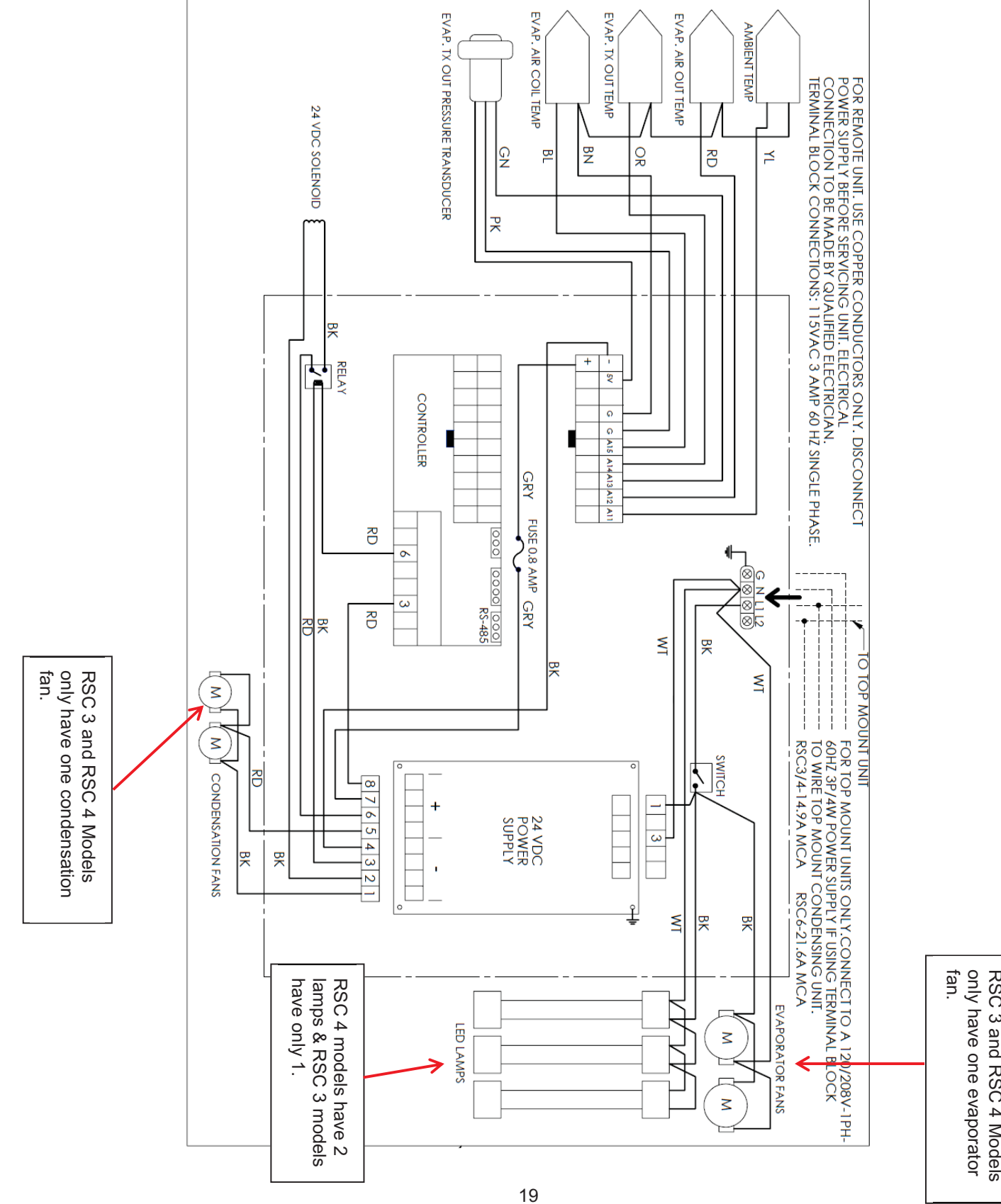


Secure the power cable in the strain relief. Reinstall the electrical box cover.



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Wiring Diagram RSC Remote



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REFRIGERATION INSTALLATION

After the RSC unit is in its final location and leveled, have a qualified refrigeration technician connect the condensing unit to the RSC's refrigeration connection lines.

- Utilizing proper refrigeration practices connect the refrigerant lines to the RSC stub outs using long radius fittings. Trim the line set length so as to keep from creating oil traps in the lines.
 - Connect lineset to the remote mounted condensing unit.
 - Turn on power to the RSC 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 Untweld's "Vapor Vue". Stop charging when sight glass clears and check for required superheat of 10-12 degrees F.
 - Weigh in an additional two (2) pounds of refrigerant to insure proper sub cooling.
- Evaporator superheat 10 to 12°F. System operates with a controller set point and solenoid valve (pump down). Condensing unit must have low pressure switch.
 - 6 ft model: 11,800 BTU/hr, evaporating temp: 15°F @ 80°F dry bulb, 68°F wet bulb
 - 3 & 4 ft models: 6,800 BTU/hr evaporating temp: 15°F @ 80°F dry bulb, 68°F wet bulb

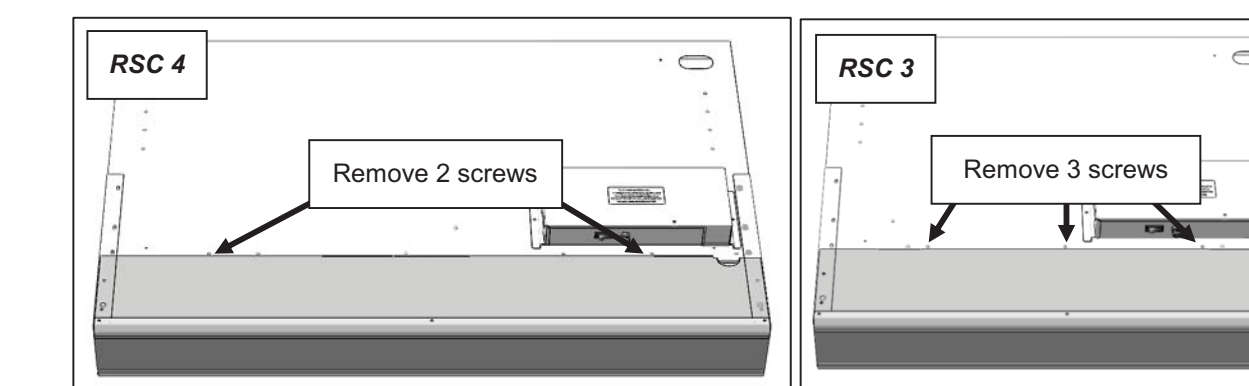
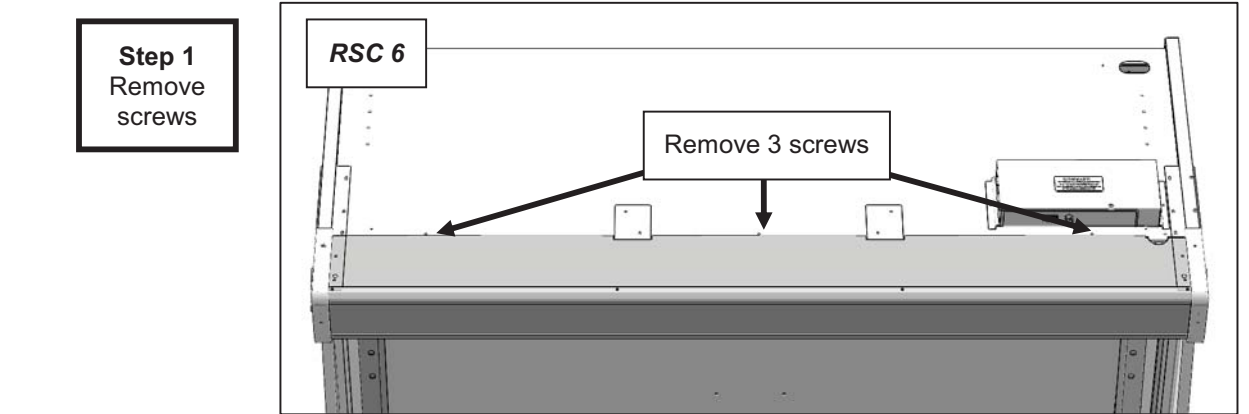
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- Turn on the condensing unit and the RSC. Inure the lights and fans operate. The control system is factory preset and does not need adjustment. Allow the RSC to run for 1 hour and check the temperature on the high quality dial thermometer to insure the case is below 41°F.
 - Air curtain disturbance must be checked, (see figures 1-9).

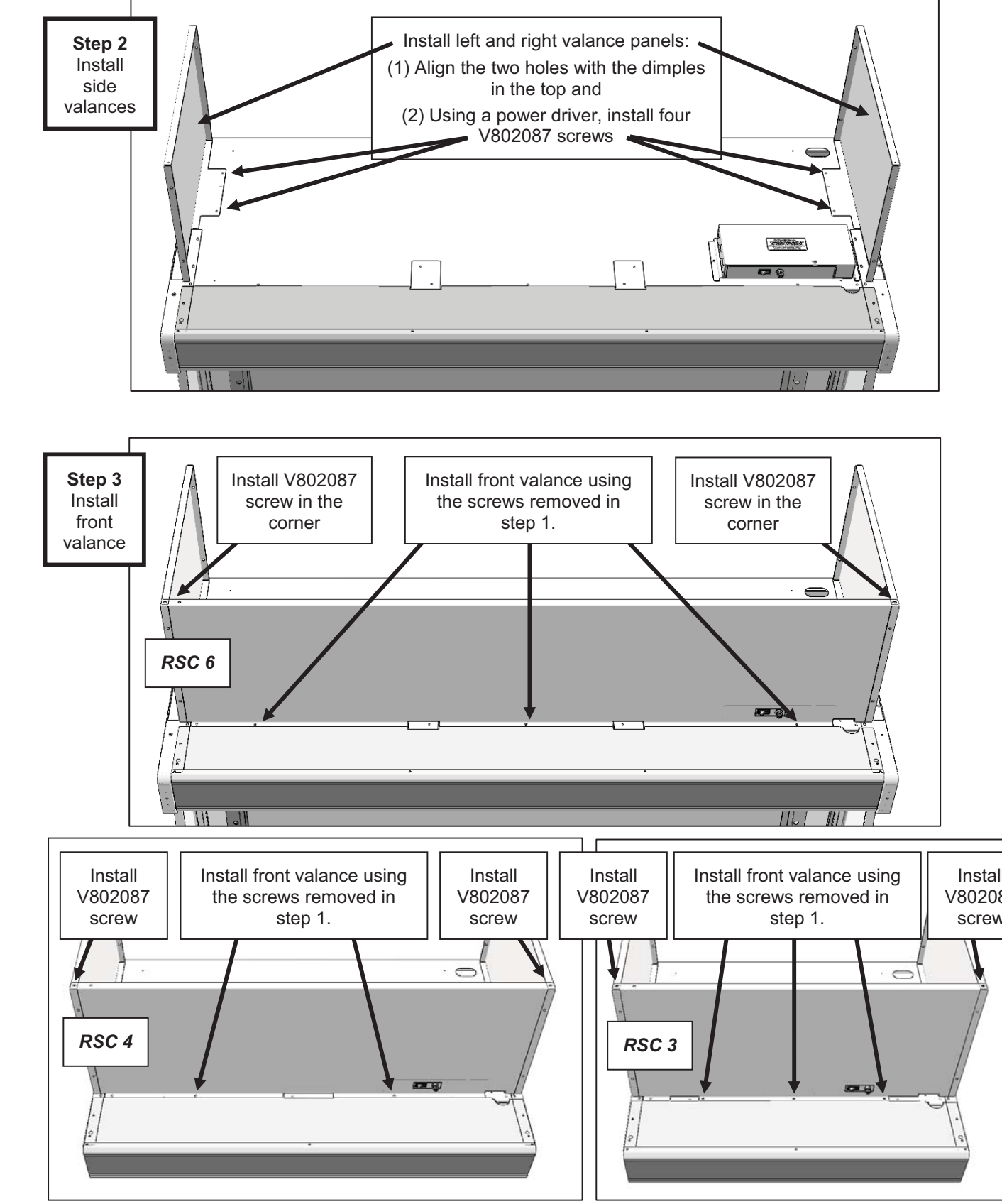
VALANCE INSTALLATION INSTRUCTIONS

Parts List

Quantity	Part Number	Description
1	Black: 1240129 (RSC3) or 1240137 (RSC4) or 1240145 (RSC6) or White: 1240196 (RSC3) or 1240218 (RSC4) or 1240226 (RSC6)	Valance, Front
1	Black: 1240188 or White: 1240242	Valance, Right
1	Black: 1240153 or White: 1240234	Valance, Left
7	V802087	Screw



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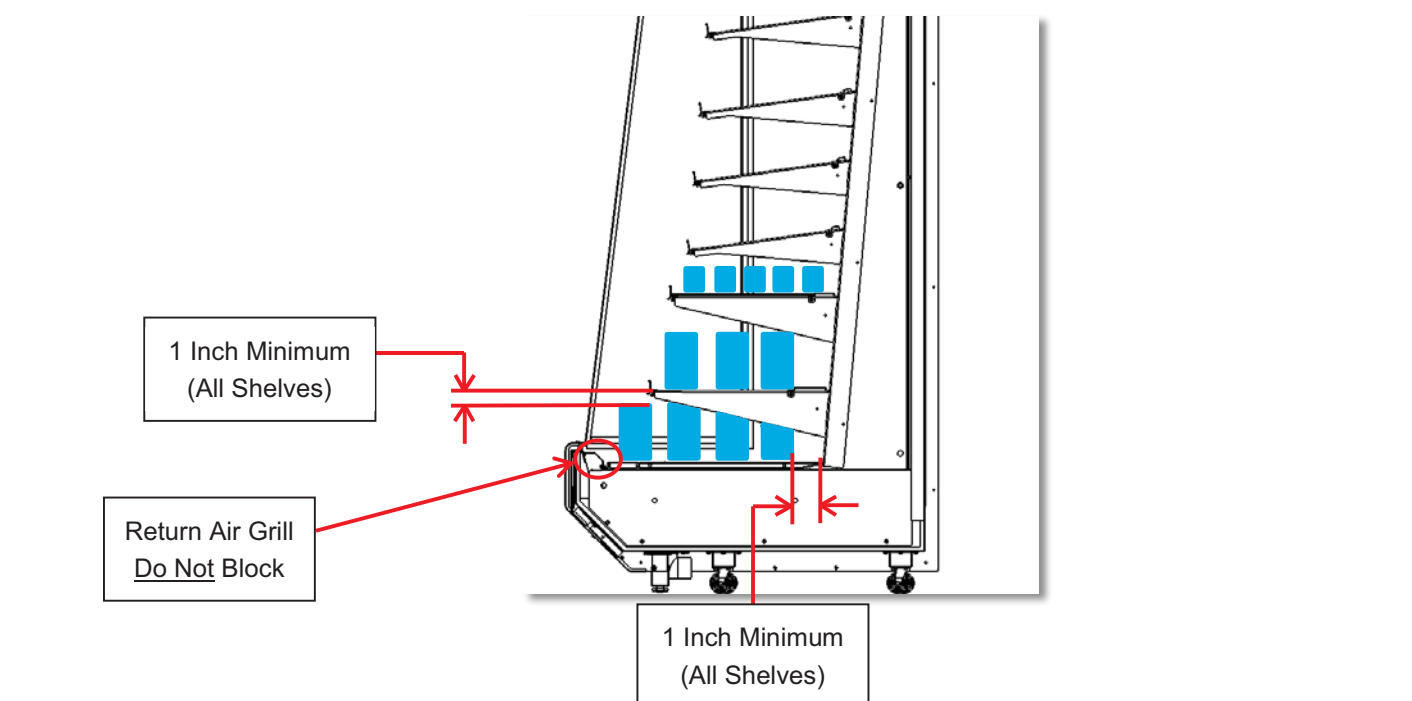
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START-UP & OPERATING INFORMATION

- START-UP INFORMATION AND PERFORMANCE EVALUATION**
- Turn on power switch located on the front of the power control box. Start up the condensing unit per manufacturers guidelines. Check to ensure evaporator fans are operational, and the LED lighting is on.
 - While the condensing unit and evaporator fans are running, verify that there is a flow of cold air from the honeycomb, located at the top of the cabinet.
 - Observing the controller display, monitor the cabinet temperature, and verify that unit cools to 40°F within 20-30 minutes.
 - Verify that all access-cover panels have been replaced, and the cabinet is ready to be loaded by store personnel.

OPERATING GUIDELINES

- For best results, pre-cool all products before stocking the display case.
- Stock products only after the cabinet has cooled.
- When loading the cabinet, do not place merchandise over the grill located in the front of the lower deck plate as this will disrupt the air curtain. (Reference Below)
- Allow at least 1" between the upper surface of the displayed product and the shelf directly above it, and 1" from the rear wall. (Reference Below)



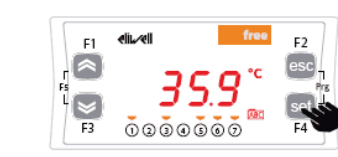
- For proper temperature sensing, do not put product against the temperature sensor on the back wall.
- Do not remove the glass side panels during operation.

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CONTROLLER OPERATION AND ERROR CODES

RSC controller button functions:

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



To Enter Reading Mode: Press F4 - The Display will read "Alt" - use buttons to navigate

Level #	Err #	Description
-ErrP		Display Ambient Temperature
COIL		Display Coil Temperature
EUOP		Display Evaporator Outlet Pressure Sensor
EUOT		Display Evaporator Outlet Temp
EUAO		Display Air Out Temperature
SuHt		SuperHeat = EUOP - COIL
AL		Alarm - if present, will override the message on the display
Err 1		Ambient Temperature is disconnected or faulty
Err 5		Coil Temperature is disconnected or faulty
Err 3		Pressure Transducer is faulty or not connected
Err 4		Evaporator outlet temperature is disconnected or faulty
Err 2		Air Out Temperature is disconnected or faulty

To Check the Firmware Version: Press F2 and hold for 5 seconds - The version will show.

