Barker™
SPECIALTY PRODUCTS by Hill PHOENIX

Service & Installation Instructions

Keep this booklet for future reference

- E SERIES
- F SERIES
- Q SERIES
- QC SERIES

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Table of Contents

IMPORTANT!!
KEEP FOR FUTURE REFERENCE

General Information

This booklet contains information on:

E SERIES
Up Right, Open Front, Egg Merchandiser

F SERIES
Up Right, Open Front, Floral Merchandiser

QC SERIES
Up Right, Open Front, In-Line Merchandiser, Remote Only

Q SERIES
Up Right, Open Front, In-Line Merchandiser

The Q, E & QC Series has been approved for the following standards:

Shipping Information

IMPORTANT!
FOR YOUR PROTECTION PLEASE READ AND OBSERVE THE FOLLOWING INSTRUCTIONS:

Transportation companies assume all liability from the time a shipment is received by them until the time it is delivered to the consumer. Our liability ceases at the time of shipment.

All shipments leaving our plant have been carefully inspected. If a shipment arrives with the crating or packaging damaged, have the carrier note the condition on the receipt. Check as soon as possible for concealed damage.

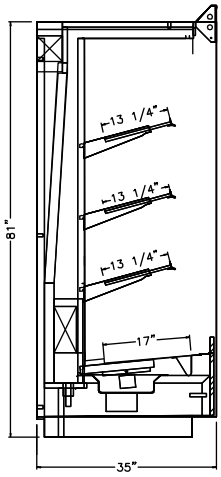
If it is found that the shipment has been damaged in transit, please DO NOT return it to us, but notify and file a claim with the carrier at once. **FAILURE TO FOLLOW THIS PROCEDURE WILL RESULT IN REFUSAL BY THE CARRIER TO HONOR ANY CLAIMS WITH A CONSEQUENT LOSS TO THE CONSUMER.**

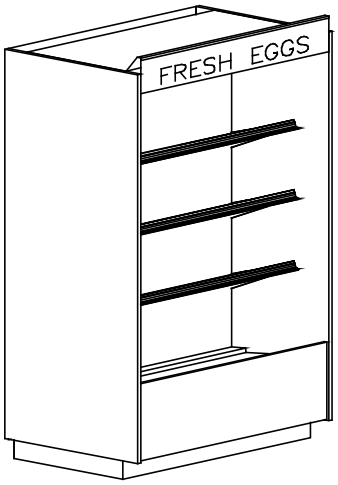
If a UPS shipment has been damaged, retain the damaged material and the carton and notify us at once. WE will file a claim.

GOODS SHOULD NOT BE RETURNED FOR CREDIT UNLESS AUTHORIZED BY OUR SALES DEPARTMENT.

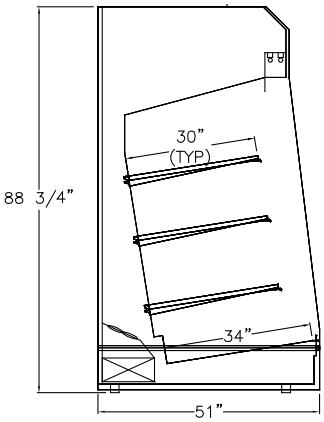
Case Drawings

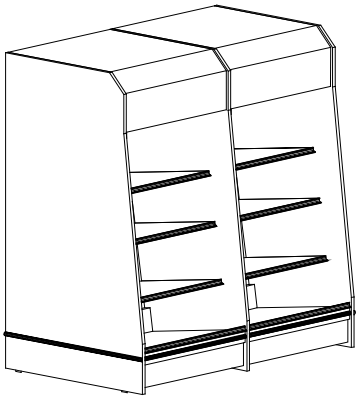
E Series





E-51 Series





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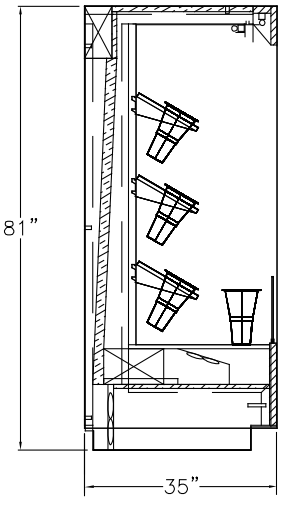
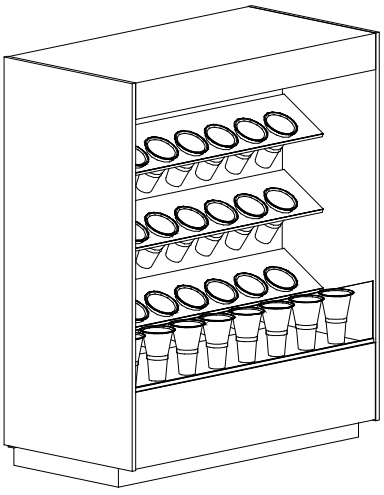
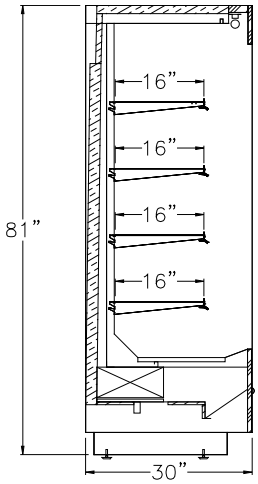
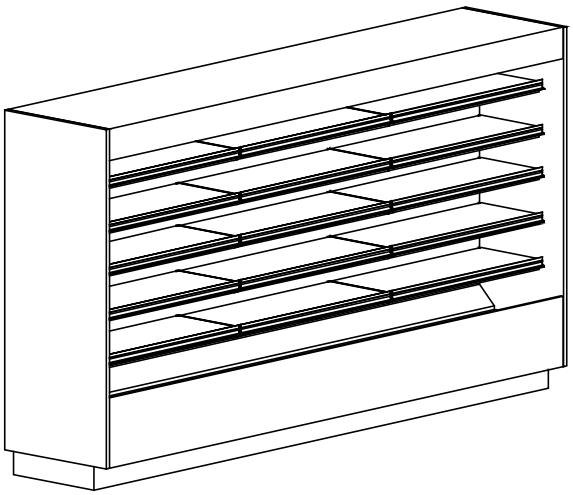


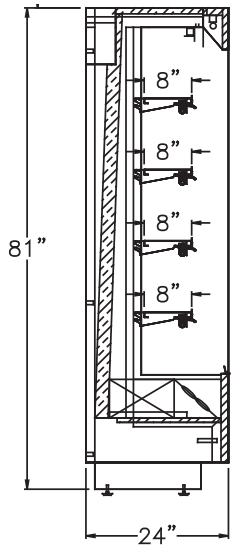


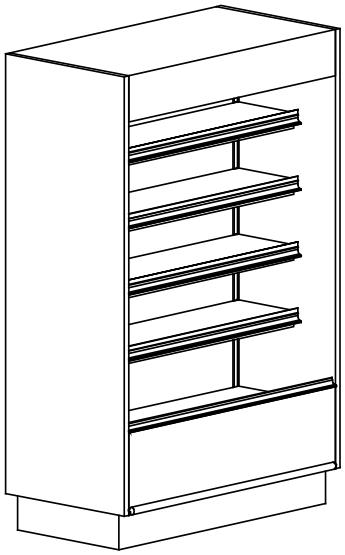
QC Series



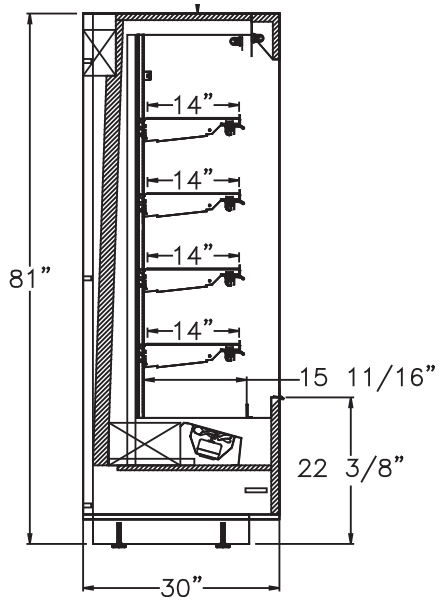


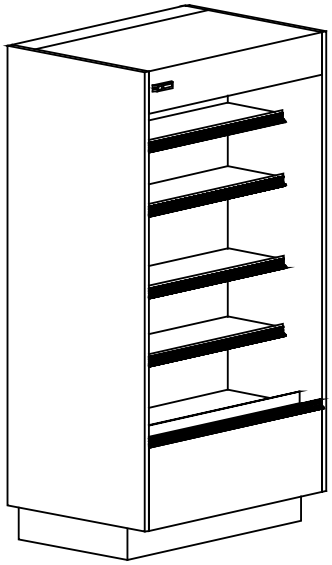
Q-24 Series



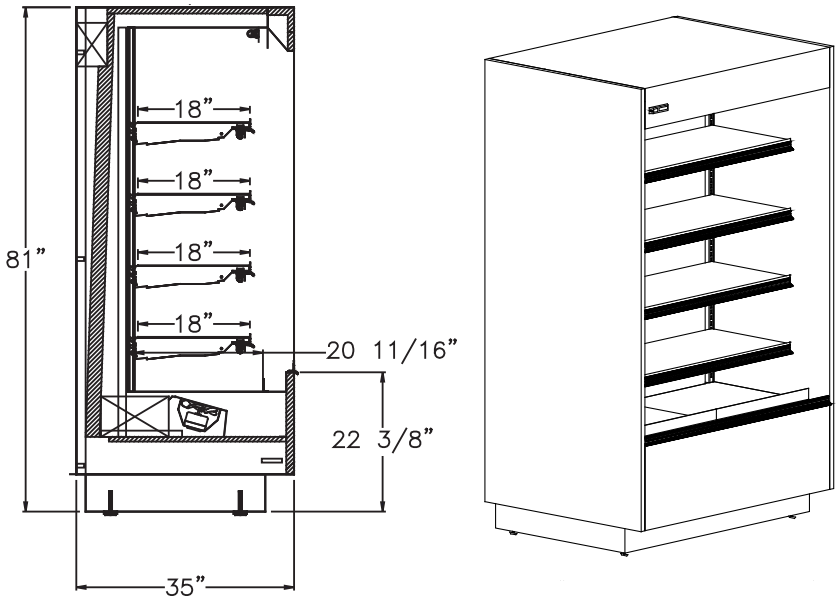


Q-30 Series

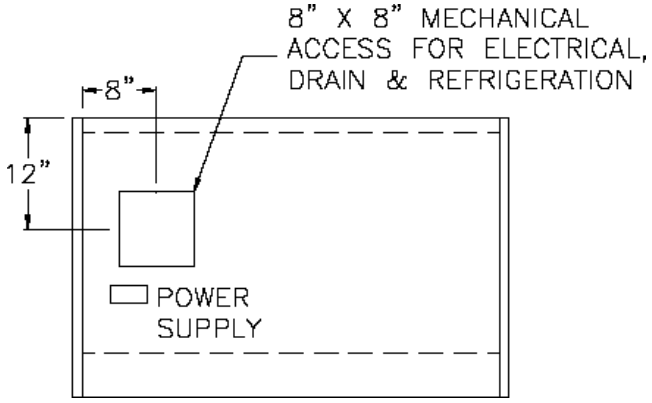




Q-35 Series



Mechanical



Installation Information

Location

This refrigerated display case has been designed for displaying and the storage of perishable food product. It is engineered for air-conditioned stores with a maximum ambient of 75° F and 50% relative humidity.
When selecting the location for placement of this case, avoid the following conditions:

Excessive air movement
- Doors
- Air-conditioned vents
- Other air sources

Excessive heat
- Windows
- Sun
- Flood lamps 8 feet or less from the product
- Other heat sources.

Self-Contained units only
- A 16" minimum clearance is required between the top of the case and any obstruction.

Crate Removal

Move case as close as possible to its location. Remove all crating and shipping braces above the shipping pallet. Loosen the plastic dust cover from the pallet, but leave cover over the case to protect it while removing the case from the pallet.

NOTE: Location of horizontal supports underneath of unit before removing from pallet, damage to the finished metal will occur if correct lift points are not identified prior to removal.

Compressor

All self-contained cases with semi-hermetic compressors are equipped with a shipping block under the compressor. This block must be removed upon installation. FAILURE TO REMOVE THE BLOCK WILL RESULT IN EXCESSIVE NOISE, REFRIGERANT LEAKS AND WILL VOID WARRANTY PROTECTION. Loosen all four nuts on the compressor hold down screws. Lift or pry the compressor up and remove the shipping block. DO NOT retighten screws as the compressor should be left free to float on the spring mounts.

Drain, Electrical and Refrigeration Connections for Remote Cases

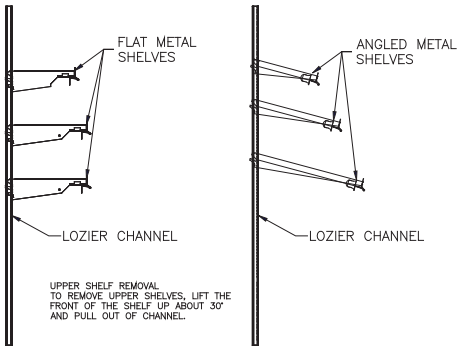
NOTE: Barker remote units are shipped with a dry nitrogen charge of approximately 10 lbs. pressure in the evaporator coil. During installation if nitrogen charge is not present, leak check accordingly.

1. Connect drains to existing floor drains.
2. Electrical connections are made through the power supply box of each case (see mechanical plans for each case).
3. Refrigeration connections will be made through the refrigeration stub up (see mechanical plans for each case). Refrigeration lines may be headed together for all cases in a lineup, if desired, by running lines through the refrigeration access hole in each end. Seal all access holes to prevent recirculation.

For proper refrigeration performance, PRODUCT MAY NOT BE PLACED IN A POSITION WHERE IT MIGHT AFFECT THE AIR CURTAIN.

Shelving

Cases may be equipped with risers or removable shelving.
1. Metal shelving is crated separately. Carefully remove from crate.
2. Shelves may be flat or angled. (See Illustration below.)



Installation Checklist

Before supplying electrical power and starting case check the following:

1. Compressor Area (For Self-contained cases).
   Remove shipping block on units with semi-hermetic compressors.
   Check location of controls.
2. Evaporator Area.
   Check to ensure evaporator fan pressure plates are secure and in proper position
   NOTE: Hinged portion of pressure plates are secured for shipping with mounting screws. Screws do not have to be removed for case operation but must be removed to use hinge.
3. Lighting System.
   Check to ensure male plugs are completely inserted in female sockets and that all lamps are securely seated in light fixture.
4. Case Leveling
   Visually check case. If case looks out of square, use a carpenter's level and shim as needed.

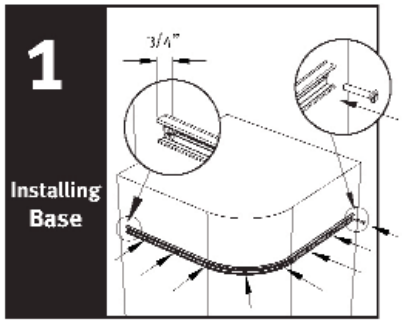
After supplying power to the case and starting unit:

1. Check to ensure all fans are operational.
2. Check all lights.
3. Check case temperature and adjust thermostat as needed.

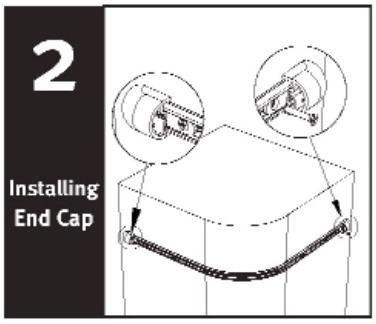
Cart Bumper Installation

Note: If equipment is ordered with cart bumper, steps 1 & 2 are completed at the factory and installer should skip to steps 3 & 4.

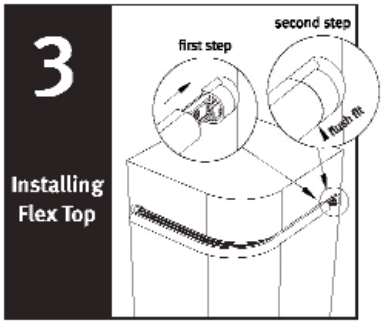
Tools required: Tape measure, pencil, drill with phillips driver bit, rubber mallet, straight edge, chalk line, PVC cutters, cotton rags, non-abrasive cleaner



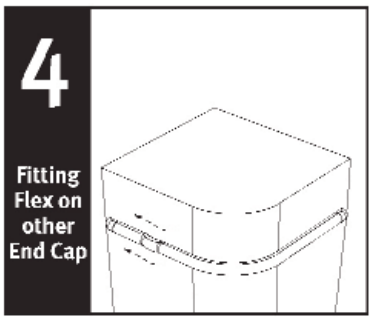
Cut plastic base to desired length of fixture. When using end caps be sure to cut base 3/4" short of fixture edge. When using corners, be sure to cut base so that it is flush with fixture edge. secure base to fixture with screws every 4" on center. Make sure to put a screw 3/8" away from the cut end of base.



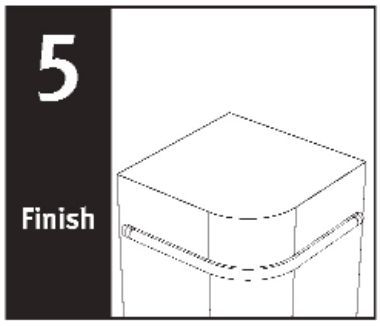
SNAP end caps or corners onto the base extrusion. Secure with #8 flat head phillips screws.



When installing flexible bumper top, the cut ends need to be as straight as possible. To mount on a curved or flat surface, start at one end and attach bumper to base by hooking bumper top onto track, then snap bottom portion into place and slide bumper against the end cap for a flush fit. Continue to hook bumper onto base track with your hand or using a rubber mallet until you reach other end cap. NOTE: Cover mallet with a cloth to prevent marring the bumper finish.



Mark and cut tail end of flexible bumper at least 1/8" longer then beyond the end cap position. NOTE: Make sure the end cut is straight and square for proper fit. Slightly retract the bumper in order to feed cut end into the end cap as you finish hooking the top and bottom edges of the bumper onto the base track. You should feel and hear the bumper snap into place for a snug fit.



Finally, check for proper fit and attachment along the entire length of bumper which is either on the wall or a fixture. Make sure you have a smooth and flush fit against the end caps. NOTE: Clean any dust or debris with a cloth and non abrasive cleaner.

Helpful Hints:

- Set the uncoiled flexible vinyl at room temperature 24 hours prior to installation.
- Over cut the flexible vinyl and compression fit. Adding the additional material will compensate for stretching which occurs during installation.
- Use a clean, dry cloth and any mild household cleaner or soap solution; spray and wipe clean

Refrigeration Information

Case Operation

Refrigeration

The refrigeration in this case is thermostatically controlled. The case refrigerates until the cut out point on the thermostat is reached. The thermostat opens, cutting power to the liquid line solenoid. The compressor continues to run, the system pumps down causing the pressure switch to open, cutting power to the compressor. NOTE: Some cases may be ordered with EPR valves to control case temperature.

Defrost

Cases have two different types of defrost; hot gas and off cycle.

The hot gas defrost system is time initiated; temperature and time terminated. The defrost timer energizes the defrost solenoid and de-energizes the liquid line solenoid. When the temperature in the case reaches 40°, the defrost terminator thermostat de-energizes the hot gas solenoid. The system pumps down and the pressure switch cuts power to the compressor. The unit stays in off cycle defrost until the defrost timer re-energizes the liquid solenoid.

On the off cycle defrost system, the timer cuts the power to the liquid solenoid causing the compressor to pump down to the cut out point on the pressure switch. The unit stays in off cycle defrost until the defrost timer re-energizes the liquid solenoid.

NOTE: The evaporator fan runs continuously.

Typical Component Settings

1. Thermostat cut out: 26-28° , 6° differential
   33° Floral

2. CRO valve 404A 75
   134A N/A

3. TXV: Superheat

4. Pressure switch

404A Low - 20 lb/55 lb High - 350 lb
134A Low - 7 lb/20 lb High - 225 lb

NOTE: Evaporator fans run constantly.

Refrigeration Loads

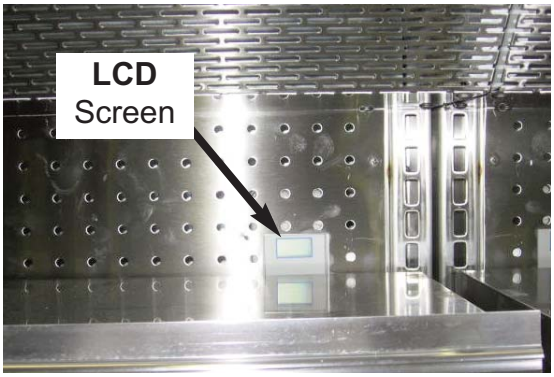
Remote Case Data - Electrical 120 Volt			
Model	**BTU Lin/Ft**	**Evap Temp**	**Defrost**
E SERIES			
E43-35	1400	+20°	20"/4hr.
E55-35	1400	+20°	20"/4hr.
E68-35	1400	+20°	20"/4hr.
E84-35	1400	+20°	20"/4hr.
E98-35	1500	+20°	20"/4hr.
E110-35	1500	+20°	20"/4hr.

Remote Case Data - Electrical 120 Volt			
Model	**BTU Lin/Ft**	**Evap Temp**	**Defrost**
QC SERIES			
QC-41	1500	+18°	20"/4hr.
QC-45	1500	+18°	20"/4hr.
QC-53	1500	+18°	20"/4hr.
QC-66	1500	+18°	20"/4hr.
QC-90	1500	+18°	20"/4hr.
Q SERIES For Supermarket Applications			
Q-47-24	1250	+18°	20"/4hr.
Q-72-24	1250	+18°	20"/4hr.
Q-95-24	1250	+18°	20"/4hr.
Q-143-24	1250	+18°	20"/4hr.
Q-26-30	1400	+18°	20"/4hr.
Q-36-30	1400	+18°	20"/4hr.
Q-43-30	1400	+18°	20"/4hr.
Q-47-30	1400	+18°	20"/4hr.
Q-55-30	1400	+18°	20"/4hr.
Q-68-30	1400	+18°	20"/4hr.
Q-92-30	1400	+18°	20"/4hr.
Q-43-35	1500	+18°	20"/4hr.
Q-47-35	1500	+18°	20"/4hr.
Q-55-35	1500	+18°	20"/4hr.
Q-68-35	1500	+18°	20"/4hr.
Q-92-35	1500	+18°	20"/4hr.
Q SERIES (30-35 depths) For Food Service Applications			
Q-43	1500	+18°	20"/4hr.
Q-47	1500	+18°	20"/4hr.
Q-55	1500	+18°	20"/4hr.
Q-68	1500	+18°	20"/4hr.
Q-68--35	1500	+18°	20"/4hr.
Q-92	1500	+18°	20"/4hr.

Electronic Thermostat

The electronic thermostat is located in the inside back of the unit. The thermostat is equipped with a liquid crystal display providing a constant readout of the sensed temperature.

NOTE: The LCD display will be blank during defrost. A touch keypad that allows the users to select the set point temperature, differential and the heating /cooling modes.



Programming Steps for the ETC, Electronic Temperature Control

All thermostats are pre-set and cycle checked at the factory.

STEP 1: Press the set key once to access the Fahrenheit/Celsius mode. The display will display either **F** degrees Fahrenheit or **C** for degrees Celsius. Press the **up** arrow or the **down** arrow so the display indicates **F**.

STEP 2: Press the set key again to gain access to the set-point. The LCD will display the current Set-point and the **S1** will be blinking. Press the **up** arrow to increase or the **down** arrow to decrease the temperature setting.

STEP 3: Press the set key again to gain access to the differential. The LCD will display the current differential and the **DIF 1** will be blinking. This should be set at 2°F.

STEP 4: Press the set key again to gain access to the cooling or heating mode. The LCD will display the current mode. Press either the **up** arrow or the **down** arrow to set the display in the **C1**, cooling mode.

STEP 5: Press the set key once more and the pro gramming is complete. Set the lock to keep the set point

STEP	DISPLAY INDICATION	DESCRIPTION
1.	**F** or **C**	Fahrenheit or Celsius Scale
2.	**S1** (blinking)	Set-point Temperature
3.	**DIF** (blinking)	Differential Temperature
4.	**C1/H1**	Cooling or Heating Mode

Case Controller Instructions

Main controller located in the compressor compartment

Second control is easily accessed on the customer left, inside back of the merchandiser.

- Press Alarm button [Temporarily deactivates alarm]
- Press and hold Set button until CSP appears on display.

Temperature Set Point [CSP]

1. Press Set [Set point appears]
2. Use up or down arrows to change set point.
3. Press Set, press Down arrow.

Defrost Termination Temperature [dEFt]

1. Press Set, defrost termination temperature appears.
2. Use Up or Down arrows to change.
3. Press Set, press Down arrow.

Duration [dEFd]

1. Press Set [Set point appears]
2. Use Up or Down arrows to change.
3. Press Set, press Down arrow.

Defrost on Start Up [dUPU]

1. Press Set [Set point appears]
2. Do not change from NO
3. Press Set, press Down arrow.

Drip Time [drip]

1. Press Set [Set point appears]
2. Do not change from 0
3. Press Set, press Down arrow.

Defrost cycles per day [dCPd]

1. Press Set [set point appears]
2. Press Up or Down arrows to change.
3. Press Set, press Down arrow.

High temperature alarm [tAH]

1. Press Set [set point appears]
2. Press Up or Down arrows to change
3. Press Set, press Down arrow.

Low temperature alarm set point [tAL]

1. Press Set [set point appears]
2. Press Up or Down arrows to change.
3. Press Set, press Down arrow.

Alarm delay after defrost [Adtd]

1. Press Set [set point appears]
2. Press Up or Down arrow to change.
3. Press Set, press down.

Alarm delay for high/ low alarm [AdEL]

1. Press Set, press Up or Down arrow to change.
2. Press Set and hold for 5 sec.

Program complete.

Manual Defrost

- Press and hold Set button for 10 sec. [until dEF appears]

Alarm

- To remove alarm signal press and hold Alarm button.

Factory settings.

• Temperature set point [CSP]	26
• Defrost termination [dEFE]	80
• Defrost duration [dEFd	30
• Defrost on power up [dUPU]	No
• Drip Time [drip]	0
• Defrost cycle per day [dCPd]	6
• Temperature alarm High [tAH]	60
• Temperature alarm low [tAL]	10
• Alarm delay after defrost [Adtd]	60
• Alarm delay high/low [AdEL]	60

CL-RSC Onboard Outputs

If using CL-RSC without an expansion board, wire the outputs to the two-wire terminals on the right side of the control unit, as shown in *Figure 6*. Each of these output points are rated to a maximum of 3A @ 250V.

For loads greater than 3A, use the outputs to energize external relays for compressors, defrost, and case lights.

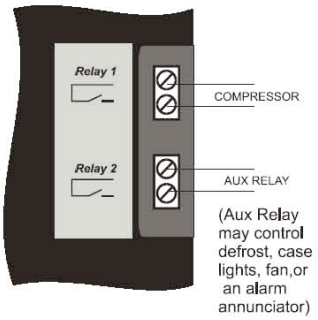


Figure 6 - CL-RSC Outputs

Expansion Board

The relay output board connects to the Control Link main module using an 8-pin ribbon cable. Plug the cable onto the Expansion Board connector at the bottom of the main module.

Defrost, Fans, and Aux Relay

Using spade lugs, connect the defrost heater(s), case fans, and auxiliary output (either case lights or an alarm device) to the three relays on the left side of the relay output board as shown in *Figure 6*.

Compressor Relays

The Control Link uses two relays on the output board to control the compressor. Line voltage must be connected to the Line 1 and Line 2 connectors on relays 1 and 2 respectively. The Load 1 and Load 2 connectors are wired to the compressor. *Figure 7* shows the wiring diagram.

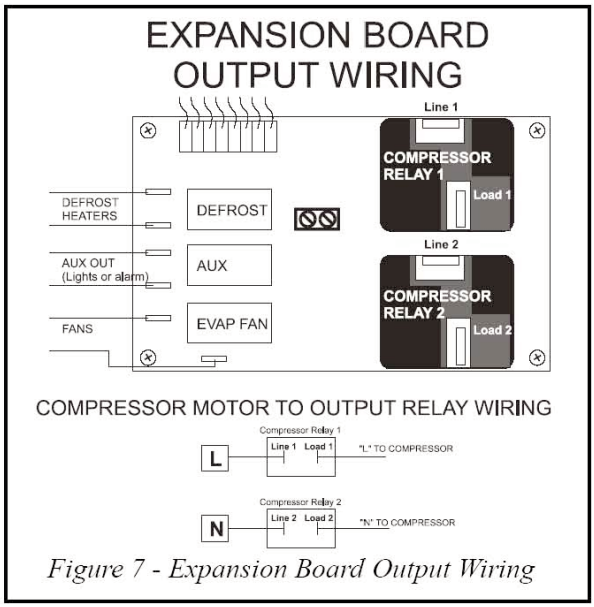


Figure 7 - Expansion Board Output Wiring

Expansion Board Relay Ratings

Defrost and Aux: 10A at 120VAC
Compressors: 208-230VAC 10FLA 60LRA
115VAC 13FLA 86LRA
Fan: 208-230VAC 2 FLA 4 LRA

Pressure Switch Wiring

If desired, a pressure switch may be used to deactivate the compressor if a high/low suction pressure condition occurs. Remove the jumper wire and connect this switch to the dual screw-terminal Pressure Switch connector located in the middle of the relay output board. See *Figure 8*. If not used, these terminals must be jumpered in order for the board to work.

The pressure switch must be N.C. (normally closed) type.

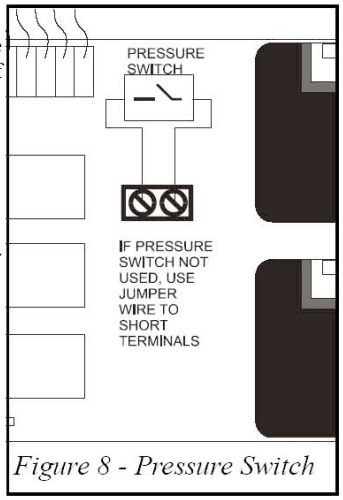


Figure 8 - Pressure Switch

CL-RSC Operation

The Display

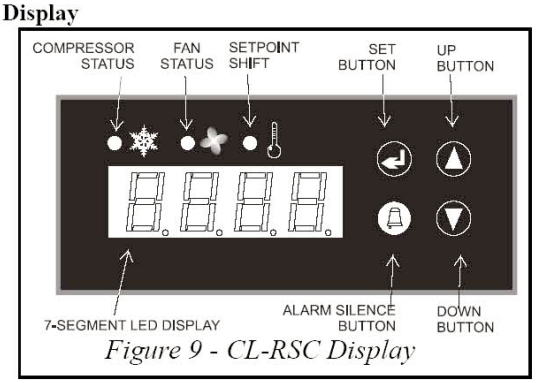


Figure 9 - CL-RSC Display

The primary means of interaction with the CL-RSC system during programming and operation will be the display on the front of the Control Link module (or the remote display, if one is being used).

Seven-Segment Display

The four-digit seven-segment display is the primary means a technician or operator will use for viewing temperatures and alarm codes, and programming setpoints.

Status LEDs

The three LEDs above the seven-segment display show the status of the compressor relay, the fan relay, and whether or not a setpoint shift is active (lit if setpoint shift is active).

Buttons

The four buttons to the right of the seven-segment display are used to program the CL-RSC, select temperatures and alarms for viewing, and perform other functions such as alarm silencing and manual defrost.

Modes of Operation

Start-Up

Compressor operation will be suspended after power-up based on the value of the CSUd parameter (default 10 minutes). After this delay, the CL-RSC resumes normal refrigeration control. To prevent nuisance alarms when the case is first started up, no high temperature case alarms will be generated until 120 minutes after the start of the first cooling cycle.

Normal Operation (Refrigeration)

When in refrigeration mode, the CL-RSC energizes the compressor relay when the case temperature is above the setpoint, and de-energizes it when

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

the case temperature setpoint is satisfied. The fan relay is activated and deactivated the same way as the compressor relay, unless the CL-RSC has been programmed to keep the fans always ON.

Alarms During Refrigeration

If the case temperature sensor value falls below the low temperature setpoint or rises above the high temperature setpoint, the alarm relay (if defined) will energize, and the display will show the alarm code. The energized alarm relay and display code will continue until the temperature returns to normal (1°F below high temp alarm setpoint or 1°F above low temp setpoint) or until the Alarm Silence button is pressed (alarm is suspended for 5 minutes, then will reoccur if problem is still active).

Defrost Operation

Defrost cycles are initiated at the times programmed in the CL-RSC. During defrost, the compressor relay is de-energized, and the defrost relay is energized. The defrost relay will be de-energized when the defrost termination temperature is reached or until the programmed defrost duration has elapsed (whichever occurs first). While the defrost relay is energized, the display will show dEF instead of the case temperature.

If a defrost drip duration has been programmed, immediately after defrost termination the compressor relay will remain OFF for an amount of time to allow moisture to drain off the coil. During this time, the display will read drIP. When the drip time is over, refrigeration will resume.

Fans may be either off or on during defrost, based on user programming.

Manual Defrost

A manual defrost may be initiated at any time by holding the SET button for 10 seconds until the dEF message is shown on the display. Defrost will begin immediately and terminate normally. If one of the auxiliary inputs is configured as a manual defrost switch, a contact closure on the switch will also initiate a manual defrost.

Compressor Fail-Safe Mode

If the case temperature sensor fails, the CL-RSC will operate in a fail-safe mode that cycles the compressor ON and OFF at a user-defined regular interval. The ON/OFF rate is determined by setting parameters CSFP and CSFO in the CL-RSC. CSFP sets the interval period, and CSFO sets the amount of time during that period the compressor will be ON.

For example, if during fail-safe you want the compressor to alternate being ON for three minutes and OFF for seven minutes, set CSFO to 3 and CSFP to 10. This will cause the compressor to be ON for three minutes of the 10 minute interval, and OFF for the remaining seven minutes.

Programming the CL-RSC

General Parameters

General parameters are used by technicians and operators to set control setpoints, defrost schedules, time and date.

Before changing parameters, clear any active alarms by pressing the Alarm Silence button. Press (SET) and hold for five seconds. If general mode programming has been password protected, you will see PASS on the display. Press (SET) and use the arrow keys to increment the password number until the correct password is shown, and then press (SET). (If general parameters are not password protected, PASS will not appear on the display).

The display will show the first programmable parameter: CSP (case temperature set point). The arrow keys may be used to scroll through the list of general parameters. To change the value of any parameter:

1. Select the parameter using the arrow keys (until the code is shown).
2. Press (SET).
3. The current value of this parameter will be displayed. Use the arrow keys to change the value.
4. Press (SET) to accept value.
5. Repeat steps 1 - 4 until all set points have been properly configured.
6. When finished, press (SET) again **for five seconds** to save changes and exit. The display will blank for one second and then revert to normal display if the save was successful.
7. To **cancel all changes**, press and hold (SILENCE) for five seconds, or leave controller idle for 60 seconds. You will lose all setpoint changes made since you entered general programming mode.

WARNING!

You MUST press and hold (SET) after changing setpoints if you want your changes to be permanent. Leaving the controller idle for 60 seconds will log you out and cancel all your setpoint changes.

NOTE: Parameters in General Parameters ***shaded gray are only shown if the real-time clock module is being used.***

General Parameters				
Code	**Description**	**Min**	**Max**	**Default**
CSP	Temp control set point (deg F, can be displayed in deg C)	-40	100	25
CLSt	Clock time set (military). UP button adjusts minutes. DOWN adjusts hours..			
YEAr	Year set (last two digits of year)	05	99	05
nO	Month set	1	12	1
dAY	Day set	1	31	1
dEFt	Defrost termination temperature (deg F, can be displayed in deg C)	-40	100	35
dEFd	Defrost cycle duration (minutes)	1	120	10
dUPU	Defrost upon power-up? (if yes, initiates defrost cycle after power restore)	no	YES	no
ddAP	Defrost delay after powerup (minutes)	0	120	5
dr iP	Compressor OFF delay after defrost (minutes)	0	60	10
dCPd	Defrost cycles per day (if set to 0, no dFx schedule times will be shown)	0	12	10
dF 1 - dF 12	The number of dFx parameters in the list will be equal to parameter **dCPd**. Starting with dF1, enter the time of day each scheduled defrost cycle will begin.	00:00	23:59	(every 2 hours)
tAH	High temperature alarm setpoint. (deg F, can be displayed in deg C)	-40	100	100
tAL	Low temperature alarm setpoint (deg F, can be displayed in deg C)	-40	100	-40
Adtd	Alarm delay after defrost (temp alarms are suspended for this many minutes after end of defrost)	0	60	10
AdEL	Alarm delay for high/low temp alarm. Temp must remain out of alarm setpoint range for this number of minutes before an alarm can occur.	0	60	10

Table 1: General Parameters

Electrical Information

Remote Case Data - Electrical 120 Volt				Additional Loads for Self-Contained Units						
Model	Evap Fans	Cornice Lts	Shelf Lts	HP	Voltage	404A RLA/LRA	134A RLA/LRA	Cond Fan	Heater	Notes
E SERIES										
E43-35	0.3	0.49	0.92	3/4	120-208 1-60	NA	5.3/40	0.85	4.8	
E55-35	0.6	0.49	0.92	3/4	120-208 1-60	NA	5.3/40	0.85	4.8	
E68-35	0.6	0.49	0.92	1	120-208 1-60	6.2/40	NA	0.85	4.8	
E84-35	0.9	0.49	0.98	1 1/2	120-208 1-60	6.2/40	NA	0.85	4.8	
E98-35	1.2	0.49	0.98	2	120-208 1-60	9.6/55	NA	1.7	4.8	
E110-35	1.2	0.49	1.84	2	120-208 1-60	9.6/55	NA	1.7	4.8	
QC SERIES										
QC-41	0.3	0.49	0.92	NA	NA	NA	NA	NA	NA	
QC-45	0.3	0.49	0.92	NA	NA	NA	NA	NA	NA	
QC-53	0.6	0.49	0.92	NA	NA	NA	NA	NA	NA	
QC-66	0.6	0.49	0.98	NA	NA	NA	NA	NA	NA	
QC-90	0.6	0.92	1.84	NA	NA	NA	NA	NA	NA	
Q SERIES For Supermarket Applications										
Q-47-24	0.6	0.47	0.92	NA	NA	NA	NA	NA	NA	
Q-72-24	0.6	0.96	1.84	NA	NA	NA	NA	NA	NA	
Q-95-24	0.9	0.96	1.84	NA	NA	NA	NA	NA	NA	
Q-143-24	1.2	1.92	3.68	NA	NA	NA	NA	NA	NA	
Q-26-30	0.3	0.47	0.96	NA	NA	NA	NA	NA	NA	
Q-36-30	0.3	0.47	0.96	NA	NA	NA	NA	NA	NA	
Q-43-30	0.6	0.47	0.96	3/4	120-208 1-60	NA	5.3/40	0.86	4.8	
Q-47-30	0.6	0.47	0.96	3/4	120-208 1-60	NA	5.3/40	0.86	4.8	
Q-55-30	0.6	0.47	0.96	1	120-208 1-60	6.2/40	NA	1.29	4.8	
Q-68-30	0.6	0.47	1.4	1 1/2	120-208 1-60	6.2/40	NA	1.29	4.8	
Q-92-30	1.2	0.47	1.92	2	120-208 1-60	9.6/55	NA	1.72	7.2	
Q-43-35	0.6	0.47	0.96	3/4	120-208 1-60	NA	5.3/40	0.86	4.8	
Q-47-35	0.6	0.47	0.96	3/4	120-208 1-60	NA	5.3/40	0.86	4.8	
Q-55-35	0.6	0.47	0.96	1	120-208 1-60	6.2/40	NA	1.29	4.8	
Q-68-35	0.6	0.47	1.4	1 1/2	120-208 1-60	6.2/40	NA	1.29	4.8	
Q-92-35	1.2	0.47	1.92	2	120-208 1-60	9.6/55	NA	1.72	7.2	
Q SERIES (30-35 depths) For Food Service Applications										
Q-43	0.6	0.47	0.96	1	120-208 1-60	6.2/40	NA	0.86	4.8	
Q-47	0.6	0.47	0.96	1	120-208 1-60	6.2/40	NA	0.86	4.8	
Q-55	0.6	0.47	0.96	1	120-208 1-60	6.2/40	NA	1.29	4.8	
Q-68	0.6	0.47	1.4	1 1/2	120-208 1-60	6.2/40	NA	1.29	4.8	
Q-68--35	1.2	0.47	1.4	2	120-208 1-60	9.6/40	NA	1.29	7.2	
Q-92	1.2	0.47	1.92	(2) 1 1/2	120-208 1-60	(2) 6.2/40	NA	(2) 2.58	(2) 4.8	

Wiring Color Code

Green	Ground
Black	Hot
White	Neutral
Red	208/220 Only
Brown	Interlock System
Orange	Thermostat
Orange	Liquid Solenoid
Orange & Black	Thermostat
Gray	Light Switch
Light Blue	Pressure Switch

FANS AND LIGHTS MAY BE WIRED SEPARATELY. CHECK STORE FOR SPECIFIC WIRING CODES.

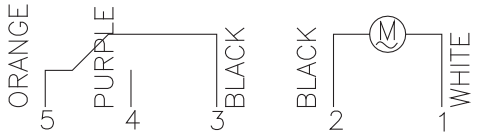
Secondary Wiring Color Code

Ballast Wiring	
Red	Lights
Yellow	Lights
Blue	Lights
Note: CASE MUST BE GROUNDED	

Hot Gas Timer

Grasslin

1. White - Neutral
2. Black - Hot
3. Black -
4. Purple - Hot Gas Defrost
5. Orange - Liquid Solenoid

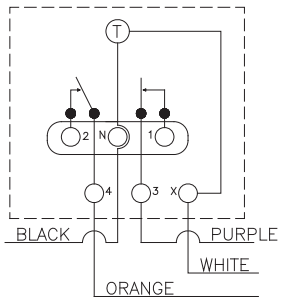


Parragon

1.
2.
3. Purple - Hot Gas Defrost
4. Orange - Liquid Solenoid

X White - Neutral

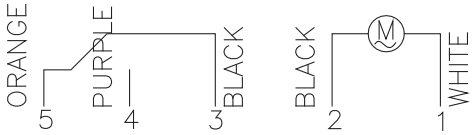
N Black - Hot



Off Cycle Timer

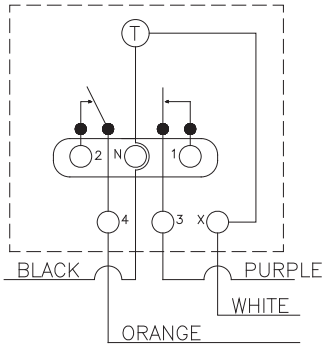
Grasslin

1. White - Neutral
2. Black - Hot
3. Black -
4. Unused
5. Orange - Liquid



Parragon

1. White - Neutral
2. Black - Hot
3. Unused
4. Orange - Liquid Solenoid



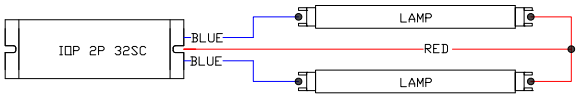
Ballast Information

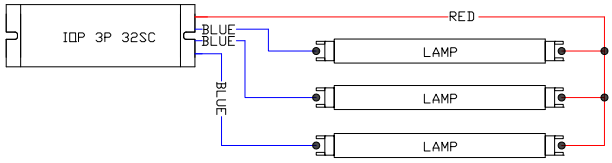
Model	Ballast
E-43	(2) IOP-3P 32SC 35TM
E-45	(2) IOP-3P 32SC 35TM
E-68	(2) IOP-3P 32SC 35TM
E-84	(2) IOP-3P 32SC 35TM
E-96	(2) IOP-3P 32SC 35TM
F-43	(1) IOP-2P 32SC 35TM
F-47	(1) IOP-2P 32SC 35TM
F-55	(1) IOP-2P 32SC 35TM
F-68	(1) IOP-2P 32SC 35TM
F-92	(1) IOP-4P 32SC 35TM

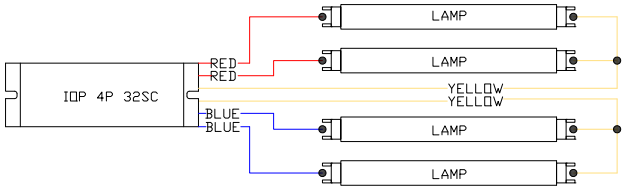
Ballast Information

Model	Ballast
QC-41	(2) IOP-3P 32SC 35TM
QC-45	(2) IOP-3P 32SC 35TM
QC-53	(2) IOP-3P 32SC 35TM
QC-66	(2) IOP-3P 32SC 35TM
QC-90	(2) IOP-3P 32SC 35TM
Q-43	(2) IOP-3P 32SC 35TM
Q-47	(2) IOP-3P 32SC 35TM
Q-55	(2) IOP-3P 32SC 35TM
Q-68	(2) IOP-3P 32SC 35TM
Q-92	(2) IOP-3P 32SC 35TM

Ballast Wiring







Maintenance Information

Cleaning

Case Exterior

Clean surfaces frequently with warm water and mild detergent. DO NOT use strong alkali solutions, steel wool, or abrasive cleanser.

Plexiglas

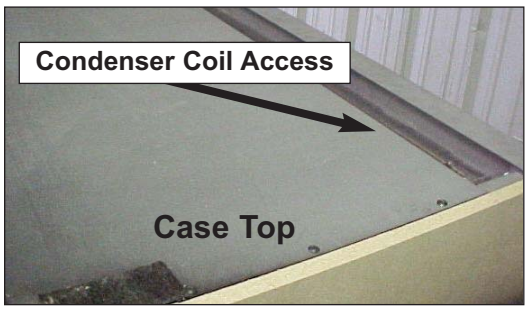
Use any Plexiglas cleaner. DO NOT use strong alkali solutions, steel wool, or abrasive cleanser.

Evaporator Coil

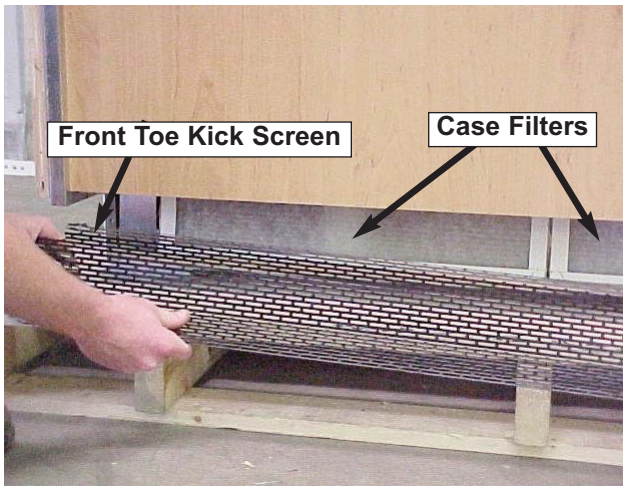
Clean as needed.

Condenser Coil

FAILURE TO CLEAN COILS WILL VOID WARRANTY!
Clean condenser coil every month or as needed with a whisk broom or vacuum. DISCONNECT POWER WHEN SERVICING. FINS ON CONDENSER COIL ARE SHARP!
Condenser Coil is located in the top back side of the case. To clean, blow nitrogen through coil. Debris will flow through the case and will exit through the filter area in the front bottom section of the case.



Case Filter Replacement



1. Remove the front toe kick screen located in the lower front section of the case by lifting up and out. Case filters are located behind the screen.
2. Lift filter up and pull out to remove.

THE CASE FILTER NEEDS TO BE CHANGED EVERY 60 DAYS, DEPENDING ON ENVIRONMENT.

Filter sizes:

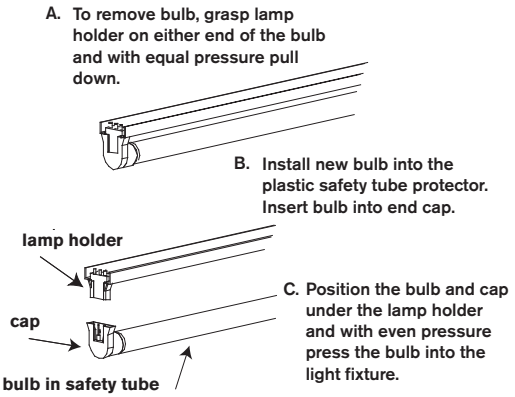
Q36	1- 10" x 20" & 1-10"x14"
Q47	2- 10" x 20"
Q55	2- 10" x 25"
Q68	2- 10" x 20" & 1-10"x25"

Condensate Heater

Add scale remover to condensate heater pan once every three months or as needed. The Condensate Heater is designed for a maximum 75° F and 55% relative humidity. The pan may overflow if these limits are exceeded.

Shelf Light Replacement

The fluorescent lights in this case are furnished with plastic safety shields and end caps.
When replacing fluorescent lamps, be certain to reinstall safety shield and caps. (See illustration.)
If the bulb is not fully seated the lights will not operate. BE SURE BULBS ARE COMPLETELY SEATED.
The light switch is mounted to the right side of the ceiling.



Caution: Failure to install bulb fully into light socket will cause premature bulb life and may cause damage to light fixture

Load Limits

DO NOT place product in merchandiser until all refrigeration controls have been adjusted, and are at the proper operating temperature.

DO NOT over load shelving or place product where it will affect the air curtain.

Service

WARNING!

DISCONNECT THE ELECTRICAL POWER WHEN SERVICING OR REPLACING ANY ELECTRICAL COMPONENT.

Compressor and Condensing Fan Access

A. Unplug lights if under shelf lighting is present.

B. Remove the lowest shelf from the case by lifting up and out on shelf.

C. Lift bottom deck approximately 8" and pull out of case. (Photo 1)

D. Remove screws from L-brackets, located on the inside of the front dieboard. (Photo 2)

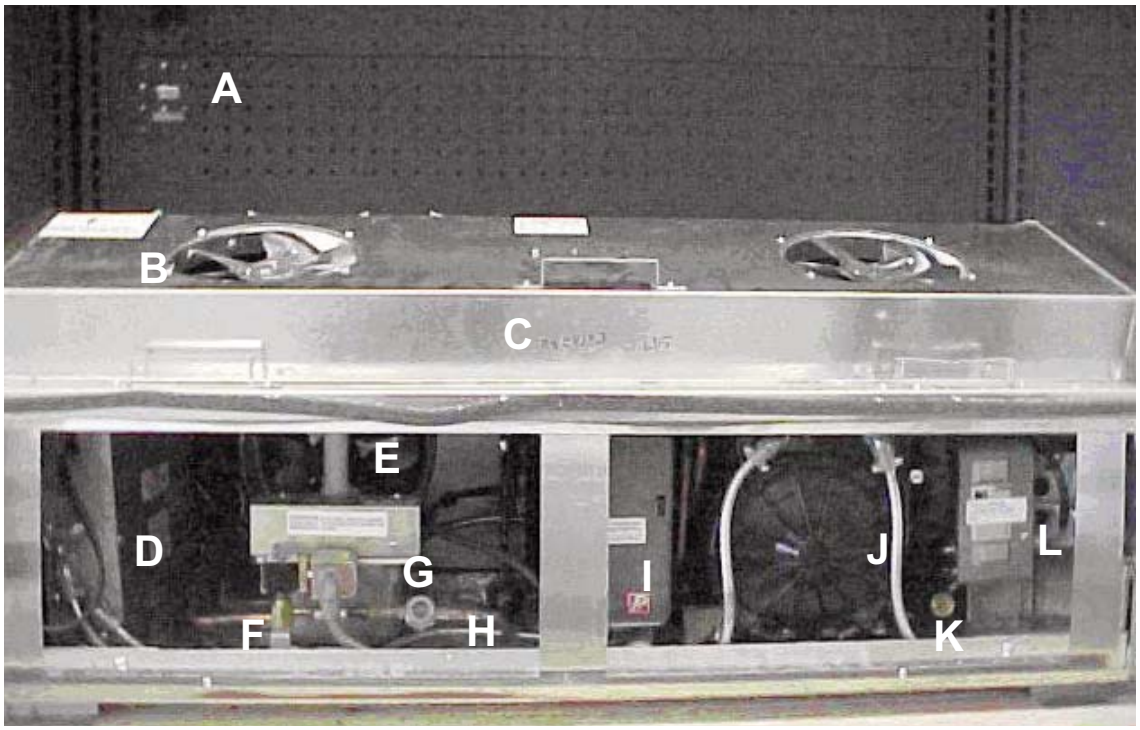
E. Lift dieboard up and out to expose the compressor area. (Photo 3)

Photo 3

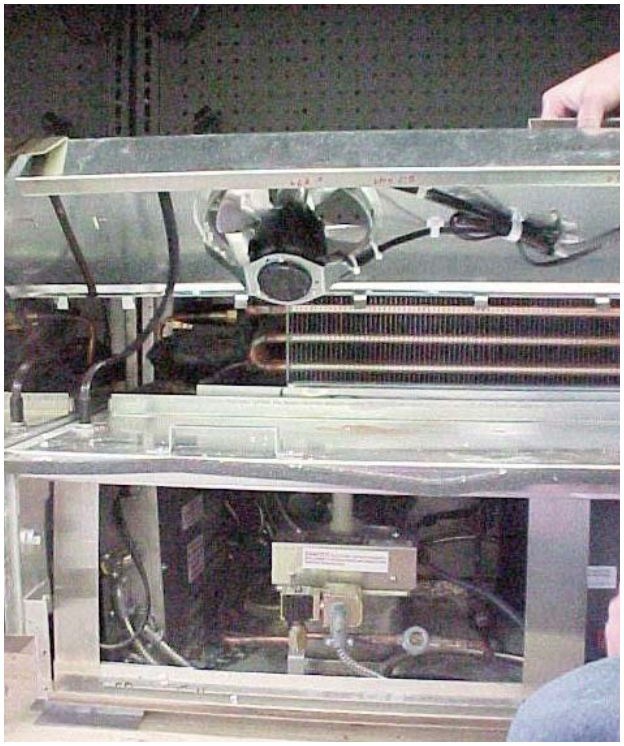
Photo 1

Photo 2

Compressor Compartment



A - Case Thermostat
B - Evaporator Fans
C - Evaporator Fan Cover
D - Ballast
E - Condenser Fan
F - Solenoid
G - Dissipater Pan
H - Site Glass
I - Timer
J - Compressor
K - CRO Valve
L - Pressure Switch



Lift Evaporator Fan cover (Label C above) to find TXV and coil.

Barker Specialty Products Service Department

IMPORTANT INFORMATION!

FOR PROMPT SERVICE WHEN CONTACTING THE FACTORY FOR SUPPORT, BE SURE TO HAVE CASE MODEL AND SERIAL NUMBER HANDY.

(THIS INFORMATION IS LOCATED ON THE DATA TAG ATTACHED TO THE CASE. SEE BELOW FOR DATA TAG LOCATIONS)

For any warranty or service issues not covered by this manual, for tech support, or for warranty service calls, please contact the Barker Specialty Products Service Department at:

(319) 293-3777

Parts

Ordering Procedure

1. Contact the Service Parts Department
   Melissa Marshall
   703 Franklin Street
   PO Box 478
   Keosauqua, IA 52565
   Tel: 319-293-8323
   Fax: 319-293-8377
   melissa.marshall@hillphoenix.com

2. Provide the serial number of the case containing the part. To locate the serial number look on the data tag located on the customer left, outside back of the case, the customer left, inside top of the case, or contact the factory for location.

3. If parts are to be returned for credit, contact the Parts Department. Do not send parts without authorization.

BEFORE SERVICING

ALWAYS DISCONNECT ELECTRICAL POWER AT THE MAIN DISCONNECT WHEN SERVICING OR REPLACING ANY ELECTRICAL COMPONENT.

WARRANTY

HEREINAFTER REFERRED TO AS MANUFACTURER

FOURTEEN MONTH WARRANTY. MANUFACTURER'S PRODUCT IS WARRANTED TO FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP UNDER NORMAL USE AND MAINTENANCE FOR A PERIOD OF FOURTEEN MONTHS FROM THE DATE OF ORIGINAL SHIPMENT. A NEW OR REBUILT PART TO REPLACE ANY DEFECTIVE PART WILL BE PROVIDED WITHOUT CHARGE. PROVIDED THE DEFECTIVE PART IS RETURNED TO MANUFACTURER. THE REPLACEMENT PART ASSUMES THE UNUSED PORTION OF THE WARRANTY.

WARRANTY CLAIMS: All claims should include: the serial number of the cabinet, proof of purchase, date of installation, and all pertinent information supporting the existence of the alleged defect. Any action for breach of these warranty provisions must be commenced within one (1) year after that cause of action has accrued.

All warranty service work must be pre-authorized by Barker Specialty Products (800-814-0446). Barker Specialty Products reserves the rights to designate the service provider, time in which labor is to be performed and specify amount of time per warranty problem.

This warranty does not include labor or other costs incurred for repairing, removing, installing, shipping, servicing or handling of either defective parts or replacement parts.

The fourteen month warranty shall not apply:

1. To any unit or any part thereof which has been subject to accident, alteration, negligence, misuse or abuse, operation on improper voltage, or which has not been operated in accordance with the manufacturer's recommendation, or if the serial number of the unit has been altered, defaced, or removed.
2. When the unit, or any part thereof, is damaged by fire, flood, or other act of God.
3. Outside the continental United States.
4. To labor cost for replacement parts, or for freight, shipping expenses, sales tax or upgrading.
5. When the operation is impaired due to improper installation
6. When installation and startup forms are not properly complete or returned within two weeks after startup.

THIS PLAN DOES NOT COVER CONSEQUENTIAL DAMAGES. Manufacturer shall not be liable under any circumstances for any consequential damages, including loss of profit, additional labor cost, loss of any delay in its performance hereunder due to causes beyond its control. The foregoing shall constitute the sole and exclusive remedy of any purchases and the sole and exclusive liability of Manufacturer in connection with this product.

The Warranties are Expressly in Lieu of All Other Warranties, Express of Implied and All Other Obligations or Liabilities on Our Part. The Obligation to Repair or Replace Parts or Components Judged to be Defective in Material or Workmanship States Our Entire Liability Whether Based on Tort, Contract or Warranty. We Neither Assume Nor Authorize any Other Person to Assume for Us Any Other Liability in connection with Our Product.

Mail ***approved*** warranty claims to the address listed below:

Barker Specialty Products|703 Franklin Street|PO Box 478|Keosauqua, IA 52565
Tel: 319/293-3777 | Fax: 319/293-3776