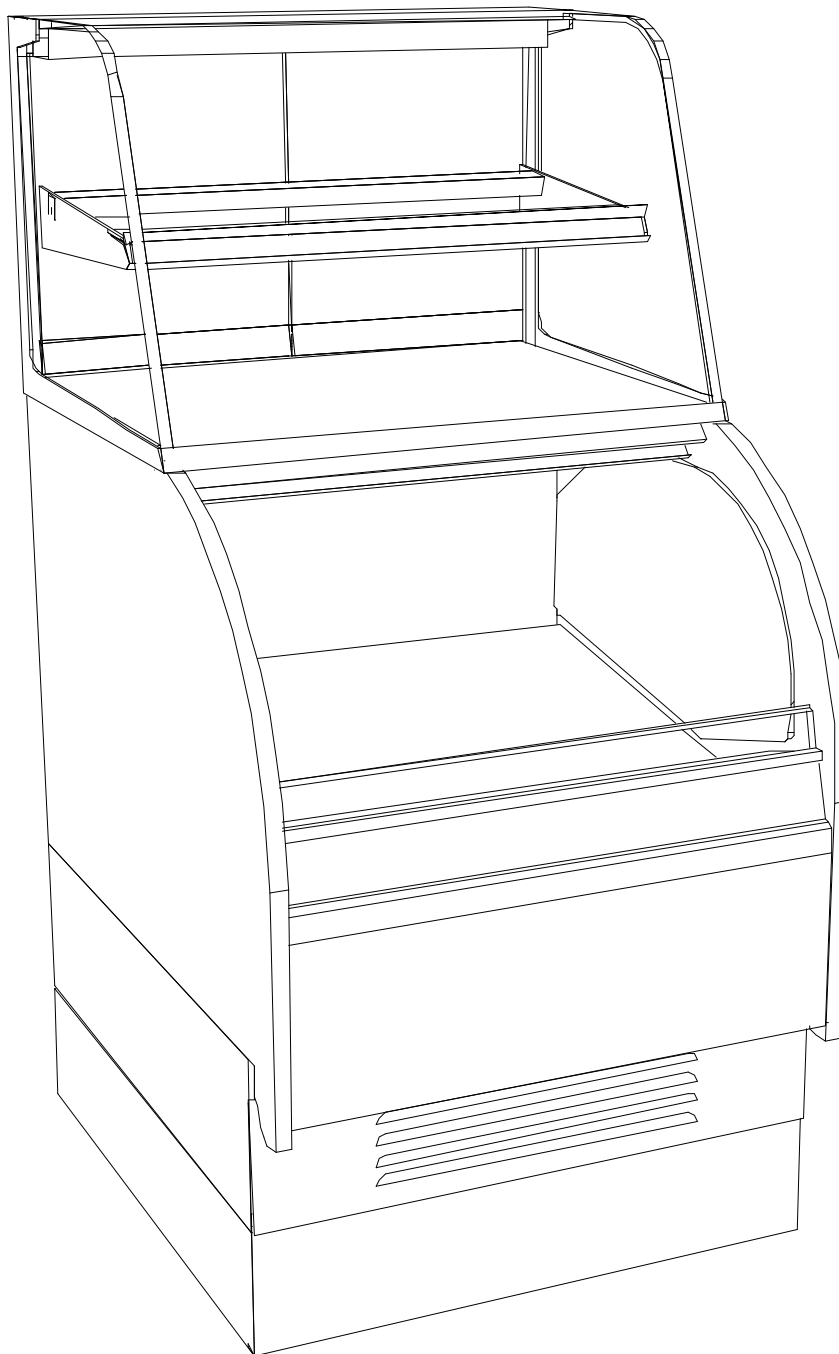




# INSTALLATION & OPERATING MANUAL

SCC P/N 99523

SELF-CONTAINED REFRIGERATED SERVICE / SELF-SERVICE MERCHANDISER



**Model COU2757R**

**27 1/2" L\* x 57" H x 33" D**

**Model COU2757R.3748**

**27 1/2" L\* x 57" H x 33" D**

***\*Includes end panels.***



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**OVERVIEW**

- These dual functional cases are designed to merchandise pre-chilled packaged bakery products at 5°C / 41°F or less and unpackaged bakery products at ambient temperatures.
- Cases should be installed and operated according to this operating manual's instructions to ensure proper performance.
- Improper use will void warranty.

**NSF® TYPE**

This unit is designed for the display of products in ambient store conditions where temperatures and humidity are maintained within a specific range.

- For NSF® Type 1 Conditions (most cases): ambient conditions are to be at 55% maximum humidity and maximum temperatures of 75 °F [24 °C].
- For NSF® Type 2 Conditions: ambient conditions are to be at 60% maximum humidity and maximum temperatures of 80 °F [27 °C].

- If unsure if unit is NSF® Type 1 or 2, see tag next to serial label. See **SERIAL LABEL LOCATION & INFORMATION LISTED / TECH INFO & SERVICE** section in this manual for sample serial labels.

**COMPLIANCE**

- Performance issues when in violation of applicable NEC, federal, state and local electrical and plumbing codes are not covered by warranty.
- See below compliance guideline.

**WARNINGS**

- This page contains important warnings to prevent injury or death.
- Please read carefully!

**PRECAUTIONS and WIRING DIAGRAMS**

- See next page for **PRECAUTIONS** and **WIRING DIAGRAM** information.

**COMPLIANCE**

This equipment **MUST** be installed in compliance with all applicable NEC, federal, state and local electrical and plumbing codes.

**WARNING**

ELECTRICAL  
HAZARD

**WARNING**

Risk of electric shock. Disconnect power before servicing unit.  
**CAUTION!** More than one source of electrical supply is employed with units that have separate circuits.  
*Disconnect ALL ELECTRICAL SOURCES before servicing.*

**WARNING**

KEEP  
HANDS  
CLEAR

**WARNING**

Hazardous moving parts. Do not operate unit with covers removed.  
Fan blades may be exposed when deck panel is removed.  
Disconnect power before removing deck panel.

**WARNING**

HOT  
SURFACE

**WARNING**

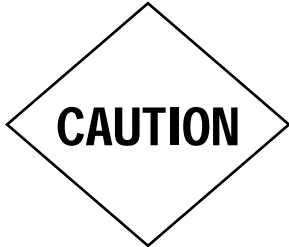
Condenser Pan is Hot!  
Disconnect or turn off unit and allow to cool before cleaning or removing from case.

## PRECAUTIONS

- Following are important precautions to prevent damage to unit or merchandise.
- Please read carefully!
- See previous page for specifics on **OVERVIEW**, **NSF TYPE**, **COMPLIANCE** and **WARNINGS**.

## WIRING DIAGRAM

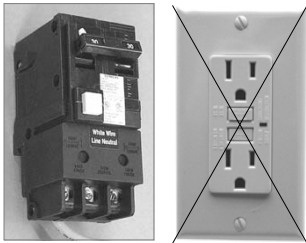
- Each case has its own wiring diagram folded and in its own packet.
- Wiring diagram placement may vary; it may be placed near ballast box, field wiring box, raceway cover, or other related location.



### CAUTION! LAMP REPLACEMENT GUIDELINES

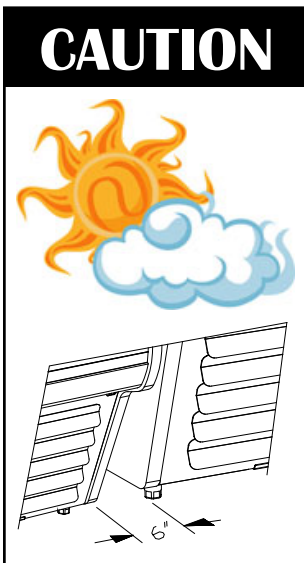
LED lamps reflect specific size, shape and overall design.  
Any replacements must meet factory specifications.

Fluorescent lamps have been treated to resist breakage and must be replaced with similarly treated lamps.



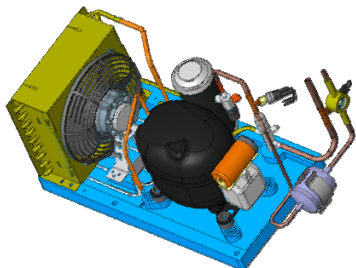
### CAUTION! GFCI BREAKER USE RECOMMENDATION

If N.E.C. (National Electric Code) or your local code requires GFCI (Ground Fault Circuit Interrupter) protection, the use of a GFCI breaker is strongly recommended.



### CAUTION! ADVERSE CONDITIONS / SPACING ISSUES

- Performance issues caused by adverse conditions are NOT covered by warranty.
- End panels must be tightly joined or kept at least 6-inches away from any structure to prevent condensation.
- Unit must be kept at least 15-feet from exterior doors, overhead HVAC vents or any air curtain disruption to maintain proper temperatures.
- Unit must not be exposed to direct sunlight or any heat source (ovens, fryers, etc.).
- Tile floors, low ceilings or small rooms will increase noise level. Whisper Cool compressor blanket or remote unit may resolve noise level issues.
- Keep at least 8-inch clearance above unit for air discharge (self-contained units only).



### CAUTION! CHECK CONDENSATE PAN POSITION AND PLUG

Water on flooring can cause extensive damage!

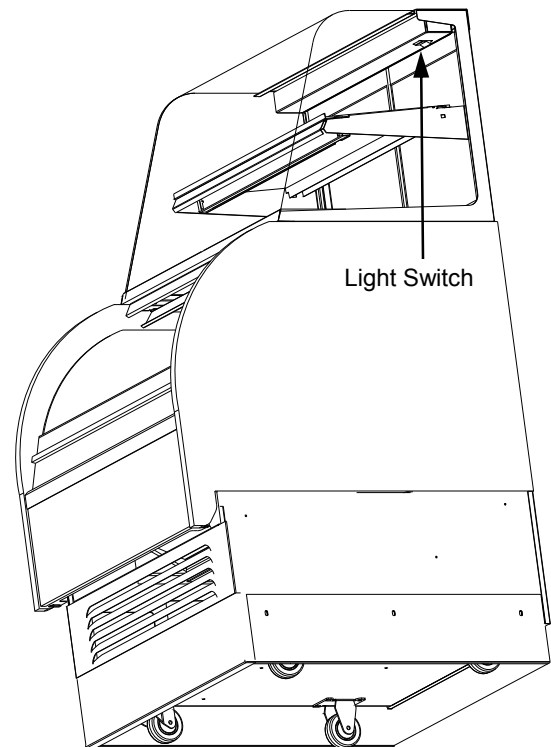
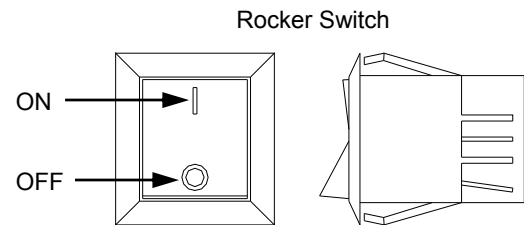
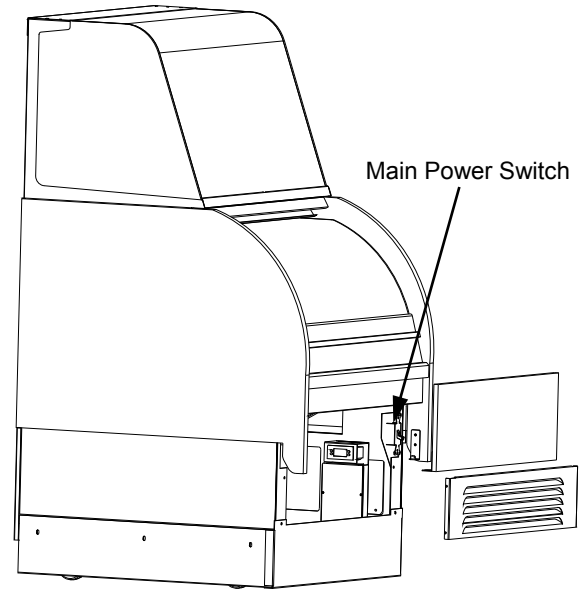
Before powering up unit, check the following:

- Condensate pan **MUST BE** positioned directly under condensate drain.
- Condensate pan plug **MUST BE** securely plugged into receptacle.

## START-UP AND OPERATION

### Merchandiser Start-Up

- Do not use an extension cord with this appliance.
- Do not operate this equipment with a damaged cord, plug or outlet.
- Insure the main power switch is off.
- Plug cord into a certified 110V electrical outlet with ground.
- Turn main power on.
  - Remove upper front panel (See maintenance for panel removal). Switch is on the right side of case.
- Coil fan should turn on.
  - From inside of the case, check for discharge air from front baffle, to confirm that the fans are functioning properly.
- When the case is in a start-up mode or has been idle for a long period of time, the unit will require 75-minutes running time to pull-down temperature.
- Turn lights on.
  - Light switch is a rocker type on the under right side of the top light.
  - The lights should come on at the same time. First time lighting may require a short warm-up period for the bulbs. Slightly dim or a flickering of new bulbs is normal.
- It is recommended that the **self-contained** refrigerated cases maintain front and rear airflow clearance of approximately twelve inches.
- Obstruction or restriction of air can void warranty.
- **Note:** Case temperature is set at the factory, as determined by the case size.
  - Temperature is controlled by a thermostat.
  - If a temperature setting change is required, refer to the instructions for the temperature controller operating section of this manual.
- *Note: See serial label on case for set point.*



### Removing the Front Panel

- Lifting the panel from lower edge upward approximately a half inch into a channel lip, disengages the support tabs on the lower edges.
- Pivot out lower edge approximately one inch and lower panel to remove.

### Removing the Front Grille

- Lifting the grille upward approximately a half inch disengages a top support flange and the support tabs on the back lower side of the grille from the frame.
- Pivot out lower edge and remove grille.

### Removing the Rear Doors

- Move the rear doors toward the center of the case.
- Individually lift each door up toward the top of the case and pivot the bottom of the door out from track.

### Removing Interior Shelving:

- Remove the rear doors.
- Remove the glass or ABS shelving.
- Remove the rear shelf support from brackets.
- Remove shelf light from brackets and rotate to facilitate maintenance.
  - Note: shelf light cannot be removed without being disassembled.
- Shelf brackets can not be removed.

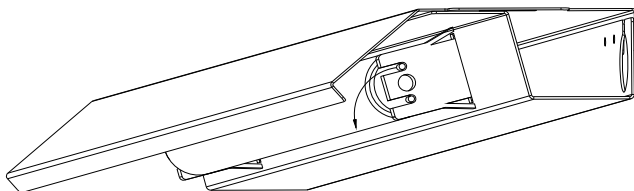
### Light Fixture

Removal of lamp:

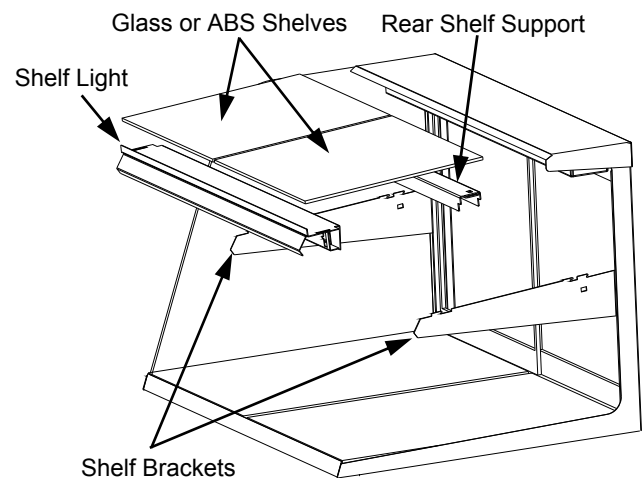
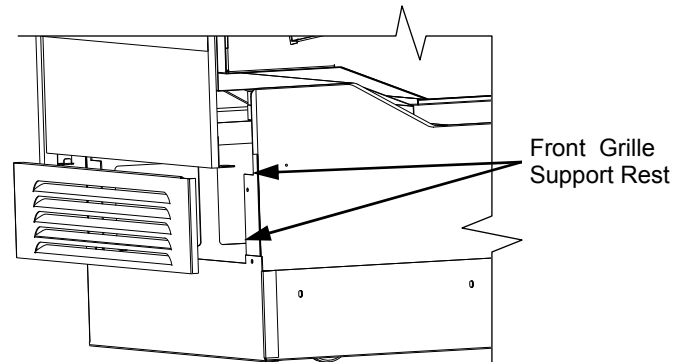
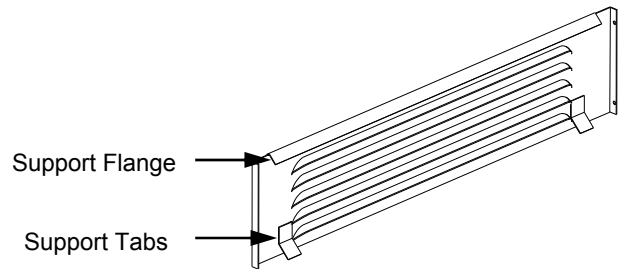
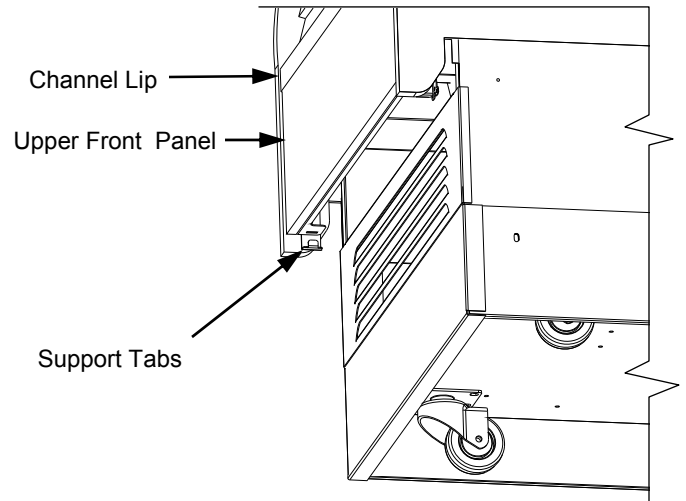
- Rotate lamp (1/4 turn) and remove bulb.

Installation of lamp:

- Align pins with slot.
- Insert pins into socket and rotate 1/4-turn to secure pin contacts in socket.



— Sample Fluorescent Light Fixture —



### Electrical: Access and Connections

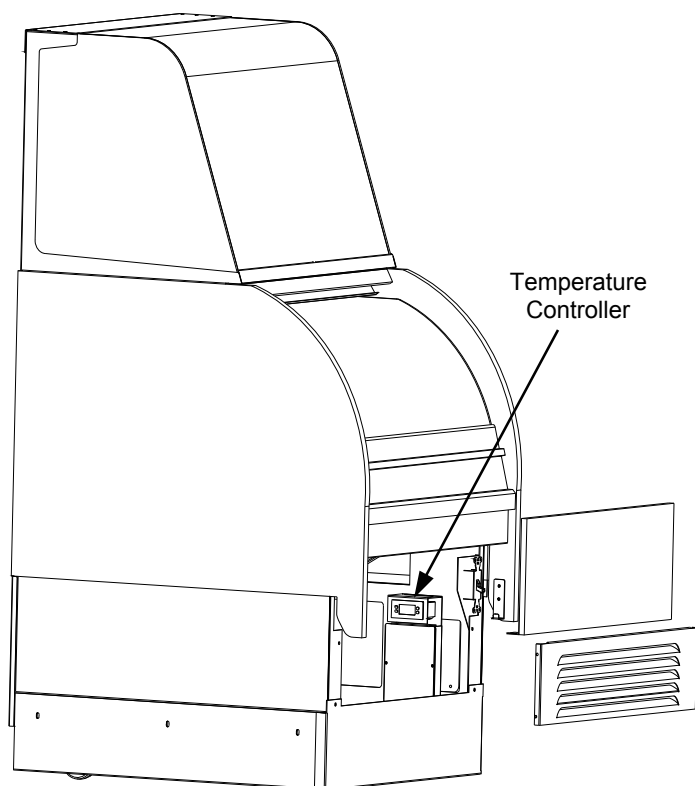
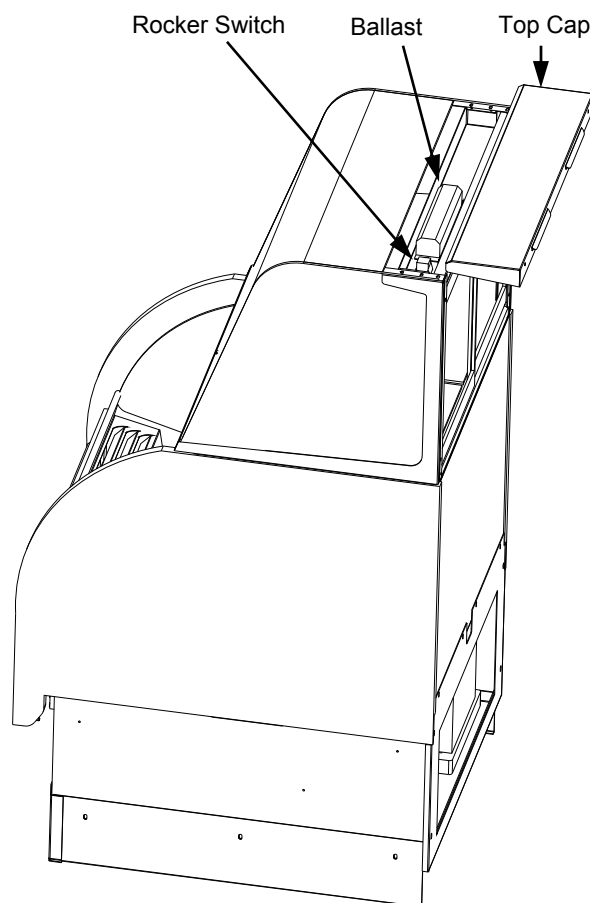
**Warning, disconnect power before providing maintenance and service to unit.**

#### Ballast access

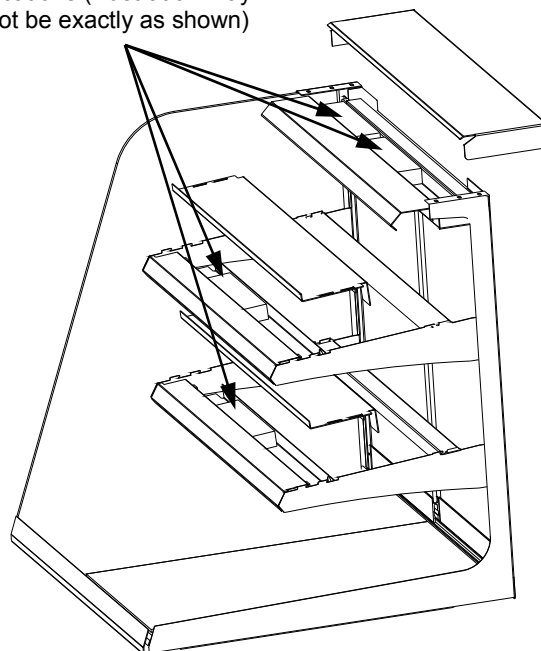
- Remove 4 screws from the back of the top cap to access electrical connections and ballasts.

#### Temperature & Defrost Control

- The case temperature is set at the factory, as determined by the case size. The temperature is controlled by a thermostat. If a temperature setting change is required, follow the instructions for the **Johnson Control®** or **Carel® Controller** in the technical information section of this operating manual.
- If service is required to the temperature control unit, call Structural Concepts. This maintenance should be performed by a certified technician.



Approximate Ballast locations (illustration may not be exactly as shown)



## REFRIGERATION FUNDAMENTALS

### Evaporator fan access

- Remove lower decking. A finger hole is provided to assist in lifting up and pulling out deck.

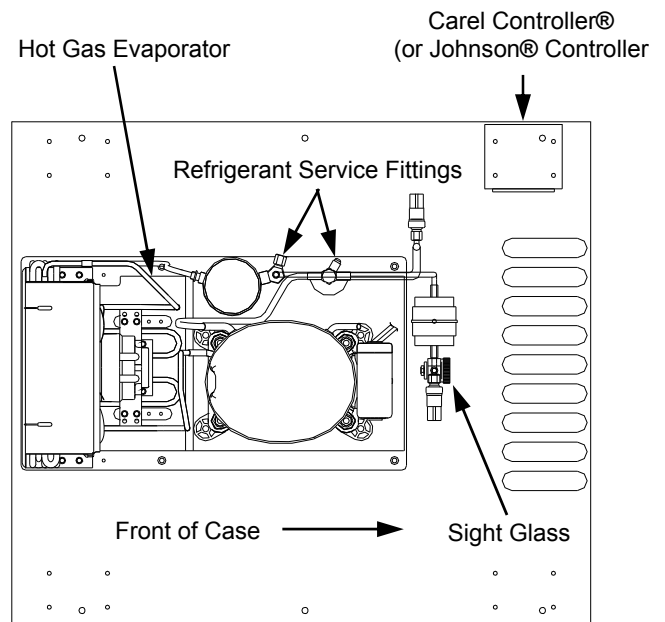
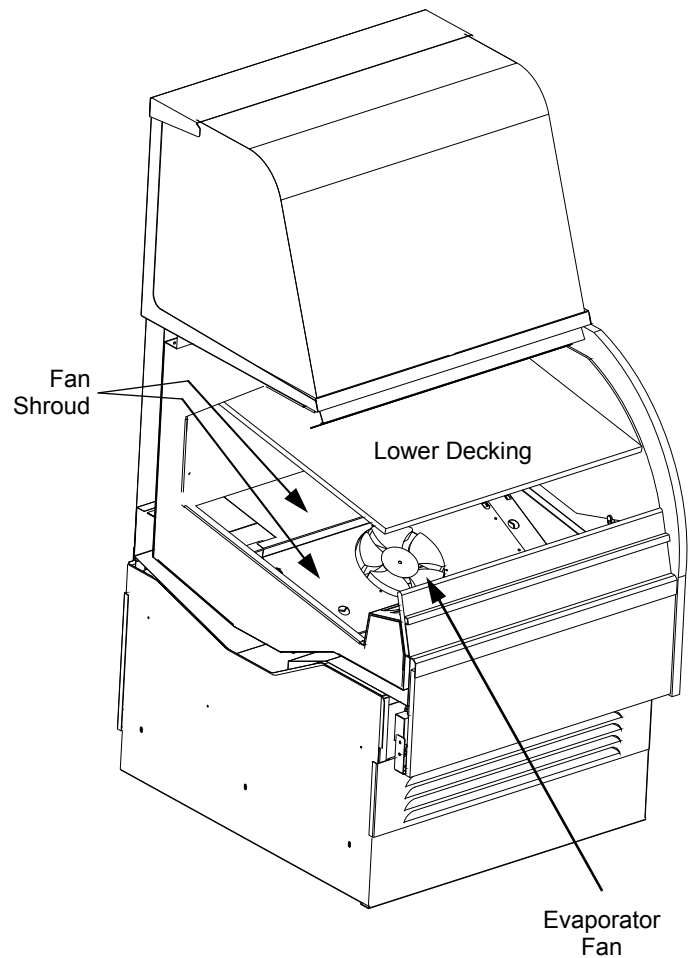
### Expansion valve access

- Remove lower decking. A finger hole is provided to assist in lifting up and pulling out deck.
- Remove fan shroud assembly.
  - Unplug the fan at the shroud support.
  - Remove four screw knobs from the fan shroud.
- Carefully remove shroud to avoid damage to mirrors or front air deflector.

### Refrigeration:

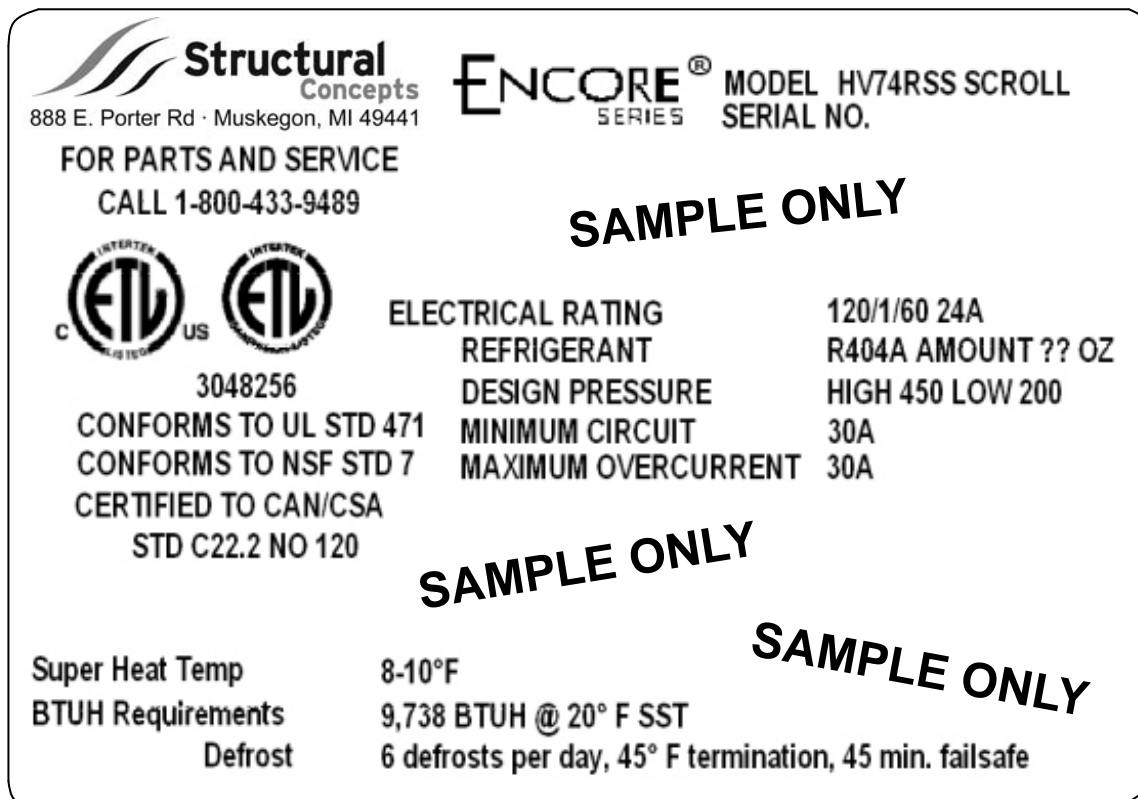
#### Access and Connections

- ***Assembly or disassembly and servicing to be accomplished by licensed refrigeration contractor.***
- Refer to maintenance fundamentals for access.
  - Remove front panel.
  - Remove front grill.



### Serial Label Location & Information Listed / Technical Information & Service

- Serial labels are located near the electrical access on your case.
- Serial labels contain electrical, temperature & refrigeration information, as well as regulatory standards to which the case conforms.
- For additional technical information and service, see the *TECHNICAL SERVICE* page in this manual for instructions on contacting Structural Concepts' Technical Service Department.
- See image below for sample serial label.



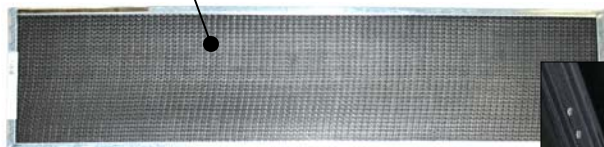
----- Sample Serial Label For Refrigerated Case -----

## CLEANING SCHEDULE [TO BE PERFORMED BY STORE PERSONNEL]

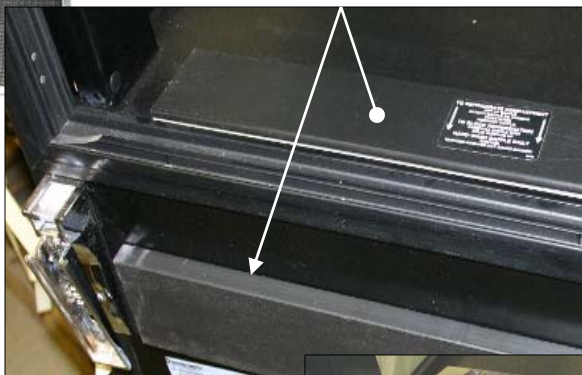
**WARNING! TURN OFF POWER TO CASE BEFORE PERFORMING PREVENTIVE MAINTENANCE!**

Cleaning	Frequency	Instructions
<b>Case Exterior</b>	<b>Daily</b>	<b><u>Glass / Mirrors</u></b> : Clean front glass, side glass, glass shelves, and mirrors with a household or commercial glass cleaner.
	<b>Daily</b>	<b><u>Acrylic</u></b> : Clean with a warm water and mild soap solution and soft cloth. Never use ammonia-based cleaners (or regular glass cleaner) on acrylic.
	<b>Daily To Weekly</b>	<b><u>Magnetized Condenser Coil Filter (Optional)</u></b> : Vacuum or brush with soft-bristled filter. To remove grease and grime build-up, remove from case. Submerge in warm water and soap solution. Rinse. Dry. Return to case. See Photo A below.
	<b>Weekly</b>	<b><u>Condensing Coil</u></b> : Remove base panel and condensing coil cover. Vacuum or brush condenser coil with metal or fiber brush to remove dust and dirt. Be careful to avoid damaging coil fins while cleaning!
	<b>Weekly</b>	<b><u>Rear Sliding Doors and Door Track</u></b> : Remove rear doors. Clean w/household or commercial cleaner. Clean out door track with moist cloth.
<b>Case Interior</b>	<b>Daily</b>	<b><u>Decks &amp; Inserts</u></b> : Wipe down and clean with mild soap, water & soft cloth.
	<b>Weekly</b>	<b><u>Baffle</u></b> : Remove from case. Clean with soft-bristled brush. See photos B - C - D below.
	<b>Weekly</b>	<b><u>Crumb Drawer</u></b> : Pull out and empty. Clean with moist cloth. See photo C below.
	<b>Weekly</b>	<b><u>Decks &amp; Inserts</u></b> : Remove and clean with mild soap, water & soft cloth

A. Magnetized Condenser Coil Filter



B. Baffle (Preventing Refrigeration) & Crumb Tray (shown not pulled out)



C. Baffle (out of case) & Crumb Tray (pulled out)



D. Baffle (Enhancing Refrigerating)



# CLEANING SCHEDULE [TO BE PERFORMED BY TRAINED SERVICE PROVIDERS ONLY]

**WARNING! TURN OFF POWER TO CASE BEFORE PERFORMING PREVENTIVE MAINTENANCE!**

Maintenance	Freq.	Instructions
Case Exterior	Qtly	<b>Condensing Coil:</b> Using air pressure or an industrial strength vacuum, clean the dust and dirt that may collect on the condenser coil. It may be necessary to use a soft-bristled brush to loosen up caked dust and debris that may form on coil.
	Qtly	<b>Under Case Cleaning:</b> Once refrigeration package is clear of unit, vacuum under case to remove all dust and dirt that may collect.
Case Interior	Qtly	<b>Tub, Coil and Drain:</b> Remove evaporator fan panel [as shown in images #1 and 2 below] and clean tub, coil and drain with warm water and mild soap solution. Remove any debris that may clog drain.
		<b>Compressor Area:</b> Slide out from case. Wipe off dust & debris w/moist cloth.
		<b>Hot Gas Loop [or Electric Coil] Condensate Pan:</b> Disconnect power. Slide out refrigeration assembly. Use a de-scaling solution (such as CLR® that will prevent corrosion, lime and rust) to thoroughly clean pan. Use wet /dry vacuum to remove all residue. If necessary, wipe down with damp cloth.
	Qtly	<b>Evaporative Wicking Material [Optional]:</b> Lift up and off from support. Replace with new evaporative wicking material.
	Qtly	<b>Fan Blades, Shroud, Drain:</b> Wipe down each blade and shroud with moist cloth. Clean out drain. See images #1 and 2 below.
	Qtly	<b>Honeycomb:</b> See <b>PREVENTIVE MAINTENANCE - HONEYCOMB AIR DIFFUSERS [TRAINED SERVICE PROVIDERS ONLY]</b> section in this manual for specifications.
	Qtly	<b>Upper and Lower Step Inserts:</b> Remove from Case. Clean w/soap and water.

Image #1  
Use finger holes to lift up Deck. Remove from case.



Image #2  
Clean under Air Return Grille and Fan Shroud Area with moist cloth. Remove drain cleaning access door and clean drain.



### **Honeycomb Air Diffuser Removal**

See **PREVENTIVE MAINTENANCE (TO BE PERFORMED BY TRAINED SERVICE PROVIDER)** section in this manual for cleaning frequency.

A. Wedge a non-metallic device of suitable strength (such as a ballpoint pen) between the honeycomb and the end panel.

Caution! Use care not to dislodge the heating wire (that prevents condensation on the lamp assembly).

B. Apply pressure to collapse the honeycomb to allow it to be pulled out of honeycomb retainer.

C. Carefully pry downward and away from the honeycomb retainer. Remove entirely from case.

*Clean honeycomb with warm water and soap solution. Submerge if necessary. Use brush to dislodge stubborn or sticky residue. Dry by using vacuum's blow mode (vs. suction mode).*

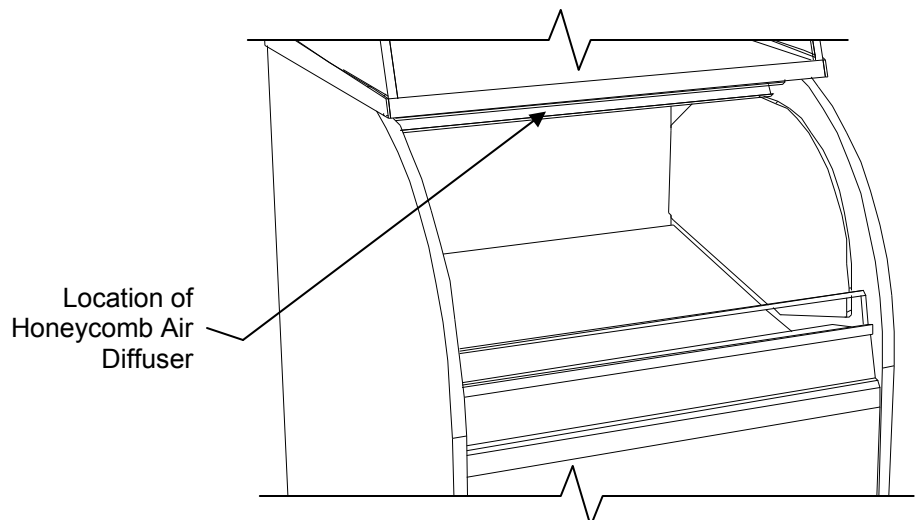
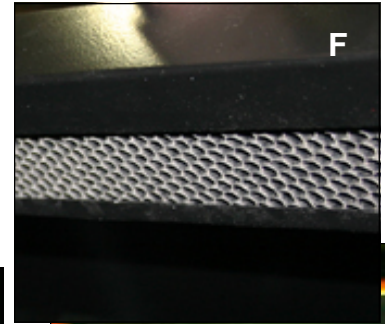
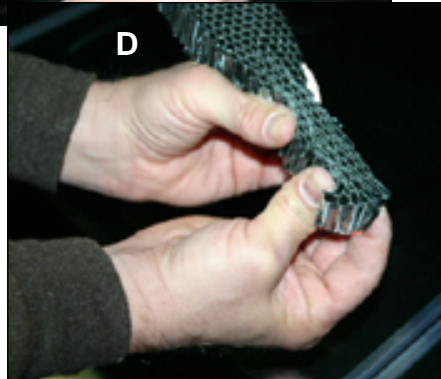
### **Honeycomb Air Diffuser Installation**

D. Squeeze honeycomb to allow it to fit into the honeycomb retainer.

E. Carefully slide honeycomb into place.

F. Adjust honeycomb so that it fits flat against retainer. It must not be wavy or out of position.

Note: For honeycomb air diffusers in other locations, these same general instructions apply.



<b>Product is Drying Out</b>	Check the relative humidity in the store.
<b>Water on the Floor</b>	Check that the drain is correctly positioned over condensate pan.
	Check that condensate overflow pan is plugged in.
	Check that drain and drain trap do not have debris in them.
<b>Excessive Fan Noise</b>	Check that the case is aligned, level and plumb.
<b>System is not Operating</b>	Check that the utility power is on.
	Check that the MAIN power switch is on.
	Check the circuit breaker box for tripped circuits.
<b>Alarm is Flashing [or Sounding]</b>	See alarm and fault codes
<b>Digital Control Display is Blank</b>	Check that the MAIN power switch is on.
	Check the circuit breaker box for tripped circuits.
<b>Fans Not Working</b>	Check that the MAIN power switch is on.
<b>Case Lights Not Working</b>	Check that <b>ALL</b> of the lights are plugged in.
	Check bulbs for proper installation and connection.
	Check for burned out bulbs.
	Clean dirt and dust from the bulbs to prevent flickering.
	Check that light switch is in the <i>on</i> position.

**Note: If problems persist call Starbucks FASQ Desk.**

<b>Controller Display Flashing</b>	If display is flashing, refer to Carel® Temperature Controller Section in this manual.
<b>Not Holding Temperature</b>	If a large amount of warm product was added to the case, it will take time for the temperature to adjust. Unit needs pre-chilled product.
	The temperature will change during defrost cycle but will return to normal when compressor turns on.
	Check to see if the condenser coil has been cleaned.
	Check that the case is not in the sun or near a heat or air-conditioning vent. See <b>OVERVIEW / NSF® TYPE / COMPLIANCE / WARNINGS / PRECAUTIONS / WIRING</b> section in this manual for specifics.
	Check <i>air</i> grilles for obstruction and remove.
	Ensure that front air grilles are not obstructed by product or other décor.
	<b><i>Note: Keep product off front air grilles! Product displayed on front air grilles will cause case to run warm and will negate warranty.</i></b>
<b>Condensing Unit Not Operating</b>	Check that the main power switch is turned on.
	Controller may be in defrost mode. Compressor cycling on and off is a normal condition. See Carel® Temperature Controller Section in this manual.
	Check if the case is on and the control display is blank. If blank, call Starbucks FASQ Desk.

**Note: If problems persist call Starbucks FASQ Desk.**

CONDITION	TROUBLESHOOTING
<b>Water Is On The Floor</b>	<p><b>Caution!</b> Disruption of power can cause water to overflow pan and seep onto flooring causing damage! Check that power to case is constant. Until power is restored, follow these procedures:</p> <ul style="list-style-type: none"> <li>• Use wet-dry vacuum (or mop &amp; bucket) to remove standing water.</li> <li>• Use 'catch pans' for water to drainage. Swap out regularly until evaporation of case is complete (or until power is restored).</li> <li>• When power to case is restored, evaporator pan should function properly and water will no longer overflow onto flooring.</li> </ul>
	Check that the drain trap is free of debris.
	Check that the drain hose is correctly positioned over condensate pan (or floor drain, for remote units).
	Check store conditions. To prevent condensation in NSF® Type 1 environments, maximum conditions are to be 55% humidity / 75° Fahrenheit. For NSF® Type 2, maximum conditions are to be 60% humidity / 80° Fahrenheit. See serial label (at case rear near main power switch) for NSF® Type of your case.
	Check that evaporator pan is properly plugged in or connected.
	<p><b>Caution!</b> Wicking material (hot gas loop condensate system only) may be dirty or worn and need replacement.</p> <ul style="list-style-type: none"> <li>• Slide refrigeration system out from under unit.</li> <li>• After refrigeration system has been carefully slid out from under unit, replace wicking material with new. If wicking material is not available, contact Structural Concepts®. See toll-free number at last page of this operating manual.</li> </ul>

CONDITION	TROUBLESHOOTING
<b>Fan Emits Excessive Noise</b>	Check that the case is aligned, level and plumb.
	Check evaporator fan for cleanliness.
	Unplug/power off fan motors. Check motor shaft for bearing wear.
	Check that fan motors are securely mounted in brackets.
	Verify that fan blades are securely mounted to fan motor.
	Check that nothing is preventing blade rotation.
	Check that the fan shroud is properly secured.
<b>Fans Are Not Working</b>	Check that the MAIN power switch is on.
	Check that fans are plugged in at the fan shroud.
	Check for foreign material obstructing fan performance.
	Check that fan blades freely rotate within fan shrouds
	Check that power is going to fans
	Check that fan wiring is connected on terminal blocks.
<b>Digital Control Display Is Blank</b>	Check that the MAIN power switch is on.
	Check the circuit breaker box for tripped circuits.
<b>System Not Operating</b>	Check that the utility power is on.
	Check that the MAIN power switch is on.
	Check the circuit breaker box for tripped circuits.

CONDITION	TROUBLESHOOTING
<b>Case Lights Are Not Working</b>	Check that light switch is on. See <b>START-UP AND OPERATION</b> in this manual for location.
	Check that <b>ALL</b> of the light cords and plugs are properly connected. See <b>MAINTENANCE FUNDAMENTALS</b> section in this manual.
	Check voltage at ballast (or driver). If voltage is entering but not exiting, ballast (or driver) may be faulty.
<b>Control Display Is Flashing</b>	See your case's serial label for your model's specified settings. See <b>SERIAL LABEL LOCATION &amp; INFORMATION LISTED / TECH INFO &amp; SERVICE</b> for label location, etc.
<b>Case Is Not Holding Temperature</b>	If a large amount of warm product was added to the case, it will take time for the temperature to adjust. Unit needs product to be pre-chilled.
	Temperature changes during defrost mode but will return to normal. Fourth LED will indicate defrost cycle in progress.
	Check that case is not in sun or near a heat or air-conditioning vent. See <b>OVERVIEW / NSF® TYPE / COMPLIANCE / WARNINGS / PRECAUTIONS / WIRING</b> section in manual for adverse conditions/spacing issue parameters.
	If case is located near front doors, temperature fluctuation can hinder unit's ability to maintain temperature. See <b>OVERVIEW / NSF® TYPE / COMPLIANCE / WARNINGS / PRECAUTIONS / WIRING</b> section in manual for adverse conditions/spacing issue parameters.
	Check that magnetized condenser coil air filter (attached to rear grille) has been cleaned. See <b>GENERAL CLEANING [TO BE PERFORMED BY STORE PERSONNEL]</b> section in operating manual for instructions.
	Check that condenser coil has been cleaned.
	Check air return grilles for obstructions.
	Check sight glass for flashing and/or low charge.
	Check Set Point Temperature; it may be adjusted too high.
<b>Condensing Unit Is Not Operating</b>	Check that the power is turned on.
	Determine if temperature controller settings are properly set. See your case's serial label for your model's specified settings. See <b>SERIAL LABEL LOCATION &amp; INFORMATION LISTED / TECH INFO &amp; SERVICE</b> section in manual for label location, etc.

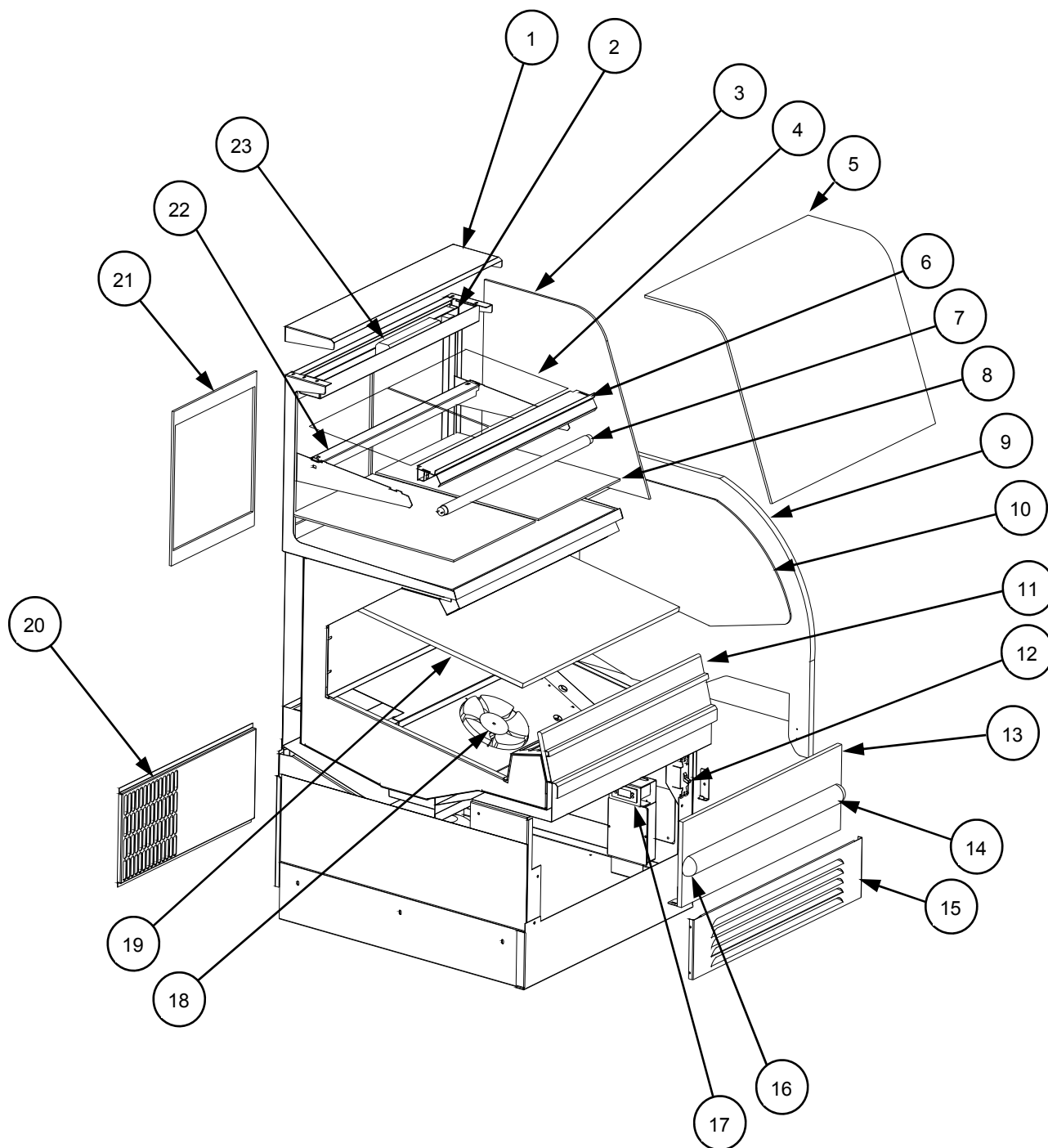
## TROUBLESHOOTING [BY TRAINED SERVICE PROVIDERS ONLY] - CONDENSING SYSTEM

CONDITION	TROUBLESHOOTING
<b>Head Pressure Too High</b>	Check that the Condensing Coil is not dirty or covered.
	Check that Condensing Fans are working.
	Check that refrigerant is not overcharged.
	Check to verify that a non-condensable is not in the system.
	Check that Liquid Line Drier is not plugged.
	Check that there are no close-offs around Condensing Coil.
	Check Set Point Temp.; it may be adjusted too high.
	Check System Operating Temperatures.
	Check that Store Ambient Temperature isn't above maximum allowed. See <i>Overview and Warnings</i> Section.
<b>Head Pressure Too Low</b>	Check that Refrigerant Charge isn't too low.
	Check that Suction Pressure isn't too low.
	Check to verify that Compressor Valves aren't bad.

# TROUBLESHOOTING [BY TRAINED SERVICE PROVIDERS ONLY] - EVAPORATOR SYSTEM

CONDITION	TROUBLESHOOTING
<b>Low Suction Pressure</b>	Check that the Refrigerant doesn't have a low charge.
	Check that Expansion Valve (TXV Valve) isn't restricted.
	Check that Liquid Line or Filter isn't restricted.
	Check that Evaporator Motors are working.
	Check that High Superheat doesn't need adjusting.
	Check that the Thermostatic Element charge isn't depleted.
	Check that there is air no seepage of air around Condensing Coil.
	Check that the Coil is not iced up.
<b>High Suction Pressure</b>	Check that Refrigerant Charge isn't too high.
	Check that Compressor Valves aren't bad.
	Check that the Cooling Load isn't high.
	Check that Superheat Adjustment isn't low.
	Check TXV Bulb Installation <ul style="list-style-type: none"> <li>a. Poor thermal contact.</li> <li>b. Warm location.</li> </ul>
	Check Compressor: Low capacity means it is undersized for its application.

**NOTE: DUE TO OPTIONS AND FEATURES THAT MAY BE CHOSEN BY CUSTOMER, ILLUSTRATED PARTS BREAKDOWN SHOWN MAY NOT EXACTLY REFLECT YOUR PARTICULAR MODEL.**

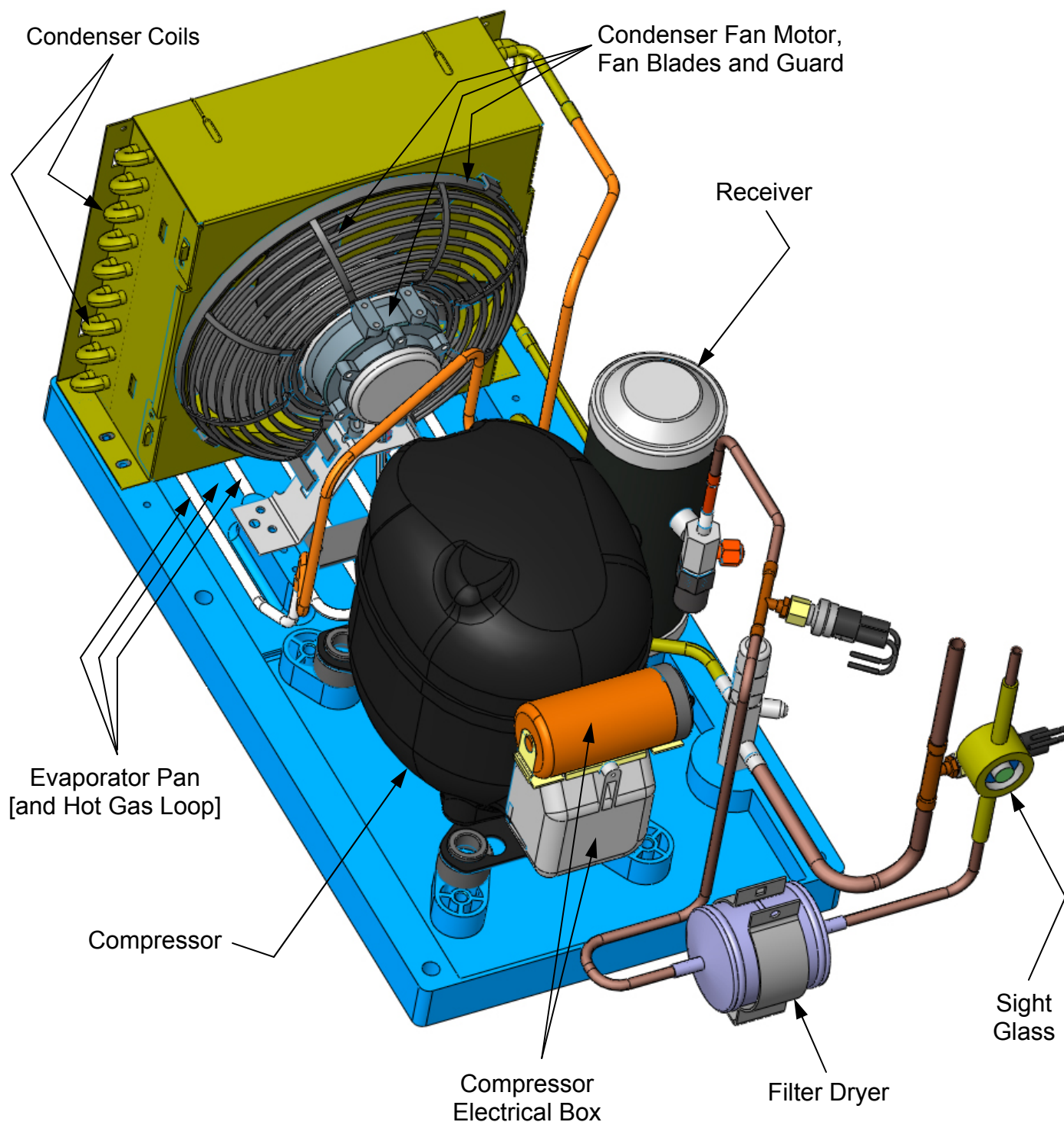


**PARTS LIST - MODEL COU2757R & COU2757R.3748**

1	Top Cap	13	Front Panel
2	Rocker Switch	14	Bumper Insert
3	End Glass	15	Front Grille
4	Shelf, Glass	16	Bumper End Cap
5	Curved Front Glass	17	Temperature Controller
6	Shelf Light	18	Fan Motor, Evaporator
7	Lamp Bulb	19	Deck Pan
8	ABS Decks	20	Rear Grille
9	End Panel	21	Rear Door
10	End Panel Mirror	22	Rear Rack Support
11	Air Deflector Glass	23	Ballast
12	Single Pole Switch		

## GENERAL LAYOUT OF CONDENSER PACKAGE

***Note: Condenser Package Layout Shown Below is Used Primarily on Model COU2757R [“B1-Temp”] Units and Model COU2765R [“Mini-B”] Units. Illustration Shown May Not Exactly Reflect Every Component of Your Unit.***



# CAREL

## ir33 platform

Integrated Electronic  
Microprocessor Controller



### Programming The Instrument

#### To Modify The Setpoint

**Set** Press and hold the "SET" key for at least 1 second.

**▲**  
**aux** **def**  
**▼** 2. Use arrow keys ▲ ▼ on temperature controller to increase (or decrease) the setpoint.

**Set** 3. Quickly press and release the "SET" key again.

#### To Modify Defrost, Differential, Other Parameters

**Prg** **Set**  
**mute** 1. Press & hold "Prg" & "SET" keys together for five (5) seconds; display will flash "0", representing password prompt.

**Set** 2. Confirm by pressing "SET" key.

**▲** **def**  
**aux** **▼** 3. Press ▲ or ▼ to reach the category to be modified.

**Set** 4. Press "SET" to modify this selected parameter.

**▲** **def**  
**aux** **▼** 5. Increase or decrease the value using the ▲ or ▼ button respectively.

**Set** 6. Press the "SET" key to temporarily save the new value and return to the display of the parameter.

**Prg** **mute** 7. Press & hold the "Prg" key for at least 5 seconds to save changes. This action will also mute the audible alarm (buzzer) & deactivate the alarm relay.

#### Warning! Save Your Parameter Settings!

1. To store the new parameter values, PRESS and HOLD the "Prg" key for at least 5 seconds.
2. All modifications made to parameters will be lost if you do NOT press a button within 60 seconds. Should this "timeout" occur, normal operational settings (prior to modifications being made) will resume.
3. If the instrument is switched off before pressing the "Prg" key, all modifications to parameters will be lost.

**def** **▼** **To Activate Manual Defrost**  
Press and hold "def" key for at least 5 seconds.

**▲** **aux** **To Activate / Deactivate Auxiliary Output**  
Press and hold the "aux" key for 1 second.

#### How To Change Reading From Fahrenheit (°F) To Celsius (°C)

**Prg** **Set**  
**mute** 1. Press and hold "Prg" and "SET" keys together for at least 5 seconds; display will show "0" (password prompt).

**Set** 2. Confirm by pressing "SET" key.

**▲** **def**  
**aux** **▼** 3. Press ▲ or ▼ until reaching the parameter "/ 5".

**Set** 4. Press "SET" to modify this selected parameter.

**▲** **def**  
**aux** **▼** 5. Press ▲ or ▼ to change value to desired setting: "0" for Celsius (°C) or "1" for Fahrenheit (°F).

**Set** 6. Press "SET" key to temporarily save the new value and return to the display of the parameter.

**Prg** **mute** 7. Press & hold "Prg" key for at least 5 seconds to save changes. **Note! All values will automatically convert to new scale. No conversion is required.**

**Prg** **▲** **To Reset Any Alarms With Manual Reset**  
**mute** **aux**

Press and hold the "Prg" and "aux" key for at least 1 second.

# CAREL

## ir33 platform

### Integrated Electronic Microprocessor Controller



### User Interface - Display

ICON	FUNCTION	DESCRIPTION	ON	Normal operation OFF	BLINK	Start up
	COMPRESSOR	ON when the compressor starts. Flashes when the activation of the compressor is delayed by safety times.	Compressor on	Compressor off	awaiting activation	
	FAN	ON when the fan starts. Flashes when the activation of the fan is prevented due to external disabling or procedures in progress.	Fan on	Fan off	awaiting activation	
	DEFROST	ON when the defrost is activated. Flashes when the activation of the defrost is prevented due to external disabling or procedures in progress.	Defrost in progress	Defrost not in progress	awaiting activation	
	AUX	Flashes if the anti-sweat heater function is active, ON when the auxiliary output (1 and/or 2) selected as AUX (or LIGHT in firmware version 3.6) is activated.	AUX auxiliary output active (version 3.6 light auxiliary output active)	AUX auxiliary output not active	Anti-sweat heater function active	
	ALARM	ON following pre-activation of the delayed external digital input alarm. Flashes in the event of alarms during normal operation (e.g. high/low temperature) or in the event of alarms from an immediate or delayed external digital input.	Delayed external alarm (before the time 'A7' elapses)	No alarm present	Alarms in norm. operation (e.g. High/low temperature) or immediate or delayed alarm from external digital input	
	CLOCK	ON if at least one timed defrost has been set. At start-up, comes ON for a few seconds to indicate that the Real Time Clock is fitted.	If at least 1 timed defrost event has been set	No timed defrost event set	Alarm clock	ON if real-time clock present
	LIGHT	Flashes if the anti-sweat heater function is active, ON when the auxiliary output (1 and/or 2) selected as LIGHT is activated (in firmware version 3.6 it does not flash in anti-sweat heater mode and comes on when the dead band output is active).	Light auxiliary output on (version 3.6 dead band auxiliary output active)	Light auxiliary output off	Anti-sweat heater function active (version 3.6 does not flash in anti-sweat heater mode)	
	SERVICE	Flashes in the event of malfunctions, for example E2PROM errors or probe faults.		No malfunction	Malfunction (e.g. E2PROM error or probe fault). Contact service	
	CONTINUOUS CYCLE	ON when the CONTINUOUS CYCLE function is activated. Flashes if the activation of the function is prevented due to external disabling or procedures in progress (E.g.: minimum compressor OFF time).	CONTINUOUS CYCLE operation activated	CONTINUOUS CYCLE function not activated	CONTINUOUS CYCLE operation requested	

### Summary Table of Alarm and Signals: Display, Buzzer and Relay

Code	Icon on the display	Alarm relay	Buzzer	Reset	Description
rE	flashing	on	on	automatic	virtual control probe fault
E0	flashing	off	off	automatic	room probe S1 fault
E1	flashing	off	off	automatic	defrost probe S2 fault
E2	flashing	off	off	automatic	probe S3 fault
E3	flashing	off	off	automatic	probe S4 fault
E4	flashing	off	off	automatic	probe S5 fault
'	No	off	off	automatic	probe not enabled
LO	flashing	on	on	automatic	low temperature alarm
HI	flashing	on	on	automatic	high temperature alarm
AFr	flashing	on	on	manual	antifreeze alarm
IA	flashing	on	on	automatic	immediate alarm from external contact
dA	flashing	on	on	automatic	delayed alarm from external contact
dEF	on	off	off	automatic	defrost running
Ed1	No	off	off	automatic/manual	defrost on evaporator 1 ended by timeout
Ed2	No	off	off	automatic/manual	defrost on evaporator 2 ended by timeout
Pd	flashing	on	on	automatic/manual	maximum pump down time alarm
LP	flashing	on	on	automatic/manual	low pressure alarm
AtS	flashing	on	on	automatic/manual	autostart in pump down
cht	No	off	off	automatic/manual	high condenser temperature pre-alarm
CHT	flashing	on	on	manual	high condenser temperature alarm
dor	flashing	on	on	automatic	door open too long alarm
EE	flashing	off	off	automatic	E2prom error, unit parameters
EF	flashing	off	off	automatic	E2prom error, operating parameters
ccb	Signal				start continuous cycle request
ccE	Signal				end continuous cycle request
dFb	Signal				start defrost call
dFE	Signal				end defrost call
On	Signal				switch ON
off	Signal				switch OFF
rES	Signal				reset alarms w/manual reset / reset HACCP alarms / reset temp. monitoring

**CAREL****ir33 platform**Integrated Electronic  
Microprocessor Controller**Summary Table of Operating Parameters**

CODE	PARAMETER	UOM*	TYPE	MINIMUM	MAXIMUM	DEFAULT
/5	Select Celsius (°C) or Fahrenheit (°F)	flag	C	0	1	<p>For Case Specific Defaults See Serial Label Located Near Electrical Access On Your Case.</p> <p>For Additional Technical Information Call Structural Concepts Technical Service Dept. at 1(800) 433.9489</p>
/c1	Calibration of probe 1	°C/°F	C	-20	20	
/c2	Calibration of probe 2	°C/°F	C	-20	20	
St	Temperature set point	°C/°F	F	r2	r1	
rd	Control delta	°C/°F	F	20	0.1	
dl	Interval between defrosts	hours	F	0	250	
dt1	End defrost temperature, evaporator	°C/°F	F	-50	200	
dP1	Maximum defrost duration, evaporator	min	F	1	250	
d6	Display on hold during defrost	-	C	0	2	
dd	Dripping time after defrost	min	F	0	15	
d/1	Display of defrost probe 1	°C/°F	F	-	-	

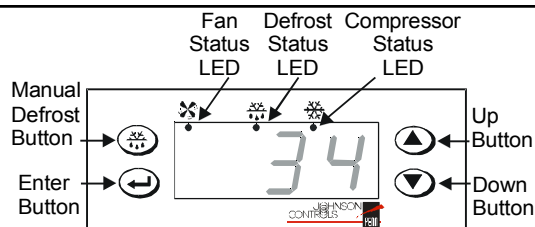
\* Unit Of Measure

## Alarm and Fault Codes

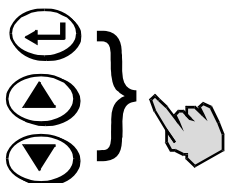
These alarm and fault codes will flash on the display when the control detects the following faults:

**Table 1: Error Codes and Status**

Error Code	System Status
<b>F1</b> Indicates an open or shorted temperature sensor	Alarm output is on. Compressor runs according to the sensor failure mode selected (parameter <b>SF</b> ). Cycle power to reset control.
<b>F2</b> Indicates an open or shorted evaporator sensor	Alarm output is on. Defrost cycle is controlled by parameters <b>di</b> (defrost initiation) and <b>dd</b> (defrost duration). Correct problem to reset control.
<b>A1</b> Indicates that the digital input was open for longer than the time delay ( <b>id</b> ) and digital input ( <b>iF</b> ) Option 1 is selected	Compressor output is off. Alarm output is on. Correct problem to reset control.
<b>A2</b> Digital input closed for longer than time delay ( <b>id</b> ) and digital input ( <b>iF</b> ) Option 2 is selected	Alarm output is on. Correct problem to reset control.
<b>A3</b> Digital input open for longer than the time delay ( <b>id</b> ) and digital input ( <b>iF</b> ) Option 3 selected	Fan output is off. Alarm output is on. Correct problem to reset control.
<b>HI</b> Temperature has exceeded the high temperature alarm value ( <b>AH</b> )	Alarm output is on. Correct problem to reset control.
<b>LO</b> Temperature has fallen below the low temperature alarm value ( <b>AL</b> )	Alarm output is on. Correct problem to reset control.
<b>EE</b> Program failure	Alarm output is on. Other outputs are off. Replace control.

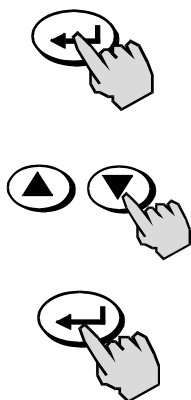


### To lock and unlock the unit for programming



Press the Enter, Up, and Down buttons in sequence and hold them all down until “- - -” is displayed. Hold for about 10 seconds until the current temperature is displayed. This toggles the keypad between locked and unlocked.

### To change the setpoint



1. Hold the Enter button down for 3 seconds. The display will change to show the setpoint. Release the Enter button.
2. Press the Up or Down button until you reach the new setpoint.
3. Press the Enter button to save the new setpoint.

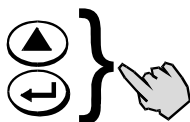
**Note:** If the Enter button is not pressed after selecting the new setpoint, the new setpoint is not saved, and the control will revert to the original setpoint.

### To begin a Manual Defrost Cycle



Hold the Defrost button down for 3 seconds.

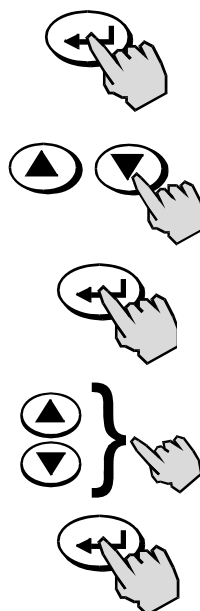
### To begin a Deep Freeze Cycle



Press the Enter and Up buttons in sequence and hold both for 5 seconds. The compressor status LED will light.

### To program values other than the setpoint

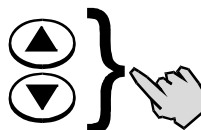
A parameter settings reference page is included in Table 3 of this bulletin. Filling out the parameter settings before programming may be helpful.



1. Hold the Enter button down for about 10 seconds. The display will change to HY.
2. Press the Up or Down button until the desired parameter is displayed.
3. Press the Enter button. The parameter's current value is displayed.
4. Press the Up or Down button until the desired value is shown.
5. Press the Enter button to save the new value. After 10 seconds of inactivity, the display will return to its normal function.

**Note:** If the Enter button is not pressed after selecting the new value, the new value is not saved, and the control will revert to using the previous value.

### To run the Self-test procedure



Press the Up and Down buttons in sequence, and hold for 5 seconds.

**IMPORTANT:** Disconnect loads before beginning Self-test procedure. Cycle power to resume normal operation.

**Call Starbucks FASQ Desk  
For All Technical Service Issues**

# Starbucks Limited Warranty

All sales by Structural Concepts Corporation (SCC) are subject to the following limited warranty. "Goods" refers to the product or products being sold by SCC.

**Warranty Scope:** Warranty is for equipment sold ONLY to Starbucks Corporation in the United States, Canada, Mexico and Puerto Rico. Equipment sold elsewhere may carry modified warranty.

**Warranty; Remedies; Limitations.** SCC warrants that if any Goods are found by an authorized representative of SCC not to be of good material or workmanship within one year of the date of shipments SCC will, at its option after inspection by an authorized representative, replace any defective Good or pay the reasonable cost of replacement for any such defective Goods, provided that written notice of the defect is given to SCC within 30 days of the appearance of such defect. If notice is not given within such period, any claim for breach of warranty shall be conclusively deemed to have been waived and SCC shall not be liable under this warranty. If SCC is unable to repair or replace the defective Goods, SCC shall issue a credit to the Purchaser for all or part of the purchase price, as SCC shall determine. The replacement or payment in the manner described above shall be the sole and exclusive remedy of Purchaser for a breach of this warranty. If any Goods are defective or fail to conform to this warranty, SCC will furnish instructions for their disposition. No Goods shall be returned to SCC without its prior consent.

SCC's liability for any defect in the Goods shall not exceed the purchase price of the Goods. SCC SHALL HAVE NO LIABILITY TO PURCHASE FOR CONSEQUENTIAL DAMAGES OF ANY KIND WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, PERSONAL INJURY, PROPERTY DAMAGE, LOST PROFITS, OR OTHER ECONOMIC INJURY DUE TO ANY DEFECT IN THE GOODS OR ANY BREACH OF SCC. SCC SHALL NOT BE LIABLE TO THE PURCHASER IN TORT FOR ANY NEGLIGENT DESIGN OR MANUFACTURE OF THE GOODS, OR FOR THE OMISSION OF ANY WARNING THEREFROM.

SCC shall have no obligation or liability under this warranty for claims arising from any other party's (including Purchaser's) negligence or misuse of the Goods or environmental conditions. This warranty does not apply to any claim or damage arising from or caused by improper storage, handling, installation, maintenance, or from fire, flood, accidents, structural defects, building settlement or movement, acts of God, or other causes beyond SCC's control.

Except as expressly stated herein, SCC makes no warranty, express, implied, statutory or otherwise as to any parts or goods not manufactured by SCC. SCC shall warrant such parts or Goods only (I) against such defects, (II) for such periods of time, and (III) with such remedies, as are expressly warranted by the manufacturer of such parts of Goods. Notwithstanding the foregoing, any warranty with respect to such parts of Goods and any remedies available as a result of a breach thereof shall be subject to all of the procedures, limitations, and exclusions set forth herein.

THE WARRANTIES HEREIN ARE IN LIEU OF ALL WARRANTIES, EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE. IN PARTICULAR, SCC MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

No representative, agent or dealer of SCC has authority to modify, expand, or extend this Warranty, to waive any of the limitations or exclusions, or to make any different or additional warranties with respect to Goods.

**Period of Limitations.** No claim, suit or other proceeding may be brought by Purchaser for any breach of the foregoing warranty or this Agreement by SCC or in any way arising out of this Agreement or relating to the Goods after one year from the date of the breach. In the interpretation of this limitation on action for a breach by SCC, it is expressly agreed that there are no warranties of future performance of the goods that would extend that period of limitation herein contained for bringing an action.

**Indemnifications.** Purchaser agrees to indemnify, hold harmless, and defend SCC if so requested, from any and all liabilities, as defined herein, suffered, or incurred by SCC as a result of, or in connection with, any act, omission, or use of the Goods by Purchaser, its employees or customers, or any breach of this Agreement by Purchaser. Liabilities shall include all costs, claims, damages, judgments, and expenses (including reasonable attorney fees and costs).

**Remedies of SCC.** SCC's rights and remedies shall be cumulative and may be exercised from time to time. In a proceeding or action relating to the breach of this Agreement by Purchaser, Purchaser shall reimburse SCC for reasonable costs and attorney's fees incurred by SCC. No waiver by SCC of any breach of Purchaser shall be effective unless in writing nor operate as a waiver of any other breach of the same term thereafter. SCC shall not lose any right because it has not exercised it in the past.

**Applicable Law.** This Agreement is made in Michigan and shall be governed by and interpreted according to Michigan law. Any lawsuit arising out of this Agreement or the Goods may be handled by a federal or state court whose district includes Muskegon County, Michigan, and Purchaser consents that such court shall have personal jurisdiction over Purchaser.

**Miscellaneous.** If any provision of this Agreement is found to be invalid or unenforceable under any law, the provision shall be ineffective to that extent and for the duration of the illegality, but the remaining provisions shall be unaffected. Purchaser shall not assign any of its rights nor delegate any of its obligations under this Agreement without prior written consent of SCC. This Agreement shall be binding upon and inure to the benefit of SCC and Purchaser and each of their legal representatives, successors and assigns.

SCC warrants its products to be free of defects in materials and workmanship under normal use and service for a period of one (1) year.

This warranty is extended only to the original purchaser for use of the Goods. It does not cover normal wear parts such as plastic tongs, tong holders, tong cables, bag holders, or acrylic dividers.

**General Conditions.** All service labor and/or parts charges are subject to approval by SCC. Contact the Customer Service Department in writing or call 1.800.433.9489.

All claims must contain the following information: (1) model & serial code number of equipment; (2) the date and place of installation; (3) the name and address of the agency which performed the installation; (4) the date of the equipment failure; and (5) a complete description of the equipment failure and all circumstances relating to that failure.

Once the claim has been determined to be a true warranty claim by SCC's Customer Service Department, the following procedure will be taken: (1) replacement parts will be sent at no charge from SCC on a freight prepaid basis; (2) reimbursement for service labor will be paid if the following conditions have been met - (a) prior approval of service agency was awarded from the Customer Service Department; and (b) an itemized statement of all labor charges incurred is received by the Customer Service Department. The cost of the service labor reimbursement will be based on straight time rates and reasonable time for the repair of the defect.

If problems occur with any compressor, notify SCC's Customer Service Department immediately. Any attempt to repair or alter the unit without prior consent from the Customer Service Department may render any warranty claim null and void. This warranty and protection plan does not apply to any condensing unit or any part thereof which has been subject to accident, negligence, misuse, or abuse, or which has not been operated in accordance with the manufacturer's recommendations or if the serial number of the unit has been altered, defaced, or removed.

**Limit of Liability.** The limit of liability of SCC toward the exchange cost of the original compressor motor is one year parts and labor. A motor-compressor replaced during the warranty shall not exceed manufacturer's current established wholesaler's exchange price.