Model G24F Shown Above
(Your Model May Slightly Vary)

Model G12F / G12F.4759 / G12F.5150……47 1/2”L* x 43 3/8”D x 53 3/4”H**
Model G18F / G18F.4888A…………………………67 1/2”L* x 43 3/8”D x 53 3/4”H**
Model G24F……………………………………………84 1/2”L* x 43 3/8”D x 53 3/4”H**

*Includes 2” End Panels
**Includes Levelers at 1 1/4” Below Base Frame
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OVERVIEW

- The Structural Concepts® Glass Front, Freezer Service Gelato Display Case is designed to merchandise gelato and/or soft ice cream into cones, containers or dishes.
- This case is designed to maintain product at temperatures of -2° F (–19 °C).
- Product must be pre-chilled to -2 °F (–19 °C) before placing in merchandiser.
- Cases should be installed and operated according to this operating manual’s instructions to insure proper performance.
- Improper use will void warranty.

CASE 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 Type 1 Conditions (most cases): ambient conditions are to be at 55% maximum humidity and maximum temperatures of 75 °F [24 °C].
- For 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 designed for 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 sheet contains important warnings to prevent injury or death.
- Please read carefully!

PRECAUTIONS, CORD/PLUG MAINTENANCE & WIRING DIAGRAM INFORMATION

- See next page for PRECAUTIONS, CORD/PLUG MAINTENANCE and WIRING DIAGRAM information.
**Precautions**
- This sheet contains important precautions to prevent damage to unit or merchandise.
- Please read carefully!
- See previous page for specifics on OVERVIEW, 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.

---

**Warning! Adverse Conditions / Spacing Issues**
- Performance issues caused by adverse conditions are NOT warranted.
- 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 increase noise level. Whisper Cool compressor blankets or remote units resolve noise level issues.
- Keep at least 8-inch clearance above unit for air discharge (self-contained units only).

---

**Warning! Lamp Replacement Guidelines**
Fluorescent lamps have been treated to resist breakage and must be replaced with similarly treated lamps. LED lamps reflect specific size, shape and overall design. Any replacements must meet factory specifications.

---

**Warning! GFCI Breaker Use Requirement**
If N.E.C. (National Electric Code) or your local code requires GFCI (Ground Fault Circuit Interrupter) protection, you MUST use a GFCI breaker in lieu of a GFCI receptacle.

---

**Warning! Power Cord and Plug Maintenance**
Risk of electric shock. If cord or plug becomes damaged, replace only with cord and plug of same type.

---

**Warning! Check Evaporator Pan Position and Plug**
Water on flooring can cause extensive damage!
Before powering up unit, check the following:
- Evaporator pan MUST BE positioned directly under condensate drain.
- Evaporator pan plug MUST BE securely plugged into receptacle.
**1. Remove Unit From Skid**
Caution: case must always remain supported or center of gravity will allow case to fall. Slide unit to rear of skid and tip backward off skid.

**2. Case Aligning, Adjusting and Sealing**
- For Service Glass to align properly, case must be level and plumb. Adjust feet accordingly (see illustration above).
- **Caution! These units MUST BE sealed to the floor to maintain conformance to NSF® equipment mounting standards.**
- Align multiple units (as shown above with balloons A and B).

**3. Remote Electrical Connections:**
Model G24F: Field wiring hook-up / electrical access locations are shown in the illustration below.
- 220V Single Phase Leads or Cord with Nema Plugs provided.
- See **SERIAL LABEL LOCATION & INFORMATION LISTED / TECH INFO & SERVICE** for more detailed information.
- Model G12F: Field wiring hook-up / electrical access locations are at opposite end than that shown below.

---

*Model G24F: Field Wiring Hookup into Electrical Box Model G12F: Field Wiring Hookup is at opposite end.*
START-UP / OPERATING / MAINTENANCE / DRAIN SYSTEMS SECTION
Merchandiser Start-Up

- **Self-Contained**: Main Power switch is located at case rear, lower left. See illustration at lower right and lower left.
- **Remote Units**: Case is hard-wired. When power is supplied, case will power-up.
- **Lights**: Turn on the lights. Whether Remote or Self-Contained, light switch is located on inside of case at top left, from case rear. See illustration at top right.
- **Light Warm-up**: All 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.
- **Merchandising**: Please allow unit to run empty for at least 1 1/2 hrs (90 minutes) before merchandising.

Raise the Curved Glass

- To raise the curved glass, grasp the lift handle extrusion on the bottom edge of the door and lift up. See illustration below-right.
- **Caution**: Carefully return curved glass to original position.

Removing (Optional) Rear Glass Doors

- Move rear doors toward the case center.
- Individually lift each door up toward top of case and pivot bottom of the door out.
- **Caution**: Gently set doors down to avoid marring, scratching or breakage.

Temperature Controller Location:

- **G24F**: At Left Side of Case Rear (as shown above)
- **G12F**: At Right Side of Case Rear
Light Fixtures

Warning! Disconnect power before providing maintenance and service to unit.

Caution: Lamps have been treated to resist breakage and must be replaced with similarly treated lamps.

Light fixtures are to be located on underside of shelf assembly, at the top inside of case, and lower front nose of case. See next page for light fixture locations.

Removal of lamp:
- Rotate lamp (1/4-turn) either direction to disengage (upper or lower) pins/contacts from lamp-mounting sockets.
- Remove bulb by applying even pressure from back side at the bulb ends and pulling the remaining contact from sockets.

Installation of lamp:
- Align pins with slot.
- Insert pins into socket by rotating the bulb 1/4-turn to secure either the (upper or lower) pin contacts into the sockets.
- Rotate remaining bulb contacts (1/4-turn) into remaining lamp mounting socket contacts.

Optional Clean Sweep Condensing Coil
- Clean sweep Condensing Coil (photo below) is accessible by removing rear grille.
- See Preventive Maintenance (To Be Performed By Trained Service Provider) for cleaning instructions.
- Photo below is after rear grille has been removed case
Self-Contained Units have Drain Systems that allow thorough defrost and interior cleaning.
- Default Drain Valve setup (from manufacturer) is with Internal Evaporator Pan being utilized.

Note: Model and options chosen may affect location of valves, drains, controller, electrical box location, or number of pans shown in these illustrations.
Self-contained are designed to allow thorough defrost and interior cleaning.

- Default system of this unit (from manufacturer) is WITHOUT Internal Evaporator Pan being utilized.
- See **DIPWELL™ OPERATION AND REMOVAL FOR CLEANING** for Dipwell™ illustration.

Note: Model and options chosen may affect location of valves, drains, controller, electrical box location, or number of pans shown in these illustrations.
Self-contained units have drain systems that allow thorough defrost and interior cleaning. > Default drain valve setup (from manufacturer) is with internal evaporator pan being utilized.

**MODEL G18F DRAIN SYSTEM (Self-Contained Units With Optional Evaporator Pan Only)**

**Note:** Model and options chosen may affect location of valves, drains, controller, electrical box location, or number of pans shown in these illustrations.
Self-Contained Units have Drain Systems that allow thorough defrost and interior cleaning.

- Default Drain Valve setup (from manufacturer) is with Internal Evaporator Pan being utilized.

**MODEL G24F DRAIN SYSTEM (Self-Contained Units With Optional Evaporator Pan Only)**

Self-Contained Units have Drain Systems that allow thorough defrost and interior cleaning.

- Default Drain Valve setup (from manufacturer) is with Internal Evaporator Pan being utilized.

**Note:** Model and options chosen may affect location of valves, drains, controller, electrical box location, or number of pans shown in these illustrations.
ILLUSTRATIONS, INSTRUCTIONS AND INFORMATION CONTAINED IN THIS SECTION PERTAINS TO STORE EMPLOYEES ONLY
<table>
<thead>
<tr>
<th>Cleaning</th>
<th>Daily (or Nightly)</th>
<th>Weekly</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Case Exterior</td>
<td></td>
<td>X</td>
<td>Glass: Clean side glass, front curved glass and sliding glass rear doors (optional) with a household or commercial glass cleaner.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td></td>
<td>Dipwell™: Dipwell is used for thawing gelato scoops. See next page for illustrations and cleaning instructions.</td>
</tr>
<tr>
<td>Clean Case Interior</td>
<td></td>
<td>X</td>
<td>Pans and Supports: Remove pans &amp; supports (leaving fan cover panels in case). Submerse in hot, soapy water and wash with sponge or clean cloth. Rinse, dry, and return to case.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td></td>
<td>Rear Sliding Doors: Remove rear doors and clean with a household or commercial cleaner (service cases only).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td></td>
<td>Extended Internal Cleaning: Extended internal cleaning required ensure proper performance.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>⇒ See <strong>WEEKLY CLEANING (TO BE PERFORMED BY STORE PERSONNEL)</strong> section in this manual for specifics.</td>
</tr>
</tbody>
</table>
Dipwell™ is for thawing cold gelato scoops.
- Dipwell™ should be cleaned daily.
- Remove Dipwell™ simply by lifting up and out (as shown in below illustration).

Dipwell™ can be completely removed from case (for cleaning) by simply lifting straight up and out.

- Submerse Dipwell™ in hot, soapy water and wash with sponge or clean cloth. Rinse, dry, and return to case.

Illustrations Shown May Not Exactly Reflect Every Feature or Option of Your Particular Case
\(\textbf{CAUTION! YOU MUST PERFORM THIS CLEANING PROCEDURE EVERY 7 DAYS TO PREVENT ICE BUILDUP AND TO KEEP CASE RUNNING AT PROPER TEMPERATURE.}\)

\(\textbf{Note: Full defrost process takes at least 6 hours (and is often performed overnight).}\)

\(\textbf{Caution! You must remove product from case and place in freezer PRIOR TO defrosting this unit. See step #1, below.}\)

1. Remove product from case. Place in freezer.
2. Determine whether your case has a Drain Spout and Valve (at rear of case).
   \(\Rightarrow\) If your case does NOT have a Drain Spout and Valve, you may jump to Step 5 in these instructions.
   \(\Rightarrow\) See illustrations at right for several valve designs.
3. Connect hose (1” I.D.) to drain spout and run to floor drain or bucket. Or, if no hose is available, place bucket under drain spout.
4. After hose is connected (or bucket is in place), crank drain valve to External Drain position. This will allow the water to drain into floor drain (or bucket) while case is defrosting.

**Defrost Procedure:** This step takes place AFTER product has been removed and placed in freezer.

5. Locate temperature controller and main power switch (at rear-left or rear-right of your case) as shown in illustration at right.
6. Become familiar with the temperature controller. See illustration below.
7. Case must now be placed in manual defrost mode. To do so, press and hold the Defrost Key (shown at right) for 5 seconds.
8. Defrost light (shown at left) will come on if defrost key has been properly pressed. If defrost light is not on, repeat step 7.
9. After 15 to 20 minutes, defrost light will turn off. Turn OFF main power switch. Allow to sit at least 6 hours (or overnight) before proceeding to next step.
   \(\Rightarrow\) Do not be alarmed if, after Defrost Light turns off, Compressor Light (shown at right) comes on. Turn off main power anyway.

**Cleaning Instructions Continue On Next Page...**
CAUTION! YOU MUST PERFORM THIS CLEANING PROCEDURE EVERY 7 DAYS TO PREVENT ICE BUILDUP AND TO KEEP CASE RUNNING AT PROPER TEMPERATURE.

Cleaning Instructions Continued...

Note: These steps take place AFTER case has defrosted and power has been turned off.

The cleaning process may now begin:
10. Remove pans and support rails. Submerse in hot, soapy water. Clean with non-abrasive cloth or soft-bristled brush. See illustration #10 below.

11. Remove knurled head fasteners (at rear of unit). See illustration #11 below.
12. Lift up out of unit. Submerse in hot, soapy water. Clean with non-abrasive cloth or soft-bristled brush. See illustration #12 below.

Cleaning Instructions Continue On Next Page...
CAUTION! YOU MUST PERFORM THIS CLEANING PROCEDURE EVERY 7 DAYS TO PREVENT ICE BUILDUP AND TO KEEP CASE RUNNING AT PROPER TEMPERATURE.

Cleaning Instructions Continued...

Note: These steps take place AFTER case has defrosted and power has been turned off.

Optional: Check condition of tub around (and under) evaporator fan shroud. If oily residue and food particles warrant cleaning under fan shroud, follow steps 13-17. If not, continue at step #18.

13. Locate the evaporator fan shroud electrical plug at left of fan shroud.
14. Carefully remove electrical tape and disconnect dual-prong plug from receptacle.
15. Lift tabs from slots and lift rear fan shroud assembly upward from case.
16. Lift fan shroud assembly up and out.
17. View of tub area after all pans, support rails, fan cover panels and evaporator fan shroud have been removed from case.
18-20. Use bucket of hot water, mild detergent, soft bristled brush (or sponge) to clean away oily residue and food particles.
21. After all residue has been dislodged, use spray bottle or hose with slowly-flowing water to rinse out tub area to floor drains. Caution! If using hose, do not splash onto electrical cords, fan or plug.
22. Dry with paper towel or cloth when complete.

Cleaning Instructions Continue On Next Page...
Cleaning Instructions Continued…

Note: These steps take place AFTER case has defrosted and power has been turned off.
23. After cleaning, rinsing and drying tub area, is complete, place evaporator fan shroud assembly back into case.
24. Firmly reconnect two-pronged plug into receptacle.
25. Re-tape plug with existing electrical tape. If tape has lost its adhesiveness, replace.
26. Replace fan cover panels. Note: fan cover are NOT symmetrical.
27. Place center support rail across case (slots are at each inside end panel of case).

CAUTION! YOU MUST PERFORM THIS CLEANING PROCEDURE EVERY 7 DAYS TO PREVENT ICE BUILDUP AND TO KEEP CASE RUNNING AT PROPER TEMPERATURE.

28. Place support rails across case (slots are at both front and rear of case). Optional Ice Cream Pan Adapter Plate: Place ice cream pan adapter plate across support rails as shown.
29. Set pans into place (in support rails).
30. Slowly lower curved glass.

> Turn crank drain valve back to the internal evaporator pan position. If no floor drain was used, empty bucket of it contents.
> Turn main power switch back on.
Caution! Case must run at least 1 1/2 hours (90 minutes) to assure proper case temperatures before returning product to case.
> Return product to the case.
<table>
<thead>
<tr>
<th>Issue</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doors/Glass Won’t Shut Properly</td>
<td>Check that there is no residue or obstruction in door track.</td>
</tr>
<tr>
<td>System Is Not Operating</td>
<td>Check the MAIN power switch is on.</td>
</tr>
<tr>
<td></td>
<td>If power cord is used, check that it is properly plugged in.</td>
</tr>
<tr>
<td>Case Lights Are Not Working</td>
<td>Be sure <strong>ALL</strong> light bulb pins are properly aligned with slots and rotated properly.</td>
</tr>
<tr>
<td></td>
<td>Check for burned out bulbs.</td>
</tr>
<tr>
<td></td>
<td>Clean dirt and dust from the bulbs to prevent flickering.</td>
</tr>
<tr>
<td></td>
<td>After performing above checkpoints, if lights are still not working, contact your service provider or certified electrician to check for faulty ballast.</td>
</tr>
</tbody>
</table>
ILLUSTRATIONS, INSTRUCTIONS AND INFORMATION CONTAINED IN THIS SECTION PERTAINS TO TRAINED SERVICE PROVIDERS ONLY
## Preventive Maintenance

### Frequency

<table>
<thead>
<tr>
<th>Preventive Maintenance</th>
<th>Frequency</th>
<th>Instructions</th>
</tr>
</thead>
</table>
| Case Exterior          | Monthly   | **Condensing Coil**: Disconnect power from case before cleaning.  
  - Remove Rear Grille (by removing 4 screws).  
  - Roll / Slide out Refrigeration Assembly. **Note**: At initial slide-out, it may be necessary to remove two (2) Compressor Pan Shipment Screws for Refrigeration Assembly to slide out.  
  - Use air pressure or industrial strength vacuum; clean dust and dirt that may collect on the Condenser Coil. See illustration below.  
  - **Caution! Coil fins are sharp. Handle with care!**  
  - Slide/Roll Condensing Unit Assembly back under case.  
  - Replace Rear Grille to case (4 screws).  
  - See illustration below. |
| Quarterly              | Optional Clean Sweep™ Condensing Coil: Disconnect power from case before cleaning Clean Sweep™ Condenser Coil!  
  - Remove Rear Grille (by removing 4 screws).  
  - Slide/Roll out condensing unit assembly.  
  - Remove the four (4) screws holding the Clean Sweep™ rails intact.  
  - Remove the Clean Sweep™ rail.  
  - Wash rails’ brushes in hot water and mild soap solution.  
  - If brushes are worn, they must be replaced. Call Technical Service Department to replace. Toll-Free number is listed at end of manual.  
  - Clean Condensing Coil: Use air pressure or industrial strength vacuum; clean the dust and dirt that may collect on the Condenser Coil.  
  - **Caution! Coil fins are sharp. Handle with care!**  
  - Reattach Clean Sweep rail to condensing unit (4 screws).  
  - Slide/Roll Condensing Unit Assembly back under case.  
  - Replace Rear Grille to case (4 screws).  
  - See photos below. |

---

--- Above photos are taken after rear grille has been removed from case ---
<table>
<thead>
<tr>
<th>PREVENTIVE MAINTENANCE</th>
<th>FREQ.</th>
<th>INSTRUCTIONS</th>
</tr>
</thead>
</table>
| Case Interior          | Quarterly | **Internal Cleaning**: Disconnect power from case before cleaning.  
1. Remove pans and support rails.  
2. Remove fan cover panels (after removing knurled head fasteners).  
3. Wipe down fan shroud and fan blades with warm, soapy water and soft cloth. Then, disconnect (screw removal is required) and remove from case.  
4. Clean out drains. Use warm, soapy water and soft cloth to wipe down TXVs, tub, troughs, copper tubing, etc. |

![Diagram 1](image1.png)

- Fan Cover Panel  
- Fan & Shroud  
- Support Rails  
- Pans  
- Drain  
- Drain Trough  
- Tub

![Diagram 2](image2.png)

- Fan Cover Panels

![Diagram 3](image3.png)

- Fan Shroud

![Diagram 4](image4.png)

- Drains  
- TXVs  
- Troughs  
- Copper Tubing  
- Tub
<table>
<thead>
<tr>
<th>PREVENTIVE MAINTENANCE</th>
<th>FREQ.</th>
<th>INSTRUCTIONS</th>
</tr>
</thead>
</table>
| Condensate Pan         | Quarterly | **Condensate Pan**: Disconnect power from case and allow pan to cool before cleaning.  
|                        |        |   - Remove rear panel (screw removal is required).  
|                        |        |   - As illustration below shows, pan may be accessed at either left or right sides.  
|                        |        |   - Use a scrub-brush and a de-scaling solution such as CLR® (to prevent corrosion, lime and rust). Follow instructions on container as to proper dilution, safety precautions and scrubbing method.  
|                        |        |   - After thoroughly cleaning, rinse thoroughly with clean water (in spray bottle) and wipe dry with sponge, paper towel or wet/dry vacuum.  
|                        |        |   - Replace rear panel.  
|                        |        |   - **Note**: For extreme residue buildup, pan may be removed from case (screw removal is required) and cleaned in sink. **Caution! Due to electrical components on the pan assembly, do not submerse in water while cleaning.** Return to case in reverse order it was removed. Replace rear panel. |

--- Note: Illustration Shown With Rear Panel Removed ---

Access To Condensate Pan May Be Gained At Left Side  
(After Rear Panel Has Been Removed)  

Access To Condensate Pan May Be Gained At Right Side  
(After Condenser Package Has Been Slid Out)
**PREVENTIVE MAINTENANCE (TO BE PERFORMED BY TRAINED SERVICE PROVIDERS), CONT’D**

<table>
<thead>
<tr>
<th>PREVENTIVE MAINTENANCE</th>
<th>FREQ.</th>
<th>INSTRUCTIONS</th>
</tr>
</thead>
</table>
| Condensate Package      | Quarterly | Condensate Package *Disconnect power from case before cleaning.*  
- Remove rear panel (screw removal is required).  
- Slide condenser package out from under case rear.  
- Use moist cloth to wipe off dust & debris that collects on various parts (fans, sight glass, TXV, etc.).  
- Illustration below shows various components that should be wiped down.  
- Slide condenser package back under case.  
- Replace rear panel. |
<table>
<thead>
<tr>
<th>Issue</th>
<th>Checkpoints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doors/Glass Won’t Shut Properly</td>
<td>Check that there is no residue or obstruction in door track.</td>
</tr>
<tr>
<td></td>
<td>Check that the case is aligned, level and plumb.</td>
</tr>
<tr>
<td>System Is Not Operating</td>
<td>If power cord is used, check that it is properly plugged in.</td>
</tr>
<tr>
<td></td>
<td>Check the MAIN power switch is on.</td>
</tr>
<tr>
<td></td>
<td>Confirm that the utility power is on.</td>
</tr>
<tr>
<td></td>
<td>Check the circuit breaker box for tripped circuits. See GFCI Breaker Use Requirement specifics in <em>Overview and Warnings</em> section of manual.</td>
</tr>
<tr>
<td>Case Lights Are Not Working</td>
<td>Be sure ALL light bulb pins are properly aligned with slots and rotated properly.</td>
</tr>
<tr>
<td></td>
<td>Check for burned out bulbs.</td>
</tr>
<tr>
<td></td>
<td>Clean dirt and dust from the bulbs to prevent flickering.</td>
</tr>
<tr>
<td></td>
<td>After performing above checkpoints, if lights are still not working,</td>
</tr>
<tr>
<td></td>
<td>contact your service provider or certified electrician to check for</td>
</tr>
<tr>
<td></td>
<td>faulty ballast.</td>
</tr>
</tbody>
</table>
GENERAL TECHNICAL INFORMATION (SERIAL LABEL INFO / TEMPERATURE CONTROLLER, ETC.)
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 images below for samples of both refrigerated and non-refrigerated serial labels.

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

--- Sample Serial Label For Non-Refrigerated Case ---
To Modify The Setpoint

Press and hold the “SET” key for at least 1 second.

1. Press and hold “Prg” & “SET” keys together for five (5) seconds; display will show “0”, representing password prompt.
2. Confirm by pressing “SET” key.
3. Press ▲ or ▼ to reach the category to be modified.
4. Press “SET” to modify this selected parameter.
5. Increase or decrease the value using the ▲ or ▼ button respectively.
6. Press the “SET” key to temporarily save the new value and return to the display of the parameter.
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.

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

1. Press and hold “Prg” and “SET” keys together for at least 5 seconds; display will show “0” (password prompt).
2. Confirm by pressing “SET” key.
3. Press ▲ or ▼ until reaching the parameter “/ 5”.
4. Press “SET” to modify this selected parameter.
5. Press ▲ or ▼ to change value to desired setting: “0” for Celsius (°C) or “1” for Fahrenheit (°F).
6. Press “SET” key to temporarily save the new value and return to the display of the parameter.
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.

To Modify Defrost, Differential, Other Parameters

Press and hold the “SET” key for at least 1 second.

1. Use arrow keys ▲ ▼ on temperature controller to increase (or decrease) the setpoint.
2. Quickly press and release the “SET” key again.
3. Press ▲ or ▼ to reach the category to be modified.
4. Press “SET” to modify this selected parameter.
5. Increase or decrease the value using the ▲ or ▼ button respectively.
6. Press the “SET” key to temporarily save the new value and return to the display of the parameter.
7. Press & hold the “Prg” key for at least 5 seconds to save changes.

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.

To Activate Manual Defrost

Press and hold “def” key for at least 5 seconds.

To Activate / Deactivate Auxiliary Output

Press and hold the “aux” key for 1 second.

To Reset Any Alarms With Manual Reset

Press and hold the “Prg” and “aux” key for at least 1 second.
### User Interface - Display

**Integrated Electronic Microprocessor Controller**

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

<table>
<thead>
<tr>
<th>Code</th>
<th>Icon on the display</th>
<th>Alarm relay</th>
<th>Buzzer</th>
<th>Reset</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HI</td>
<td>flashing</td>
<td>on</td>
<td>manual</td>
<td>on</td>
<td>high temperature alarm</td>
</tr>
<tr>
<td>AHI</td>
<td>flashing</td>
<td>on</td>
<td>manual</td>
<td>on</td>
<td>antifreeze alarm</td>
</tr>
<tr>
<td>IA</td>
<td>flashing</td>
<td>on</td>
<td>manual</td>
<td>on</td>
<td>immediate alarm from external contact</td>
</tr>
<tr>
<td>GA</td>
<td>flashing</td>
<td>on</td>
<td>on</td>
<td>on</td>
<td>delayed alarm from external contact</td>
</tr>
<tr>
<td>IA</td>
<td>on</td>
<td>Automatic</td>
<td>Manual</td>
<td>Off</td>
<td>Defrosting</td>
</tr>
<tr>
<td>IG</td>
<td>No</td>
<td>Automatic</td>
<td>Manual</td>
<td>Manual</td>
<td>Minimum pump down time alarm</td>
</tr>
<tr>
<td>EI</td>
<td>No</td>
<td>Automatic</td>
<td>Manual</td>
<td>Manual</td>
<td>Maximum pump down time alarm</td>
</tr>
<tr>
<td>E4</td>
<td>flashing</td>
<td>Off</td>
<td>Automatic/Manual</td>
<td>Off</td>
<td>High pressure alarm</td>
</tr>
<tr>
<td>A5</td>
<td>flashing</td>
<td>Off</td>
<td>Automatic/Manual</td>
<td>Off</td>
<td>High temperature alarm</td>
</tr>
<tr>
<td>N2</td>
<td>flashing</td>
<td>Off</td>
<td>Automatic/Manual</td>
<td>Off</td>
<td>High pressure alarm</td>
</tr>
<tr>
<td>CHT</td>
<td>flashing</td>
<td>Off</td>
<td>On</td>
<td>Manual</td>
<td>High condenser temperature alarm</td>
</tr>
<tr>
<td>DOR</td>
<td>flashing</td>
<td>Off</td>
<td>On</td>
<td>Automatic</td>
<td>Door open too long alarm</td>
</tr>
<tr>
<td>LK</td>
<td>flashing</td>
<td>Off</td>
<td>Automatic</td>
<td>Off</td>
<td>High condenser temperature alarm</td>
</tr>
</tbody>
</table>

#### User Interface - Display

<table>
<thead>
<tr>
<th>ICON</th>
<th>FUNCTION</th>
<th>DESCRIPTION</th>
<th>ON Normal operation</th>
<th>BLINK Start up</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPRESSOR</td>
<td>ON when the compressor starts. Flashes when the activation of the compressor is delayed by safety times.</td>
<td>Compressor on</td>
<td>Compressor off</td>
<td>awaiting activation</td>
</tr>
<tr>
<td>FAN</td>
<td>ON when the fan starts. Flashing when the activation of the fan is prevented due to external disabling or procedures in progress.</td>
<td>Fan on</td>
<td>Fan off</td>
<td>awaiting activation</td>
</tr>
<tr>
<td>DEFROST</td>
<td>ON when the defrost is activated. Flashing when the activation of the defrost is prevented due to external disabling or procedures in progress.</td>
<td>Defrost in progress</td>
<td>Defrost not in progress</td>
<td>awaiting activation</td>
</tr>
<tr>
<td>AUX</td>
<td>Flashing if the auxiliary heater function is active, ON when the auxiliary output (1 and/or 2) selected as AUX (on LIGHT in firmware version 3.6) is activated.</td>
<td>AUX auxiliary output active (version 3.6 light auxiliary output active)</td>
<td>AUX auxiliary output not active</td>
<td>Anti-sweat heater function active</td>
</tr>
<tr>
<td>ALARM</td>
<td>ON following pre-activation of the delayed external digital input alarm. Flashing in the event of the event of alarms from an immediate or delayed digital input</td>
<td>Delayed external alarm active (before the time ‘A’ elapses)</td>
<td>No alarm present</td>
<td>Alarms in normal operation (e.g., high/low temperature) or immediate or delayed alarm from external digital input</td>
</tr>
<tr>
<td>CLOCK</td>
<td>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 active.</td>
<td>If at least one timed defrost event has been set</td>
<td>No timed defrost event set</td>
<td>Alarm clock</td>
</tr>
<tr>
<td>LIGHT</td>
<td>Flashing if the auxiliary heater function is active, ON when the auxiliary output (1 and/or 2) selected as LIGHT (on LIGHT in firmware version 3.6) is activated.</td>
<td>Light auxiliary output active (version 3.6 light auxiliary output active)</td>
<td>Light auxiliary output not active</td>
<td>Light auxiliary output off</td>
</tr>
<tr>
<td>SERVICE</td>
<td>Flashing in the event of malfunctions, for example, EEPROM errors or probe faults.</td>
<td>No malfunction</td>
<td>Malfunction (e.g., EEPROM error or probe failed)</td>
<td>Contact service</td>
</tr>
<tr>
<td>CONTINUOUS CYCLE</td>
<td>ON when the CONTINUOUS CYCLE function is activated. Flashing if the activation of the function is prevented due to external disabling or procedures in progress (e.g., minimum compressor OFF time).</td>
<td>CONTINUOUS CYCLE operation activated</td>
<td>CONTINUOUS CYCLE function not activated</td>
<td>CONTINUOUS CYCLE operation requested</td>
</tr>
</tbody>
</table>
## Summary Table of Operating Parameters

<table>
<thead>
<tr>
<th>CODE</th>
<th>PARAMETER</th>
<th>UOM*</th>
<th>TYPE</th>
<th>MINIMUM</th>
<th>MAXIMUM</th>
<th>DEFAULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>/5</td>
<td>Select Celsius (°C) or Fahrenheit (°F)</td>
<td>flag</td>
<td>C</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>/c1</td>
<td>Calibration of probe 1</td>
<td>°C/°F</td>
<td>C</td>
<td>-20</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>/c2</td>
<td>Calibration of probe 2</td>
<td>°C/°F</td>
<td>C</td>
<td>-20</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>St</td>
<td>Temperature set point</td>
<td>°C/°F</td>
<td>F</td>
<td>r2</td>
<td>r1</td>
<td></td>
</tr>
<tr>
<td>rd</td>
<td>Control delta</td>
<td>°C/°F</td>
<td>F</td>
<td>20</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>dl</td>
<td>Interval between defrosts</td>
<td>hours</td>
<td>F</td>
<td>0</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>dt1</td>
<td>End defrost temperature, evaporator</td>
<td>°C/°F</td>
<td>F</td>
<td>-50</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>dP1</td>
<td>Maximum defrost duration, evaporator</td>
<td>min</td>
<td>F</td>
<td>1</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>d6</td>
<td>Display on hold during defrost</td>
<td>-</td>
<td>C</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>dd</td>
<td>Dripping time after defrost</td>
<td>min</td>
<td>F</td>
<td>0</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>d/1</td>
<td>Display of defrost probe 1</td>
<td>°C/°F</td>
<td>F</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

* Unit Of Measure

---

For Case Specific Defaults
See Serial Label Located Near Electrical Access On Your Case.

For Additional Technical Information
Call Structural Concepts Technical Service Dept. at 1(800) 433.9489
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 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 WARRANTY. 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 for or cause 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 proceeding or action relating to the breach of this Agreement by SCC, Purchaser shall reimburse SCC for reasonable costs and attorney’s fees incurred by SCC. No waiver by SCC of any breach of this Agreement 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 these obligations under this Agreement without prior written 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 disposition for a period of one (1) year from the date of delivery. 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 231-798-8888. All claims must contain the following information: (1) model & serial code number of equipment; (2) date and place of installation; (3) name and address of the agency which performed the installation; (4) 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 in the following conditions: (a) prior approval of service agency by SCC, (b) cost of service labor reimbursement will be based on straight time rates and reasonable time for the repair of the defect.