

Series CS Reach-Ins

CoolScapes™

Original Instructions

Installation, Operation and Maintenance Manual

This manual is updated as new information and models are released. Visit our website for the latest manual.



Safety Notices

Warning

Read this manual thoroughly before operating, installing or performing maintenance on the equipment. Failure to follow instructions in this manual can cause property damage, injury or death.

DANGER

Do not install or operate equipment that has been misused, abused, neglected, damaged, or altered/modified from that of original manufactured specifications.

DANGER

Use appropriate safety equipment during installation and servicing.

DANGER

All utility connections and fixtures must be maintained in accordance with Local and national codes.

Warning

Do not damage the refrigeration circuit when installing, maintaining or servicing the unit.

Warning

Authorized Service Representatives are obligated to follow industry standard safety procedures, including, but not limited to, local/national regulations for disconnection / lock out / tag out procedures for all utilities including electric, gas, water and steam.

Warning

Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance. Never use flammable oil soaked cloths or combustible cleaning solutions, for cleaning.

Warning

This product contains chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm. Operation, installation, and servicing of this product could expose you to airborne particles of glasswool or ceramic fibers, crystalline silica, and/or carbon monoxide. Inhalation of airborne particles of glasswool or ceramic fibers is known to the State of California to cause cancer. Inhalation of carbon monoxide is known to the State of California to cause birth defects or other reproductive harm.

Warning

Do not use electrical appliances or accessories other than those supplied by the manufacturer.

Warning

Use caution when handling metal surface edges of all equipment.

Warning

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision concerning use of the appliance by a person responsible for their safety. Do not allow children to play with this appliance.

Caution

Use caution handling, moving and use of the R290 refrigerators to avoid either damaging the refrigerant tubing or increasing the risk of a leak. Components shall be replaced with like components. Servicing shall be done by a factory authorized service personnel to minimize the risk of possible ignition due to incorrect parts or improper service.

Notice

Proper installation, care and maintenance are essential for maximum performance and trouble-free operation of your equipment. Visit our website www.mtwkitchencare.com for manual updates, translations, or contact information for service agents in your area.

Notice

Warranty may be deemed invalid if other than authorized OEM (original equipment manufacture) replacement parts are used in Delfield equipment.

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Section 1

General Information

Model Numbers

This manual covers the following models:

One Section	Two Section	Three Section
Reach-In Dual Temperature		
CSDBR1P-SH	-	-
CSDTR1P-SH	-	-
Reach-In Freezers		
CSF1P-S (H)	CSF2P-S (H)	CSF3P-S (H)
Pass-Thru Freezers		
CSFPT1P-S (H)	CSFPT2P-S (H)	-
Roll-In Freezers		
CSFRI1P-S	CSFRI2P-S	
Reach-In Heated Cabinets		
CSH1-G (H)	CSH2-G (H)	-
CSH1-S (H)	CSH2-S (H)	-
Pass-Thru Heated Cabinets		
CSHPT1-G (H)	CSHPT2-G (H)	-
CSHPT1-S (H)	CSHPT2-S (H)	-
Roll-In Heated Cabinets		
CSHRI1-G	CSHRI2-G	-
CSHRI1-S	CSHRI2-S	-
Roll-Thru Heated Cabinets		
CSHRT1-S	CSHRT2-S	-
Narrow Reach-In Refrigerators		
CSR1NP-G (H)	CSR2NP-G (H)	-
CSR1NP-S (H)	CSR2NP-S (H)	-
Reach-In Refrigerators		
CSR1P-G (H)	CSR2P-G (H)	CSR3P-G (H)
-	CSR2P-GL	-
CSR1P-S (H)	CSR2P-S (H)	CSR3P-S (H)
Pass-Thru Refrigerators		
CSRPT1P-G (H)	CSRPT2P-G (H)	-
CSRPT1P-S (H)	CSRPT2P-S (H)	-
Roll-In Refrigerators		
CSRRI1P-G	CSRRI2P-G	-
CSRRI1P-S	CSRRI2P-S	-
Roll-Thru Refrigerators		
CSRRT1P-S	CSRRT2P-S	-

Serial Number Information

The model number and serial number are on the identification plate. The identification plate is located near the top front corner of the left interior wall.

Always have the serial number of your unit available when calling for parts or service.

Warranty Information




Visit

<http://www.delfield.com/warranty> to:

- Register your product for warranty.
- Verify warranty information.
- View and download a copy of your warranty.

Regulatory Certifications

Models are certified by:

-  National Sanitation Foundation (NSF)
-  Underwriters Laboratories (UL)
-  Underwriters Laboratories of Canada (cUL)

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Section 2

Installation

DANGER

Installation must comply with all applicable fire and health codes in your jurisdiction.

DANGER

Use appropriate safety equipment during installation and servicing.

Location

Warning

This equipment must be positioned so that the plug is accessible unless other means for disconnection from the power supply (e.g., circuit breaker or disconnect switch) is provided.

Warning

Adequate means must be provided to limit the movement of this appliance without depending on or transmitting stress to the electrical cord.

Warning

To avoid instability the installation area must be capable of supporting the combined weight of the equipment and product. Additionally the equipment must be level side to side and front to back.


Warning

This equipment is intended for indoor use only. Do not install or operate this equipment in outdoor areas.

The location selected for the equipment must meet the following criteria. If any of these criteria are not met, select another location.

- Units are intended for indoor use only.
- The location **MUST** be level, stable and capable of supporting the weight of the equipment.
- The location **MUST** be free from and clear of combustible materials.
- Equipment **MUST** be level both front to back and side to side.
- Position the equipment so it will not tip or slide.
- Front casters **MUST** be locked once positioned.
- Recommended air temperature is 60° - 100°F (16° - 38°C).
- Proper air supply for ventilation is **REQUIRED AND CRITICAL** for safe and efficient operation. Refer to Clearance Requirements chart on page 8.
- Do not obstruct the flow of ventilation air. Make sure the air vents of the equipment are not blocked.
- Do not install the equipment directly over a drain. Steam rising up out of the drain will adversely affect operation, air circulation, and damage electrical / electronic components.

Clearance Requirements

 **DANGER**

Minimum clearance requirements are the same for noncombustible locations as for combustible locations. The flooring under the appliance must be made of a noncombustible material.

 **DANGER**

Risk of fire/shock. All minimum clearances must be maintained. Do not obstruct vents or openings.

Top
12.00" (305mm)

- Keep the vents clean and free of obstruction.
- Casters or optional legs must be used and not removed.

Dimensions

Model	Length	Depth	Height
Reach-In Dual Temperature			
CSDBR1P-SH CSDTR1P-SH	27.40" (70cm)	32.44" (82cm)	79.50" (202cm)
Reach-In Freezers			
CSF1P-S (H)	27.40" (70cm)	32.44" (82cm)	79.50" (202cm)
CSF2P-S (H)	55.22" (140cm)		
CSF3P-S (H)	83.00" (211cm)		
Pass-Thru Freezers			
CSFPT1P-S (H)	27.40" (70cm)	34.75" (88cm)	79.50" (202cm)
CSFPT2P-S (H)	55.22" (140cm)		
Roll-In Freezers			
CSFRI1P-S	34.00" (86cm)	34.00" (86cm)	89.00" (226cm)
CSFRI2P-S	66.00" (168cm)		
Reach-In Heated Cabinets			
CSH1-G (H)	27.40" (70cm)	32.44" (82cm)	79.50" (202cm)
CSH1-S (H)			
CSH2-G (H)	55.22" (140cm)		
CSH2-S (H)			
Pass-Thru Heated Cabinets			
CSHPT1-G (H)	27.40" (70cm)	34.75" (88cm)	79.50" (202cm)
CSHPT1-S (H)			
CSHPT2-G (H)	55.22" (140cm)		
CSHPT2-S (H)			
Roll-In Heated Cabinets			
CSHRI1-G	34.00" (86cm)	34.00" (86cm)	89.00" (226cm)
CSHRI1-S			
CSHRI2-G	66.00" (168cm)		
CSHRI2-S			
Roll-Thru Heated Cabinets			
CSHRT1-S	34.00" (86cm)	36.12" (92cm)	89.00" (226cm)
CSHRT2-S	66.00" (168cm)		
Narrow Reach-In Refrigerators			
CSR1NP-G (H)	24.00" (61cm)	32.44" (82cm)	79.50" (202cm)
CSR1NP-S (H)			
CSR2NP-G (H)	48.42" (123cm)		
CSR2NP-S (H)			
Reach-In Refrigerators			
CSR1P-G (H)	27.40" (70cm)	32.44" (82cm)	79.50" (202cm)
CSR1P-S (H)			
CSR2P-G (H)	55.22" (140cm)		
CSR2P-GL			
CSR2P-S (H)			
CSR3P-G (H)	83.00" (211cm)		
CSR3P-S (H)			
Pass-Thru Refrigerators			
CSRPT1P-G (H)	27.40" (70cm)	34.75" (88cm)	79.50" (202cm)
CSRPT1P-S (H)			
CSRPT2P-G (H)	55.22" (140cm)		
CSRPT2P-S (H)			
Roll-In Refrigerators			
CSRRI1P-G	34.00" (86cm)	34.00" (86cm)	89.00" (226cm)
CSRRI1P-S			
CSRRI2P-G	66.00" (168cm)		
CSRRI2P-S			
Roll-Thru Refrigerators			
CSRRT1P-S	34.00" (86cm)	36.12" (92cm)	89.00" (226cm)
CSRRT2P-S	66.00" (168cm)		

Capacity

Model	# of Shelves	Shelf Area	Volume
Reach-In Dual Temperature			
CSDBR1P-SH CSDTR1P-SH	(2X)2	(2X)8ft² (7432cm²)	(2X)8.6ft³ (244L)
Reach-In Freezers			
CSF1P-S (H)	3	11.5ft² (10684cm²)	21ft³ (595L)
CSF2P-S (H)	6	25.25ft² (23412cm²)	46ft³ (1303L)
CSF3P-S (H)	9	39ft² (36232cm²)	71ft³ (2011L)
Pass-Thru Freezers			
CSFPT1P-S (H)	3	12.12ft² (11260cm²)	23ft³ (651L)
CSFPT2P-S (H)	6	26.5ft² (24619cm²)	50ft³ (1416L)
Roll-In Freezers			
CSFRI1P-S	NA	NA	37ft³ (1048L)
CSFRI2P-S	NA	NA	76.5ft³ (2166L)
Reach-In Heated Cabinets			
CSH1-G (H)	3	11.5ft² (10684cm²)	21ft³ (595L)
CSH1-S (H)			
CSH2-G (H)	6	25.5ft² (23690cm²)	46ft³ (1303L)
CSH2-S (H)			
Pass-Thru Heated Cabinets			
CSHPT1-G (H)	3	11.5ft² (10684cm²)	23ft³ (651L)
CSHPT1-S (H)			
CSHPT2-G (H)	6	25.5ft² (23690cm²)	50ft³ (1416L)
CSHPT2-S (H)			
Roll-In Heated Cabinets			
CSHRI1-G	NA	NA	37ft³ (1048L)
CSHRI1-S			
CSHRI2-G	NA	NA	76.5ft³ (2166L)
CSHRI2-S			
Roll-Thru Heated Cabinets			
CSHRT1-S	NA	NA	39ft³ (1104L)
CSHRT2-S	NA	NA	80.5ft³ (2280L)
Narrow Reach-In Refrigerators			
CSR1NP-G (H)	3	9.75ft² (9058cm²)	18ft³ (510L)
CSR1NP-S (H)			
CSR2NP-G (H)	6	21.75ft² (20206cm²)	40ft³ (1133L)
CSR2NP-S (H)			
Reach-In Refrigerators			
CSR1P-G (H)	3	11.5ft² (10684cm²)	21ft³ (595L)
CSR1P-S (H)			
CSR2P-G (H)	6	25.25ft² (23458cm²)	46ft³ (1303L)
CSR2P-GL			
CSR2P-S (H)	9	39ft² (36232cm²)	71ft³ (2011L)
CSR3P-G (H)			
CSR3P-S (H)			
Pass-Thru Refrigerators			
CSRPT1P-G (H)	3	12.12ft² (11260cm²)	23ft³ (651L)
CSRPT1P-S (H)			
CSRPT2P-G (H)	6	26.5ft² (24619cm²)	50ft³ (1416L)
CSRPT2P-S (H)			
Roll-In Refrigerators			
CSRRI1P-G	NA	NA	37ft³ (1048L)
CSRRI1P-S			
CSRRI2P-G	NA	NA	76.5ft³ (2166L)
CSRRI2P-S			
Roll-Thru Refrigerators			
CSRRT1P-S	NA	NA	39ft³ (1104L)
CSRRT2P-S	NA	NA	80.5ft³ (2280L)

Electrical Service

DANGER

Check all wiring connections, including factory terminals, before operation. Connections can become loose during shipment and installation.

Warning

This appliance must be grounded and all field wiring must conform to all applicable local and national codes. Refer to rating plate for proper voltage. It is the responsibility of the end user to provide the disconnect means to satisfy the authority having jurisdiction.

VOLTAGE

All electrical work, including wire routing and grounding, must conform to local, state and national electrical codes.

The following precautions must be observed:

- The equipment must be grounded.
- A separate fuse/circuit breaker must be provided for each unit.
- Check all green ground screws, cables and wire connections to verify they are tight before start-up.

GROUND FAULT CIRCUIT INTERRUPTER

Ground Fault Circuit Interrupter (GFCI/GFI) protection is a system that shuts down the electric circuit (opens it) when it senses an unexpected loss of power, presumably to ground. Welbilt does not recommend the use of GFCI/GFI circuit protection to energize our equipment. If code requires the use of a GFCI/GFI then you must follow the local code. The circuit must be dedicated, sized properly and there must be a panel GFCI/GFI breaker. We do not recommend the use of GFCI/GFI outlets to energize our equipment as they are known for more intermittent nuisance trips than panel breakers.

Maximum 10ft (3m) cord with plug.

Model	Amps	V, Hz, Ph	H.P.	Nema Plug
Reach-In Dual Temperature				
CSDBR1P-SH CSDTR1P-SH	5.8	115, 60, 1	Ref. 0.20 Frzr. 0.315	5-15P
Reach-In Freezers				
CSF1P-S (H)	7.2	115, 60, 1	0.55	5-15P
CSF2P-S (H)	10.0	115, 60, 1	0.68	5-15P
CSF3P-S (H)	14.7	115, 60, 1	(2X)0.55	5-20P
Pass-Thru Freezers				
CSFPT1P-S (H)	10.0	115, 60, 1	0.55	5-15P
CSFPT2P-S (H)	14.6	115, 60, 1	(2X)0.55	5-20P
Roll-In Freezers				
CSFRI1P-S	10.0	115, 60, 1	0.68	5-15P
CSFRI2P-S	TBD	115, 60, 1	(2X)0.55	5-20P
Reach-In Heated Cabinets				
CSH1-G (H)	6.0	208-240, 60, 1	NA	6-20P
CSH1-S (H)				
CSH2-G (H)	10.5	208-240, 60, 1	NA	6-20P
CSH2-S (H)				
Pass-Thru Heated Cabinets				
CSHPT1-G (H)	6.0	208-240, 60, 1	NA	6-20P
CSHPT1-S (H)				
CSHPT2-G (H)	10.5	208-240, 60, 1	NA	6-20P
CSHPT2-S (H)				
Roll-In Heated Cabinets				
CSHRI1-G	6.0	208-240, 60, 1	NA	6-20P
CSHRI1-S				
CSHRI2-G	10.5	208-240, 60, 1	NA	6-20P
CSHRI2-S				
Roll-Thru Heated Cabinets				
CSHRT1-S	6.0	208-240, 60, 1	NA	6-20P
CSHRT2-S	10.5	208-240, 60, 1	NA	6-20P
Narrow Reach-In Refrigerators				
CSR1NP-G (H)	4.2	115, 60, 1	0.22	5-15P
CSR1NP-S (H)				
CSR2NP-G (H)	6.0	115, 60, 1	0.33	5-15P
CSR2NP-S (H)				
Reach-In Refrigerators				
CSR1P-G (H)	4.2	115, 60, 1	0.22	5-15P
CSR1P-S (H)				
CSR2P-G (H)	6.0	115, 60, 1	0.33	5-15P
CSR2P-GL				
CSR2P-S (H)	6.5	115, 60, 1	0.355	5-15P
CSR3P-G (H)				
CSR3P-S (H)				
Pass-Thru Refrigerators				
CSRPT1P-G (H)	4.5	115, 60, 1	0.22	5-15P
CSRPT1P-S (H)				
CSRPT2P-G (H)	6.2	115, 60, 1	0.33	5-15P
CSRPT2P-S (H)				
Roll-In Refrigerators				
CSRR1P-G	6.0	115, 60, 1	0.33	5-15P
CSRR1P-S				
CSRR2P-G	6.2	115, 60, 1	0.355	5-15P
CSRR2P-S				
Roll-Thru Refrigerators				
CSRR1P-S	6.0	115, 60, 1	0.33	5-15P
CSRR2P-S	TBD	115, 60, 1	0.355	5-15P

Drain Connections

Warning

Moisture collecting from improper drainage can create a slippery surface on the floor and a hazard to employees. It is the owner's responsibility to provide a container or outlet for drainage.

FLOOR DRAIN REQUIRED

Dual Temperature Reach-In

Models CSDBR1P-SH & CSDTR1P-SH

Single section dual temperature reach-ins require plumbing to a floor drain as they do not have hot gas condensate removal.

Refrigeration

Model	Heat of Rejection (BTU)	BTU/Hour Capacity	R290 Charge
Reach-In Dual Temperature			
CSDBR1P-SH	Ref. 232	Ref. 1431	Ref. 78g
CSDTR1P-SH	Frzr. 401	Frzr. 1094	Frzr. 62g
Reach-In Freezers			
CSF1P-S (H)	790	2035	93g
CSF2P-S (H)	1380	2485	109g
CSF3P-S (H)	1800	4070	(2X)110g
Pass-Thru Freezers			
CSFPT1P-S (H)	930	2035	93g
CSFPT2P-S (H)	1630	4070	(2X)110g
Roll-In Freezers			
CSFRI1P-S	1401	2261	109g
CSFRI2P-S	2458	4523	(2X)110g
Reach-In Heated Cabinets			
CSH Series	NA		
Pass-Thru Heated Cabinets			
CSHPT Series	NA		
Roll-In Heated Cabinets			
CSHRI Series	NA		
Roll-Thru Heated Cabinets			
CSHRT Series	NA		
Narrow Reach-In Refrigerators			
CSR1NP-G (H)	540	1860	113g
CSR1NP-S (H)	390	1860	113g
CSR2NP-G (H)	890	2470	113g
CSR2NP-S (H)	590	2470	113g
Reach-In Refrigerators			
CSR1P-G (H)	570	1920	113g
CSR1P-S (H)	420	1920	113g
CSR2P-G (H)	930	2540	113g
CSR2P-GL	1606	3370	113g
CSR2P-S (H)	620	2540	113g
CSR3P-G (H)	1400	3865	118g
CSR3P-S (H)	940	3865	118g
Pass-Thru Refrigerators			
CSRPT1P-G (H)	690	1860	113g
CSRPT1P-S (H)	460	1860	113g
CSRPT2P-G (H)	1260	3760	113g
CSRPT2P-S (H)	800	3760	113g
Roll-In Refrigerators			
CSRR1P-G	800	2470	113g
CSRR1P-S	680	2470	113g
CSRR2P-G	1460	3760	118g
CSRR2P-S	1230	3760	118g
Roll-Thru Refrigerators			
CSRRT1P-S	830	2470	113g
CSRRT2P-S	1530	3760	118g

Leg & Caster Installation

⚠ Warning

The unit must be installed in a stable condition with the front wheels locked. Locking the front casters after installation is the owner's and operator's responsibility.

⚠ Warning

Use a jack to lift the refrigeration unit off the ground just far enough to remove the leg/caster. Place blocking underneath the unit. Do not work underneath a raised unit without proper blocking. Do not lift the unit more than necessary to remove the leg/caster. Lifting the unit too far can make the unit unstable.

⚠ Caution

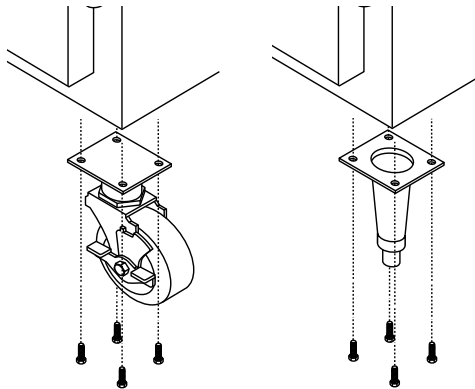
All single-section units require that the swivel casters be mounted on the front and rigid casters be mounted on the rear.

To install the legs or casters:

1. Remove unit from skid.

NOTE: The bolts used to hold the unit to the skid should be re-used as the fourth hex head bolt for each caster or leg plate installation. The bolt should not measure over 2" (5cm) in length.

2. Raise unit to access leg/caster mounting holes on bottom of unit.
3. Attach the legs or casters to bottom of cabinet using hex head bolts.



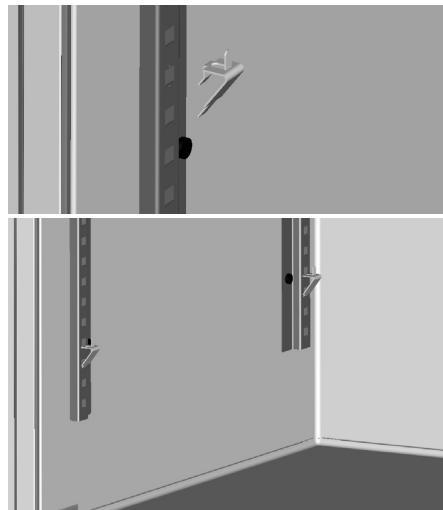
Level & Stable

After the cabinet has been placed in the desired location, cabinets with legs must be leveled. Level units from front to back and from side to side. Leveling will insure proper door operation and removal of condensate. It is very important that all legs are properly adjusted to keep the cabinet level, evenly distribute the weight and to make sure the unit will not rock, lean or be unstable.

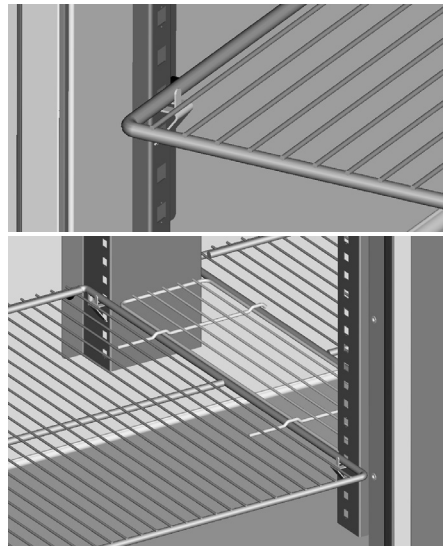
Cabinets with casters must have the caster brake set so the cabinet cannot move.

Shelf Installation

1. Insert the clips into the pilaster holes at the desired shelf heights.



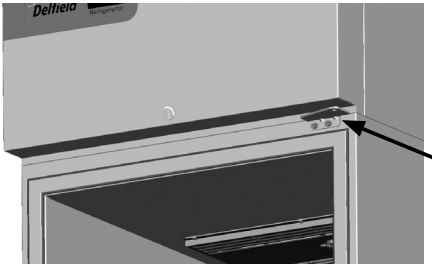
2. Set the shelves on the clips.



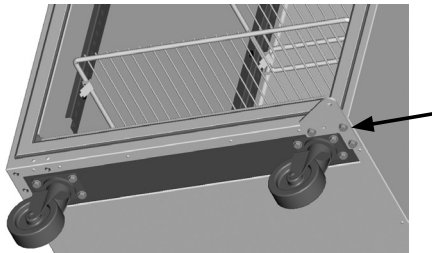
Reversible Door Instructions

APPLICABLE TO FULL DOOR MODELS

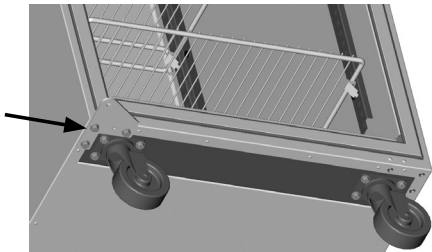
1. Open the door.
2. Remove two bolts securing the hinge bracket above the door.



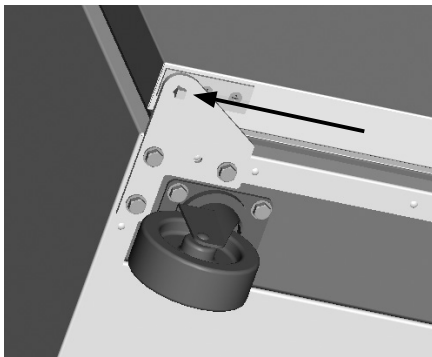
3. Lift the door up and out.
4. Save the hinge bracket.
5. Remove three bolts securing the hinge bracket to the bottom of the unit.



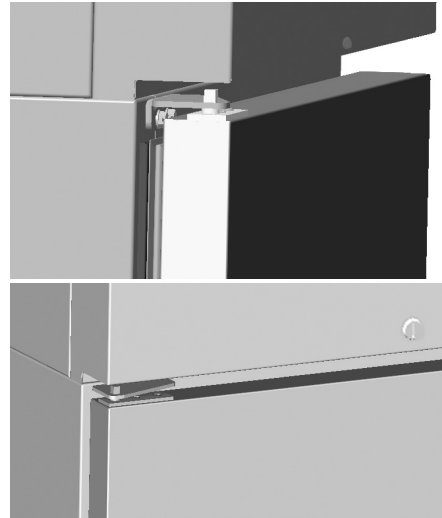
6. Flip it over and install it on the opposite side.



7. Rotate the door 180°.
8. Move the white nylon washer from the top hinge pin to the bottom hinge pin.
9. Insert the bottom hinge pin into the hinge bracket.



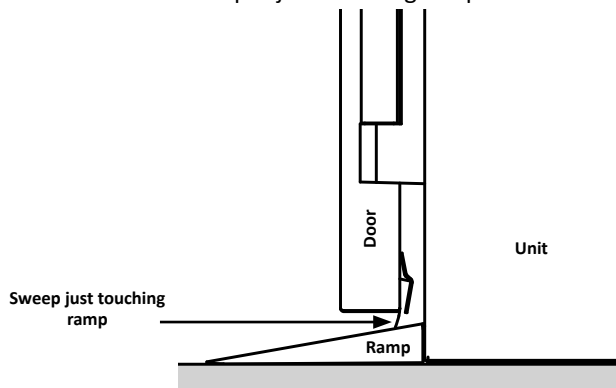
10. Locate the provided alternate top hinge bracket.
11. Place the hinge bracket over the top hinge pin.
12. Open the door.
13. Using the original screws install the hinge bracket on the new side in the vacant lock holes.



14. Check for proper closure and gasket seal.
15. Adjust hinges as needed.

Door Sweep Adjustment

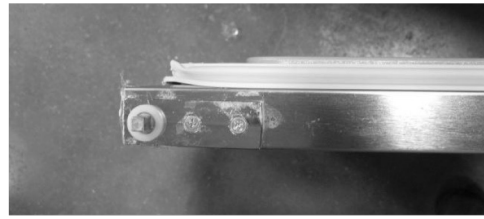
1. Verify unit is level with 4' Level. Shim as needed.
2. Remove door sweep before making door adjustments.
3. Adjust doors hinges so door closes by itself.
 - A properly adjusted door will close and seal when the door is held open 3" or less with no assistance.
4. Reinstall door sweep. It may need to be reinstalled in new holes so that it does not interfere with the door closing.
 - If it is too tight to ramp it will hold door open.
 - Make sure sweep is just touching ramp when closed.



5. Verify once again that the door will close and seal when held open 3" or less.
6. If this is a multi-section unit make sure door stays shut or closes by itself when other doors are shut.

New Bottom Hinge Cartridge Installation

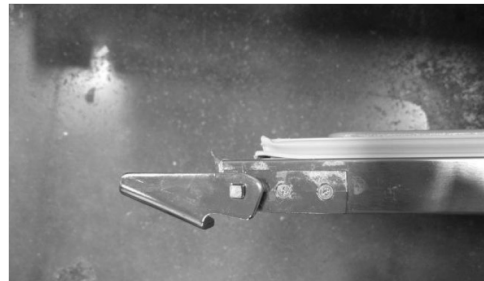
1. Install the new cartridge into the door as received. The new cartridge will be in the CLOSED position.



2. **As you unload the hinge tension be careful to hold on tight because you should feel the strong spring tension as you rotate the hinge.** Place the hinge bracket on the square hinge pin and rotate it ½ turn to the outside of the door.



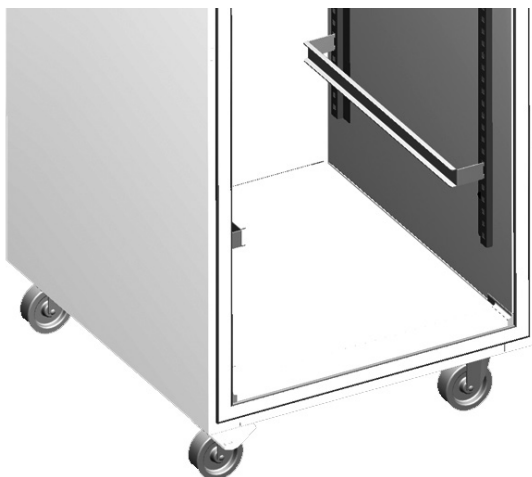
3. After the hinge has been rotated, it will now be in the OPEN position and NOT under spring tension.



4. Mount the door back onto the cabinet with the door OPEN. The door should now close properly.
5. Begin closing the door, the door should finish closing on it's own. If the door stays open remove the door and hinge bracket.
6. Using the hinge bracket rotate the square peg on the cartridge until you feel tension and resistance if you move the hinge in either direction. The hinge is now in the CLOSED position. Repeat instructions starting with step 2.

T-1 Tray Slide Installation

Edge Support for 18" x 26" pans



Installed T-1 Tray Slide for 18" x 26" Pans

System Name	T-1
Slide Style	Tray
Support Style	Edge
Compatible with 12" x 20" Pans	No
Compatible with 18" x 26" Pans	Yes

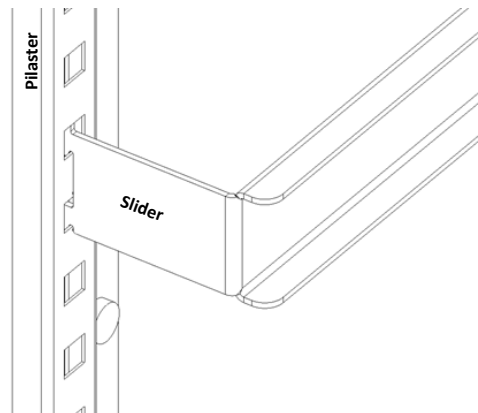
- The T-1 tray slide system is designed to support 18" x 26" pans by the edge of the pan.
- The slides are shaped as a C channel.
- Each set of tray slides is mounted at the same height across a door section.
- For each pan, one set of two (2) tray slides is used. The exception is 1.5" spacing.
- For 1.5" spacing, the tray slides are mounted every 3" and the top and bottom of each tray slide is used to hold a pan.

Centerline Spacing					
1.5"	2.0"	3.0"	4.0"	5.0"	6.0"
Maximum Tray Slides for a Full Section					
15	23	15	12	9	8
Maximum Tray Slides for a Half Section (Top or Bottom)					
7	10	7	5	4	4

T-1 Installation Instructions

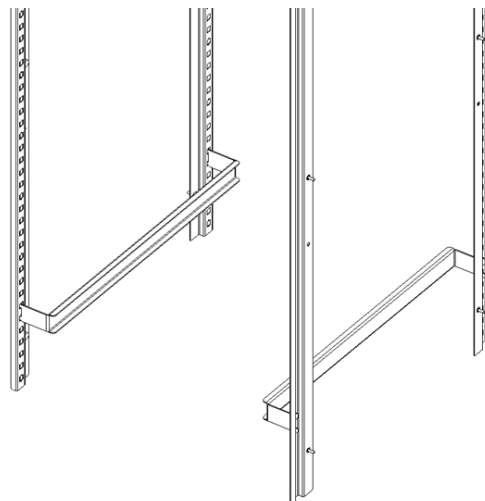
- For each pan, mount a pair of tray slides; one on each side of the door section at the same height. Mount the tray slides onto the pilasters by sliding the tray slide tabs down into the cutouts. Make sure that all tabs are engaged securely to each pilaster.

NOTE: A dead-blow hammer is recommended to seat the tab into the cutouts.



- Verify that all tray slides are lined up evenly.

NOTE: An easy check to verify correct installation is to slide an 18" x 26" pan onto each slide. If the pan is held securely, and is level inside the door section, the installation has been successful.



T-2 Tray Slide Installation

Universal Bottom Support for 12" x 20" and 18" x 26" pans

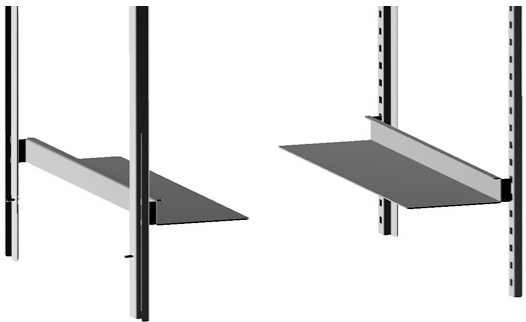


Installed T-2 tray slide with both size pans

System Name	T-2
Slide Style	Tray
Support Style	Bottom
Compatible with 12" x 20" Pans	Yes
Compatible with 18" x 26" Pans	Yes

- The T-2 (Universal) tray slide system is designed to support both 12" x 20" and 18" x 26" pans by the bottom.
- The tray slide is an L shaped piece of formed stainless steel.
- Each set of tray slides is mounted at the same height across a door section.
- For each pan, one set of two (2) tray slides is used.

Centerline Spacing				
2.0"	3.0"	4.0"	5.0"	6.0"
Maximum Tray Slides for a Full Section				
23	15	12	9	8
Maximum Tray Slides for a Half Section (Top or Bottom)				
10	7	5	4	4

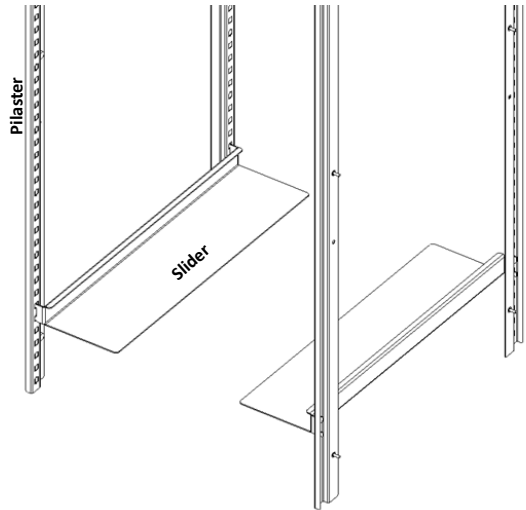


T-2 Tray Slide System

T-2 Installation Instructions

1. For each pan, two (2) tray slides will be used. Each tray slide must have another tray slide at the same height, on the opposite side of the door section. Mount the tray slides onto the pilasters by sliding the tabs down into the pilaster cutouts. Make sure that all tabs are engaged securely to each pilaster.

NOTE: A dead-blow hammer is recommended to seat the tab into the cutouts.



2. Verify that all tray slides are lined up evenly.

NOTE: An easy check to verify correct installation is to slide a pan onto each slide. If the pan is held securely, and is level inside the door section, the installation has been successful.

T-3 Tray Slide Installation

Edge Support for 12" x 20" pans



T-3 Tray Slide for 12" x 20" pans

System Name	T-3
Slide Style	Tray
Support Style	Edge
Compatible with 12" x 20" Pans	Yes
Compatible with 18" x 26" Pans	No

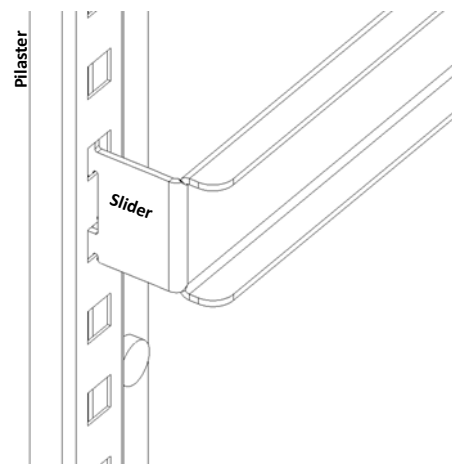
- The T-3 tray slide system is designed to support 12" x 20" pans by the edge of the pan.
- The slides are shaped as a C channel.
- Each set of tray slides is mounted at the same height across a door section.
- For each pan, one set of two (2) tray slides is used.

Centerline Spacing			
3.0"	4.0"	5.0"	6.0"
Maximum Tray Slides for a Full Section			
17	12	9	7
Maximum Tray Slides for a Half Section (Top)			
6	5	4	3
Maximum Tray Slides for a Half Section (Bottom)			
8	6	5	4

T-3 Installation Instructions

1. For each pan, two (2) tray slides will be used. Each tray slide must have another tray slide at the same height, on the opposite side of the door section. Mount the tray slides onto the pilasters by sliding the tabs down into the pilaster cutouts. Make sure that all tabs are engaged securely to each pilaster.

NOTE: A dead-blow hammer is recommended to seat the tab into the cutouts.

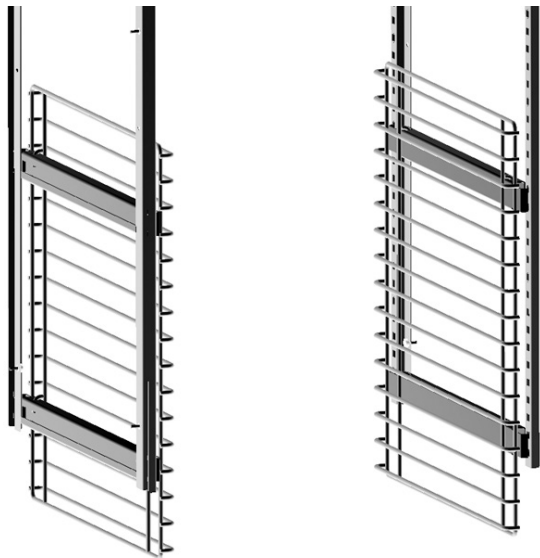


2. Verify that all tray slides are lined up evenly.

NOTE: An easy check to verify correct installation is to slide a pan of the appropriate size into each slide. If the pan is held securely, and is level inside the door section, the installation has been successful.

T-4 Rack Slide Installation

Edge Support for 18" x 26" pans



Installed T-4 Tray Slide for 18"x 26" pan

System Name	T-4
Slide Style	Rack
Support Style	Edge
Compatible with 12" x 20" Pans	No
Compatible with 18" x 26" Pans	Yes

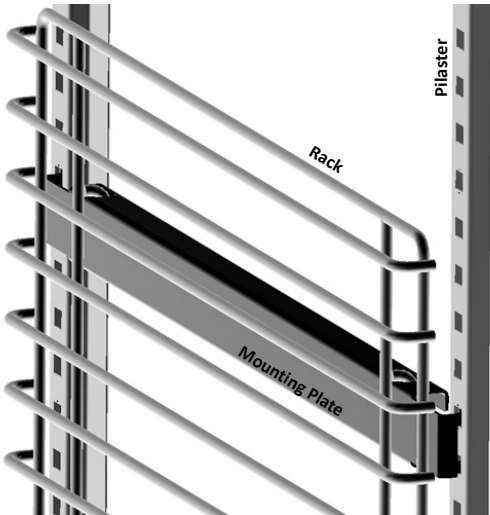
- The T-4 rack slide system is designed to support 18" x 26" pans by the edge of the pan.
- The T-4 rack slide system consists mounting plates for each side, and a set of racks.
- The racks are formed of heavy gauge metal wire.
- Each set of rack slides is mounted at the same height across a door section.
- Each rack uses two (2) mounting plates.

T-4 Installation Instructions

1. Start assembling the mounting plates at the bottom of the door section. Place a bottom mounting plate so that each set of tabs engages a cutout on the pilaster. Push the mounting plate down to secure the plate to the cutouts.
2. On the same side place a top mounting plate with the bottom edge 20" (51cm) above the top of the lower mounting plate.

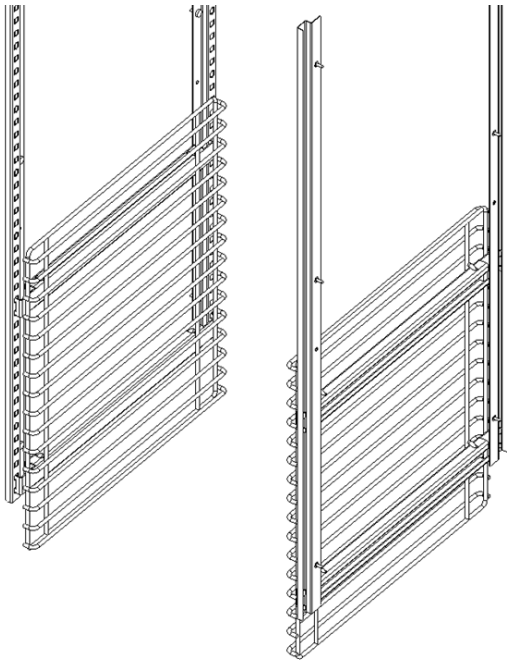
NOTE: A dead-blow hammer is recommended to seat the tab into the cutouts.

3. Repeat steps 1-2 on the opposite side. Verify that all mounting plates are lined up across the door section.
4. For a full section installation, repeat steps 1-3 for the upper half.
5. Place each rack on two (2) mounting plates.



6. Verify that all tray slides are lined up evenly.

NOTE: An easy check to verify correct installation is to slide a pan of the appropriate size into each slide. If the pan is held securely, and is level inside the door section, the installation has been successful.



Section 3

Operation

DANGER

The on-site supervisor is responsible for ensuring that operators are made aware of the inherent dangers of operating this equipment.

DANGER

Do not operate any appliance with a damaged cord or plug. All repairs must be performed by a qualified service company.

DANGER

Keep power cord AWAY from HEATED surfaces. DO NOT immerse power cord in water. DO NOT let power cord hang over edge of table or counter.

Warning

Do not contact moving parts.

Warning

All covers and access panels must be in place and properly secured, before operating this equipment.

Warning

Do not use electrical appliances inside the food storage compartment of this appliance.

Warning

The operator of this equipment is solely responsible for ensuring safe holding temperature levels for all food items. Failure to do so could result in unsafe food products for customers.

Warning

Overloading shelves can damage equipment or cause bodily injury.

Warning

Damp or wet hands may stick to cold surfaces.

Warning

Do not block the supply and return air grills or the air space around the air grills. Keep plastic wrappings, paper, labels, etc. from being airborne and lodging in the grills. Failure to keep the air grills clear will result in unsatisfactory operation of the system.

Caution

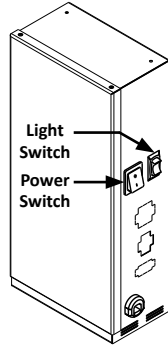
Do not throw items into the storage area. Failure to heed this recommendation could result in damage to the interior of the cabinet or to the blower coil.

Heated Cabinet Operation

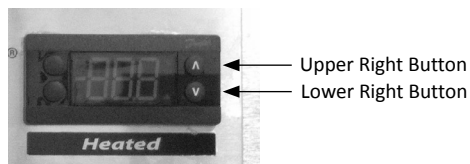
⚠ DANGER

The unit surface is very hot! Avoid direct contact with skin; use appropriate protective apparel, such as gloves.

Heated cabinets have a power and light switch located behind the louvered panel.



Heated cabinets have an electronic thermostat with digital read-out located on the top front shroud. A circulating fan provides uniform airflow in the cabinet.



POWER UP

1. Check that unit is properly connected to the power source.
2. Set the POWER ON/OFF switch, to the ON position.
3. Adjust the electronic thermostat to the desired temperature. The factory temperature setting is 200°F.
4. Allow unit to warm-up before use. It may take up to two hours to realize the temperature.

POWER DOWN

1. Turn the unit off daily by setting the POWER ON/OFF switch to the OFF position
2. After use, allow unit to cool down.
3. Clean equipment as discussed in the maintenance section of this manual.

TEMPERATURE CONTROL & DISPLAY OPERATION

1. Press upper or lower right button to display current set-point (blinking).
 - If buttons untouched for 5 seconds it will return to display the current temperature.
2. Increase set-point by pressing upper button. Max value depends on parameters in control. Decrease set-point by pressing lower button. Min value depends on parameters in control.
 - If buttons untouched for 5 seconds returns to display current temperature and stores new set-point.

FAN OPERATION

When heating elements are ON, fan is ON.

When heating elements are OFF, fan cycles OFF for 2 minutes, then ON for 1 minute and repeating this cycle until control turns heating elements back ON.

SENSOR ERROR

If E01, E02 or E03 is shown on the display the corresponding sensor, S1, S2 or S3 is defective. Replace the sensor.

HIGH TEMPERATURE SAFETY DEVICE

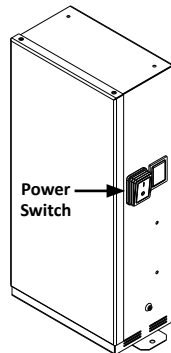
An automatic reset type safety device is mounted above the heater(s) behind the vertical air duct(s). This safety switch will open if the temperature exceeds 220°F (105°C) in the event of a fan failure or air duct obstruction. Whenever the switch opens, power to all components including the temperature control/ display is interrupted. Once the safety switch cools sufficiently to automatically reset, operation of all components will resume.

Refrigerator & Freezer Operation

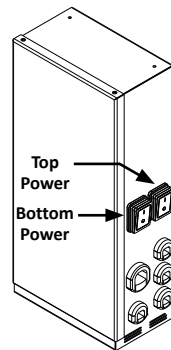
- Delfield refrigerators are designed to maintain an operational temperature of 36°F to 40°F (2°C to 4°C).
- Delfield freezers are designed to maintain an operational temperature of 0°F (-18°C).

Power

- One door refrigerators will run after they are plugged in.
- Freezers, two & three door refrigerators have a power switch located behind the louvered panel. Plug the unit in and turn it on to deliver power.



- Dual temperature reach-ins have two power switches behind the louvered panel, one for the top and another for the bottom. Plug the unit in and turn the switches on to deliver power.



AT START UP

1. At initial start-up or anytime power is disconnected, then reconnected to the unit, the control will go into defrost mode.
2. The control will enter a DEFROST mode and the display will read dEF. The compressor and condenser fan as well as the evaporator fan will remain off until this initial defrost is complete. This initial defrost cycle may take up to 35 minutes to complete.
3. The display will continue to read dEF for an additional 30 minutes while the cooling cycle cools the box to the set temperature.
4. Then the digital thermostat will display box temperature.
5. The temperature control will cycle the compressor, evaporator fan motor and condenser fan motor to maintain box temperature at the control setting. For more information see Evaporator Fan Operation on page 22.

Manual Defrost

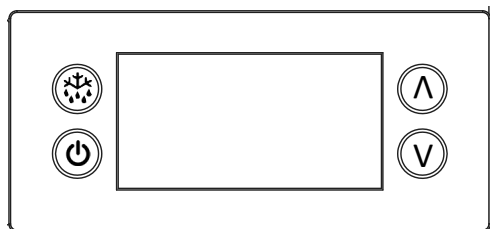
If a manual defrost is desired, hold the upper left display button for five seconds or unplug the unit for several seconds, then plug unit back in. This will cause the control to re-initialize and then enter a defrost cycle.

Automatic Defrost

The temperature control monitors the evaporator temperature and will turn off the compressor and condenser fan motor when needed to allow accumulated frost on the evaporator to clear. Additionally the freezer evaporator fan will turn off and defrost heater will switch on to warm the coil. During this defrost cycle, the digital temperature display will read dEF. After the defrost cycle is complete, the temperature control will return to a normal cooling cycle, but the display will continue to read dEF until the evaporator returns to normal cooling temperatures (up to 30 minutes). The freezer evaporator fan motor will not switch on until the evaporator reaches -5°F (-21°C) or two minutes AFTER the compressor and condenser fan motor have begun operating.

The temperature control monitors evaporator temperature and compressor run time to determine the proper time for a positive defrost cycle. A defrost cycle can occur as often as every 60 minutes under extremely heavy usage. It can last a minimum of 2 minutes in a refrigerator or 6 minutes in a freezer. When the controller enters the defrost mode the compressor is shut off and will remain off until the evaporator coil temperature exceeds:

- 41°F (5°C) or the controller reaches a time limit of 75 minutes on a refrigerated unit.
- 55°F (13°C) or the controller reaches a time limit of 35 minutes on a freezer.

TEMPERATURE CONTROL & DISPLAY**Control Display**

Operation / Indication		
Status	Displayed	Comments
Normal (°C)	Temp. [°C]	Unit depends on setting (parameters in control)
Normal (°F)	Temp. [°F]	
Show set-point	Temp.	
Set to Defrost	dEF / Temp	Depends on setting (parameters in control or as chosen by upper left button)
Sensor 1 defect	E01	Air sensor
Sensor 2 defect	E02	Coil sensor
High temperature alarm	Hi	Automatically switching at 2 sec rate
Low temperature alarm	Lo	
Line voltage too high	uHi	
Line voltage too low	uLi	

Temperature Control & Display Operation**Press upper or lower right button.**

- Display show actual set-point (blinking).
 - If buttons untouched for 3 seconds returns to normal.
- Increase set-point by pressing upper button. Max value depends on parameters in control.
- Decrease set-point by pressing lower button. Min value depends on parameters in control.
 - If buttons untouched for 3 seconds returns to normal and stores new set-point.

Press upper left button for 5 seconds.

- Start defrost.

Press lower left button for 5 seconds.

- Unit goes into stand-by mode.
 - The display will read off, then a period.
- Press the lower left button again for 5 seconds.
 - The display will read on.
 - The unit will then start up in the defrost mode, and display will read dEF.

Temperature Alarm

The alarm will flash HI or LO 90 minutes after the unit has reached its alarm temperature point or after any power interruption if the temperature is above or below the alarm set points.

- The high refrigerator temperature point is 50°F (10°C).
- The low refrigerator temperature point is 25°F (-4°C).
- The high freezer temperature point is 20°F (-7°C).
- The low freezer temperature point is -25°F (-32°C).

EVAPORATOR FAN OPERATION

During normal operation the evaporator fan may cycle and/or pulse independently of the compressor. Consult Technical Support at 1-844-724-CARE if you are unsure of the proper function.

	Cooling Cycle				Defrost Cycle	
	Compressor On		Compressor Off		Compressor Off	
	Evap Fan On	Evap Fan Off	Evap Fan On	Evap Fan Off	Evap Fan On	Evap Fan Off
Refrigerator	X		Cycles On 2-Min, Off 2-Min		X	
Freezer	X			X		X

ENERGY SAVER SWITCH

Select freezers are equipped with an energy saver switch for service use. It is located in the electrical box behind the front shroud. It controls the length of time that heat is applied to the door perimeter. The normal operating position for this switch is the on position, providing the shortest amount of time. If excessive condensation is observed on the door opening, switch to the off position with the help of an authorized service agent. The off position will increase the length of time the door heater is on.

Changing Display from Fahrenheit to Celsius

1. Simultaneously hold the up and down arrows for 5 seconds to access menu for password protected parameters.



2. Screen should temporarily flash **PAS** and then move to a numeric screen.



3. Scroll to **187** using the up/down arrows and push the stand-by button (lower left button) to enter.



4. Scroll to **dis** using the up/down arrows and push the stand-by button (lower left button) to enter into the display menu.



5. Scroll to **CFu** using the up/down arrows and push the stand-by button (lower left button) to enter the display unit menu.



6. **-F** should be displayed indicating Fahrenheit. Use the down arrow to change it to **-C** for Celsius and hit the stand-by button (lower left button) to enter the change.



7. Push the defrost button (upper left button) to move out of the display unit menu.



8. Push the defrost button (upper left button) to move out of the display menu and back to the normal display.

NOTE: For steps 7 and 8, display will return back to normal display after 30 seconds of inactivity.



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Section 4

Maintenance

DANGER

It is the responsibility of the equipment owner to perform a Personal Protective Equipment Hazard Assessment to ensure adequate protection during maintenance procedures.

DANGER

Failure to disconnect the power at the main power supply disconnect could result in serious injury or death. The power switch DOES NOT disconnect all incoming power.

DANGER

Disconnect electric power at the main power disconnect for all equipment being serviced. Observe correct polarity of incoming line voltage. Incorrect polarity can lead to erratic operation.

Warning

Never use sharp objects or tools to remove ice or frost. Do not use mechanical devices or other means to accelerate the defrosting process.

Warning

When cleaning interior and exterior of unit, care should be taken to avoid the front power switch and the rear power cord. Keep water and/or cleaning solutions away from these parts.

Warning

When using cleaning fluids or chemicals, rubber gloves and eye protection (and/or face shield) must be worn.

Caution

Maintenance and servicing work other than cleaning as described in this manual must be done by an authorized service personnel.

Notice

Never use a high-pressure water jet for cleaning or hose down or flood interior or exterior of units with water. Do not use power cleaning equipment, steel wool, scrapers or wire brushes on stainless steel or painted surfaces.

Responsibility

You are responsible for maintaining the equipment in accordance with the instructions in this manual. Maintenance procedures are not covered by the warranty.

Maintenance	Daily	Weekly	Monthly	After Prolonged Shutdown	At Start-Up
Interior	X			X	X
Gasket	X			X	X
Exterior	X			X	X
Drain		X		X	X
Condenser Coil			X	X	X

Interior Cleaning

The interior can be cleaned using soap and warm water. If this isn't sufficient, try ammonia and water or a nonabrasive liquid cleaner.

GASKETS

Gaskets require regular cleaning to prevent mold and mildew build up and also to retain the elasticity of the gasket. Clean them with water and mild soap (not citrus based). Avoid full strength cleaning products on gaskets as this can cause them to become brittle and crack. Never use sharp tools or knives to scrape or clean the gasket. Gaskets can be easily replaced and do not require the use of tools or an authorized service person. The gaskets are dart style and can be pulled out of the groove in the door. Place gasket in warm water to make the material more pliable for installation. Dry and press into place.

PREVENTING BLOWER COIL CORROSION

To help prevent corrosion of the blower coil, store all acidic items, such as pickles and tomatoes, in seal-able containers. Immediately wipe up all spills.

Exterior Cleaning

Notice

Never use an acid based cleaning solution on exterior panels! Many food products have an acidic content, which can deteriorate the finish. Be sure to clean the stainless steel surfaces of ALL food products.

Clean the area around the unit as often as necessary to maintain cleanliness and efficient operation.

Wipe exterior surfaces with a damp cloth rinsed in water to remove dust and dirt from the outside of the unit. Always rub with the "grain" of the stainless steel to avoid marring the finish. If a greasy residue persists, use a damp cloth rinsed in a mild dish soap and water solution. Wipe dry with a clean, soft cloth.

Never use steel wool or abrasive pads for cleaning. Never use chlorinated, citrus based or abrasive cleaners.

Stainless steel exterior panels have a clear coating that is stain resistant and easy to clean. Products containing abrasives will damage the coating and scratch the panels. Daily cleaning may be followed by an application of stainless steel cleaner which will eliminate water spotting and fingerprints. Early signs of stainless steel breakdown are small pits and cracks. If this has begun, clean thoroughly and start to apply stainless steel cleaners in attempt to restore the steel.

Wipe casters with a damp cloth to prevent corrosion.

DRAIN

Each refrigerated unit has a drain located inside the unit that removes the condensation from the evaporator coil and routes it to an external condensate evaporator pan. Each drain can become loose or disconnected during normal use. If you notice water accumulation on the inside of the unit, be sure the drain tube is connected to the evaporator drain pan. If water is collecting underneath the unit, make sure the end of the drain tube is in the condensate evaporator. The leveling of the unit is important as the units are designed to drain properly when level. Be sure all drain lines are free of obstructions.

DOORS/HINGES

Over time and with heavy-use doors, the hinges may become loose. If this happens, tighten the screws that mount the hinge brackets to the frame of the unit. Loose or sagging doors can cause the hinges to pull out of the frame, which may damage both the doors and the hinges. In some cases this may require qualified service agents or maintenance personnel to perform repairs.

Cleaning the Condenser Coil

In order to maintain proper refrigeration performance, the condenser fins must be cleaned of dust, dirt and grease regularly. It is recommended that this be done monthly. If conditions are such that the condenser is totally blocked in a month, the frequency of cleaning should be increased. Clean the condenser with a vacuum cleaner or stiff brush. If extremely dirty, a commercially available condenser cleaner may be required.

Failure to maintain a clean condenser coil can initially cause high temperatures and excessive run times. Continuous operation with a dirty or clogged condenser coil can result in compressor failure. Neglecting the condenser coil cleaning procedures will void any warranties associated with the compressor and cost to replace the compressor.



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