

Prep Tables & Compact Refrigerators 4400 & 4500 Series

Specifications, Installation, Operation & Maintenance Manual

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



⚠ Caution

Read this instruction before operating this equipment.

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

Never stand on the unit! They are not designed to hold the weight of an adult, and may collapse or tip if misused in this manner.

DANGER

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

DANGER

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

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 inside the food storage compartments of the appliance, unless they are of the type recommended 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.

Notice

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

Notice

This product utilizes Ecomate blowing agent methyl formate

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Section 1

General Information

Serial Number Information

The serial number is on the identification plate that also includes the model number. 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 www.delfield.com/warranty to:

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

Regulatory Certifications

All models are certified by:

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

Model Numbers

This manual covers the following models:

Model	Description
Refrigerated Front Breathers With Doors	
4424NP	One Door Flat Top
4427NP	
4432NP	
4427NP-6	One Door Salad Top
4427NP-8	
4427NP-9M	One Door Mega Top
4427NP-12M	
4432NP-12M	
4448NP	Two Door Flat Top
4448NP-6	Two Door Salad Top
4448NP-8	
4448NP-12	
4448NP-6M	Two Door Mega Top
4448NP-12M	
4448NP-18M	
4460NP	Two Door Flat Top
4460NP-8	Two Door Salad Top
4460NP-12	
4460NP-12M	Two Door Mega Top
4460NP-18M	
4460NP-24M	
4464NP-8	Two Door Salad Top
4464NP-12	
4464NP-12M	Two Door Mega Top
4464NP-16	Two Door Salad Top
4464NP-18M	Two Door Mega Top
4464NP-24M	
4472NP	Three Door Flat Top
4472NP-12	Three Door Salad Top
4472NP-18	
4472NP-18M	Three Door Mega Top
4472NP-24M	
4472NP-30M	
Refrigerated Front Breathers With Drawers	
D4424NP	Two Drawer Flat Top
D4427NP	
D4432NP	
D4427NP-6	Two Drawer Salad Top
D4427NP-8	
D4427NP-9M	Two Drawer Mega Top
D4427NP-12M	
D4432NP-12M	
D4448NP	Four Drawer Flat Top
D4460NP	
D4448NP-6	Four Drawer Salad Top
D4448NP-8	
D4448NP-12	
D4448NP-6M	Four Drawer Mega Top
D4448NP-12M	
D4448NP-18M	



Model	Description
D4460NP-8	Four Drawer Salad Top
D4460NP-12	
D4460NP-12M	
D4460NP-18M	Four Drawer Mega Top
D4460NP-24M	
D4464NP-8	Four Drawer Salad Top
D4464NP-12	
D4464NP-12M	
D4464NP-16	Four Drawer Salad Top
D4464NP-18M	Four Drawer Mega Top
D4464NP-24M	
D4472NP	Six Drawer Flat Top
D4472NP-12	Six Drawer Salad Top
D4472NP-18	
D4472NP-18M	Six Drawer Mega Top
D4472NP-24M	
D4472NP-30M	
Refrigerated Front Breathers With Doors & 4" S/S Backsplash	
ST4424NP	One Door Flat Top
ST4427NP	
ST4432NP	
ST4427NP-6	One Door Salad Top
ST4427NP-8	
ST4448NP	Two Door Flat Top
ST4460NP	
ST4448NP-6	Two Door Salad Top
ST4448NP-8	
ST4460NP-8	
ST4460NP-12	
ST4448NP-6M	Two Door Mega Top
ST4448NP-12M	
ST4460NP-12M	
ST4460NP-18M	
ST4464NP-8	Two Door Salad Top
ST4464NP-12	
ST4464NP-12M	Two Door Mega Top
ST4464NP-18M	
ST4472NP	Three Door Flat Top
ST4472NP-12	Three Door Salad Top
ST4472NP-18M	Three Door Mega Top
ST4472NP-24M	
Refrigerated Front Breathers w/ Drawers & 4" S/S Backsplash	
STD4424NP	Two Drawer Flat Top
STD4427NP	
STD4432NP	
STD4427NP-8	Two Drawer Salad Top
STD4448NP	Four Drawer Flat Top
STD4460NP	
STD4448NP-6	Four Drawer Salad Top
STD4448NP-8	
STD4460NP-8	
STD4460NP-12	
STD4448NP-6M	Four Drawer Mega Top
STD4448NP-12M	
STD4460NP-12M	
STD4460NP-18M	

Model	Description
STD4464NP-8	Four Drawer Salad Top
STD4464NP-12	
STD4464NP-12M	Four Drawer Mega Top
STD4464NP-18M	
STD4472NP	Six Drawer Flat Top
STD4472NP-12	Six Drawer Salad Top
STD4472NP-18M	Six Drawer Mega Top
STD4472NP-24M	

Refrigerated Front Breathers w/ Doors & Raised Rail Prep Table	
4448RP	Two Section with six 1/3 pan capacity
4472RP	Two Section with nine 1/3 pan capacity
4496RP	Three Section with twelve 1/3 pan capacity
Refrigerated Front Breathers w/ Drawers & Raised Rail Prep Table	
D4448RP	Two Section with six 1/3 pan capacity
D4472RP	Two Section with nine 1/3 pan capacity
D4496RP	Three Section with twelve 1/3 pan capacity

Model	Description
Freezer Front Breathers with Doors	
4527NP	One Door Flat Top
4532NP	
4548NP	Two Door Flat Top
4560NP	
Freezer Front Breathers with Drawers	
D4527NP	Two Drawers with Flat Top
D4532NP	
D4560NP	Four Drawers with Flat Top
Freezer Front Breathers with Doors & 4" S/S Backsplash	
ST4527NP	One Door Flat Top
ST4532NP	
ST4548NP	Two Door Flat Top
ST4560NP	
Freezer Front Breathers with Drawers & 4" S/S Backsplash	
STD4527NP	Two Drawers with Flat Top
STD4532NP	
STD4560NP	Four Drawers with Flat Top



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.

Warning

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

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 conduit or gas lines.

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 50° - 100°F (10° - 38°C).
- Proper air supply for ventilation is **REQUIRED AND CRITICAL** for safe and efficient operation.
- 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.

Weight of Equipment

Model	Ship Weight
Refrigerated Front Breathers With Doors	
4424NP	213lbs (96kg)
4427NP	223lbs (101kg)
4427NP-6	223lbs (101kg)
4427NP-8	240lbs (109kg)
4427NP-9M	223lbs (101kg)
4427NP-12M	
4432NP	245lbs (111kg)
4432NP-12M	245lbs (111kg)
4448NP	316lbs (143kg)
4448NP-6	
4448NP-8	
4448NP-12	
4448NP-18M	411lbs (186kg)
4460NP	
4460NP-8	
4460NP-12	
4460NP-12M	
4460NP-18M	
4460NP-24M	421lbs (191kg)
4464NP-8	
4464NP-12	
4464NP-12M	
4464NP-16	
4464NP-18M	
4464NP-24M	461lbs (209kg)
4472NP	
4472NP-12	
4472NP-18	
4472NP-18M	
4472NP-24M	
4472NP-30M	
Refrigerated Front Breathers With Drawers	
D4424NP	213lbs (96kg)
D4427NP	245lbs (109kg)
D4427NP-6	245lbs (111kg)
D4427NP-8	240lbs (109kg)
D4427NP-9M	245lbs (111kg)
D4427NP-12M	245lbs (111kg)
D4432NP	348lbs (158kg)
D4432NP-12M	293lbs (133kg)
D4448NP	398lbs (181kg)
D4448NP-8	
D4448NP-12	
D4448NP-18M	
D4460NP	495lbs (225kg)
D4460NP-8	
D4460NP-12	
D4460NP-12M	
D4460NP-18M	
D4460NP-24M	

Model	Ship Weight
D4464NP-8	522lbs (237kg)
D4464NP-12	
D4464NP-12M	
D4464NP-16	
D4464NP-18M	
D4464NP-24M	545lbs (247kg)
D4472NP	
D4472NP-12	
D4472NP-18	
D4472NP-18M	
D4472NP-24M	
D4472NP-30M	
Refrigerated Front Breathers With Doors & 4" S/S Backsplash	
ST4424NP	213lbs (96kg)
ST4427NP	240lbs (109kg)
ST4427NP-6	
ST4427NP-8	
ST4448NP	316lbs (143kg)
ST4448NP-6	
ST4448NP-8	
ST4460NP	411lbs (186kg)
ST4460NP-8	
ST4460NP-12	
ST4460NP-12M	
ST4460NP-18M	421lbs (191kg)
ST4464NP-8	
ST4464NP-12	
ST4464NP-12M	
ST4464NP-18M	461lbs (209kg)
ST4472NP	
ST4472NP-12	
ST4472NP-18M	
ST4472NP-24M	
Refrigerated Front Breathers With Drawers & 4" S/S Backsplash	
STD4424NP	213lbs (96kg)
STD4427NP	245lbs (109kg)
STD4427NP-6	
STD4427NP-8	
STD4432NP	266lbs (121kg)
STD4448NP	398lbs (181kg)
STD4448NP-6	
STD4448NP-8	
STD4460NP	495lbs (225kg)
STD4460NP-8	
STD4460NP-12	
STD4460NP-12M	
STD4460NP-18M	522lbs (237kg)
STD4464NP-8	
STD4464NP-12	
STD4464NP-12M	
STD4464NP-18M	545lbs (247kg)
STD4472NP	
STD4472NP-12	
STD4472NP-18M	
STD4472NP-24M	



Refrigerated Front Breathers w/ Doors & Raised Rail Prep Table	
4448RP	316lbs (143kg)
4472RP	461lbs (209kg)
4496RP	≈600lbs (272kg)
Refrigerated Front Breathers w/ Drawers & Raised Rail Prep Table	
D4448RP	316lbs (143kg)
D4472RP	461lbs (209kg)
D4496RP	≈600lbs (272kg)

Model	Ship Weight
Freezer Front Breathers with Doors	
4527NP	223lbs (101kg)
4532NP	266lbs (121kg)
4548NP	316lbs (143kg)
4560NP	411lbs (186kg)
Freezer Front Breathers with Drawers	
D4527NP	245lbs (111kg)
D4532NP	348lbs (158kg)
D4560NP	495lbs (224kg)
Freezer Front Breathers with Doors & 4" S/S Backsplash	
ST4527NP	223lbs (101kg)
ST4532NP	266lbs (121kg)
ST4548NP	316lbs (143kg)
ST4560NP	411lbs (186kg)
Freezer Front Breathers with Drawers & 4" S/S Backsplash	
STD4527NP	245lbs (111kg)
STD4532NP	348lbs (158kg)
STD4560NP	495lbs (224kg)

Clearance Requirements

- Keep the vents clean and free of obstruction.
- Casters or optional legs must be used and not removed.
- Provide good air circulation inside and outside the cabinet.
- Do not pack refrigerator so full that air cannot circulate.
- Avoid hot corners and locations near stoves and ovens.
- These cabinets have Delfield's "front-breathing" design. They may be installed flush against a wall or built into a counter as required.

Caution

Any restriction of the proper air flow outlined above, total or partial, will void the warranty on the cabinet.

Dimensions

Model	Length	Depth	Work Height
Refrigerated Front Breathers With Doors			
4424NP	24" (61cm)	31.50" (80cm)	36.00" (91cm)
4427NP	27" (69cm)	31.50" (80cm)	36.00" (91cm)
4427NP-6			
4427NP-8			
4427NP-9M			
4427NP-12M			
4432NP	32" (81cm)	31.50" (80cm)	36.00" (91cm)
4432NP-12M			
4448NP	48" (122cm)	31.50" (80cm)	36.00" (91cm)
4448NP-6			
4448NP-8			
4448NP-12			
4448NP-18M			
4460NP	60" (152cm)	31.50" (80cm)	36.00" (91cm)
4460NP-8			
4460NP-12			
4460NP-12M			
4460NP-18M			
4460NP-24M			
4464NP-8	64" (163cm)	31.50" (80cm)	36.00" (91cm)
4464NP-12			
4464NP-12M			
4464NP-16			
4464NP-18M			
4464NP-24M			
4472NP	72" (183cm)	31.50" (80cm)	36.00" (91cm)
4472NP-12			
4472NP-18			
4472NP-18M			
4472NP-24M			
4472NP-30M			

Model	Length	Depth	Work Height
Refrigerated Front Breathers With Drawers			
D4424NP	24" (61cm)	31.50" (80cm)	36.00" (91cm)
D4427NP	27" (69cm)	31.50" (80cm)	36.00" (91cm)
D4427NP-6			
D4427NP-8			
D4427NP-9M			
D4427NP-12M			
D4432NP	32" (81cm)	31.50" (80cm)	36.00" (91cm)
D4432NP-12M			
D4448NP	48" (122cm)	31.50" (80cm)	36.00" (91cm)
D4448NP-6			
D4448NP-8			
D4448NP-12			
D4448NP-18M			
D4460N	60" (152cm)	31.50" (80cm)	36.00" (91cm)
D4460N-8			
D4460NP-12			
D4460NP-12M			
D4460NP-18M			
D4460NP-24M			
D4464NP-8	64" (163cm)	31.50" (80cm)	36.00" (91cm)
D4464NP-12			
D4464NP-12M			
D4464NP-16			
D4464NP-18M			
D4464NP-24M			
D4472NP	72" (183cm)	31.50" (80cm)	36.00" (91cm)
D4472NP-12			
D4472NP-18			
D4472NP-18M			
D4472NP-24M			
D4472NP-30M			
Refrigerated Front Breathers With Doors & 4" S/S Backsplash			
ST4424NP	24" (61cm)	31.50" (80cm)	36.00" (91cm)
ST4427NP	27" (69cm)	31.50" (80cm)	36.00" (91cm)
ST4427NP-6			
ST4427NP-8			
ST4432NP	32" (81cm)	31.50" (80cm)	36.00" (91cm)
ST4448NP	48" (122cm)	31.50" (80cm)	36.00" (91cm)
ST4448NP-6			
ST4448NP-8			
ST4460NP	60" (152cm)	31.50" (80cm)	36.00" (91cm)
ST4460NP-8			
ST4460NP-12			
ST4460NP-18M			
ST4464NP-8	64" (163cm)	31.50" (80cm)	36.00" (91cm)
ST4464NP-12			
ST4464NP-12M			
ST4464NP-18M			
ST4472NP	72" (183cm)	31.50" (80cm)	36.00" (91cm)
ST4472NP-12			
ST4472NP-18M			
ST4472NP-24M			
Refrigerated Front Breathers With Drawers & 4" S/S Backsplash			
STD4424NP	24" (61cm)	31.50" (80cm)	36.00" (91cm)
STD4427NP	27" (69cm)	31.50" (80cm)	36.00" (91cm)
STD4427NP-6			
STD4427NP-8			

Model	Length	Depth	Work Height
STD4432NP	32" (81cm)	31.50" (80cm)	36.00" (91cm)
STD4448NP	48" (122cm)	31.50" (80cm)	36.00" (91cm)
STD4448NP-6			
STD4448NP-8			
STD4460NP	60" (152cm)	31.50" (80cm)	36.00" (91cm)
STD4460NP-8			
STD4460NP-12			
STD4460NP-12M			
STD4464NP-8	64" (163cm)	31.50" (80cm)	36.00" (91cm)
STD4464NP-12			
STD4464NP-12M			
STD4464NP-18M	72" (183cm)	31.50" (80cm)	36.00" (91cm)
STD4472NP			
STD4472NP-12			
STD4472NP-18M			
STD4472NP-24M			

Refrigerated Front Breathers w/ Doors & Raised Rail Prep Table			
4448RP	48" (122cm)	31.50" (80cm)	36.00" (91cm)
4472RP	72" (182cm)	31.50" (80cm)	36.00" (91cm)
4496RP	96" (244cm)	31.50" (80cm)	36.00" (91cm)

Refrigerated Front Breathers w/ Drawers & Raised Rail Prep Table			
D4448RP	48" (122cm)	31.50" (80cm)	36.00" (91cm)
D4472RP	72" (182cm)	31.50" (80cm)	36.00" (91cm)
D4496RP	96" (244cm)	31.50" (80cm)	36.00" (91cm)

Model	Length	Depth	Work Height
Freezer Front Breathers with Doors			
4527NP	27" (69cm)	31.50" (80cm)	36.00" (91cm)
4532NP	32" (81cm)		
4548NP	48" (122cm)		
4560NP	60" (152cm)		
Freezer Front Breathers with Drawers			
D4527NP	27" (69cm)	31.50" (80cm)	36.00" (91cm)
D4532NP	32" (81cm)		
D4560NP	60" (152cm)		
Freezer Front Breathers with Doors & 4" S/S Backsplash			
ST4527NP	27" (69cm)	31.50" (80cm)	36.00" (91cm)
ST4532NP	32" (81cm)		
ST4548NP	48" (122cm)		
ST4560NP	60" (152cm)		
Freezer Front Breathers with Drawers & 4" S/S Backsplash			
STD4527NP	27" (69cm)	31.50" (80cm)	36.00" (91cm)
STD4532NP	32" (81cm)		
STD4560NP	60" (152cm)		



Capacity

Model	1/6 Pan Capacity	Shelf Area (number of)	Base Volume
Refrigerated Front Breathers With Doors			
4424NP	N/A	(1) 2.77ft ²	6.35ft ³ (180L)
4427NP	N/A	(1) 3.17ft ²	7.35ft ³ (213L)
4427NP-6	6	3.17ft ² (2945cm ²)	8.20ft ³ (232L)
4427NP-8	8		
4427NP-9M	9		
4432NP	N/A	(1) 3.92ft ²	9.10ft ³ (256L)
4432NP-12M	12	3.88ft ² (3605cm ²)	10.10ft ³ (286L)
4448NP	N/A	(2) 5.48ft ²	14.23ft ³ (403L)
4448NP-6	6	5.48ft ² (5091cm ²)	16.00ft ³ (453L)
4448NP-8	8		
4448NP-12	12		
4448NP-18M	18		
4460NP	N/A	(2) 7.19ft ²	18.32ft ³ (519L)
4460NP-8	8	7.19ft ² (6680cm ²)	20.20ft ³ (572L)
4460NP-12	12		
4460NP-12M	12		
4460NP-18M	18		
4460NP-24M	24		
4464NP-8	8	7.76ft ² (7209cm ²)	21.60ft ³ (612L)
4464NP-12	12		
4464NP-12M	12		
4464NP-16	16		
4464NP-18M	18		
4464NP-24M	24		
4472NP	N/A	(3) 8.22ft ²	22.11ft ³ (626L)
4472NP-12	12	8.22ft ² (7637cm ²)	24.80ft ³ (702L)
4472NP-18	18		
4472NP-18M	18		
4472NP-24M	24		
4472NP-30M	30		
Refrigerated Front Breathers With Drawers			
D4424NP	N/A	N/A	6.35ft ³ (180L)
D4427NP	N/A	N/A	7.35ft ³ (213L)
D4427NP-6	6	N/A	8.20ft ³ (232L)
D4427NP-8	8		
D4427NP-9M	9		
D4427NP-12M	12		
D4432NP	N/A		
D4432NP-12M	12	NA	10.10ft ³ (286L)
D4448NP	N/A	N/A	14.23ft ³ (403L)
D4448NP-6	6	N/A	16.00ft ³ (453L)
D4448NP-8	8		
D4448NP-12	12		
D4448NP-18M	18		
D4460NP	N/A	N/A	18.32ft ³ (519L)
D4460NP-8	8	N/A	20.20ft ³ (572L)
D4460NP-12	12		
D4460NP-12M	12		
D4460NP-18M	18		
D4460NP-24M	24		
D4464NP-8	8	N/A	21.60ft ³ (612L)
D4464NP-12	12		
D4464NP-12M	12		
D4464NP-16	16		
D4464NP-18M	18		
D4464NP-24M	24		

Model	1/6 Pan Capacity	Shelf Area (number of)	Base Volume
D4472NP	N/A	N/A	22.11ft ³ (626L)
D4472NP-12	12	N/A	24.80ft ³ (702L)
D4472NP-18	18		
D4472NP-18M	18		
D4472NP-24M	24		
D4472NP-30M	30		
Refrigerated Front Breathers With Doors & 4" S/S Backsplash			
ST4424NP	N/A	(1) 2.77ft ²	6.35ft ³ (180L)
ST4427NP	N/A	(1) 3.17ft ²	7.35ft ³ (213L)
ST4427NP-6	6	3.17ft ² (2945cm ²)	8.20ft ³ (232L)
ST4427NP-8	8		
ST4432NP	N/A	(1) 3.92ft ²	9.10ft ³ (256L)
ST4448NP	N/A	(2) 5.48ft ²	14.23ft ³ (403L)
ST4448NP-6	6	5.48ft ² (5091cm ²)	16.00ft ³ (453L)
ST4448NP-8	8		
ST4460NP	N/A	(2) 7.19ft ²	18.32ft ³ (519L)
ST4460NP-8	8	7.19ft ² (6680cm ²)	20.20ft ³ (572L)
ST4460NP-12	12		
ST4460NP-12M	12		
ST4460NP-18M	18		
ST4464NP-8	8	7.76ft ² (7209cm ²)	21.60ft ³ (612L)
ST4464NP-12	12		
ST4464NP-12M	12		
ST4464NP-18M	18		
ST4472NP	N/A	(3) 8.22ft ²	22.11ft ³ (626L)
ST4472NP-12	12	8.22ft ² (7637cm ²)	24.80ft ³ (702L)
ST4472NP-18M	18		
ST4472NP-24M	24		
Refrigerated Front Breathers With Drawers & 4" S/S Backsplash			
STD4424NP	N/A	N/A	6.35ft ³ (180L)
STD4427NP	N/A	N/A	7.35ft ³ (213L)
STD4427NP-6	6	N/A	8.20ft ³ (232L)
STD4427NP-8	8		
STD4432NP	N/A	N/A	9.10ft ³ (256L)
STD4448NP	N/A	N/A	14.23ft ³ (403L)
STD4448NP-6	6	N/A	16.00ft ³ (453L)
STD4448NP-8	8		
STD4460NP	N/A	N/A	18.32ft ³ (519L)
STD4460NP-8	8	N/A	20.20ft ³ (572L)
STD4460NP-12	12		
STD4460NP-12M	12		
STD4460NP-18M	18		
STD4464NP-8	8	N/A	21.60ft ³ (612L)
STD4464NP-12	12		
STD4464NP-12M	12		
STD4464NP-18M	18		
STD4472NP	N/A	N/A	22.11ft ³ (626L)
STD4472NP-12	12	N/A	24.80ft ³ (702L)
STD4472NP-18M	18		
STD4472NP-24M	24		
Refrigerated Front Breathers w/ Doors & Raised Rail Prep Table			
4448RP	6	5.48ft ² (5091cm ²)	17.96ft ³ (509L)
4472RP	9	8.22ft ² (7637cm ²)	27.80ft ³ (787L)
4496RP	12	11.64ft ² (10814cm ²)	37.65ft ³ (1066L)



Refrigerated Front Breathers w/ Drawers & Raised Rail Prep Table			
D4448RP	6	N/A	17.96ft ³ (509L)
D4472RP	9	N/A	27.80ft ³ (787L)
D4496RP	12	N/A	37.65ft ³ (1066L)

Model	1/6 Pan Capacity	Shelf Area	Base Volume
Freezer Front Breathers with Doors			
4527NP	N/A	(1) 3.17ft ²	7.14ft ³ (202L)
4532NP	N/A	(1) 3.92ft ²	8.8ft ³ (249L)
4548NP	N/A	(2) 5.48ft ²	14.02ft ³ (379L)
4560NP	N/A	(2) 7.19ft ²	17.63ft ³ (499L)
Freezer Front Breathers with Drawers			
D4527NP	N/A	(1) 3.17ft ²	7.3ft ³ (207L)
D4532NP	N/A	(1) 3.92ft ²	9ft ³ (255L)
D4560NP	N/A	(2) 7.19ft ²	17.77ft ³ (503L)
Freezer Front Breathers with Doors & 4" S/S Backsplash			
ST4527NP	N/A	(1) 3.17ft ²	7.14ft ³ (202L)
ST4532NP	N/A	(1) 3.92ft ²	8.8ft ³ (249L)
ST4548NP	N/A	(2) 5.48ft ²	14.02ft ³ (379L)
ST4560NP	N/A	(2) 7.19ft ²	17.63ft ³ (499L)
Freezer Front Breathers with Drawers & 4" S/S Backsplash			
STD4527NP	N/A	(1) 3.17ft ²	7.3ft ³ (207L)
STD4532NP	N/A	(1) 3.92ft ²	9ft ³ (255L)
STD4560NP	N/A	(2) 7.19ft ²	17.77ft ³ (503L)

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.

- The Danfoss control can be used to power down and shut off the unit.
- All electrical work, including wire routing and grounding, must conform to local, state and national electrical codes.
- The equipment must be grounded.
- A separate fuse/circuit breaker must be provided for each unit.
- The maximum allowable voltage variation is ±10% of the rated voltage at equipment start-up (when the electrical load is highest).
- 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.

RATED AMPERAGES, HORSEPOWER, VOLTAGE & POWER CORD CHART

Maximum 6ft (1.8m) cord with three-pronged plug. Plug into a three-pronged wall outlet for proper grounding of the cabinet to begin operation. Do not use an adapter to connect to a two-pronged outlet.

Model	Amp	H.P.	Voltage, Cycle, Phase	NEMA Plug
Refrigerated Front Breathers With Doors				
4424NP	4.8	.20	115,60,1	5-15P
4427NP				
4427NP-6	4	.3	115, 60, 1	5-15P
4427NP-8				
4427NP-9M				
4427NP-12M				
4432NP	4.8	.20	115,60,1	5-15P
4432NP-12M	4	.3	115, 60, 1	5-15P
4448NP	4.8	.20	115,60,1	5-15P
4448NP-6	4	.3	115, 60, 1	5-15P
4448NP-8				
4448NP-12				
4448NP-18M				
4460NP	4.8	.20	115,60,1	5-15P
4460NP-8	6	.35	115, 60, 1	5-15P
4460NP-12				
4460NP-12M				
4460NP-18M				
4460NP-24M				
4464NP-8	6	.35	115, 60, 1	5-15P
4464NP-12				
4464NP-12M				
4464NP-16				
4464NP-18M				
4464NP-24M				
4472NP	4.8	.20	115,60,1	5-15P
4472NP-12	6	.35	115, 60, 1	5-15P
4472NP-18				
4472NP-18M				
4472NP-24M				
4472NP-30M				
Refrigerated Front Breathers With Drawers				
D4424NP	4.8	.20	115,60,1	5-15P
D4427NP				
D4427NP-6	4	.3	115, 60, 1	5-15P
D4427NP-8				
D4427NP-9M				
D4427NP-12M				
D4432NP				
D4432NP-12M	4	.3	115, 60, 1	5-15P
D4448NP	4.8	.20	115,60,1	5-15P
D4448NP-6	4	.3	115, 60, 1	5-15P
D4448NP-8				
D4448NP-12				
D4448NP-18M				
D4460NP	4.8	.20	115,60,1	5-15P



Model	Amp	H.P.	Voltage, Cycle, Phase	NEMA Plug
D4460NP-8	6	.35	115, 60, 1	5-15P
D4460NP-12				
D4460NP-12M				
D4460NP-18M				
D4460NP-24M				
D4464NP-8	6	.35	115, 60, 1	5-15P
D4464NP-12				
D4464NP-12M				
D4464NP-16				
D4464NP-18M				
D4464NP-24M				
D4472NP	4.8	.20	115,60,1	5-15P
D4472NP-12	6	.35	115, 60, 1	5-15P
D4472NP-18				
D4472NP-18M				
D4472NP-24M				
D4472NP-30M				
Refrigerated Front Breathers With Doors & 4" S/S Backsplash				
ST4424NP	4.8	.20	115,60,1	5-15P
ST4427NP				
ST4427NP-6				
ST4427NP-8	4	.3	115, 60, 1	5-15P
ST4432NP	4.8	.20	115,60,1	5-15P
ST4448NP				
ST4448NP-6	4	.3	115, 60, 1	5-15P
ST4448NP-8				
ST4460NP	4.8	.20	115,60,1	5-15P
ST4460NP-8	6	.35	115, 60, 1	5-15P
ST4460NP-12				
ST4460NP-12M				
ST4460NP-18M				
ST4464NP-8	6	.35	115, 60, 1	5-15P
ST4464NP-12				
ST4464NP-12M				
ST4464NP-18M				
ST4472NP				
ST4472NP-12	4.8	.20	115,60,1	5-15P
ST4472NP-18M	6	.35	115, 60, 1	5-15P
ST4472NP-24M				
Refrigerated Front Breathers With Drawers & 4" S/S Backsplash				
STD4424NP	4.8	.20	115,60,1	5-15P
STD4427NP				
STD4427NP-6	4	.3	115, 60, 1	5-15P
STD4427NP-8				
STD4432NP	4.8	.20	115,60,1	5-15P
STD4448NP				
STD4448NP-6	4	.3	115, 60, 1	5-15P
STD4448NP-8				
STD4460NP	4.8	.20	115,60,1	5-15P
STD4460NP-8	6	.35	115, 60, 1	5-15P
STD4460NP-12M				
STD4460NP-18M				
STD4464NP-8	6	.35	115, 60, 1	5-15P
STD4464NP-12				
STD4464NP-12M				
STD4464NP-18M				
STD4472NP				
STD4472NP	4.8	.20	115,60,1	5-15P

Model	Amp	H.P.	Voltage, Cycle, Phase	NEMA Plug
STD4472NP-12	6	.35	115, 60, 1	5-15P
STD4472NP-18M				
STD4472NP-24M				

Refrigerated Front Breathers w/ Doors & Raised Rail Prep Table				
4448RP	4.0	.3	115, 60, 1	5-15P
4472RP	6.0	.35	115, 60, 1	5-15P
4496RP	6.0	.35	115, 60, 1	5-15P
Refrigerated Front Breathers w/ Drawers & Raised Rail Prep Table				
D4448RP	4.0	.3	115, 60, 1	5-15P
D4472RP	6.0	.35	115, 60, 1	5-15P
D4496RP	6.0	.35	115, 60, 1	5-15P

Model	Amp	H.P.	Voltage, Cycle, Phase	NEMA Plug
Freezer Front Breathers with Doors				
4527NP	5.2	.35	115,60,1	5-15P
4532NP				
4548NP				
4560NP				
Freezer Front Breathers with Drawers				
D4527NP	5.2	.35	115,60,1	5-15P
D4532NP				
D4560NP				
Freezer Front Breathers with Doors & 4" S/S Backsplash				
ST4527NP	5.2	.35	115,60,1	5-15P
ST4532NP				
ST4548NP				
ST4560NP				
Freezer Front Breathers with Drawers & 4" S/S Backsplash				
STD4527NP	5.2	.35	115,60,1	5-15P
STD4532NP				
STD4560NP				



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.

Self-contained models are standard with a condensate evaporator. If, for some reason, a cabinet does not have a condensate evaporator, or the evaporator fails, the cabinets drain must have an outlet to an appropriate drainage area or container.

Refrigeration

Model	BTU/Hour Capacity	Heat of Rejection	R290 Charge
Refrigerated Front Breathers With Doors			
4424NP	1534	242	75g
4427NP		260	
4427NP-6	2038	716	60g
4427NP-8			
4427NP-9M			
4427NP-12M			
4432NP	1534	290	75
4432NP-12M	2038	883	60g
4448NP	1534	420	75g
4448NP-6	2038	1299	60g
4448NP-8			
4448NP-12			
4448NP-18M			
4460NP	1704	494	75g
4460NP-8	2973	1645	72g
4460NP-12			
4460NP-12M			
4460NP-18M			
4460NP-24M			
4464NP-8	2973	1664	72g
4464NP-12			
4464NP-12M			
4464NP-16			
4464NP-18M			
4464NP-24M			
4472NP	1704	600	75g
4472NP-12	2973	2042	72g
4472NP-18			
4472NP-18M			
4472NP-24M			
4472NP-30M			
Refrigerated Front Breathers With Drawers			
D4424NP	1534	272	75g
D4427NP		294	
D4427NP-6	2038	716	60g
D4427NP-8			
D4427NP-9M			
D4427NP-12M			
D4432NP	1534	331	75g

Model	BTU/Hour Capacity	Heat of Rejection	R290 Charge
D4432NP-12M	2038	883	60g
D4448NP	1534	485	75g
D4448NP-6	2038	1299	60g
D4448NP-8			
D4448NP-12			
D4448NP-18M			
D4460NP	1704	576	75g
D4460NP-8	2973	1645	72g
D4460NP-12			
D4460NP-12M			
D4460NP-18M			
D4460NP-24M			
D4464NP-8	2973	1664	72g
D4464NP-12			
D4464NP-12M			
D4464NP-16			
D4464NP-18M			
D4464NP-24M			
D4472NP	1704	700	75g
D4472NP-12	2973	2042	72g
D4472NP-18			
D4472NP-18M			
D4472NP-24M			
D4472NP-30M			
Refrigerated Front Breathers With Doors & 4" S/S Backsplash			
ST4424NP	1534	242	75g
ST4427NP		260	
ST4427NP-6	2038	716	60g
ST4427NP-8			
ST4432NP	1534	290	75g
ST4448NP		420	
ST4448NP-6	2038	1299	60g
ST4448NP-8			
ST4460NP	1704	494	75g
ST4460NP-8	2973	1645	72g
ST4460NP-12			
ST4460NP-12M			
ST4460NP-18M			
ST4464NP-8	2973	1664	72g
ST4464NP-12			
ST4464NP-12M			
ST4464NP-18M			
ST4472NP	1704	600	75g
ST4472NP-12	2973	2042	72g
ST4472NP-18M			
ST4472NP-24M			
Refrigerated Front Breathers With Drawers & 4" S/S Backsplash			
STD4424NP	1534	272	75g
STD4427NP		294	
STD4427NP-6	2038	716	60g
STD4427NP-8			
STD4432NP	1534	331	85g
STD4448NP		485	
STD4448NP-6	2038	1299	60g
STD4448NP-8			



Model	BTU/Hour Capacity	Heat of Rejection	R290 Charge
STD4460NP	1704	576	75g
STD4460NP-8	2973	1645	72g
STD4460NP-12			
STD4460NP-18M			
STD4464NP-8	2973	1664	72g
STD4464NP-12			
STD4464NP-18M			
STD4472NP	1704	700	75g
STD4472NP-12	2973	2042	72g
STD4472NP-18M			
STD4472NP-24M			

Refrigerated Front Breathers w/ Doors & Raised Rail Prep Table			
4448RP	1756	1084	60g
4472RP	2899	1636	72g
4496RP	2899	2093	72g
Refrigerated Front Breathers w/ Drawers & Raised Rail Prep Table			
D4448RP	1756	1084	60g
D4472RP	2899	1636	72g
D4496RP	2899	2093	72g

Model	BTU/Hour Capacity	Heat of Rejection	R290 Charge
Freezer Front Breathers with Doors			
4527NP	1445	425	105g
4532NP		476	
4548NP		686	
4560NP	1879	827	150g
Freezer Front Breathers with Drawers			
D4527NP	1445	471	105g
D4532NP		532	
D4560NP		937	
Freezer Front Breathers with Doors & 4" S/S Backsplash			
ST4527NP	1445	425	105g
ST4532NP		476	
ST4548NP		686	
ST4560NP	1315	827	150g
Freezer Front Breathers with Drawers & 4" S/S Backsplash			
STD4527NP	1445	471	105g
STD4532NP		532	
STD4560NP		937	

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.

Leg & Caster Installation

⚠ DANGER

Legs or casters must be installed and the legs or casters must be screwed in completely to prevent bending. When casters are installed the mass of this unit will allow it to move uncontrolled on an inclined surface. These units must be tethered/secured to comply with all applicable codes.

⚠ 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.

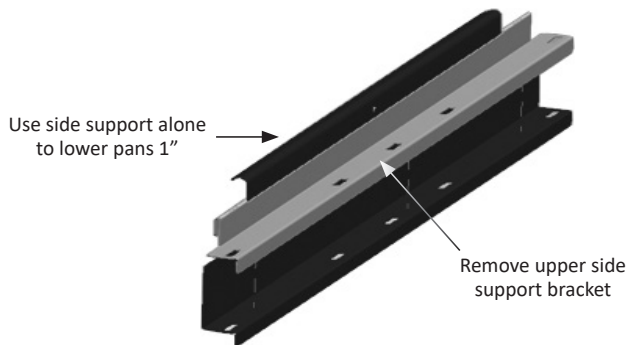


Changing Pan Height (on -S & -M models)

If additional pan temperature cooling ability is desired, especially in higher ambient temperature conditions and/or if pan covers are open or off for extended time periods improved cooling of pans can usually be achieved by utilizing the lower position of the dual level pan guides.

When utilizing the lower position on a model with drawers, only 4" deep pans can be used in the top. When utilizing the lower position on a door model, 4" or 6" deep pans may be used.

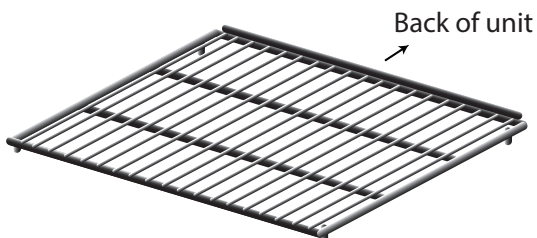
1. Remove all pans, pan dividers, front and rear support bars.
2. Remove the upper side support brackets by pulling them up and off.
3. Reinstall all components removed in step one.



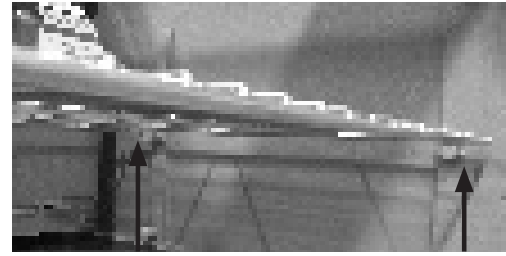
If the lower pan position is desired for models 4427N-8 or 4427N-12M, model specific brackets must be ordered. They will replace all other brackets.

Shelf Installation Instructions

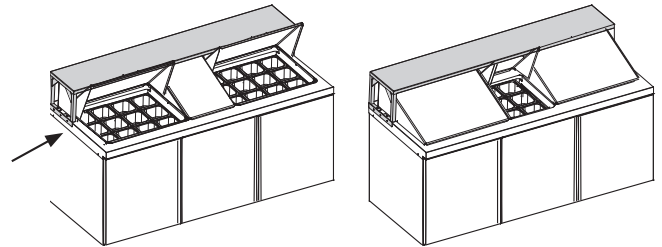
1. Notice the shelves have four alignment pins on the underside and a backstop on the top back.
2. Insert the shelves into the cabinet.
 - The backstop should be at the top back.



- The alignment pins should be in front and back of the shelf supports.



Optional Overshelf Installation Instructions



If the unit is ordered to have the overshelf:

1. Remove the three screws from each top side of the cabinet (total six screws).
2. Set the overshelf in-place on the top of the cabinet.
3. Line up the overshelf holes with the unit holes.
4. Secure with three screws per side of the cabinet (total six screws).

If the overshelf was not ordered with the unit:

1. Set the overshelf in-place on the top of the cabinet.
2. Secure with three screws per side of the cabinet (total six screws).

Standard Heavy Duty Cutting Board Bracket Mounting

Supplies Needed

- #3 Phillips Screwdriver

Parts Included For 27" & 32" Units

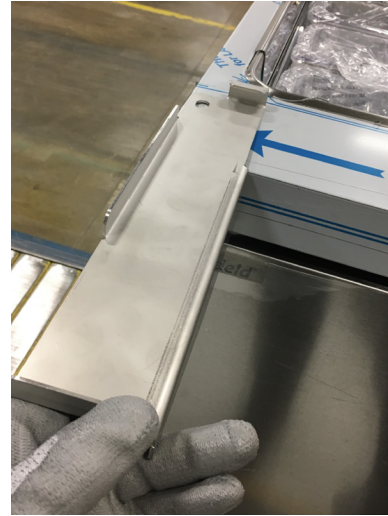
Qty	Description	Part No.
1	Left Bracket	Varies
1	Right Bracket	Varies
2	Screw, pan head	9321519
2	Screw, flat head	9324092
2	Fender Washer	9324043

Parts Included For 48" Units

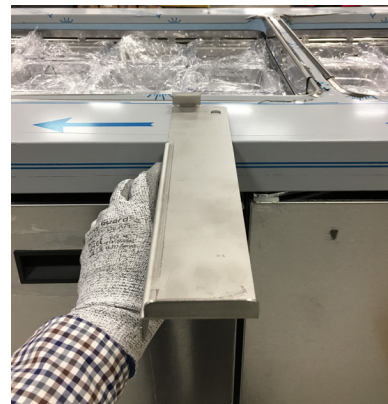
Qty	Description	Part No.
1	Left Bracket	Varies
1	Center Bracket	Varies
1	Right Bracket	Varies
1	Silicone	9291311
3	Screw, pan head	9321519
3	Screw, flat head	9324092
3	Fender Washer	9324043

Parts Included For 60", 64" & 72" Units

Qty	Description	Part No.
1	Left Bracket	Varies
2	Center Bracket	Varies
1	Right Bracket	Varies
1	Silicone	9291311
4	Screw, pan head	9321519
4	Screw, flat head	9324092
4	Fender Washer	9324043



Left Bracket



Center Bracket



Right Bracket



Heavy Duty Cutting Board Bracket Mounting Instructions

1. Attach each bracket to the top of the unit with one flat head screw (9324092).

**Top**

2. Attach each bracket to the face of the unit with one fender washer (9324043) and one pan head screw (9321519).

- Some adjustment to align the brackets may be necessary once the cutting board is installed.
- Do not over tighten the screws.

**Face**

3. Install the cutting board onto the brackets.

- Make final bracket adjustments so the cutting board sits flush in the brackets.
- Tighten screws.



4427NP (R290) & 4427N (404) Lid installation (on -S & -M models)

Secure The Fixed Cover To The Unit

Qty	Part #	Part Description
2	9321170	Screw, Thumb, #10-32x.50
2	MCP00207	Screw, Shoulder, S/S. 8-32 Epoxy

1. Attach the fixed cover to the rear of the unit with two thumb screws.
2. Attach the fixed cover to the sides of the unit with two shoulder screws.
3. Enlarge the fixed cover screw holes with a 3/16" drill bit.

Attache The Rolling Lid

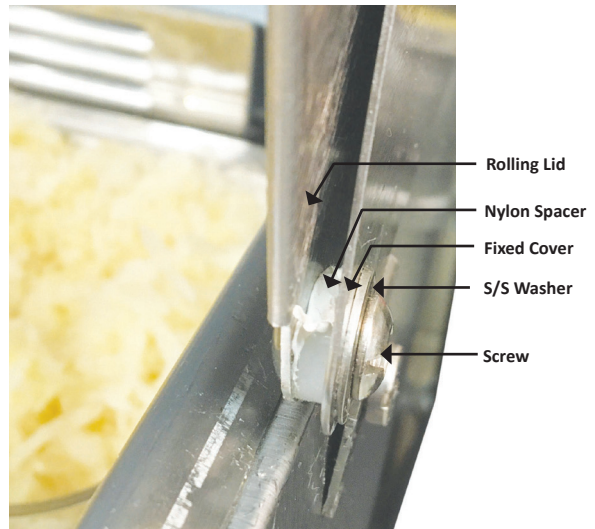
NOTE: Complete these steps on both ends.

4427NP		
Qty	Part #	Part Description
2	9321721	Standoff, Press, 6/32
2	9321722	Screw, #6-32 x .25" w/ Loctite
2	9325079	Spacer, Nylon, .125 Thk .252 ID, .50 OD

4427N		
Qty	Part #	Part Description
2	9325077	Bolt, Barrel, 1/4
2	9325078	Screw, Machine, Truss Head, 10-24
2	9325079	Spacer, Nylon, .125 Thk .252 ID, .50 OD
2	9324042	Washer, 1/4, S/S, Flat



4. Place the rolling lid inside the fixed cover.
5. Start from the outside.
6. Insert the screw through the fixed cover only.
7. Put a nylon spacer on the screw.
8. Insert the screw through the rolling lid.



9. Secure the screw from the inside with a barrel bolt.



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

Never stand on the unit! They are not designed to hold the weight of an adult, and may collapse or tip if misused in this manner.

⚠ Warning

Do not contact moving parts.

⚠ 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.

Power To Cool

- After the cabinet is connected to the power source it will automatically begin operating.
- With the covers and doors closed, the temperature of the cabinet should reach 36°F to 40°F (2°C to 4°C) in about one hour.
- Temperature on salad top will maintain 33°F to 41°F (1°C to 4°C) with pans recessed 2.5" (6.5cm) at 86°F ambient room temperature for a period of four hours, meeting NSF-7 requirements.

Temperature Control

- The temperature control on all salad top units is located in the rear of the unit.
- The factory setting for the control is 37.5°F and maintains about 34°F (1°C) to 40°F (2°C) inside the box.
- There is also an optional display that can be added to the front nosing of the unit. The control (without display) would be mounted on the back of the unit with a cable connecting to the display.



Efficient Operation

- Cabinets with pans should be operated with pans in place. Operating the cabinet without all pans in place may damage the cabinet.
- Continuous opening and closing of the door will hamper the cabinet's ability to maintain optimum refrigeration temperature.
- Top section is not intended for overnight storage. Product should be removed from pans. Pans can remain in cabinet while empty.

Defrost

The electronic temperature controller 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 45 minutes under extremely

heavy usage. When the controller enters the defrost mode the compressor is shut off and will remain off until the evaporator coil temperature exceeds 41°F or the controller reaches a time limit of 50 minutes. The defrost cycle can last from a minimum of 2 minutes to a maximum of 50 minutes.

Evaporator Fan Operation

Salad and mega top refrigerator units under 60” wide have one evaporator and one axial fan. 60”, 64” and 72” wide units have one large evaporator and two axial fans.

Cooling Cycle		Defrost Cycle
Compressor On	Compressor Off	Compressor Off
Evaporator Fan	Evaporator Fan	Evaporator Fan
On	On three minutes the off three minutes	On

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

R290 Freezer

Freezers are factory set at mid-range to maintain about -2°F (-19°C) box temperature.

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 freezing cycle cools the box to the set temperature.
4. Then the 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 R290 Evaporator Fan Operation on page 23.

R290 Freezer Automatic Defrost

The control also monitors compressor total running time and will enter a defrost cycle after total compressor running time is greater than seven hours since the last defrost cycle

OR if evaporator coil temperature drops below -30°F (-34°C) (indicating excessive frost on the coil).

R290 Freezer Manual Defrost

If a manual defrost is desired, hold the upper left 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.

When the control enters the defrost mode, it switches off the evaporator fan motor, compressor and condenser fan motor, and switches on the defrost heater to warm the evaporator coil. Thereby melting all frost accumulated during the previous refrigeration cycle. The digital temperature display will now read dEF. The control will continue the defrost cycle for a MINIMUM of six minutes and a MAXIMUM of 35 minutes depending on the amount of frost accumulated on the evaporator coil.

After the defrost cycle is complete, the control returns to a normal refrigeration cycle, however the 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 digital temperature display will continue to read dEF until the evaporator has returned to normal freezing temperatures (up to 30 minutes).

CONTROL & DISPLAY







R290 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 🚨	X	Air sensor
Sensor 2 defect	E02 🚨	X	Coil sensor
Sensor 3 defect	E03 🚨	X	Open
Sensor 4 defect	E04 🚨	X	Open



Operation / Indication			
Status	Displayed		Comments
High temperature alarm	Hi 	X	Automatically switching at 2 sec rate
Low temperature alarm	Lo 	X	
Line voltage too high, above 140 volts	uHi 	X	
Line voltage too low, below 96 volts	uLi 	X	
Control calls for cooling for more than 24 hours straight	LEA 	X	Time includes defrost. Error will go away if the control cycles off the compressor or if the power is shut off. If error is on a cold pan it could be related to a high ambient temperature or not shutting the rail off nightly.

 All alarms sound for approximately 10 seconds and then are silent for 50 seconds. It will do that for 15 cycles and then remain silent. The alarm code will still be present on the display until the fault clears.

R290 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.

R290 Power Switch

All freezers and refrigerators are equipped with a power disconnect switch located behind the louvered end panel.

Switch must be in the on position for the unit to operate. If the switch is turned off, then returned to the on position, the unit will enter a defrost cycle and the display will read dEF.

R290 Energy Switch

Refrigerators and 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. 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.

Refrigerator operation - Energy Switch is "ON", signaling Energy Mode active, thus using the least energy. Unit ships from factory in this mode where heaters are deactivated. If the Energy Switch is turned "OFF", the heaters will cycle with the compressor, using more energy.

Freezer operation - Energy Switch is "ON", signaling Energy Mode active, thus using the least energy. Unit ships from factory in this mode where heaters will cycle with the compressor. If the Energy Switch is turned "OFF" by Service in the field, the heaters will be always energized, using more energy.

R290 Temperature Alarm

The alarm will sound and 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. Refrigerators are factory set at mid-range to maintain about 38°F (3°C) box temperature. The high refrigerator temperature point is 50°F (10°C). The low refrigerator temperature point is 25°F (-4°C). Freezers are factory set at mid-range to maintain about -2°F (-19°C) box temperature. The high freezer temperature point is 20°F (-7°C). Freezers do not have a low temperature point.

R290 EVAPORATOR FAN OPERATION

Depending on the units requirements, units may have evaporator fans that run continually or cycle on and off when power is applied. If you have a unit that you notice the fan is cycling, please see the operations sequence below.

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

R290 CHANGING DISPLAY FROM FAHRENHEIT TO CELSIUS ON ERC112 CONTROL

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.



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

⚠ 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

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.

⚠ Caution

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

⚠ Caution

Over shelves and other items mounted to the top of the counters should never be installed in the field due to the potential damage to the refrigeration system.

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	Quarterly	After Prolonged Shutdown	At Start-Up
Interior	X			X	X
Gasket	X			X	X
Exterior	X			X	X
Drawer Track		X		X	X
Drain			X	X	X
Condenser Coil			X	X	X
Hinge screws			X	X	X
Casters			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



Caution
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 ALL food products from stainless steel surfaces.

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 monthly to prevent corrosion.

Recommended Cleaning Equipment

Below are recommended cleaning procedures for stainless steel surfaces

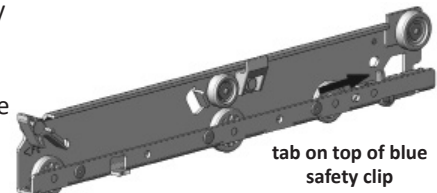
Job	Agents
Routine Cleaning	Warm water with soap, ammonia or detergent and a cloth
Fingerprints	Stainless steel cleaner or polish used as directed on packaging
Stains and Discoloration	Stainless steel cleaner or polish with a warm damp cloth in direction of grain in steel
Grease, Oil or Foods	Mesh fiber pad and a warm solution of tri-sodium polyphosphate (TSP)

NOTE: It is not recommended to apply bleach to stainless

steel as it may cause corrosion.

Drawer Assembly Cleaning

The drawer assembly is designed to be cleaned easily. Both drawer and tracks are removable without tools. The drawer tracks are dishwasher safe or can be cleaned in a sink with detergents and a soft bristle brush. Drawers and tracks should be cleaned on a weekly basis.



Remove Drawers

Pull the drawer box out until it stops. Lift up on the drawer front and pull the drawer box completely out. Using a soft bristle brush, clean the track on the bottom of the drawer box. When finished, it should be wiped clean of all food and debris.

Tracks

The drawer box assembly must be removed. Pull the drawer tracks out until they hit a stop. Locate blue safety clips towards the back of each drawer track. Blue safety clips have a tab on the top. Push the tab back until it clicks. Lift up and pull the drawer tracks all the way out of the drawer cage. The drawer tracks are dishwasher safe or can be cleaned in a sink with detergents and a soft bristle brush. Drawers and tracks should be cleaned on a weekly basis. Using a soft bristle brush, wash the track making sure each roller is thoroughly cleaned. The drawer cage should be cleaned with a soft bristle brush, removing any food and debris gathered on the bottom ledge. Once it’s cleaned thoroughly with a soft bristle brush, wipe remaining debris clean with a soft towel.

Reassembly

Push the drawer tracks into the drawer cage. The blue safety clip must remain pushed towards the back. Lift up and slide the drawer track all the way into the drawer cage. The blue safety clip will lock in place automatically. Once all tracks are replaced, insert the drawer box. Rest the drawer box bottom track on the front track roller. Then push the drawer back in place SLOWLY. When the drawer box is about half way in you will hit a STOP. You must lift the front of the drawer up approximately ½” (1.3cm) to continue inward. Clean tracks as often as possible. The cleaner the tracks are the better they will operate.



Quarterly Cleaning

If you notice water accumulation on the inside of the unit, follow the instructions for cleaning the interior condensate pan and exterior drain lines.

Note: This cleaning instruction applies to 4400 units produced after July, 2020.

INTERIOR DRAIN LINES

The unit will have a drain located inside the unit that removes the condensation from the evaporator coil and routes it to an external condensate evaporator pan. The drain pan and hose can be accessed through a louver on the bottom interior of the cabinet as seen in following picture.



To clean the pan, remove the 5/16" screws from the evaporator cover.



For larger units the center shelf racks do not need to be removed. Using a soft bristle brush, like the ones in the following picture, clear the drain line and pan of any debris. **Be sure not to use sharp metal objects to clean stainless surfaces**, this may damage crucial protective surfaces. Reinstall the evaporator cover and the 5/16" screws. Continue to clean the drain lines from the exterior.



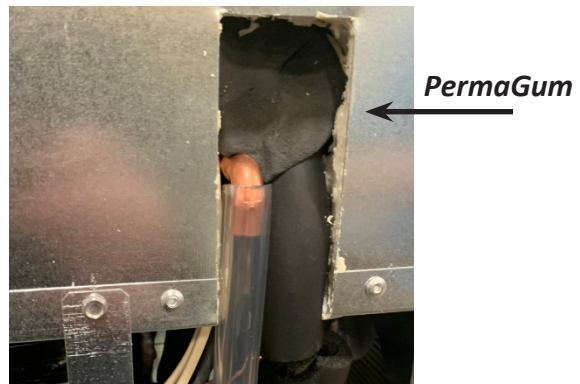
Pipe cleaning brushes can be found locally near you.

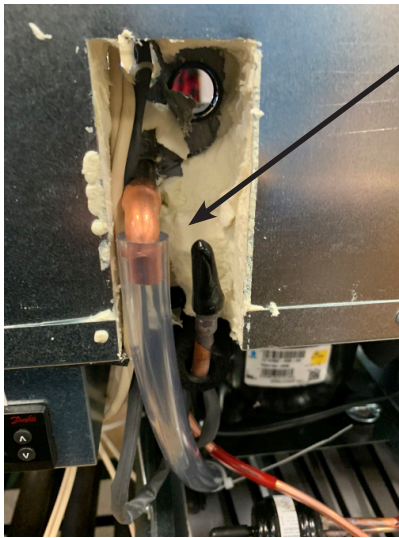
EXTERIOR DRAIN LINE

Each unit has a drain located behind the unit that removes the condensation from the interior drain line tray into the evaporator below the unit. Located behind the center panel in the following image.

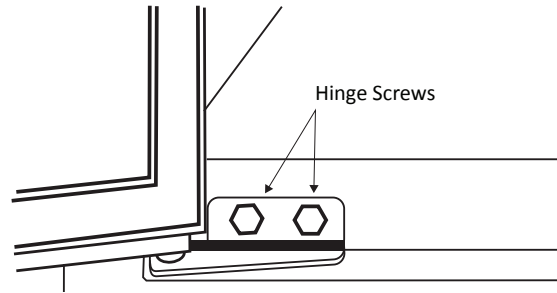


Behind this panel is a clear rubber hose inserted into a copper 90° pipe, as shown below. This connection is behind PermaGum, an insulator that must be preserved and replaced after cleaning. Failure to properly replace the PermaGum will result in a poorly functioning unit.





**Copper 90° W/
Rubber hose**



Remove the clear rubber hose and the copper 90° pipe and inspect/clean any debris. After cleaning, be sure to reinstall the pipe and hose and **firmly pack the black PurmaGum back into place** to not allow warm air into the unit. Be sure to replace the clear rubber hose back into the condensate drain pan down below making sure the hose does not kink or hold water. Reinstall the rear panel.

CLEANING THE CONDENSER COIL

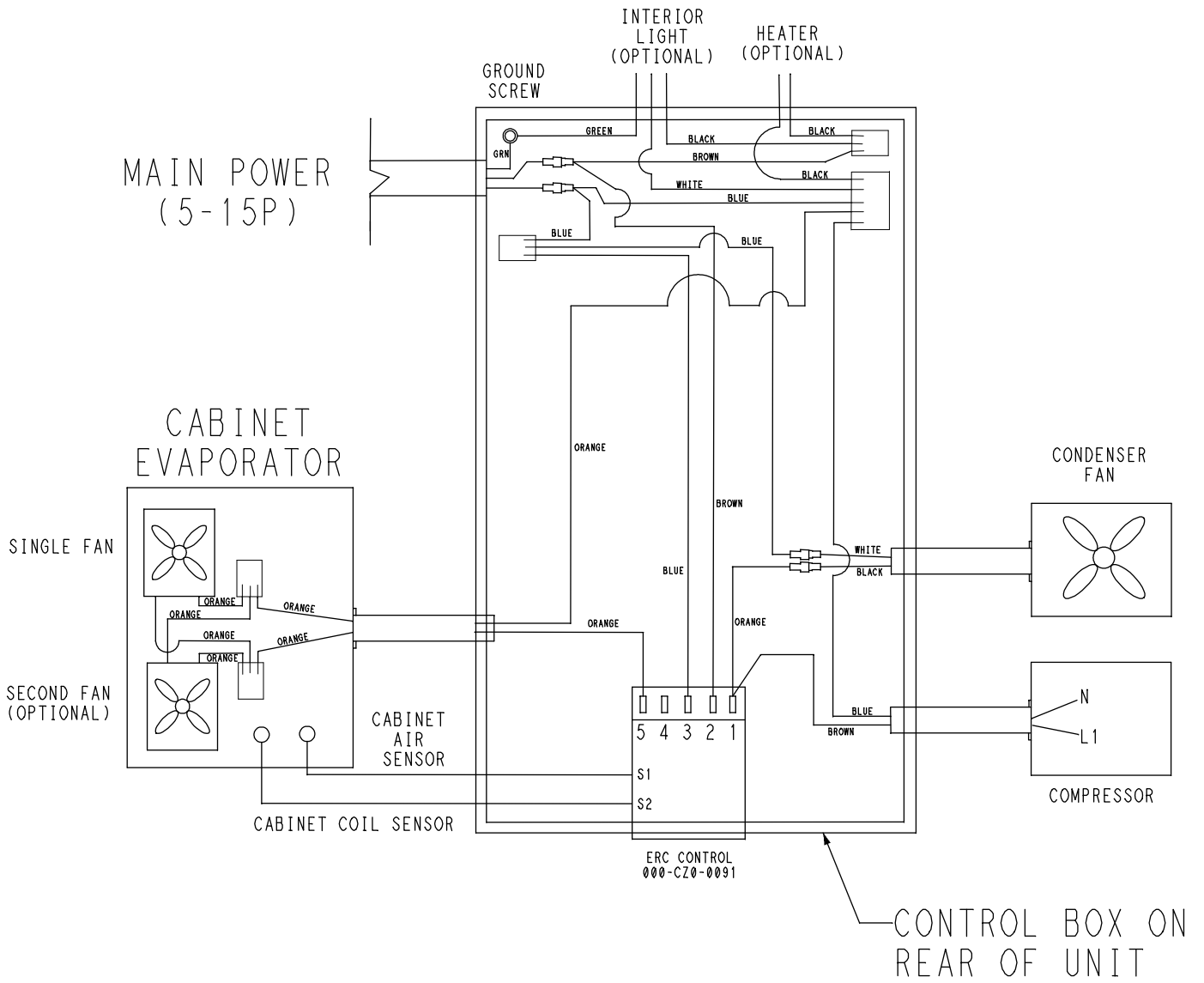
In order to maintain proper refrigeration performance, the condenser fins must be cleaned of dust, dirt and grease regularly. It is recommended that this be done monthly. If conditions are such that the condenser is totally blocked in a month, the frequency of cleaning should be increased. Clean the 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.

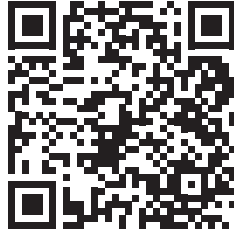
DOORS/HINGES

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.

Section 5 Wiring Diagrams



For the most up-to-date parts list, visit
<https://www.Delfield.com/Service/Parts-Lists>



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