# USER GUIDE & SERVICE MANUAL




Model: U-2218WCINT-00A

# USER GUIDE & SERVICE MANUAL

**Click on any section below to jump directly there**

## Table of Contents


Intro

Safety

- Safety and Warning
- Disposal And Recycling

Installation

- Environmental Requirements
- Electrical
- Cutout Dimensions
- Product Dimensions
- Side by Side Installation
- Anti-Tip Bracket
- General Installation
- Integrated Panel Dimensions
- Integrated Grille Dimensions
- Integrated Panel Installation
- Grille / Plinth Installation
- Door Swing
- Door Stop
- Door Adjust

Maintenance

- Cleaning
- Cleaning Condenser
- Extended Non-Use

Operating Instructions

- First Use
- Control Operation
- Sabbath Mode
- Airflow and Product Loading
- U-Line Wine Guide
- Recommended Wine Storage

Service

- Wine Rack Installation
- Troubleshooting
- Wire Diagram
- Product Liability
- Warranty Claims
- Parts
- R600a Specifications
- System Diagnosis Guide
- Compressor Specifications
- Troubleshooting Extended
- Control Operation - Service
- Control Defaults
- Thermistor
- Defrost
- Remove Fan and Cover
- Warranty

## WELCOME TO U-LINE

Congratulations on your U-Line purchase. Your product comes from a company with over five decades of premium modular ice making, refrigeration, and wine preservation experience. U-Line creates products focused on functionality, style, and inspired innovations — paying close attention to even the smallest details. Applications include residential, outdoor, ADA height compliant, marine, and commercial. Complete product categories include Beverage Centers, Wine Refrigerators, Ice Machines, Refrigerators, Freezers, and Dispensers.

Our advanced refrigeration systems, large and flexible capacities, and Built-In to Stand Out® clean integrated look allow you to preserve the right product, in the right place, at the right temperature. Since 2014, U-Line has been part of the Middleby family of brands. All products are designed, engineered, and assembled in Milwaukee, Wisconsin, USA, and select products are available worldwide. U-Line - RIGHT PRODUCT. RIGHT PLACE. RIGHT TEMPERATURE®.

## PRODUCT INFORMATION

Looking for additional information on your product? User Guides, Spec Sheets, CAD Drawings, Compliance Documentation, and Product Warranty information are all available for reference and download at u-line.com.

## PROPERTY DAMAGE / INJURY CONCERNS

In the unlikely event property damage or personal injury is suspected related to a U-Line product, please take the following steps:

1. U-Line Customer Care must be contacted immediately at +1.414.354.0300.
2. Service or repairs performed on the unit without prior written approval from U-Line is not permitted. If the unit has been altered or repaired in the field without prior written approval from U-Line, claims will not be eligible.

## GENERAL INQUIRIES

U-Line Corporation
8900 N. 55th Street
Milwaukee, Wisconsin 53223 USA
Monday - Friday 8:00 am to 4:30 pm CST
T: +1.414.354.0300
Email: sales@u-line.com
u-line.com

## SERVICE & PARTS ASSISTANCE

Monday - Friday 8:00 am to 4:30 pm CST
T: +1.800.779.2547
Service Email: onlineservice@u-line.com
Parts Email: onlineparts@u-line.com

## CONNECT WITH US

blog

Designed, engineered and assembled in WI, USA

## Safety and Warning

**NOTICE**

**Please read all instructions before installing, operating, or servicing the appliance.**

Use this appliance for its intended purpose only and follow these general precautions with those listed throughout this guide:

**SAFETY ALERT DEFINITIONS**

Throughout this guide are safety items labeled with a Danger, Warning or Caution based on the risk type:

**⚠ DANGER**

**Danger means that failure to follow this safety statement will result in severe personal injury or death.**

**⚠ WARNING**

**Warning means that failure to follow this safety statement could result in serious personal injury or death.**

**⚠ CAUTION**

**Caution means that failure to follow this safety statement may result in minor or moderate personal injury, property or equipment damage.**

**⚠ DANGER**

**This unit contains R600a (Isobutane) which is a flammable hydrocarbon. It is safe for regular use. Do not use sharp objects to expedite defrosting. Do not service without consulting the "R600a specifications" section included in the User Guide. Do not damage the refrigerant circuit.**

**⚠ WARNING**

**Service must be done by factory authorized service personnel. Any parts shall be replaced with like components. Failure to comply could increase the risk of possible ignition due to incorrect parts or improper service.**

# Disposal and Recycling

**⚠ DANGER**

**RISK OF CHILD ENTRAPMENT. Before you throw away your old refrigerator or freezer, take off the doors and leave shelves in place so children may not easily climb inside.**

If the unit is being removed from service for disposal, check and obey all federal, state and local regulations regarding the disposal and recycling of refrigeration appliances, and follow these steps completely:

1. Remove all consumable contents from the unit.

2. Unplug the electrical cord from its socket.

3. Remove the door(s)/drawer(s).

## Environmental Requirements

This model is intended for indoor/interior applications only and is not to be used in installations that are open/ exposed to natural elements.

This unit is designed to operate between 50°F (10°C) and 100°F (38°C). Higher ambient temperatures may reduce the unit's ability to reach low temperatures and/or reduce ice production on applicable models.

For best performance, keep the unit out of direct sunlight and away from heat generating equipment.

In climates where high humidity and dew points are present, condensation may appear on outside surfaces. This is considered normal. The condensation will evaporate when the humidity drops.

**⚠ CAUTION**

**Damages caused by ambient temperatures of 40°F (4°C) or below are not covered by the warranty.**

## Electrical

**⚠ WARNING**

**SHOCK HAZARD — Electrical Grounding Required. Never attempt to repair or perform maintenance on the unit until the electricity has been disconnected.**

**Never remove the round grounding prong from the plug and never use a two-prong grounding adapter.**

**Altering, cutting or removing power cord, removing power plug, or direct wiring can cause serious injury, fire, loss of property and/or life, and will void the warranty.**

**Never use an extension cord to connect power to the unit.**

**Always keep your working area dry.**

**NOTICE**

**Electrical installation must observe all state and local codes. This unit requires connection to a grounded (three-prong), polarized receptacle that has been placed by a qualified electrician.**

The unit requires a grounded and polarized 115 VAC, 60 Hz, 15A power supply (normal household current). An individual, properly grounded branch circuit or circuit breaker is recommended. A GFCI (ground fault circuit interrupter) is usually not required for fixed location appliances and is not recommended for your unit because it could be prone to nuisance tripping. However, be sure to consult your local codes.

See CUTOUT DIMENSIONS for recommended receptacle location.

# Cutout Dimensions

### PREPARE SITE

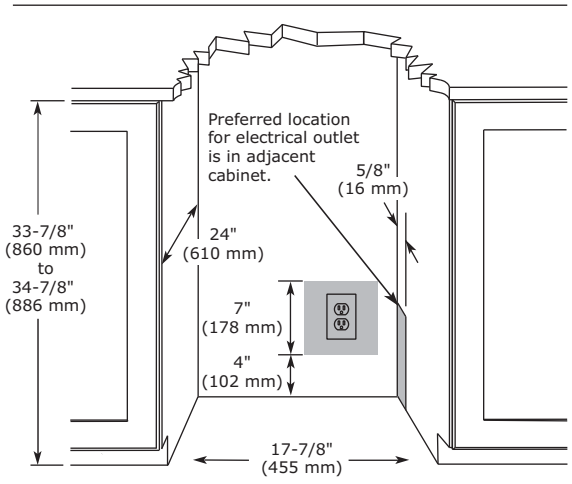
Your U-Line product has been designed exclusively for a built-in installation. When built-in, your unit does not require additional air space for top, sides, or rear. However, the front grille (plinth strip/base fascia) must NOT be obstructed.

**⚠ CAUTION**

**Unit can NOT be installed behind a closed cabinet door.**

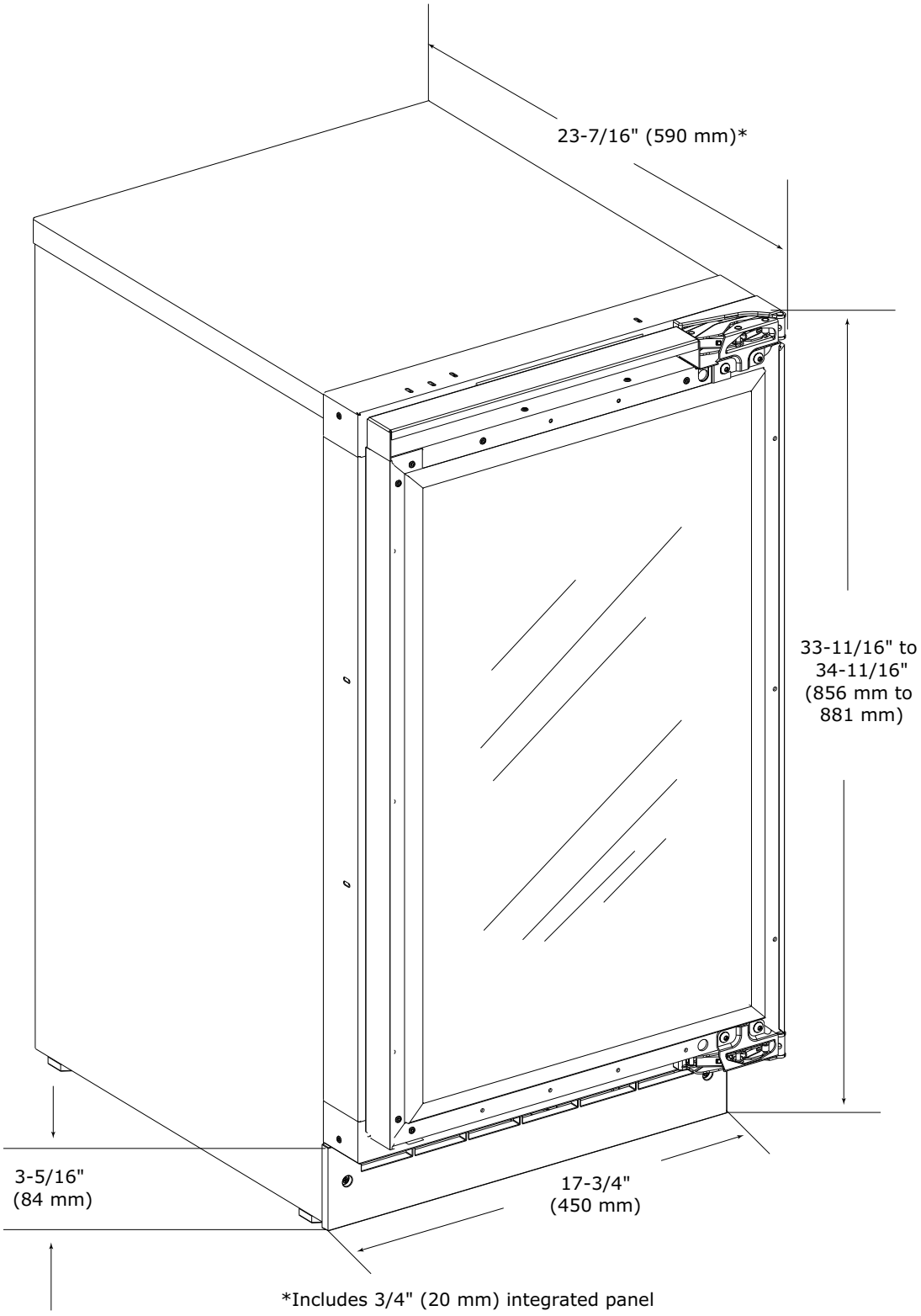
**U-Line products are designed and manufactured to be installed in the specified cutout openings shown, and variance to the floors or cabinetry must be accounted for in your installation.**

### CUTOUT DIMENSIONS




Metric measurements rounded and optimized.

## Product Dimensions




*Includes 3/4" (20 mm) integrated panel

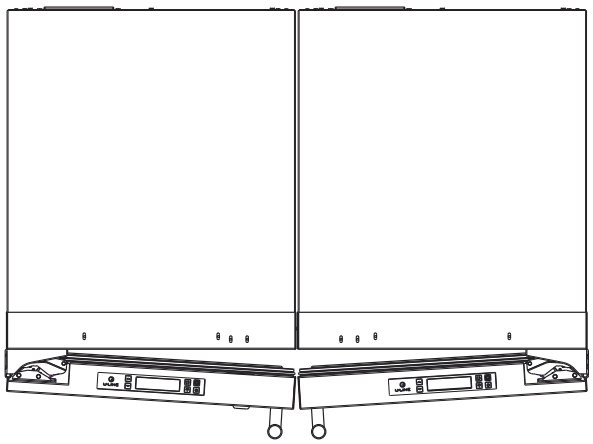
# Side-by-Side Installation

## OTHER SITE REQUIREMENTS

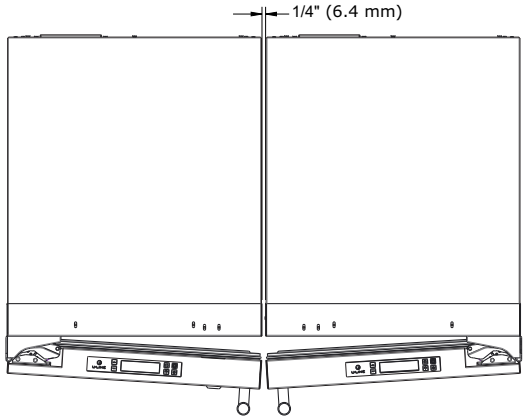
### Side-by-Side Installation

Units must operate from separate, properly grounded electrical receptacles placed according to each unit's electrical specifications requirements.

Cutout width for a side-by-side installation is the total of the widths listed under Cutout Dimensions in each unit's Installation Guide. Each door can be opened individually (one at a time) without interference.

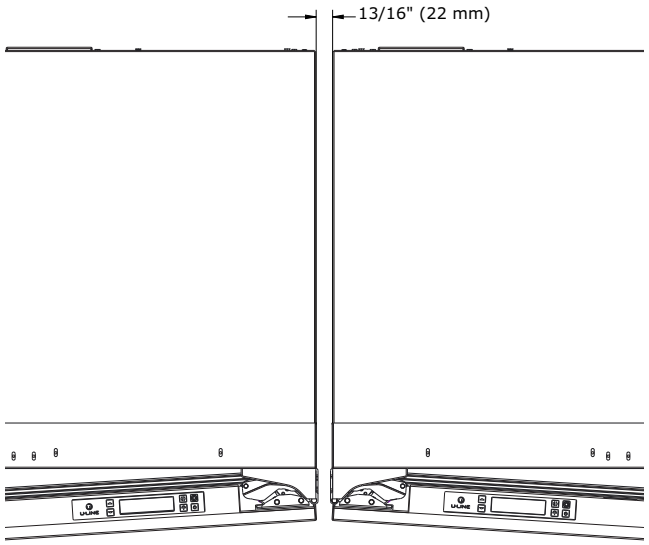


However, to ensure unobstructed door swing (opening both doors at the same time), 1/4" (6.4 mm) of space needs to be maintained between the units.

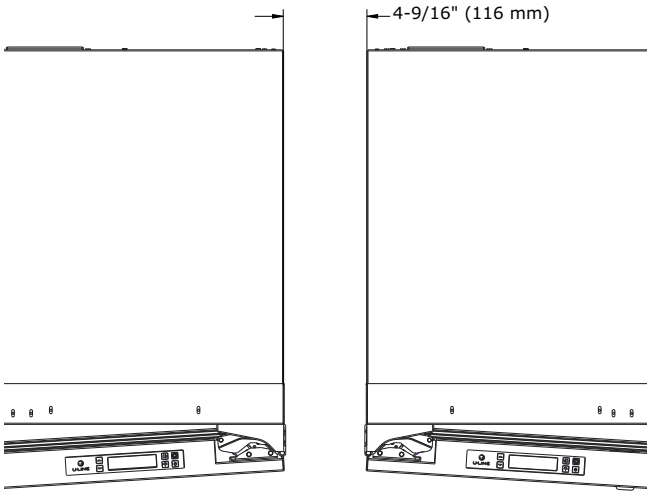



### Hinge-by-Hinge Installation (Mullion)

When installing two units hinge-by-hinge, 13/16" (22 mm) is required for integrated models. Additional space may be needed for any knobs, pulls or handles installed.




Stainless steel models which include the standard stainless handle will require 4-9/16" (116 mm) to allow both doors to open to 90° at the same time.



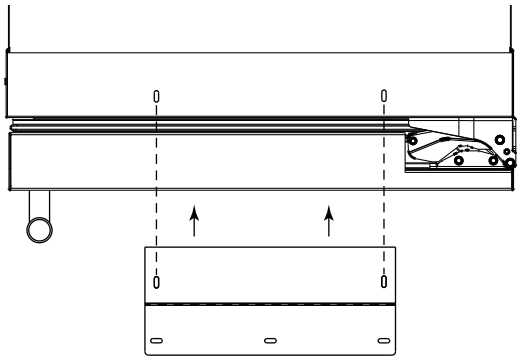
# Anti-Tip Bracket

**⚠ CAUTION**

**The anti-tip bracket must be installed to prevent the unit from tipping when doors are fully opened or excess weight is placed on the front of the unit.**

The anti-tip bracket has multiple mounting options. Mounting will depend on your particular cabinet configuration. Follow the instructions below to secure the anti-tip plate to the unit. Locate your anti-tip bracket and 5 #8x5/8" screws included with your unit.

**TOP MOUNT**



Top mount configurations work well with fully secured wood or laminate countertops.

1. Align the bracket on top of your unit as shown above. The bracket must be used to ensure a secure mount.

2. Using 2 of the supplied #8x5/8" screws, install screws into the plate using a #2 Phillips head screwdriver.

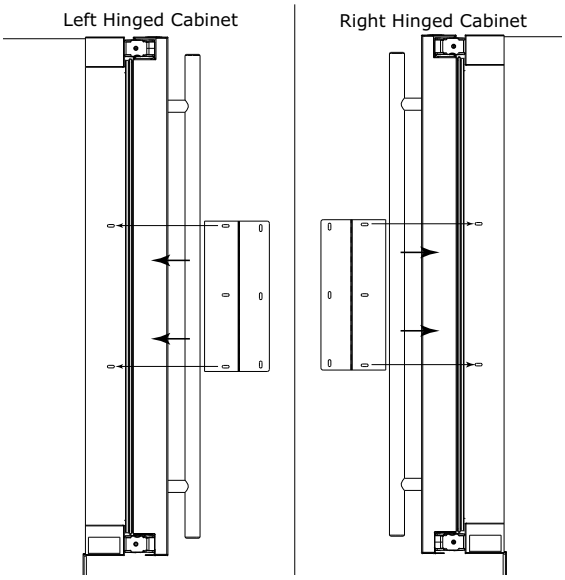
3. Completely slide the unit into its position in the cabinet. Be certain unit height is properly adjusted. (See GENERAL INSTALLATION).

4. Open door completely. Make certain door clears surrounding cabinetry.

5. Using a 3/32" drill bit, drill 3 pilot holes 5/8" (16 mm) deep into bottom of counter top. Use the anti-tip bracket as a template.

6. Install the 3 remaining #8x5/8" screws into the plate using a #2 Phillips head screwdriver.

**SIDE MOUNT**




Side mount configurations work well if you have a granite countertop or do not wish to mount the bracket to the underside of your countertop.

1. Align the bracket to the hinge side of the unit as shown above.

2. Using 2 of the supplied #8x5/8" screws, install screws into the plate using a #2 Phillips head screwdriver.

3. Completely slide the unit into its position in the cabinet. Be certain unit height is properly adjusted. (See GENERAL INSTALLATION).

4. Open door completely. Make certain door clears surrounding cabinetry.

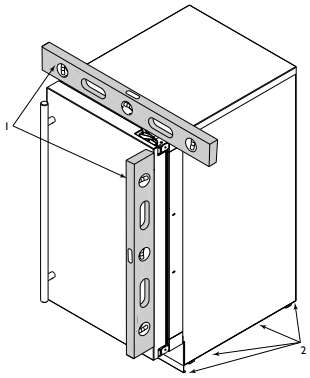
5. Using a 3/32" drill bit, drill 3 pilot holes 5/8" (16 mm) deep into cabinetry frame using the anti-tip bracket as a template.

6. Install the 3 remaining 3 #8x5/8" screws into the plate using a #2 Phillips head screwdriver.

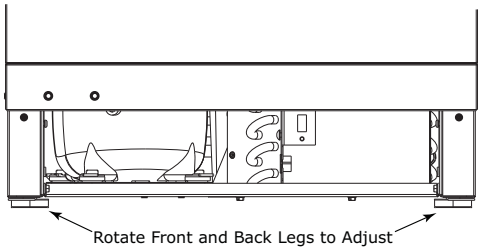
# General Installation

### LEVELING INFORMATION

1. Use a level to confirm the unit is level. Level should be placed along top edge and side edge as shown.




2. If the unit is not level, remove grille and adjust legs as necessary.




3. Confirm the unit is level after each adjustment and repeat the previous steps until the unit is level.

### INSTALLATION TIP

If the room floor is higher than the floor in the cutout opening, adjust the rear legs to achieve a total unit rear height of 1/8" (3 mm) less than the opening's rear height. Shorten the unit height in the front by adjusting the front legs. This allows the unit to be gently tipped into the opening. Adjust the front legs to level the unit after it is correctly positioned in the opening.

### INSTALLATION

1. Plug in the power/electrical cord.

2. Gently push the unit into position. Be careful not to entangle the cord.

3. Re-check the leveling, from front to back and side to side. Make any necessary adjustments. The unit's top surface should be approximately 1/8" (3 mm) below the countertop.

4. Install the anti-tip bracket.

5. Remove the interior packing material and wipe out the inside of the unit with a clean, water-dampened cloth.

# Integrated Panel Dimensions

Metric measurements rounded and optimized.

**INTEGRATED FRAME**

**NOTICE**

**Due to differences in surrounding cabinetry the panel may not perfectly align with door. The procedure below is designed to provide a finished integrated panel that seamlessly integrates with surrounding cabinetry.**

**Panel Preparation**

A full integrated door panel completely covers the door frame and provides a built-in appearance.

**NOTICE**

**The door panel must not weigh more than 20 lbs (10 kg).**

**It is important to ensure that all drilled holes are drilled to the correct depth in order to avoid splits in the wood when hardware is installed.**

1. Cut the panels to the dimensions listed in the diagram below.

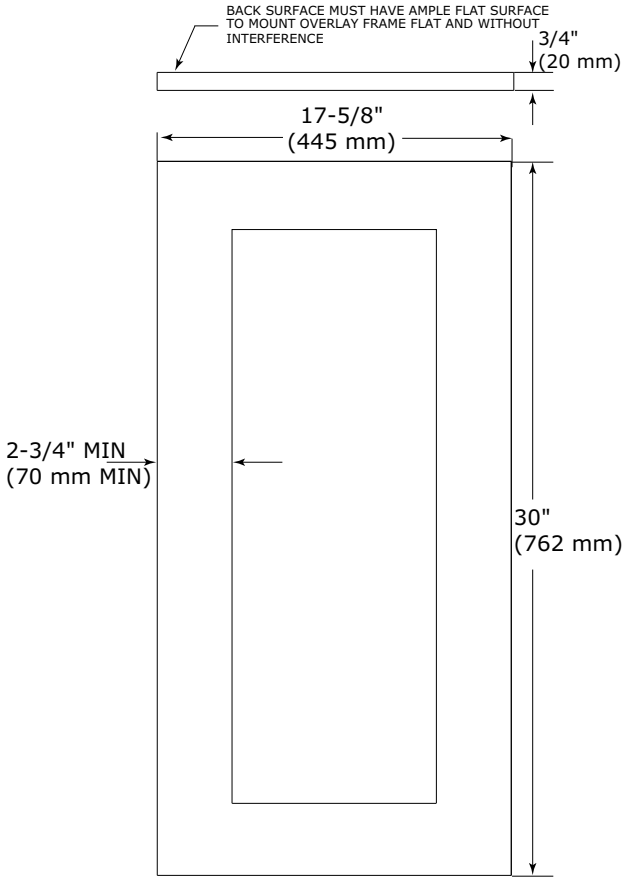
2. Optional: Stain or finish panel to desired stain or color. Be sure to closely follow the instructions provided by the manufacturer.

3. Optional: Install handles and hardware.

**NOTICE**

**When applying an integrated frame to a unit, ensure that both sides are finished in order to prevent warping. In some frame installations, the panel may be visible through the glass while the door is open.**

**Integrated Frame Dimensions**




Integrated Frame

**HANDLELESS INTEGRATED FRAME**

The following procedure is designed to provide a finished, handleless frame for an 18" (45 mm) door that seamlessly integrates with its surrounding cabinetry.

NOTE: Many cabinet manufacturers provide a ready solution for a handleless, integrated design that can be easily applied to your U-Line 3000 Series model. Consult your cabinet manufacturer for applicable design and installation details. The cabinet manufacturer's solution to this design and integration detail will often result in an integrated frame solution wherein the size of the frame may result in a height dimension taller than what we specify. This can be achieved provided the additional height is positioned above the appliance door.

**NOTICE**

**The integrated frame aligns with the surrounding cabinetry and, due to differences in cabinetry, may not align perfectly with the door.**

**The appliance will need up to 34-1/2" (876 mm) to the underside of the counter to leave room for leveling adjustments.**

**A single prepared frame with insert must not weigh more than 20 lbs (10 kg).**

**Integrated Frame Preparation**

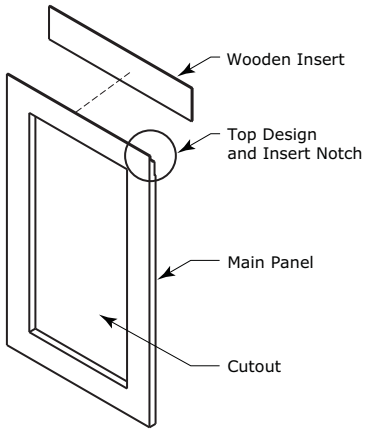
1. Cut the main panel to the dimensions below. For details, see the drawings on the next page.

| Main panel width | Main panel height |
|---|---|
| 17-5/8" (445 mm) | 28-13/16" (732 mm) |

2. Create the top design for the handleless feature and the 1/8" (3 mm) notch for the insert(s) indicated on the appropriate Top Detail drawing, on the next page.

3. Prepare the insert(s) that will back up the handleless design. **Wooden Insert** – Cut 1/8" (3 mm) thick wooden insert(s) to the appropriate dimensions below.

| Wooden insert width | Wooden insert height |
|---|---|
| 17-5/8" (445 mm) | 3-1/2" (89 mm) |



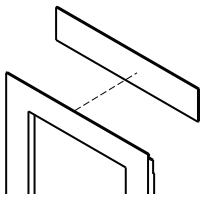

Integrated Frame

4. Optional: Stain or finish frame and wooden insert to desired stain or color. Be sure to closely follow the instructions provided by the manufacturer.

**NOTICE**

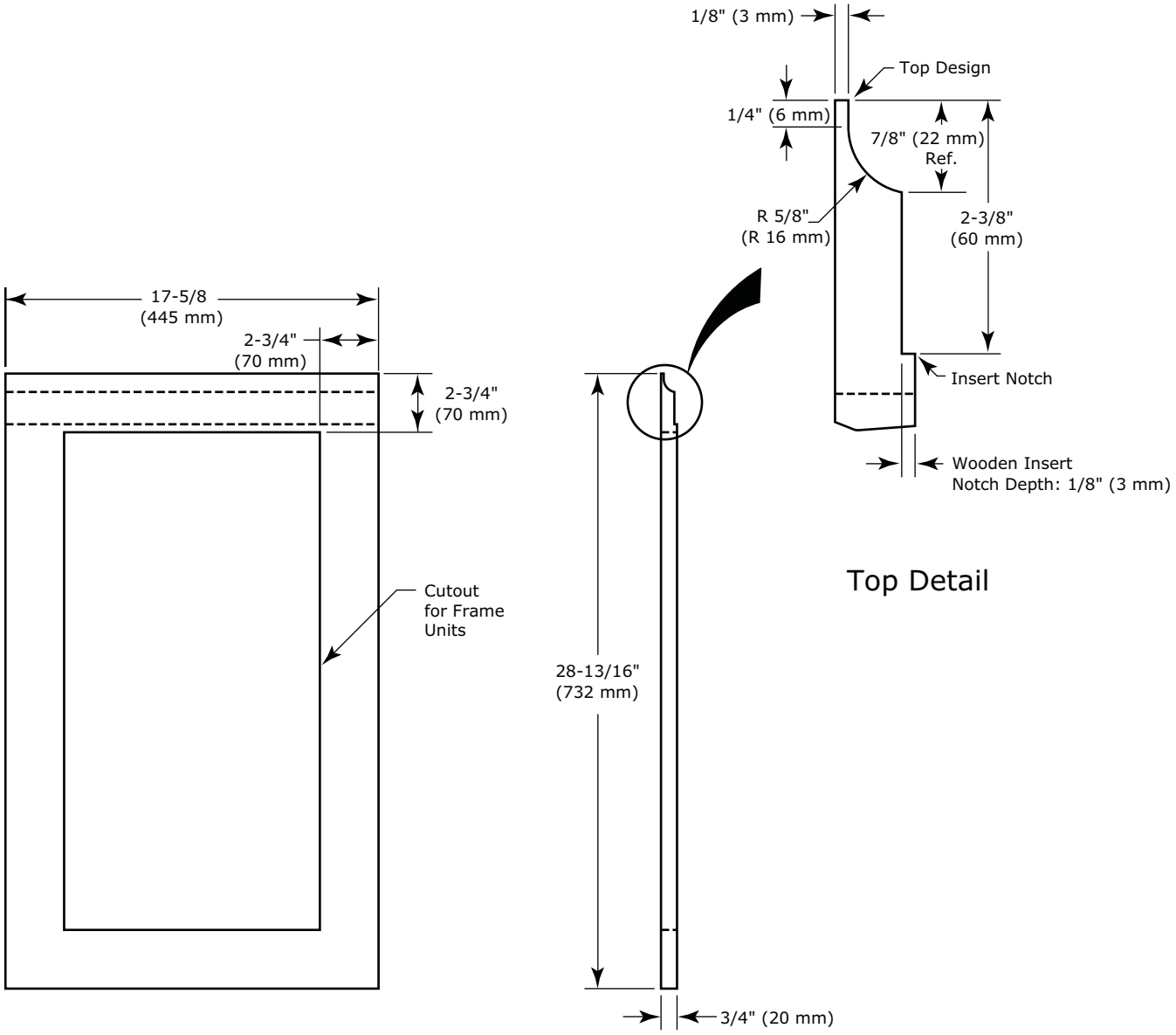
**If finishing panel or wooden insert, all sides must be finished to prevent warping.**

5. Attach the insert to the frame. Wood glue or equivalent adhesive should be used to attach insert to frame.



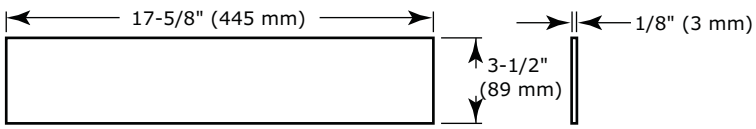
**Attach Wooden Insert**

**Handleless Integrated Frame Dimensions**




Top Detail

Wooden Insert Dimensions



**EXTENDED INTEGRATED FRAME**

**NOTICE**

**Due to differences in surrounding cabinetry the panel may not perfectly align with door. The procedure below is designed to provide a finished panel that seamlessly integrates with surrounding cabinetry.**

**Panel Preparation**

An extended integrated panel can be used to maintain alignment with an adjacent extended cabinet height or a reduced toe-kick/grille application.

1. Cut the panels to the dimensions listed in the appropriate diagram on the next page.

2. Optional: Stain or finish panel to desired stain or color. Be sure to closely follow the instructions provided by the manufacturer.

3. Optional: Install handles and hardware.

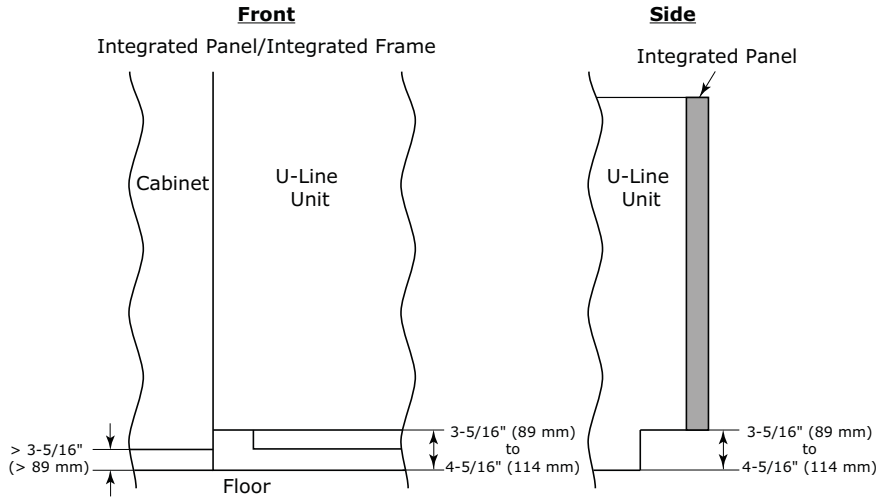
**NOTICE**

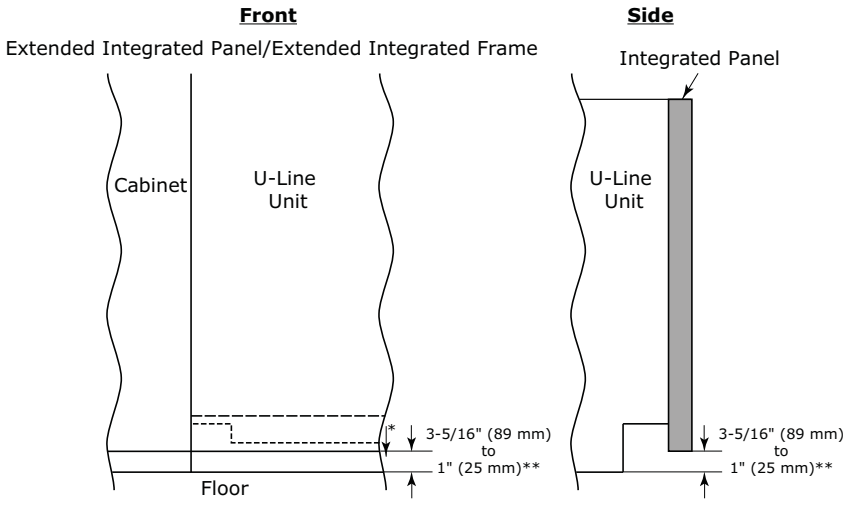
**The door panel must not weigh more than 20 lbs (10 kg).**

**It is important to ensure that all drilled holes are drilled to the correct depth in order to avoid splits in the wood when hardware is installed.**

**Appliance will need up to 34-1/2" (876 mm) to the underside of the counter to leave room for leveling adjustments.**

**When applying an integrated frame to a unit, ensure that both sides are finished in order to prevent warping. In some installations, the panel may be visible through the glass while the door is open.**

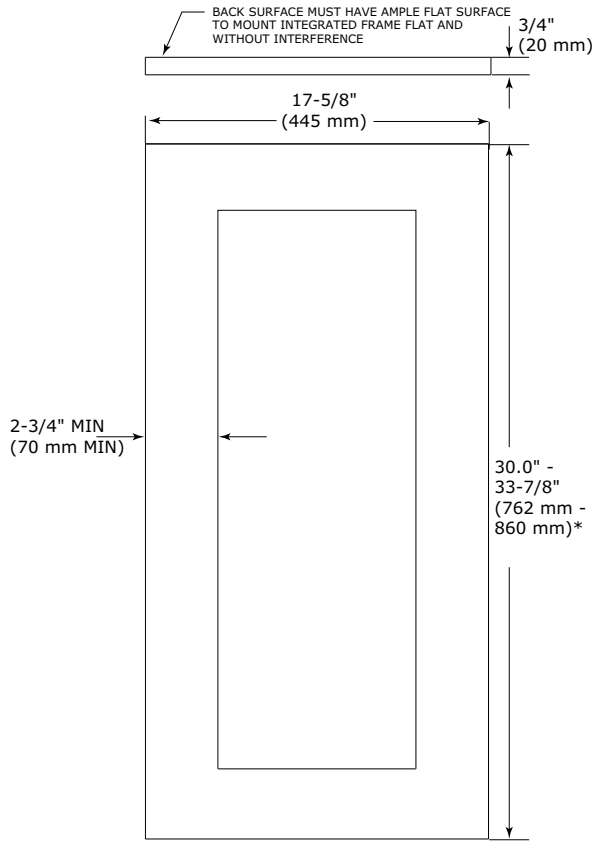



* Panel can extend beyond the door frame.

** A minimum of 1" (25 mm) from the floor is required for proper ventilation.

**Extended Integrated Frame Dimensions**




Integrated Frame

* A minimum of 1" (25 mm) is required from the floor to the bottom of the extended integrated panel/frame for proper ventilation.

**NOTICE**

**The minimum border thickness for a 30" (762 mm) tall integrated frame is 2-3/4" (70 mm). The top/bottom border of the frame must account for any additional length.**

# Integrated Grille - Plinth Dimensions

**PREPARE AND INSTALL INTEGRATED GRILLE (PLINTH STRIP/BASE FASCIA)**

1. Use the dimensions provided in the diagram to cut and shape your integrated grille (plinth strip/base fascia) panel. Recommended panel thickness is between 1/4" (6 mm) and 3/8" (9 mm).

2. Finish or stain your grille (plinth strip/base fascia) panel to match your surrounding furniture. Finish front, back and edges to prevent warping. Carefully follow the manufacturer's recommendations for finish application and cure times.

3. Apply double sided tape to the backside of the integrated grill (plinth strip/base fascia). Use the diagram below for reference. U-Line recommends 3M™ VHB™ tape, a high strength bonding tape.

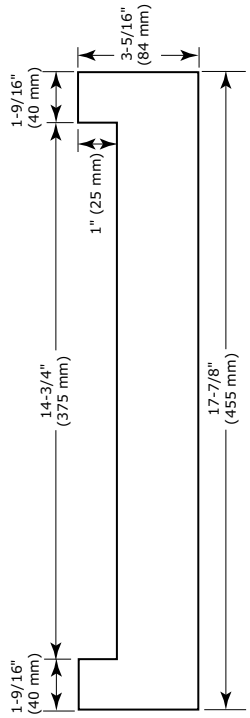
Apply Tape To Shaded Area



4. Remove backing paper from double sided tape.

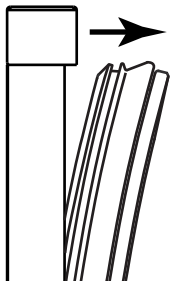
5. Carefully align grille (plinth strip/base fascia) over integrated panel and press into position.

**INTEGRATED GRILLE (PLINTH STRIP/BASE FASCIA) DIMENSIONS**



## Integrated Panel Installation

1. Fully open door.

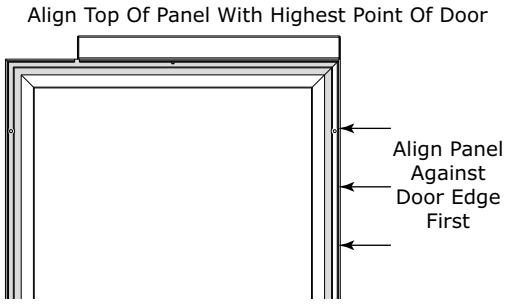


2. Starting at corner, pull gasket away from door.

3. Continue to pull gasket free from gasket channel.

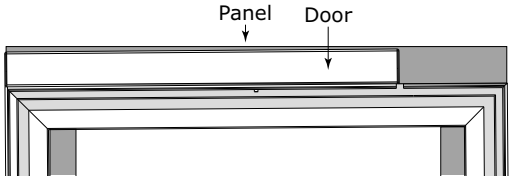
4. Upon removal, lay gasket down on a flat surface.

5. The panel should be aligned with the outside edge (opposite the hinge) and high enough to align with the highest point in the door.

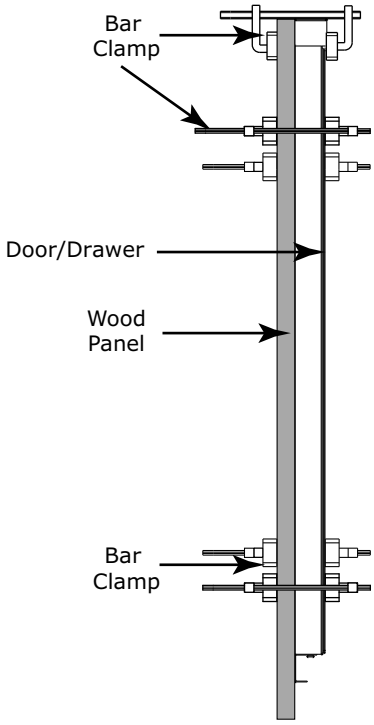



**NOTICE**

**Due to differences in floor construction or surrounding cabinetry, the panel may not sit flush with the top of the door.**




6. Secure integrated panel to door using clamps. A robust tape may also be used. U-Line recommends the use of bar clamps to secure the panel to the door. If using tape, be certain the tape will not damage panel finish upon removal.




7. Using a 7/64" (3 mm) drill bit, drill 6 pilot holes into the wood panel 1/2" (12 mm) deep using the holes in the door frame as a guide.

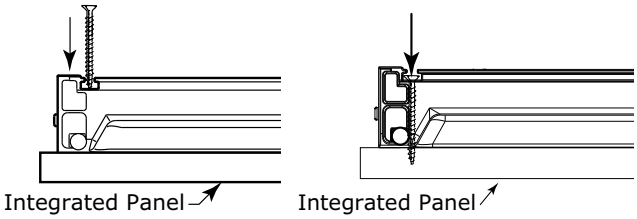
**NOTICE**

**It is important to ensure that all drilled holes are drilled to the correct depth in order to avoid splits in the wood when hardwood is installed.**

8. Locate 6 of the #6x 1-1/2" (38 mm) screws provided with your unit.

9. Using a Phillips screwdriver, place one screw into each of the 6 pilot holes and screw down. Do not overtighten screws.

10. Be sure the screws force their way past the opening on the gasket channel and sit flush against the bottom of the channel.




11. Remove clamps from door.

**NOTICE**

**If panel requires additional adjustment after removing clamps, slightly loosen each screw and adjust panel as necessary. Tighten screws upon completion.**

12. Starting at the corners, re-install the gasket into the gasket channel in the frame. Make sure the gasket is fully seated. This may take some force.

# Grille - Plinth Installation

**REMOVING AND INSTALLING GRILLE (PLINTH STRIP/BASE FASCIA)**

**⚠ WARNING**

**Disconnect electric power to the unit before removing the grille (plinth strip/base fascia).**

**When using the unit, the grille (plinth strip/base fascia) must be installed.**

**⚠ WARNING**

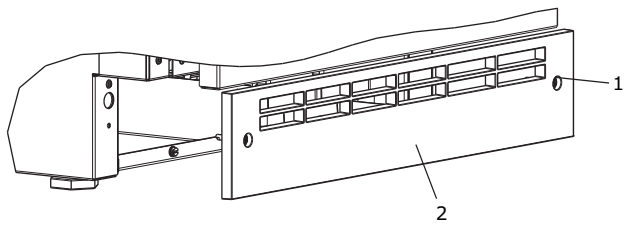
**DO NOT touch the condenser fins. The condenser fins are SHARP and can be easily damaged.**

**Removing the grille (plinth strip/base fascia)**

1. Disconnect power to the unit.
2. Loosen the two screws (1).
3. Remove grille (plinth strip/base fascia) (2) from unit.

**Installing the grille**

1. Align cabinet and grille holes and secure, but do not over tighten grille (plinth strip/base fascia) screws (1).
2. Reconnect power to the unit.

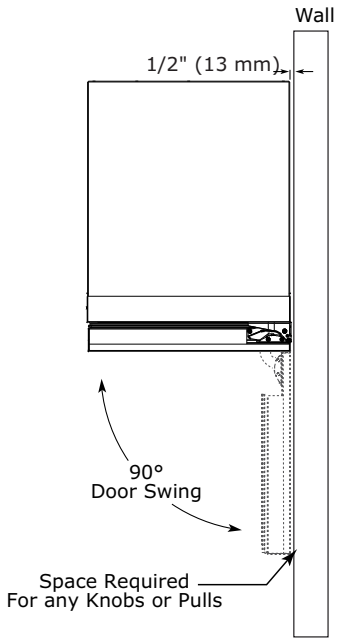


## Door Swing

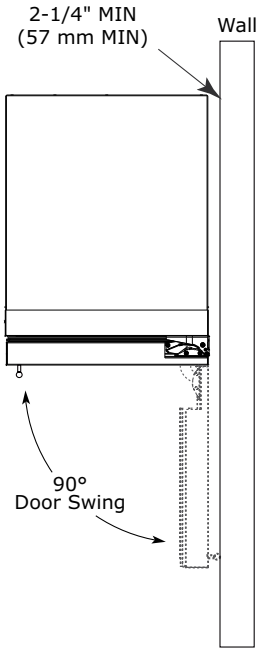
For Integrated models that are installed adjacent to a wall, 1/2" (13 mm) clearance is recommended from wall on hinge side to allow the door to open 90°. Allow for additional space for any knobs or pulls installed on the integrated panel/frame.

Stainless Steel models that are installed adjacent to a wall require 2-1/4" (57 mm) door clearance on hinge side to allow for door handle.

Units have a zero clearance when installed adjacent to cabinets.




Integrated




Stainless

## Door Stop

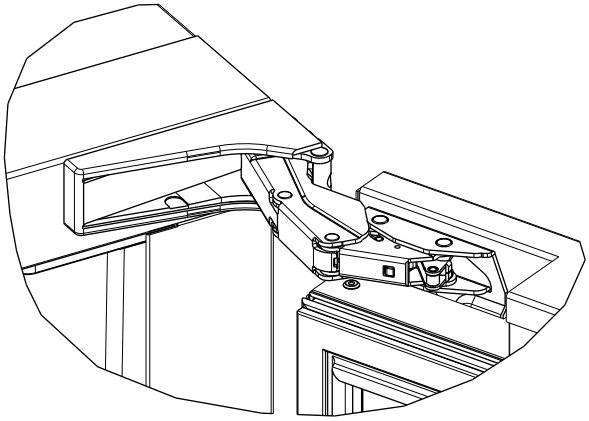
Your U-Line unit was shipped to you with the optional 90° pin.

Your unit's door(s) will open 115° straight from the factory. If you would like the door stop at 90° follow these instructions.

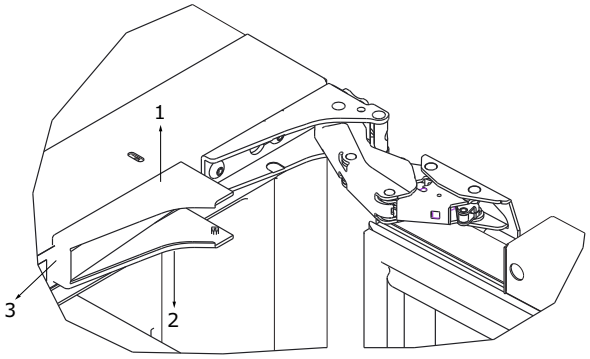
**NOTICE**

**If your unit is already undercounter, it will need to be moved out to access the hinge. With the 90° stop pin in place, you will not be able to replace the hinge cover.**

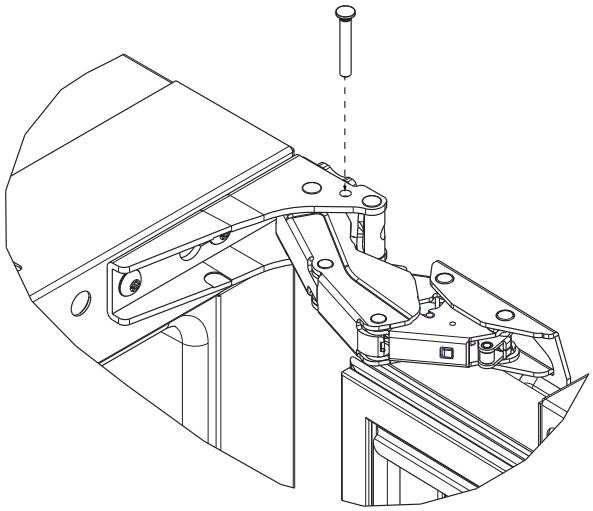
1. Open door approximately 90°.



2. Remove hinge cover by lifting top and bottom of hinge cover and sliding the cover inwards to remove from hinge.




3. Once cover is removed, slide hinge pin into hole as shown. Pin should slide into place, stopping the door at 90°; if the pin does not go into the hole shown, hold the door less than 90° open and try again.



4. To fully seat the pin, tap it lightly with a hammer.

5. Carefully slide your unit back in place.

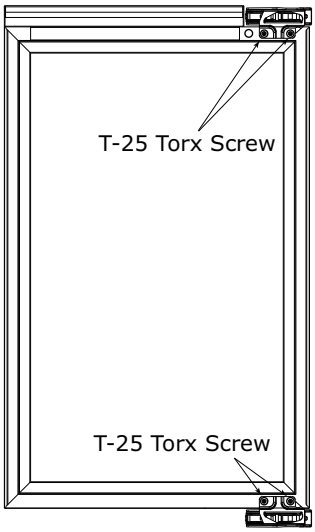
**NOTICE**

**The pin can be removed to return the door swing back to its original 115° swing by tapping the pin out from the bottom of the hinge.**

**CLOSER**

The door hinge has a self-closing feature that engages when the door is open approximately 6" (150 mm) (about 25°).

# Door Adjustments




**DOOR ALIGNMENT AND ADJUSTMENT**

Align and adjust the door if it is not level or is not sealing properly. If the door is not sealed, the unit may not cool properly, or excessive frost or condensation may form in the interior.

**NOTICE**

**Properly aligned, the door's gasket should be firmly in contact with the cabinet all the way around the door (no gaps). Carefully examine the door's gasket to ensure that it is firmly in contact with the cabinet. Also make sure the door gasket is not pinched on the hinge side of the door.**

**⚠ CAUTION**

**Do not attempt to use the door to raise or pivot your unit. This would put excessive stress on the hinge system.**

**Alignment and Adjustment Procedure**

1. Remove integrated panel, if installed.
2. Using a T-25 Torx Bit, loosen each pair of Torx head screws on both the upper and lower hinge plates.
3. Square and align door as necessary.
4. Tighten Torx head screws on hinge.

## First Use

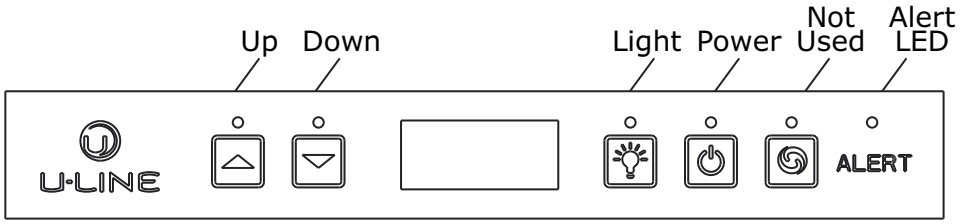
All U-Line controls are preset at the factory. Initial startup requires no adjustments.

**NOTICE**

**U-Line recommends allowing the unit to run overnight before loading with product.**

When plugged in, the unit will begin operating under the factory default settings. If the unit was turned off during installation, simply press ⏻ and the unit will immediately switch on. To turn the unit off, press ⏻.

# Control Operation




**CONTROL FUNCTION GUIDE**

| FUNCTION | COMMAND | DISPLAY/OPTIONS |
|---|---|---|
| ON/OFF | Press ⏻ and release | Unit will immediately turn ON or OFF. |
| Toggle lights | Press 💡 and release to leave interior light on for 3 hours | Glass door wine and beverage centers only. |
| Adjust refrigerator set point | Press ▲ or ▼ and release | When the "F" or "C" in the display is flashing, press ▲ or ▼ to adjust the set point temperature. |
| View temperature in unit | Press ▲ and ▼ together and release | The display will flash and then toggle from set point to temperature in unit. |
| Toggle between F/C | Hold ▲ and ▼ for five seconds | The display will change units. |

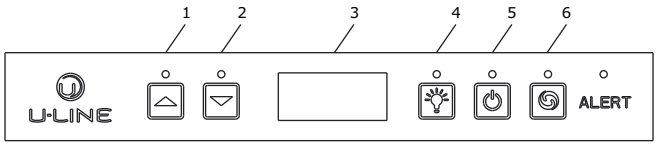
**DOOR ALERT NOTIFICATION**

When the door is left open for more than 5 minutes:

- An audible tone will sound for several seconds every minute.
- The Alert LED will blink.

Close door to silence alert and reset.

## Sabbath Mode




This unit is Star-K certified and offers a Sabbath mode. Sabbath mode disables system responses to user initiated activities and all external functions, including lighting, display and audible alarms. The unit will still maintain internal temperatures and set points. View a full list of Star-K certified U-Line units at www.star-k.org.

To enable Sabbath Mode:

1. Press (4) and hold for ten seconds and release (the °F/°C symbol will flash briefly at the end of the ten second period).

2. The interior light and control display (3) will go dark until user resets mode.

3. NOTE: Although the display will not be visible, the temperature controls in the unit remain active and preserve the interior temperature.

Sabbath Mode remains active until (4) is quickly pressed and released.

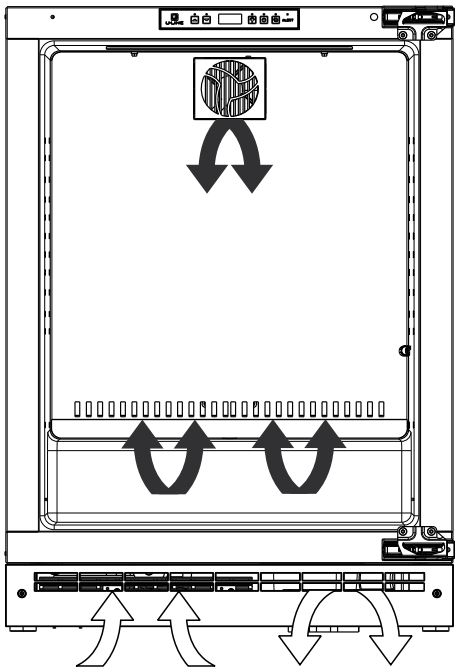
# Airflow and Product Loading

**NOTICE**

**The unit requires proper airflow to perform at its highest efficiency. Do not block the front grille, internal fans or vents at any time, or the unit will not perform as expected. When loading your unit, leave space between the internal fans or vents and product loaded. Anything blocking the required airflow/circulation will result in uneven temperature distribution in the cabinet and can also freeze product. Do not install the unit behind a door.**

When properly loaded, your U-Line unit will store up to 31 (750 ml) bottles of wine.

Door Removed For Illustration Purposes



Internal Air Flow And Unit Ventilation Diagram

# U-Line Wine Guide

### LOOKING BEHIND THE LABEL

To most, wine is a delicious mystery. We purchase it, uncork it, and savor its taste and beauty. But there is so much more to true wine appreciation. Many secrets are simply too good to keep bottled up.

### WINE SELECTIONS SUGGESTIONS

Selecting the right wine for the right occasion can sometimes be a seemingly awkward or difficult task for the beginning wine enthusiast. We would therefore like to present you with a few suggestions which may provide a little more confidence and enjoyment when choosing and serving your wines.

When selecting wines, keep an open mind and do not be afraid to be adventurous. Do not view the subject of wine so seriously it discourages you from learning and discovering for fear of embarrassment if something is incorrect. Wine is best viewed as a hobby and enjoyed.

When assembling your collection, try not to become obsessed with "Vintages." Although a chart can be a useful tool, generalizations about a specific year have led more than one collector to disappointment. Often an "Off Year" will provide a better value and more drinking enjoyment.

The primary guideline to the subject of wine is your own palate. Do not be afraid to make mistakes. Experiment, discover, but most of all, enjoy yourself and your new U-Line product.

### Guide To Common Styles Of Wine

| **Red Wines** | | |
|---|---|---|
| Full-Bodied Dry | California<br>French<br>Italian | Zinfandel, Cabernet<br>Rhone, Chateauneuf-du-Pape Barbaresco, Barolo |
| Medium-Bodied Dry | California<br>French | Pinot Noir Bordeaux, Burgundy |
| Light-Bodied Dry | French<br>Italian | Beaujolais Chianti, Bardolino |
| **White Wines** | | |
| Full-Bodied Dry | California<br>French | Chardonnay Montrachet, Meursault Puligny-Montrachet |
| Medium-Bodied Dry | California<br>French | Sauvignon-Blanc Pouilly-Fuisse, Sancerre, Vouvray, Graves |
| Light-Bodied Dry | French | Chablis, Muscadet, Pouilly-Fume |
| Full-Bodied, Very Sweet | Germany<br>French<br>Hungary | Beerenauslese Sauternes Tokay |
| Medium-Bodied, Semi-Sweet | California<br>Germany | Gewurtztraminer Liebfraumilch |
| Light-Bodied Off Dry | Germany | Rhine, Mosel, Riesling |

### Matching Food and Wine

Although there are no hard fast rules for matching wine to food, observe some guidelines. Delicate dishes should be accompanied by lighter more delicate wines. Full-flavored foods should be matched with fuller-bodied wines.

As a general rule, one should aim to ascend in flavor and quality of wines served.

| Serve a: | Before a: |
|---|---|
| DRY wine | SWEET wine |
| WHITE wine | RED wine |
| YOUNG wine | OLD wine |
| LIGHT-BODIED wine | FULL-BODIED wine |

Any step back in quality will be noticed. If a fine wine is tasted prior to a lesser wine, many of the fine wine's subtle qualities may be missed.

**Common Food and Wine Matches**

| Foods | Wines |
|---|---|
| Fish, Shell Fish, Crab, Oysters | Dry White Wines, Light Sparkling or Extra Dry Champagne |
| Beef, Venison | Full-Bodied Red Wines |
| Pork, Veal, Lamb and Poultry | Light-Bodied Red Wines |
| Fruit | Sweet White and Sparkling Wines |

**A Toast to Wine Truths**

Like the grapes themselves, many wine myths have been cultivated over the centuries.

***Myth 1:*** Most wines taste better when aged.

***Truth:*** In fact, less than 5% of wines produced today are meant to be aged. Most wines are crafted to be consumed within the first one to two years.

***Myth 2:*** Wines should be uncorked and decanted allowing them to "breathe."

***Truth:*** To breathe or not breathe? While it is better to allow a young tannic Red to breathe in a glass or decanter to soften the tannins, an old Red reaches a stage in its life where it should be enjoyed soon after opening. Allow an old Red to breathe for a short time to dissipate any off odors. Most white wines can be served, ideally, 10-15 minutes after opening.

***Myth 3:*** When age worthy wines peak, they must be consumed almost immediately.

***Truth:*** Most great wines reach a plateau period rather than a peak. Great Bordeaux's may have as much as a 10-year plateau before fading.

***Myth 4:*** Wine color does not change with aging.

***Truth:*** As red wines age they get lighter in color while whites get darker.

**The Cork: A Mystery on Its Own**

Cork Presentation. The ritual of the presentation of the cork has a rich and fascinating history dating back to the late 1800's. A phylloxera (root louse) devastation to the vineyards severely limited the supply of great wines. Restaurateurs would remove labels on inferior wines and replace them with labels from superior wines. This made it necessary for patrons to protect themselves by checking the branding on the cork to ensure that what they ordered was, in fact, what they were served.

When presented with a cork today, feel it to check for its integrity, read and match the branding on the cork to the bottle and set it aside. There is little to be learned from the cork. The proof is in the wine.

"Corked" wines. If you've ever had a wine that smelled or tasted of mold, you've experienced a wine that may have been "corked." Today, between five and eight percent of wines are tainted with Trichloroanisole (TCA). This substance, found naturally in plants and trees, is imparted to the wine through the cork. Corked wines are a major concern for winemakers as it destroys millions of cases per year and puts reputations at stake. Amazing as it may seem twist-off caps may offer a better alternative and many great wineries in California, Australia and New Zealand are pioneering the trend.

**Common Tasting Terms**

| Terminology | Description |
|---|---|
| Acidity | A critical element of wine that is responsible for preserving the wines freshness. Excess acidity results in an overly tart and sour wine. |
| Balance | A desired trait where tannin, fruit and acidity are in total harmony. Wines with good balance tend to age gracefully. |
| Body | The weight and presence of wine in the mouth provided by the alcohol and tannin level. Full-bodied wines tend to have this strong concentration. |
| Bouquet | The blending of a wine's aroma within the bottle over a period of time, caused by volatile acidity. |
| Complex | A subjective term often used in tasting. A wine is said to be complex if it offers a variety of flavors and scents that continue to evolve as it develops. |
| Flabby | A wine that lacks structure, or is heavy to the taste, lacks acidity. |
| Full-Bodied | Wine high in alcohol and extract, generally speaking, fills the mouth, powerful. |
| Lean | Generally describes wines that are slim, lacking of generosity or thin. |
| Oaky | A desirable flavor imparted to wine if done in moderation. Most wines are aged in oak barrels one to three years, thereby receiving this toasty oak characteristic. However, if a weak wine is left in contact too long with an oak barrel it will tend to be overpowered with an oaky taste. |
| Tannin | Tannins are extracted from the grape skins and stems and are necessary for a well-balanced red wine. Tannins are easily identified in wine tasting as the drying sensation over the gums. Tannins generally fade as a wine ages. |

**IDEAL WINE STORAGE CONSIDERATIONS**

**Temperature:** The most important element about storage temperature is stability. If wine is kept in a stable environment between 40°F (7°C) and 65°F (21°C), it will remain sound. A small 1-2 degree temperature fluctuation within a stable environment is acceptable. Larger temperature fluctuations can affect the corks ability to seal, allowing the wine to "leak" from the bottle.

**Humidity:** The traditional view on humidity maintains that wines should be stored on their sides in 50% - 80% relative humidity to ensure cork moisture and proper fit in the bottle. Contemporary wisdom suggests that the cork surface is too small to be impacted by humidity. Further the cork is sealed with a metal or wax capsule making humidity penetration impossible. The concept of a humid storage environment was derived from the necessity of wineries to maintain moisture in their cellars to keep wooden barrel staves swollen, preventing wine evaporation and product loss. In fact, vineyards estimate as much as a 10% product loss per year due to evaporation while wine is aging in the wooden barrels. Humidity, however, was not intended for the modern home cellar where wine is stored in glass bottles with sealed corks.

**Light:** UV rays are not only harmful to people, they are damaging to wines - especially those in clear bottles. Since oxygen molecules in wine absorb UV rays, wine should never be stored in direct light for long periods of time.

**Vibration:** Provided that sediment is left undistributed and particles are not suspended, vibration in a storage environment is not an issue. Wines can become flat or tired when voids and vacuums are created inside the wine bottle. In order to create voids and vacuums within a liquid, aggressive motion or shaking of the wine bottle would have to occur.

### The Right Temperature for Wine

| Temperature | Wines |
|---|---|
| Approximately 60°F (15°C) | Red |
| 50°F - 55°F (10°C -12°C) | White |
| Approximately 45°F (7°C) | Sparkling |

### Wine Captain® Models - A Touch of Elegance

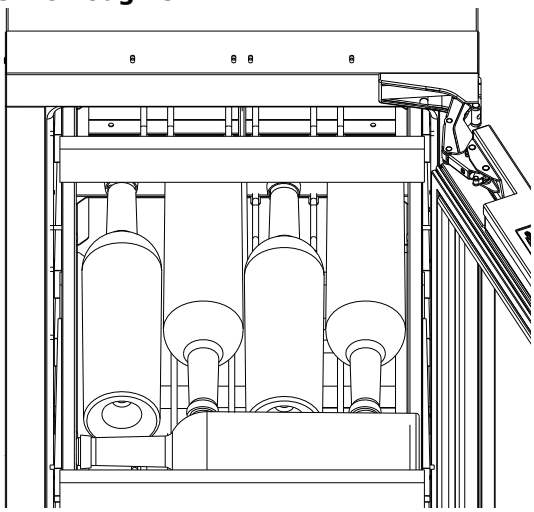
In 1985 U-Line was the first North American appliance manufacturer to develop a residential wine storage unit, the Wine Captain®. Each U-Line Wine Captain® model is designed to impress and inspire anyone with an interest in wine by providing cellar conditions in stylish, undercounter units. U-Line Wine Captain® models offer stable storage temperatures, a 50% internal relative humidity and protection from UV light rays. U-Line has the largest product offering available, making storing, presenting, and sharing your wine effortless and elegant.

## Recommended Wine Storage

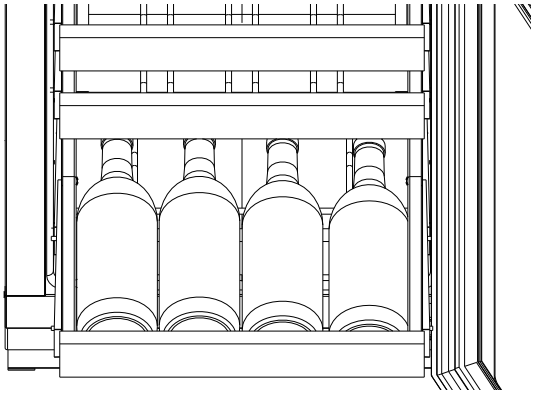
Specially designed horizontal wine racks properly position the bottles so the wine remains in contact with the cork, which ensures the cork does not become dry.

U-Line recommends arranging wine bottles as shown in the illustrations below.

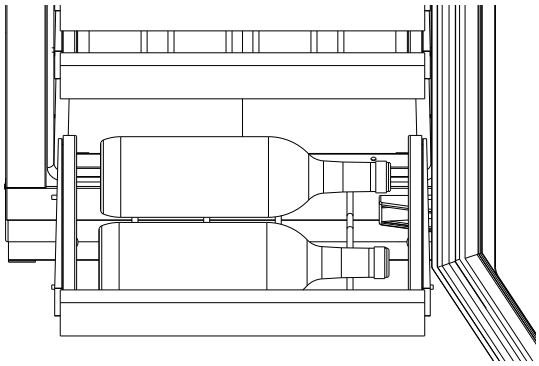
**Racks 1 through 5:**



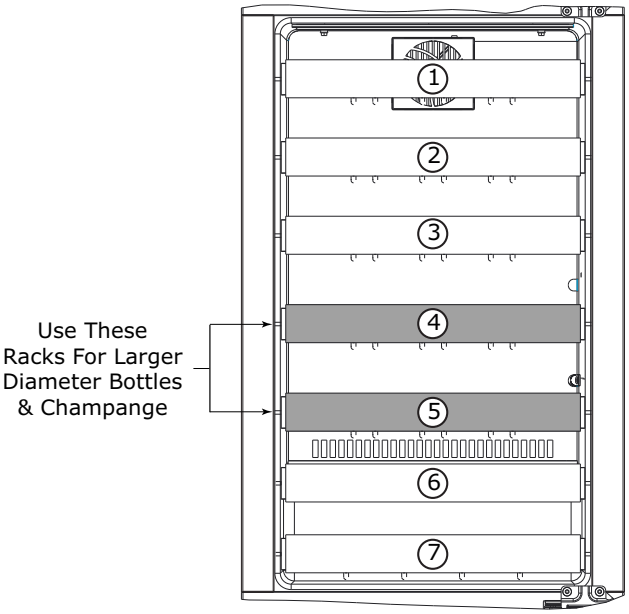
**Rack 6:**



**Rack 7:**



**Larger diameter bottles may be stored on the shaded racks, illustrated below.**




NOTE: After stocking, allow unit to stabilize product temperatures for 24 hours.

# Cleaning

### EXTERIOR CLEANING

#### Stainless Models

Stainless door panels and handles can discolor when exposed to chlorine gas, pool chemicals, saltwater or cleaners with bleach.

Keep your stainless unit looking new by cleaning with a good quality all-in-one stainless steel cleaner and polish monthly. For best results use Claire® Stainless Steel Polish and Cleaner. Comparable products are acceptable. Frequent cleaning will remove surface contamination that could lead to rust. Some installations may require cleaning weekly.

**Do not clean with steel wool pads.**

**Do not use stainless steel cleaners or polishes on any glass surfaces.**

Clean any glass surfaces with a non-chlorine glass cleaner.

**Do not use cleaners not specifically intended for stainless steel on stainless steel surfaces (this includes glass, tile and counter cleaners).**

If any surface discoloring or rusting appears, clean it quickly with Bon-Ami® or Barkeepers Friend Cleanser® and a nonabrasive cloth. Always clean with the grain. Always finish with Claire® Stainless Steel Polish and Cleaner or comparable product to prevent further problems.

**Using abrasive pads such as Scotchbrite™ will cause the graining in the stainless steel to become blurred.**

**Rust not cleaned up promptly can penetrate the surface of the stainless steel and complete removal of the rust may not be possible.**

#### Integrated Models

To clean integrated panels, use household cleaner per the cabinet manufacturer's recommendation.

### INTERIOR CLEANING

Disconnect power to the unit.

Clean the interior and all removed components using a mild nonabrasive detergent and warm water solution applied with a soft sponge or non-abrasive cloth.

Rinse the interior using a soft sponge and clean water.

**Do not use any solvent-based or abrasive cleaners.** These types of cleaners may transfer taste to the interior products and damage or discolor the lining.

### DEFROSTING

Under normal conditions this unit does not require manual defrosting. Minor frost on the rear wall or visible through the evaporator plate vents is normal and will melt during each off cycle.

If there is excessive build-up of 1/4" (6 mm) or more, manually defrost the unit.

Ensure the door is closing and sealing properly.

High ambient temperature and excessive humidity can also produce frost.

**⚠ CAUTION**

**DO NOT use an ice pick or other sharp instrument to help speed up defrosting. These instruments can puncture the inner lining or damage the cooling unit. DO NOT use any type of heater to defrost. Using a heater to speed up defrosting can cause personal injury and damage to the inner lining.**

**NOTICE**

**The drain pan was not designed to capture the water created when manually defrosting. To prevent water from overflowing the drain pan and possibly damaging water sensitive flooring, the unit must be removed from cabinetry.**

**To defrost:**

1. Disconnect power to the unit.
2. Remove all products from the interior.
3. Prop the door in an open position (2 in. [50 mm] minimum).
4. Allow the frost to melt naturally.
5. After the frost melts completely clean the interior and all removed components. (See INTERIOR CLEANING).
6. When the interior is dry, reconnect power and turn unit on.

# Cleaning Condenser

**INTERVAL - EVERY SIX MONTHS**

To maintain operational efficiency, keep the front grille (plinth strip/base fascia) free of dust and lint, and clean the condenser when necessary. Depending on environmental conditions, more or less frequent cleaning may be necessary.

**⚠ WARNING**

**Disconnect electric current to the unit before cleaning the condenser.**

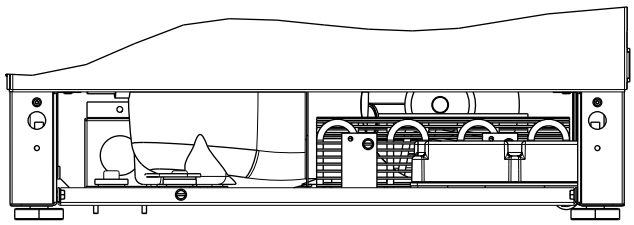
**NOTICE**

**DO NOT use any type of cleaner on the condenser unit. Condenser may be cleaned using a vacuum, soft brush or compressed air.**

1. Remove the grille (plinth strip/base fascia). (See GRILLE-PLINTH INSTALLATION).

2. Clean the condenser coil using a soft brush or vacuum cleaner.

3. Install the grille (plinth strip/base fascia).



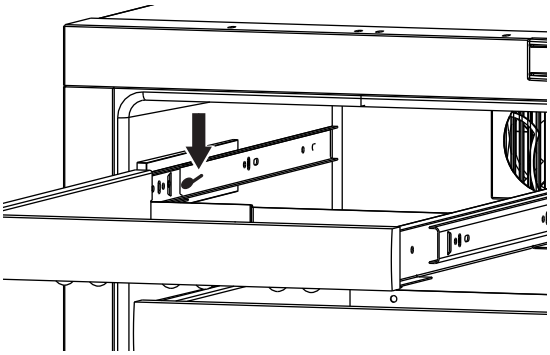
## Wine Rack Installation

**To remove wine racks for cleaning:**

1. Remove any bottles stored on the rack.

2. Grasp the end of the rack and gently slide it out until it stops.

3. The release levers are located on the inside of the rack rails. Press the left rack release lever down. At the same time, lift the matching right rack release lever up. Pull the rack out until it is free of the tracks and the cabinet.



**NOTICE**

**Do not remove the track rails from the cabinet.**

**To insert wine racks in the cabinet:**

1. Align the left and right rack channels with the tracks in the cabinet. Ensure an even track engagement on both sides by gently pushing the rack into the cabinet until it stops.

2. Before reloading the rack, ensure proper movement of the travel stops in the left and right track rails by pulling the rack out gently until it stops.

**To clean wine racks:**

1. Saturate a soft cloth with a soapy, warm water solution.

2. Wring excess water from cloth and wipe racks down.

**NOTICE**

**The wine racks are greased. This white lithium grease helps provide smooth operation of the slide mechanism. It is important not to remove grease.**

# Extended Non-Use

**VACATION/HOLIDAY, PROLONGED SHUTDOWN**

The following steps are recommended for periods of extended non-use:

1. Remove all consumable content from the unit.
2. Disconnect the power cord from its outlet/socket and leave it disconnected until the unit is returned to service.
3. If ice is on the evaporator, allow ice to thaw naturally.
4. Clean and dry the interior of the unit. Ensure all water has been removed from the unit.
5. The door must remain open to prevent formation of mold and mildew. Open door a minimum of 2" (50 mm) to provide the necessary ventilation.

**WINTERIZATION**

If the unit will be exposed to temperatures of 40°F (5°C) or less, the steps above must be followed.

**For questions regarding winterization, please call U-Line at 414.354.0300.**

**⚠ CAUTION**

**Damage caused by freezing temperatures is not covered by the warranty.**

# Troubleshooting

### BEFORE CALLING FOR SERVICE

If you think your U-Line product is malfunctioning, read the CONTROL OPERATION section to clearly understand the function of the control.

If the problem persists, read the NORMAL OPERATING SOUNDS and TROUBLESHOOTING GUIDE sections below to help you quickly identify common problems and possible causes and remedies. Most often, this will resolve the problem without the need to call for service.

### IF SERVICE IS REQUIRED

If you do not understand a troubleshooting remedy, or your product needs service, contact U-Line Corporation directly at +1.414.354.0300.

When you call, you will need your product Model and Serial Numbers. This information appears on the Model and Serial number plate located on the upper right or rear wall of the interior of your product.

### NORMAL OPERATING SOUNDS

All models incorporate rigid foam insulated cabinets to provide high thermal efficiency and maximum sound reduction for its internal working components. Despite this technology, your model may make sounds that are unfamiliar.

Normal operating sounds may be more noticeable because of the unit's environment. Hard surfaces such as cabinets, wood, vinyl or tiled floors and paneled walls have a tendency to reflect normal appliance operating noises.

Listed below are common refrigeration components with a brief description of the normal operating sounds they make. NOTE: Your product may not contain all the components listed.

- Compressor: The compressor makes a hum or pulsing sound that may be heard when it operates.
- Evaporator: Refrigerant flowing through an evaporator may sound like boiling liquid.
- Condenser Fan: Air moving through a condenser may be heard.
- Automatic Defrost Drain Pan: Water may be heard dripping or running into the drain pan when the unit is in the defrost cycle.

### TROUBLESHOOTING GUIDE

**⚠ DANGER**

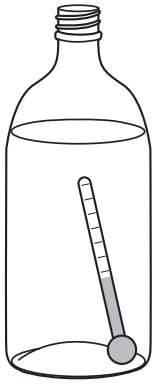
**ELECTROCUTION HAZARD. Never attempt to repair or perform maintenance on the unit before disconnecting the main electrical power.**

Troubleshooting - What to check when problems occur:

| Problem | Possible Cause and Remedy |
|---|---|
| Digital Display and Light Do Not Work. | Ensure power is connected to the unit.<br>If the unit is cooling, it may be in Sabbath mode. |
| Interior Light Does Not Illuminate. | The light bulb may be defective.<br>If the unit is cooling, it may be in Sabbath mode. |
| Light Remains on When Door Is Closed. | For glass door models, press the light icon and close the door.<br>Check reed switch. |
| Unit Develops Frost on Internal Surfaces. | Frost on the rear wall is normal and will melt during each off cycle.<br>If there is excessive build-up of 1/4" or more, manually defrost the unit.<br>Ensure the door is closing and sealing properly.<br>High ambient temperature and excessive humidity can also produce frost. |
| Unit Develops Condensation on External Surfaces. | The unit is exposed to excessive humidity. Moisture will dissipate as humidity levels decrease. |
| Digital Display Functions, But Unit Does Not Cool. | Ensure the unit is not in "Showroom Mode."<br>Momentarily unplug or interrupt power supply to the unit. |
| Digital Display Shows ER or E Followed by a Number. | E3 indicates the door may be opened too long. Ensure the door is closing properly. For other error codes contact U-Line Customer Service. |

| Problem | Possible Cause and Remedy |
|---|---|
| Digital Display Shows 1-16 or 99 | A factory test mode may be enabled. Adjust the temperature to 99 and press the LIGHT icon. |
| Product Is Freezing. | Because product in contact with the rear wall may freeze, ensure no product is touching the rear wall.<br>Adjust the temperature to a warmer set point. |
| Product Is Not Cold Enough. | Air temperature does not indicate product temperature. See CHECKING PRODUCT TEMPERATURE below.<br>Adjust the temperature to a cooler set point.<br>Ensure unit is not located in excessive ambient temperatures or in direct sunlight.<br>Ensure the door is closing and sealing properly.<br>Ensure the interior light has not remained on too long.<br>Ensure nothing is blocking the front grille, found at the bottom of the unit.<br>Ensure the condenser coil is clean and free of any dirt or lint build-up. |

**CHECKING PRODUCT TEMPERATURE**



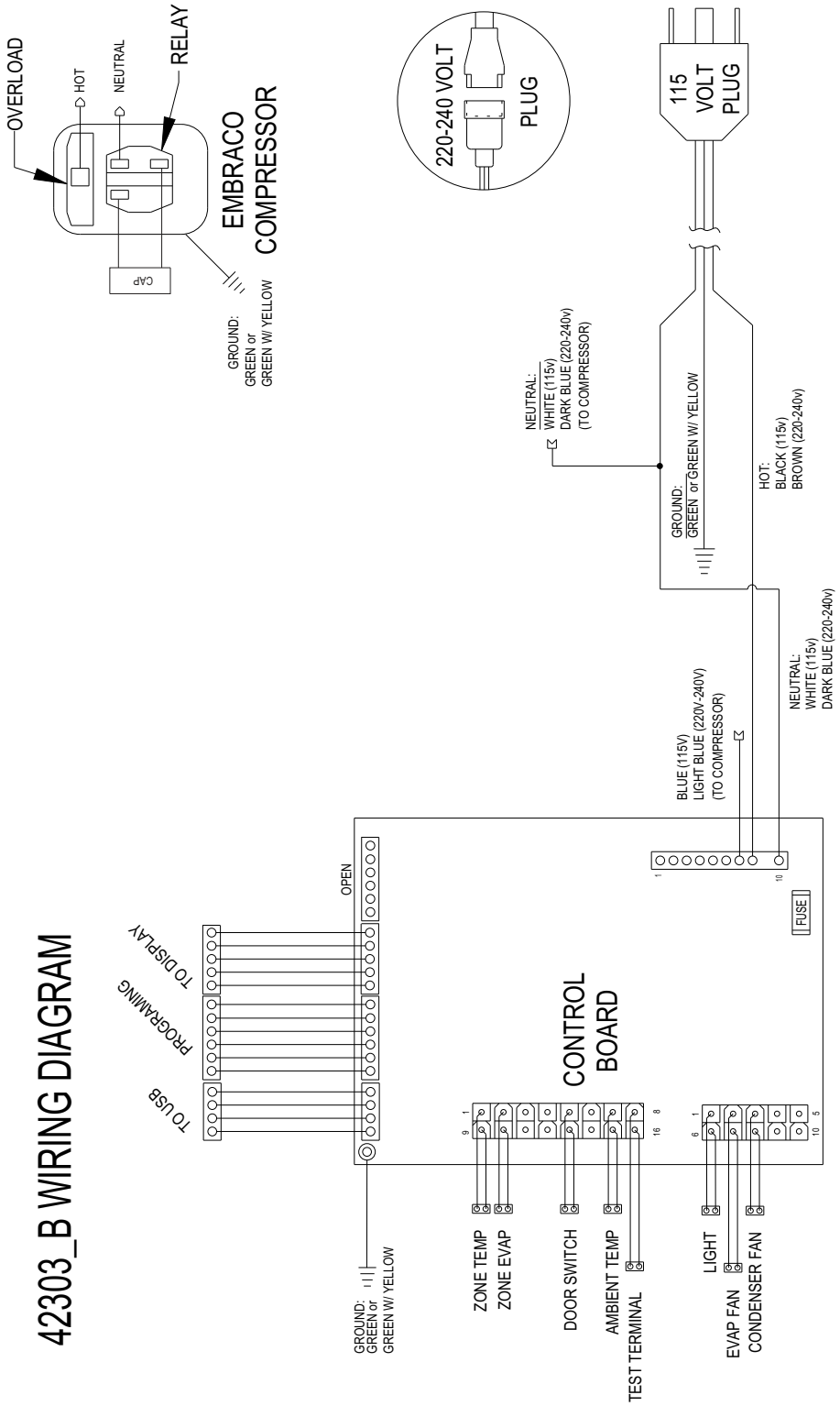
**To check the actual product temperature in the unit:**

1. Partially fill a plastic (nonbreakable) bottle with water.
2. Insert an accurate thermometer.
3. Tighten the bottle cap securely.
4. Place the bottle in the desired area for 24 hours.
5. Avoid opening the unit during the testing period.
6. After 24 hours, check the temperature of the water. If required, adjust the temperature control in a small increment (see CONTROL OPERATION).

**Causes which affect the internal temperatures of the cabinet include:**

- Temperature setting.
- Ambient temperature where installed.
- Installation in direct sunlight or near a heat source.
- The number of door openings and the time the door is open.
- The time the internal light is illuminated. (This mainly affects product on the top rack or shelf.)

## Wire Diagram



## Product Liability

Field service technicians are authorized to make an initial assessment in the event of reported damages. If there are any questions about the process involved, the technician should call U-Line for further explanation.

While inspecting for defects or installation issues, photos should be taken to document any damages or issues found.

During the assessment, if the service technician is able to find the source of the damage and it can be resolved by replacement of a part, the servicer is authorized to replace the part in question. The part that caused the damage must be returned to U-Line in its entirety. The part must be clearly labeled with the serial number of the unit it was removed from, the date, and the servicer who removed the part.

If the service technician determines the damage is the result of installation issues (water connection/drain, etc.), the consumer would be notified and the issues shall be resolved at the direction of the consumer.

If damage is evident and the service technician is unable to find the source, U-Line must be contacted at 1-800-799-2547 for further direction

8900 N. 55th Street • Milwaukee, WI 53223
T: +1.414.354.0300 • F: +1.414.354.354.5696
Website: www.u-line.com

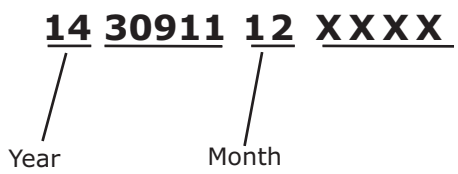
**Right product. Right place.**
**Right temperature Since 1962.**

## Warranty Claims

The following information defines the parameters for filing a warranty claim:

- Valid serial number needed
- Valid model number needed
- Narda (or equivalent) form or submitted online at www.u-line.com
- 60 day submittal deadline from date of completed service
- Only one repair or unit per warranty claim
- Refrigerant should be labeled and included on the labor submittal
- Door and water level adjustments are covered 30 days from install date.

Serial Number Requirements:




A typical serial number is shown above. The first two digits of the first segment, 14, represents the production year. The number between the dashes, 12, represents the production month. In most cases, warranty status can be verified by the production date information within the serial number.

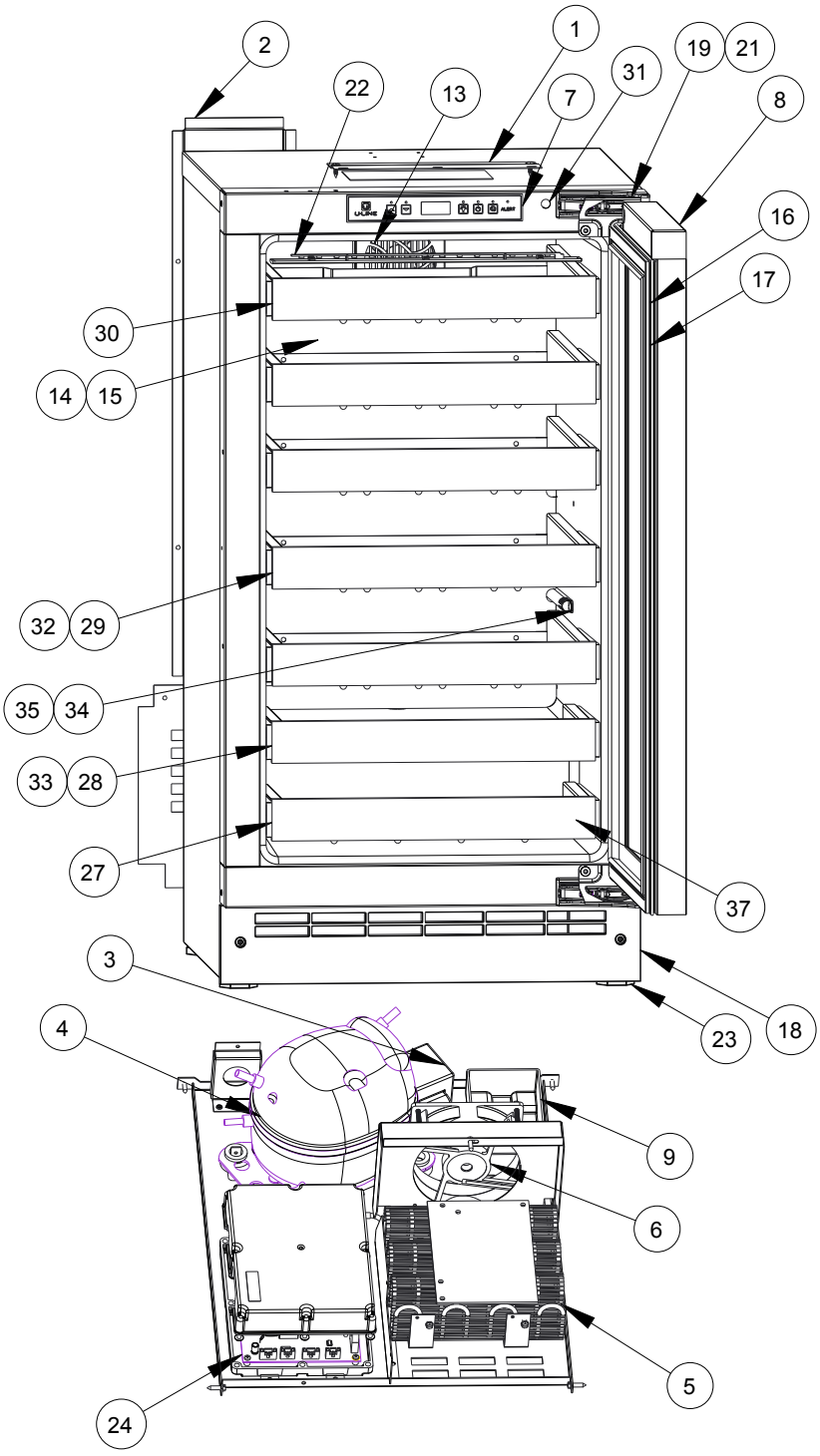
- Alternatively, a Proof of Purchase (or equivalent) may submitted with the warranty claim to document warranty status. We also accept the following information to verify warranty status:
- New Construction Occupancy Documents
- Closing Paperwork
- Final Billing – Remodel

Noting all of the following on the warranty claim will be considered proof of purchase, hard copy will not be required:

- Name of the selling Dealer
- Date of purchase/installation
- Order or Invoice number (if available)
- Description of document reviewed (i.e. store receipt, closing paperwork, etc)

Parts and labor claims are paid separately. Indicate part numbers and description for parts used in the warranty repair. Include the purchase invoice and name of the parts supplier used to procure the parts.

# Parts




| U-2218WCINT-00A | | |
|---|---|---|
| Item | Description | U-Line P/N |
| 1 | Anti tip bracket w/screws | 80-54012-00 |
| 2 | Back panel | 80-54175-00 |
| 3 | Compressor electricals only | 80-54149-00 |
| 4 | Compressor w/electricals | 80-54150-00 |
| 5 | Condenser assembly | 80-54022-00 |
| 6 | Condenser fan w/screws | 80-54014-00 |
| 7 | Display module | 80-54493-00 |
| 8 | Door assembly w/o hinges | 80-54018-00 |
| 9 | Drain pan w/double sided tape | 80-54002-00 |
| 10 | Drain trough assembly | 80-54480-00 |
| 11 | Drain tube | 80-54495-00 |
| 12 | Drier | 80-54055-00 |
| 13 | Evap fan w/cover and screws | 80-54151-00 |
| 14 | Evaporator assembly | 80-54152-00 |
| 15 | Evaporator cover | 80-54021-00 |
| 16 | Gasket, door, injection molded | 80-54003-00 |
| 17 | Gasket, door, for extrusions | 80-54415-00 |
| 18 | Grille w/screws | 80-54011-00 |
| 19 | Hinge covers(2 pcs) | 80-54001-00 |
| 20 | Hinge mounting hole covers | 80-54024-00 |
| 21 | Hinges(2) w/screws and covers | 80-54013-00 |
| 22 | LED light strip and cover assy | 80-54000-00 |
| 23 | Leg Levelers (4) | 80-54019-00 |
| 24 | Main board w/inst sheet | 80-54297-00 |
| 25 | Packaging | 80-54143-00 |
| 26 | Power cord | 80-54413-00 |
| 27 | Rack Assembly Bottom | 80-54030-00 |
| 28 | Rack Assembly Lower | 80-54029-00 |
| 29 | Rack Assembly Middle | 80-54028-00 |
| 30 | Rack Assembly Top | 80-54027-00 |
| 31 | Reed switch | 80-54004-00 |
| 32 | Slide Assembly Long | 80-54047-00 |
| 33 | Slide Assembly short | 80-54048-00 |
| 34 | Thermistor (1 piece) | 80-54006-00 |
| 35 | Thermistor cover and pin | 80-54023-00 |
| 36 | Wire harness, control | 80-54496-00 |
| 37 | Wood front w/screws | 80-54497-00 |

# R-600A Specifications

For R-600a refrigerant service tips and more videos, go to: www.u-line.com/videos.

**⚠ WARNING**

**Flammability warnings for a pure-iso-butane refrigerant.**










Technician must observe all federal, state and local laws regarding refrigerants.

**Gloves and Eye Protection must be used.**





**R-600a is considered non-toxic, but is flammable when mixed with air.**

**Keep a dry powder type fire extinguisher in the work area.**




**R-600a is heavier than air, do not allow any leakage/migration to low areas such as basements and stairs.**

**Never use a torch on a fully charged refrigeration system.**

**Never substitute U-Line OEM replacement parts or methods of construction.**

**R-600a must be stored and transported in approved containers.**

**⚠ WARNING**

**Only skilled and well trained service technicians permitted to service R-600a equipped products.**

**All tools and equipment must be approved for use with R-600a refrigerant.**

**Local, state and federal laws, standards must be observed along with proper certification and licensing.**

**Ventilation is required during servicing.**

**No conversions to R-600a from any other refrigerants. OEM R-600a equipped unit only.**

**Service area must be free of ignition sources.**

**No smoking is allowed in the service area.**

**All replacement electrical components must be OEM and installed properly (sealed and covered).**

**If the evaporator is cold prior to service, it must be thawed prior to service.**

**When using a vacuum pump, start pump before opening refrigeration system.**

**Vacuum pump and recovery equipment should be at least 10 feet from the work area.**

**It is recommended that a simple LPG gas detector is on site during service.**

**Ensure that all R-600a is removed from the system prior to brazing any part of the sealed system.**

**Only a clean, dry leak free system should be charged with R-600a.**

**R-600A SPECIFICATIONS/LABELING**

R-600a equipped products are labeled (both the unit and the compressor).

R-600a is colorless and odorless.

R-600a is considered non-toxic, but is flammable when mixed with air.

Do not remove or alter any R-600a labeling on the product.

Use only a refrigerant grade R-600a from a properly labeled container.

**RECOVERING/RECLAIMING R-600A**

(R-600a has been exempted from recovery/reclaiming requirements by the US EPA)

Recovery/Reclaiming equipment must be approved for use with R-600a.

Ensure the evaporator is at room temperature prior to recovery/reclaiming R-600a.

Use a common piercing pliers or piercing valve to remove R-600a from the compressor process tube. (Note: Piercing devices must not be left on the system and must be replaced with a Schrader type valve.)

Evacuate/reclaim via the piecing pliers to ensure the system is empty of R-600a before any system work is performed.




The recovery cylinder must be evacuated (no air inside) prior to accepting R-600a.

The recovery cylinder must not be filled more than 45% safe fill level and refrigerants must not be mixed.

The recovery cylinder must be clearly marked with R-600a and Flammable Warning labels.

Ensure proper ventilation during recovery/reclaiming of R-600a.

Start vacuum pump/recovery pump prior to piercing the compressor process tube.

Follow recovery/reclaim OEM instructions for the specific equipment used.

**SYSTEM REPAIR**

Ensure no residual R-600a refrigerant is left within the system prior to repair (simple venting is not sufficient).

Evacuate and charge with dry nitrogen for leak checks.

Repair leaks or replace system parts as required.

When re-brazing, the system must be purged with dry nitrogen and at least one access point open to the atmosphere.

When re-brazing, proper ventilation is required along with constant monitoring for the presence of R600a refrigerant.

The filter dryer must be replaced any time the sealed system is serviced.

No system should be open to the atmosphere for longer than 15 minutes to avoid moisture migration into the system components.

**LEAK DETECTION**

After removal of the R-600a, the unit can be charged with dry nitrogen or helium.

Electronic leak detection or soap solution can be used to check for nitrogen/helium leaks.




Never use a halide torch or lighted match to check the system for leaks at any time.

The high side of the refrigeration system (compressor discharge to outlet of drier) must be leak tested with the compressor running.

The low side of the refrigeration system (evaporator, compressor and suction line) must be leak tested with the compressor off (equalized pressure).

**RECHARGING**

No air is ever to be allowed inside the refrigeration system (R-600a refrigerant or dry nitrogen only).

Never use a torch on a fully charged refrigeration system.

Install a Schrader Type access port on the compressor process stub.



Evacuate the system to 100 microns prior to charging.

Weigh in the R-600a charge using a refrigerant scale. (run compressor an extra two minutes to clear the charging hoses).

Seal the Schrader Type access port, a proper cap and seal must be used to close the system.



**SUMMARY**

Safely handling R-600a requires proper procedures and training.

R-600a approved service tools must be used.

R-600a labeling must not be removed or altered.

Proper ventilation during service is required.

Never apply a torch to a charged R-600a refrigeration system.

Use OEM replacement service parts and do not alter the construction of the unit.

# System Diagnosis Guide

**REFRIGERATION SYSTEM DIAGNOSIS GUIDE**

| System Condition | Suction Pressure | Suction Line | Compressor Discharge | Condenser | Capillary Tube | Evaporator | Wattage |
|---|---|---|---|---|---|---|---|
| **Normal** | Normal | Slightly below room temperature | Very hot | Very hot | Warm | Cold | Normal |
| **Overcharge** | Higher than normal | Very cold may frost heavily | Slightly warm to hot | Hot to warm | Cool | Cold | Higher than normal |
| **Undercharge** | Lower than normal | Warm-near room temperature | Hot | Warm | Warm | Extremely cold near inlet - Outlet below room temperature | Lower than normal |
| **Partial Restriction** | Somewhat lower than normal vacuum | Warm - near room temperature | Very hot | Top passes warm - Lower passes cool (near room temperature) due to liquid | Room temperature (cool) or colder | Extremely cold near inlet - Outlet below room temperature backing up | Lower than normal |
| **Complete Restriction** | In deep vacuum | Room temperature (cool) | Room temperature (cool) | Room temperature (cool) | Room temperature (cool) | No refrigeration | Lower than normal |
| **No Gas** | 0 PSIG to 25" | Room temperature (cool) | Cool to hot | Room temperature (cool) | Room temperature (cool) | No refrigeration | Lower than normal |

# Compressor Specifications

**⚠ DANGER**

**Electrocution can cause death or serious injury. Burns from hot or cold surfaces can cause serious injury. Take precautions when servicing this unit.**

**Disconnect the power source.**

**Do not stand in standing water when working around electrical appliances.**

**Make sure the surfaces you touch are not hot or frozen.**

**Do not touch a bare circuit board unless you are wearing an anti-static wrist strap that is grounded to an electrical ground or grounded water pipe.**

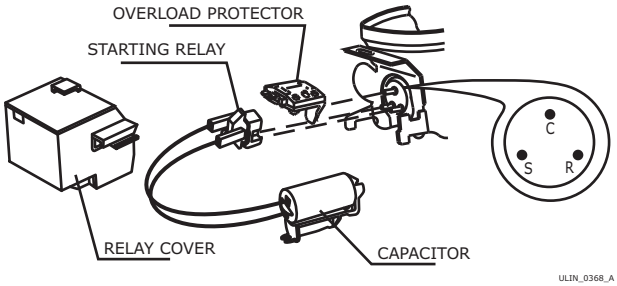
**Handle circuit boards carefully and avoid touching components.**

To measure the start winding resistance, measure across the C and S pins.

To measure the run winding resistance, measure across the C and R pins.

Also check S to R and you should get the sum of the run and start windings.

To ensure the windings are not shorted, check the S and R to ground.




| | EMX20CLC |
|---|---|
| Refrigerant | R600a |
| Voltage | 115 - 127 VAC |
| Frequency | 60 Hz |
| Run Cap | 12µF/165 VAC |
| Start Winding | 6.7 Ohm at 77°F |
| Run Winding | 12.6 Ohm at 77°F |
| LRA | 3.7 A |
| FLA | 0.5 A |
| Starting Device | 8EA14C |
| Overload | 4TM142RFBYY-53 |

* All resistance readings are ±10%

# Troubleshooting - Extended

### SPECIFIC ERRORS AND ISSUES

The technically advanced diagnostic capabilities of the electronic controls utilized on the 1200 and 2200 series units allows for easy and thorough troubleshooting.

Navigation of the control is the key and is explained in the CONTROL OPERATION section of the manual, along with control button layout, control function descriptions, a service mode menu and service menu selection explanations.

Verification of temperature and thermistor performance can be identified by directly viewing thermistor readings in the service mode.

Component failure issues can be identified through service mode menu #19, “Component Testing.” Individual components can be switched on and off to check for both proper function of a specific component and also delivery of supply voltage to the components through the relays and DC outputs located on the relay/power board.

Included in this section are some diagnostic tips and of course, if additional help is required please contact the U-Line Corp, “Customer Care Facility” at +1.414.354.0300 for assistance.

**⚠ CAUTION**

**Never attempt to repair or perform maintenance on the unit until the main electrical power has been disconnected from the unit.**

### TROUBLESHOOTING GUIDE

| Concern | Potential Causes | Suggested Remedy |
|---|---|---|
| Not Cooling | Compressor overheating | Verify proper air flow through condenser. Is condenser clean? |
| | | Confirm condenser fan operation. |
| | | Confirm proper compressor operating voltage. Use #19, Component Testing in Service Mode. |
| | Compressor not operating | Confirm proper compressor operating voltage. Use #19, Component Testing in Service Mode. |
| | | Test overload and relay, replace as needed. |
| | Compressor operating - no cooling | Refer to Refrigeration System Diagnosis Guide. |
| | Evaporator fan not operating | Use #19, Component Testing in Service Mode. |
| Frozen Product | Control set too cold | Adjust Set Point Temp accordingly. |
| | Review logged error codes | Refer to #14, Error Log in Service Mode. |
| | Thermistor failure | Check Error Log in Service Mode, OHM thermistor. |
| Frost Buildup Inside Unit | Door Ajar or Restricted from Closing | Check door clearance to adjoining cabinetry. Check distribution of product in unit. |
| | Evaporator fan not operating | Use #19, Component Testing in Service Mode. |
| | Thermistor failure | Check Error Log. |
| Display Not Working | Unit placed in Sabbath mode? | Press and hold for 5 seconds to check. |
| | Display unplugged | Verify that both ends of the display wiring are firmly connected. |
| | Display wiring broken or damaged | Perform continuity test of wiring and replace as needed. |
| Internal Lights Not Working | Control Setting | Unit set to Sabbath Mode. Press and hold for 5 seconds to check. |
| | Door switch misaligned or defective | Check the function of reed switch and door magnet adjustment. |
| Noisy | Refrigeration tubing touching cabinet | Carefully reposition tubing. |
| | Fan blade obstruction (wiring, foam insulation, packaging material) | Remove obstruction. |

**REFRIGERATION SYSTEM DIAGNOSIS GUIDE**

| System Condition | Suction Pressure | Suction Line | Compressor Discharge | Condenser | Capillary Tube | Evaporator | Wattage |
|---|---|---|---|---|---|---|---|
| Normal | Normal | Slightly below room temperature | Very hot | Very hot | Warm | Cold | Normal |
| Overcharge | Higher than normal | Very cold - may frost heavily | Slightly warm to hot | Hot to warm | Cool | Cold | Higher than normal |
| Undercharge | Lower than normal | Warm - near room temperature | Hot | Warm | Warm | Extremely cold near inlet - outlet below room temperature | Lower than normal |
| Partial Restriction | Somewhat lower than normal - in vacuum | Warm - near room temperature | Very hot | Top passes warm lower passes cool (near room temperature due to liquid | Room temperature (cool) or colder | Extremely cold near inlet - outlet below room temperature backing up | Lower than normal |
| Complete Restriction | In deep vacuum | Room temperature (cool) | Room temperature (cool) | Room temperature (cool) | Room temperature (cool) | No refrigeration | Lower than normal |
| No Gas | 0 PSIG to 25" | Room temperature (cool) | Cool to hot | Room temperature (cool) | Room temperature (cool) | No refrigeration | Lower than normal |

**ERRORS**

*All errors are logged in memory.
*Only door error is displayed on the display and has an audible signal.
*For clear ice models, pump error is displayed via alert light with no audible alerts.

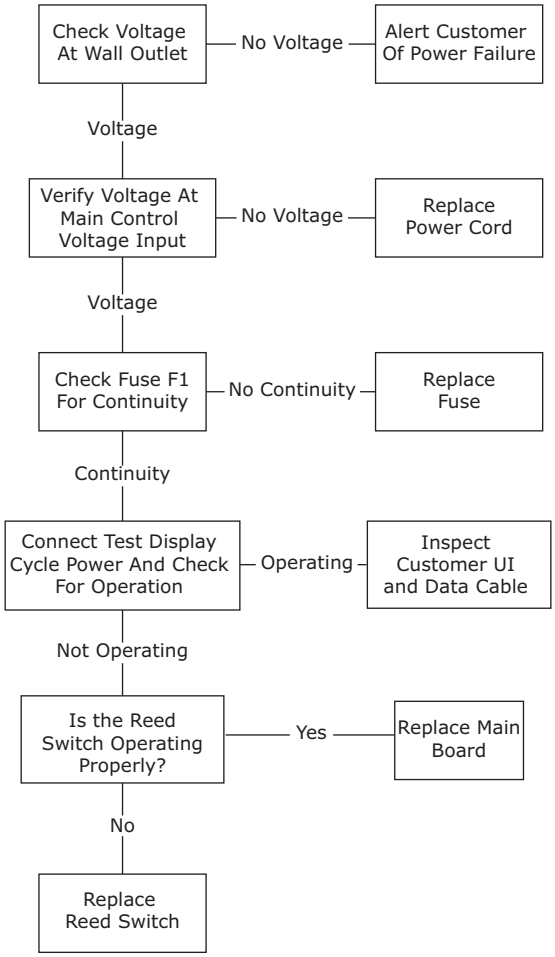
**E1:**Thermistor 1 open.
**E2:**Thermistor 2 open.
**E3:**Thermistor 3 open (Does not apply to this model).
**E4:**Thermistor 4 open (Does not apply to this model).
**E5:**Thermistor 1 shorted.
**E6:**Thermistor 2 shorted.
**E7:**Thermistor 3 shorted (Does not apply to this model).
**E8:**Thermistor 4 shorted (Does not apply to this model).
**E9:**Door open error.
**Pi:**Pump Circuit open (Does not apply to this model).

**MAIN CONTROL**

The main control board is very robust and is rarely the cause of system issues. It is important to fully diagnose the board for any suspected failures before attempting to remove the board for replacement or service. Follow the guidelines below to fully test and diagnose the main control.

**Power Fault**

If the unit does not (or seems to not) power on, follow the flow chart below to help diagnose the issue. Before beginning it is important to first verify the unit is not simply set to sabbath mode.




### Testing The Main Control

If the main control is suspected of being faulty, the following procedure should be performed to verify main control for functionality.

### Relay & DC Outputs

One of the primary functions of the main control is to operate the multiple relay and DC outputs during each cycle. Verify proper operation of these relays using the following procedure.

1. Enter “Relay Toggle” through the service menu.

**NOTICE**

**Frequently toggling the compressor relay could force the compressor into overload. The compressor will automatically deactivate during an overload and will remain deactivated until the overload switch cools. This could take some time. It is important to allow the compressor at least 5 minutes off time between relay cycles.**

2. Toggle the relay. Its related component should activate / deactivate with the switching of the relay. If it does not, test component.

### Other Suspected Main Control Faults

If other components have been ruled out as being faulty but the unit continues to have operating issues, it is most likely due to a configuration error. Configuration errors can be cleared by restoring the unit to its factory default setting. Factory defaults may be restored through the service menu.

**⚠ CAUTION**

**Precautions must be taken while working with live electrical equipment. Be sure to follow proper safety procedures while performing tests on live systems.**

### THERMISTORS

Thermistors are used for various temperature readings. Thermistors provide reliable temperature readings using a resistance which varies based on surrounding temperatures. If a faulty thermistor is suspected it may be tested using an accurate ohmmeter. In an ice water bath (32°F) resistance should measure 16.1 kilohms.

**5K OHMS @ 77°**
**16.1K OHMS - 32°F ambient**

**THERMISTOR FAILURE**

**Zone Thermistor**

If the zone thermistor fails, the unit will continue to operate on a preset time interval of 10 minutes on and 30 minutes off. The unit will otherwise operate normally. The error will be displayed on the main display, “Self Test” and logged in “All Errors”.

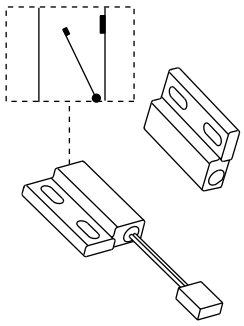
**Evaporator Thermistor**

If the evaporator thermistor fails, the unit will rely on a preset defrost time during defrost cycles. The unit will otherwise operate normally. Evaporator thermistor errors will be displayed in the error log.

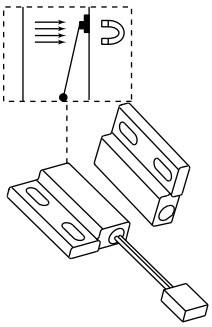
Always assure that all thermistor connections are clean and dry. Whenever opening a thermistor connection be sure to apply a fresh dab of die electric grease.

**REED SWITCH**

A reed switch is used to monitor door state. When the door is closed magnetic force pulls the reed to its contact and closes the circuit which turns the light and display off. When the door is open the reed pulls away from the contact and opens the circuit. If the door is left open for longer than 5 minutes, the switch will trigger an error code and set an audible warning.



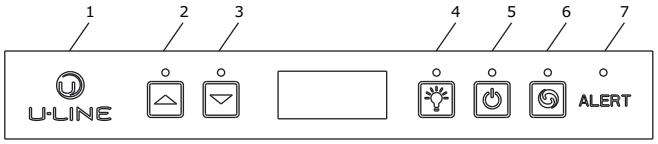
Magnet Away From Switch
(Door Open)
(Switch Open)



Magnet Close To Switch
(Door Closed)
(Switch Closed)

# Control Operation - Service

### UI BUTTON LAYOUT




1. **Hidden Button**
   -Accesses Service Menu
   -No LED

2. **Up Button**
   -Increases temperature
   -Navigates through service menu

3. **Down Button**
   -Decreases temperature
   -Navigates through service menu
   -LED activated with button activation

4. **Light Button**
   -Activates light for 3 hours on select models
   -Used to select items in service menu
   -LED activated with button activation

5. **Power Button**
   -Turns unit off/on
   -LED activated with button activation (only turning unit off)

6. **Clean Button**
   -Activates Clean Cycle on CLR models
   -LED activated with button activation

7. **Alert LED**
   -No button
   -Illuminates with Hidden Button
   -Illuminates with required displayed alerts

**CONTROL FUNCTION QUICK GUIDE**

| FUNCTION | COMMAND | DISPLAY/OPTIONS |
|---|---|---|
| ON/OFF | Press and release ⏻ | Unit will immediately turn ON or OFF |
| Toggle lights | Press and release 💡 to leave interior light on for 3 hours | Glass door wine captains and beverage centers only. |
| Adjust refrigerator set point | Push and release ⌃ or ⌄ | When the “F” or “C” in the display is flashing, use ⌃ or ⌄ to adjust the set point temperature. |
| View temperature in unit | Push and release the ⌃ and ⌄ together | The display will flash and then toggle from set point to temperature in unit. |
| Toggle between F/C | Hold the ⌃ and ⌄ for five seconds | The display will change units. |

1. **VIEWING ACTUAL TEMPERATURE**

   In viewing temperature in these modes any offsets are taken into account. This means that if you place a thermistor in a known temperature, let’s say ice water, it may not read the 32°F that you would assume. If the control offset was preset at -3°F while you placed the thermistor in an icebath, the actual thermistor reading when viewing actual temperature would read 35°F. In the unit this would cause the cabinet to push itself 3° cooler. To view pure thermistor readings you must go into the service menu and choose the correct option.

   To view the thermistor temperature, push and release the up and down keys. The display will show the corrected refrigerator temperature.

2. **SHOWROOM MODE**

   This mode is designed to show units in a display environment. When in this mode the only functions will be the control and cabinet lights. The compressor, fans, etc. will not operate. To enter this mode hold the light key and the power key for 5 seconds. The display will flash once and beep and the degree symbol will begin to flash. When the degree symbol is flashing the unit will allow the use of the control for demonstrations. The unit can be left in this mode indefinitely. To exit this mode, interrupt power to the unit.

3. **SERVICE MODE**

   This mode has 28 different options available for service diagnostics. To enter the mode hold the hidden key for 10 seconds. The display will show “0.” When in this mode use the up and down arrows to select the desired option. The LIGHT key is the ENTER key and will enter a function. If changing a setting, you must press the LIGHT key again to retain the changed setting. To exit the service mode scroll to option “0” and press the LIGHT key. After five minutes of not touching any keys the mode will also exit automatically.

## Service Mode Guide

| Number | Service Mode Menu Item | To Navigate / Access |
|---|---|---|
| 1 | View thermistor #1 cabinet temp no offsets | Use up/down to access and light bulb key to view |
| 2 | View thermistor #2 evaporator no offsets | Use up/down to access and light bulb key to view |
| 3 | View thermistor #3 ambient no offsets | Does not apply to this model |
| 4 | View thermistor #4 ice maker no offsets | Does not apply to this model |
| 5 | Adjust thermistor #1 offset | Call tech line for assistance 800 779 2547 |
| 6 | Adjust thermistor #2 offset | Call tech line for assistance 800 779 2547 |
| 7 | Adjust thermistor #3 offset | Does not apply to this model |
| 8 | Adjust thermistor #4 offset | Does not apply to this model |
| 9 | View thermistor #2 set point no offsets | Use up/down to access and light bulb key to view |
| 10 | View thermistor #3 set point no offsets | Does not apply to this model |
| 11 | View thermistor #4 set point no offsets | Does not apply to this model |
| 12 | Adjust defrost interval 3 to 12 hours | Up/down to select, light icon to enter and save change |
| 13 | Adjust defrost duration 0 to 99 minutes | Up/down to select, light icon to enter and save change |
| 14 | Display error log | Use up/down to access and light bulb key to view |
| 15 | Clear error log | Use up/down to access and light bulb key to clear |
| 16 | View thermistor #1 differential | Do not make any changes to this |
| 17 | Fan on delay (start of cooling cycle) | Up/down to select, light icon to enter and save change |
| 18 | Fan off delay (after cooling cycle stops) | Up/down to select, light icon to enter and save change |
| 19 | Component testing (see service mode) | Use up/down to access, light bulb icon to toggle on/off |
| 20 | Display programmed model number | Use up/down to access, light bulb icon to display |
| 21 | Light all LED segments of display (test) | Use up/down to access and light bulb key to view |
| 22 | Display defrost cycles in last 24 hours | Use up/down to access and light bulb key to view |
| 23 | Displays last/current compressor run time | Use up/down to access and light bulb key to view |
| 24 | Activate harvest cycle | Does not apply to this model |
| 25 | Restore factory defaults | Use up/down to access and light bulb key to restore |
| 26 | Display control board software version | Use up/down to access and light bulb key to view |
| 27 | Display user interface software version | Use up/down to access and light bulb key to view |
| 28 | Monitor unit function through laptop/PC | Call tech line for assistance 800 779 2547 |
| 0 | To exit service mode | Use up/down to scroll and light bulb icon to exit |

**SERVICE MODE GUIDE**

1. **THERMISTOR 1 — TEMPERATURE**
   This will show the pure thermistor reading with no offsets taken into account. When placed in ice water this thermistor should read 32°F in this menu option.

2. **THERMISTOR 2**
   View thermistor #2 temperature minus the offset.

3. Does not apply to this model.

4. Does not apply to this model.

5. **ADJUST THERMISTOR 1 OFFSET**
   This calibration is only to be used if actual temperature at thermistor #1 is off from set point.

   By adjusting the offset higher we can force the unit to drive the temperature down below the set point. (example: adjusting from 0 to +2 will drop the unit temperature 2 degrees)

   DO NOT MAKE AN ADJUSTMENT TO THIS WITHOUT CONTACTING TECH LINE.

6. **ADJUST THERMISTOR 2 OFFSET**
   Call tech line before adjusting.

7. Does not apply to this model.

8. Does not apply to this model.

9. **VIEW THERMISTOR 2 SET POINT MINUS OFFSET**

10. Does not apply to this model.

11. Does not apply to this model.

12. **DEFROST INTERVAL ADJUST — 3 TO 24 HOURS**
    This will adjust the interval between defrosts from 3 to 24 hours. Adjusting from the factory settings may cause undesired temperature in the refrigerator section.

13. **DEFROST LENGTH ADJUSTMENT — UP TO 99 MINUTES**
    The length of the defrost can be adjusted up to 99 minutes long. The other defrost parameters still apply. Lengthening a defrost may cause higher than normal temperatures in the refrigerator section.

14. **ERROR LOG**
    A list of the errors in the order they occurred will scroll once on the display. Repeat if desired. Once viewed, perform option 15, to clear the errors from memory.

15. **CLEAR ERROR LOG**
    Perform this operation after checking the errors.

16. **ADJUST THERMISTOR 1 DIFFERENTIAL**
    This number should not be adjusted.

17. **FAN DELAY ON=**
    “Fan Delay On” is the amount of time in minutes the fan will be delayed from starting from the beginning of a cooling cycle.

18. **FAN DELAY OFF=**
    “Fan Delay Off” is the amount of time in minutes the fan will continue to run at the end of a cooling cycle.

19. **INDIVIDUAL COMPONENT TOGGLE**

**Relay #2.**...

**Relay #3.** Will start the ice maker module and forward it through a full harvest cycle

**Relay #4.** Will send voltage to the water valve.

**Relay #5.** Will send voltage to the hot gas valve, where applicable.

**Relay #6.** Will send voltage to the 120 volt condenser fan (clr ice only).

**Relay #7.** Will send voltage to the compressor.

**DC OUTPUT #1.** Will energize the light circuit.

**DC OUTPUT #2.** Will energize the evaporator fan circuit, where applicable.

**DC OUTPUT #3.** Will energize the condenser fan circuit (all but CLR ice).

**DC OUTPUT #4.** Secondary cabinet light, where applicable.

20. **MODEL NUMBER DISPLAYED**

Displays the two-digit model number of the specific unit.

21. **LIGHT ALL LED SEGMENTS**

This will illuminate all the LEDs on the display to ensure they work properly.

22. **DEFROST INFORMATION**

Displays the number of defrosts that have occurred in the past 24 hours.

23. **COMPRESSOR RUNTIME BASED ON LAST CYCLE**

This will show the number of minutes the compressor has run in the prior cycle (or current cycle if the compressor was running when service mode was entered).

24. **ACTIVATE DEFROST**

Turns on the hot gas bypass valve allowing hot gas to circulate through the evaporator causing frost to melt.

25. **RESTORE FACTORY DEFAULTS**

Will restore all adjustable functions to their factory settings.

26. **MAIN SOFTWARE**

Displays software version of the main control board.

27. **USER INTERFACE SOFTWARE**

Displays the software version of the user interface.

28. **LIVE LOG PERIOD**

Can be utilized with a laptop or PC to display control functions while unit is running.

**ERRORS**

*All errors are logged in memory.

*Only door error is displayed on the display and has an audible signal.

*For 68118 models, pump error is displayed via alert light with no audible alerts.

**E1:**Thermistor 1 open.

**E2:**Thermistor 2 open.

**E3:**Thermistor 3 open.

**E4:**Thermistor 4 open (Does not apply to this model).

**E5:**Thermistor 1 shorted.

**E6:**Thermistor 2 shorted.

**E7:**Thermistor 3 shorted.

**E8:**Thermistor 4 shorted (Does not apply to this model).

**E9:**Door open error.

**Pi:**Pump Circuit open (Does not apply to this model).

# Control Defaults

| **Default** | **Value** | |
|---|---|---|
| Fahrenheit/Celsius* | °F | °C |
| Defrost Duration Minutes | 45 | |
| Next Defrost Hours | 12 | |
| Thermistor Four OFFSET** | 0 | — |
| Thermistor Three OFFSET** | 0 | — |
| Thermistor Two OFFSET** | 0 | — |
| Thermistor One OFFSET** | -2 | — |
| Thermistor One Differential Up** | 1 | — |
| Thermistor One Differential Down** | 1 | — |
| Thermistor Four Set Point | 0 | -18 |
| Thermistor Three Set Point | 0 | -18 |
| Thermistor Two Set Point | 45 | 7 |
| Refrigeration Set Point | 45 | 7 |
| Light Key | 1 | |
| Has Ice | 0 | |
| Maximum Ice Set Point | 42 | 6 |
| Minimum Ice Set Point | 42 | 6 |
| Maximum Set Point | 65 | 18 |
| Minimum Set Point | 38 | 3 |

* 115V models default to Fahrenheit.
220-240V models default to Celsius.

** Offset and Differential always expressed in °F.

# Thermistors

Thermistors are used for various temperature readings. Thermistors provide reliable temperature readings using a resistance which varies based on surrounding temperatures. If a faulty thermistor is suspected it may be tested using an accurate ohmmeter.

**THERMISTOR FAILURE**

**Zone Thermistors**

If the zone thermistor in the unit fails the unit will continue to cool in a back up mode to preserve the integrity of the contents. The unit will cycle on for five minutes, then shut down for forty five minutes. The process will repeat until the problem is corrected. All other functions of the unit will continue to operate normally.

**Evaporator Thermistors**

If an evaporator thermistor fails the unit will rely on a preset defrost timer during defrost cycles. The unit will otherwise operate normally. Evaporator thermistor errors are recorded in service mode “Error Log.”

**Ambient Thermistor**

The ambient thermistor is mainly used for diagnostics. If the thermistor fails, the unit will operate normally.

This unit has three thermistors. Thermistor one is located along the right hand side wall. It is used to maintain the operating temperature within the unit.

Thermistor two is located on the back of the evaporator. It is used for defrost purposes.

Thermistor three is located by the condenser and is used mainly for diagnostics.

All three of the thermistors in the unit are identical. If a thermistor is suspected of being defective it can be OHMed out. In an ice water bath the thermistor should OHM out at 16.1k OHMS +/-5%.

Thermistor connections must be kept clean. A thermistor connection that has become corroded can cause resistance values from the thermistor to change as they pass through a dirty connection to the board.

It is for that reason that we apply die electric grease to all of our thermistor connections. Die electric grease will help to keep thermistor connections clean and dry.

If you change a thermistor in the unit please re-apply die electric grease to the connection. If you encounter a dirty thermistor connection, you should replace the thermistor and the thermistor harness.

Thermistor Resistance Data

| Temp (F) | Temp (C) | Nominal Resistance (OHMS)* |
|---|---|---|
| -40 | -40 | 169157 |
| -31 | -35 | 121795 |
| -22 | -30 | 88766 |
| -13 | -25 | 65333 |
| -4 | -20 | 48614 |
| 5 | -15 | 36503 |
| 14 | -10 | 27681 |
| 23 | -5 | 21166 |
| 32 | 0 | 16330 |
| 41 | 5 | 12696 |
| 50 | 10 | 9951 |
| 59 | 15 | 7855 |
| 68 | 20 | 6246 |
| 77 | 25 | 5000 |
| 86 | 30 | 4029 |
| 95 | 35 | 3266 |
| 104 | 40 | 2665 |
| 113 | 45 | 2186 |
| 122 | 50 | 1803 |
| 131 | 55 | 1495 |
| 140 | 60 | 1247 |
| 149 | 65 | 1044 |
| 158 | 70 | 879 |
| 167 | 75 | 743 |
| 176 | 80 | 631 |

* (=/-5%)

## Defrost

These units are frost free technology

| **Model** | **Hrs Between Defrost Time** | **Length/ Minutes** | **Stop Point** |
|---|---|---|---|
| 2218R/WC | 12 | 45 | 42 |
| 2224BEV/R/WC | 12 | 45 | 42 |
| 3018R/WC | 12 | 45 | 40 |
| 1224DWR | 12 | 45 | 42 |
| 1224WC | 12 | 45 | 45 |
| 3024DWR/FZR/BEV/R | 12 | 42 | 40 |
| 3036BVWC/RR/WCWC | 12 | 42 | 40 |
| C01224F | 12 | 18 | 42 |
| C029F | 12 | 18 | -- |
| 1224RF | 12 | 18 | 42 |

# Remove Fan and Cover

**CONVECTION COOLING**

This unit is equipped with an advanced convection cooling system. Convection cooling stabilizes cabinet temperature, cools product faster and increases energy efficiency.

**Evaporator Fan**

The evaporator fan is responsible for circulating warm air from the refrigeration zone, past the evaporator and back into the refrigerated zone.

The evaporator fan is factory set to have a 1 minute delay at the beginning of a cooling cycle. This delay gives the evaporator time to cool properly before warm air is passed over it. The fan will continue to run for an additional 2 minutes at the end of a cooling cycle. Fan delay times can be modified through the service menu.

Evaporator fan operation is also determined by door switch state. If the door switch circuit opens, the fan will stop. When the door switch circuit is closed the fan will either continue running with the cooling cycle, or if not currently cooling, the fan will run for 1 minute to circulate air and clear any condensation that may have appeared on glass doors and shelves.

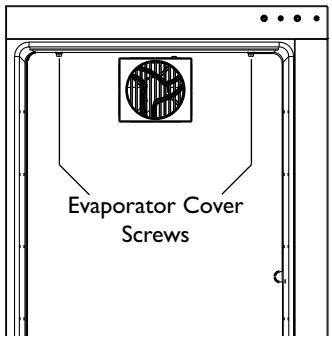
*Note:* If the unit is set to sabbath mode, the evaporator fan will no longer respond to the state of the door switch.

In order to operate efficiently, the evaporator fan blade and vents should be unobstructed and free of any dust buildup.

**Evaporator Fan Replacement**

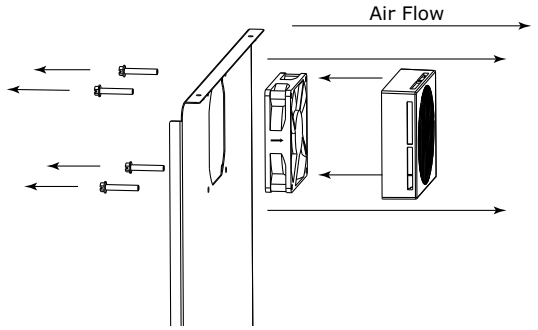
Should the evaporator fan need to be replaced follow the steps below.

1. Remove any product from the unit.
2. Uninstall unit.
3. Disconnect power to the unit.
4. Remove rear cover from unit.
5. Disconnect fan electrical connection at rear of unit.
6. Remove insulating foam from refrigerant line pass-through hole as needed to gain clearance for fan plug.
7. Remove internal wine racks.
8. Remove the mounting screws from the rear only of the slide assemblies. The slides can pivot down from the front mounting screws providing ample space to remove evaporator cover.
9. Remove thermistor cover.
10. Remove two evaporator cover screws from top of evaporator cover.




11. Grasp evaporator cover, pull the top forward and up as bottom of cover is installed behind the front edge of the drain trough.
12. While pulling the evaporator cover clear of the unit, it may be necessary to use your free hand to manipulate the fan plug end through the pass-through hole.

13. Remove the 4 screws mounting the fan shroud to the evaporator cover.




14. Remove and replace fan. Take special care to properly route fan wire.

**NOTICE**

**Fan must be oriented to pull air in through lower evaporator cover vents and push air out at fan mounting location.**

15. Installation is the reverse of removal.

16. Care must be taken to assure the bottom of the evaporator cover is reinstalled behind the front edge of the drain trough.

17. Use sealant gum to seal any openings at rear of unit before reinstalling rear cover.

18. Reinstall unit taking care to level, space and secure as found.

# U-Line Corporation (U-Line) Limited Warranty

## One Year Limited Warranty

For one year from the date of original purchase, this warranty covers all parts and labor to repair or replace any part of the product that proves to be defective in materials or workmanship. For products installed and used for normal residential use, material cosmetic defects are included in this warranty, with coverage limited to 60 days from the date of original purchase. All service provided by U-Line under the above warranty must be performed by a U-Line factory authorized servicer, unless otherwise specified by U-Line. Service provided during normal business hours.

## Two Year Limited Warranty (5 Class Product)

For two years from the date of original purchase, this warranty covers all parts and labor to repair or replace any part of the product that proves to be defective in materials or workmanship. For products installed and used for normal residential use, material cosmetic defects are included in this warranty, with coverage limited to 60 days from the date of original purchase. All service provided by U-Line under the above warranty must be performed by a U-Line factory authorized servicer, unless otherwise specified by U-Line. Service provided during normal business hours.

## Available Second & Third Year Limited Warranty

In addition to the standard one and two year warranties outlined above, U-Line offers a one year extension of the warranties from the date of purchase, free of charge. To take advantage of this extension, you must register your product with U-Line within 60 days from the date of purchase at u-line.com and provide proof of purchase. Nugget Ice Machine proof of purchase must include the purchase of an in-line water filter and filter head to qualify for this additional limited warranty.

## Five Year Sealed System Limited Warranty

For five years from the date of original purchase, U-Line will repair or replace the following parts, labor not included, that prove to be defective in materials or workmanship: compressor, condenser, evaporator, drier, and all connecting tubing. All service provided by U-Line under the above warranty must be performed by a U-Line factory authorized servicer, unless otherwise specified by U-Line. Service provided during normal business hours.

## Terms

These warranties apply only to products installed in any one of the fifty states of the United States, the District of Columbia, or the ten provinces of Canada. The warranties do not cover any parts or labor to correct any defect caused by negligence, accident or improper use, maintenance, installation, service, repair, acts of God, fire, flood or other natural disasters. The product must be installed, operated, and maintained in accordance with your product's User Guide.

The remedies described above for each warranty are the only ones that U-Line will provide, either under these warranties or under any warranty arising by operation of law. U-Line will not be responsible for any consequential or incidental damages arising from the breach of these warranties or any other warranty, whether express, implied, or statutory. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. These warranties give you specific legal rights, and you may also have other rights which vary from state to state.

Any warranty that may be implied in connection with your purchase or use of the product, including any warranty of *merchantability* or any warranty *fit for a particular purpose* is limited to the duration of these warranties, and only extends to five years in duration for the parts described in the section related to the five year limited warranty above. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

- The warranties only apply to the original purchaser and are non-transferable.
- The second, third, and five year warranties cover products installed and used for normal residential or designated marine use only.
- The warranties apply to units operated outside only if designed for outdoor use by model and serial number.
- U-Line Commercial products are covered by the one year and 5 year limited warranties and are not eligible for the second and third year limited warranties.
- Replacement water filters, light bulbs, and other consumable parts are not covered by these warranties.
- The start of U-Line's obligation is limited to four years after the shipment date from U-Line.
- In-home instruction on how to use your product is not covered by these warranties.
- Food, beverage, and medicine loss are not covered by these warranties.
- If the product is located in an area where U-Line factory authorized service is not available, you may be responsible for a trip charge or you may be required to bring the product to a U-Line factory authorized service location at your own cost and expense.
- Units purchased after use as floor displays, and/or certified reconditioned units, are covered by the limited one year warranty only and no coverage is provided for cosmetic defects.
- Signal issues related to Wi-Fi connectivity are not covered by these warranties.

For parts and service assistance, or to find U-Line factory authorized service near you, contact U-Line:
8900 N. 55th Street, Milwaukee, WI 53223 • u-line.com • onlineservice@u-line.com • +1.414.354.0300

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