USER GUIDE & SERVICE MANUAL

U-LINE

Model: U-1224WCINT-00A

USER GUIDE & SERVICE MANUAL

Click on any section below to jump directly there

Table of Contents

USER GUIDE

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
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Milwaukee, Wisconsin 53223 USA
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Service Email: onlineservice@u-line.com
Parts Email: onlineparts@u-line.com

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Designed, engineered and assembled in WI, USA

USER GUIDE

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.

USER GUIDE

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).

USER GUIDE

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.

USER GUIDE

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.
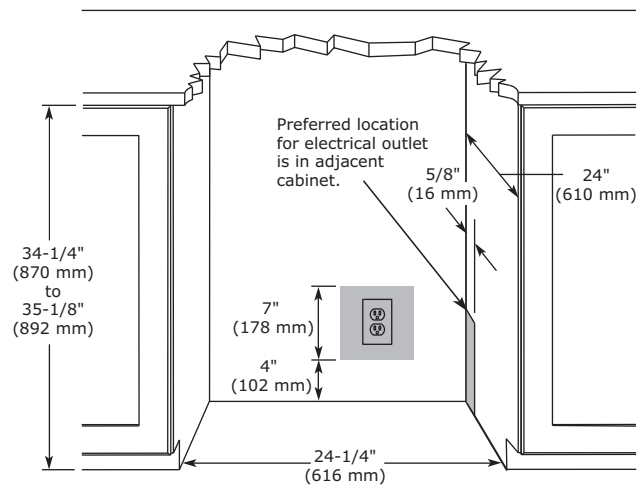
USER GUIDE

Cutout Dimensions

PREPARE SITE

Your U-Line product has been designed for either free-standing or built-in installation. When built-in, your unit does not require additional air space for top, sides, or rear. However, the front grille must NOT be obstructed, and clearance is required for an electrical connection in the rear.

⚠️ **CAUTION**

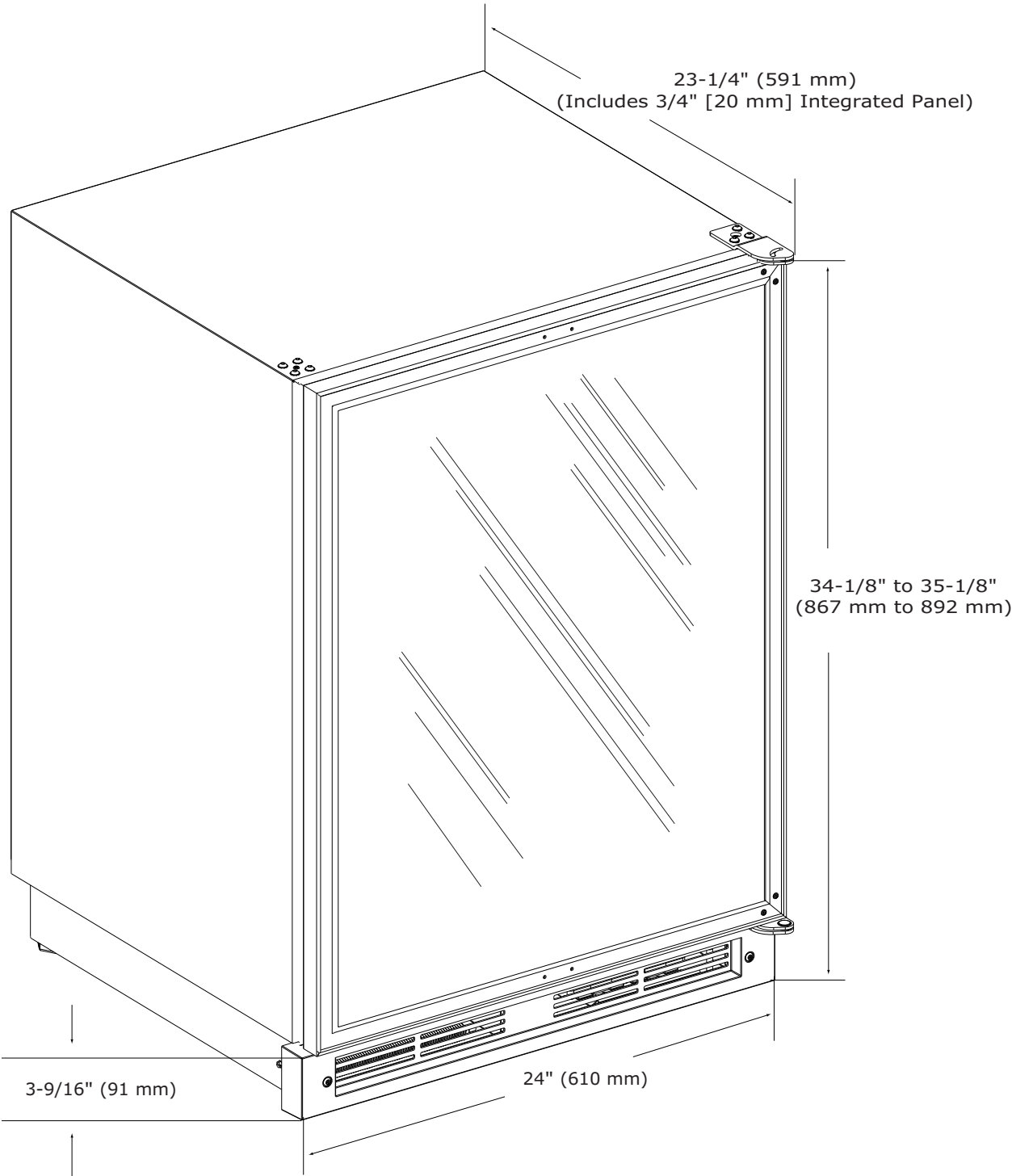**Unit can NOT be installed behind a closed cabinet door.**

CUTOUT DIMENSIONS

USER GUIDE

Product Dimensions

23-1/4" (591 mm)
(Includes 3/4" [20 mm] Integrated Panel)

34-1/8" to 35-1/8"
(867 mm to 892 mm)

3-9/16" (91 mm)

24" (610 mm)

USER GUIDE

Side-by-Side Installation

Two units may be installed side-by-side.

Cutout width for a side-by-side installation is the cutout dimension of a single unit times two.

No trim kit is required. However, 1/4" (6 mm) of space needs to be maintained between the units to ensure unobstructed door swing.

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

Side-by-Side Installation with Bracket

1. Slide both units out so screws on top of units are easily accessible.
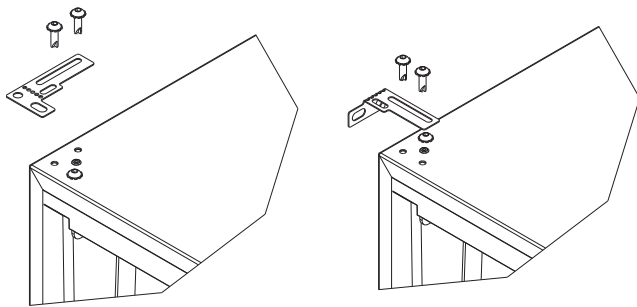
2. Remove screws as shown below.

3. Place bracket over holes and attach to unit with two screws removed in step 2 using a T-25 Torx driver. Tighten screws fully.

4. Gently push units into position. Be careful not to entangle the electrical cord or water line, if applicable.

5. 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.

USER GUIDE

Anti-Tip Bracket

1. Slide unit out so screws on top of unit are easily accessible.

2. Remove the two screws from the opposite side of the hinge assembly using a T-25 Torx driver (see below).

NOTE: 1224 models shown with four screws. 1215 models only have three screws, but same screws are used in both applications.


3. Place bracket (part #14154) over holes and attach to unit with two screws removed in step 2 using a T-25 Torx driver. Tighten screws fully.

4. Gently push unit into position. Be careful not to entangle the electrical cord or water line, if applicable.

5. Check to be sure the unit is level 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.

6. Secure bracket into adjoining surface.

FLOOR MOUNTED ANTI-TIP INSTALLATION

1. Locate two anti-tip brackets included in the kit.

2. Place the unit into the area where it will be installed. Check the door, sides, and top for a proper fit. Also test to make sure the door opens and closes freely.

3. Remove grille and place a mark on the floor at the front of the unit. Also place a mark on the floor in the center of the unit.
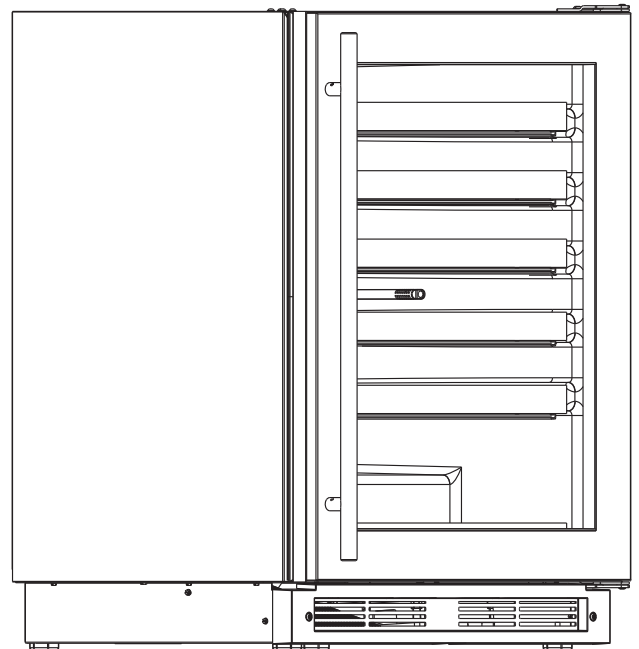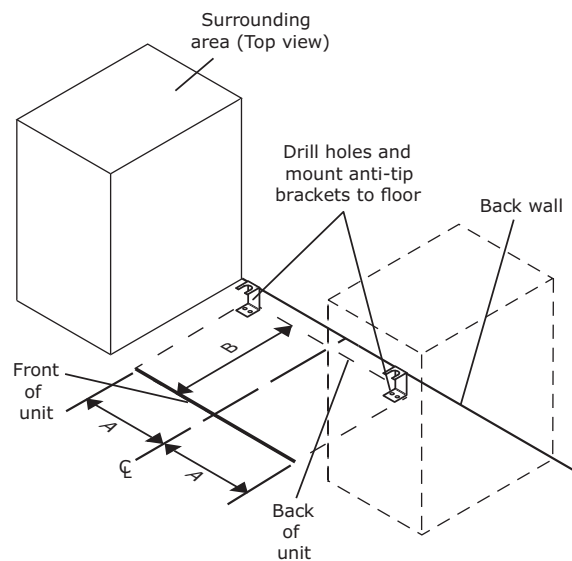
4. Remove the unit. Using a square, extend center line "B" (see chart below). This line serves as the back edge for the anti-tip brackets. From the center line, measure "A" to the left and right. This line is the outer edge of each bracket.

Surrounding area (Top view)

Back of unit

Back wall

Front of unit
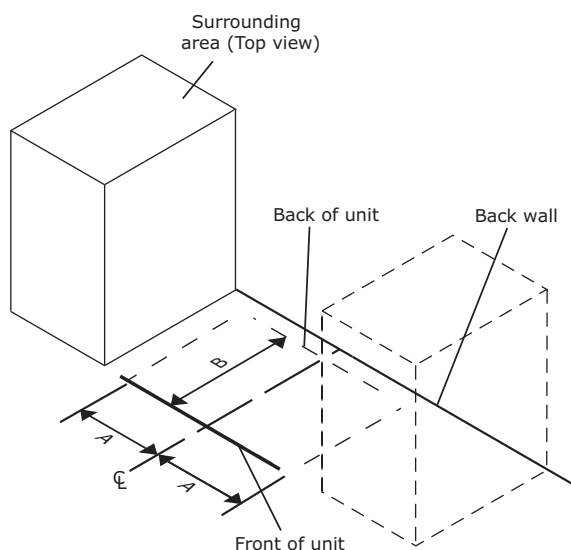
	1024/1224 WC	1215 WC
A	11-1/16" (281 mm)	6-9/16" (167 mm)
B	20-1/4" (514 mm)	20-1/4" (514 mm)

5. Place the anti-tip brackets on the floor against the line drawn for the outer edge. Mark spots for the screw holes.


Surrounding area (Top view)

Drill holes and mount anti-tip brackets to floor

Back wall

Front of unit

Back of unit

	1024/1224 WC	1215 WC
A	11-1/16" (281 mm)	6-9/16" (167 mm)
B	20-1/4" (514 mm)	20-1/4" (514 mm)

6. Use a 1/8" drill to make two starter holes and fasten the anti-tip brackets to the floor using the screws provided.

7. Place the unit back into position, making sure the feet engage the anti-tip brackets properly. Check the alignment of the lines made on the floor in step 3 with the position of the front feet to ensure proper positioning.
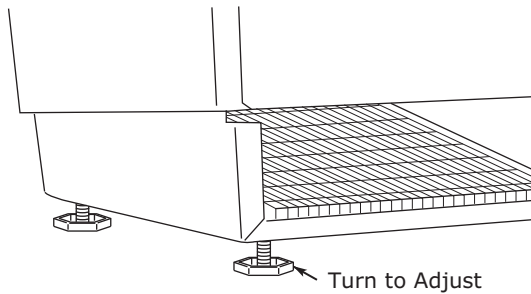
Anti-Tip Bracket 2

USER GUIDE

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.
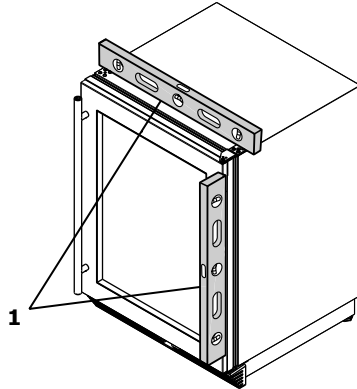
2. If the unit is not level, adjust the legs on the corners of the unit as necessary.

Turn to Adjust

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

USER GUIDE

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.

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.

When applying an integrated panel 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.

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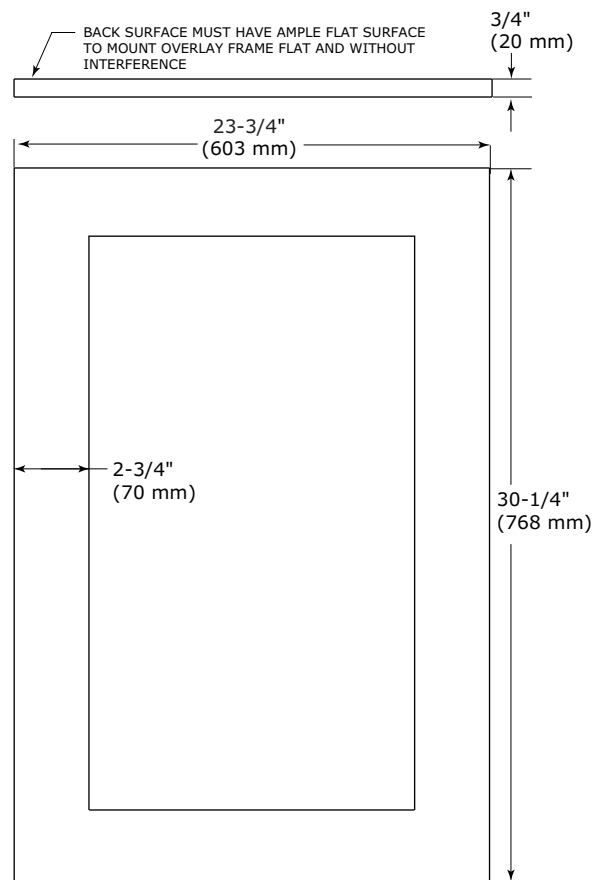
Integrated Frame Preparation

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.

Integrated Frame Dimensions

BACK SURFACE MUST HAVE AMPLE FLAT SURFACE TO MOUNT OVERLAY FRAME FLAT AND WITHOUT INTERFERENCE

3/4" (20 mm)

23-3/4" (603 mm)

2-3/4" (70 mm)

30-1/4" (768 mm)

Integrated Frame

QUICK START GUIDE (Amended)

Integrated Panel Installation

1. Fully open door/drawer.

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

3. Continue to pull gasket free from gasket channel.

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

5. Partially loosen the 3 screws, securing the top hinge to the cabinet.

6. Align the panel with the outside edge (opposite the hinge) and high enough to align with the highest point in the door/drawer.

7. Insert panel underneath top hinge and apply upward pressure while bringing the lower portion of the panel flush to the door inside the lower hinge. The panel will fit snuggly
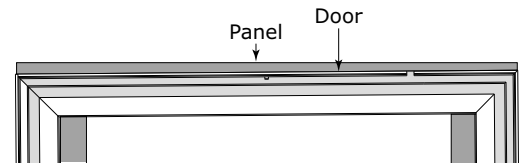
8. Align door with cabinet. Tighten the top 3 screws, securing the top hinge to the cabinet.

Align Top Of Panel With Highest Point Of Door/Drawer

Align Panel Against Door/Drawe Edge First
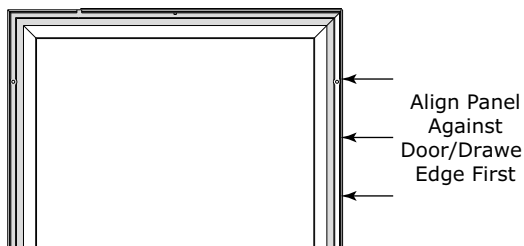
NOTICE

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

Panel   Door

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

Bar Clamp

Door/Drawer

Wood Panel

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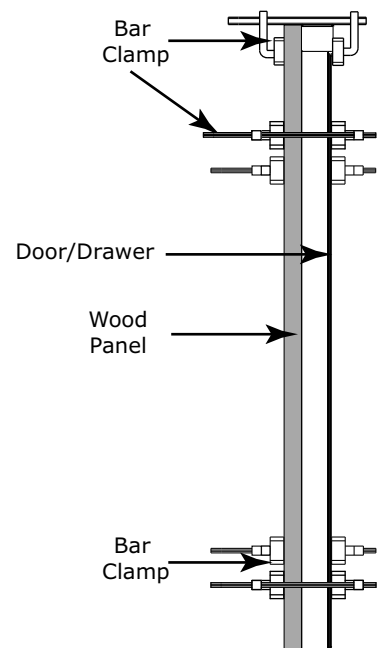
10. Using a 7/64" (3 mm) drill bit, drill 6 pilot holes into the wood panel 1/2" (12 mm) deep using the holes in the door/drawer frame as a guide.

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.

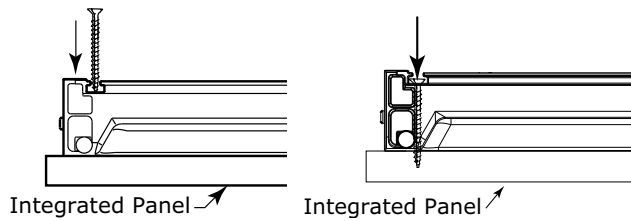11. Locate 6 of the #6x 1-1/4" (32 mm) screws provided with your unit.

USER GUIDE

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

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

Integrated Panel   Integrated Panel

14. Remove clamps from door/drawer.

NOTICE

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

15. 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.

Integrated Panel Installation 2

USER GUIDE

Grille - Plinth Installation

REMOVING AND INSTALLING GRILLE

⚠ **WARNING**

Disconnect electric power to the unit before removing the grille.

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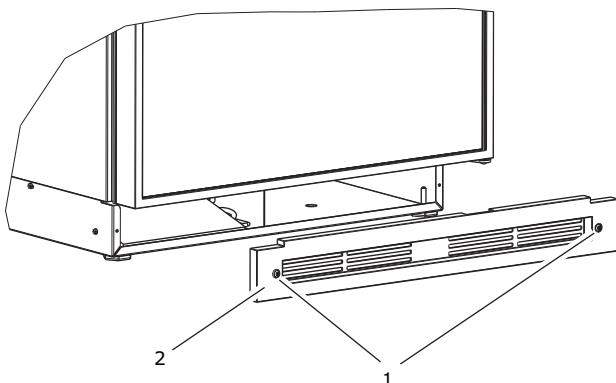
⚠ **WARNING**

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

Removing the grille

1. Disconnect power to the unit.

2. Loosen the two screws (1).

3. Remove grille (2) from unit.

Installing the grille

1. Align cabinet and grille holes and secure, but do not over tighten grille screws (1).

2. Reconnect power to the unit.

USER GUIDE

Door Swing
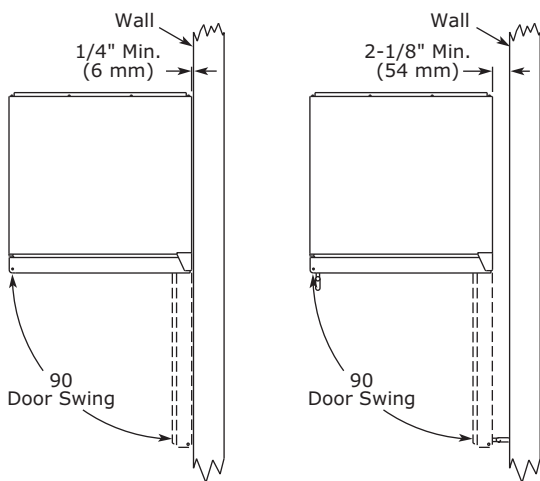
Units have a zero clearance for the door to open 90°, when installed adjacent to cabinets.

Stainless Steel and black and white models require 2-1/8" (54 mm) door clearance to accommodate the handle if installed next to a wall.

Integrated models require 1/4" (6 mm) clearance if installed next to a wall. Allow for additional space for any knobs or pulls installed on the integrated panel/frame.

USER GUIDE

Door Stop

Your U-Line unit was shipped to you with the optional 90° pin(s). (Models that are 15" wide include 1 pin. Models that are 24" wide include 2 pins.) The unit's door will open freely without a fixed opening angle limitation. If you would like the door stop at 90° follow these instructions.

NOTICE

The pin is designed to stop the door at 90° under normal operating conditions. It is not designed for excessive force. Do not use the door to move the unit in/out of the cutout during installation.

If your unit is already undercounter, it might need to be moved out/forward to access the hinge.

1. Locate the threaded pin.

2. With the door between 0° (closed) and 90° and using a 3/32" hex driver, install the threaded pin through the hinge.
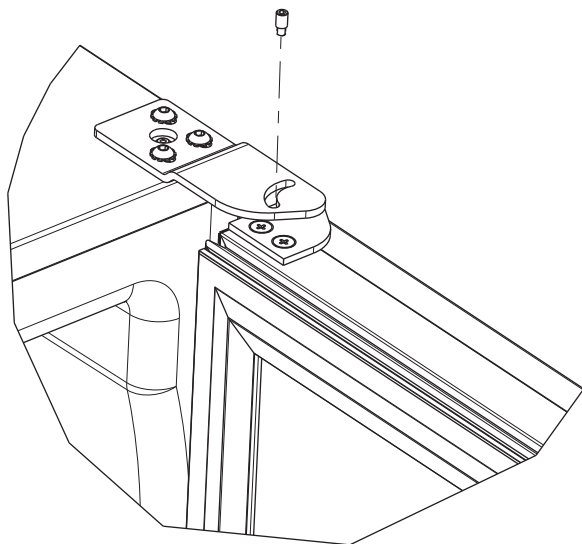
3. On 24" models, a second pin is included for the bottom hinge. Repeat steps above for second hinge.

NOTE: Threaded pin will be inserted from the bottom.
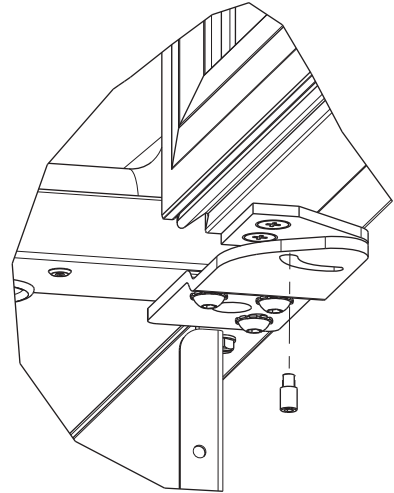
4. Carefully slide your unit back in place.

NOTICE

The pin can be removed to return the door swing back to its original state by unscrewing the threaded pin.

USER GUIDE

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 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.

To align and adjust the door:

1. Remove grille (see GRILLE-PLINTH INSTALLATION).

2. Loosen (do not remove) top and bottom hinge screws.

3. Align door squarely with cabinet.

4. Make sure gasket is firmly in contact with cabinet all the way around the door (no gaps).

5. Tighten bottom hinge screws.

6. Tighten top hinge screws.

REVERSING THE DOOR

Location of the unit may make it desirable to mount the door on the opposite side of the cabinet.

The hinge hardware will be removed and installed on the opposite side of the cabinet.
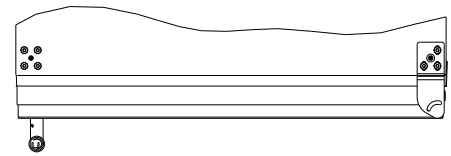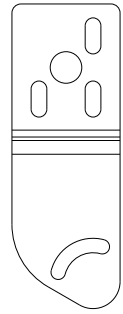
TO REVERSE THE DOOR

Remove grille:

Remove the grille (see GRILLE-PLINTH INSTALLATION section of this guide).

Remove door:

1. Hold door to keep it from falling.

2. Remove top hinge from cabinet by removing three screws.
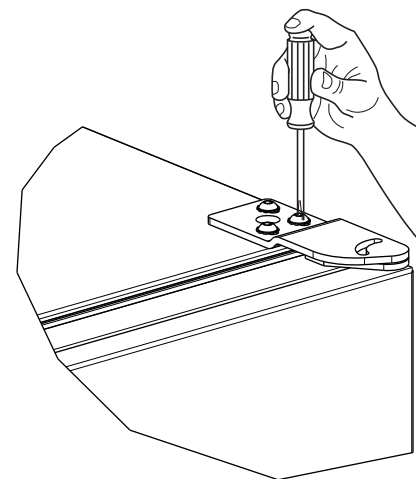
Door Adjustments 1

USER GUIDE

3. Remove bottom hinge from cabinet by removing three screws. Support the door and hinge assembly and remove it from the cabinet.
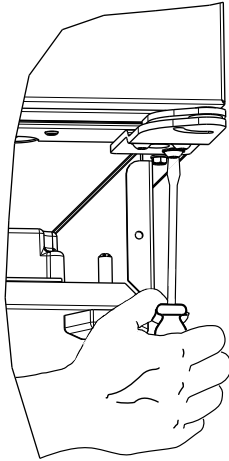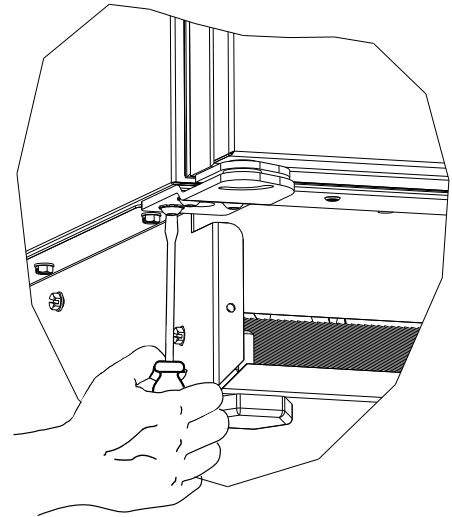
4. Remove four screws from hinge holes on the opposite side. Reinstall into holes where the hinge was removed. Take care not to scratch cabinet.

5. Repeat for cabinet base.

Prepare door for reinstallation:

1. Rotate door 180° to reverse.

2. Align the flat edge of the hinge with the outer edge of the cabinet.

3. Hold door to keep from falling.

4. Tighten three screws.

5. Align flat edge of the hinge with the outer edge of the unit.

6. Tighten three screws.

Door Adjustments 2

USER GUIDE

SHIFTING WINE RACK SPACERS (OPTIONAL)

NOTICE
Only perform these steps if you require wine rack clearance with a 90° door opening. Doors which are allowed to open past 90° do not require this step.

1. Remove wine rack (see WINE RACK INSTALLATION in Maintenance).

2. Starting from the side that has the spacers (previously unaltered units will be on the right hand side from the factory), remove 2 screws, slide and spacer.
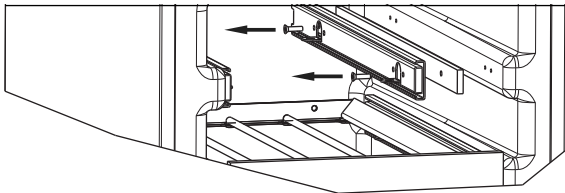
3. Reinstall the slide with the original 2 screws.
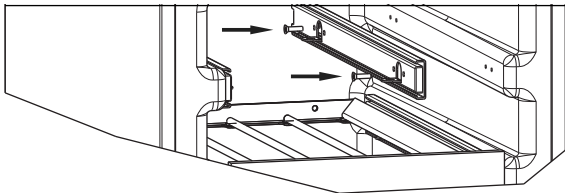
4. Remove 2 screws from the other side.
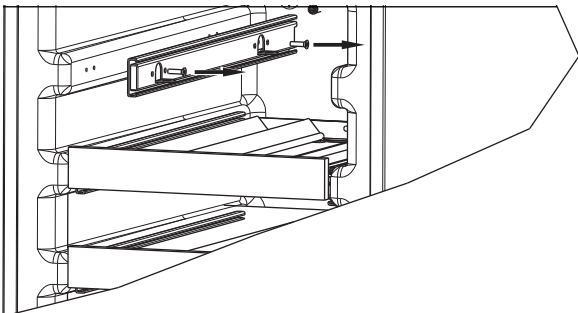
5. Place the spacer in between the liner and slide.
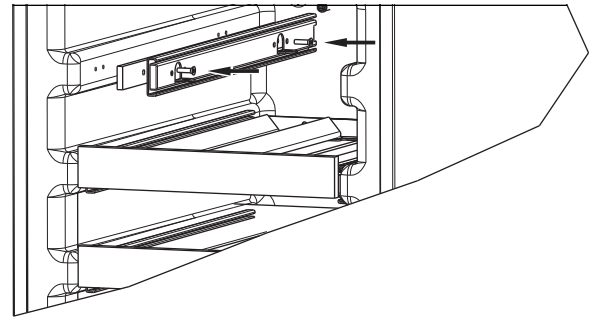
6. Install original hardware.

7. Slide wine rack back into position.

Align and adjust the door:
Align and adjust the door (see DOOR ALIGNMENT AND ADJUSTMENT).

Install grille:
Install the grille.

Door Adjustments 3

USER GUIDE

Free Standing Kit

The free standing kit is an optional accessory (ULAFREESTANDS). It is only used when unit is not installed in surrounding cabinetry. Available at u-line.com

To install the kit:

1. Remove grille (see GRILLE-PLINTH INSTALLATION section).
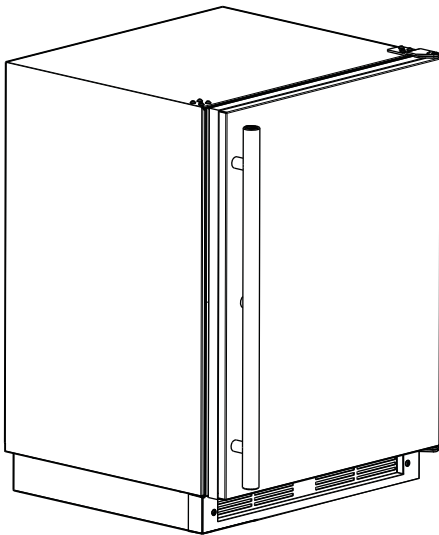
2. Place shell accessory over front and back of cabinet base, aligning holes of shell accessory with the holes on the base. Insert sheet metal screw in back of base.
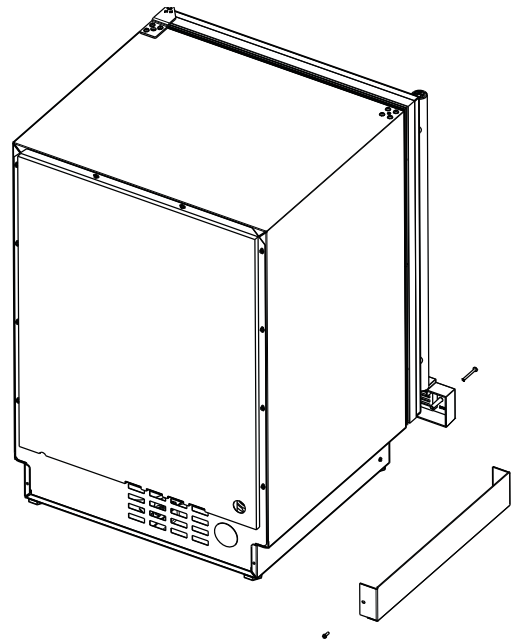
3. Align front hole with hole in shell accessory, hole in base, and hole in grille. Tighten screw.

USER GUIDE
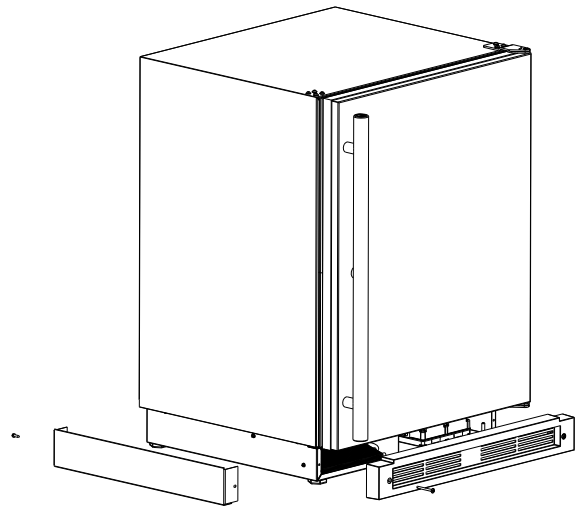
First Use

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 ⏻.

USER GUIDE

Control Operation
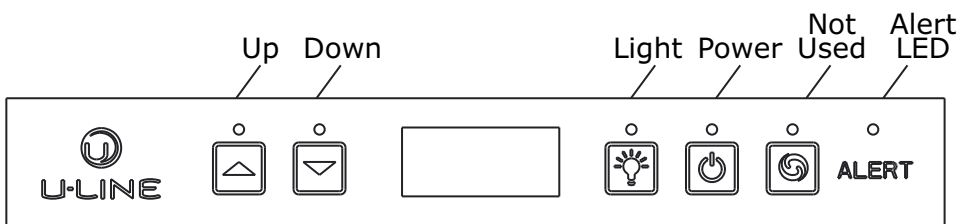
CONTROL FUNCTION GUIDE

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.

USER GUIDE
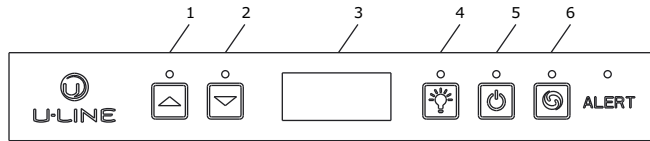
Sabbath Mode

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.

USER GUIDE

Airflow and Product Loading

NOTICE

The unit requires proper airflow to perform at its highest efficiency. Do not block the front grille, or the unit will not perform as expected. Do not install the unit behind a door. When loading your unit, leave space between the evaporator and product loaded. Anything in direct contact with the evaporator is subject to freezing.

When properly loaded, your U-Line unit will store up to 48 (750 ml) bottles of wine.

Airflow and Product Loading 1
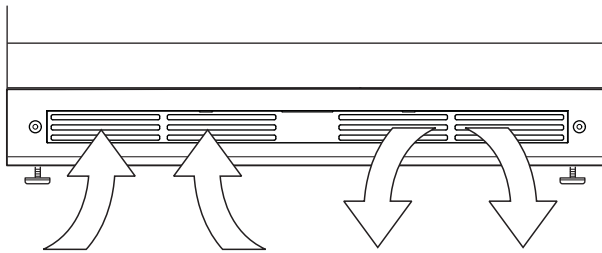
U-Line Wine Guide

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 French Italian	Zinfandel, Cabernet Rhone, Chateauneuf-du-Pape Barbaresco, Barolo
Medium-Bodied Dry	California French	Pinot Noir Bordeaux, Burgundy
Light-Bodied Dry	French Italian	Beaujolais Chianti, Bardolino
White Wines		
Full-Bodied Dry	California French	Chardonnay Montrachet, Meursault Puligny-Montrachet
Medium-Bodied Dry	California French	Sauvignon-Blanc Pouilly-Fuisse, Sancerre, Vouvray, Graves
Light-Bodied Dry	French	Chablis, Muscadet, Pouilly-Fume
Full-Bodied, Very Sweet	Germany French Hungary	Beerenauslese Sauternes Tokay
Medium-Bodied, Semi-Sweet	California 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.

USER GUIDE

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.

USER GUIDE

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.

USER GUIDE

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.

USER GUIDE

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:

Use These Racks For Larger Diameter Bottles & Champange
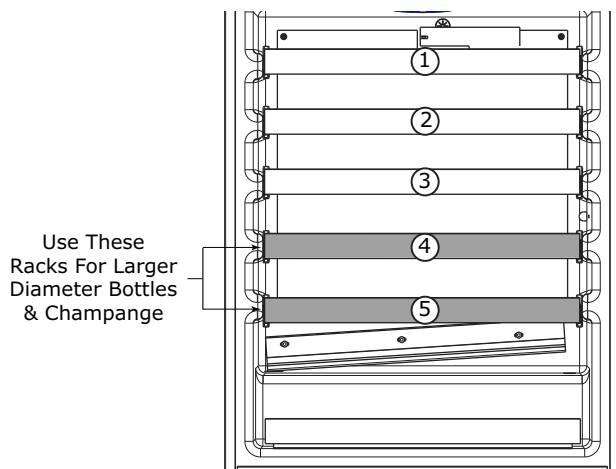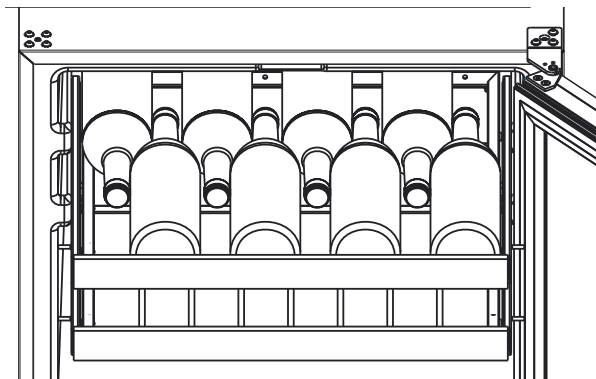
NOTE: After stocking, allow unit to stabilize product temperatures for 24 hours.

USER GUIDE

Cleaning

EXTERIOR CLEANING

Vinyl Clad (Black or White)

Clean surfaces with a mild detergent and warm water solution. Do not use solvent-based or abrasive cleaners. Use a soft sponge and rinse with clean water. Wipe with a soft, clean towel to prevent water spotting.

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

Stainless Models

Stainless door panels, handles and frames 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 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 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 interior.

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.

Cleaning 1

USER GUIDE

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, place towels or other absorbent materials over the interior drain trough (under the evaporator) before defrosting.

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 2

USER GUIDE

Cleaning Condenser

INTERVAL - EVERY SIX MONTHS

To maintain operational efficiency, keep the front grille 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 power to the unit before cleaning the condenser.

⚠ **WARNING**

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

NOTICE

DO NOT use any type of cleaner on the condenser unit.

1. Remove the grille.

2. Clean the condenser coil using a using a soft brush with a "combing" action or vacuum cleaner.

3. Install the grille.

Condenser

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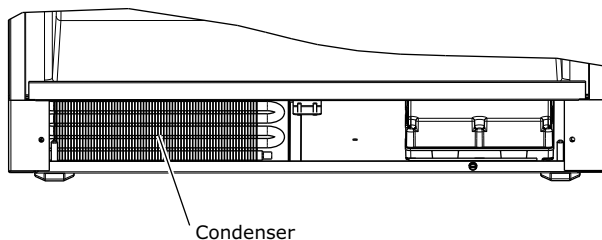
Wine Rack Installation

To remove rack from the cabinet:

1. Remove any bottles stored on the rack.

2. Grasp the end of the rack and gently slide it out until it stops.
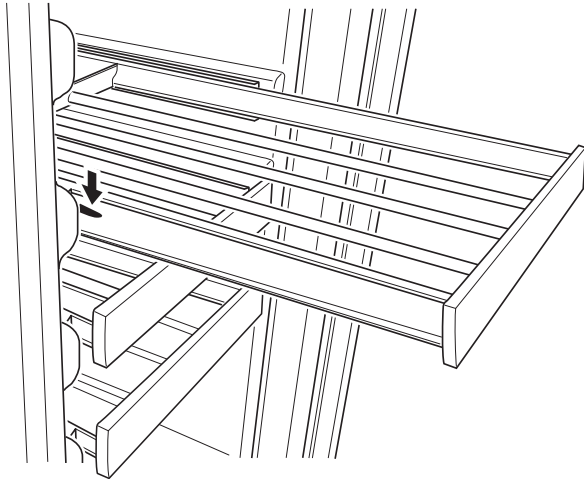
3. Press the left rack release lever down. At the same time, lift the matching right rack release lever up. Pull the rack out until it is free of the tracks and the cabinet.

NOTICE
Do not remove the track rails from the cabinet.

To insert rack 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.

Wine Rack Installation 1

USER GUIDE

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.

USER GUIDE

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
Interior Light Does Not Illuminate.	If the unit is cooling, it may be in Sabbath mode.
Light Remains on When Door Is Closed.	Turn off light switch if equipped. Adjust light actuator bracket on bottom of door.
Unit Develops Frost on Internal Surfaces.	Frost on the rear wall is normal and will melt during each off cycle. If there is excessive build-up of 1/4" or more, manually defrost the unit. Ensure the door is closing and sealing properly. 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.
Product Is Freezing.	Because product in contact with the rear wall may freeze, ensure no product is touching the rear wall. Adjust the temperature to a warmer set point.

USER GUIDE

Problem	Possible Cause and Remedy
Product Is Not Cold Enough.	Air temperature does not indicate product temperature. See CHECKING PRODUCT TEMPERATURE below.
	Adjust the temperate to a cooler set point.
	Ensure unit is not located in excessive ambient temperatures or in direct sunlight.
	Ensure the door is closing and sealing properly.
	Ensure the interior light has not remained on too long.
	Ensure nothing is blocking the front grille, found at the bottom of the unit.
	Ensure the condenser coil is clean and free of any dirt or lint build-up.

CHECKING PRODUCT TEMPERATURE
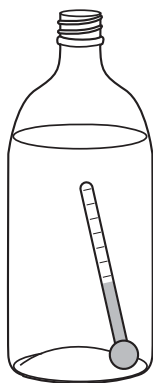
To check the actual product temperature in the unit:

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.)

• Obstruction of front grille or condenser.

USER GUIDE

Wire Diagram

USER GUIDE
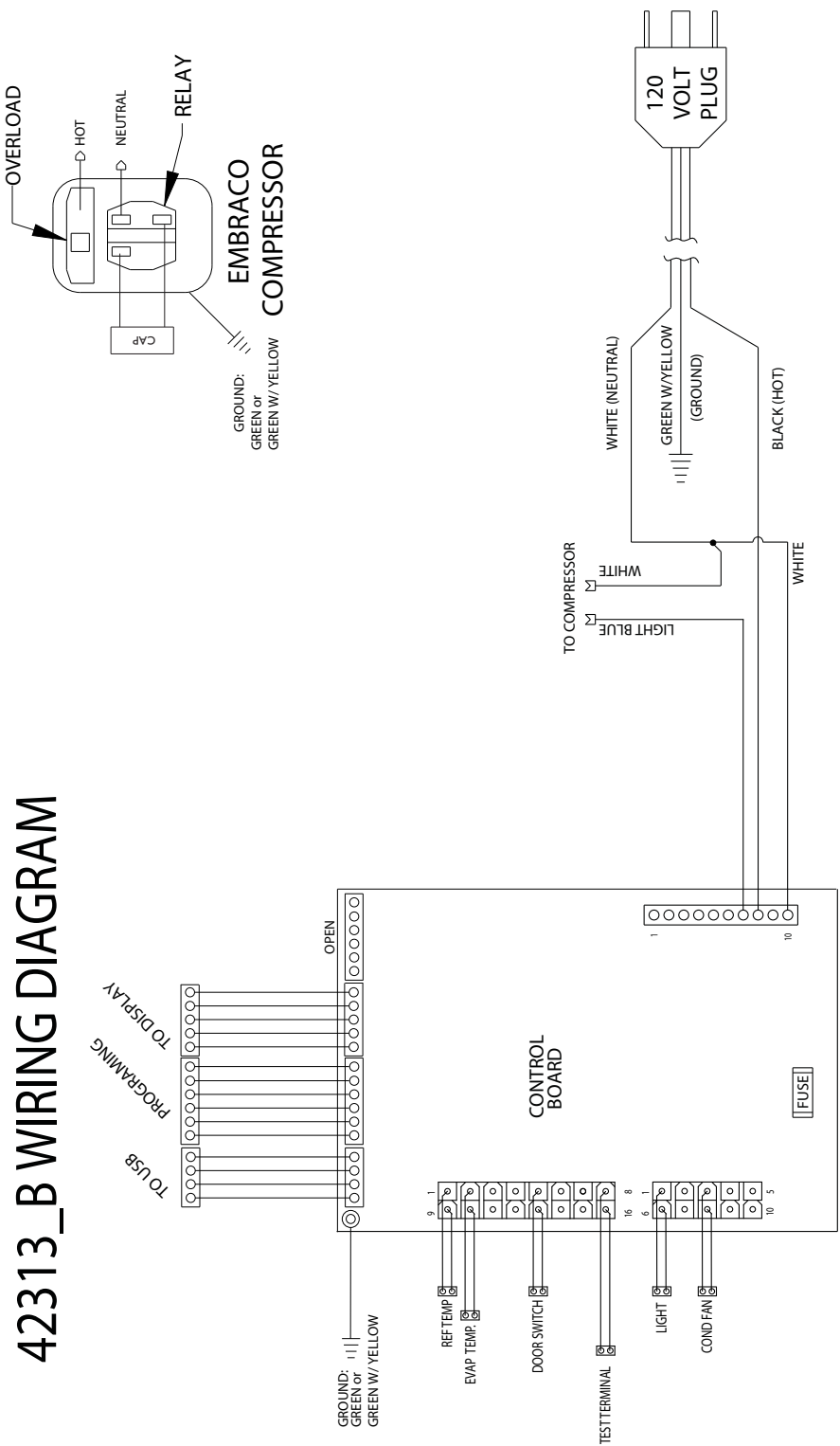
Product Liability

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.**

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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:

<u>**14**</u> <u>**30911**</u> <u>**12**</u> <u>**XXXX**</u>

Year   Month

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
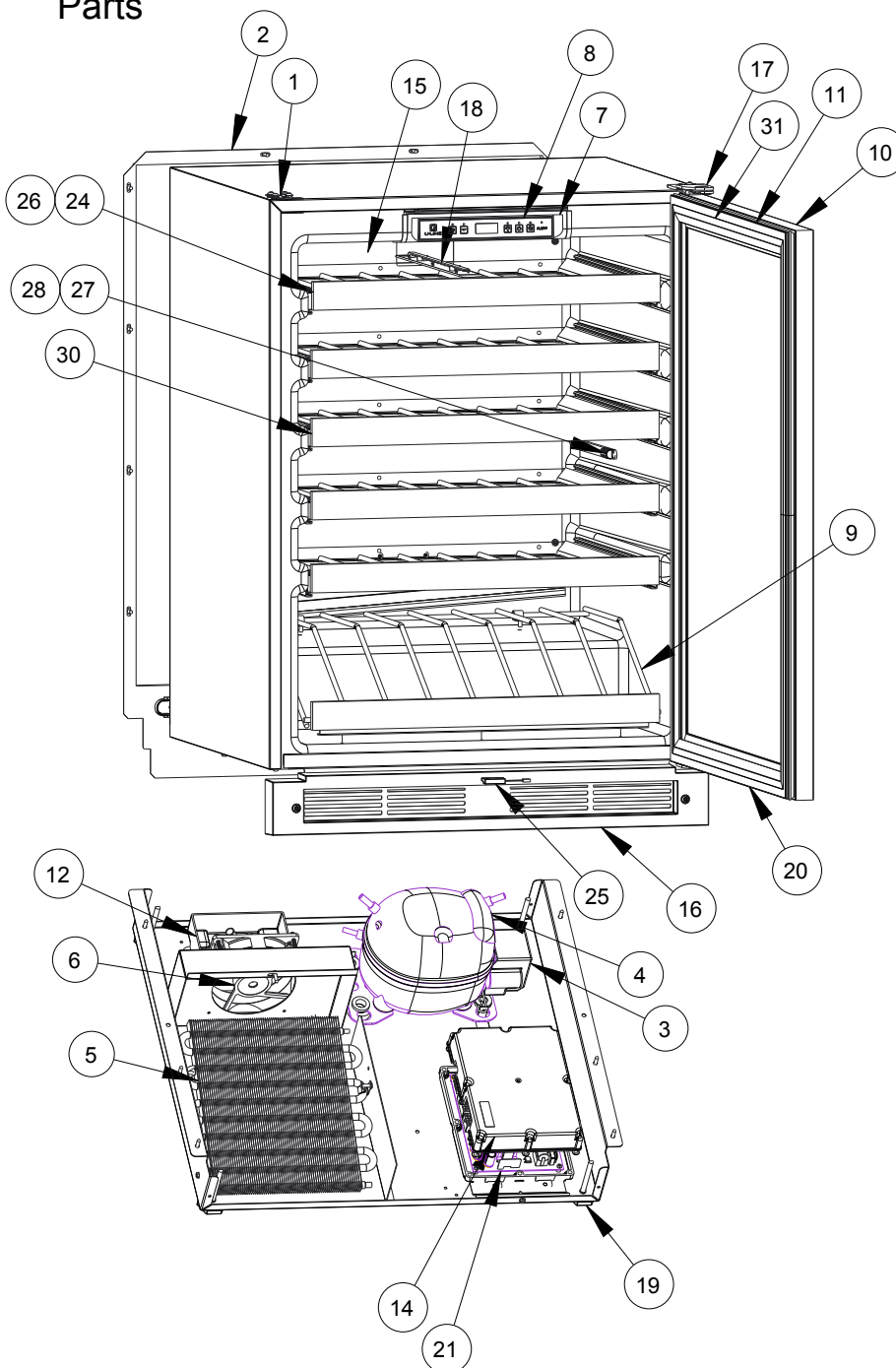
U-1224WCINT-00A		
Item	Description	U-Line P/N
1	Anti tip bracket w/screws	80-54221-00
2	Back panel	80-54204-00
3	Compressor electricals only	80-54149-00
4	Compressor w/electricals	80-54150-00
5	Condenser assembly	80-54264-00
6	Condenser fan w/screws	80-54014-00
7	Control Housing	80-54265-00
8	Display module	80-54493-00
9	Display rack, btm	80-54318-00
10	Door assembly w/ hinges	80-54263-00
11	Gasket, door	80-54525-00
12	Drain pan w/double sided tape	80-54217-00
13	Drier	80-54055-00
14	Enclosure assembly, board	80-54532-00
15	Evaporator assembly	80-54262-00
16	Grille w/screws	80-54267-00
17	Hinges(2) w/screws	80-54506-00
18	LED light strip and cover assy	80-54000-00
19	Leg Levelers (4)	80-54201-00
20	Magnet w/bkt and screws (2)	80-54250-00
21	Main board w/inst sheet	80-54297-00
22	Packaging	80-54209-00
23	Power cord	80-54512-00
24	Rack Assembly	80-54269-00
25	Reed switch assembly	80-54284-00
26	Slide Assembly	80-54219-00
27	Thermistor (1 pc)	80-54006-00
28	Thermistor cover and pin	80-54023-00
29	Wire harness, control	80-54494-00
30	Wood front w/screws	80-54283-00
31	Gasket, For injection molded	80-54213-00

USER GUIDE

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.

R-600A Specifications 1

USER GUIDE

⚠ **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.)

USER GUIDE

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.

USER GUIDE

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.

USER GUIDE

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

USER GUIDE

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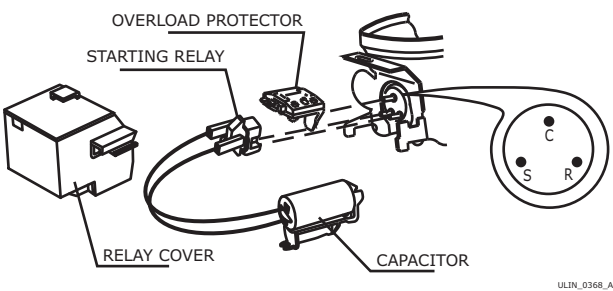
	EMX20CLC
Refrigerant	R600a
Voltage	115 - 127 VAC
Frequency	60 Hz
Run Cap	12μF/165 VAC
Start Winding	6.7 Ohm at 77°F
Run Winding	12.6 Ohm at 77°F
LRA	3.7 A
FLA	0.5 A
Starting Device	8EA14C
Overload	4TM142RFBYY-53

* All resistance readings are ±10%

Compressor Specifications 1

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.

USER GUIDE

```
┌─────────────────┐                  ┌─────────────────┐
│  Check Voltage  │── No Voltage ───│ Alert Customer  │
│  At Wall Outlet │                  │ Of Power Failure│
└─────────────────┘                  └─────────────────┘
         │
      Voltage
         │
┌─────────────────┐                  ┌─────────────────┐
│ Verify Voltage At│── No Voltage ──│    Replace       │
│  Main Control    │                 │   Power Cord     │
│  Voltage Input   │                 │                  │
└─────────────────┘                  └─────────────────┘
         │
      Voltage
         │
┌─────────────────┐                  ┌─────────────────┐
│  Check Fuse F1  │── No Continuity ─│    Replace       │
│  For Continuity │                  │     Fuse         │
└─────────────────┘                  └─────────────────┘
         │
     Continuity
         │
┌─────────────────┐                  ┌─────────────────┐
│Connect Test Display│── Operating ─│    Inspect       │
│Cycle Power And Check│              │  Customer UI     │
│  For Operation   │                │  and Data Cable  │
└─────────────────┘                  └─────────────────┘
         │
   Not Operating
         │
┌─────────────────┐                  ┌─────────────────┐
│   Is the Reed   │──── Yes ────────│  Replace Main    │
│ Switch Operating│                  │     Board        │
│   Properly?     │                  │                  │
└─────────────────┘                  └─────────────────┘
         │
        No
         │
┌─────────────────┐
│    Replace      │
│   Reed Switch   │
└─────────────────┘
```

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

USER GUIDE

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".
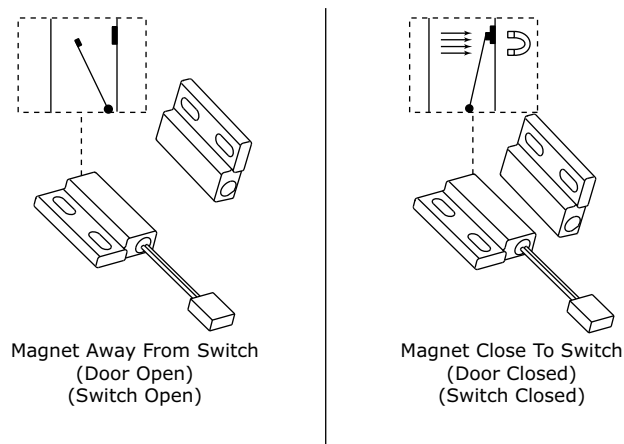
Evaporator Thermistor

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)

USER GUIDE

Control Operation - Service

UI BUTTON LAYOUT
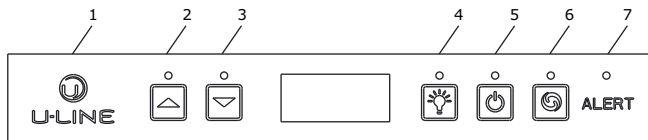
1. **Hidden Button**
   -Accesses Service Menu
   -No LED

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

USER GUIDE

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.

USER GUIDE

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

Control Operation - Service 3

USER GUIDE

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.

USER GUIDE

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).

USER GUIDE

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	0	
Has Ice	0	
Maximum Ice Set Point	—	—
Minimum Ice Set Point	—	—
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 ten 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. The error will be displayed in the service mode "Error Log."

This unit has two thermistors. Thermistor one is located along the right hand side wall inside of the unit and is used to maintain temperature within the unit.

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

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 automatic (cycle) defrost unit will defrost itself when the control/sensor is satisfied of internal temperatures. Defrost mode ends when control/sensor asks for cooling.

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