



U-LINE
CORPORATION

O r i g i n s . S e r i e s

SERVICE AND PARTS MANUAL

Models

95 Icemaker
98 Icemaker
BI15 Icemaker
15R
15 Wine Captain

Combo 75 Frost
Free
Combo 75A
75AD
75 Wine Captain
75 Freezer
75R
75RF
75 Bev

Combo 29 Frost
Free
Combo 29A
29AD
29R
29 Wine Captain
SP18

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Warranty Statement

On 11-1-98, U-Line Corporation modified the warranty provided with our units. We have significantly improved the coverage of the sealed system in years two through five of the unit's life. The new warranty covers parts and labor for one year from the date of purchase. In years two through five, from the date of purchase, the warranty covers parts and labor for the entire sealed system. The sealed system consists of the compressor, condenser, evaporator, heat exchanger, dryer, hot gas bypass-valve and all connecting tubing.

This decision reflects our continuing commitment to strive to maintain the leadership position within the under counter refrigeration and ice making industry whether that be through design, product innovation, or enhanced consumer warranties. This decision reinforces the confidence that U-Line has in the performance and reliability of our products.

Our previous warranty covered parts and labor for one year from the date of purchase plus four additional years for the compressor, part only.

The new, modified warranty applies **only to units shipped after 11-1-98**. All units shipped before 11-1-98 have the previous warranty.

PRODUCTS SHIPPED BEFORE 11-1-98 - Warranty covers parts and labor for one year from the date of purchase, plus four additional years for the compressor (part only).

PRODUCTS SHIPPED AFTER 11-1-98 - Warranty covers parts and labor for one year from the date of purchase and covers parts and labor for the entire sealed system for five years.

DETERMINING SHIP DATES

In order to assure that U-Line is Y2K compliant, we have recently completed a major computer system modification. The new computer system has lead to changes in the way we operate in most areas of the company. You'll soon notice that our packing lists are different, our invoices are different, our checks are different, and more. The change that will impact you the most is the change in serial numbers.

With the new computer system, our serial number format has changed. There are some definite advantages that go with the new format, such as being able to tell the month and year in which the unit was produced.

The new serial number format breaks the number down into four segments. A typical serial number is 047413-06-0100. The first segment 04, represents the year that the unit was made. The second segment 7413, represents the shop order number. This can be a three or four digit number. Order number 7413 is assigned for Model WH95TP units. The third segment - 06 represents the month that the unit was made. The forth segment - 0100 represents a sequence of numbers that is used internally at U-Line Corporation.

LIMITED WARRANTY

U-Line Corporation warrants each U-Line product to be free from defects in materials and workmanship for a period of one year from the date of purchase; and warrants the sealed system (consisting of the compressor, the condenser, the evaporator, the hot gas bypass valve, the dryer and the connecting tubing) in each U-Line product to be free from defects in materials and workmanship for a period of five years from the date of purchase. During the initial one-year warranty period for all U-Line products U-Line shall: (1) at U-Line's option, repair any product or replace any part of a product that breaches this warranty; and (2) for all Marine, RV and Domestic U-Line products sold and serviced in the United States (including Alaska and Hawaii) and Canada, U-Line shall cover the labor costs incurred in connection with the replacement of any defective part. During years two through five of the warranty period for the sealed system, U-Line shall: (1) repair or replace any part of the sealed system that breaches this warranty; and (2) for all Marine, RV and Domestic U-Line products sold and serviced in the United States (including Alaska and Hawaii) and Canada, U-Line shall cover the labor costs incurred in connection with the replacement of any defective part of the sealed system. All other charges, including transportation charges for replacements under this warranty and labor costs not specifically covered by this warranty, shall be borne by you. This warranty is extended only to the original purchaser of the U-Line product. The Product Registration Card included with the product should be promptly completed by you and mailed back to U-Line or you can register on-line at www.U-LineService.com.

The following are excluded from this limited warranty: installation charges; damages caused by disasters or acts of God, such as fire, floods, wind and lightening; damages incurred or resulting from shipping, improper installation, unauthorized modification, or misuse/abuse of the product; customer education calls; food loss/spoilage; door and water level adjustments (except during the first 90 days from the date of purchase); defrosting the product; adjusting the controls; door reversal; or cleaning the condenser.

If a product defect is discovered during the applicable warranty period, you must promptly notify either the dealer from whom you purchased the product or U-Line at P.O. Box 23220, Milwaukee, Wisconsin 53223 or at 414-354-0300. In no event shall such notification be received later than 30 days after the expiration of the applicable warranty period. U-Line may require that defective parts be returned, at your expense, to U-Line's factory in Milwaukee, Wisconsin, for inspection. Any action by you for breach of warranty must be commenced within one year after the expiration of the applicable warranty period.

This limited warranty is in lieu of any other warranty, express or implied, including, but not limited to any implied warranty of merchantability or fitness for a particular purpose; provided however, that to the extent required by law, implied warranties are included but do not extend beyond the duration of the express warranty first set forth above. U-Line's sole liability and your exclusive remedy under this warranty is set forth in the initial paragraph above. U-Line shall have no liability whatsoever for any incidental, consequential or special damages arising from the sale, use or installation of the product or from any other cause whatsoever, whether based on warranty (express or implied) or otherwise based on contract, tort or any other theory of liability.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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WARRANTY CLAIMS PROCEDURE

When submitting claims for warranty payment, please follow these guidelines.

You can use any form you would normally use to bill your customer (your own computer generated form, Narda, USA, etc.).

The model and serial number **MUST** be on the claims. Claims will not be paid without a model and serial number.

If you work on more than one unit per service call please submit a separate claim for each unit.

We track all defects through warranty claims, so please be specific on what the repair was. If it is a system leak, please specify where the leak was.

Please be sure the claim is legible. If the claim form cannot be read, it will be returned, unpaid.

U-Line will **not** cover part or labor claims for the replacement of a complete ice maker assembly. All ice maker parts are available as replacement parts and are stocked in our inventory. **Remember:** we do not pay customer education calls. Door and water level adjustments are 90 day warranties only.

If you are changing out a unit please supply the model and serial number of both units (the unit being replaced and the new unit) and the R.A. number.

If a copy of the Proof of Purchase/Install is not available at the site, the technician should record the following information on the Labor Invoice:

- The name of the selling Dealer
- The date of purchase/installation
- The Order or Invoice number (if available)
- The type of document the technician saw i.e. Store Receipt, Closing Papers, Sign-Off of Building Permit, Final Walk Through, etc.

At U-Line, parts and labor claims are paid separately. Included in labor would be freon and recovery charges, all other parts are handled by the parts department. We require that some parts be returned to us, so we may return them to our vendor. It will be noted on your packing list if we require you to return the part. If a part is to be returned please include a copy of the packing list and a copy of your claim. If the part was purchased at one of our part distributors, you must handle the part warranty with that company. For labor payment please send a readable copy of your claim to U-Line Corporation, P.O. Box 245040, Milwaukee WI, 53224-9540, for warranty payment.

GUIDE FOR SCREENING CALLS

U-line's warranty does not cover customer education calls. It has been reported that as high as 50% of all service calls performed, are customer education calls.

The following guide has been developed to help screen calls on the most common customer education issues. It can be used by persons scheduling service calls.

CUSTOMER COMPLAINT

The unit is not cold enough!

Questions to ask before scheduling a service call —

- Are you familiar with the factory specifications for this unit? (many factors can cause these figures to vary. Ambient temperature, application, amount of use etc.)

Model Numbers

15WC, 29WC, 75WC
15R, 29R, 75R
75AD, 75, 29AD
C75A, C75FF, C29A, C29FF
75 Bev

Approximate Temperatures

60° top rack / 55° middle / 45° bottom
38°
38° fresh food, 15° freezer
38° fresh food
38° glass shelves, 45° wine racks

- Is the door sealing properly? If the door is not sealed properly, it allows heat into the unit. U-Line's warranty is 90 days for door adjustments.
- Is the condenser clean? U-Line's warranty does not cover cleaning the condenser.
- Is the unit behind closed doors? The unit must have free air flow to the front grille.
- Did you try turning the temperature control colder? Turning the control knob clockwise is colder. Be sure to allow 24 hrs. between temperature control adjustments.
- **For model 29AD only.** Is the defrost timer set to the time of day? When set properly, the unit will be off, defrosting, between midnight and 3:30 a.m.
- **For Wine Captain Units and 75 Bev.** Is the light on constantly to display the wine? If the light is on constantly, this could cause the unit to run warmer.

CUSTOMER COMPLAINT

The ice cubes are sticking together!

Questions to ask before scheduling a service call —

- Does the unit need to be defrosted?
- Is the door sealing properly? This could cause the ice cubes to stick together.
- Have you tried to ruffle the the ice bucket? If the ice sits without being used, it will tend to stick together. Shaking the bucket will usually break apart the ice cubes. If the ice has been sitting for a long time, we recommend dumping the bucket and making fresh ice.

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CUSTOMER COMPLAINT No ice or not enough ice!

Questions to ask before scheduling a service call —

- Are you aware of the factory specifications for ice production?

Model #	Approx. Daily Ice Rate	Approx. Ice Storage
Combo 75A	22.5 lbs.	13 lbs. bucket
Combo 75FF	8 lbs.	13 lbs. bucket
Combo 29A	22 lbs.	13 lbs. bucket
Combo 29FF	8 lbs.	13 lbs. bucket
Model 95	23 lbs.	12 lbs. bucket
Model 98	25 lbs.	25 lbs. bucket
BI15	25 lbs.	25 lbs. bucket

- Is the temperature control set to the warmest setting? The unit will produce the most ice when set at the warmest setting. Let the unit run overnight.
- Is the ice maker bin arm down? When the arm is up, it will not make ice.
- Is the door sealing properly? U-Line's warranty is 90 days for door adjustments.
- Does the water level need to be adjusted? U-Line's warranty is 90 days for water level adjustments.

CUSTOMER COMPLAINT The unit is frosting up!

Questions to ask before scheduling a service call —

- Are you familiar with the defrost technology of the unit?

Defrost Technology	Model Numbers
Manual Defrost	Combo 75A, Combo 29A, 95, 98, 75, BI15
Cycle Defrost	75R, 29R, 15R, 75WC, 29WC, 15WC, BC85DT
Auto Defrost	29AD, 75AD, 75 Bev (periodic manual defrost may be needed)
Frost Free	Combo 75FF, Combo 29FF

- Is the door sealing properly? U-Line's warranty is 90 days for door adjustments.
- Has the door been left open?
- Is the unit in an application of heavy usage? Heavy usage or high ambient temperatures will cause a unit to frost up.

CUSTOMER COMPLAINT Water is leaking out of the back of the unit!

Questions to ask before scheduling a service call —

- Have you checked the connection at the water solenoid valve? U-Line's warranty does not cover installation adjustments.

CUSTOMER COMPLAINT The light on my Wine Captain/75 Bev never shuts off!

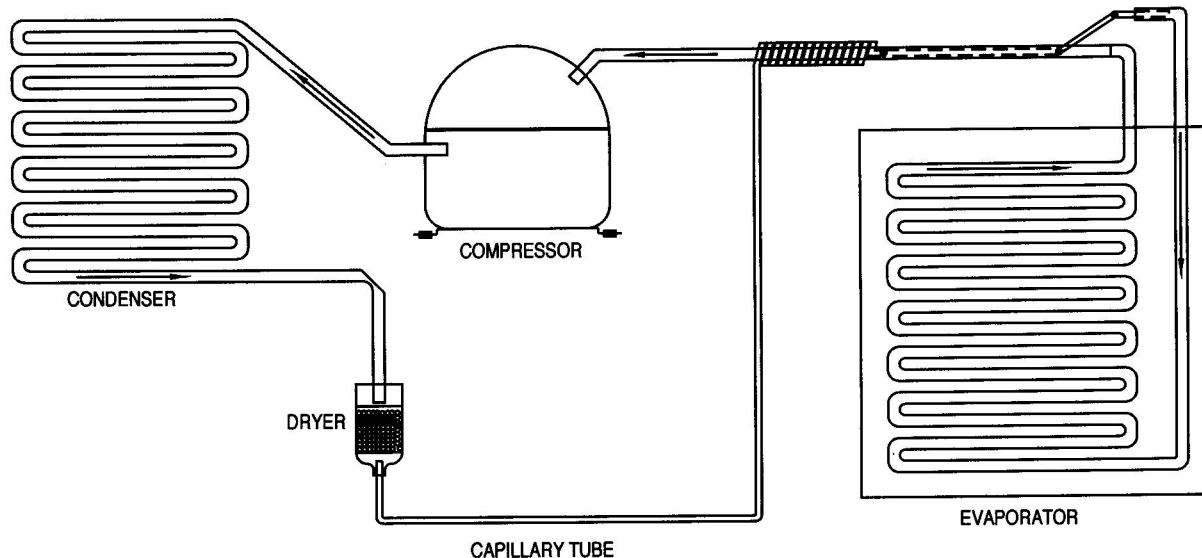
Questions to ask before scheduling a service call —

- Did you turn the on/off switch near the base of the unit? The on/off switch is for the light operation only. When the switch is in the off position, the light will turn on only when the door is open. When the switch is in the on position, the light will be on constantly to display the wine. To shut the unit off, turn the temperature control all the way counterclockwise.

REFRIGERATION SYSTEMS

Normal Vapor/Compression Cycle Refrigeration

- Refrigerant is pumped from the compressor to the condenser as a high pressure, high temperature vapor.
- As the refrigerant cools in the high pressure condenser, the vapor condenses to liquid. During this phase change, a great amount of heat is rejected with the help of the condenser fan.
- The liquid then flows to the dryer where it is strained and filtered.



UL183-1

- From the dryer, the refrigerant flows through the capillary tube which meters the liquid refrigerant to the evaporator. The pressure of the refrigerant is reduced to the evaporating or low side pressure.
- The reduction of pressure on the liquid refrigerant causes it to boil or vaporize until it reaches saturation temperature. As the low temperature refrigerant passes through the evaporator coil, it continues to absorb a lot of heat, causing the boiling action to continue until the refrigerant is completely vaporized. It is during this phase change that the most heat is absorbed (the cooling takes place) in the refrigerator.
- The refrigerant vapor leaving the evaporator travels through the suction line to the compressor inlet. The compressor takes the low pressure vapor and compresses it, increasing both pressure and temperature. The hot high pressure gas is pumped out the discharge line and into the condenser. The cycle continues.

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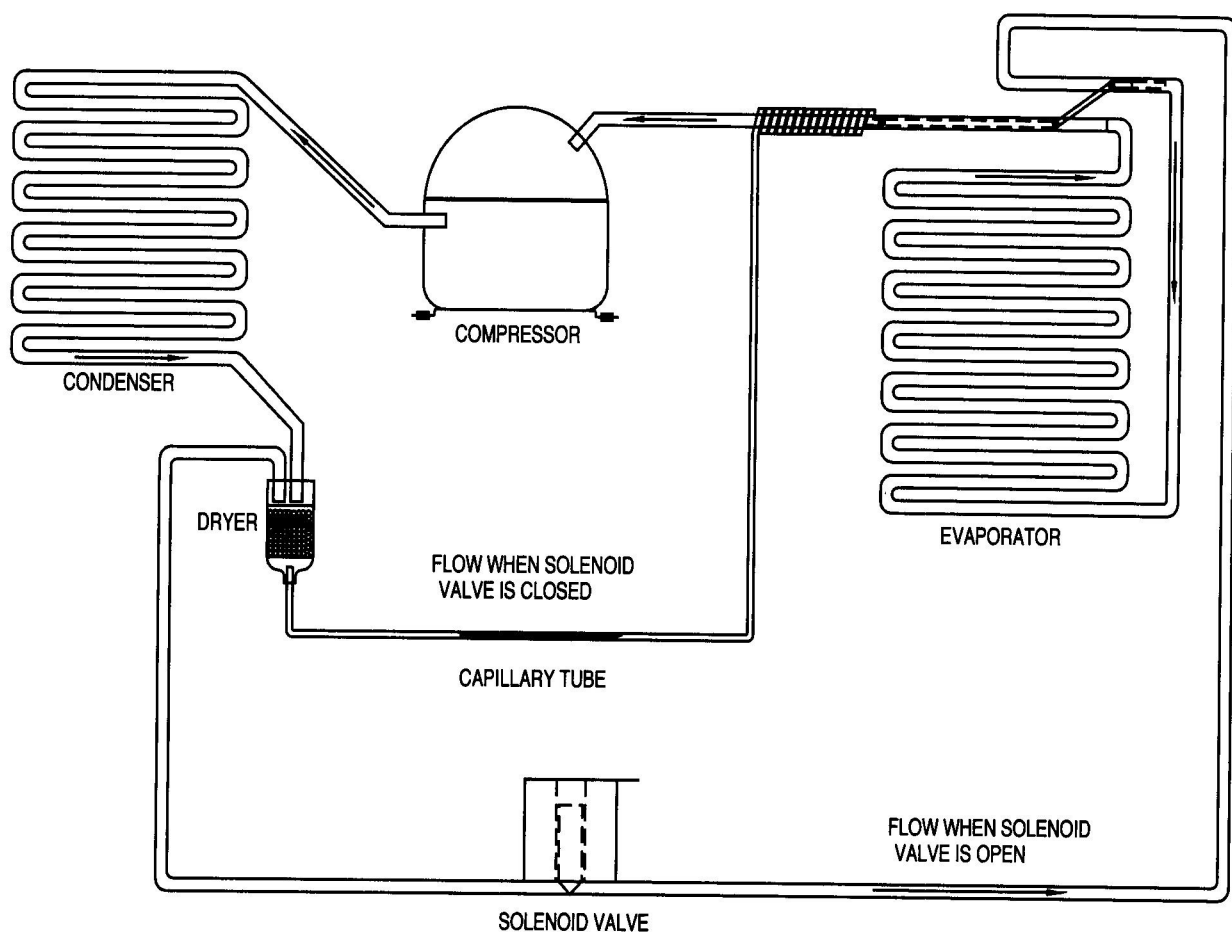
U-Line Frost Free Refrigeration System

Cooling Mode:

- Bypass solenoid valve closed
- Evaporator fan operating
- Refrigerant flows through capillary tube
- Normal vapor/compression cycle refrigeration

Defrost Mode:

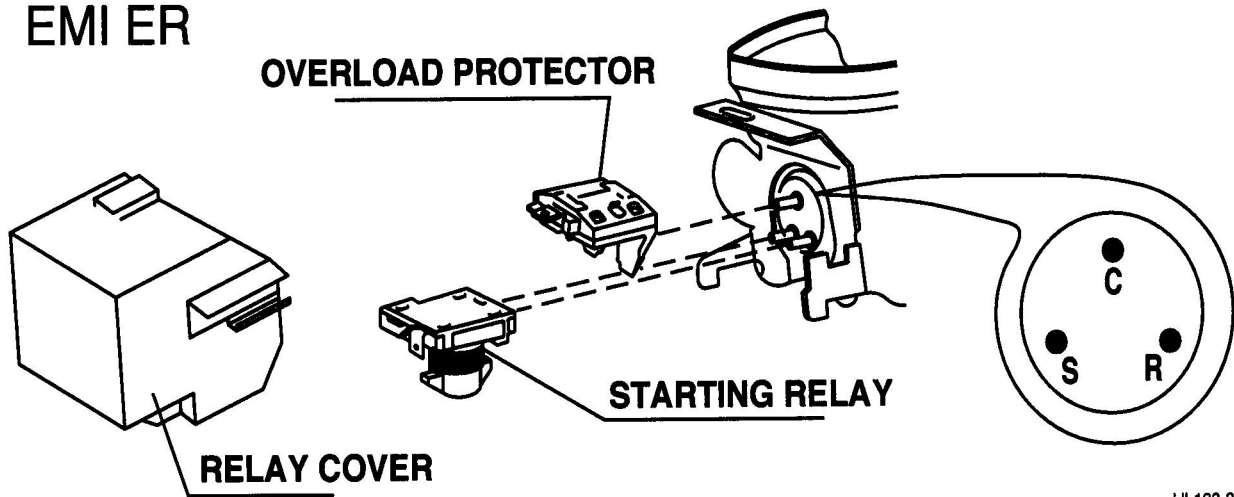
- Bypass solenoid valve open
- Refrigerant flows through bypass system
- Vapor flows from condenser to evaporator without a phase change



UL183-2

Compressor/Electrical Specifications

EMI ER



UL183-3

Compressor Pins

To measure start winding resistance, measure across the C-S pins.
To measure run winding resistance, measure across the C-R pins. These pins should never measure any resistance to ground. This would indicate a shorted compressor.

Specifications

EMI30HER Start Winding Resistance:	28 OHMS
EMI30HER Run Winding Resistance:	8 OHMS

SD39 Start Winding Resistance:	11 OHMS
SD39 Run Winding Resistance:	5 OHMS

EMI50HER Start Winding Resistance:	12 OHMS
EMI50HER Run Winding Resistance:	4 OHMS

SD51 Start Winding Resistance:	5 OHMS
SD51 Run Winding Resistance:	5 OHMS

115 VOLT Ice Maker Heater Resistance:	80 OHMS
115 VOLT Water Valve Coil Resistance:	335 OHMS