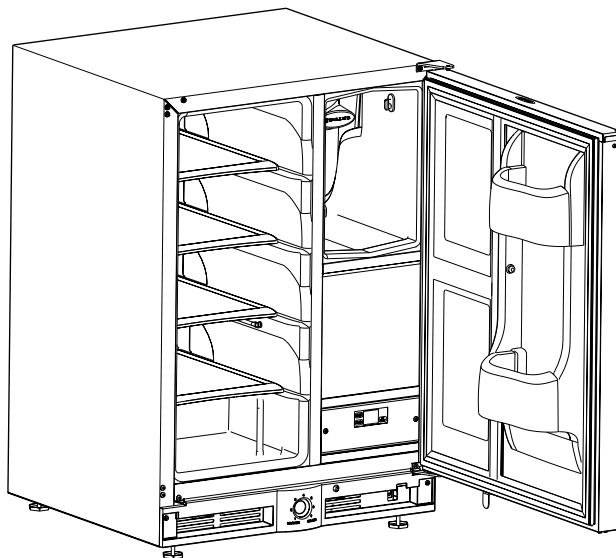


*Échelon™*



# Service and Parts Manual Supplement

For Model  
CLRCO2075



U-Line Corporation  
8900 North 55th Street  
Milwaukee, WI 53223

U-Line Corporation  
PO Box 245040  
Milwaukee, WI 53224-9540

[www.U-LineService.com](http://www.U-LineService.com)

Phone (414) 354-0300 • FAX (414) 354-7905  
Service & Parts Tech Lines Phone (800) 779-2547 • FAX (414) 354-5696



## INTRODUCTION

Three generations of pride and quality manufacturing and design improvements are built into all U-Line products. The result: U-Line leads the market with innovative technology and superior craftsmanship.

This manual contains specific instructions for servicing the U-Line Échelon CLRCO2075.

## Potential Problems With HFC-134A

This Service Manual has been written to cover product manufactured with HFC-134a. HFC-134A compressors will be received with a synthetic based ester oil charge. The hygroscopic (water attraction) property of ester oil is many times greater than that of the mineral oils previously used with CFC-12. High system moisture causes the formation of acids and alcohol which can damage the compressor. Systems should not be left open for more than fifteen (15) minutes at any time as humidity from the air will enter system. To assure system dehydration, the system should be pulled down to 100 microns and vacuum pump oil (mineral oil) must not be allowed to enter the system.

Cleanliness of the system will be extremely important. The presence of residues (chlorinated or greasy residues, mineral oil, or impurities) can lead to capillary tube restrictions, oil return problems and compressor damage. Flux must not be used on brazed joints.



## SERIAL NUMBER FORMAT

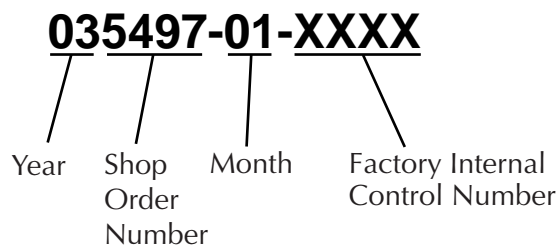
The serial number is divided into four segments. A typical serial number is 035497-03-0004.

The first two digits of the first segment, 03, represents the year the unit was made.

The next four digits of the first segment, 5497, represents the shop order number. Order number 5497 is assigned for the Model CLRCO Black\_00 units.

The second two digit segment, 03, represents the month the unit was made.

The third four digit segment, XXXX, is a factory internal control number used at U-Line Corporation.



## NOTES

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## 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 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](http://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 lightning; 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.



## 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.

Occasionally the customer does not return their warranty cards. In this case we use the date the unit was shipped to our distributor for a beginning warranty date. This may cause the claim to be rejected for a proof of purchase. 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 they saw i.e. Store Receipt, Closing Papers, Sign-Off of Building Permit, Final Walk Through, etc.

If we have this information on the Labor Invoice, and we have the other information that is needed (**correct Serial Number, type of repair, time spent on repairs, etc.**), we will be able to process the invoice for you in a timely manner.

At U-Line, parts and labor claims are paid separately. Included in labor are 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.



## SAFETY PRECAUTIONS

Do not attempt to service or repair the unit until you have read the entire procedure. Safety items throughout this manual are labeled with Warning or Caution.

### **WARNING**

Warning means that failure to follow this safety statement may result in extensive product damage, 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.

### **WARNING**

**DANGER:** Risk of child entrapment. Before you throw away an old refrigerator or freezer: Take off the doors, leave shelves in place so that children may not easily climb inside.

### **WARNING**

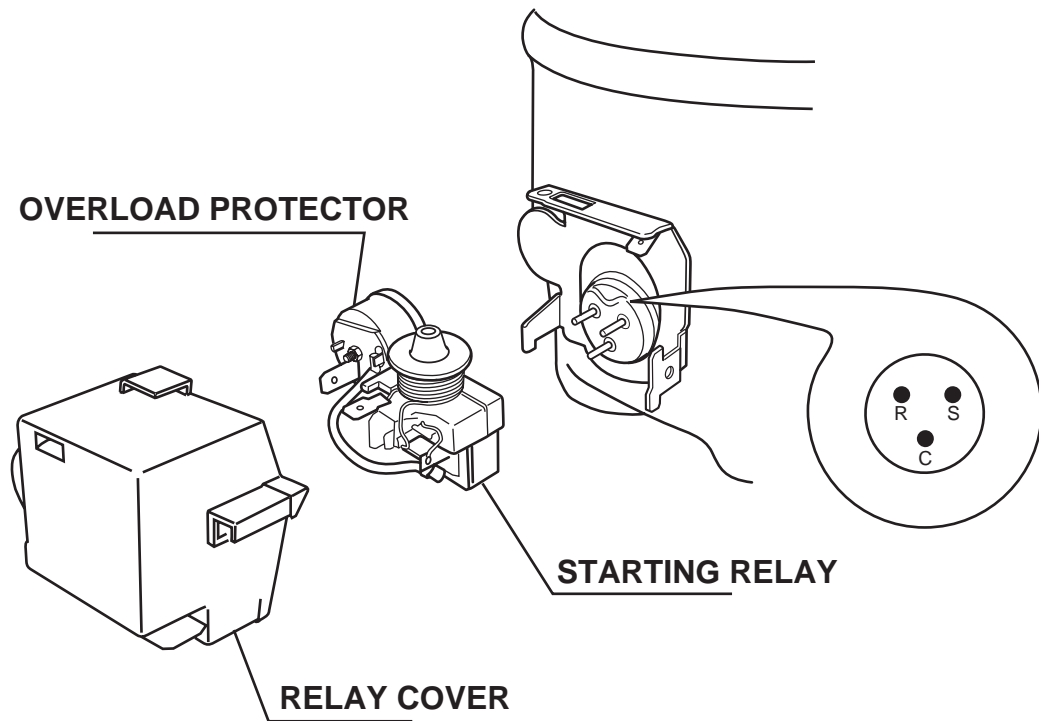
- Never attempt to repair or perform maintenance on the unit until the electricity has been disconnected.
- Altering, cutting of power cord, removal of power cord, removal of power plug, or direct wiring can cause serious injury, fire and/or loss of property and/or life and will void the warranty.

### **CAUTION**

- Do not lift unit by door handle.
- Never 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.
- Failure to clean the condenser every three months can cause the unit to malfunction. This could void the warranty.
- Never install the unit behind closed doors. Be sure front grille is free of obstruction. Obstructing free air flow can cause the unit to malfunction, and may void the warranty.



## ELECTRICAL SPECIFICATIONS



CLRC0036

## 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**

FF7.5HBK Compressor Start Winding: 11.2 OHMS

FF7.5HBK Compressor Run Winding: 2.2 OHMS

Water Valve Coil Resistance: 280 OHMS

Bypass Coil Resistance: 380 OHMS

Pump Motor Winding Resistance: 71.5 OHMS



## LEVELING AND INSTALLATION REQUIREMENTS

**It is extremely important that the unit is level.** If it is not level, the ice mold will not fill evenly. This can cause a reduction in ice rate, uneven sized cubes or water spilling into the storage area which will cause the ice in the bin to melt prematurely. See Figure A.

Remember the floor surrounding a drain has a tendency to slope towards the drain.

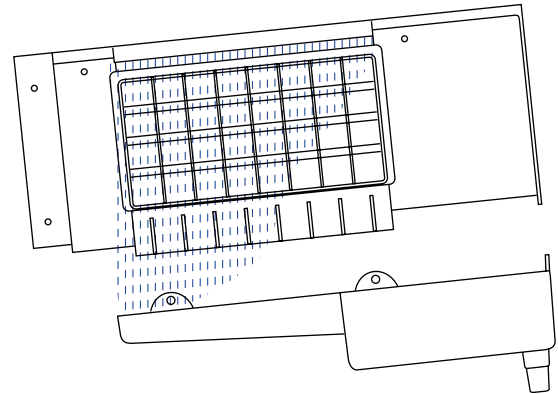


Figure A

UL307

### Leveling the Unit

1. Use a level to check the icemaker from front to back and from side to side. See Figure B. Use a level to check the levelness of the icemaker from front to back and from side to side by placing a level on the inside edge and along the door seal edge for built-in installation. See Figure B.

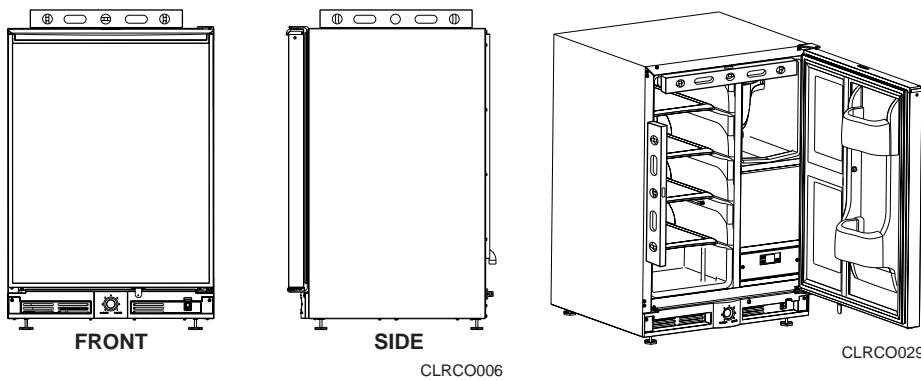


Figure B

2. If the icemaker is not level, adjust the feet on the corners of the unit as necessary. See Figure C.
3. Check after each adjustment and repeat the previous steps as necessary until the unit is level.

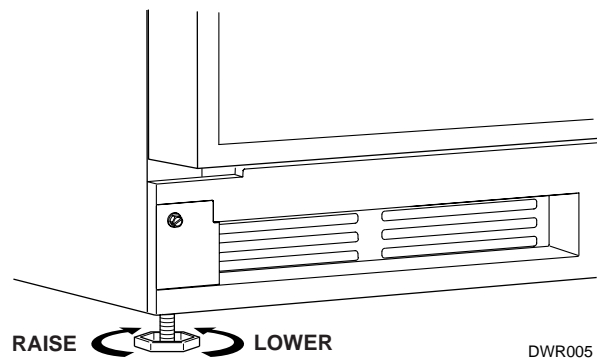


Figure C

DWR005

### Installation Requirements

- The unit may be built into a cabinet. There is no minimum clearance requirement for the top, left or right sides of the unit.
- The location must allow enough clearance for water, drain, and electrical connections in the rear of the unit.
- The location must not obstruct air flow to the front of the unit.

## GRAVITY DRAIN INSTALLATION



### **CAUTION**

Plumbing installation must observe all state and local codes.

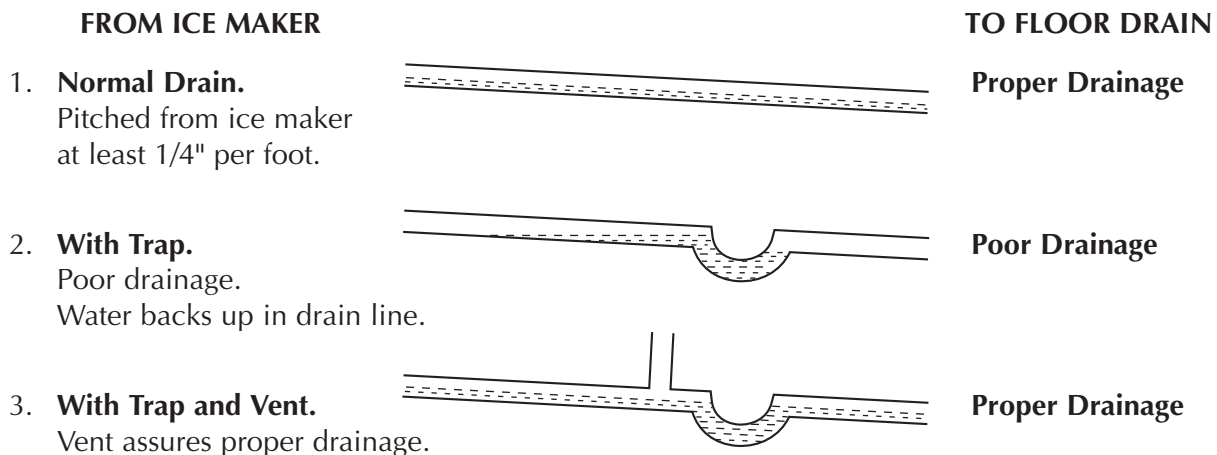
These guidelines must be followed when installing drain lines to prevent water from flowing back into the ice maker storage bin and potentially flowing onto the floor causing water damage:

- Drain lines and fittings must have a 5/8" inside diameter.
- Drain lines must have a 1" drop per 48" of run (1/4" per foot) and must not create traps.
- The floor drain must be large enough to accommodate drainage from all drains.
- Insulate the bin drain line to prevent condensation.

Be sure to follow these guidelines to prevent water backing up into the storage bin.

Below are examples of gravity drain line installations. If a trap is in the drain line, the drain line must be vented to assure proper draining. Without the vent, water will backup until enough pressure builds up to force the water past the trap. Water may backup into the ice bin before the amount of pressure needed is achieved. Water in the storage bin will cause the ice in the bin to melt prematurely.

**The customer's complaint will be slow ice production. The ice that has been made is melting prematurely because water is backing up in the ice bin.**



UL306

**Examples of Gravity Drain Installations**



## CONNECTING A DRAIN PUMP

**CAUTION**

Plumbing installation must observe all state and local codes. All water and drain connections **MUST BE** made by a licensed/qualified plumbing contractor. Failure to follow recommendations and instructions may result in damage and/or harm.

If a gravity drain connection is not available, U-Line strongly recommends the use of the U-Line P60 drain pump. If your CLRCO2075 is not equipped with a factory installed pump, a P60 drain pump is available through your Dealer, or direct from U-Line. If a pump other than the U-Line P60 drain pump is to be used, it must meet the following specifications:

- It must be UL listed and have a UL listed, 120 VAC, 3-wire grounded power cord.
- Overall maximum outside dimensions of 8-3/4" wide x 5-3/4" deep x 7-3/4" high.
- Minimum flow rate of 15 gallons per hour at 10 feet of lift.
- It must have a sealed sump which does not allow water leakage in the case of a power outage, restricted drain or pump failure.
- It must have a check valve in the discharge line to prevent waste water return to the pump.
- It must have an overflow protection control which will shut off power to the ice maker in the event of a pump failure.
- Operating temperature range of 50°F to 110°F (10°C to 40°C).

If the CLRCO2075 is not equipped with a P60 drain pump or an equivalent drain pump, severe damage and costly repair could result in the event of a power outage, restricted drain or pump failure.



## SELF-CLEANING CYCLE INSTRUCTIONS

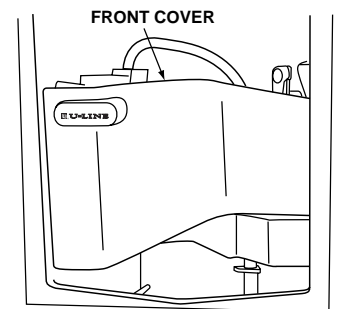
To maintain operational efficiency, clean unit every six months (depending on water conditions more or less frequent cleaning may be necessary). If the ice maker requires more frequent cleaning, consult a qualified plumber to test the water quality and recommend appropriate treatment. Use only U-Line Ice Machine Cleaner (part number 41978).



### CAUTION

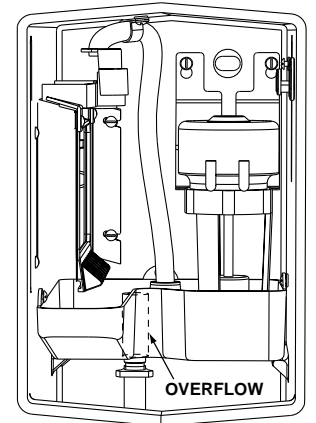
Use only U-Line Ice Machine Cleaner (part number 41978). It is a violation of Federal law to use this solution in a manner inconsistent with its labeling. Use of any other cleaner can ruin the finish of the evaporator and will void the warranty. Read and understand all labels printed on the package before use. Ice machine cleaner is used to remove Lime scale and other mineral deposits. Refer to the following steps for mineral deposit removal.

1. Remove perishables from the refrigerator.
2. Set the cycle selector switch (located in the RH side of the grille) to OFF. Allow the ice to melt off of the evaporator.
3. Remove all ice from the storage bin.
4. Remove inside front cover by gently pulling away from sidewall. See Figure A.
5. Remove the overflow tube by lifting it up while using a slight back and forth motion to loosen it from the drain hole. See Figure B. The water in the reservoir will flow down the drain.
6. Replace the overflow tube after all the water has been drained from the reservoir.
7. Move the cycle selector switch to the CLN position.
8. When water begins to flow over the evaporator, approximately three minutes, add one packet of U-Line Ice Machine Cleaner to the reservoir.
9. Reinstall inside front cover.
10. When the self cleaning process stops, approximately 45 minutes, it may be desirable to clean the storage bin. **See INTERIOR STORAGE BIN CLEANING.**
11. Move the cycle selector switch to the ON position to resume ice production.
12. Make sure the drain system is working properly and the drain hose is not pinched or kinked. Pour one gallon of cool, fresh water into the ice bin. The water should drain freely. If your CLRCO2075 is equipped with a drain pump, the pump should drain the ice bin.



UL208

**Figure A**



CLR0012

**Figure B**

### NOTE

Ice production after the first harvest may take longer after Self Cleaning Cycle since the refrigeration portion will take precedence over producing ice to protect any perishables. Once the refrigerator reaches a set temperature, ice making will resume to normal.



## INTERIOR STORAGE BIN CLEANING

1. Disconnect power from the ice maker.
2. Remove any ice from the storage bin.
3. Wipe down the storage bin with a solution of non-abrasive mild soap or detergent and warm water. Rinse with clean water. Sanitize the bin with a solution of one tablespoon of bleach and one gallon of water. Rinse thoroughly with clean water.
4. Check that all drain connections are in place.
5. Reconnect power to the unit.
6. Make sure the drain system is working properly and the drain hose is not pinched or kinked. Pour one gallon of cool, fresh water into the ice bin. The water should drain freely. If your CLRCO2075 is equipped with a drain pump, the pump should drain the ice bin.

## PRINCIPLES OF OPERATION

The U-Line Model CLRCO2075 combines the best of Échelon refrigeration and clear ice making capabilities into a single unit. A state-of-the-art microprocessor based controller simplifies operation and troubleshooting. There are four primary modes of operation:

1. Ice Making and Refrigeration
2. Ice Making and No Refrigeration
3. Refrigeration and No Ice Making
4. Ice Harvest (No Refrigeration Possible)

In addition, there are four sub modes of operation:

5. All Satisfied
6. Water Fill - No Refrigeration Required
7. Cleaning (No Refrigeration Possible)
8. Water Fill with Refrigeration Required

Review the following notes for general information before reading the schematics.

These are some additional general notes and exceptions:

1. The controller has a four-minute compressor minimum off-cycle regardless of thermistor status, for compressor protection and cycling.
2. When making ice, the controller reads liquid line temperature four minutes into the ice making cycle to determine the length of that ice making cycle and subsequent harvest length.
3. Once an ice making cycle is initiated, it will continue through to harvest regardless of the bin sensor.
4. There is a three-minute water fill cycle when the unit is turned on, or following a cleaning cycle. If the refrigerator is warmer than set point (which it probably will be on initial installation) there will be cooling on the refrigerator side as shown in Mode 8. If the refrigerator is below set point for any reason (recent operation, cold product, etc.), the refrigerator side will not run and the operation will be as shown in Mode 6.
5. In order to maintain adequate refrigerator temperature, the unit will sometimes run in the refrigeration only mode, as shown in Mode 3, even if the ice bin sensor is calling for ice. At the end of each ice harvest, the controller checks the refrigerator sensor and if it is warmer than the higher of 42°F, or the set point, it will go into refrigeration only mode. If it reaches 42°F and the set point is lower, it will continue to refrigerate and start an ice making cycle. If it reaches a higher set point (say 45°F), it will switch to ice making only mode. There is no fill cycle when ice making re-initiates in this case, because the bin sensor has not been satisfied.

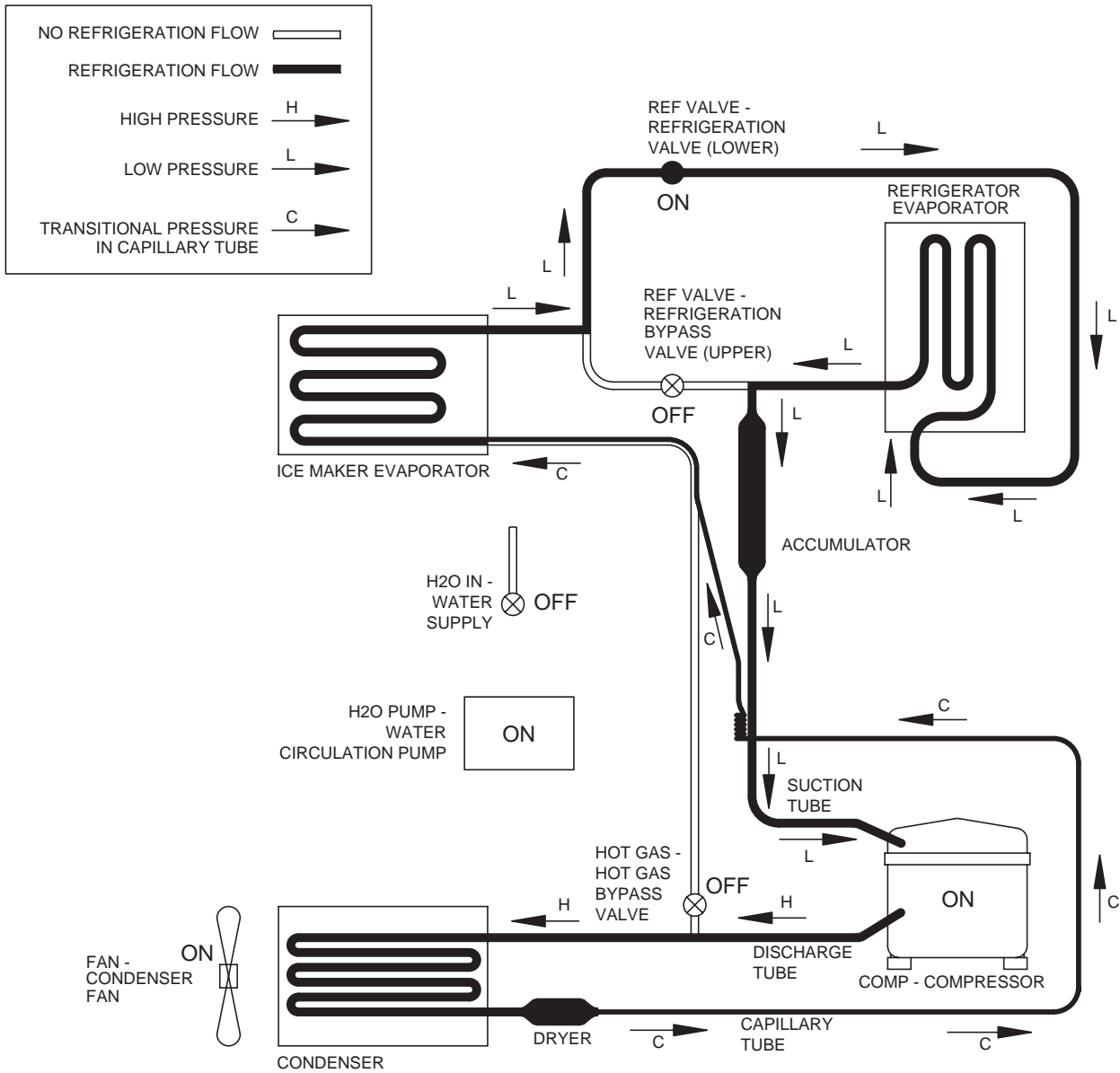


6. When the initial three-minute fill cycle is complete, the unit will enter ice making and refrigeration mode (1) if the bin is empty or below the sensor. However, after the first slab of cubes is harvested, the controller will follow the logic defined in #5 above and realizing the refrigerator is too warm, will continue in refrigeration only mode (3) until the requirement is satisfied. Thus, upon start-up, the user will see one slab of ice dropped in about 30 minutes, and then there will be no more ice until the refrigerator reaches 42°F or a higher set point (this may be 2 to 3 hours depending on ambient conditions).
7. There will also be a water fill cycle after the ice bin has been “full” and then calls to make ice again. This can occur when the refrigerator side is off as shown in Mode 6, or when it is on, which is shown in Mode 8. If the refrigerator side is on, when the fill cycle initiates, it will remain on until the fill cycle is completed, even if the refrigerator sensor is satisfied.
8. The controller has a four degree differential designed into it for the refrigerator sensor, such that when it is set to 38°F, the refrigerator will cool until the refrigerator sensor reads 36°F and will not re-initiate refrigerator cooling until the sensor reaches 40°F. So someone monitoring actual temperature (by pressing WARMER momentarily) may see the refrigerator off when the temperature is a degree warmer than set point, or refrigerator on when it is a degree below set point. Refer to Controller.
9. The controller is equipped with two error indicator LEDs on the display module:
  - One LED dot flashes to indicate the P60 drain pump is, or has been, restricted. If the pump or line clears itself, the unit will re-initiate operation, but the light will stay on until the unit is unplugged or power to the unit is broken. In the event that the P60 pump shuts down the clear ice maker operation the refrigerator side will continue to operate normally.
  - The other LED dot indicates that one or more of the thermistors has failed or been out of limits. If the bin sensor or liquid line sensor fails, the refrigerator will continue to operate, but ice making will be shut down. If the refrigerator sensor fails, the refrigerator will be shut down, but the ice maker will continue to operate. A sensor would normally fail by opening up (no continuity) or shorting (no resistance). Refer to CONTROLLER for more information.
10. There is no high limit cut-out on this unit, however, if the liquid line sensor were to go out of range (approximately 185°F), the thermistor error indicator light will flash, and the ice maker side of the unit will shut down. The refrigerator will continue to run. When the temperature of the liquid falls back in range, the unit will re-initiate operation, even though the error indicator light stays on. The unit will not normally experience this condition up to 110°F, but conditions such as door openings, heavy loading, restricted airflow, dirty condenser, or direct sun light may contribute to reaching this mode.
11. In both modes, unit on, but no need for ice or refrigeration, and Mode 7, clean cycle. The evaporator bypass valve coil is energized, even though the REF VALVE relay is off. This is a double throw relay, so either the refrigeration valve or refrigeration bypass valve coils are always energized, **but they can never both be energized at the same time.**
12. In most applications, the refrigerator evaporator will remain frost-free by clearing itself between refrigeration cycles. However, because there is no thermostat bulb directly on the evaporator as in the other U-Line refrigerators, the controller runs a thirty-minute refrigerator off-cycle, for every 12 hours of clock time. This means the refrigerator side of the unit will not cool during that period even if the refrigerator sensor is calling for cooling. The ice maker side can make ice if needed (same operation as Mode 2, except refrigerator sensor may not be satisfied), or can also be shut down if the bin is full (Mode 5).



# SEQUENCE OF OPERATION

## Mode 1: Ice Making and Refrigeration



Bin sensor: Calling for ice  
 Refrigerator sensor: Calling for cooling  
 Liquid line sensor: Determines length of ice cycle & harvest

RELAY	COMP	H2O IN	REF VALVE*	FAN	H2O PUMP	HOT GAS
STATUS	ON	OFF	ON	ON	ON	OFF

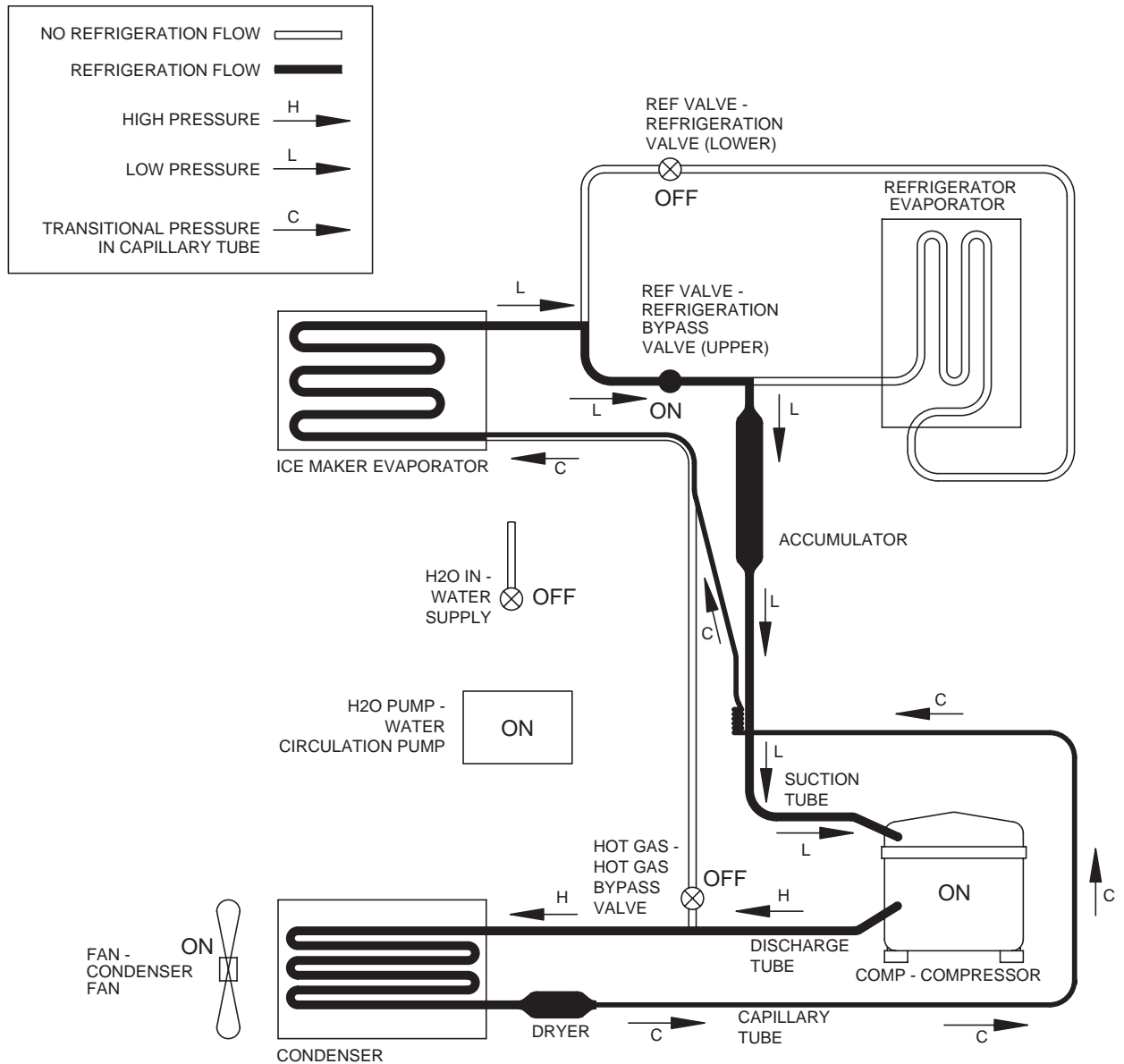
\*Double throw relay: ON: REF valve open, REF bypass valve closed

CLRC0040





## Mode 2: Ice Making and No Refrigeration



Bin sensor: Calling for ice  
 Refrigerator sensor: Satisfied (no call for cooling)  
 Liquid line sensor: Determines length of ice cycle & harvest

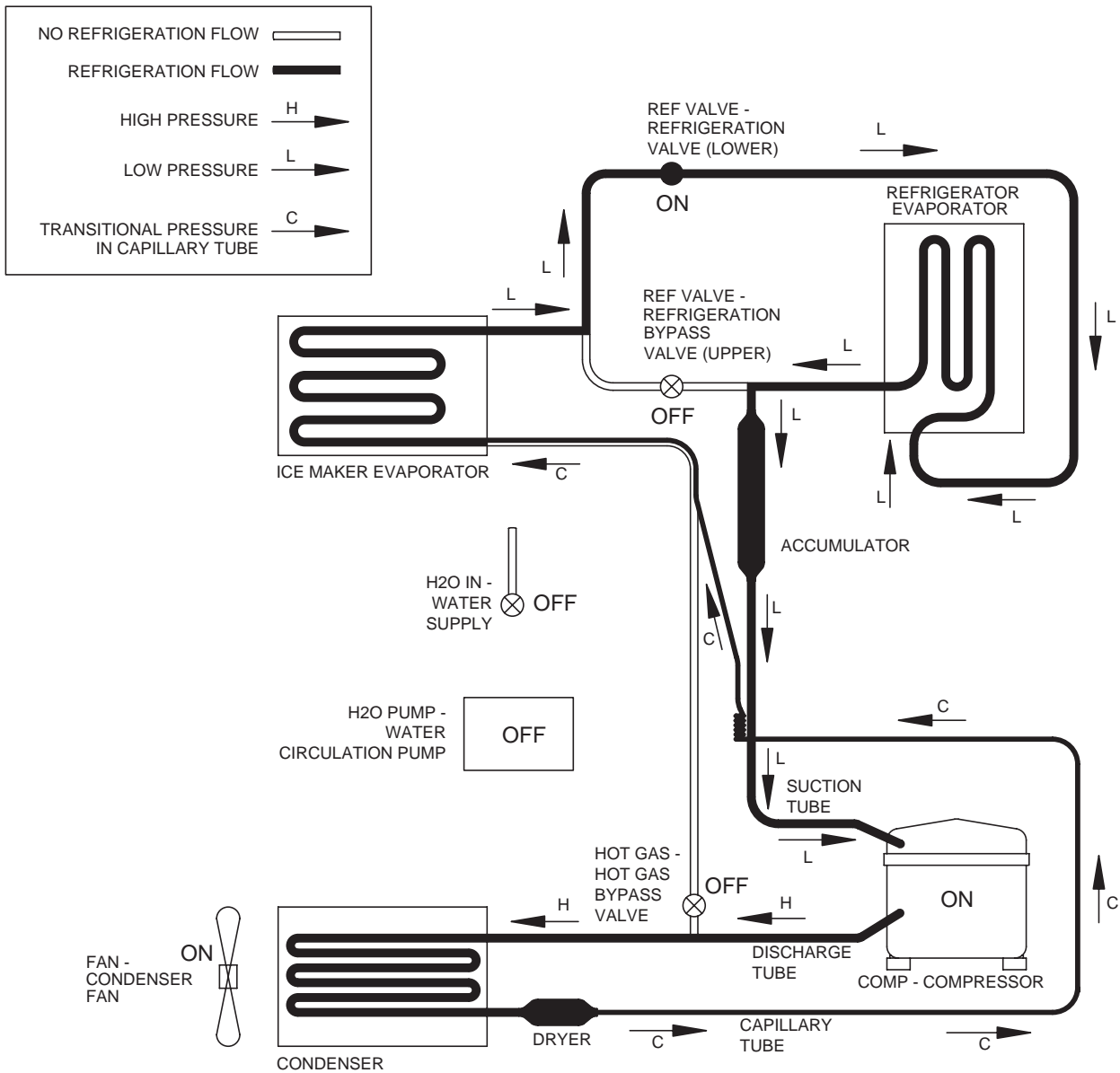
RELAY	COMP	H2O IN	REF VALVE*	FAN	H2O PUMP	HOT GAS
STATUS	ON	OFF	OFF	ON	ON	OFF

\*Double throw relay: OFF: REF valve closed, REF bypass valve open

CLRC0041



Mode 3: Refrigeration and No Ice Making



Bin sensor: Satisfied - bin full  
 Refrigerator sensor: Calling for cooling  
 Liquid line sensor: Not applicable

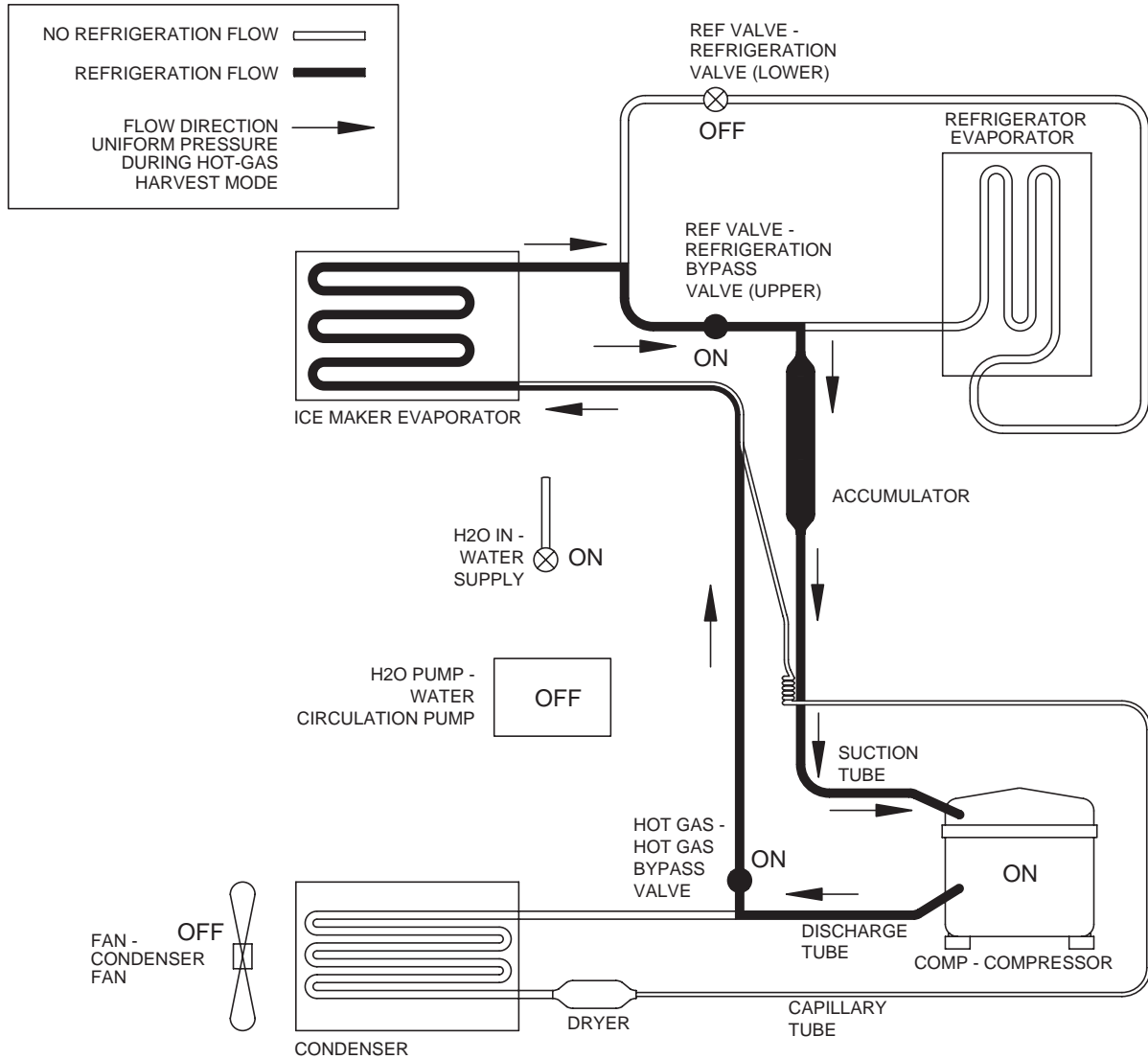
RELAY	COMP	H2O IN	REF VALVE*	FAN	H2O PUMP	HOT GAS
STATUS	ON	OFF	ON	ON	OFF	OFF

\*Double throw relay: OFF: REF valve closed, REF bypass valve open

CLRC0042



### Mode 4: Ice Harvest (No Refrigeration Possible)



Liquid line sensor: Determines length of ice cycle & harvest

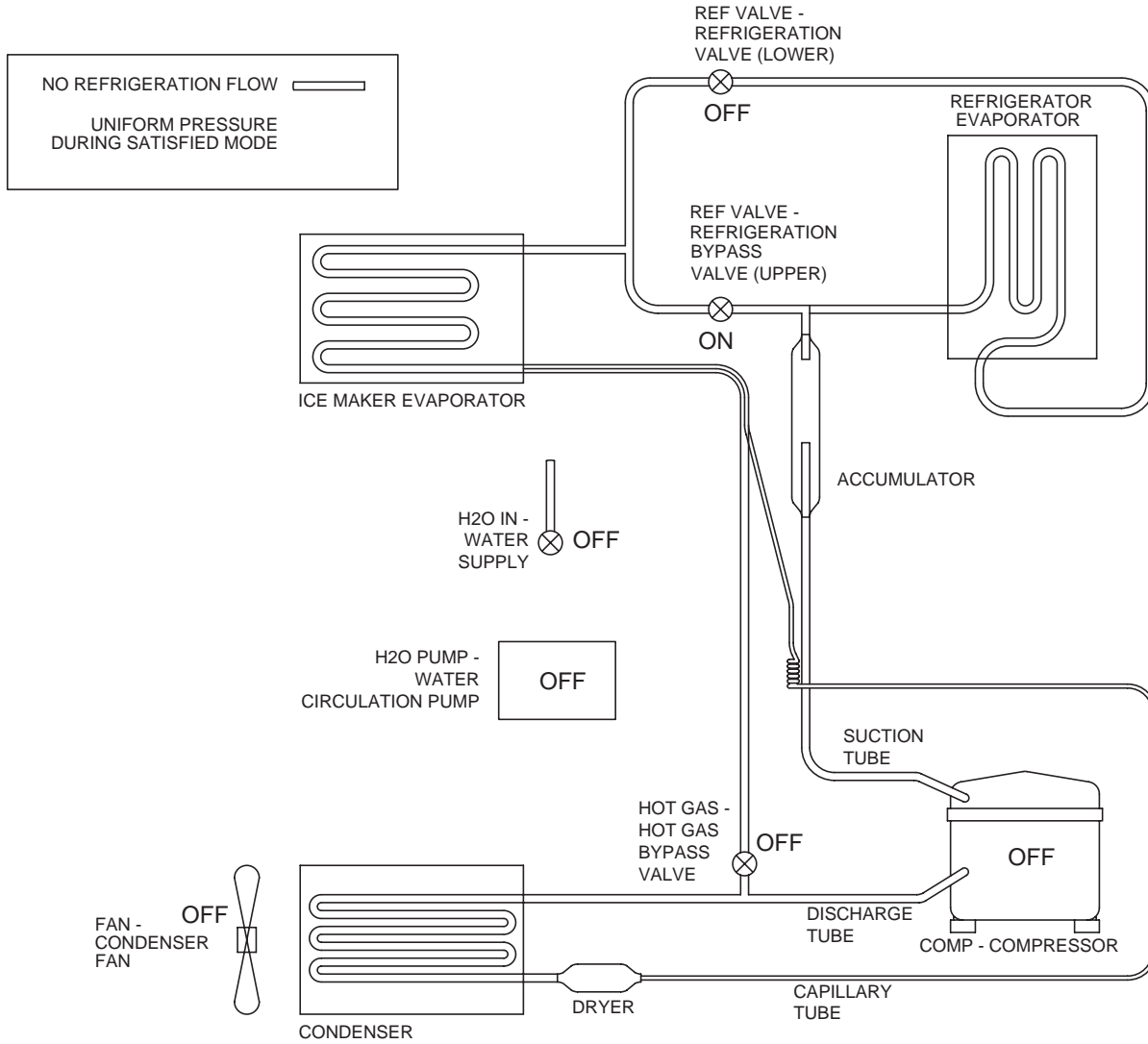
RELAY	COMP	H2O IN	REF VALVE*	FAN	H2O PUMP	HOT GAS
STATUS	ON	ON	OFF	OFF	OFF	ON

\*Double throw relay: OFF: REF valve closed, REF bypass valve open

CLRCO043



## Mode 5: All Satisfied



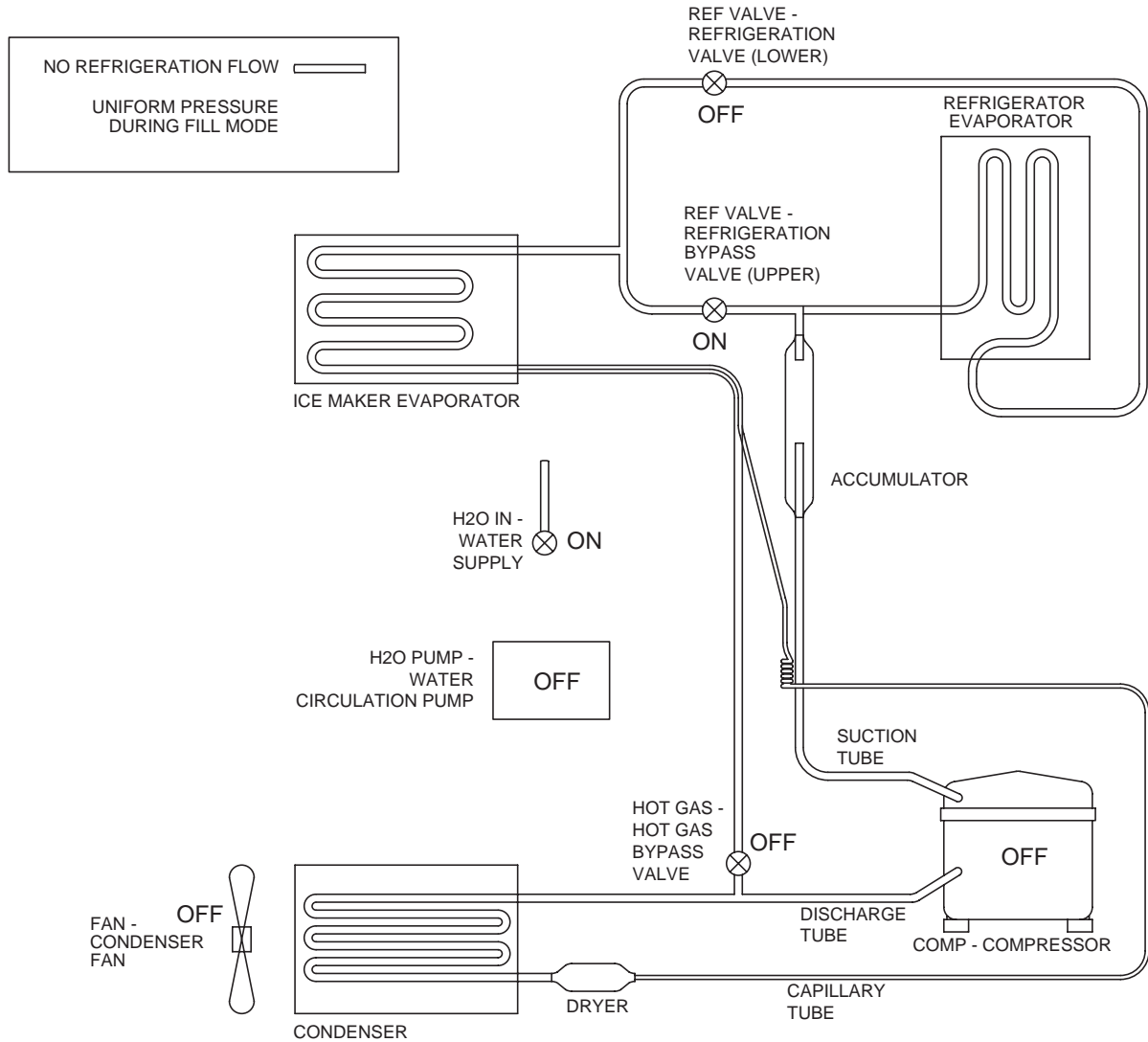
Bin sensor: Satisfied - bin full  
 Refrigerator sensor: Satisfied (no call for cooling)  
 Liquid line sensor: Not applicable

RELAY	COMP	H2O IN	REF VALVE*	FAN	H2O PUMP	HOT GAS
STATUS	OFF	OFF	OFF	OFF	OFF	OFF

\*Double throw relay: OFF: REF valve closed, REF bypass valve open

CLRC0044

## Mode 6: Water Fill - No Refrigeration Required



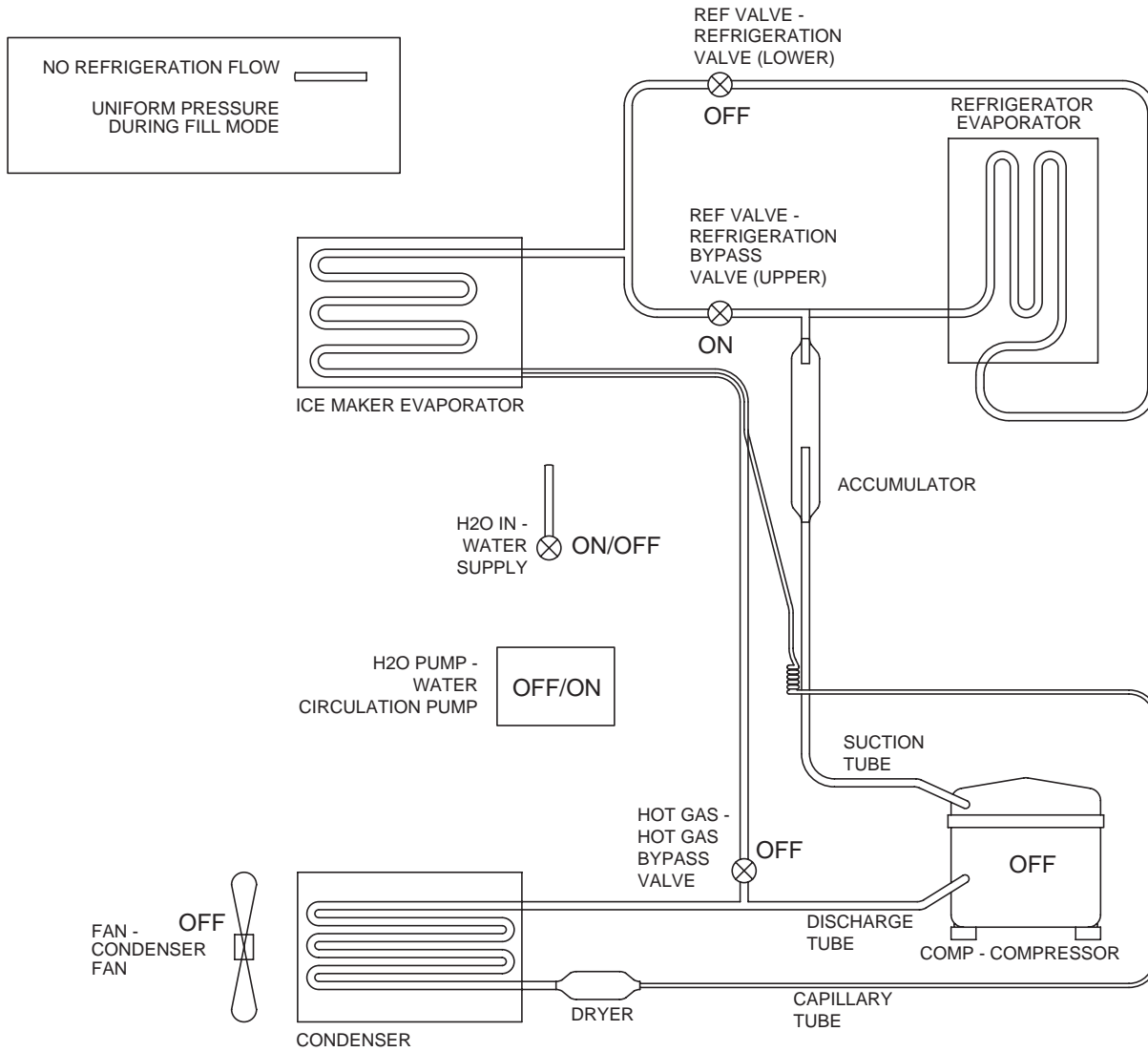
RELAY	COMP	H2O IN	REF VALVE*	FAN	H2O PUMP	HOT GAS
STATUS	OFF	ON	OFF	OFF	OFF	OFF

\*Double throw relay: OFF: REF valve closed, REF bypass valve open

CLRC0045



## Mode 7: Cleaning (No Refrigerator Possible)



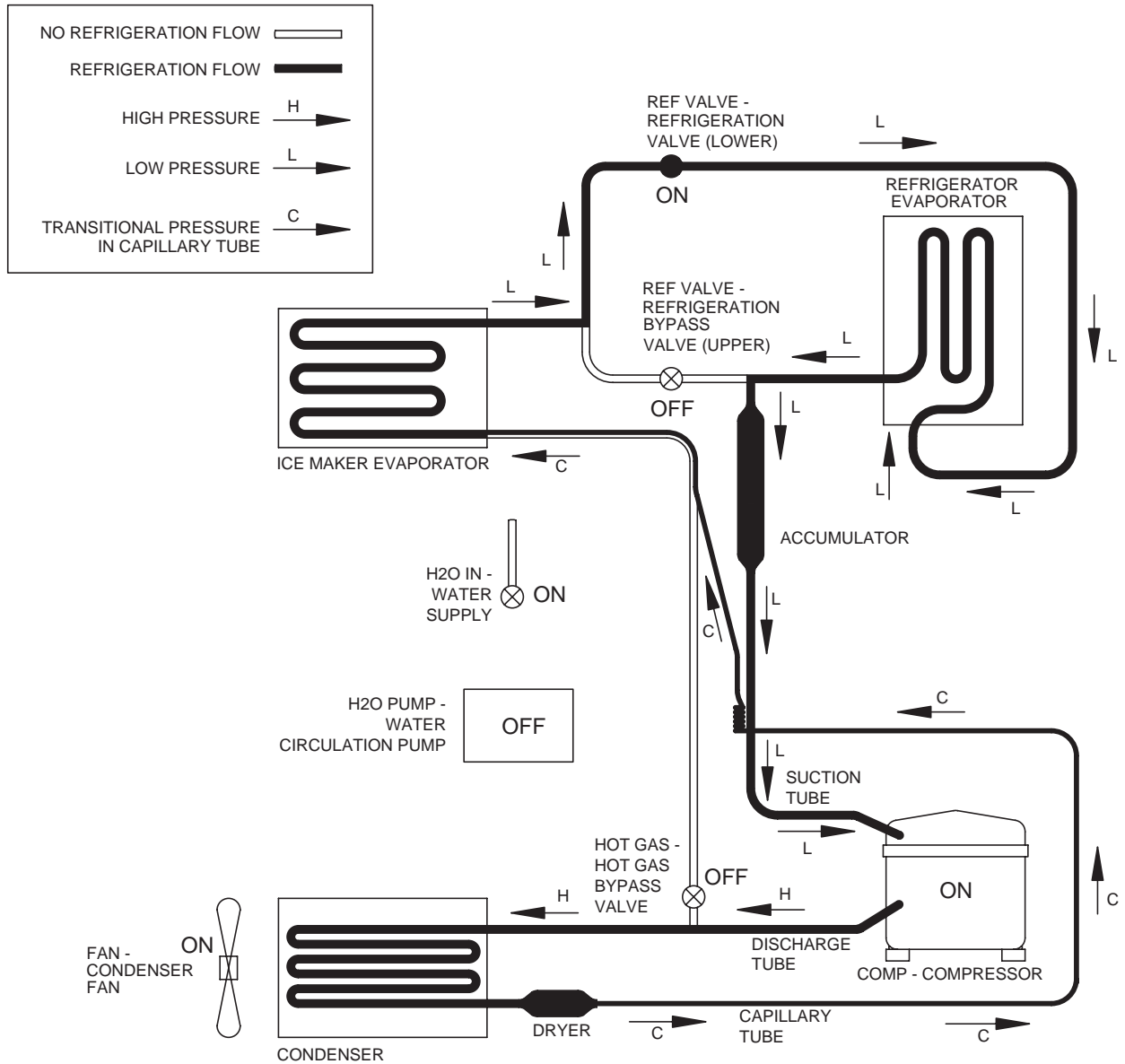
RELAY	COMP	H2O IN	REF VALVE*	FAN	H2O PUMP	HOT GAS
STATUS	OFF	ON/OFF	OFF	OFF	OFF/ON	OFF

\*Double throw relay: OFF: REF valve closed, REF bypass valve open

CLRC0046

## Mode 8: Water Fill with Refrigeration Required

(Note: Normal Start-up with a warm refrigerator)



Bin sensor: Calling for ice  
 Refrigerator sensor: Calling for cooling  
 Liquid line sensor: Not applicable

RELAY	COMP	H2O IN	REF VALVE*	FAN	H2O PUMP	HOT GAS
STATUS	ON	ON	ON	ON	OFF	OFF

\*Double throw relay: OFF: REF valve closed, REF bypass valve open

Note: The refrigerator will continue to run until the completion of the three minute fill cycle regardless of the refrigerator sensor

CLRC0047



## THERMISTORS

### Condenser Thermistor

The condenser thermistor senses the refrigeration system “high side” temperature. This is used in conjunction with the control board to determine the length of the freeze and harvest cycles.

Thermistors generally fail due to moisture or physical damage. U-Line “high side” thermistors are encased in a specially-designed, moisture-resistant stainless cap. The thermistor is mounted to the “high side” or “dry” portion of the refrigeration system to eliminate physical damage and moisture concerns.

### Refrigeration Thermistor

The refrigeration thermistor monitors refrigerator temperature and determines refrigerator cycles. This thermistor can also affect ice production, since the refrigeration cycle will take precedence over the ice production to protect perishables. The thermistor is placed in a sealed stainless steel well tube to protect it from moisture and is located on the inside wall of the refrigerator.

### Bin Level Thermistor

The ice machine shut-off is controlled by the level of ice in the ice storage bin. When the bin is full, ice contacts the bin thermistor well tube, which senses the cool temperatures, then opens which stops the ice machine. The ice machine will remain off until the ice cubes no longer contact the bin thermistor well tube. This causes the bin thermistor to warm and close, restarting the ice machine. The thermistor is placed in a sealed stainless steel well tube to protect it from moisture and is located on the wall, in the ice bin.

#### **To view actual thermistor reading:**

1. Press “WARMER” momentarily and the far left LED (1) will come on and the display will show refrigerator temperature.
2. Press “COLDER” and hold until the middle LED (2) comes on, the liquid line temperature will be displayed.
3. Keep holding “COLDER” down and the right LED (3) will come on, showing the ice bin thermistor temperature. If you continue pressing the “COLDER” button, the display will alternate between bin and liquid line temperature.



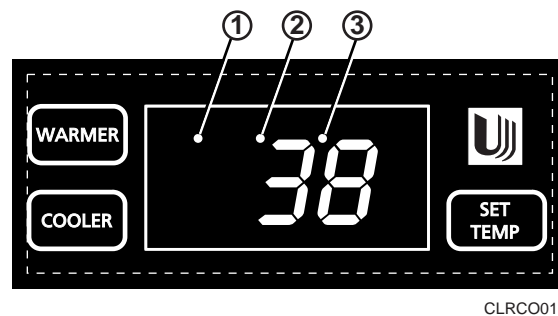


## CONTROLLER

**IMPORTANT**

The display and control board on the CLRCO2075 model was designed to be a diagnostic tool. The first thing that should be looked at is the display. Check for flashing lights to indicate that there may be a drain problem or a thermistor problem. If the unit is working properly when you arrive (or when the customer calls to set up service) check the display. If the #3 LED is flashing the customer may have a slow running drain. Pour a gallon of water in the bin and see if the unit shuts down. If the #2 LED is flashing the unit may have overheated due to restricted airflow or high ambient temperatures. The lights will flash until the unit is unplugged. This should prevent the problem of running a service call and finding the unit is working the way it should.

The following is the way to use the control board as a tool to help you in diagnosing the unit. **It is important to follow the directions exactly.** For some areas you may need to have the on/off switch turned to the off position or clean position.



The temperature controller is located below the clear ice maker. It consists of an LED display, three LED status indicator lights and three touchpad buttons. The LED display shows the refrigerator temperature **set point** and is calibrated in degrees Fahrenheit.

**To Check/Change Temperature Set Point:**

To display actual temperature in the refrigerator, press the “WARMER” button momentarily. A solid status indicator light (1) will show the air temperature reading in the cabinet for approximately 10 seconds.

To adjust the temperature set point, press the “SET TEMP” button momentarily; the display will flash. Press the “WARMER” or “COOLER” button as desired to change the set point. When the desired set point shows on the display, wait 10 seconds and the new set point will be saved. Wait 24 hours for the temperature to stabilize before checking the actual temperature again.

**Error Indicator LEDs:** There are three LED indicator lights on the display window, LEDs 2 and 3 are for service technician use only.



## IMPORTANT

1. Be sure the cycle selector switch (located in the lower right side of the grille) is set to “ON”. Display can be on when selector switch is “OFF”.
2. The controller will be set at the default setting of 38°F when it is first powered up. This setting will display on the LED and should satisfy most customer applications.

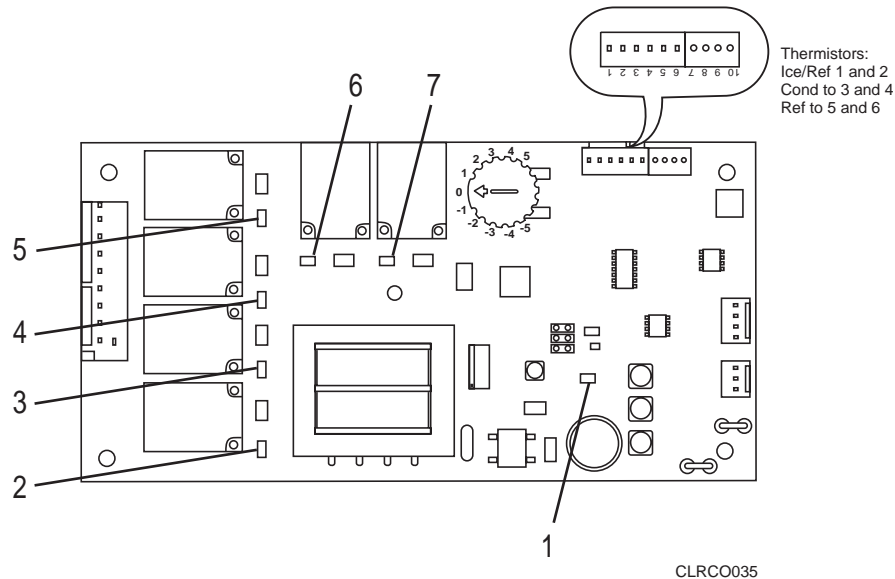
LED	Status	Meaning
1	Solid Flashing	Refrigerator Temperature displayed Not Applicable
2	Solid  Flashing	Service Menu – wait 10 seconds and it will exit automatically Open thermistor – Refer to Thermistors.
3	Solid  Flashing	Service Menu – wait 10 seconds and it will exit automatically (bin temperature displayed) Drain Pump has been blocked or pump is overloaded check installation and drain line

Note: If either of the flashing alerts (2 or 3) have been activated, power must be disconnected to the unit either by unplugging or tripping the breaker to reset LEDs.



## Check Lights on Control Board

The lights on the control board indicate power to the labeled component. The exception is the “REF VALVE” (refrigeration valve). When this light is off, the refrigeration bypass valve is powered.



- |                                   |                         |
|-----------------------------------|-------------------------|
| 1. PWR                            | 5. HOT GAS              |
| 2. REF VALVE                      | 6. H2O IN – water inlet |
| 3. FAN                            | 7. COMP                 |
| 4. H2O PUMP – (water circulating) |                         |

## CLRCO2075 CONTROL BOARD DIAGNOSTICS

This section can be used to aid in pinpointing a problem when diagnosing a unit. Every component in the CLRCO unit can be energized separately and its operation verified by following the procedure below. In addition to verifying individual component operation the function of the circuit board can be checked as well.

1. Turn power switch to the off position.
2. Disconnect power from the unit.
3. Turn ice thickness adjustment dial to the +5 setting.
4. Add a jumper to thermistor pins 9 and 10. See page 39 for pin locations.
5. Disconnect one pink lead from circuit board.
6. Reconnect power supply to unit.

Any of the following steps can be checked individually or combined with others to check components.

### Refrigeration bypass valve

This valve is energized when the REF VLV light on the circuit board is **not illuminated**.

First check to see if the valve is energized. It should feel hot to the touch. If it is not check voltage at the valve itself and at the output from the board.



## Compressor

### COMP

To energize the compressor touch the previously disconnected pink lead back to the board. You should hear the compressor start up and the green COMP light will illuminate. If it does not start check voltage at the compressor and at the output from the board. If the green light does not illuminate first remove both pink wires from the board and directly jump the two spade connectors together. If the light does not illuminate still then the board is defective. If the light does illuminate there is an open pump overflow circuit. This circuit should only be open when the P60 pump is overfilled with water. This would signal a defective pump or blocked drain line. When doing this do not start and stop the compressor frequently or the compressor overload protect will trip.

## Hot gas valve

### Hot Gas

Make sure the pink lead is disconnected from the board before beginning this procedure. Turn the power switch to the on/ice position. You should hear the hot gas valve click and the green HOT GAS light should illuminate. If the valve does not operate but the green light comes on check voltage at the valve and board output. If the green light does not illuminate first check the On/Off/CLN switch for continuity. If the switch is operating properly and set to the on position the green HOT GAS light should be illuminated.

## Water valve

### H2O IN

Make sure the pink lead is disconnected from the board before beginning this procedure and the power switch is still in the off position. Turn the switch to the CLN position. The water valve should energize and the H2O IN green light should illuminate. You should see water filling into the trough. If water is not filling but the green light is on check voltage at the valve and board output. Also, verify that the water supply is hooked up and turned on. If the light does not illuminate check the CLN switch for continuity. If the switch is operating properly and set to the CLN position the green H2O IN light should be illuminated.

## Refrigeration valve

### REF VLV

## Condenser fan

### COND FAN

## Water circulation pump

### H2O PUMP

Before beginning this ensure the pink lead is disconnected from the board and the switch is in the off position.

Turn ice thickness adjustment dial to +2 setting. This should energize the REF VLV relay and illuminate the green REF VLV light. You should hear the valve click and it should feel warm to the touch. Continue turning the dial to the "0" setting. At this point the condenser fan should activate and the green COND FAN light will illuminate. Finally, turn the dial to -2 and the water circulation pump will energize. If there is water in the trough the pump should begin to pump water over the ice-mold. If the water is low the pump may not pump water but make splashing noise only.

At the conclusion of this testing:

1. Disconnect power supply to unit.
2. Connect both pink leads to the circuit board.
3. Remove jumper to thermistor pins 9 and 10. See page 39 for pin locations.
4. Turn ice thickness adjustment dial to the "0" setting.
5. Connect power to the unit.
6. Turn power switch to the ice position.



## REFRIGERATION SYSTEM DIAGNOSIS GUIDE

System Condition	Suction Pressure	Suction Line	Compressor Discharge	Condenser	Capillary Tube	Evaporator	Wattage
<b>Normal</b>	Normal	Slightly below room temperature	Very hot	Very hot	Warm	Cold	Normal
<b>Overcharge</b>	Higher than normal	Very cold may frost heavily	Slightly warm to hot	Hot to warm	Cool	Cold	Higher than normal
<b>Undercharge</b>	Lower than normal	Warm - near room temperature	Hot	Warm	Warm	Extremely cold near inlet - outlet below room temperature	Lower than normal
<b>Partial Restriction</b>	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
<b>Complete Restriction</b>	In deep vacuum	Room temperature (cool)	Room temperature (cool)	Room temperature (cool)	Room temperature (cool)	No refrigeration	Lower than normal
<b>No Gas</b>	0 PSIG to 2.5"	Room temperature (cool)	Cool to hot	Room temperature (cool)	Room temperature (cool)	No refrigeration	Lower than normal



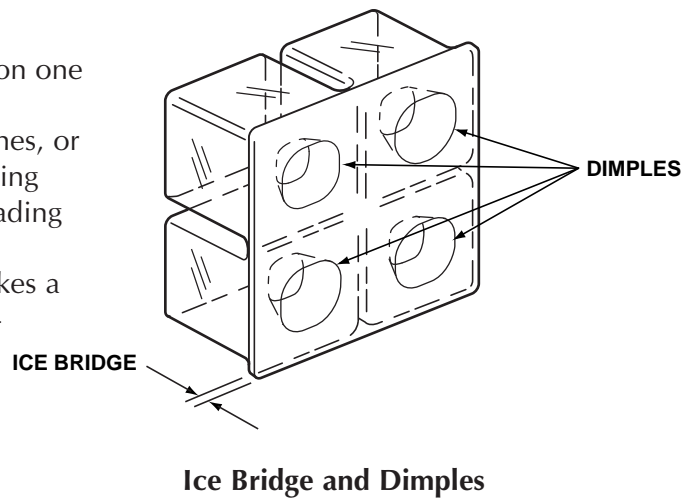
## ICE THICKNESS ADJUSTMENT



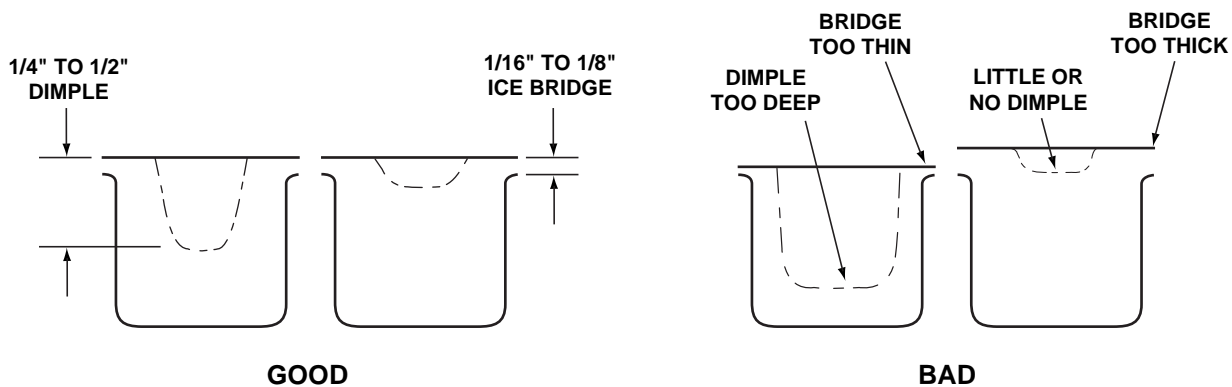
Do not touch electrical wires. Disconnect power to the ice maker before making any ice thickness adjustments.

Your U-Line Clear Ice Maker uses advanced technology to make ice that is crystal clear. This technology cascades a flow of water over a chilled ice mold that is mounted vertically so no water sits in it. Because of this ice making technology, clear ice cubes differ significantly from regular ice cubes. Differences are as follows:

- **Dimples.** U-Line clear ice cubes have “dimples” on one side from the cascading water process.
- **Cube Variations.** Cubes made from different batches, or even cubes within the same batch may have varying dimples, thicknesses and/or sizes due to the cascading water process.
- **Cube “slabbing.”** The U-Line clear ice maker makes a “slab” of ice that falls from the vertical mold relying on gravity to break the ice bridges. Depending on the control setting, and the fullness of the ice bucket, it may be necessary to tap the ice slab with the scoop to break it apart.



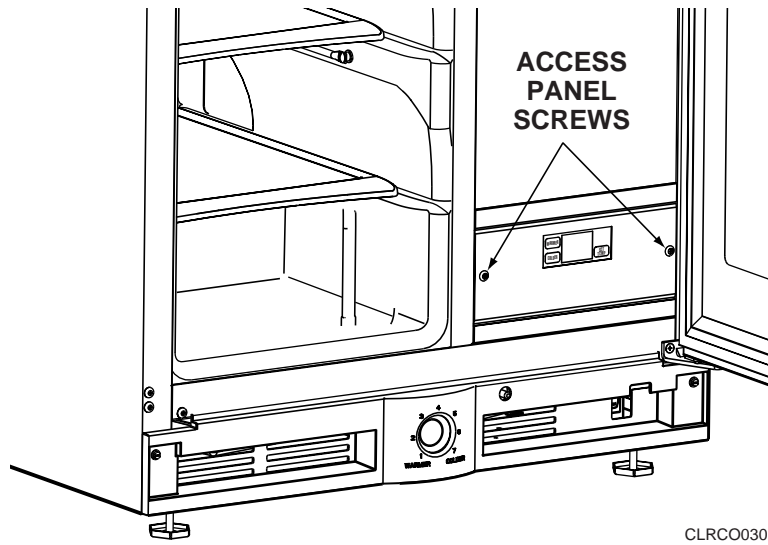
The ice cube thickness control is factory set for best overall performance. The factory setting is designed to maintain an ice bridge of approximately 1/16" to 1/8" under normal conditions resulting in a dimple of approximately 1/4" to 1/2" in depth. A fuller cube with less of a dimple results in a thicker ice bridge. As the ice bridge becomes thicker, the tendency for the cubes to stay together as a slab increases. A bridge thicker than 1/8" may cause cubes to overfill the ice bucket.



Cube Types



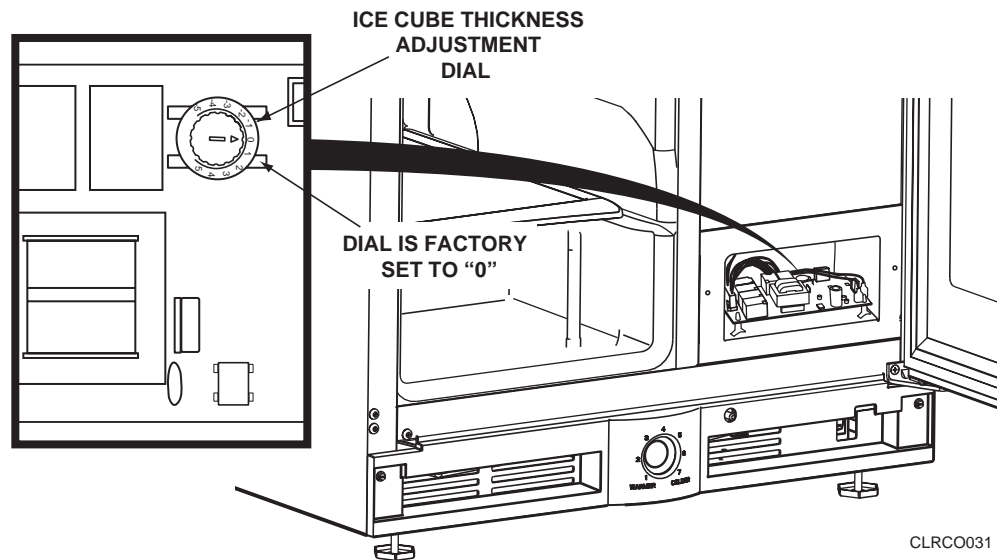
1. Disconnect power to the unit.



CLRC0030

### Access Cover

2. Remove the screws securing the front access panel.



CLRC0031

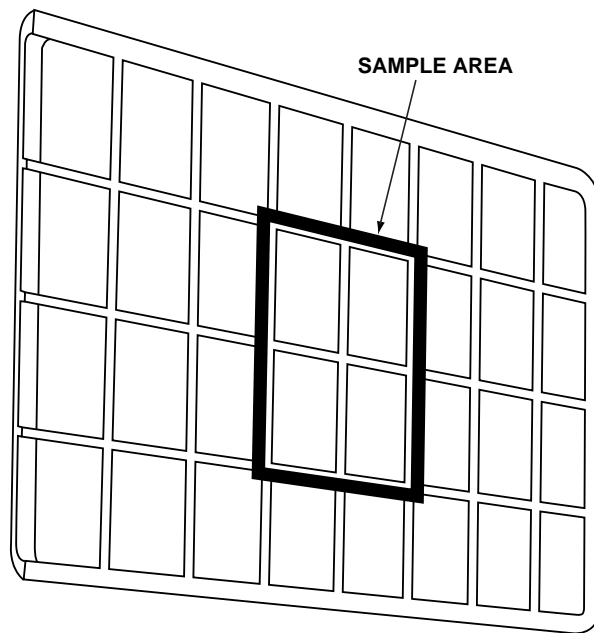
### Ice Thickness Adjustment Dial



3. Locate the ice cube thickness adjustment dial on the control board. Turn the dial clockwise (+ number) to thicken or counterclockwise (- number) to thin the ice bridge.

## IMPORTANT

Ice thickness adjustment dial should be turned only one increment (number on dial) at a time. Allow the ice maker to stabilize for 24 hours before making further adjustments. Since ice cubes in any given batch will vary, choose cubes from the sample area for comparison when making adjustments. The factory setting is "0".



Ice Cube Mold

4. Reinstall front access cover.
5. Reconnect power to ice maker.
6. Empty ice bucket.



## TROUBLESHOOTING

**WARNING**

DO NOT service the unit until the main electrical power has been disconnected.

**1 Not refrigerating (compressor and fan are operating)****CAUSE**

- a. Little or no frost pattern on evaporator

**REMEDY**

- a. Check for sealed system leak or restriction

**2 Not refrigerating (compressor not operating, fan operating)****CAUSE**

- a. Wire off or broken
- b. Defective compressor - check resistance
- c. Defective overload
- d. Defective relay

**REMEDY**

- a. Check wiring
- b. Replace compressor
- c. Replace overload
- d. Replace relay

**3 Compressor overheating****CAUSE**

- a. Condenser air flow restricted
- b. Condenser fan blade obstructed
- c. Condenser fan motor stalled
- d. Defective compressor - check resistance

**REMEDY**

- a. Remove restriction (clean condenser and grille)
- b. Remove blade restriction
- c. Replace fan motor
- d. Replace compressor

**4 Water leak inside unit****CAUSE**

- a. Blocked drain

**REMEDY**

- a. Remove blockage

**5 Excessive frost build-up****CAUSE**

- a. Gasket not sealing
- b. Door out of alignment
- c. Light stays on when door is closed

**REMEDY**

- a. Repair or replace gasket
- b. Re-align the door
- c. Repair light bracket

**6 Noisy****CAUSE**

- a. Copper refrigeration tube touching cabinet
- b. Fan blade touching shroud
- c. Fan blade obstruction (wiring, foam insulation, packaging material)

**REMEDY**

- a. Carefully adjust tubing
- b. Adjust fan mounting or shroud
- c. Remove obstruction

**7 Fresh food temperature too cold****CAUSE**

- a. Controller set too cold
- b. Defective control board
- c. Wiring defect

**REMEDY**

- a. Adjust controller
- b. Replace control board
- c. Check wiring



## 8 No ice production

### CAUSE

- a. No water supplied to unit
- b. Stand pipe not inserted in water trough

### REMEDY

- a. Check that water is connected and turned on
- b. Insert stand pipe securely into water trough

## 9 Low ice production

### CAUSE

- a. High ambient temperatures around unit
- b. Deposit build-up on evaporator grid
- c. Ice thickness dial set incorrectly
- d. Dirty condenser coil

### REMEDY

- a. Low ice rate is normal with high ambient temperatures
- b. Run the unit through a clean cycle
- c. Adjust ice thickness dial
- d. Clean condenser coil

## 10 Poor ice quality (unclear cubes)

### CAUSE

- a. Poor incoming water quality
- b. Deposit build-up on evaporator grid

### REMEDY

- a. Consult a plumber
- b. Run the unit through a clean cycle

## 11 Unit produces shallow or incomplete cubes

### CAUSE

- a. Low water level
- b. Low water pressure
- c. Unit is not level
- d. Ice thickness dial set incorrectly

### REMEDY

- a. Check that stand pipe is fully seated inside water trough
- b. Consult a plumber (pressure should be 20 minimum to 120 maximum psi)
- c. Level unit to assure even water flow
- d. Adjust ice thickness dial

## 12 Water leak under unit

### CAUSE

- a. Incoming water supply line leaking
- b. Fill tube leaking
- c. Drain connections not tight

### REMEDY

- a. Check brass connection
- b. Tighten fill tube connection to water line
- c. Check all connections

## 13 Water in ice bin

### CAUSE

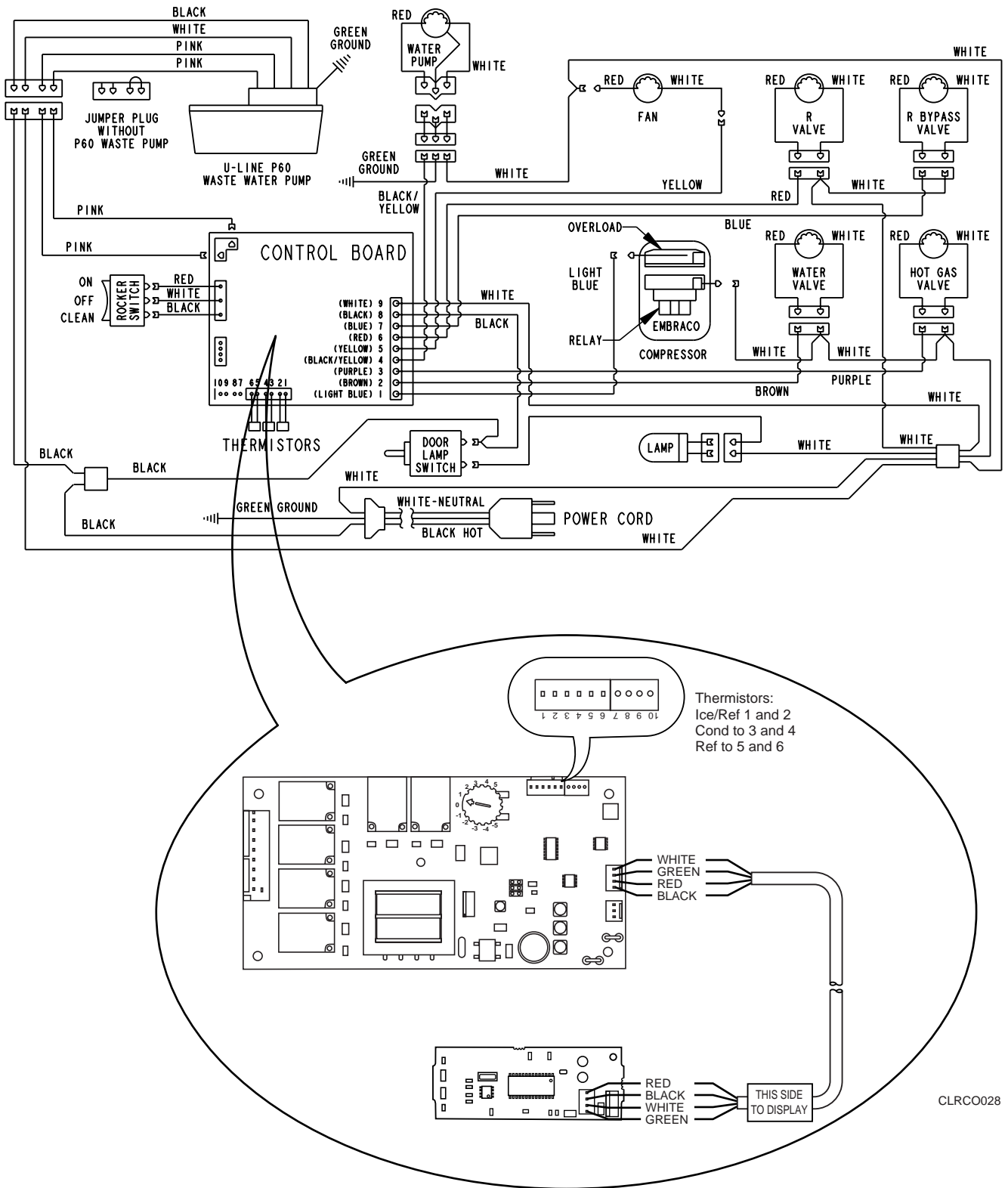
- a. Bin drain kinked or restricted
- b. External drain is restricted

### REMEDY

- a. Clear drain of obstruction or kink
- b. Check drain lines



# CLR2075 Wiring Diagram



## PARTS LISTING

### How to Order Replacement Parts

1. Locate the illustration(s) for the model you are servicing.
2. Refer to the area where the desired part would be installed, locate the part and note the item number assigned to it.
3. Locate the item number in the left column of the parts listing which is on the next page from the product illustration. Note the full description and the corresponding part number. If this is for a warranty unit, please indicate and record the model and serial numbers.
4. When ordering parts, it will be necessary to supply us with Model Number, Serial Number, Part Number, Part Description and in some cases Color or Voltage.
5. U-Line requires the return of the parts listed below if replaced under warranty.
  - Fan motors (condenser and evaporator)
  - Temperature controls
  - Water solenoid valves
  - Pumps
  - Control boards
  - Ice maker motors
  - Bypass solenoids
  - Compressors (two years old or less - lines soldered closed)

All warranty parts will be shipped at no charge as long as warranty status has been confirmed. 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 a part or if you may field scrap it. If U-Line requires a defective part to be returned, a prepaid shipping label will be included with your new replacement part. When returning parts please enclose a copy of your packing list and a copy of your labor claim, showing the model and serial number, and tag or label the part with the nature of the defect.

Our warranty records may not match the customer's information. In this case a proof of purchase will be required. If you do not have the proof of purchase at the time the order is placed, the part will be sent net 15 days (COD if you don't have an open account with U-Line Corporation). When the proof of purchase is provided we will credit your account (a check will be sent if the part was sent COD).

6. Parts may be ordered on-line or by FAX or phone.

On-Line:            [www.U-LineService.com](http://www.U-LineService.com)  
 FAX Number:    (414) 354-7905  
 Phone Number: (414) 354-0300 or (414) 354-7885; press 3

**To expedite parts shipments, on-line ordering is fastest. When placing FAX orders, copy the FAX Parts Order Form, located in the back of this manual, when placing an order.**

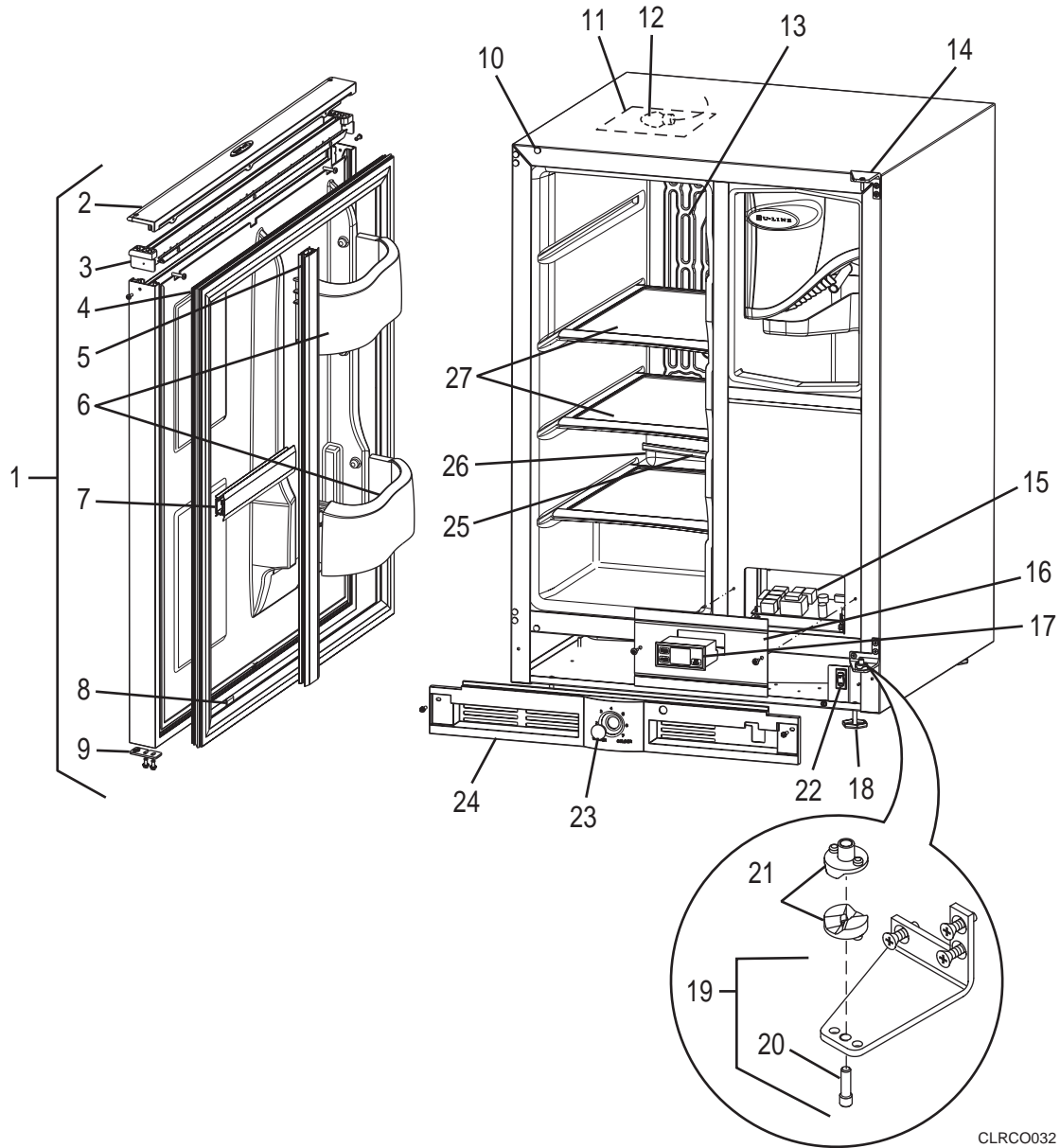
7. U-Line will **not** pay warranty claims for the replacement of a complete ice maker assembly. Complete ice maker assembly replacement is not necessary because all ice maker parts are available as replacement parts and are stocked in our inventory.

**REPLACEMENT PARTS:** Use only genuine U-Line replacement parts. The use of non-U-Line parts can reduce ice rate, cause water to overflow from ice maker mold, damage the unit, and may void the warranty.





## MODEL CLRCO2075 (1 OF 3)



CLRCO032

**MODEL CLRCO2075 (1 OF 3)**

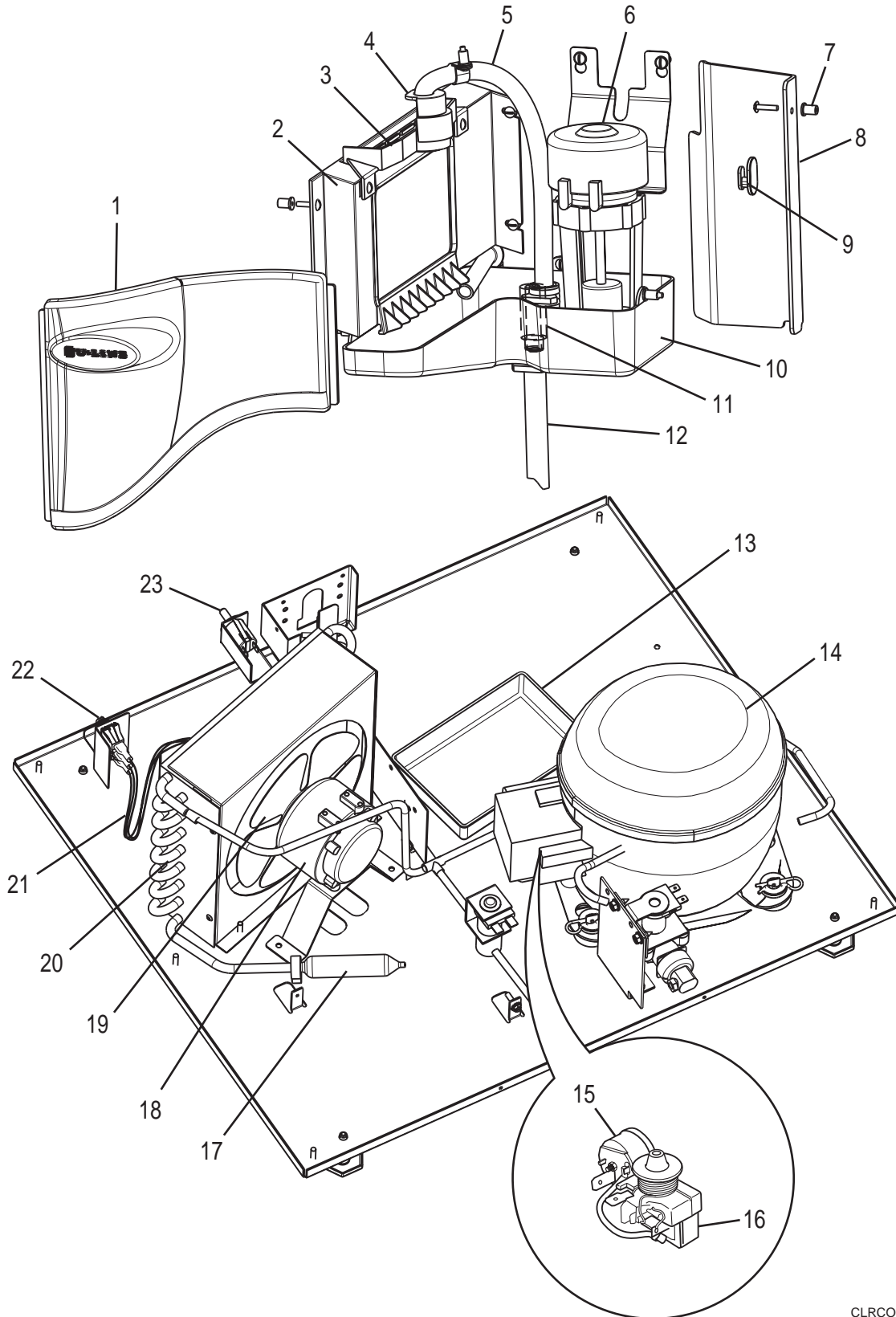
<b>Item</b>	<b>Description</b>	<b>White</b>	<b>Black</b>	<b>Stainless Steel</b>
1	Door Assembly	80-17019-02	80-17019-01	See Parts Not Shown
2	Door Handle Top	11926-4-KIT	11926-4-BLK	See Parts Not Shown
3	Door Handle Bottom	11927-4-KIT	11927-4-BLK	11927-4-BLK
4	Door Gasket (outer)	12094-03	12094-01	12094-02
5	Door Gasket (vertical)	12095-09	12095-07	12095-08
6	Door Shelf	31690	31690	31690
7	Door gasket (horizontal)	12095-03	12095-01	12095-02
8	Door Switch Bracket	11973	11973	11973
9	Pivot Plate	11901-1	11901-1	11901-1
10	Threaded Hole Plug	31723-WHT	31723-BLK	41156-SS
11	Light Cover	11859	11859	11859
12	Lamp Bulb	31317	31317	31317
13	Refrigerator Evaporator Assembly	2649-S	2649-S	2649-S
14	Hinge Assembly Top R/H	11898-S-KIT	11898-S-BLK	11898-S-SS
15	Control Board Assembly	68008-S	68008-S	68008-S
16	Lower Front Panel	12090-02	12090-01	12090-03
17	Display Board	68010	68010	68010
18	Leveling Leg	41319	41319	41319
19	Hinge Assembly Bottom R/H	11899-S-KIT	11899-S-BLK	11899-S-SS
20	Pivot Post	42096	42096	42096
21	Door Closer Assembly	31673-S	31673-S	31673-S
22	Rocker Switch	2285	2285	2285
23	Grille Plug	31304	31304	31304
24	Grille	11902-KIT-01	11902-BLK-01	11902-BLK-01
25	Drain Trough	31391-5	31391-5	31391-5
26	Drain Cup	26008	26008	26008
27	Glass Shelf	31704	31704	31704

**Parts Not Shown**

<b>Item</b>	<b>Description</b>	<b>White</b>	<b>Black</b>	<b>Stainless Steel</b>
	Door Assembly Stainless Steel - Right Hand Hinge	N/A	N/A	80-17019-03
	Door Assembly Stainless Steel - Left Hand Hinge	N/A	N/A	80-17019-13
	Door Handle Top Modified	N/A	N/A	31682-8-BLK
	Door Handle	N/A	N/A	11949



## MODEL CLRCO2075 (2 OF 3)



CLRCO033



**MODEL CLRCO2075 (2 OF 3)**

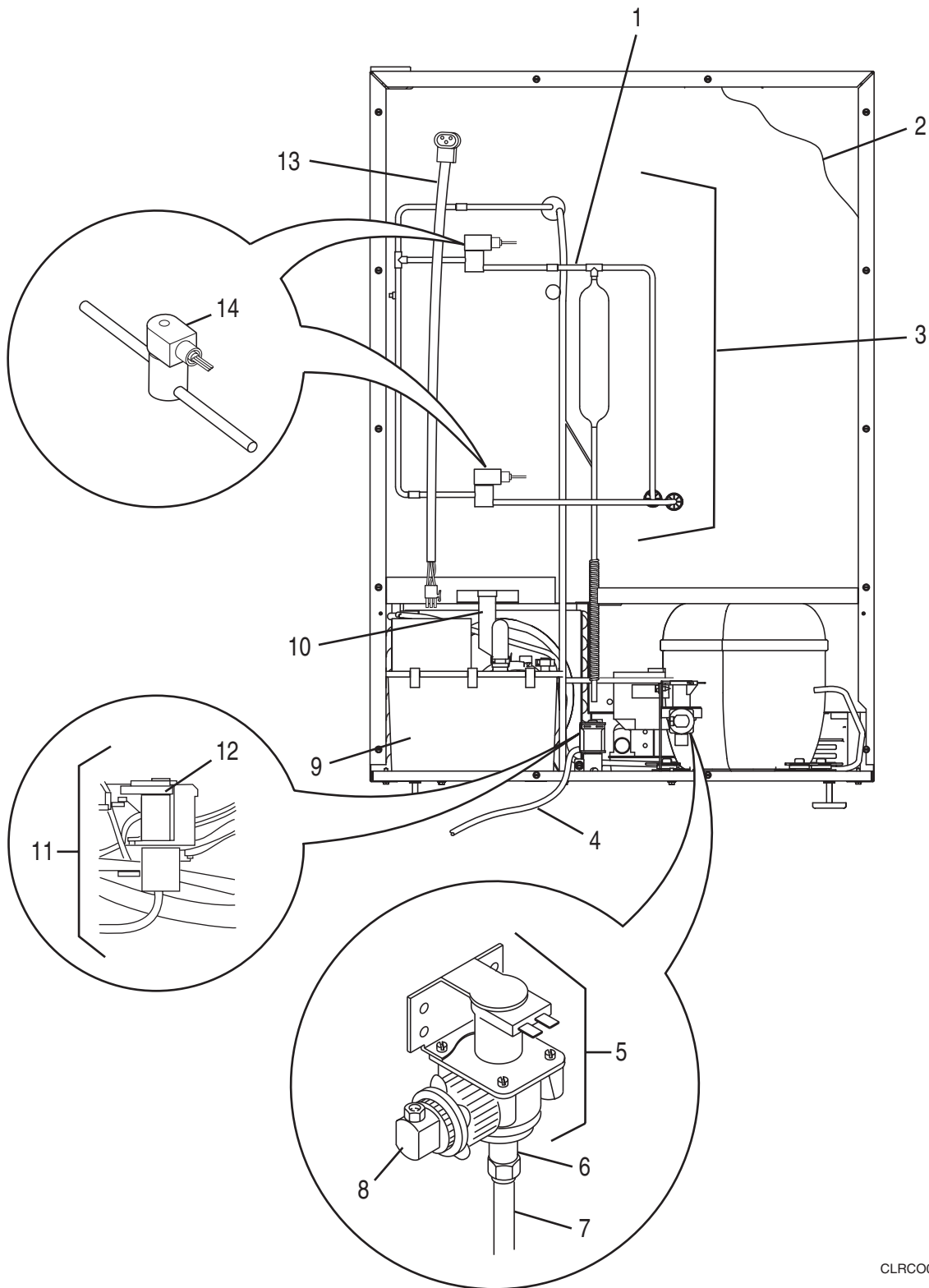
<b>Item</b>	<b>Description</b>	<b>White</b>	<b>Black</b>	<b>Stainless Steel</b>
1	Cover - Front	12070-01	12070-01	12070-01
2	Evaporator Assembly	2276-CLRCO-S	2276-CLRCO-S	2276-CLRCO-S
3	Water Dispersion Receptacle	11812	11812	11812
4	Tube Retainer	26009	26009	26009
5	Pre-formed Tube - White	31615-S	31615-S	31615-S
6	Circulation Pump	31613	31613	31613
7	Well Nut	41979	41979	41979
8	Circulation Pump Cover	12057-01	12057-01	12057-01
9	Hook for Ice Scoop	42011	42011	42011
10	Water Trough	12068-01	12068-01	12068-01
11	Stand Pipe	31619	31619	31619
12	Drain Tube - Clear	2820-S	2820-S	2820-S
13	Drain Pan	31550-1-F	31550-1-F	31550-1-F
14	Compressor	70078-S	70078-S	70078-S
15	Overload	71011	71011	71011
16	Relay	71012	71012	71012
17	Dryer	2850	2850	2850
18	Condenser Fan Motor	5300	5300	5300
19	Condenser Fan Blade	5303	5303	5303
20	Condenser Assembly	2269-S	2269-S	2269-S
21	Rocker switch wire harness	68016	68016	68016
22	Rocker Switch Mounting Bracket	12027	12027	12027
23	Light Plunger	1916	1916	1916

**Parts Not Shown**

<b>Item</b>	<b>Description</b>	<b>White</b>	<b>Black</b>	<b>Stainless Steel</b>
	Ice Scoop	31614	31614	31614
	U-Line Specified Clear Ice Cleaner - 6 Applications Per Order	41978	41978	41978



## MODEL CLRCO2075 (3 OF 3)



CLRCO034

## MODEL CLRCO2075 (3 OF 3)

<b>Item</b>	<b>Description</b>	<b>White</b>	<b>Black</b>	<b>Stainless Steel</b>
1	Heat Exchanger Assembly	72006-S	72006-S	72006-S
2	Back Panel	11969-02	11969-02	11969-02
3	Valve Manifold Assembly	80-37005-00-S	80-37005-00-S	80-37005-00-S
4	Power Cord	2894	2894	2894
5	Water Valve	2716	2716	2716
6	Plastic Nut & Sleeve	41254	41254	41254
7	Water Line Assembly	404-30	404-30	404-30
8	90 Degree Brass Fitting	41826	41826	41826
9	Drain Pump	P60	P60	P60
10	Drain Tubing - White	31617-S	31617-S	31617-S
11	Hot Gas Bypass Valve Assembly	73000-S	73000-S	73000-S
12	Coil Only - Hot Gas Bypass Valve Assembly	73001-S	73001-S	73001-S
13	Wire - Pump to Power Cord	2892-02	2892-02	2892-02
14	Coil Only - Refrigeration Valve	BF4C05-S	BF4C05-S	BF4C05-S



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# NOTES

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# U-LINE

C O R P O R A T I O N

FAX PARTS ORDER FORM  
FAX # 414-354-7905

Account# \_\_\_\_\_ Ship to: \_\_\_\_\_

Bill to: \_\_\_\_\_

\_\_\_\_\_ Attention: \_\_\_\_\_

Date: \_\_\_\_\_ P.O. \_\_\_\_\_

Phone# \_\_\_\_\_ Fax# \_\_\_\_\_

PART#	COLOR	QTY	DESCRIPTION	MODEL	SERIAL NUMBER	UNIT IN WARRANTY?

**SPECIAL INSTRUCTIONS:**

All part shipments will be sent ground delivery.  
We have air shipment available at an additional cost to you.  
**Next Day Air      2nd Day Air      3 Day Select**

If you do not have an open account with us your order will be shipped C.O.D.

**COMMENTS:** \_\_\_\_\_  
\_\_\_\_\_

Authorized By \_\_\_\_\_





P.O. Box 245040  
Milwaukee, WI 53224-9540  
Phone 414.354.0300  
FAX 414.354.7905