



IMI CORNELIUS INC

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# Installation Manual

## ICE/BEVERAGE DISPENSER

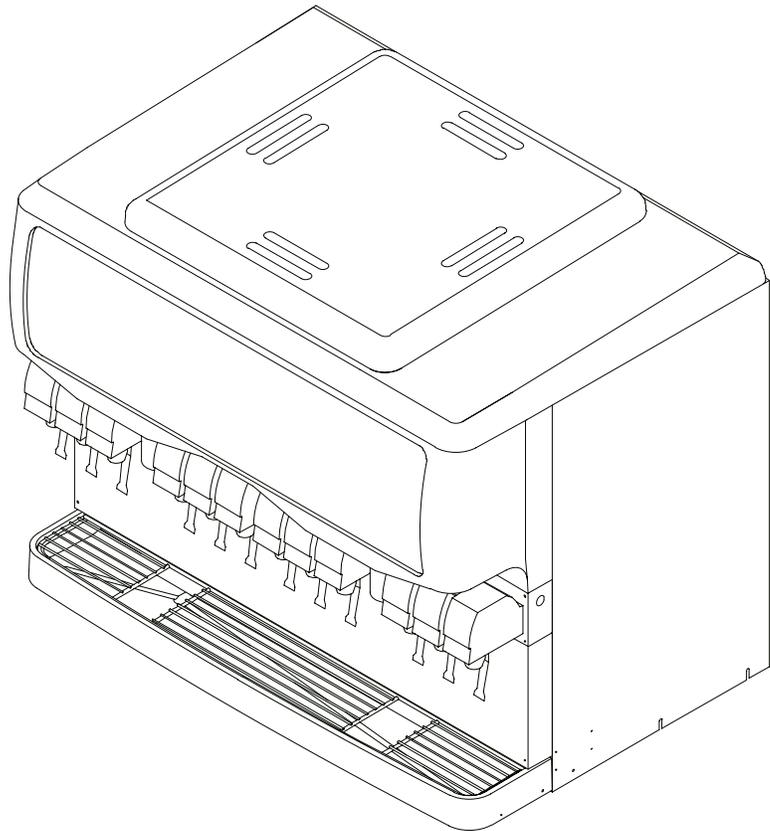
### Model: ED 300 BC

#### **IMPORTANT:**

##### **TO THE INSTALLER.**

It is the responsibility of the installer to ensure that the water supply to the dispensing equipment is provided with protection against backflow by an air gap as defined in ANSI/ASME A112.1.2-1979; or an approved vacuum breaker or other such method as proved effective by test.

Water pipe connections and fixtures directly connected to a potable water supply shall be sized, installed, and maintained according to Federal, State, and Local Codes.



Part No. 92166INS

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Revision: B

THIS DOCUMENT CONTAINS IMPORTANT INFORMATION

This Manual must be read and understood before installing or operating this equipment

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# SAFETY PRECAUTIONS

**Always:** disconnect power to the dispenser before servicing or cleaning.

**Never:** place hands inside of hopper or gate area without disconnecting power to the dispenser. Agitator rotation occurs automatically when dispenser is energized!

This ice dispenser has been specifically designed to provide protection against personal injury and eliminates contamination of ice. To insure continued protection and sanitation, observe the following:

**ALWAYS:** be sure the removable lid is properly installed to prevent unauthorized access to the hopper interior and possible contamination of the ice.

**ALWAYS:** be sure the upper and lower front panels are securely fastened.

**ALWAYS:** keep area around the dispenser clean of ice cubes.

The drip tray can be easily and quickly removed. The unit must never be lifted or moved by the drip tray.



**CAUTION: Dispenser cannot be used with crushed or flaked ice. Use of bagged ice which has frozen into large chunks can void warranty. The dispenser agitator is not designed to be an ice crusher. Use of large chunks of ice which "jam up" inside the hopper will cause failure of the agitator motor and damage to the hopper. If bagged ice is used, it must be carefully and completely broken into small, cube-sized pieces before filling into the dispenser hopper.**

## DESCRIPTION

The "ENDURO" series of ice dispensers solves your ice and beverage service needs in the sanitary, space saving, economical way. Designed to be manually filled with ice from any remote ice making source, these dispensers will dispense cubes (up to 1-1/4" in size), cubelets and hard-chipped or cracked ice; and, in addition, several flavors of post-mix beverages. "BC" units include beverage faucets and a cold plate and are designed to be supplied direct from syrup tanks and carbonator, with no additional cooling required.

## SPECIFICATIONS

Model Descriptions:	ED300 (Ice only)	-B (Beverage Faucets) -BC (Faucets and Cold Plate) -Z (No Drip Tray) -N (No Lid) -F (Flavor Option)
Ice Storage:	300 lbs	
Maximum Number of Faucets Available:	12	
Built-in Cold Plate:	Yes, on BC Models Only	
Electrical:	120/1/60 Hz, 5.2 Amps Total Unit Draw 220-240 /1/50/60 Hz 4.0 Amps Total Unit Draw	
Dimensions:	44-3/8 in. Wide X 31-1/2 in. Deep X 37 in. High	
	Z Model: 44-3/8 in. Wide X 23 1/16 in. Deep X 37 in. High	

# INSTALLATION INSTRUCTIONS

1. Locate the dispenser indoors on a level counter top.
  - A. LEG OPTION, Kit P/N 08017

**Note: Before installing legs, the plastic plugs (6) in the base threaded holes must be removed.**

Unpack the six (6) legs and install them into the threaded holes provided in the bottom of the unit. The installer must provide flexibility in the product and utility supply lines to permit shifting the position of the dispenser sufficiently to clean the area beneath it. For routing these lines above the countertop, a support bracket is located under the unit base at the center from front to back.

## B. COUNTER MOUNTING

The ice dispenser must be sealed to the counter. The MOUNTING TEMPLATE (see applicable Figure 3 or 4) indicates where openings can be cut in the counter. Locate the desired position for the dispenser, then mark the outline dimensions on the counter using the template drawings. Cut openings in counter.

Apply a continuous bead of National Sanitation Foundation (NSF) listed silastic sealant (Dow 732 or equal) approximately 1/4" inside of the unit outline dimensions and around all openings. Then, position the unit on the counter within the outline dimensions. All excess sealant must be wiped away immediately. Bolt the dispenser to the counter with 3/8-16 bolts.

2. The beverage tubes, drain tube and power cord are routed through openings in the bottom of the unit. See MOUNTING TEMPLATE (see applicable Figure 3 or 4), for locating the required clearance hole in the counter for these utility lines.
3. DRIP TRAY DRAIN HOOKUP (see Figure 1): Route the drain tube to an open drain with the end of the tube above the "flood level" of the drain. Use the tubing, fittings, and insulation provided with the Dispenser to assemble the drain. The completed drain must pitch continuously downward and contain no "traps" or improper drainage will result.

**Note: This equipment must be installed with adequate backflow protection to comply with applicable Federal, State and Local codes.**

## 4. Ice Only –B Models.

Connect the hopper drain tubes to an approved drain system with a backflow system with a backflow preventer in compliance to the local plumbing code. *Do not* "tee" into the drip tray drain line.

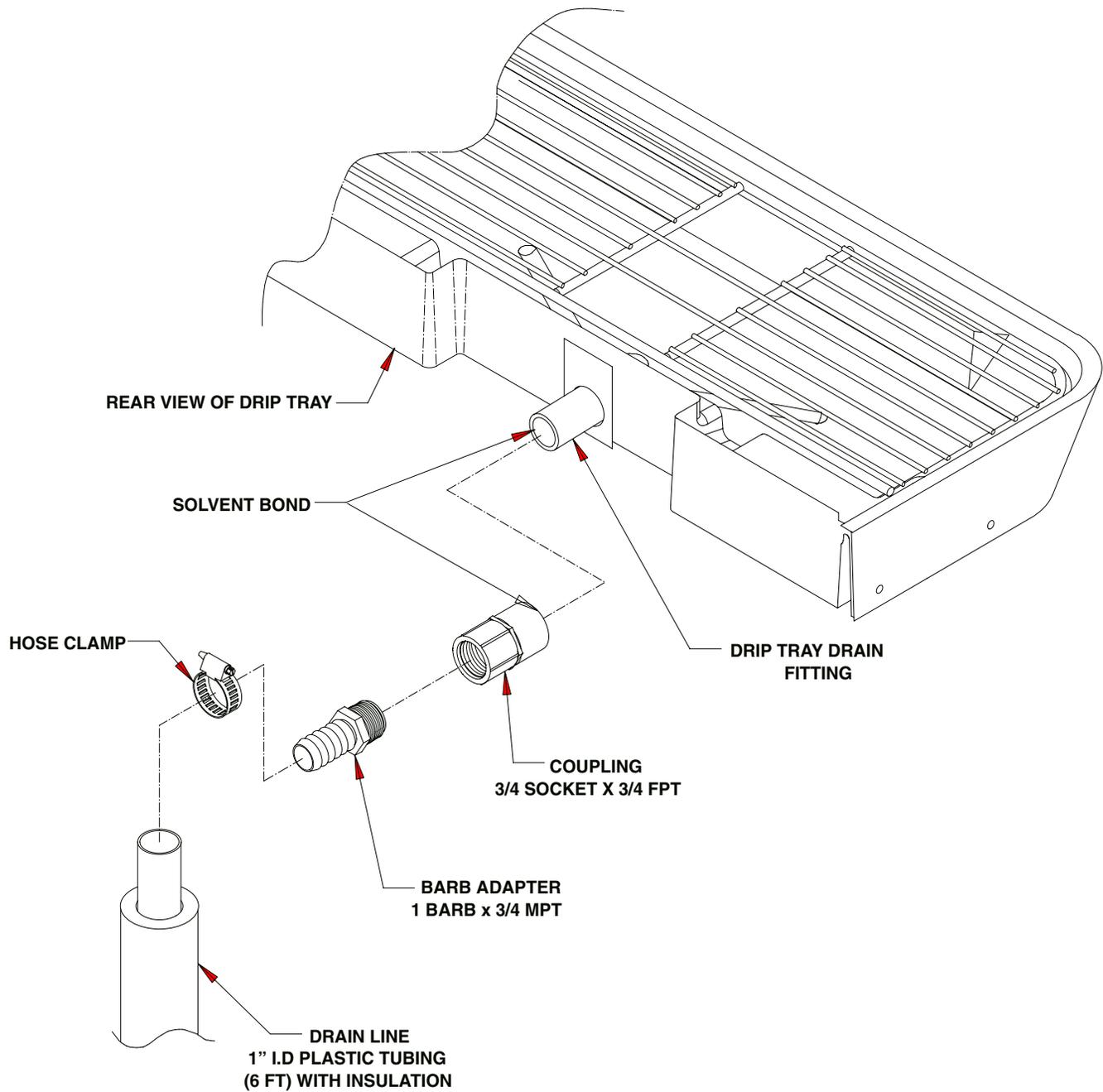
**NOTE: All drain connections *must* be installed with adequate backflow protection to prevent contamination of the potable water supply and the ice storage hopper in accordance with Federal, State, and local codes.**

5. Connect the beverage system product tubes as indicated in the applicable Beverage System Schematic. This work should be done by a qualified Service Person.

**Note: See applicable Plumbing Schematic for the location of syrup and water connections**

6. Attach drip tray assembly to the unit base using the three mounting pins provided. For –BC models, align the cold plate drain elbows into the notches of the drip tray assembly.
7. Clean the hopper interior (see CLEANING INSTRUCTIONS in Owner's Manual).
8. Connect the power cord to a 120 volt, 60 cycle, 3–wire grounded receptacle. For 220–240 V International Units, a three-wire power cord is provided. An adapter plug for the particular country will need to be provided by the installer.

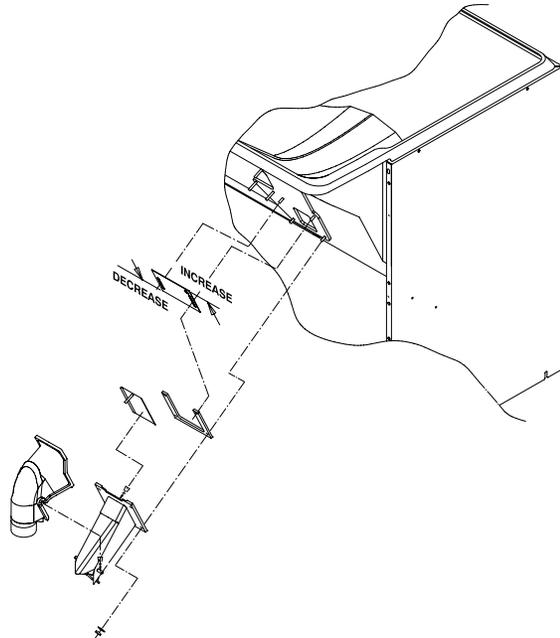
**Note: Water pipe connections and fixtures directly connected to a potable water supply shall be sized, installed and maintained according to Federal, State and Local Laws.**



**FIGURE 1. DRIP TRAY DRAIN HOOK-UP**

# GATE RESTRICTOR PLATE

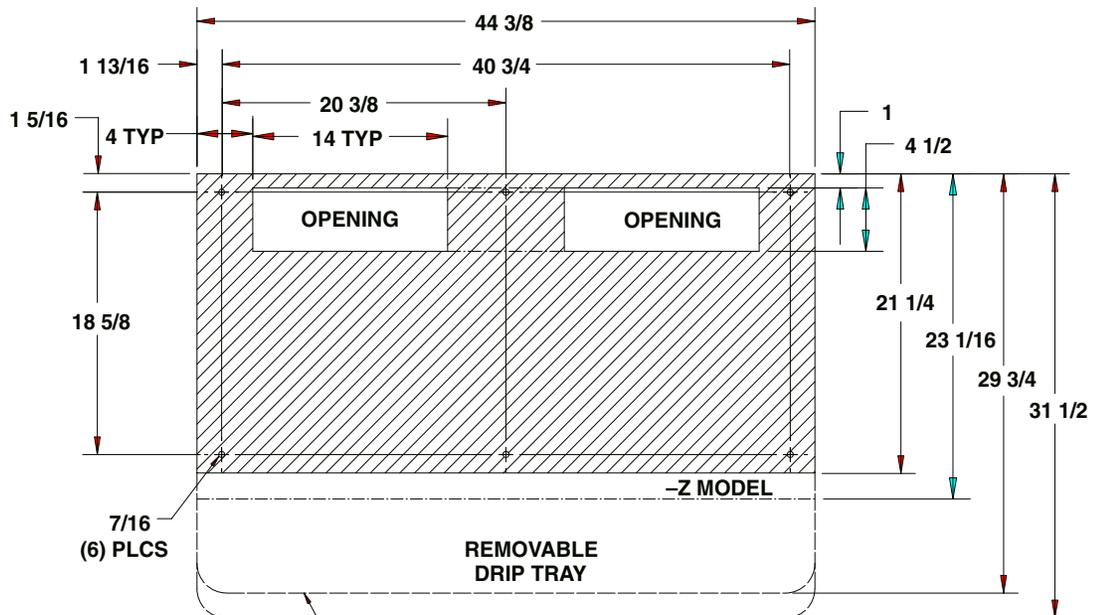
 **CAUTION: Disconnect power to dispenser before installing, removing or adjusting restrictor.**



**FIGURE 2. GATE RESTRICTOR PLATE**

## ADJUSTMENT

This plate may be adjusted as shown in Figure 2 to reduce or increase with large containers the dispensing rate of ice, especially desirable when using glasses or other containers with small openings. Adjustment can be made by sliding up or down with nuts loosened, to obtain the desired amount of restriction.



OPENING (2) IN UNIT BASE FOR BEVERAGE AND WATER MANIFOLD INLET LINES, HOPPER DRAIN LINES (2), AND ELECTRICAL POWER SUPPLY CORD.

TO FRONT OF DRIP TRAY ON COUNTER TOP

TO FRONT TOP OF DRIP TRAY

**FIGURE 3. MOUNTING TEMPLATE (ICE ONLY -B MODELS)**

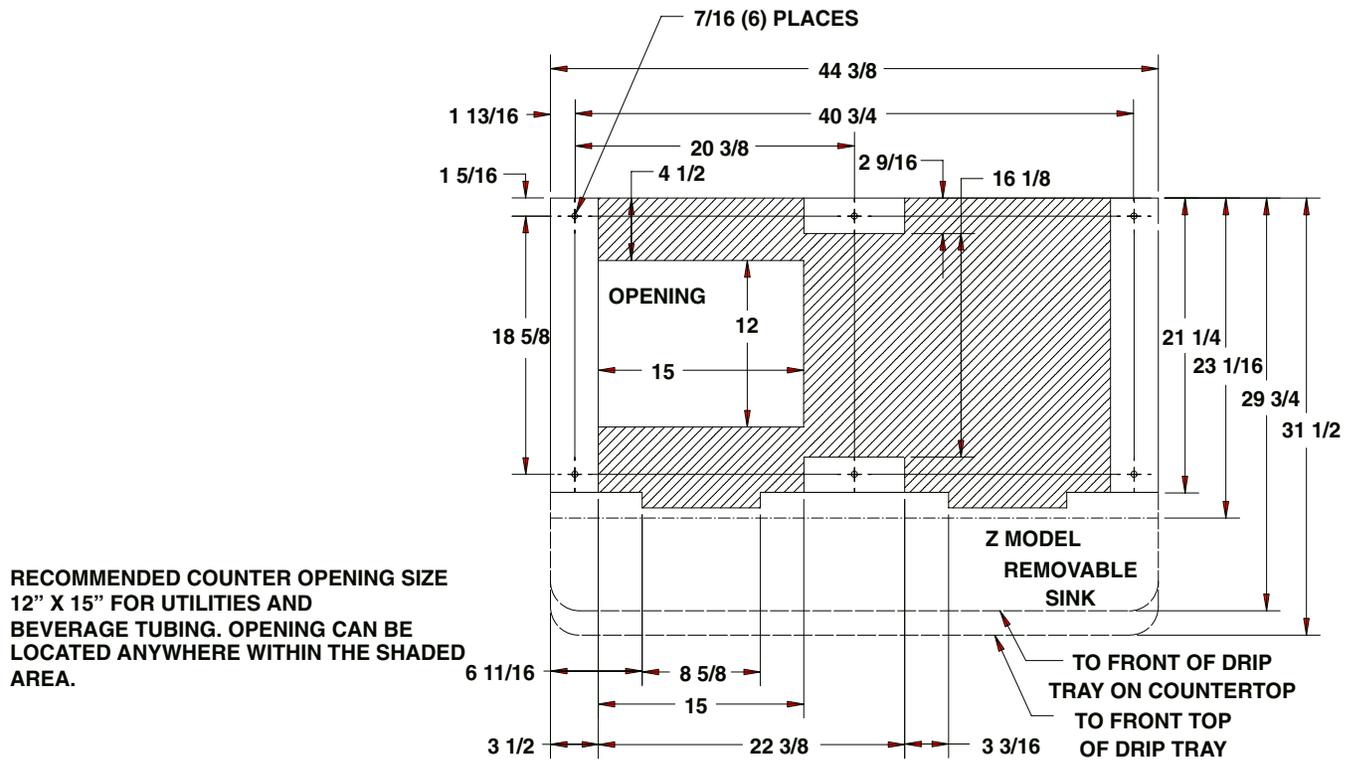
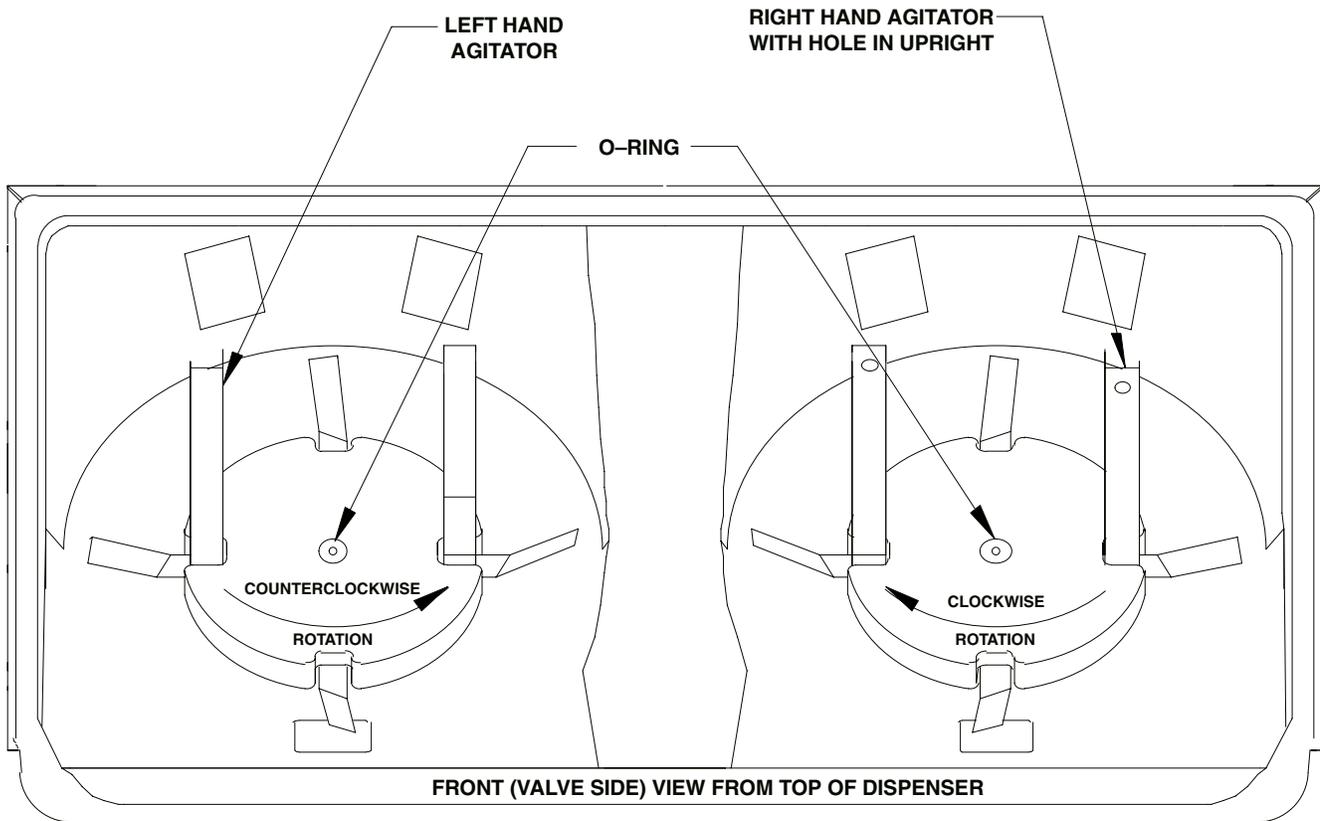


FIGURE 4. MOUNTING TEMPLATE (-BC MODELS)

# REMOVAL AND REPLACEMENT OF AGITATORS



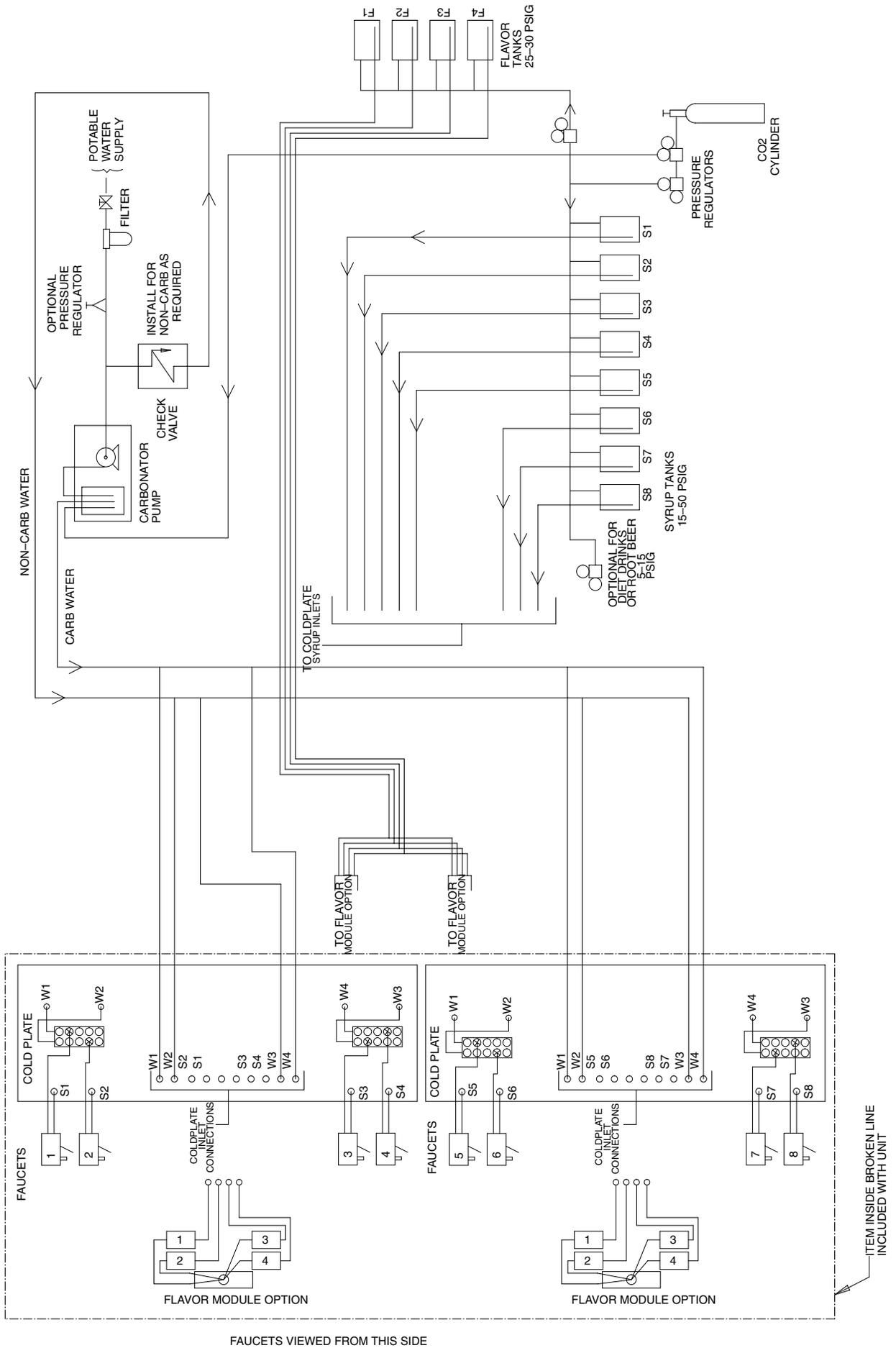
**FIGURE 5. AGITATORS REMOVAL AND REPLACEMENT**

## To Remove Agitators For Cleaning

(see Figure 5)

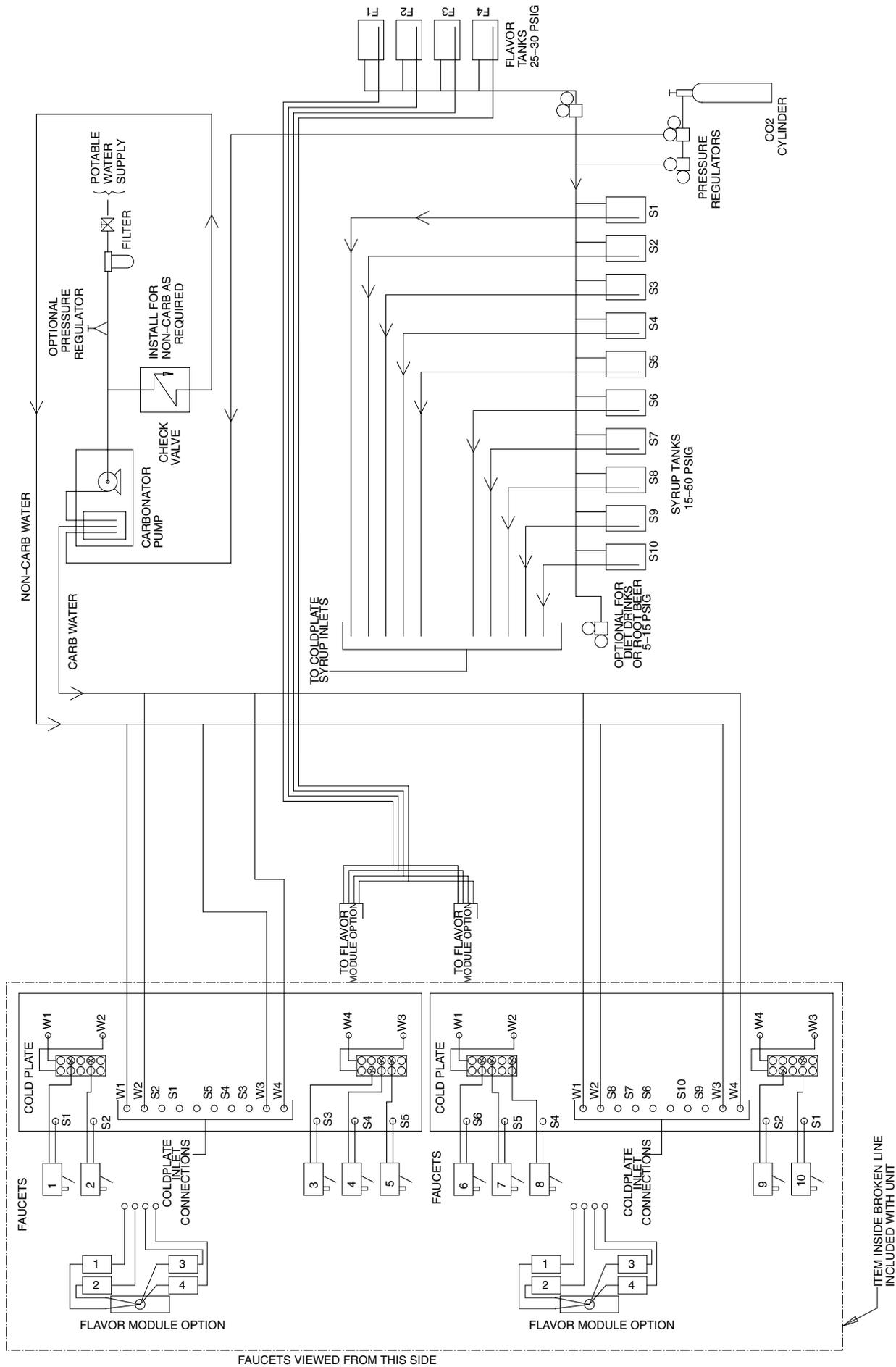
1. Lift agitator and disc from unit..
2. Remove O-Ring starting at notch. Warm the O-Ring with water to ease removal.
3. Lift the plastic agitator disc off of the stainless-steel agitator.
4. Replace by reversing steps.

**Note: Refer to Sanitize Procedure in the Owners Instruction for complete cleaning and sanitizing instructions.**

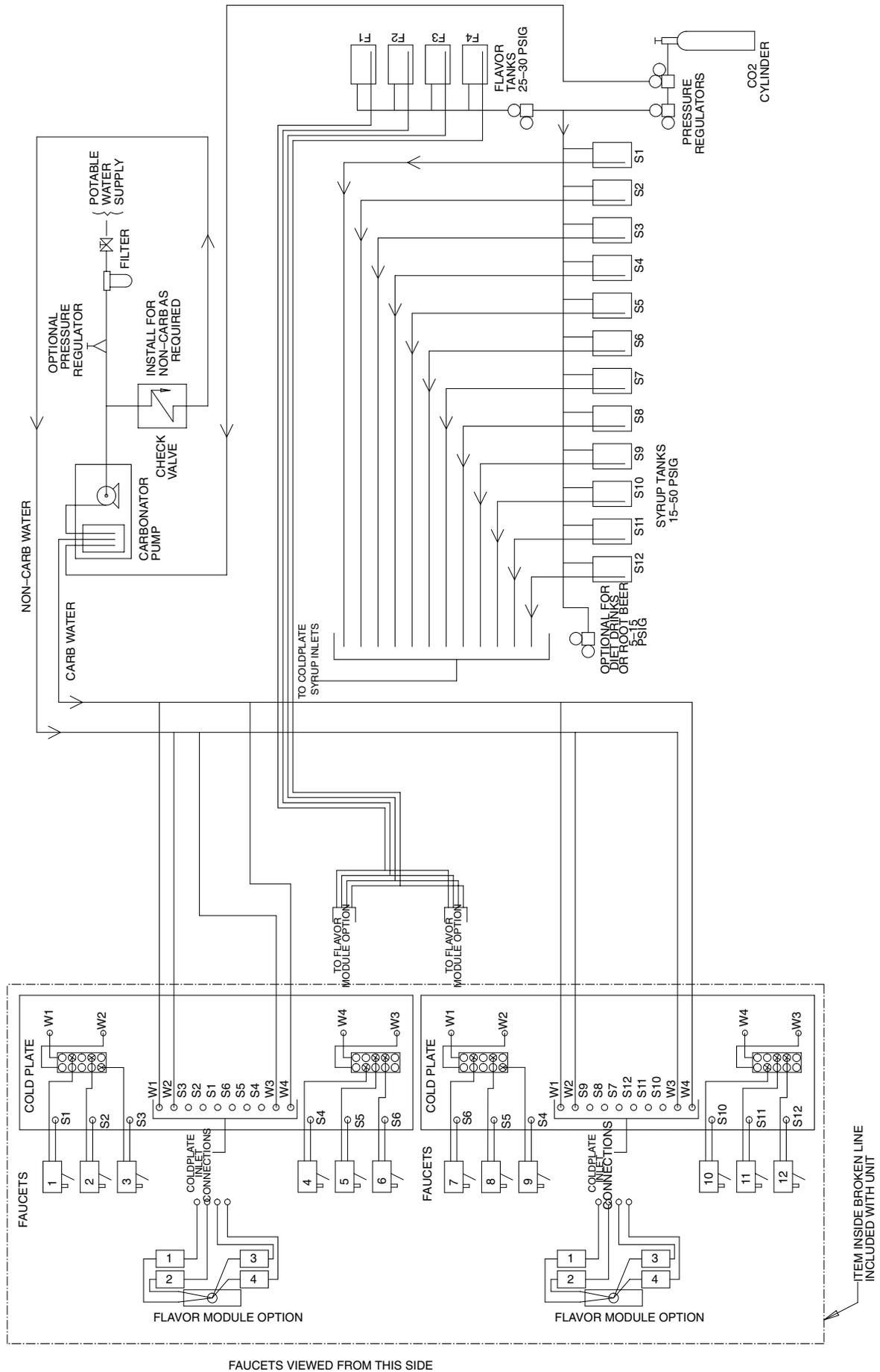


FAUCETS VIEWED FROM THIS SIDE

**FIGURE 6. FLOW DIAGRAM (-BC MODELS WITH EIGHT BEVERAGE FAUCETS)**



**FIGURE 7. FLOW DIAGRAM (-BC MODELS WITH TEN BEVERAGE FAUCETS)**



FAUCETS VIEWED FROM THIS SIDE  
**FIGURE 8. FLOW DIAGRAM (-BC MODELS WITH TWELVE BEVERAGE FAUCETS)**



# TROUBLESHOOTING

**IMPORTANT:** Only qualified personnel should service internal components or electrical wiring.



**WARNING:** If repairs are to be made to a product system, remove quick disconnects from the applicable product tank, then relieve the system pressure before proceeding. If repairs are to be made to the CO<sub>2</sub> system, stop dispensing, shut off the CO<sub>2</sub> supply, then relieve the system pressure before proceeding. If repairs are to be made to the refrigeration system, make sure electrical power is disconnected from the unit.

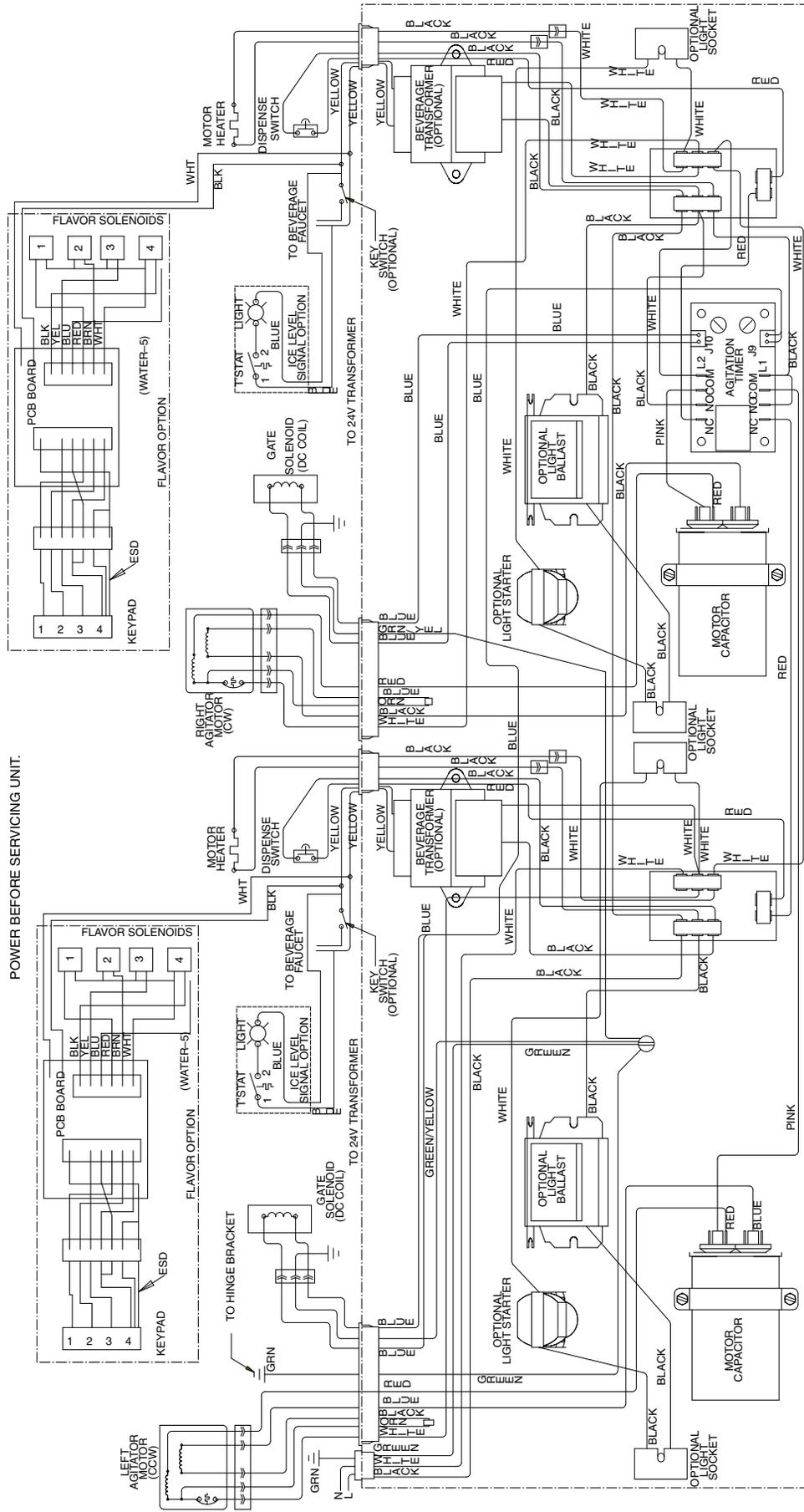
Should your unit fail to operate properly, check that there is power to the unit and that the hopper contains ice. If the unit does not dispense, check the following chart under the appropriate symptoms to aid in locating the defect.

Trouble	Probable Cause
BLOWN FUSE OR CIRCUIT BREAKER.	<ul style="list-style-type: none"> <li>A. Short circuit in wiring.</li> <li>B. Defective gate solenoid.</li> <li>C. Defective agitator motor.</li> <li>D. Defective gate rectifier</li> </ul>
GATE DOES NOT OPEN. AGITATOR DOES NOT TURN.	<ul style="list-style-type: none"> <li>A. No power.</li> <li>B. Bent depressor plate (does not actuate switch).</li> <li>C. Defective dispensing switch.</li> </ul>
GATE DOES NOT OPEN OR IS SLUGGISH. AGITATOR TURNS.	<ul style="list-style-type: none"> <li>A. Defective gate solenoid.</li> <li>B. Excessive pressure against gate slide.</li> <li>C. Defective Rectifier.</li> </ul>
ICE DISPENSES CONTINUOUSLY.	<ul style="list-style-type: none"> <li>A. Stuck or bent depressor plate (does not release switch).</li> <li>B. Defective dispensing switch.</li> <li>C. Improper switch installation.</li> </ul>
SLUSHY ICE. WATER IN HOPPER.	<ul style="list-style-type: none"> <li>A. Blocked drain.</li> <li>B. Unit not level.</li> <li>C. Poor ice quality due to water quality or icemaker problems.</li> <li>D. Improper use of flaked ice.</li> </ul>
BEVERAGES DO NOT DISPENSE.	<ul style="list-style-type: none"> <li>A. No 24 volt power to faucets.</li> <li>B. No CO<sub>2</sub> pressure.</li> </ul>
BEVERAGES TOO SWEET.	<ul style="list-style-type: none"> <li>A. Carbonator not working.</li> <li>B. No CO<sub>2</sub> pressure in carbonator.</li> <li>C. Faucet brix requires adjusting.</li> </ul>

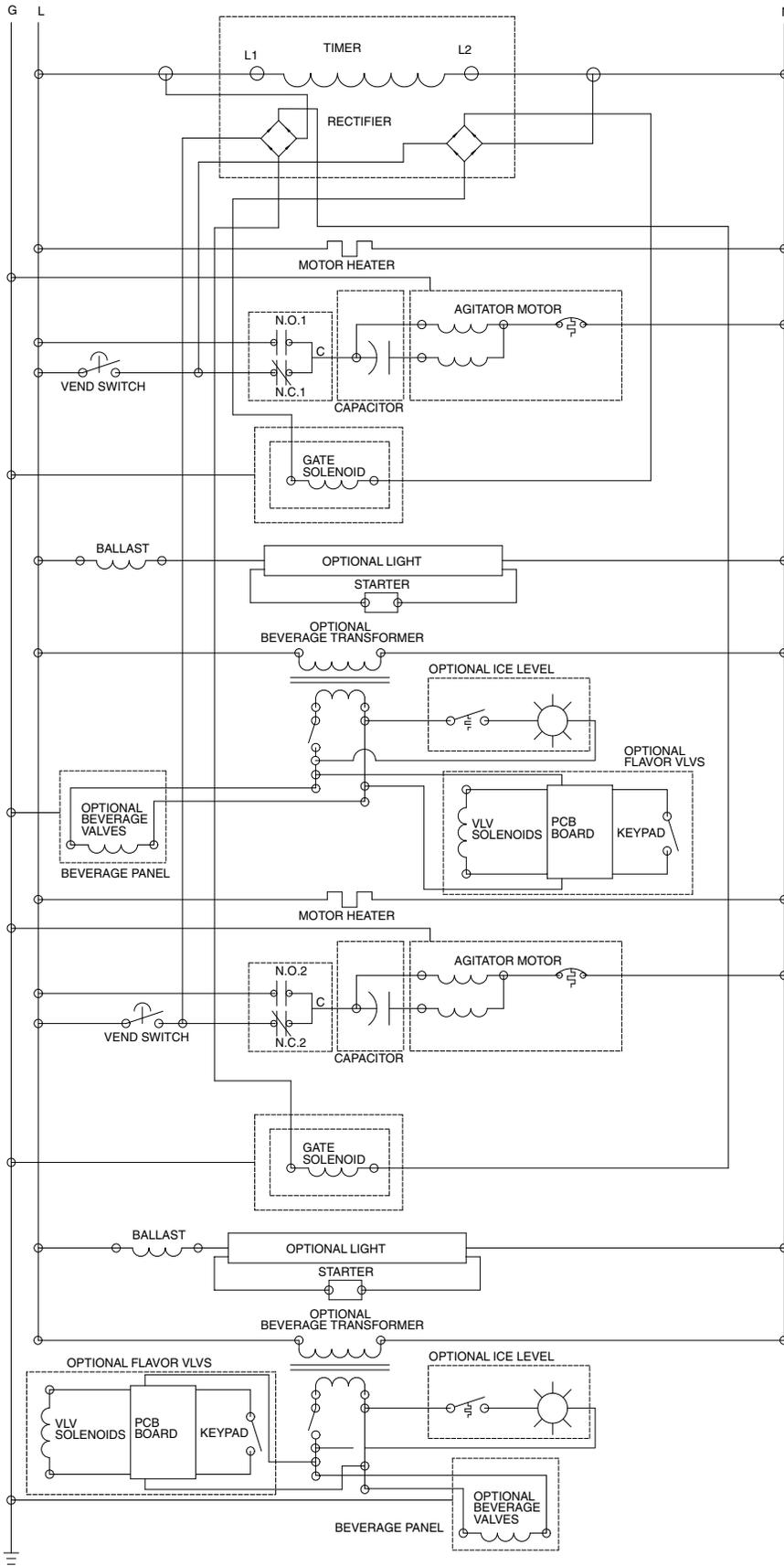
Trouble	Probable Cause
BEVERAGE NOT SWEET ENOUGH.	<ul style="list-style-type: none"> <li>A. Empty syrup tank.</li> <li>B. Faucet brix requires adjusting.</li> </ul>
BEVERAGES NOT COLD (UNITS WITH BUILT-IN COLD PLATE).	<ul style="list-style-type: none"> <li>A. Unit standing with no ice in hopper – no ice in cold plate cabinet.</li> </ul>
AGITATORS TURN IN OPPOSITE DIRECTIONS	<ul style="list-style-type: none"> <li>A. This is normal and is necessary for uniform ice agitation.</li> </ul>
ICE DOES NOT DISPENSE FROM ONE GATE ASSEMBLY	<ul style="list-style-type: none"> <li>A. Agitators reversed</li> <li>B. Defective gate solenoid or rectifier</li> <li>C. Motors wired incorrectly</li> </ul>
FLAVOR SYRUPS DO NOT DISPENSE.	<ul style="list-style-type: none"> <li>A. No 24 volt power to PC board.</li> <li>B. No CO2 pressure.</li> <li>C. Empty syrup tank.</li> <li>D. Kinked tubing.</li> <li>E. Clogged inner nozzle.</li> <li>F. Defective PC board.</li> <li>G. Defective harness from keypad.</li> <li>H. Defective Flow control.</li> <li>I. Defective solenoid harness.</li> <li>J. Defective keypad.</li> </ul>
FLAVOR DISPENSES FOR MORE THAN 1 SEC.	<ul style="list-style-type: none"> <li>A. Dip switch settings on control board incorrect.</li> <li>B. PC board defective.</li> <li>C. Defective flow control.</li> </ul>
FLAVOR DISPENSES MORE THAN .5 OZ.	<ul style="list-style-type: none"> <li>A. Dip switch settings on control board incorrect.</li> <li>B. Flow control incorrectly set.</li> <li>C. PC board defective.</li> <li>D. Defective flow control.</li> </ul>

**Contact your local syrup or beverage equipment distributor for additional information and troubleshooting of beverage system.**

**SERVICE INFORMATION**  
 DANGER ELECTRIC SHOCK HAZARD. DISCONNECT  
 POWER BEFORE SERVICING UNIT.

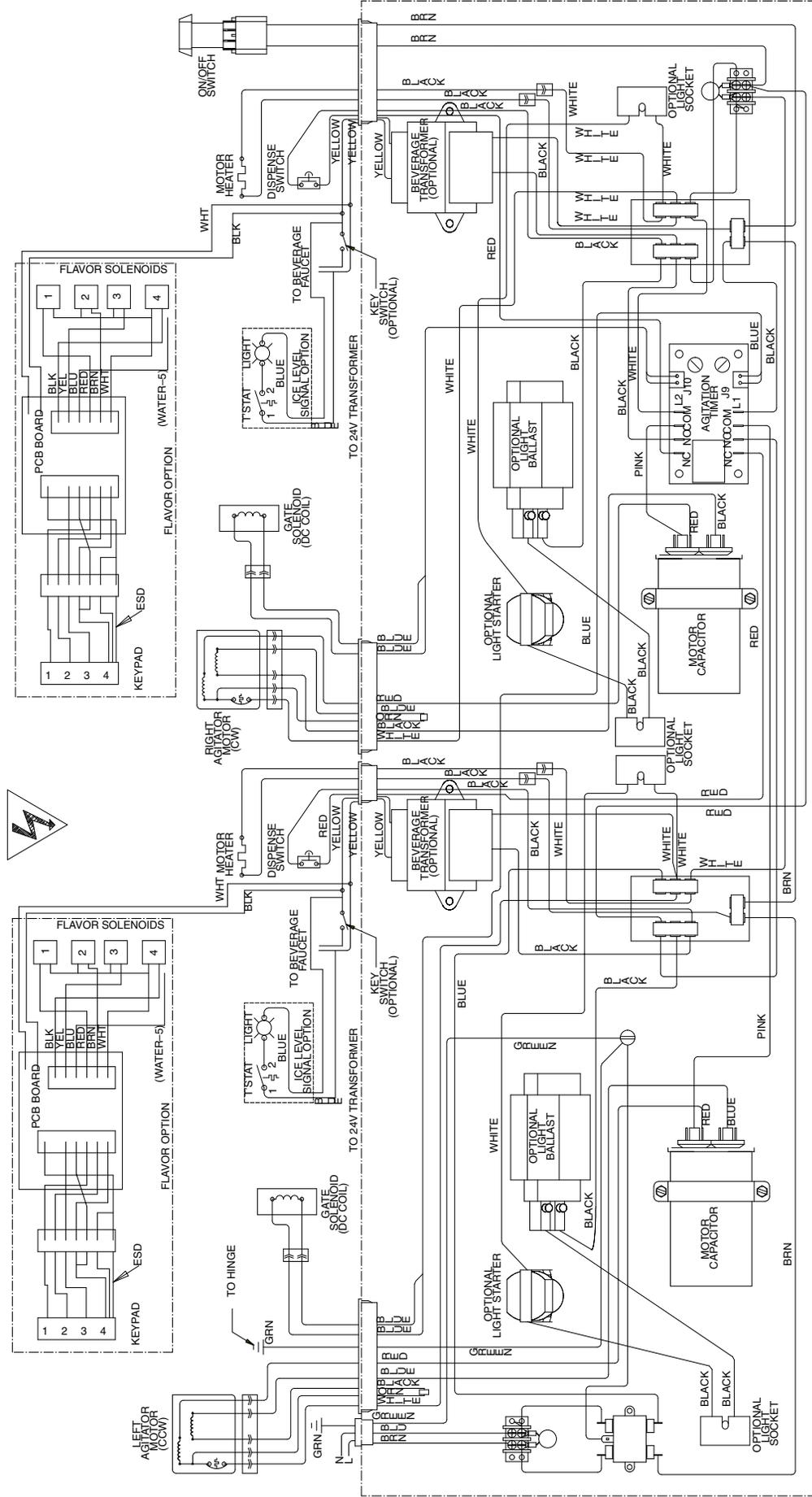


**FIGURE 10. WIRING DIAGRAM (120 V MODELS)**

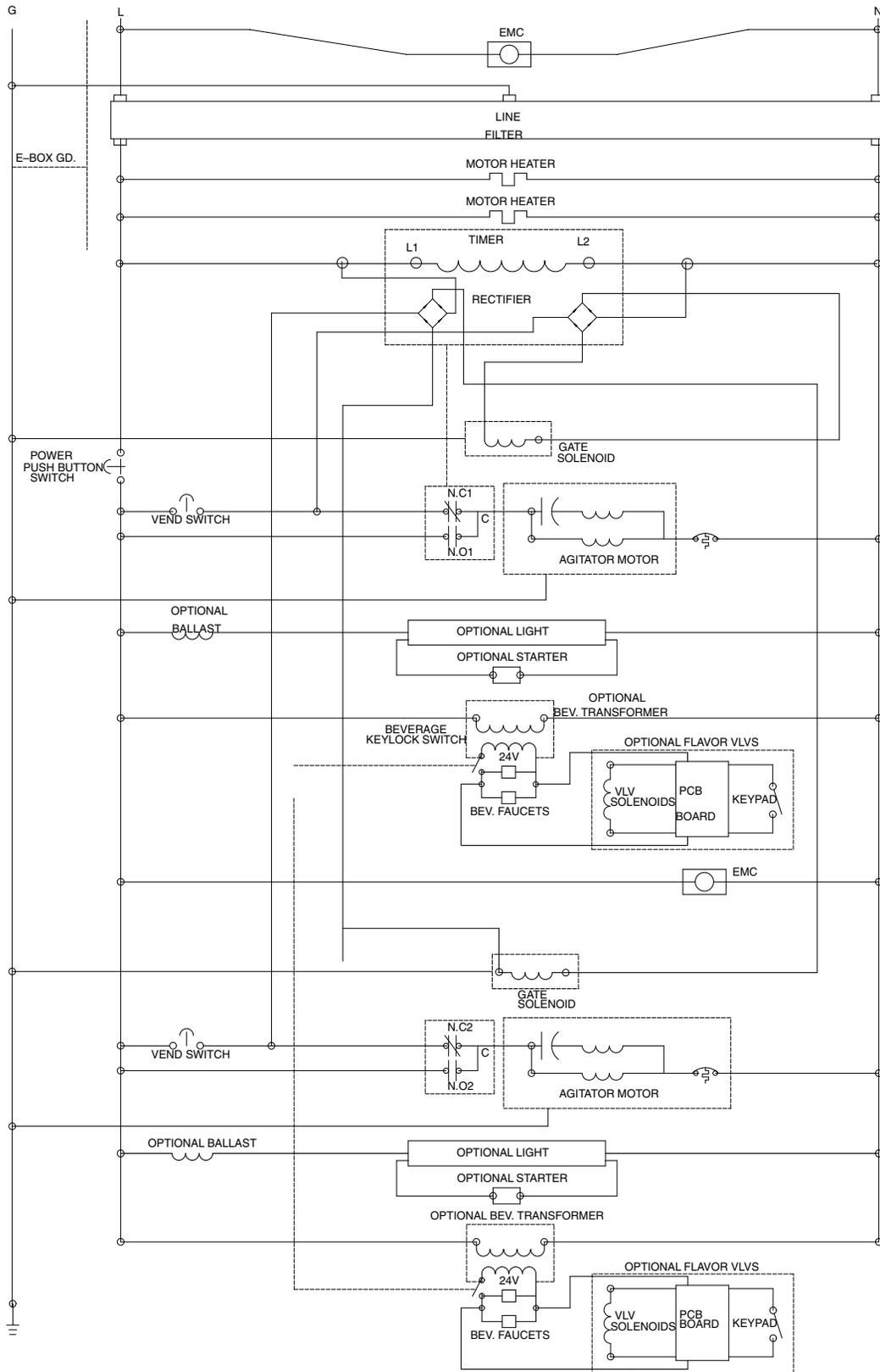


**FIGURE 11. SCHEMATIC (120 V MODELS)**

**SERVICE INFORMATION**  
 DANGER ELECTRIC SHOCK HAZARD. DISCONNECT  
 POWER BEFORE SERVICING UNIT.



**FIGURE 12. WIRING DIAGRAM (220/240 V MODELS)**



**FIGURE 13. SCHEMATIC (220/240 V MODELS)**

# WARRANTY

IMI Cornelius Inc. warrants that all equipment and parts are free from defects in material and workmanship under normal use and service. For a copy of the warranty applicable to your Cornelius product, in your country, please write, fax or telephone the IMI Cornelius office nearest you. Please provide the equipment model number, serial number and the date of purchase.

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