

# LANCER®

## Delta III, Series 9000



## Operation Manual

Lancer Corporation  
6655 Lancer Blvd.  
San Antonio, Texas 78219  
800-729-1500



Technical Support/Warranty

800-729-1550

[custserv@lancercorp.com](mailto:custserv@lancercorp.com)

[lancercorp.com](http://lancercorp.com)

PN: 28-0437/06

"Lancer" is the registered trademark of Lancer © 2016 by Lancer, all rights reserved.

# TABLE OF CONTENTS

## ABOUT THIS MANUAL

This booklet is an integral and essential part of the product. Please carefully read the guidelines and warnings contained herein as they are intended to provide the user with essential information for the continued safe use and maintenance of the product. In addition, it provides ***GUIDANCE ONLY*** to the user on the correct services and site location of the unit.

***The installation and relocation, if necessary, of this product must be carried out by qualified personnel with up-to-date safety and hygiene knowledge and practical experience, in accordance with current regulations.***

## IMPORTANT SAFETY INSTRUCTIONS.....3-4

Intended Use.....	3
Power Warning.....	3
CO <sub>2</sub> Warning.....	3
Water Notice.....	3
Agitation Warning.....	4

## PRE-INSTALLATION.....4-5

Specifications & Features.....	4
General Systems Overview.....	5
Pre-Installation Checklist.....	5

## INSTALLATION.....6-12

Unpacking the Dispenser.....	6
Selecting/Preparing a Counter Location.....	6
Dispenser Installation.....	7
Installing Remote Syrup Pumps - Bag In Box.....	8
Connecting to Remote Pressurized Syrup Supply.....	9
Installing CO <sub>2</sub> Supply.....	10
Dispenser Setup.....	11
Adjust Water Flow Rate & Syrup/Water Ratio.....	11-12
Volumetric Valve Adjustment.....	12

## BEFORE GETTING STARTED

Each unit is tested under operating conditions and is thoroughly inspected before shipment. At the time of shipment, the carrier accepts responsibility for the unit. Upon receiving the unit, carefully inspect the carton for visible damage. If damage exists, have the carrier note the damage on the freight bill and file a claim with carrier. Responsibility for damage to the dispenser lies with the carrier.

## MAINTENANCE.....13

Scheduled Maintenance.....	13
Removing Existing Built-in Syrup Pumps.....	13

## CLEANING AND SANITIZING.....14-15

General Information.....	14
Cleaning and Sanitizing Solutions.....	14
Cleaning and Sanitizing Syrup Lines - Bag In Box.....	14
Cleaning and Sanitizing Syrup Lines - FIGAL.....	15
Cleaning and Sanitizing Nozzles.....	15

## TROUBLESHOOTING.....16-20

## THE ELECTRONIC ICE BANK CONTROL (EIBC).....21

Checking the Normal PCB Operation.....	21
--	----

## ILLUSTRATIONS AND PART LISTINGS.....22-34

Standard Cabinet Assembly.....	22-23
Shrouded Cabinet Assembly.....	24-25
Refrigeration Deck Assembly.....	26-27
Carbonator, Water/Syrup Line Assemblies.....	28-29
Carbonator, Pump Bracket Assemblies.....	30-31
Control Housing Assembly.....	32
Water Regulator Assembly.....	33
Wiring Diagram.....	34

# SAFETY NOTICES

## READ ALL SAFETY INSTRUCTIONS BEFORE USING THIS UNIT.

This manual contains important safety information and all applicable safety precautions must be observed. To reduce the risk of fire, electric shock, damage to the equipment or personal injury when using this unit all instructions/warnings on the product being used must be followed:

### ⚠ WARNING

Text following the Warning signal indicates a hazardous situation, which if not avoided, will result in death or serious injury. Be sure to read all Warning statements before proceeding with the installation.

### ⚠ CAUTION

Text following the Caution signal indicates a hazardous situation, which if not avoided, could result in death or serious injury. Be sure to read the Caution statements before proceeding with the installation

### ⚠ ATTENTION

Text following the Attention signal addresses a situation that if not followed could potentially damage the equipment. Be sure to read the Attention statements before proceeding

### NOTE

Text following the Note signal provides you with information that may help you more effectively perform the installation procedures within this manual. Disregarding information will not cause damage or injury, however it may limit the performance of the dispenser.

# IMPORTANT SAFETY INSTRUCTIONS

## Intended Use

- The dispenser is for indoor use only.
- This appliance is intended to be used in commercial applications such as restaurants or similar.
- This appliance should not be used by children or infirm persons without supervision.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Cleaning and user maintenance shall not be performed by children without supervision.
- This unit is not a toy and children should be advised not to play with the appliance.
- The min/max ambient operating temperature for the dispenser is 40°F to 90°F (4°C to 32°C).
- Do not operate unit below minimum ambient operation conditions.
- Should freezing occur, cease operation of the unit and contact authorized service technician.
- The maximum tilt for safe operation is 5°.
- This appliance must be installed and serviced by a professional.

## Carbon Dioxide (CO<sub>2</sub>)

- **WARNING:** Carbon Dioxide (CO<sub>2</sub>) is a colorless, noncombustible gas with a light pungent odor. High percentages of CO<sub>2</sub> may displace oxygen in the blood.
- **WARNING:** Prolonged exposure to CO<sub>2</sub> can be harmful. Personnel exposed to high concentrations of CO<sub>2</sub> gas will experience tremors which are followed by a loss of consciousness and suffocation.
- **WARNING:** If a CO<sub>2</sub> gas leak is suspected, immediately ventilate the contaminated area before attempting to repair the leak.
- **WARNING:** Strict attention must be observed in the prevention of CO<sub>2</sub> gas leaks in the entire CO<sub>2</sub> and soft drink system.

## Power

- Follow all local electrical codes when making connections.
- Check the dispenser name plate label, located behind the splash plate for correct electrical requirements of unit. **DO NOT** plug into a wall electrical outlet unless the current shown on the serial number plate agrees with local current available.
- Each dispenser must have a separate electrical circuit.
- **DO NOT** use extension cords with this unit.
- **DO NOT** 'gang' together with other electrical devices on the same outlet.
- **WARNING:** Always disconnect electrical power to the unit to prevent personal injury before attempting any internal maintenance.
- The resettable breaker switch should not be used as a substitute for unplugging the dispenser from the power source to service the unit.
- Only qualified personnel should service internal components of electrical control housing.
- **WARNING:** Make sure that all water lines are tight and units are dry before making any electrical connections.
- If this dispenser is installed in an area that is susceptible to ±10% variation of the nominal line voltage, consider installing a surge protector or similar protection device.

## Water Notice

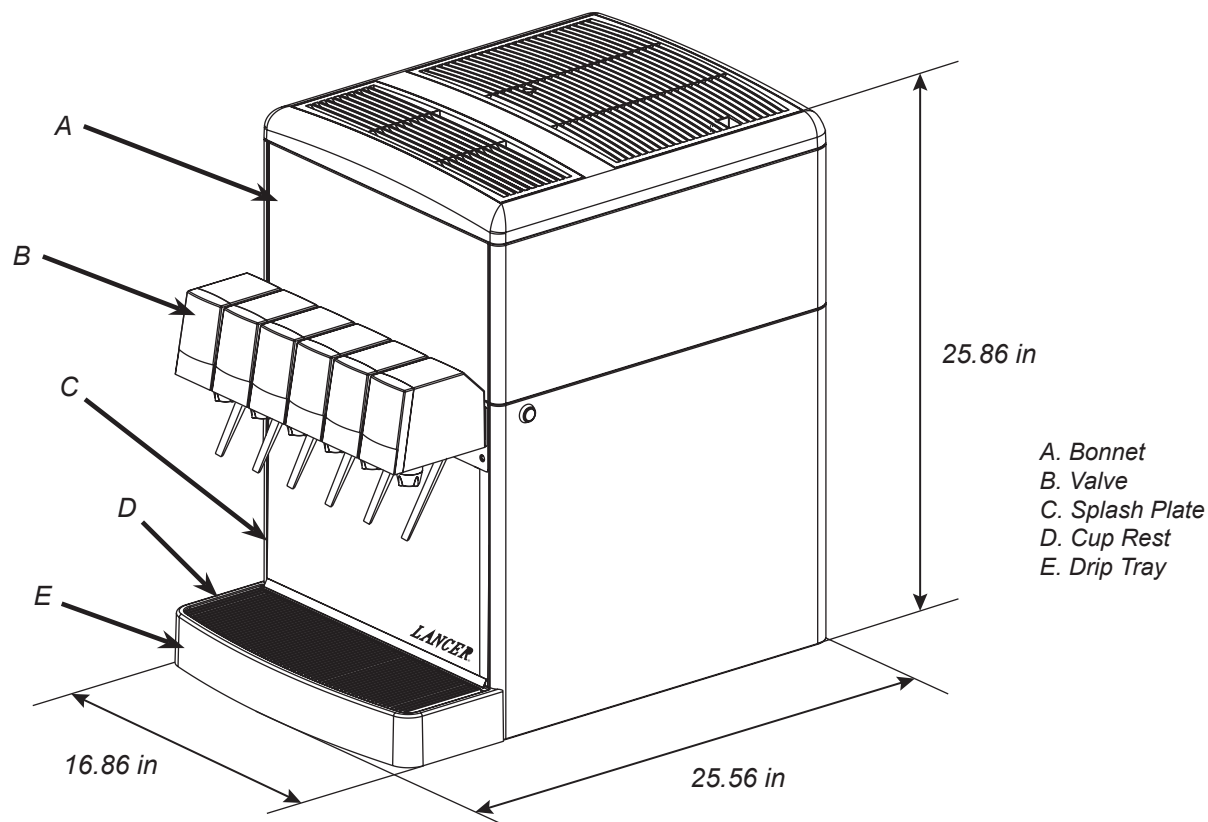
- Provide an adequate, potable water supply. Water pipe connections and fixtures directly connected to a potable water supply must be sized, installed, and maintained according to federal, state, and local codes.
- The water supply line must be at least a 3/8 inches (9.525 mm) pipe with a minimum of 25 PSI (0.172 MPA) line pressure, but not exceeding a maximum of 50 PSI (0.345 MPA). Water pressure exceeding 50 PSI (0.345 MPA) must be reduced to 50 PSI (0.345 MPA).
- Use a filter in the water line to avoid equipment damage and beverage off-taste. Check the water filter periodically, as required by local conditions.
- **CAUTION:** The water supply must be protected by means of an air gap, a backflow prevention device (located upstream of the CO<sub>2</sub> injection system) or another approved method to comply with NSF standards. A leaking inlet water check valve will allow carbonated water to flow back through the pump when it is shut off and contaminate the water supply.
- **CAUTION:** Ensure the backflow prevention device complies with ASSE and local standards. It is the responsibility of the installer to ensure compliance.

## Automatic Agitation

- Units are equipped with an automatic agitation system and will activate unexpectedly.
- **CAUTION:** Do not place hands or foreign objects in the water bath tank. Unplug the dispenser during servicing, cleaning, and sanitizing.
- **CAUTION:** To avoid personal injury, do not attempt to lift the dispenser without assistance. For heavier dispensers, use a mechanical lift.

## PRE-INSTALLATION

### Specifications & Features



#### DIMENSIONS

*Width:* 16.86 inches (429 mm)  
*Depth:* 25.56 inches (649 mm)  
*Height:* 26.86 inches (657 mm)

#### WEIGHT

*Shipping:* 160 lbs (72.5 kg)  
*Empty:* 146 lbs (66.2 kg)  
*Operating:* 237 lbs (107.5 kg)

#### ELECTRICAL

115 VAC / 60 Hz / 3 Amps  
220-230 VAC / 50-60 Hz / 1.5 Amps

#### ICE BATH

*Capacity:* 25 - 28 lbs (11.3 - 12.7 kg)

#### PLAIN WATER SUPPLY

*Min Flowing Pressure:* 25 PSIG (0.172 MPA)  
*Max Static Pressure:* 50 PSI (0.345 MPA)

#### CARBON DIOXIDE (CO<sub>2</sub>) SUPPLY

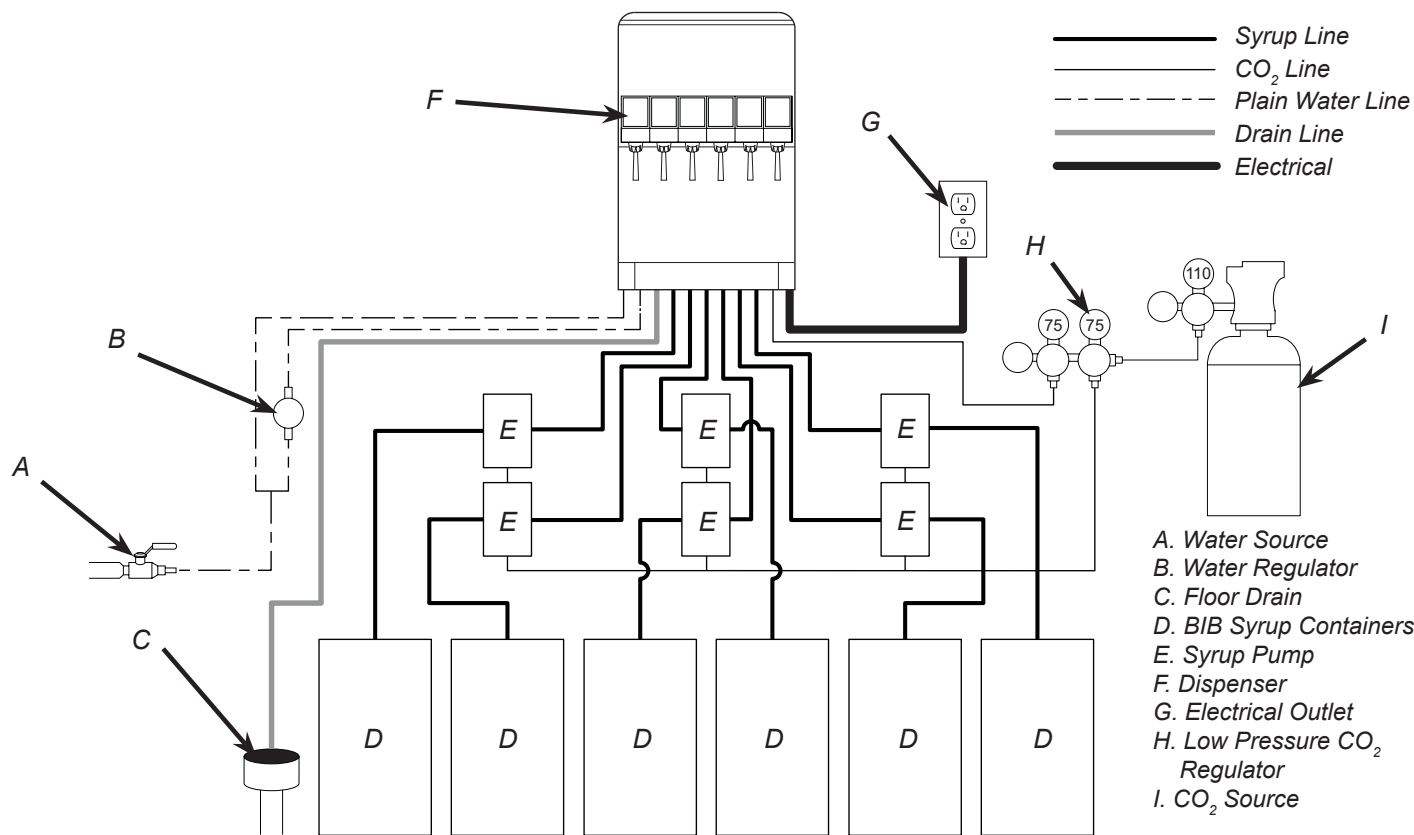
*Min Pressure:* 70 PSIG (0.483 MPA)  
*Max Pressure:* 80 PSIG (0.552 MPA)

#### FITTINGS

*Water for Carb Inlet:* 3/8 inch barb  
*Brand Syrup Inlets:* 3/8 inch barb  
*Carb CO<sub>2</sub> Inlet:* 3/8 inch barb

**This unit emits a sound pressure level below 70 dB**

# General System Overview



## Pre-Installation Checklist

### TOOLS REQUIRED:

- ☐ Oetiker Pliers
- ☐ Tubing Cutters
- ☐ Wrench
- ☐ Slotted Screwdriver
- ☐ Phillips Screwdriver
- ☐ Drill

### BIB SYSTEM:

- ☐ BIB Rack
- ☐ BIB Syrup Boxes
- ☐ BIB Regulator Set
- ☐ BIB Connectors

### POST MIX ACCESSORIES:

- ☐ High Pressure CO<sub>2</sub> Regulator
- ☐ Low Pressure CO<sub>2</sub> Regulator
- ☐ CO<sub>2</sub> Supply
- ☐ Chain for CO<sub>2</sub> Tank
- ☐ Beverage Dispenser
- ☐ Beverage Tubing
- ☐ Oetiker Clamp Fittings
- ☐ Water Booster (Lancer PN: 82-3401 or MC-163172)
- ☐ Water Regulator (recommended)

### CONSIDER THE FOLLOWING BEFORE INSTALLATION:

- ☐ Location of Water Supply Lines
- ☐ Location of Drain
- ☐ Location of Electrical Outlet
- ☐ Location of Heating and Air Conditioning Ducts
- ☐ Do you have enough space to install the dispenser?
- ☐ Is countertop level?
- ☐ Can the countertop support the weight of the dispenser?
- ☐ Is dispenser located away from direct sunlight or overhead lighting?
- ☐ Not in area where water jet could be used.

# INSTALLATION

## Read This Manual

This manual was developed by Lancer Corporation as a reference guide for the owner/operator and installer of this dispenser. Please read this manual before installation and operation of this dispenser. Please see pages 16-21 for troubleshooting or service assistance. If the service cannot be corrected please call your Service Agent or Lancer Customer Service. Always have your model and serial number available when you call.

## Unpacking the Dispenser

1. Cut steel band and remove.
2. Remove top portion of carton by lifting up.
3. Remove accessory kit and loose parts from top packaging.
4. Remove top inner carton pad and corners.
5. Lift unit up by plywood shipping base and remove lower portion of carton.

### NOTE

**Inspect unit for concealed damage. If evident, notify delivering carrier and file a claim against the same.**

6. Remove plywood shipping base from unit by moving unit so that one side is off the counter top or table allowing access to screws on the bottom of the plywood shipping base.

### NOTE

**If unit is to be transported, it is advisable to leave the unit secured to the plywood shipping base.**

7. If unit is to be installed with optional legs, assemble legs to unit by tilting unit.

### ⚠ ATTENTION

**DO NOT LAY UNIT ON ITS SIDE OR BACK.**

## Selecting/Preparing a Counter Location

### NOTE

**The dispenser should only be installed in a location where it can be overseen by trained personnel**

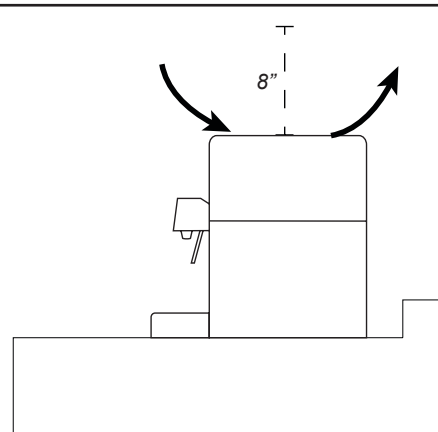
1. The dispenser is designed to sit on a flat, supported surface capable of supporting a minimum weight of 400 lbs (182 kg). Select a location that is in close proximity to a properly grounded electrical outlet, within five (5) feet (1.5 m) of a drain, and a water supply that meets the requirements shown in the Specifications section found on page 4.
2. Select a location for the syrup pumps, CO<sub>2</sub> tank, syrup containers, water filter (recommended), and remote carbonator. Please see General System Overview on page 5 for reference.
3. The dispenser may either be counter or leg mounted. When the dispenser is to be permanently bolted to the counter top, use Lancer Sealant Kit (PN 15-0010) to seal dispenser base to counter top.

### NOTE

**NSF listed units must be sealed to the counter or have four (4) inch legs installed.**

### ⚠ ATTENTION

**Failure to maintain specified clearance will cause the compressor to overheat and will result in compressor failure**



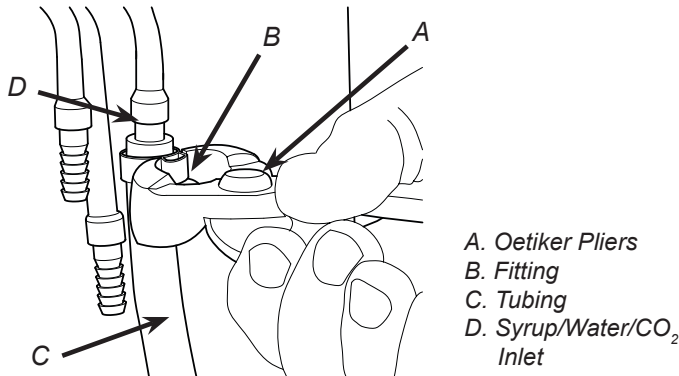
5. Cut the necessary holes in counter for mounting in the designated dispenser location, using the template provided.

4. Condenser air is drawn in from the front half of the top cover, and discharged out the rear half of the top cover. A minimum of eight (8) inches (203 mm) of clearance must be maintained over the top of the unit to provide for proper air flow and circulation.



# Dispenser Installation

1. Install the unit onto the counter.
2. Remove the bonnet from the dispenser by lifting up.
3. Remove the drip tray from the unit and connect the drain tube to the drain fitting located on the back.
4. Route the drain tube to a suitable drain and replace the unit's drip tray.
5. Route appropriate tubing from the syrup pump location to the syrup inlets. Connect tubing to inlets using the oetiker pliers and fittings. Repeat for all syrup connections.



6. Route appropriate tubing from the water source to the compressor deck fill hole, identified by the yellow cap, and **ONLY** connect tubing to water source.

## NOTE

Leave 12 inches (305 mm) of extra tubing below the counter for servicing and moving the dispenser

7. Flush water supply line thoroughly.

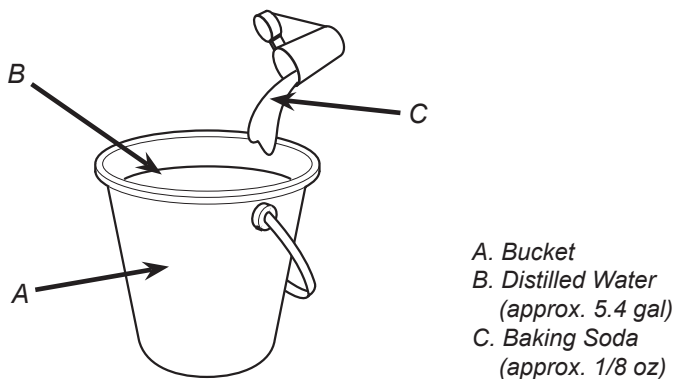
## ⚠ CRITICAL - to maximize performance

Carefully read this before filling the water bath tank. In order to optimize the maximum performance of the dispenser, the following **MUST** be adhered to:

8. Insert water line into a large bucket, and fill with approx. 5.4 gallons (20.4 L) of distilled water.
9. Add 1/8 oz (4 g) of baking soda to distilled water and stir.

## ⚠ ATTENTION

For proper function of the electronic ice bank control the total dissolved solids (TDS) measurements should be 300-500 ppm.



10. Using a conductivity meter, measure the electric conductivity of the distilled water mixture.

## ⚠ ATTENTION

The E.C. measurement of the distilled water mixture must be between 100 and 300 uS/cm. Below 100 uS/cm, the compressor will not work properly and above 300 uS/cm could cause the lines to freeze.

11. Remove yellow cap from the water bath fill hole and insert and insert a funnel into the fill hole.
12. Remove the insulation strip from front of the refrigeration deck.
13. Carefully pour the distilled water mixture into the water bath tank until water flows out of the overflow tube at the front of the unit. (Repeat steps 9-11 if needed)

## ⚠ ATTENTION

The water bath compartment must be filled with water before plugging in the unit, otherwise the compressor fan may not operate properly.

14. Replace yellow cap, replace insulation, then connect water line to the carbonated water inlet in the front of the unit.
15. Route appropriate tubing from the syrup pump location to the carbonator CO<sub>2</sub> inlet and connect tubing to CO<sub>2</sub> inlet.

## NOTE

Leave 12 inches (305 mm) of extra tubing below the counter for servicing and moving the dispenser

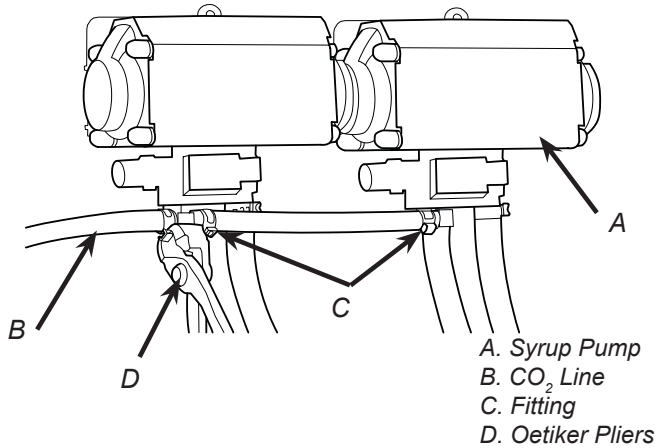
16. Re-attach splash plate and cup rest.
17. Plug in power cord to the unit control box.
18. Feed all tubing, power cord, and drain line through the counter top cutout.
19. Plug in the unit to a grounded electrical outlet then turn the unit on to begin building an ice bank.

## ⚠ WARNING

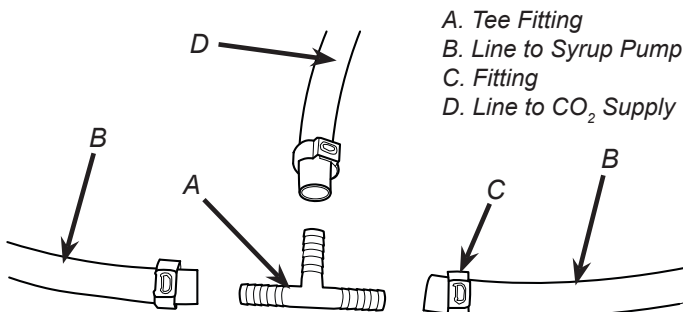
The dispenser must be properly electrically grounded to avoid serious injury or fatal electrical shock. The power cord has a three-prong grounded plug. If a three-hole grounded electrical outlet is not available, use an approved method to ground the unit. Follow all local electrical codes when making connections. Each dispenser must have a separate electrical circuit. Do not use extension cords. Do not connect multiple electrical devices on the same outlet.

# Installing Remote Syrup Pumps - Bag In Box

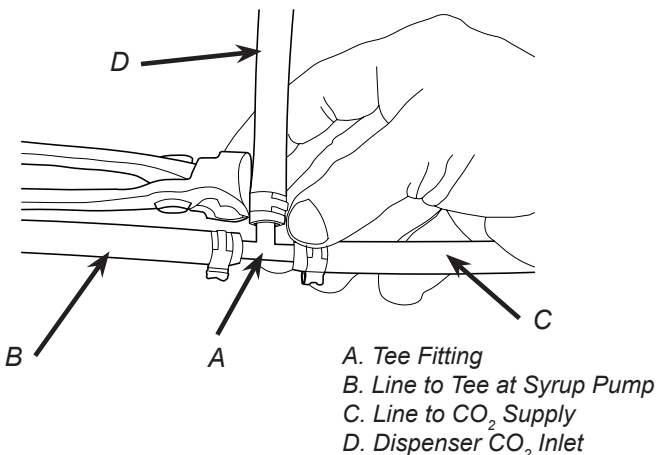
1. Install BIB rack and remote pumps according to manufacturers' instructions.
2. Once pumps and BIB rack are installed, measure and cut tubing to length between the pump CO<sub>2</sub> inlets, then connect tubing to all pumps.



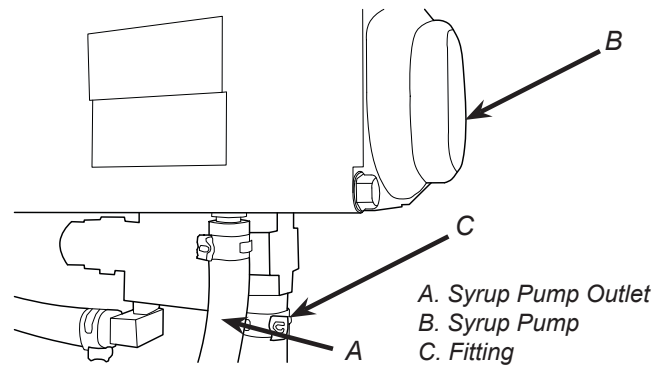
3. Using tubing cutters, cut any pump CO<sub>2</sub> supply line and install tee fitting, then route appropriate tubing from the CO<sub>2</sub> supply to the tee fitting at syrup pumps.



4. Cut tubing from CO<sub>2</sub> supply to tee fitting at syrup pumps and install another tee fitting.
5. Attach line from carbonator CO<sub>2</sub> inlet to tee fitting between syrup pumps and CO<sub>2</sub> supply.



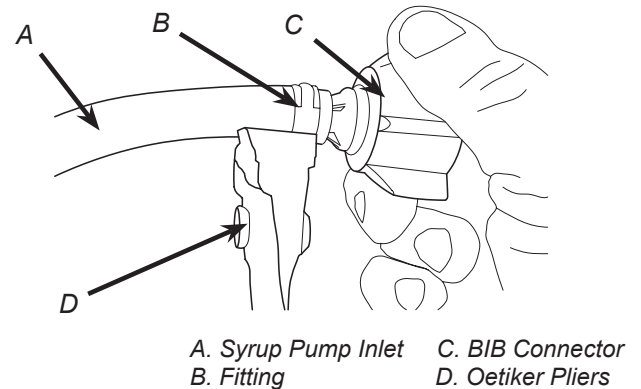
6. Connect tubing from dispenser syrup inlet to the syrup pump outlet fitting. Repeat for each syrup line/pump.



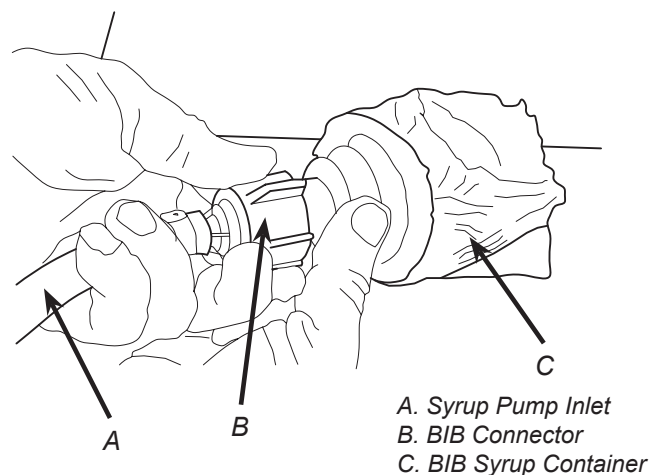
7. Install BIB (bag in box) connectors onto the syrup pump inlet tubing.

## ⚠ ATTENTION

Use proper connector for syrup manufacturer



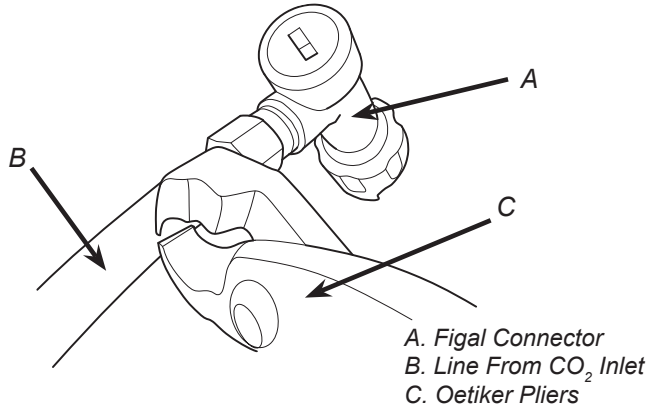
8. Connect syrup BIBs to connectors. Repeat for each syrup line/pump and each flavor injector line/pump.



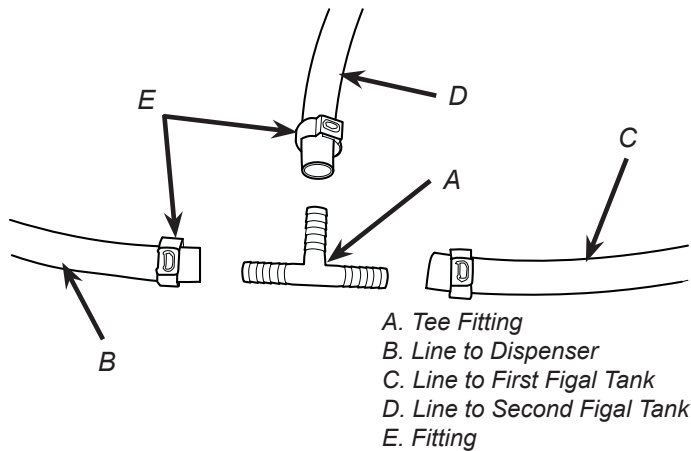


# Connecting to Remote Pressurized Syrup Supply - FIGAL

1. Connect tubing routed from CO<sub>2</sub> inlet in dispenser to figal syrup tank CO<sub>2</sub> inlet.

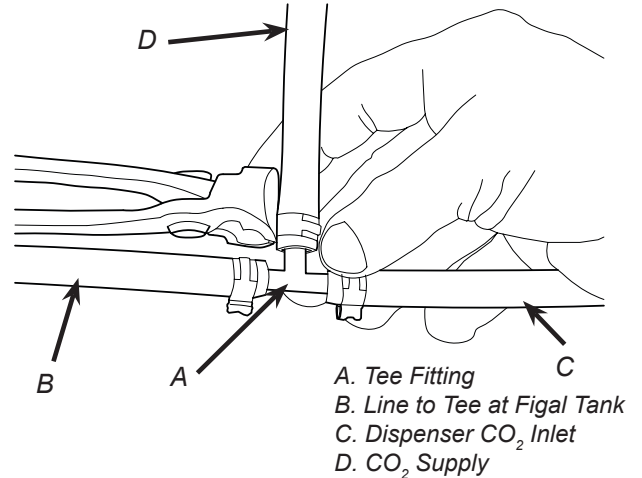


2. Using tubing cutters, cut line from CO<sub>2</sub> inlet to figal syrup tank and install tee fitting, then route appropriate tubing from second figal syrup CO<sub>2</sub> inlet to tee fitting.

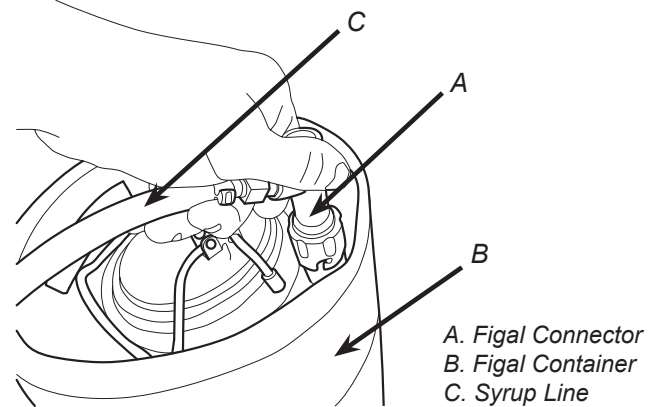


3. Repeat step 2 for remaining figal syrup tanks.

4. Cut tubing from dispenser CO<sub>2</sub> inlet to tee fitting at figal syrup tanks and install another tee fitting.
5. Route appropriate tubing from CO<sub>2</sub> supply to tee fitting between dispenser CO<sub>2</sub> inlet and figal syrup tanks and connect tubing to tee fitting.



6. Connect tubing from dispenser syrup inlet to the figal syrup outlet fitting. Repeat for each syrup line/tank.

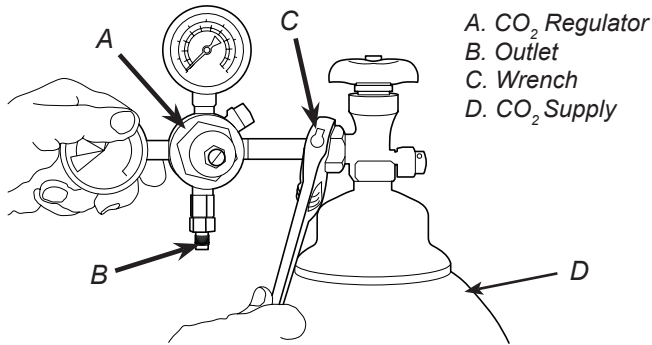


# Installing CO<sub>2</sub> Supply

1. Connect high pressure CO<sub>2</sub> regulator assembly to CO<sub>2</sub> cylinder or bulk system.

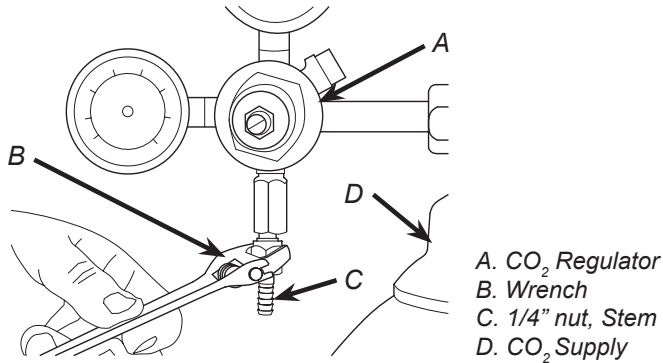
## ⚠ ATTENTION

Before installing regulator, assure that a seal (washer or o-ring) is present in regulator attachment nut.



- Thread regulator nut on to tank, then tighten nut with wrench

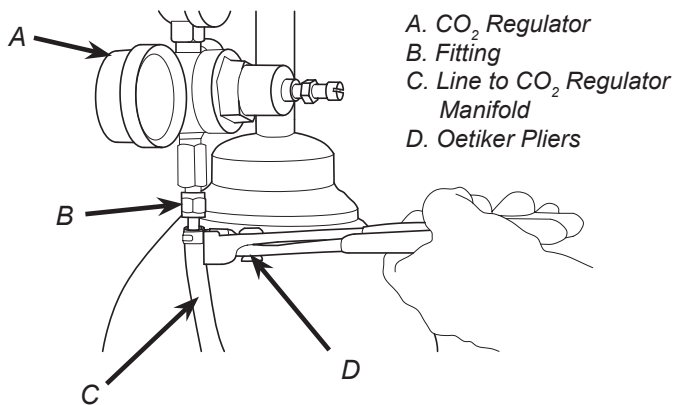
2. Connect a 1/4" nut, stem and seal to CO<sub>2</sub> regulator outlet.



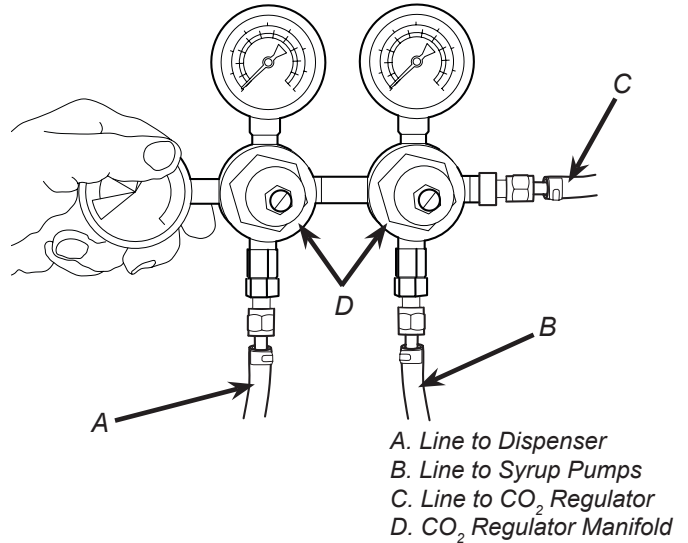
3. Route appropriate tubing from the low pressure CO<sub>2</sub> regulator manifold location to the 1/4" nut, stem on the high pressure CO<sub>2</sub> regulator attached to source and connect tubing.

## ⚠ ATTENTION

A dedicated CO<sub>2</sub> regulator is required to supply the CO<sub>2</sub> inlet at the unit as well as to all remote syrup pumps / remote pressurized syrup supply tanks.



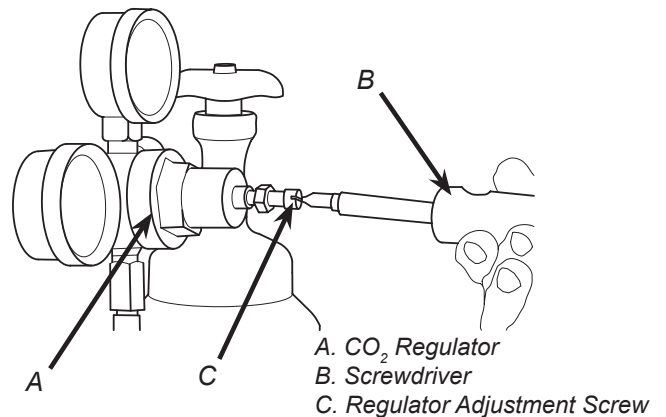
4. Connect tubing routed from the CO<sub>2</sub> inlet at the unit to one of the low pressure CO<sub>2</sub> regulator manifold outlets.
5. Connect tubing routed from the tee at the syrup pumps to the second outlet of the low pressure CO<sub>2</sub> regulator manifold.



6. Using a wrench, loosen lock nut on the regulator adjustment screw of the high pressure CO<sub>2</sub> regulator connected to the source, then using a screwdriver back out lock nut screw all the way.

## ⚠ WARNING

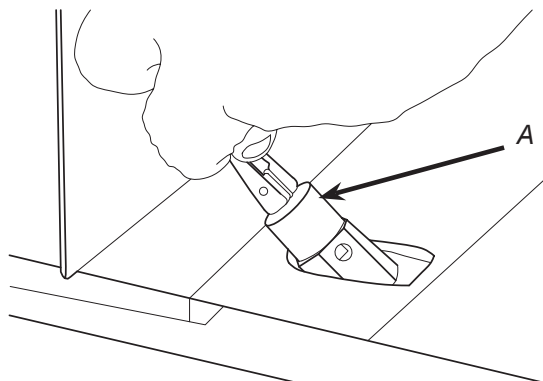
DO NOT TURN ON CO<sub>2</sub> SUPPLY AT THIS TIME



7. Repeat Step 6 for both low pressure CO<sub>2</sub> regulators on the regulator manifold routed to the unit and the syrup pumps.

## Dispenser Setup

1. Turn on water at source.
2. The relief valve for the built-in carbonator is located on the right hand side of the unit's carbonator deck. Lift the yellow lever on the top of the relief valve until water flows from the holes in the relief valve. Then release the relief valve.



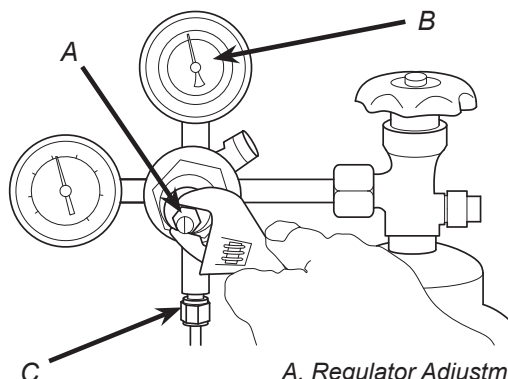
A. Carbonator Relief Valve

3. Activate each valve until a steady flow of water is achieved.
4. Unplug the unit then unplug the Pump Motor Connector from the control box. Use the wiring diagram either on the unit control box or in the back of this manual for reference.

### ⚠ ATTENTION

Failure to disconnect the motor power supply will damage the carbonator motor, the pump and void the warranty

5. Turn on CO<sub>2</sub> at the source then, using a screwdriver, adjust the high pressure regulator at the source to 110 PSI (0.758 MPA) then tighten locknut with wrench.



A. Regulator Adjustment Screw  
B. Adjust to 110 PSI (0.758 MPA)  
C. Wrench

6. Adjust both of the low pressure regulators on the regulator manifold to 75 PSI (0.517 MPA) then tighten locknut with wrench.
7. Activate each valve until gas-out.
8. Plug the Pump Motor Connector back into the control box then plug in unit.

### NOTE

Pump Motor will run for a few seconds to fill carb tank

9. Re-attach bonnet.
10. Activate each valve until a steady flow of carbonated water is achieved.

## Adjust Water Flow Rate & Syrup / Water Ratio - LEV

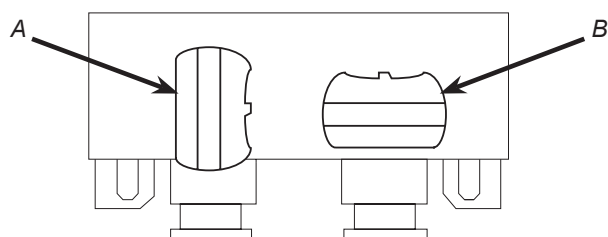
### NOTE

The water flow can be adjusted between 1.25 oz/sec (37 ml/sec) and 2.50 oz/sec (74 ml/sec) on all dispensing valves using the following procedures:

### NOTE

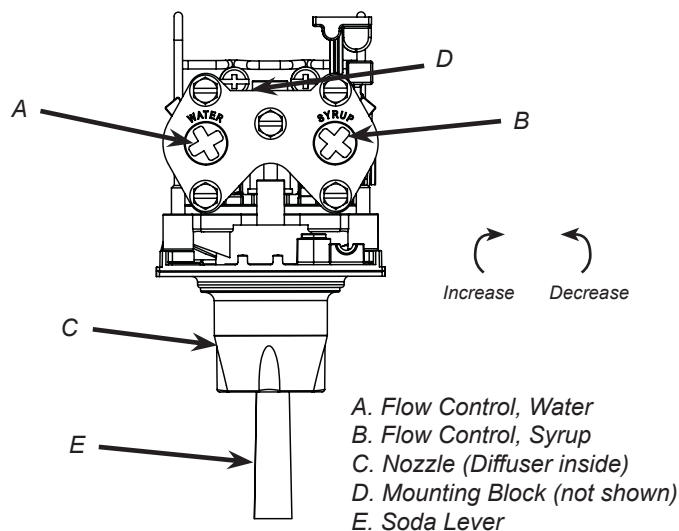
The refrigeration unit should have been running for at least one (1) hour before attempting to set flow rates on valves. The drink temperature should be no higher than 40°F (4.4°C) when flow rates are set. This is best done after the unit has already made an ice bank.

1. Close syrup shut-off at mounting block for first valve.



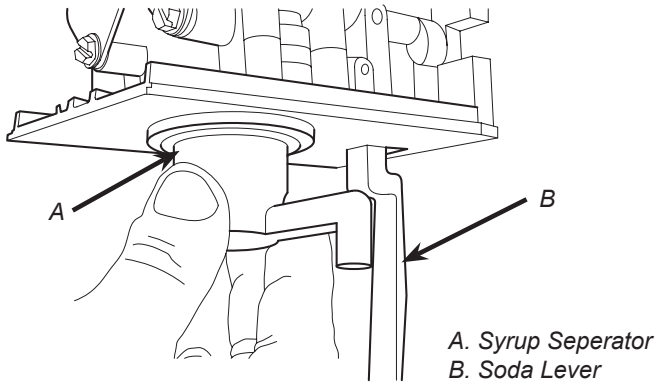
A. Plain Water ON  
B. Syrup Closed

2. Slide up on ID panel until flow controls are exposed.
3. Using a Lancer ratio cup verify water flow rate (5 oz. in 4 sec.). Use a screwdriver to adjust if needed.



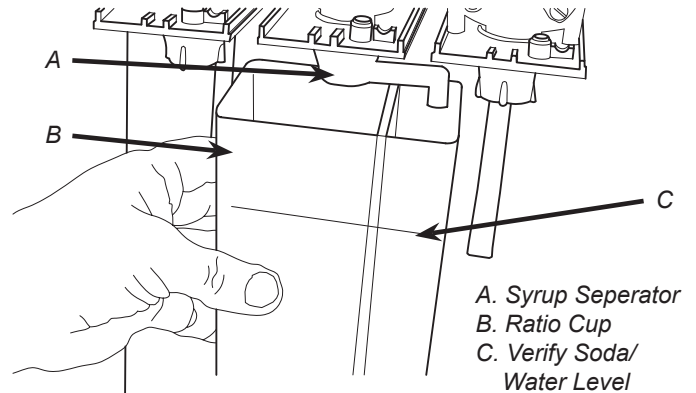
A. Flow Control, Water  
B. Flow Control, Syrup  
C. Nozzle (Diffuser inside)  
D. Mounting Block (not shown)  
E. Soda Lever

- Remove nozzle by twisting counter clockwise and pulling down, then remove diffuser by pulling down.
- Install Lancer (yellow) syrup seperator (PN 54-0031) in place of nozzle.



- Re-open syrup shut-off at mounting block.

- Activate valve to purge syrup until steady flow is achieved.
- Using a Lancer ratio cup, activate the valve and capture a sample. Verify that the syrup level is even with the water level. Use a screwdriver to adjust if needed.



- Repeat process for each valve.

## Volumetric Valve Adjustment

### NOTE

The Volumetric Valve is an optional valve for the Delta III dispenser

VALVE SPECIFICATIONS		
<b>Finished Drink Flow Rates</b>	3.0 oz/sec (88.7 ml/sec)	
	2.25 oz/sec (66.6 ml/sec)	
	1.5 oz/sec (44.4 ml /sec)	
<b>Flowing Pressure Requirements</b>	<b>MINIMUM</b>	<b>MAXIMUM</b>
Water	40 PSIG (0.276 MPA)	110 PSIG (0.758 MPA)
Syrup	20 PSIG (0.138 MPA)	70 PSIG (0.483 MPA)
<b>Electrical Requirements</b>	24 VAC, 50/60 Hz	

- Remove the ID panel from the front of the first valve.
- Insert the programmer's 10-pin connector into the ID panel plug located on the front of the circuit board.
- When properly connected, the programmer will run a self diagnostic test. The display will show all "8's" with the decimal points lighted. After about three (3) seconds, the display indicates the setting of the dip switches.

### NOTE

If the programmer does not run its diagnostic test properly, disconnect it and try plugging it in again. If the programmer still fails, replace the programmer

- After the programmer is connected, Press the "Read Mem" button.
- Press the "Ratio +" or the "Ratio -" key until the desired ratio is displayed.
- Verify the drink type by pressing "Carb Toggle" to select "C" for carbonated or "n" for non-carbonated.
- Press the "Enter" button to program the valve with the setting on the display.

- Verify Ratio by pressing "Read Mem".
- Disconnect the programmer and repeat steps 4-9 for each valve.



- Handheld Programmer  
Volumetric Valve

# MAINTENANCE

## Scheduled Maintenance

<b>As Needed</b>	<ul style="list-style-type: none"> <li>Keep exterior surfaces of dispenser (include drip tray and cup rest) clean using a clean, damp cloth.</li> </ul>
<b>Daily</b>	<ul style="list-style-type: none"> <li>Remove each nozzle and diffuser from each valve and rinse well in warm water. <b>DO NOT</b> use soap or detergent. This will cause foaming and off taste in finished product.</li> <li>Remove cup rest and wash in warm soapy water.</li> <li>Pour warm soapy water into the drip tray and wipe with a clean cloth.</li> <li>With a clean cloth and warm water, wipe off all of the unit's exterior surfaces. <b>DO NOT USE ABRASIVE SOAPS OR STRONG DETERGENTS.</b></li> <li>Replace the cup rest and nozzles.</li> </ul>
<b>Weekly</b>	<ul style="list-style-type: none"> <li>Taste each product for off tastes.</li> <li>Remove the unit's bonnet and check the level of water in the water bath. Replenish as required, and replace the bonnet.</li> </ul>
<b>Monthly</b>	<ul style="list-style-type: none"> <li>Unplug the dispenser from the power source.</li> <li>Remove the bonnet and clean the dirt from the condenser using a soft brush.</li> <li>Replace the bonnet and plug in the unit.</li> </ul>
<b>Every Six Months</b>	<ul style="list-style-type: none"> <li>Clean and sanitize the unit using the appropriate procedures outlined in the Cleaning and Sanitizing section of this manual.</li> </ul>
<b>Yearly</b>	<ul style="list-style-type: none"> <li>Clean water bath interior, including evaporator coils and refrigeration components.</li> <li>Clean the entire exterior of the unit.</li> </ul>

## Removing Existing Built-in Syrup Pumps (if necessary)

### NOTE

If necessary or if so desired, the dispenser can be converted from a built-in syrup pump system to a remote syrup pump or figal syrup tank system. The following are instructions on how to remove the existing built-in syrup pumps from the dispenser. For instructions on how to install a remote syrup pump or figal syrup tank system, please see the *Installation* section of this manual, pages 8-16.

1. Disconnect the unit from the power supply and remove the bonnet.
2. Loosen the valve cover retaining screws and remove the valve covers.
3. Shut off the water supply to each valve by turning the water shutoff knob at the mounting block, see page 14.
4. Prepare three to four (3 to 4) gallons of warm water in a suitable open container.
5. Disconnect the syrup supply lines from the BIB syrup supply, assemble a BIB adapter to the end of each line, and place the line in the container of warm water.
6. Open each dispensing valve until the water flowing from the valve shows no discoloration due to syrup.
7. Remove the syrup supply lines from the warm water and open each dispensing valve to purge the water from the system.
8. Turn off the CO<sub>2</sub> supply to the unit and disconnect the CO<sub>2</sub> supply line from CO<sub>2</sub> inlet fitting on the built-in pump package.
9. Using the oetiker pliers, cut and remove the fittings on the syrup inlet lines from the built-in syrup pumps and disconnect the lines from the pumps.
10. Disconnect the pump's syrup outlet lines from the unit's syrup inlet fittings using the oetiker pliers.
11. Using a wrench, remove the 1/8 inch barbed carbonator CO<sub>2</sub> check valve, if one is present.
12. Remove the four (4) sheet metal screws that secure the pump assembly to the carbonator deck and remove the pump assembly from the unit.

# CLEANING AND SANITIZING

## General Information

- Lancer equipment (new or reconditioned) is shipped from the factory cleaned and sanitized in accordance with NSF guidelines. The operator of the equipment must provide continuous maintenance as required by this manual and/or state and local health department guidelines to ensure proper operation and sanitation requirements are maintained.

### NOTE

The cleaning procedures provided herein pertain to the Lancer equipment identified by this manual. If other equipment is being cleaned, follow the guidelines established by the manufacturer for that equipment.

- Cleaning should be accomplished only by trained personnel. Sanitary gloves are to be used during cleaning operations. Applicable safety precautions must be observed. Instruction warnings on the product being used must be followed.

### ⚠ ATTENTION

- Use sanitary gloves when cleaning the unit and observe all applicable safety precautions.
- DO NOT** use a water jet to clean or sanitize the unit.
- DO NOT** disconnect water lines when cleaning and sanitizing syrup lines, to avoid contamination.
- DO NOT** use strong bleaches or detergents; These can discolor and corrode various materials.
- DO NOT** use metal scrapers, sharp objects, steel wool, scouring pads, abrasives, or solvents on the dispenser.
- DO NOT** use hot water above 140° F (60° C). This can damage the dispenser.
- DO NOT** spill sanitizing solution on any circuit boards. Insure all sanitizing solution is removed from the system.

## Cleaning and Sanitizing Solutions

### Cleaning Solution

Mix a mild, non-abrasive detergent (e.g. Sodium Laureth Sulfate, dish soap) with clean, potable water at a temperature of 90°F to 110°F (32°C to 43°C). The mixture ratio is one ounce of cleaner to two gallons of water. Prepare a minimum of five gallons of cleaning solution. Do not use abrasive cleaners or solvents because they can cause permanent damage to the unit. Ensure rinsing is thorough, using clean, potable water at a temperature of 90°F to 110°F. Extended lengths of product lines may require additional cleaning solution.

### Sanitizing Solution

Prepare the sanitizing solution in accordance with the manufacturer's written recommendations and safety guidelines. The type and concentration of sanitizing agent recommended in the instructions by the manufacturer shall comply with 40 CFR §180.940. The solution must provide 100 parts per million (PPM) chlorine (e.g. Sodium Hypochlorite or bleach) and a minimum of five gallons of sanitizing solution should be prepared.

## Cleaning and Sanitizing Syrup Lines - Bag in Box

- Disconnect syrup lines from BIB's
- Place syrup lines, with BIB connectors, in a bucket of warm water.
- Activate each valve to fill the lines with warm water and flush out syrup remaining in the lines.
- Prepare Cleaning Solution described on previous page.
- Place syrup lines, with BIB connectors, into cleaning solution.
- Activate each valve until lines are filled with cleaning solution then let stand for ten (10) minutes.
- Flush out cleaning solution from the syrup lines using clean, warm water.
- Prepare Sanitizing Solution described above.
- Place syrup lines into sanitizing solution and activate each valve to fill lines with sanitizer. Let sit for ten (10) minutes.
- Reconnect syrup lines to BIB's and draw drinks to flush solution from the dispenser.
- Taste the drink to verify that there is no off-taste. If off-taste is found, flush syrup system again.

### ⚠ CAUTION

Following sanitization, rinse with end-use product until there is no aftertaste. Do not use a fresh water rinse. This is a NSF requirement. Residual sanitizing solution left in the system creates a health hazard.



## Cleaning and Sanitizing Syrup Lines - FIGAL

1. Disconnect syrup inlet from the figal syrup tank.
2. Prepare cleaning solution and using a plastic bristle brush, scrub both disconnect valves on figal tank with cleaning solution and rinse with clean, potable water.
3. Prepare sanitizing solution and using a spray bottle or clean cloth, sanitize both disconnect valves on figal tank and allow to air dry.
4. Turn off CO<sub>2</sub> supply.
5. Connect syrup line to syrup tank filled with clean, potable water.
6. Connect CO<sub>2</sub> line to tank filled with water and pressurize.
7. Activate appropriate valve to fill the line with water and flush out syrup remaining in the line.
8. Disconnect CO<sub>2</sub> line and syrup line from tank filled with water.
9. Fill a separate tank with cleaning solution and connect syrup line and CO<sub>2</sub> line to tank and pressurize.
10. Activate appropriate valve to fill the line with cleaning solution then let stand for ten (10) minutes.
11. Disconnect CO<sub>2</sub> line and syrup line from tank filled with cleaning solution then reattach lines to tank filled with water and pressurize.
12. Activate valve to flush cleaning solution from the line.
13. Disconnect CO<sub>2</sub> line and syrup line from tank filled with water then fill a separate tank with sanitizing solution.
14. Connect both CO<sub>2</sub> and syrup lines to tank filled with sanitizing solution and pressurize.
15. Activate valve to fill line with sanitizing solution then let stand for ten (10) minutes.
16. Disconnect lines from the sanitizer tank and reattach to syrup tank and pressurize.
17. Draw drinks and refill line with end use product to flush sanitizing solution from the line.
18. Taste the drink to verify that there is no off-taste. If off-taste is found, flush syrup system again.

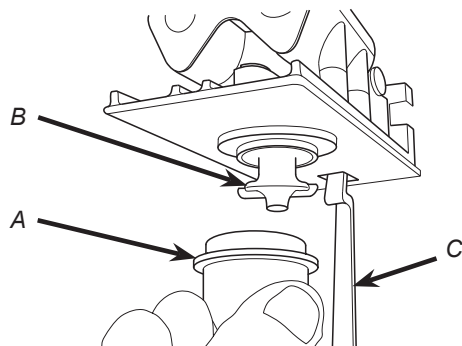
### ⚠ CAUTION

Following sanitization, rinse with end-use product until there is no aftertaste. Do not use a fresh water rinse. This is a NSF requirement. Residual sanitizing solution left in the system creates a health hazard.

19. Repeat procedure for each valve/syrup tank.

## Cleaning and Sanitizing Nozzles

1. Disconnect power, so as to not activate valve while cleaning.
2. Remove nozzle by twisting counter clockwise and pulling down.
3. Remove diffuser by pulling down.
4. Rinse nozzle and diffuser with warm water.
5. Wash nozzle and diffuser with cleaning solution then immerse in sanitizing solution and let sit for fifteen (15) minutes.
6. Set nozzle and diffuser aside and let air dry. **DO NOT** rinse with water after sanitizing.
7. Reconnect diffuser and nozzle.
8. Connect power.
9. Taste the drink to verify that there is no off-taste. If off-taste is found, flush syrup system again.



A. Nozzle  
B. Diffuser  
C. Soda Lever

### ⚠ CAUTION

Following sanitization, rinse with end-use product until there is no aftertaste. Do not use a fresh water rinse. This is a NSF requirement. Residual sanitizing solution left in the system creates a health hazard.

# TROUBLESHOOTING

## NOTE

Refer to the current revision levels of Lancer Operations Manual 28-0027/05 for complete troubleshooting information for LEV® valves and/or Lancer Operations Manual 28-0301/05 for complete troubleshooting information for the Volumetric Valve.

TROUBLE	CAUSE	REMEDY
Water leakage around nozzle.	<ol style="list-style-type: none"> <li>1. O-ring not properly installed above diffuser</li> <li>2. O-ring is damaged or missing.</li> </ol>	<ol style="list-style-type: none"> <li>1. Install or replace o-ring correctly.</li> <li>2. Replace o-ring.</li> </ol>
Leakage between upper and lower bodies.	<ol style="list-style-type: none"> <li>1. Gap between upper and lower valve bodies.</li> <li>2. Worn or damaged paddle arm assemblies.</li> <li>3. Cracked valve bodies</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten all six (6) retaining screws.</li> <li>2. Replace paddle arm assemblies.</li> <li>3. Replace Valve Body.</li> </ol>
Miscellaneous leakage.	<ol style="list-style-type: none"> <li>1. Gap between parts.</li> <li>2. Damaged or improperly installed o-rings.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten appropriate retaining screws</li> <li>2. Replace or adjust appropriate o-rings</li> </ol>
Insufficient water flow.	<ol style="list-style-type: none"> <li>1. Insufficient incoming supply water pressure.</li> <li>2. Shutoff on mounting block not fully open.</li> <li>3. Foreign debris in water flow control.</li> <li>4. Foreign debris in water pump strainer</li> </ol>	<ol style="list-style-type: none"> <li>1. Verify incoming supply water pressure is a minimum of 25 PSI (0.172 MPA).</li> <li>2. Open shutoff fully.</li> <li>3. Remove water flow control from upper body and clean out any foreign material to ensure smooth free spool movement.</li> <li>4. Remove water pump strainer and clean.</li> </ol>
Insufficient syrup flow.	<ol style="list-style-type: none"> <li>1. Insufficient CO<sub>2</sub> pressure to BIB pumps.</li> <li>2. Out of CO<sub>2</sub>.</li> <li>3. Shutoff on mounting block not fully open.</li> <li>4. Foreign debris in syrup flow control.</li> <li>5. Bad syrup pump.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust CO<sub>2</sub> pressure to 80 PSI (0.550 MPA) [minimum 70 PSI (0.480 MPA)] for BIB pumps.</li> <li>2. Replace CO<sub>2</sub> tank/refill.</li> <li>3. Open shutoff fully.</li> <li>4. Remove syrup flow control from upper body and clean out any foreign material to ensure smooth free spool movement.</li> <li>5. Replace BIB pump.</li> </ol>
Erratic ratio.	<ol style="list-style-type: none"> <li>1. Incoming water and/or syrup supply not at minimum flowing pressure.</li> <li>2. Foreign debris in water and/or syrup flow controls.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check pressure and adjust</li> <li>2. Remove flow controls from upper body and clean out any foreign material to ensure smooth free spool movement.</li> </ol>
No product dispensed	<ol style="list-style-type: none"> <li>1. Water and syrup shutoffs on mounting block not fully open.</li> <li>2. The key switch on an electric valve is in the OFF position.</li> <li>3. Cup lever arm or ID panel actuator on electric valve is not actuating the switch.</li> <li>4. Electric current not reaching valve.</li> <li>5. Improper or inadequate water or syrup supply.</li> </ol>	<ol style="list-style-type: none"> <li>1. Open shutoff fully.</li> <li>2. Turn key switch to ON position.</li> <li>3. Repair</li> <li>4. Check electric current supplied to valve. If current is adequate, check solenoid coil and switch, and replace if necessary.</li> <li>5. Remove valve from mounting block and open shutoffs slightly and check water and syrup flow. If no flow, check dispenser for freeze-up or other problems</li> </ol>

<b>TROUBLE</b>	<b>CAUSE</b>	<b>REMEDY</b>
No product dispensed	<ol style="list-style-type: none"> <li>Transformer Failure</li> <li>Bad valve solenoid(s)</li> </ol>	<ol style="list-style-type: none"> <li>Reset transformer circuit breaker. If breaker trips again check for pinched wire harness at backblocks</li> <li>Replace Solenoid(s)</li> </ol>
Water only dispensed; no syrup; or syrup only dispensed, no water	<ol style="list-style-type: none"> <li>Water or syrup shutoff on mounting block not fully open.</li> <li>Improper or inadequate water or syrup flow.</li> <li>BIB supply too far from dispenser.</li> <li>CO<sub>2</sub> pressure too low.</li> <li>Stalled or inoperative BIB pump</li> <li>Kinked line.</li> </ol>	<ol style="list-style-type: none"> <li>Open shutoff fully.</li> <li>Remove valve from mounting block, open shutoffs slightly and check water and syrup flow. If no flow, check dispenser for freeze-up or other problems. Ensure BIB connection is engaged.</li> <li>Check that BIB supply is within six (6) feet of the dispenser.</li> <li>Check the CO<sub>2</sub> pressure to the pump manifold to ensure it is between 70 and 80 PSI (0.483 and 0.552 MPA).</li> <li>Check CO<sub>2</sub> pressure and/or replace pump.</li> <li>Remove kink or replace line.</li> </ol>
No water just syrup, (Ice bank grew to water inlet line to carbonator tank.)	<ol style="list-style-type: none"> <li>Low water bath level.</li> <li>Unit not level.</li> <li>Syrup in water bath.</li> <li>Water cage is out of position.</li> <li>Refrigerant leak.</li> <li>Check water supply.</li> <li>Carbonator timed out.</li> <li>PCB malfunctioning.</li> </ol>	<ol style="list-style-type: none"> <li>Add water until it flows from overflow tube.</li> <li>Level unit and add water.</li> <li>Melt ice bank. Remove all water. Refill. Locate possible syrup leak area and repair.</li> <li>Reposition water cage.</li> <li>Find leak and recharge unit. (If unit is not frozen.)</li> <li>Turn water ON and shut unit OFF,</li> <li>Turn unit OFF then ON to reset</li> <li>See page 21.</li> </ol>
Valve will not shut off.	<ol style="list-style-type: none"> <li>Cup lever may be sticking or binding.</li> <li>Switch not actuating freely.</li> <li>Solenoid armature not returning to bottom position.</li> </ol>	<ol style="list-style-type: none"> <li>Correct or replace lever.</li> <li>Check switch for free actuation.</li> <li>Replace defective armature or spring.</li> </ol>
Syrup only dispensed. No water, but CO <sub>2</sub> gas dispensed with syrup.	<ol style="list-style-type: none"> <li>Improper water flow to dispenser.</li> <li>Carbonator pump motor has timed out.</li> <li>Liquid level probe not connected properly to PCB.</li> <li>Faulty PCB assembly.</li> <li>Faulty liquid level probe.</li> <li>Water bath frozen.</li> <li>Water line frozen.</li> </ol>	<ol style="list-style-type: none"> <li>Check for water flow to dispenser (see Insufficient Water Flow on previous page).</li> <li>Reset by turning the unit OFF and then ON (by using the ON/OFF switch on top of the unit or unplugging unit momentarily).</li> <li>Check connections of liquid level probe to PCB assembly.</li> <li>Replace PCB assembly.</li> <li>Replace liquid level probe.</li> <li>Thaw water bath and repair faulty component. (See refrigeration related symptoms.)</li> <li>Refer to "Compressor starts and continues to run until freeze and will not cut off" in Troubleshooting.</li> </ol>

<b>TROUBLE</b>	<b>CAUSE</b>	<b>REMEDY</b>
Excessive foaming.	<ol style="list-style-type: none"> <li>1. Incoming water or syrup temperature too high.</li> <li>2. CO<sub>2</sub> pressure too high.</li> <li>3. Water flow rate too high.</li> <li>4. Nozzle and diffuser not installed.</li> <li>5. Nozzle and diffuser not clean.</li> <li>6. Air in BIB lines.</li> <li>7. Poor quality ice.</li> <li>8. High beverage temperature.</li> </ol>	<ol style="list-style-type: none"> <li>1. Correct prior to dispenser. Consider larger dispenser or pre-cooler.</li> <li>2. Adjust CO<sub>2</sub> pressure downward, but not less than 70 PSI (0.483 MPA).</li> <li>3. Re-adjust and reset ratio. Refer to "Adjust Water Flow Rate &amp; Syrup/Water Ratio" Section on page 11.</li> <li>4. Remove and reinstall properly.</li> <li>5. Remove and clean.</li> <li>6. Bleed air from BIB lines.</li> <li>7. Check quality of ice used in drink.</li> <li>8. Check refrigeration system.</li> </ol>
Water continually overflows from water bath into drip tray.	<ol style="list-style-type: none"> <li>1. Loose water connection(s).</li> <li>2. Flare seal washer leaks.</li> <li>3. Faulty water coil.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten water connections.</li> <li>2. Replace flare seal washer.</li> <li>3. Replace water coil.</li> </ol>
Compressor starts and continues to run until freeze and will not cut off.	<ol style="list-style-type: none"> <li>1. PCB malfunctioning or faulty ice bank probe.</li> <li>2. Ice bank probe positioned improperly.</li> <li>3. Ice bank probe shorted to ground.</li> </ol>	<ol style="list-style-type: none"> <li>1. See page 21.</li> <li>2. Check positioning of ice bank probe, and replace if needed.</li> <li>3. Replace ice bank probe.</li> </ol>
Warm drinks.	<ol style="list-style-type: none"> <li>1. Restricted airflow.</li> <li>2. Dispenser connected to hot water supply.</li> <li>3. Refrigeration system not running.</li> <li>4. Refrigerant leak.</li> <li>5. Condenser fan motor not working.</li> <li>6. Dirty condenser.</li> <li>7. Dispenser capacity exceeded.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check clearances around sides, top, and inlet of unit. Remove objects blocking airflow through grill.</li> <li>2. Switch to cold water supply.</li> <li>3. Refer to page 19, the correct relay will cause compressor failure.</li> <li>4. Repair and recharge.</li> <li>5. Replace condenser fan motor.</li> <li>6. Clean condenser.</li> <li>7. Add pre-cooler or replace with larger dispenser.</li> </ol>
Compressor does not start (no hum), gas cooler fan does not run, and no ice bank.	<ol style="list-style-type: none"> <li>1. There is a five (5) minute compressor and condenser fan delay.</li> <li>2. Ice bank probe not completely submerged.</li> <li>3. Circuit breaker or fuse tripped.</li> <li>4. Inadequate Voltage</li> <li>5. PCB malfunctioning</li> <li>6. Incorrect Wiring</li> <li>7. Faulty ice bank probe.</li> <li>8. Transformer failure.</li> <li>9. Ice bank probe not connected properly to PCB.</li> </ol>	<ol style="list-style-type: none"> <li>1. Allow for five (5) minute delay to lapse.</li> <li>2. Fill water reservoir until water flows from overflow tube.</li> <li>3. Reset breaker or replace fuse. If problem persists: Determine reason and correct or electrical circuit overloaded; switch to another circuit.</li> <li>4. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.</li> <li>5. See page 21.</li> <li>6. Refer to wiring diagram and correct.</li> <li>7. Replace ice bank probe.</li> <li>8. Reset transformer circuit breaker. If breaker pops again, refer to "Circuit breaker tripping" in Troubleshooting.</li> <li>9. Connect ice bank probe to PCB.</li> </ol>

TROUBLE	CAUSE	REMEDY
Compressor does not start (no hum), but gas cooler fan motor runs.	<ol style="list-style-type: none"> <li>1. Compressor relay capacitors or overload malfunctioning.</li> <li>2. Inadequate voltage.</li> <li>3. Incorrect wiring.</li> <li>4. Compressor malfunctioning.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace compressor relay capacitors or overload.</li> <li>2. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.</li> <li>3. Refer to wiring diagram and correct.</li> <li>4. Have the unit repaired by a qualified service technician.</li> </ol>
Compressor does not start but hums.	<ol style="list-style-type: none"> <li>1. Inadequate voltage.</li> <li>2. Incorrect wiring.</li> <li>3. Starting relay capacitors malfunctioning.</li> <li>4. Compressor malfunctioning.</li> </ol>	<ol style="list-style-type: none"> <li>1. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.</li> <li>2. Refer to wiring diagram and correct.</li> <li>3. Replace starting relay or capacitors. Be sure to use correct rating. Failure to use correct rating will cause compressor failure.</li> <li>4. Have the unit repaired by a qualified service technician.</li> </ol>
Compressor starts but does not switch off start winding (will run for only a few seconds before internal overload switches before internal overload switches compressor off).	<ol style="list-style-type: none"> <li>1. Inadequate voltage.</li> <li>2. Incorrect wiring.</li> <li>• Starting relay malfunctioning.</li> </ol>	<ol style="list-style-type: none"> <li>1. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.</li> <li>2. Refer to wiring diagram and correct.</li> <li>3. Replace starting relay. Be sure to use correct relay. Failure to use correct relay will cause compressor failure.</li> </ol>
Compressor starts and runs a short time but shuts off on overload.	<ol style="list-style-type: none"> <li>1. Dirty condenser.</li> <li>2. Insufficient or blocked air flow.</li> <li>3. Inadequate voltage.</li> <li>4. Incorrect wiring.</li> <li>5. Defective condenser fan motor.</li> <li>6. Refrigerant leak.</li> <li>7. Compressor malfunctioning.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean the condenser.</li> <li>2. Remove all obstruction and allow for minimum clearances of 8 inches (203 mm) over top.</li> <li>3. Measure voltage across common and run terminal on compressor. Voltage must not drop below 90% of rated voltage.</li> <li>4. Refer to wiring diagram and correct.</li> <li>5. Have the unit repaired by a qualified service technician.</li> <li>6. Have the unit repaired by a qualified service technician.</li> <li>7. Have the unit repaired by a qualified service technician.</li> </ol>
Compressor runs normally, but water line is frozen.	<ol style="list-style-type: none"> <li>1. Low water level in water bath.</li> <li>2. Syrup in water bath.</li> <li>3. Water cage is out of position.</li> <li>4. Low refrigerant charge or slow refrigerant leak.</li> </ol>	<ol style="list-style-type: none"> <li>1. Add water to water bath until water runs out of overflow into drip tray.</li> <li>2. Drain water from water bath and refill with clean water.</li> <li>3. Reposition water cage.</li> <li>4. Find and repair leak. Recharge system.</li> </ol>
Compressor cycles on and off frequently during the initial pulldown and/or normal operations.	<ol style="list-style-type: none"> <li>1. PCB malfunctioning</li> <li>2. Defective probe.</li> <li>3. Weak overload or pressure switch.</li> </ol>	<ol style="list-style-type: none"> <li>1. See page 21.</li> <li>2. Replace probe.</li> <li>3. Have the unit repaired by a qualified service technician.</li> </ol>

<b>TROUBLE</b>	<b>CAUSE</b>	<b>REMEDY</b>
Circuit breaker tripping.	<ol style="list-style-type: none"> <li>1. Valve wire harness shorted to itself or to faucet plate.</li> <li>2. PCB is bad.</li> <li>3. Secondary wire harness is bad.</li> <li>4. Transformer failure.</li> </ol>	<ol style="list-style-type: none"> <li>1. Detect short by disconnecting input fasten to keylock and single pin connector. Restore power if breaker doesn't trip. Then valve wire harness is shorted. If OK, reconnect.</li> <li>2. Detect short by disconnecting J1 connector (24 VAC input) from PCB. Restore power, if breaker doesn't trip. Then replace PCB. If breaker does trip, then PCB is OK. Reconnect J1 connector.</li> <li>3. If it does not trip, locate short in secondary harness between transformer, PCB, and valve wire harness.</li> <li>4. Detect short by disconnecting both transformerfastons and restore power. If breaker does trip, replace transformer.</li> </ol>
BIB pump does not operate when dispensing valve opened.	<ol style="list-style-type: none"> <li>1. A. Out of CO<sub>2</sub>, CO<sub>2</sub> not turned on, or low CO<sub>2</sub> pressure.</li> <li>2. Out of syrup.</li> <li>3. BIB connector not tight.</li> <li>4. Kinks in syrup or gas lines.</li> <li>5. Bad BIB Pumps.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace CO<sub>2</sub> supply, turn on CO<sub>2</sub> supply, or adjust CO<sub>2</sub> pressure to 70-80 PSI (0.483-0.552 MPA)</li> <li>2. Replace syrup supply.</li> <li>3. Fasten connector tightly.</li> <li>4. Straighten or replace lines.</li> <li>5. Replace BIB pump.</li> </ol>
BIB pump operated, but no flow.	<ol style="list-style-type: none"> <li>1. Leak in syrup inlet or outlet line.</li> <li>2. Defective BIB pump check valve.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace line.</li> <li>2. Replace BIB pump</li> </ol>
BIB pump continues to operate when bag is empty.	<ol style="list-style-type: none"> <li>1. Leak in suction line.</li> <li>2. Leaking o-ring on pump inlet fitting.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace line.</li> <li>2. Replace o-ring.</li> </ol>
BIB pump fails to restart after bag replacement.	<ol style="list-style-type: none"> <li>1. BIB connector not on tight.</li> <li>2. BIB connector is stopped up.</li> <li>3. Kinks in syrup line</li> <li>4. Bad BIB Pumps.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten BIB connector.</li> <li>2. Clean out or replace BIB connector.</li> <li>3. Straighten or replace line.</li> <li>4. Replace BIB pump.</li> </ol>
BIB pump fails to restart when dispensing valve is closed.	<ol style="list-style-type: none"> <li>1. Leak in discharge line or fittings.</li> <li>2. Empty BIB.</li> <li>3. Air leak on inlet line or bag connector.</li> </ol>	<ol style="list-style-type: none"> <li>1. Repair or replace discharge</li> <li>2. Replace BIB.</li> <li>3. Repair or replace.</li> </ol>
No product out light.	<ol style="list-style-type: none"> <li>1. Burned-out lamp</li> <li>2. Faulty wiring or pressure switch in product line.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace lamp.</li> <li>2. Repair or replace.</li> </ol>
Low or no carbonation.	<ol style="list-style-type: none"> <li>1. Low or no CO<sub>2</sub>.</li> <li>2. Excessive water pressure.</li> <li>3. Worn or defective carbonator pump.</li> <li>4. PCB malfunctioning.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check CO<sub>2</sub> supply. Adjust CO<sub>2</sub> pressure to 70 PSI (0.483 MPA).</li> <li>2. Water regulator should be set at 50 PSI (0.345 MPA)</li> <li>3. Replace carbonator pump.</li> <li>4. See page 21.</li> </ol>



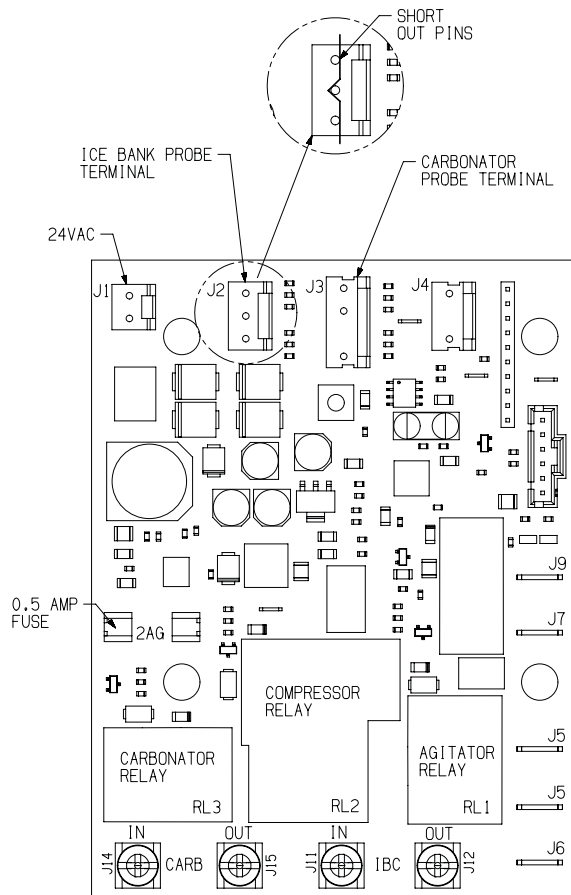
# THE ELECTRONIC ICE BANK CONTROL (EIBC)

## Checking the Normal PCB Operation

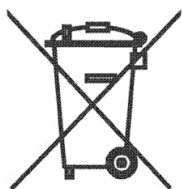
### ⚠ WARNING

Terminal block has AC line voltage and should be covered with tape. Tape should cover bare electrical connections to prevent electrical shock.

1. Turn power OFF or insure that power has been disconnected from dispenser
2. Check condition of 0.5 amp fuse at location shown in diagram to the right. If fuse is blown, trace cause of short in valve wire harness and associated 24 VAC lines and replace fuse. If fuse is good, continue with next step.
3. Disconnect leads from the terminal block that connect to the PCB, noting their specific location for reconnection.
4. Disconnect both the Ice Bank probe (J2) and the Carbonator probe (J3) (if equipped) connections from board.
5. Use a short copper wire, paper clip, or other means to short the Ice Bank probe terminals (J2) on the PCB by touching all three (3) pins together.
6. Set Ohm test meter to measure continuity.
7. Reconnect power or turn dispenser ON.
8. Observe time and check continuity of the PCB screw lug connections:
  - Terminal 3 to 4 (Carbonator): During the first 2.5 to 3.5 minutes there should be continuity. After 2.5 to 3.5 minutes, there should be NO continuity.
  - Terminal 2 to 1 (Compressor): During first 4 to 6 minutes, there should be NO continuity. After 4 to 6 minutes, there should be continuity. There should be NO continuity from 2 to 1.
  - You should be able to hear a “click” sound of the relay closing when the time delay ends.
9. Turn electrical power OFF for 15 seconds and then back ON again to reset Carbonator timer. Again, measure continuity of the PCB screw lug connections:
  - Terminal 3 to 4: There should be continuity. Use a short copper wire, paper clip, or other means to short the Carbonator probe terminals (J3) on the PCB by touching all three (3) pins together. This should be done before the 2.5 to 3.5 minute time limit has elapsed. Measure the continuity again between Terminal 3 to 4: There should be **NO** continuity.
10. If all the above work as noted, then the board is functioning properly. Remove tape and reconnect board. If any non-conformities are found, the PCB must be replaced (PN 52-1423/01).



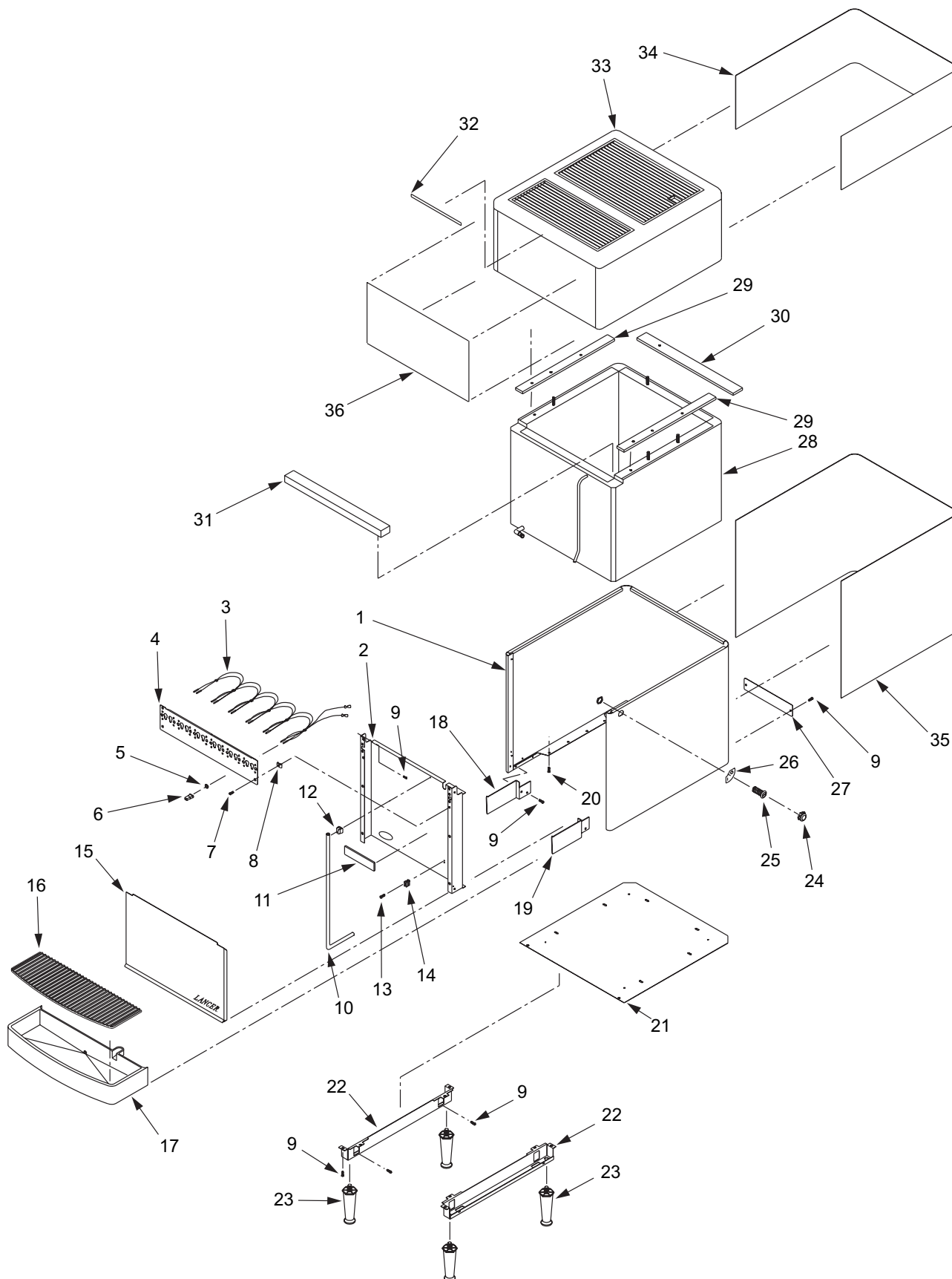
## Dispenser Disposal



To prevent possible harm to the environment from improper disposal, recycle the unit by locating an authorized recycler or contact the retailer where the product was purchased. Comply with local regulations regarding disposal of the refrigerant and insulation.

# ILLUSTRATIONS AND PART LISTINGS

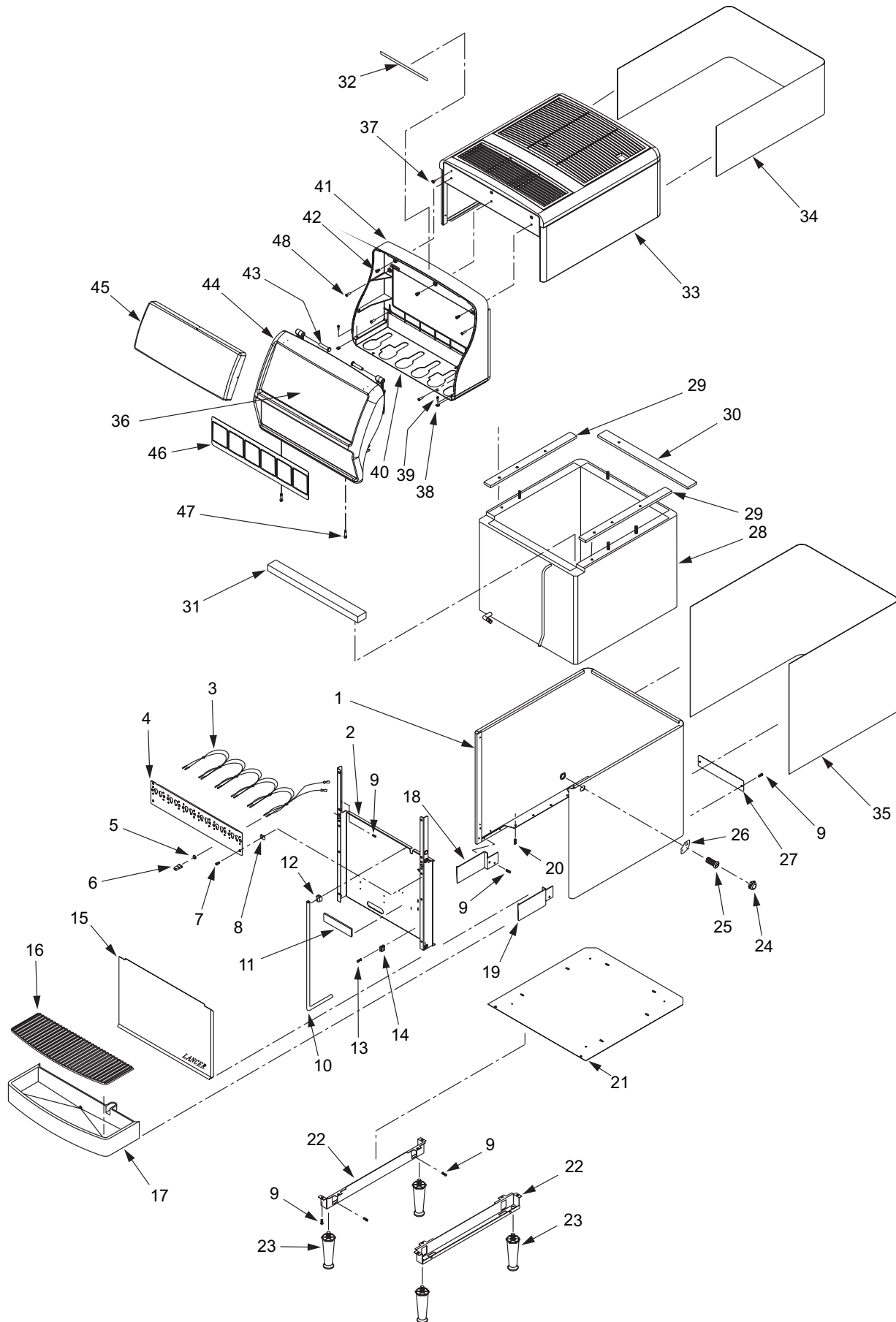
## Standard Cabinet Assembly



<u>Item</u>	<u>Part No.</u>	<u>Description</u>				
-	82-2551	Cabinet Assy	R	22	30-5221/02	Bracket, Leg
1	51-5629/02	Wrapper Assy		23	81-0112	Leg, Plastic
R 2	30-7353/03	Front Support, SS		24	07-0405	Plug, Key Switch
3	REF	Harness Assy, Valve		25	12-0097	Key Switch (Includes Nut)
-	52-1214	Harness Assy, 6 Valve, (Requires 6 each; Items 5 & 6)		26	06-0881	Label, Key Switch
				27	07-0347	Plate, Cover
-	52-1215	Harness Assy, 5 Valve, (Requires 5 each; Items 5 & 6)		28	REF	Tank Assy
4	REF	Faucet Plate		-	42-0057/01	Tank Assy
R -	30-9276	Faucet Plate, 6 Valve		29	50-0151	Insulation, Tank, Side
R -	30-9277	Faucet Plate, 5 Valve		30	50-0150	Insulation, Tank, Back
5	13-0005	Bushing		31	50-0248	Insulation, Tank, Front
6	11-0015	Connector, Housing, 2-Pin		32	06-0632	Label, "WARNING"
7	04-0443	Screw, 10 - 24 x 0.375", Countersink		33	REF	Bonnet Assy
8	04-0074	Nut, Clip, 10 - 24		-	82-2764	Bonnet Assy (Contact Customer Service for Graphic Options)
R 9	04-1071/01	Screw, 8 - 32 x 0.375", Taptite		34	06-2177	Label, Graphic, Bonnet (Contact Customer Service for Graphic Options)
10	08-0004	Tubing, Tygon, 5/16" ID				
11	06-0851	Label, Overflow				
12	03-0302	Clip, Drain Hose		35	06-2178	Label, Graphic, Tank Wrapper (Contact Customer Service for Graphic Options)
13	04-0077	Screw, 4 - 20 x 0.250"				
14	03-0062	Clip, Overflow Tube		36	06-2227	Decal, Bonnet, Front (Contact Customer Service for Graphic Options)
15	30-0319-01	Splash Plate, with Logo				
16	05-1585	Cup Rest, Plastic				
17	05-1657	Drip Tray	R	-	82-0274	Back Block, Standard
18	30-7533/02	Bracket, Drip Tray, Right	R	-	82-2658/01	Back Block, 3-way
19	30-7534/02	Bracket, Drip Tray, Left	R	-	04-1089	Screw, 10 - 32 x 1.000, for Back Blocks
R 20	04-0545/01	Screw, 8 - 16 x 0.750"	R	-	18-0253/02	Water Regulator Assy (see Section 8.7)
21	30-7358	Plate, Tank, Bottom				

R in margin indicates change or revision

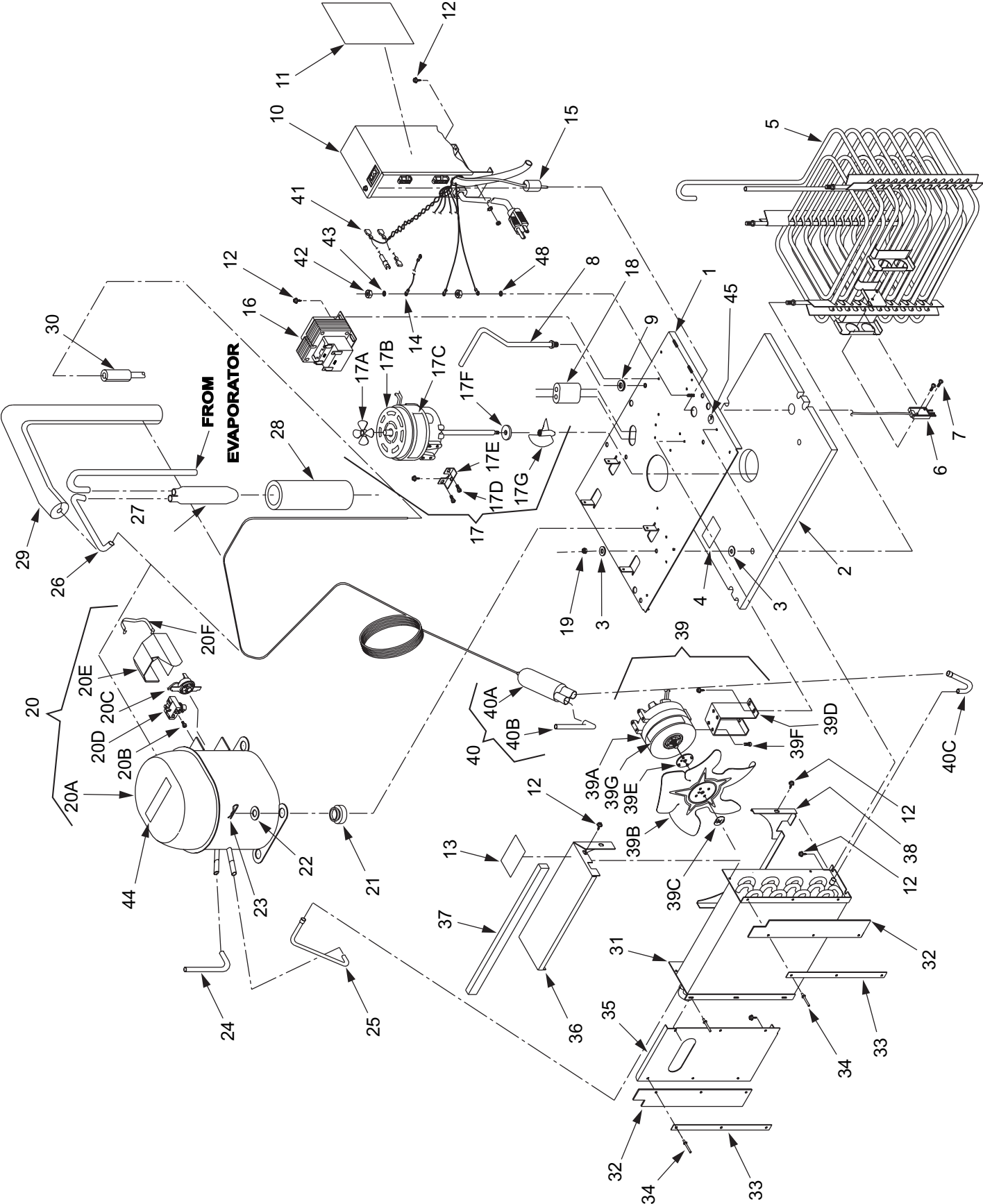
# Shrouded Cabinet Assembly



<b>Item</b>	<b>Part No.</b>	<b>Description</b>			
	-	82-2551 Cabinet Assy	-	42-0058	Tank Assy, LF Sol
1	51-5629/02	Wrapper Assy	29	50-0151	Insulation, Tank, Side
R 2	30-7574/03	Front Support, SS	30	50-0150	Insulation, Tank, Back
3	REF	Harness Assy, Valve	31	50-0248	Insulation, Tank, Front
-	52-1214	Harness Assy, 6 Valve, (Requires 6 each; Items 5 & 6)	32	06-0632	Label, "WARNING"
-	52-1215	Harness Assy, 5 Valve, (Requires 5 each; Items 5 & 6)	33	REF	Bonnet Assy
4	REF	Faucet Plate	-	23-1255	Bonnet Assy (Contact Customer Service for Graphic Options)
R -	30-9276	Faucet Plate, 6 Valve	34	06-2177	Label, Graphic, Bonnet (Contact Customer Service for Graphic Options)
R -	30-9277	Faucet Plate, 5 Valve	35	06-2178	Label, Graphic, Tank Wrapper (Contact Customer Service for Graphic Options)
5	13-0005	Bushing	36	06-2347	Decal, Bonnet, Front (Contact Customer Service for Graphic Options)
6	11-0015	Connector, Housing, 2-Pin	37	04-0302	Screw, 8 - 32 x 0.375
7	04-0443	Screw, 10 - 24 x 0.375", Countersink	38	04-1218	Nut, Clip, #6
8	04-0074	Nut, Clip, 10 - 24	39	04-0407	Screw, 6 - 32 x 0.375
9	04-0504	Screw, 8 - 18 x 0.375", with Washer	40	30-7646	Valve Trim Panel, 6 Valve
10	08-0004	Tubing, Tygon, 5/16" ID	-	30-8288	Valve Trim Panel, 5 Valve
11	06-0851	Label, Overflow	41	05-1683	Shroud, Rear
12	03-0302	Clip, Drain Hose	42	04-1071	Screw, 8 - 32 x 0.375, Taptite
13	04-0077	Screw, 4 - 20 x 0.250"	R 43	04-1172/01	Pin, Hinge, Shroud
14	03-0062	Clip, Overflow Tube	44	54-0292	Shroud Assy
15	30-0319-01	Splash Plate, with Logo	-	05-1690	Support, Arm, Hinge
16	05-1585	Cup Rest, Plastic	-	05-1813	Bar, Lift, Support
17	05-1657	Drip Tray	45	82-3056	Marquee Assy (Option)
18	30-7533/02	Bracket, Drip Tray, Right	46	06-2404	Panel, Plain, 6 Valve
19	30-7534/02	Bracket, Drip Tray, Left	-	06-2414	Panel, Plain, 5 Valve
R 20	04-0545/01	Screw, 8 - 16 x 0.750"	47	04-1171	Screw, 8 - 32 x 0.625, Shoulder
21	30-7358	Plate, Tank, Bottom	48	04-0619	Screw, 10 - 24 x 0.625
R 22	30-5221/02	Bracket, Leg	R -	82-0274	Back Block, Standard
23	81-0112	Leg, Plastic	R -	82-2658/01	Back Block, 3-way
24	07-0405	Plug, Key Switch	R -	04-1089	Screw, 10 - 32 x 1.000, for Back Blocks
25	12-0097	Key Switch (Includes Nut)	R -	18-0253/02	Water Regulator Assy (see page 33)
26	06-0881	Label, Key Switch			
27	07-0347	Plate, Cover			
28	REF	Tank Assy			
-	42-0057/01	Tank Assy			

R in margin indicates change or revision

# Refrigeration Deck Assembly

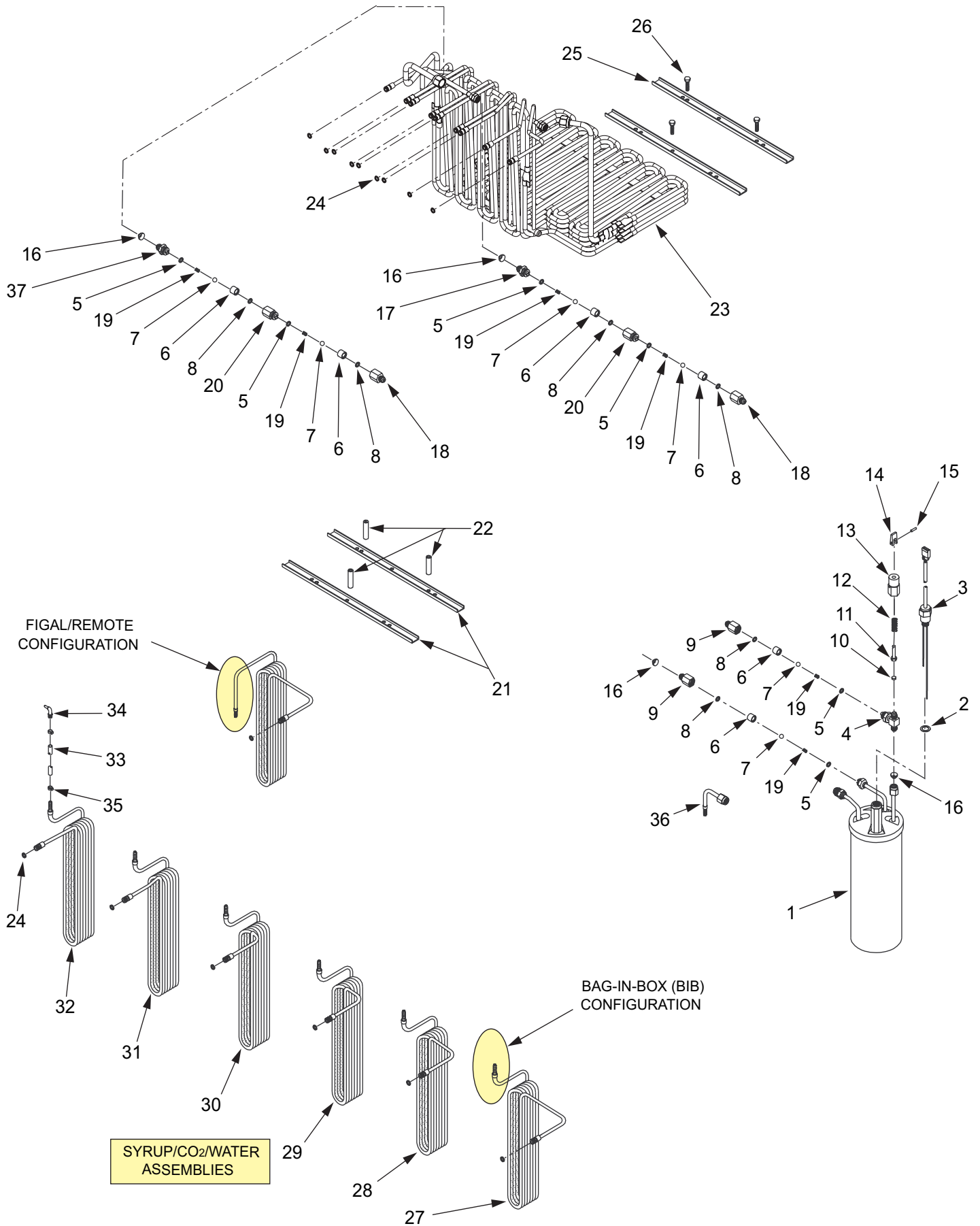




<u>Item</u>	<u>Part No.</u>	<u>Description</u>			
	-	82-2554 Deck Assy, Refrigeration, 115V/60Hz	21	02-0114	Grommet, Compressor
	-	82-2486 Deck Assy, Refrigeration, 230V/50Hz	22	04-0537	Washer, Compressor
	-	82-2633 Deck Assy, Refrigeration, 220V/60Hz	23	03-0150	Clip, Retainer, Compressor
1	51-5496	Deck Plate, Sub-Assy	24	47-0344	Tube, Process
2	50-0200/01	Insulation, Deck Plate	25	47-0718	Tube, Compressor Discharge
3	04-0063	Washer, Flat, 1/4"	26	47-0724	Tube, Return Line
4	89-0014	Hole Cover	27	51-0061	Accumulator
5	82-2494/01	Evaporator Assy, 115V/60Hz	28	50-0211	Boot
-	82-2494	Evaporator Assy, 230V/50Hz	29	50-0205	Insulation
R 6	52-1773/01	Probe Assy	30	50-0159	Insulation
7	04-0394	Screw, 6 - 32 X .500"	R 31	23-0985/01	Condenser
8	51-0068/01	Handle	R 32	50-0201/01	Baffle, Rubber
9	04-0574	Washer, Lock, 5/16"	33	30-5112	Retainer Strip
10	REF	Control Housing Assy	34	04-0518	Rivet, 0.125" X 0.328"
-	52-0900/02	Control Housing Assy with Kill Switch	35	30-5867	Handle/Air Shield
-	52-0903/02	Control Housing Assy w/out Kill Switch	36	51-5697	Fan Shroud, Upper
11	06-2221	Label, Wiring Diagram	37	50-0249	Insulation, Strip
12	04-0504	Screw, 8 - 18 X .375"	38	30-5866	Fan Shroud, Lower
13	06-0080-01	Label, Nameplate	39	52-2146	Fan Assy, 115V/60Hz
14	52-1209	Lead Assy, Ground	-	52-2147	Fan Assy, 220V/50-60Hz
15	02-0041	Seal	39a	91-0007	Motor Assy, 115V/60Hz, 9W
R 16	25-0047/01	Transformer, 75VA, 24V, 115V/60Hz	-	91-0009	Motor Assy, 220V/50-60Hz, 9W
R -	25-0048/01	Transformer, 75VA, 24V, 220V/50-60Hz	39b	07-0354	Fan Blade
17	82-2558	Agitator Assy, 115V/60Hz	39c	04-0060	Nut, Flat
-	82-2487	Agitator Assy, 230V/50Hz	39d	30-5864	Bracket, Fan Motor
-	82-2761	Agitator Assy, 220V/60Hz	R 39e	02-0413	Silencer, Fan Blade
R 17a	05-0495/01	Propeller, 2.062" Diameter	39f	04-0059	Screw, 8 - 36 X 0.375"
17b	91-0119	Motor, Agitator, 115V/60Hz	39g	06-0433/01	Label, 115V/60Hz, 9W
-	91-0112	Motor, Agitator, 230V/50Hz	-	06-0670	Label, 220V/50-60Hz, 9W
-	91-0130	Motor, Agitator, 220V/60Hz	40	23-0765	Dryer Cap Assy
17c	06-0633	Label, 115V/60Hz, 25W	40a	23-0982	Dryer Cap
-	06-0634	Label, 230V/50Hz, 25W	40b	47-0344	Tube, Process
-	06-2191	Label, 220V/60Hz, 25W	40c	47-0698	Tube, Condenser, Out
17d	04-0059	Screw, 8 - 36 X .375"	R 41	52-2008	Harness Assembly, Transformer
17e	30-5113/01	Bracket, Agitator Motor	42	04-0110	Nut, 8-32
17f	02-0032	Washer, Rubber	43	04-0576	Washer, Lock, Internal Tooth
17g	05-1437	Propeller, Water	44	06-0430	Label, 115V/60 Hz, 1/3 HP
18	02-0040	Seal, Extrusion	-	06-0460	Label, 230V/50 Hz, 1/3 HP
R 19	04-0032	Nut, Lock, 1/4" - 20	-	06-0666	Label, 240V/60 Hz, 1/3 HP
20	83-0033	Compressor Assy, 1/3 hp, 115V/60Hz (includes items listed below)	45	06-0877	Label, Ground
-	83-0034	Compressor Assy, 1/3 hp, 240-220V/50Hz	-	11-0018	Wire Tie
-	83-0038	Compressor Assy, 1/3 hp, 220V/60Hz	-	15-0012	Duct Tape
20a	83-0033-01	Compressor, 1/3 hp, 115V/60Hz	-	15-0011	Adhesive, Insulation
-	83-0034-01	Compressor, 1/3 hp, 240-220V/50Hz	-	95-0177	Refrigerant, R-134a
20b	04-1010	Screw, Brass, 6 - 32 X 0.250"	R -	96-0004/01	Solder, 60/40
20c	12-0339	Overload, 115V/60Hz	-	96-0003	Brazing Alloy
-	12-0290	Overload, 230V/50Hz	R -	26-0377/01	Capacitor, 230V/50Hz (For use with PN 91-0065)
-	12-0253	Overload, 220V/60Hz	R -	26-0374/01	Capacitor, 115V/60Hz (For use with PN 91-0063)
20d	12-0005	Relay, 115V/60Hz			
-	12-0031	Relay, 230V/50Hz			
-	12-0028	Relay, 220V/60Hz			
20e	13-0066	Cover, Terminal			
20f	03-0040	Bale Strap			
R 20g	03-0041	Overload Spring (Not Shown)			
20h	12-0260	Start Capacitor, 220V/60Hz (Not Shown)			

R in margin indicates change or revision

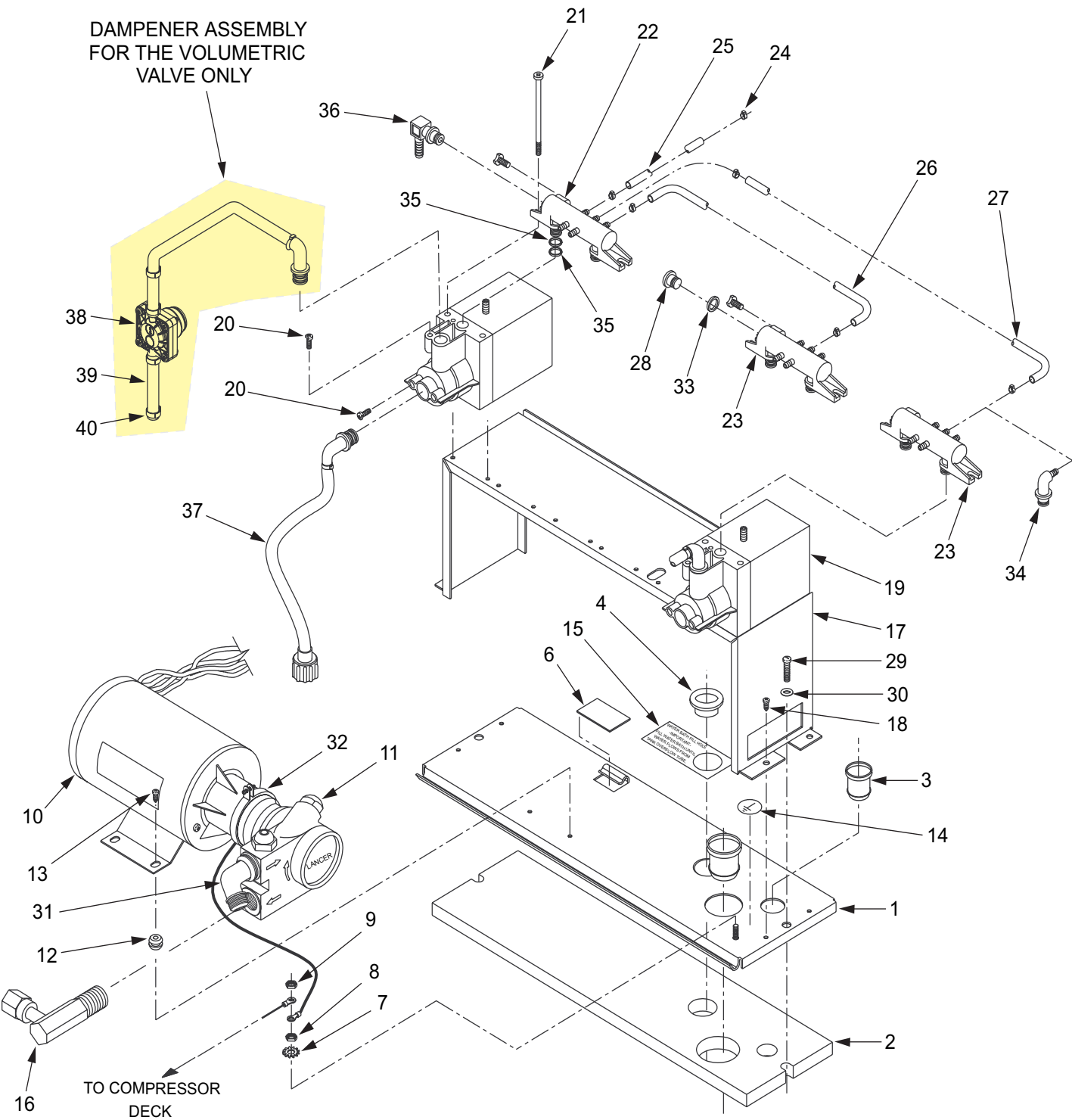
## Carbonator, Water/Syrup Line Assemblies



<b><u>Item</u></b>	<b><u>Part No.</u></b>	<b><u>Description</u></b>			
R -	82-2676	Carbonator Assy, 60Hz	R 28	REF	Tube Assy, Syrup #2
R -	82-2678	Carbonator Assy, 50Hz	-	48-0474/01	Tube Assy, Syrup, Figal/Remote (use on 6 Valve Units)
1	REF	Tank Assy, Carbonator	-	48-0502/01	Tube Assy, Syrup, Figal/Remote (use on 5 Valve Units)
-	23-1152	Tank Assy, Carbonator, 60 Cycle	-	48-0450/01	Tube Assy, Syrup, BIB (use on 6 Valve Units)
-	23-1153	Tank Assy, Carbonator, 50 Cycle	-	48-0500/01	Tube Assy, Syrup, BIB (use on 5 Valve Units)
2	02-0096	Washer	R 29	REF	Tube Assy, Syrup #3
3	52-0909	Probe Assy	-	48-0475/01	Tube Assy, Syrup, Figal/Remote (use on 6 Valve Units)
R -	17-0469	Fitting Assy, CO2 IN	-	48-0503/01	Tube Assy, Syrup, Figal/Remote (use on 5 Valve Units)
4	01-1311	Fitting, Sub Assy, CO2	-	48-0451/01	Tube Assy, Syrup, BIB (use on 6 Valve Units)
5	02-0003	O-Ring	-	48-0501/01	Tube Assy, Syrup, BIB (use on 5 Valve Units)
6	01-0689	Sleeve	R 30	REF	Tube Assy, Syrup #4
7	01-0674	Ball	-	48-0476/01	Tube Assy, Syrup, Figal/Remote (use on 6 Valve Units)
8	02-0025	O-Ring	-	48-0477/01	Tube Assy, Syrup, Figal/Remote (use on 5 Valve Units)
R 9	01-0669	Body, Check Valve, Gas	-	48-0452/01	Tube Assy, Syrup, BIB (use on 6 Valve Units)
-	54-0066	Relief Valve Assy	-	48-0453/01	Tube Assy, Syrup, BIB (use on 5 Valve Units)
R 10	02-0023	Seal	R 31	REF	Tube Assy, Syrup #5
R 11	05-0536/01	Stem	-	48-0477/01	Tube Assy, Syrup, Figal/Remote (use on 6 Valve Units)
R 12	03-0024/02	Spring	-	48-0478/01	Tube Assy, Syrup, Figal/Remote (use on 5 Valve Units)
R 13	05-0537	Body, Relief Valve	-	48-0453/01	Tube Assy, Syrup, BIB (use on 6 Valve Units)
R 14	05-0525	Lever	-	48-0454/01	Tube Assy, Syrup, BIB (use on 5 Valve Units)
R 15	81-0196	Pin	R 32	REF	Tube Assy, Syrup #6
R 16	05-0011/01	Flare Seal Washer, Small	-	48-0478/01	Tube Assy, Syrup, Figal/Remote (use on 6 Valve Units)
R -	17-0485	Double Check Valve Assy, Carbonated Water Inlet	-	48-0453/01	Tube Assy, Syrup, BIB (use on 6 Valve Units)
R -	17-0596	Double Check Valve Assy, Plain Water inlet	-	48-0454/01	Tube Assy, Syrup, BIB (use on 5 Valve Units)
R 17	01-1466	Fitting, Check Valve18 01-0673 Body	R 33	08-0029	Tube, Flexible
R 19	03-0021	Spring	R 34	01-0483	Adapter Assy, Elbow
R 20	01-0670	Body	R 35	07-0409	Clamp, Oetiker
R 21	30-6807	Spacer, Lower, Water Cage	R 36	01-0424/01	Elbow, Swivel, Hose Assy, Units Without Pumps
R 22	01-1831	Standoff, 10 - 24, Threaded	R 37	01-2548	Fitting, Check Valve, 3/8"
R 23	REF	Cage Assy			
R -	23-1366	Cage Assy, 5 Valve			
R -	23-1357	Cage Assy, 6 Valve			
R 24	02-0005	O-Ring			
R 25	30-6767	Brace, Water Coils			
R 26	04-1116	Screw, 10 - 24 x 0.625, PHD, PH, 18 - 8, SS			
R 27	REF	Tube Assy, Syrup #1			
-	48-0473/01	Tube Assy, Syrup, Figal/Remote			
-	48-0449/01	Tube Assy, Syrup, BIB			

R in margin indicates change or revision

# Carbonator Deck, Pump Bracket Assemblies

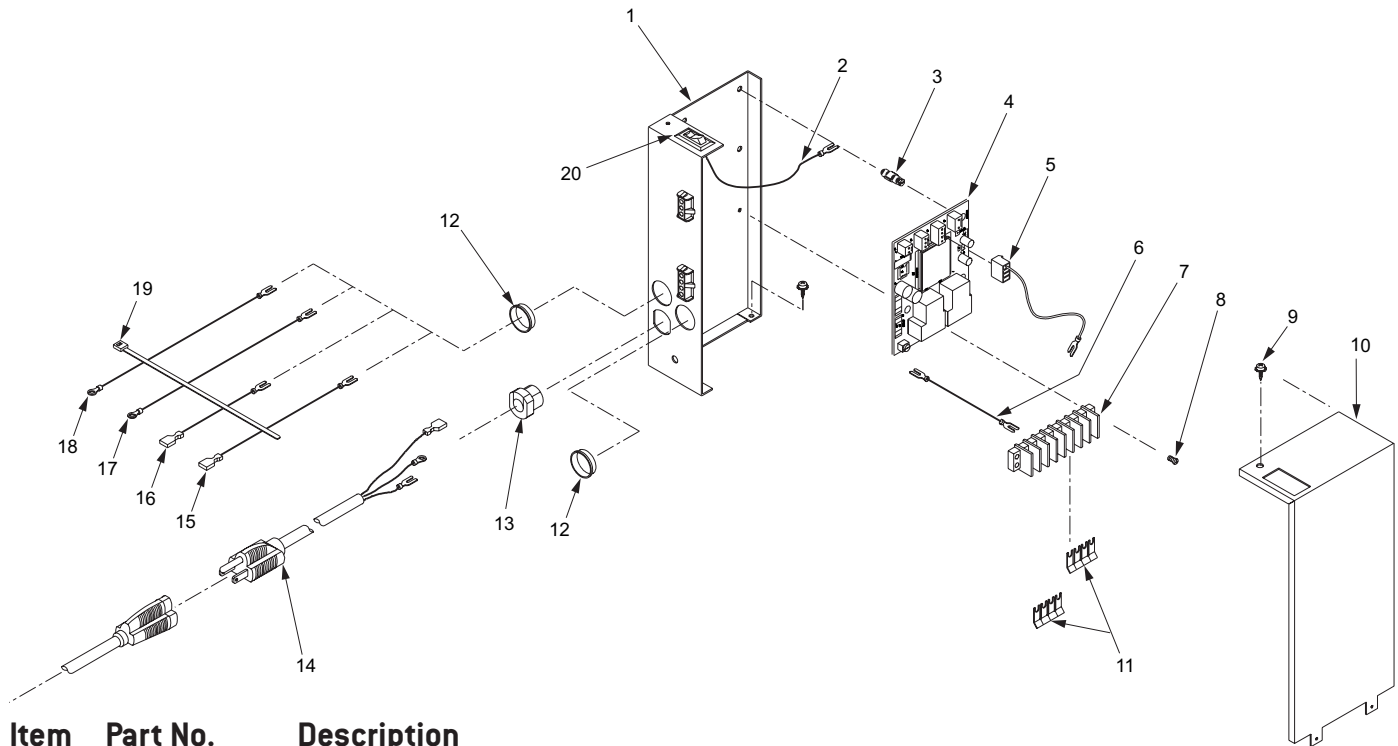


<b><u>Item</u></b>	<b><u>Part No.</u></b>	<b><u>Description</u></b>			
-	82-2555	Deck Assy, Carbonator, 115V, 60Hz	18*	04-0504	Screw, 8 - 18 X 0.375
-	82-2552	Deck Assy, Carbonator, 220V, 50-60Hz	19*	82-0251	Mini Pump
1	REF	Plate, Carbonator Deck	20*	04-0275	Screw, Half Moon
-	51-5411	Plate Assy, Carbonator Deck	21*	04-0359	Screw, 8 - 32 X 3.100
-	30-6800	Plate, Carbonator Deck	22	54-0091	Manifold Assy (used on 6V and 5V)
2	REF	Insulation, Carbonator Deck	23	54-0092	Manifold Assy (used in 6V and 5V)
-	50-0328	Insulation, Carbonator Deck	24	07-0441	Clamp, Oetiker
3*	05-0436	Sleeve, Probe	R 25	08-0272/01	Tube, CO2 Carbonator (used on 6V and 5V)
4	04-0711	Caplug	26	08-0271	Tube, CO2 Carbonator (used on 6V and 5V)
5*	05-0435	Sleeve, CO2 IN	27	08-0268	Tube, CO2 Carbonator (used on 6V)
6	89-0014	Cover, Hole	-	08-0269	Tube, CO2 Carbonator (used on 5V)
7	04-0576	Washer, No. 8 Int. tooth	28	05-0604	Plug, CO2 Manifold
8*	04-0110	Nut, no. 8 - 32	29*	04-0431	Screw, 1/4 - 20 X 1.000, Round Head
9	REF	Lead Assy, Ground (Compressor Deck to Carbonator Deck)	30*	04-0033	Washer, 1/4"
10*	REF	Carbonator Motor	31	01-0987	Elbow, Brass
-	91-0063	Carbonator Motor, 115V/60Hz	R 32*	07-0017/01	Clamp with screw
-	91-0065	Carbonator Motor, 220V/50-60 Hz	33	02-0089	O-Ring
R 11*	86-0084	Pump, 100 GPH	34	01-1325/01	Elbow Assy, CO2 (used on 5V)
12*	02-0194	Grommet, 0.250 OD X 0.156 ID X 0.049 W	35	02-0005	O-Ring
13*	04-0061	Screw, 8 - 18 X 0.500 AB	36	01-1072	Elbow Assy (included in Installation Kit)
14	06-0877	Label, Ground	37	49-0101/01	Tubing Assy, BIB
R 15	06-0856/01	Label, Water Fill	38	82-2744	Dampener Assy
16	01-1515	Pump Outlet Assy	39	08-0029	Tubing, Braided, 0.250 ID
-	82-0900	Pump Bracket Assy, 6 Pump	40	07-0409	Clamp, Oetiker
-	82-0906	Pump Bracket Assy, 5 Pump			
17	30-5111	Pump Support			

\* Items can be interchanged between Delta, Delta II, and Delta III.

R in margin indicates change or revision

# Control House Assembly

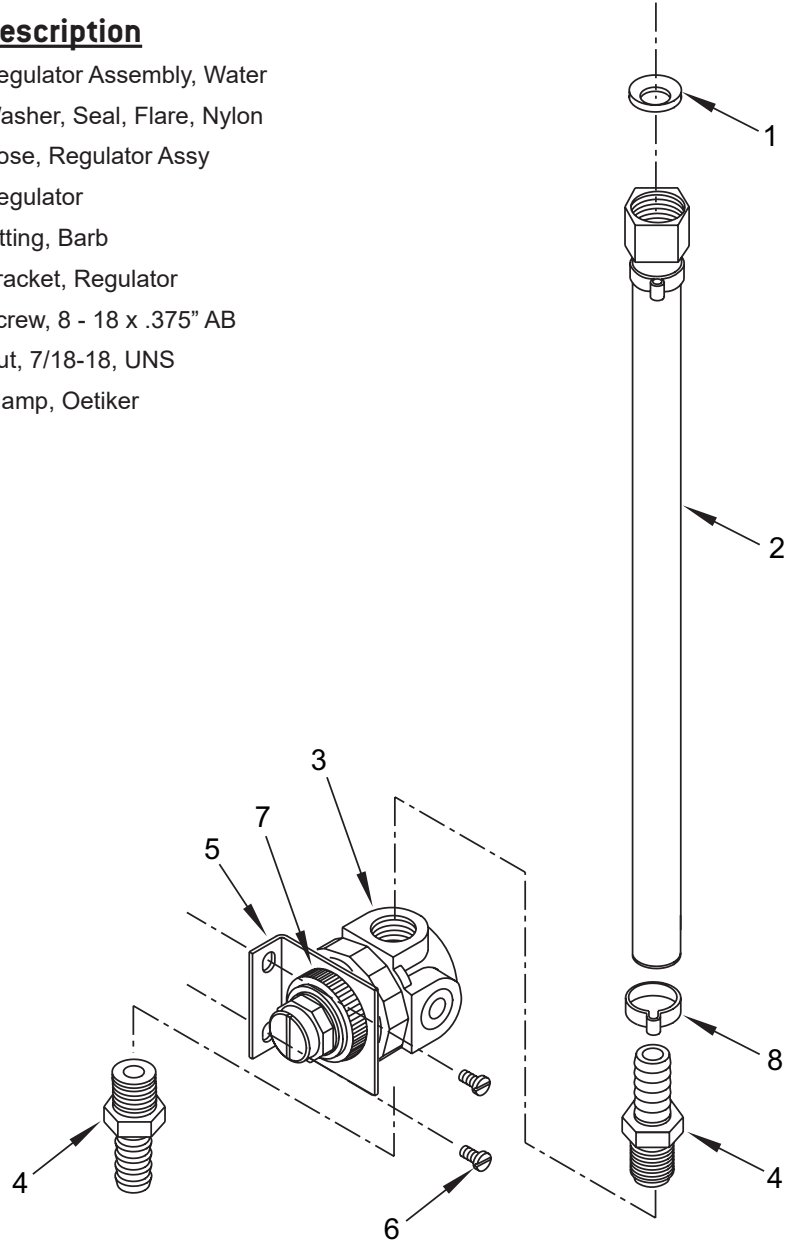


Item	Part No.	Description	Item	Part No.	Description
-	52-0900/02	Control Housing, With ON/OFF Switch	10	30-5108/01	Cover, Control Box
-	52-0903/02	Control Housing, Without Kill Switch	11	11-0186	Jumper, 4-Position
1	30-5109/02	Control Housing	12	13-0059	Bushing
2	52-0868/01	Lead Assy, ON/OFF Switch	13	13-0028	Strain Relief
3	13-0047	Stand-off	14	52-1219	Power Cord (Pigtail)
4	52-1423/01	PCB Assy	15	52-0904	Harness Assy, Trans #1
R 5	52-2027/01	Lead Assy, Probe Ground (Non-Carb Units Only)	16	52-0905	Harness Assy, Trans #2
6	52-2061	Lead Assy, EIBC	17	52-0906	Harness Assy, Comp #1
7	12-0190	Terminal Block	18	52-0907	Harness Assy, Comp #2
8	04-0477	Screw, 8 - 32 X 0.375"	19	11-0008	Tie Wrap
9	04-0504	Screw, 8 - 16 X 0.375"	20	12-0089	Switch



# Water Regulator Assembly

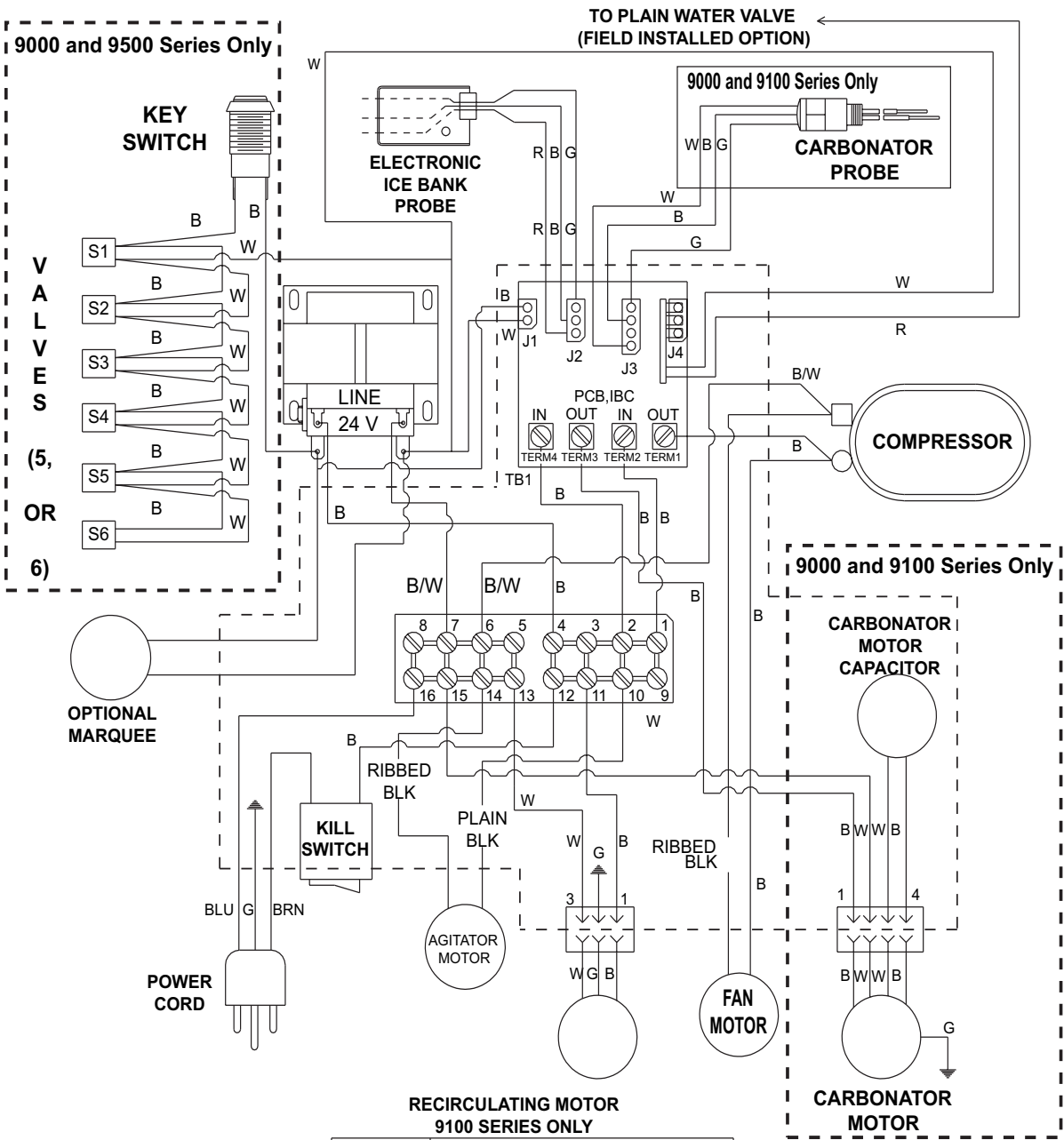
<u>Item</u>	<u>Part No.</u>	<u>Description</u>
	18-0253/02	Regulator Assembly, Water
1	05-0017	Washer, Seal, Flare, Nylon
2	49-0227	Hose, Regulator Assy
3	18-0252	Regulator
4	01-0446	Fitting, Barb
5 R	07-0481/01	Bracket, Regulator
6	04-0504	Screw, 8 - 18 x .375" AB
7	01-1429	Nut, 7/18-18, UNS
8	07-0438	Clamp, Oetiker



Wiring Diagram

IMPORTANT

- 1. WHEN STARTING UNIT OR IF CURRENT IS INTERRUPTED, THERE IS A FIVE (5) MINUTE DELAY BEFORE THE COMPRESSOR/FAN STARTS.
- 2. THERE IS A THREE (3) MINUTE PROTECTION TIMER ON THE CARBONATOR PUMP MOTOR. IF THE MOTOR HAS TIMED OUT, CHECK WATER SUPPLY AND RESET BY MOMENTARILY DISCONNECTING POWER.



SYM.	DESCRIPTION
	CHASSIS GROUND
	CHAMFER PIN
	OPTIONAL WATER BOOST PCB, IBC J4
---	CONTROL BOX

DELTA

LANCER.  
LABEL, WIRING DIAGRAM  
06-2221



---

***LANCER***<sup>®</sup>

Lancer Corp.  
800-729-1500  
Technical Support/Warranty: 800-729-1550  
custserv@lancercorp.com  
lancercorp.com