

Operation Manual

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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.

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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.

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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

Warning; flammable material. Taking care to avoid causing a fire by igniting flammable material.

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

Refrigerant Warning

- This system uses a flammable refrigerant under pressure. Do not tamper with it. Contact qualified service personal before disposal.
- In order to minimize the risk of possible ignition due to incorrect parts or improper service, only factory authorized personnel should perform service on the appliance and its component parts
- Do not store explosive substances such as aerosol cans with a flammable propellant in this appliance.
- Replace component parts with like components. Only use genuine Lancer parts or parts certified by Lancer.
- Do not damage the refrigerant circuit.

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 is not a toy and children should be advised not to play with the appliance. 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.
- The min/max ambient operating temperature for the dispenser is 65°F to 105°F (18°C to 40°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 (CO₂)

- **WARNING:** Carbon Dioxide (CO₂) is a colorless, noncombustible gas with a light pungent odor. High percentages of CO₂ may displace oxygen in the blood.
- **WARNING:** Prolonged exposure to CO₂ can be harmful. Personnel exposed to high concentrations of CO₂ gas will experience tremors which are followed by a loss of consciousness and suffocation.
- **WARNING:** If a CO₂ 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 CO₂ gas leaks in the entire CO₂ and soft drink system.

Electrical Warning

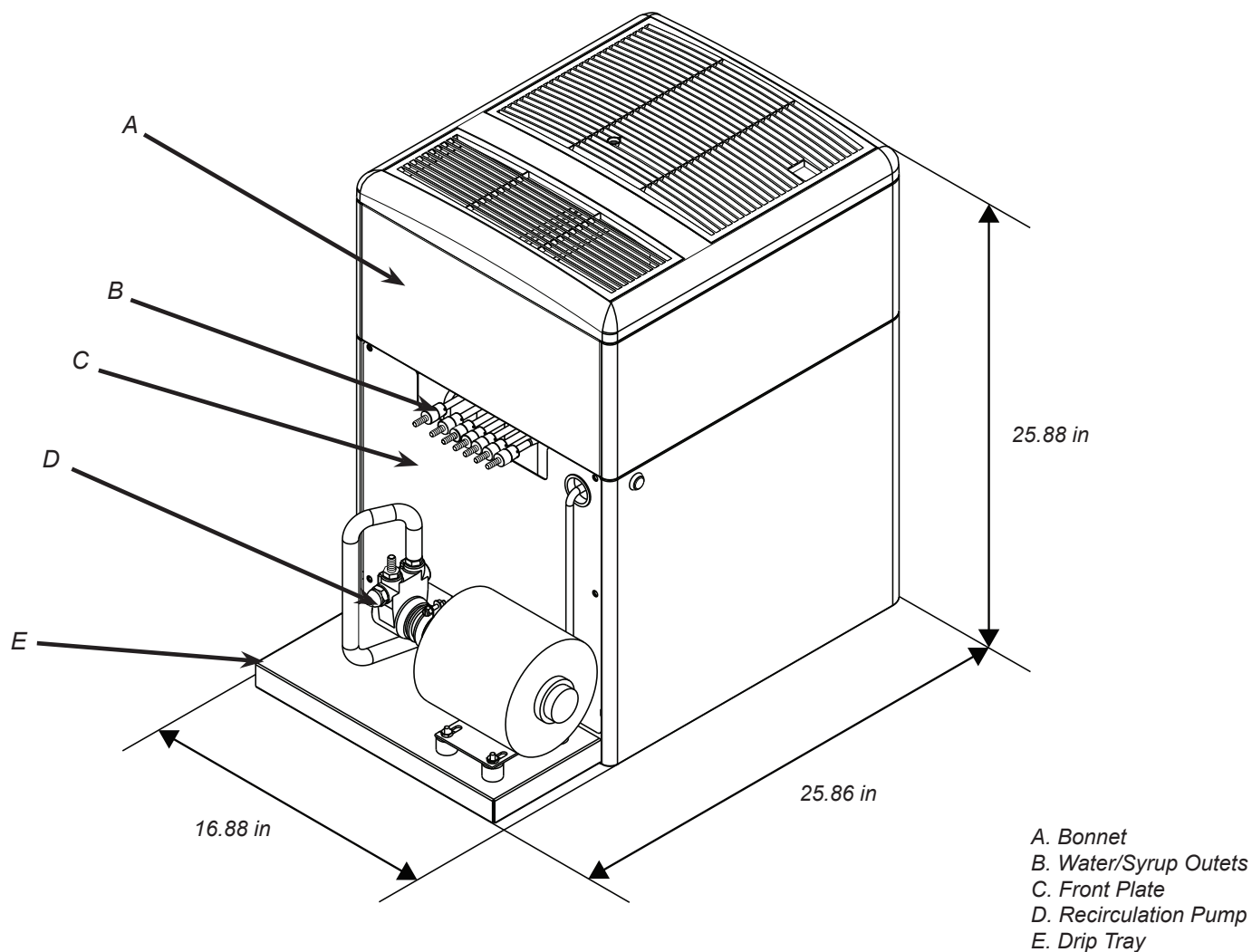
- Follow all local electrical codes when making connections.
- Check the dispenser name plate label, located behind the splash plate for the correct electrical requirements of unit. **DO NOT** plug into a wall electrical outlet unless the current shown on the serial number plate agrees with local current available.
- Each dispenser must have a dedicated electrical circuit.
- **DO NOT** use extension cords with this unit.
- **DO NOT** 'gang' together with other electrical devices on the same outlet.
- **DO NOT** locate multiple portable socket-outlets or portable power supplies at the rear of the appliance.
- **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 more than 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. Water pressure below 25 psi (0.172 MPa) will require the use of a water booster, (82-3401 or MC-163172). For proper carbonation water pressure exceeding 65 psi (0.448 MPa) must be reduced by way of a water regulator (18-0253/02).
- 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 CO₂ 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.

PRE-INSTALLATION

Specifications & Features



DIMENSIONS

Width: 16.88 inches (429 mm)

Depth: 25.86 inches (657 mm)

Height: 25.88 inches (657 mm)

WEIGHT

Shipping: 160 lbs (73 kg)

Empty: 146 lbs (66 kg)

Operating: 237 lbs (108 kg)

Ice Bath: 22 - 24 lbs (10 - 11 kg)

ELECTRICAL

115 VAC, 60 Hz, 9.0 Amps

220-240 VAC, 50 Hz, 4.5 Amps

PLAIN WATER SUPPLY

Min Inlet Pressure: 25 psi (0.172 MPa)

Max Static Pressure: 65 psi (0.448 MPa)

CARBON DIOXIDE (CO₂) SUPPLY

Min Pressure: 70 psi (0.483 MPa)

Max Pressure: 80 psi (0.552 MPa)

FITTINGS AT UNIT

Water for Carb Inlet: 3/8 inch barb

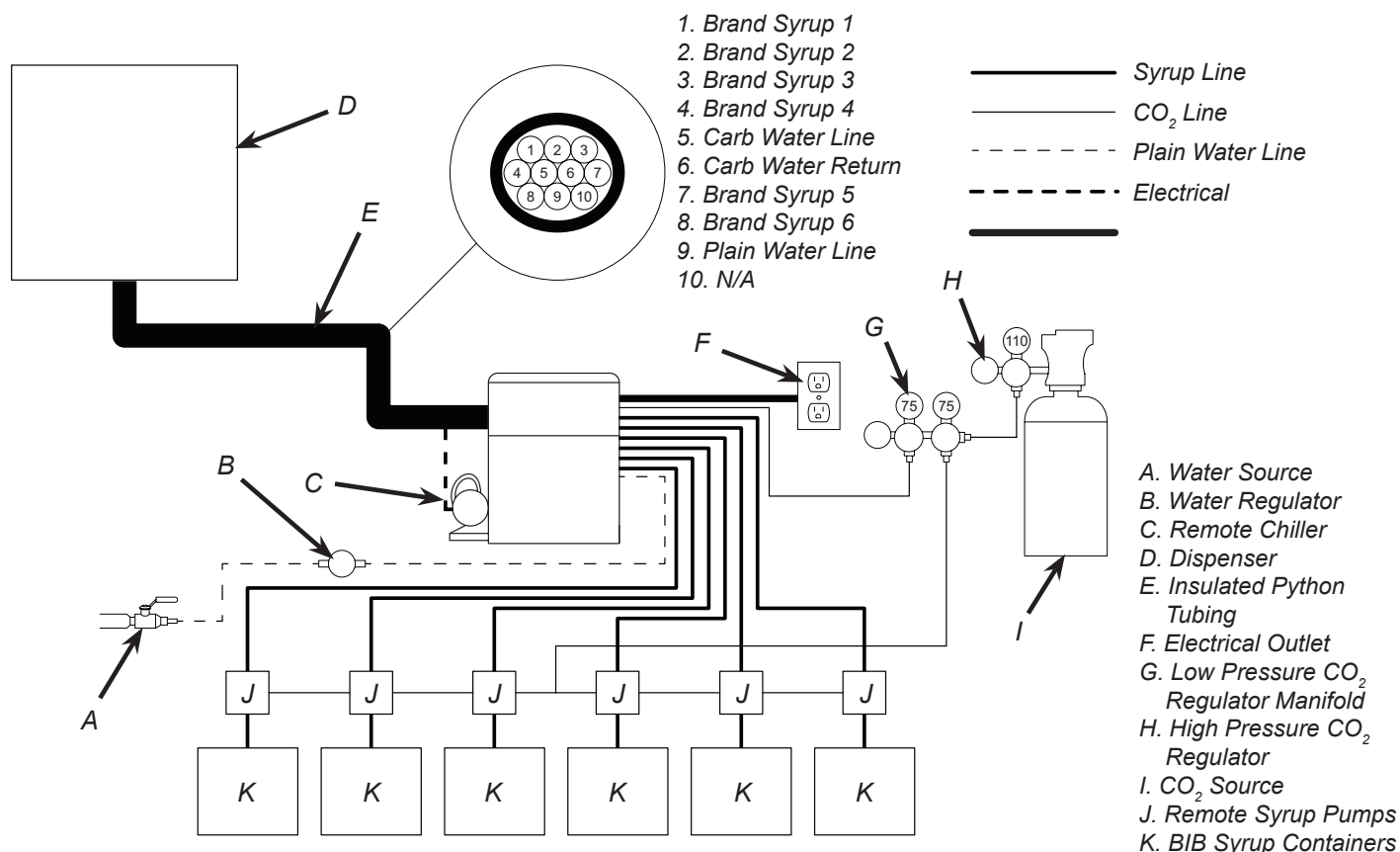
Brand Syrup Inlets: 1/4 inch barb

Carb CO₂ Inlet: 1/4 inch barb

This unit emits a sound pressure level below 70 dB

Max Altitude: 16,400 ft (5,000 m)

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 CO₂ Regulator
- ☐ Low Pressure CO₂ Regulator Manifold
- ☐ CO₂ Supply
- ☐ Chain for CO₂ Tank
- ☐ 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 chiller?
- ☐ Is countertop level?
- ☐ Can the countertop support the weight of the chiller?
- ☐ Is chiller 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 Worldwide 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 12 - 14 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 Unit

1. Cut package banding straps and remove.
2. Open the box and remove the parts tray.
3. Close the lid, then remove using the handle cutouts.
4. Remove accessory kit and loose parts.

NOTE

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

⚠ WARNING

Never energize the machine if there is any trace of damage. Contact Lancer Customer Service for assistance.

5. 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.

6. If leg kit has been provided, assemble legs 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. 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.

⚠ WARNING

When positioning the appliance, ensure the supply cord is not trapped or damaged.

2. Select a location for the syrup pumps, CO₂ tank, syrup containers, and water filter (recommended). Please see General System Overview on page 5 for reference.
3. Condenser air is drawn in from the front and side vents located on the bonnet and discharged out the rear of the bonnet. A minimum of eight (8) inches (203 mm) of clearance must be maintained over the top of the unit and a minimum of four (4) inches (101.6 mm) clearance behind the unit to provide for proper air flow and circulation.

⚠ WARNING

Keep ventilation openings, in the appliance enclosure or in the built-in structure clear of obstruction. Failure to maintain specified clearance will cause the compressor to overheat and will result in compressor failure.

4. Cut the necessary holes in counter for mounting in the designated dispenser location.

Leveling the Dispenser

In order to facilitate proper dispenser drainage, ensure that the dispenser is level, front to back and side to side. Place a level on the top of the rear edge of the dispenser. The bubble must settle between the level lines. Repeat this procedure for the remaining three sides. Level unit if necessary. For optimum performance place the unit at a 0° tilt. The maximum tilt is 5°.

Unit Installation

NOTE

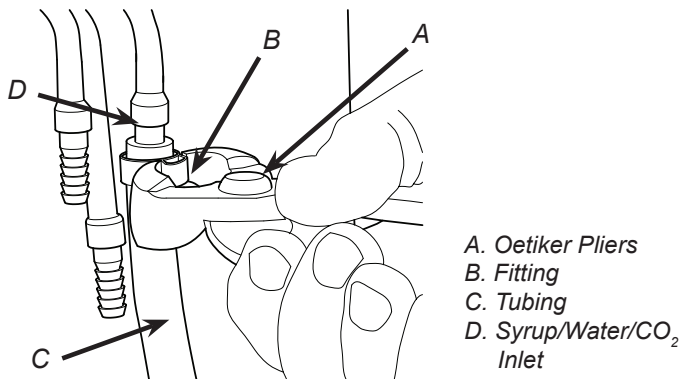
The installation, and relocation if necessary, must be carried out by qualified personnel with up-to-date knowledge and practical experience, in accordance with current regulations.

1. The unit is designed to be placed on a counter or floor using the legs provided (included in the Lancer kit, PN 82-1704).

NOTE

NSF listed units must be sealed to the counter or use legs provided.

2. Once the unit is placed on the counter or floor using legs provided, remove the bonnet.
3. 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.



4. Route appropriate tubing from the water source to the carbonator pump inlet at the unit, and connect tubing to water source.

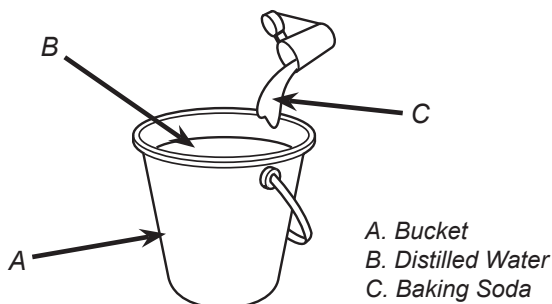
⚠ CRITICAL - to maximize performance

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:

5. Insert water line into a large bucket, and fill with approx. 5.4 gallons (20.4 L) of distilled water.
6. Add baking soda to increase TDS if necessary.

⚠ ATTENTION

For proper function of the electronic ice bank control the total dissolved solids (TDS) measurements should be 100-500 ppm.



7. Remove yellow cap from the water bath fill hole and insert and insert a funnel into the fill hole.
8. 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. Then replace yellow cap.

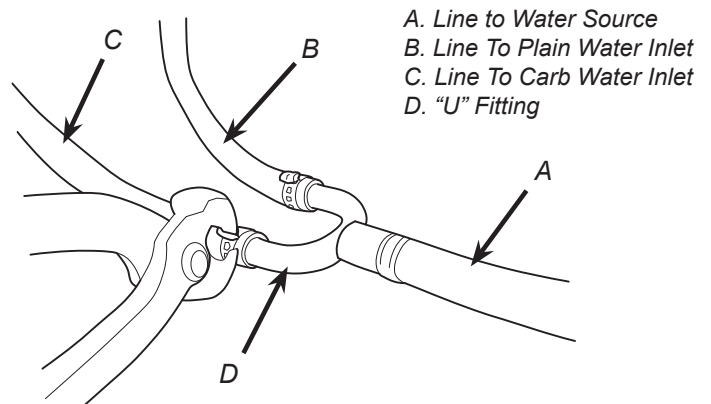
⚠ ATTENTION

The water bath compartment must be filled with water before plugging in the unit, otherwise the compressor deck and condensor fan may not operate properly. DO NOT use RO or purified water.

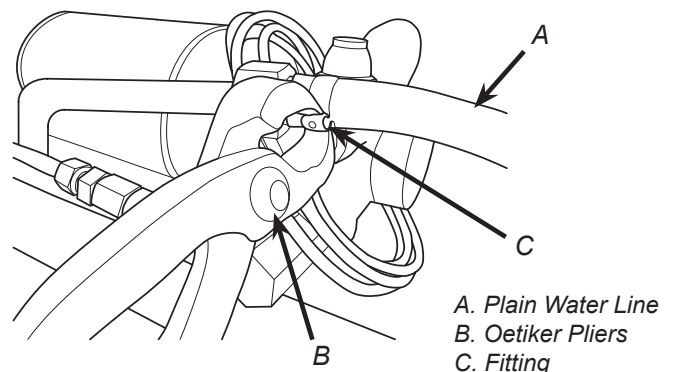
NOTE

Make sure the top of overflow tube is not covered so that the water from the water bath tank cannot escape.

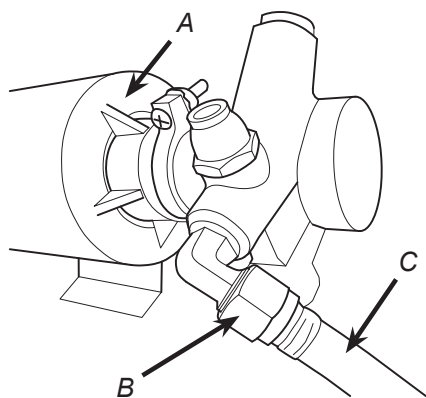
9. Using tubing cutters, cut water supply line and install "U" fitting, (PN 01-2128/01).



10. Route appropriate tubing from the plain water inlet, located at the front of the unit, to one side of the "U" fitting at water supply and connect tubing to inlet.



11. Route appropriate tubing from the carbonator pump inlet and the "U" fitting at water supply then connect tubing to inlet using flare seal washer (PN 05-0017). Use a back-up wrench to prevent damage to carbonator pump.

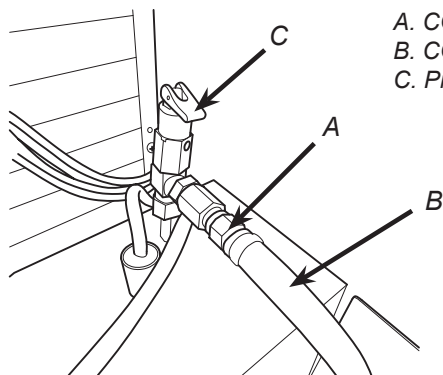


A. Carbonator
B. Carb Water Inlet
C. Carb Water Line
D. Fitting

NOTE

If the water source is above 65 psi (0.448 MPa), cut tubing assembly and install Water Regulator Kit (PN 18-0253/02, sold separately) as shown in kit instruction sheet. Once installed, use a test gauge assembly (PN 22-0138, sold separately), to set regulator at a maximum of 50 psi (0.448 MPa).

12. Route appropriate tubing from the syrup pump/syrup supply location to the CO₂ inlet and connect tubing to CO₂ inlet.



A. CO₂ Inlet
B. CO₂ Line
C. Pressure Relief Valve

13. Feed all tubing, power cord, and drain line through the counter top cutout.
14. Connect tubing routed from carbonated water inlet and plain water inlet to the "U" fitting at the water supply.
15. Turn on water supply and check for leaks.
16. Plug in the unit to a grounded electrical outlet then turn the power switch, at the top of the unit, to begin building an ice bank.

⚠ WARNING

Never energize the machine if there is any trace of damage. Contact Lancer Customer Service for assistance.

⚠ 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.

⚠ WARNING

Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.

Installation to Dispenser

1. Determine the appropriate length of insulated python tubing required, allowing additional length as required for servicing.

NOTE

The length of the python must not exceed 25 feet (8 meters) if built-in syrup pumps are being used.

2. Position one end of the python near remote unit. Using a sharp knife or razor, slit the python insulation back 18 inches (46 cm) and roll insulation back to expose individual tubes.

⚠ ATTENTION

Careful not to cut tubing bundle when slitting python insulation.

NOTE

If plain water is not wanted, remove the barbed fitting and short extension fitting, and cap end of plain water line with cap from accessory kit.

3. Slide the tube insulation (from the accessory kit) over one of the 3/8 inch soda lines in the python then connect line to the 90° elbow on the inlet to the recirculating pump.
4. Connect the other 3/8 inch soda line from the python to the return inlet on the front of the unit.
5. Connect each of the 1/4 inch syrup/plain water lines to the syrup/plain water inlets on the front of the unit.

NOTE

DO NOT insulate connections at this time. Leave all connections exposed for inspection for leaks.

NOTE

The individual barbed fittings for the lines can be removed for insertion into the python tubing by removing the "U" shaped retainer pin and pulling the fitting off of the syrup line.

6. Route the opposite end of the python to tower. Determine the length required and cut if necessary.

⚠ ATTENTION

Use a sharp knife, razor blade, or tube cutter to cut tubing. Tubing cut with a saw will result in plastic shavings, which will plug the flow controls in the dispensing valve.

7. Slit the python insulation back 12 inches (30 cm) and roll insulation back to expose individual tubes.

NOTE

If plain water is not wanted, splice a stainless steel, reducing, barbed hose tee (PN 01-0527) in the 3/8 inch soda line. Use a separate 1/4 inch tube to complete the connection from the barbed tee to the tower manifold.

8. Connect each of the lines from the python to the syrup, soda, and plain water fittings on the tower manifold.

NOTE

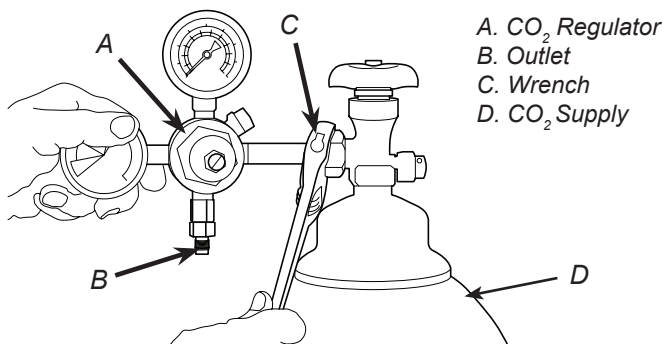
DO NOT insulate connections at this time. Leave all connections exposed for inspection for leaks.

Installing CO₂ Supply

1. Connect high pressure CO₂ regulator assembly to CO₂ cylinder or bulk system.

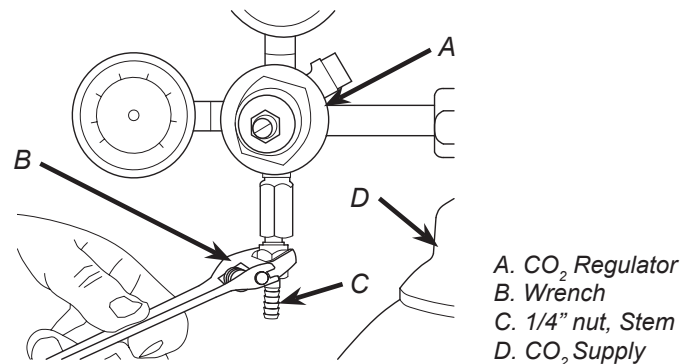
⚠ ATTENTION

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 CO₂ regulator outlet.

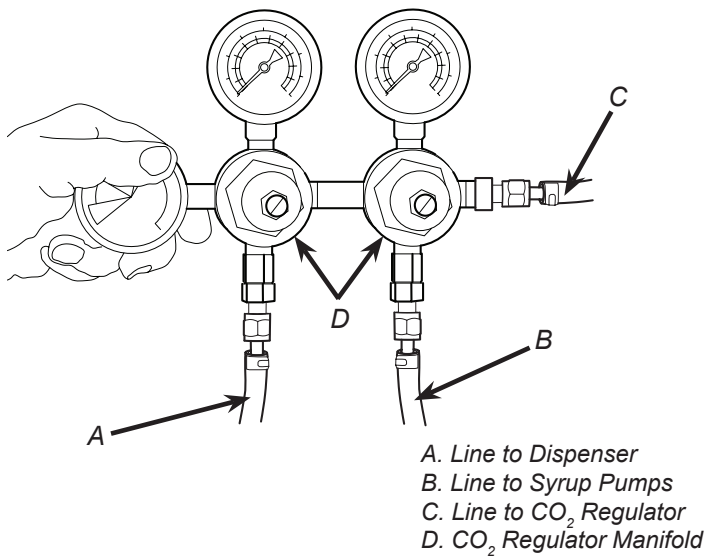


3. Route appropriate tubing from the low pressure CO₂ regulator manifold location to the 1/4" nut, stem on the high pressure CO₂ regulator attached to source and connect tubing.

⚠ ATTENTION

A dedicated CO₂ regulator is required to supply the CO₂ inlet at the unit as well as to all remote syrup pumps.

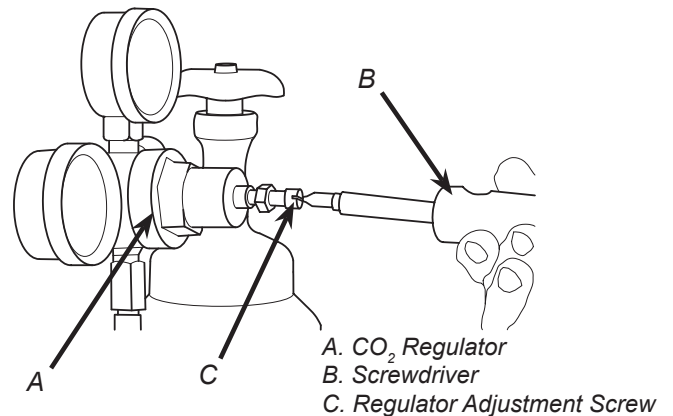
4. Connect tubing routed from the CO₂ inlet at the unit to one of the low pressure CO₂ regulator manifold outlets.
5. Connect tubing routed from the syrup pump location to the second outlet of the low pressure CO₂ regulator manifold.



6. Using a wrench, loosen lock nut on the regulator adjustment screw of the high pressure CO₂ regulator connected to the source, then using a screwdriver back out lock nut screw all the way.

⚠ WARNING

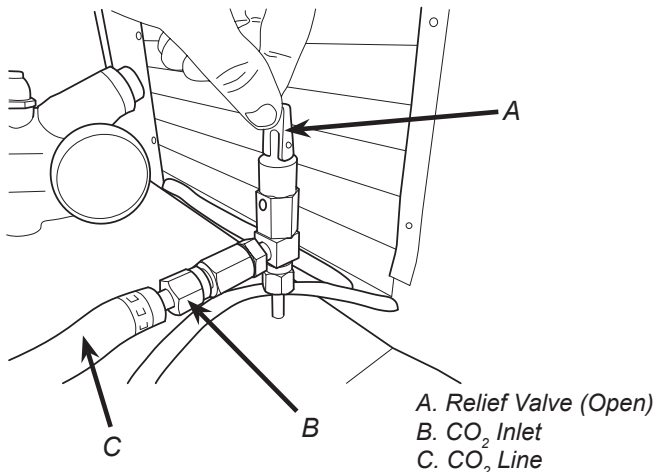
DO NOT TURN ON CO₂ SUPPLY AT THIS TIME



7. Repeat Step 6 for both low pressure CO₂ regulators on the regulator manifold routed to the unit and the syrup pumps.

Unit Setup

1. Purge water to fill carbonator tank by opening carbonator relief valve. Close relief valve once water comes out.

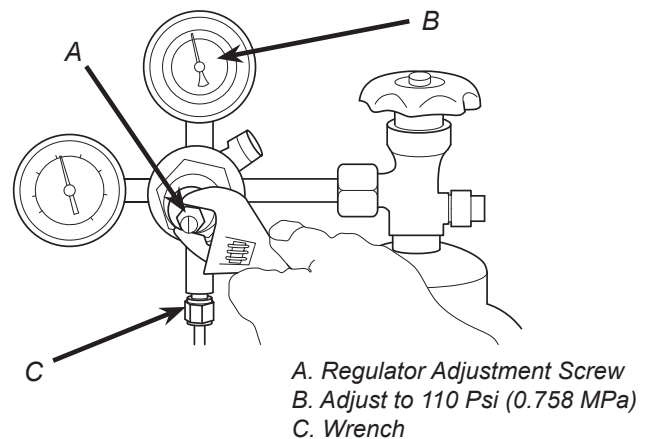


2. Activate each valve until a steady flow of water is achieved.
3. Turn power off.
4. Unplug the Pump Motor Connector from the control box. Use the wiring diagram either on the unit control box or in the back of this manual for reference.

⚠ ATTENTION

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

5. Turn on CO₂ 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.



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 is achieved.
8. Plug the Pump Motor Connector back into the control box.

NOTE

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

9. Turn power on.
10. Activate each valve until a steady flow of carbonated water is achieved.

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.

Scheduled Maintenance & Cleaning

As Needed	<ul style="list-style-type: none">Keep exterior surfaces of dispenser (include drip tray and cup rest) clean using a clean, damp cloth.
Daily	<ul style="list-style-type: none">With a clean cloth and warm water, wipe off all of the unit's exterior surfaces. DO NOT USE ABRASIVE SOAPS OR STRONG DETERGENTS.Replace the cup rest, diffusers, and valve nozzles.
Weekly	<ul style="list-style-type: none">Taste each product for off tastes.Remove the unit's bonnet and check the level of water in the water bath. Replenish as required and replace bonnet.
Monthly	<ul style="list-style-type: none">Unplug the dispenser from the power source.Remove the bonnet and clean the dirt from the gas cooler using a soft brush.Replace the bonnet and plug in the unit.

Every Six Months	<ul style="list-style-type: none"> Clean and sanitize the unit using the appropriate procedures outlined in the Cleaning and Sanitizing section of this manual.
Yearly	<ul style="list-style-type: none"> Clean water bath interior, including evaporator coils and refrigeration components. Clean the entire exterior of the unit.

Cleaning and Sanitizing Syrup Lines - BIB

1. Disconnect syrup lines from BIB's
2. Place syrup lines, with BIB connectors, in a bucket of warm water.
3. Activate each valve to fill the lines with warm water and flush out syrup remaining in the lines.
4. Prepare Cleaning Solution described above.
5. Place syrup lines, with BIB connectors, into cleaning solution.
6. Activate each valve until lines are filled with cleaning solution then let stand for ten (10) minutes.
7. Flush out cleaning solution from the syrup lines using clean, warm water.
8. Prepare Sanitizing Solution described above.
9. Place syrup lines into sanitizing solution and activate each valve to fill lines with sanitizer. Let sit for ten (10) minutes.
10. Reconnect syrup lines to BIB's and draw drinks to flush solution from the dispenser.
11. 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.

TROUBLESHOOTING

Unit Troubleshooting

TROUBLE	CAUSE	REMEDY
Miscellaneous leakage.	<ol style="list-style-type: none"> 1. Gap between parts. 2. Damaged or improperly installed o-rings. 	<ol style="list-style-type: none"> 1. Tighten appropriate retaining screws 2. Replace or adjust appropriate o-rings
Insufficient water flow.	<ol style="list-style-type: none"> 1. Insufficient incoming supply water pressure. 2. Shutoff on mounting block not fully open. 3. Foreign debris in water flow control. 4. Foreign debris in water pump strainer 	<ol style="list-style-type: none"> 1. Verify incoming supply water pressure is a minimum of 25 psi (0.172 MPa). 2. Open shutoff fully. 3. Remove water flow control from upper body and clean out any foreign material to ensure smooth free spool movement. 4. Remove water pump strainer and clean.
Insufficient syrup flow.	<ol style="list-style-type: none"> 1. Insufficient CO₂ pressure to BIB pumps. 2. Out of CO₂. 3. Shutoff on mounting block not fully open. 4. Foreign debris in syrup flow control. 5. Bad syrup pump. 	<ol style="list-style-type: none"> 1. Adjust CO₂ pressure to 80 psi (0.550 MPa) [minimum 70 psi (0.480 MPa)] for BIB pumps. 2. Replace CO₂ tank/refill. 3. Open shutoff fully. 4. Remove syrup flow control form upper body and clean out any foreign material to ensure smooth free spool movement. 5. Replace BIB pump.

TROUBLE	CAUSE	REMEDY
Erratic ratio.	<ol style="list-style-type: none"> 1. Incoming water and/or syrup supply not at minimum flowing pressure. 2. Foreign debris in water and/or syrup flow controls. 	<ol style="list-style-type: none"> 1. Check pressure and adjust 2. Remove flow controls from upper body and clean out any foreign material to ensure smooth free spool movement.
No product dispensed	<ol style="list-style-type: none"> 1. Water and syrup shutoffs on mounting block not fully open. 2. The key switch on an electric valve is in the OFF position. 3. Cup lever arm or ID panel actuator on electric valve is not actuating the switch. 4. Electric current not reaching valve. 5. Improper or inadequate water or syrup supply. 6. Transformer Failure 7. Bad valve solenoid(s) 	<ol style="list-style-type: none"> 1. Open shutoff fully. 2. Turn key switch to ON position. 3. Repair 4. Check electric current supplied to valve. If current is adequate, check solenoid coil and switch, and replace if necessary. 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 6. Reset transformer circuit breaker. If breaker trips again check for pinched wire harness at backblocks 7. Replace Solenoid(s)
Water only dispensed; no syrup; or syrup only dispensed, no water	<ol style="list-style-type: none"> 1. Water or syrup shutoff on mounting block not fully open. 2. Improper or inadequate water or syrup flow. 3. BIB supply too far from dispenser. 4. CO₂ pressure too low. 5. Stalled or inoperative BIB pump 6. Kinked line. 	<ol style="list-style-type: none"> 1. Open shutoff fully. 2. 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. 3. Check that BIB supply is within six (6) feet of the dispenser. 4. Check the CO₂ pressure to the pump manifold to ensure it is between 70 and 80 Psi (0.483 and 0.552 MPa). 5. Check CO₂ pressure and/or replace pump. 6. Remove kink or replace line.
Valve will not shut off.	<ol style="list-style-type: none"> 1. Cup lever may be sticking or binding. 2. Switch not actuating freely. 3. Solenoid armature not returning to bottom position. 	<ol style="list-style-type: none"> 1. Correct or replace lever. 2. Check switch for free actuation. 3. Replace defective armature or spring.
Excessive foaming.	<ol style="list-style-type: none"> 1. Incoming water or syrup temperature too high. 2. CO₂ pressure too high. 3. Air in BIB lines. 4. Poor quality ice. 5. High beverage temperature. 	<ol style="list-style-type: none"> 1. Correct prior to dispenser. Consider larger dispenser or pre-cooler. 2. Adjust CO₂ pressure downward, but not less than 70 psi. 3. Bleed air from BIB lines. 4. Check quality of ice used in drink. 5. Check refrigeration system.

TROUBLE	CAUSE	REMEDY
Water continually overflows from water bath into drip tray.	<ol style="list-style-type: none"> 1. Loose water connection(s). 2. Flare seal washer leaks. 3. Faulty water coil. 	<ol style="list-style-type: none"> 1. Tighten water connections. 2. Replace flare seal washer. 3. Replace water coil.
Warm drinks.	<ol style="list-style-type: none"> 1. Dispenser was recently installed. 2. Restricted airflow. 3. Dispenser connected to hot water supply. 4. Condenser fan motor not working. 5. Dirty condenser, air vents clogged. 6. Dispenser capacity exceeded. 	<ol style="list-style-type: none"> 1. It may take up to 5 hours, after install, to reach the desired temperature. 2. Check clearances around sides, top, and inlet of unit. Remove objects blocking airflow through grill. 3. Switch to cold water supply. 4. Replace condenser fan motor. 5. Clean condenser and air vents of any blockage. 6. Add pre-cooler or replace with larger dispenser.

Post-Mix Troubleshooting

TROUBLE	CAUSE	REMEDY
BIB pump does not operate when dispensing valve opened.	<ol style="list-style-type: none"> 1. Out of CO₂, CO₂ not turned on, or low CO₂ pressure. 2. Out of syrup. 3. BIB connector not tight. 4. Kinks in syrup or gas lines. 5. Bad BIB Pumps. 	<ol style="list-style-type: none"> 1. Replace CO₂ supply, turn on CO₂ supply, or adjust CO₂ pressure to 70-80 Psi (0.483-0.552 MPa) 2. Replace syrup supply. 3. Fasten connector tightly. 4. Straighten or replace lines. 5. Replace BIB pump.
BIB pump operated, but no flow.	<ol style="list-style-type: none"> 1. Leak in syrup inlet or outlet line. 2. Defective BIB pump check valve. 	<ol style="list-style-type: none"> 1. Replace line. 2. Replace BIB pump
BIB pump continues to operate when bag is empty.	<ol style="list-style-type: none"> 1. Leak in suction line. 2. Leaking o-ring on pump inlet fitting. 	<ol style="list-style-type: none"> 1. Replace line. 2. Replace o-ring.
BIB pump fails to restart after bag replacement.	<ol style="list-style-type: none"> 1. BIB connector not on tight. 2. BIB connector is stopped up. 3. Kinks in syrup line 4. Bad BIB Pumps. 	<ol style="list-style-type: none"> 1. Tighten BIB connector. 2. Clean out or replace BIB connector. 3. Straighten or replace line. 4. Replace BIB pump.
BIB pump fails to restart when dispensing valve is closed.	<ol style="list-style-type: none"> 1. Leak in discharge line or fittings. 2. Empty BIB. 3. Air leak on inlet line or bag connector. 	<ol style="list-style-type: none"> 1. Repair or replace discharge 2. Replace BIB. 3. Repair or replace.
Low or no carbonation.	<ol style="list-style-type: none"> 1. Low or no CO₂. 2. Excessive water pressure. 3. Worn or defective carbonator pump. 4. PCB malfunctioning. 	<ol style="list-style-type: none"> 1. Check CO₂ supply. Adjust CO₂ pressure to 70 Psi (0.483 MPa). 2. Water regulator should be set at 50 Psi (0.345 MPa) 3. Replace carbonator pump. 4. See page 15.

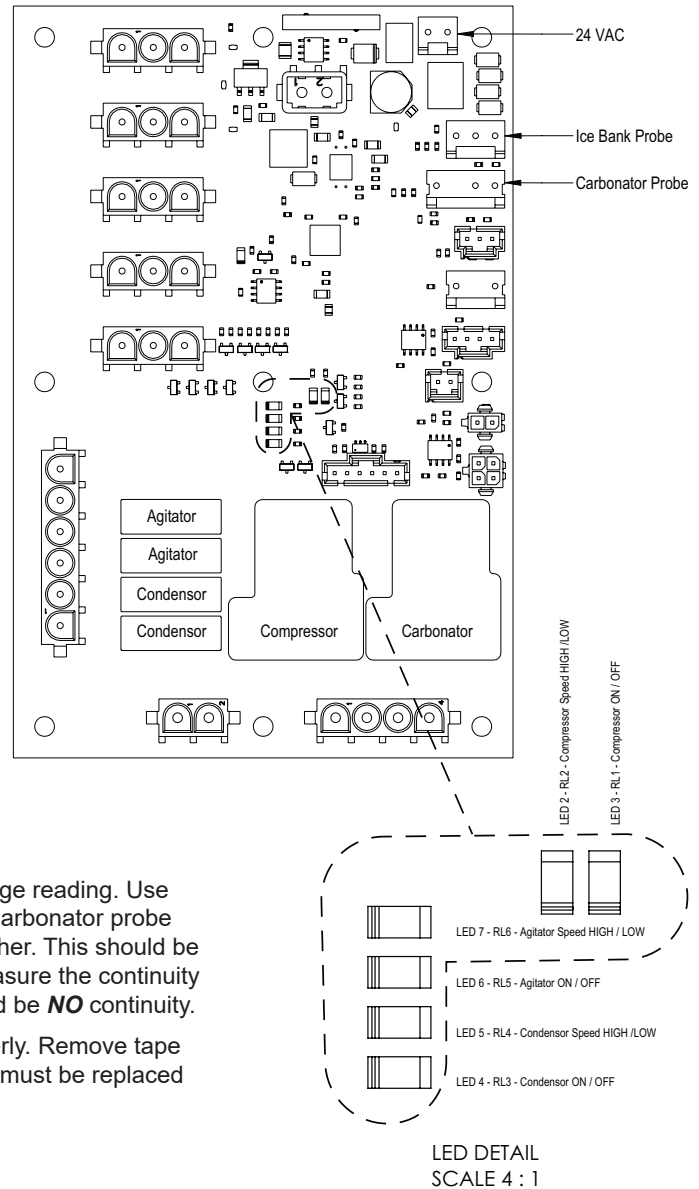
THE ELECTRONIC ICE BANK CONTROL (EIBC)

Checking the Normal PCB Operation

⚠ WARNING

Terminal block has ac line voltage and, when servicing the unit, 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. Disconnect leads from the terminal block that connect to the PCB, noting their specific location for reconnection.
3. Disconnect both the Ice Bank probe (J6) and the Carbonator probe (J3) (if equipped) connections from board.
4. Use a short copper wire, paper clip, or other means to short the Ice Bank probe terminals (J6) on the PCB by touching all three (3) pins together.
5. Set multimeter to AC Voltage.
6. Reconnect power or turn dispenser ON. A green LED will be blinking every second upon startup.
7. Observe time and check voltage of the PCB connections:
 - Terminal 1 and 2 on header J21 (Carbonator): During the first 2.5 to 3.5 minutes there should be a line voltage reading. After 2.5 to 3.5 minutes, there should be NO voltage reading.
 - Terminal 1 and 2 on header J18 (Compressor): During first 4 to 6 minutes, there should be NO voltage reading. After 4 to 6 minutes, there should be a line voltage reading.
 - You should be able to hear a “click” sound of the relay closing when the time delay ends.
8. Turn electrical power OFF for 15 seconds and then back ON again to reset Carbonator timer. Again, measure the voltage of the PCB connections
 - Terminal 1 and 2 on header J21: There should be a line voltage reading. 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 1 and 2 on header J21. There should be **NO** continuity.
9. 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 64-5132).



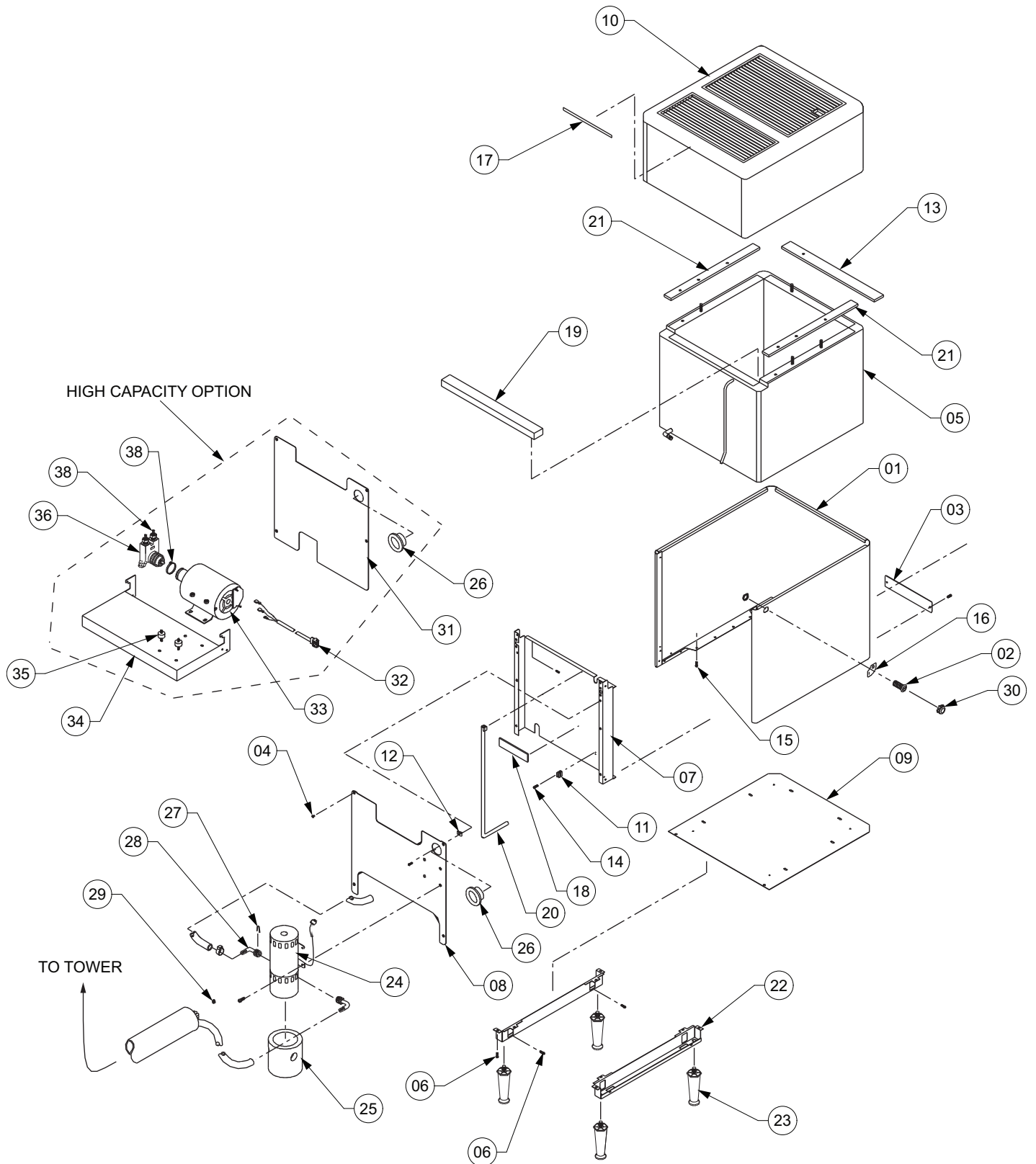
Unit Disposal



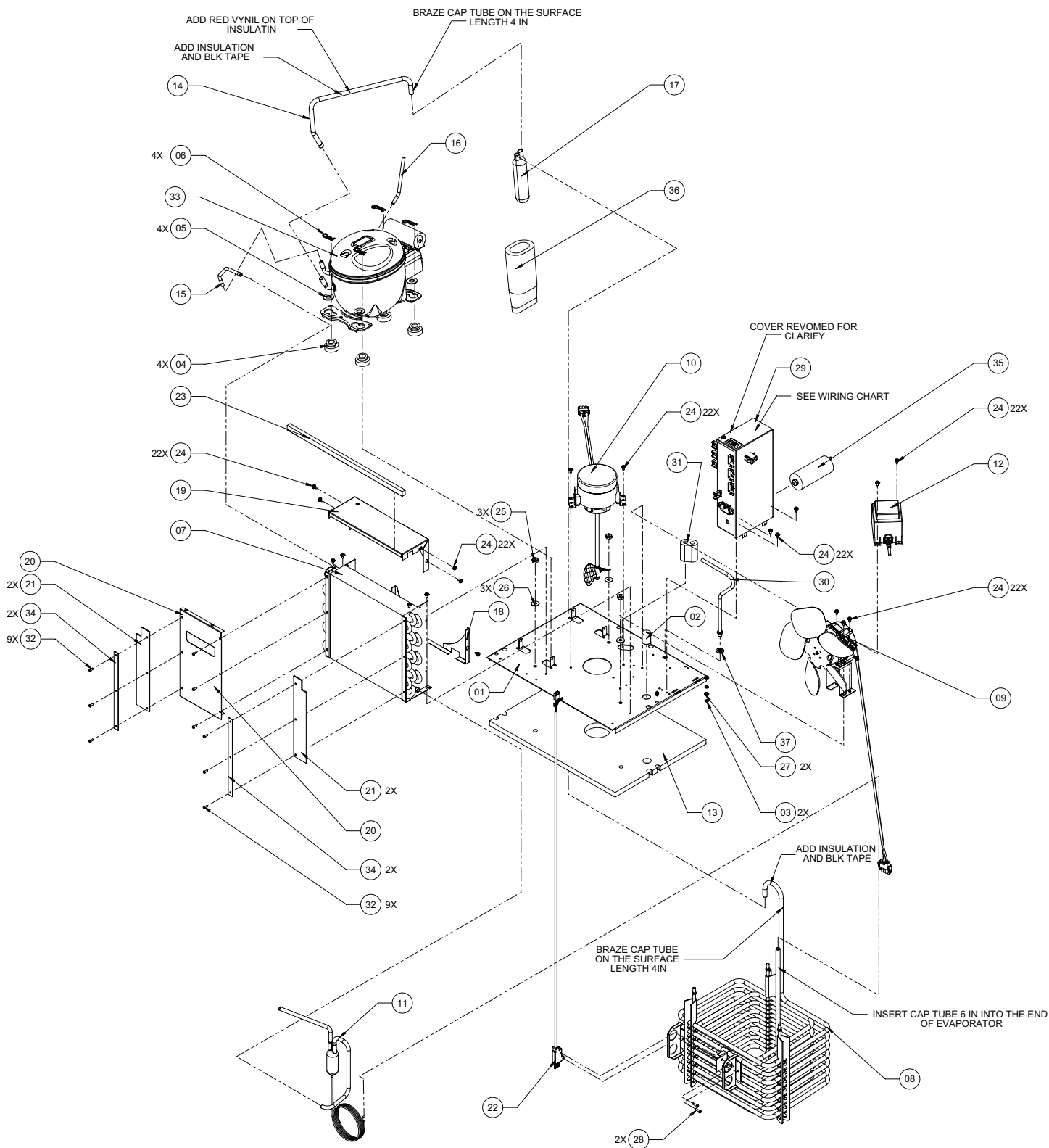
To prevent possible harm to the environment from improper disposal, recycle the unit by locating an authorized recycler or contact the retailer where the product was purchased. Comply with local regulations regarding disposal of the refrigerant and insulation.

ILLUSTRATIONS AND PART LISTINGS

Cabinet Assembly

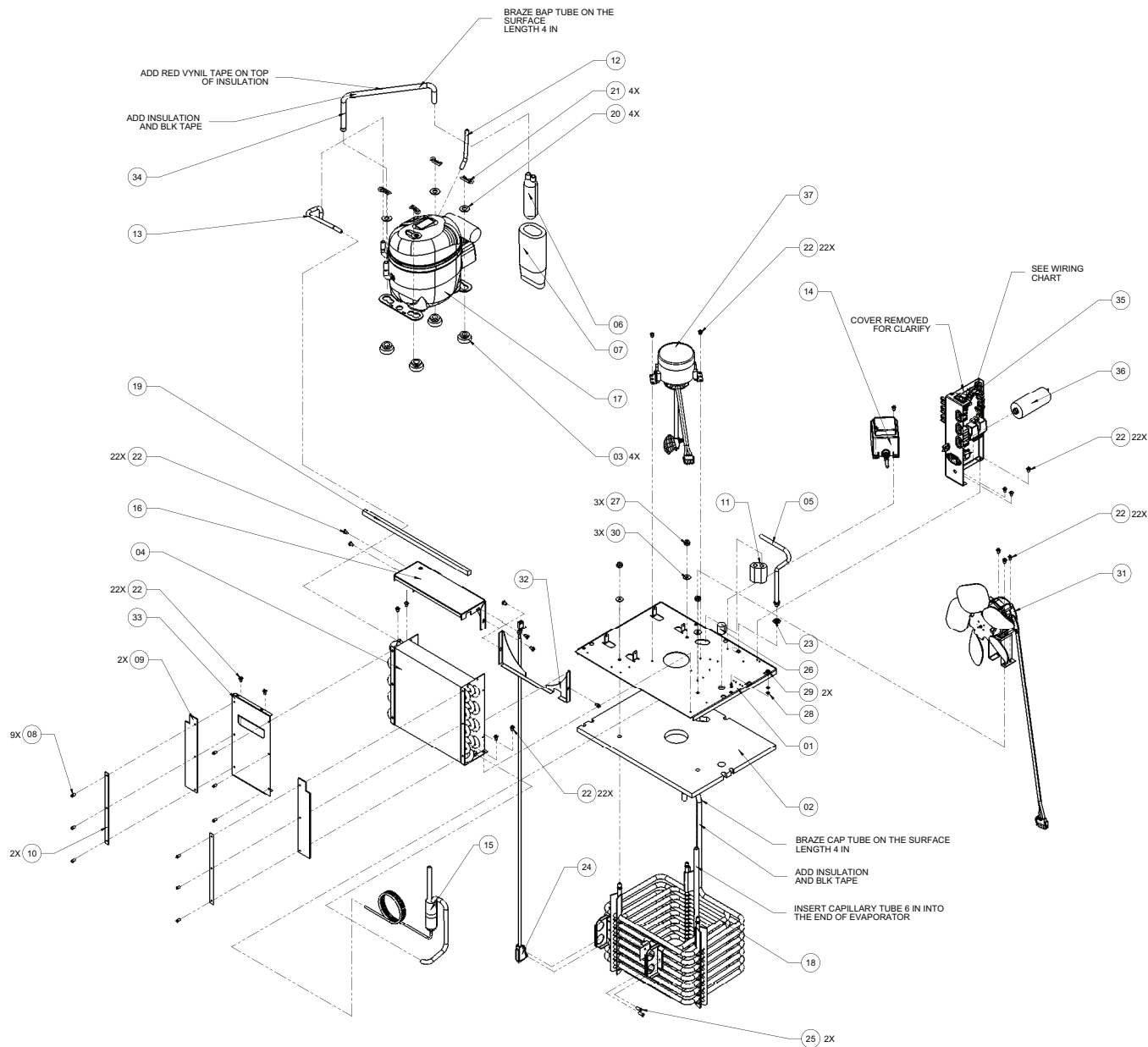


Refrigeration Deck Assembly - 115 Volt / 60 Hz



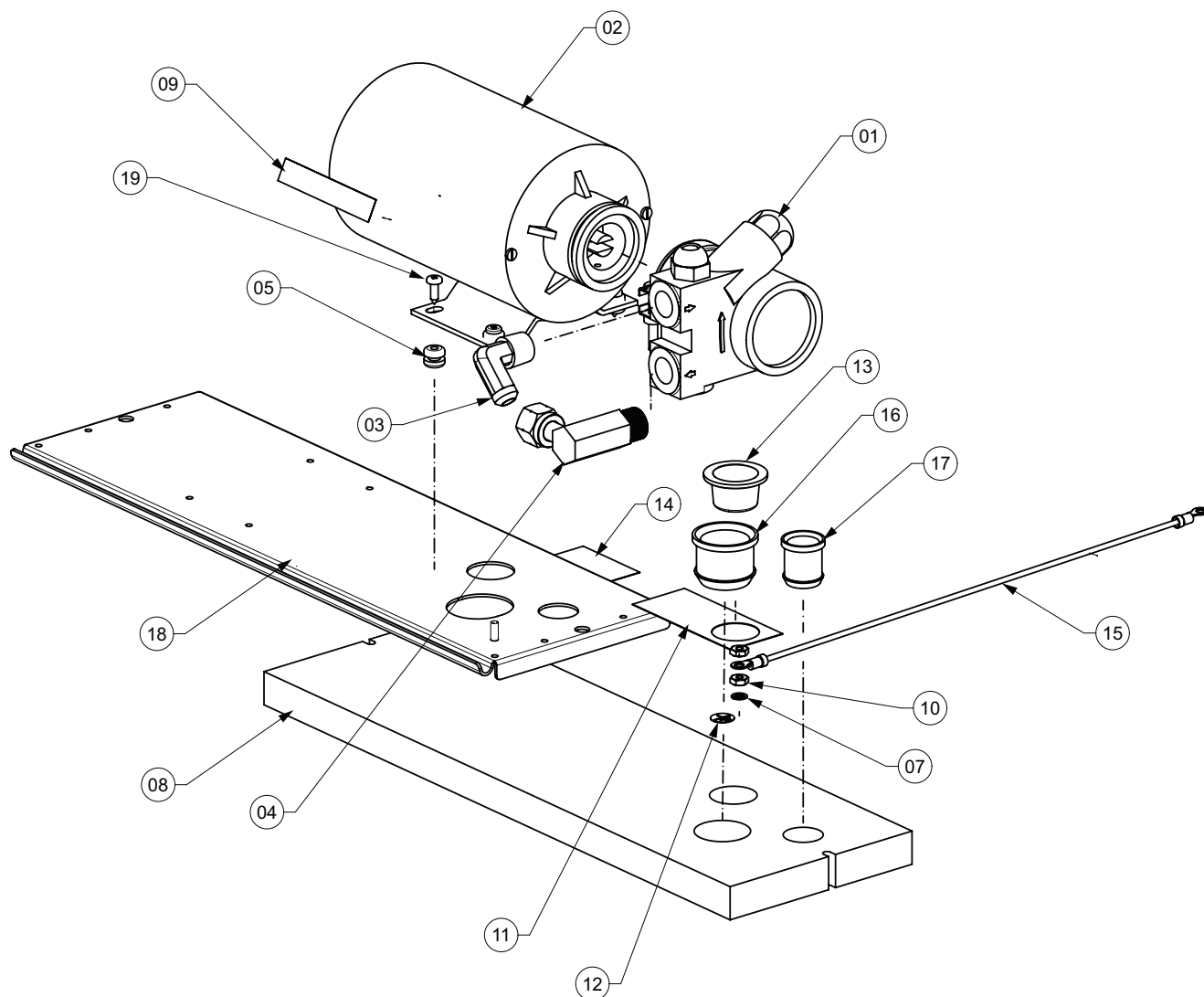
<u>Item</u>	<u>Part No.</u>	<u>Description</u>			
01	51-5496/01	Weld Assy, Comp, Deck, D3	20	30-5867	Shield, Air, Delta
02	02-0041	Seal	21	50-0201/01	Baffle, Condenser, Delta II
03	04-0576/01	Washer, Lock, Int Tooth, #8, Ss	22	52-1773/02	Probe Assy, EIBC Series 2, CED
04	02-0114	Grommet, Compressor	23	50-0249	Insul, .375 X .500 X 14.243
05	04-0537	Washer, .467Id X .923Od X .060 Thk	24	04-0504/01	Screw, 8-18 X .375, PHD, W/O Washer, PH, AB, SH
06	03-0150	Retainer, Clip, Convert	25	04-0032/01	Nut, Nylock, 1/4-20, SS
07	23-0985/01	Condenser, Turbo Fin 9Fpi, Delta	26	04-0063	Wshr, Flt .260 Idx .687 Odx .055T, SS
08	82-5259	Tube Assy, Evap, Coil, Delta 06, R290	27	04-0110	Nut, 8-32, ST,BT,CD,OR ZN
09	52-3880	Fan Assy, 100-240V, Delta 06, R290	28	04-0394	Scr, 6-32 X .500, PH, PH, MS, SS, PL
10	82-5215	Agitator Assy, 115/60, Delta 06, R290	29	52-4001	Control Housing Assy, Electrical, R290
11	23-2000	Dryer Cap Assy, W/Tubes, 115/60	30	51-0068/01	Handle
12	25-0119	Transformer, 120Vac, 110Vac, 24Vac, 72VA, 3A, IP68	31	02-0040	Seal, Extrusion
13	50-0200/01	Insul, Plate, Comp Deck, Delta	32	04-0518	Rivet, .125 Dia X .328 Lg, Dh, Zp
14	47-7138	Tube, Return Line, Delta 06, R290	33	83-0082	Comp Assy, 1/3 Hp, 115V, Delta 06, R290
15	47-7137	Tube, Comp, Discharge, Delta 06, R290	34	30-5112	Retainer Strip, Delta
16	47-7425	Tube, Process, Comp, Detal 06, R290	35	26-0374/01	Cap, Carb Mtr, 40 Mfd, 250 VAC
17	51-0061	Accumulator, .375Holes	36	50-0211	Boot, 6, Delta II
18	30-5866	Shroud, Fan, Bottom, Delta	37	04-0574	Washer, Lock, 5/16, Delta II
19	51-5697	Shroud Assy, Fan, Top, Delta III			

Refrigeration Deck Assembly - 230 Volt / 50 Hz



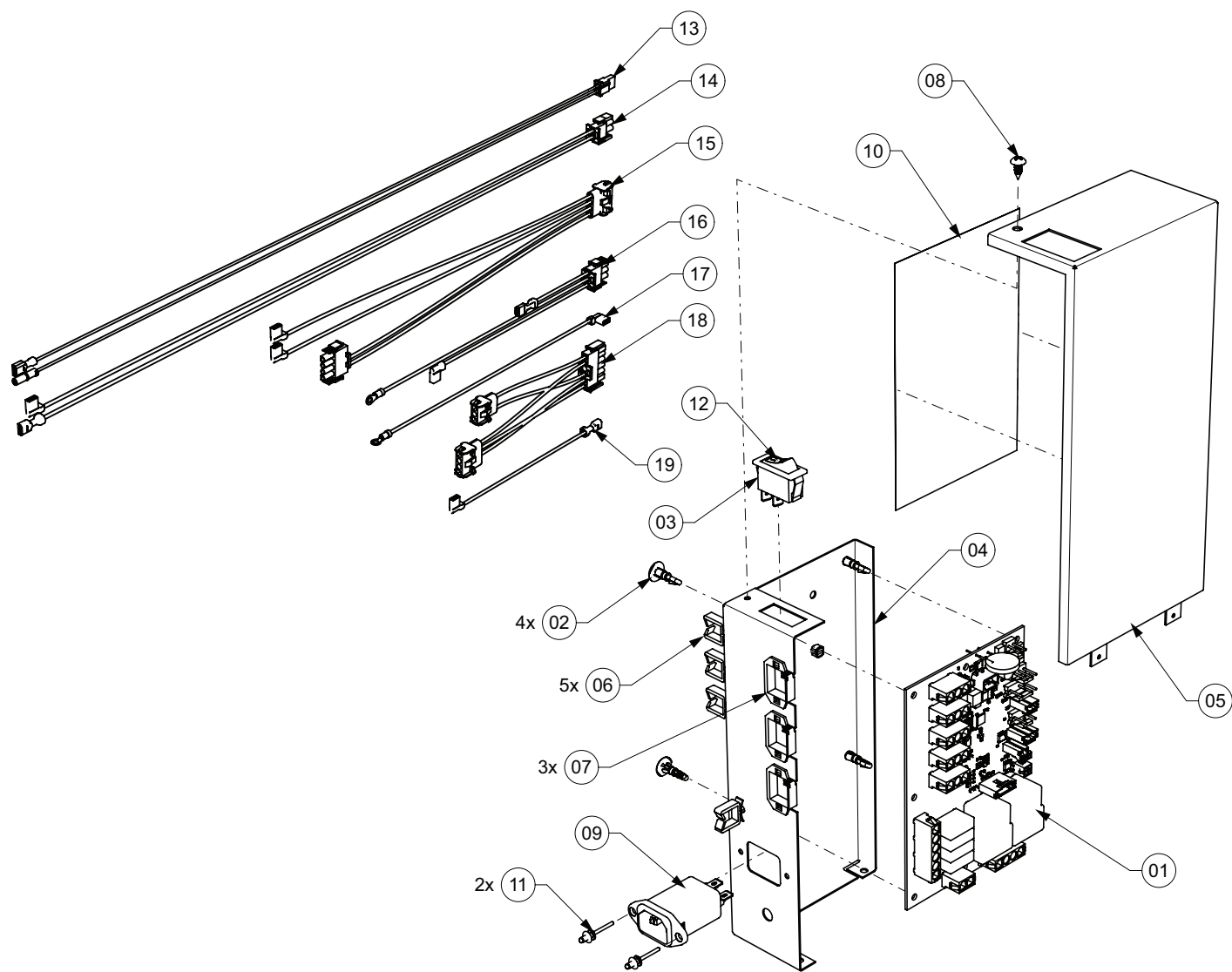
<u>Item</u>	<u>Part No.</u>	<u>Description</u>			
01	51-5496/01	Weld Assy, Comp, Deck, D3	19	50-0249	Insul, .375 X .500 X 14.243
02	50-0200/01	Insul, Plate, Comp Deck, Delta	20	04-0537	Washer, .467 Id X .923Od X .060 Thk
03	02-0114	Grommet, Compressor	21	03-0150	Retainer, Clip, Convert
04	23-0985/01	Condenser, Turbo Fin 9Fpi, Delta	22	04-0504/01	Screw, 8-18 X .375, Phd, W/O Washer, Ph, Ab, Sh
05	51-0068/01	Handle	23	04-0574	Washer, Lock, 5/16, Delta II
06	51-0061	Accumulator, .375Holes	24	52-1773/02	Probe Assy, Eibc Series 2, Ced
07	50-0211	Boot, 6, Delta II	25	04-0394	Scr, 6-32 X .500, PH, PH, MS, SS, PL
08	04-0518	Rivet, .125 Dia X .328 LG, DH, ZP	26	02-0041	Seal
09	50-0201/01	Baffle, Condenser, Delta II	27	04-0032/01	Nut, Nylock, 1/4-20, SS
10	30-5112	Retainer Strip, Delta	28	04-0576/01	Washer, Lock, Int Tooth, #8, SS
11	02-0040	Seal, Extrusion	29	04-0110	Nut, 8-32, ST, BT, CD, OR ZN
12	47-7425/01	Tube, Process, Comp, Detal 06, R290	30	04-0063	Wshr, Flt .260 Id x .687 Od x .055 T
13	47-6217	Tube, Discharge, Delta III, CED	31	52-3880	Fan Assy, 100-240V, Delta 06, R290
14	25-0120	Transformer, 240 VAC, 230VAC, 24VAC, 72VA, 3A, IP68	32	30-5866	Shroud, Fan, Bottom, Delta
15	23-1787	Dryer Cap Assy, W/Tubes, 230/50, Delta 06, R290	33	30-5867/01	Shield, Air, Delta
16	51-5697/01	Shroud Assy, Fan, Top, Delta III	34	47-6216	Tube, Suction, Delta III, CED
17	83-0083	Comp Assy, 1/3 HP, 230V, Delta 06, R290	35	52-3895/02	Control Housing Assy, Electrical, R290
18	82-5259	Tube Assy, Evap, Coil, Delta 06, R290	36	26-0377/01	Capacitor, Carb Mtr, 20 Mfd, 370 VAC
			37	82-5216	Agitator Assy, 230/50-60, Delta 06, R290

Carbonator Deck - 115 Volt / 60 Hz, 230 Volt / 50 Hz



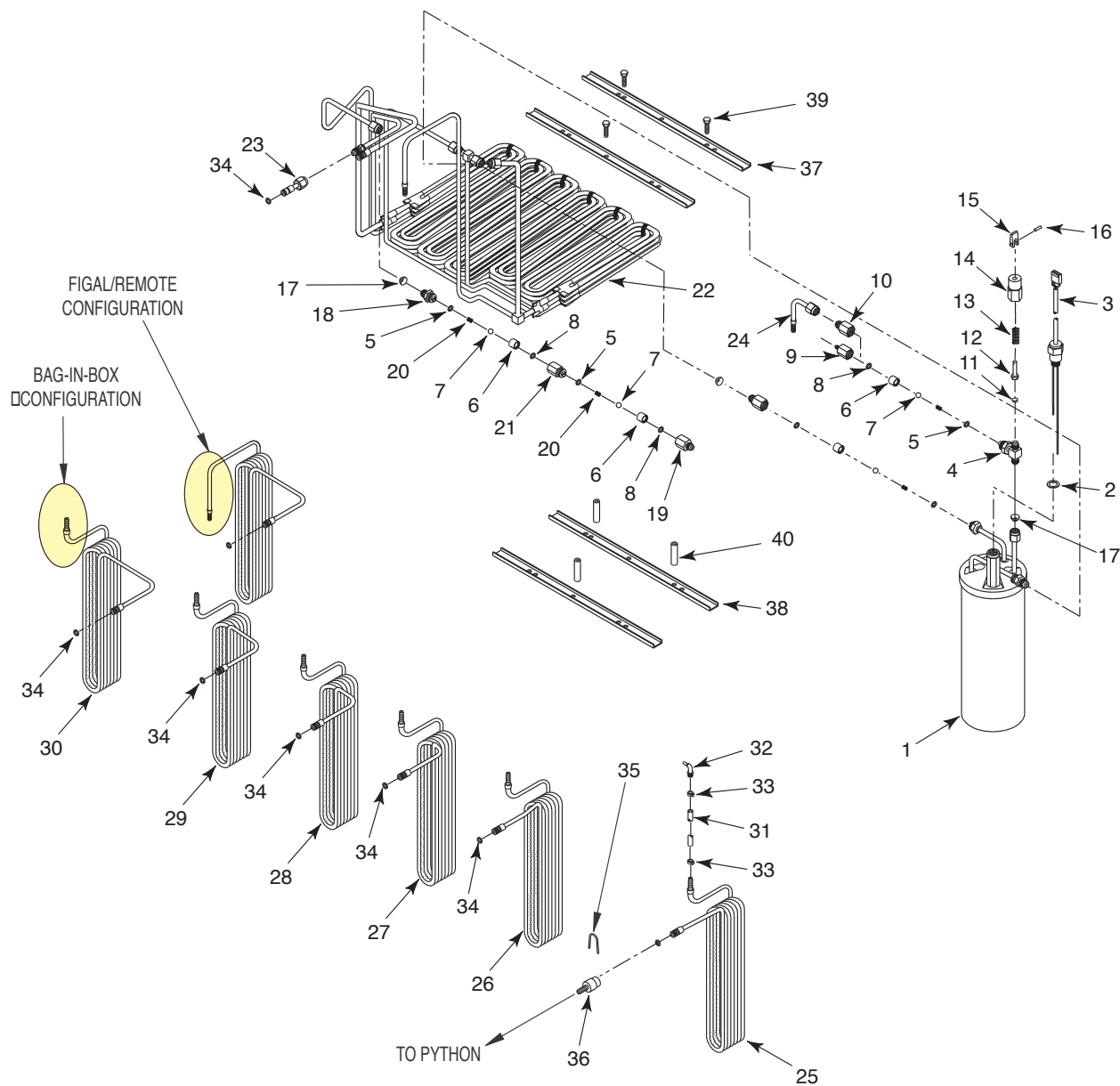
<u>Item</u>	<u>Part No.</u>	<u>Description</u>			
01	86-0084	Pump, Rotary Vane, Water, 100 GPH, 170 Psi, 3/8" NPT, Brass, PHO	09	06-1830	Label, Compressor Deck Comp, 220 V 50/60Hz, 1/4 HP
02	91-0063	Motor, AC, PSC, CS 40 MFD, BB, 115/60, 3.4 A, 1/4 HP, 1675 CCW, Intm, 37	10	04-0110	Nut, 8-32, ST, BT, CD, or ZN
-	91-0065	Motor, AC, PSC, CS 20 MFD, BB, 230/50-60, 1.6 A, 1/4 HP, 1375 CCW, Intm	11	06-0856/01	Label, Fill Hole, Carb Deck
03	01-0987/01	Elbow, BR, 3/8 FLR X 3/8 Nptm	12	06-0877/01	Label, Ground, Agency Requirement
04	01-1515	Fitting Assy, Pump Outlet, Delta	13	04-0711	Caplug, Niagara # WF 22, Delta
05	02-0194	Grommet, .250 OD X .156 LD X .049 W	14	89-0014	Cover, Hole
06	15-0087	Sealant, Pipe, Lh 050 Pure	15	52-1209	Lead Assy, Ground, Deck, Delta
07	04-0576/01	Washer, Lock, Int Tooth, #8, SS	16	05-0436	Sleeve, Probe
08	50-0328	Insulation, Carb, Deck, Delta III	17	05-0435	Sleeve, CO2 In
			18	51-5411/01	Deck Subassy, Carb, WLD, Delta III
			19	04-0061/01	Screw, 8-18 X .500, PHD, W/O Washer, Ph, Sh

Control Housing Assembly



Item	Part No.	Description			
01	64-5132	PCB Assy, R290, Refr., Control	10	06-3584	Wire Diagram Label, 115/60 HZ, 230/50 HZ, Delta 06, R290
02	05-1678	Standoff, PCB, Rev Locking	11	04-0072	Rivet, 0.125 Dia X 0.312, SS
03	12-0660	Rocker Switch, Sealed, 250 VAC, 16A	12	06-4011	ON/OFF Label, R290 Electrical Box Power
04	30-13161	Control Box Base Housing, R290	13	52-3937	Harness, 24V to Keyswitch/Valve
05	30-5108	Control Housing Cover with Killswitch	14	52-3917	Harness, Compressor to PCB
06	13-0209	Wire Saddle, ROHS, with Arrowhead	15	52-3915	Harness, Capacitor to Bulkhead, PCB & Carbonator
07	13-0208	Wire Saddle, Edge, with Hinge Top	16	52-3914	Harness, Switch to Connector on PCB, Neutral
08	04-0504	Screw, 8-18 x 0.375, PHD, w/o Washer, PH, AB, SH	17	52-3936	Lead, IEC to Chasis Ground
09	12-0653	Filter, Line, IEC, 250V, 50/60, 6A, Panel MNT	18	52-3916	Harness, Agitator & Condenser Fan to PCB
			19	52-3913	Harness, Inlet to Switch, Hot

Carbonator/Syrup Line Assemblies



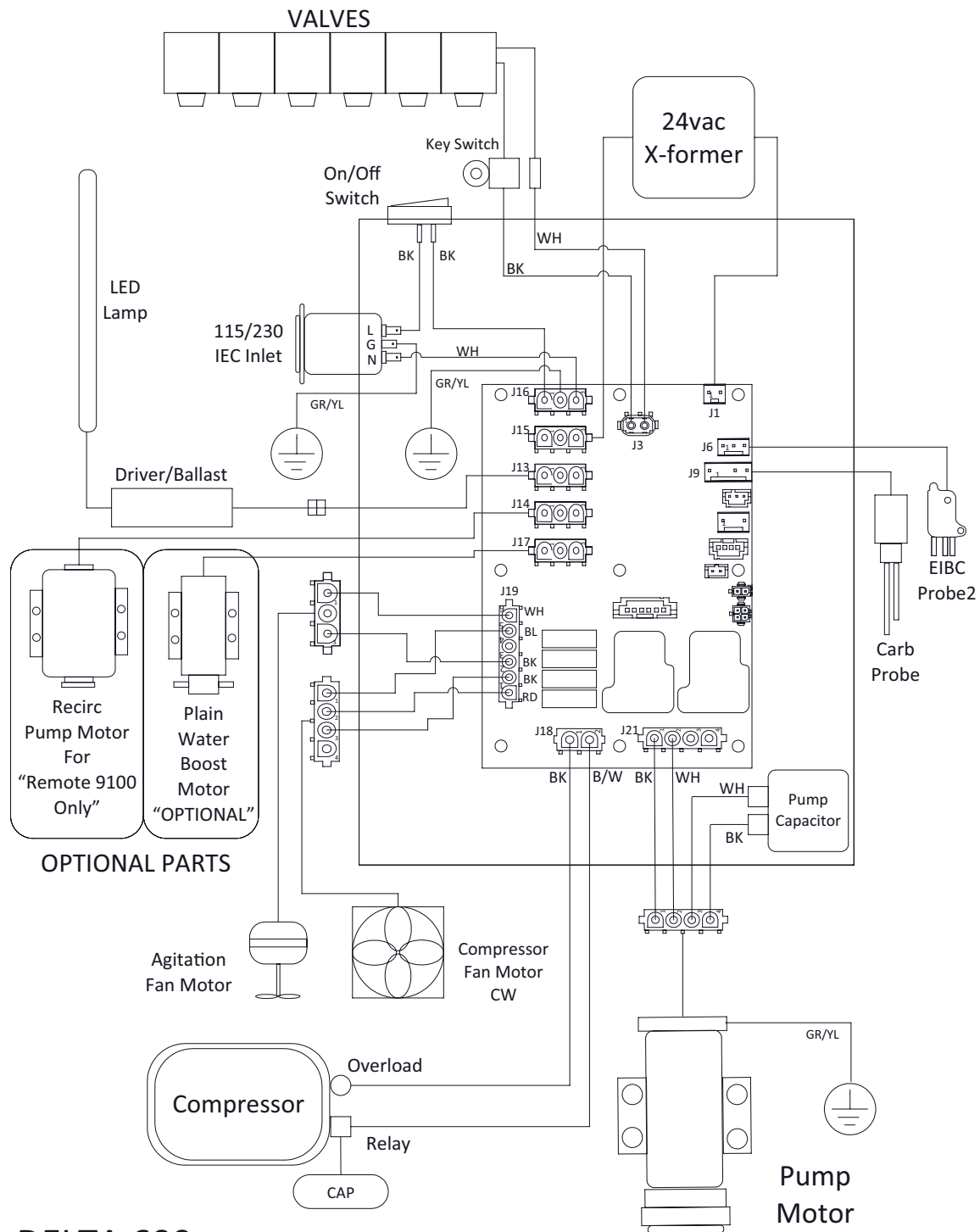
Item	Part No.	Description
1	REF	Tank Assy, Carbonator
2	02-0096	Washer
3	52-0909	Probe Assy
–	17-0468	Fitting Assy, CO2 IN (For Use with Pumps)
–	17-0469	Fitting Assy, CO2 IN (For Use without Pumps)
4	01-1311	Fitting Sub Assy, CO2
5	02-0003	O-Ring
6	01-0689	Sleeve
7	01-0674	Ball
8	02-0025	O-Ring
9	01-1334	Body, Check Valve, Gas
10	01-0669	Body, Check Valve, Gas
–	54-0066	Relief Valve Assy
11	02-0023	Seat
12	05-0536	Stem
13	03-0024/01	Spring
14	05-0537	Body, Relief Valve
15	05-0525	Lever
16	81-0196	Pin
17	05-0011	Flare Seal Washer, Small
–	17-0485	Double Check Valve Assy
18	01-1466	Fitting, Check Valve
19	01-0673	Body
20	03-0021	Spring

Item	Part No.	Description			
21	01-0670	Body	28	REF	Tube Assy, Syrup, No. 3
22	23-1199	Cage Assy, Remote/Recirc	–	48-0475/01	Tube Assy, Syrup, Figal/Remote (Use on 6 Valve Units)
23	48-0492/01	Adapter, CO2 Water OUT	–	48-0503/01	Tube Assy, Syrup, Figal/Remote (Use on 5 Valve Units)
24	01-0424	Swivel, Hose Assy	–	48-0477/01	Tube Assy, Syrup, Figal/Remote (Use on 4 Valve Units)
25	REF	Tube Assy, Syrup, No. 6	–	48-0451/01	Tube Assy, Syrup (Use on 6 Valve Units)
–	48-0478/01	Tube Assy, Syrup, Figal/Remote (Use on 6 Valve Units)	–	48-0501/01	Tube Assy, Syrup (Use on 5 Valve Units)
–	48-0454/01	Tube Assy, Syrup (use on 6 Valve Units)	–	48-0453/01	Tube Assy Syrup (Use on 4 Valve Units)
–	49-0221	Tube Assy, Syrup to Mini Pump (12")	29	REF	Tube Assy, Syrup, No. 2
–	49-0221-01	Tube Assy, Stainless Steel, Syrup to Mini Pump (12")	–	48-0474/01	Tube Assy, Syrup, Figal/Remote (Use on 6 Valve Units)
–	49-0222	Tube Assy, Syrup to Mini Pump (10")	–	48-0502/01	Tube Assy, Syrup, Figal/Remote (Use on 5 Valve Units)
–	49-0222-01	Tube Assy, Stainless Steel, Syrup to Mini Pump (10")	–	48-0503/01	Tube Assy, Syrup (Use on 4 Valve Units)
26	REF	Tube Assy, Syrup, No. 5	–	48-0450/01	Tube Assy, Syrup (Use on 6 Valve Units)
–	48-0477/01	Tube Assy, Syrup, Figal/Remote (Use on 6 Valve Units)	–	48-0500/01	Tube Assy, Syrup (Use on 5 Valve Units)
–	48-0478/01	Tube Assy, Syrup, Figal/Remote (Use on 5 Valve Units)	–	48-0501/01	Tube Assy, Syrup (Use on 4 Valve Units)
–	48-0453/01	Tube Assy Syrup, (Use on 6 Valve Units)	30	REF	Tube Assy, Syrup, No. 1
–	48-0454/01	Tube Assy Syrup, (Use on 5 Valve units)	–	48-0473/01	Tube Assy, Syrup, Figal/Remote (Use on 6 Valve Units)
–	48-0450/01	Tube Assy Syrup (use on 6 valve units)	–	48-0449/01	Tube Assy, Syrup (Use on All Units)
27	REF	Tube Assy, Syrup, No.4	31	08-0029	Tube, Flexible
–	48-0476/01	Tube Assy, Syrup, Figal/Remote (Use on 6 Valve Units)	32	REF	Adapter Assy
–	48-0477/01	Tube Assy, Syrup, Figal/Remote (Use on 5 Valve Units)	–	01-1483	Adapter Assy, Elbow
–	48-0478/01	Tube Assy, Syrup, Figal/Remote (Use on 4 Valve Units)	–	01-1022	Adapter Assy, Elbow, Stainless Steel
–	48-0452/01	Tube Assy, Syrup (Use on 6 Valve Units)	33	07-0409	Clamp, Oetiker
–	48-0453/01	Tube Assy, Syrup (Use on 5 Valve Units)	34	02-0005	O-Ring
–	48-0454/01	Tube Assy, Syrup (Use on 4 Valve Units)	35	03-0153	Retainer, Convert
			36	05-0781	Adapter, 1/4B x Dole
			37	30-6767	Brace, Water Coils
			38	30-6807	Spacer, Lower, Water Cage
			39	04-1116	Screw, 10 - 24 x 0.625, PHD, PH, 18 - 8, SS
			40	01-1831	Spacer, 10 - 24, Threaded

Wiring Diagram

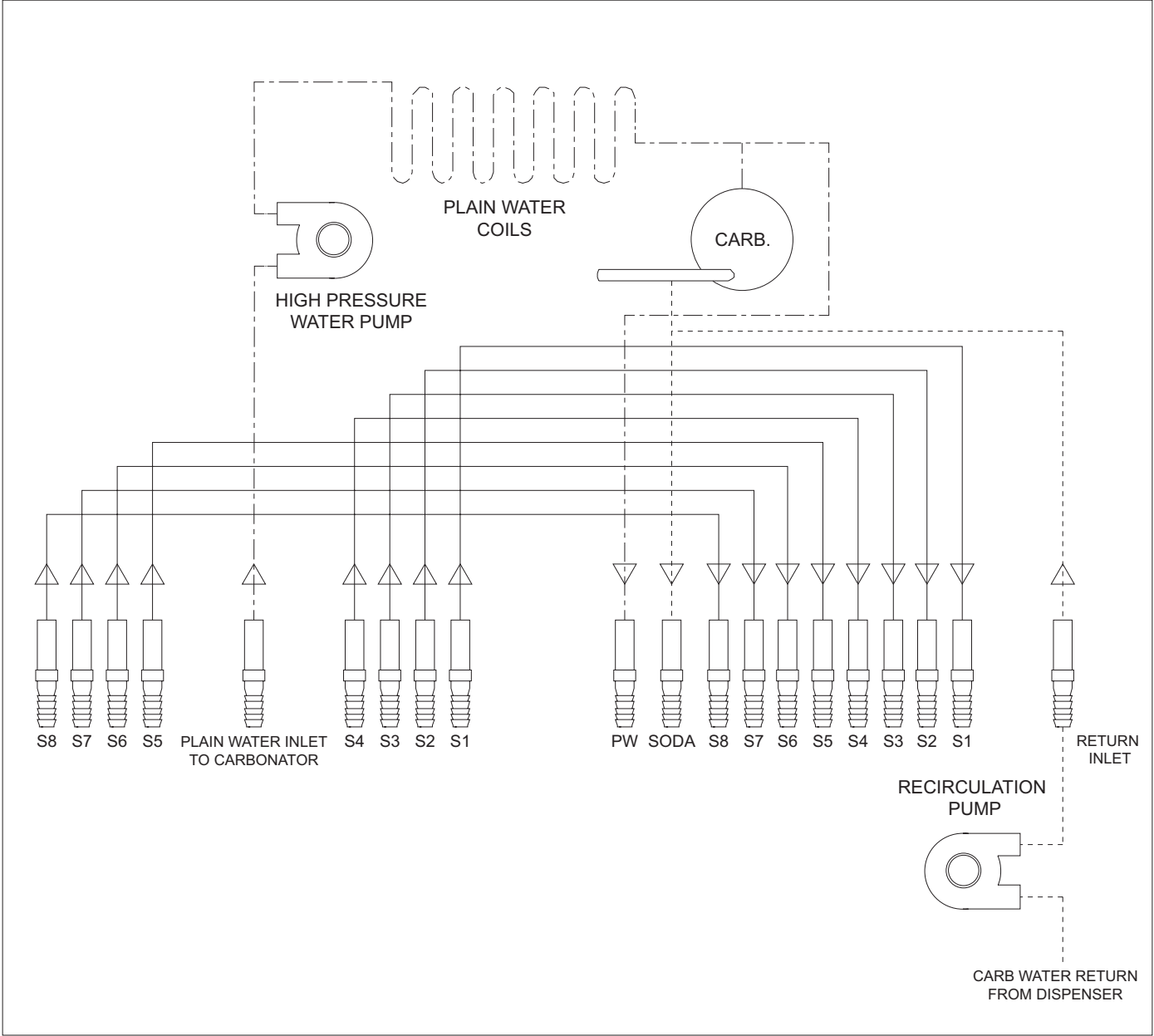
IMPORTANT

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



DELTA 600

Plumbing Diagram





Lancer Worldwide
800-729-1500
Technical Support/Warranty: 800-729-1550
custserv@lancerworldwide.com
lancerworldwide.com