

**FOR QUALIFIED INSTALLER ONLY.** This basic installation sheet is an initial release. If a complete operations manual (for the unit being installed) is required or needed, please refer to the Lancer web site ([lancerworldwide.com](http://lancerworldwide.com)) for immediate access, or for your convenience, scan this QR code with a mobile device (app required) for immediate access to other Technical Documents and alternative translations (if available) pertaining to this unit. Contact Lancer Customer Service for assistance as required.



## ABOUT THIS GUIDE

This guide is an integral and essential part of the product and should be handed over to the operator after the installation to keep as a reference. Please read carefully 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.

## 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.

***The installation or relocation 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

## ⚠ Intended Use

The dispenser is for indoor use only. This unit is not a toy. Children should be supervised not to play with appliance. It should not be used by children or infirm persons without supervision. 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 40°F to 105°F (4°C to 41°C) at a max altitude of 16,400 ft (5,000 m). Do not operate unit outside these conditions. Should freezing occur, cease operation of the unit and contact authorized service technician. Service, cleaning, and sanitizing should be accomplished only by trained personnel. During installation, old hose sets should not be reused to connect the unit to the water mains; new hose sets should always be used. Applicable safety precautions must be observed. Instruction warnings on the product being used must be followed.

## ⚠ Electrical Warning

Check the dispenser nameplate 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. Follow all local electrical codes when making connections. 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. Do not locate multiple portable socket-outlets or portable power supplies at the rear of the appliance. The key-switch does not disable the line voltage to the transformer primary. 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. Make sure that all water lines are tight and units are dry before making any electrical connections!



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For more information visit [lancerworldwide.com](http://lancerworldwide.com) or call Tech Support/Warranty: 800-729-1550

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### ⚠ 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.
- 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.
- If a CO<sub>2</sub> gas leak is suspected, immediately ventilate the contaminated area before attempting to repair the leak.
- 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.

### ⚠ CO<sub>2</sub> Safe Handling and Storage

CO<sub>2</sub> cylinders should only be handled by trained personnel who are aware of the hazards associated with CO<sub>2</sub> gas. CO<sub>2</sub> cylinders should be handled with care. Never drag or drop a CO<sub>2</sub> cylinder. Never attempt to handle a leaking CO<sub>2</sub> cylinder. The valve should always be closed when handling a cylinder. If the cylinder is fitted with a valve cap, always verify the cap is secure before handling. Always store CO<sub>2</sub> cylinders in an upright position and in a well-ventilated area. Never store CO<sub>2</sub> cylinders near anything that emits high heat and keep out of direct sunlight. Enclosed areas in which CO<sub>2</sub> is being stored should be equipped with a CO<sub>2</sub> monitoring system.

### ⚠ 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 laws. The water supply to the carbonator must be at least a 3/8 inches (9.525 mm) pipe with a minimum of 40 psi (0.276 MPa) line pressure, but not exceeding a maximum of 80 psi (0.552 MPa). Water pressure exceeding 80 psi (0.552 MPa) must be reduced to 80 psi (0.552 MPa) with pressure regulator. The water supply to non-carb drinks must be a minimum of 40 psi (0.276 MPa), using a water booster if needed. 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. The water supply must be protected by means of an air gap, a backflow prevention device 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. Ensure the backflow prevention device complies with ASSE and local standards. It is the responsibility of the installer to ensure compliance.

### NOTE

The dispenser should only be installed in a location where it can be overseen by trained personnel, and it should never be installed in an area where a waterjet can be used.

## SPECIFICATIONS

### ICDI 2200

#### DIMENSIONS

*Width:* 15.0 inches (381 mm)  
*Depth:* 23 inches (584 mm)  
*Height:* 34.25 inches (870 mm)

#### WEIGHT

*Shipping:* 130 lbs (59 kg)  
*Operating (with Ice):* 166 lbs (75 kg)  
*Ice Capacity:* 60 lbs (27 kg)

#### PLAIN WATER SUPPLY

*Min Flowing Pressure:* 40 PSI (0.276 MPA)  
*Max Flowing Pressure:* 80 PSI (0.552 MPA)

#### COUNTER CUTOUT

*Width:* 15.25 inches (387 mm)  
*Depth:* 23.25 inches (591 mm)

#### ELECTRICAL

*Dispenser:* 24 VAC, 60 Hz  
*Power Supply Input:* 115 VAC

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

*Min Pressure:* 90 PSI (0.621 MPA)  
*Max Pressure:* 110 PSI (0.758 MPA)

#### FITTINGS

*Carbonated Water Inlet:* 3/8 inch barb  
*Plain Water Inlets:* 3/8 inch barb  
*Brand Syrup Inlets:* 3/8 inch barb

**This unit emits a sound pressure level below 65 dB.**

# ICDI 2300 Standard Performance

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## DIMENSIONS

Width: 25.2 inches (640 mm)  
Depth: 25.2 inches (640 mm)  
Height: 42.4 inches (1077 mm)

## WEIGHT

Shipping: 215 lbs (98 kg)  
Operating (with Ice): 258 lbs (117 kg)  
Ice Capacity: 100 lbs (45 kg)

## PLAIN WATER SUPPLY

Min Flowing Pressure: 40 psi (0.276 MPa)  
Max Flowing Pressure: 80 psi (0.552 MPa)

## COUNTER CUTOUT

Width: 23.25 inches (591 mm)  
Depth: 23.25 inches (591 mm)

## ELECTRICAL

Dispenser: 24 VAC, 60 Hz  
Power Supply Input: 115 VAC

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

Min Pressure: 90 psi (0.621 MPa)  
Max Pressure: 110 psi (0.758 MPa)

## FITTINGS

Carbonated Water Inlet: 3/8 inch barb  
Plain Water Inlets: 3/8 inch barb  
Brand Syrup Inlets: 3/8 inch barb

**This unit emits a sound pressure level below 65 dB.**

# ICDI 2300 High Performance

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## DIMENSIONS

Width: 25.2 inches (640 mm)  
Depth: 25.2 inches (640 mm)  
Height: 42.4 inches (1077 mm)

## ELECTRICAL

Dispenser: 24 VAC, 60 Hz  
Power Supply Input: 115 VAC

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

Min Pressure: 90 psi (0.621 MPa)  
Max Pressure: 110 psi (0.758 MPa)

## COUNTER CUTOUT

Width: 23.25 inches (591 mm)  
Depth: 23.25 inches (591 mm)

## PLAIN WATER SUPPLY

Min Flowing Pressure: 40 psi (0.276 MPa)  
Max Flowing Pressure: 80 psi (0.552 MPa)

## FITTINGS

Carbonated Water Inlet: 3/8 inch barb  
Plain Water Inlets: 3/8 inch barb  
Brand Syrup Inlets: 3/8 inch barb

## WEIGHT

6 & 8 valve: Shipping: 230 lbs (104 kg)  
Operating (with Ice): 273 lbs (124 kg)  
Ice Capacity: 100 lbs (45 kg)

10 valve: Shipping: 255 lbs (116 kg)  
Operating (with Ice): 304 lbs (138 kg)  
Ice Capacity: 100 lbs (45 kg)

**This unit emits a sound pressure level below 65 dB.**

# ICDI 23300

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## DIMENSIONS

Width: 32 inches (813 mm)  
Depth: 25 inches (635 mm)  
Height: 41.5 inches (1054 mm)

## WEIGHT

Shipping: 300 lbs (136 kg)  
Operating (with Ice): 370 lbs (168 kg)  
Ice Capacity: 130 lbs (59 kg)

## PLAIN WATER SUPPLY

Min Flowing Pressure: 40 PSI (0.276 MPa)  
Max Flowing Pressure: 80 PSI (0.552 MPa)

## COUNTER CUTOUT

Width: 30.25 inches (768 mm)  
Depth: 23.25 inches (591 mm)

## ELECTRICAL

Dispenser: 24 VAC, 60 Hz  
Power Supply Input: 115 VAC

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

Min Pressure: 90 PSI (0.621 MPa)  
Max Pressure: 110 PSI (0.758 MPa)

## FITTINGS

Carbonated Water Inlet: 3/8 inch barb  
Plain Water Inlets: 3/8 inch barb  
Brand Syrup Inlets: 3/8 inch barb

**This unit emits a sound pressure level below 65 dB.**

## Read This Guide

This guide was developed by Lancer Worldwide as a reference for the owner/operator and installer of this dispenser. Please read this guide before installation and operation of this dispenser. Please see Troubleshooting section for 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.

# INSTALLATION

## Unpacking the Dispenser

1. Set shipping carton upright on the floor, then, cut package banding straps and remove.
2. Open top of carton and remove interior packaging.
3. Lift carton up and off of the unit.
4. Remove accessory kit and loose parts from ice compartment.
5. Clean ice bin using cleaning solution on Cleaning and Sanitizing Solutions section.

### NOTE

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

### ⚠ WARNING

To avoid personal injury or damage, do not attempt to lift a unit without help. For heavier units, use of a mechanical lift may be appropriate. Unplug dispenser from the power source when unit is being serviced, cleaned, or sanitized.

### ⚠ WARNING

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

## Selecting/Preparing a Counter Location

### NOTE

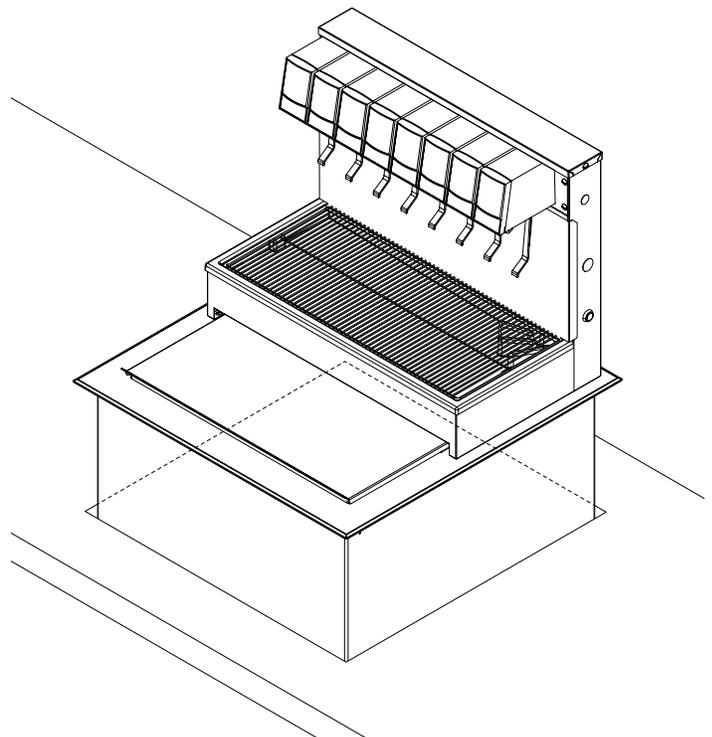
The dispenser should only be installed in a location where it can be overseen by trained personnel, and it should never be installed in an area where a waterjet can be used.

1. Select a leveled, well ventilated location that is in close proximity to a properly grounded electrical outlet, within five (5) feet (1.5 m) of a drain, a water supply that meets the requirements shown in the Specifications section, and away from direct sunlight or overhead lighting.
2. The selected location should be able to support the weight of the dispenser and ice after the counter cutout is made. Total weight (with ice) for this unit could exceed 400 pounds (181.4 kg).
3. If installed directly on the counter, unit must be sealed to the countertop with an FDA approved sealant.
4. If installed using the free-standing conversion kit (Lancer PN: 84-1004/01 for 2200, 84-1005/01 for 2300, and 84-1006/01 for 23300), unit must use the legs provided.

### NOTE

NSF listed units must be sealed to the counter or have six (6) inch legs installed.

5. Select a location for the remote carbonator, syrup pumps, CO<sub>2</sub> tank, syrup containers, and water filter (recommended).



# Dispenser Installation - 2200 & 23300

## NOTE

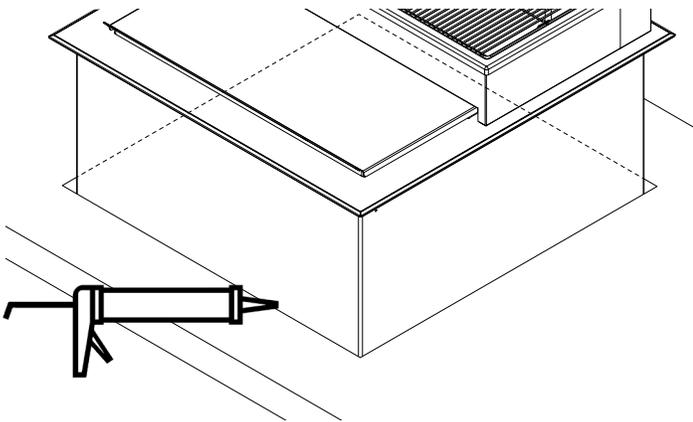
The installation or relocation of the dispenser must be carried out by qualified personnel with up-to-date knowledge and practical experience, in accordance with current regulations.

1. Inspect the counter location where the unit is to be installed, then make counter cutout (see *Specifications* section or Cutout Diagrams on back of guide for counter cutout dimensions).

## ⚠ ATTENTION

Counter cutout must be accurate, according to unit specifications.

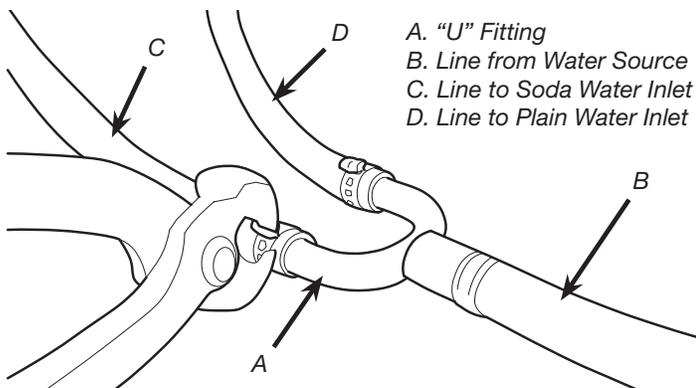
2. Once the counter cutout is made, lower the unit into the counter and seal rim to the counter using an approved silicone sealant.



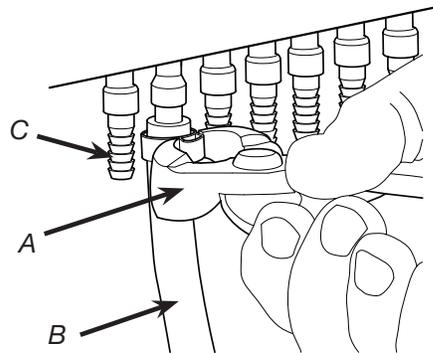
## NOTE

The unit can extend up to 23 inches (58.42 cm) below the counter, including the shipping risers, which Lancer recommends be left attached to the unit. Should the dispenser ever require removal, the shipping risers will protect the inlet tubes from being damaged.

3. Route appropriate tubing from the water source to the water inlets at the front of the unit.
4. Install "U" fitting to water line to split between soda and plain water lines.



5. Connect tubing of soda and plain water lines to appropriate inlets, at the front of the unit, using Oetiker pliers and fittings (see Plumbing Diagrams on the front of the unit or on pages 17-20 for reference).



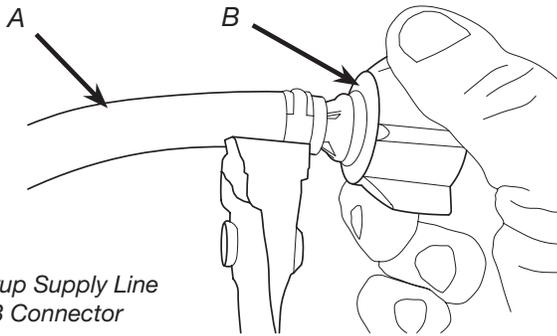
A. Oetiker Pliers  
 B. Tubing  
 C. Syrup/Water Inlet

6. Connect tubing to water source then flush water lines to check for leaks.
7. Install water regulator and filter to water line and, if necessary, install water booster (Lancer PN MC-163172) between water supply and the unit.
8. Using tubing cutters, cut soda water line and install remote carbonator per manufacturer's specifications.
9. Install a shutoff valve in the water line feeding the remote carbonator.
10. Connect each syrup line to appropriate syrup inlet in the front of the unit (see *Plumbing Diagrams* on the front of the unit or on pages 17-20 for reference).
11. Connect each syrup line to individual syrup pump outlet fitting.
12. Install BIB connectors to the syrup supply line tubing.

- Attach BIB connectors on syrup supply line to BIB. Repeat for each syrup line/pump.

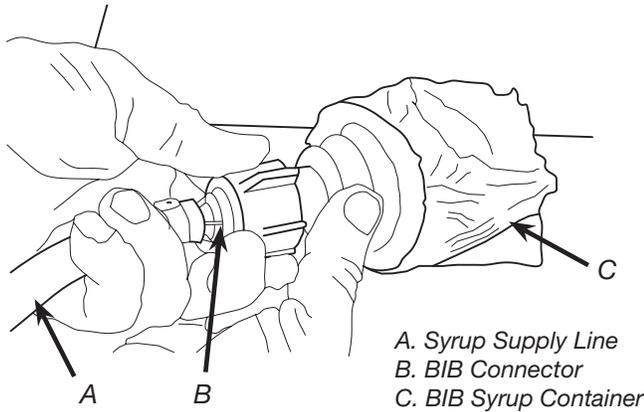
**⚠ ATTENTION**

Use proper connector for syrup manufacturer.



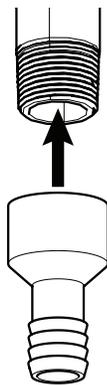
A. Syrup Supply Line  
B. BIB Connector

- Install threaded drain fitting (PN: 01-1612), included in accessory kit, to front drain line.

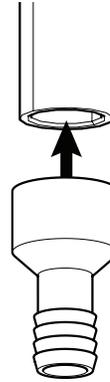


A. Syrup Supply Line  
B. BIB Connector  
C. BIB Syrup Container

- Install PVC drain fitting to front right ice bin drain line.



- Install drain lines to both front and back drain fittings.



- Route drain hoses to designated open type drain.
- Install power supply assembly to bottom plate of free standing conversion kit or under counter.

**⚠ CAUTION**

Drain line must be insulated with a closed cell insulation. Insulation must cover the entire length of the drain hose, including fittings. The drain should be installed in such a manner that water does not collect in sags or other low points, as condensation will form.

**⚠ ATTENTION**

Pouring hot water down the drain may cause the drain tube to collapse. Allow only warm or cold water to enter the drain tube. Pouring coffee, tea, or other similar substances down the drain may cause the drain tube to become clogged.

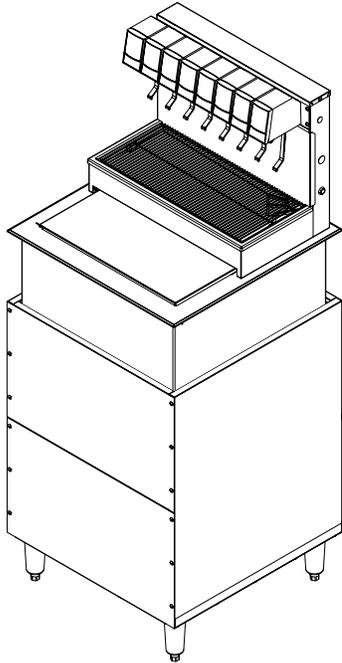
- Route the power supply cord to a grounded electrical outlet of the proper voltage and amperage rating.

**⚠ WARNING**

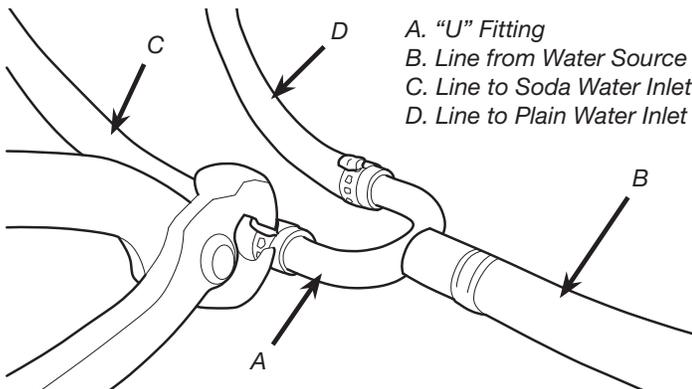
**DO NOT PLUG UNIT INTO GROUNDED ELECTRICAL OUTLET AT THIS TIME.** Make sure that all water lines are tight and unit is dry before making any electrical connections.

# Dispenser Installation - 2300

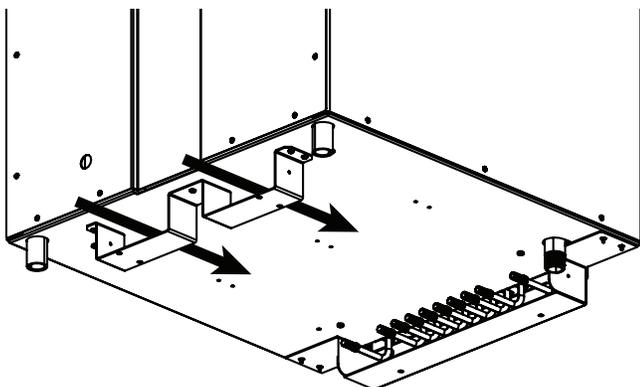
1. If using freestanding conversion kit, install per kit instructions then insert and seal unit to freestanding frame. Position freestanding unit in designated location.



2. Route appropriate tubing from the water source to the water inlets at the front of the unit.
3. Install "U" fitting to water line to split between soda and plain water lines.

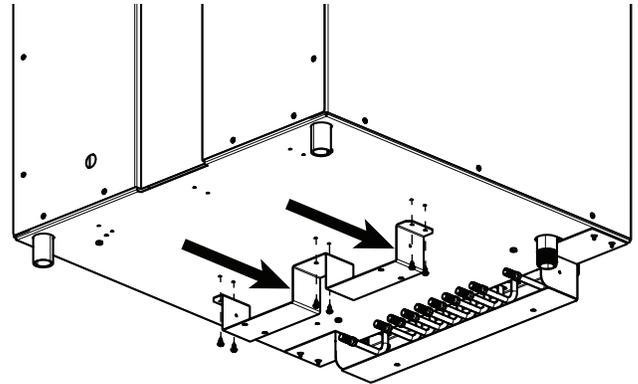


4. Route the soda and plain water lines through the shipping riser legs in the back of the unit.



## NOTE

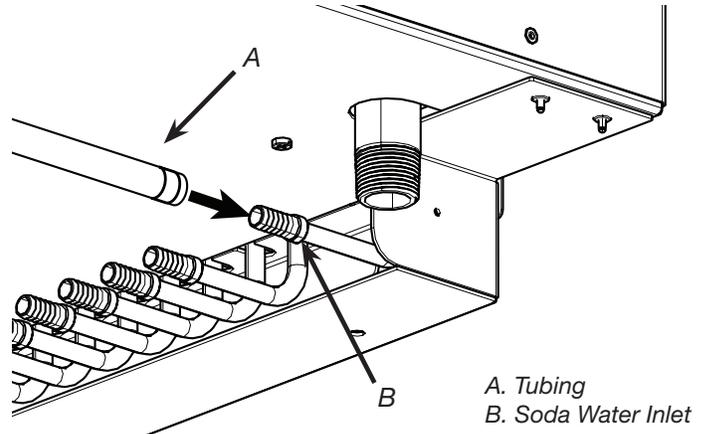
If necessary, shipping riser can be shifted to the center of the bottom plate for ease of installation.



5. Connect tubing of soda and plain water lines to appropriate inlets, at the front of the unit, using Oetiker pliers and fittings (see *Plumbing Diagrams* on the front of the unit or on pages 17-20 for reference).

## NOTE

If necessary, inlet guard can be removed TEMPORARILY for ease of installation. REATTACHMENT IS REQUIRED.

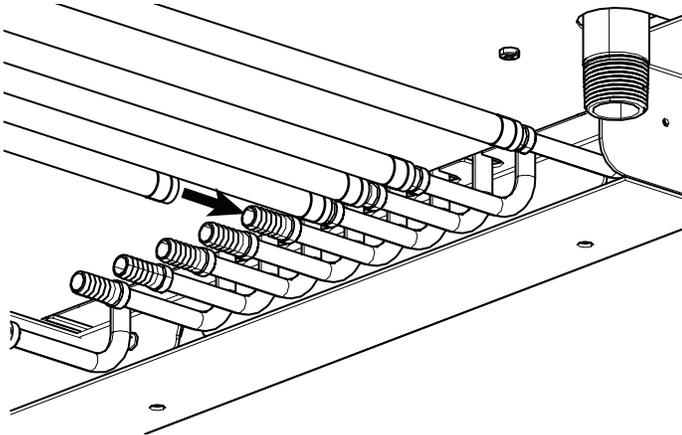


6. Connect tubing to water source, then flush water lines to check for leaks.
7. Install water regulator and filter to water line and, if necessary, install water booster (Lancer PN MC-163172) between water supply and the unit.
8. Using tubing cutters, cut soda water line and install remote carbonator per manufacturer's specifications.
9. Install a shutoff valve in the water line feeding the remote carbonator pump deck.
10. Route appropriate tubing from the syrup pump location through the shipping riser legs in the back of the unit (see Step 4).

11. Connect each syrup line to appropriate syrup inlet in the front of the unit (see *Plumbing Diagrams* on the front of the unit or on pages 17-20 for reference).

**⚠ ATTENTION**

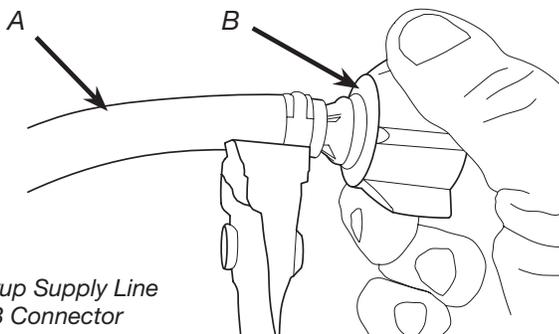
If installing a 6-Valve unit, two of the syrup lines will be capped. **DO NOT** remove the caps from the two syrup lines. See plumbing diagram for reference.



12. Connect each syrup line to individual syrup pump outlet fitting.
13. Install BIB connectors to the syrup supply line tubing.

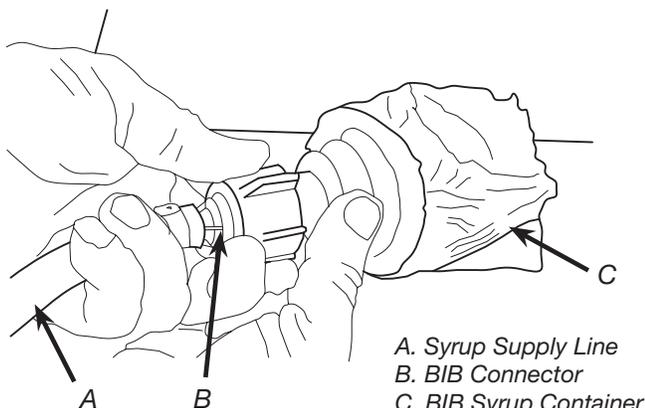
**⚠ ATTENTION**

Use proper connector for syrup manufacturer.



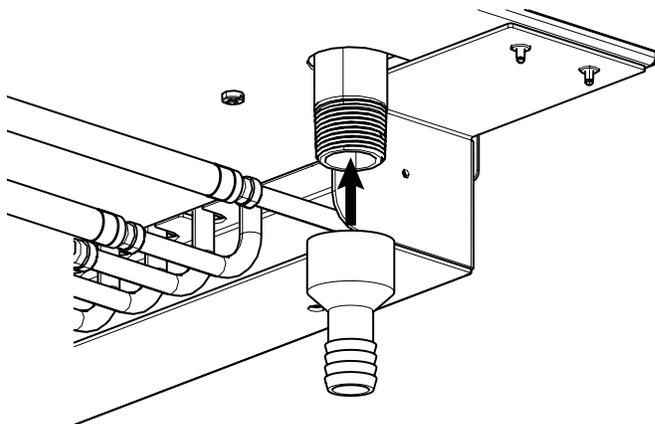
A. Syrup Supply Line  
B. BIB Connector

14. Attach BIB connectors on syrup supply line to BIB. Repeat for each syrup line/pump.

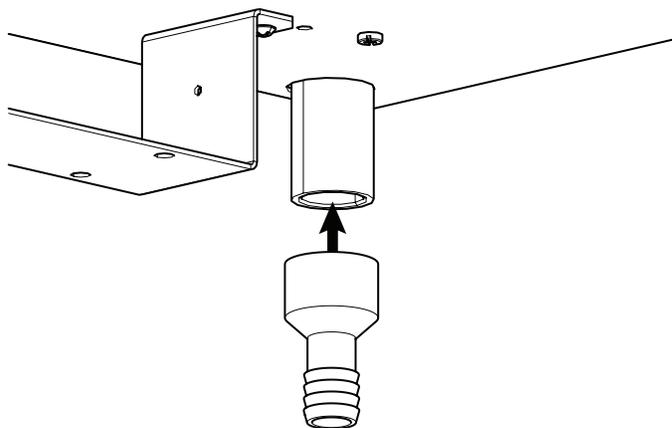


A. Syrup Supply Line  
B. BIB Connector  
C. BIB Syrup Container

15. Install threaded drain fitting (PN: 01-1612), included in accessory kit, to front drain line.



16. Install PVC drain fitting to back drain line.



17. Install drain lines to both front and back drain fitting.
18. Route drain hoses to designated open type drain.

**⚠ CAUTION**

Drain line must be insulated with a closed cell insulation. Insulation must cover the entire length of the drain hose, including fittings. The drain should be installed in such a manner that water does not collect in sags or other low points, as condensation will form.

**⚠ ATTENTION**

Pouring hot water down the drain may cause the drain tube to collapse. Allow only warm or cold water to enter the drain tube. Pouring coffee, tea, or other similar substances down the drain may cause the drain tube to become clogged.

19. Install power supply assembly to bottom plate of free standing conversion kit or under counter.
20. Route the power supply cord to a grounded electrical outlet of the proper voltage and amperage rating.

**⚠ WARNING**

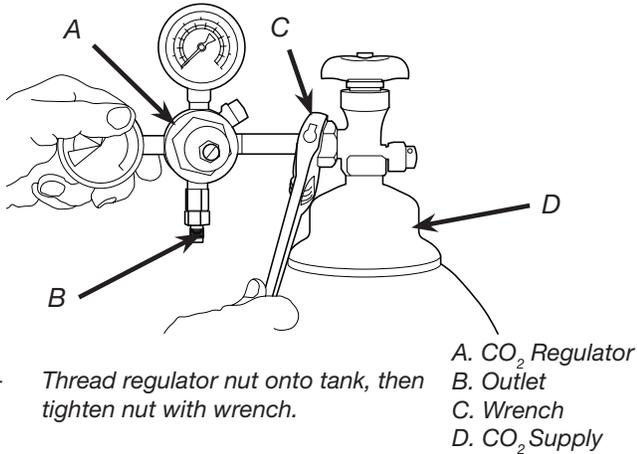
**DO NOT PLUG UNIT INTO GROUNDED ELECTRICAL OUTLET AT THIS TIME.** Make sure that all water lines are tight and unit is dry before making any electrical connections.

# 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

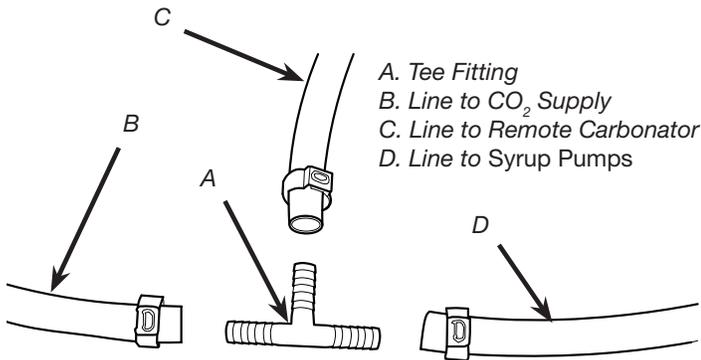
Before installing regulator, ensure that a seal (washer or O-ring) is present in regulator attachment nut.



2. Connect appropriate CO<sub>2</sub> tubing to inlet on regulator, then using a tee fitting, route tubing from the CO<sub>2</sub> regulator to the CO<sub>2</sub> inlet on the remote carb and the CO<sub>2</sub> regulator at syrup pumps.

## ⚠ ATTENTION

A dedicated CO<sub>2</sub> regulator is required to supply the carbonator as well as all syrup pumps.

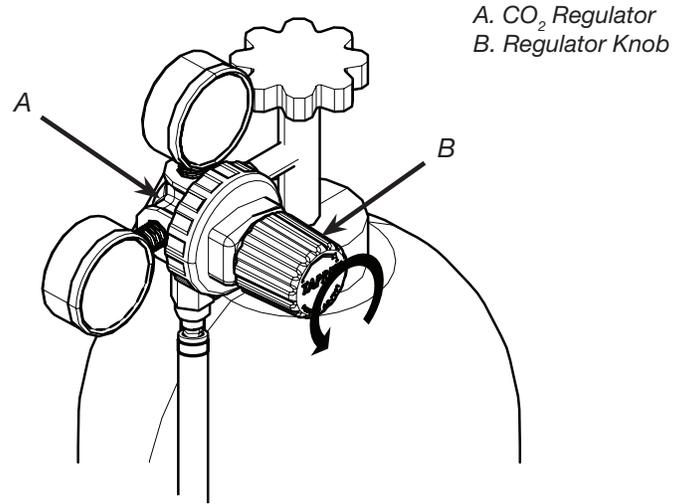


3. Route appropriate tubing for CO<sub>2</sub> from CO<sub>2</sub> regulator at syrup pumps to all syrup pump CO<sub>2</sub> inlets.

## ⚠ WARNING

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

4. Turn the knob on the CO<sub>2</sub> regulator, at the source, all the way to the left (counterclockwise) to close the regulator. Repeat for CO<sub>2</sub> regulator at the syrup pumps.



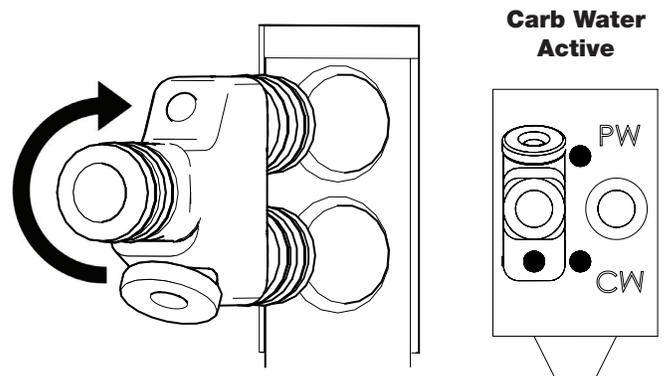
## Carb/Plain Water Switchover (If Equipped)

### NOTE

The plain and carbonated water supplies as well as the CO<sub>2</sub> line and syrup supply must be shut down in order to change out the switchable back block.

To change the water type:

1. Remove the back block.
2. Pry the water type converter out using a small screwdriver.
3. Reinstall the converter in the appropriate position.



# Dispenser Setup

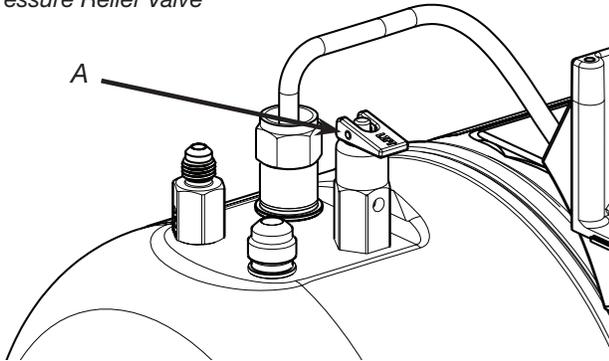
1. Turn on water source.
2. Place enough ice in the ice bin to fill approximately 1/2 of the bin before plugging in the unit.
3. Connect unit power cord to grounded electrical outlet.

## ⚠ 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.

4. Open the pressure relief valve, located on the remote carbonator, by flipping up on the valve cap lever. Hold open until water flows from the relief valve; then, close (flip down) the relief valve.

A. Pressure Relief Valve



5. Activate each valve to ensure a steady flow of water is achieved.
6. Ensure carbonator is unplugged before turning on CO<sub>2</sub>.

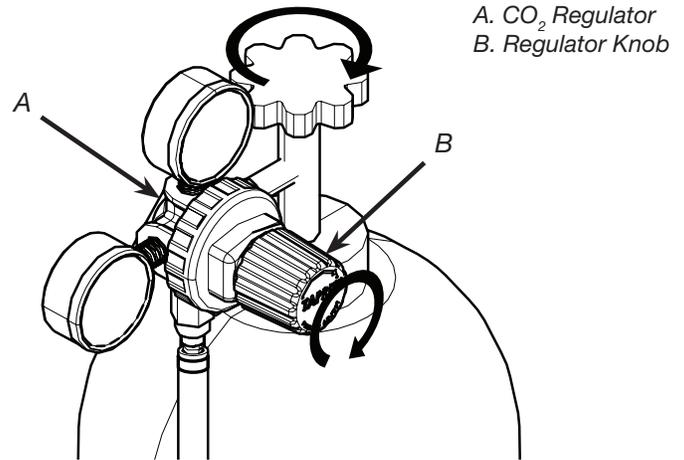
## ⚠ ATTENTION

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

## ⚠ ATTENTION

**DO NOT ADJUST CO<sub>2</sub> REGULATOR AT SYRUP PUMPS AT THIS TIME.** Make sure carbonated water flow rate is set before adjusting regulator at syrup pumps.

7. Turn on CO<sub>2</sub> at the source then turn the knob on the CO<sub>2</sub> regulator at source to the right (clockwise) until regulator reads 105 psi (0.724 MPa).

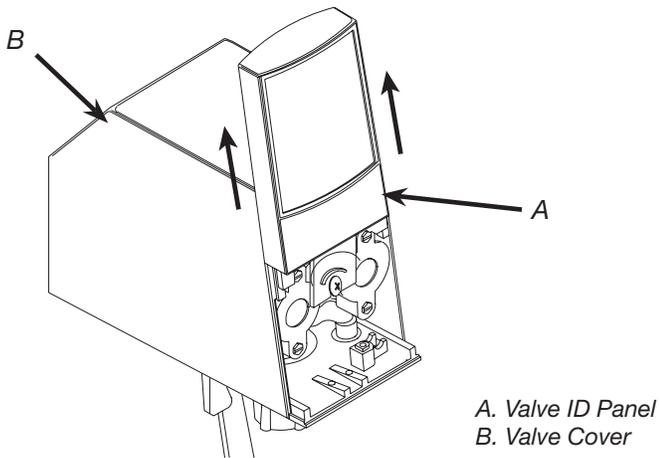


8. Activate each valve until gas-out.
9. Plug in the remote carbonator.
10. When carbonator stops, activate each valve until the carbonator pump comes on. Release the button, allow carbonator to fill and stop. Repeat this process until a steady flow of carbonated water is achieved.

## NOTE

To check for CO<sub>2</sub> leaks, close the valve on the CO<sub>2</sub> cylinder and observe if the pressure to the system drops with the cylinder valve closed for five minutes. Open the cylinder valve after check.

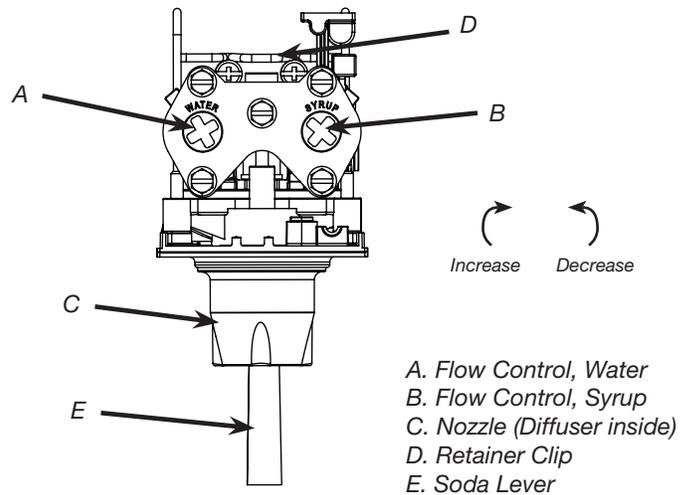
11. Remove the Valve ID Panel for the first valve.



**NOTE**

Ensure there is ice on the cold plate and the lines are cold before attempting to set the flow rates on the valves. The drink temperature should be no higher than 40°F (4.4°C) when flow rates are set.

12. Use a Lancer ratio cup to verify water flow rate (5 oz. in 4 sec.). Use a screwdriver to adjust if needed.

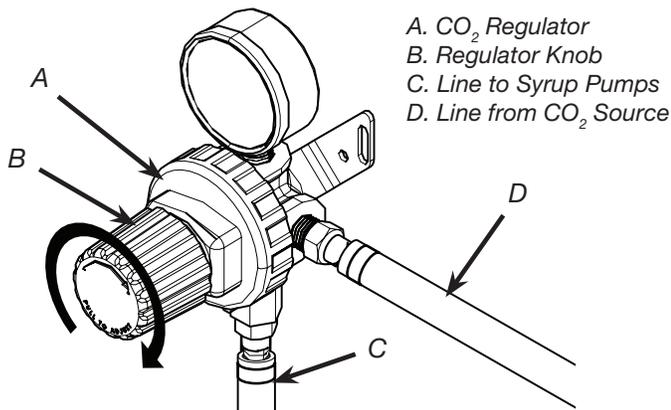


13. Repeat Step 12 until flow rate is correct.

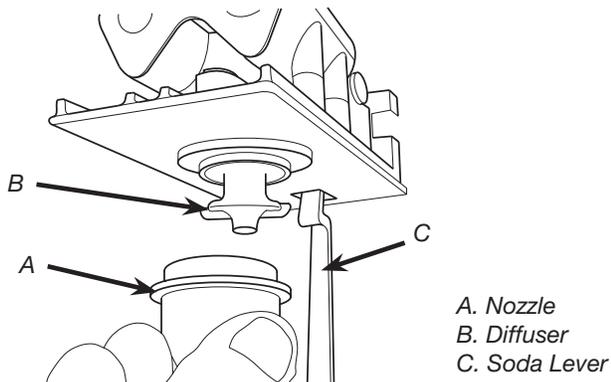
14. Repeat Steps 11 - 13 for remaining valves.

## Adjust Syrup/Water Ratio

1. Turn the knob on the CO<sub>2</sub> regulator at the syrup pumps to the right (clockwise) until regulator reads 65 psi (0.448 MPa).

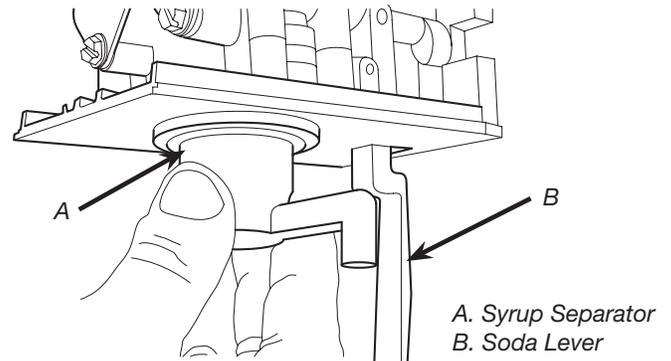


2. Remove nozzle on first valve by twisting counterclockwise and pulling down.

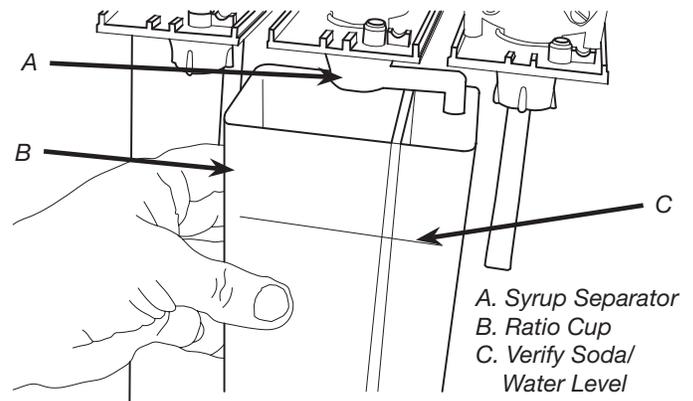


3. Remove the diffuser by pulling down.

4. Install Lancer (yellow) syrup separator (PN 54-0031/04) in place of nozzle.



5. 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.



6. Remove syrup separator and reinstall nozzle. Replace valve ID cover.

7. Repeat steps 2-6 for each valve.

# CLEANING AND SANITIZING

## General Information

### GENERAL INFORMATION

Lancer equipment is shipped from the factory after being cleaned and sanitized in accordance with the National Sanitation Foundation (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.

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 waterjet 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. Ensure all sanitizing solution is removed from the system.
- **DO NOT** use mechanical devices or other means to accelerate the defrosting process; other than those recommended by the manufacturer.

## 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

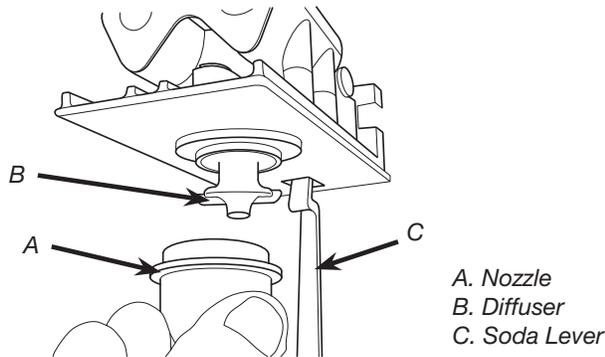
Prepare the sanitizing solution in accordance with the manufacturer's written recommendations and safety guidelines. The type and concentration of sanitizing agent recommended in the instructions by the manufacturer shall comply with 40 CFR §180.940. The solution must provide 200 parts per million (PPM) chlorine (e.g. Sodium Hypochlorite or bleach) and a minimum of five gallons of sanitizing solution should be prepared.

### ⚠ WARNING

If a powder sanitizer is used, dissolve it thoroughly with hot water prior to adding to the syrup system. Ensure sanitizing solution is removed from the dispenser as instructed. Avoid getting sanitizing solution on circuit boards. 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), as this can damage the dispenser.

## Cleaning and Sanitizing Nozzles

1. Prepare the cleaning and sanitizing solutions as described in “Cleaning and Sanitizing Solutions” section.
2. Disconnect power, so as to not activate valve while cleaning.
3. Remove nozzle by twisting counterclockwise and pulling down.



4. Remove diffuser by pulling down.
5. Rinse nozzle and diffuser with warm water.
6. Wash nozzle and diffuser with cleaning solution then immerse in sanitizing solution and let sit for fifteen (15) minutes.
7. Set nozzle and diffuser aside and let air dry. **DO NOT** rinse with water after sanitizing.
8. Reconnect diffuser and nozzle.
9. Connect power.

### ⚠ CAUTION

Following sanitation, 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 (Bag-in-Box)

1. Prepare the cleaning and sanitizing solutions as described in “Cleaning and Sanitizing Solutions” section.
2. Disconnect syrup lines from BIB's.
3. Place syrup lines, with BIB connectors and any adapters in a bucket of warm water.
4. Activate each valve to fill the lines with warm water and flush out syrup remaining in the lines.
5. Place syrup lines, with BIB connectors and any adapters, 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. Place syrup lines into sanitizing solution and activate each valve to fill lines with sanitizer. Let sit for ten (10) minutes.
9. Reconnect syrup lines to BIB's and draw drinks to flush solution from the dispenser.
10. Taste the drink to verify that there is no off-taste. If off-taste is found, flush syrup system again.

### ⚠ CAUTION

Following sanitation, 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 Ice Bin Compartment

### NOTE

The ice bin compartment of the dispenser should be thoroughly cleaned and sanitized at least once every month.

1. Prepare the cleaning and sanitizing solutions as described in “Cleaning and Sanitizing Solutions” section.
2. Using the cleaning solution and a clean soft cloth, wash down the sides of the ice bin and the surface of the aluminum casting.
3. Using clean, potable water, thoroughly rinse away the cleaning solution from the sides and surface of the casting.

4. Using plastic sanitary gloves, soak a white, cotton-gauze, cleaning rag in the sanitizing solution and wipe all surfaces in the ice compartment.

### ⚠ CAUTION

A fresh water rinse cannot follow sanitation of the equipment. As an NSF requirement, purge only with the end-use product.

5. Once sanitizing of the ice compartment is complete, refill with ice.

# TROUBLESHOOTING

## Dispenser Troubleshooting

| TROUBLE                                                                        | CAUSE                                                                                                                                                                                                                                                                                                                                                                                   | REMEDY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No product when valve is activated.                                            | <ol style="list-style-type: none"> <li>1. Keyswitch is off or keyswitch harness is disconnected.</li> <li>2. No power to dispenser.</li> <li>3. Malfunctioning switch assembly.</li> <li>4. Malfunctioning power supply.</li> <li>5. Malfunctioning PCB board.</li> <li>6. Malfunctioning LEV valve.</li> <li>7. Malfunctioning bin switch.</li> </ol>                                  | <ol style="list-style-type: none"> <li>1. Turn keyswitch on and/or reconnect keyswitch harness.</li> <li>2. Check internal breaker and incoming power.</li> <li>3. Replace switch assembly.</li> <li>4. Check voltage to power supply. Check fuses.</li> <li>5. Replace PCB board.</li> <li>6. Replace valve.</li> <li>7. Replace bin switch.</li> </ol>                                                                                                                                                                                                                                                                  |
| Water only dispensed (no syrup); or syrup only dispensed (no water).           | <ol style="list-style-type: none"> <li>1. Syrup BIB empty.</li> <li>2. Water or syrup shutoff on mounting block not fully open.</li> <li>3. Improper or inadequate water or syrup supply.</li> <li>4. CO<sub>2</sub> pressure to syrup pump too low.</li> <li>5. Stalled or inoperative BIB pump.</li> <li>6. Kinked line.</li> <li>7. CO<sub>2</sub> regulator malfunction.</li> </ol> | <ol style="list-style-type: none"> <li>1. Replace syrup BIB as required.</li> <li>2. Open shutoff completely.</li> <li>3. Remove valve from mounting block &amp; open shutoffs slightly. Check water &amp; syrup supply. If no supply, check unit for other problems. Ensure BIB connection is engaged.</li> <li>4. Check the CO<sub>2</sub> pressure to the pump to ensure it is between 30 PSI - 80 PSI (0.207 MPA - 0.552 MPA).</li> <li>5. Check CO<sub>2</sub> pressure and/or replace pump.</li> <li>6. Remove kink or replace line.</li> <li>7. Repair or replace CO<sub>2</sub> regulator as required.</li> </ol> |
| Syrup only dispensed (no water), but CO <sub>2</sub> gas dispensed with syrup. | <ol style="list-style-type: none"> <li>1. Improper water flow to dispenser.</li> <li>2. Carbonator pump motor has timed out.</li> <li>3. Liquid level probe not connected properly to PCB.</li> <li>4. Defective PCB assembly.</li> <li>5. Defective liquid level probe.</li> <li>6. Weak or defective carbonator pump.</li> </ol>                                                      | <ol style="list-style-type: none"> <li>1. Check for water flow to dispenser.</li> <li>2. Reset by momentarily unplugging carbonator assembly.</li> <li>3. Check connections of liquid level probe to PCB assembly.</li> <li>4. Replace PCB assembly.</li> <li>5. Replace liquid level probe.</li> <li>6. Replace pump.</li> </ol>                                                                                                                                                                                                                                                                                         |
| Excessive foaming.                                                             | <ol style="list-style-type: none"> <li>1. No ice in bin.</li> <li>2. Incoming water or syrup temperature too high.</li> <li>3. CO<sub>2</sub> pressure too high.</li> <li>4. Water flow rate too high.</li> <li>5. Nozzle and diffuser not clean.</li> <li>6. Air in BIB lines.</li> </ol>                                                                                              | <ol style="list-style-type: none"> <li>1. Fill bin with ice and allow cold plate to restabilize.</li> <li>2. Correct prior to dispenser.</li> <li>3. Adjust CO<sub>2</sub> pressure, to 90 PSIG - 110 PSIG (0.621 MPA - 0.758 MPA).</li> <li>4. Readjust and reset ratio.</li> <li>5. Remove and clean.</li> <li>6. Bleed air from BIB lines.</li> </ol>                                                                                                                                                                                                                                                                  |
| Off-taste in soda.                                                             | <ol style="list-style-type: none"> <li>1. Leaking water check valve, allowing carbonated water to back into supply line.</li> </ol>                                                                                                                                                                                                                                                     | <ol style="list-style-type: none"> <li>1. Replace check valve.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Valves inoperable.                                                             | <ol style="list-style-type: none"> <li>1. Loss of Power.</li> </ol>                                                                                                                                                                                                                                                                                                                     | <ol style="list-style-type: none"> <li>1. Check power supply to see if plugged in. Check transformer circuit breaker. Check main power circuit breaker, 110V.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| <b>TROUBLE</b>                                | <b>CAUSE</b>                                                                                                                                                                                                                                                                                                          | <b>REMEDY</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Low or no carbonation.                        | <ol style="list-style-type: none"> <li>1. Low or no CO<sub>2</sub>.</li> <li>2. Low water pressure.</li> <li>3. Worn or defective carbonator pump.</li> <li>4. Backflow preventer not allowing water to flow.</li> <li>5. Carbonator motor not running.</li> <li>6. Carbonator motor running continuously.</li> </ol> | <ol style="list-style-type: none"> <li>1. Check CO<sub>2</sub> supply. Adjust CO<sub>2</sub> pressure to 90 PSI - 110 PSI (0.621 MPA - 0.758 MPA).</li> <li>2. Need water booster kit.</li> <li>3. Replace carbonator pump.</li> <li>4. Replace backflow preventer noting the flow direction arrow from pump to cold plate.</li> <li>5. Check power supply. Ensure carbonator is plugged in.</li> <li>6. Check switch on carbonator. Check water in check valve for blockage. Check carbonator control. Check carbonator pump for efficiency.</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 control.</li> <li>3. CO<sub>2</sub> regulator malfunction.</li> </ol>                                                                             | <ol style="list-style-type: none"> <li>1. Check pressure and adjust.</li> <li>2. Remove flow control from suspected valve and clean out any foreign material to ensure smooth spool movement.</li> <li>3. Repair or replace CO<sub>2</sub> regulator.</li> </ol>                                                                                                                                                                                                                                                                                         |
| Insufficient soda flow (carbonated drinks).   | <ol style="list-style-type: none"> <li>1. Insufficient CO<sub>2</sub> supply pressure.</li> <li>2. Shutoff on mounting block is not fully open.</li> <li>3. Foreign debris in soda flow control.</li> </ol>                                                                                                           | <ol style="list-style-type: none"> <li>1. Verify incoming CO<sub>2</sub> pressure is between 90 PSI - 110 PSI (0.621 MPA - 0.758 MPA).</li> <li>2. Open shutoff fully.</li> <li>3. Remove soda flow control from valve and clean out any foreign material to ensure smooth spool movement.</li> </ol>                                                                                                                                                                                                                                                    |
| Insufficient water flow (plain water drinks). | <ol style="list-style-type: none"> <li>1. Insufficient incoming supply pressure.</li> <li>2. Shutoff on mounting block not fully open.</li> <li>3. Foreign debris in water flow control.</li> <li>4. Water filtration problem.</li> </ol>                                                                             | <ol style="list-style-type: none"> <li>1. Verify incoming supply water pressure to plain water inlet is a minimum of 40 PSI (0.276 MPA) and a maximum of 80 PSI (0.552 MPA).</li> <li>2. Open shutoff fully.</li> <li>3. Remove water flow control from valve and clean out any foreign material to ensure smooth spool movement.</li> <li>4. Service water system as required.</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. Shutoff on mounting block not fully open.</li> <li>3. Foreign debris in syrup flow control.</li> <li>4. Defective BIB pump.</li> </ol>                                                                       | <ol style="list-style-type: none"> <li>1. Adjust CO<sub>2</sub> pressure to BIB pumps to 30 PSI - 80 PSI (0.207 MPA - 0.552 MPA). Do not exceed manufacturer's recommendations.</li> <li>2. Open shutoff fully.</li> <li>3. Remove syrup flow control from valve and clean out any foreign material to ensure smooth spool movement.</li> <li>4. Replace pump.</li> </ol>                                                                                                                                                                                |
| Water leakage around nozzle.                  | <ol style="list-style-type: none"> <li>1. Damaged O-ring on nozzle.</li> </ol>                                                                                                                                                                                                                                        | <ol style="list-style-type: none"> <li>1. Replace nozzle.</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>                                                                                                                                                                                                                                                                                                                                                                                                            |
| Water continually leaking at connections.     | <ol style="list-style-type: none"> <li>1. Loose water connections.</li> <li>2. Flare seal washer leaks.</li> </ol>                                                                                                                                                                                                    | <ol style="list-style-type: none"> <li>1. Tighten water connections.</li> <li>2. Replace flare seal washer.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| TROUBLE                           | CAUSE                                                                      | REMEDY                                                                                                                                                                                           |
|-----------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water in ice bin.                 | 1. Cold plate drain is obstructed.                                         | 1. Remove obstruction from drain wire.                                                                                                                                                           |
| Noisy/cavitating carbonator pump. | 1. Insufficient incoming water supply pressure.<br>2. Loose pump coupling. | 1. Verify incoming supply water pressure to carbonator pump is 40 PSI (0.276 MPA) and a maximum of 80 PSI (0.552 MPA). Check strainer for cleanliness.<br>2. Tighten set screw on pump coupling. |

## Remote Syrup Pump Troubleshooting

| TROUBLE                                                    | CAUSE                                                                                                                                                                             | REMEDY                                                                                                                                                                                                                                           |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BIB pump does not operate when dispensing valve is opened. | 1. Out of CO <sub>2</sub> , CO <sub>2</sub> not turned on, or low CO <sub>2</sub> pressure.<br>2. Out of syrup.<br>3. BIB connector not tight.<br>4. Kinks in syrup or gas lines. | 1. Replace CO <sub>2</sub> supply, turn on CO <sub>2</sub> supply, or adjust CO <sub>2</sub> pressure to 30 PSI - 80 PSI (0.207 MPA - 0.552 MPA).<br>2. Replace syrup supply.<br>3. Fasten connector tightly.<br>4. Straighten or replace lines. |
| BIB pump operating, but no flow.                           | 1. Leak in syrup inlet or outlet line.<br>2. Defective BIB pump.                                                                                                                  | 1. Replace line.<br>2. Replace BIB pump.                                                                                                                                                                                                         |
| BIB pump continues to operate when bag is empty.           | 1. Leak in suction line.<br>2. Leaking O-ring on pump inlet fitting.<br>3. Defective syrup BIB pump.                                                                              | 1. Check BIB connector, if still leaking then replace line.<br>2. Replace O-ring.<br>3. Replace defective pump.                                                                                                                                  |
| BIB pump fails to restart after bag replacement.           | 1. BIB connector not on tightly.<br>2. BIB connector is stopped up.<br>3. Kinks in syrup line.                                                                                    | 1. Tighten BIB connector.<br>2. Clean out or replace BIB connector.<br>3. Straighten or replace line.                                                                                                                                            |
| BIB pump fails to stop when dispensing valve is closed.    | 1. Leak in discharge line or fittings.<br>2. Empty BIB.<br>3. Air leak on inlet line or bag connector.                                                                            | 1. Repair or replace discharge line.<br>2. Replace BIB.<br>3. Repair or replace.                                                                                                                                                                 |

## Dispenser Disposal

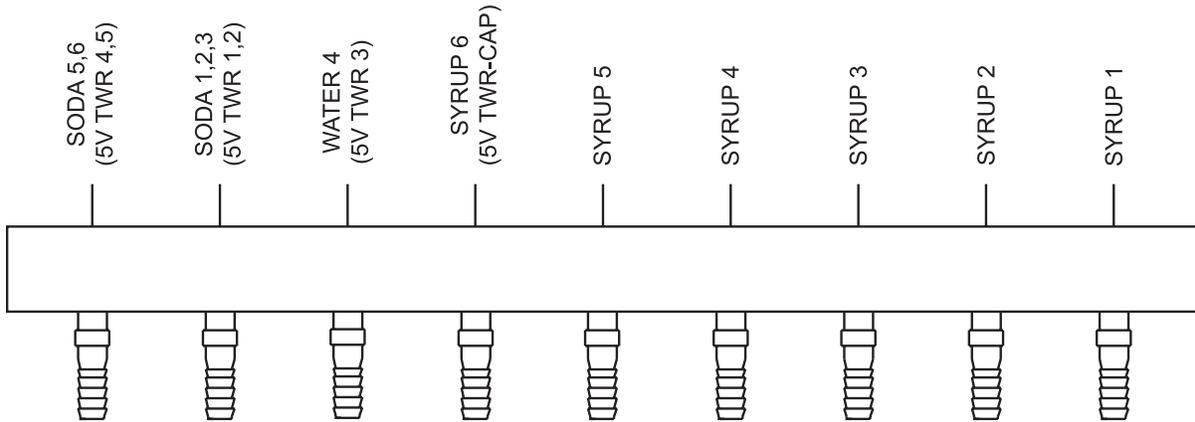


To prevent possible harm to the environment from improper disposal, recycle the unit by locating an authorized recycler or contact the retailer where the product was purchased. Comply with local regulations regarding disposal of the insulation.

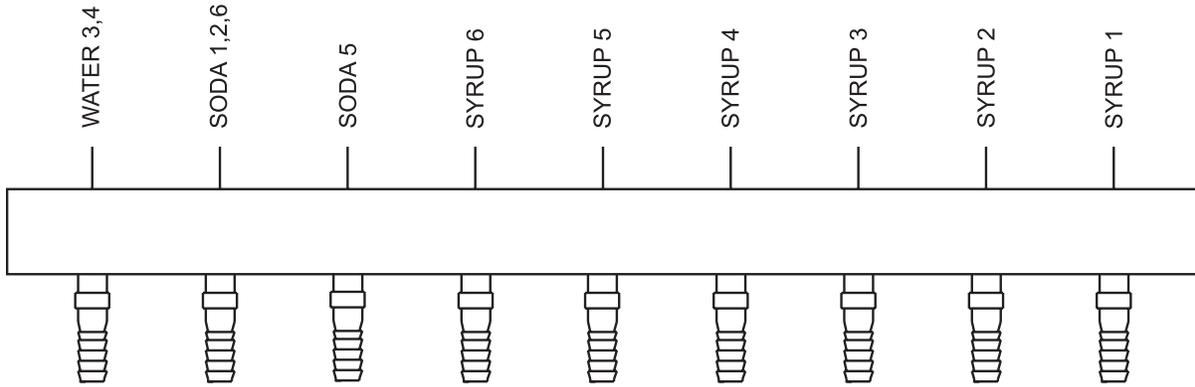
# Plumbing Diagrams

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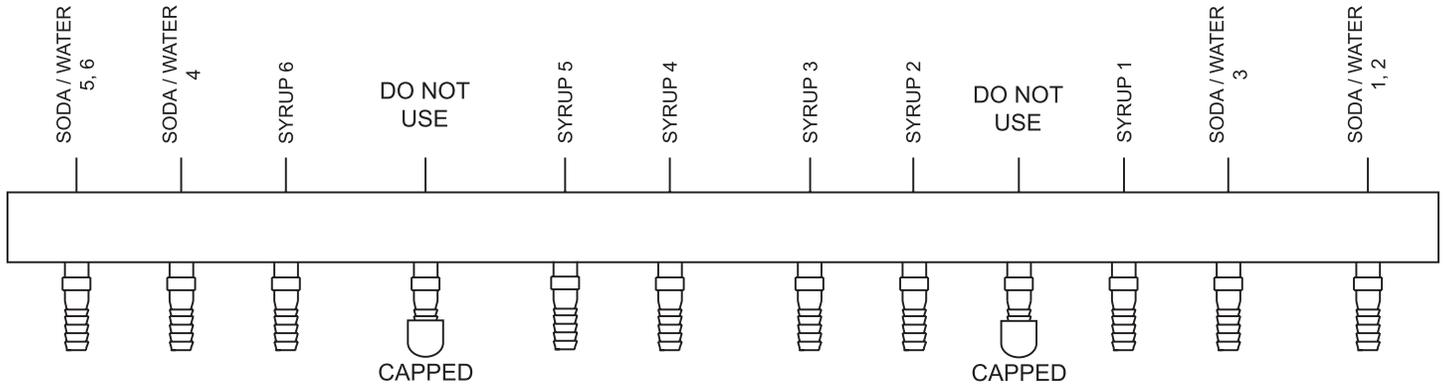
## 2200, Standard Performance, 5 Valve & 6 Valve, (3-1-2) & (2-1-2)



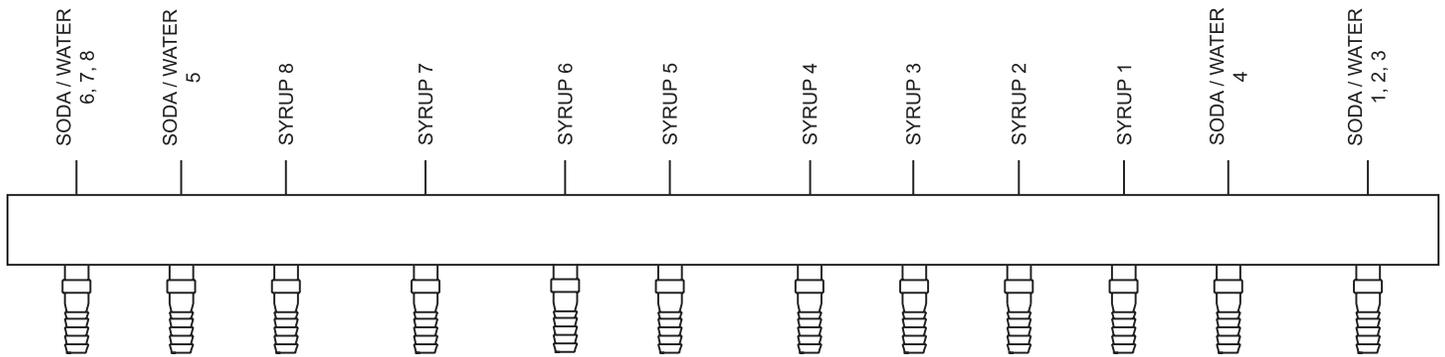
## 2200, Standard Performance, 6 Valve, (3-2-1)



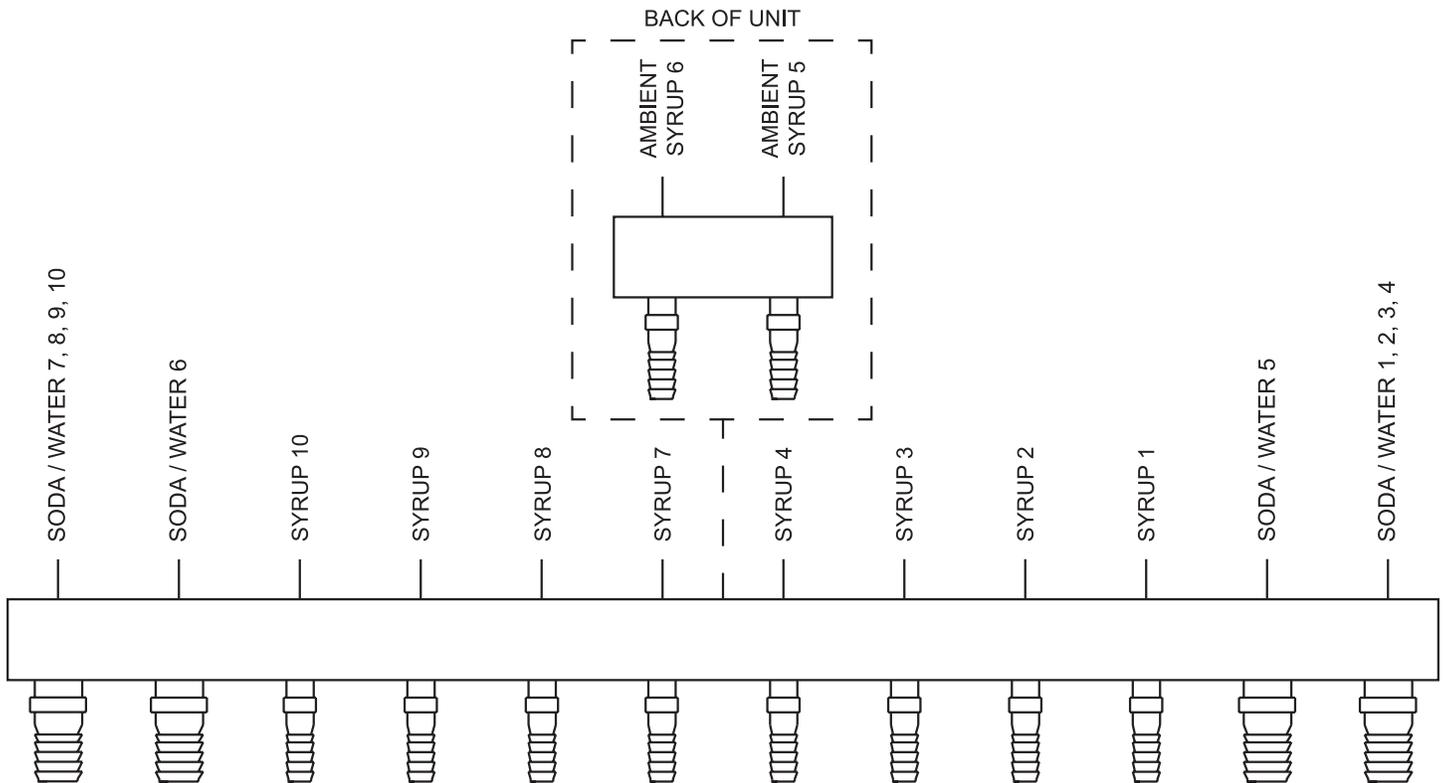
## 2300, 6 Valve, Standard Performance



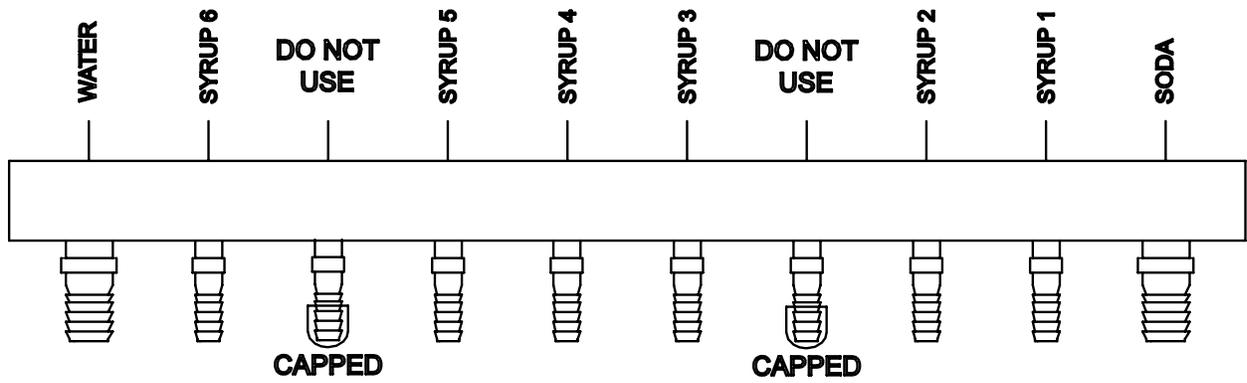
## 2300, 8 Valve, Standard Performance



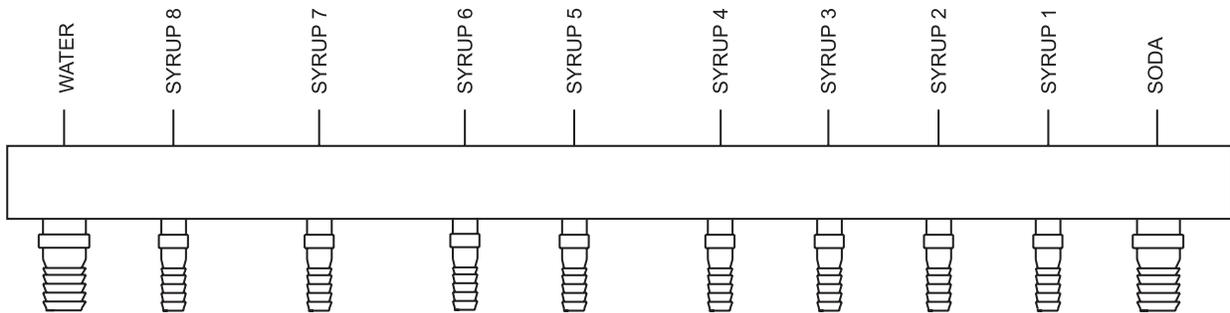
## 2300, 10 Valve, Standard Performance



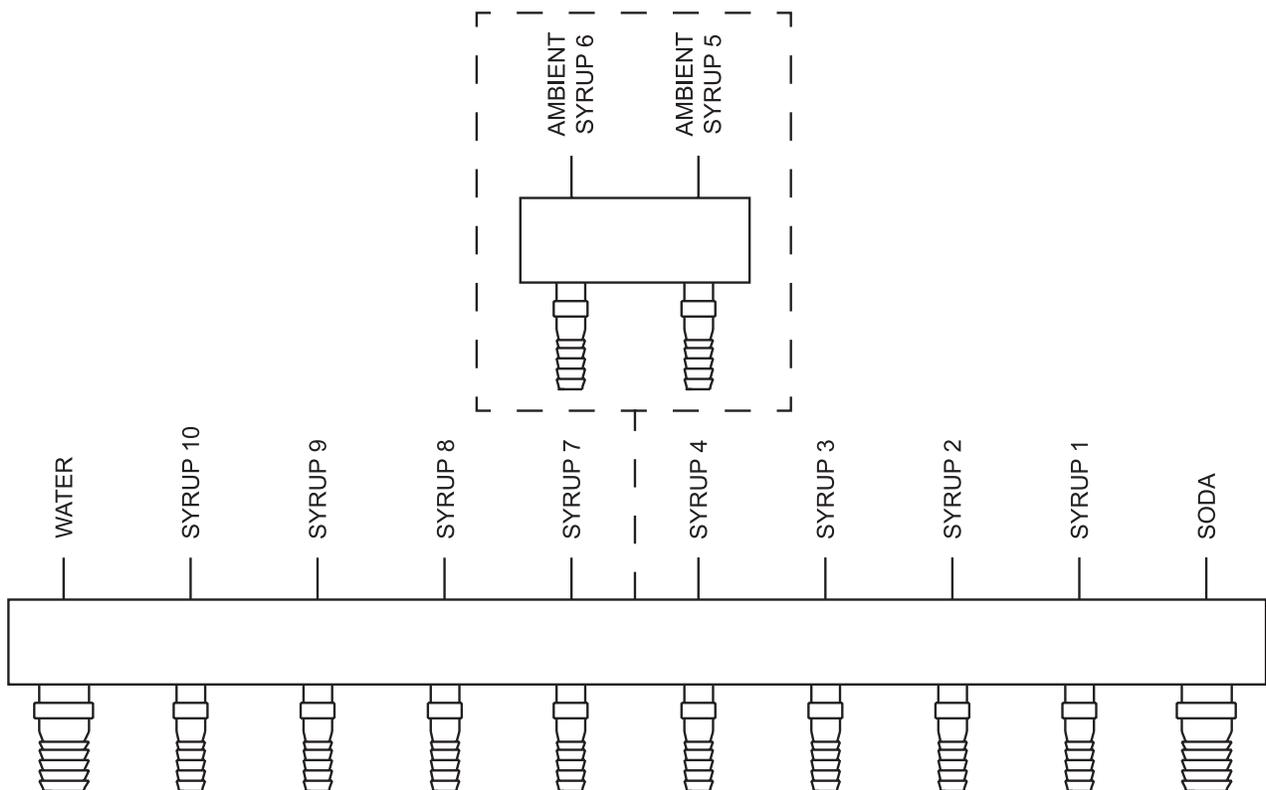
### 2300, 6 Valve, High Performance Plumbing Diagram



### 2300, 8 Valve, High Performance Plumbing Diagram

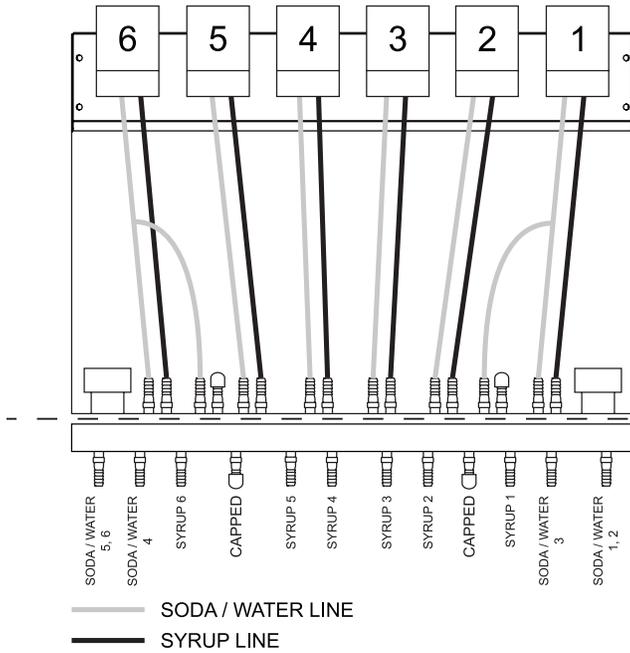


### 2300, 10 Valve, High Performance Plumbing Diagram

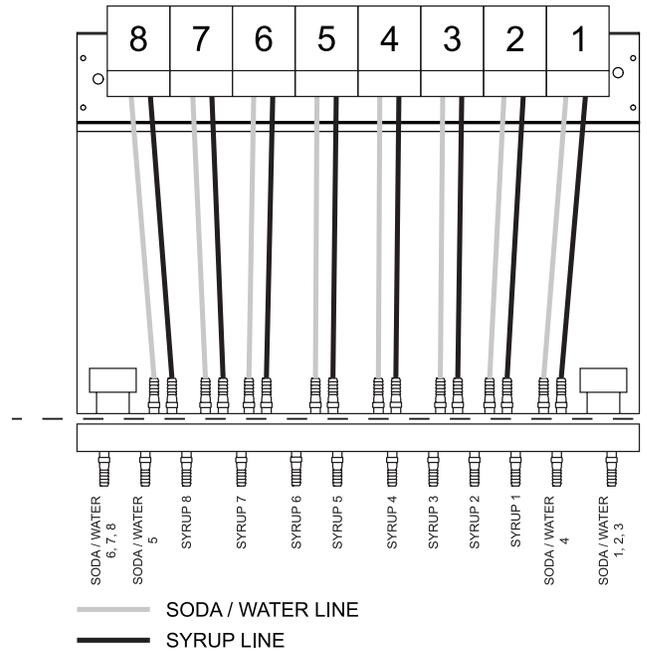


# Tower Plumbing Diagrams

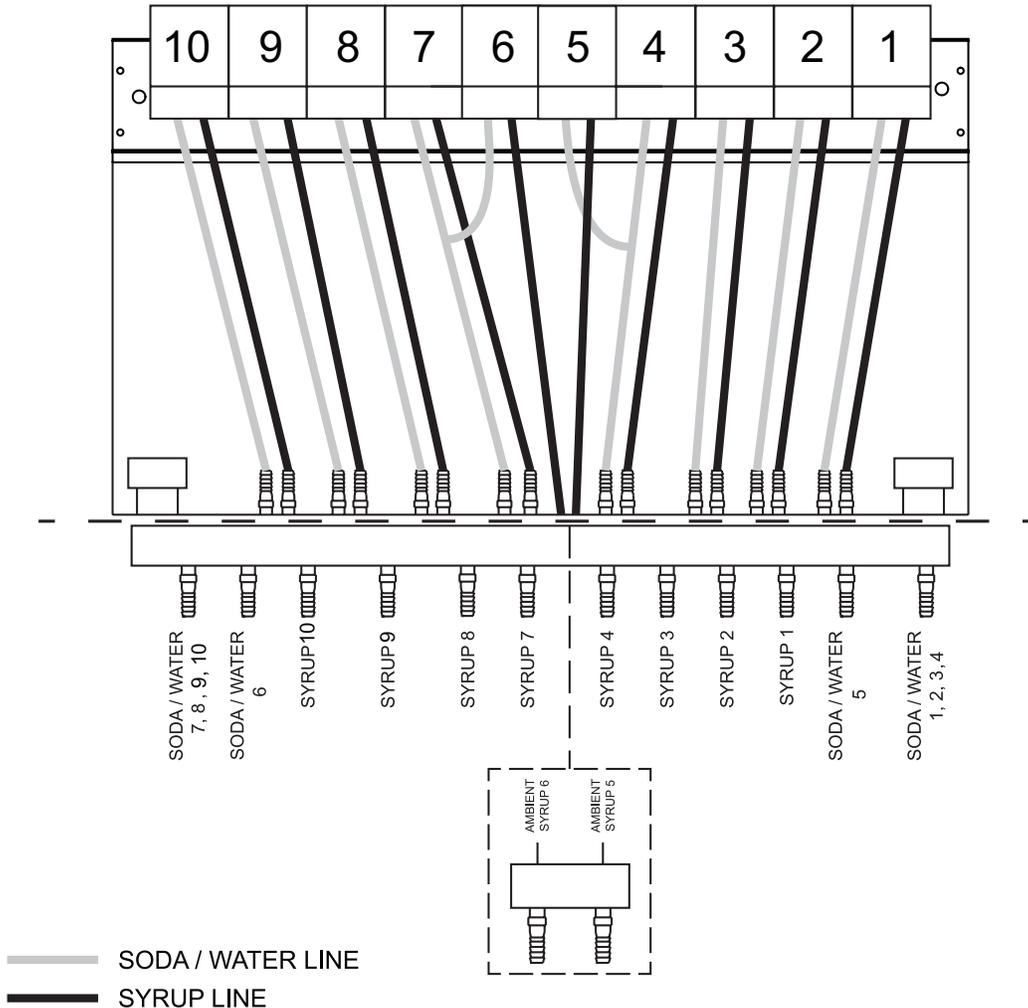
## 2300, Standard Performance 6 Valve



## 2300, Standard Performance 8 Valve

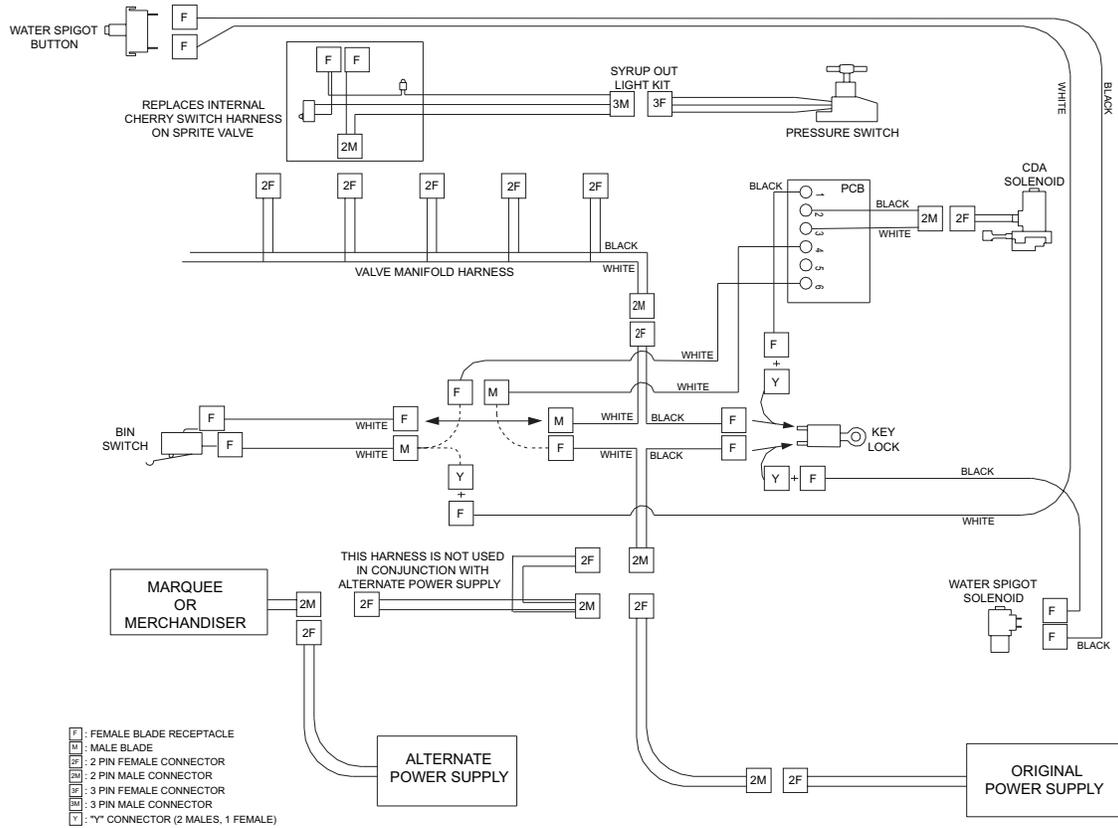


## 2300, Standard Performance 10 Valve

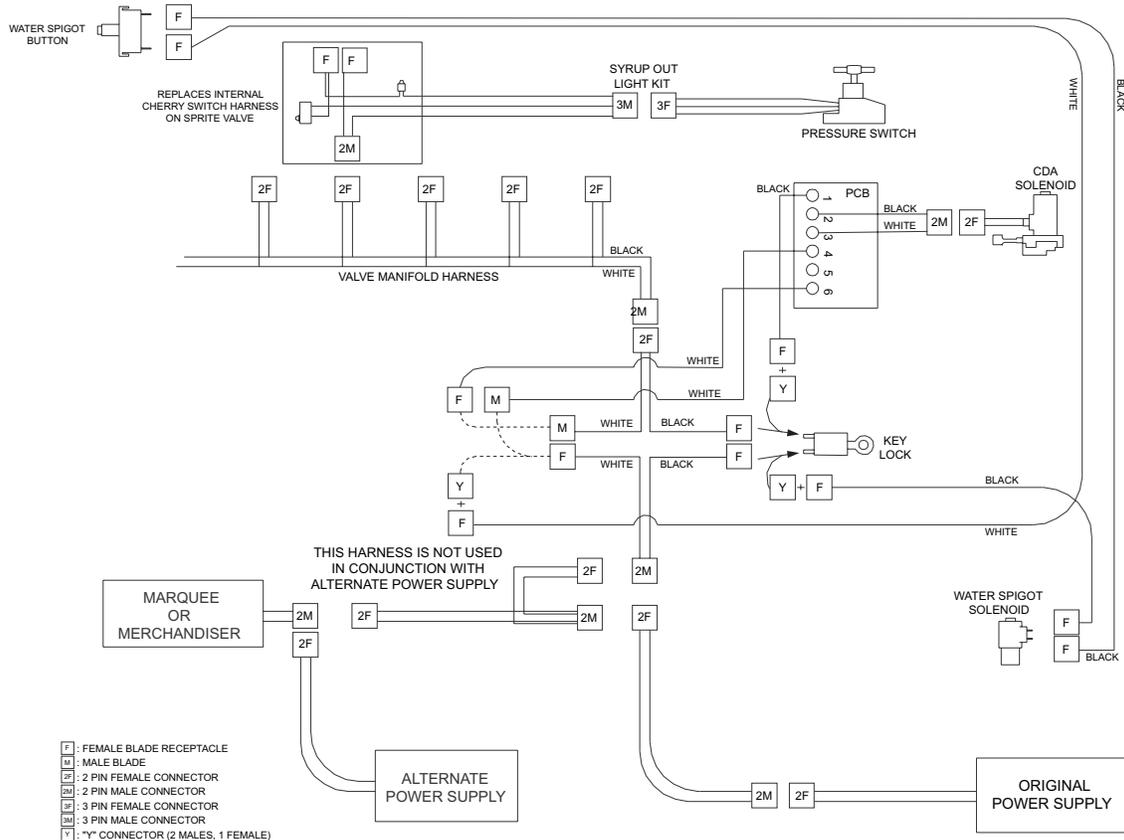


# Wiring Diagrams

## Ice Cooled Universal Wiring Diagram with Bin Lid Switch



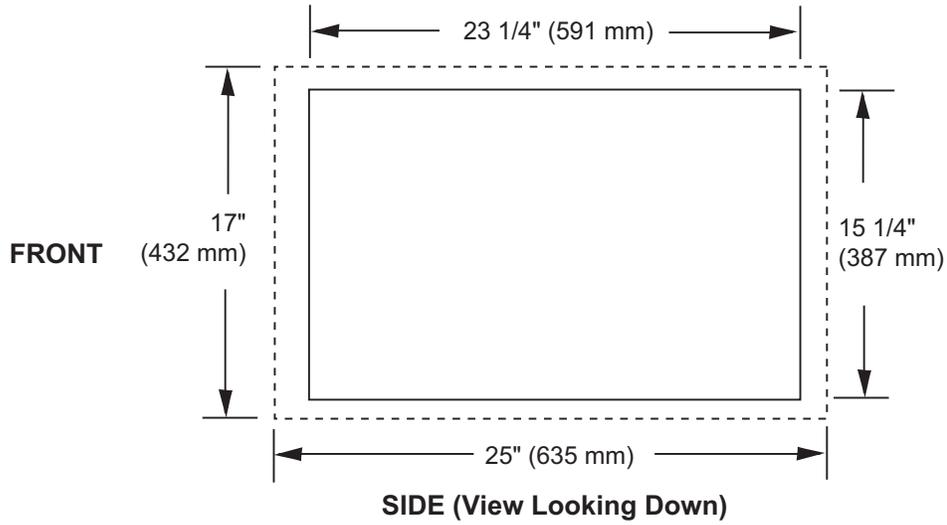
## Ice Cooled Universal Wiring Diagram without Bin Lid Switch



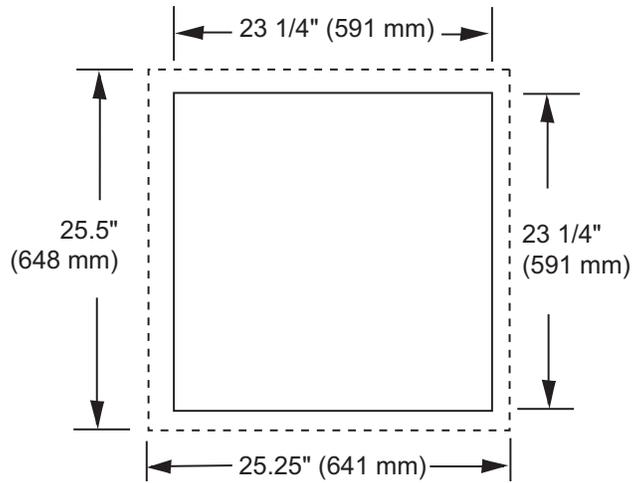
# Counter Cutout Diagrams

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## 2200 Cutout



## 2323 Cutout



## 3023 Cutout

