

# **VANTAGE**

**Installation Manual** 

Release Date: 2003

**Publication Number: 3120031005INS** 

Revision Date: April 1, 2014

**Revision: D** 

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The products, technical information, and instructions contained in this manual are subject to change without notice. These instructions are not intended to cover all details or variations of the equipment, nor to provide for every possible contingency in the installation, operation or maintenance of this equipment. This manual assumes that the person(s) working on the equipment have been trained and are skilled in working with electrical, plumbing, pneumatic, and mechanical equipment. It is assumed that appropriate safety precautions are taken and that all local safety and construction requirements are being met, in addition to the information contained in this manual.

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#### **Contact Information:**

To inquire about current revisions of this and other documentation or for assistance with any Cornelius product contact:

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This document contains the original instructions for the unit described.

CORNELIUS INC 101 Regency Drive Glendale Heights, IL Tel: + 1 800-238-3600

Printed in U.S.A.

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## SAFETY



Before starting installation, read and understand all safety label and warnings on the machine. Also review and understand all safety instructions in the owners, installation and service manuals.

Failure to comply could result in serious injury, death or damage to the equipment.

## QUALIFIED SERVICE PERSONNEL



## **WARNING:**

Only trained and certified electrical, plumbing and refrigeration technicians should service this unit.

All wiring and plumbing must conform to national and local codes. Failure to comply could result in serious injury, death or equipment damage.

## SAFETY PRECAUTIONS

This unit has been specifically designed to provide protection against personal injury. To ensure continued protection observe the following:



## **WARNING:**

Disconnect power to the unit before servicing. Follow all lock out/tag out procedures established by the user. Verify all power is off to the unit before performing any work.

Failure to comply could result in serious injury, death or damage to the equipment.



#### **WARNING:**

Always be sure to keep area around the unit clean and free of clutter. Failure to keep this area clean may result in injury or equipment damage.

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## INSTALLATION INSTRUCTIONS

This is an Installation Manual for the four and five-flavor Vantage Post-Mix Dispensers with integral (built-in) cold carbonators (see figure 1) or the four or five-flavor Dispensers requiring connection to remote carbonators (see figure 2). These Dispensers will hereafter be referred to as Units. Retain this manual as part of your equipment. A Service manual (P/N 312031004) is available upon request.



### **WARNING:**

Only trained and certified electrical, plumbing and refrigeration technicians should service this unit.

All wiring and plumbing must conform to national and local codes. Failure to comply could result in serious injury, death or equipment damage.

NOTE: This Unit contains no User serviceable parts.

See Unit nameplate
<u> </u>
21-1/2 X 15 X 26-inches
45-psi (see <b>NOTE</b> )
60-psi
See Unit nameplate
40° F to 100° F

NOTE: The plain water source water pressure must not exceed 45-psi. If water pressure exceeds 45-psi, a water pressure regulator must be used to regulate the water pressure.

### UNPACKING AND INSPECTION

NOTE: The Unit was thoroughly inspected before leaving the factory and the carrier has accepted and signed for it. Any damage or irregularities should be noted at the time of delivery (or not later than 15 days from date of delivery) and immediately reported to the delivering carrier. Request a written inspection report from Claims Inspector to substantiate any necessary claim. File claim with the delivering carrier, not with Cornelius Inc.

## SELECTING LOCATION



#### DANGER:

To avoid possible fatal electrical shock or serious injury to the operator, it is required that a GFCI (ground fault circuit interrupt) be installed in the electrical circuit for the domestic Units. It is required that an ELCB (earth leakage circuit breaker) be installed in the electrical circuit for the export Units

1. Locate the Unit so the following requirements are satisfied: Near a properly grounded electrical outlet with proper electrical requirements (see Unit nameplate). The electrical circuit must be properly fused (slow blow type fuse) or circuit must be connected through an equivalent HACR circuit breaker. The electrical outlet must be accessible for ease of connecting and disconnecting the Unit power cord. No other electrical appliance should be connected to this circuit. ALL ELECTRICAL WIRING MUST CONFORM TO NATIONAL AND LOCAL ELECTRICAL CODES.





#### **CAUTION:**

#### Do not place or store anything on top of the Unit.

2. A minimum clearance of 18-inches *must* be maintained above the Unit to the nearest object (shelf, cupboard, ceiling, etc.). A minimum clearance of 12-inches *must* be maintained on the back side and 6-inches clearance on both sides of the Unit to allow for proper air flow through the Unit. The Unit must be located close to a permanent drain if a drip tray drain hose will be connected to the drip tray.

#### INSTALLATION



#### CAUTION:

This Unit is intended for indoor installation *only.* Do not install this Unit in an outdoor environment which would expose it to the outside elements.

## Units with Integral (Built-In) Carbonators

(See Figure 1 and applicable 6 or 7)



### WARNING:

It is the responsibility of the installer to ensure that the water supply to the dispensing equipment is provided with protection back flow by an air gap as defined in ANSI A 112.1.2-1979; or an approved vacuum breaker or other such method as proved effective by test and must comply with all federal, state and local codes.

#### Failure to comply could result in serious injury, death or damage to the equipment.

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

- 1. Place Unit in operating position on the countertop.
- 2. Remove hood from the Unit for access to plain water and CO2 connecting points.
- 3. Remove Unit front access panel for access to the Unit syrup connecting points.

NOTE: Cornelius Inc; recommends that a water shutoff valve and a water filter be installed in the plain water source to be connected to the Unit. The plain water source water pressure must not exceed 45-psi. If water pressure exceeds 45-psi, a water pressure regulator must be used to regulate the water pressure.

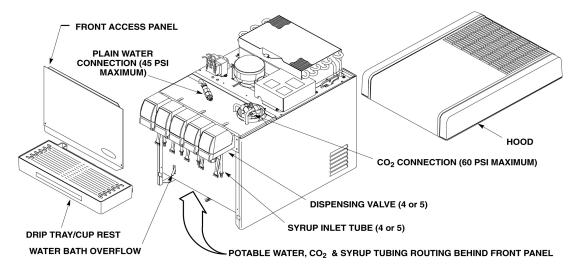


Figure 1. Unit with Built-in Cold Carbonator



- 4. Route syrup source tubes (numbered for identification), plain water source tube (45-psi maximum water pressure), and a CO2 source tube up to the Unit (CO2 source tube must be connected to and routed from an adjustable CO2 regulator). All tubing should not exceed 1/4-inch I.D.
- 5. Connect numbered syrup source tubes to corresponding stainless-steel syrup inlet tubes located behind the front access panel on the Unit (*No. 1 syrup inlet tube provides syrup to No. 1 dispensing valve*).
- 6. If applicable (see Figure 7), connect plain water source line to No. 5 dispensing valve stainless-steel plain water inlet line behind front access panel. No. 5 dispensing valve will dispense a non-carbonated (still) drink.
- 7. Route plain water source tube up through bottom front of Unit to top of Unit drop-in refrigeration assembly.
- 8. Connect plain water source tube to stainless-steel liquid check valve assembly on top of Unit drop-in refrigeration assembly.
- 9. Route CO2 source tube up through bottom front of Unit to top of Unit drop-in refrigeration assembly. (*The CO2 source tube provides CO2 gas for the Unit built-in cold carbonatot*).
- 10. Using a molded elbow fitting (not provided), connect CO2 source tube to CO2 check valve on top of the carbonated water tank.

#### Units Requiring Connection to Remote Carbonator

#### (See Figure 2 and applicable 4 or 5)

- 1. Place Unit in operating position on the countertop.
- 2. Remove hood from the Unit. for access to the carbonated water and the syrup lines connecting points.
- 3. Remove Unit front access panel for access to the carbonated water and the syrup lines connecting points.
- 4. Route syrup source tubes (numbered for identification) and carbonated water tubes from the remote carbonator up to the Unit.

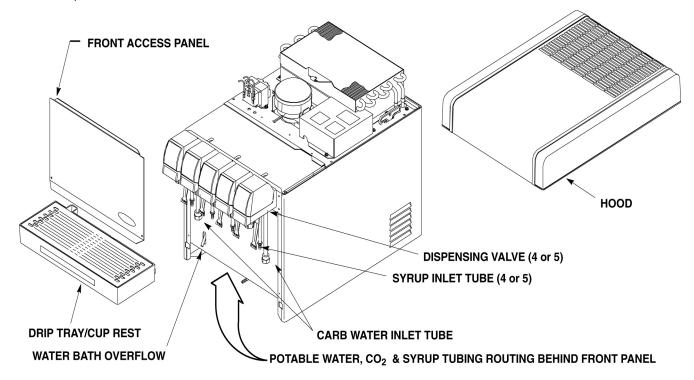


Figure 2. Unit Requiring Connection to Remote Carbonator



- 5. Connect numbered syrup source tubes to corresponding numbered stainless-steel syrup inlet tubes located behind the front access panel on the Unit. (No.1 syrup inlet tube provides syrup to No.1 dispensing valve).
- 6. Connect carbonated water tubes from the remote carbonator to labeled flexible carbonated water inlet tubes located behind the Unit front access panel.

## SEALING UNIT BASE TO COUNTERTOP

NOTE: To comply with NSF International (NSF) requirements within the United states, the Unit base must be sealed to the countertop. an alternative to sealing the Unit base to the countertop would be to install Leg Kit (P/N 4923) on the Unit.

- 1. To meet NSF International (NSF) requirements, seal Unit to countertop with sealant, such as Dow Corning RTV 731 or equivalent.
- 2. Install drip tray on Unit. Hole in drip tray drain outlet may be opened and a drip tray drain hose may be connected and routed to a permanent drain.

## PREPARING UNIT FOR OPERATION

## **Starting Refrigeration System**

Starting Refrigeration System On Unit With Integral (Built-In Carbonator).

- 1. Fill water tank with clean water until water begins to run out of overflow tube into the drip tray. *Use low-mineral-content water where a local water problem exist.*
- 2. Adjust CO2 regulator for the Unit built-in cold carbonator at 60-psi maximum.
- 3. Open plain water source shutoff valve. Check for water leaks and repair if evident.
- 4. Plug Unit power cord into accessible electrical outlet meeting electrical specifications found on the Unit nameplate with ELCB. The Unit refrigeration system will start after a 2-minute time delay and will begin building an ice bank. The carbonator water pump will start and begin filling the carbonated water tank with carbonated water. After the carbonated water tank has been filled with carbonated water, the water pump will stop. Pull up on carbonated water tank relief valve to allow air to be purged from the tank.

#### Starting Refrigeration System On Unit Connected to Remote Carbonator).

- 1. Fill water tank with clean water until water begins to run out of overflow tube into the drip tray. *Use low-mineral-content water where a local water problem exist.*
- 2. Adjust CO2 regulator for the Remote carbonator to CO2 pressure specified in manual provided with the carbonator.
- 3. Plug Unit power cord into electrical outlet meeting electrical specifications found on the Unit nameplate. The Unit refrigeration system will start after a 2-minute time delay and will begin building an ice bank.

## ADJUSTING SYRUP SOURCE CO2 REGULATOR

Sugar Syrup Tanks CO2 Regulator.

Adjust syrup tanks CO2 regulator to a minimum of 45-psi.

Syrup Pumps (Bag-In-Box System).

Adjust syrup pumps CO<sub>2</sub> regulator to 70-psi. *DO NOT EXCEED MAXIMUM CO<sub>2</sub> PRESSURE SPECIFIED ON* THE SYRUP PUMPS.



## ADJUSTING DISPENSING VALVES WATER FLOW RATE

#### (see Figure 3)

- 1. Remove cover from the dispensing valve by lifting the front cover up 1/4 inch and pulling forward.
- 2. Install syrup diversion tube assembly on the dispensing valve by pushing rubber end of the syrup diversion tube onto the syrup outlet of the inner nozzle.
- 3. Measure the water flow rate by dispensing water into a graduated cup for a set period of time.

NOTE: Adjusting screw stops are built into the valve to prevent leakage when the screws are adjusted too far clockwise. Stop adjusting clockwise when turning resistance increases. Turn the screw counterclockwise 1–1/2 turns after the stop are contacted.

- 4. Turn the water flow regulator adjusting screw to the left (counterclockwise) to decrease the water flow rate or turn the adjusting screw to the right (clockwise) to increase the water flow rate, then recheck the flow rate. Adjustments should be no more than 1/4 turn at a time.
- 5. Remove syrup diversion tube from the dispensing valve, then install cover on the dispensing valve.

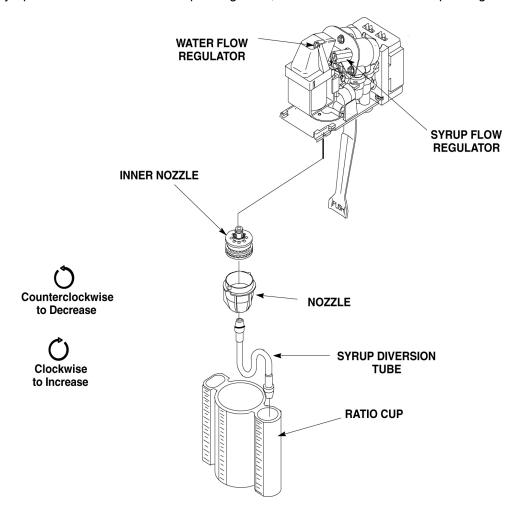


Figure 3. UF-1 Dispensing Valve



## ADJUSTING WATER-TO-SYRUP "RATIO" (BRIX) OF DISPENSED PRODUCT (see Figure 3)

NOTE: Make sure the dispensing valve water flow rate is as desired before adjusting the valve for Water- to-Syrup "Ratio" (Brix) of the dispensed product.

Adjust Water–to–Syrup "Ratio" (Brix) of the dispensed product by using ratio cup (P/N 311100000) and syrup diversion tube assembly (P/N 319540000) as follows:

- 1. Remove cover from the dispensing valve by lifting front cover up 1/4 inch and pulling forward.
- 2. Install syrup diversion tube assembly on the dispensing valve by pushing the rubber end of the syrup diversion tube onto the syrup outlet of the inner nozzle.

Notice: Refer to syrup manufacturer's recommendations on syrup package for water-to-syrup ratio.

- 3. Dispense enough to fill syrup diversion tube with syrup.
- 4. Hold large chamber of the ratio cup under the dispensing valve nozzle. Place free end of the syrup diversion tube into the syrup chamber marked for the proper ratio. Dispense approximately 6 ounces of water into the ratio cup. Water and syrup levels should be even in cup.

NOTE: Adjusting screw stops are built into the valve to prevent leakage when the screws are adjusted clockwise too much. Stop adjusting clockwise when turning resistance increases. Turn the screw counterclockwise 1–1/2 turns after the stop are contacted.

- 5. **Adjusting Syrup Flow Regulator** If water and syrup levels are uneven in the ratio cup, adjust by turning the dispensing valve syrup flow regulator adjusting screw labeled **SYRUP** as follows.
  - A. For less syrup, turn the adjusting screw counterclockwise no more than 1/4 turn at a time.
  - B. For more syrup, turn the adjusting screw clockwise no more than 1/4 turn at a time.
- 6. Repeat water-to-syrup ratio test and adjust syrup flow regulator as many times as necessary until proper ratio of dispensed drink is achieved.
- 7. Remove syrup diversion tube assembly from dispensing valve.
- 8. Install dispensing valve front cover.

## CLEANING AND SANITIZING

## **Daily Cleaning of Unit**

- 1. Remove cup rest from the drip tray.
- 2. Wash drip tray in place on the Unit, then rinse drip tray with hot water allowing water to drain out through the drain hose.
- 3. Wash cup rest, then rinse the cup rest with clean water. Install cup rest in the drip tray.
- 4. Clean all external surfaces of the Unit with a sponge. Rinse out the sponge with clean water, then wring excess water out of the sponge and wipe off all external surfaces on the Unit. Wipe Unit dry with a clean soft cloth. DO NOT USE ABRASIVE CLEANERS.
- 5. Remove nozzle and syrup diffusers from the dispensing valves. Place nozzles and syrup diffusers in sanitizing solution.
- 6. Wash the nozzles and syrup diffusers in sanitizing solution, then rinse them with potable water.
- 7. Re-install nozzles and syrup diffusers back on the dispensing valves.



## SANITIZING POST-MIX SYRUP SYSTEMS

IMPORTANT: Only qualified Service Personnel should perform sanitizing procedure on the postmix syrup systems.

The post-mix syrup systems should be sanitized every 90-days using a non-scented household liquid bleach containing a 5.25% sodium hypochlorite concentration. Proceed as follows to sanitize the post-mix syrup systems.

- 1. Disconnect syrup supplies from syrup systems.
- 2. Rinse quick disconnects (syrup tanks systems) or bag-in-box connectors (syrup bag-in-box systems) in warm potable water.

#### STEP 1. WASH SYRUP SYSTEMS

3. Using a clean syrup tank (syrup tank system) or a five-gallon container (bag-in-box system), prepare a full tank or container of liquid dishwasher detergent by using 70° F (21° C) to 100 F (38° C) potable water and 0.5 oz. (15 ml) of liquid dishwasher detergent to one gallon of potable water. Stir detergent solution to thoroughly mix the solution.

#### 4. Syrup Tank Systems.

- A. Observe and note CO<sub>2</sub> pressure setting on the syrup tanks CO<sub>2</sub> regulator, then re-adjust CO<sub>2</sub> regulator to 60 to 80-psi. Pressurize syrup tank containing detergent solution to 60 to 80-psi.
- B. Connect detergent solution tank, pressurized at 60 to 80-psi, into one of the syrup systems.

#### Bag-in Box Syrup Systems.

- C. Install bag valves, cut from empty bag-in-box syrup containers, on ends of syrup containers syrup outlet tubes connectors.
- D. Place all syrup outlet tubes, with bag valves on their ends, in container containing detergent solution.
- 5. Flush the syrup system and dispensing valve as follows:
  - A. Place waste container under applicable dispensing valve.
  - B. Activate the dispensing valve for one minute to purge all syrup and flush out the syrup system.
  - C. Continue to activate the dispensing valve in cycles ("ON" for 15-seconds, "OFF", then "ON" for 15-seconds). Repeat "ON" and "OFF" cycles for 15-cycles.
- 6. Connect detergent solution to the remaining syrup systems and flush syrup out of the syrup systems as instructed in step 5 preceding.
- 7. Remove detergent solution source from the syrup system.

#### STEP 2. FLUSH SYRUP SYSTEMS

#### 8. Syrup Tank Systems.

Connect syrup tank containing potable water, pressurized at 60 to 80-psi, into one of the syrup systems.

#### Bag-in-Box Syrup System.

Fill five-gallon container with potable water, then place all bag-in-box syrup containers syrup outlet tubes in container containing potable water.

- 9. Flush detergent solution out of the syrup system and dispensing valve as follows:
  - A. Place waste container under applicable dispensing valve.
  - B. Activate the dispensing valve for one minute to purge all detergent solution and flush out the syrup system.
  - C. Continue to activate the dispensing valve in cycles ("ON" for 15-seconds, "OFF", then "ON" for 15-seconds). Repeat "ON" and "OFF" cycles for 15-cycles.
- 10. Connect potable water source to the remaining syrup systems and flush detergent solution out of the syrup systems as instructed in step 9 preceding.
- 11. Remove potable water source from the syrup system.



#### STEP 3. SANITIZE SYRUP SYSTEMS

12. Using a clean syrup tank (syrup tanks system) or a five-gallon container (bag-in-box system), prepare sanitizing solution using 70° F (21°C) to 100 F (38° C) potable water and 0.5 oz. (15 ml) of non-scented household liquid bleach that contains a 5.25% sodium hypochlorite concentration to one gallon of potable water. This mixture *must not* exceed 200 PPM of chlorine. Stir sanitizing solution to thoroughly mix.

#### 13. Syrup Tank Systems.

Connect sanitizing solution tank, pressurized at 60 to 80-psi, into one of the syrup systems.

#### Bag-in-Box Syrup System.

Place all bag-in-box syrup containers syrup outlet tubes in container containing sanitizing solution.

- 14. Sanitize the syrup system and dispensing valve as follows:
  - A. Place waste container under applicable dispensing valve.
  - B. Activate the dispensing valve for one minute to purge all water from and install sanitizing solution in the syrup system and dispensing valve.
  - C. Continue to activate the dispensing valve in cycles ("ON" for 15-seconds, "OFF", then "ON" for 15-seconds). Repeat "ON" and "OFF" cycles for 15-cycles.
- 15. Repeat steps13 and 14 to flush water out of and install sanitizing solution in the remaining syrup systems and dispensing valves.
- 16. Remove sanitizing solution source from the syrup system.
- 17. Allow sanitizing solution to remain in the syrup systems for not less than 10 or no more than 15-minutes (max.) contact time.

#### STEP 4. WATER FLUSH SYRUP SYSTEMS



#### **WARNING:**

Flush sanitizing solution from the syrup systems as instructed. Residual sanitizing solution left in the syrup systems could create a health hazard.

- 18. Fill syrup tank (syrup tank system) or a five-gallon container (bag-in-box system) with potable water.
- 19. Syrup Tank Systems.

Connect syrup tank containing potable water, pressurized at 60 to 80-psi, into one of the syrup systems.

#### Bag-in-Box Syrup System.

Place all bag-in-box syrup containers syrup outlet tubes in container containing potable water.

- 20. Flush sanitizing solution from the syrup system and the dispensing valve as follows:
  - A. Place waste container under applicable dispensing valve.
  - B. Activate the dispensing valve for one minute to purge all sanitizing solution out of the syrup system and the dispensing valve.
  - C. Continue to activate the dispensing valve in cycles ("ON" for 15-seconds, "OFF", then "ON" for 15-seconds). Repeat "ON" and "OFF" cycles for 15-cycles.
- 21. Repeat steps 19 and 20 preceding to purge sanitizing solution out of the remaining syrup systems and dispensing valves.
- 22. Remove potable water source from the syrup system.



#### STEP 5. PURGE WATER OUT OF SYRUP SYSTEMS (RESTORE OPERATION)

#### 23. Syrup Tank Systems.

- A. Noting syrup tanks CO<sub>2</sub> regulator pressure setting observed in step 4 preceding, readjust CO<sub>2</sub> regulator to the observed pressure setting,
- B. Connect tanks containing syrup into syrup systems.

#### Bag-in-Box Syrup System.

- C. Remove all bag valves from bag-in-box syrup containers outlet tubes connectors.
- D. Connect bag-in-box syrup containers into the syrup systems.
- 24. Place waste container under dispensing valves. Dispense from all dispensing valves to permit syrup to purge all potable water from the syrup systems and the dispensing valves. Continue to dispense from the dispensing valves until only syrup is dispensed from the syrup systems and valves.



To avoid possible personal injury or property damage, do not attempt to remove the syrup tank cover until CO<sub>2</sub> pressure has been released from the tank.

25. Dispose of waste sanitizing solution in a sanitary sewer, not in a storm drain, then thoroughly rinse the inside and the outside of the container that was used for sanitizing solution to remove all sanitizing solution residue.

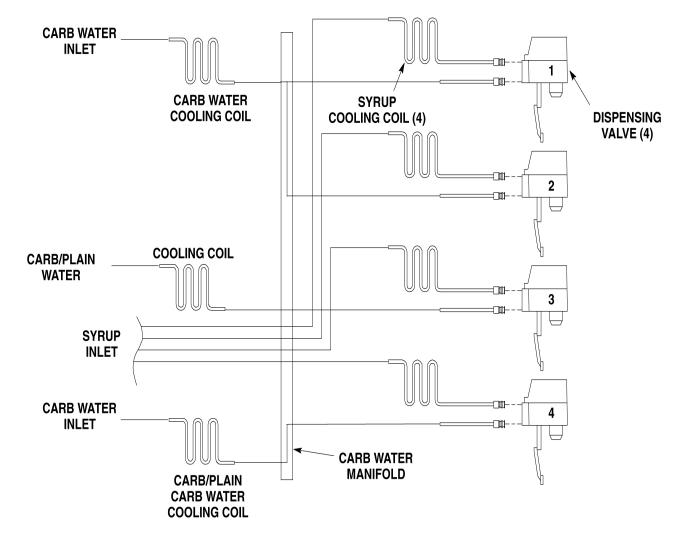


Figure 4. Plumbing Diagram (Four-flavor Unit Requiring Remote Carbonator)



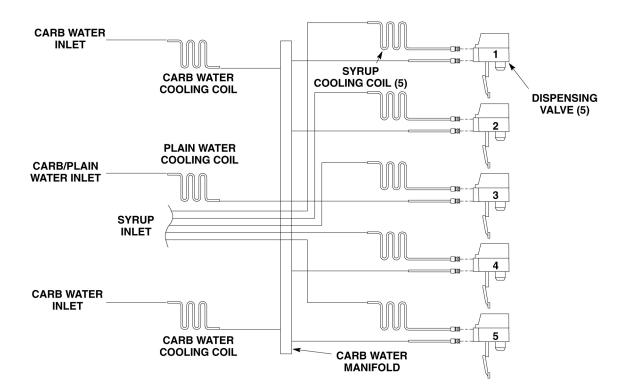


Figure 5. Plumbing Diagram (Five-flavor Unit Requiring Remote Carbonator)

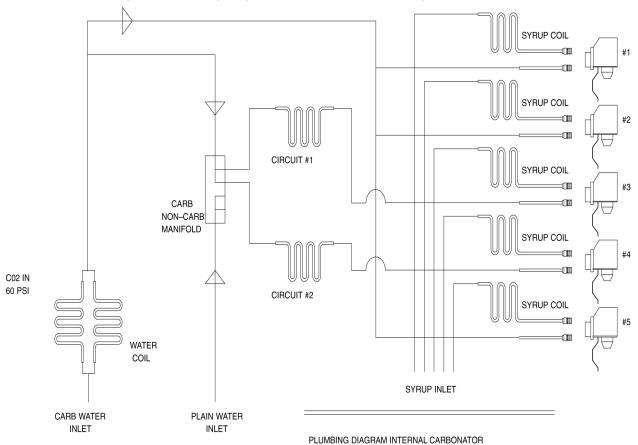


Figure 6. Plumbing Diagram (Five-flavor Unit With Integral Carbonator Shown)



CHANGING CIRCUITS FROM CARBONATED TO NON-CARBONATED WATER

THE MANIFOLD BLOCK LOCATED BEHIND THE SPLASH PANEL ALLOWS ACCESS TO CONVERT CIRCUITS FROM CARB TO NON-CARB.

THERE ARE TWO SECONDARY CIRCUITS IN THE VANTAGE DISPENSER

CIRCUIT #1 FEEDS ONE VALVES DIRECTLY.
CIRCUIT #2 FEEDS ONE VALVE DIRECTLY.

TO CONVERT A CIRCUIT FROM CARBONATED WATER TO NON-CARB WATER REMOVE 1 OR 2 PLUGS FROM THE PLAIN WATER OUTLET ON THE MANIFOLD BLOCK. INSTALL THE FLEXIBLE LINE FROM CIRCUIT #1 AND/OR CIRCUIT #2 INTO THE PLAIN WATER OUTLET ON THE MANIFOLD BLOCK. REINSTALL THE PLUG(S) INTO THE CARBONATED OUTLET IN THE MANIFOLD BLOCK TO PREVENT LEAKS.

CIRCUIT #1 & #2 MAY BE CONVERTED INDEPENDENTLY.

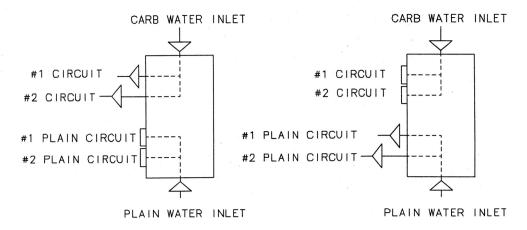


Figure 7. Plumbing Diagram (Five-flavor Unit W/integral Carb and One Non-carb Drink Shown)



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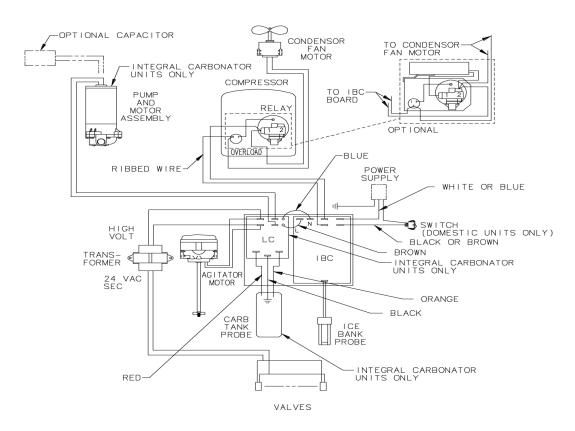


Figure 8. Wiring Diagram

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