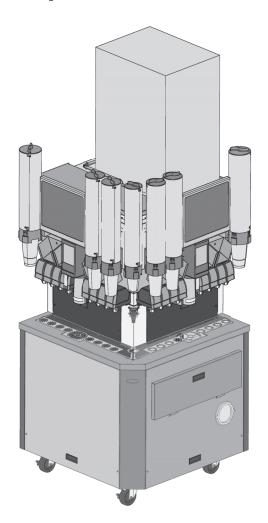


## **IDC175-HD TOWER DISPENSER**

## **Operator's Manual**



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**Revision: 9** 

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.

This Product is warranted only as provided in Cornelius' Commercial Warrant applicable to this Product and is subject to all of the restrictions and limitations contained in the Commercial Warranty.

Cornelius will not be responsible for any repair, replacement or other service required by or loss or damage resulting from any of the following occurrences, including but not limited to, (1) other than normal and proper use and normal service conditions with respect to the Product, (2) improper voltage, (3) inadequate wiring, (4) abuse, (5) accident, (6) alteration, (7) misuse, (8) neglect, (9) unauthorized repair or the failure to utilize suitably qualified and trained persons to perform service and/or repair of the Product, (10) improper cleaning, (11) failure to follow installation, operating, cleaning or maintenance instructions, (12) use of "non-authorized" parts (i.e., parts that are not 100% compatible with the Product) which use voids the entire warranty, (13) Product parts in contact with water or the product dispensed which are adversely impacted by changes in liquid scale or chemical composition.

### **Contact Information:**

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

www.cornelius.com 800-238-3600

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This document contains the original instructions for the unit described.

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### SAFETY INSTRUCTIONS

### READ AND FOLLOW ALL SAFETY INSTRUCTIONS

### **Safety Overview**

- Read and follow ALL SAFETY INSTRUCTIONS in this manual and any warning/caution labels on the unit (decals, labels or laminated cards).
- Read and understand ALL applicable OSHA (Occupational Safety and Health Administration) safety regulations before
  operating this unit.

### Recognition

### Recognize Safety Alerts



This is the safety alert symbol. When you see it in this manual or on the unit, be alert to the potential of personal injury or damage to the unit.

### **DIFFERENT TYPES OF ALERTS**



### DANGER

Indicates an immediate hazardous situation which if not avoided **WILL** result in serious injury, death or equipment damage.



### **WARNING:**

Indicates a potentially hazardous situation which, if not avoided, **COULD** result in serious injury, death, or equipment damage.



### CAUTION:

Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury or equipment damage.

### SAFETY TIPS

- Carefully read and follow all safety messages in this manual and safety signs on the unit.
- Keep safety signs in good condition and replace missing or damaged items.
- Learn how to operate the unit and how to use the controls properly.
- **Do not** let anyone operate the unit without proper training. This appliance is **not** intended for use by very young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance.
- Keep your unit in proper working condition and do not allow unauthorized modifications to the unit.

### 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 following all lock out/tag out procedures established by the user. Verify all of the power is off to the unit before any work is performed.

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



### **CAUTION:**

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.

### SHIPPING AND STORAGE



### **CAUTION:**

Before shipping, storing, or relocating the unit, the unit must be sanitized and all sanitizing solution must be drained from the system. A freezing ambient environment will cause residual sanitizing solution or water remaining inside the unit to freeze resulting in damage to internal components.

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



### A DANGER:

CO2 displaces oxygen. Strict attention **MUST** be observed in the prevention of CO2 gas leaks in the entire CO2 and soft drink system. If a CO2 gas leak is suspected, particularly in a small area, **IMMEDIATELY** ventilate the contaminated area before attempting to repair the leak. Personnel exposed to high concentrations of CO2 gas experience tremors which are followed rapidly by loss of consciousness and **DEATH.** 

### **POWER CORD**



### CAUTION:

If the power cord is damaged, it must be replaced with special cord available from the manufacturer or its service agent.

### SOUND LEVEL



### **CAUTION:**

The A-weighted sound pressure level has been determined to be below 70dBA



## **GENERAL INSTRUCTIONS**

### **UNIT SPECIFICATIONS**

The IDC175-HD tower is a high capacity ice drink dispenser with two different drink dispensing sides. One side is for the drive through and the other one is for the store. Both sides are crew operated. The IDC 175-HD tower dispenser has 8 SFV1/LVV portion control valves and a Progate ice chute on each side. The machine has built-in cup and lid dispensers for easy usage.

Unit Weight	~750 Pounds
Ice Storage	159 Pounds
Maximum Number of Faucets	17 (8+8+1): 16 SFV1/LVV + 1 Water Faucet
Product Cooling	Ice Slurry Bath
Electrical	220/230VAC, 50/60Hz 16 Amps of total unit draw
Dimensions	36.2" (92 cm Width X 36.2" (92 cm) Depth X 68.5" (174 cm) Height (Without ice maker and cup dispensers)
CO2 Operating Pressure	75-psig (517.1 kPa), max
	100 psi (689.5 kPa) maximum static pressure
Water	40 psi (275.8 kPa) minimum dynamic pressure
	3/8" ID (9.5 mm) minimum water line recommended

### START-UP AND OPERATING INSTRUCTIONS

### **IDC175-HD Tower Ice Drink Dispenser**

The IDC175-HD Tower ice drink dispenser shall be installed by qualified personnel following instruction given in the Installation manual part number 621058513INS. Start up the beverage system and adjust faucets to the proper BRIX. Contact your local syrup distributor for complete information on the beverage system.

The ice drink dispenser is designed to operate in ambient temperatures ranging from 65 to 95° F (18 to 35°C). Do not allow the unit to be stored or operated in conditions below 32° F (0° C). This could cause damage to the unit.



### CAUTION:

Dispenser cannot be used with crushed or flaked ice. Use of bagged ice which has frozen into large chunks can void warranty. The dispenser agitator is not designed to be an ice crusher. Use of large chunks of ice which "jam up" inside the hopper will cause failure of the agitator motor and damage to the hopper. If bagged ice is used, it must be carefully and completely broken into small, cube-sized pieces and left to "temper" or warm up for a minimum of 20 minutes at room temperature before loading into the dispenser hopper

In normal operation, pushing the ice dispenser mechanism will cause ice to flow from the ice chute. Ice flow will continue until the dispenser mechanism is released. Dispensing of any faucet will provide beverage of the appropriate flavor.



### **WARNING:**

Use caution to avoid spilling ice when filling dispenser. Clean up immediately any spilled ice from filling or operating the unit. To prevent contamination of ice, the lid must be installed on the unit at all times. Failure to clean up spills could result in serious injury or death

If the dispenser fails to dispense ice or beverage, refer to the troubleshooting section in the Installation Manual part number 621058513INS.

NOTE: The dispenser is not designed for a wash-down environment and MUST NOT be placed in an area where a water jet could be used.

NOTE: This appliance is not intended for use by personnel (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless given supervision or instruction concerning the use of the appliance by a person responsible for safety.



### **CONTROL BOX FUNCTIONS**

The portion control box on the IDC175-HD Tower Dispenser has several functions including dispensing four programmed ice portions for four cup sizes, programming, and a manual dispense mode.

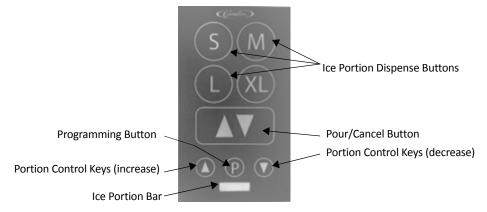


Figure 1

- 1. **Ice Portion Dispense Buttons:** These buttons are used to dispense the appropriate ice portion. These can also be used in conjunction with the program button to program a portion size.
- 2. **Pour/Cancel Button:** If ice is being dispensed via portion control, pressing this button will cancel the action and immediately close the gate. If no ice is being dispensed, pressing this button will open the chute and continue dispensing until the button is released.
- 3. **Program Button:** The programming button is used with a cup size button enabling the user to enter the portion programming mode to adjust the ice portions.
- 4. **Portion Control Up/Down Buttons:** These buttons are only active in the program mode to change the ice dispense program size and during the semi-automatic hopper cleaning process.
- 5. **Ice Size Program Bar:** The program bar is only active in the program mode as a visual aid in setting the portion size and during the semi-automatic hopper cleaning process.

### **Programming (Changing) the Ice Portion**

To change the size of the four ice dispense sizes, follow the steps below.

- 2. Press the **up arrow button** to increase the amount of dispensed ice. The LED will move towards the left, indicating the Ice Portion has been increased. Press the **down arrow button** to decrease the amount of dispensed ice. The LED will move towards the right indicating the Ice Portion has been decreased.
- 3. To exit the program mode, press any of the **desired ice portion dispense** buttons (Figure 1) or wait 10 seconds and the control will return to the dispense mode.

Place a cup under the ice chute and press any of the **desired ice portion dispense** buttons (Figure 1). If the ice dispense amount is not the desired amount, repeat the process.



## **CLEANING AND MAINTENANCE INSTRUCTIONS**

### **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.



### CAUTION:

Do not use metal scrapers, sharp objects or abrasives on the ice storage hopper, top cover, agitator disc or exterior surfaces. Do not use solvents or other cleaning agents as they may attack the material resulting in damage to the unit.

- Soap solution Preferably Diversey HA or Kay Solid Sense APSC mixed as directed on the package. Refer to local regulations to make sure the chemicals used are approved in your region.
- Sanitizing Solution 200 ppm Quaternary (minimum) sanitizer mixed as directed on the package. Refer to local regulations to make sure the chemicals used are approved in your region.

NOTE: None of the cleaning and maintenance procedures require any special access. They are all accessible to the operator. There is a key lock to shut off power to the valves, but access to this is not required for cleaning or maintenance.

### DAILY CLEANING:

- 1. Remove the cup rest from the unit and clean with warm soapy water. Rinse with clean water, and allow to
- 2. Wipe down the exterior of the unit with warm soapy water, rinse with clean water, and allow to air dry.
- 3. Remove valve nozzles and diffusers and wash in warm soapy water, rinse in clean water, and allow to air
- 4. Follow the instructions on ice chute cover cleaning in page 6.
- 5. Pour warm soapy water down the drains to keep them clean and flowing freely.
- 6. Spray the nozzles and diffusers inside and outside with approved sanitizing solution, reinstall them on the valves, and allow to air dry.
- Reinstall the cup rest into the drip tray.
- 8. Pour all remaining sanitizer solution down the drain to help keep the drain clear.

### **DAILY MAINTENANCE:**

- 1. Check the temperature, smell, and taste of the product.
- 2. Check the water pressure coming to the unit using the pressure gauges on the back room package.
- Check carbonation of the drink.
- 4. Check the level of CO2 or air supply to the system.
- 5. Check the date on all of the BIB's (bags in boxes).

### DISPENSING VALVES: (DAILY CLEANING AND MONTHLY CLEANING)

Refer to the addendum supplied with the unit that is applicable to the manufacturer of the valves installed on the unit.



### LID DISPENSER CLEANING

The lid dispensers are manufactured out of materials that can survive cleaning solutions. Remove the lid dispensers from the unit and clean with warm soapy water. Rinse with clean water, and allow to air dry. Ensure that the parts are thoroughly dried before refilling with the lids.

NOTE: Lid dispensers should not be soaked in the dish washer as this will result in the parts getting scratched. Instead the dispenser parts should be rinsed in warm soapy water, then allow to dry.

### ICE CHUTE COVER CLEANING

The ice chute needs to be cleaned daily to remove buildup.

NOTE: The ice chute has an built in safety feature. When the ice chute cover is removed, the unit is disabled. If the ice chute cover is not properly installed, then the agitator and ice chute gate will not function.

### Removing and reinstalling the ice chute:

1. Hold ice chute cover and push up until you hear a click; this will disengage the side latches.



Figure 2

- 2. Remove the ice chute cover from the unit.
- 3. Properly clean the ice chute area with a cloth soaked in the sanitizer solution.

IMPORTANT: Do not put the ice chute into a dish washer.



Figure 3

- 4. Spray sanitizer on the cover and on the back of the chute. Wipe the cover with a soft cloth. Let it air dry for 5 minutes.
- 5. Carefully insert ice chute cover and slide down to fully engage or hook to the upper latch.
- 6. Align latches, push side tabs down to lock in place.

NOTE: If agitator or the ice chute does not operate, remove and reinstall the chute cover.



Figure 4



### MONTHLY CLEANING: (IN ADDITION TO DAILY CLEANING PROCEDURES)

### **Product Tubing cleaning:**

IMPORTANT: Only trained and qualified persons should perform these cleaning and sanitizing procedures.

### Sanitize Pre-Mix And Post-Mix Tank System

- 1. Remove all of the quick disconnects from all of the tanks. Fill a suitable pail or bucket with the soap solution.
- 2. Submerge all of the disconnects (gas and liquid) in the soap solution, and then clean them using a nylon bristle brush (**Do not use a wire brush**). Rinse with clean water.
- 3. Prepare the sanitizing solution, and spray the disconnects using a mechanical spray bottle. Allow to air dry.
- 4. Using a clean, empty tank, prepare five (5) gallons of the sanitizing solution. Rinse the tank disconnects with approximately 9 oz. of the sanitizing solution. Close the tank.
- 5. Prepare the cleaning tank by filling the clean five (5) gallon tank with a mixture of mild detergent and potable water (120°F/49°C).
- 6. Connect a gas disconnect to the tank, and apply one of the product tubes to the cleaning tank. Operate the appropriate valve until the liquid dispensed is free of any syrup.
- 7. Disconnect the cleaning tank and hook up the sanitizing tank to the syrup line and CO2 system.
- 8. Energize the beverage faucet until the sanitizing solution is dispensed through the faucet. Flush at least two (2) cups of the liquid to ensure that the sanitizing solution has filled the entire length of the syrup tubing.
- 9. Allow the sanitizer to remain in the line for fifteen (15) minutes.
- 10. Repeat the step above, applying a different product tube each time until all the tubes are filled with the sanitizing solution.
- 11. Discard the tank of sanitizing solution and reconnect the product syrup tanks. Operate the valves until all sanitizer has been flushed from the system and only product syrup is flowing.

### Sanitize syrup lines, BIB Systems

- 1. Remove all of the guick disconnects from all of the BIB containers.
- 2. Fill a suitable pail or bucket with soap solution.
- 3. Submerge all of the disconnects (gas and liquid) in the soap solution, then clean them using a nylon bristle brush (**Do not use a wire brush**). Rinse with clean water.
- 4. Using a plastic pail, prepare approximately five (5) gallons of sanitizing solution.
- 5. Rinse the BIB disconnects in the sanitizing solution.
- 6. Sanitizing fittings must be attached to each BIB disconnect. If these fittings are not available, the fittings from empty BIB bags can be cut from the bags and used. These fittings open the disconnect so that the sanitizing solution can be drawn through the disconnect.
- 7. Place all of the BIB disconnects into the pail of sanitizing solution. Operate all of the valves until the sanitizing solution is flowing from the valve. Allow sanitizer to remain in the lines for fifteen (15) minutes.
- 8. Remove the nozzle and the syrup diffuser from each valve and clean them with a soap solution. Rinse with clean water and reassemble the nozzle and the syrup diffuser to the valve.
- 9. Remove the sanitizing fittings from the BIB disconnects and connect them to the appropriate BIB container. Operate the valves until all of the sanitizing solution has been flushed from the system and the syrup is flowing freely.



### YEARLY MAINTENANCE:

- 1. Have the water pump check valve inspected and cleaned by a qualified service technician.
- 2. Have the CO2 gas check valve inspected and cleaned by a qualified service technician.

### **CLEANING INTERIOR SURFACES**

Always wash your hands prior to starting the cleaning processes. Keep all supplies clean. Store in a clean and dedicated area. Wash and sanitize all cleaning supplies prior to use. Do NOT use any of the cleaning supplies for any other purposes than HD Tower cleaning.

### **Preparation**

Turn the ice maker OFF

Fill Bucket # 1 (Cleaning Solution) to the top.

Fill Bucket # 2 (Rinse Water) to the top.

Fill Bucket # 3 (Sanitizer Solution) to the top.

Place the ice collection trays under both of the ice dispensing chutes.

Locate clean hose assembly



Figure 5



Figure 6



Figure 7



### 1. Hopper Cleaning Entry Sub Cycle

Locate the keypad UI on the store side of the unit.

Flip the access door down to locate programming button (refer figure 8).

Press and hold the programming button then press and hold the pour/cancel button. Keep pressing both for 5 seconds to start the cleaning process.

All of the LED lights will light for 1 second. Then, the first light to the left (L1) will flash.

NOTE:A 30 second timer will start. If no buttons are pressed, the user interface will automatically cancel the cleaning process and it will return to normal operation mode.





Figure 9

## 2. Empty the Ice Hopper

Ensure that the ice collection trays are under both of the ice dispense chutes.

Press the pour/cancel button to start the ice dispense. L1 LED will become illuminated (See Figure 11).

Press the pour/cancel button to pause or restart the ice dispensing as the ice collection trays are filled.

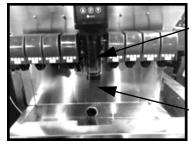
Press the up arrow in the programming area when the hopper is empty.



Figure 10



Figure 11



Ice Chute

Place funnel here

Figure 12

### 3. Hopper Cleaning Cycle

L2 LED will start flashing, signaling that it is ready to proceed to the next step.

Remove the collection trays.

Place the funnel under both of the ice dispense chutes.



Locate the clean hose assembly, route through the door, connect, and insert into Bucket # 1 (cleaning solution).

Press and hold pour/cancel button for 5 seconds to begin this step (Cleaning solution will begin to flow through the ice chutes). L2 will become illuminated (See Figure 16).

IMPORTANT: Before starting, make sure the hose is placed all the way to the bottom of the bucket which contains cleaning solution.

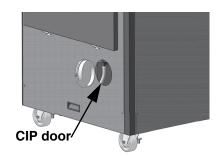


Figure 13
#1

Figure 14

Figure 15

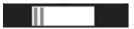


Figure 16



Figure 17



Figure 18



Figure 19

### 4. Rinse Cycle

L3 LED will be flashing, signaling that it is ready to proceed to the next step.

Change the hose to Bucket #2 with rinse water.

Press and hold the pour/cancel for 5 seconds to begin. L3 will be illuminated (see Figure 19).

IMPORTANT: Before starting, make sure the hose is placed all the way to the bottom of the bucket which contains cleaning solution



### 5. Sanitizing Cycle

L4 LED will be flashing, signaling that it is ready to proceed to the next step.

Change the hose to Bucket # 3 with sanitizing solution.

Press and hold the pour/cancel button for 5 seconds to begin, L4 will be illuminated (see Figure 22).

IMPORTANT: Before starting, make sure the hose is placed all the way to the bottom of the bucket which contains cleaning solution.



Figure 20



Figure 21



Figure 22



Figure 23



Figure 24



Figure 25

### 6. Rinse Cycle

L5 LED will be flashing, signaling that it is ready to proceed to the next step.

Refill Bucket #2 with rinse water.

Change the hose to Bucket # 2 with rinse water.

Press and hold the pour/cancel button for 5 seconds to begin. L5 will be illuminated (see Figure 25).

IMPORTANT: Before starting, make sure the hose is placed all the way to the bottom of the bucket which contains cleaning solution.



### 7. End Cycle

After the rinse cycle (Step #6) is complete, all lights will flash several times.

Press pour/cancel and programming buttons for 5 seconds to exit to normal operations mode.

Close the flip door.

Put the cup rest back in place.

Wipe down the area with a sanitized cloth.



Figure 26



Figure 27

### 8. Clean Ice Chute

solution.

Hold the ice chute cover and push up until you hear a click; this will disengage the side latches.



Figure 28

Remove the ice chute cover from the unit.

Properly clean the ice chute area with a cloth soaked in the sanitizer

IMPORTANT: Do not put the ice chute cover into a dish washer.



Figure 29

Spray sanitizer on the ice chute cover at the front and back surfaces. Wipe clean with a soft cloth. Let it air dry for 5 minutes.



Carefully insert ice chute cover and slide down to fully engage or hook to the upper latch.

Align latches, push side tabs down to lock in place.

NOTE: The ice chute has a built-in safety feature. When the ice chute cover is removed, the unit is disabled. If the ice chute cover is not properly installed, the agitator and the ice chute gate will not function.

### 9. Drain and refill the water bath

Remove the side panel and locate the drain valve and turn it ON (counter-clockwise) until the lever is parallel to the drain tube (See Figure 32).



Figure 30

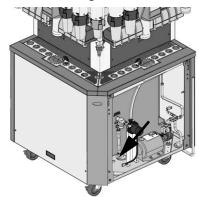


Figure 31

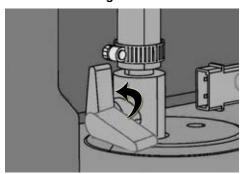


Figure 32

After the water bath is fully drained, locate the strainer which connects to the recirculation pump inlet. Inspect the strainer to see if any debris is accumulated.

NOTE: It is recommended to clean the strainer during each cleaning cycle.

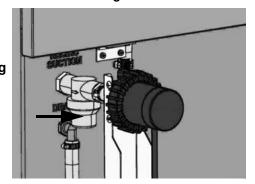


Figure 33



If there is accumulation of debris, rotate the lower section of strainer counter clockwise to remove. Take out the strainer, wash it with a brush and soap solution, and reassemble once cleaned.

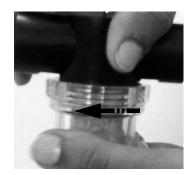


Figure 34

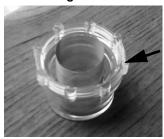


Figure 35

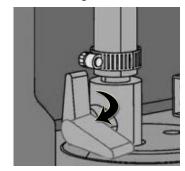
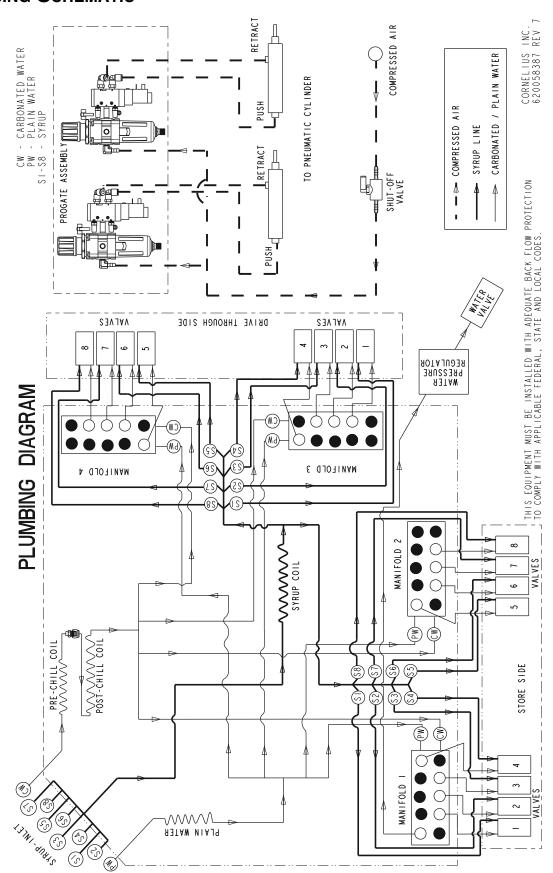


Figure 36

Turn the drain lever back to the original position (OFF) and fill the water bath with fresh water.

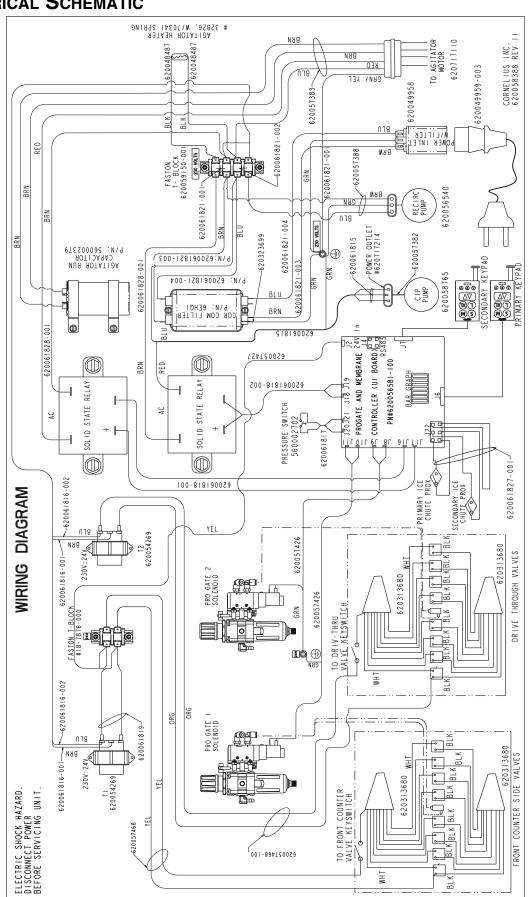


### PLUMBING SCHEMATIC





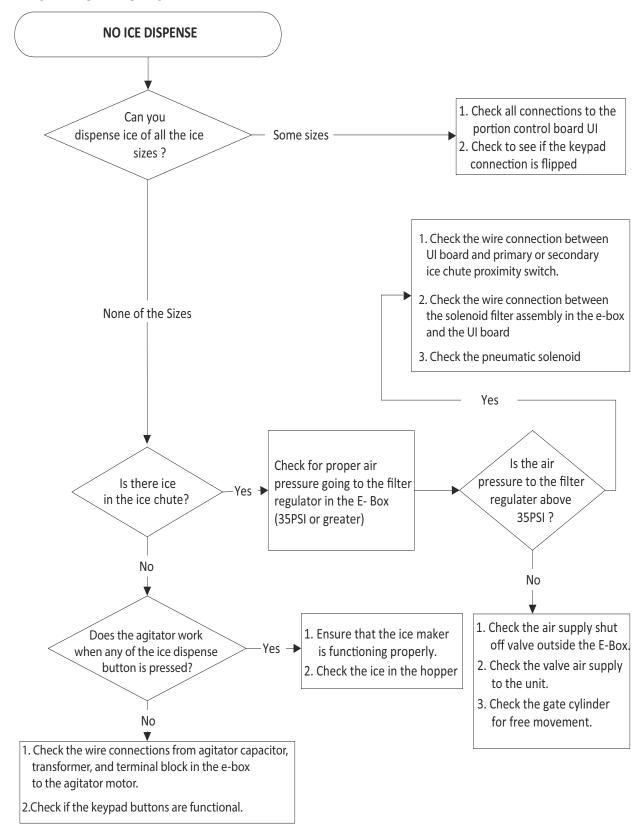
### **ELECTRICAL SCHEMATIC**





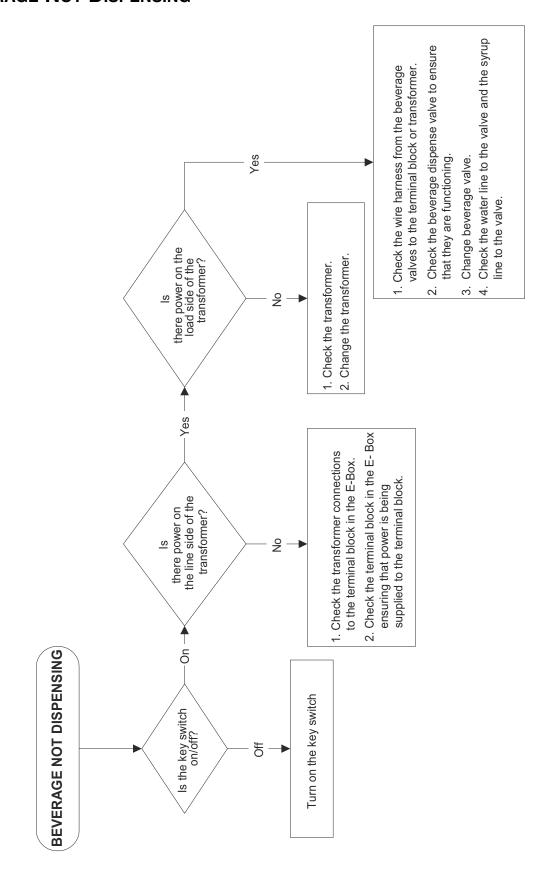
## **TROUBLESHOOTING**

### ICE NOT DISPENSING



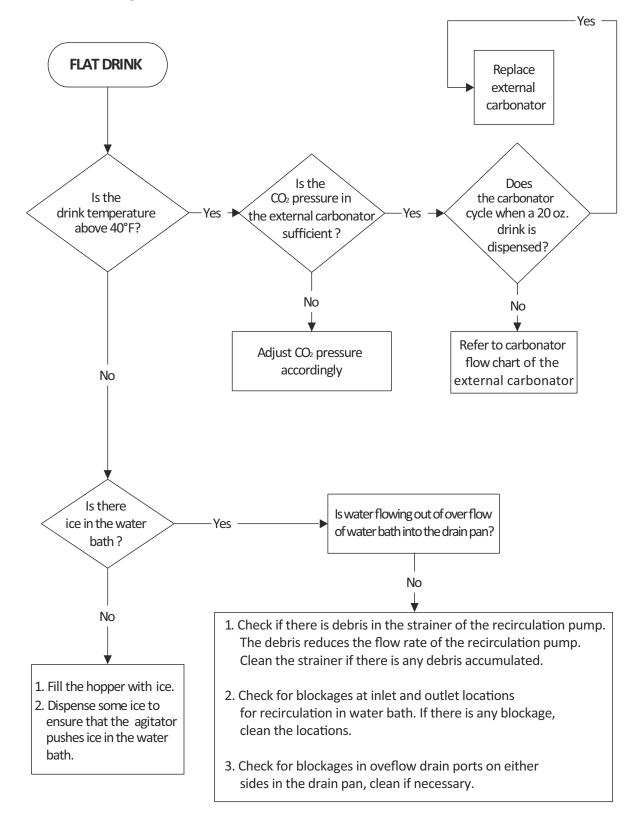


### **BEVERAGE NOT DISPENSING**





### FLAT DRINKS





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