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# ABS 2.0

## INSTALLATION MANUAL



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

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**RECYCLE**

### **Correct Disposal of this Product**

This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

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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



## 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.
- Unit must be located in an area with nearest access to floor drain port, preferably under the foot print of unit.
- **DO NOT** Let anyone operate the unit without proper training. This appliance is not intended for use by children. Children should be supervised to ensure that they do not play with the appliance.
- The appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.
- Keep your unit in proper working condition and do not allow unauthorized modifications to the unit.
- This unit must be installed and used as per the requirement in the specification section of this manual.
- If freezing occurs, move the unit to a location maintained at ambient called in specification section of this manual.

**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.

## QUALIFIED SERVICE PERSONNEL

### **WARNING:**

Only trained and certified electrical, plumbing and refrigeration technicians are to 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. IF THE SUPPLY CORD IS DAMAGED, IT MUST BE REPLACED BY THE MANUFACTURER, ITS SERVICE AGENT OR SIMILARLY QUALIFIED PERSONS IN ORDER TO AVOID A HAZARD.**

## SAFETY PRECAUTIONS

- This unit has been specifically designed to provide protection against personal injury. To ensure continued protection observe the following:
- Access to the service area is restricted to persons having knowledge and practical experience of the appliance, in particular as far as safety and hygiene are concerned.

### **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

### **DANGER:**

CO<sub>2</sub> displaces oxygen. 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. If a CO<sub>2</sub> 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 CO<sub>2</sub> gas experience tremors which are followed rapidly by loss of consciousness and **DEATH.**

## SOUND LEVEL

### CAUTION:

The A-weighted sound pressure level has been determined to be 91 dB, uncertainty 3.16 dB. The A-weighted sound power level has been determined to be 77.7 dB, uncertainty 3.16 dB.

## UNIT LOCATION

### CAUTION:

Appliance is not suitable for installation in an area where a water jet could be used.

### CAUTION:

The appliance must be placed in a horizontal position.

### CAUTION:

This unit is not designed for use in outdoor locations.

### CAUTION:

This appliance is only to be installed in locations where its use and maintenance is restricted to trained personnel.

# CHECKLIST

## CHECK OFF ALL ITEMS COMPLETED

This check list is intended to permit you to be sure that all aspects of the installation have been completed. Please use this check list -- Don't rely on memory.

For experienced installers, this check list makes an easy guide and reminder of the steps to follow.

	Manual Page
<input type="checkbox"/> PLACING DISPENSER IN OPERATING POSITION .....	Page 12
<input type="checkbox"/> INSTALLING LEGS .....	Page 13
<input type="checkbox"/> POWER AND COMMUNICATION CONNECTION .....	Page 14
<input type="checkbox"/> INLET WATER/SYRUP CONNECTION .....	Page 15
<input type="checkbox"/> FILLING PRODUCT TUBING .....	Page 15
<input type="checkbox"/> INLET AIR OR CO <sub>2</sub> CONNECTION .....	Page 16
<input type="checkbox"/> CLEAN AND SANITIZE THE ICE BIN AND ICE CHUTE .....	Page 18
<input type="checkbox"/> PRE-COOLER INSTALLATION (IF USED).....	Page 20
<input type="checkbox"/> IP-ADDRESS SET UP.....	Page 29
<input type="checkbox"/> FILLING CUP HOLDER .....	Page 30
<input type="checkbox"/> ACCESSING BRAND MAPPING .....	Page 34
<input type="checkbox"/> ADJUST WATER FLOW RATE.....	Page 40
<input type="checkbox"/> SET OVERALL WATER VALVE .....	Page 41
<input type="checkbox"/> ADJUST THE SYRUP RATIO.....	Page 42
<input type="checkbox"/> ADJUST ICE PORTION .....	Page 44
<input type="checkbox"/> CHECK/ADJUST TOP-OFF/FLUSH .....	Page 45
<input type="checkbox"/> SAVING THE SET-UP.....	Page 47
<input type="checkbox"/> FILL OUT BRAND LINE-UP FORM FOR POS PROGRAMMER .....	Page 58

# INSTALLATION KIT

The following installation kit contains the components required to install the ABS 2.0. This description is designed to assist you in identifying the components and checking the inventory.

**Table 1. List of component in installation kit**

Sl. No.	Part Number	Description	Qty
1	0858	CUP BRIX PROP 5.25:1/4.75:1 CC	1
2	111353000	CLAMP 571OPEN STPLS #14.5	3
3	140133000	CLAMP HOSE 687-1.2 SCREW	1
4	178025100	GASKET 1/4 MALE FLARE FITG	1
5	198541001	S-WRAP KIT INSTL	1
6	560001540	TUBE VINYL CLR 875 X 1.125	10
7	560001549	TUBE U 1/2BARB(2) 3/8BARB SS	1
8	620049959-001	CORD POWER ENTRY C13 NEMA 5-15	1
9	620064585	USB DATA STICK 4GB	1
10	620071133	MANL CREW CARDS MCD ABS 2.0	1
11	620807207	BAG POLY 13 X 18 ZIPLOCK	1
12	621058590INS	MANL INSTL ABS 2.0	1
13	621058590OPR	MANL OPERATOR ABS 2.0	1
14	621058590SER	MANL SERVICE ABS 2.0	1
15	70178	SCREW MA 08-32 TRPH 16 SS	17
16	70171	SCREW MA 08-32 TRPH 12 SS	17
17	70407	LEG 06.00" ADJ 5/8-11THD(SET O	1
18	77046500	FITG SWIV 7/16-20F 3/8BRB	1
19	960050000	TAPE INSL 1/8 X 2" X 50' COIL	5

# GENERAL INTRODUCTION

## SYSTEM OVERVIEW

The Automated Beverage System ABS 2.0 is an upgraded version of ABS. The ABS 2.0 is designed for drive-through area installation or other restricted area that is accessible to authorized personnel only. When a beverage is ordered from the P.O.S. register, the ABS 2.0 automatically drops a cup, fills it with ice and dispenses the correct amount and type of any syrup-based beverage. The finished drink is then moved by the Carousel to the pick-up station and the drink description is displayed on the panel.

Operation of the ABS 2.0 is restricted to employees and service personnel that have been trained and certified in the proper operation, service and maintenance of the equipment.

## SPECIFICATION

Table 2. Product specification

Unit Dimensions	Length	911.86 mm [35.9 inch]
	Width	901.70 mm [35.5 inch]
	Height	1905 mm [75.0 inch]
Unit weight	Dry weight	267.62 kg [590 lbs] (Dry)
	Operational weight (With ice, water, etc.)	362.87 kg [800 lbs]
Cooling method	Method of product cooling	Cold plate & on board chiller for condition "C"
Ice storage capacity	W/o bin extender	61.24 kg [135 lbs]
Electrical	Line voltage	621058590: 115 ± 10% VAC, 60 Hz, 1 Phase 621058773: 220-240 VAC, 50-60 Hz, 1 Phase
	Current	3A
	Connection method	115V/60Hz (North America): IEC-NEMA 5-15P 220-240V, 50-60Hz (Rest of World): Refer Table 6
Water	Supply pressure	0.55 ± 0.10 MPa [90 ± 15 psi] static
	Supply method	12.7 mm [1/2 inch] ID tube (Python)
Syrup	Supply pressure	0.44 ± 0.14 MPa [65 ± 20 psi] Optimal
	Supply method	9.52 mm [3/8 inch] ID tube (Python)
Temperature	Water & Syrup	Max 1.7°C (35°F) Water & 3.3°C (38°F) Syrup
	Ambient Operating Temperature	18°C (65°F) to 35°C (95°F)
Air and CO <sub>2</sub>	Supply pressure	CO <sub>2</sub> /Compressed Air: 0.55 ± 0.07 MPa [90 ± 10 psi]
	Supply method	9.52 mm [3/8 inch] ID tube
Clearance Requirement	Top	No ice Maker: 1905mm [75 inch] + 304.8 mm [12 inch] refill area = 2209.8 mm [87 inch] With ice Maker: 2501.9 mm [98.5 inch]
	Back	25.4 mm [1 inch] clearance to wall (min)

## FEATURES

**Table 3. Product features**

<b>Mounting type (leg/caster)</b>	<b>4 legs mounted</b>
<b>UI interface type and size</b>	<b>Two 177.8 mm [7 inch] touch screen display</b>
<b>Number of Brands</b>	<b>8</b>
<b>Cup storage</b>	<b>6 cup dispenser</b>
<b>Lid Storage</b>	<b>8 lid compartment</b>
<b>Ice dispensing</b>	<b>1 portion controlled ice dispenser</b>
<b>Product dispensing</b>	<b>Cornelius Multi Flavor Valve</b>
<b>Automatic cleaning</b>	<b>Wand type cleaning nozzle Kit.</b>
<b>No of stage drinks</b>	<b>6</b>

## ACCESSORIES

**Table 4. Accessories compatible with ABS 2.0**

<b>SL NO.</b>	<b>Accessories</b>	<b>Part No:</b>
1.	ICEMAKER ADAPTER KIT ABS 2.0 MANITOWOC/SCOTSMAN	629097799
	ICEMAKER ADAPTER ABS 2.0 HOSHIZAKI	629097800
2.	PRE - CHILLER 120V /60Hz	560000270
	PRE - CHILLER 230V /50Hz	560002730

## SUPPORTED ICE-MAKER

**Table 5. List of ice maker compatible with ABS 2.0**

<b>SL NO.</b>	<b>BRAND</b>	<b>MODEL</b>
1	MANITOWOC	IB0620C-161
2	MANITOWOC	IB0820C-161
3	MANITOWOC	IB1020C-161
4	MANITOWOC	1B0694YC-161
5	MANITOWOC	IB0894YC-161
6	MANITOWOC	IB1094YC-161
7	SCOTSMAN	EH222
8	SCOTSMAN	ECC1410
9	HOSHIZAKI	KMS-1122MLH
10	HOSHIZAKI	KMS-1122MLJ

# UNIT DRAWING

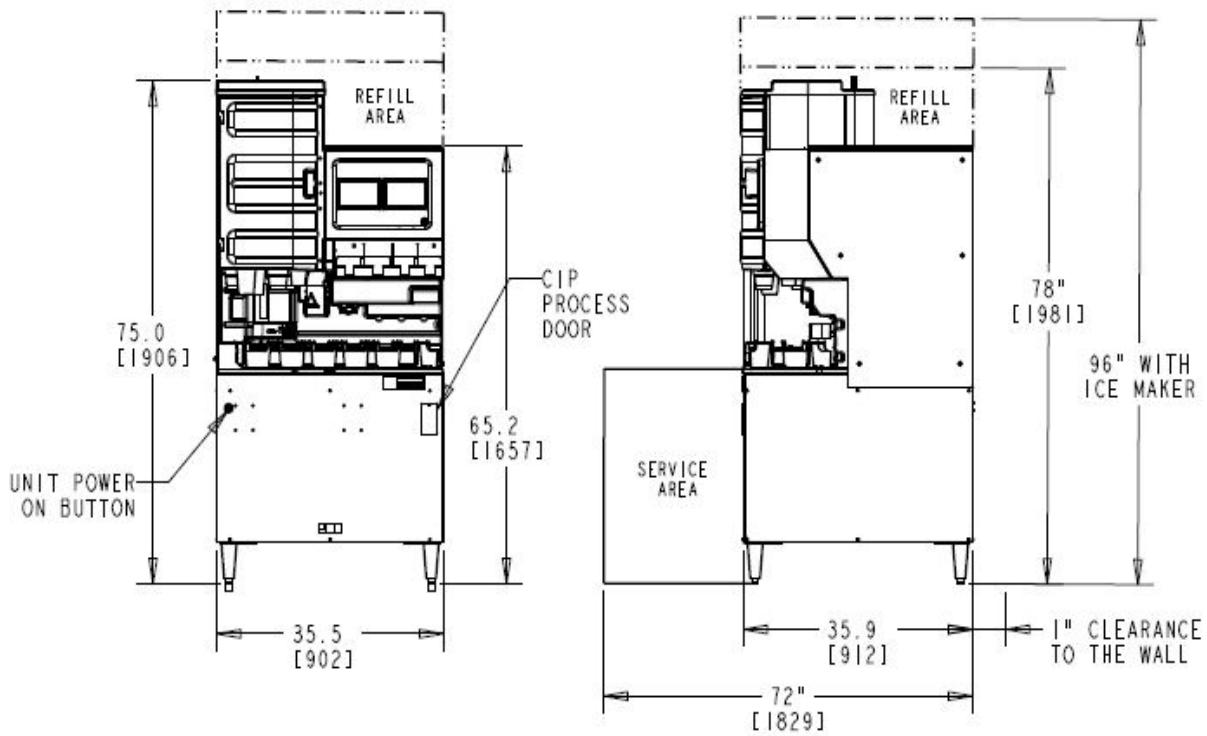
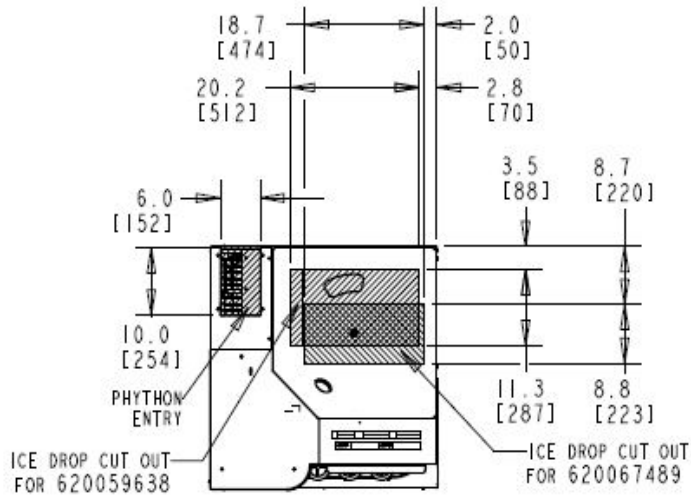


Figure 1.

Dimension units in [mm].



# INSTALLATION PREREQUISITES

## DELIVERY INSPECTION and UNPACKING

### INSPECTION

Inspect the unit for damage or irregularities upon delivery. If any damage is found Immediately report problems to the delivering carrier and file a claim with that carrier.

**NOTE: Cornelius is not responsible for damaged freight. If damage is found, you must save all packaging material and contact the freight carrier.**

### UNPACKING

1. Inspect the carton and note any damage, regardless if it appears minor. If the carton is damaged, note on the consignee copy of the freight invoice “exterior carton damage – concealed damage possible” and contact the freight company immediately.
2. Remove any staples along the bottom edge of the carton and lift the carton off the pallet.
3. Remove the exterior carton sleeve, internal fillers and plastic bag around the unit. Carefully inspect the unit for damage.
4. Remove the bolts holding the dispenser to the pallet.
5. Remove the packing fillers from the top of the unit.
6. Inspect the dispenser cabinet and make sure it has no scratches, dents or any other cosmetic defects.
7. Make sure that the screen is not scratched or cracked.
8. Open the packages of loose parts and inspect all of the parts for damage or missing parts. Check the parts received against the packing list to insure receipt of all parts.

**NOTE: Date of manufacture of unit included in the unit serial no. as follows:**

**NOTE: The date code follows the first letter of the serial number. The next four numbers reflect the date of manufacture. The first two represent the year, the next two the week. For example, 62A0815xxxxxx would be a unit produced during the 15th week of 2008.**

# INSTALLATION REQUIREMENTS

## TOOLS REQUIRED

1. Phillips screwdriver.
2. Pliers.
3. Tube cutters.
4. Oetiker crimper.
5. Ratio Cups.

## ELECTRICAL REQUIREMENTS

Refer to the nameplate to determine the power requirements before connecting electrical power to the unit. All of the power cords shall comply with national and local safety requirements

### **DANGER:**

To avoid possible serious injury or death the ELCB (earth leakage circuit breaker) must be installed in the electrical circuit of all units.

### **WARNING:**

To avoid possible electrical shock make sure the unit is properly grounded by connecting the earth ground cable, in the power cord, to any connection in the machine marked with a ground symbol.

### **CAUTION:**

The wiring must be properly grounded and connected through a disconnect switch (slow-blow fuse or equivalent HVAC/R circuit breaker). Refer to the local and national wiring codes for the 60Hz unit.

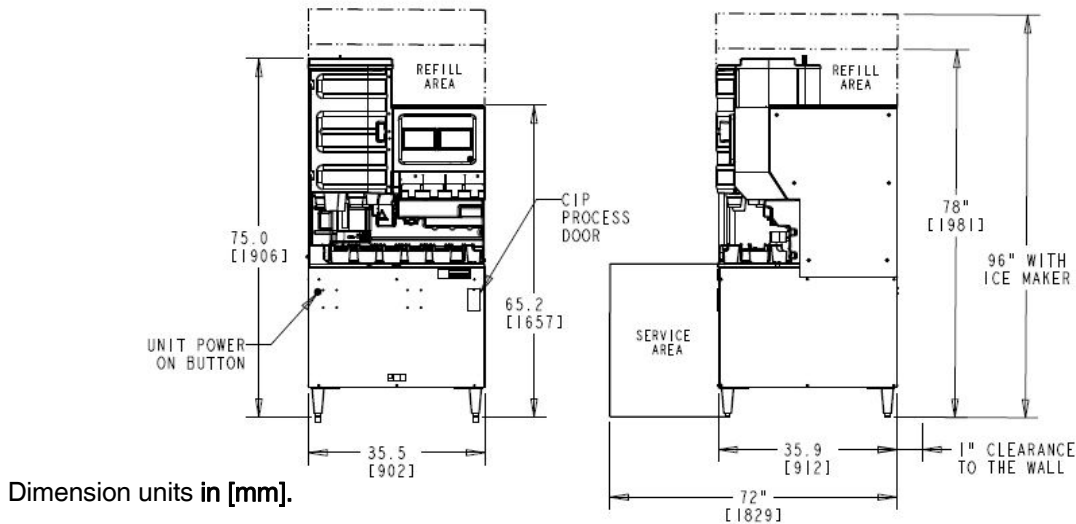
**All wiring must conform to national and local codes. Failure to comply could result in serious injury, death or equipment damage.**

**Locate the Dispenser so the following requirements are satisfied:**

1. The electrical circuits *must* be properly fused (slow-blow type fuses). The pre-cooler circuit should be protected by HACR circuit breakers. Do Not use HACR circuit breakers on the circuit for the ABS unit. HACR circuit breakers may not react to voltage surges or spikes that can damage the ABS electronics.
2. The electrical outlets must be accessible for ease of connecting and disconnecting the Dispenser or Pre-Cooler power cords. No other electrical appliances should be connected to these electrical circuits. **ALL ELECTRICAL WIRING MUST CONFORM TO NATIONAL AND LOCAL ELECTRICAL CODES.**

**Table 6. Product electrical requirement**

Unit	Plug Type	Region	Voltage-Frequency-Phase	Amps
ABS 2.0	IEC-NEMA 5-15P	North America's	120 VAC – 60 Hz – 1Ph	15
ABS 2.0	CEE7/7	European CENELEC Member Countries	220-240 V, 50-60 Hz – 1Ph	10
ABS 2.0	BS1363A	Great Britain/Ireland	220-240 V, 50-60 Hz – 1Ph	13
ABS 2.0	AS3112	Australia	220-240 V, 50-60 Hz – 1Ph	10



**Figure 2. ABS Clearance Requirement**

3. Clearance above top of the ABS 2.0 unit must be open above the unit and the front of the unit stand must be open to the room. These clearances be provided to allow for proper air flow through the Pre-Cooler refrigeration system and to allow access to the ice bin for refilling.
4. The ABS 2.0 unit and the Pre-Cooler unit must be located close to a permanent drain (preferably under the unit when in operating position) to route the ABS unit drip tray drain hose and the Pre-Cooler water tank drain hose and the water tank overflow hose.

## ENVIRONMENTAL REQUIREMENTS

Ambient (room) temperature **MUST NOT EXCEED 90° F(32.2°C)** and 65% relative humidity. Temperatures in excess of 90° F and Relative humidity in excess of 65% will void the factory warranty and may eventually result in cooling system failure.

### **⚠ CAUTION:**

There must be proper clearance on all sides and on top of the unit to avoid overheating and damaging the unit and voiding the warranty.

### **⚠ CAUTION:**

This unit is designed for indoor installation only (in a non-harsh environment). See the **Requirements Summary** for this information.

### **⚠ CAUTION:**

The water in the unit will freeze and may damage the unit if the unit is exposed to freezing temperature.

## LOCATION REQUIREMENTS

1. Unit is not to be installed in an area where a water jet (power washer) is used.
2. Unit must be located in an area with a level floor surface. The unit must be installed within 2° of level for the unit to operate properly.
3. The unit should only be installed in a location where its use and maintenance is restricted to trained personnel and the floor area is level.
4. Unit must be located in an area with nearest access to floor drain port, preferably under the foot print of unit.

# INSTALLATION

## **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:**

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.**

## **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 IEC 61770 and 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.

## **CAUTION:**

This dispenser and the carbonated and plain water pre-cooler are intended for indoor installation only do not install dispenser and pre-cooler in an outdoor environment which would expose them to the outside.

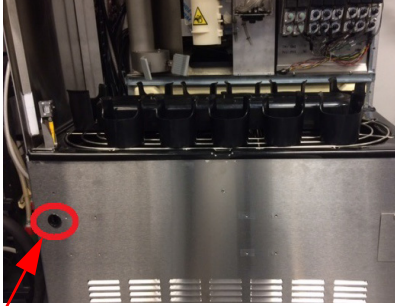
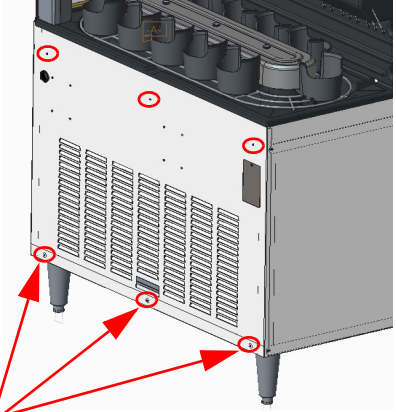
## PLACING DISPENSER IN OPERATING POSITION

### **CAUTION:**

The dispenser is very top heavy. To prevent serious injury, installer personnel **MUST** exercise caution when moving or setting up the dispenser.

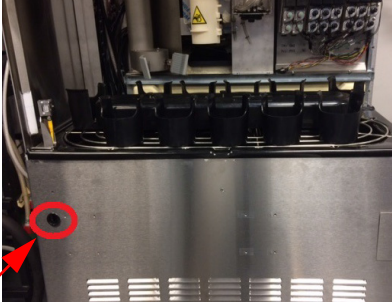


**STEP 1 – INSTALLING LEGS**

Table 7.

Step	Action	Figure
1	Turn the ABS 2.0 power switch to the OFF position.	 <p><b>Power Switch Port Figure 3.</b></p>
2	Remove the front panel by unscrewing the six screws as shown in Figure 4.	 <p><b>SCREWS Figure 4.</b></p>
3	Place the ABS 2.0 unit on blocks so that the leveling legs can be installed. The ABS 2.0 unit is very top heavy and extreme caution must be used in handling or moving this unit. Install the four leveling legs.	
4	Place ABS 2.0 unit in its final operating location allowing clearance as specified previously. Figure 2. ABS Clearance Requirement on Page 11	
5	Once the ABS 2.0 unit is in place, use a 2i level to level it using the leveling legs. The unit must be level side to side and front to rear.	

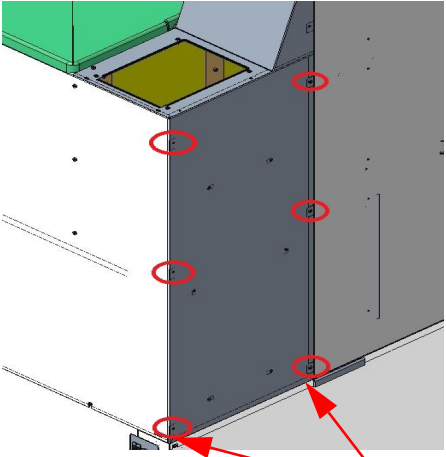

## STEP 2 – POWER AND COMMUNICATION CONNECTION

Table 8.

Step	Action	Figure
1	Turn the ABS 2.0 power switch to the OFF position, then route the ABS 2.0 power cord to the appropriate electrical outlet and plug-in.	 <p>Power Switch Port      Figure 5.</p>
2	Plug the Ethernet cable into the back of the unit at the same time the power cord is installed.	 <p>Figure 6.</p>
3	Verify the Ethernet cable is plugged into the back of the screen door prior to turning on power. <b>NOTE: Place unit manual mode immediately</b>	 <p>Figure 7.</p>
4	If the communications cable has not been previously routed from POS system to the ABS 2.0 location, do that now. The Ethernet cable must be routed with the ABS 2.0 unit. Then connect the cable to the ABS 2.0 unit.	

**STEP 3 – INLET WATER/SYRUP CONNECTION**

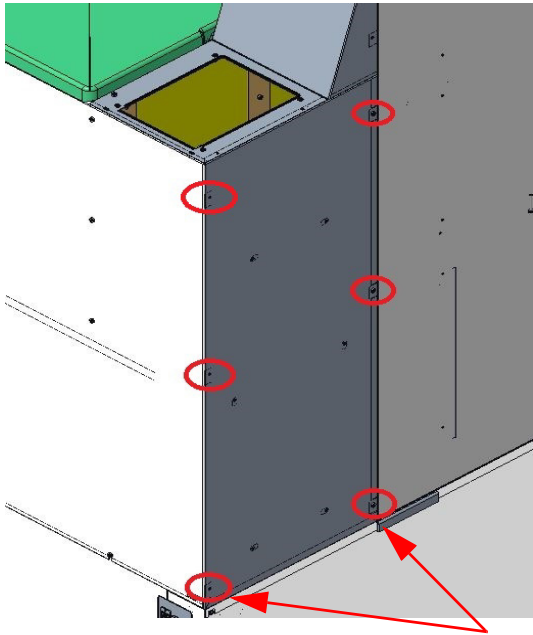
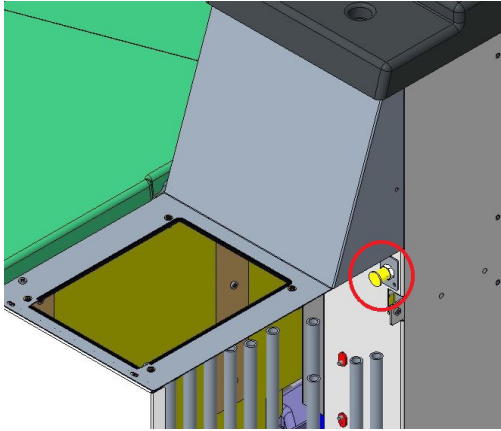

Table 9.

Step	Action	Figure
1	<p>A. Remove the highlighted screws and take out the side panel.</p> <p>B. Route the Python tube from top of the unit.</p>	 <p>Figure 8. screws</p>
2	<p>A. Use 3/8" ID (9.52 mm) tubing and connect it to the inlet barb fitting of the carbonated water inlet tube and the plain water inlet tube.</p> <p>B. Use 3/8" ID (9.52 mm) tubing and connect it to the 10 inlet barb fittings of the syrup inlet tubes.</p> <p>C. Use Oetiker clamps to secure the lines to the barb fittings.</p> <p>D. Line numbers Left to right: 5, 4, 6, 8, 3, 7, 2, PW, 1, CW1, CW2</p> <p><b>NOTE: Before connecting please check label on pipe inlet (CW: Carb water, WTR: Plain water).</b></p>	 <p>Figure 9.</p>

**NOTE: When connecting the bundle syrup tubing to the syrup tubing from the ABS 2.0 unit, keep a record of what syrup is connected to what valve number. This record will be important when setting up the syrup mapping.**

**STEP 4 – INLET AIR OR CO<sub>2</sub> CONNECTION**

Table 10.

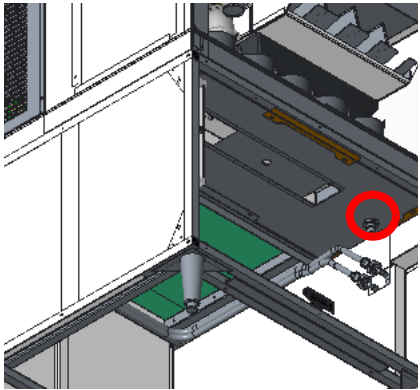
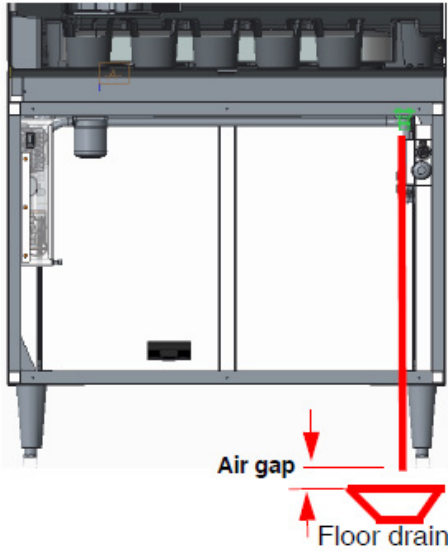
Step	Action	Figure
1	<p>A. Remove the highlighted screws and take out the side access panel as shown in Figure 10.</p> <p>B. Route the compressed air tube through the hole from top of the unit.</p>	 <p>Figure 10. screws</p>
2	<p>A. Remove the cap as shown in Figure 11.</p> <p>B. Attach 3/8"(9.52mm) swivel barb fitting with gasket provided in installation kit.</p> <p>C. Use 3/8" ID (9.52mm) tubing capable of handling a minimum of 120 psi (0.82 MPa).</p> <p>D. Use Oetiker clamps to secure the lines to the barb fittings.</p>	 <p>Figure 11.</p>  <p>Figure 12.</p>



**STEP 5 – UNIT DRAIN ASSEMBLY CONNECTION**

Follow the installation procedure step by step to avoid damages to unit.

**Table 11.**

Step	Action	Figure
1	<p>Assemble the drain tubes to the unit drain shown in Figure 13. using the fittings, clamps, and insulation provided with the dispenser. The completed drain line must pitch continuously downward and should not contain “traps”, “bends” and “pinch” to ensure proper drainage.</p>	 <p style="text-align: center;"><b>Figure 13.</b></p>
2	<p>A. The unit must be located close to a permanent drain (preferably under the unit when in operating position) to route the unit drip tray drain hose inside the permanent drain.</p> <p>B. provide sufficient air gap for proper venting of drain fluid.</p>	 <p style="text-align: center;"><b>Figure 14.</b></p>

**STEP 6 – CLEAN and SANITIZE the ICE BIN AND ICE CHUTE  
(PRIOR to MOUNTING the ICE MAKER)**

Table 12.





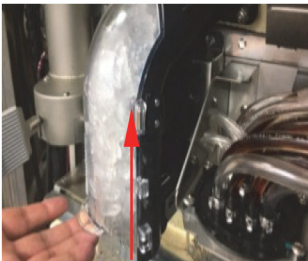


Step	Action	Figure
1	Remove the agitator assembly by unscrewing the thumbscrew and lifting the agitator assembly out of the hopper as shown in Figure 15.	 <p style="text-align: center;">Figure 15.</p>
2	<p>A. Using a nylon bristle brush or sponge, clean the interior of the hopper, top cover and agitator assembly with soap solution.</p> <p>B. Thoroughly rinse the hopper, cover and agitator surfaces with clean potable water.</p>	 <p style="text-align: center;">Figure 16.</p>
3	<p>A. Reassemble agitator assembly.</p> <p>B. Take special care to ensure that the thumbscrew is tight.</p>	 <p style="text-align: center;">Figure 17.</p>
4	Using a mechanical spray bottle filled with sanitizing solution, spray the entire interior and the agitator assembly. Allow them to air dry.	 <p style="text-align: center;">Figure 18.</p>

Table 12. (Continued)

Step	Action	Figure
5	Remove the ice chute cover from the unit.	 <p data-bbox="1097 573 1211 600">Figure 19.</p>
6	Clean the inside of the ice chute and ice chute cover with a mild detergent solution and rinse thoroughly to remove all traces of detergent.	 <p data-bbox="1097 926 1211 953">Figure 20.</p>
7	Using a mechanical spray bottle filled with sanitizing solution, spray the inside of the ice chute. Allow it to air dry.	 <p data-bbox="1097 1310 1211 1337">Figure 21.</p>
8	Reassemble the ice chute assembly.	

## STEP 7 – PRE-COOLER INSTALLATION (IF APPLICABLE)

Table 13.

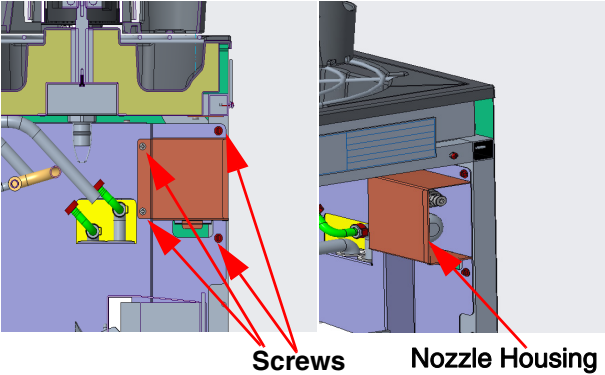
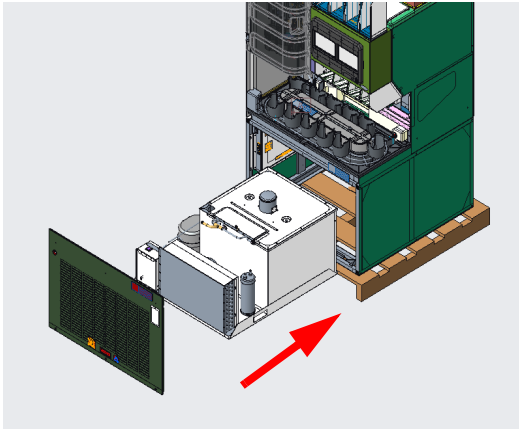
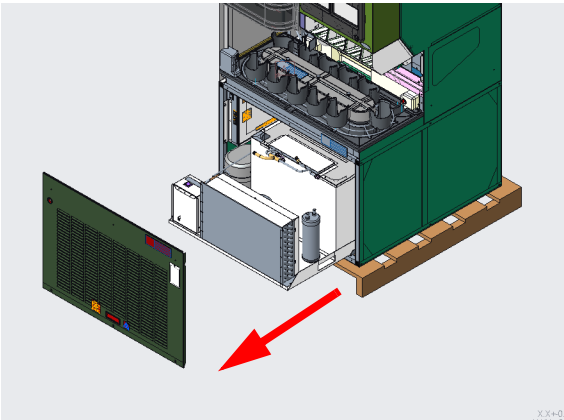
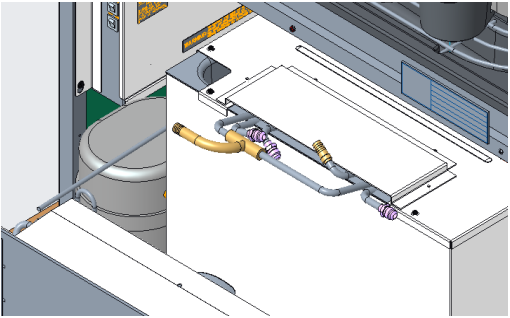
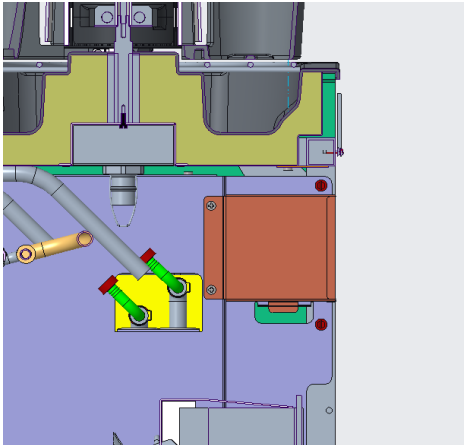
Step	Action	Figure
1	Remove nozzle housing bracket by removing 2 screws.	 <p style="text-align: center;">Screws      Nozzle Housing</p> <p style="text-align: center;">Figure 22.</p>
2	<p>A. Place the Pre-Cooler unit in the ABS 2.0 lower cabinet. If the electrical outlets are behind the ABS, plug the power cords in before the Pre-cooler is installed. When sliding the Pre-Cooler into the ABS 2.0 dispenser lower cabinet, someone should guide the Pre-Cooler water tank and overflow hoses over front support bar of the cabinet.</p> <p>B. If not supported the drain filter could crack or break</p>	 <p style="text-align: center;">Figure 23.</p>
3	Pull (slide) the Pre-Cooler out of the ABS 2.0 dispenser lower cabinet as far as it will go (stops will prevent Pre-Cooler from sliding out too far).	 <p style="text-align: center;">Figure 24.</p>

Table 13. (Continued)

Step	Action	Figure
4	Route and connect the three labeled 1/2-inch [12.7 mm] I.D. carbonated and plain water tubing from the ABS 2.0 unit to the Pre-cooler. The tubing is individually insulated and labeled as being <b>WATER</b> and <b>CARBONATED WATER</b> , the connections on the Pre-cooler are also marked as being <b>WATER</b> and <b>CARBONATED WATER</b> .	 <p data-bbox="1149 625 1263 657">Figure 25.</p>
5	Route 1/2-inch [12.7mm] I.D. carbonated and plain water tubing from the bundle tubing to the Pre-Cooler and connect to the labeled 1/2-inch[12.7mm]barbed carbonated and plain water inlet connectors on the Pre-Cooler.	
6	After pre-cooler is installed, replace cleaning kit nozzle bracket with 2 screws.	 <p data-bbox="1149 1239 1263 1270">Figure 26.</p>

**IMPORTANT:** Before connecting the carbonated and the plain water tubing to the Pre-Cooler, the Pre-Cooler must be pulled out of the ABS 2.0 dispenser lower cabinet to the stops. The water tubing is the correct length and does not need to be cut to fit. The carbonated and the plain water tubing should properly coil when the Pre-Cooler is pushed back in place inside the ABS 2.0 dispenser cabinet. When Pre-Cooler is in place inside the ABS 2.0 dispenser lower cabinet, the carbonated and plain water tubing must not be in contact with the refrigeration compressor, the compressor discharge tube, or the agitator motor.

## STEP 8 – PREPARING the DISPENSER for OPERATION

1. Remove two wing nuts securing the Pre-Cooler water fill hole cover, then remove the cover.
2. Make sure plug in end of the water tank drain hose is secure.

**NOTE: Use a low-mineral-content water where a local water problem exist.**

3. Fill water tank with clean water until water flows out of the water tank overflow hose.
4. Install Pre-Cooler water fill hole cover and secure with two wing nuts.

Very carefully, push the Pre-Cooler back inside the ABS 2.0 dispenser lower cabinet. **Make sure the carbonated and plain water tubes are not kinked and not contacting the refrigeration compressor, compressor discharge tube, or the agitator motor.**

5. Set the Pre-Cooler power switch to the OFF position, then plug Pre-Cooler power plug into electrical outlet. Turn the power switch for the Pre-Cooler electrical control box to the ON position.
  - A. Leak test all tubing connections.
  - B. Install lower access cover.

## STEP 9 – SET-UP and PROGRAMMING

### TOUCH PANEL LAYOUT & EXPLANATION

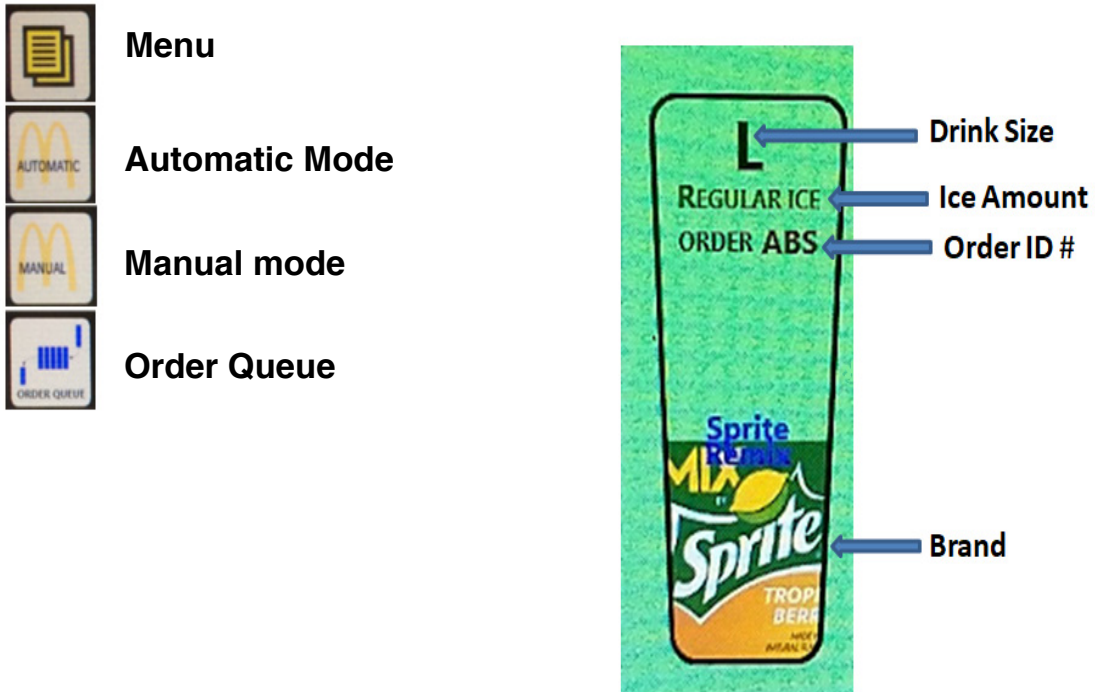
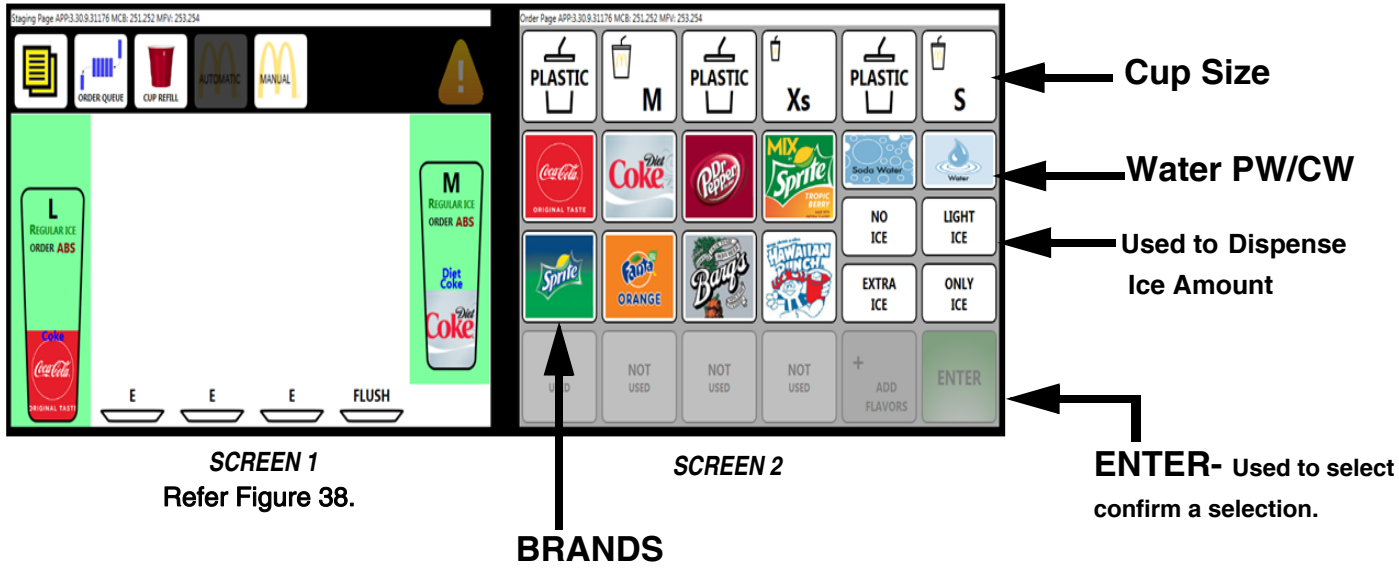


Figure 27.

## DISPLAY EXPLANATION

The screen displays represented in the following illustrations are samples of the screen data.

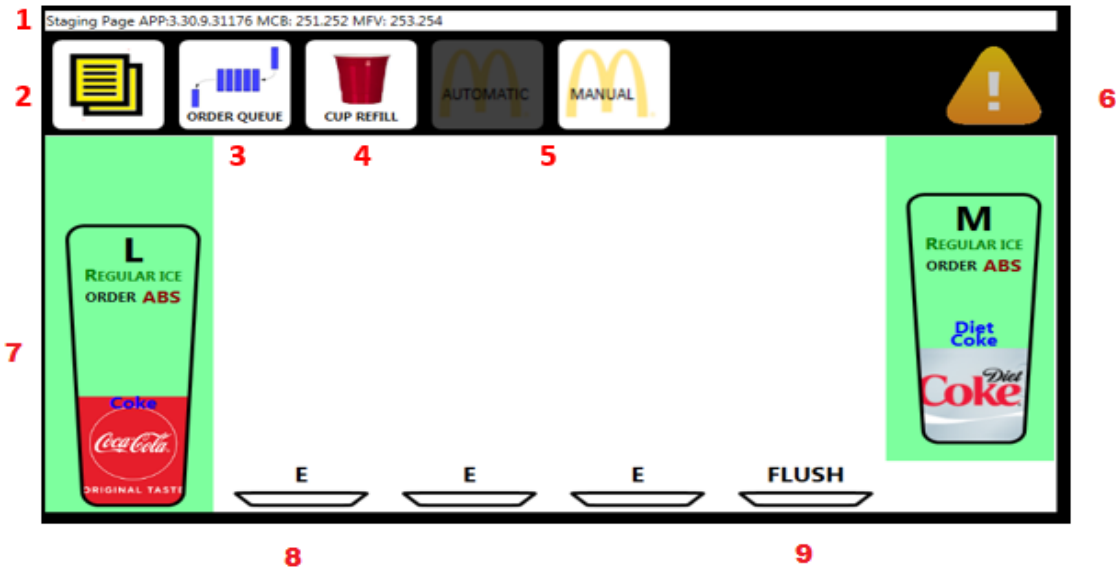


Figure 28.

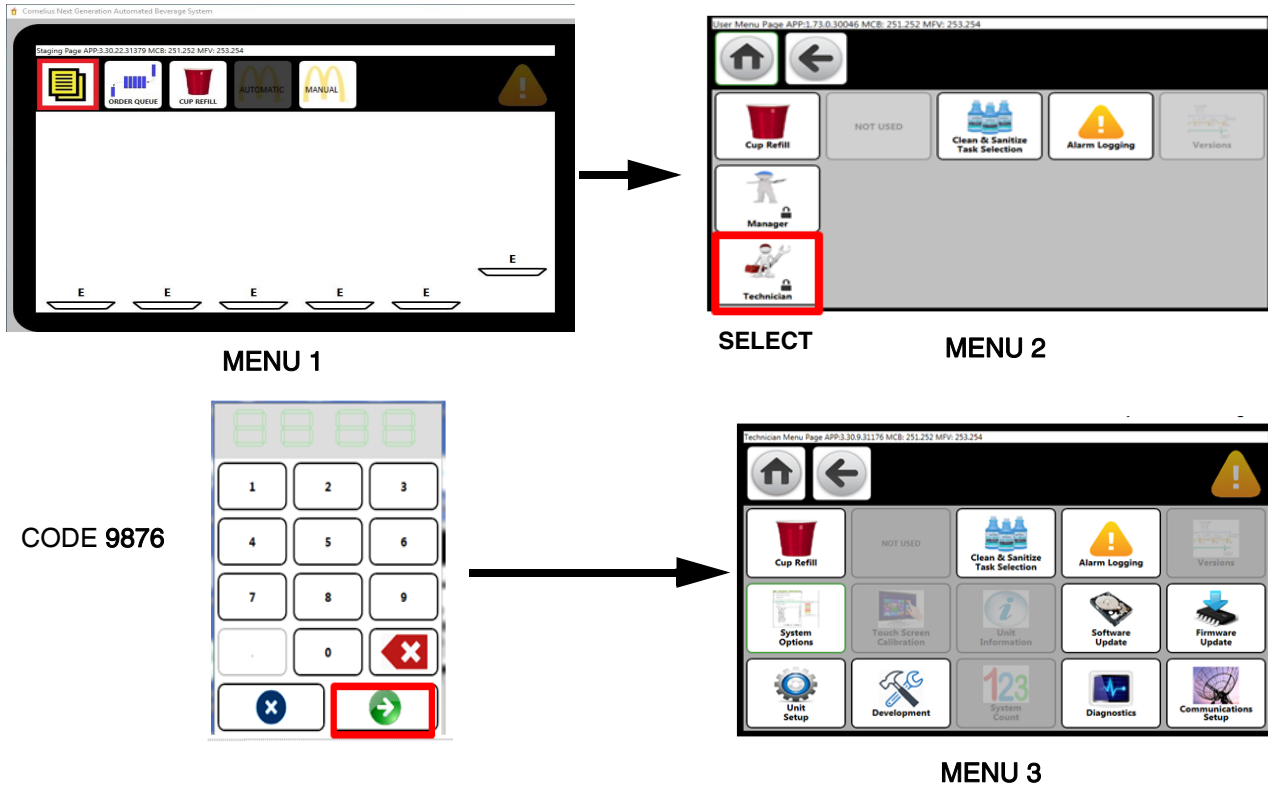
1. Software Version.
2. Page/Menu.
3. Order Queue.
4. Cup Refill.
5. Automatic/ Manual (Dark is Selected).  
-Currently in Automatic Mode
6. Alarm cleaning due or past due.
7. Order - Current example.  
-L (Large), Regular (Ice type)  
-Order (ABS = Semi Auto or Order Number)
8. Finished Drinks 1-6, left to right, Coke is Position 1.
9. Flush - CW has flushed the Nozzle.



### MOVING THROUGH THE MENU

As the following instructions will indicate, you can move through the menu items by selecting the **ICON** from the touch screen. The partial menu below shows the use of **BACK** button to move back to a previous menu and **HOME** button to move back to the starting screen. The following instructions indicate when it is necessary to press the **BACK** button or **HOME** button.

**SELECT**



### USE OF BACK BUTTON

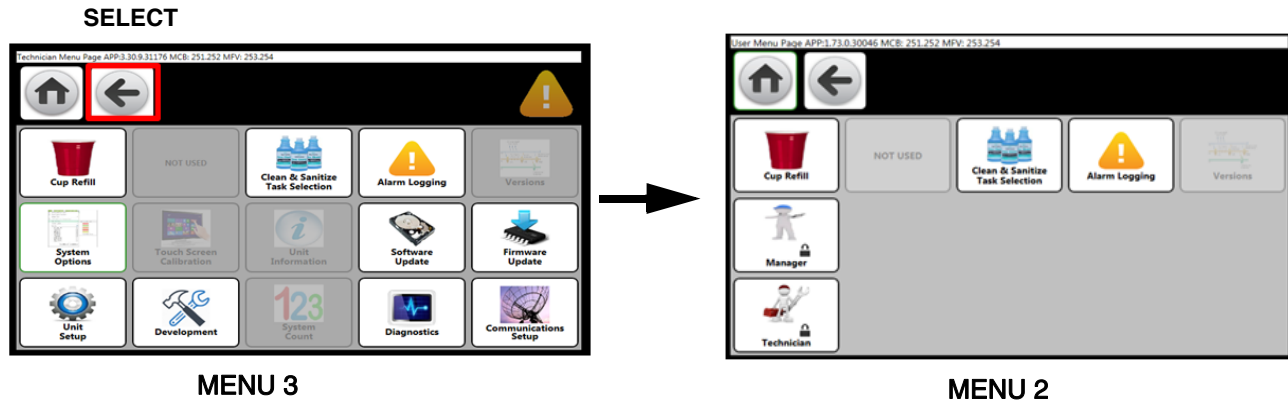


Figure 29.

USE OF HOME BUTTON

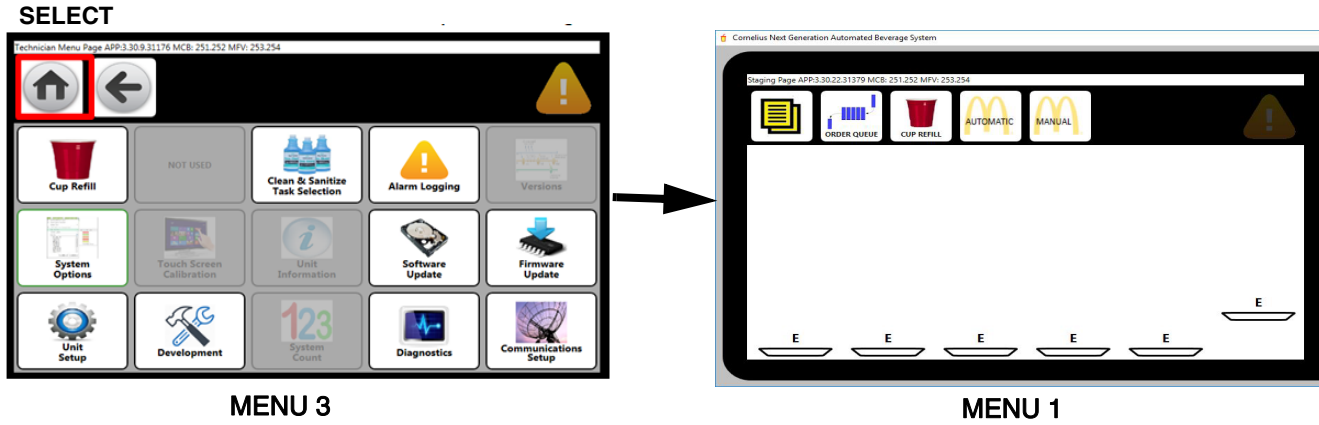


Figure 30.

ENTERING THE TECHNICIAN SCREEN

Table 14.

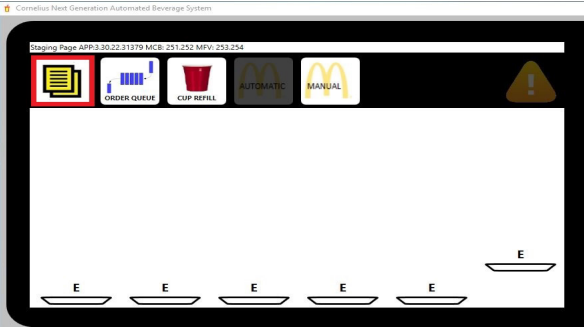
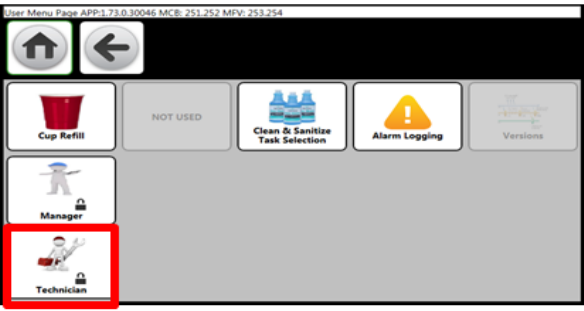
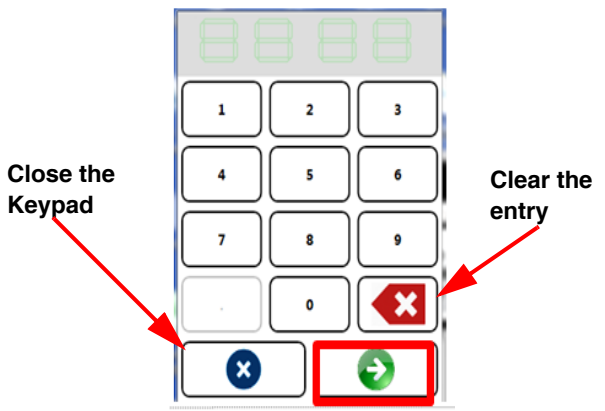
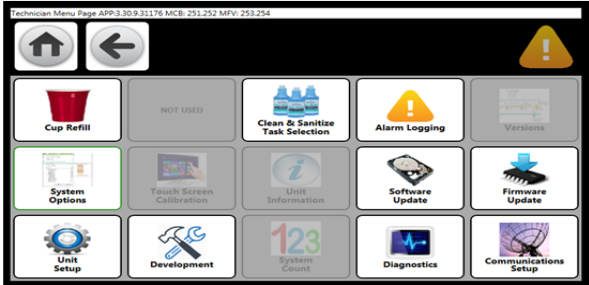
Step	Action	Figure
1	Select the Menu left top corner shown in Figure 31.	 <p><b>Figure 31.</b></p>
2	Select the Technician Icon at left bottom corner shown Figure 32.	 <p><b>Figure 32.</b></p>

Table 14. (Continued)

Step	Action	Figure
3	Enter the pass code (9876) then select green arrow as shown Figure 33.	 <p>Close the Keypad</p> <p>Clear the entry</p> <p>Figure 33.</p>
4	See the Technician Screen as shown Figure 34.	 <p>Figure 34.</p>

### EXPLANATION OF CAROUSEL POSITIONS

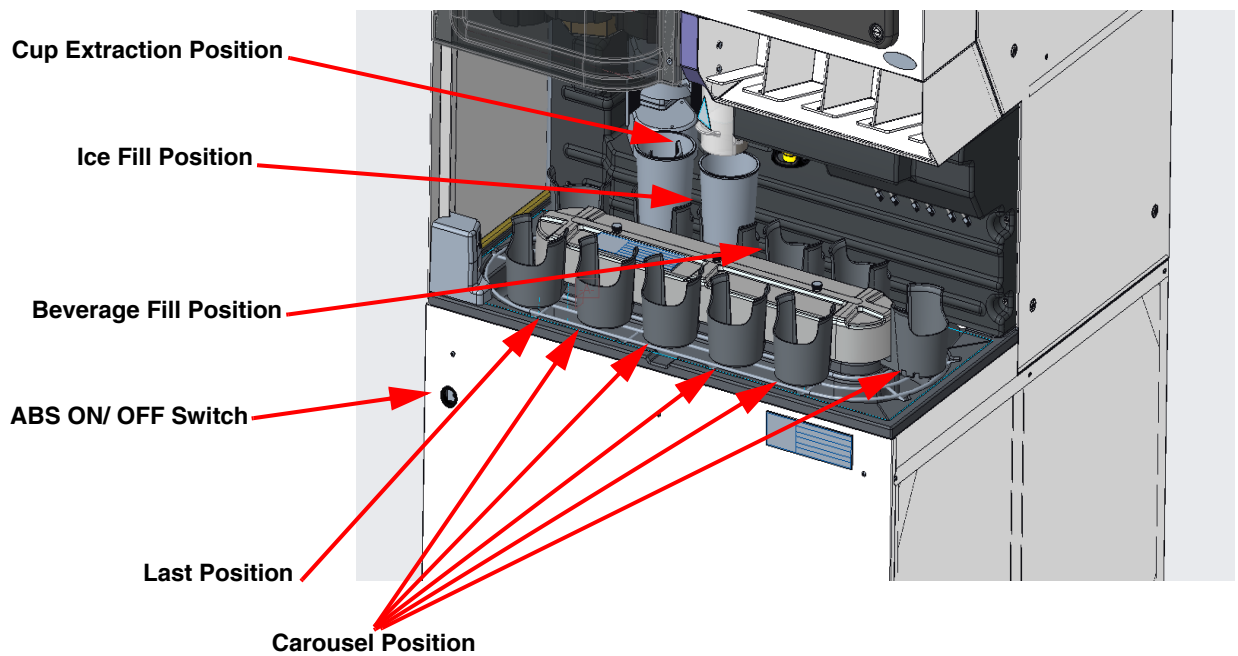


Figure 35.

# INITIAL SET-UP, PROGRAMMING

**NOTE: The ABS 2.0 system is factory set to satisfy the majority of all installations. Do not make any adjustments until you are sure the factory settings will not satisfy the store requirements.**

You will be required to make the following settings:

1. Map syrups to match line up.
2. Water flow rates and syrup to water ratio.
3. Test and adjust (if necessary) the ice portion sizes.
4. Match/adjust valve flow rate to the ABS control.

## INITIALIZING AND SELF TEST

Turn ON the ABS 2.0 unit at the ABS 2.0 ON/OFF switch located on the left top corner of the unit front (see Figure 35.). During the power-up sequence the **Self Test** and **Initializing** messages will be displayed as each test is being made. When the tests are complete the final message will be displayed.



Figure 36.

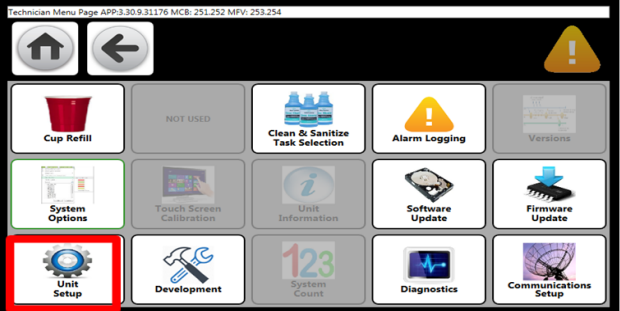
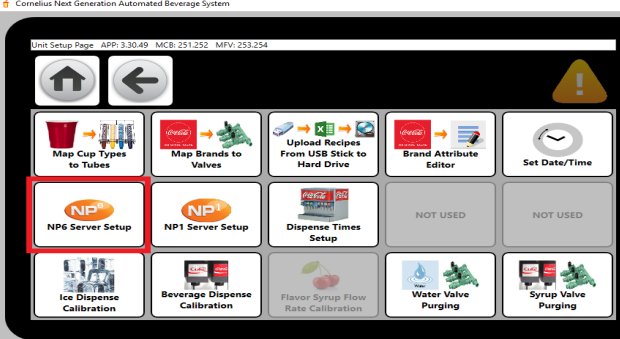
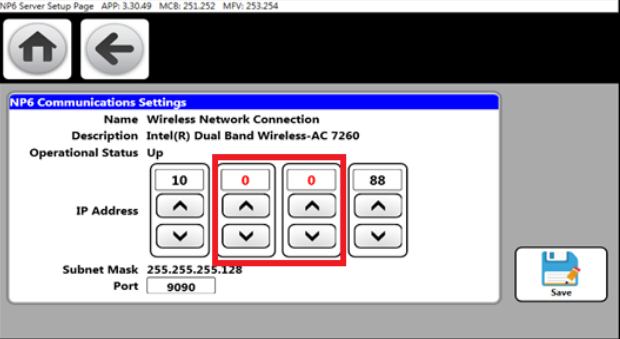
If the Initialing process ends with a **“No COM System Ports Found”** see Figure 37. message, it means that the communication cable between the POS system and ABS system is not connected. If it is not convenient to connect the cable at this time but you wish to proceed with the Set Up, Choose **CLOSE WINDOW** from screen to bypass the Failed message.



Figure 37.

# IP-ADDRESS SET UP

Table 15.

Step	Action	Figure
1	From the Technician Screen Select Unit set up icon as shown Figure 38. Refer Table 14. for entering the Technician Screen	 <p>Figure 38.</p>
2	Select the NP6 Server Setup icon from unit set up screen as shown Figure 39.	 <p>Figure 39.</p>
3	Change the middle two numbers to the restaurant specific IP Address and press the save button.	 <p>Figure 40.</p>

**NOTE:** The two middle numbers are the restaurant specific IP address numbers. See the OTP 3 or contact **McDonald's IT ATOS Helpdesk @ (800) 515-3636** for more information.

## INITIAL SET- UP ADJUSTMENTS

### Important Start-up Information

**NOTE: All CO<sub>2</sub> (air), syrup and water products must be connected and operational before the Start-Up sequence can be started. The cup holders must be in place and filled with cups. The bin must be full of ice.**

### Filling Cup Holder

Table 16.


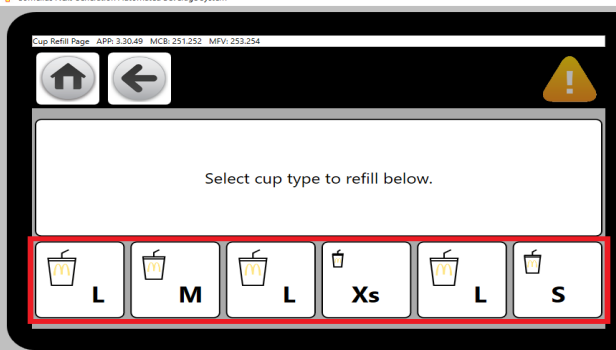
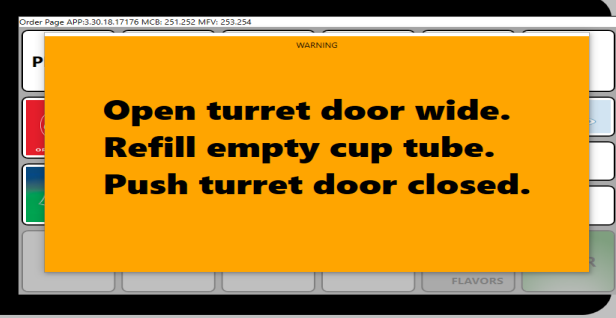


Step	Action	Figure
1	Select cup refill icon as shown in Figure 41.	 <p style="text-align: center;">Figure 41.</p>
2	Select Cup size to bring the cup holder position to front.	 <p style="text-align: center;">Figure 42.</p>
3	After selecting the cup size the screen with instruction message will pop up as shown in Figure 43. Open the turret door.	 <p style="text-align: center;">Figure 43.</p>

Table 16. (Continued)

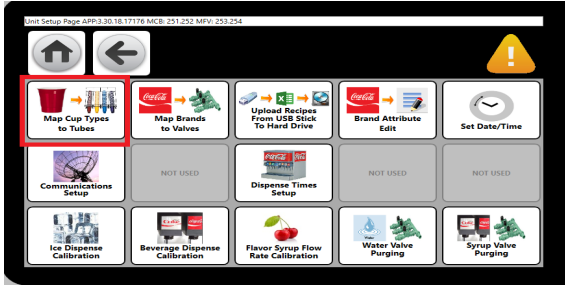
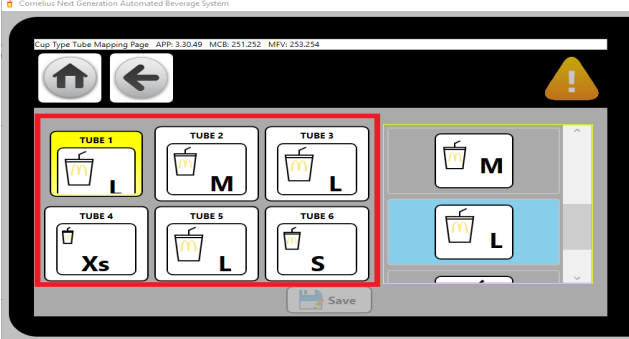
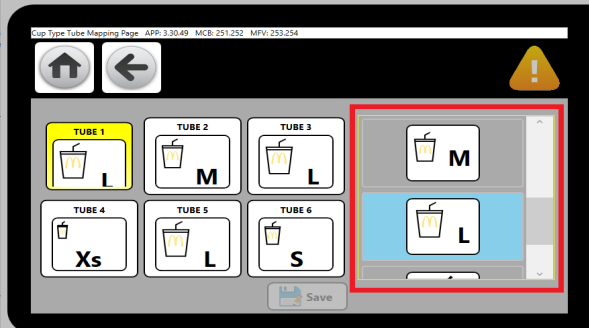
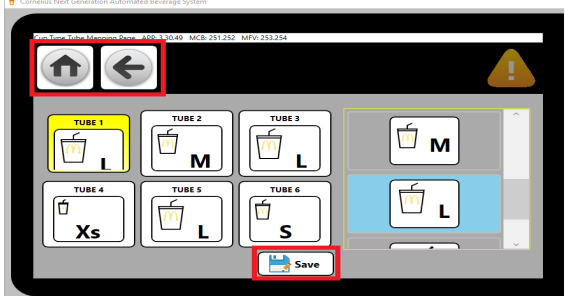
Step	Action	Figure
4	<p>A. Fill Cup's in the cup holder. Spin Turret by hand for all other size.</p> <p>B. Ensure the cup size with holder cup size mark see Figure 44.</p> <p>C. Load from top only.</p>	 <p>Figure 44.</p>
5	<p>Close turret Door.</p>	 <p>Figure 45.</p>

The cup Holders must be installed onto the 6-sided column. The cup tubes can only be installed in one position. The cup holder will be labeled with the cup size (Child, Small, etc.).

# ADJUSTMENTS

## SETTING CUP MAPPING

Table 17

Step	Action	Figure
1	Select Map Cup Type to Tubes button from Unit Set up Menu as shown in Figure 46.	 <p>Figure 46.</p>
2	Select the cup position from right side as shown Figure 47.	 <p>Figure 47.</p>
3	Select the correct cup size from the left side by scrolling the up/down arrow.	 <p>Figure 48.</p>
4	After Mapping the cup size SAVE and return back to desire Menu.	 <p>Figure 49.</p>



## SYRUP MAPPING (BRAND)

### Syrup Map

The table below, shows all the brand names that are resident in the ABS 2.0 system. The shaded area is the default brands.

Table 18.

DEFAULT SETTINGS		POS PROGRAMMING DATA	
VALVE	DISPLAY ID	POS ID	ACTUAL BRAND
1	COCA COLA	1	
2	DIET COKE	2	
3	Dr. PEPPER	3	
4	SPRITE REMIX	4	
5	SPRITE	5	
6	FANTA ORANGE	6	
7	BARQ'S ROOT BEER	7	
8	HAWAIIAN PUNCH	8	

## SPLASH PANEL REMOVAL

Table 19.

Step	Action	Figure
1	<p>Open turret door (optional remove turret assembly) and remove the five screws holding the splash panel, as shown in Figure 50 and pull the panel forward and down to remove it.</p> <p><b>NOTE: 5<sup>th</sup> screw is behind Cup lifter / grabber</b></p>	<p>Figure 50.</p>
2	<p>A. From the Technician Screen select Diagnostics menu, In this menu select picker control and feedback button, in this screen select the Top button to move picker to up. This is to allow access to the screw behind the Lifter/Grabber assembly.</p> <p>B. If no power/air in the unit, directly up/down the Picker by hand.</p>	<p>Figure 51.</p>

Table 19. (Continued)

Step	Action	Figure
3	Remove outer nozzle and diffuser before taking off panel.	
4	Gently pull the splash panel forward from the bottom and move the lifter/grabber up to fully remove.	
5	Replace the splash panels onto the unit.	

## ACCESSING BRAND MAPPING

### MAPPING – FIRST STEP ACCESSING BRAND MAPPING

The illustration in does not represent an actual situation. It is for explanation only. Refer the Table 19. for access the MFV valves on the unit.

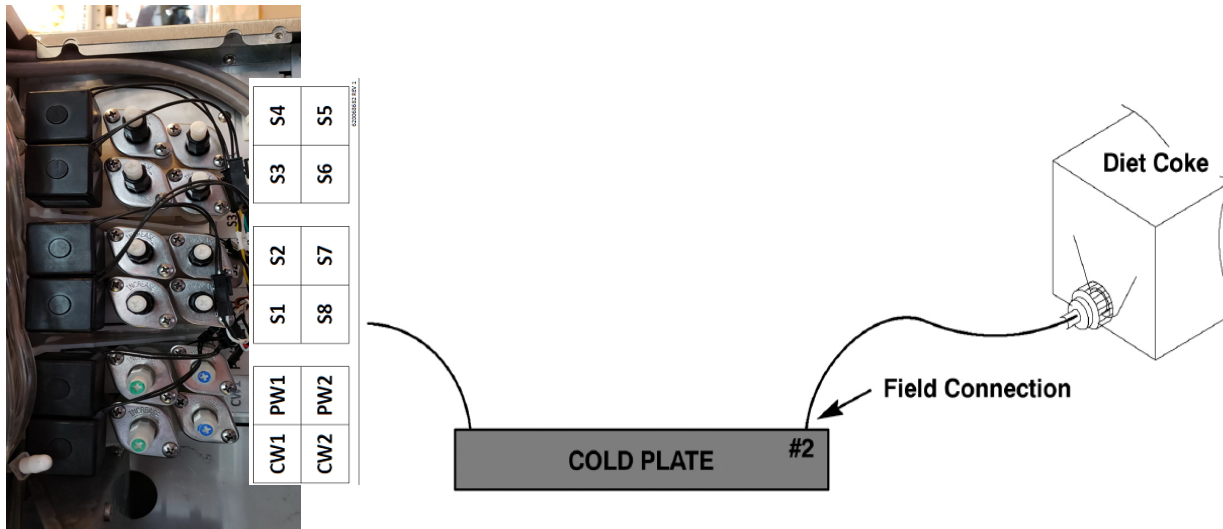


Figure 52. Syrup Map Explanation 1

### Drink List

Create a drink list showing the exact position of each drink in the ABS 2.0 system and hand over the list to GM or keep at the unit (Behind screen). Refer Table 18. on Page 33

**MAPPING - SECOND STEP**

**Table 20.**

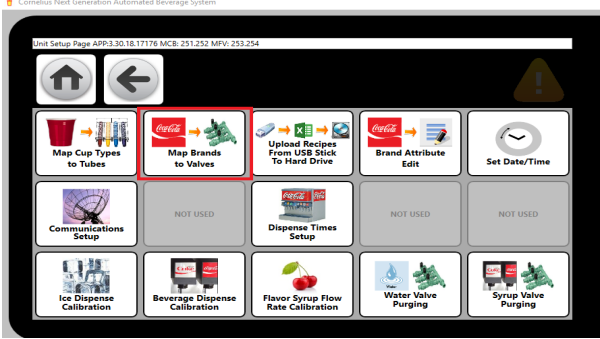
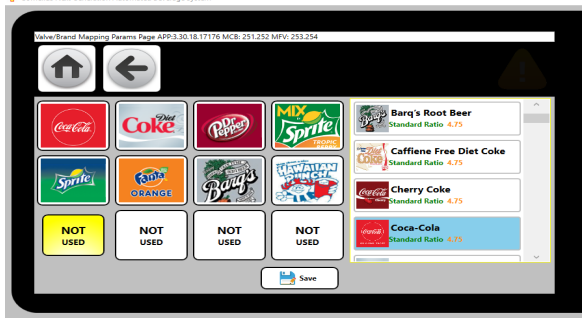
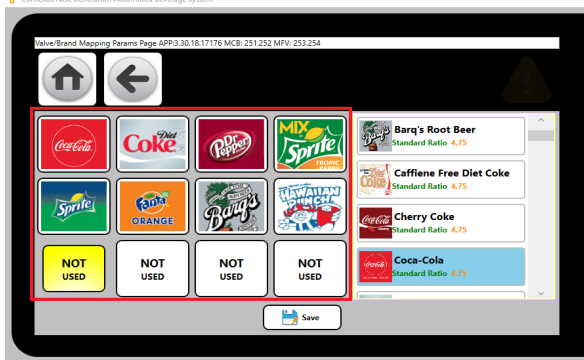
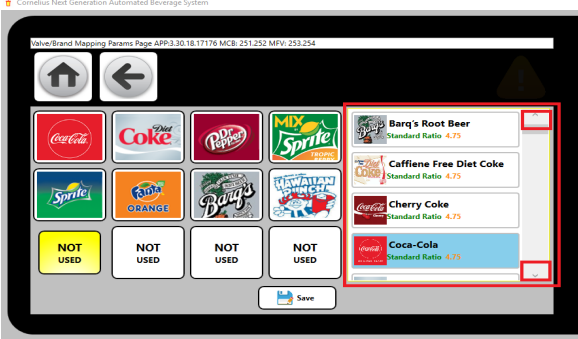
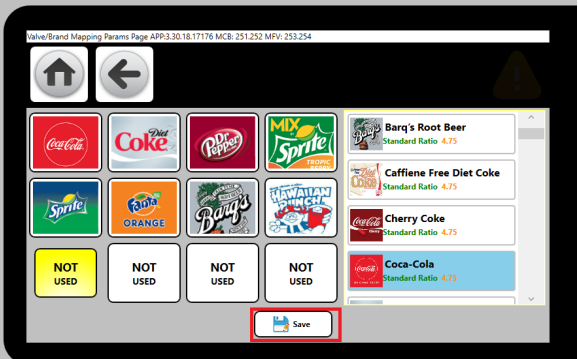
Step	Action	Figure
1	From unit setup Menu select the Map Brands to Valves as shown in Figure 53.	 <p>Figure 53.</p>
2	Brand mapping menu as shown in Figure 54.	 <p>Figure 54.</p>
3	Select the Valve's as shown in Figure 55. Order 1-4, 5-8 Left to right.	 <p>Figure 55.</p>

Table 20. (Continued)

Step	Action	Figure
4	Select the brand to assign the valve by scrolling through brand's using the up/down arrow as shown in Figure 56.	 <p>Figure 56.</p>
5	Save the Mapping and back to home or previous menu	 <p>Figure 57.</p>

### Drink List

Create a drink list showing the exact position of each drink in the ABS system and present this to the POS programmer. The chart at the back of the installation manual can be used for this purpose.

Table 21

POS ID	Flavor
1	COCA COLA
2	DIET COKE
3	Dr. PEPPER
4	SPRITE REMIX
5	SPRITE
6	FANTA ORANGE
7	BARQ'S ROOT BEER
8	HAWAIIAN PUNCH

## VALVE PURGE

The Table 22. below shows water and syrup valve purging procedure.

**Table 22.**


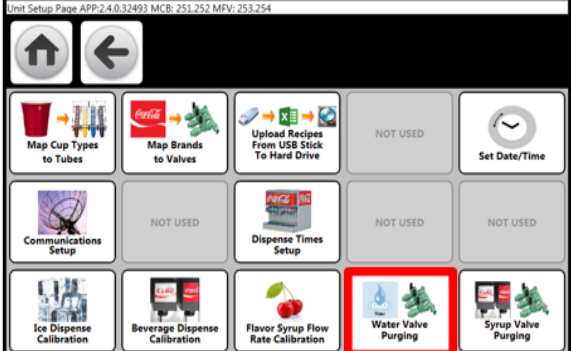
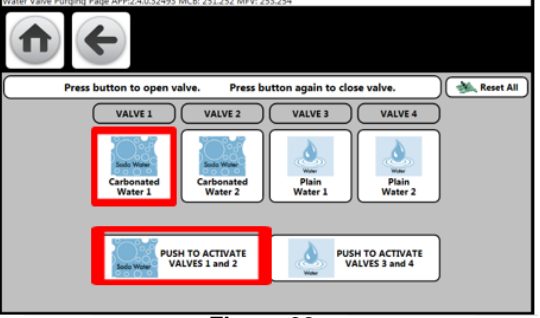
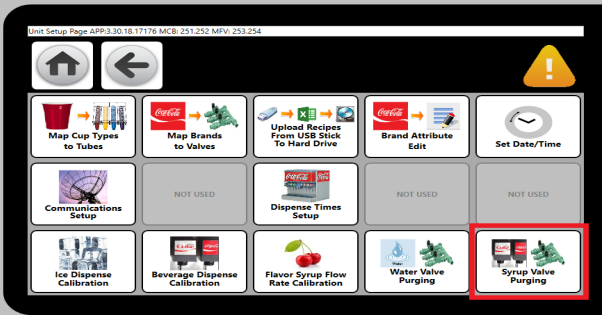
Step	Action	Figure
1	Log in to the technician screen and select <b>UNIT SETUP</b> shown in Figure 58.	 <p>Figure 58.</p>
2	Select Water Valve Purging from screen as shown Figure 59.	 <p>Figure 59.</p>
3	Select each CW/PW valve individually or select the bottom button to activate both valves at same time.	 <p>Figure 60.</p>
4	Select <b>BACK</b> button to go back to Unit setup Menu. Select Syrup Valve Purging button as shown in Figure 61.	 <p>Figure 61.</p>

Table 22. (Continued)

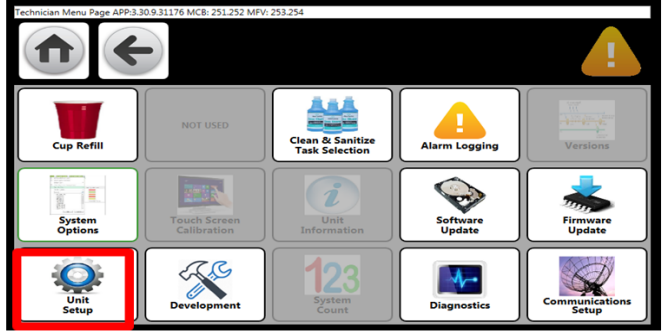
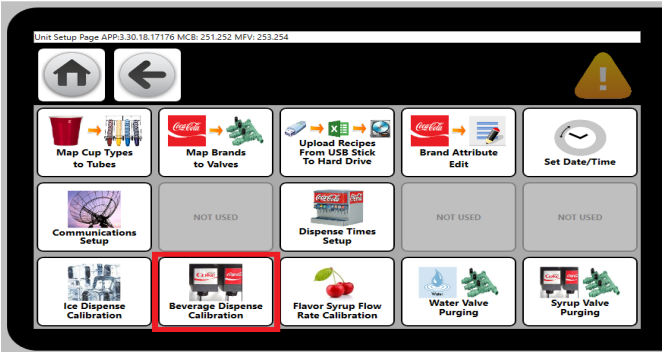
Step	Action	Figure
5	Syrup Valve Purging menu open as shown in Figure 62.	<p style="text-align: center;"><b>Figure 62.</b></p>
6	While in this mode, press each syrup brand button, SODA and WATER until all air is purged from the tubing. In this mode the valve will remain open as long as a button again press. All air must be purged from the tubing before proceeding.	
7	At the end of this sequence press the BACK icon or HOME icon to return to the desired menu. See “Moving Through the Menu” on page 25.	

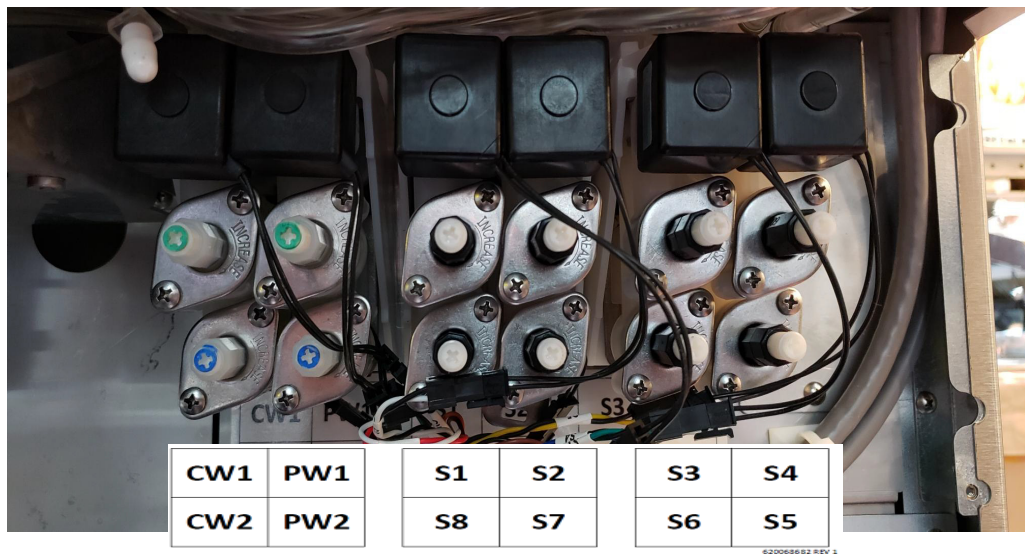
# SET FLOW RATE AND VALVE RATIO

**NOTE: Cold plate should have ice on it and should be cold.**

Remove the Carousel assembly to allow easy access to the area under the valve for the ratio cup.

**Table 23.**

Step	Action	Figure
1	Select the Unit setup Menu from technician screen (Refer See “Entering The Technician Screen” on page 26.)	 <p>Figure 63.</p>
2	Select the Beverage Dispense Calibration	 <p>Figure 64.</p>



**Figure 65. Front View, Valve**

## ADJUSTING WATER FLOW RATE

**Overview:** The ABS 2.0 uses 2 MFV water valves for both carbonated water (CW1 & CW2) and plain water (PW1 & PW2). Each valve module has a high-flow orifice and a low-flow orifice. The high-flow orifice provides approximately 75% and the low-flow orifice provides approximately 25% of the total flow-rate. During a beverage dispense, both valves are activated and together provide the total water flow-rate required.

**NOTE:** The default water volume shown on the Beverage Dispense Calibration screen is 12.00. This is the target volume after calibration which equates to a water flow-rate of 3.0 oz/sec(29.57 ml/sec). If the final water flow-rate is different than 3.0 oz/sec(88.72 ml/sec), this procedure will update the default value.

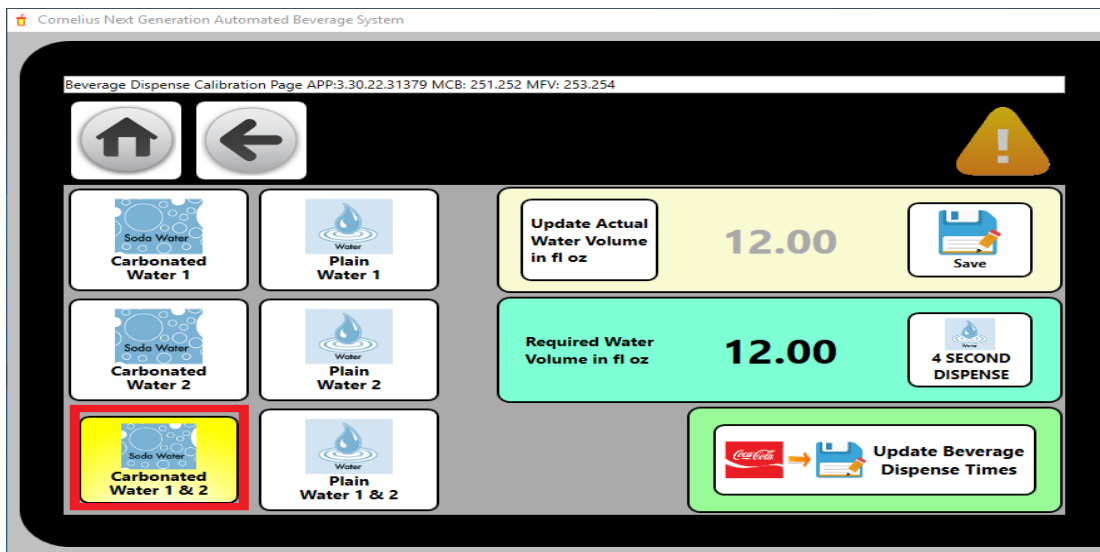


Figure 66.

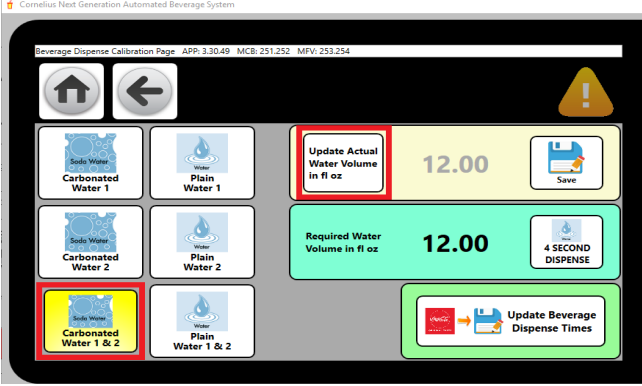

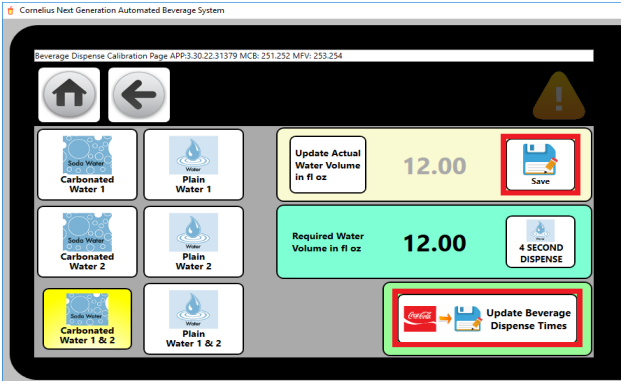
1. From the Beverage Dispense Calibration screen, select the button for **Carbonated Water 1**. Hold the water compartment of the ratio cup under the nozzle and press the **4 SECOND DISPENSE** button. Target volume for CW1 is approximately 9 ounces. Turn the **CW1** adjustment screw on the MFV valve clockwise to increase the flow-rate or counter-clockwise to decrease the flow-rate until the target volume is reached.
2. Next, select the button for **Carbonated Water 1 & 2**. Hold the water compartment of the ratio cup under the nozzle and press the **4 SECOND DISPENSE** button. Target volume for CW1 & CW2 is 12 ounces. Turn the **CW2** adjustment screw on the MFV valve clockwise to increase the flow-rate or counter-clockwise to decrease the flow-rate until the target volume is reached.
3. Repeat steps 1 & 2 for the plain water valves PW1 & PW2. The total target volume for plain water is 12 ounces.



## SET OVERALL WATER VALVE

**Important:** This is the step that adjusts the pour times of all beverages dispensed from the ABS 2.0. If this step is not completed, then drinks will either over or under-pour depending on the flow-rate adjustment of the valves.

Table 24.

Step	Action	Figure
1	<p>After both CW valves are adjusted, do another 4 second dispense and measure the volume dispensed in the ratio cup. Select <b>Update Actual Water Volume in fl oz</b> and using the keypad enter the volume measured in the ratio cup and press the <b>green arrow</b>.</p>	 <p>Figure 67.</p>  <p>Figure 68.</p>
2	<p>Press <b>Save</b> and then press <b>Update Beverage Dispense Times</b>. The dispense times for all drink sizes and types are now updated based on the set flow-rate.</p>	 <p>Figure 69.</p>
3	<p>Repeat steps 1 &amp; 2 for the plain water valves PW1 &amp; PW2.</p>	

## TROUBLESHOOTING FOR WATER VALVE

- If drinks **overflow**, this means the dispense times are too high for the flow-rate that the valves have been adjusted to. Repeat the above steps and **increase** volume entered. This will shorten the dispense time prevent overflowing.
- If drinks **under-fill**, this means the dispense times are too low for the flow-rate that the valves have been adjusted to. Repeat the above steps and **decrease** volume entered. This will lengthen the dispense time prevent under-filling.

## ADJUST THE SYRUP RATIO (BRAND)

After the water flow rates are set, the syrup ratio must be adjusted. The water flow rates were set to a target flow rate of 3.0 oz/sec(88.72 ml/sec) and now the syrup flow rates must set to achieve the correct ratio required for each brand. To check the ratio required, select the brand on the right screen and set the valve according to the ratio displayed.

**NOTE:** Always adjust the ratio for the syrup with the highest viscosity first. Some syrups may be too viscous and you might be unable to achieve the desired ratio. In these cases, the PW or CW flow rate will have to be lowered to permit setting the proper ratio.

**NOTE:** Once the PW and CW flow rates are set they should not be changed. Any change to the PW or CW will require that all syrup to water ratios be readjusted.

**NOTE:** Be sure to use the correct ratio cup for the ratio being adjusted.



Figure 70.

### U.S.A. FOLLOW THE PROCEDURE BELOW:

1. Hold the ratio cup water compartment below the valve and select the Plain Water button if adjusting a non-carbonated drink or the carbonated water button if adjusting a carbonated water drink.
2. Hold the appropriate ratio cup syrup compartment below the valve. Select the syrup brand and press the "4 SECOND DISPENSE".
3. Acceptable ratio is shown in the illustration below as the Correct Reading within the same bandwidth.

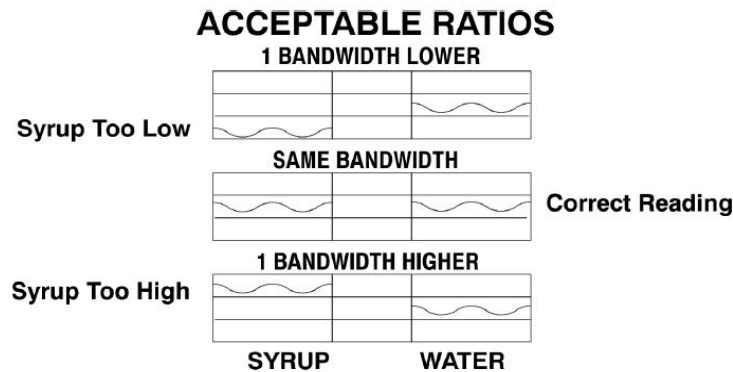


Figure 71. Ratio Cup, Acceptable Ratio

### AUSTRALIA FOLLOW THE PROCEDURE BELOW:

1. Using the table below, determine the volume of syrup that should dispense in the 4 second pour.

Example: The ratio for the brand is 5.25, and it is a carbonated (CW) drink, the unit should dispense 75.7 ml of syrup in the 4 second dispense. If the ratio for the brand is 5.25, and it is plain water (PW) drink, the unit should dispense 66.3 ml of syrup in the 4 second dispense.

Table 25.

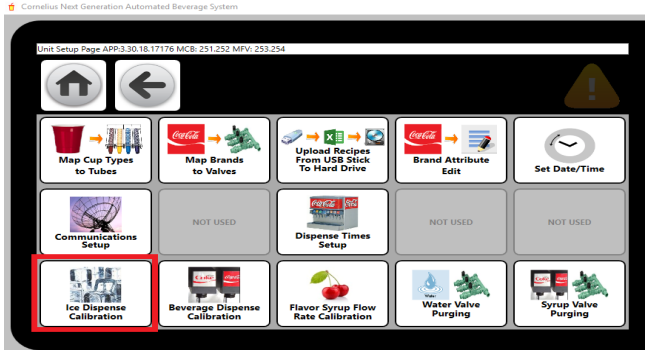
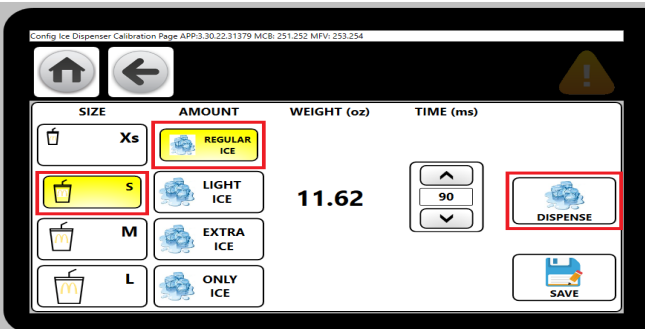
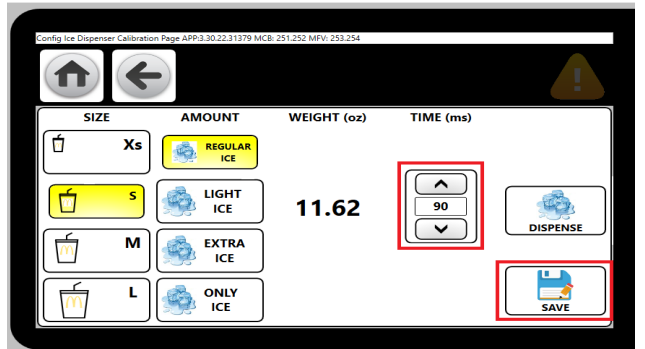
Ratio	CW/PW	ml Syrup
5.25/1	CW	75.700
5.25/1	PW	66.300
4.75/1	CW	82.300
4.75/1	PW	72.000
4.25/1	CW	90.100
4.25/1	PW	78.900
9.5/1	PW	39.500

2. Hold the volume measuring device below the valve, Select the syrup brand and press the "4 SECOND DISPENSE".
3. Adjust the flow regulator as required. See Figure 65 for location of the adjustment screws on the valve.
4. At the end of this adjustment press the **HOME** button twice to return to the main menu.

## ADJUST ICE PORTION

Install the Carousel assembly before beginning the next procedure. Place the measuring cup under the ice dispenser.

Table 26.

Step	Action	Figure
1	Place the measuring cup under the ice dispenser. Select the “Ice Dispense Calibration” icon from the Unit setup menu as shown in Figure 72.	 <p>Figure 72.</p>
2	From the Ice Dispense Calibration Menu Select the Cup Size, Amount of Ice and Press “DISPENSE” button as shown in Figure 73. and measure the weight of the Ice.	 <p>Figure 73.</p>
3	If weight is not correct adjust the Ice dispense time by pressing the up/down arrow as shown in Figure 74. if correct weight is obtained Save the setting by pressing the save button.	 <p>Figure 74.</p>
4	Repeat the process for all remaining cup size with different amount of Ice and save the setting.	

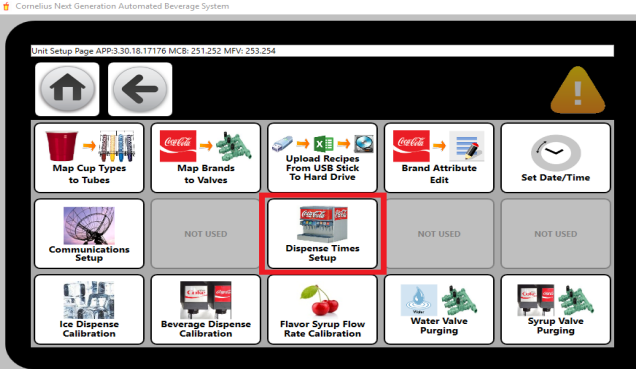

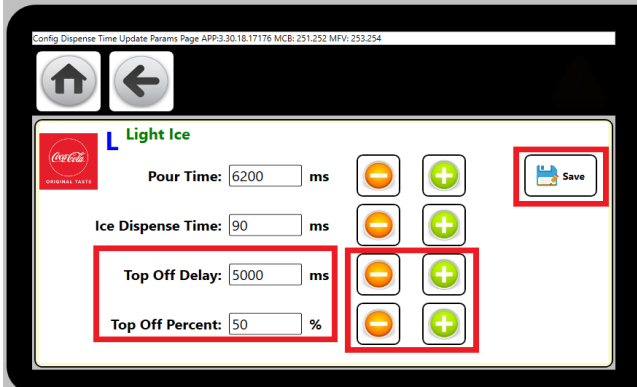
When the level is correct, press **SAVE** button to save the changes and then repeat the process for all cup sizes.

### TOP-OFF EXPLANATION

Drink brands that tend to pour with excessive foam have been adjusted so 70% of the drink pours and then after a delay the remainder of the drink pours.

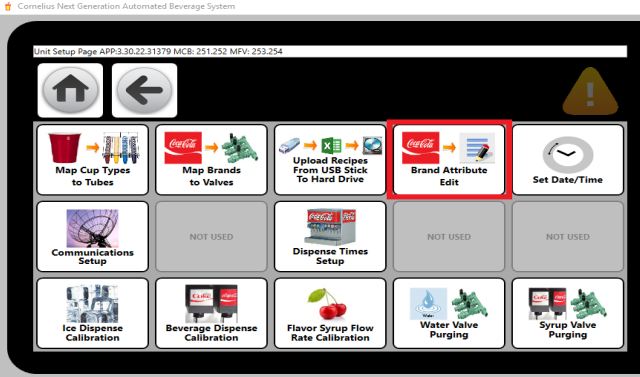
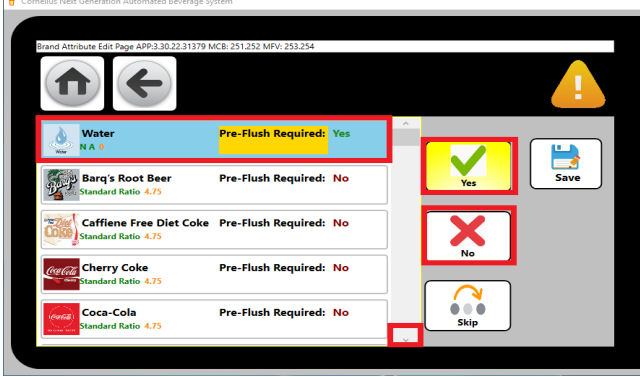
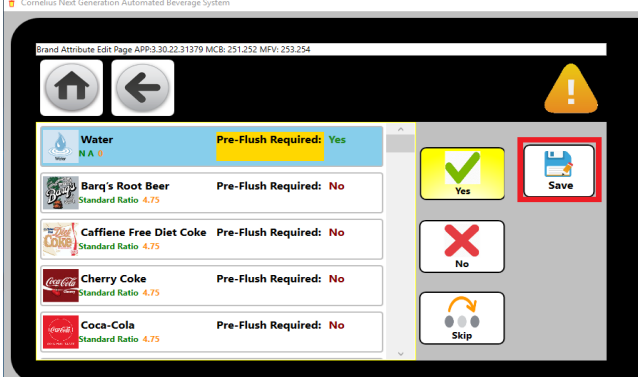
### ADJUSTING THE TOP-OFF

Table 27.

Step	Action	Figure
1	Select the <b>“Dispense Time Setup”</b> icon from unit setup menu as shown in Figure 75.	 <p>Figure 75. This screenshot shows the 'Unit Setup' menu of the Cornelius Next Generation Automated Beverage System. The menu includes options like 'Map Cup Types to Tubes', 'Map Brands to Valves', 'Upload Recipes From USB Stick To Hard Drive', 'Brand Attribute Edit', 'Set Date/Time', 'Communications Setup', 'Ice Dispense Calibration', 'Beverage Dispense Calibration', 'Flavor Syrup Flow Rate Calibration', 'Water Valve Purging', and 'Syrup Valve Purging'. The 'Dispense Times Setup' option is highlighted with a red box.</p>
2	From the Dispense Time Setup menu select the Brand, Cup size, Ice volume and Press <b>“Edit”</b> Button as shown in Figure 76.	 <p>Figure 76. This screenshot shows the 'Configure Dispense Times' menu. It features a grid of buttons for cup sizes (Xs, S, M, L), ice options (NO ICE, LIGHT, REGULAR ICE, EXTRA ICE, ONLY ICE), and various beverage brands (Coca-Cola, Coke, Dr. Pepper, Sprite, Fanta, etc.). The 'Edit' button at the bottom right is highlighted with a red box.</p>
3	Use the (+) and (-) button to enter the value of Top Off Delay and Percent and the press Save button to save the setting as shown in Figure 77.	 <p>Figure 77. This screenshot shows the 'Configure Dispense Time Update Params' screen for 'Light Ice'. It displays input fields for 'Pour Time' (6200 ms), 'Ice Dispense Time' (90 ms), 'Top Off Delay' (5000 ms), and 'Top Off Percent' (50 %). The 'Top Off Delay' and 'Top Off Percent' fields, along with their respective +/- adjustment buttons, are highlighted with a red box. A 'Save' button is also highlighted with a red box.</p>
4	Repeat the above steps for remaining Brands with different Cup size and Ice volume. Also follow the same step for Plain Water / Carbonated Water.	

## BRAND FLUSH SETTING

Table 28.

Step	Action	Figure
1	From the Unit setup menu select <b>Brand Attribute Edit</b> Button. as shown in Figure 78.	 <p>Figure 78.</p>
2	<p>A. Select the brand or water type.</p> <p>B. select <b>YES</b> green button for flush before drink or select <b>NO</b> red button for without flush drink.</p> <p>C. Use the scroll up &amp; down to chose different brand or water type selection.</p>	 <p>Figure 79.</p>
3	Save the setting as shown in Figure 80.	 <p>Figure 80.</p>

**NOTE:** Flush is used to serve clear drink, It ensures the taste of the drink.

## SAVING THE SET-UP

Select preferences in respective set up and press **“SAVE”** icon shown in Figure 81. to save the setting of the menu.



Figure 81.

## MANUAL MODE OPERATION

In the **MANUAL** mode, POS data is updated and **ALARM** messages are displayed. In MANUAL mode the highlight flashes to alert operator that the ABS 2.0 unit is in the MANUAL mode. While in the MANUAL mode, POS drink orders continue to be received and placed in the order buffer.



Figure 82.

In the manual mode select the **Brand** then Press and hold button to dispense Beverage as required. as same as Press **ICE** button to dispense ice. There is no need of cup selection in manual mode.

## AUTOMATIC MODE OPERATION

In automatic mode the beverage dispense automatically from the input of POS system. By default ABS 2.0 System is setup to Automatic operation mode.

If alarm conditions are present (but previously acknowledged) the ABS 2.0 status will indicate **Warning**. While the Warning status is present, the word **AUTOMATIC** will flash.



Figure 83.

## CLEAR THE POS ORDER BUFFER

Table 29

Step	Action	Figure
1	Select <b>Order Queue</b> as shown Figure 84.	<p>The screenshot shows the 'Order Queue Page' with the same system information as Figure 83. The 'ORDER QUEUE' icon is highlighted with a red border. The main display area shows three beverage images: a Coca-Cola can (L), a Diet Coke can (M), and a Dr Pepper can (L). Below these are three 'E' icons representing beverage dispensers.</p> <p>Figure 84.</p>
2	<p>A. Delete Undesired Orders or <b>Delete All</b>.</p> <p>B. If several orders stack up and are no longer needed, it may be easier to delete all and manually enter in what is missing.</p>	<p>The screenshot shows the 'Order Queue Page' with three order entries. Each entry includes the order ID, product area, beverage name, and a 'Delete' button. The 'Delete' buttons for the first two orders and the 'Delete All' button at the top right are highlighted with red boxes.</p> <p>Figure 85.</p>



## SEMI-AUTOMATIC DRINK ORDER ENTRY

Manual order entry can be made without entering the drink at the POS. This is normally done to correct an error in entry, to pour a replacement drink or to accommodate a customer special request.

**NOTE: Steps 1, 2, 3, 4 below can be made in any order. If any selection in any step is incorrect it may be reentered. "Order Entry" will be displayed on the second line of the display.**

**NOTE: Pressing the Clear button at any time will cancel the operation.**

While in the **Automatic** mode:

1. Press a **Cup** button to select the size drink desired. The display will indicate the selection made.
2. Press a **BRAND** button to select the brand desired. The display will indicate the selection made.
3. Press the **No Ice** or **Extra Ice**, or **FLOAT** button if either ice feature is desired, or a float drink is requested. Not pressing these buttons will cause the normal ice portion to dispense. The display will indicate the selection made. The **No Ice**, **Extra Ice** and **light Ice** buttons are toggle buttons, so, if an error is made simply press the button again to cancel.
4. After the proper selections are made, press the **Enter** button to dispense the drink.

Once entered, the ABS system will determine how many drinks are ahead in the POS queue before the Semi-Automatic drink order will be started.

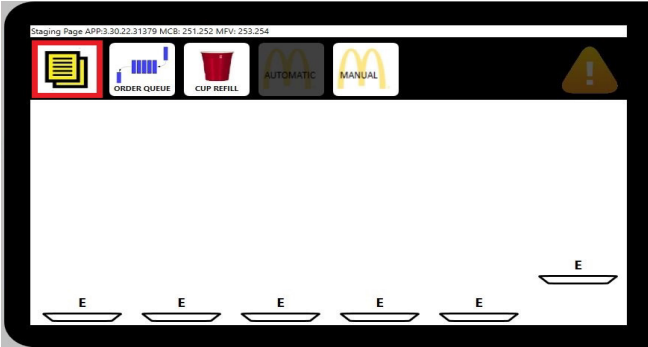
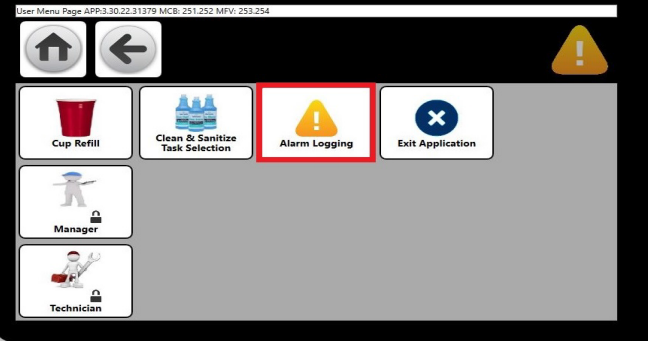
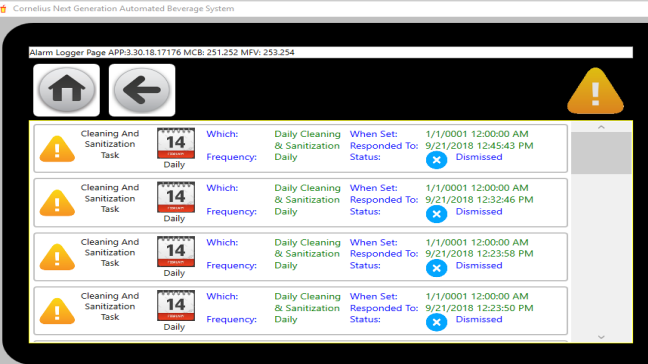
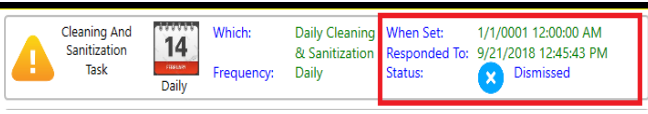


Figure 86.

# ALARM AND WARNING MESSAGES

To view warnings, follow the steps.

Table 30

Step	Action	Figure
1	From the starting page select the Menu page Icon as shown in Figure 87.	 <p>Figure 87.</p>
2	From the menu page select “Alarm Logging” button to entering the menu as shown in Figure 88.	 <p>Figure 88.</p>
3	In the alarm logging menu all alarm and warning are listed. Use scroll button to view all the messages.	 <p>Figure 89.</p>
4	Current status of the messages show at right side as shown in Figure 90.	 <p>Figure 90.</p>

# SCHEMATICS

## WIRING DIAGRAM

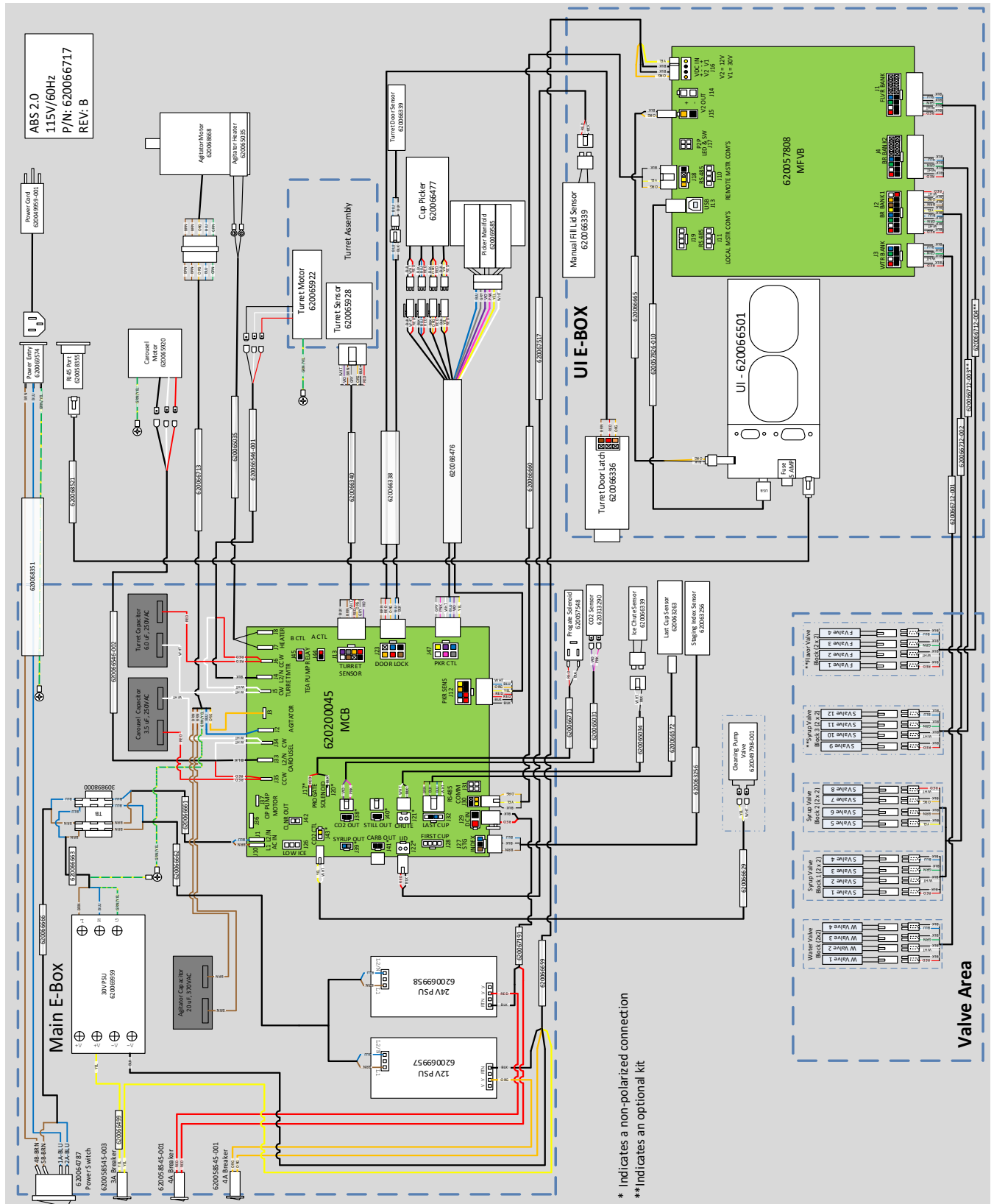


Figure 91.

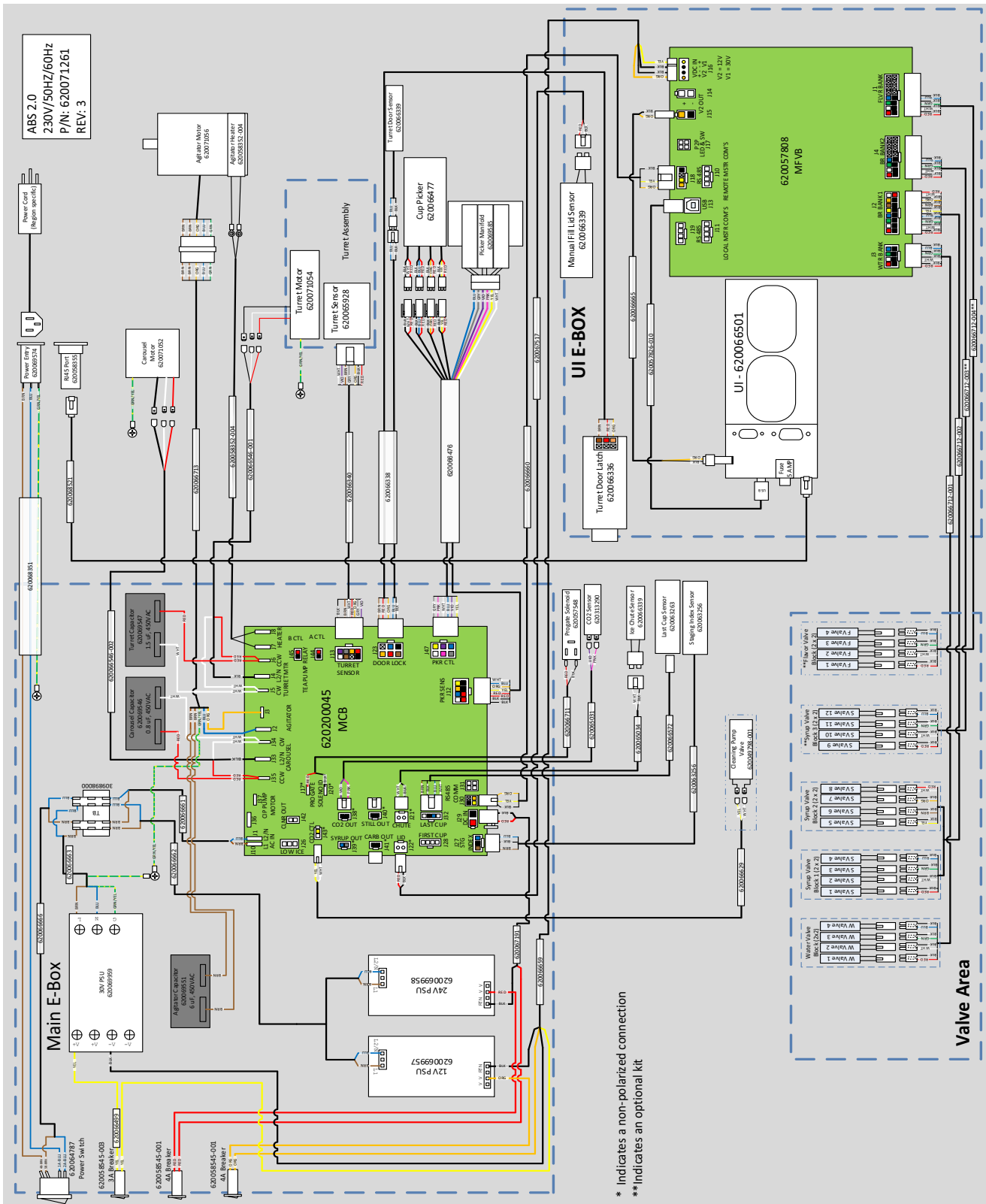
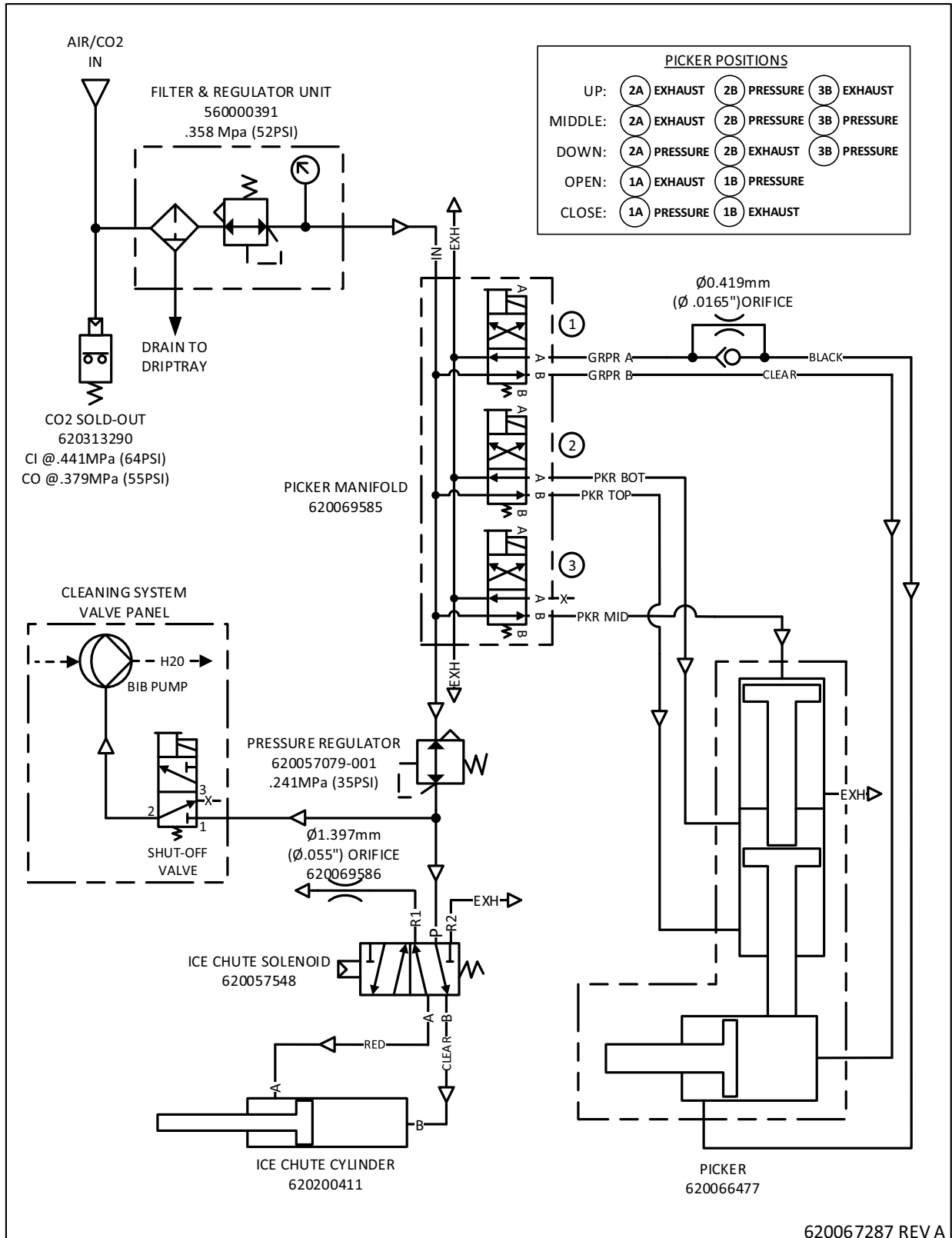


Figure 92.

# PLUMBING DIAGRAM (AIR/CO<sub>2</sub>)



620067287 REV A

Figure 93.

# TROUBLESHOOTING

## MECHANICAL ISSUES

Table 31

Message	Explanation	Correction
CLEAR CUP JAM	Cup(s) is jammed in the Carousel at the cup extraction position and the Carousel and turret are unable to operate.	Remove all cups from the Carousel cup holders at the Extract Position before pressing the ENTER button. Another cup will be extracted and dispensing will continue.
	Cup Tubes.	Over stacking of cups in cup tubes. DO not fill above the top of the cup tube.
		Cup tube fingers are damaged (bent), replace all four fingers.
		Cup tubes not properly mounted. Remove and remount cup tubes.
	Loose or missing Hardware.	Check each cup tube to insure all hardware is present on the cup tube. Replace any missing hardware.
Cups.	Cups are packed together and will not separate.	
NO CUP EXTRACTED	The gripper did not or could not extract a cup from the cup tube.	Check cup supply at the extract station and make sure the cups are not stuck. Make sure the gripper pads are not damaged
	No cup present	Refill the cup holders.
	Grabber Pads.	Wet, dry off if damaged, replace.
	CO <sub>2</sub>	Check bulk CO <sub>2</sub> tank, if empty go to back up CO <sub>2</sub> and turn on.
	Cup Tubes.	Cup tube fingers are damaged (bent), replace all four fingers.
	Cups	Cups are packed together and will not separate.
TURRET STALLED	Turret unable to rotate clockwise of counter-clockwise.	Clear obstruction (cup holder, cup tube or cup). Press ENTER
Carousel STALLED	Carousel Dirty	clean the Carousel.
	Cup(s) is jammed in the Carousel at the cup extraction position and the Carousel and turret are unable to operate. Does the Carousel rotate?	Remove all cups from the Carousel cup holders at the EXTRACT POSITION before pressing the ENTER button. Another cup will be extracted and dispensing will continue. Make sure Carousel is installed correctly. Repair or Replace.
AIR OR CO <sub>2</sub> LOW OR OUT	CO <sub>2</sub> supply is low or empty or Air compressor not operating	Change CO <sub>2</sub> cylinder or have bulk tank refilled. Check cause not operating and repair.

**BEVERAGE / ICE RELATED ISSUES**
**Table 32**

<b>Message</b>	<b>Explanation</b>	<b>Correction</b>
NO ICE DISPENSE	A. Ice Chute not installed correctly. B. Bad solenoid valve. C. Plugged orifice. D. No / Low CO <sub>2</sub> . E. No ice in the hopper	Reinstall Ice Chute. Call for service. Call for service. Call for service. Refill the ice or switch on the ice maker
BEVERAGES TOO SWEET	A. Carbonator not working. B. No CO <sub>2</sub> pressure in carbonator. C. Valve ratio requires adjusting. D. Plugged filter.	Call for service. Call for service. Call for service. Replace.
BEVERAGES NOT SWEET ENOUGH	A. Empty B.I.B container. B. Valve ratio requires adjusting.	Replace. Call for service.
BEVERAGE NOT COLD	A. No ice in hopper. B. Drains plugged and water standing on cold plate. C. Master Cooling system not cooling.	Fill ice bin. Clean ice bin and flush drain with warm water. Call for service.
DRINKS FOAMY	A. Nozzle & Syrup diffuser not clean. B. Bulk coke tank needs to be sanitize. C. Lower or out of CO <sub>2</sub> . D. No jumper transfer hose used on bulk tank	A. Clean and Sanitize. B. Clean and Sanitize. C. Replace or Switch to Back Up. D. Make sure jumper hose on bulk tank is connected when changing bulk tanks

## POS RELATED ISSUES

**Table 33**

Message	Explanation
<b>ABS SYSTEM NOT COMMUNICATING</b>	<ul style="list-style-type: none"> <li>• Verify that the ABS 2.0 unit is enabled in the POS Drink. Dispenser setup.</li> <li>• Verify that POS cable is connected to Ethernet jack on the Display unit.</li> <li>• Verify that the POS cable is connected to the ABS 2.0 unit.</li> <li>• Verify all programming is correct.</li> <li>• Verify the IP-Address setup.</li> <li>• Verify that no error messages are displayed on the ABS 2.0 unit.</li> <li>• Reboot power to the Display unit.</li> <li>• Reboot power to the ABS 2.0 unit.</li> </ul>
<b>ABS UNIT WILL NOT DISPENSE A DRINK WITHOUT ICE OR WITH EXTRA ICE</b>	<ul style="list-style-type: none"> <li>• For no ice you must have to check ice chute sensor or pneumatic.</li> <li>• For extra ice, you must have the modify ice dispense time.</li> </ul>
<b>ABS UNIT IS DISPENSING THE WRONG SIZE OR BRANDS</b>	<ul style="list-style-type: none"> <li>• Make sure that the order in which the brands and size are the same in brand Setup and size Setup in the Drink dispenser as it is on the ABS 2.0 System. Coca-Cola will provide the brand Position Guide for POS programming.</li> <li>• Call your POS vendor for service.</li> </ul>
<b>ABS IS NOT DISPENSING ONE OR MORE OF A SIZE OR BRANDS</b>	<ul style="list-style-type: none"> <li>• Verify the brand and Size spelling is the same in both the brand and Size setup as it is in the Menu item Setup.</li> <li>• Call your POS vendor for service.</li> </ul>





## TEAR-OUT REFERENCE CHART – BRAND LINE-UP

**NOTE:** This reference chart is to be used by the POS programmer to properly set the POS system to agree with the ABS 2.0 set-up. The syrup map must also be adjusted to agree with this form as described.

**NOTE:** This syrup table shows the default factory settings and provides space for you to enter your actual hook-up information. Tear this sheet out and fill in the syrup connection information as you make your hook-ups. This information will be important during the setup process.

Table 34.

DEFAULT SETTINGS		POS PROGRAMMING DATA	
VALVE	DISPLAY ID	POS ID	ACTUAL BRAND
1	COCA COLA	1	
2	DIET COKE	2	
3	Dr. PEPPER	3	
4	SPRITE REMIX	4	
5	SPRITE	5	
6	FANTA ORANGE	6	
7	BARQ'S ROOT BEER	7	
8	HAWAIIAN PUNCH	8	







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