ABS 2.0

Operator's Manual

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

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Contact Information:

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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.

TABLE OF CONTENT

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.
- 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.

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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

⚠ WARNING:

Do not use dispense spigot to lift or move unit as this could result in personal injury.

⚠ 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.

⚠ 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.

CO_2(Carbon Dioxide) Warning

⚠ DANGER:

CO_2 displaces oxygen. Strict attention **MUST** be observed in the prevention of CO_2 gas leaks in the entire CO_2 and soft drink system. If a CO_2 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_2 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 appliance 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.

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INTRODUCTION

SYSTEM OVERVIEW

The Automated Beverage System ABS 2.0 is an upgraded version of ABS. The ABS 2.0 is designed for drive-thru 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 touchscreen.

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 1. 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)**
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_2	**Supply pressure**	**CO_2/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 2. Product features

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

ACCESSORIES

Table 3. Accessories compatible with ABS 2.0

SL NO.	Accessories	Part No:
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 4. List of ice maker compatible with ABS 2.0

SL NO.	BRAND	MODEL
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

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UNIT DRAWING

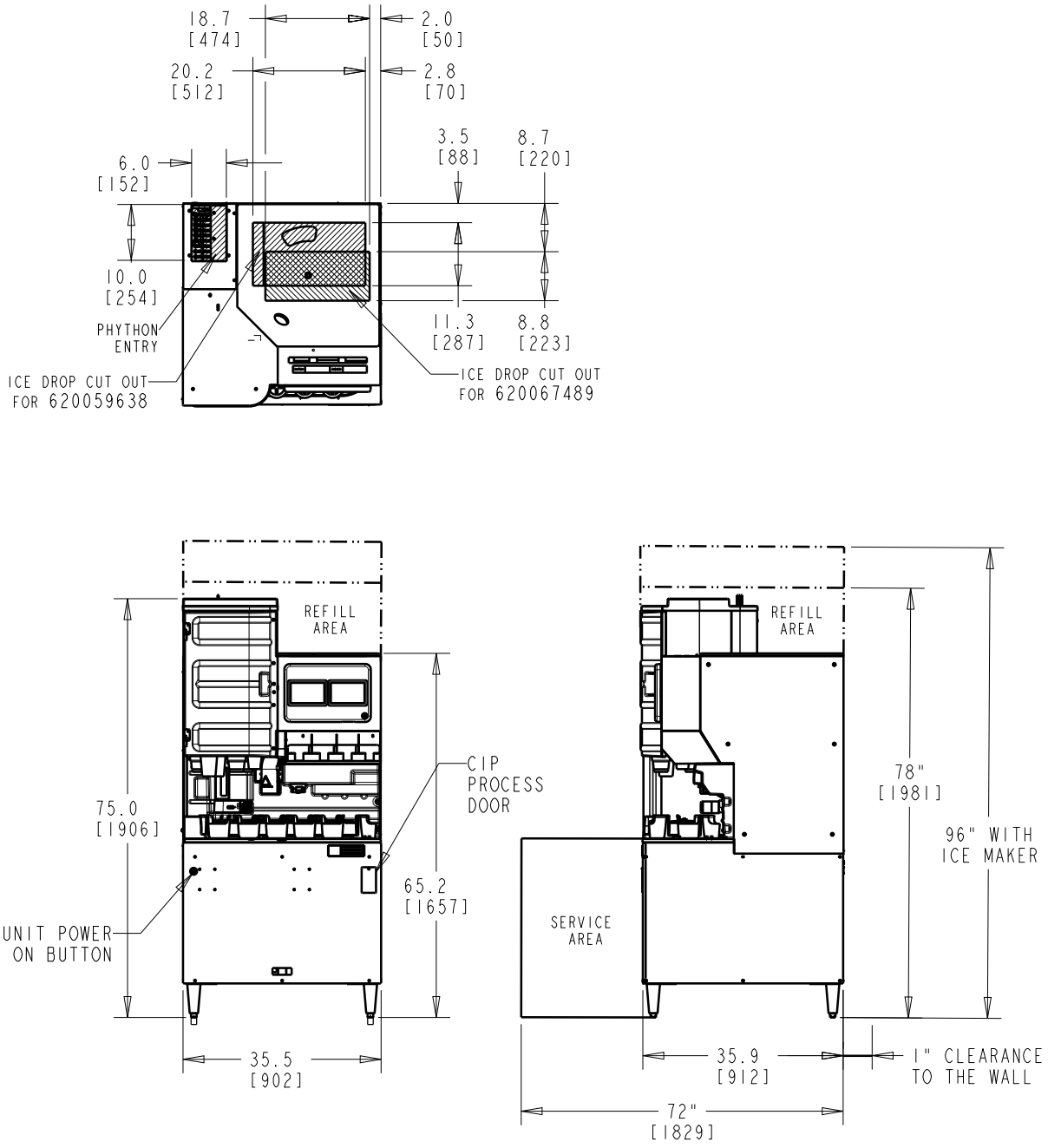

Figure 1.

Dimension Units **in [mm].**

NORMAL OPERATIONS

LOCATION, POWER ON UNIT & USAGE

Location Of Unit

Locate the dispenser so that the following requirements are satisfied:

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.
4. Unit must be located in an area with nearest access to floor drain port, preferably under the foot print of unit.
5. The clearance above top of the unit must be open and the front of the unit must be open to the room. These clearances must be provided to allow for proper air flow and to allow access to the ice bin for refilling.

Power On Unit

⚠ DANGER:

To avoid possible fatal electrical shock or serious injury to the operator, it is highly recommended that a GFI (ground fault circuit interrupter) be installed in the electrical power circuit.

The machine is equipped with a power cord (hot, neutral and ground) and is plugged into any standard wall outlet capable of handling as shown in Table 5 on page 7.

Table 5.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

⚠ CAUTION:

The electrical circuits must be properly fused (Slow-blow type fuses). DO NOT use **HACR** circuit breakers on the circuit of the unit. **HACR** circuit breakers may not react to voltage surges or spikes that can damage the electronics

NOTE: The electrical outlets must be accessible for ease of connecting and disconnecting the dispenser cords. No other electrical appliances should be connected to these electrical circuits.

NOTE: All electrical wiring must conform to national and local electrical codes.

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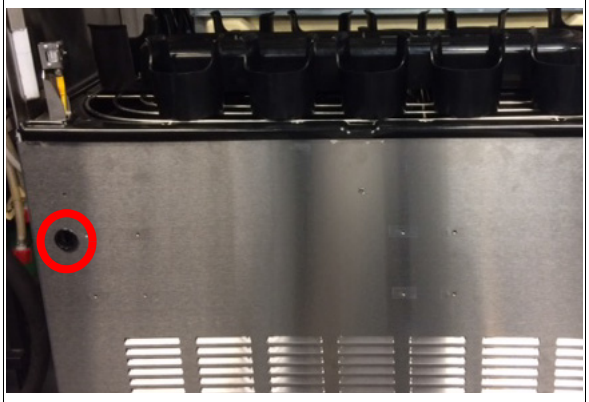
Table 6. Power on Unit

Step	Action	Figure
1.	Connect the unit power cord set to appliance inlet and then to electrical outlet.	
2.	Locate the rocker switch at the bottom left side below carousel of the unit, behind the front panel. A hole is provided to access the rocker switch.	 **Figure 2.**
3.	Turn ON the rocker switch on the unit to power it up.	

PREPARING UNIT FOR USE

Ice Filling

ABS 2.0 comes with 2 types of ice maker adapters.

The list of ice makers compatible with ice maker adapter PN 629097799 (Manitowoc/Scotsman) are in Table 4 on page 5.

The list of ice makers compatible with ice maker adapter PN 629097800 (Hoshizaki) are in Table 4 on page 5.

1. Turn on the ice maker, see procedure on ice maker's user manual, and keep the unit idle until ice is filled. Don't operate until hopper is 50% full.

2. Ice can also be filled manually by opening the manual fill door located on top of the unit.

CUP LOADING/ CUP CHANGE / TURRET SETUP INSTRUCTIONS

Table 7.

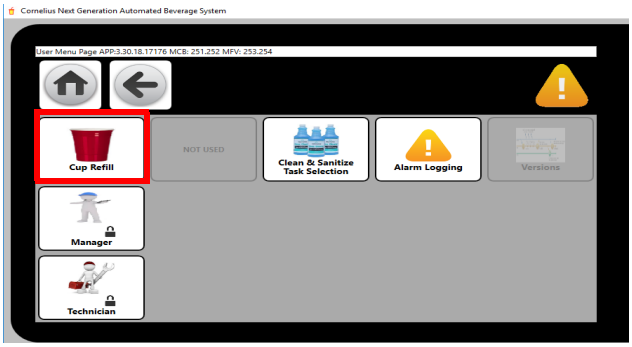
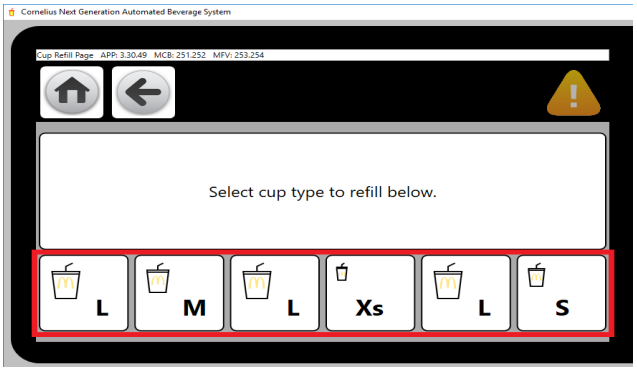
Step	Action	Figure
1	Select **menu** as shown in Figure 3. or select cup refill	 Figure 3.
2	If in menu page select **Cup Refill** icon as shown in Figure 4.	 Figure 4.
3	Select Cup size to bring the cup holder position to front.	 Figure 5.

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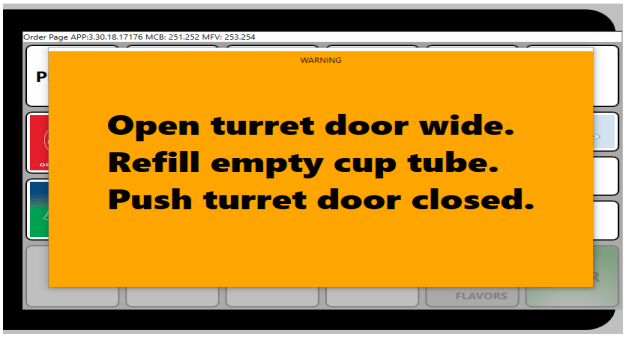
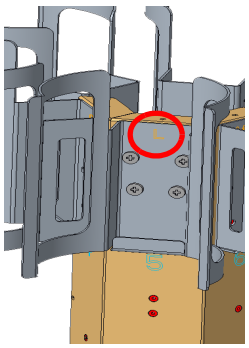
Table 7. (Continued)

4	After selecting the cup size the screen with instruction message will pop up as shown in Figure 6. Open the turret door.	 **Figure 6.**
5	A. Fill Cup's in the cup holder. Spin Turret by hand for all other size. B. Ensure the cup size with holder cup size mark see Figure 7. C. Load from top only.	  **Figure 7.**
6	Close Turret Door	 **Figure 8.**

OPERATIONAL MODES

The "ABS 2.0" has three modes of operation:

- Manual.
- Automatic (Normal Operation).
- Semi-Automatic (while in Auto).

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 stand. 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 and will remain for 5 seconds before the unit is placed in the manual mode.

Figure 9.

If the initializing process doesn't detect an Ethernet connection it will generate an error, plug in (POS) cable.

NOTE: Closes by operator or in 30 sec so unit can be ran in semi auto or manual.

NOTE: Once plugged (POS) in the unit/ application has to be restarted.

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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 10.

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

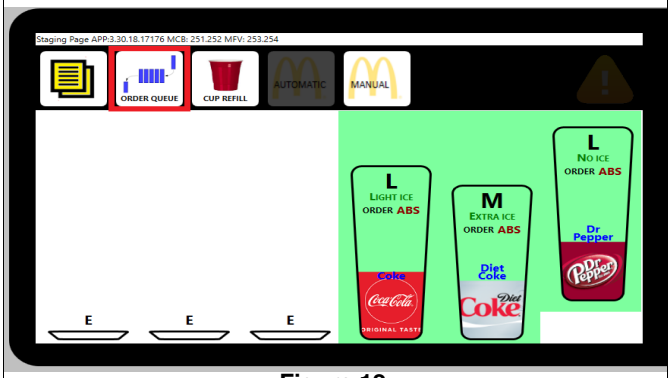
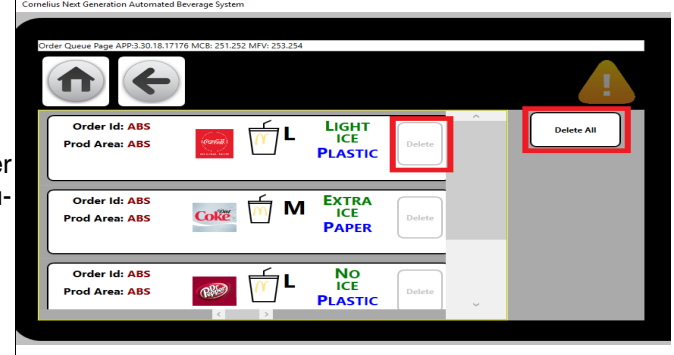
In automatic mode the beverage dispense automatically from the input of POS system. By default ABS 2.0 System is setup to Automatic operation mode.

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 11.

CLEAR THE POS ORDER BUFFER

Table 8.

Step	Action	Figure
1	Select **Order Queue** as shown Figure 12.	 **Figure 12.**
2	Delete Undesired Orders or **Delete All** If several orders stack up and are no longer needed, it may be easier to delete all and manually enter in what is missing	 **Figure 13.**

P.O.S. Signal To Manager's Computer

The order is transmitted from the P.O.S. to the store computer and from there to the A.B.S. unit.

Cup Turret Rotates

The cup turret rotates to move the proper size to the extract position.

Cup Grabber Rises & Closes

The cup grabber is lifted by a pneumatic cylinder up to the cup. The travel is sensed by three sensors. If full height is reached, a pneumatic cylinder closes the grabber arms against the cup. A grip sensor detects if cups are available.

Grabber Lowers & Opens

The cup grabber lowers, pulling the cup from the cup holder and then the arms open dropping the cup into the cup-holder on the carousel.
If the grabber should slide of a cup, it would be detected by the grabber sensor.

Carousel Operates

Sensors check for a cup in position "A" see Figure 14.If the sensor is clear, the carousel rotates clockwise to move the cup to the ice chute.

This is based on only one drink being ordered. If a second drink had been ordered, the carousel would have moved only one position and the second cup would have been extracted and dropped into the carousel. The two cups would then be moved clockwise until the first cup reaches the ice fill position.

Ice Portion is Dispensed

The ice gate is opened by a pneumatic cylinder for the time needed to dispense the selected ice portion.
The agitator continues to operate for the set refill time to refill the ice chute.

Cup to Dispensing Nozzle

Sensors check for a cup in position A see Figure 14. If the sensor is clear, the carousel moves the cup to the beverage fill point. The valve opens to dispense the desired syrup and water in the desired portions into the cup.

Beverage Dispensed

The P.O.S sends the drink portion of the order to the ABS 2.0 where the information is interpreted and the drink is dispensed.

If the drink requires a top-off, the initial portion will be dispensed. After a delay, the balance of the drink will be dispensed.

Cup is Moved to Cup Serve Point

Sensors check for a cup in position "A" see Figure 14.If the sensor is clear, the carousel moves the cup to cup serve Last position.

The display will indicate the Brand & Ice portion of the beverage along with the order # at cup serve position "A" see Figure 14.

Crew Member Serves Drink

A crew member caps the drink while still on the carousel and serves it with the remainder of the order.

Explanation Of Carousel Positions

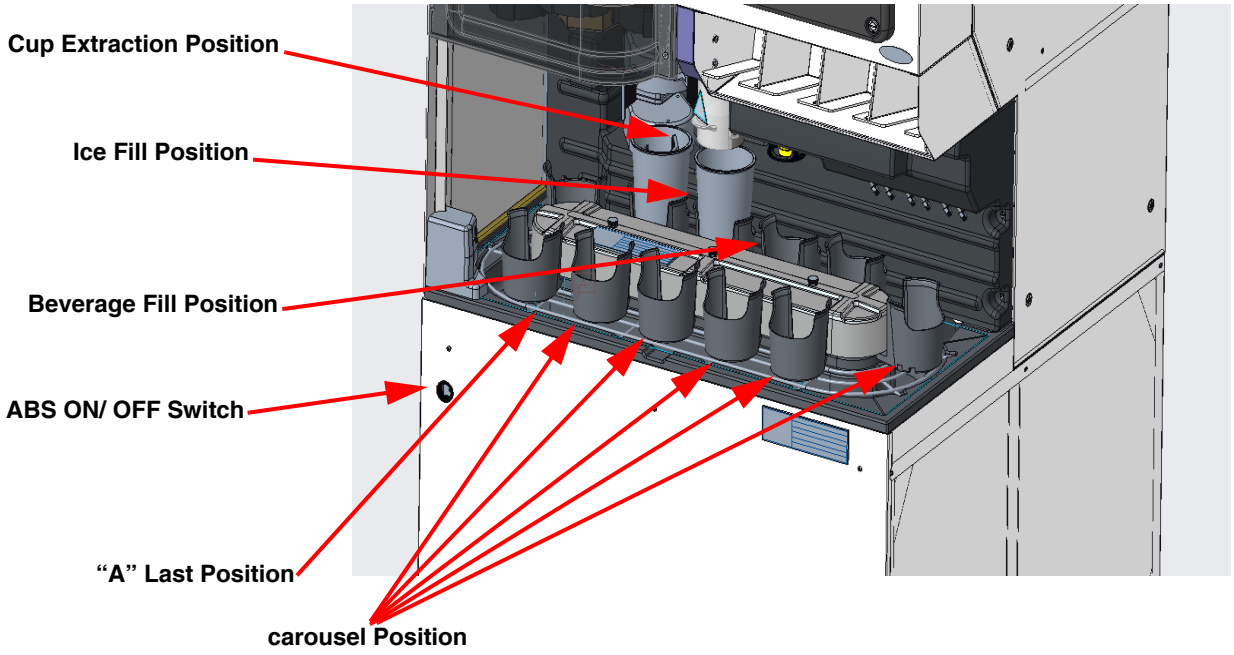


Figure 14.

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.

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Figure 15.

Press Cup Size

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

While in automatic mode, to dispense a drink semi-automatically, press the desired cup size button.

Press Special Ice Requirement If Requested

If extra ice is desired, press the EXTRA ICE button. If no ice is required, press the NO ICE button. If light ice is desired, press the LIGHT ICE button. If only ice is desired, press the ONLY ICE button.If normal ice is desired, no button is pressed. As shown in Figure 16.

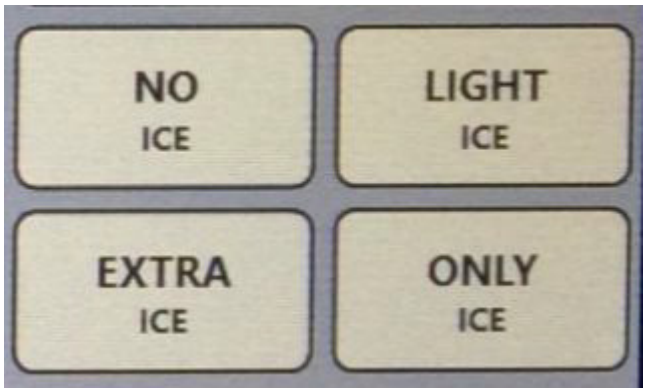


Figure 16.

When Correct, Press Enter

Sequence of pressing the cup size, brand, and special ice buttons is not important. At any time, pressing any button will change the selection of the drink to be dispensed. When the correct order is displayed, press ENTER and the drink will be dispensed.

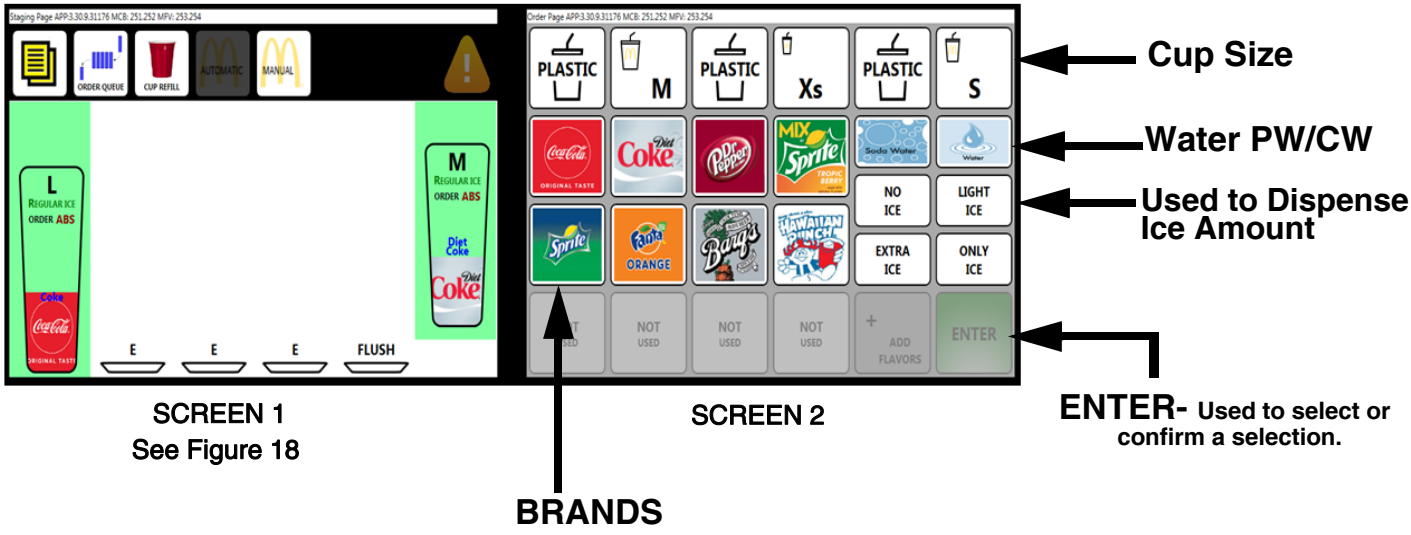
Any Drink through Semi automatic method, OR under quotes are identified by the order ID saying "ABS" instead of a number.

To Service

Introduction to ABS 2.0 Programming

Default Settings/Restoring Settings

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. Touch Panel Layout & Explanation



Menu

Automatic Mode

Manual mode

Order Queue

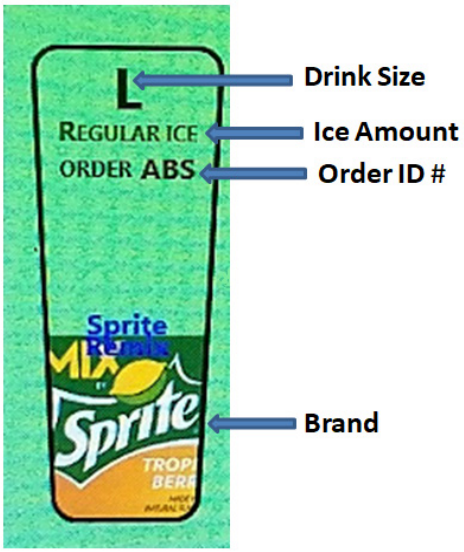


Figure 17.

DISPLAY EXPLANATION

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

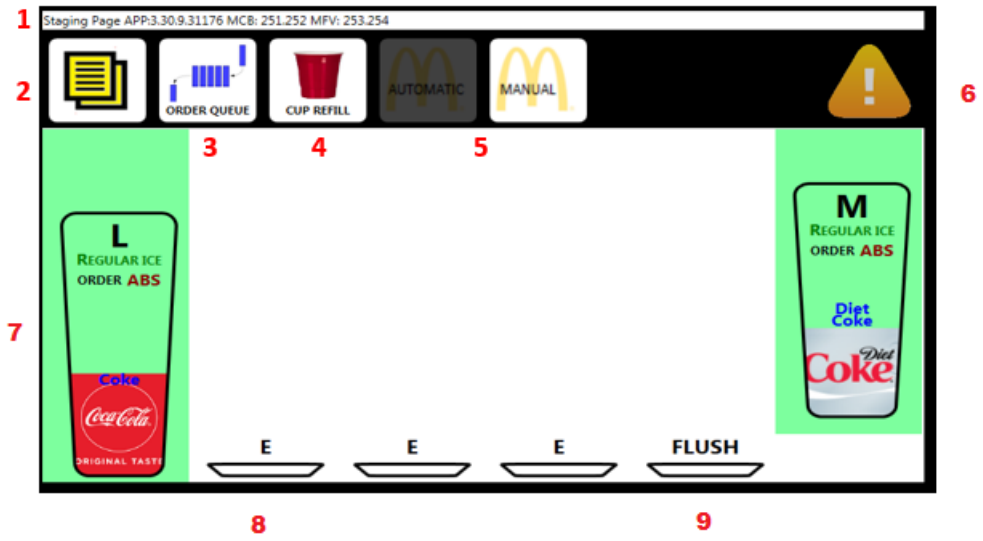


Figure 18.

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 2.0 = Semi Auto or Order Number)
8. Finished Drinks 1-6, left to right, Coke is Position one.
9. Flush - CW has flushed the Nozzle.

Entering the Manager Menu Screen

Table 9.

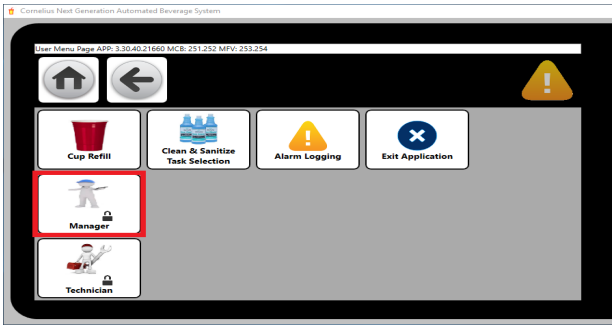
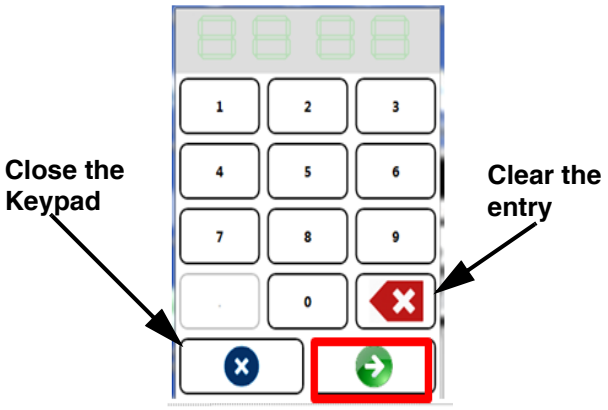
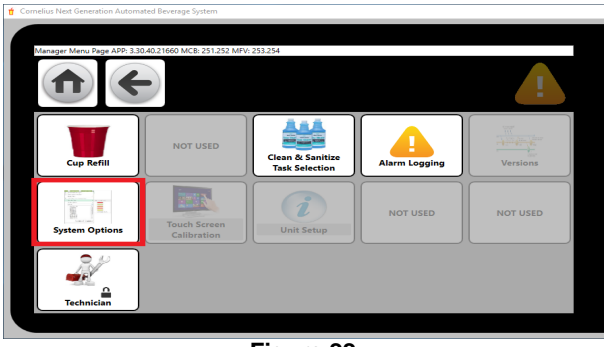
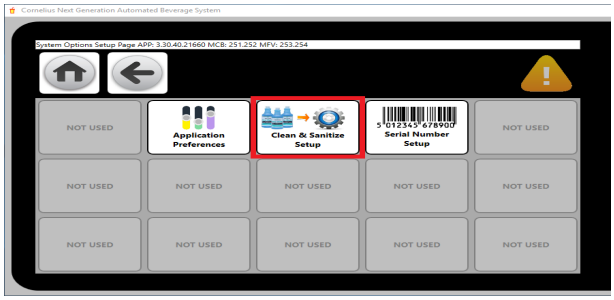
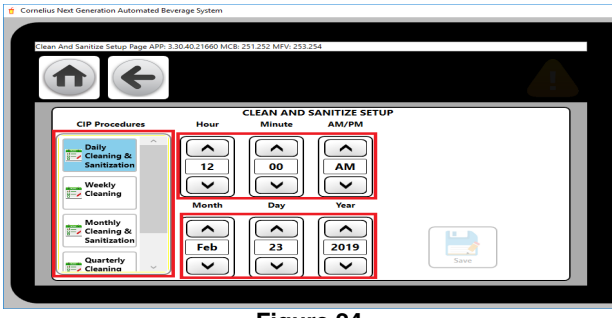
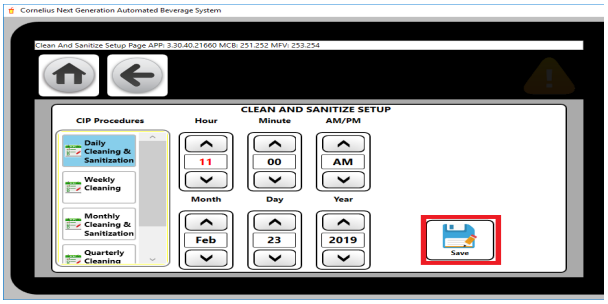
Step	Action	Figure
1.	Select the Menu as shown in Figure 19.	 Figure 19.
2.	Select the Manager Icon as shown Figure 20.	 Figure 20.
3.	Enter 1234, then green arrow as shown Figure 21.	 Figure 21.
4.	See the Manager menu Screen as shown Figure 22. Select System Option.	 Figure 22.

Table 9. (Continued)

Step	Action	Figure
5.	From system Option select Cleaning & Sanitize Setup button as shown in Figure 23.	 Figure 23.
6.	Select the cleaning options using scroll up/down button and set the next cleaning date & time for alarm as shown in Figure 24.	 Figure 24.
7.	After setting please save the setting by press the save button as shown in Figure 25.	 Figure 25.

CLEANING / MAINTENANCE PROCEDURES

⚠ WARNING:

Disconnect power to the unit before cleaning / maintenance. 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

SANITIZING

Soap solution – Use a mixture of mild detergent & warm [100°F(37.8°C)] potable water.

Sanitizing Solution – Dissolve 1 packet [1oz. (29.6 ml)] of Kay - 5 or Stera Sheen Green Label into 2.5 gallons (9.46 litre) of warm [80 - 100°F (26.7 - 37.8°C)] potable water to ensure 100 ppm of chlorine.

DAILY CLEANING AND SANITATION

1. Check the temperature (ReferTable 1 on page 4for operating temperature), smell, and taste of the product.
2. Check the water pressure coming to the unit only if the ambient temperature is maintained per Table 1 on page 4, using a pressure gauge on the back room package to measure the pressure, it should be same as mentioned in Table 1 on page 4
3. If the freezing is occurred, ensure to comply step 2.
4. Check carbonation of the drink visually or by tasting.
5. Using a pressure gauge check the inlet pressure CO_2 or air supply to the system, it should be same as mentioned in Table 1 on page 4 .
6. Check the date on all of the BIB's (bags in boxes).

LOCATE REQUIRED TOOLS

- Soap Solution
- Paper Towel
- Clean Cloth
- Carbonated Water
- Sanitizing Solution
- Sanitizing Bucket
- Clean Sanitized Cloth

Figure 26.

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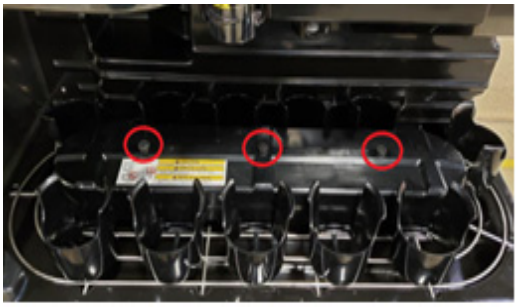
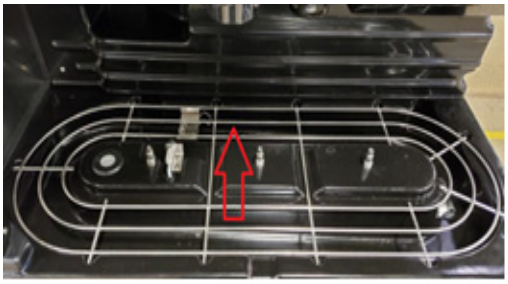
STAGING CLEANING

Table 10. Dis-assemble Staging

SL.NO	Action	Figure
1.	Remove cover by loosening the 3 thumb screws and lifting it upwards. As shown in Figure 27.	 **Figure 27.**
2.	Remove the carousel by lifting it upwards. **NOTE: : Avoid carrying carousel by cup holder.**	 **Figure 28.**
3.	Remove the grille by lifting it upwards.	 **Figure 29.**

CLEAN DRIP -TRAY AREA

Table 11. Clean Drip-Tray Area

SL.NO	Action	Figure
1.	Make sure water deflector is properly installed; this will help prevent motor failures. (Order replacement if the deflector is missing).	 **Figure 30.**
2.	Pour warm water down the drip-tray drain. Flush the drip-tray using carbonated water.	 **Figure 31.**
3.	Wash the drip-tray area, splash panel and clean any spills from the machine exterior using McD APC with a clean cloth.	 **Figure 32.**

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Table 11.(Continued)

4.	Wipe down drip-tray and splash panel with a clean cloth to remove any soapy residue.	 **Figure 33.**
5.	Spray McD sanitizer all around drip-tray and splash panel. Let air dry for 5 minutes.	 **Figure 34.**

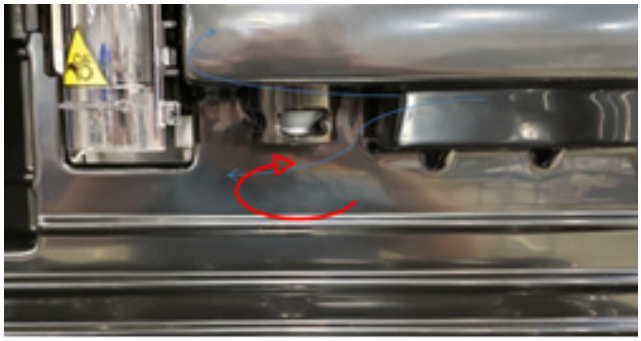
BACK ROOM CLEANING

Table 12.

Step	Action	Figure
1.	Collect grill, carousel, and nozzle components and bring to back room	  **Figure 35.**

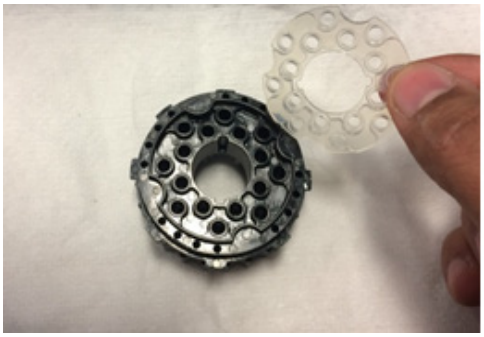
DIS-ASSEMBLE NOZZLE

Table 13.Dis-assemble Nozzle

Step	Action	Figure
1.	Remove the outer nozzle housing by rotating it in the clockwise direction. as shown in Figure 36.	 **Figure 36.**
2.	Remove the diffuser by pulling it vertically downward. as shown in Figure 37.	 **Figure 37.**

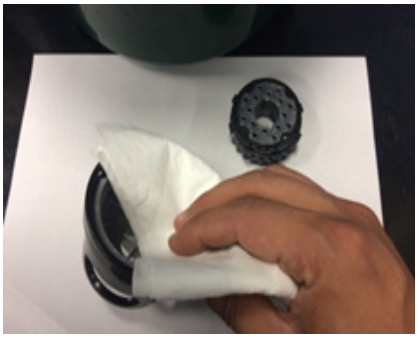
CLEAN NOZZLE

Table 14.Nozzle cleaning

Step	Action	Figure
1.	Remove the gasket from the diffuser.	 **Figure 38.**
2.	Prepare bucket of McD APC solution.	 **Figure 39.**
3.	Place outer nozzle housing, diffuser, and gasket in the soap solution. Let soak for a few minutes.	 **Figure 40.**
4.	Rinse the nozzle components in lukewarm, clean water to remove soapy residue.	 **Figure 41.**

SANITIZE NOZZLE

Table 15. Sanitize Nozzle

Step	Action	Figure
1.	Spray sanitizer on the nozzle, diffuser, and gasket	 **Figure 42.**
2.	Wipe the nozzle and diffuser with a soft cloth	 **Figure 43.**
3.	Let air dry for 5 minutes	 **Figure 44.**

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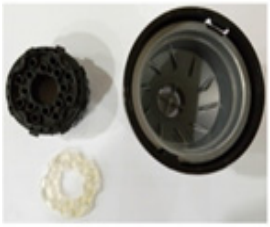
Clean Carousel & Grill

Table 16. Clean Carousel & Grill

Step	Action	Figure
1.	Wash the carousel and grille in lukewarm soapy water. Rinse with plain water. **NOTE: DO NOT place in dishwasher.**	 **Figure 45.**

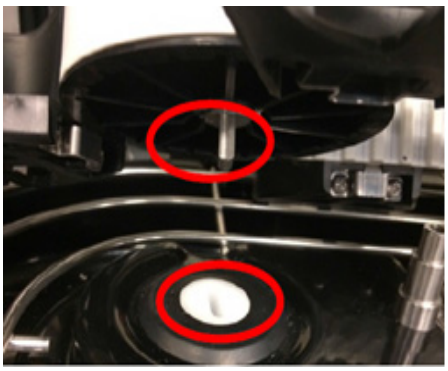
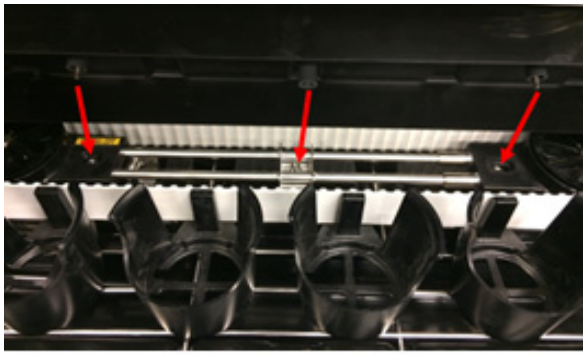
Return Parts to Machine

Table 17. Return parts to machine

Step	Action	Figure
1.	Collect grill, carousel, and nozzle components and bring to the machine	  **Figure 46.**

REASSEMBLE STAGING

Table 18. Reassemble Staging

Step	Action	Figure
1.	Reinstall the grill. Align to the notches in the drip-tray. **NOTE: Cup positioning bracket must be on back side as shown in Figure 47.**	 **Figure 47.**
2.	Reinstall the carousel. Align the drive shaft to motor coupler on the left side as shown in Figure 48.	 **Figure 48.**
3.	Reinstall the cover. Align the posts and tighten the 3 thumb screws to secure in place.	 **Figure 49.**

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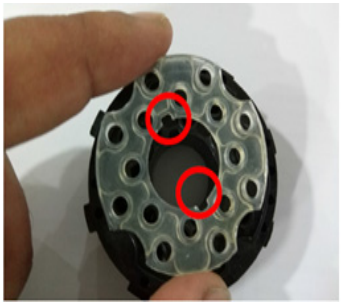
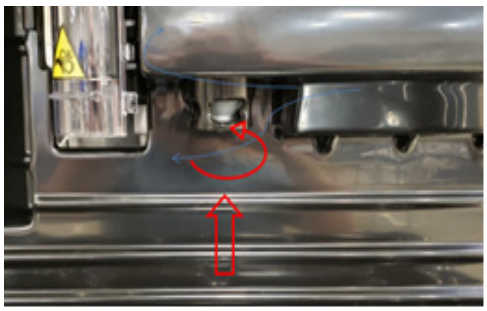
Reassemble Nozzle

Table 19. Reassemble Nozzle

Step	Action	Figure
1.	Reinstall the diffuser gasket in the diffuser by aligning the square notch on the gasket and the diffuser as shown in Figure 50. **NOTE: Ensure gasket is seated properly and correct side is facing upwards.**	 **Figure 50.**
2.	Reinstall the diffuser by pushing it upward and aligning the diffuser tabs in place as shown in Figure 51.	 **Figure 51.**
3.	Reinstall the outer housing in the unit by rotating it in the clockwise direction as shown in Figure 52. **NOTE: Tabs must be aligned & apply upward force while twisting to avoid cross threading. Check if the nozzle is level after install.**	 **Figure 52.**

Final Status

Table 20.

Step	Action	Figure
1.	Great job cleaning your ABS 2.0! This will keep your ABS 2.0 running great! Daily cleaning complete.	**Figure 53.**

WEEKLY CLEANING

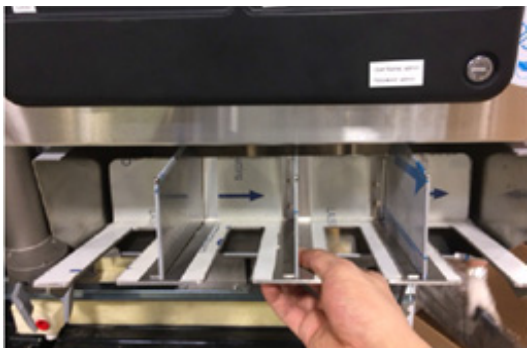
REQUIRED TOOLS

- McD APC.
- Clean Cloth.
- McD Stainless Steel Cleaner.

Figure 54.

DISASSEMBLE LID STORAGE

Table 21. Disassemble Lid Storage

Step	Action	Figure
1.	Empty all lids from the lid dispenser.	 **Figure 55.**
2.	Remove the lid separator from the dispenser by lifting up slightly and pulling out as shown in Figure 56.	 **Figure 56.**

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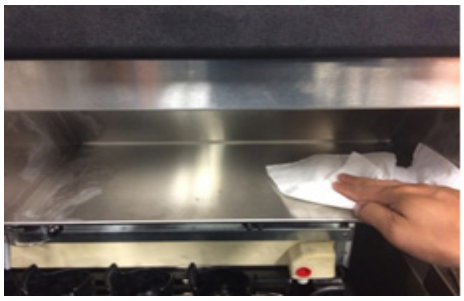
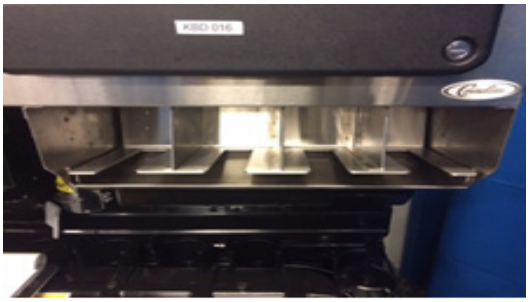
Clean Lid Storage

Table 22. Clean Lid Storage

Step	Action	Figure
1.	Wipe dirt and dust from all internal surfaces of lid storage with McD APC solution and wipe dry with a soft, sanitized cloth.	 **Figure 57.**
2.	Apply McD Stainless Steel Cleaner dressing to all exterior stainless steel surfaces and wipe dry with a paper towel.	 **Figure 58.**
3.	Wipe dirt and dust from lid seperator with McD APC solution and wipe dry with a soft, sanitized cloth.	 **Figure 59.**
4.	Apply McD Stainless Steel Cleaner dressing to lid seperator and wipe dry with a paper towel.	 **Figure 60.**

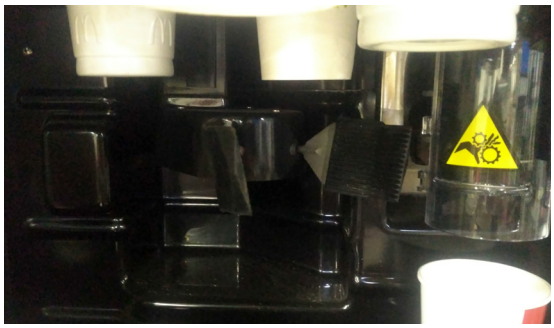
Reassemble Lid Storage

Table 23. Reassemble Lid Storage

Step	Action	Figure
1.	Return lid separator to original position and refill with lids.	 Figure 61.

Clean Gripper Pads

Table 24. Reassemble Lid Storage

Step	Action	Figure
1.	Wipe dirt and dust from the inside faces of the gripper pads with McD APC solution and wipe dry with a soft, sanitized cloth.	 Figure 62.

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CLEANING OF EXTERIOR SURFACES

Table 25. Cleaning of Exterior Surfaces

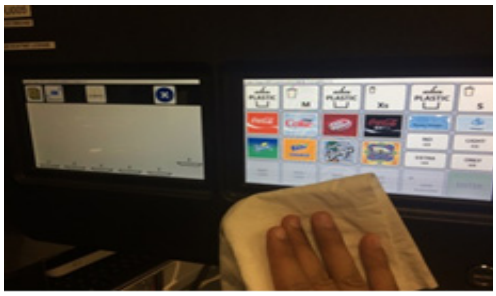
Step	Action	Figure
1.	Wipe dirt and dust from all exterior surfaces with McD APC solution and wipe dry with a soft, sanitized cloth. Wipe the Turret Door, Touch Screen, Back splash, Side Wall, Exterior Panels. Caution: Do not wipe displays with solvents or cleaning agents	 **Figure 63.**
2.	Clean and wipe turret door.	 **Figure 64.**
3.	Clean and wipe touch screen bezel. Gently wipe touch screens with clean, moistened cloth if needed. **NOTE: Do not wipe displays with solvents or cleaning agents.**	 **Figure 65.**

Table 25. Cleaning of Exterior Surfaces (Continued)

Step	Action	Figure
4.	Clean and wipe turret wall surface.	 **Figure 66.**
5.	Clean and wipe lower exterior panels below drip-tray.	 **Figure 67.**

FINAL STATUS

Table 26.

Step	Action	Figure
1.	Great job cleaning your ABS 2.0 This will keep your ABS 2.0 running great! Weekly cleaning complete	**Figure 68.**

MONTHLY CLEANING AND SANITATION (MANUAL PROCESS)

TOOLS REQUIRED

- Santizing solution - 1 Packet Kay-5 or Stera Sheen.
- Soap solution - mild detergent.
- Clean Buckets (3 if possible).
- Clean Cloth.
- McD Stainless Steel Cleaner.
- Ice Collection Tray.
- Long Handle Nylon Bristle Brush.
- Clean Sanitized Cloth.

Figure 69.

HOPPER CLEANING

Table 27. Hopper Cleaning

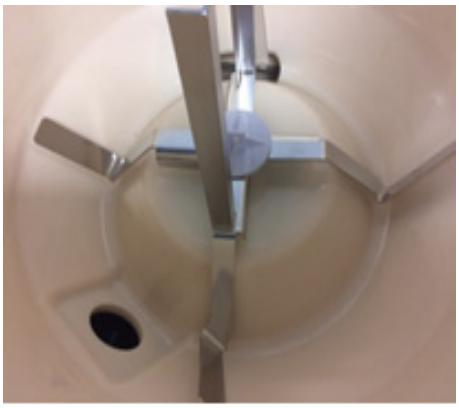
Step	Action	Figure
1.	Remove remaining ice in the hopper. Press and hold *ICE DUMP* button on the screen until fully empty. Collect ice in separate tray or chute and avoid dumping in ABS drip-tray.	 **Figure 70.**

Table 27. Hopper Cleaning (Continued)

Step	Action	Figure
2.	Gather cleaning buckets and fill accordingly: A. Cleaning – McD APC mix with warm water. B. Rinse Water – clean potable water. C. Sanitizing – McD Sanitizer mix with luke-warm water.	 **Figure 71.**
3.	Remove the lid from hopper. The unit will not run with the hopper lid removed.	 **Figure 72.**
4.	Remove the agitator retainer and ice agitator assembly.	 **Figure 73.**
5.	Using a long handled nylon bristle brush, clean the interior of the hopper, top cover, agitator, agitator cover and cold plate with a warm, soapy solution. Thoroughly rinse the hopper, top cover, agitator, agitator cover and the cold plate with clean potable water.	 **Figure 74.**

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Table 27. Hopper Cleaning (Continued)

Step	Action	Figure
6.	Re-assemble the agitator into the hopper and tighten the agitator retainer.	 **Figure 75.**
7.	Using a mechanical spray bottle filled with sanitizing solution, spray the entire interior of the ice bin, ice-chute and ice agitator assembly. Allow to air dry.	 **Figure 76.**
8.	Install hopper lid. The unit will not run if the hopper lid is improperly installed.	Hopper clean complete

Ice Chute Cleaning

Table 28. Ice Chute Cleaning

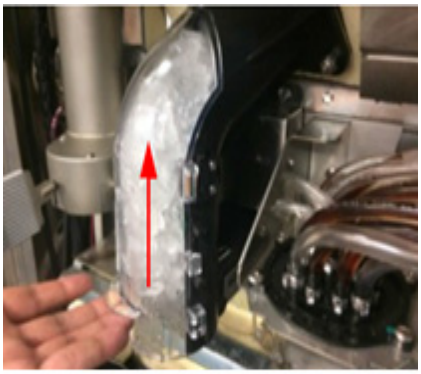
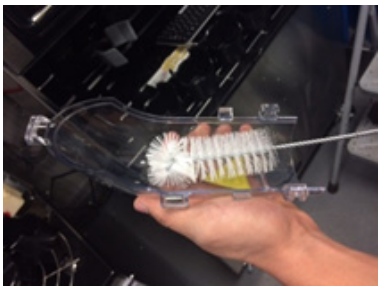
Step	Action	Figure
1.	Hold ice chute cover and push up until you hear a click and side latches are disengaged.	 **Figure 77.**
2.	Lift off the ice chute cover and set it aside.	 **Figure 78.**
3.	Clean the interior of the ice chute and cover with a long handled nylon bristle brush. Use McD APC and warm water mixture, rinse with clean potable water, and allow to air dry.	 **Figure 79.**
4.	Spray the ice chute and cover inside and out with McD Sanitizer and allow it to air dry.	 **Figure 80.**

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Table 28. Ice Chute Cleaning

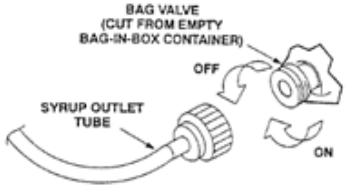
Step	Action	Figure
5.	Carefully insert ice chute cover and slide down to fully engage. Make sure cover side latches mate flush with ice chute base before sliding down.	 Figure 81.

PRODUCT LINE CLEANING

Table 29. Product Line Cleaning

Step	Action	Figure
1.	Remove all of the quick disconnects from all of the BIB containers	 Figure 82.
2.	Fill a suitable pail or bucket with soap solution	 Figure 83.
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, potable water.	

Table 29. Product Line Cleaning (Continued)

Step	Action	Figure
4.	Attach fittings to each BIB disconnect. If the fittings are not available, the fittings from empty BIB bags can be cut from the bags and used. These fittings open the disconnects so the sanitizing solution can be drawn through the disconnect.	 **Figure 84.**
5.	Place all the BIB disconnects into the pail of sanitizer. Flush sanitizer through every product line. Use the selection screen to toggle flow on/ off by selecting each brand, up to 4 at one time.	 **Figure 85.**
6.	Fill a suitable pail or bucket with approximately 2.5gallons (9.5 liter) of water	 **Figure 86.**
7.	Place all the BIB disconnects into the pail of water. Flush water through every product line. Use the selection screen to toggle flow on/off by selecting each brand, up to 4 at one time.	 **Figure 87.**

NOZZLE CLEANING

Table 30. Nozzle Cleaning

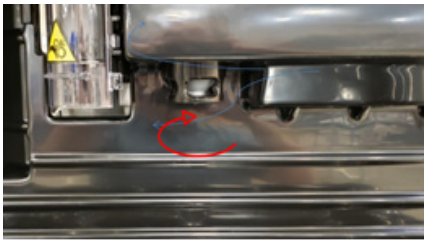
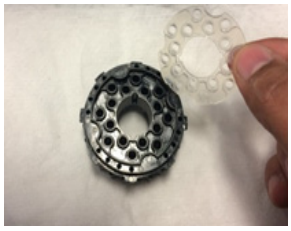
Step	Action	Figure
1.	Remove the outer nozzle housing by rotating it in the clockwise direction.	 **Figure 88.**
2.	Remove the diffuser by pulling it vertically downward.	 **Figure 89.**
3.	Remove the gasket from the diffuser.	 **Figure 90.**
4.	Prepare bucket of McD APC solution.	 **Figure 91.**
5.	Place outer nozzle housing, diffuser, and gasket in the soap solution. Let soak for a few minutes.	 **Figure 92.**

Table 30. Nozzle Cleaning (Continued)

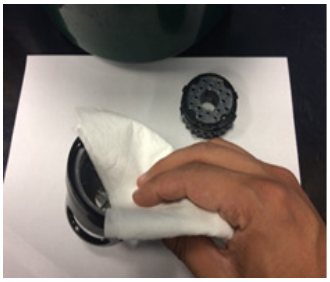
Step	Action	Figure
6.	Rinse the nozzle components in lukewarm, clean water to remove soapy residue.	 **Figure 93.**
7.	Spray sanitizer on the nozzle, diffuser, and gasket	 **Figure 94.**
8.	Wipe the nozzle and diffuser with a soft cloth	 **Figure 95.**
9.	Let air dry for 5 minutes	 **Figure 96.**
10.	Reinstall the diffuser gasket in the diffuser by aligning the square notch on the gasket and the diffuser. **NOTE: Ensure gasket is seated properly and correct side is facing upwards.**	 **Figure 97.**

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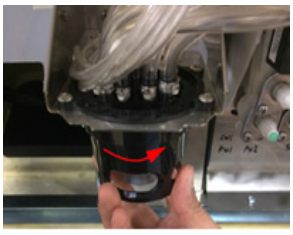
Table 30. Nozzle Cleaning (Continued)

Step	Action	Figure
11.	Reinstall the diffuser by pushing it upward and aligning the diffuser tabs in place	 **Figure 98.**
12.	Reinstall the outer housing in the unit by rotating it in the clockwise direction. **NOTE: Tabs must be aligned & apply upward force while twisting to avoid cross threading.**	 **Figure 99.**
13.	Disconnect the sanitizing fittings and re-connect the standard BIB connectors to the syrup boxes	 **Figure 100.**
14.	Flush syrup through every product line. Use the selection screen to toggle flow on/off by selecting each brand, up to 4 at one time. Continue until brands are flowing freely.	 **Figure 101.**
15.	Great job cleaning your ABS 2.0! This will keep your ABS 2.0 running great! Monthly clean procedure successfully finished.	**Figure 102.**

MONTHLY CLEANING AND SANITATION (WITH CLEANING WAND)

Using a long handled nylon bristle brush, clean the interior of the cold plate with warm, soapy solution. The cold plate is to be cleaned by reaching through the ice opening into the hopper bottom with the long handle brush. Be certain to clean the entire surface area of the cold plate including all the corners. Thoroughly rinse the cold plate with clean potable water.

Tools Required

- Soap solution - mild detergent
- Santizing solution - 1 Packet Kay-5 or Stera Sheen
- Clean Buckets (3 if possible)
- Clean Cloth
- McD Stainless Steel Cleaner
- Ice Collection Tray
- Long Handle Nylon Bristle Brush
- Clean Sanitized Cloth

Figure 103.

HOPPER CLEANING

Table 31. Hopper Cleaning

Step	Action	Figure
1.	Turn off ice maker by either locating the power button behind the ice maker's front panel or unplug the ice maker unit.To allow hopper to empty itself and avoid wasting ice, turn off 2-3 hours prior to monthly cleaning procedure.	 **Figure 104.**

Table 31. Hopper Cleaning (Continued)

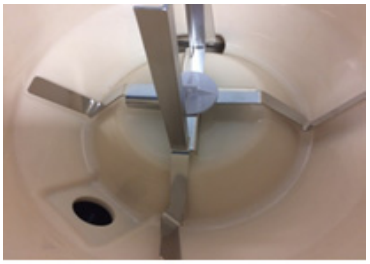
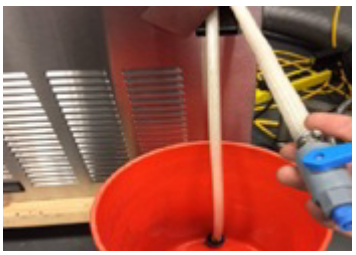
Step	Action	Figure
2.	Remove remaining ice in the hopper. Press and hold *ICE DUMP* button on the screen until fully empty. Collect ice in separate tray or chute and avoid dumping in ABS drip-tray.	 **Figure 105.**
3.	Gather cleaning buckets and fill accordingly: A. Cleaning – McD APC mix with warm water. B. Rinse Water – clean potable water. C. Sanitizing – McD Sanitizer mix with luke-warm water.	 **Figure 106.**
4.	Locate the CIP access door on the lower right hand side of the unit and pull the 2 CIP hoses out.	 **Figure 107.**
5.	Put strainer hose in bucket of McD APC solution. Make sure it reaches the bottom.	 **Figure 108.**
6.	Open manual ice fill door and put the spray hose inside the hopper. Make sure the valve is closed (handle perpendicular to valve).	 **Figure 109.**

Table 31. Hopper Cleaning (Continued)

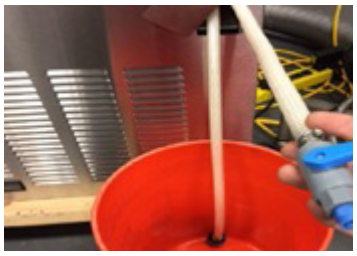
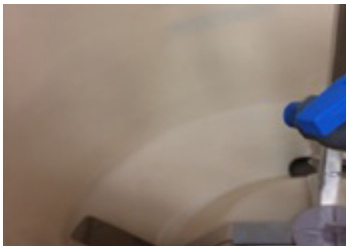
Step	Action	Figure
7.	When ready press *START CIP PUMP* button, open spray valve with a 90° turn and begin spraying all around hopper and hard to reach corners. Spray until bucket is empty. Avoid spraying directly into bottom of ice maker. Try to spray both sides of agitator.	 **Figure 110.**
8.	When finished press *STOP CIP PUMP* button and close valve with a 90° clockwise turn. To avoid excessive wear to CIP pump, turn off immediately after bucket is empty.	 **Figure 111.**
9.	Put strainer hose in bucket of clean potable water. Make sure it reaches the bottom.	 **Figure 112.**
10.	Open manual ice fill door and put the spray hose inside the hopper. Make sure the valve is closed (handle perpendicular to valve).	 **Figure 113.**
11.	When ready press *START CIP PUMP* button, open spray valve with a 90° turn and begin spraying all around hopper and hard to reach corners. Spray until bucket is empty. Avoid spraying directly into bottom of ice maker. Try to spray both sides of agitator.	 **Figure 114.**

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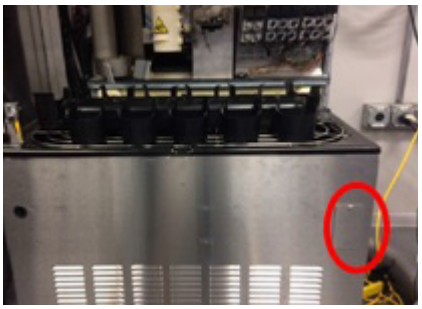
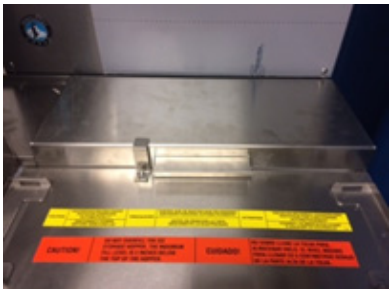
Table 31. Hopper Cleaning (Continued)

Step	Action	Figure
12.	When finished press *STOP CIP PUMP* button and close valve with a 90° clockwise turn. To avoid excessive wear to CIP pump, turn off immediately after bucket is empty	 **Figure 115.**
13.	Put strainer hose in bucket of McD Sanitizer solution. Make sure it reaches the bottom.	 **Figure 116.**
14.	When ready press *START CIP PUMP* button, open spray valve with a 90° turn and begin spraying all around hopper and hard to reach corners. Spray until bucket is empty. Avoid spraying directly into bottom of ice maker. Try to spray both sides of agitator.	 **Figure 117.**
15.	When finished press *STOP CIP PUMP* button and close valve with a 90° clockwise turn. To avoid excessive wear to CIP pump, turn off immediately after bucket is empty.	 **Figure 118.**

Table 31. Hopper Cleaning (Continued)

Step	Action	Figure
16.	Drain both CIP hoses and return back to unit.	 **Figure 119.**
17.	Make sure manual fill door is closed.	 **Figure 120.**
18.	Turn on the ice maker by either locating the power button behind the ice maker's front panel or navigating through the ice maker menu screen. Refer to ice maker manual. Ice maker takes a while to start making ice again, use this time to complete the ice chute cleaning.	 **Figure 121.**

Please Refer the following table's for Nozzle/Product line/ Ice Chute Cleaning

1. Table 28 on page 39
2. Table 29 on page 40
3. Table 30 on page 42

Final Status

Table 32.

Step	Action	Figure
1.	Great job cleaning your ABS 2.0! This will keep your ABS 2.0 running great! Monthly cleaning complete.	Figure 122.

Quarterly Cleaning (Only for Pre-chiller Units)

Tools Required

- Phillips Head Screw Driver

Condenser Filter Cleaning

Table 33. Condenser Filter Cleaning

Step	Action	Figure
1.	Remove lower front panel by removing screws and lifting up with the handle.	 Figure 123.
2.	Turn the pre-cool power switch to the off position. This switch is located on the chassis electrical box on the left hand side of the unit.	 Figure 124.

Table 33. Condenser Filter Cleaning (Continued)

Step	Action	Figure
3.	Slide the pre-cool condenser filter up to remove it from the ABS. The filter is located on the front of the chassis.	 **Figure 125.**
4.	Using a warm solution of McD APSC solution and a clean towel, clean the filter. Rinse the filter in luke warm water and shake off any excess water.	 **Figure 126.**
5.	Return the pre-cool condenser filter into its original position by sliding it down.	 **Figure 127.**
6.	Turn the pre-cooler power switch to the on position. This switch is located on the chassis electrical box.	 **Figure 128.**

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Table 33. Condenser Filter Cleaning (Continued)

Step	Action	Figure
7.	Replace the front lower grille panel. Refasten 6 screws with Phillips head screwdriver.	 Figure 129.

FINAL STATUS

Table 34.

Step	Action	Figure
1.	Great job cleaning your ABS 2.0! This will keep your ABS 2.0 running great! Quarterly cleaning complete.	Figure 130.

PLUMBING DIAGRAM (AIR/CO_2)

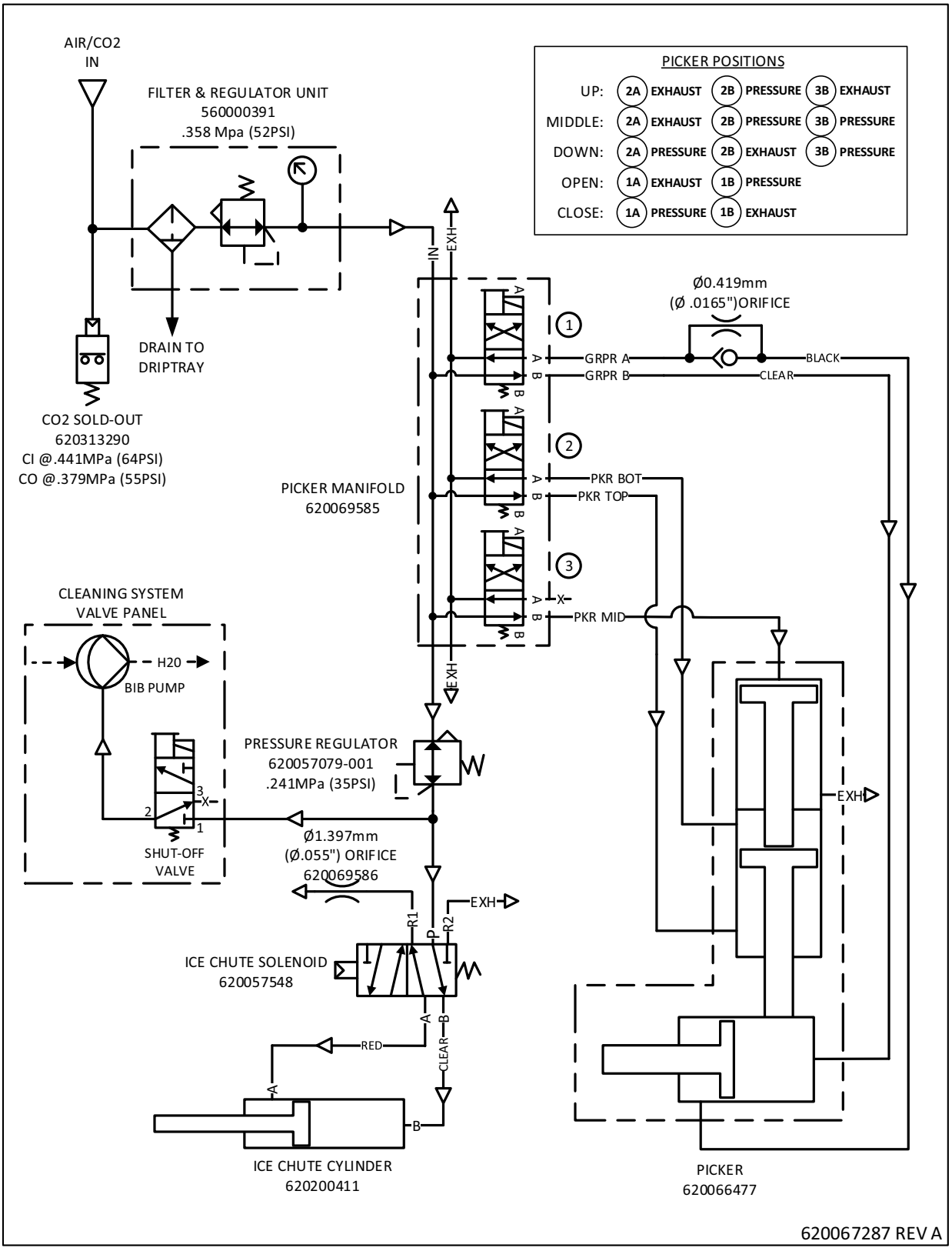

Figure 131.

TROUBLESHOOTING

MECHANICAL ISSUES

Table 35.

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_2	Check bulk CO_2 tank, if empty go to back up CO_2 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_2 LOW OR OUT	CO_2 supply is low or empty or Air compressor not operating	Change CO_2 cylinder or have bulk tank refilled. Check cause not operating and repair.

BEVERAGE / ICE RELATED ISSUES:

Table 36.

Message	Explanation	Correction
NO ICE DISPENSE	A. Ice Chute not installed correctly. B. Bad solenoid valve. C. Plugged orifice. D. No / Low CO_2 . 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_2 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 coldplate. 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_2. 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

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POS Related Issues

Table 37.

Message	Explanation
ABS SYSTEM NOT COMMUNICATING	• Verify that the ABS 2.0 unit is enabled in the POS Drink. Dispenser setup. • Verify that POS cable is connected to Ethernet jack on the Display unit. • Verify that the POS cable is connected to the ABS 2.0 unit. • Verify all programming is correct. • Verify that no error messages are displayed on the ABS 2.0 unit. • Reboot power to the Display unit. • Verify the IP-Address setup. • Reboot power to the ABS 2.0 unit.
ABS UNIT WILL NOT DISPENSE A DRINK WITHOUT ICE OR WITH EXTRA ICE	• For no ice you must have to check ice chute sensor or pneumatic. • For extra ice, you must have the modify ice dispense time.
ABS UNIT IS DISPENSING THE WRONG SIZE OR BRANDS	• 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. • Call your POS vendor for service.
ABS IS NOT DISPENSING ONE OR MORE OF A SIZE OR BRANDS	• Verify the brand and Size spelling is the same in both the brand and Size setup as it is in the Menu item Setup. • Call your POS vendor for service.

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