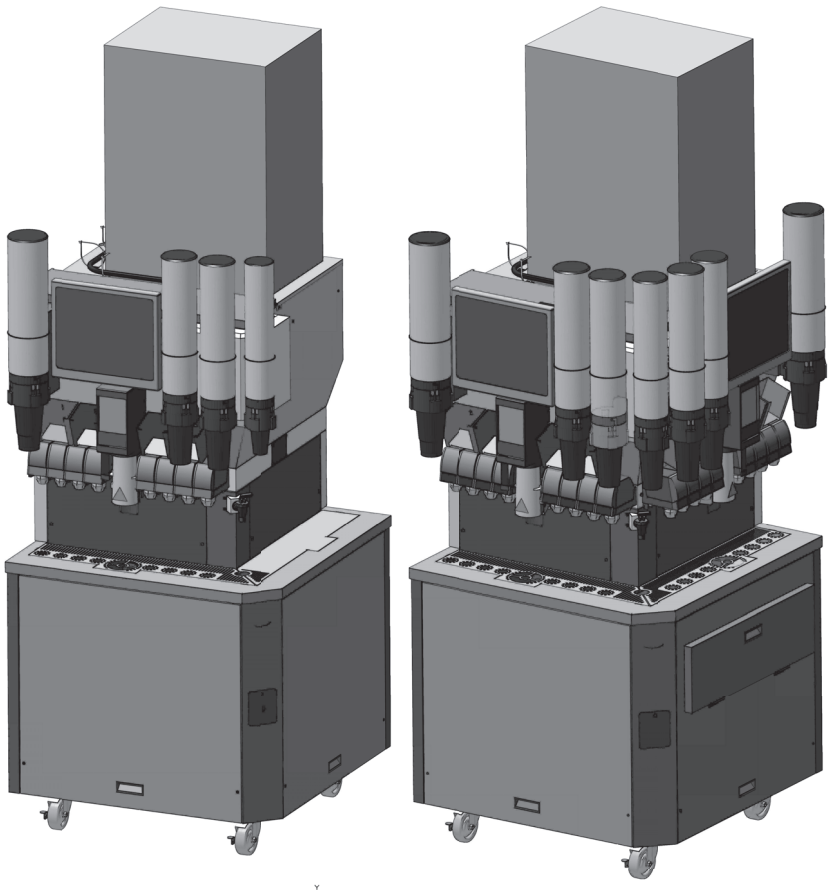
IDC 175 - HD TOWER DISPENSER

Service Manual



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Revision: A

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

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

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Contact Information:

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

www.cornelius.com
800-238-3600

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This document contains the original instructions for the unit described.

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Printed in U.S.A.

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SAFETY INSTRUCTIONS

READ AND FOLLOW ALL SAFETY INSTRUCTIONSZ

Safety Overview

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

Recognition

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

DIFFERENT TYPES OF ALERTS

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

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

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

SAFETY TIPS

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

QUALIFIED SERVICE PERSONNEL

WARNING:
Only trained and certified electrical, plumbing and refrigeration technicians should service this unit. **ALL WIRING AND PLUMBING MUST CONFORM TO NATIONAL AND LOCAL CODES. FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY, DEATH OR EQUIPMENT DAMAGE.**

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Safety Precautions

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

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

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

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

Shipping And Storage

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

CO_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.**

GENERAL INFORMATION

The IDC175 -HD tower is a high capacity ice drink dispenser which comes with 1 or 2 dispensing sides. One side is for store and other side is for drive-thru for the 2 sided dispenser. The dispenser is equipped with 8 SFV1/LVV portion control valves and a Progate ice chute on each side. The machine has built-in cup dispensers and lid holders for easy use.

Variant	1 Sided Unit	2 Sided Unit
Specification		
Unit Weight (Dry)	~476 lbs	~574 lbs
Ice Storage	155 lbs	155 lbs
Maximum Number of Faucets	9, (8 Valves + 1 Water Faucet)	17, (16 Valves + 1 Water Faucet)
Product Cooling	Ice Slurry Bath	Ice Slurry Bath
Electrical	**Connections:** 6 ft (1.83 m) long power cord with 3-prong plug attached to dispenser.	**Connections:** 6 ft (1.83 m) long power cord with 3-prong plug attached to dispenser.
	Power requirement: 220/230VAC, 50/60Hz 16 Amps dedicated power supply.	**Power requirement:** 220/230VAC, 50/60Hz 16 Amps dedicated power supply.
Unit Positioning	Unit must be placed in a vertical position.	Unit must be placed in a vertical position.
Dimensions	97.5” x 38.4” X 36.8”	97.5” x 38.4” X 39.1”
CO_2 / air Inlet Pressure	75-psig (517.1 kPa), min	75-psig (517.1 kPa), min
Water Inlet Pressure	100 psi (689.5 kPa) max static pressure 40 psi (275.8 kPa) min dynamic pressure 3/8” ID (9.5 mm) hose for water line is recommended	100 psi (689.5 kPa) max static pressure 40 psi (275.8 kPa) min dynamic pressure 3/8” ID (9.5 mm) hose for water line is recommended
Features		
4 programmable ice dispense sizes.	Yes	Yes
Automatic/manual ice dispense modes.	Yes	Yes
Integrated lid storage.	No	Yes
4 adjustable casters.	Yes	Yes
Semi-automatic hopper cleaning.	Yes	Yes
Ice Dispensing	1 portion control ice dispensing chute.	2 portion control ice dispensing chutes (one on each side)
Dispensing Valves	8 Cornelius SFV1/LVV portion control beverage valves and one water faucet.	16 Cornelius SFV1/LVV portion control beverage valves (8 on each side) and one water faucet.
Accessories		
Cup Dispensers	4	7
Lid Holders	4 separate removable lid holders. 3 lid holders are for small or medium lids and 1 lid holders is for large lids.	8 separate removable lid holders. 6 lid holders are for small or medium lids and 2 lid holders is for large lids.

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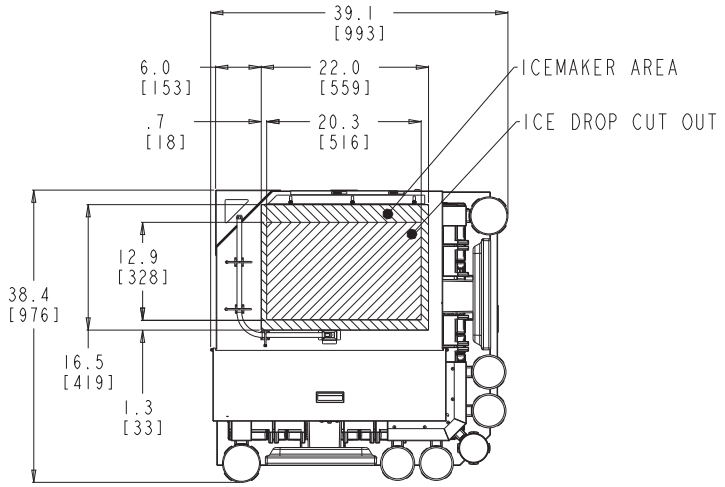
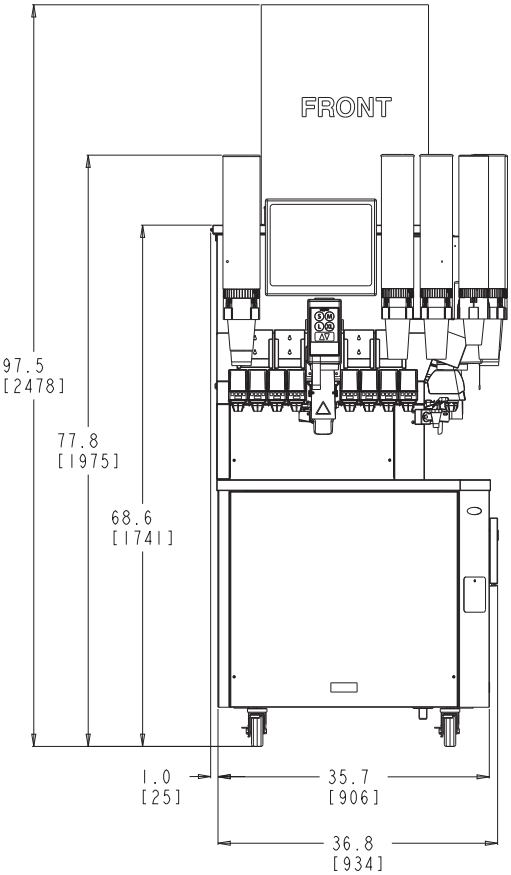


Store Side

RECOMMENDED ICE MAKER		
ITEM NO	BRAND	MODEL
1	MANITOWOC	IB-0696C
2	MANITOWOC	IB-0890C
3	MANITOWOC	IB-1090C
4	SCOTSMAN	PRODIGY EH222 800
5	SCOTSMAN	PRODIGY EH222 1000

Drive Through Side



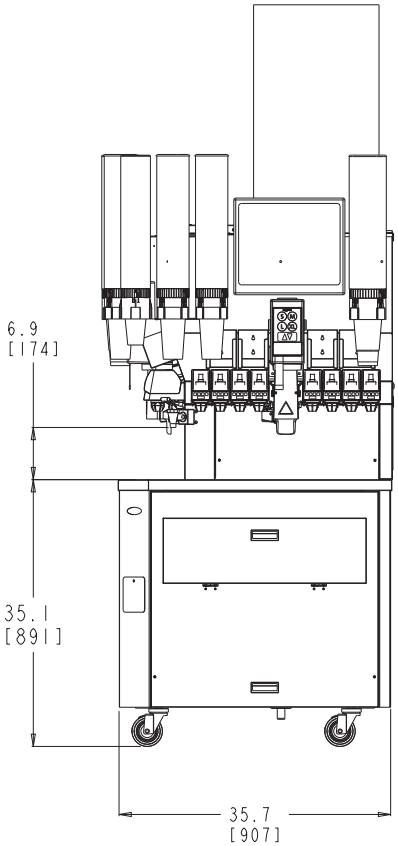
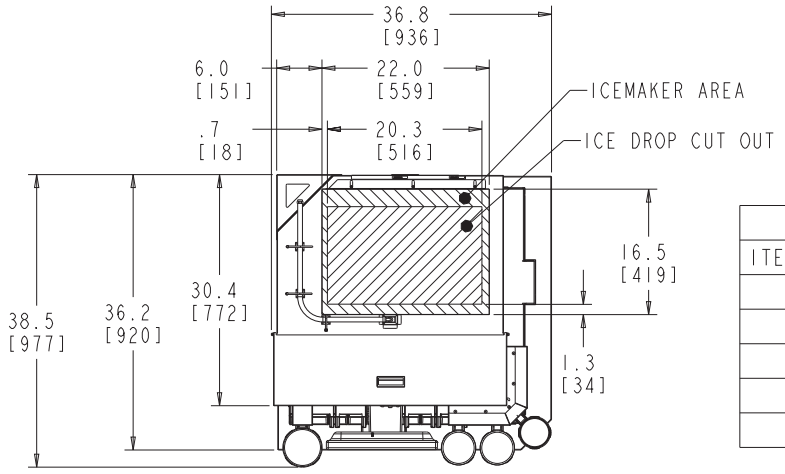


Figure 1. Unit Dimensions - 2 Sided



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Store side

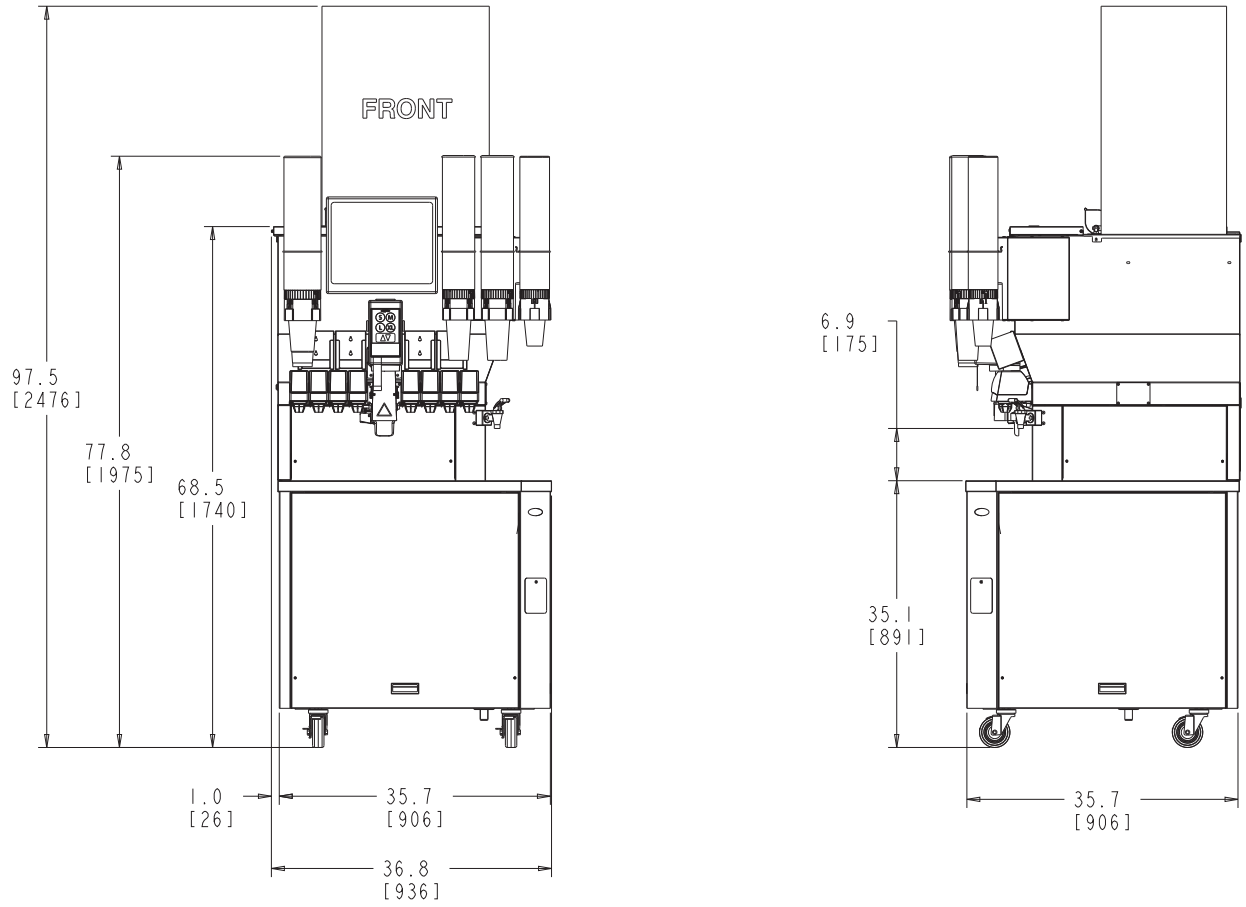

Figure 2. Unit Dimensions - 1 Sided

IDC175-HD TOWER CONTROL BOX OPERATION

PORTION CONTROL FUNCTIONS

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

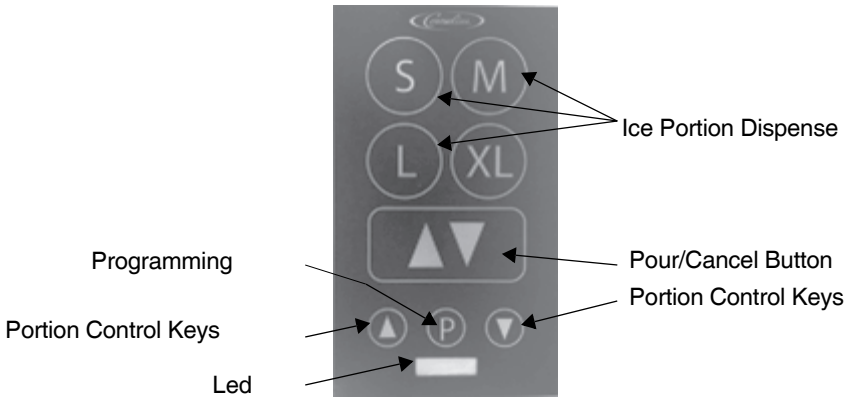

Figure 3.

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

Programming (Changing) the Ice Portion

To change the quantity for ice dispensing for any of the four ice sizes, follow the steps below.

1. To enter the program mode, press the **program button** (P) and any of the **desired ice portion dispense** buttons (Figure 3) at the same time and hold for 5 seconds. The Ice Portion Bar will come on □□□□□□□□□□ .
2. Press the **up arrow button** (△) to increase the amount of dispensed ice. The LED will move towards the right, indicating the Ice Portion has been increased. Press the **down arrow button** (▽) to decrease the amount of dispensed ice. The LED will move towards the left, indicating the Ice Portion has been decreased.
3. To exit the program mode, press any of the **desired ice portion dispense** buttons (Figure 3.) or wait 10 seconds and the control will return to the dispense mode.

Place a cup under the ice chute and press any of the **desired ice portion dispense** buttons (Figure 3.). If the ice dispense amount is not the desired amount, repeat the process.

HOPPER CLEANING INSTRUCTIONS

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

NOTE: Power ON the unit if its in OFF condition (Dry hands).

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 react with the material resulting in damage to the unit.

- **Cleaning solution** – Preferably Diversey HA or Kay Solid Sense APSC mixed as directed on the package. Refer to local regulations to make sure the chemicals used are approved in your region.
- **Sanitizing Solution** – 382 ppm quaternary (minimum) sanitizer mixed as directed on the package. Refer to local regulations to make sure the chemicals used are approved in your region.

NOTE: None of the cleaning and maintenance procedures require any special access. They are all accessible to the operator.

1. Preparation

Turn OFF the ice maker.

Fill Bucket # 1 (Soap Solution) up to 5 gallons (18.9 lts).

Fill Bucket # 2 (Rinse Water) up to 5 gallons (18.9 lts).

Fill Bucket # 3 (Sanitizer Solution) up to 5 gallons (18.9 lts).

Place the ice collection trays on both sides of the ice dispensing chutes.

Locate cleaning hose assembly.

CAUTION:
Close the ice bin access door before starting CIP.

Figure 4.

Figure 5.

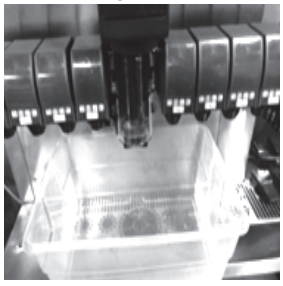

Figure 6.

2. Initiating Ice Hopper Cleaning

Locate the keypad user interface board on the E-box side of the unit.

Flip the access door down to locate programming button (refer Figure 7.).

Figure 7.

Press and hold the programming button then press and hold the pour/ cancel button. Keep pressing both for 5 seconds to start the cleaning process Figure 8.

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

Figure 8.

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

3. Empty the Ice Hopper

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

Press the pour/cancel button to start the ice dispense (See Figure 9.). L1 LED will become illuminated (See Figure 10.)

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

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

Figure 9.

Figure 10.

4. Ice Hopper Cleaning Cycle

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

Remove the collection trays.

Place the funnel under both of the ice dispense chutes.

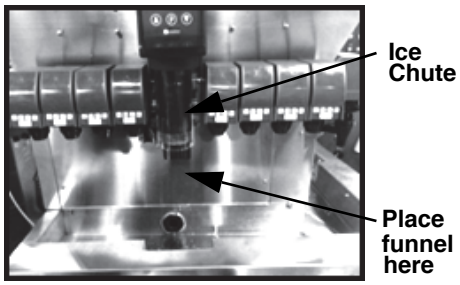

Figure 11.

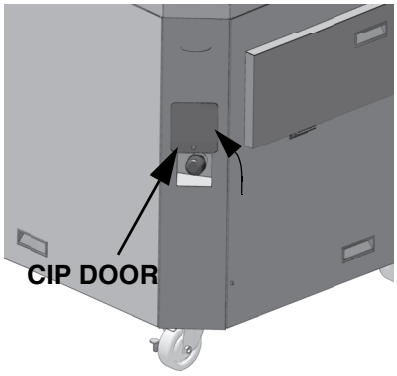

Figure 12.

Locate the CIP access door, rotate the cover to open (See Figure 12.).

Pull the hose outside and insert the strainer end into the bucket #1 which has soap solution.

Press and hold pour/cancel button for 5 seconds to begin this step (Cleaning solution will begin to flow through the ice chutes). L2 will become illuminated (See Figure 15).

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

Figure 13.

Figure 14.

Figure 15.

5. Rinse Cycle

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

Change the hose to Bucket #2 which has rinse water (See Figure 16.).

Press and hold the pour/cancel for 5 seconds to begin. L3 will be illuminated (see Figure 18).

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

Figure 16.

Figure 17.

Figure 18.

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6. Sanitizing Cycle

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

Change the hose to Bucket # 3 which has sanitizing solution (See Figure 19.).

Press and hold the pour/cancel button for 5 seconds to begin, L4 will be illuminated (see Figure 21).

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

Figure 19.

Figure 20.

Figure 21.

7. Rinse Cycle

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

Refill Bucket #2 with rinse water.

Change the hose to Bucket # 2 which has rinse water (See Figure 22.).

Press and hold the pour/cancel button for 5 seconds to begin. L5 will be illuminated (see Figure 24).

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

Figure 22.

Figure 23.

Figure 24.

8. End Cycle

After the rinse cycle (Step #7) is complete, all lights will flash several times.

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

Close the flip door.

Put the cup rest back in place.

Wipe down the area with a sanitized cloth.

Figure 25.

Figure 26.

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MANUAL CLEANING PROCEDURE

WARNING:
Disconnect power to the unit before servicing. Follow all lock out/tag out procedures if 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.

Ice Chute Cleaning

Hold the ice chute cover and push up until you hear a sound click; this will disengage the side latches (See Figure 27.)

Figure 27.

Remove the ice chute cover from the unit (See Figure 28.).

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

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

Figure 28.

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

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

Align latches, push side tabs down to lock in place (See Figure 29.).

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

Figure 29.

Cup Dispenser Cleaning

1. Remove all the cups from the bottom of the cup dispenser.

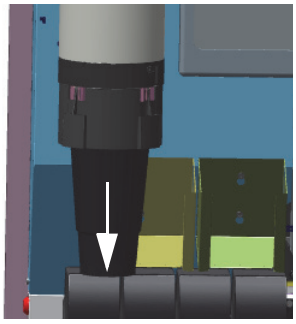

Figure 30.

2. Rotate the cup tube in Anti-clockwise direction until it releases from the dispenser and pull upwards through the retainer clip.

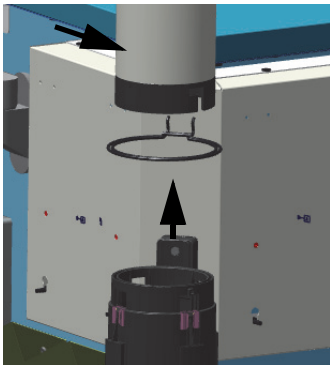

Figure 31.

3. Locate the screw which holds the cup dispenser and unscrew it. Then, lift upwards and pull out.

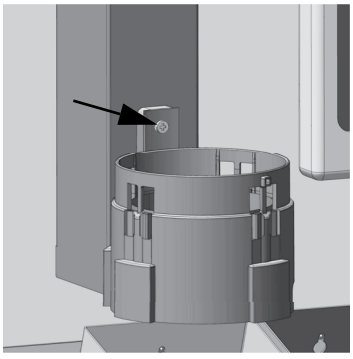

Figure 32.

4. Push the ‘cup dispenser finger’ upwards and remove.

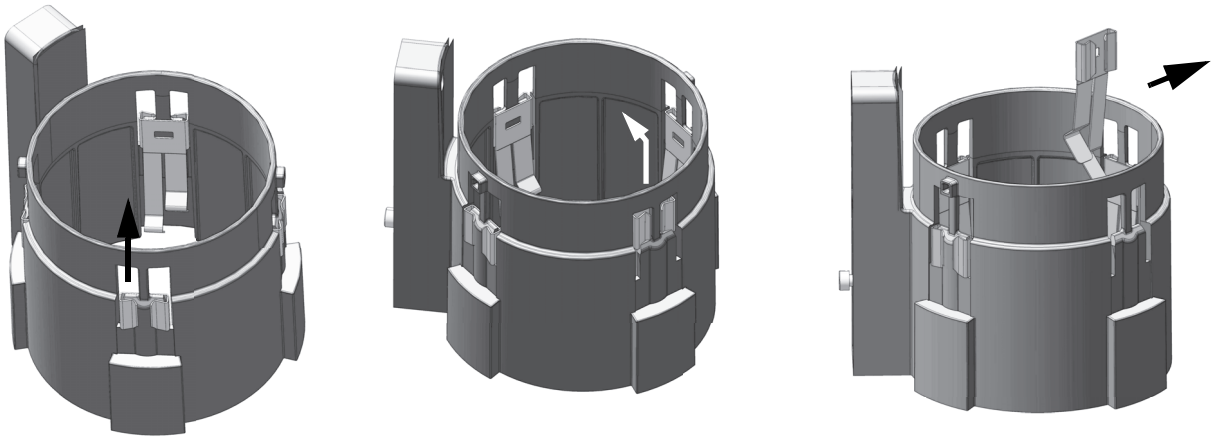

Figure 33.

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5. Properly clean the exterior and interior surface of the cup holder with a cloth soaked in the sanitizer solution.

   IMPORTANT: Do not put the cup holder into a dish washer.

6. Spray sanitizer on the cup holder and wipe it with a soft cloth. Let it air dry for 5 minutes.

7. Reinsert the finger in cup dispenser by pushing the finger in downwards direction as shown in Figure 34..

   NOTE: Don't try to bend the finger that might damage the fingers.

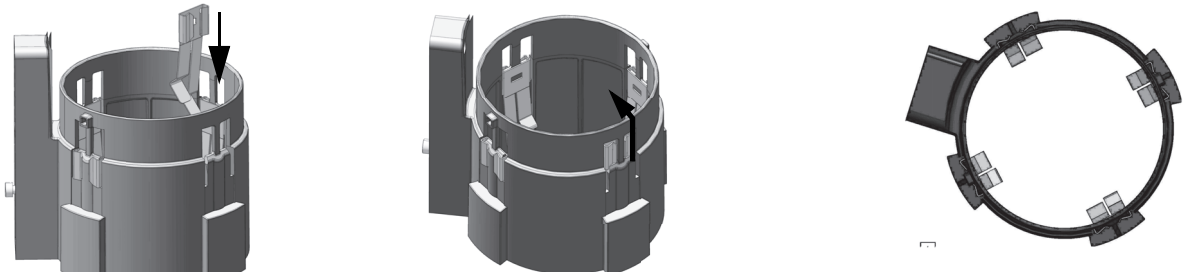

Figure 34.

YEARLY MAINTENANCE:

1. Inspect and clean the water pump check valve.
2. Inspect and clean the CO_2/air gas check valve.
3. Inspect and clean the recirculation pump filter.

   NOTE: Drain water bath before inspecting recirculation pump filter.

Directions for draining and refilling water bath.

1. Remove the side panel and locate the drain valve (see Figure 35.)

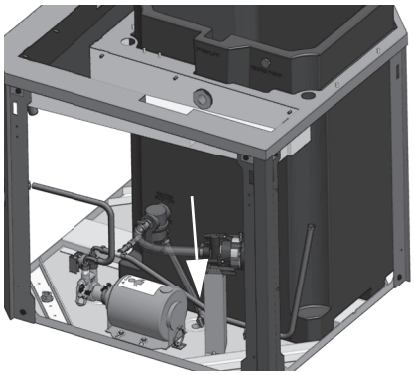

Figure 35.

2. Rotate (counter clockwise) until the lever is parallel to the drain tube (See Figure 36.).

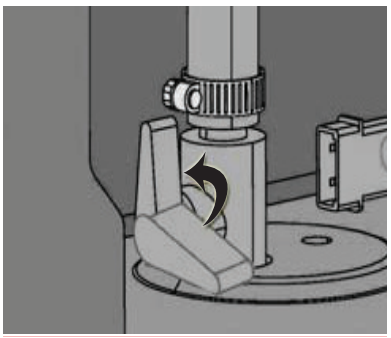

Figure 36.

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

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

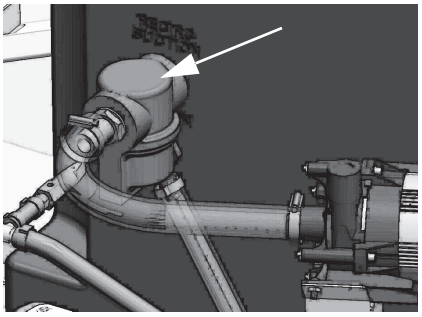

Figure 37.

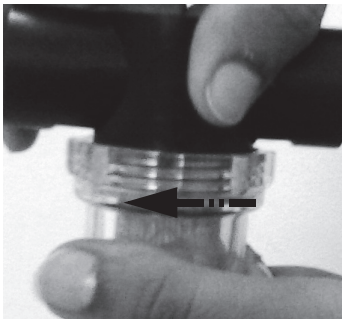

Figure 38.

If there is accumulation of debris, rotate the lower section of strainer counter clockwise to remove (See Figure 38.). Take out the strainer, wash it with a brush and soap solution, and reassemble once cleaned.

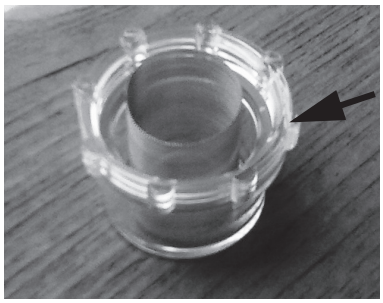

Figure 39.

Turn the drain lever back to the original position (OFF) and fill the water bath with fresh water. (Refer INSTALLATION manual page8).

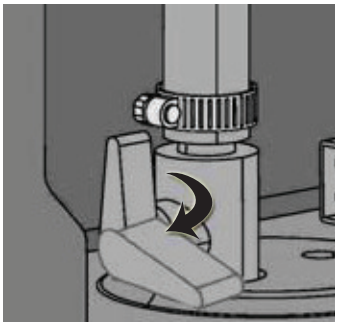

Figure 40.

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COMPONENT SERVICE

CAUTION:
Ensure that all the replaced/repaired components which comes in food contact areas are sanitized before installation and that the system is sanitized after the service. Use only recommended food safe spares and follow the manufacturer instructions while installing/servicing the component.

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

CUP DISPENSER

Remove all the cups from the bottom of the cup dispenser as shown in Figure 41.

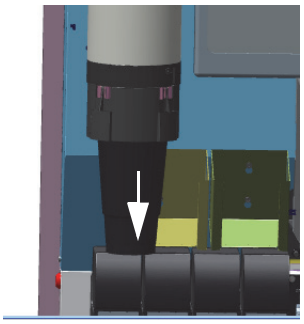

Figure 41.

Rotate it anti-clockwise direction and then pull upwards through the retainer clip as shown in Figure 42.

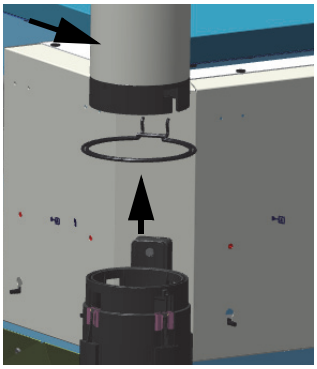

Figure 42.

Remove the retainer clip.

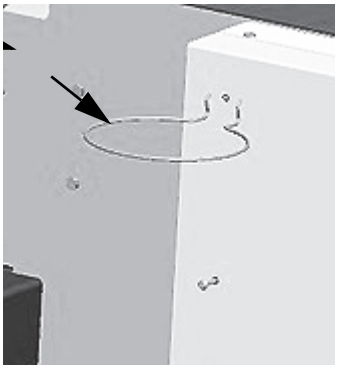

Figure 43.

Locate the screw which holds the cup dispenser and unscrew it. Then, lift upwards and pull out.

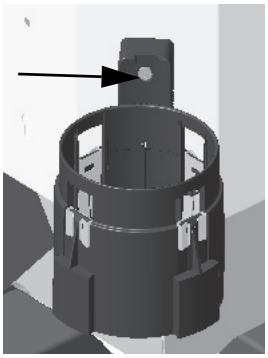

Figure 44.

Push the ‘cup dispenser finger’ upwards and remove.

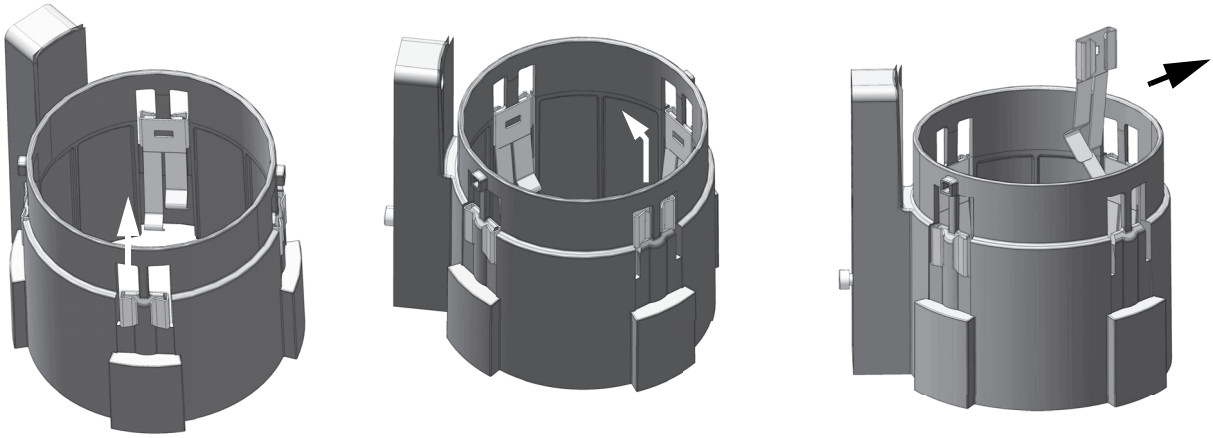

Figure 45.

ICE CHUTE ASSEMBLY

WARNING:
Before accessing the Ice chute, ensure that the power supply to the unit is turned OFF and air supply is turned OFF.

1. Remove the lid dispensers on either side of the key pad bezel. There are three snaps which holds the key pad bezel to unit. One above and two on the sides as shown in Figure 46.

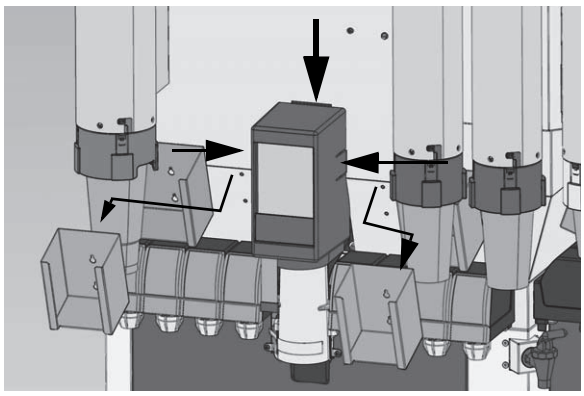

Figure 46.

2. Press the snaps in, on both of the sides of the key pad bezel and gently pull out with a slight inclined angle, pivoting on the snap on the top just enough to access the wire harness on the back.

IMPORTANT: Do not pull out too far, as the wire harness is connected to the rear of the control panel.

3. Disconnect the wire harness and keep the key pad bezel assembly aside.

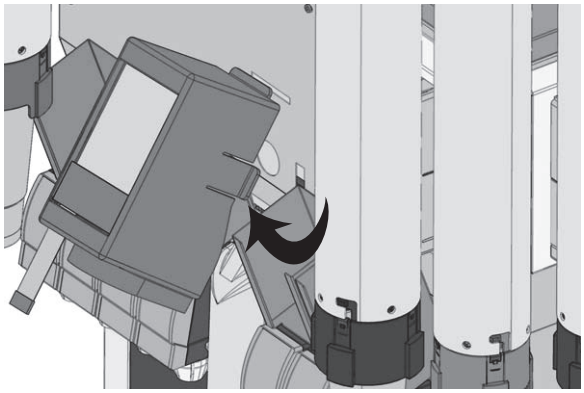

Figure 47.

4. Remove the four nuts that mount the ice chute assembly to the unit as shown in Figure 48.

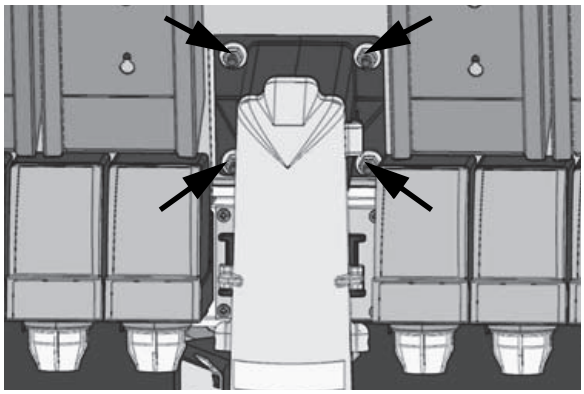

Figure 48.

5. Gently pull the ice chute assembly enough to expose the air inlet tubes.
6. Disconnect the tubes and remove the ice chute assembly as shown in Figure 49.

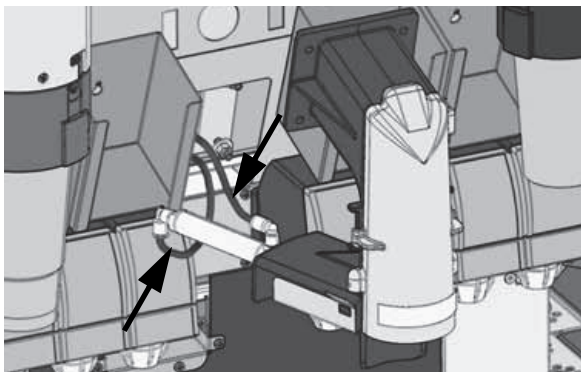

Figure 49.

7. Disconnect the progate sensor and pull the ice chute cover upward as shown in Figure 50.
8. Remove the gasket from front side.

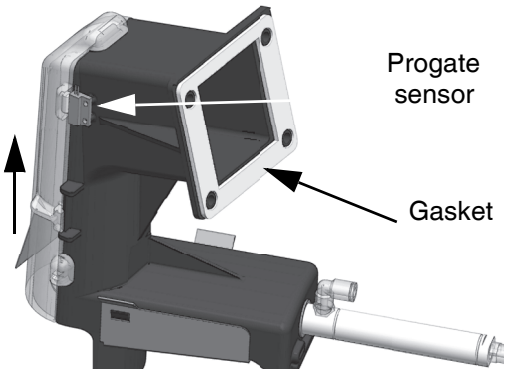

Figure 50.

KEYPAD PCB REMOVAL

WARNING:
Before accessing the Ice chute, ensure that the power supply to the unit is turned OFF and air supply is turned OFF.

1. Remove the lid dispensers on either side of the key pad bezel. There are three snaps which holds the key pad bezel to unit. One above and two on the sides as shown in Figure 46..

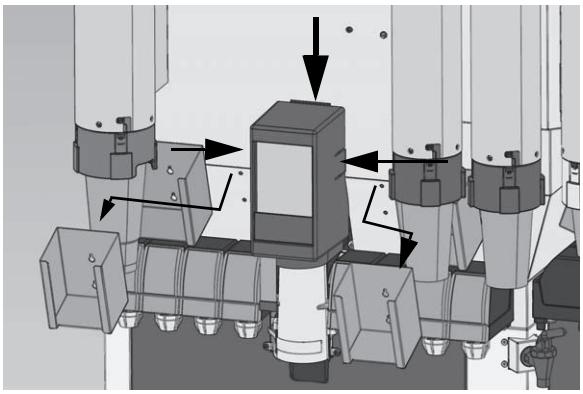

Figure 51.

2. Press the snaps in, on both of the sides of the key pad bezel and gently pull out with a slight inclined angle, pivoting on the snap on the top just enough to access the wire harness on the back.

IMPORTANT: Do not pull out too far, as the wire harness is connected to the rear of the control panel.

3. Disconnect the wire harness connected with Keypad bezel.

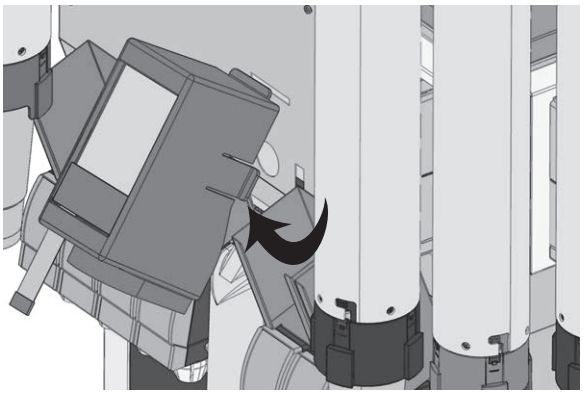

Figure 52.

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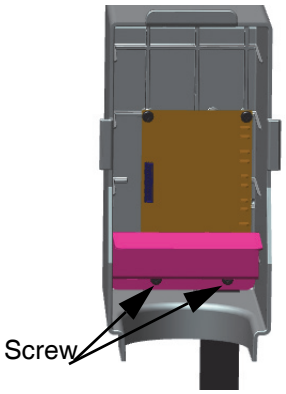
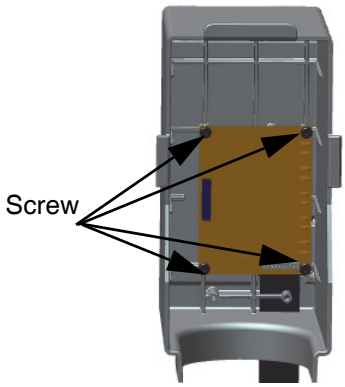
4. Turn around the keypad bezel and unscrew the the two screws as shown in Figure 53.	 **Figure 53.**
5. Unscrew four screw from PCB as shown in Figure 54.	 **Figure 54.**

E-Box Assembly

WARNING:
Before accessing the e-box, ensure that the power supply to the unit is turned off.

1. Remove the two screws on the front lower panel and grab the handle, slide down the panel and remove.

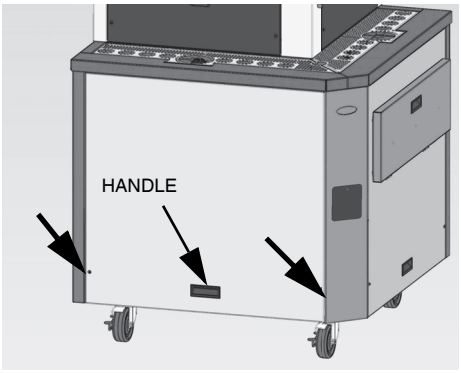


Figure 55.

2. Remove the two screws from front top of the e-box cover, Rotate down panel and access the component.

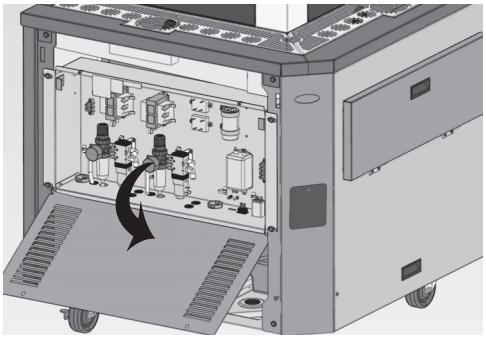


Figure 56.

3. Shut OFF the air flow valve at rear side of unit and disconnect the tubes connected to pressure regulator as well as on direction control valve Remove the two screws from the bracket as shown in Figure 57.

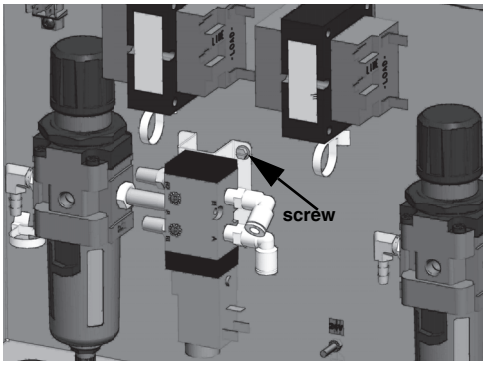


Figure 57.

4. Shut OFF the air flow valve at rear side of unit and disconnect the tubes connected to pressure regulator as well on direction control valve Remove the two screws from the Figure 58.

   NOTE: Make sure to add PTFE on Fitting threads.

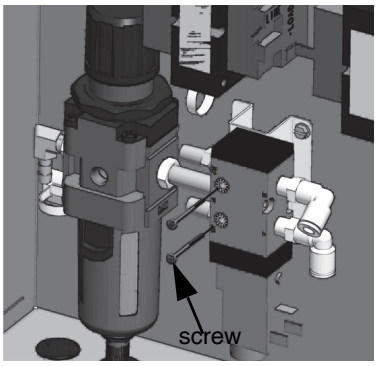


Figure 58.

5. Disconnect the wires connected to relay and remove the two screws as shown in Figure 59.

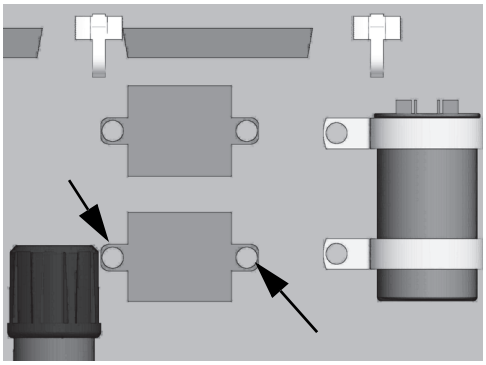


Figure 59.

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6. Disconnect the wires connected to Electrical filter and remove the two screws as shown in Figure 60.

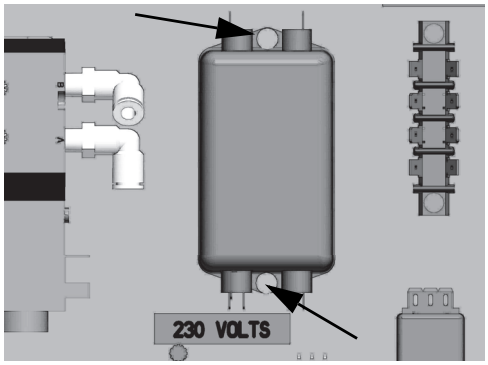

Figure 60.

7. Disconnect the wire connected to transformer and remove the two screws as shown in Figure 61.

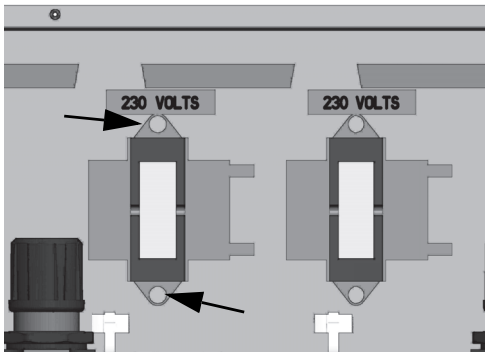

Figure 61.

8. Disconnect the wires connected to motor capacitor and remove the two screws as shown in Figure 62..

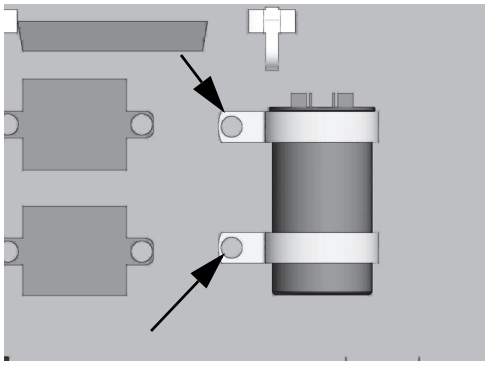

Figure 62.

9. Disconnect the wires connected to terminal block and remove the two screws as shown in Figure 63..

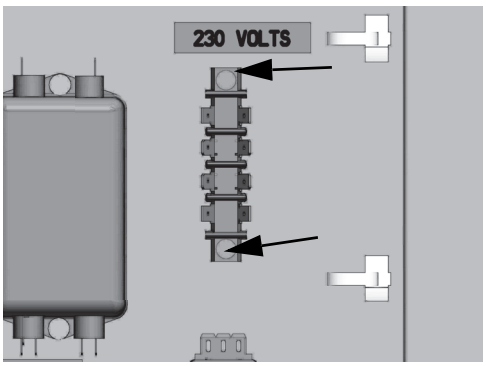

Figure 63.

10. Disconnect the wires connected to power cord entry switch and pull it outward direction as shown in Figure 64.

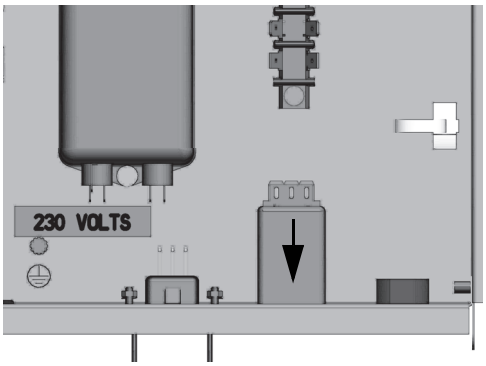

Figure 64.

11. Disconnect the wires connected to receptacle connector and remove the nuts on clip, Pull it outward direction as shown in Figure 65..

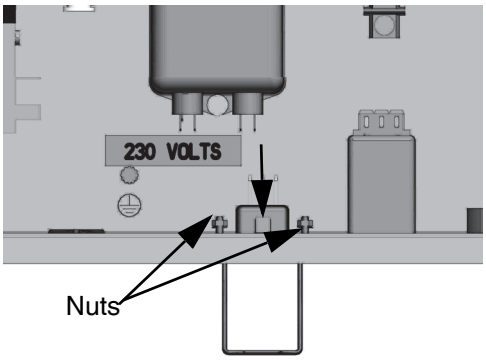

Figure 65.

Ice Hopper Cleaning Pump and Recirculation Pump

Location

To access the recirculation and hopper cleaning pumps, remove the side panel.

WARNING:
Disconnect power to the unit before servicing. Follow all lock out/tag out procedures if established by the user. Verify power is off to the unit before performing any work.
Failure to comply could result in serious injury, death or damage to the equipment.

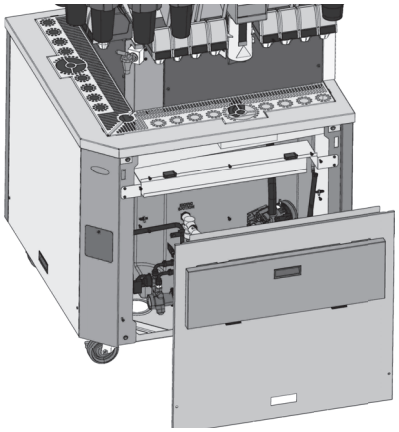

Figure 66.

Ice Hopper Cleaning Pump Removal

Remove the four screws (1) on the motor base and the inlet and outlet connections (2) to remove the pump.

NOTE: Draining of water bath instructions before pump & strainer removal.

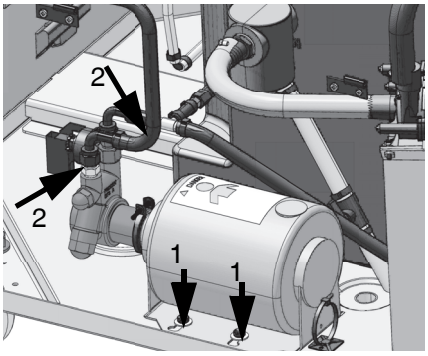

Figure 67.

Recirculation Pump Removal

1. Turnoff the power supply to unit.
2. Pull down the tube insulation on tune on the suction side of the pump.
3. Block the water flow by pinch tube on both sides using the vice grips.
4. Remove the hose clamp and the tube connection to the suction and discharge side of the pump.
5. Drain the leftover water in the tube.
6. Remove screw that secures the pump on the bracket as shown in Figure 68.
7. Install new pump on the bracket. Connect suction and discharge tubes and secure with clamp.
8. Remove the vice grip on the suction end tube and adjust the tube insulation.

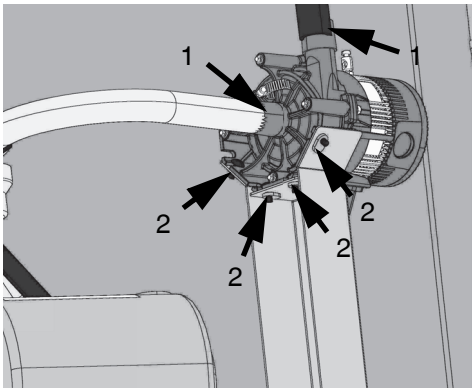

Figure 68..

Strainer

Remove strainer insulation.

Drain the water bath.

Turn the strainer counter clockwise to release it from the water bath.

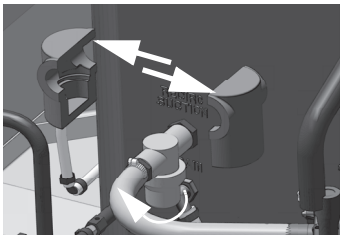

Figure 69.

AGITATOR MOTOR

Locate the access door provided on the rear side of unit.

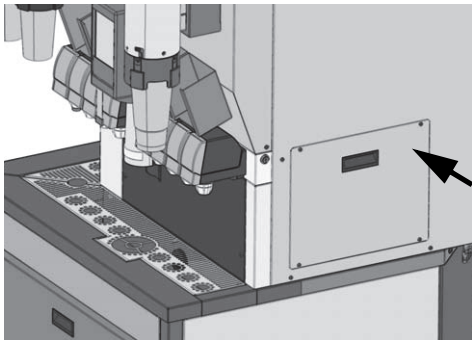

Figure 70.

Remove the four screws and pull off the access door as shown in Figure 71.

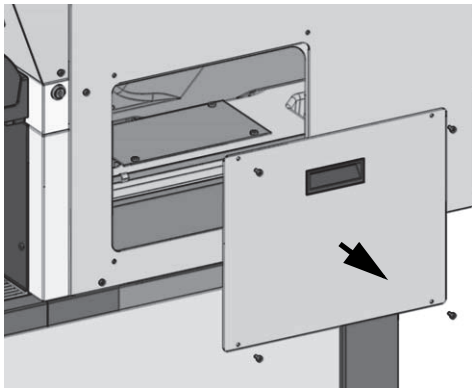

Figure 71.

Power OFF the unit before accessing to the Agitator motor and Disconnect the wires connected to Agitator motor.

Agitator motor can be accessed now.

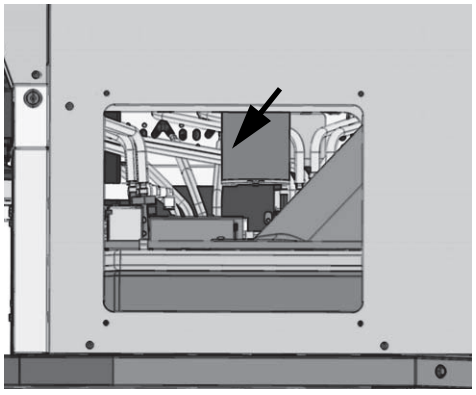

Figure 72.

Removal Procedure

Open adapter lid(manual door) and access the agitator blades.

Inside the hopper, remove the agitator cone by rotating counter clockwise.

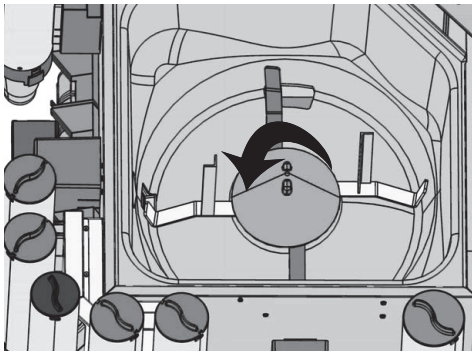

Figure 73.

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Remove the agitator blades by lifting them.

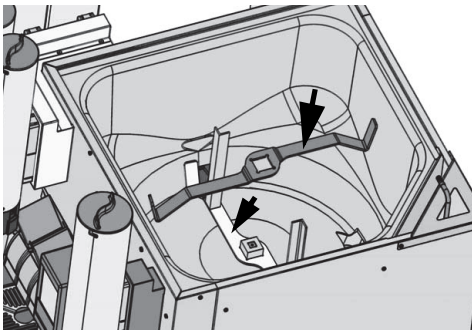

Figure 74.

Below the hopper, remove the four screws that hold the agitator motor - and gear box assembly to the hopper assembly and remove the motor and gear box assembly.

Access the motor through access door shown in Figure 71.

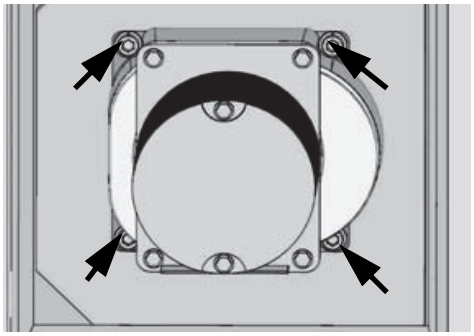

Figure 75.

Agitator Seal Replacement

Locate the access door provided on the rear side of unit as shown in Figure 70..

Remove the four screws and pull off the access door as shown in Figure 71..

Power OFF the unit before accessing to the Agitator motor and Disconnect the wires connected to Agitator motor.

Agitator motor can be accessed now.

Remove the four screws as shown in Figure 75. that hold the agitator motor -and gear box assembly to the hopper assembly, Take out motor out from the unit and replace Agitator seal and apply RTV around it and place it back.

MANIFOLD

Remove the screws on splash panel and remove the splash panel.

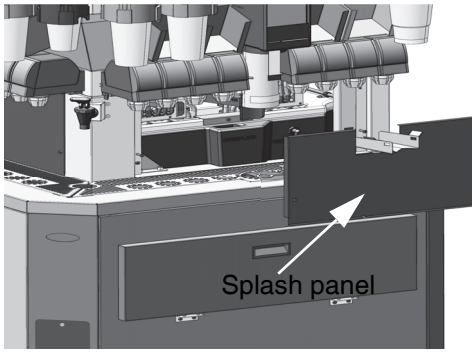

Figure 76.

The outlet tubes (1) are flexible and can be removed by removing the Oetiker clamps. The tube fittings (2) are locked in place by brackets (Figure 74, item 1 and 2). These brackets must be removed first to remove the fittings.

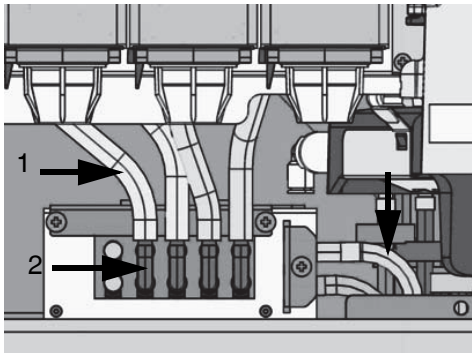

Figure 77.

Remove the screws (1) and brackets (2) that lock the manifold inlet tubing connections in place.

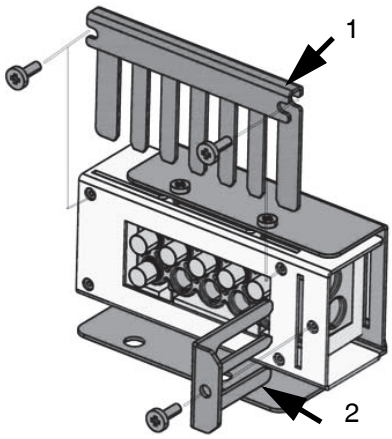

Figure 78.

Adapter Panel Nozzel Replacement

Lift Adapter lid(Manual door) as shown in Figure 79.

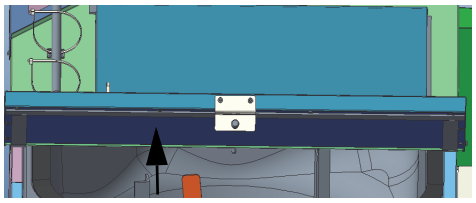

Figure 79.

Access the nozzel and unscrew it by rotating in Anti-clockwise direction as shown in Figure 80..

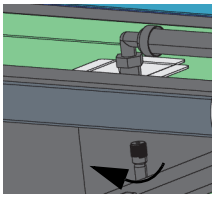

Figure 80..

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WATER FAUCET AND REGULATOR

NOTE: Turn off the water supply to the unit before removing the water faucet.

Remove both of the splash panels.

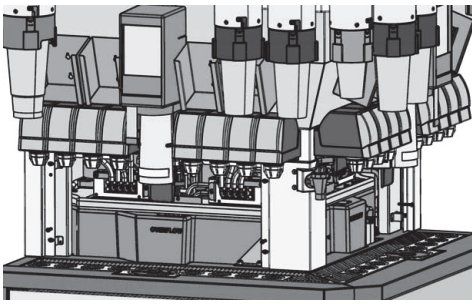

Figure 81.

Remove the four screws that mount the water faucet assembly to the unit.

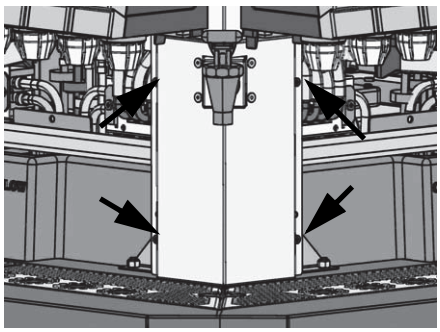

Figure 82.

Disconnect the tubing and remove the water faucet.

Figure 83.

Disconnect the tubing and remove the water regulator.

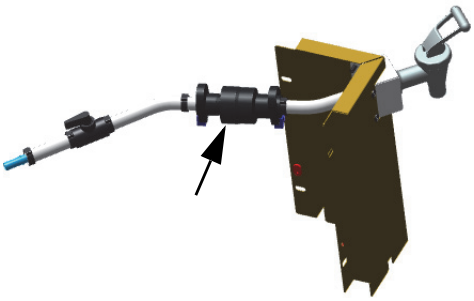

Figure 84.

LID STORAGE

Open the lid storage door as shown in Figure 85..

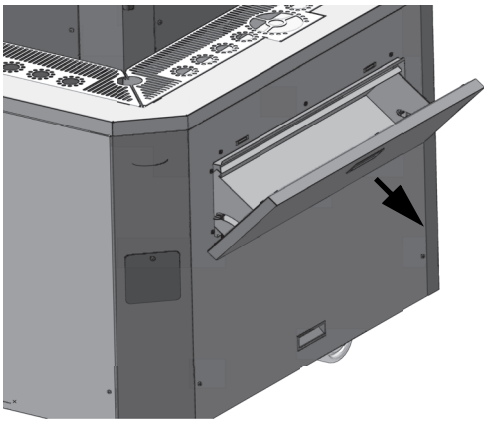

Figure 85.

Remove the thumb screws to further open the lid storage.

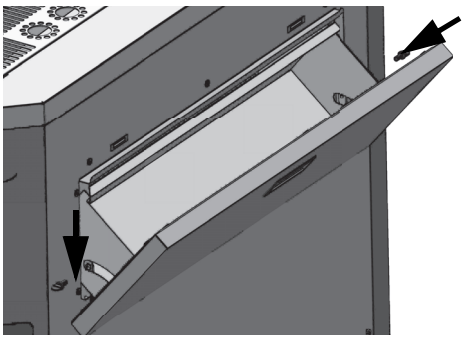

Figure 86.

Once the door is fully open, slide it to the left until the door is released from the hinge.

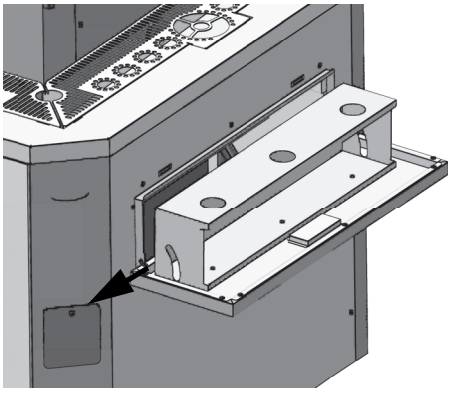

Figure 87.

The lid storage door can be completely removed from the unit.

CAUTION:
Ensure that all the replaced/repaired components are sanitized after the service.

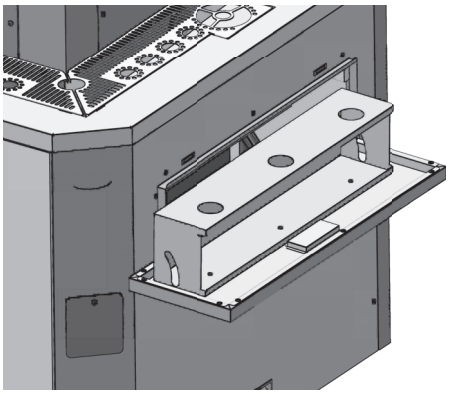

Figure 88.

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PLUMBING SCHEMATIC - 2 SIDED

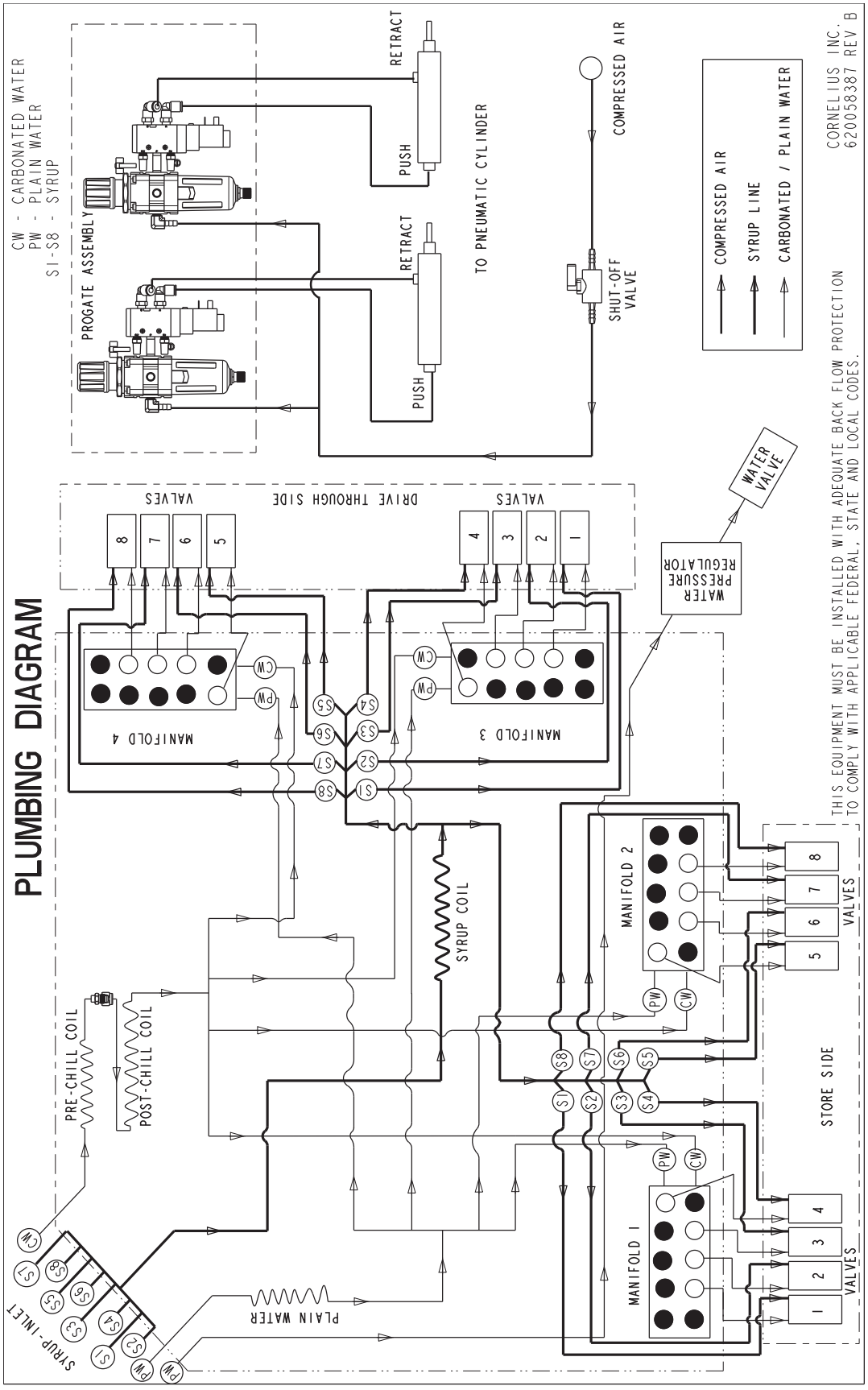

Figure 89.

PLUMBING SCHEMATIC - 1 SIDED

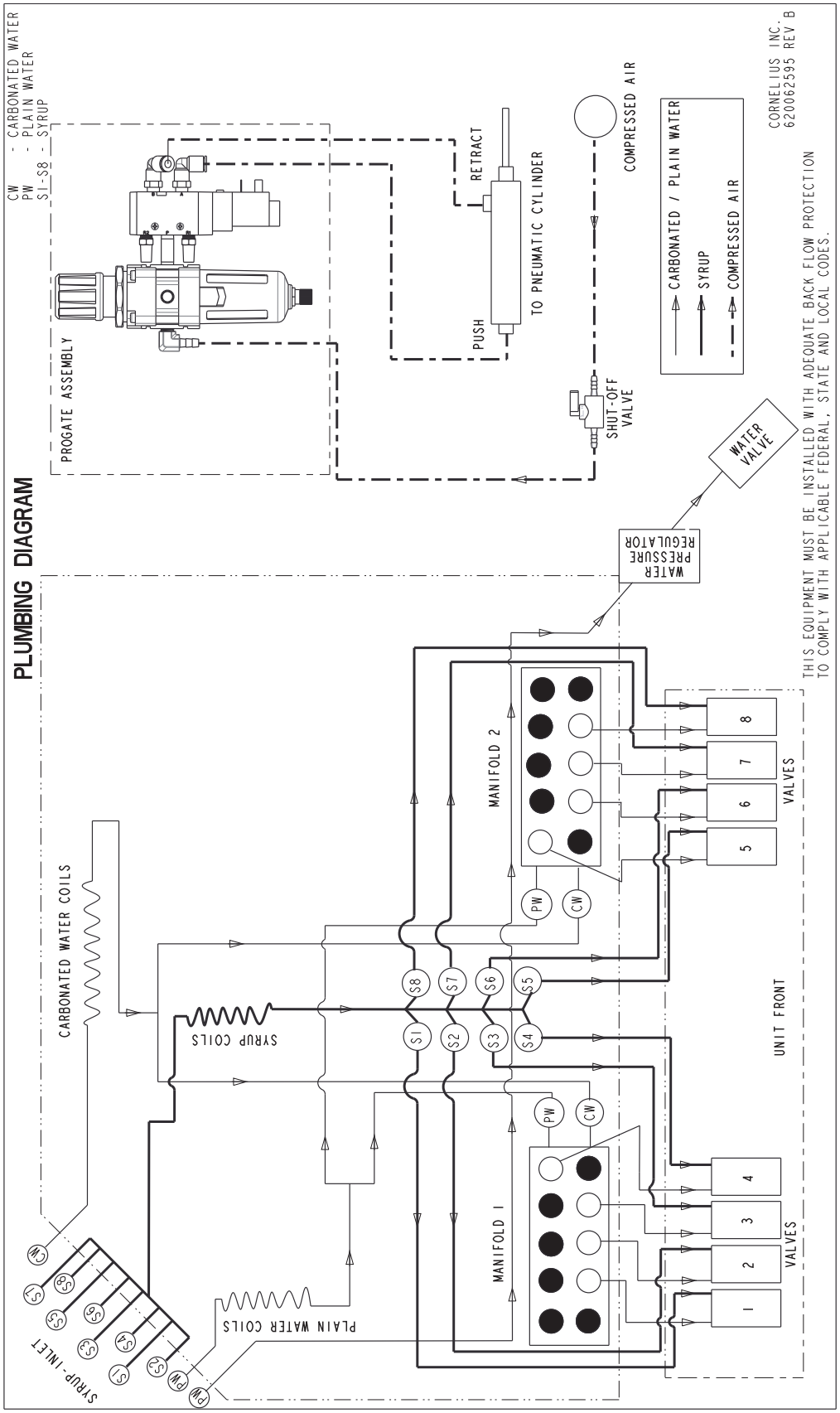

Figure 90.

ELECTRICAL SCHEMATIC - 2 SIDED

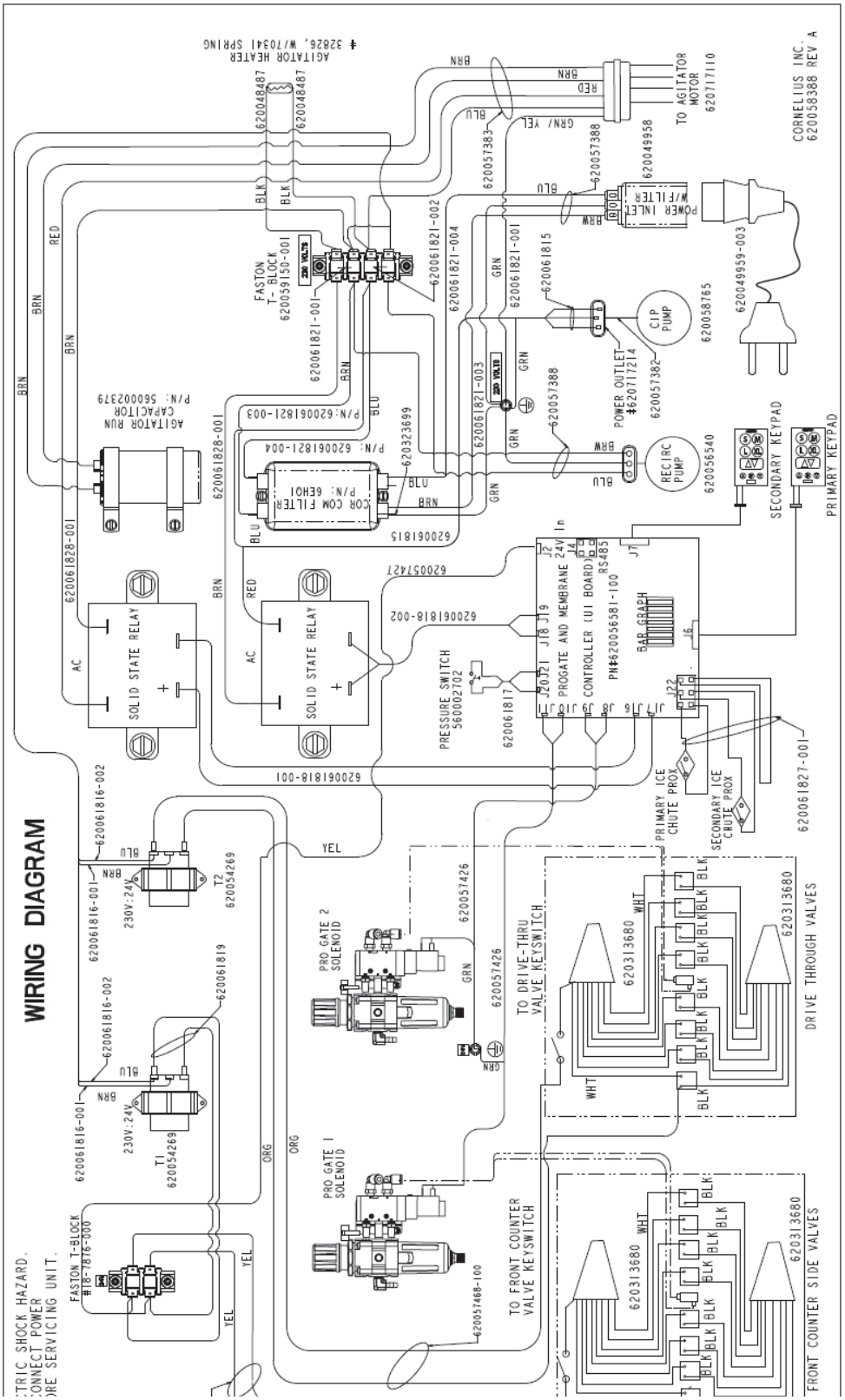

Figure 91.

ELECTRICAL SCHEMATIC - 1 SIDED

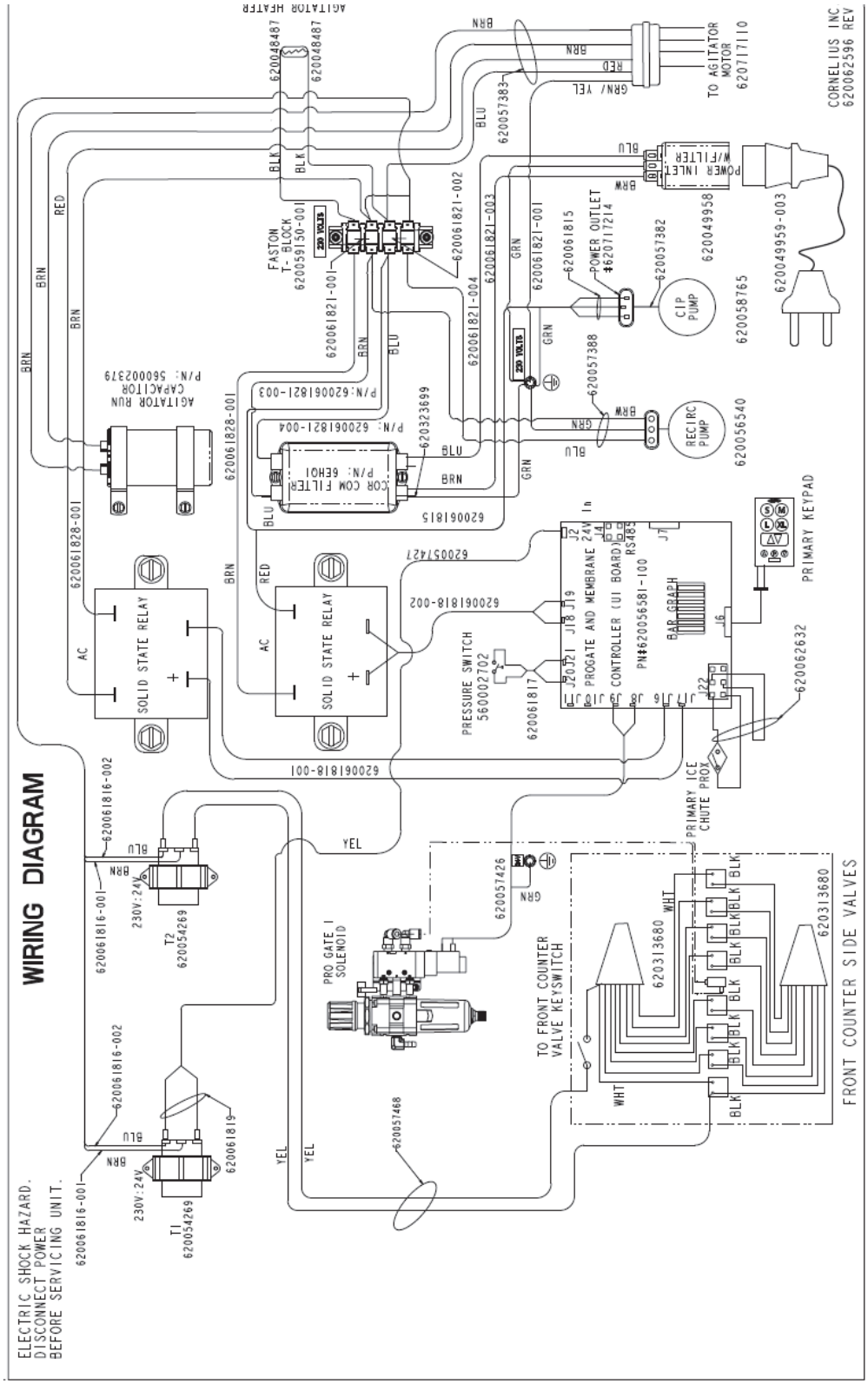

Figure 92.

TROUBLESHOOTING GUIDE

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:
If repairs are to be made to a product system, remove quick disconnects from the applicable product tank, then relieve the system pressure before proceeding. If repairs are to be made to the CO_2 system, stop dispensing, shut off the CO_2 supply, then relieve the system pressure before proceeding.

Failure to keep this area clean may result in injury or equipment damage.

Should your unit fail to operate properly, check that there is power to the unit and that the hopper contains ice. If the unit does not dispense, check the following chart under the appropriate symptoms to aid in identifying the defect.

Table 1. Dispenser Troubleshooting

Symptom	Cause	Remedy
No ice dispensing from both of the ice chutes.	No AC power to the unit.	**Verify AC Power at Outlet** A. Check for voltage at the AC wall receptacle. Voltage must be 230±10 V. If not, connect to another wall outlet that is live with 230±10 V.
	No power is being supplied to the Agitator Motor. *(As an indicator for this, the agitator motor does not run when any ice buttons related to the quantity of ice are pressed on the ice-selection keypad.)*	**Check Agitator Motor** A. Check for voltage between all harness terminals which supply power to the agitator motor. The voltage must be 230±10 V. Replace any faulty harness to the agitator motor. B. Check the wire connection to the agitator motor relay and the relay itself for proper operation. Replace if either of them is malfunctioning. C. Check the voltage output at the Program board terminals for the Relay switch. Replace the Program board if no voltage is detected.
	Transformer is faulty.	A. Replace the transformer.Refer on page22.

Symptom	Cause	Remedy
	Agitator motor is malfunctioning. *(As an indicator for this, the agitator motor does not run when any ice buttons related to the quantity of ice are pressed on the keypad).*	A. Replace the agitator motor.Refer Agitator Motor on page 25.
Ice is dispensing from only one ice chute (either on the e-box side or on the pump side.	The pro-gate is stuck at the close position.	**Verify Pro-gate Functionality** A. Check the air pressure at the inlet to the pneumatic cylinder. It must be 75 psig. B. If the pressure is low, confirm the proper pressure regulator setting. If no change, inspect the air lines for loose connections, leaks and damage. Repair/ replace as required. C. If the steps above fail to restore pro-gate operation, replace the pneumatic cylinder.Refer Ice Chute Assembly on page 18.
	The solenoid valve (control valve) is mal-functioning.	A. Replace the solenoid valve.Refer E-Box Assembly on page 20.
	The filter-regulator on the non-dispensing line is either damaged or is blocked.	A. Replace the filter-regulator.Refer E-Box Assembly on page 20.
	Solenoid valve is not receiving activation power. (Malfunctioning wire harness, Program board or keypad button.)	**Verify Valve Electrical Power** A. Check for voltage at the solenoid-valve terminals on the Program board; it must be 24V. B. If 24V is not present, replace the Program board. C. If 24V is present, check the wiring harness continuity and replace as required. D. If the solenoid valve isn't functioning with 24V at its terminals, replace the valve.
	Keypad key on non-dispensing side is malfunctioning.	A. Replace the faulty keypad.Refer on page19.
	Program board is malfunctioning.	A. Replace the faulty Program board.Refer on page19.
Ice is not being dispensed by the ice chute on the pump side.	The ribbon cable and small PCB are faulty.	A. Replace the ribbon cable and the small PCB.Refer on page19.

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Symptom	Cause	Remedy
Ice is not being dispensed when a certain button on keypad is pressed.	The Program board is malfunctioning. **NOTE: In this case both ice chutes will have this problem.**	A. Replace Program board.Refer on page19.
	Keypad, on non-dispensing side, is faulty/ not working.	A. Replace Keypad Bezel.Refer on page18.
Ice is dispensing continuously without operator interaction.	The Pro-gate, on non-dispensing side, is stuck in the open position.	**Verify Pro-gate Functionality** A. Check the air pressure at the inlet to the air cylinder. It must be 75 psig. B. If the pressure is low, confirm the proper pressure regulator setting. If no change, inspect the air lines for loose connections, leaks and damage. Repair/ replace as required. C. If the steps above fail to restore pro-gate operation, replace the pneumatic cylinder.
	The solenoid valve (control valve), on non-dispensing side, is malfunctioning.	A. Replace the Solenoid Valve.Refer on page20.
Both Ice chutes are not dispensing ice in correct quantities.	The control board has not been programmed correctly.	A. Recalibrate the quantity of ice to be dispensed for a particular cup size to provide the required quantity of ice.Refer on page19.
	Air/CO_2 pressure is too low.	**Correct Low Gas Pressure** A. Measure the inlet air/ CO_2 pressure at the inlet port of unit. It must be 75 psig. If not, check supply source status and the regulator setting. B. If gas pressure is low, check the regulator setting, then check for any loose connection fittings or for damage to the gas supply hose. Repair as required.
Different amounts of ice are being dispensed from the ice chutes.	The solenoid valve (control valve) is malfunctioning.	A. Check/replace the solenoid valve.Refer E-Box Assembly on page 20.
	Pro-gate air cylinder is malfunctioning.	A. **Refer Verify Pro-gate Functionality on page 35.**
	Faulty pressure regulator.	A. Replace the pressure regulator. Refer on page20.

Symptom	Cause	Remedy
None of the valves on any one side, either E-Box side or Pump side, is dispensing drinks.	No power is being supplied to the valves.	**Check Transformer/Harnesses** A. Verify the voltage at the output terminals of the transformer, The voltage must be 24 V. If voltage is not present, replace the transformer. B. Verify the voltage at the output terminals of the harness that connects the e-box terminals to the valve key switch, it must be 24 V. If voltage is not present, replace the harness.
Some valves on either side are not dispensing drinks. The remaining ones are operating.	The harness connecting the valve and the key switch is faulty.	A. Verify the voltage at the output terminals of harness for faulty valves; the voltage must be 24V. If voltage is not present, replace the harness.
All the valves on any one side of the unit designated to dispense carbonated drinks are dispensing only syrup.	The carbonated water line inlet connection to the flex manifold has been disconnected. *(This would be indicated by the continuous flow of water from the water bath into the drip tray.)*	A. Reconnect the carbonated water inlet line to the flex manifold.
All the valves on any one side of the unit designated to dispense plain drinks are dispensing only syrup.	The plain water line inlet connection to the flex manifold is disconnected. *(This would be indicated by the continuous overflow of water from the water bath.)*	A. Reconnect the water inlet line to the flex manifold.
All valves are dispensing warm drinks (>40°F).	Recirculation pump is not running. CAUTION: ***Do not run the recirculation pump without water in the water bath or the pump will be damage.***	**Recirculation Pump Electrical Check** A. Check voltage at all harness terminals connecting to the recirculation pump inside the e-box; it must be 230±10 V. If voltage is not present, replace the damaged harness. B. If the above procedure does not restore pump operation, replace the pump. Refer on page24.

Symptom	Cause	Remedy
	Recirculation pump water flow output is low.	**Recirculation Line Flow Check** A. Remove any constriction or blockage in the flexible tube on the recirculation line. B. Inspect and clean debris from the recirculation line filter. C. Replace the filter if the mesh has been damaged or clogged by sediment.
	No power is being supplied to the agitator motor. *(As an indicator for this, the agitator motor does not run when any ice Size buttons are pressed on the keypad).*	**Check Agitator Motor** A. Check for voltage between all harness terminals which supply power to the agitator motor. The voltage must be 230±10 V. Replace any faulty harness to the agitator motor. B. Check the wire connection to the agitator motor relay switch and the relay switch itself for proper operation. Replace if either of them is malfunctioning. C. Check the voltage output at the Program board terminals for the Relay switch. Replace the Program board if no voltage is detected.
	Transformer is faulty/not working.	A. Replace the transformer.Refer on page22.
	Agitator motor is malfunctioning. *(As an indicator for this, the agitator motor does not work when any button related to ice Size is pressed on the keypad).*	A. Replace the agitator motor.see section "Agitator Motor" on page 25.
A few valves on either or both sides are dispensing warm drinks (>40°).	Improper / no insulation on the line connecting the applicable valve to the manifold.	A. Replace the insulation on the line.
Water is not dispensing from the spigot (faucet).	The line connection from the flex manifold to the spigot is loose or disconnected.	A. Repair as required.
	The plain water inlet connection to the flex manifold has been disconnected.	A. Check and reconnect the plain water line.
	Defective pressure reducer.	A. Check/replace the 15 psi pressure reducer.

Symptom	Cause	Remedy
Water dispensed from the spigot (faucet) is turbulent.	High water pressure in the line due to water regulator malfunction.	A. Check/replace the water regulator.
Water does not spray from the nozzle when the cleaning cycle is ON. The Cleaning cycle remains incomplete.	Water or detergent solution is not reaching the nozzle inlet.	A. The suction tube is disconnected from the pump inlet. Check/ reconnect the suction tube.
	CIP Pump Motor is not running.	**Check CIP Pump Electrical** A. Check voltage at all harnesses from the e-box output to the pump input; it must be 230±10 V. If it isn't, check harness continuity, e-board output and relay continuity. Replace components as required. B. Check voltage at all harnesses connecting to the CIP pump receptacle inside the e-box; it must be 230±10 V. If voltage is not correct, replace the harness C. If the malfunctions is not corrected, replace the motor and/or the pump.
The solution sprayed from cleaning nozzle does not reach all the surfaces.	Pressure of water/solution in the cleaning line is low.	**Tubing Fix / Nozzle Cleaning** A. Check for leaks in the tube connections to the pump and the nozzle. Replace the tubing if damaged. B. Check for debris or residues restricting the nozzle openings. To dissolve them, remove the nozzle, rinse it in hot water and reinstall it with an O-ring properly located on it. Apply RTV sealant around the rim. C. If the pump is not providing enough pressure (140 PSI), replace the pump.Refer on page24.

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Symptom	Cause	Remedy
Water is collecting on the base of the unit.	Water is leaking from water bath at the drain fitting connection.	A. Remove the drain fitting, apply sealant and reinsert it. Replace the fitting if it is damaged. **CAUTION:** **Drain the water bath before removing the fitting.**
	Water is dripping from the recirculation pump and strainer.	A. Correct the connections to the recirculation pump and strainer. B. Replace the insulation on recirculation pump and strainer, when done.
	Leakage found around tube connections.	A. Replace any damaged tubing. Secure it using tube clamps to prevent leakage.
	The pressure-relief valve on the cleaning circuit opens during the cleaning cycle.	A. Check for debris or residues restricting the nozzle opening. To dissolve them, remove the nozzle, rinse it in hot water, dry it and reinstall with sealant.
	There is leakage from the drip tray near the overflow fitting; or the drain tube is damaged.	A. Remove the fitting. Apply proper sealant and reinstall it. Check for leaks. B. Replace it if the fitting is damaged. C. Replace the drain tube.
Water/syrup is found on the water bath cover.	The inlet/outlet water lines are disconnected or are damaged at the flex manifold.	A. Reconnect/replace the inlet/outlet line to the flex manifold and secure it properly.
	Syrup leakage at tubing joints behind splash panel.	A. Replace the tubing and secure it properly with clamps.
	Leakage in the tube connections to the spigot line.	A. Replace the tubing and secure it properly with clamps.
	The water bath recirculation line has been damaged.	A. Replace the tubing and secure it properly with clamps.
	Water dripping from tubes or the flex manifold.	A. Replace the damaged or lost insulation.

Symptom	Cause	Remedy
Water is dripping from hopper platform.	Agitator motor seal is damaged.	A. Replace the motor seal.Refer on page26.
	Ice chute gasket is damaged.	A. Replace the ice chute gasket.Refer on page18.
	Condensation on agitator motor.	**Agitator Motor Heater Check** A. Confirm proper voltage at the harnesses which supplies power to the agitator-motor heater. It must be 230±10 V. If not, check the AC supply and the harness continuity. Replace as required. B. Replace the heater coil if the harness is ok and voltage is present.
Water is collecting on the adapter panel.	Cleaning hose leakage is found on the adapter panel.	A. Replace any damaged tubing and secure tubing connections with hose clamps.

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