

# INSTRUCTION MANUAL

English Version



## ELMECO BRIX PUMP

First Class

Auto-Fill System

**ELMECO**





**This document has been modified by Gulf Ice Systems, Inc. (Republished 2026)**

**> Removed non-english pages.**

**> Simplified for customer use.**



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**IDENTIFICATION OF TRANSPARENT CONTAINERS**



– Identification of containers – machine rear view, see p. 24

- 1) Remove the cover from every transparent container;
- 2) Cut out the drilling template supplied with the instruction manual, and place it on the edge of the transparent container;

**IMPORTANT.** Repeat the following operations for each clear container.

- 3) Use a pin punch to mark the centre of the holes;



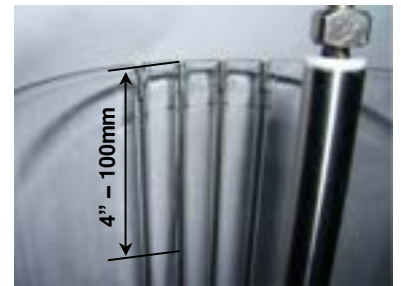
- 4) Make two 10mm holes;



- 5) Introduce the rubber holder insert complete with a silicone clear tube into the inside of the hole and lock it with the gusset on the outside. After inserting the gusset, pull it outwards making sure that it is properly connected;



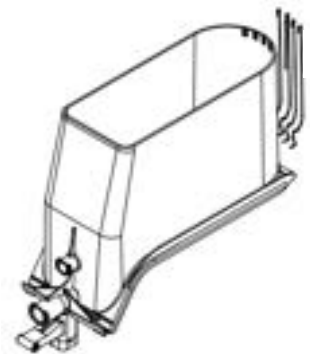
- 6) If the presence of approximately 12 litres of product is required, cut the level probe until you can measure 100mm from the upper edge of the clear container;



**Note.** The level probe, inserted into the transparent container, sends the container filling request signal to the electronic module positioned inside the Elmecc Brix Pump; this is necessary to always have a clear container filled with product.

**CAUTION!** Do not cut the level probe to a lesser extent since this would cause the clear container to be excessively filled, with subsequent leakage of product from the container top edge.

**IMPORTANT.** Ensure that the clear containers mounted on First Class are the same as those in the picture below. If not, order code **R0006106-001**.



## CONNECTING CONCENTRATE AND WATER TUBES

- 1) Take the 3/8" tubes (blue, red and clear) out of Elmeco Brix Pump kit and connect them to the clear tank where the couplings for John Guest were previously mounted;



- 2) Connect the other ends of the tubes directly on top of the Elmeco Brix Pump;



**CAUTION!** Connect by making sure that the number specified on the Elmeco Brix Pump sticker matches that of the corresponding clear container of the FC Millennium machine (for the number of the container see picture at the page 9).

**CAUTION!** Use the blue or red tube for the water line and the clear tube for the concentrate line.

## CHECK VALVE INSTALLATION

It is always recommended to install the non-return valve on the tube of the concentrate of each tank as follows:

- 1) Take the check valve from the Elmeco Brix Pump kit;



- 2) Connect the check valve on the concentrate tube near the Elmeco Brix Pump, as shown in the picture on page 25.

**IMPORTANT.** With some concentrates, it may happen that the tube is emptied when the charging pump, located inside the Elmeco Brix Pump, is not operating. The check valve.

## CONNECTING BAG-IN-BOX AND WATER LINES

- 1) Connect the water supply line to the rear side of Elmeco Brix Pump using the 3/8" tube (blue or red);



**IMPORTANT.** The water supply system must have a pressure between 3.4bar and 8.6bar. For more information, please refer to Shurflo water pressure reducer instructions in English, supplied along with Elmeco manual.

- 2) Take the concentrate supply tube out of Elmeco Brix Pump kit;



- 3) Connect a side of the tube to the rear side of Elmeco Brix Pump, and check the tube for proper connection;



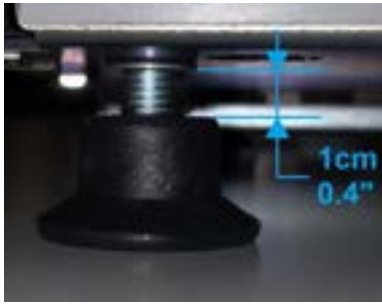
## CONNECTING FC MILLENNIUM - ELMECO BRIX PUMP

- 1) Take the wiring from the Elmeco Brix Pump kit;





- 2) If the First Class Millennium is powered by 220-240V, unscrew the 4 feet as shown in the figure below;



- 3) Connect the cable between the First Class Millennium and the Elmeco Brix Pump;



### FC MILLENNIUM CIRCUIT BOARD SETUP

- 1) Turn on the machine using the main switch located on the side panel;
  - 2) Wait until the start screen is displayed on each circuit board;
  - 3) Press and hold the **MENU** key for a few seconds so as to enter the selection menu;
- Note.** If no button is pressed for 10 seconds, the circuit board will automatically return to the start screen.
- 4) Press the **MENU** key several times until the "AUTOFILL" window appears;
  - 5) Change "OFF" to "ON" using the or keys;



- 6) Press the **MENU** until the selection menu is exited;
- 7) Repeat steps 3) to 5) for each circuit board.

### FIRST USE OF ELMECO BRIX PUMP

**IMPORTANT.** For more information about the operation and use of Brix Pumps, please refer to Shurflo instruction manual (only available in English), supplied along with Elmeco manual.

**IMPORTANT.** Repeat the following procedure for each clear container.

- 1) Ensure that the machine electronic system is in "Stand-by" mode; and that the Elmeco Brix Pump main switch is in the OFF position (0);



- 2) Manually fill the clear container with water to cover half horizontal propeller;



- 3) Prepare a vessel with 7.6l (2 gallons) of hot water at a temperature between 48-82°C (118.4°F-179.6°F) and 57 g (2 oz) of "Stera-Sheen Green Label";
- 4) Immerse the concentrate supply tube into the vessel containing the sanitizing liquid;
- 5) Make sure that the "sanitizer" valve knobs are set to "SERVICE / DISPENSE"



- 6) **Slowly** open the valve of the water supply line being careful not to exceed the maximum pressure of 8.6bar (maximum pressure to which the pressure reducer located inside Elmeco Brix Pump can be subjected);
- 7) Turn on (I) the Elmeco Brix Pump using the main switch;
- 8) Switch the circuit board of First Class from "Stand-by" to "Washing" mode and wait for the clear container to be filled up to its maximum level;
- 9) Wait **20 minutes** for the sanitizing liquid to fulfil its function;
- 10) Take the concentrate supply tube out of the vessel containing the sanitizing liquid, and place it in a second vessel containing only water;
- 11) Empty the transparent container until the liquid covers half horizontal propeller;
- 12) Again, wait for the clear container to be filled up to its maximum level;
- 13) Switch the circuit board to "Motor on" and completely empty the clear container;
- 14) Reset the circuit board to "Stand-by" mode and repeat steps 2) to 13) for the other containers;

**Note.** To set the machine circuit board to "Washing," "Motor On" or "Standby" mode, please read the machine manual under section "First Class Millennium Controls and Alerts."

**CAUTION!** If the maximum level is not reached within two minutes after filling, the FC Millennium circuit board will disable the refilling signal and the display will start flashing.

Press and hold the **MENU** key for a few seconds until "**ALARM REFILL**" is displayed; To reset the alarm and restart filling, turn off the machine via the main switch located on the left side panel, and turn it back on again, or go into "Standby" mode and then back in the "Slush" mode. After the startup messages, the circuit board enters "Motor on" mode; reset "Washing" mode and the container will be filled again.

- 15) Connect the concentrate supply tube to the Bag In Box (BIB) quick coupling and lock it with the metal clamp supplied;



**CAUTION!** The BIB coupling is supplied by Elmeco

- 16) Connect the quick coupling to the concentrate jerry can.

### FILLING CONTAINERS

- 1) Set Elmeco Brix Pump main switch to ON;
- 2) Set the circuit boards of the First Class to "SLUSH" mode (rotating propellers);
- 3) Elmeco Brix Pump starts to fill the container initially with only water. Wait until the concentrate to come out from the tube;
- 4) Stop filling by passing the circuit boards in "Motor ON" mode and empty the container from the present product;
- 5) Start the filling again, passing the circuit boards from "Motor ON" to "SLUSH";
- 6) The filling stops when the product reaches the level probe;

**CAUTION!** If the maximum level is not reached within two minutes after filling, the FC Millennium circuit board will disable the refilling signal and the display will start flashing.

Press and hold the **MENU** key for a few seconds until "**ALARM REFILL**" is displayed; To reset the alarm and restart filling, turn off the machine via the main switch and turn it back on again, or go into "Standby" mode and then back in the "Slush" mode.

**CAUTION!** Stay close to the tanks during the first filling to make sure everything is working properly. If product filling does not stop in one of the containers (even if 25mm of the maximum level probe are covered) turn the Elmeco Brix Pump off and contact your distributor for more information.

### CONCENTRATE JERRY CAN CHANGE

- 1) Set the circuit board of the First Class to "Stand-by" (stationary propellers);
- 2) Disconnect the BIB quick coupling from the empty jerry can;

**CAUTION!** Do not let any air into the tube; otherwise, the concentrate dilution ratio may change.

- 3) Connect the BIB quick coupling to a new full jerry can;
- 4) Set the circuit board to "SLUSH" mode (rotating propellers).

### BRIX PUMP PERIODIC CLEANING

**IMPORTANT.** Repeat the following procedure for each clear container.

**NOTE.** The frequency of cleaning depends on the water conditions, temperature and type of concentrate used.

- 1) Set the circuit board to "Stand-by" (stationary propellers);

- 2) Disconnect the two tubes from the clear container and place them into an empty vessel with a capacity of about 60 l;



- 3) The “sanitizer” valve knobs are located on the front of the Elmeco Brix Pump; the purpose of the valve is to run water through the concentrate tubes and thus clean them. To do so, turn the knob by 180 degrees towards “NETTOYAGE / SANITIZE.”



- 4) Set the circuit board to “SLUSH” mode. Only water will be released from the two tubes;

**CAUTION!** After two minutes from filling start, the FC Millennium circuit board will disable the refilling signal and “ALARM REFILL” will start flashing on the display. To reset the alarm and restart filling, turn off the machine via the main switch and turn it back on again, or go into “Standby” mode and then back in the “Slush” mode.

- 5) When the vessel is full, set the circuit board again to “Stand-by;”
- 6) Turn the knob again to “SERVICE / DISPENSE;”



- 7) Set the circuit board to “SLUSH” mode;
- 8) Wait until water and concentrate are released from the respective tubes;

**CAUTION!** Ensure that there is no air in the concentrate tube.

- 9) Set the circuit board to “Stand-by;”
- 10) Connect the two tubes to the clear container.

**Note.** The Elmeco Brix Pump should not be installed in an area where there may be a risk of freezing.

**CLEANING AND SANITIZING THE CONCENTRATE TUBE**

**IMPORTANT.** For more information about the operation and use of Brix Pumps, please refer to Shurflo instruction manual (only available in English), supplied along with Elmeco manual.

**IMPORTANT.** Repeat the following procedure for each clear container.

- 1) Set the Elmeco Brix Pump main switch to OFF (0)
- 2) Empty the transparent container until the liquid covers half horizontal propeller;



- 3) Set the machine circuit boards to “Stand-by” mode;

- 4) Disconnect the B-I-B quick coupling from the concentrate jerry can.
- 5) Separate the BIB quick coupling from the tube unscrewing the appropriate metal clamp;



- 6) Prepare a vessel with 7.6 l (2 gallons) of hot water at a temperature between 48-82°C (118.4°F-179.6°F) and 57 g (2 oz) of “Stera-Sheen Green Label;”
- 7) Immerse the concentrate supply tube into the vessel containing the sanitizing liquid;
- 8) Make sure that the “sanitizer” valve knobs are set to “SERVICE / DISPENSE;”



- 9) Turn on (I) the Elmeco Brix Pump using the main switch;
- 10) Switch the circuit board from “Stand-by” to “Washing” mode and wait for the clear container to be filled up to its maximum level;
- 11) Wait **20 minutes** for the sanitizing liquid to fulfil its function;
- 12) Take the concentrate supply tube out of the vessel containing the sanitizing liquid, and place it into a second vessel containing only water;
- 13) Empty the clear container so that half horizontal propeller remains covered with liquid;



- 14) Again, wait for the clear container to be filled up to its maximum level;
- 15) Switch the circuit board to "Motor on" and completely empty the clear container;
- 16) Reset the circuit board to "Stand-by" mode and repeat steps 2) to 15) for the other containers;

**Note.** To set the machine circuit board to "Washing," "Motor On" or "Standby" mode, please read the machine manual under section "First Class Millennium Controls and Alerts."

**CAUTION!** If the maximum level is not reached within two minutes after filling, the FC Millennium circuit board will disable the refilling signal and the display will start flashing.

Press and hold the **MENU** key for a few seconds until "ALARM REFILL" is displayed; To reset the alarm and restart filling, turn off the machine via the main switch located on the left side panel, and turn it back on again, or go into "Standby" mode and then back in the "Slush" mode. After the startup messages, the circuit board enters "Motor on" mode; reset "Washing" mode and the clear container will be filled again.

- 15) Connect the concentrate supply tube to the Bag In Box (BIB) quick coupling and lock it with the metal clamp supplied;



**CAUTION!** The quick coupling is a component that is not supplied by Elmecc.

- 18) Connect the quick coupling to the concentrate jerry can;

**CAUTION!** Do not let any air into the tube; otherwise, the concentrate dilution ratio may change.

- 19) Set the circuit board to "Washing" mode;
- 20) Wait until water and concentrate are released from the respective tubes;

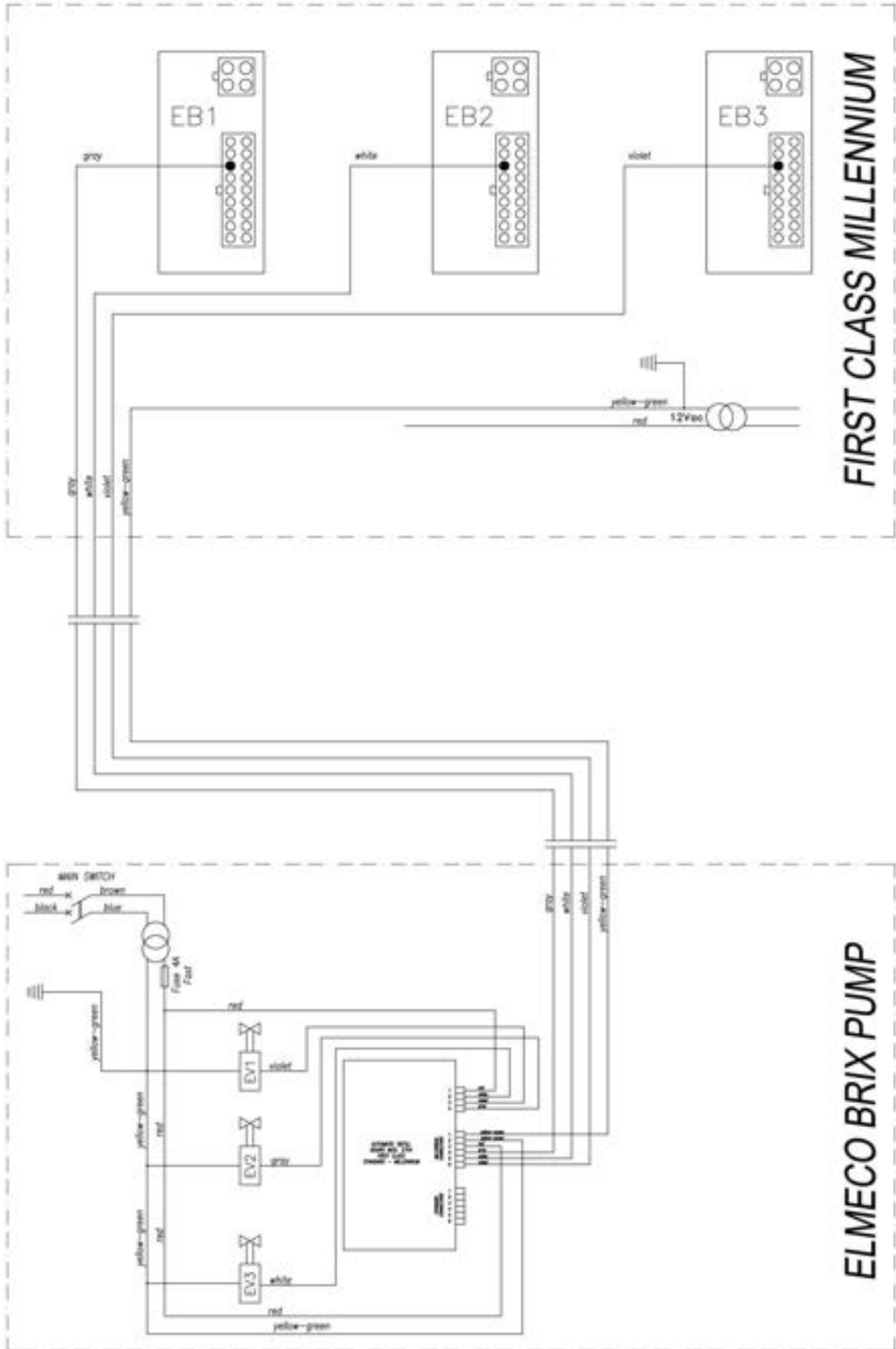
**CAUTION!** Ensure that there is no air in the concentrate tube.

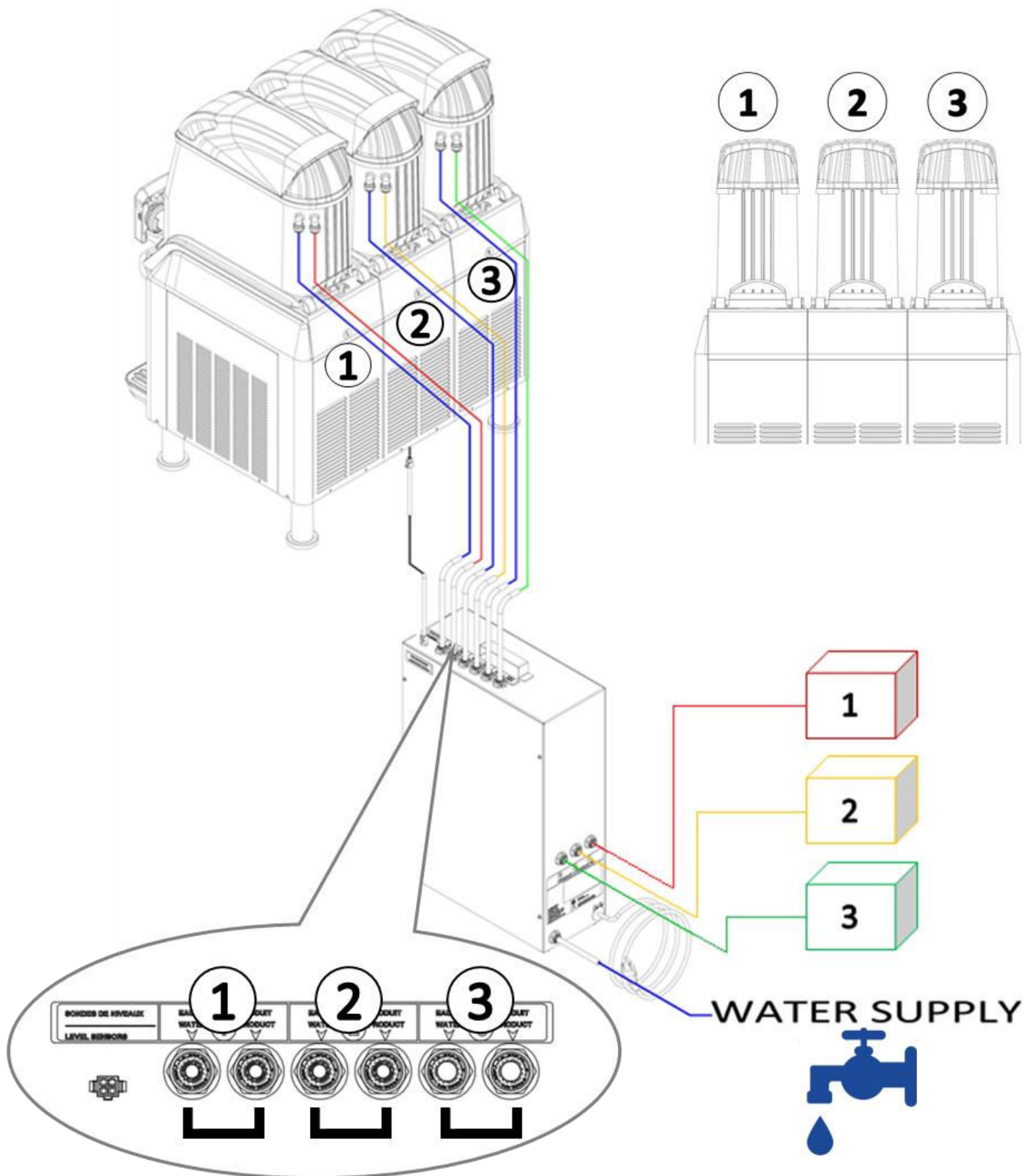
- 21) Enter the circuit board MENU and disable the "Washing" function.
- 22) After exiting MENU, set to "Motor-on" mode;
- 23) Empty the previously-filled liquid clear transparent;
- 24) Set the circuit board to "SLUSH" mode and wait for the maximum level to be reached;

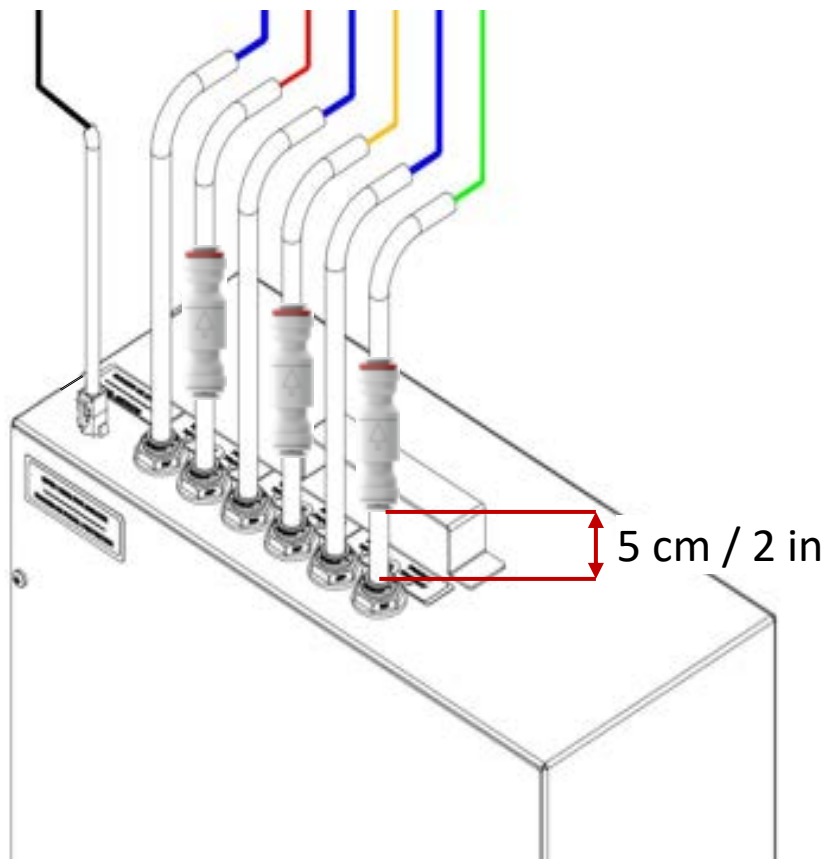
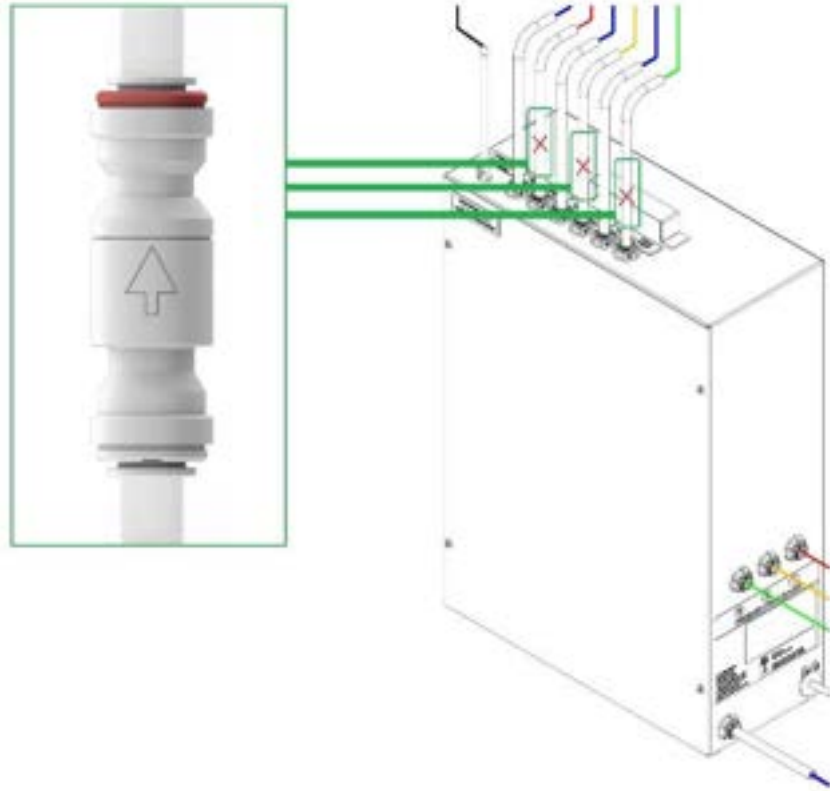
**CAUTION!** If the maximum level is not reached after activating "ALARM REFILL," set the circuit board to "Stand-by" and then bring it back again to "SLUSH" to restart filling the transparent container.

## PROBLEMS AND SOLUTIONS

<p>The level probe is not covered with product and the Elmeco Brix Pump does not refill</p>	<ol style="list-style-type: none"> <li>1) Circuit board set to "Motor ON" or "Stand-By";</li> <li>2) Cover removed from clear tank;</li> <li>3) In the selection menu, check that the "AUTOFILL" window is set to <b>ON</b>.</li> </ol>	
<p>The level probe is covered with product and the Elmeco Brix Pump is always refilling</p>	<ol style="list-style-type: none"> <li>1) The refill electronic module in the Elmeco Brix Pump might be broken.</li> </ol>	Call customer support
<p>The display of FC Millenium electronic module flashes and the Elmeco Brix Pump does not refill the clear container</p>	<p>Press and hold the "MENU" key until you enter the selection menu and check whether there are active alarm messages.</p> <ol style="list-style-type: none"> <li>1. If the "ALARM REFILL" message is active, check whether the concentrate jerry can is empty, or the water supply line is present. To reset the message, turn off and back on the machine.</li> <li>2. If the "ALARM LEVEL" message is active, check whether:             <ol style="list-style-type: none"> <li>a. The level probe is in place on the clear container</li> <li>b. The level probe is properly positioned</li> <li>c. There are no false contacts in the lower and upper parts of the level probe, respectively towards the contacts in the black terminal block and the contacts in the cover</li> </ol> </li> </ol>	
<p>The level probe is not covered with product, there are no active messages and the Elmeco Brix Pump does not refill</p>	<ol style="list-style-type: none"> <li>1. Check that the water mains pressure, on the water inlet side, is at least 3.4bar;</li> <li>2. Check that the water solenoid valve, located inside the Elmeco Brix Pump, properly opens allowing water to pass and run towards the BRIX pump;</li> <li>3. Check that there are no bottlenecks, bends or obstructions in the supply water and concentrate tubes of the BRIX pump. Clean and sanitize the concentrate tube;</li> <li>4. Check that the BRIX pump has not gone into vacuum in the concentrate supply line. Check whether the B-I-B concentrate jerry can is full;</li> <li>5. Check whether the quick connector is properly connected to the concentrate jerry can, and make sure there are no bottlenecks, bends or obstructions in the concentrate filling tube. Clean and sanitize the concentrate tube;</li> </ol>	
<p>The level probe is not covered with product, there are no active messages, and the Elmeco Brix Pump refills with water and concentrate, but brix values are incorrect</p>	<ol style="list-style-type: none"> <li>1. Start by checking the information contained in the upper point;</li> <li>2. Check whether the concentrate flow is fully opened in the quick coupling when it is connected to the B-I-B concentrate jerry can;</li> <li>3. Check that no air enters the concentrate tube (vacuum absence);</li> <li>4. Check whether there is air in the B-I-B concentrate jerry can. Release the quick coupling from the concentrate jerry can and place the latter in such a way as to have the connector on the upper side; this way, air will settle on the upper side of the jerry can. Install the quick coupling so as to open the passage; slowly press the quick coupling expelling air until the concentrate appears;</li> <li>5. The stroke of the BRIX pump must be regular in both travel directions. If this is not the case, remove the concentrate valves (inlet/outlet) and check for any debris or improper closure interfering with their operation. (Please refer to the "Valve Inspection" section in Shurflo supplier's instruction manual – only available in English);</li> </ol>	
<p>The BRIX pump runs intermittently, does not stop, or drips</p>	<ol style="list-style-type: none"> <li>1. Check whether the BRIX pump continues to load even if the B-I-B concentrate jerry can is empty; make sure no air enters the concentrate tube (vacuum absence). Determine if there is an excessive amount of air (more than 16.4 cc) in the concentrate jerry can. The BRIX pump will continue to load concentrate and water to obtain vacuum (48-61 kPa.) on the concentrate circuit. To check that the concentrate circuit goes into vacuum thus allowing the BRIX pump to stop, pinch off the concentrate filling tube and make sure the BRIX pump stops;</li> <li>2. If some concentrate drips into the clear container, particles of concentrate may be trapped under the piston seals, thereby allowing water to enter the concentrate chamber. Perform the pump sanitation and cleaning procedure. If the problem persists replace the BRIX pump.</li> <li>3. NOTE: If the B-I-B concentrate has been moved above the pump, the head pressure from the B-I-B can be high enough to cause the dispenser to drip.</li> </ol>	









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