



Crathco®

# Operator Manual Autofill System



**Model 2002-000**

**Notice:** This system is not certified for use with dairy products.

Activate your warranty now at <http://gmcw.com/warranty-registration>



Bubbler	Ratio 4:1	Ratio 5:1
Single	2001-001	2001-000
Double	2001-003	2001-002
Remote Single		2001-005
Remote Double		2001-004
Granita*	Ratio 4:1	Ratio 5:1
Single	2002-001	2002-000

\*for use with models NHV-2UL-AF, MT2ULAF, MT2ULAFBL, MT3ULAFBL



**Model 2001-000**



## Table of Contents

Safety Information.....	2	Troubleshooting Guide.....	5
Specifications .....	3	Parts List .....	6
Installation .....	3	Parts Diagram.....	7
Operation .....	4	Flow Diagram .....	8
Cleaning and Sanitizing .....	4	Wiring Diagram .....	8

Thank you for purchasing this quality autofill system. For your safety and the safety of others, read all warnings and the operator manual before installing or using the product. Properly instruct all operators. Keep training records. For future reference, record serial number here:

### Grindmaster-Cecilware

4003 Collins Lane, Louisville, KY 40245 USA  
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Grindmaster-Cecilware provides the industry's BEST warranty. Visit [gmcw.com](http://gmcw.com) for warranty terms and conditions.



**Grindmaster  
Cecilware**

## Safety Information

### Important Safety Information



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

For your safety and the safety of others, read all warnings and the operator manual before installing or using the product.

**DANGER:** This term warns the user of imminent hazard that will result in serious injury or death.

**WARNING:** This term refers to a potential hazard or unsafe practice, which could result in serious injury or death.

**CAUTION:** This term refers to a potential hazard or unsafe practice, which could result in minor or moderate injury.

**NOTICE:** This term refers to information that needs special attention or must be fully understood.

### **WARNING**

Do not alter or deform the power cord or plug in any way! Altering or deforming the plug may cause electrical shock, damage unit and will void warranty.

The Bubbler Autofill must only be connected to a three wire 120 VAC, 60 Hz electrical circuit.

To prevent the possibility of electrocution, burns, or other injuries and to prevent damage, do not immerse in water or any cleaning liquids.

Do not operate a damaged Autofill. Inspect the power supply cord, concentrate supply and water supply often. If cord or plug is damaged or worn, do not use your Autofill. Turn off the water supply and disconnect the electrical power.

Turn off and unplug the Autofill before cleaning or maintenance.

Disconnect power if the machine functions abnormally and notify qualified service personnel for repairs. Do not permit non-qualified service personnel to attempt repairs. No user serviceable components inside. Do not disassemble.

### **CAUTION**

Use the product for its intended purpose only. Any other usage is inappropriate and may be dangerous. The manufacturer assumes no responsibility for injury, loss, or damage resulting from improper machine use.

### **NOTICE**

Observe machine voltage configuration. Do not apply improper voltage to machine or damage to machine may occur.

Do not use extension cord (Bubbler Autofill units).

Do not allow water to be splashed or poured on front, sides, top, or back.

A qualified professional should perform installation, maintenance and repairs.

This equipment must be installed in accordance with the appropriate national and local codes of the country and/or region in which the appliance is installed.

When turning the machine off for an extended period, be sure to evacuate the water and concentrate inside the piping completely, otherwise the water and concentrate inside the machine could freeze and lead to damage or cause mold to appear.

This unit is not certified for use with dairy products.

Highly acidic or caustic concentrates may not be compatible with the materials of this system. Thoroughly evaluate chemical resistance and compatibility, especially at pH < 4 and pH > 10.

# Specifications

## Mechanical

MIXING RATIO: 5:1, or 4:1  
ELECTRICAL: 120 Volts, 60 Hz, 1 Phase, 2 Amps  
PUMP DESIGN: Positive Displacement  
PUMP POWER SOURCE: Potable Water  
TEMPERATURE LIMITS: 34 - 120° F [2-45° C]  
FLOW RATE: Typical 2-3 oz. [60-90 cc] per sec.  
OPERATING PRESSURE: 50 PSI. [3.4 bar] MAX. / 25 PSI. [1.7 bar] MIN.

## Water Inlet Connection requirements:

The Autofill unit can use any standard municipal water supply as well as any commercial-grade filtered, distilled, de-ionized, or purified water. Do not connect to reverse osmosis water supply. Recommended water pressure should be 50 psig with a 3/4" standard GHT fitting to the inlet valve of the unit. It is required to install a manual shut-off valve between the main water supply and the unit.

## Electrical Connection requirements (only Bubbler units)

A NEMA 5-15R receptacle is required on a 15 amp circuit. (Granita Autofill units do not have an external power cord.)



NEMA 5-15P

# Installation

## Unpacking Instructions

**NOTICE:** Do not reuse old hose. Only use new hose.

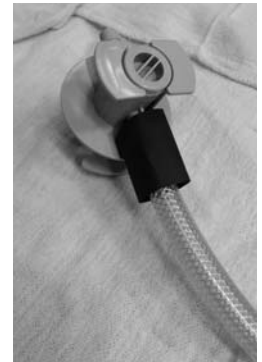
Carefully unpack the machine and immediately inspect for shipping damage. The packaging may contain unattached parts. Your machine was shipped in a carton designed to give it maximum protection in normal handling. It was thoroughly inspected before leaving the factory. In case of damage, contact the shipper, not Grindmaster-Cecilware.

This unit and any associated water supply lines must be compliant and maintained in accordance with all local, state and federal laws associated with commercial beverage dispensing equipment and use of potable water supply lines. Water pipe connections and fixtures directly connected to potable water supply shall be sized, installed, and maintained in accordance with Federal, State, and Local codes. The equipment must be installed with adequate backflow protection to comply with applicable federal, state, and local codes. If backflow protection built into the unit does not meet local requirements, install protective device. If a check valve type backflow preventer is used for water supply protection, a screen of at least 100 mesh (100 strands per 1.0 in [25 mm]) shall be installed immediately upstream. The screen shall be accessible and removable for cleaning or replacement. (Required for NSF approved water hook-up)

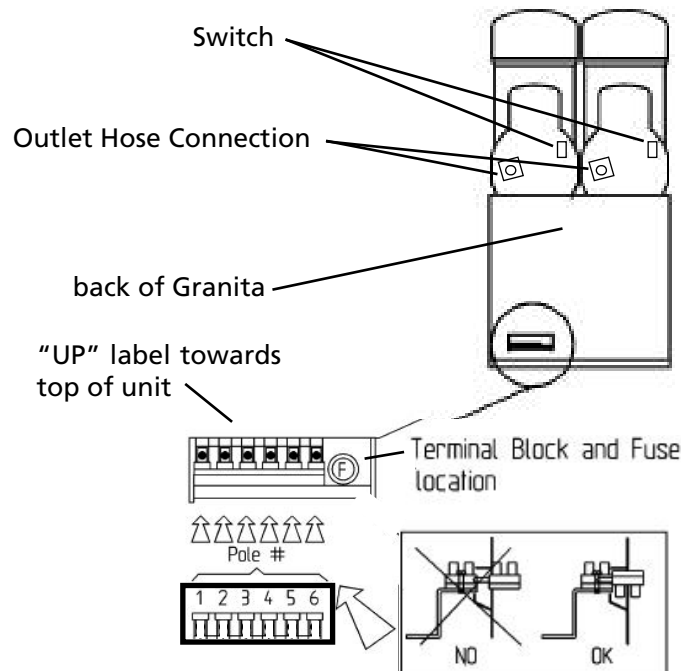
Always ensure that the machine power switch is in the OFF position and unplugged from power supply when making or maintaining electrical connections.

## Prime unit before using. See step 8.

1. Place Autofill unit on a stable surface.
2. Attach liquid concentrate (syrup) line to autofill and concentrate supply. Accessory kit contains several syrup supply connection ends. First slide heat shrink tube over hose. Then attach appropriate connection end to hose using provided clamp. Crimp in place (see picture below). Position heat shrink tube over clamp and end of hose (see picture below), and then use hot water or heat gun to attach shrink tube. (Heat shrink is used for sanitation purposes.) Other end of hose attaches to the "SYRUP" port on Autofill unit. Verify it is fully attached.



3. Connect water inlet line to potable water supply 125 PSI MAX/ 25 PSI MIN. Open water supply valve.
4. **Granita:** Attach digital electronic control line into back of Granita (see diagram below). Ensure "UP" label is on top of control plug. Attach other end to Autofill unit by inserting, then twisting into position (bayonet connection).



## Installation (continued)

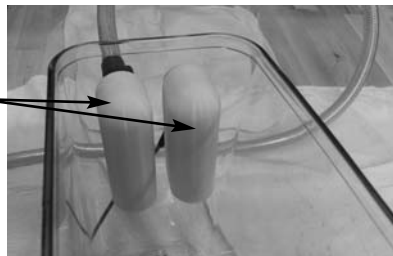
5. **Bubbler:** Insert probe through larger grommet in bowl. Attach digital control line to probe. Attach other end of control line to Autofill unit by inserting, then twisting into position (bayonet connection).
6. Insert output hose to Autofill connection marked "MIX" and verify fully seated.
7. **Bubbler:** Plug unit into a grounded 3 prong outlet. Do not use extension cord.

**▲ WARNING:** Do not alter or deform the plug in any way! Altering or deforming the plug may cause electrical shock, damage unit and will cause personal injury.

### Priming:

8. Place a container under the output hose. **Granita:** On Granita beverage dispenser, hold power switch to "II" position until proper mix of syrup and water is flowing from the outlet hose. **Bubbler:** Turn power switch to "ON" and allow the unit to operate until proper mix of syrup and water is flowing from the outlet hose. Turn power switch to "OFF".
9. **Bubbler:** Attach output hose fill nozzle through larger grommet on back of Bubbler bowl. Install grommets in bowl such that flat surface is inside bowl and taper is located outside to ensure splash shield will seat properly. Attach shields to inside of bowl if using spray unit (see picture below).

**Shields in place for spray units**



10. **Granita:** Loosen elbow connection on back of Granita machine with a Phillips screwdriver. Install output hose to elbow attachment and tighten screw.
11. Confirm that all tubing connections are properly clamped, fittings are tight, and lines are not kinked.
12. Visually check for leaks at all connections.
13. Clean and sanitize the autofill (see **Cleaning and Sanitizing** section).

## Operation

**NOTICE:** Granita Autofill unit is controlled from the Granita dispenser.

Your new autofill system is easy to operate and maintain. Before you place it in service, please have all personnel familiarize themselves with these instructions. **Keep this manual in a convenient place for ready reference.**

If you need help, call Grindmaster-Cecilware Technical Service Department for help, (502) 425-4776 or (800) 695-4500 (USA & Canada only) 8 AM - 6 PM EST.

## Cleaning and Sanitizing

**NOTICE:** All sanitizing agents in the food zone must comply with 21 CFR 178.1010.

**NOTICE:** Concentrates that contain pulp, particulates, or solids will require more frequent sanitation to prevent build-up. Concentrates with especially "stringy" pulp will require even more frequent sanitation.

All equipment in the system requires periodic sanitization. The frequency of this procedure is dependent on the water condition, temperature, and concentrate type.

Sanitize in accordance with local health department regulations. Grindmaster-Cecilware recommends cleaning and sanitizing at least every week.

### Materials required:

- Non-sudsing liquid detergent (such as common household automatic dishwasher liquid detergent)
- Sanitizing agent. Recommended sanitizer - bleach, Sodium Hypochlorite
- Clean five (5) US gallon [19 liter] bucket or container
- Five (5) US gallon [19 liter] bucket or container for used detergent/sanitizer
- Measuring cup
- An adapter fitting on the concentrate suction line to allow sanitizing agent to enter the autofill. A connector cut from an empty liquid concentrate will work.

### Cleaning

1. Turn power switch to "OFF" on Autofill unit and empty bowl. For Bubbler, detach probe from control line and clean and sanitize separately. For Granita, turn off power to Granita.
2. Fill the bucket with four (4) gallons [15.14 L] of liquid detergent mixed with warm water (120 - 180°F) [48-82°C]. Measure four (4) ounces [½ cup] [118cc] of the liquid detergent and add to the water.
3. Disconnect the outlet hose from the beverage dispenser. Place an empty container under the output hose.
4. Disconnect the concentrate line from the liquid concentrate supply and install the adapter on the quick disconnect so the line is open to the cleaning solution. Place concentrate line into the bucket of

## Cleaning and Sanitizing (continued)

- cleaning solution. Be sure the inlet of the liquid concentrate line stays at the bottom of the bucket.
- Move lever on Autofill unit to "Sanitize" mode.
  - For Bubbler:** Push and hold "Sanitize" button on Autofill, turn on power switch, and then release button. Allow unit to run until ALL the solution is pulled through the concentrate inlet fitting into the Autofill and out through the water outlet line. When the bucket is about half empty, turn Sanitize lever to "Dispense" position and allow to run for one minute. Then turn Sanitize lever back to the "Sanitize" position until bucket is empty and then turn power switch to "OFF"
  - For Granita:** Turn on Granita and dispense product until level is below the autofill probe. Push and hold switch in "II" position on Granita unit to run ALL the solution through the concentrate inlet fitting into the autofill and out the water outlet line.
  - Dispose of contents of the bucket and rinse bucket.

### Sanitizing

- Fill the bucket with four (4) gallons [15.14 L] of water. Add sanitizing agent per instructions provided with sanitizing agent. Note: Two (2) ounces (¼ cup) [60 cc] of bleach, Sodium Hypochlorite from an unopened container, may be used as a sanitizing agent. Stir and mix the contents of the bucket thoroughly.
- Place concentrate line into the bucket of sanitizing solution. Be sure the inlet of the liquid concentrate

line stays at the bottom of the bucket.

- Move lever to "Sanitize" mode.
- For Bubbler:** Push and hold "Sanitize" button on Autofill, turn on power switch, and then release button. Allow unit to run until ALL the solution is pulled through the concentrate inlet fitting into the Autofill and out through the water outlet line. When the bucket is about half empty, turn Sanitize lever to "Dispense" position and allow to run for one minute. Then turn Sanitize lever back to the "Sanitize" position until bucket is empty.
- For Granita:** Push and hold switch in II position on Granita unit to run ALL the solution through the concentrate inlet fitting into the autofill and out the water outlet line. When the bucket is about half empty, turn Sanitize lever to "Dispense" position and allow to run for one minute. Then turn Sanitize lever back to the "Sanitize" position until bucket is empty.
- Reconnect the inlet line to the concentrate supply.

### Product Purge

- Push and release "Sanitize" button on Autofill, (for Bubbler) or push and hold switch on Granita unit in "II" position, allowing the pump to operate until all sanitizing solution is purged from the system.
- Reconnect the outlet hose to the beverage dispenser.
- Return the valve to the "Dispense" mode.
- Dispose of contents of the bucket and rinse bucket.

## Troubleshooting Guide

**▲ WARNING:** To reduce the risk of electrical shock, unplug the power cord before repairing or replacing any internal components of the unit. Before any attempt to replace a component, be sure to check all electrical connections for proper contact. Only a qualified service technician should perform electrical and mechanical adjustments or repairs.

Before you call for help, please read the following:

### **I. PUMP WILL NOT CYCLE:**

- Verify there is adequate water pressure (30-50 psi.[2-3.4 bar]) at water inlet fitting.
- Verify that the dispenser valve operation (switch/solenoid), passages, and lines are unrestricted. Flush and sanitize pump and outlet lines from pump fittings to the dispenser if restricted.
- Check for liquid in the liquid concentrate supply. If empty, replace with new box of concentrate.
- Check for plugged, kinked, or restricted inlet tubing. Flush and sanitize pump and outlet lines from pump fittings to the dispenser if restricted.
- Verify electrical connection, plug is properly seated, and power switch is turned on.

### **II. NO CONCENTRATE (PUMP CYCLES) / IMPROPER**

#### **BRIX:**

- Verify that the concentrate passage is opening

completely when installed on the B-I-B connector. If concentrate is supplied from a tank, verify that the vent is open.

- Inspect for vacuum leaks at the concentrate inlet side. Carefully look for air bubbles at connections and fittings while the pump is cycling.
- Determine if there was air packaged with the concentrate when the bags were filled. Stand the box up on end and pull the connector up, allowing air to rise up to the bag connector. Install liquid concentrate fitting and engage it on the bag connector opening the passage. Slowly press the bag down, expelling the air until concentrate appears, release and remove the liquid concentrate fitting.
- Inspect for debris or improper closing of the liquid concentrate fitting that interferes with their operation.

## Troubleshooting Guide (continued)

**▲ WARNING:** To reduce the risk of electrical shock, unplug the power cord before repairing or replacing any internal components of the unit. Before any attempt to replace a component, be sure to check all electrical connections for proper contact. Only a qualified service technician should perform electrical and mechanical adjustments or repairs.

### III. PUMP CYCLES INTERMITTENTLY/ WILL NOT

#### SHUT-OFF/ DRIPS:

- If the pump continues to cycle after liquid concentrate supply has emptied, verify that there are no vacuum leaks.

Determine if the concentrate bag has an excessive (more than 1 cubic inch [16.4 cc]) amount of air.

NOTE: If the concentrate is moved above the pump, head pressure from the liquid concentrate may be substantial enough to cause the dispenser to drip.

#### Valve Inspection

Some concentrates, after prolonged periods of contact without regular sanitizing, may cause the valves to become stiff or clogged with pulp and/or particulates. If a situation of this type is suspected, valve cartridges (4 each) can be removed for inspection.

Turn off water supply valve and relieve pressure.

Remove each assembly by loosening the screw holding the cartridge. Turn the cartridge and then pull it out of the housing (use of tools may be required).

If you still need help, call Grindmaster-Cecilware Technical Service Department, (502) 425-4776 or (800) 695-4500 (USA & Canada only) (Monday through Friday 8 AM - 6 PM EST). Please have the model and serial number ready so that accurate information can be given.

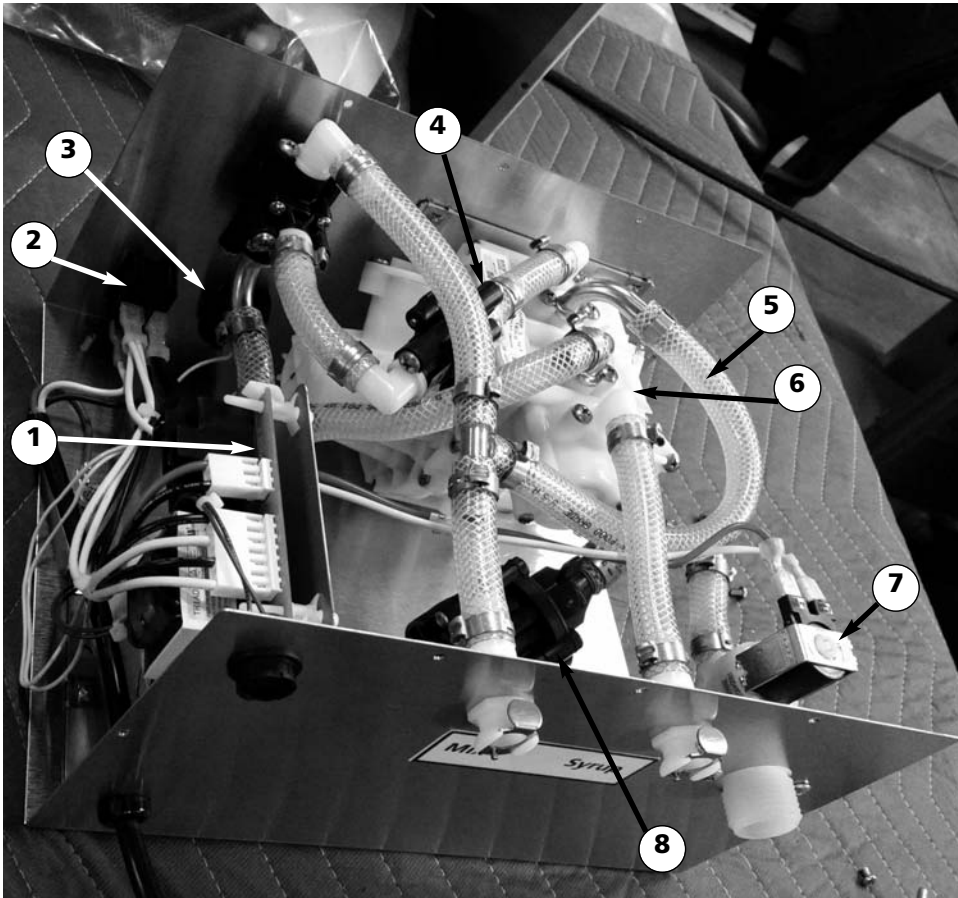
Prior authorization must be obtained from Grindmaster-Cecilware for all warranty claims.

**Grindmaster-Cecilware provides the industry's BEST warranty. Visit our website at [gmcw.com](http://gmcw.com) for warranty terms and conditions.**

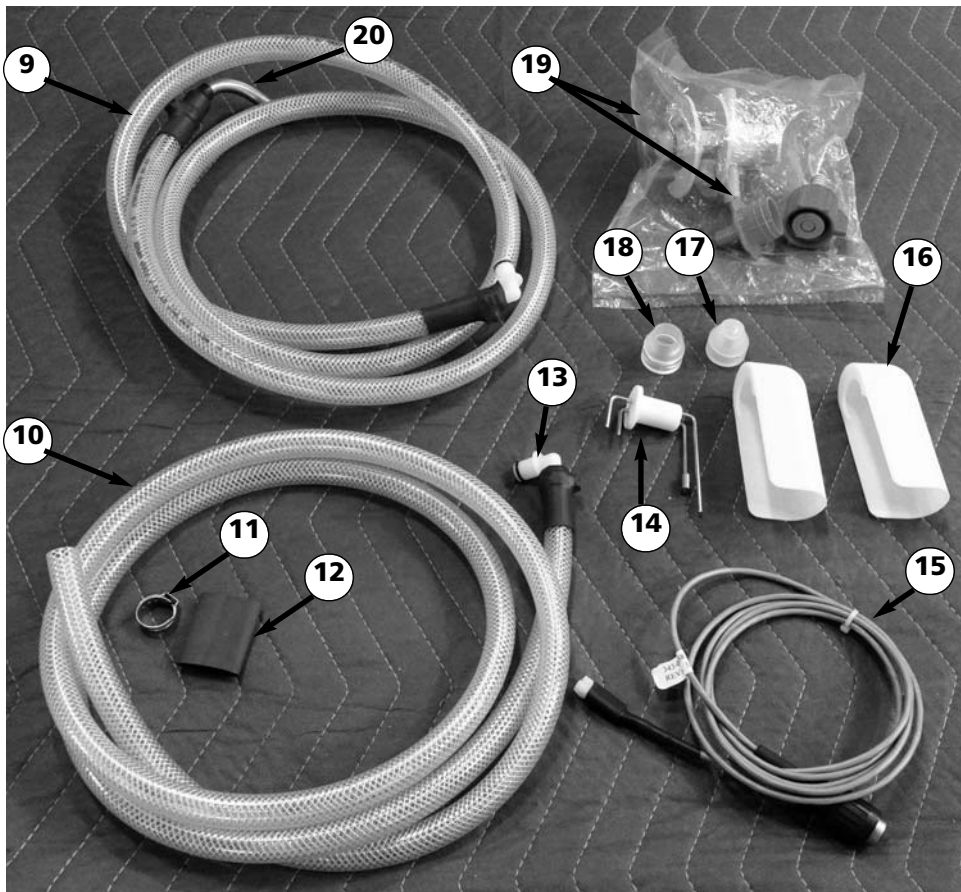
## Parts List

#	Part No.	Bubbler	Granita	Description
1	349-00011	x		Control Board_Level (Bubbler units)
2	99066	x		On-Off Switch Rocker Switch (Bubbler units)
3	63195	x		Switch, Sealed (Bubbler units)
4	280-00038	x	x	Reverse Flow Inhibitor - (2) for Single, (4) for Double
5	61153	x	x	Tubing_3/8 ID X 5/8 OD
6	310-00019	x	x	Brix Pump_5:1 Ratio
6	310-00018	x	x	Brix Pump_4:1 Ratio
7	280-00071	x		Valve_120V Inlet 1.3 GPM (Single Bubbler units)
7	280-00080	x		Valve Dual Inlet 0.8 GPM - 120V (Dual Bubbler units)
7	280-00056		x	Valve_Water Inlet (Single Granita units)
8	310-00021	x	x	Water Pressurer Reducer 30 PSI
	250-00175	x		<b>Bubbler Accessory Kit</b>
9				Mix tubing with EL and SS fill nozzle_3/8 ID (72 IN.)
10				Syrup tubing with EL and open end_3/8 ID (72 IN.)
11				Clamp, 11/16" Uniform Seal (1)
12				3/4" ID_Heat Shrink (1.5 IN.)
14				Level Sensor (1)
15				Wire Harness_Level Sensor_72 IN. (1)
16				Shield_Splash (2)
17				Plug/Seal (Solid) (1)
18				Seal, Silicone 15MM (1)
19				Kit, Bib Adapter (1)
19	250-00171	x	x	<b>Kit, Bib Adapter</b>
				Adapter_Bib_Coke (1)
				Adapter_Bib_Coke_Generic (1)
				Adapter_Bib_Liquibox Universal (1)
	250-00177	x		<b>Remote Install Accessory Kit</b>
11				Clamp, 11/16" Uniform Seal (4)
12				3/4" ID_Heat Shrink (6 IN.)
13				EL_3/8_QC (2)
14				Level Sensor (1)
15				Wire Harness_Level Sensor_60 FT. (1)
17				Plug/Seal (Solid) (1)
18				Seal, Silicone 15MM (1)
19				Kit, Bib Adapter (1)
20				Nozzle_SS_Fill (1)
not shown	250-00183	x		100 ft Cable for Remote Install (1)
	250-00176		x	<b>Frozen Accessory Kit</b>
10				Syrup tubing with EL and open end_3/8 ID (72 IN.)
11				Clamp, 11/16" Uniform Seal (1)
12				3/4" ID_Heat Shrink (1.5 IN.)
13				EL_3/8_QC (1)
19				Kit, Bib Adapter (1)
not shown				Mix tubing with both ends attached_1/4" ID (72 IN.)
not shown				Wire Harness_Level Senser_Frozen (1)

# Parts Diagram



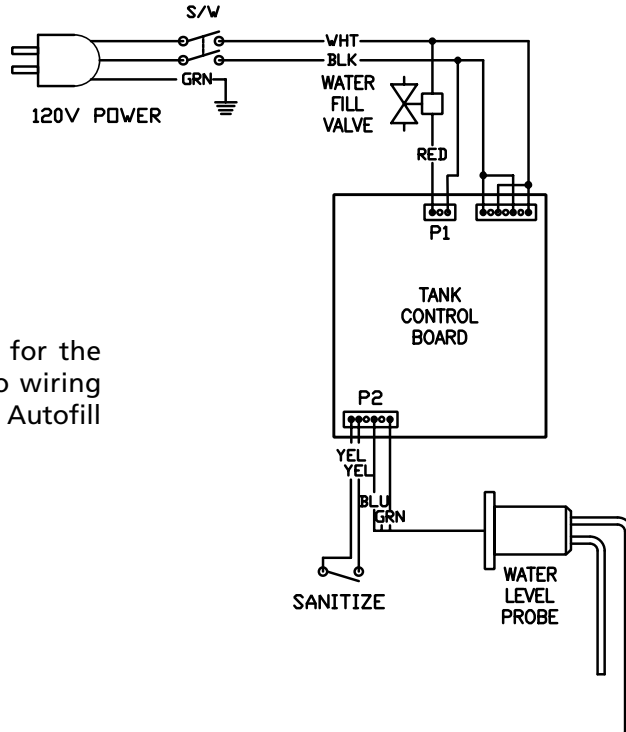
(Single Autofill shown)



(Accessory kit shown)

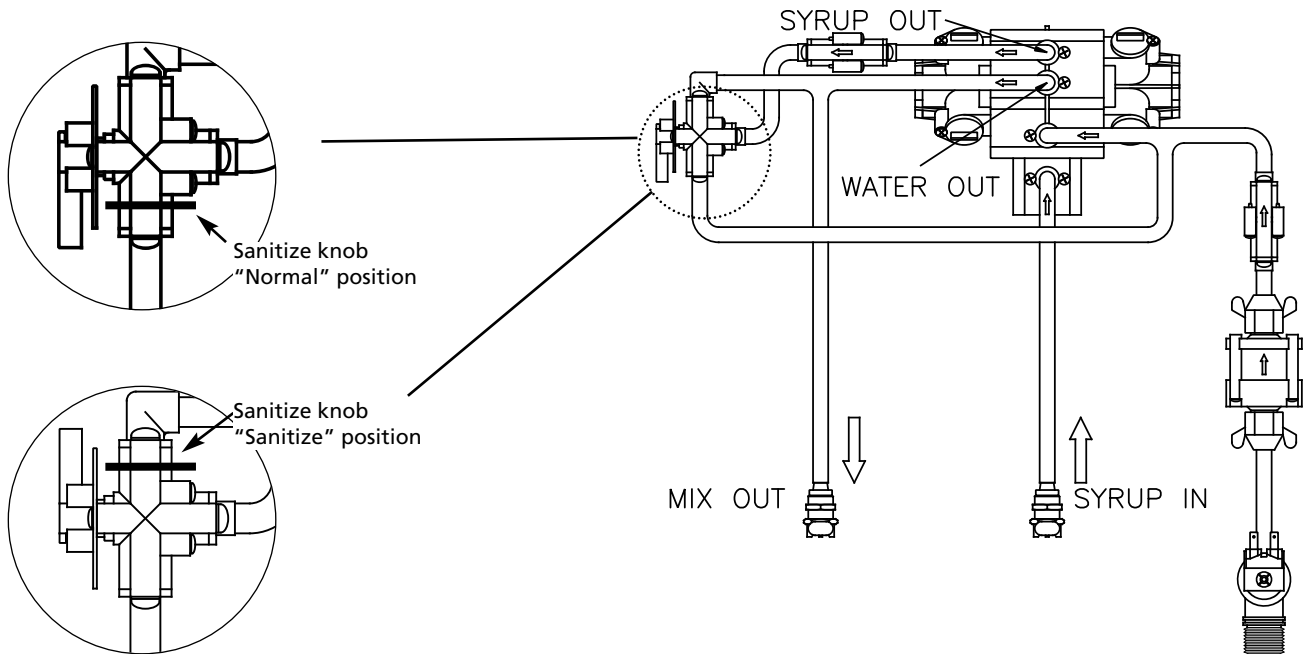
# Wiring Diagram

## Bubbler



NOTE: This is the wiring diagram for the Bubbler Liquid Autofill System. No wiring diagram is necessary for the Granita Autofill System.

## Flow Diagram



### Grindmaster-Cecilware

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