

## INSTALLATION INSTRUCTIONS, PARTS LIST AND CONFIGURATION GUIDE

FOR THE

# CARBONATOR

Large Model No. 919-0003



### **NOTICE:**

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### THIS DOCUMENT CONTAINS IMPORTANT INFORMATION

This manual must be read and understood before the installation and operation of this equipment.

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## 1. CARBONATOR DIMENSIONS AND WEIGHT

### A. DIMENSIONS

1. 13"D x 14.75"W x 11"H

### B. WEIGHT

1. Empty at install 29 lb.
2. Shipping 30 lb.

### C. SUPPLY REQUIREMENTS

1. WATER: Minimum 3/8" supply line at 30 PSI
2. CO<sub>2</sub>: 1/4" supply line at 80-100 PSI

### D. ELECTRICAL

1. 115V/15A Dedicated Circuit

### E. TANK CAPACITY

1. Total Volume 2.5 gal
2. Max. Op. Volume 2 gal
3. Min. Op. Volume 1.2 gal

### F. MOTOR

1. 1/3 HP at 115V/60 Hz, 1725 RPM

### G. PUMP

1. 100 GPH

## 2. INSTALLATION INSTRUCTIONS

- A. Select an appropriate location close to water, CO<sub>2</sub>, and electrical connections. Make sure the area is well ventilated and can support 100 lb.
- B. Connect CO<sub>2</sub> supply and carbonated water outlets to correct flare fittings as shown on plumbing label on tank.
- C. Connect water supply to inlet side of carbonator pump.
- D. Tighten all connections.
- E. Open relief valve by lifting green lever to a vertical position.
- F. Turn on water supply and allow tank to fill with relief valve open.
- G. Close relief valve once tank is full (water just begins to come out of relief valve)
- H. Turn on CO<sub>2</sub> supply and set regulator at 90-100PSI.
- I. Dry off any excess water from the outside of all fittings and check for leaks (CO<sub>2</sub> or water) and tighten as necessary.
- J. Connect to electrical supply:

### **GROUNDING INSTRUCTIONS**

THIS APPLIANCE MUST BE GROUNDED. IN THE EVENT OF MALFUNCTION OR BREAKDOWN, GROUNDING PROVIDES A PATH OF LEAST RESISTANCE FOR ELECTRIC CURRENT TO REDUCE THE RISK OF ELECTRIC SHOCK. THIS APPLIANCE IS EQUIPPED WITH A CORD HAVING AN EQUIPMENT-GROUNDING CONDUCTOR AND A GROUND PLUG. THE PLUG MUST BE PLUGGED INTO AN APPROPRIATE OUTLET THAT IS PROPERLY INSTALLED AND GROUNDED IN ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES.

### **DANGER**

IMPROPER CONNECTION OF THE EQUIPMENT-GROUNDING CONDUCTOR CAN RESULT IN A RISK OF ELECTRIC SHOCK. THE CONDUCTOR WITH INSULATION HAVING AN OUTER SURFACE THAT IS GREEN WITH OR WITHOUT YELLOW STRIPES IS THE EQUIPMENT-GROUNDING CONDUCTOR. IF REPAIR OR REPLACEMENT OF THE CORD OR PLUG IS NECESSARY, DO NOT CONNECT THE EQUIPMENT-GROUNDING CONDUCTOR TO A LIVE TERMINAL. CHECK WITH A QUALIFIED ELECTRICIAN OR SERVICEMAN IF THE GROUNDING INSTRUCTIONS ARE NOT COMPLETELY UNDERSTOOD, OR IF IN DOUBT AS TO WHETHER THE APPLIANCE IS PROPERLY GROUNDED. DO NOT MODIFY THE PLUG PROVIDED WITH THE APPLIANCE - IF IT WILL NOT FIT THE OUTLET, HAVE A PROPER OUTLET INSTALLED BY A QUALIFIED ELECTRICIAN.

1. Plug the unit into an appropriate power source and observe the control module portion of the equipment.
  - a. A green LED, indicating normal operation, should be visible from the lower portion of the control module.
  - b. If the LED fails to illuminate, check for proper voltage at the power source and check to make sure the control module power cord is properly connected.

### **3. PERMANENT WIRING OF EQUIPMENT INSTRUCTIONS**

#### **IMPORTANT! READ FIRST!**

THIS DEVICE IS INTENDED TO BE USED AS A CORD-CONNECTED APPLIANCE. SHOULD PERMANENT WIRING BE DESIRED AT THE TIME OF INSTALL, CONSULT THE STEPS BELOW AS A GUIDE TO CONNECT THIS EQUIPMENT IN A PERMANENT FASHION. IT IS THE RESPONSIBILITY OF THE END USER TO ENSURE THAT ALL ELECTRICAL CONNECTIONS ARE DONE IN A MANNER THAT COMPLIES WITH LOCAL ELECTRICAL CODES. AS SUCH, USE OF A QUALIFIED ELECTRICIAN TO MAKE THIS CONVERSION TO PERMANENT WIRING IS HIGHLY RECOMMENDED. A WIRING DIAGRAM IS PROVIDED BELOW THE INSTRUCTIONS TO PROVIDE A VISUAL ASSIST IN THE CONVERSION.

#### **NOTE:**

Refer to wiring diagram on page 7.

- A. Unplug unit from electrical power.
- B. Open wiring compartment on back plate of motor and remove power cord ground connection.
- C. Cut the individual white wire (L2) from the power cord at approximately 2" long.
- D. Cut and remove existing wire crimp connecting black wire from power cord to black wire from liquid level switch pigtail.
- E. Discard power cord and leave all other connections in place.
- F. Strip insulation from the remaining length of black and white wires approximately 1/4" to 3/8".
- G. Route permanent wiring through 7/8" knockout on side of motor housing and secure as needed to meet local electrical codes.
- H. Inside the motor housing, connect permanent wiring L2 (typically white) to white wire from step 'F' using supplied wire nut.
- I. Connect permanent wiring ground (typically green, green/yellow, or bare copper) to chassis ground connection of motor case at existing grounding screw location.
- J. Connect permanent wiring L1 (typically black) to black from step 'F' using supplied wire nut.
- K. Verify all connections are secure and route wires as necessary to ensure live terminals/connections do not touch each other or the motor chassis.

- L. Close wiring compartment on back plate of motor.
- M. Complete connection of permanent wiring to appropriate junction box or breaker box per local electrical codes.
- N. Once wiring is complete, proceed to bring the unit online normally as described in the Installation/Operation sections of this manual.

#### 4. OPERATION INSTRUCTIONS

- A. After completing the installation process, the carbonator unit should be pressurized with CO<sub>2</sub>, full of water, and ready for operation.
- B. To establish the proper carbonation levels and purge any air from the lines, it is necessary to dispense carbonated water from the downstream point of use to which the carbonator is connected.
  - 1. Dispense carbonated water until the outlet stream from the dispensing equipment shows signs of sufficient carbonation. From the full state, it will take approximately one gallon of carbonated water dispensed before the water level in the tank will drop sufficiently to bring on the motor/pump assembly for a refill.
  - 2. Depending on the length of run between the carbonator outlet and point of dispense, it may take several refill cycles of the carbonator before sufficient carbonation is achieved at the point of dispense.

#### **NOTE:**

There is a built in safety in the control module that prevents the carbonator from running more than three minutes continuously without satisfying the refill function.

- 3. If the carbonated water draw rate from the dispenser is high enough during the purge process, it may be possible for the carbonator to hit this three minute run limit. Therefore, it is important to allow the carbonator to satisfy the refill condition and shut off momentarily during the purge process to prevent a nuisance trip of this safety feature.
  - a. Should the three minute time limit be exceeded, the carbonator will shutoff automatically and the green LED will be replaced with a red LED.
  - b. To reset this fault condition, simply unplug the unit momentarily and then plug it back in.
  - c. The green LED will again light up and the carbonator will resume normal functioning after a 10 second reboot delay.
- C. Once sufficient carbonation levels are established and excess air is purged, make sure:
  - 1. The carbonator refills as normal
  - 2. The motor/pump assembly turns off
  - 3. The green LED remains lit.
- D. Unit installation and operational set-up are now complete.

#### 5. CLEANING INSTRUCTIONS

- A. Prior to packaging, all carbonator units are thoroughly cleaned and sanitized.
- B. Care should be taken to use only a clean CO<sub>2</sub> and water source to maximize the service life of the equipment.
- C. After installation, all external surfaces should be periodically wiped off with a damp cloth to care for the equipment.

#### 6. MAINTENANCE INSTRUCTIONS

- A. Inspections
  - 1. Periodically inspect for CO<sub>2</sub> or water leaks. Perform maintenance as necessary.

**WARNING**

PRIOR TO ANY MAINTENANCE OR SERVICE, VERIFY THE PRESSURE LEVEL IN THE CARBONATOR TANK BY OBSERVING THE REGULATED PRESSURE GAUGE ON THE CO<sub>2</sub> SUPPLY SOURCE. ADJUST THIS PRESSURE AS NEEDED FOR MAINTENANCE BY SETTING THE REGULATOR TO THE DESIRED POINT AND BY DECREASING ANY EXCESS TANK PRESSURE VIA THE PRESSURE RELIEF VALVE OR DOWNSTREAM DISPENSING VALVE. IF PRESSURE ADJUSTMENT IS DONE VIA THE RELIEF VALVE, MAKE SURE THE WORK AREA IS WELL VENTILATED TO PREVENT ANY BUILD-UP OF CO<sub>2</sub> GAS.

**B. CO<sub>2</sub> Check Valve**

1. Unplug power cord.
2. Shut water supply OFF to pump.
3. Turn CO<sub>2</sub> supply OFF and set CO<sub>2</sub> pressure regulator at 0 PSIG.
4. Disconnect CO<sub>2</sub> supply line from CO<sub>2</sub> check valve.

**WARNING**

DO NOT PROBE THE CHECK VALVE WITH ANY FOREIGN OBJECTS.

5. Cover end of check valve with soap suds. If check valve is defective, gas bubbles will appear. If a leak is detected:
  - a. Release pressure in tank, using relief valve.
  - b. Disassemble check valve body and components. Inspect spring and o-rings. Replace as required.
6. Reassemble and reinstall check valve.
7. Reconnect CO<sub>2</sub> supply line to CO<sub>2</sub> check valve.
8. Follow start up procedure to put carbonator back into operation.

**C. Backflow Preventer**

**WARNING**

IF THE FIRST CHECK VALVE ON THE BACKFLOW PREVENTER FAILS, CARBONATED WATER WILL LEAK FROM THE VENT ON THE VALVE. DO NOT DISASSEMBLE THE BACKFLOW PREVENTER. REPLACE BY ORDERING PART NUMBER 645-0161.

1. Unplug power cord.
  2. Shut water supply OFF to pump.
  3. Set CO<sub>2</sub> pressure at 100 to 125 PSIG (6.9 to 8.6 BAR).
  4. Disconnect stainless steel water line from water inlet check valve. Do not loosen check valve assembly.
  5. Cover end of check valve with soap suds. If check valve is defective, gas bubbles will appear. If a leak is detected:
    - a. Turn CO<sub>2</sub> pressure OFF. Release pressure in tank, using relief valve.
    - b. Replace the backflow preventer.
    - c. Reconnect stainless steel line to water inlet check valve.
  6. Follow start up procedure to put carbonator back into operation.
- D. Pump Strainer Screen**
1. Unplug power cord.
  2. Shut water supply OFF to pump.
  3. Unscrew brass plug on pump, and remove strainer from pump.

4. Inspect and clean, or replace, strainer screen.
5. Reinstall strainer, and tighten brass plug.
6. Turn water supply ON.
7. Check for leaks. If a leak is detected, carefully tighten brass plug.
8. Plug power cord into electrical outlet.

## 7. TROUBLE SHOOTING

### **IMPORTANT! READ FIRST!**

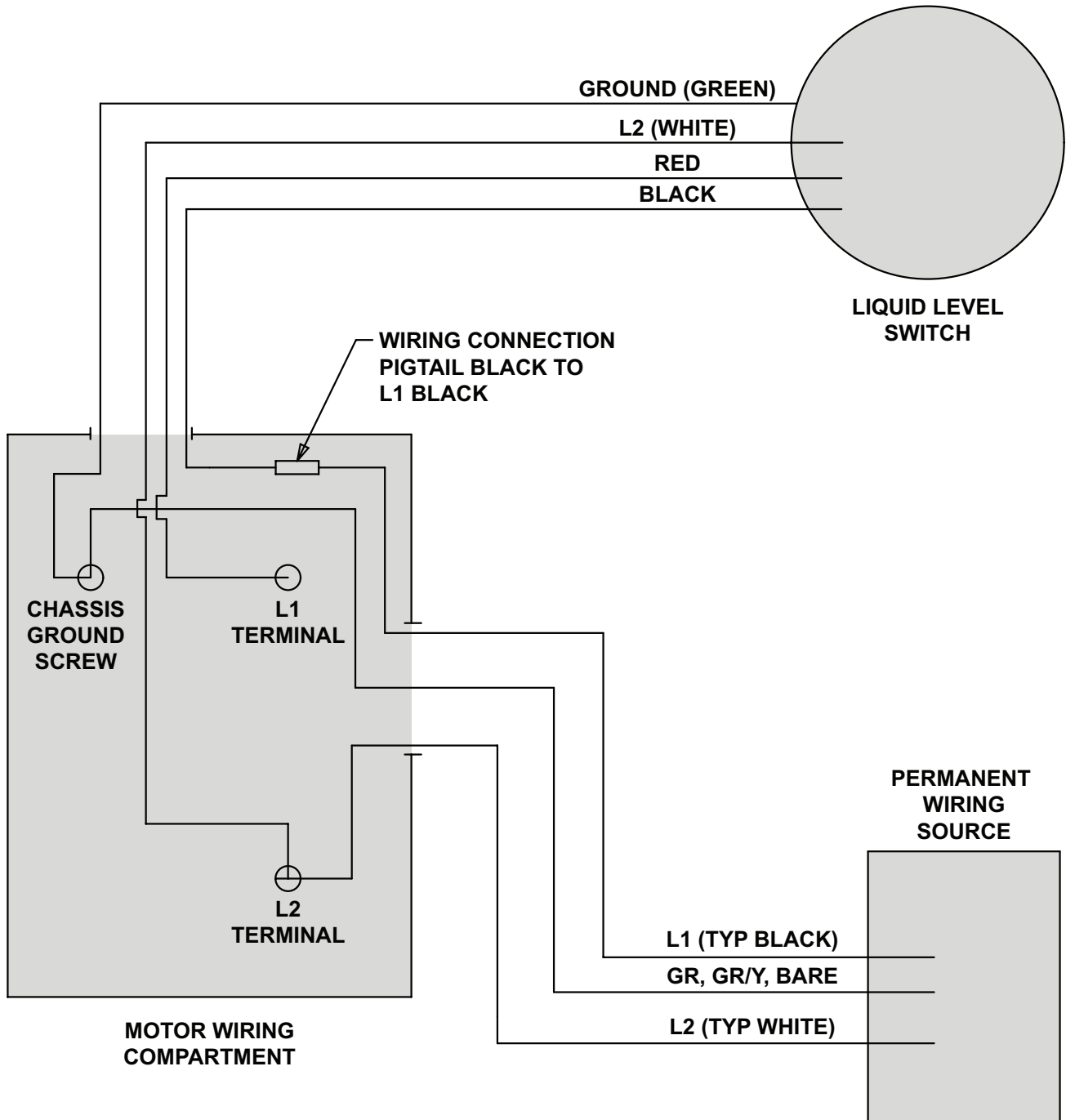
NOTE INITIAL ERROR CODE (RED AND GREEN LIGHT ILLUMINATION UPON ARRIVAL) BEFORE PERFORMING ANY TROUBLE SHOOTING STEPS.

TROUBLE SHOOTING IS NOT COMPLETE UNTIL UNIT HAS RETURNED TO PROPER FULL OPERATION AFTER START UP.

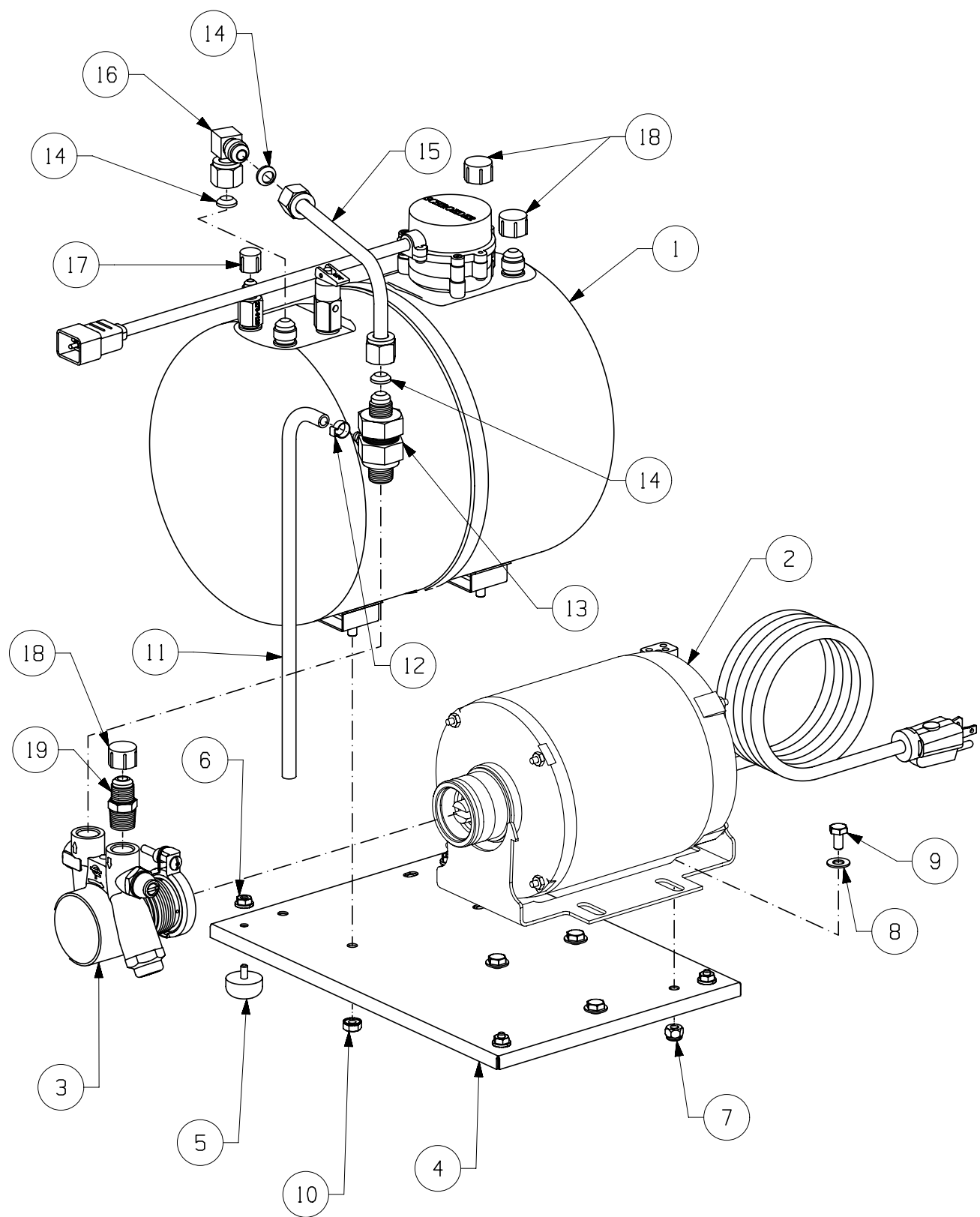
<u>CONDITION</u>	<u>PROCEDURE</u>	<u>SOLUTION</u>
1. Verify water, electrical and CO <sub>2</sub> supply are within prescribed requirements	1. Make necessary adjustments if needed	A. Trouble shooting is complete if proper function returns B. If adjustments are made and problem persists, proceed to next true CONDITION
2. RED light on probe was illuminated	1. Cut power to the equipment by unplugging from the wall power source. Wait 5 seconds and reconnect the power.	A. If proper full operation returns, there was a run-too-long error due to loss of water supply and trouble shooting is complete. B. If the motor turns on properly but does not satisfy the refill requirement within 3 minutes, the pump must be replaced. C. If the Green light comes on but the unit fails to run, the motor must be replaced.
3. Only GREEN light on probe was illuminated		A. Replace the control module.
4. No lights were illuminated		A. Replace the control module.

*If further assistance is needed, please call Schroeder America at 210-662-8200*

## SECTION 3 WIRING DIAGRAM



# LARGE CARBONATOR ASSEMBLY

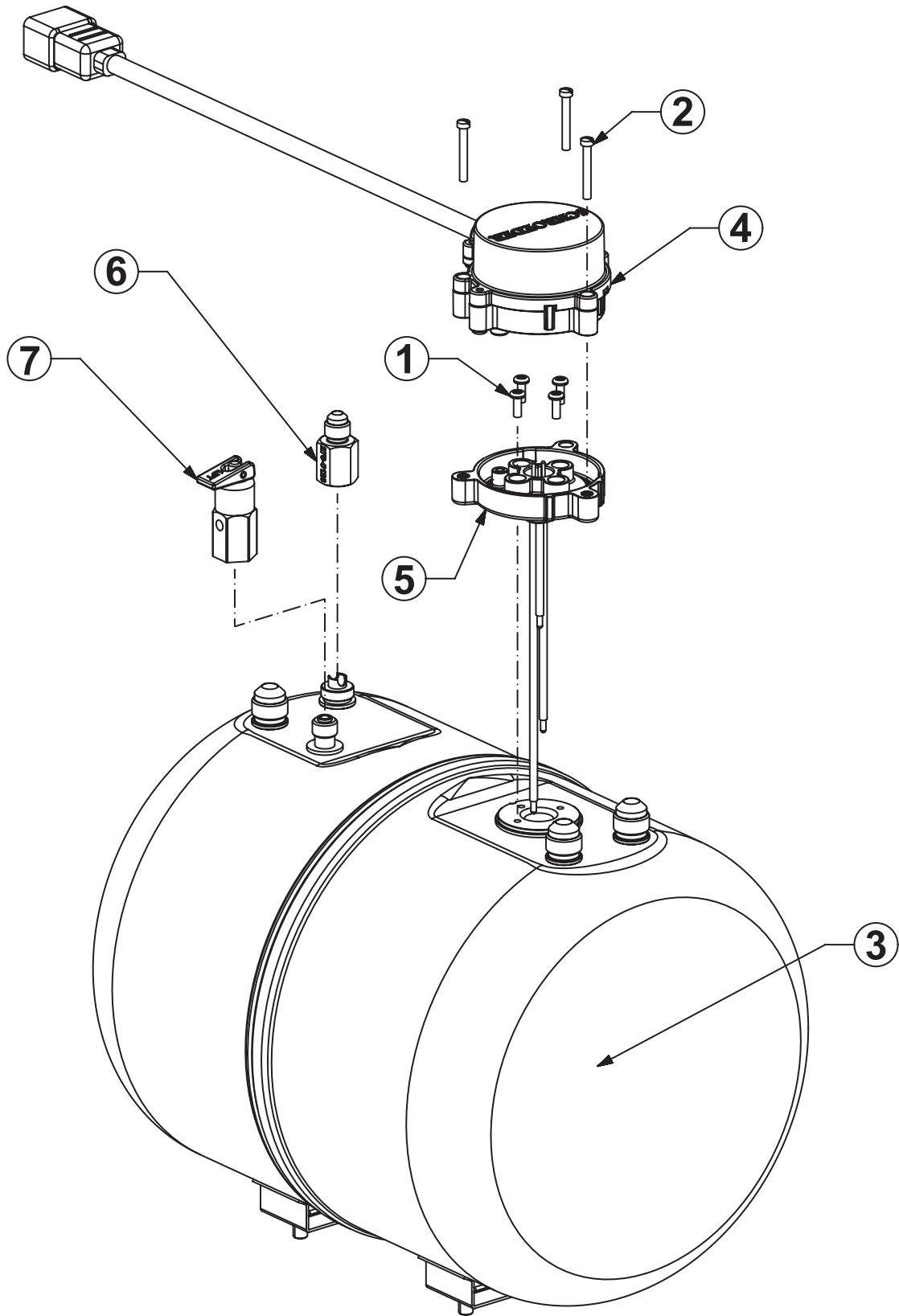




# LARGE CARBONATOR ASSEMBLY

LARGE CARBONATOR ASSEMBLY		
ITEM	SCHROEDER PN	DESCRIPTION
1	648-0002	TANK ASSY, CARBONATOR, LARGE
2	646-0004	MOTOR ASSY, 4 WIRE, CARBONATOR, 115V,60HZ
3	295-0005	PUMP, CARBONATOR, 100 GPH
4	319-0505	BASE, LARGE CARBONATOR
5	333-0005	BUMPER, SBR RUBBER, #10-24 STUD
6	243-0050	NUT, HEX, 10-24, W/SERRATED FLANGE, SS
7	243-0031	NUT, HEX, 1/4-20, LOCK, NYLON-INSERT, 18-8 SS
8	240-0009	WASHER, FLAT, .312 ID, SS
9	233-0006	BOLT, 1/4-20 X 1/2", HH, SS
10	243-0002	NUT, HEX, 1/4-20, KEPS, SS
11	320-0087	TUBE, DRAIN, BACKFLOW PREVENTER
12	255-0009	CLAMP, OETIKER, 16700006
13	645-0161	BACKFLOW PREVENTER, 3/8 NPT X 3/8 FLARE
14	242-0007	WASHER, 3/8 FLARE FITTING
15	632-0139	TUBE ASSY, WATER INLET, LARGE CARBONATOR
16	204-0017	90 DEG SWIVEL ELBOW, 3/8 FLARE X 3/8 FLARE
17	268-0001	CAP, RED, 7/16-20
18	268-0002	CAP, RED, 5/8-18
19	279-0087	ADAPTER, 3/8 FLARE BY 3/8 NPTF MALE

# LARGE CARBONATOR TANK ASSEMBLY



# LARGE CARBONATOR TANK ASSEMBLY

LARGE CARBONATOR ASSEMBLY		
ITEM	SCHROEDER PN	DESCRIPTION
1	220-0007	SCREW, MA 6-32 X .375 PH PHD, SS
2	220-0011	SCREW, 6-32X1.000,SL,FHD,SS
3	312-0001	TANK ASSY, LARGE, WELDED, CARBONATOR
4	604-0001	ASSY, CONTROL MODULE, CARBONATOR
5	604-0003	ASSY, LOWER HOUSING, PROBE, CARBONATOR
6	645-0240	VALVE ASSY, CHECK
7	645-0243	VALVE ASSY, RELIEF, 240 PSI





## CARBONATOR WARRANTY PARTS AND EQUIPMENT

Schroeder America, hereinafter referred to as the COMPANY, warrants that the new equipment and components originally manufactured by the COMPANY and labeled under the brand "Schroeder America" will be free from defects in material and workmanship under normal use and service as specified by the COMPANY during the Warranty Period.

The "Warranty Period" is one year from the date of original installation or fifteen months from the date of shipment from its factory, whichever comes first. Schroeder America warrants only the Two-Piece Probe to be free of original defects in material or workmanship for a period of five years from date of installation or sixty-three months from date of shipment from its factory, whichever comes first.

The obligation of the COMPANY under this warranty is limited to the repair, replacement or reimbursement at the Company's sole discretion, defective parts or assemblies that are reported during the warranty period and determined by the company to be defective, but excluding all labor charges.

ALL shipping charges, inbound and outbound, for returned equipment and components are the sole responsibility of the customer.

The warranty excludes all cost and damage resulting from:

- External electrical power failure or improper wiring to the product for any reason.
- Connection to external water supply and/or plumbing problems.
- External drain malfunction.
- Adverse operating conditions as set forth in the owner/user manual for the product.
- Non-authorized modification of the Products.
- Causes beyond the reasonable control of the COMPANY, including without limitations fires, freezing and natural disasters.

No warranty shall apply to any product on which the model or serial number has been altered or removed.

Adjustments to any equipment manufactured by the COMPANY are not covered by this warranty.

The protection of this warranty does not extend to any damage or failure to operate resulting from any accident, misapplication, alteration, abuse or misuse. No responsibility is assumed for shipping damage. Claims should be filed against the carrier.

All warranty claims for parts are to be made through the COMPANY's local distributor. All warranty claims shall include the product model and serial number, original installation date and complete customer identification and location. No warranty applies unless defective part(s), together with the service invoice are returned to the COMPANY's Distributor within 15 days from service.

Replacement parts are warranted for 90 days or the balance of the original warranty, whichever is greater. COMPANY and its agents are expressly permitted to specify rebuilt parts as suitable replacement parts. All replacement parts must be approved COMPANY parts obtained through the COMPANY's local distributor. Customer is responsible for all shipping charges for parts from the COMPANY's factory.

THIS WARRANTY EXPRESSLY EXCLUDES ALL INCIDENTAL, SPECIAL, CONSEQUENTIAL AND PUNITIVE DAMAGES, INCLUDING WITHOUT LIMITATION DEMANDS FOR INCONVENIENCE, RENTAL OR REPLACEMENT EQUIPMENT, LOST PROFIT OR PRODUCT OR OTHER COMMERCIAL LOSS.

Warranties stated above are the only warranties made in connection with the sale and distribution of the product.

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REV: 08/24/16  
PN: 810-0043

