# **Better Water LLC**

# Dual Tank Bicarb-Short Profile Central Mix and Delivery

**Service Manual** 





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Better Water LLC; 698 Swan Dr; Smyrna, TN 37167; www.betterwater.com

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Visit our website to see our complete product line of water purification products!

www.betterwater.com



#### Dual Tank Bicarb-Short Profile, Central Mix & Delivery Service Manual

# Our Company

Better Water LLC is a leading integrated manufacturer of water treatment equipment and components for the industrial, commercial and institutional markets.



Located in Smyrna, Tennessee, Better Water LLC continues its history of manufacturing and distribution of equipment specifically designed for the renal dialysis market.

Founded in 1971, Better Water LLC has built a reputation for solving our customers' toughest problems with high quality products and unmatched service.

#### Contact Us

Better Water LLC 698 Swan Dr Smyrna, TN 37167

Phone (615) 355-6063 Fax (615) 355-6065

#### **Technical Support:**

Phone (615) 355-6063, press "1" Email <u>support@betterwater.com</u>

#### **Customer Service:**

Phone (615) 355-6063, press "3"
Email <u>customerservice@betterwater.com</u>

## Technical Phone Support

Support is available regarding all Better Water LLC systems, 24 hours a day,7 days a week.

 Normal business hours are Monday through Friday from 8:00 am until 3:30 pm, Central Standard Time (excluding holidays)

Call (615) 355-6063, press "1" for Technical Support

Emergency assistance is available after normal business hours (including holidays) by calling (615) 708-8627.

## Technical Support Info Online



Our website, **www.betterwater.com**, which is updated frequently, contains a wealth of technical support information on the **SUPPORT** tab and includes:

- Operator and Service Manuals
- Consumables and Accessories Lists
- Technical Service Bulletins

For your convenience there are also online forms for placing **Orders** and requesting **Returned Goods Authorization**. These are PDF forms that can be downloaded and either faxed or emailed to us.

#### Dual Tank Bicarb-Short Profile, Central Mix & Delivery Service Manual

# Specific Contacts

Technical Support	Phone	(615) 355-6063, option "1"
	Email	support@betterwater.com

To Place an Order Fax (615) 355-6065

(purchase orders) Email orders@betterwater.com

Phone (615) 355-6063

Customer Service Phone (615) 355-6063, option "2"

(returns) Fax (615) 355-6065

Email <u>customerservice@betterwater.com</u>

#### Website www.betterwater.com

Helpful information and forms that can be found on our website:

- Operator & Service Manuals
- Technical Service Bulletins
- Consumables and Replacement Parts List
- Brochures
- Order Form
- Return Goods Authorization Request Form

#### Introduction

This Service Manual has been developed for the purpose of ordering factory replacement parts and for Troubleshooting the Dual Bicarb units. This Service Manual is not intended to replace the Operator Manual, but serve as a supplement to it. Current versions of this Service Manual and the Operator Manual as well as other helpful information can be found on our website at <a href="https://www.betterwater.com/support">www.betterwater.com/support</a>.

It is important to understand that the Better Water Bicarb Unit is a *Class II Medical Device* and that non-factory replacement parts could affect the safety, performance, and warranty of the unit.

This manual includes parts lists, photographs, schematics and diagrams to assist you in servicing the unit.



#### NOTE concerning pictures in this manual:

Pictures of devices and components may vary slightly due to product changes, and therefore should be for general reference only. Information concerning their use, functionality, or replacement will not differ unless noted.

#### **WARNINGS**



- **1.** It is unsafe to operate or service this device without first reading and understanding the **entire** Operator and Service Manuals. Keep this manual and other associated documentation for future reference.
- **2.** Misuse, improper operation, and/or improper monitoring of this system could result in serious injury, death, or other serious reactions to patients undergoing hemodialysis treatment.
- **3.** Misuse, improper use or handling of disinfectants and chemical cleaning solutions could result in serious injury or even death. You must comply with the information contained in the Material Safety Data Sheet (MSDS) for the chemical being used.
- **4.** To avoid electrical shock hazard, do not operate this device when the covers or panels are removed.



ELECTROMAGNETIC INTERFERENCE: This device can create and radiate radio frequency energy and may cause harmful interference if not installed according to the manufacturer's instructions.

#### **CAUTIONS**



- **1.** When used as a medical device, federal law restricts this device to sale by or on the authority of a physician. Per CFR 801.109 (b)(1).
- 2. Improper operation of this device could result in a low or no-flow alarm on the dialysis machines.
- **3.** Misuse or improper operation of this device will void any warranty.
- **4.** Where water is mentioned, unless otherwise noted, it must be AAMI standard quality water.
- **5.** Electrical and plumbing connections must adhere to local statutes and any facility codes. Connect this device to a proper ground connection in accordance with the National Electrical Code. Do not remove the ground wire or ground plug. Do not use an extension cord with this device.
- 6. Do not remove any Caution, Warning or any other descriptive labels from the device.
- **7.** Do not operate this device in an explosive environment or in the presence of flammable materials. Do not use this device to store, mix or transfer flammable liquids.
- 8. Movement or vibrations during shipment may cause connections to loosen.
- **9.** Do not operate this unit in an environment where temperatures may be below  $50^{\circ}$  F or above  $90^{\circ}$  F.
- **10.** This device should not be used for purposes outside the device's stated applications, specifications or limitations.

#### **MODELS**

There are two models of the Dual Bicarb unit; the 60 gallon and the 100 gallon. The operation, service, and replacement parts of these two units are the same with the only difference being the size of the tanks.



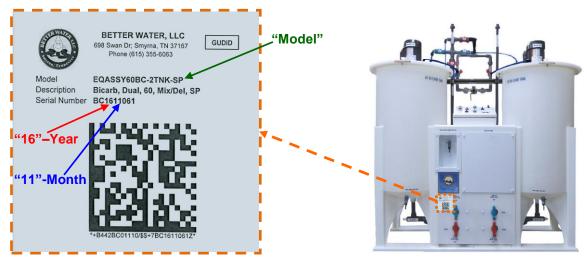
Dual 60 Gallon Bicarb Unit
Part#
EQASSY60BC-2TNK-SP



Dual 100 Gallon Bicarb Unit
Part#
EQASSY100BC-2TNK-SP

#### IMPORTANT INFORMATION FOR SUPPORT

Adhered to the front of each Bicarb unit is a label containing important information relating to the specific Bicarb unit, and details both the **Model** and **Serial Number**. Both of these pieces of information are very important in obtaining support, determining warranty, and properly servicing the Bicarb unit. Please have this information available if you contact Technical Support.



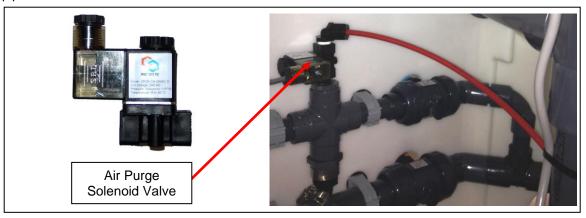
The first four numbers in the serial number denote the year and month the device was manufactured. *In the example above the Dual 60 Gallon Bicarb unit, was produced in* **2016**, *in the month of* **November**.

# MODEL CHANGES RELEVANT for SUPPORT and REPLACEMENT PARTS

The following is a summary of changes that were made and the time period they were made in that are relevant to support and determining the correct replacement part numbers. Refer to the section above concerning the serial number in determining the year and month the device was manufactured to determine the relevance of these changes to your device.

#### June 2017 – Added Air-Purge Solenoid Valve

A solenoid valve with related fittings and drain tube were added to the lower valve assembly, and included minor wiring changes in the control box. This was done to prevent air-locking of the pump in the event enough air was introduced to the pump causing the flow-switch to turn it off due to reduced flow. When the pump start button is pressed to start the pump, a 20 second delay was introduced where the air-purge valve is opened to allow any air to escape. After that delay, the pump would then start, and the solenoid valve would remain open for an additional 30 seconds for good measure. A red drain tube is plumbed from the solenoid valve to the main drain pipe.



During this change the pump indicator light part number was changed from 24V to 120V

#### Prior to June 2017 without Air-Purge



#### Description

Pump Indicator Light Replacement Bulb **ELLPLS01894 ELLPLS01896** 

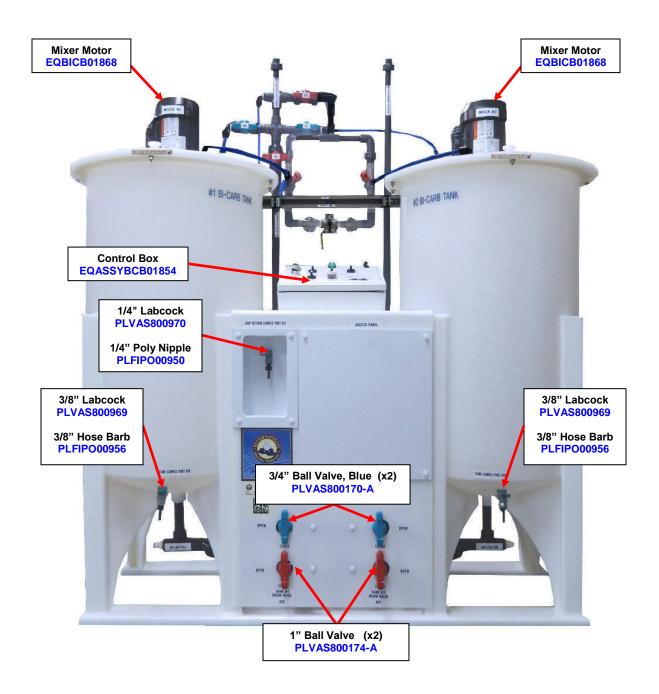
#### From June 2017 with Air-Purge



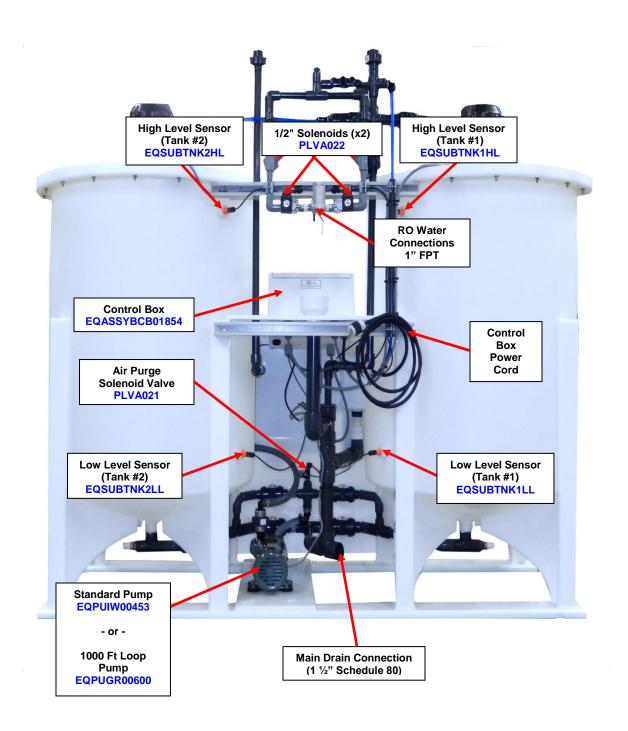
#### Description

Pump Indicator Light Replacement Bulb **ELLPLS01893 ELLPLS01897** 

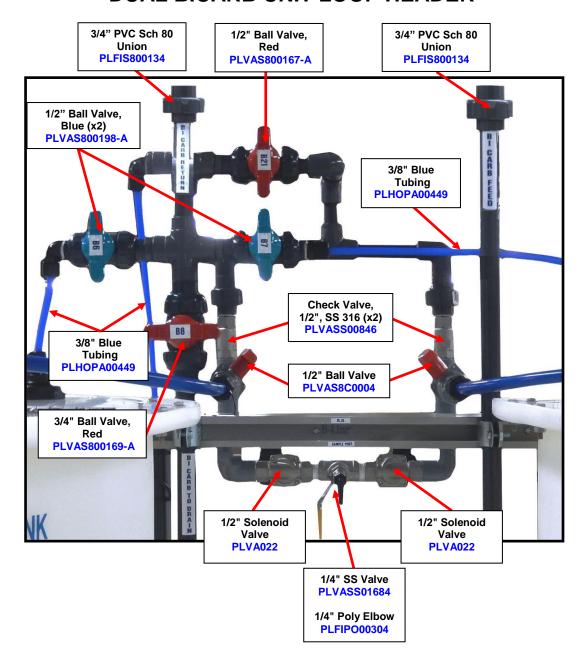
# **DUAL BICARB UNIT (FRONT VIEW)**



# **DUAL BICARB UNIT (BACK VIEW)**

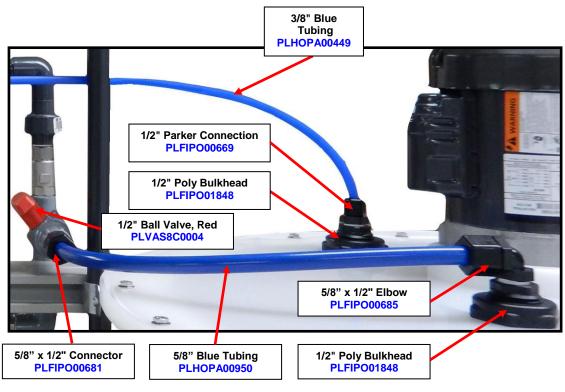


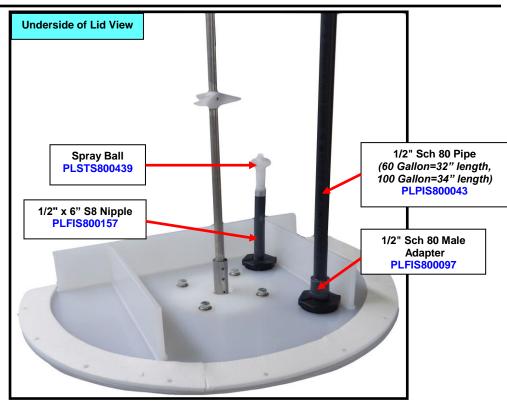
# **DUAL BICARB UNIT LOOP HEADER**



# RETURN BULKHEADS/DROP-DOWN TUBES and FILL CONNECTIONS/SPRAY-BALL ASSEMBLIES

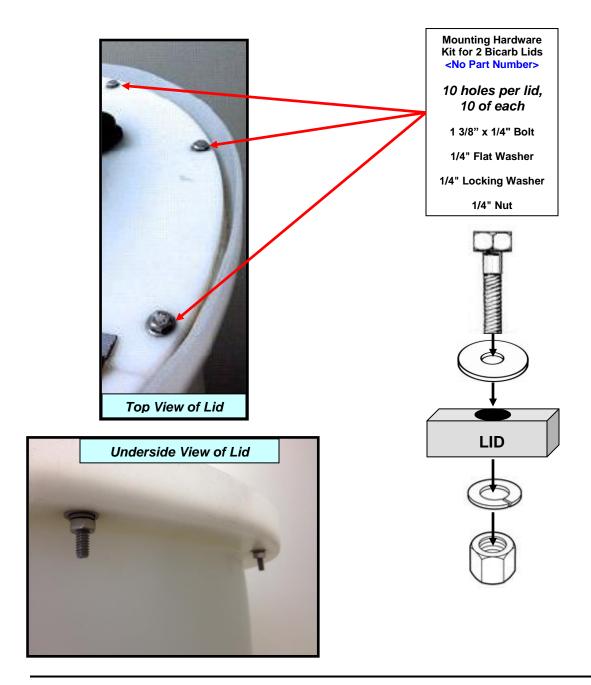
(Same for both Tank Lids)





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## **LID & MOUNTING HARDWARE**



#### **VOLARA FOAM for Tank Lid**

If replacing the Volara Foam (.25" thick x 1.5" width) that helps seal the lid to the tank, refer to the following:

- \* 6 ft for 60 gallon Tanks
- \* 10 ft for 100 gallon Tanks



EQBICB01600

# **MIXER MOTOR MOUNT & HARDWARE**



Power Cord (not shown) ELPCO000200

Mixer Mount / Spacer EQBICBMXRMNT

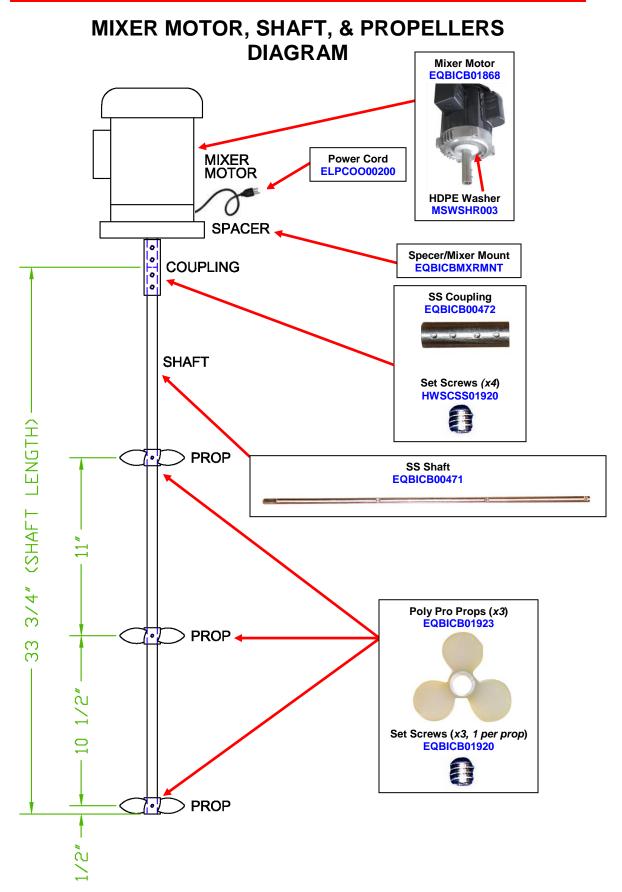


Mounting Hardware (4 each, not shown)

SS Bolts HWBOSS01892

SS Lock Washers HWWASS01913

SS Washers HWWASS01889



# REPLACING PROPELLERS, SHAFT and/or COUPLING

- 1. Unplug the Bicarb unit's Main Power Cord.
- 2. Remove the Lid bolts and nuts so the lid can be lifted (not removed).
- 3. Lift the Lid and remove the bolts and nuts holding the Motor to the Motor Mount.
- 4. Lift the Motor straight up, to expose the Coupling and Shaft above the Lid, then take a pair of vice- grips and clamp them to the Shaft below the Coupling. This should allow enough support and access to proceed.
- 5. Remove the top two Set Screws in the Coupling, then remove the Motor, carefully laying it on top of the Tank (*sideways*).
- 6. The Coupling can remain attached to the Shaft if neither of these two pieces are being replaced. If replacing the Shaft or Coupling, then remove the bottom two Set Screws in the Coupling, and set it aside.
- 7. Lift the Lid and take hold of the Shaft before removing the vice-grips, then remove the Shaft from the Tank.
- 8. Remove each Propeller from the Shaft by loosening its related Set Screw. It may be necessary to use a hammer to gently tap down the Propellers to remove them from the Shaft.
- 9. Replace each Propeller, aligning the Set Screw with the etched groove, then tighten carefully. **NOTE:** Over-tightening can cause the threads on the propeller to strip.
- 10. Lift the Lid, take hold of the Shaft, and reinsert it back into the Tank, and up through the Mixing Motor Mount. Hold in place with a pair if vice-grips, leaving enough room above the Shaft to reattach the Coupling.
- 11. Reattach the Shaft to the Coupling, then the Motor to the Coupling, with the Set Screws. Use Lock-Tight on each of the Set-Screws before tightening because motor vibration will cause the set screws to back out which can cause damage to the motor and/or shaft assemblies.
- 12. Remove the vice-grips and allow the Coupling and Shaft to slip down through the Motor Mount, back into position.
- 13. Align and reattach the Motor to the Motor Mount using the previously removed bolts and nuts.

  \* Take note to inspect and check the position of the HDPE Washer between the Motor and Motor Mount, replacing if necessary.
- 14. Realign the Lid and reattach to the Tank using the previously removed bolts and nuts.
- 15. Plug the' Bicarb unit's Main Power Cord to an electrical receptacle.

#### REPLACING a MIXER MOTOR



- 1. Unplug the Bicarb unit's Main Power Cord
- 2. Unplug the Motor's Power Cord from the Control Box.
- 3. Remove the old Motor's Wiring Cover and un-wire the Power Cord.
- 4. Remove the new Motor's Wiring Cover and re-install/re-wire the Power Cord, consulting the wiring diagram on the new motor for the high and low voltage setup, based on what is needed. Replace the Wiring Cover when finished.
- 5. Remove the Lid bolts and nuts so the lid can be lifted (not removed).
- 6. Lift the Lid and remove the bolts and nuts holding the Motor to the Motor Mount.
- 7. Lift the Motor straight up, to expose the Coupling and Shaft above the Lid, then take a pair of vice- grips and clamp them to the Shaft below the Coupling. This should allow enough support and access to proceed.
- 8. Remove the top two Set Screws in the Coupling, then remove the Motor, carefully laying it on top of the Tank (*sideways*).
- 9. Attach the new Motor to the Coupling, with the Set Screws. Use Lock-Tight on each of the Set-Screws before tightening because motor vibration will cause the set screws to back out which can cause damage to the motor and/or shaft assemblies.
- 10. Remove the vice-grips and allow the Coupling and Shaft to slip down through the Motor Mount, back into position.
- 11. Align and reattach the Motor to the Motor Mount using the previously removed bolts and nuts.

  \* Take note to inspect and check the position of the HDPE Washer between the Motor and Motor Mount, replacing if necessary.
- 12. Realign the Lid and reattach to the Tank using the previously removed bolts and nuts.
- 13. Plug the Motor's Power Cord into the Control Box.
- 14. Plug the Bicarb unit's Main Power Cord into an electrical receptacle.

## REPLACING PROXIMITY SENSORS



Description High Level Sensor, Tank 1 EQSUBTNK1HL Low Level Sensor, Tank 1 EQSUBTNK1LL

part#

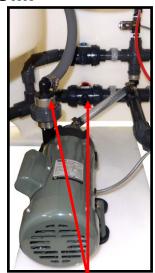
Description High Level Sensor, Tank 2 EQSUBTNK2HL Low Level Sensor, Tank 2 EQSUBTNK2LL

#### REPLACEMENT INSTRUCTIONS

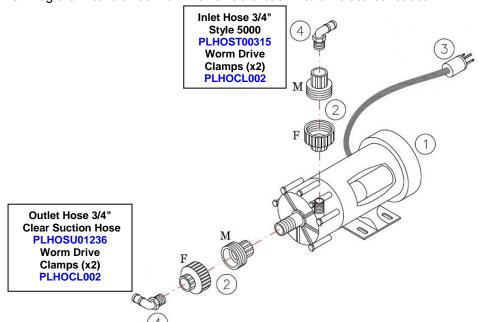
- 1. Disconnect the Proximity Sensor's Wire Connection from the Control Box's Pigtail Connection.
- 2. Carefully unscrew the old Proximity Sensor from the Bulkhead.
- 3. Place the new Proximity Sensor into the bulkhead and carefully thread, taking care not to overtighten it.
- 4. Reconnect the Proximity Sensor's Wire Connection to its corresponding Control Box's Pigtail Connection.

# **REPLACING the STANDARD PUMP**

- 1. Unplug the Bicarb unit's Main Power Cord.
- 2. Unplug the Pump's Power Cord from the Control Box.
- 3. Disconnect the pump from its Inlet Hose and Outlet Tubing at the threaded unions.
- 4. Remove the four mounting bolts from the Pump Base.
- 5. Remove the pump, replacing with the new one.
- 6. Remount the pump to the Tank Base using the mounting hardware.
- 7. Reconnect both the Inlet Hose and the Outlet Tubing at the threaded unions.
- 8. Plug the Pump's Power Cord back into the Control Box.
- 9. Plug the Bicarb unit's Main Power Cord back into an electrical outlet.



Threaded Unions

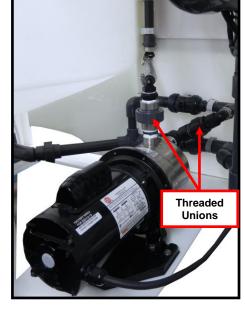


\* Reference DWG 3887

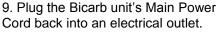
Item#	Part#	Description	Qty
1	EQPUIW00453	MD-100RLT 1/3 HP, 1 Phase, 115 Vac Pump	1
2	PLFIS800144	1" PVC Union Threaded	2
3	ELHBPL00765	Hubble – 2 Pole 3 Wire 15A 125V NY PL	1
4	PLFIPO00296	1" x 3/4" 90 MPT x HB	2

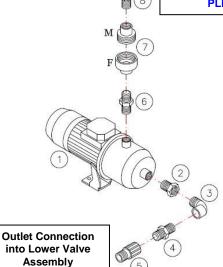
# **REPLACING the LARGE 1000 Ft LOOP PUMP**

- 1. Unplug the Bicarb unit's Main Power Cord.
- 2. Unplug the Pump's Power Cord from the Control Box.
- 3. Disconnect the pump from its Inlet Hose and Outlet Connection at the threaded unions.
- 4. Remove the four mounting bolts from the Pump Base.
- 5. Remove the pump, replacing with the new one.
- 6. Remount the pump to the Tank Base using the mounting hardware.
- 7. Reconnect both the Inlet Hose and the Outlet Connection at the threaded unions.
- 8. Plug the Pump's Power Cord back into the Control Box.



Inlet Hose 3/4" Style 5000 PLHOST00315 Worm Drive Clamps (x2) PLHOCL001



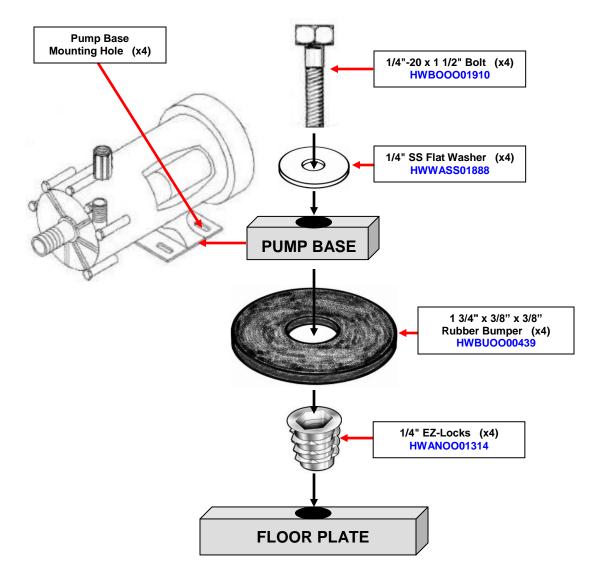


\* Reference DWG 3887

Item#	Part#	Description	Qty
1	EQPUGR00600	Pump JEU-806 – 3/4HP for 1000 ft	1
2	PLFIPO01235	Poly Reducer Bushing 1" x 1 1/4" Txt	1
3	PLFIPO02075	Street 90° 1"	1
4	EQTAFI01960	Male Union x 1" Male Pipe Thread	1
5	EQTAFI01863	Female Union x 3/4" Male Pipe Thread	1
6	PLFIPO00317	Poly Hex Nipple 1" Close	1
7	PLFIS801955	1" PVC Threaded Union	1
8	PLFIPO00307	Poly Reducer 1" MPT x 3/4" FPT	1
9	PLFIPO00351	Poly Elbow 3/4" MPT x Hose Barb	1

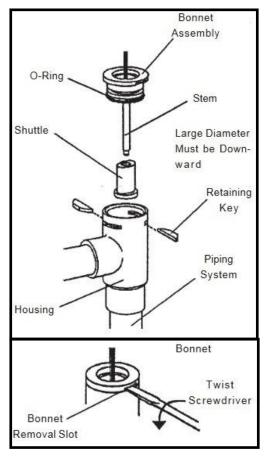
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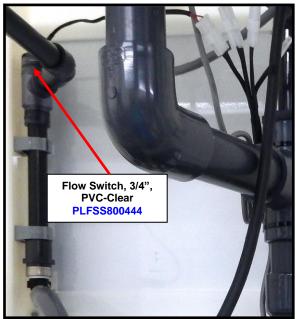
# **PUMP MOUNTING HARDWARE**



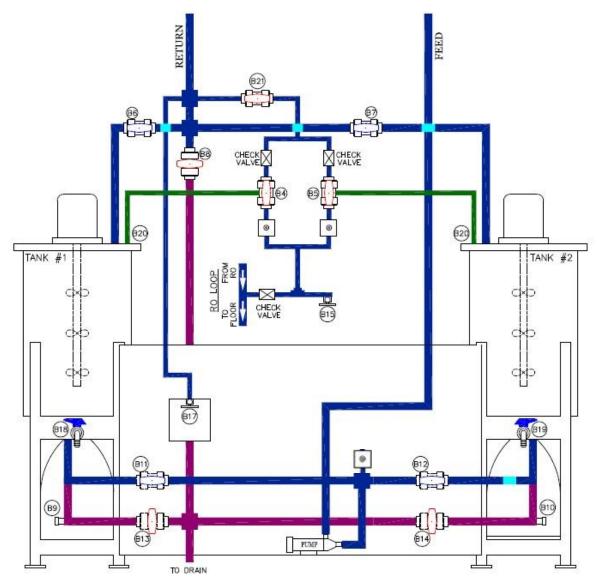
## **REPLACING the FLOW-SWITCH**

- 1. Disconnect the flow-switch's lead wire from the pigtail wire from the control box.
- 2. Using a flat tool, carefully slide out the two retaining keys which hold in the bonnet assembly to the housing.
- 3. Insert a wide-flat screwdriver into one of the bonnet removal slots and slowly twist the screwdriver to force the bonnet assembly out of the housing.
- \* Do not pull on the lead wires to remove.
- 4. Replace the new bonnet assembly inside the housing, making sue the large end of the shuttle is pointing downward.
- 5. Gently press the bonnet assembly into place, and slide the two retaining keys into the slots in the housing to hold together.
- 6. Reconnect the flow-switch's lead wire to the pigtail wire from the control box.





# BICARB UNIT FLOW DIAGRAM with VALVES LEGEND & DESCRIPTIONS



\* Reference DWG 3885

VALVE	DESCRIPTION	VALVE	DESCRIPTION
B4	Tank#1 Fill Valve	B13	Tank#1 Drain Valve
B5	Tank#2 Fill Valve	B14	Tank#2 Drain Valve
B6	Tank#1 Loop Return Valve	B15	RO Feed Sample Port
<b>B7</b>	Tank#2 Loop Return Valve	B17	Loop Return Sample Port
B8	Loop Return to Drain Valve	B18	Tank#1 Sample Port
B9	Tank#1 Jug Fill Valve	B19	Tank#2 Sample Port
B10	Tank#2 Jug Fill Valve	B20	Fill Flow Control (x2) (if used)
B11	Tank#1 Pump Service Valve	B21	Disinfect Valve
B12	Tank#2 Pump Service Valve		

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#### B4 Tank#1 Fill Valve

Opening this valve allows Tank #1 to be filled. Tank Fill Switch on Control Panel must be in the Tank #1 position to fill. Once the level in the tank reaches the High level Sensor, the Solenoid Valve will close and water flow will cease.

#### B5 Tank#2 Fill Valve

Opening this valve allows Tank #2 to be filled. Tank Fill Switch on Control Panel must be in the Tank #2 position to fill. Once the level in the tank reaches the High level Sensor, the Solenoid Valve will close and water flow will cease.

#### B6 Tank#1 Loop Return Valve

When the pump is operating and when this valve is in the OPEN position, liquid will return to Tank #1.

#### B7 Tank#2 Loop Return Valve

When the pump is operating and when this valve is in the OPEN position, liquid will return to Tank #2.

#### **B8** Loop Return to Drain Valve

When the pump is operating and when this valve is in the OPEN position, liquid will return to Drain.

#### B9 Tank #1 Jug Fill Valve

This valve is used to fill jugs from Tank #1 if needed.

#### B10 Tank #2 Jug Fill Valve

This valve is used to fill jugs from Tank #1 if needed.

#### B11 Tank #1 Pump Service Valve

This Valve is used to allow liquid to be pumped from Tank #1 through the pump and to the distribution Loop. When this valve is closed, Tank #1 will be isolated from the pump and distribution loop.

#### B12 Tank #2 Pump Service Valve

This Valve is used to allow liquid to be pumped from Tank #2 through the pump and to the distribution Loop. When this valve is closed, Tank #2 will be isolated from the pump and distribution loop.

#### B13 Tank #1 Drain Valve

This Valve is used to drain all liquid from Tank #1.

#### B14 Tank #2 Drain Valve

This Valve is used to drain all liquid from Tank #2.

#### **B15** RO Feed Sample Port

This will allow the user to take a sample of the liquid feeding the Bicarb.

#### **B17** Loop Return Sample Port

This valve, will allow the user to take a sample of the liquid flowing from the distribution loop. This can be used to verify a bicarbonate solution or to verify the presence or absence of disinfectant solution.

#### B18 Tank#1 Sample Port

Samples can be taken from this port to check the contents of Tank#1.

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#### B19 Tank#2 Sample Port

Samples can be taken from this port to check the contents of Tank#2.

#### **B20** Flow Restrictors (x2)

When installed, the Flow Restrictors are installed to only allow 2gpm to flow though the fill lines. This will prevent the filling process from using too much water from the distribution loop and possibly causing the dialysis machines to go into a "Low Pressure" alarm condition.

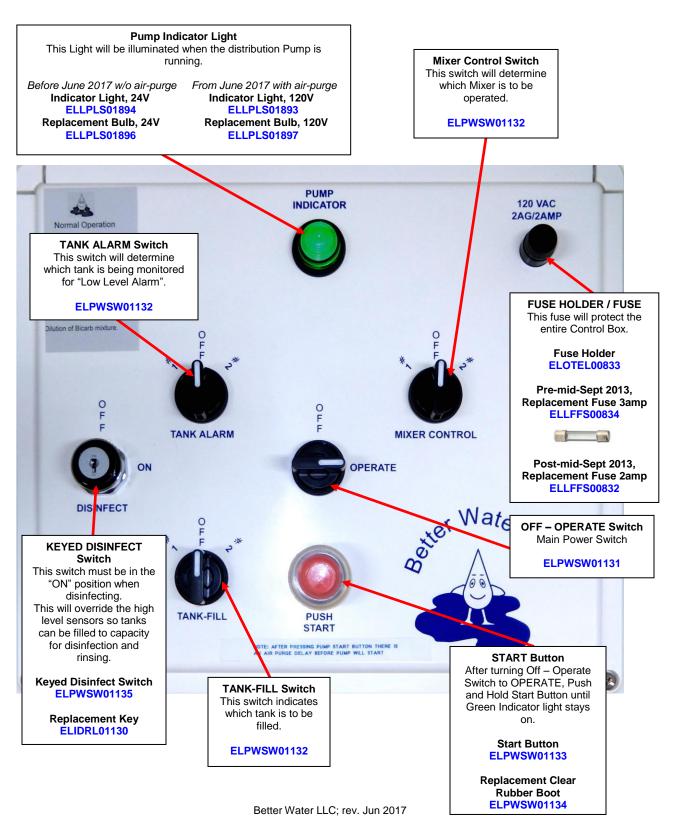
#### **B21** Disinfect Valve

Used during the clean/disinfect and after-hours circulation procedures.

# **CONTROL BOX (Front View)**

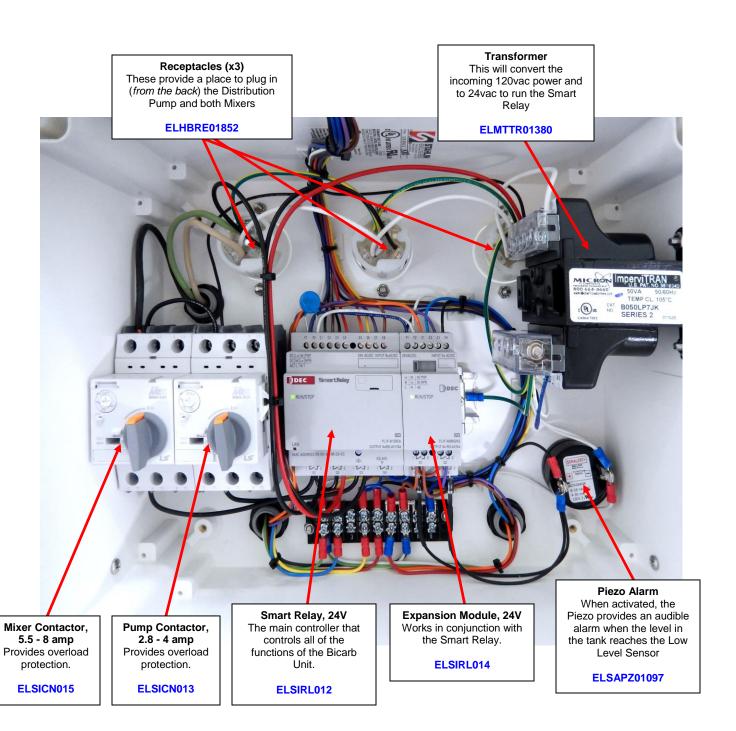
#### Part# EQASSYBCB01854

#### **Functions & Part Numbers**



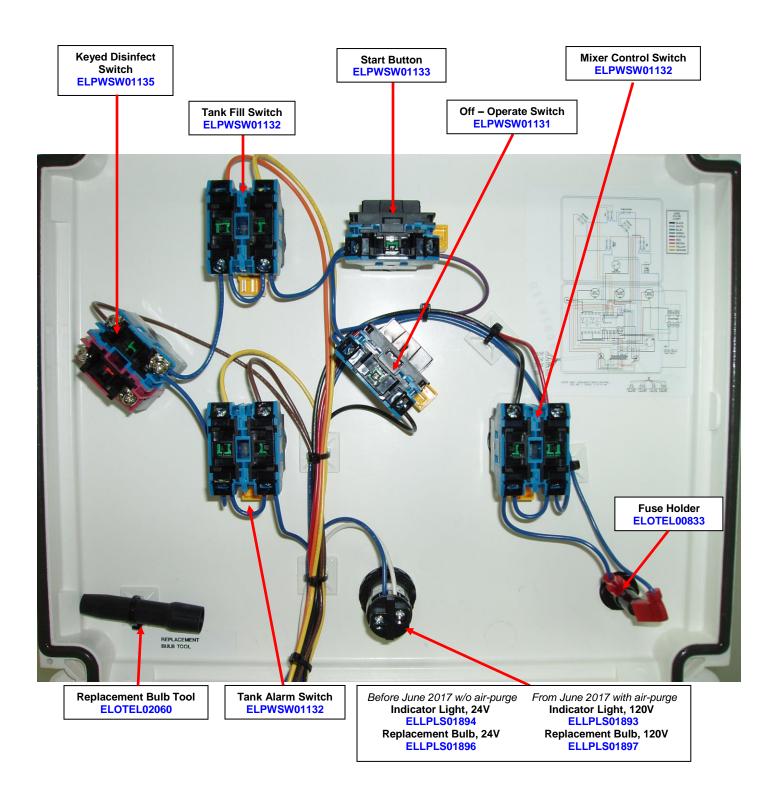
# CONTROL BOX (Inside-Box View) Part# EQASSYBCB01854

#### **Functions & Part Numbers**



# CONTROL BOX (Inside of Lid View) Part# EQASSYBCB01854

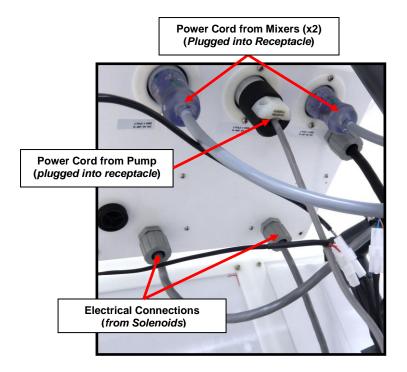
# Part Numbers



# CONTROL BOX (Underside View) Part# EQASSYBCB01854

**Part Numbers** 

Several electrical connections are located on the back of the Bi-Carb Unit, on the bottom of the Control Box. The Pump and both of the Mixers plug into receptacles, mounted on the Control Box.



DESCRIPTION	PART#	PICTURE
Propeller Shaft - 316 Stainless Steel	EQBICB00471	
Propeller - Polypropylene	EQBICB01923	
Propeller Set Screw - Stainless Steel; one per propeller	EQBICB01920	
Shaft Coupling - Stainless Steel	EQBICB00472	
Coupling Set Screw - Stainless Steel; four per coupling	HWSCSS01920	
Mixer Motor - 1/4 HP, 115 VAC	EQBICB01868	
Mixer-Motor Power Cord - for Mix/Delivery Bicarb units	ELPCOO00200	
MD 100RLT Pump - 1/3 HP, 1 Phase, 115 VAC	EQPUIW00453	

DESCRIPTION	PART#	PICTURE
1000 FT Loop Pump - 3/4 HP, 1 Phase, 115 VAC	EQPUGR00600	
High Level Proximity Sensor Subassembly, Tank 1	EQSUBTNK1HL	
Low Level Proximity Sensor Subassembly, Tank 1	EQSUBTNK1LL	
High Level Proximity Sensor Subassembly, Tank 2	EQSUBTNK2HL	
Low Level Proximity Sensor Subassembly, Tank 2	EQSUBTNK2LL	
Flow Control, 2.0 GPM PVC Sch-80	PLFCS802001	
Check Valve, 1/2", 316 Stainless-Steel	PLVASS00846	(FEE 172)
Flow-Switch, 3/4", PVC-Clear	PLFSS800444	

DESCRIPTION	PART#	PICTURE
Volara Foam for Tank Lid, .25" TK x 1.5" W * 6 ft for 60 gallon Tanks * 10 ft for 100 gallon Tanks	EQBICB01600	0
1/2" Red Handle Valve, Asahi * Valve B21	PLVAS800167-A	
1/2" Blue Handle Valve, Asahi * Valves B6, B7	PLVAS800198-A	
3/4" Red Handle Valve, Asahi * Valve B8	PLVAS800169-A	
3/4" Blue Handle Valve, Asahi * Valves B11, B12	PLVAS800170-A	
1" Red Handle Valve, Asahi * Valves B13, B14	PLVAS800174-A	Control of
1/2" Red Handle, Compact Valve * Valves B4, B5	PLVAS8C0004	0 0
1/4" Plastic Solenoid Valve * Air-purge valve	PLVA021	The second secon

**DESCRIPTION** PART# **PICTURE** 

**Bicarb Unit Control Box EQASSYBCB01854** 



Fuse, 3 Amp, Little-Fuse

\* For models manufactured before mid-September 2013

**ELLFFS00834** 



Fuse, 2 Amp, Little-Fuse

\* For models manufactured after mid-September 2013

**ELLFFS00832** 



Bicarb Remote Alarm Box

**EQASSYBCB01709** 



- Concentrate Regulator Calibration Kit

  \* For calibrating regulators in Floor-Valve-Boxes and Panels

  \* Blue wand is for bicarbonate; Red wand is for acid

**EQASSYCC01** 



#### LIMITED WARRANTY TERMS and CONDITIONS

- a. This limited warranty is given only to the original buyer and covers the equipment delivered with this limited warranty.
- b. The buyer shall be barred from any recovery on this limited warranty or otherwise for damages due in whole or in part to...
  - ... unreasonable use
  - ... improper operation
  - ... use beyond normal fashion
  - ... failure to follow instructions
  - ... failure to maintain the product in good condition and repair
  - ... or the like.
- c. If the buyer discovers or should have discovered a defect in which it is reasonable to conclude that damage, either personal, property, or economic, may result, the buyer's continued use of the product shall constitute any assumption of risk by the buyer and a bar to any recovery for breach of this limited warranty or otherwise.
- d. No oral or written representation, information, or advice given by Better Water LLC or any of its representatives shall create a warranty or in any way increase the scope of this express limited warranty and shall not form a part of the basis for bargain.

#### WHAT IS WARRANTED AND FOR HOW LONG?

- a. All equipment, excluding ion exchange and filtration media and cartridges, are warranted to be free from factory defects in materials, and workmanship under normal use for a period of one (1) year from the date of shipment.
- b. It is a condition precedent to recovery on this limited warranty that the buyer strictly comply with all operating and maintenance guidelines established by Better Water LLC and that the serial number (*if applicable*) is intact and legible on the equipment.
- c. It is a condition precedent to recovery on this limited warranty for damage to the external finish of the equipment that the buyer notifies Better Water LLC at the time of the installation that the finish is damaged.

# WHAT IS REMEDY FOR BREACH OF THIS LIMITED WARRANTY or NEGLIGENCE BY BETTER WATER LLC

- a. Buyer's sole and exclusive remedy for any breach of this limited warranty or negligence by Better Water LLC shall be repair or replacement of the defective part, at the option of Better Water LLC, provided such defective part is returned to Better Water LLC for inspection.
- b. Better Water LLC shall not be obligated to supply an exact replacement of the defective part and reserves the right to substitute new and improved parts.
- c. Better Water LLC shall provide at no cost to buyer, labor to remove and/or replace defective parts covered by this limited warranty for a period of ninety (90) days from the date of installation by Better Water LLC of the equipment.
- d. After such ninety (90) day period, buyer shall be responsible for any labor or service charge for the removal and/or replacement of any defective parts.
- e. Buyer shall be responsible for all travel expenses and freight charges at all times.
- f. Better Water LLC shall have no obligation to repair or replace any defective part if buyer fails to follow the procedure set forth in "HOW TO OBTAIN A REPLACEMENT PART UNDER LIMITED WARRANTY".

IN NO EVENT SHALL THIS LIMITED WARRANTY BE CONSTRUED TO COVER, NOR SHALL BETTER WATER LLC BE LIABLE TO BUYER AS ANY OTHER PERSON FOR, ANY CONSEQUENTIAL, INCIDENTAL, ECONOMIC, DIRECT, INDIRECT, GENERAL OR SPECIAL DAMAGES, WHICH ARE HEREBY EXPRESSLY DISCLAIMED.

#### Dual Tank Bicarb-Short Profile, Central Mix & Delivery Service Manual

#### HOW TO OBTAIN A REPLACEMENT PART UNDER LIMITED WARRANTY

- a. Buyer should contact the Customer Service or Technical Support Departments and request a Return Goods Authorization.
- b. Described part(s) will be sent with a purchase order.
- c. The returned part(s) will be returned to the factory for limited warranty consideration. If part(s) are not covered under the limited warranty, part(s) will be considered billable against the purchase order supplied.

#### WHAT IS NOT COVERED BY THIS LIMITED WARRANTY:

By way of example and not limitation, this limited warranty does not cover:

- Damage to or replacement of any ion exchange resin of filter media
- Labor or service charges for the removal and/or replacement of any defective parts after the ninety (90) day period from the date of installation or sale by Better Water LLC
- · Freight charges and travel expenses
- Damage from inadequate or defective wiring, improper voltage, improper connections or electrical service, inadequate or defective plumbing, water supply, or water pressure, or in violation of applicable building, plumbing or electrical codes, laws, ordinances or regulations.
- Damage from improper installation or operation, including but not limited to, abuse, accident, neglect, improper maintenance, freezing and fires, or abnormal use.
- Damage caused by contaminants in Buyer's water supply, including hardness, chlorine, chloramines, sulfur, bacterial iron, tannin, algae, oil, organic matter or other unusual substances, if special equipment has not been installed by Better Water LLC to remove such contaminants
- Damage to or caused by filters/membranes or other replacement parts not purchased from Better Water LLC or damage caused by modification, alteration, repair or service of the equipment or any of its parts by anyone other than Better Water LLC or its expressly authorized representatives.

# **Dual Tank Bicarb-Short Profile, Central Mix & Delivery Service Manual NOTES**

