

Better Water LLC

# Dual Tank Bicarb Central Mix and Delivery Installation Manual



rev. Mar 2016

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

[www.betterwater.com](http://www.betterwater.com)



## 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 [support@betterwater.com](mailto:support@betterwater.com)

**Customer Service:**  
Phone (615) 355-6063, press "3"  
Email [customerservice@betterwater.com](mailto:customerservice@betterwater.com)

## 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](http://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 Adobe forms that can be downloaded and either faxed or emailed to us.



## Specific Contacts

Technical Support	Phone (615) 355-6063, option "1"
	Email <a href="mailto:support@betterwater.com">support@betterwater.com</a>
To Place an Order (purchase orders)	Fax (615) 355-6065
	Email <a href="mailto:orders@betterwater.com">orders@betterwater.com</a>
	Phone (615) 355-6063
Customer Service (returns)	Phone (615) 355-6063, option "2"
	Fax (615) 355-6065
	Email <a href="mailto:customerservice@betterwater.com">customerservice@betterwater.com</a>

### Website [www.betterwater.com](http://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

The Better Water LLC Bicarb unit is manufactured to the utmost quality. With proper care, preventative maintenance, and proper use, it should provide you with a very effective means of mixing the bicarbonate solution for dialysis treatments.

Before starting you should first read and have a thorough understanding of this entire Installation Manual. It describes in detail the steps and procedures to safely install the Bicarb 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.

5.  **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° F or above 90° F.
10. This device should not be used for purposes outside the device's stated applications, specifications or limitations.

## GENERAL REQUIREMENTS & SPECIFICATIONS

### 1. Water Connections:

- a. RO Water Inlet and Outlet Connections: 1" stainless steel tee, female pipe thread
- b. Feed and Return Line Connections: 3/4" Schedule 80 PVC pipe, female socket, solvent weld

### 2. Electrical Requirements:

- a. All Models: 115 VAC, 20 AMP, Dedicated GFCI Outlet (220V models also available)
- b. Location: 5' 6" to 6' above finished floor, on the wall, in the center of the unit.

### 3. Drain Requirements:

- a. 12" x 12" floor sink preferred In close proximity to the Bicarb unit
- b. Drain Connection: 1 1/2" Schedule 80 PVC pipe, female socket, solvent weld

### 4. Dimensions:

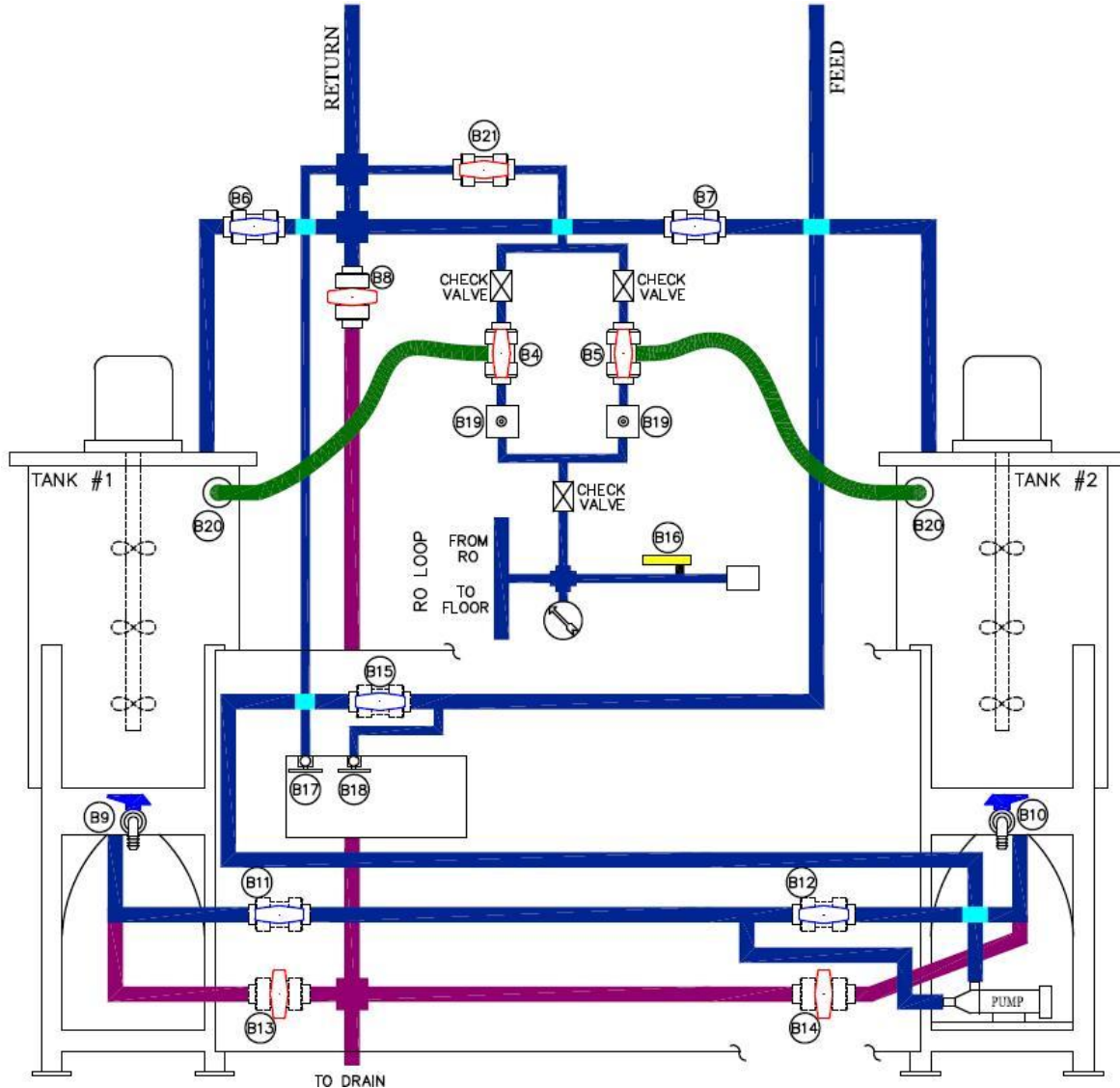
- a. 60 Gallon Dual Tank: Height 76" x Length 68" x Width (depth) 30"
- b. 100 Gallon Dual Tank: Height 78" x Length 80" x Width (depth) 37"

### 5. Operating Weight:

- a. 60 Gallon Dual Tank: 1350 lbs
- b. 100 Gallon Dual Tank: 2100 lbs



## BICARB UNIT VALVES LEGEND &amp; DESCRIPTIONS



\* Reference DWG 1067

VALVE	DESCRIPTION	VALVE	DESCRIPTION
<b>B4</b>	Tank#1 Fill Valve	<b>B13</b>	Tank#1 Drain Valve
<b>B5</b>	Tank#2 Fill Valve	<b>B14</b>	Tank#2 Drain Valve
<b>B6</b>	Tank#1 Loop Return Valve	<b>B15</b>	Loop Service Valve
<b>B7</b>	Tank#2 Loop Return Valve	<b>B16</b>	Rinse-Down Hose Valve
<b>B8</b>	Loop Return to Drain Valve	<b>B17</b>	Loop Return Sample Port
<b>B9</b>	Tank#1 Jug Fill Valve	<b>B18</b>	Feed Sample Port
<b>B10</b>	Tank#2 Jug Fill Valve	<b>B19</b>	Solenoid Valve (x2)
<b>B11</b>	Tank#1 Pump Service Valve	<b>B20</b>	Fill Flow Control (x2)
<b>B12</b>	Tank#2 Pump Service Valve	<b>B21</b>	Disinfect Valve

- 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 (B19) 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 (B19) 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**  
After bicarbonate solution is mixed, this valve is used to take a sample to verify the bicarbonate solution is mixed properly from Tank #1. After bicarbonate solution is verified, this valve is used to fill jugs from Tank #1 if needed. During Disinfect procedure, this valve can also be used to verify the presence of disinfectant.
- B10 Tank #2 Jug Fill Valve**  
After bicarbonate solution is mixed, this valve is used to take a sample to verify the bicarbonate solution is mixed properly from Tank #2. After bicarbonate solution is verified, this valve is used to fill jugs from Tank #2 if needed. During Disinfect procedure, this valve can also be used to verify the presence of disinfectant.
- 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 Loop Service Valve**  
This is the main Loop Feed Valve. This valve must be open to pump any liquid from Tank #1 or #2 to the loop. In an emergency situation, this valve can be closed and all flow to the loop will cease.

**B16 Rinse-Down Hose Valve**

This valve, when open, will allow AAMI Standard Quality water to flow through a connected hose to rinse down the insides of the tanks.

**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 Feed Sample Port**

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

**B19 Inlet Solenoid Valves (x2)**

These valves receive a signal from the High Level Sensors (*in Tank #1 and #2*) and the Tank Selector Switch (*on the front of the Control Box*). If the level of liquid is above the High Level Sensor, this Solenoid Valve will not open. This Solenoid Valve and the High Level Sensors are deactivated when the Keyed Disinfect Switch is in the ON position.

**B20 Flow Restrictors (x2)**

When installed, the Flow Restrictors are installed to only allow 2gpm to flow through 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.

## INSTALLATION OUTLINE

(see Appendix A for Installation Checklist)

### 1. Unpacking the Bicarb Unit

Every care has been taken to ensure that your new Bicarb unit has been packed to arrive at your location without damage. Upon arrival at the final destination, Please take a few minutes to inspect the crate for any apparent damage. If you should find any damages, please contact the delivery carrier and arrange for a claim.

Extreme care should be taken when unpacking the unit. Once the unit has been unpacked from its original shipping container, again, closely inspect the unit for any apparent damage. Extreme care should be taken when moving the unit to its final installation site.

### **CAUTION**

**DO NOT attempt to lift or move the unit by any of the pipes or wires.**

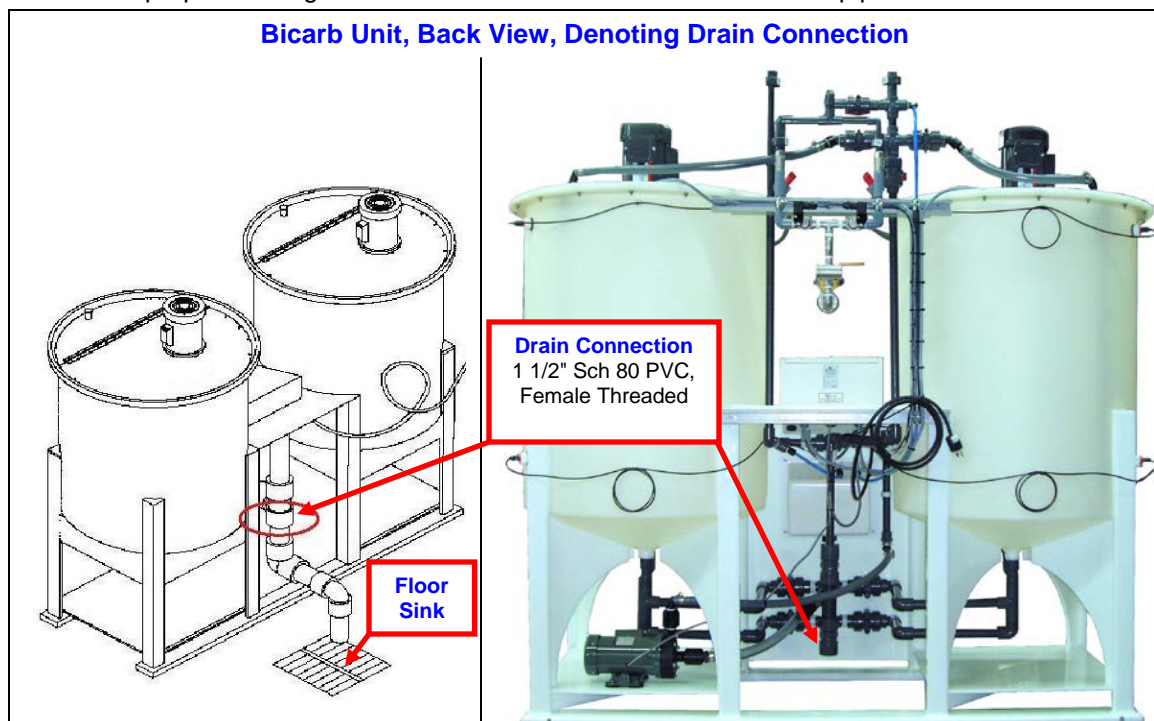
Prior to Installation the location of all pipes; feed, fill, and return as well as drains should be verified.

### 2. Set the Bicarb unit in approximate location of final installation

Make sure that the unit sits level on the floor. Many times the floor is not level and will have to be adjusted to accommodate the Bicarb unit. Verify that there is ample room in all directions to perform the normal daily tasks associated with daily operations and disinfections. See the minimum floor space specifications under General Requirements.

### 3. Locate Drain

It is preferred to have the drain (*floor sink*) located in close proximity of the Bicarb unit. If this is not the case, the drain pipes will have to be plumbed to the nearest floor sink. The Bicarb unit is equipped with a 1 1/2" schedule 80 PVC valve and the drain line should be run to a suitable drain with the same size pipe. Care should be taken to assure that there is sufficient decline in the pipe to allow for proper drainage. Normal declination is 1/4" fall to 1 foot of pipe.



#### 4. Locate Power Source

The Bicarb Control Box is supplied with a 10' power cord. See preferred location of the power source under General Requirements. All installed Bicarb units should be within this proximity of the power source. The outlet should be accessible in case the unit needs to be unplugged for service. Do not use power strips or extension cords.

#### 5. Set Unit in Final Position

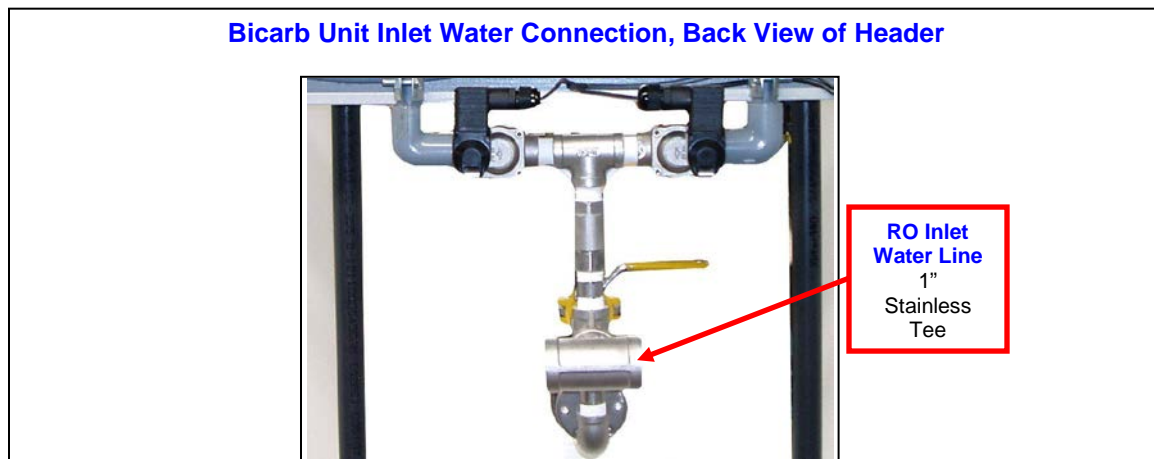
Move the unit into its final position. Check again to ensure that the unit is level.

#### 6. Connect RO Water Inlet and Outlet to Unit

Verify the positions of the water pipes from the system and the water pipes going to the treatment floor. Normal locations of the water lines on the Bicarb unit are as follows:

- 1" stainless steel (threaded) tee on the top, back portion of the unit.
- The water flow can be either right to left or left to right, so either side of the tee can be used as the inlet, and the other side of the tee will be used as the outlet.

Care should be taken to connect each fitting carefully. All piping should be appropriately supported as per local plumbing codes.



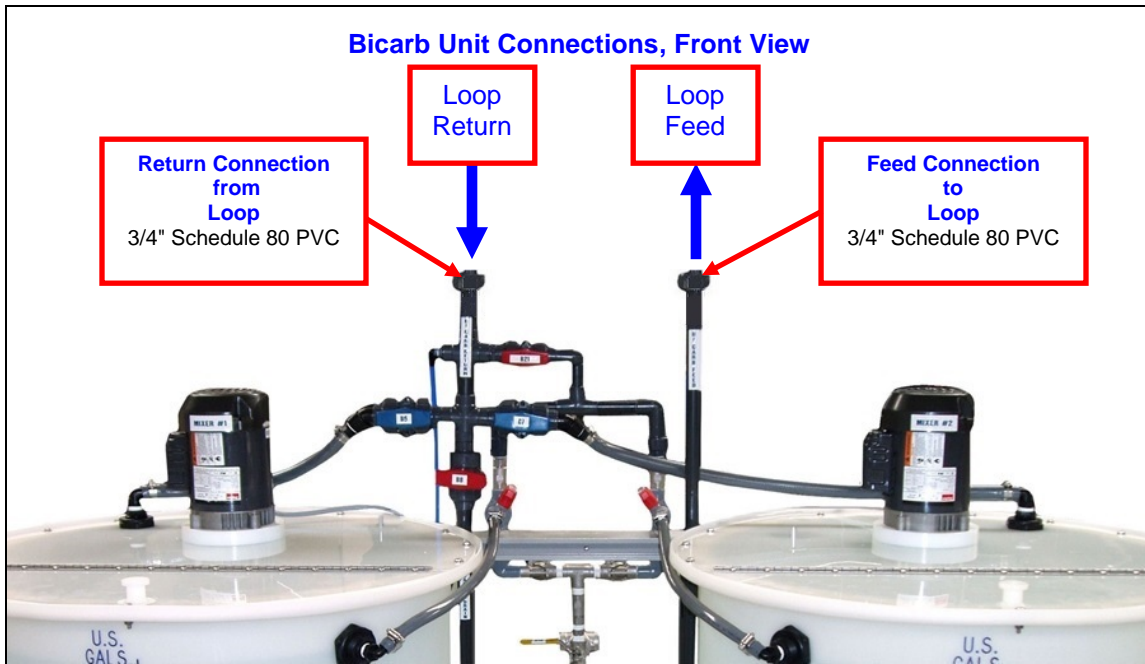
#### 7. Connect Feed and Return lines to Header

Normal locations of the Feed & Return lines on the Bicarb unit are as follows:

- 3/4" schedule 80 union, vertically on the **right side is the LOOP FEED**
- 3/4" schedule 80 union, vertically on the **left side is the LOOP RETURN.**

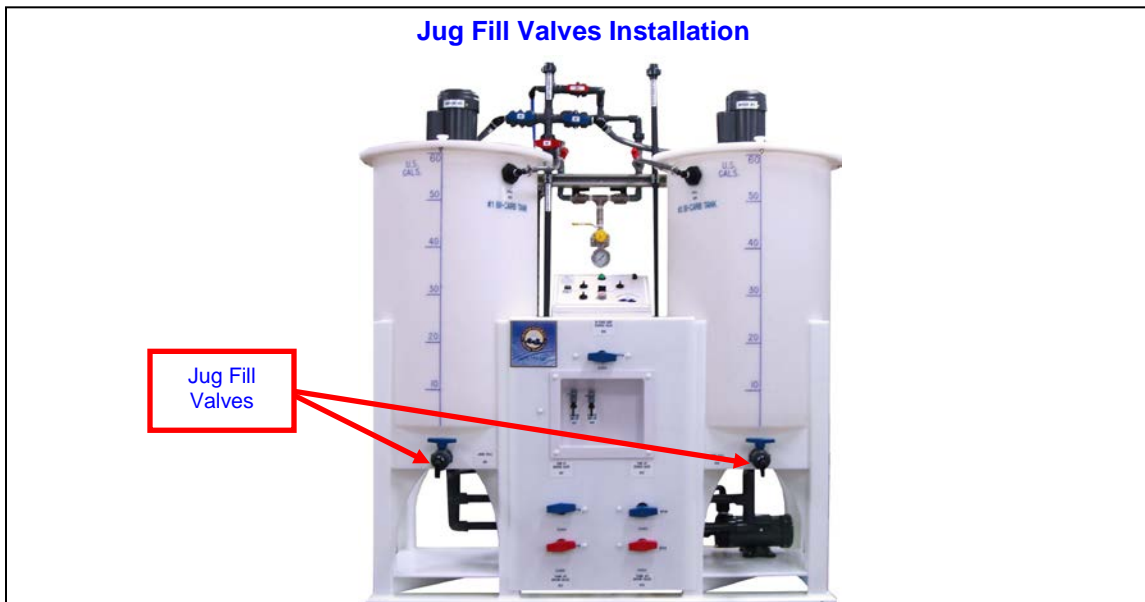
Care should be taken to clean and glue each fitting carefully.

All piping should be appropriately supported as per local plumbing codes.



## 8. Install Jug-Fill

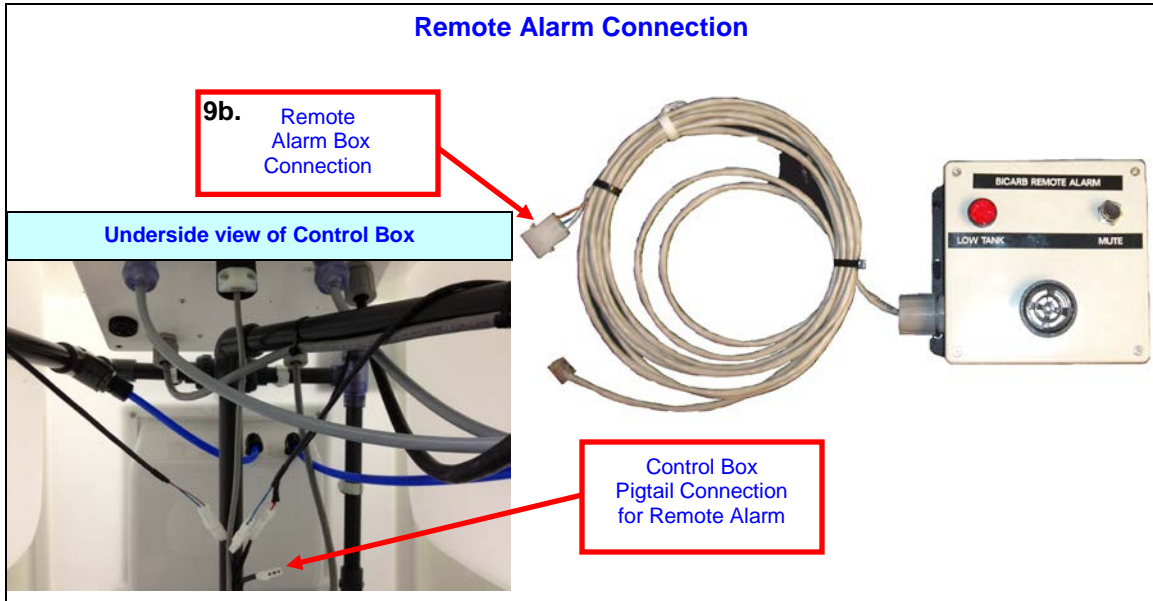
Locate the Jug Fill valves included in the Accessory Box, supplied with the Bicarb unit. Remove the Jug Fill Valves from the plastic bag and attach to the front of the unit at the unions, making sure that the unions are tight and the valves are in the closed position.





**9. Install the Remote Alarm Box (if used)**

- a. Install the remote alarm box in a location that is convenient to clinic personnel during normal daily duties.
- b. Connect one end of the Control Cable to Control Box Connection Wire pigtail found behind and underneath the Bicarb unit. Connect the other end to the Remote Alarm Wire Connection.

**10. Connect Power Cord into Outlet**

- a. Plug the cord from the Control Box into a 115vac, 20 amp, dedicated GFCI outlet.

**11. Ready Bicarb Unit for Field-Test**

- a. Clean the areas on and around the tops of the tank, making sure that no fittings, rags, pipe shavings, etc... fall into the tanks.
- b. Allow sufficient time for all glued connections to cure properly.
- c. You are now ready to field-test Bicarb unit.

**FIELD TEST***(see Appendix A for Field Test Checklist)*

Your Bicarb unit was thoroughly tested in all aspects of operation before it was allowed to leave the factory. In the event that damage has occurred during transport and/or delivery, The following Field Test should prove effective in discovering any problems and/or damage that has occurred since leaving the factory. The field test will cover all aspects of the operations of the unit and when properly completed, will assure that the unit is working safely and without problems.

With RO water circulating in the RO Loop:

1. Close all other valves on Bicarb unit
2. Turn **ON-OPERATE Switch** to the **OPERATE** position
3. Turn **TANK ALARM Switch** to **#1** position and the low level alarm should sound
4. Turn **TANK ALARM Switch** to **#2** position and the low level alarm should sound
5. Turn **TANK ALARM Switch** to **OFF**
  - a. Make sure **DISINFECT Switch** is in **OFF** position
  - b. Turn **TANK FILL Switch** to **#1** position
  - c. Open **Tank#1 Fill Valve (B4)** and water should begin filling Tank#1
  - d. Allow to fill till water shuts off, by the High Level Float Switch
  - e. Close **Tank#1 Fill Valve (B4)**
  - f. Turn **TANK ALARM Switch** to **#1** position and low level alarm should not sound
  - g. Drain Bicarb Tank#1 to approximately half-full by opening the **Tank#1 Drain Valve (B13)**, then close **Tank#1 Drain Valve (B13)** when the tank is half full
6. Turn **TANK FILL Switch** to **#2** position
  - a. Open **Tank#2 Fill Valve (B5)** and water should begin filling Tank#2
  - b. Allow to fill till water shuts off, by the High Level Float Switch
  - c. Close **Tank#2 Fill Valve (B5)**
  - d. Turn **TANK ALARM Switch** to **#2** position and low level alarm should not sound
  - e. Drain Bicarb Tank#2 to approximately half-full by opening the **Tank#2 Drain Valve (B14)**, then close **Tank#2 Drain Valve (B14)** when the tank is half full
7. Open **Tank#1 Pump Service Valve (B11)** and **Tank#2 Pump Service Valve (B12)**
8. Open **Loop Return to Drain Valve (B8)**
9. Open **Loop Service Valve (B15)**
10. Push **PUMP START Button** and hold till the green light stays on and pump keeps running
11. Allow water to pump till it returns to drain.
12. Allow water to flow to drain for approximately 10 minutes which allows time to remove any refuse from entire bicarbonate loop
13. Open **Tank#1 Loop Return Valve (B6)** and **Tank#2 Loop Return Valve (B7)**
14. Close **Loop Return to Drain Valve (B8)**
15. At this point, RO Water should be circulating in the Bicarb Distribution Loop and returning to both tanks



16. Turn on **TANK MIXER Switch** to the **#1** position, and allow to time out which should take approximately 10 minutes
17. Turn on **TANK MIXER Switch** to the **#2** position, and allow to time out which should take approximately 10 minutes
18. Check entire unit for leaks

Field Test is now complete. The Bicarb unit and the Bicarb Distribution Loop should now be disinfected.

## INITIAL DISINFECTION

Care must be taken to keep the Bicarb Distribution Loop clean once water has been introduced to the unit and loop, because of its susceptibility to bacterial growth. Until the Bicarb unit starts normal operation it is suggested that you keep the system circulating with RO Water and do the following:

1. Change out the RO water daily
2. Disinfect weekly

Perform a complete disinfect of the unit just prior to operational start-up, per the disinfection instructions in the Operator's Manual.

### NOTE

**This Bicarb unit is NOT heat disinfectable, but it is compatible with most RO Water Loop Heat Disinfect Systems. The only part of this system that is tolerant of water heated to 194° F is the Water Supply Loop.**

## BICARB REMOTE ALARM BOX (*optional*)

### Description

The Bicarb Remote Alarm Box is an optional piece of equipment. This device is a box containing lights and an audible alarm is usually located on the patient floor, where it can be easily monitored by clinic personnel. This box is equipped with audible and visual alarms that monitor the Low Level Alarm on the Bicarb unit. It requires no additional power but receives 24 VAC power and signals from the Bicarb unit via the Remote Alarm Wire (*4-cable Belden*).



part#  
**EQASSYBCB01709**  
Bicarb Remote Alarm Box

### Bicarb Remote Alarm Box Installation

The final placement of the Bicarb Remote Alarm Box is left to the discretion of the final user, but should be placed in a position where it can be easily monitored by clinic personnel.

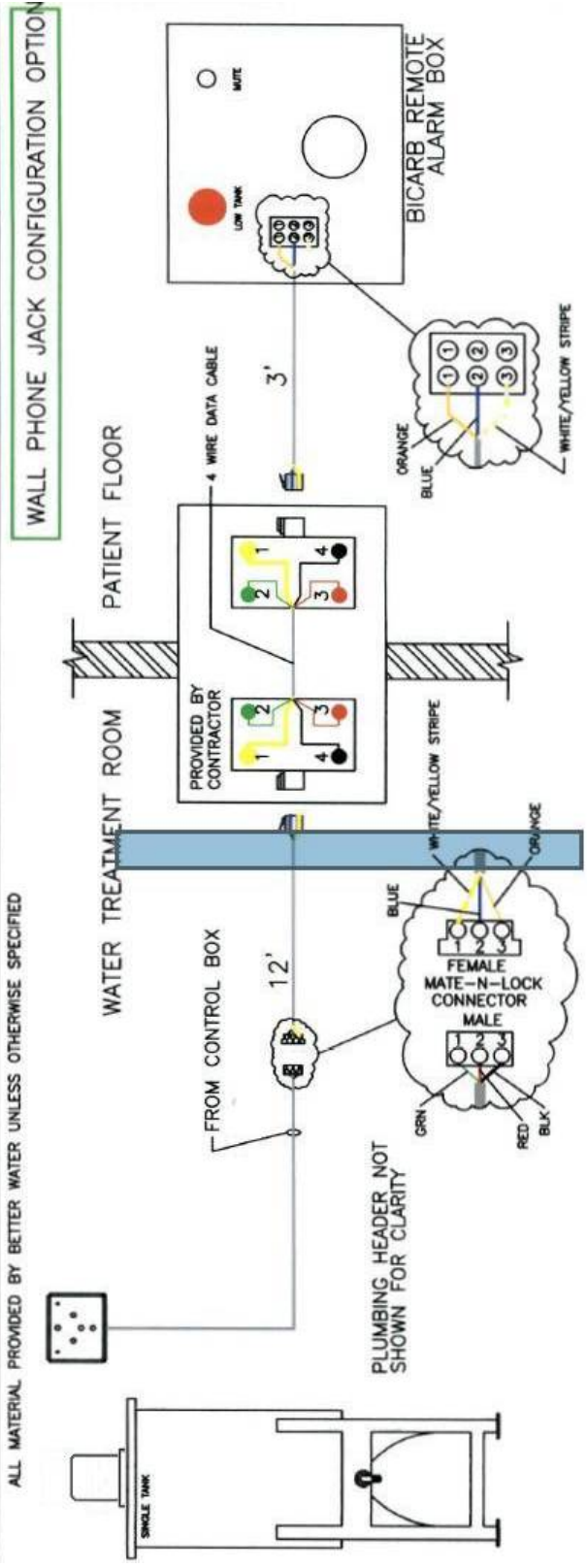
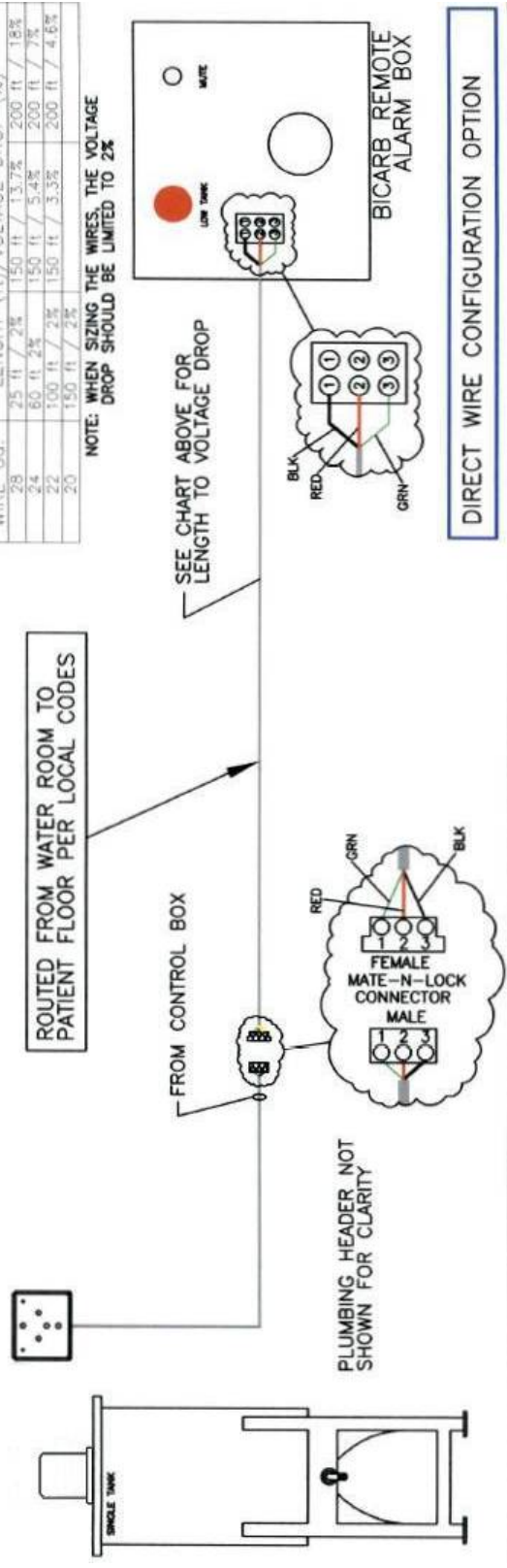
1. The box is equipped with mounting tabs on the sides and should be attached to the wall with suitable anchors.
2. Connect cable from Bicarb Control Box pigtail to Remote Alarm Box.
  - A 4 cable Belden-Type wire or a phone jack and cable can be used.
  - \* See *Drawing 3483* below for specific wire connection locations.

Special attention should be given to connecting the wires to the proper locations as incorrect wire placement will prevent the Remote Alarm Box from proper operation and monitoring.

Cannot use a female-to-female phone adapter for extending the cable due to wiring configuration.

WIRE Ga.	LENGTH (ft)	VOLTAGE DROP (%)
28	25 ft / 2%	150 ft / 13.7%
24	60 ft / 2%	150 ft / 5.4%
22	100 ft / 2%	150 ft / 3.3%
20	150 ft / 2%	200 ft / 4.6%

NOTE: WHEN SIZING THE WIRES, THE VOLTAGE DROP SHOULD BE LIMITED TO 2%



Reference DWG 3483

## 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.***

**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 or 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.

# APPENDIX A

## CHECKLISTS

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# INSTALLATION CHECKLIST

Task	Check When Complete
Unpack Bicarb unit	
Check for damage	
Determine location for Bicarb unit	
Verify requirements for Drain, Water Source, and Electrical	
Set Bicarb unit into final position and level	
Connect drain to floor sink	
Connect the RO Water Inlet and Outlet to the Header	
Connect Feed and Return Lines to the Header	
Install the Jug-Fill Valves	
Install the Remote Alarm Box (if used)	
- Connect Control Wire for Remote Alarm Box	
Connect Control Box Power Cord to Electrical Outlet	
Clean Around Tank	
Allow Time for Glued Connections to Cure	
Field Test Bicarb unit – Completed	
Initial Disinfection - Completed	

**Installation Complete:**  
Name \_\_\_\_\_ Date \_\_\_\_\_

**BICARB UNIT FIELD TEST CHECKLIST**

<b>Task</b>	<b>Check when Complete</b>
Verify RO Water circulating in the RO Loop	
Close all valves on the Bicarb unit	
Turn ON-OPERATE Switch to OPERATE	
Turn Tank Alarm Switch to #1	
- Low Level Alarm Should Sound	
Turn Tank Alarm Switch to #2	
- Low Level Alarm Should Sound	
Turn Tank Alarm Switch to OFF	
Turn Disinfect Switch to OFF	
Turn Tank Fill Switch to #1 position	
- Open Tank#1 Fill Valve (B4) to begin filling Tank#1 with water	
- Water should shutoff automatically by the High Level Sensor	
- Close Tank#1 Fill Valve (B4)	
- Turn Tank Alarm Switch to #1 position	
- Low Level Alarm Should NOT Sound	
- Open Tank#1 Drain Valve (B13)	
- Drain Tank until only half-full then close Tank#1 Drain Valve (B13)	
Turn Tank Fill Switch to #2 position	
- Open Tank#2 Fill Valve (B5) to begin filling Tank#2 with water	
- Water should shutoff automatically by the High Level Sensor	
- Close Tank#2 Fill Valve (B5)	
- Turn Tank Alarm Switch to #2 position	
- Low Level Alarm Should NOT Sound	
- Open Tank#2 Drain Valve (B14)	
- Drain Tank until only half-full then close Tank#2 Drain Valve (B14)	
Open Tank#1 Pump Service Valve (B11)	
Open Tank#2 Pump Service Valve (B12)	
Open Loop Return to Drain Valve (B8)	
Open Loop Service Valve (B15)	
Start Pump and allow water to pump till it returns to Drain	
- Allow water to drain for approximately 10 minutes	
Open Tank#1 Loop Return Valve (B6)	
Open Tank#2 Loop Return Valve (B7)	
Close Loop Return to Drain Valve (B8)	
Verify RO Water is circulating in the Loop and returning to both tanks	
Turn Tank Mixer Switch to #1 position	



### BICARB UNIT FIELD TEST CHECKLIST (continued)

Task	Check when Complete
- Allow to time-out which should take approximately 5 minutes	
Turn Tank Mixer Switch to #2 position	
- Allow to time-out which should take approximately 5 minutes	
Check entire unit for leaks	

**Field Test Complete:**  
Name \_\_\_\_\_ Date \_\_\_\_\_

