

Better Water LLC

# Single Tank Bicarb Mix Only

## Installation Manual



rev. May 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)



**Better Water LLC; 698 Swan Dr; Smyrna, TN 37167; [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 PDF 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 the installation you should first read and have a thorough understanding of this Installation Manual. It describes in detail the steps and procedures to safely install the Bicarb unit.

Once the this device has been delivered, it is the responsibility of the Medical Director to ensure that it is used, monitored, and maintained in such a manner so as to satisfy all applicable standards. Guidelines and other related information are available from:

- Food and Drug Administration (FDA)
- National Association of Nephrology Technicians/Technologists (NANT)
- Association for the Advancement of Medical Instrumentation (AAMI)




### **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's Manual. 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

**Water Connections:**

- RO Water Inlet and Outlet Connections: Hose barb connection for 3/4" hose

**Electrical Requirements:**

- All Models: 115 VAC, 20 AMP, Dedicated GFCI Outlet  
- Location: 5' 6" to 6' above finished floor

**Drain Requirements:**

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

**Floor Space:**

- 60 Gallon Single Tank: 2' 6" deep x 3' 6" wide x 6' 0" high  
- 100 Gallon Single Tank: 3' 3" deep x 4' 0" wide x 6' 2" high

**Operating Weight:**

- 60 Gallon Single Tank: 790 lbs  
- 100 Gallon Single Tank: 1220 lbs



## INSTALLATION OUTLINE *(see Appendix A for Installation Checklist)*

### 1. Unpacking the Bicarb Unit

Every care has been taken to ensure that your new Bicarb Delivery System 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, a Plumbing Contractor should verify the location of all pipes and the drain.

### 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" 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 Mixer Motor 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.

### 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 to Fill Inlet *(see diagram #1)*

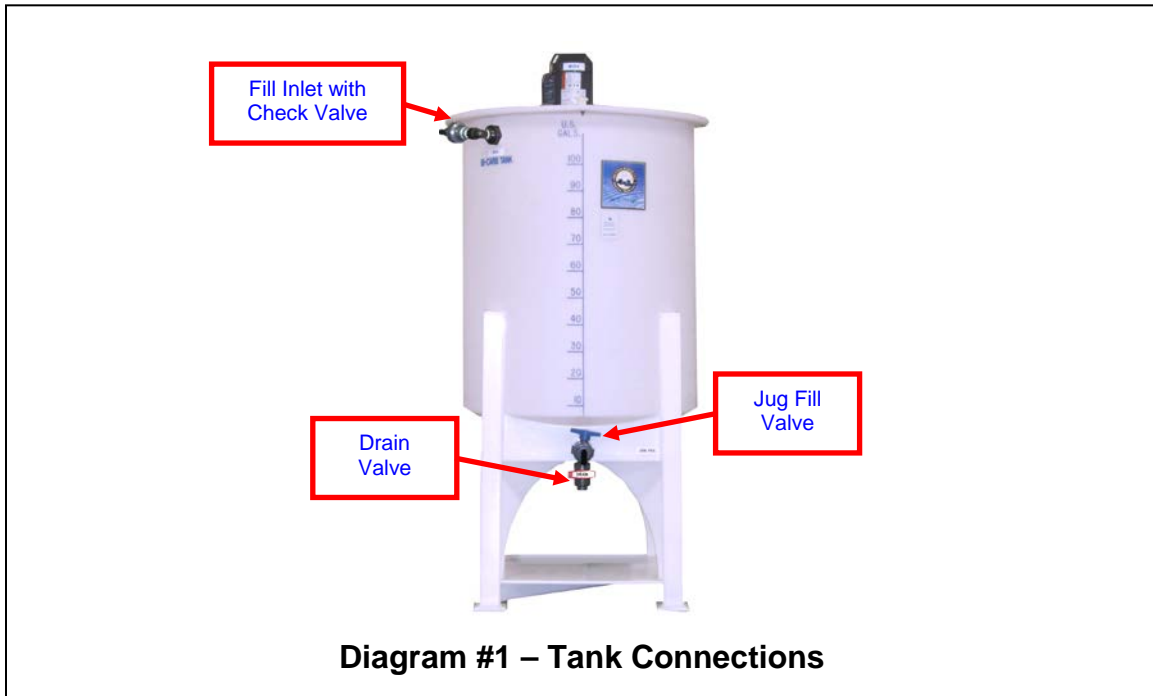
Verify with the plumbing contractor, the positions of the water pipes from the system. Connect Fill Line to the Hose Barb on the Fill Inlet.

### 7. Connect Bicarb Unit to Drain *(see diagram #1)*

a. Run a drain line from the Red Handle Drain valve to a suitable drain. This piping is not included with the unit and can be run with either schedule 80 PVC pipe or flexible hose. This line should be at least 1". Securely fasten the hose or pipe to the wall or floor, allowing suitable declination to the drain.

### 8. Install Jug-Fill *(see diagram #1)*

Locate the Jug Fill valve included in the Accessory Box, supplied with the Bicarb Unit. Remove the Jug Fill Valve from the plastic bag and attach to the front of the unit at the union, making sure that the union is tight and the valve is in the closed position.

**9. Connect Mixer Power Cord into Outlet**

- a. Make sure the switch on the Power Cord is in the OFF position.
- b. Plug the cord from the Mixer-Motor into a 115vac, 20 amp, dedicated GFCI outlet.

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

- a. Clean the areas on and around the top of the tank, making sure that no fittings, rags, pipe shavings, etc... fall into the tank.
- 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.

1. Close all valves on Bicarb unit
2. Open **Tank Fill Valve** to tank and water should begin filling tank.
3. Fill to the maximum gallon fill mark based on the model of the unit then close the **Tank Fill Valve**.
4. Turn the **MIXER MOTOR POWER Switch** found on the Power Cord to the **ON** position and let run for 10 minutes.
5. Check entire unit for leaks.
6. Turn **MIXER MOTOR POWER Switch** to **OFF**.
7. Open the **Drain Valve**, and allow water to flow to drain to remove any refuse from entire Bicarb unit.
8. Close the **Drain Valve** once completely drained.

Field Test is now complete. You are now ready to disinfect you new Bicarb unit.

## INITIAL DISINFECTION

Care must be taken to keep the Bicarb Tank clean once water has been introduced to the unit, because of its susceptibility to bacterial growth.

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

**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

## 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 the RO Water Inlet to the Bicarb Unit	
Connect Drain to the Bicarb Unit	
Install the Jug-Fill Valve	
Connect Mixer-Motor 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**

Task	Check when Complete
Close all valves on the Bicarb Unit	
Open Tank Fill Valve and fill Tank to maximum fill mark	
Close Tank Fill Valve	
Turn Mixer-Motor Switch to ON position for 10 minutes	
Check for Leaks	
Turn Mixer-Motor Switch OFF	
Open the Drain Valve to drain	
Close the Drain Valve once completely drained	

**Field Test Complete:**

Name \_\_\_\_\_ Date \_\_\_\_\_





