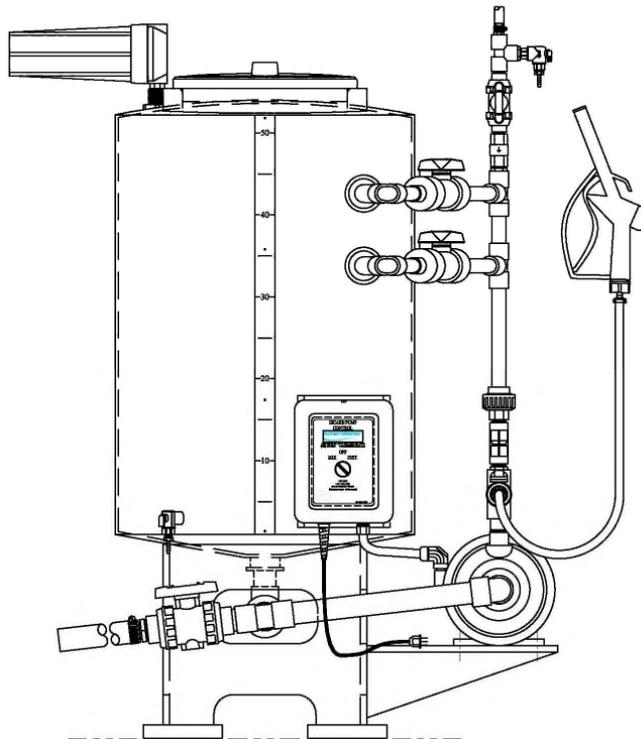




Bicarb Manual Mix and Dispensing Installation/Operation Manual



**Manufactured With Pride
In The USA**

www.amerewater.com • 800-535-5585

AmeriWater • 3345 Stop 8 Rd. • Dayton, OH 45414

P/N 98-0134
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1.0 INTRODUCTION

WARNING: This entire Bicarb System Operations Manual should be completely read before operating or servicing the system. This Operations Manual should then be kept near the system and used as a reference guide.

This manual has been provided for the installation, operation, and maintenance of the Bicarb Manual Mix and Dispensing System. The AmeriWater Bicarb System is constructed of a virgin polyethylene tank with a cone bottom, complete drain fittings, and 12-inch gasketed fill hole. Piping and true union valves are PVC schedule 80. The pump is 115V, single-phase 8.5 amp motor, with all stainless steel design. The pump control is 115V. The high vortex pumped mixing action provides complete mixing in minutes and keeps the bicarbonate powder in solution.

The Bicarb System is designed to mix and dispense Bicarb solutions. The system is not equipped with monitoring devices such as conductivity, or pH. Therefore, the solution manufacture's procedures should be followed, and are the sole responsibility of the user.

CAUTION: Federal law restricts this device to sale by or on the order of a physician for use in hemodialysis applications.

Please read the Operations Manual before using the system. Contact AmeriWater Customer Service with any questions at 1-800-535-5585 Monday through Friday 8:00 a.m. to 5:00 p.m. eastern standard time. For after hours emergencies call 1-800-535-5585 and follow the instructions on the recorded message. Our on-call technician will return your call as soon as possible.

WARNING: No person should attempt to operate or service the system without prior authorization, instruction, and training from AmeriWater and/or your medical facility director.

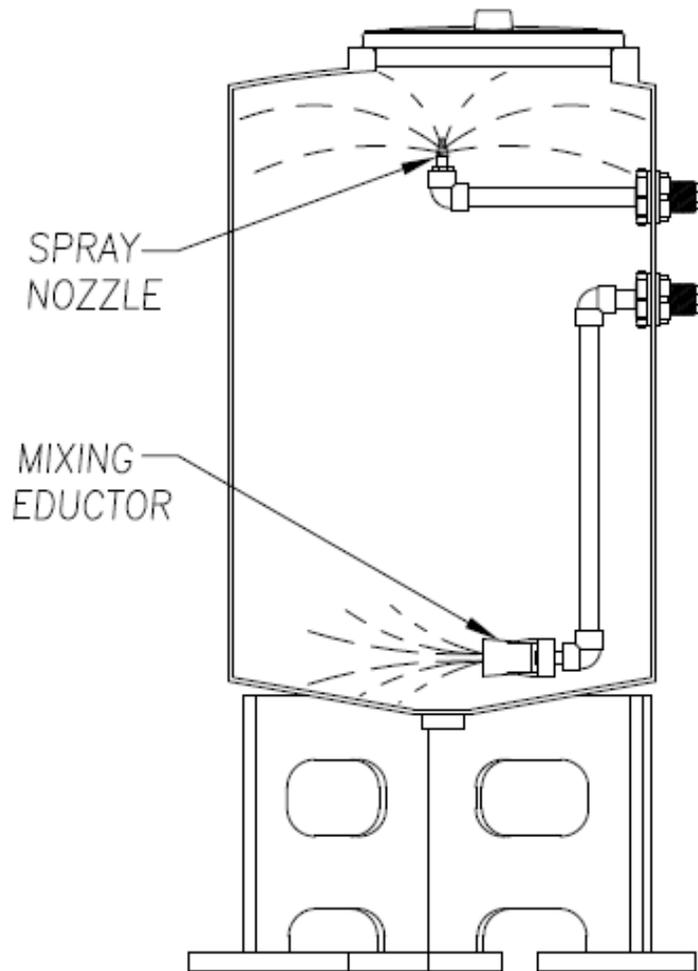
2.0 THEORY OF OPERATION

Mix Tank

The mix tank is filled to a desired level with RO purified water. The tank filling process is done MANUALLY, and is restricted by a 3 GPM flow control. As the bicarbonate powder is added, the system utilizes the pump discharge pressure, forcing the liquid through an eductor to mix and quickly dissolve the powder.

Disinfection

The mix tank is designed for quick disinfection. The mix tank utilizes a spray nozzle design to completely spray the inside of the tank during the disinfection process.



3.0 INSTALLATION

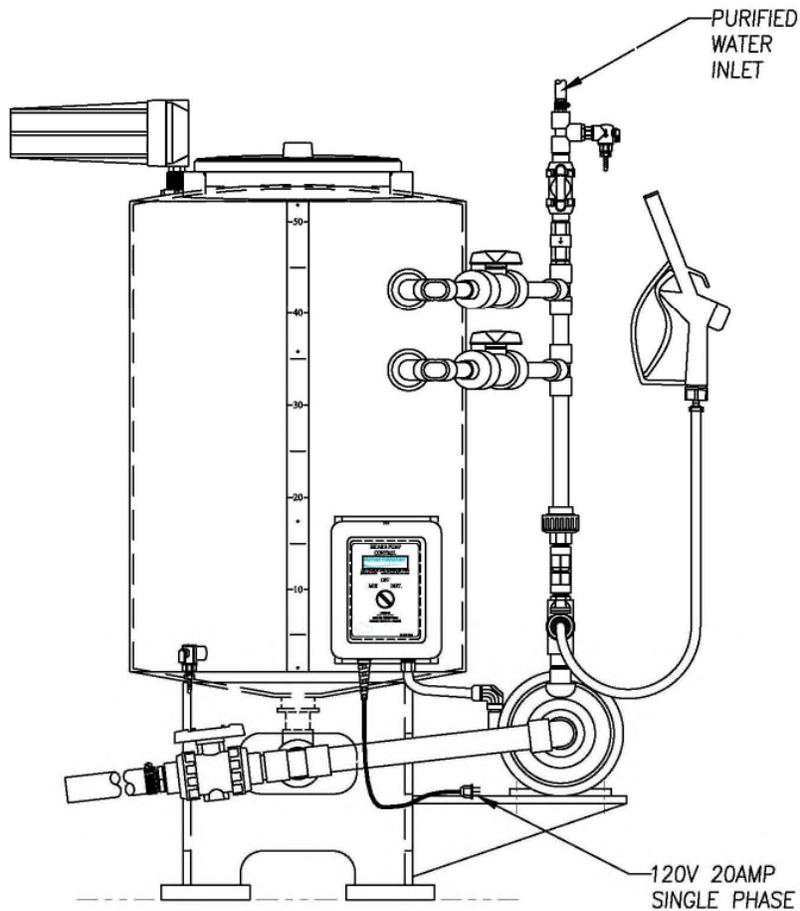
These are basic installation guidelines for the Bicarb Manual Mix and Dispensing System.

CAUTION: Local plumbing and electrical codes must be observed.

3.1 INSTALLATION REQUIREMENTS

The following requirements must be satisfied to insure proper installation and operation of the Bicarb Manual Mix and Dispensing System.

1. Locate the Bicarb System on a level floor.
2. Locate the system as close as possible to a floor drain (to facilitate draining of the system).
3. Connect the purified water supply to the inlet hose located at the top of the pump header, using the ½" inside diameter medical grade hose provided.
4. Plug the Bicarb Pump Control into a 120 V, 20 AMP, and dedicated, single-phase electrical service.



4.0 START-UP

Please read and follow the guidelines and recommendations of the solution manufacturer before proceeding with the start-up instructions. Refer below (Fig. 4-1) to reference control panel and valve designations.

WARNING: The Bicarb System must be disinfected prior to placing the system in service! Failure to comply may result in injury, illness, or death to the patients!

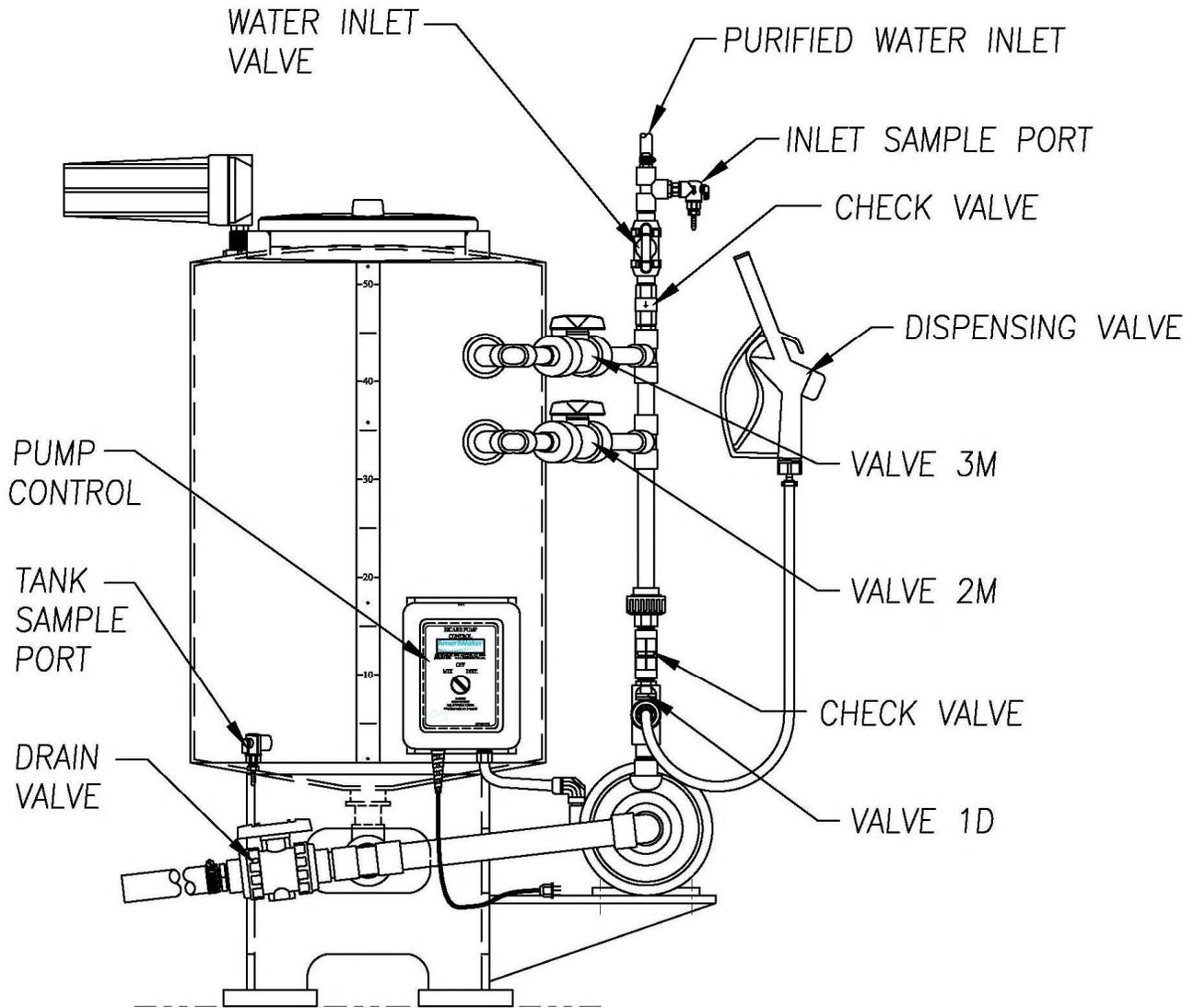


Fig. 4-1
BICARB CONTROL PANEL AND VALVE DESIGNATIONS

4.1 DISINFECTION WITH CHLORINE OR PERACETIC ACID (PAA)

CAUTION: Always use a collection device to catch fluids from opening sample ports!

CAUTION: Always follow safety procedures when handling any chemicals!

CAUTION: Exposure to hydrogen peroxide/ peroxyacetic acid concentrate or solution may cause severe chemical burns to skin or eyes. Additional information regarding the use of hydrogen peroxide/ peroxyacetic acid is found on PAA bottles, and on the Material Safety Data Sheet. Read carefully before using these products!

Perform the recommended disinfection and rinse procedures as established by your facility administrator before placing the Bicarb System into service. After the disinfection, rinse with RO purified water until a negative residual disinfectant test is attained prior to use.

1. Verify that the MIX OFF/ON switch is turned “OFF” and then plug the power cord into a 120 V, 20 AMP, dedicated, single phase receptacle.
2. Insure that all valves on the Bicarb System are closed.
3. Open the RO water supply valve and WATER INLET valve.
4. Open the valve marked “3M”.
5. Allow RO purified water to fill the mix tank to the desired level.
 - a. 55-gallon mix tank: Fill to 25 gallons and close WATER INLET valve.
 - b. 100-gallon mix tank: Fill to 50 gallons and close WATER INLET valve.
6. Once filled, close the “3M” and RO water supply valve, then open valve “2M”. (NOTE: If “3M” valve is open when opening the tank lid, water will spray out of the tank while the pump is running.)
7. Turn the MIX OFF/ON switch to “ON” and open the mix tank lid.
8. Add the disinfectant to the mixing water. Then securely close the tank lid. AmeriWater recommends using 32 ounces (950 mL) of chlorine bleach or peracetic acid (PAA) for every 25 gallons of water (makes a 1:100 ratio of disinfectant to water).
9. Open the tank sample port and verify with a test strip that the disinfectant concentration is ≥ 500 ppm (add more disinfectant if necessary, but keep “3M” closed when lid is open).
10. Open the “3M” valve and close the “2M” valve, then allow the disinfectant to circulate for a minimum of 15 minutes. (Turn switch “OFF” and soak for 10 minutes if desired, then turn switch “ON”.)

11. Once the disinfectant is thoroughly circulated in the tank and has sprayed the tank's inner surfaces, open valve "1D". **SLOWLY AND COMPLETELY**, open the dispensing valve to the drain, to disinfect the dispensing hose, valve, and nozzle.

NOTE: Do not let the pump run when tank is empty! (The pump could be damaged if allowed to run "dry".)

12. Close the "1D" valve (before the tank is empty), then turn MIX OFF/ON switch to "OFF".

13. Open the tank "DRAIN" valve and empty tank.

14. Insure all valves on the Bicarb System are closed.

15. Open the RO water supply valve and WATER INLET valve.

16. Open the "3M" valve.

17. Allow RO purified water (for rinsing) to fill the mix tank to the desired level.

a. 55-gallon mix tank: Fill to 25 gallons and close WATER INLET valve

b. 100-gallon mix tank: Fill to 50 gallons and close WATER INLET valve.

18. Turn the MIX OFF/ON switch to "ON".

19. Rinse tank piping by opening valve "2M" and closing valve "3M" (for several minutes).

20. Open valve "3M" and close valve "2M" (for several minutes).

21. Once the rinse water is thoroughly circulated in the tank and has sprayed the tank's inner surfaces, open valve "1D". Then the dispensing valve should be opened to the drain, to rinse the dispensing hose, valve, and nozzle.

22. Close the "1D" valve (before the tank is empty), then turn the MIX OFF/ON switch "OFF".

23. Open the TANK SAMPLE PORT for at least 5 seconds (at full flow) and sample with a test strip for residual disinfectant.

24. Repeat steps 14 through 23 until a negative residual disinfectant is achieved.

25. Once a negative residual is achieved open the drain valve to empty the tank.

26. Log the disinfection operation into your journal.

4.2 MIXING BICARB

1. Verify that the MIX OFF/ON switch is turned “OFF” and the plug of the power cord is in a 120 V, 20 AMP, and dedicated, single-phase receptacle.
2. Verify that the mix tank is empty and clean by visual inspection, and by performing a residual disinfectant test before filling with RO water.
3. Ensure that all valves on the Bicarb System are closed.
4. Determine the batch size that is required. (Check for the Bicarb manufacturer’s recommendation on the amount of water to use. For best results fill the mix tank to a level 3 gallons less than what is needed before adding in the powder. After the bicarbonate powder mixes, manually add the remaining water to the proper level.)
5. Open the RO water supply and INLET WATER valves to fill the mix tank.
6. Open valve “3M” and manually fill tank to desired level.
7. Once Mix tank is filled to the desired level, close valve “3M” and RO water supply valve.
8. Open valve “2M” to send water to the mix nozzle (eductor).
9. Turn the MIX OFF/ON switch to “ON” and open the tank lid.
10. **Slowly** add the dry powder to the mixing water and close the tank lid.
11. After the mix time is complete (follow manufacture’s recommendation for mix time), turn MIX OFF/ON switch to “OFF”, remove the lid and inspect the contents of the mix tank to insure that all of the powder has dissolved. If not, turn MIX OFF/ON switch to “ON” and continue mixing.
12. Use the TANK SAMPLE PORT to perform the recommended test procedures for the solution (to check the ratio). Log the test results in your journal.
13. Allow the pump to continue mixing the solution in the tank while opening the “1D” valve. Then use the dispensing valve to fill bottles.

5.0 MAINTENANCE

Maintenance is the responsibility of the operator. The schedule for bacterial monitoring and disinfections are to be established by your facility administrator. The administrator should decide if disinfection and bacterial monitoring should be performed daily, or weekly.

Daily Maintenance

Check the system plumbing for leaks or precipitation build up that may cause reduced flow or function of the system.

Verify that the hoses are free of restrictions that may reduce the flow of the Bicarb System.

Weekly Maintenance

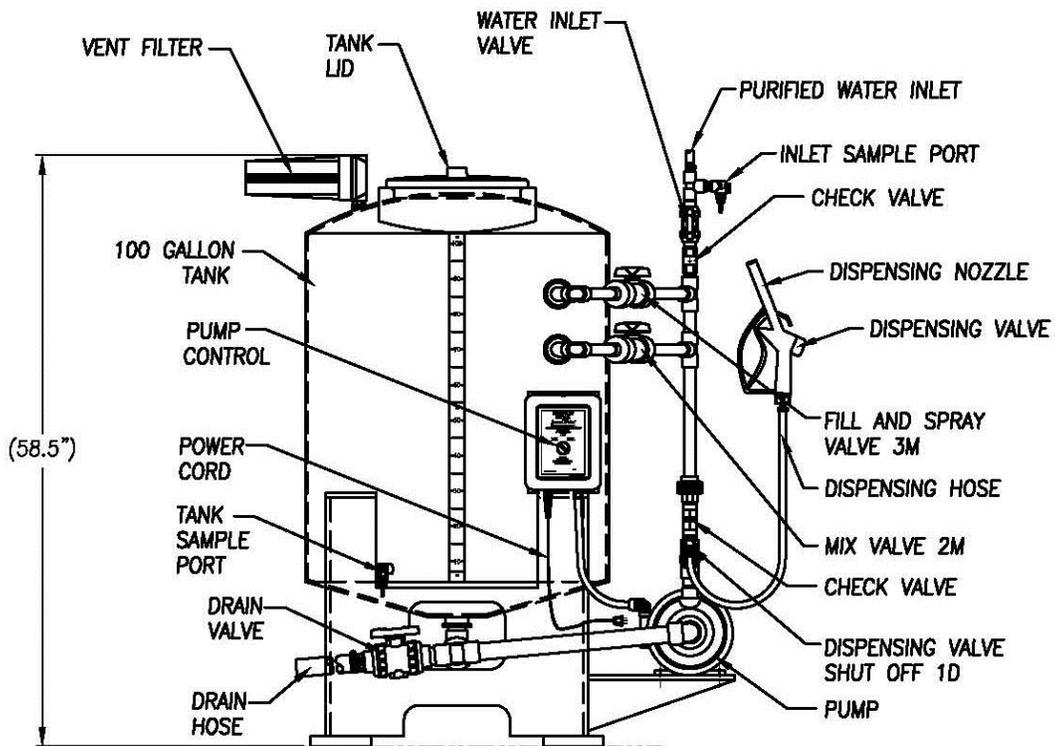
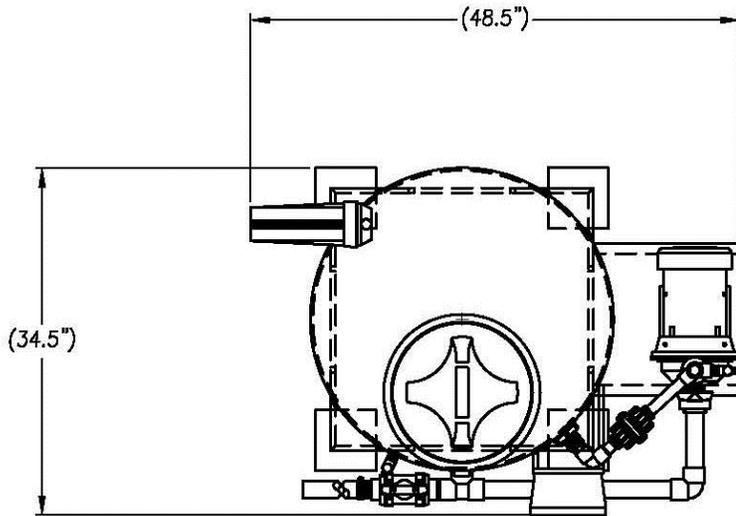
AmeriWater recommends disinfecting the Bicarb System weekly or as directed by your facilities protocol.

Quarterly Maintenance

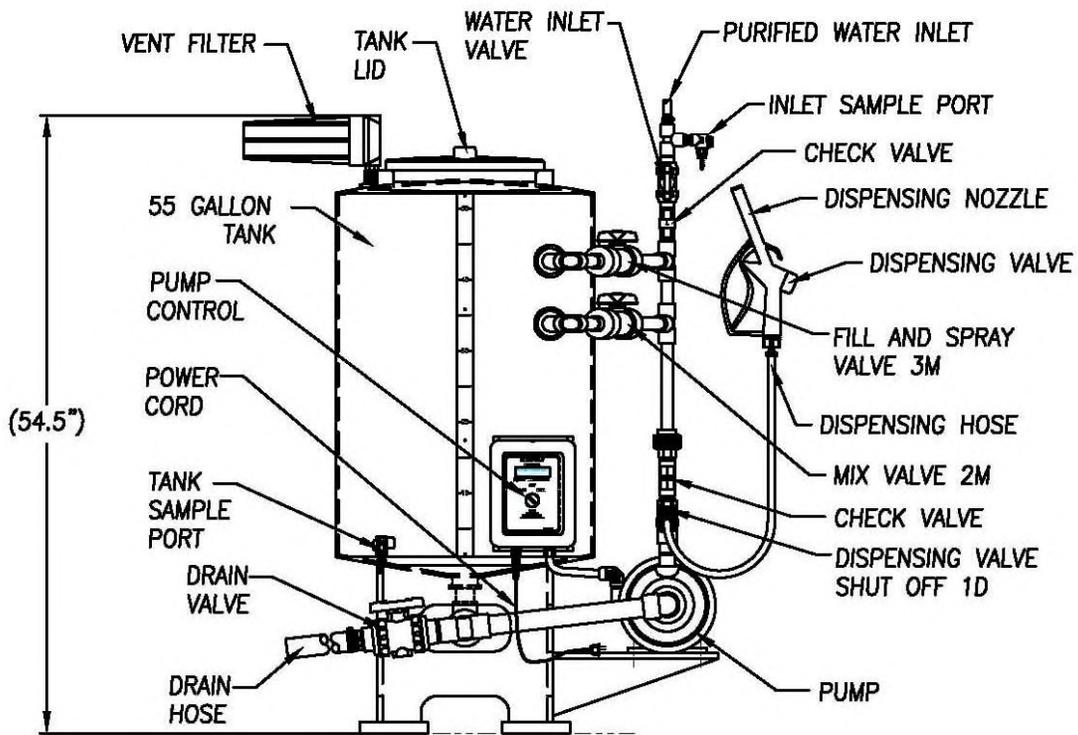
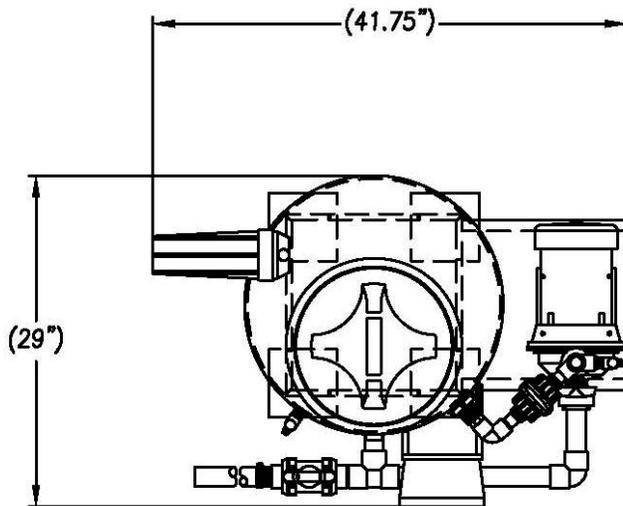
AmeriWater recommends that the Bicarb System be decalcified quarterly (4 times per year). Vinegar is an acceptable solution for decalcifying the system. Your Bicarb System may have to be decalcified more often depending upon the amount of calcium build up. Mix 1 gallon of vinegar per 25 gallons of water.

IMPORTANT: Log all of your Bicarb System maintenance onto your facilities operation and maintenance journal.

6.0 SYSTEM DRAWINGS



00BCM100 BICARB MANUAL MIX
AND DISPENSING SYSTEM



00BCM55 BICARB MANUAL MIX
AND DISPENSING SYSTEM

7.0 PARTS LIST

Description	Part Number
TIMER,THR SERIES,120V-10AMP,ON DELAY	64-0021
FUSE, 20AMP	63760214
FUSE, 2A, 250V	63760133
HOSE, 1.25 MEDICAL GRADE, GREY	12760163
HOSE, 1/2" MEDICAL GRADE, GREY	12677125
HOSE,.5,TYGON ,HY-PURITY SILICONE TUBING	12-0011
RELAY,30AMP,300V,SPST,NO,120V-COIL	61-0002
PUMP,1ST,.5HP,115V,ODP	80-0102
SWITCH, 2-POSITION, MAINTAIN	65511221
VALVE BALL 1/2" TRUE UNION PVC80	041531812
VALVE BALL 1/2" TRUE UNION CPVC80	041-0125
VALVE NOZZLE,.5HB,DISPENSING,POLYPRO	041-0041
VALVE CHECK 1/2" FPT WHITE PP	55-0003
VALVE CHECK BALL 3/4" PVC80	041831809
VALVE BALL,EL,.38,MPTx.25FPT,PVC80	041003