AmeriWater
The Water Purification Specialists

Operation & Maintenance Manual

Organic Scavenger
Clack Model V125DTH
Medical Series

3345 Stop 8 Rd, Dayton, OH 45414 | 800 535 5585 | www.ameriwater.com
98-0182 Rev B
Manufactured With Pride in The USA

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1 INTRODUCTION & WARNINGS

Congratulations on your decision to use AmeriWater Pretreatment Water Purification Equipment! Federal law restricts this device to be sold unless by or on the order of a physician for use as a water purification device for hemodialysis.

Your Water Purification Equipment was thoroughly tested and in excellent condition when it was shipped to you. However, because damage during shipment is possible, please unpack and carefully inspect as soon as you receive it. Please notify AmeriWater immediately if any problems or shipping damages are identified.

Please read the Operation Manual before using the system. Contact AmeriWater Technical Support 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.

NOTE: This entire Operation Manual should be read before operating or servicing the device. This Operation Manual should then be kept near the device and used as a reference and troubleshooting guide**.**

WARNING: The selection of water treatment equipment for dialysis and the maintenance of the equipment following its installation is the responsibility of the dialysis physician. The product water should be tested periodically to verify that all equipment is operating within specifications.

WARNING: *DO NOT* operate the water purification system without properly functioning carbon filtration! Suspend dialysis treatments immediately if chlorine or chloramines level after the polisher tank exceeds 0.1 mg/L!

WARNING: Organic scavengers are intended to be used as pretreatment for reverse osmosis or deionization; and are not meant to be used as the primary means of water purification for dialysis.

NOTE: Organic Scavenger tanks must be loaded onsite during the installation process.

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 MEDICAL SERIES SYSTEM SPECIFICATIONS

2.1 Organic Scavenger

FEATURES:

- A full flow 1¼" valve.
- The control valve utilizes the time proven piston-seal-spacer technology for durable, maintenance free service.
- All plastic construction will not corrode.
- Programmable electronic controller is flexible for all conditions.
- All times can be set to the minute.
- Included with the organic scavenger is the reverse osmosis lock-out switch.
- Choose either a 1" or 1¼" bypass header that includes three true union ball valves, stainless steel liquid filled outlet pressure gauge and sample port. The header comes pre-assembled and can be installed using PVC schedule 80 piping.
- The header can be oriented from left to right flow or right to left flow.
- Removes tannins, organic color, and other naturally occurring organics including organo-metallic complexes.
- Must follow the water softener and pre-treat the carbon beds.

STANDARDS:

- FDA 510K / ISO 13485 Registered Medical Device
- Health Canada Medical Device License 77645

SPECIFICATIONS								
Model	**Cubic Feet of**	**Max Flow Rate**	**Resin Tank Size In.**	**Brine Tank Size In.**	**Overall Dimensions In. (W x D**	**Brine Tank Capacity**	**Shipping Weight in Lbs.**	**Media Installed**
0095112	2	4	14 x 47	18 x 40	14 x 17 x 55	388	330	No
0095113	3	6	14 x 65	18 x 40	14 x 17 x 73	388	380	No
0095114	4	8	16 x 65	18 x 40	16 x 17 x 73	388	425	No
0095115	5	10	18 x 65	24 x 41	18 x 18 x 73	700	495	No
0095116	7	14	21 x 62	24 x 41	21 x 21 x 70	700	600	No

BYPASS HEADERS		
Model	**Inlet/Outlet In.**	**Dimensions In. (W x H)**
009591	1 SOC	17 x 16
009592	1¼ SOC	21 x 19

3 ORGANIC SCAVENGER OPERATION SUMMARY

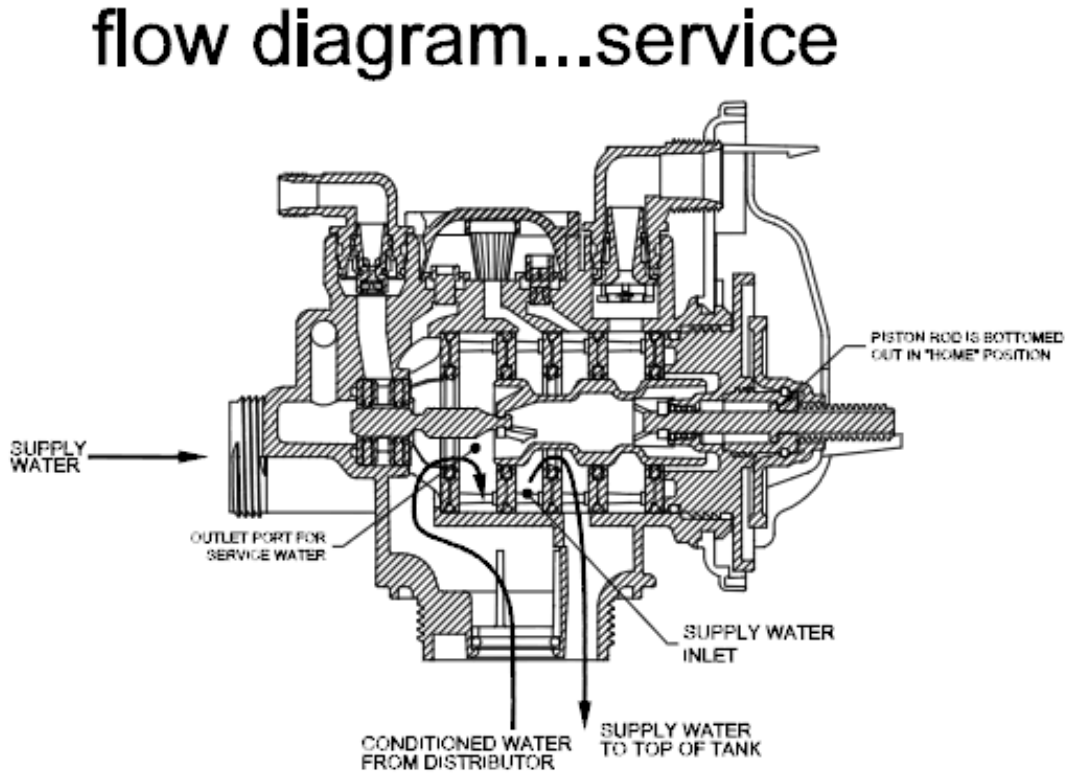
3.1 Description

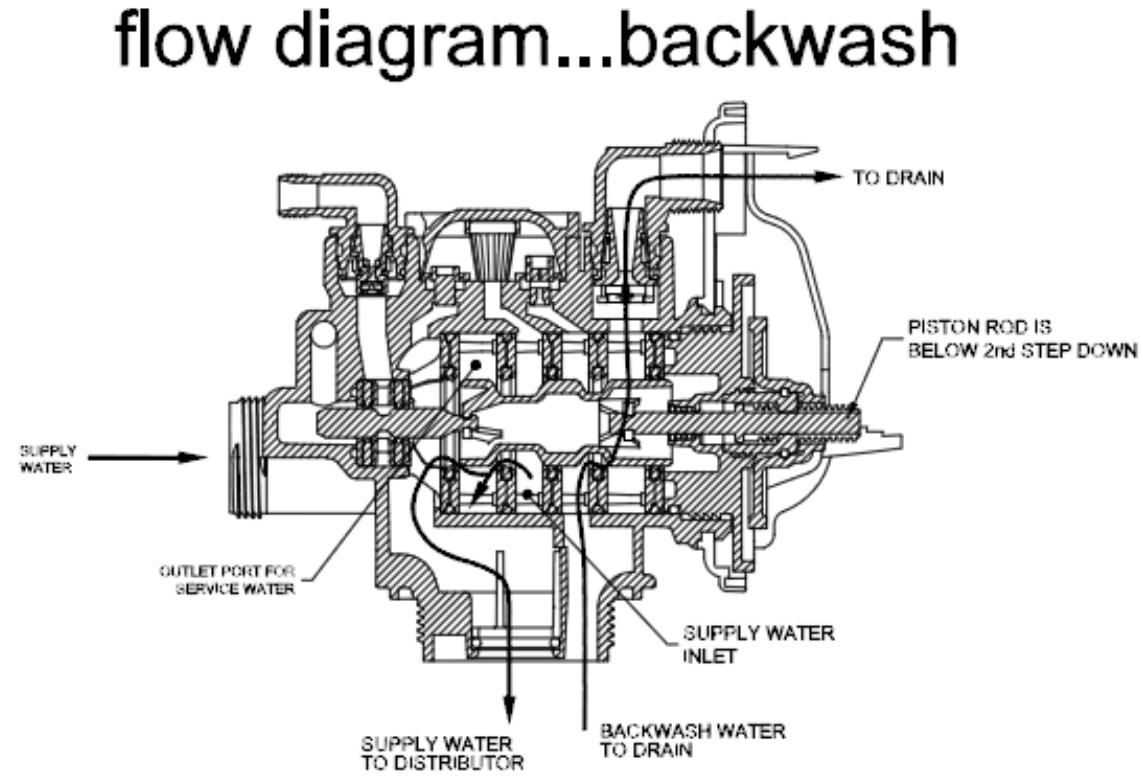
Organic Scavengers remove naturally occurring organics from the feed water. These organics occur in the form of tannins, humates, and fulvates that are created by decaying vegetation.

3.2 How It Works

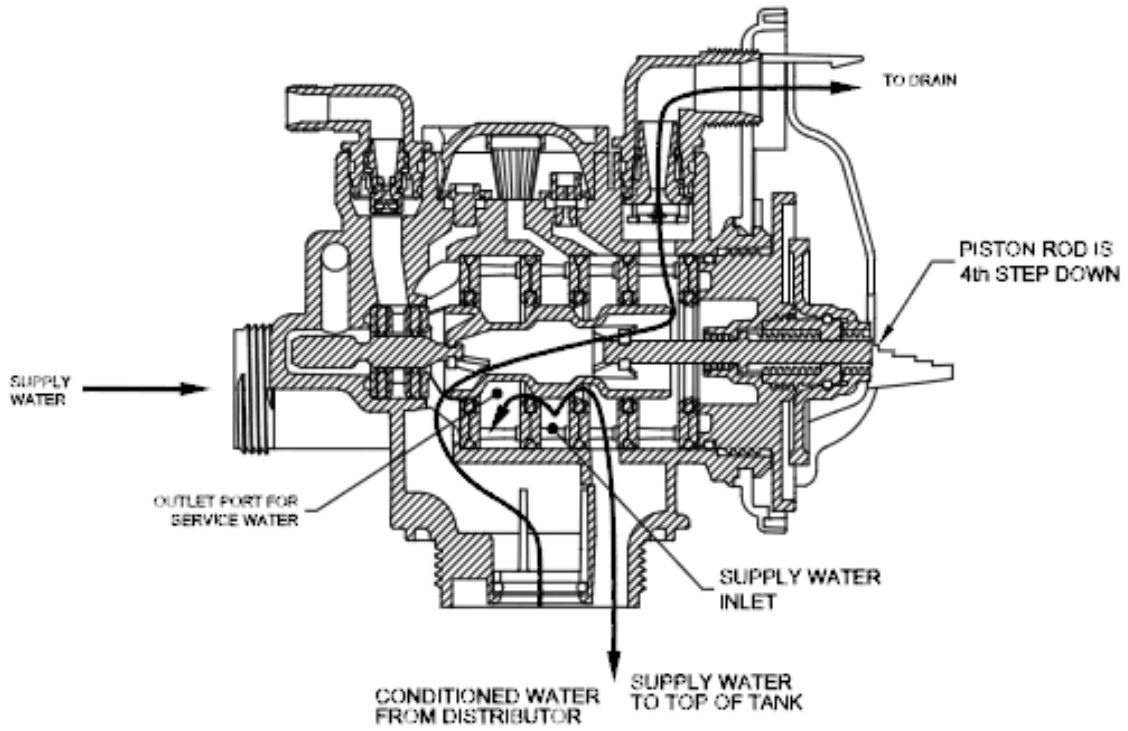
Organic Scavengers contain anion resin that traps the organics and exchanges chloride for other anions in the water. The Organic Scavenger resin is regenerated with a 10% salt (NaCl) solution everyday it is used. Regeneration removes some of the organics, but eventually the resin will become fouled and will have to be replaced.

3.3 Flow Diagrams

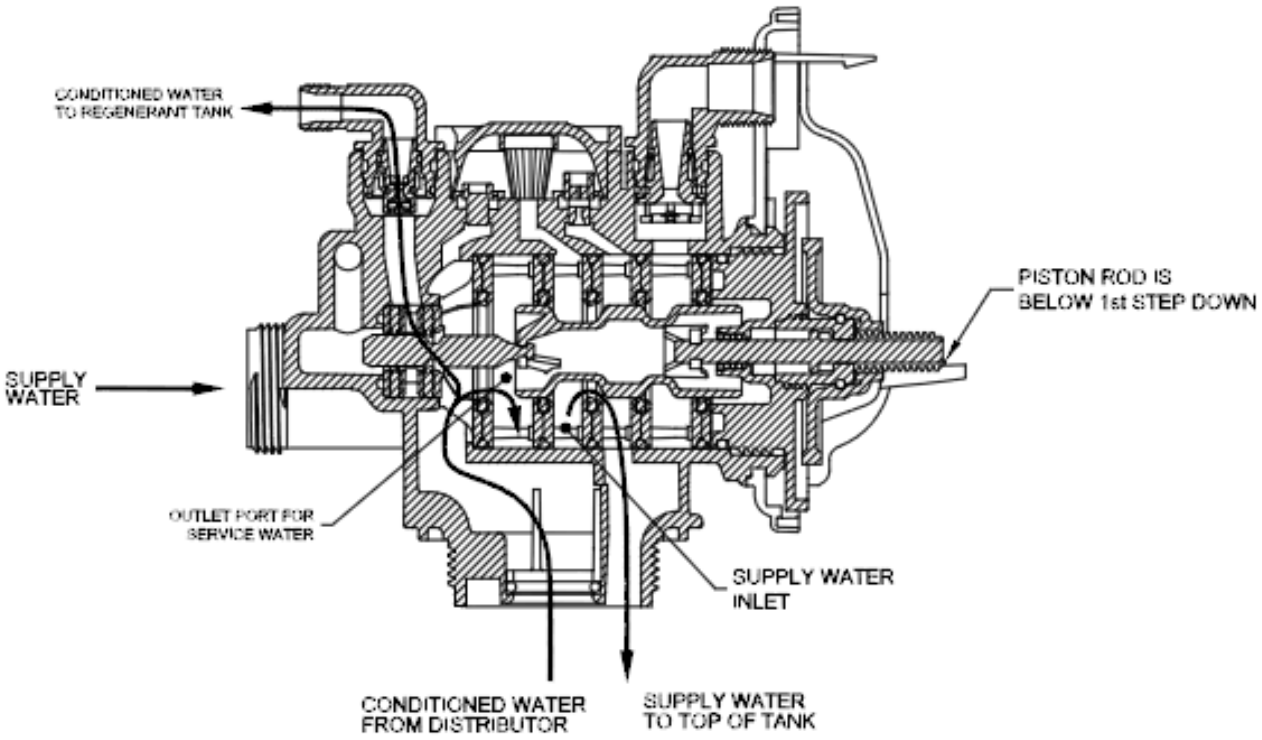




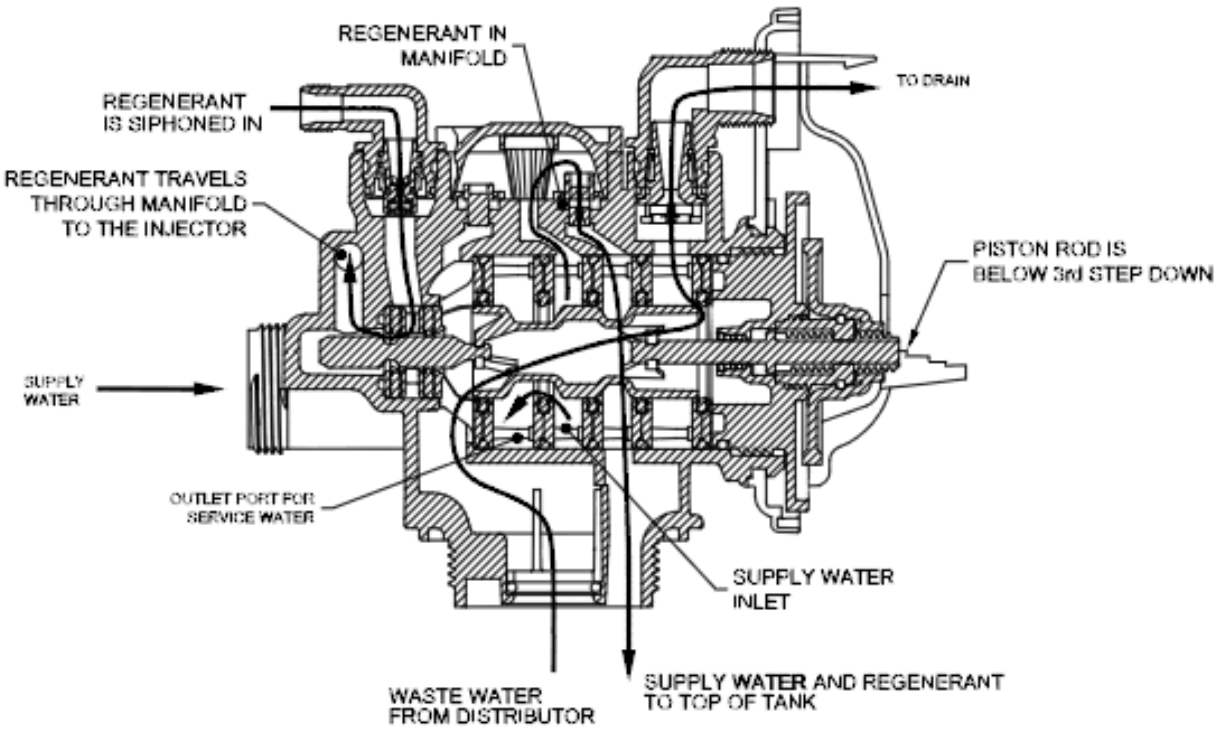
flow diagram...rinse



flow diagram...fill



flow diagram...downflow brine



3.4 Monitoring

1. Verify at the beginning of each day that the control head timer is set to the correct time and correct day, record that this verification was done. This prevents the system from inadvertently regenerating during clinical operation, which would cause the RO to shut down via the interlock mechanism.

2. Monitor the brine tank daily to ensure that the salt level fills at least half of the tank. Salt added to the brine tank must be clean pellet type, cube, or solar salt only. Do not use rock salt.

3. AmeriWater recommends testing the water at the inlet and outlet of the Organic Scavenger annually for total organic carbon (TOC) to verify that the device is removing organics.

NOTE: There is no easy way to test for organic removal; therefore, AmeriWater recommends the annual TOC tests to verify that the Organic Scavenger is working properly. Reference the Water Purification System operation manual and/or your facility's policies for detailed information regarding the operation and maintenance of this device.

4 SYSTEM INSTALLATION
4.1 Installation Requirements

Water Pressure
A minimum 20 pounds per square inch of inlet water pressure, is required for the regeneration valve to effectively operate.

Electrical Facilities
An uninterrupted alternating current (A/C) supply is required. Make sure:

- Voltage supply is compatible with unit before installation.
- Current supply is always hot and cannot be turned off with another switch.

Location of Organic Scavenger
Locate the Organic Scavenger close to a clean working drain after the water softener and prior to carbon tanks. Then, connect according to the local plumbing codes.

Bypass Valves
Always provide for installation of a bypass valve.

CAUTION:

- Minimum water pressure 20 psig.
- Maximum water pressure 125 psig.
- Minimum water temperature 34°F.
- Maximum water temperature 110°F.
- Ambient temperature 34° to 122°F (1° to 50°C)
- Disconnect all power sources before servicing.
- Always operate with cover in place.

NOTE: This product should be installed by qualified personnel. Comply with all plumbing & electrical codes when installing this product.

4.2 Installation Instructions

1. Always install devices as shown on the AmeriWater Piping and Instrumentation Drawing
   (P&ID) provided with the water purification system. Failure to do so may adulterate the marketing clearance on the device and void all AmeriWater warranties.

2. Place the tank where you want to install the unit. Verify that the tank is level and on a firm base, and that the tank label and control face are visible. Here are some additional things to consider when choosing an installation location.

   a) Is there sufficient space available to mount the Bypass Header?

   b) Will the hoses reach from the Bypass Header to the control valve connections?

   c) Will the control valve power cord reach the 120-Volt GFI receptacle?

   d) Will the control valve drain hose reach the drain?

   e) Is there sufficient space available to set the brine tank?

   f) Will the brine line tubing reach from the control head to the brine tank?

   g) Are there any obstructions that interfere with reading the labels, reading the controller screen, programming the controller, or performing maintenance?

3. After the tank is loaded with media it may be too difficult to reposition. Perform the following steps to establish the final location of the control valve in relation to the tank body (The "front" of the tank may not be where you think it is).

   a) Install the control valve and sealing o-ring into the tank.

   b) Tighten to the same torque you expect to use after the media is loaded.

   c) Mark the junction of the control valve to the tank body with a small ink pen mark or mark from a marker pen or a piece of tape.

   d) Remove the control valve and sealing o-ring from the tank, being careful not to disturb the alignment marks just made.

   e) Reposition the tank now if needed to keep the control valve in the desired position.

4. Place the distibutor basket and riser pipe into the empty tank. Measure down from the tank opening to the top of the distributor basket. Pull the tape measure back up 1" to 2". Record this measurement (This is done because a visual inspection will not be possible once water is added).

5. Fill the tank approximately 1/4 of the way up the tank side with water to protect the

distributor from falling media during media loading.

6. Cover, plug, or otherwise protect the open end of the riser pipe from the media being loaded.

7. Load the gravel media. While loading periodically take measurements from the tank opening to the top of the gravel media layer. Stop loading when the measurement taken previously is reached. Refer to the loading charts provided for the approximate amount of gravel to be used for your particular model number.

8. Load the anion resin media. Refer to the loading charts provided for the amount required to be used for your particular model number.

9. Remove the plug or cover from the riser pipe and clean the tank opening threads and surrounding surface of media loading debris.

10. Clean & lubricate the control valve o-ring seals and any surfaces they will seal against.

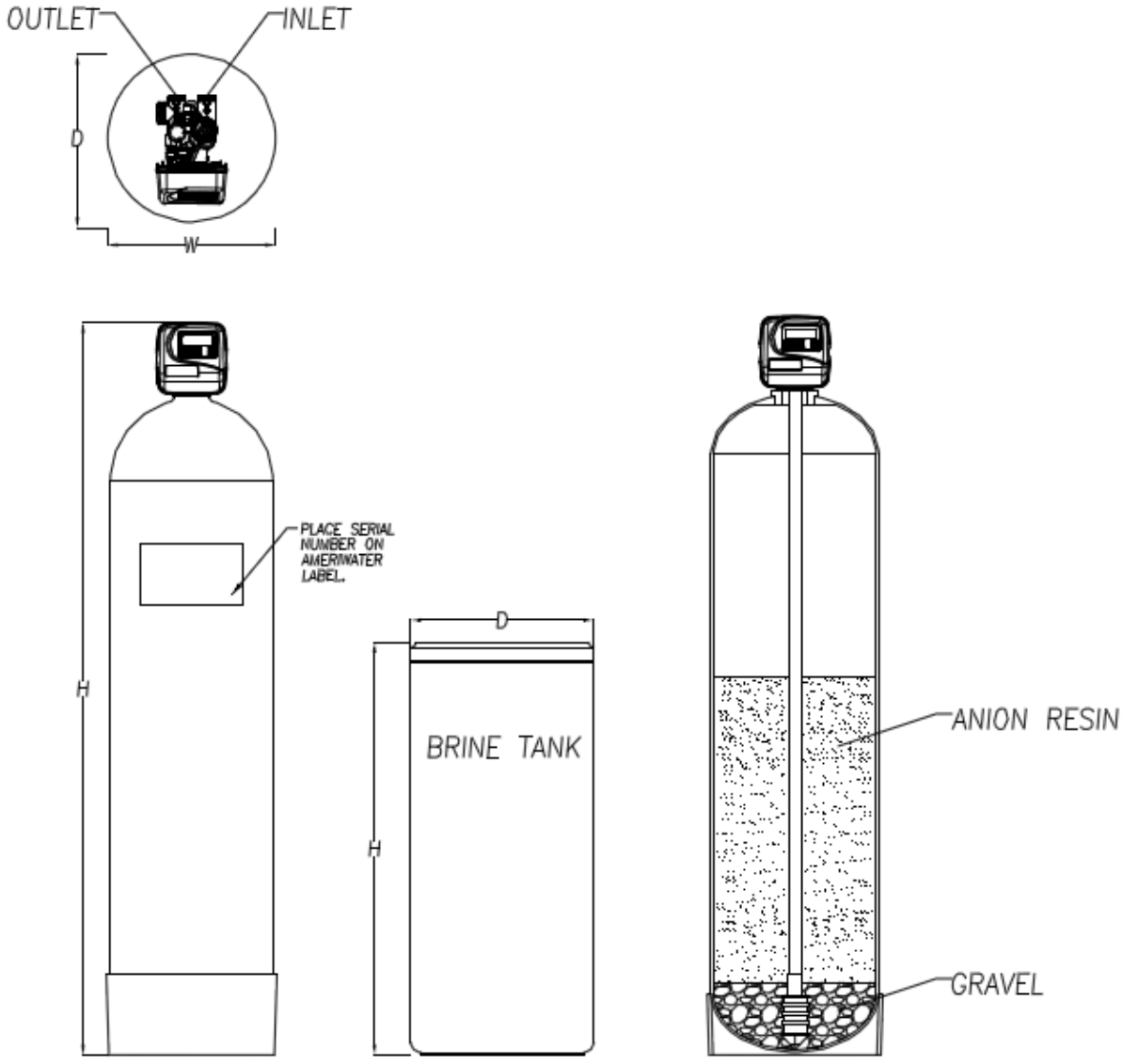
11. Install the control valve into the tank opening threads. Tighten to the mark established previously in this procedure.

12. Connect all plumbing in accordance to your local plumbing codes. The organic scavenger should be installed using the appropriate AmeriWater Bypass Header. This allows the device to be bypassed for service.

13. Make plumbing connections to the Clack V125DTH valve head.

Clack V125DTH Models

Model	W x D x H	Brine Tank D X H	Anion Resin (32540646)	Small Gravel (33-0050)
0095112	14" x 17" x 55"	18" x 40"	2 CU FT	.5 CU FT
0095113	14" x 17" x 73"	18" x 40"	3 CU FT	.5 CU FT
0095114	16" x 17" x 73"	18" x 40"	4 CU FT	.5 CU FT
0095115	18" x 18" x 73"	24" x 41"	5 CU FT	.75 CU FT
0095116	21" x 21" x 70"	24" x 41"	7 CU FT	.75 CU FT



4.3 Start-up Instructions

1. Completely program the control valve or verify it has been programmed correctly *[The "Fill" cycle has to be programmed to support the brine tank testing].*

2. Perform these steps to flush pipe cutting debris & other debris from the piping prior to putting water into the control valve and vessel *[Debris can enter the control valve and cause an easily avoided failure].*

    a) Place the Bypass Header valves into the "Bypassed" position *[Allows any possible debris to bypass the control head].*

    b) Turn on the main water supply feeding the Bypass Header.

    c) Open a sample port downstream of the Bypass Header and let the water run for a few minutes or until the system is free of foreign material resulting from installation. Close the sample port when the water runs clean *[Obtain the highest flow possible for the best flushing results].*

    d) Place the Bypass Header valves into the "Service" position.

3. Plug the control valve into a 120-Volt GFI receptacle *[Necessary to reposition the control valve].*

4. On the Bypass Header, shut the dealkalizer inlet valve and dealkalizer outlet valve *[Uncontrolled water flow into the control valve is undesirable at this time].*

5. On the control valve, cycle the valve into the "Backwash" position. Once the control valve is in the "Backwash" position, unplug the control valve from the 120-Volt GFI receptacle *[Backwash position is to vent the air, unplugging the control valve allows for unlimited time to complete the filling and venting].*

6. The control valve and vessel are now ready to be filled with water and the air vented. Slowly open the dealkalizer inlet valve until it is approximately 25% open *[Filling too quickly before the resin is fully hydrated can result in resin "floating" out and to the drain].*

7. The control valve and vessel are now slowly filling with water and the air vented thru the drain hose. When air stops venting thru the drain hose and water exits instead, slowly shut the dealkalizer inlet valve.

8. Continuing with a backwash at this point could result in a loss of resin. To avoid this a rapid (fast or final) rinse is needed*[This will help to fully hydrate the resin and remove the resin "color throw"].*

    a) Plug the control valve into a 120-Volt GFI receptacle.

b) On the control valve, cycle the valve into the "Rinse" position. Once the control valve is in the "Rinse" position, unplug the control valve from the 120-Volt receptacle *[Rinse position is to send the water thru the resin and out the drain, unplugging the control valve allows for unlimited time to complete the color throw rinseout].*

c) Slowly open the dealkalizer inlet valve until it is fully open. Water will be flowing rapidly from the drain hose. This water will be discolored from the new resin *[Flow rate will be controlled by the Backwash Flow Control].*

d) When the water from the drain hose becomes clear, slowly shut the dealkalizer inlet valve *[A white background helps with this such as a wall, sheet of paper, or foam cup].*

e) Plug the control valve into a 120-Volt GFI receptacle *[Necessary to reposition the control valve].*

9. Brine tank cycles & levels are checked as follows:

a) On the control valve, cycle the valve into the "Service" position. Once the control valve is in the "Service" position, cycle the valve thru the "Backwash" position and other positions until it is in the "Fill" position *[The control valve cannot be made to advance in the reverse direction to get to a previous cycle. It has to be forward advanced out of the programming mode then back into the programming mode and forward advanced into the desired cycle].*

b) On the Bypass Header, open the dealkalizer inlet valve and dealkalizer outlet valve.

c) Allow the brine tank to fill for the programmed "Fill" time. The control valve will advance to the "Service" position at the end of this time *[This step can be shortened but the "Fill" must be allowed to continue uninterrupted until the entire air check screened intake area is covered. After that the brine line can be disconnected to measure the flow rate, multiply that flow rate by the number of minutes left of "Fill" time, and that amount of gallons of water added by bucket after first stopping the "Fill" into the brine tank].*

d) If a grid plate is used, verify there is at least 1" of water above the grid plate *[This is the minimum depth of water needed to properly dissolve the "dry" salt stored above the grid plate].*

e) Using a tape measure, record the depth of water in the brine tank or measure down from the top of the tank to the top of the water surface.

f) On the control valve, cycle the valve into the "Brine" position. Once the

control valve is in the "Brine" position, verify that water is being suctioned from the brine tank by periodically measuring the water surface position until a difference is noted from the previously recorded measurement *[Disconnecting the brine line and checking for vacuum will not verify the air check assembly in the brine well is functioning].*

g) Allow the water to continue being suctioned out until the level drops to about the midpoint of the air check screened intake area. This is located inside the brine well. Verify the water level does not continue to fall below this point *[This check verifies the air check will not allow air to be suctioned into the control valve].*

10. Allow the control valve to run automatically thru the rest of the steps until it returns to the "Service" position. Or advance the control head to the "Fill" position and then let it return to "Service" automatically *[This allows the brine tank to refill with water in preparation for normal operation].*

11. Fill the brine tank with salt any time during the previous step to between 50 and 100% full *[The brine tank has to be maintained with a supply of salt for normal operation].*

12. Set the Setpoint on the Organic Scavenger pH Monitor.

    a) Press the "SET" key. The display will show the default or previously adjusted value, together with the "SET" indication.

    b) Using a small screwdriver, adjust the "SET" trimmer until the desired setpoint value is displayed.

    c) After 1 minute, the meter automatically returns to the normal mode, or press the "MEAS" key.

13. Operating the Organic Scavenger pH Monitor.

    a) Before proceeding make sure that the monitor has been calibrated *[Calibration is part of the Installation Instructions]*.

    b) Before proceeding make sure that the monitor setpoint valve has been adjusted *[Setpoint adjustment is part of the Start-up Instructions]*.

    c) The LCD will show the pH value. The LED indicator will light up green, when the Monitor is in the measurement mode.

14. Pre-Treatment lock-out must be set up as shown in Section 8.

5 PROGRAMMING CHARTS AND SYSTEM PROGRAMMING

Chloride Anion Organic Scavenger Medical

Medical Model Number	0095112	0095113	0095114	0095115	0095116
Tank Size (Dia x Height)	14 x 47	14 x 65	16 x 65	18 x 65	21 x 62
Cubic Feet Resin	2.5	3.5	4.5	5.5	7.5
Injector Size (GPM)	0.9	1.23	1.7	2.1	2.6
Backwash Flow Control	1.7	1.7	1.7	2.2	2.2

Table 1. Organic Scavengers Clack V125DTH

Programming		
Step	**Description**	**Instructions**
1S	Enter into First Tier programming	Press NEXT and Down Arrow simultaneously for 5 seconds and release.
2S	Choose Softening	Choose SOFTENING using ▲ or ▼. Press NEXT to go to Step 3S.
3S	Choose Brining Direction (DOWNFLOW) dn	Choose Brining Direction using ▲ or ▼.
4S	Choose Refill location (Select Post)	Set Refill location using ▲ or ▼.
5S	Select Time for first cycle (10 minutes) **Backwash Cycle**	Select the time for the first cycle using ▲ or ▼, Press NEXT to go to Step 6S.
6S	Select Time for second cycle (60 minutes) **Brine Draw Cycle**	Select the time for the first cycle using ▲ or ▼, Press NEXT to go to Step 7S.
7S	Select Time for third cycle (5 minutes) **Second Backwash Cycle**	Select the time for the first cycle using ▲ or ▼, Press NEXT to go to Step 8S.
8S	Select Time for fourth cycle (10 minutes) **Fast Rinse Cycle**	Select the time for the first cycle using ▲ or ▼, Press NEXT to go to Step 9S.
9S	Select Pounds for fifth cycle (15 Pounds x Cu.Ft. of tank) **Brine Refill Cycle, Head Calculates the Time**	Select the pounds for the fifth cycle using ▲ or ▼.
10S	Set System Capacity (30,000 Grains)	Set System Capacity using ▲ or ▼.
11S	Set Volume Capacity (OFF)	Set Volume Capacity using ▲ or ▼.
12S	Select 7 Day timer	Set the 7 Day using ▲ or ▼.
13S	Set Relay Operation (OFF)	Set Relay Operation using ▲ or ▼.

1I	To enter Installer Display (Second Tier programming)	Press NEXT and UP Arrow simultaneously for 5 seconds and release.
2I	Set Current Day of the Week Set to Desired Day:D1 = Sun, D2 = Mon, D3 = Tue, D4 = Wed, D5 = Thurs, D6 = Fri, D7 = Sat	Set the current day of the week using ▲ or ▼. Select D1, D2, D3, etc. for that particular day.
3I	Set day to Regen Regen Days of Week, Set to Desired Days:D1 = Sun, D2 = Mon, D3 = Tue, D4 = Wed, D5 = Thurs, D6 = Fri, D7 = Sat D1 = ON or OFF, D2 = ON or OFF, D3, D4, D5, D6, D7	Set the day for regeneration using ▲ or ▼. Select On or Off for that particular day.
4I	Regeneration Time Hour (Select preferred time)	Set the hour of day for regeneration using ▲ or ▼
5I	Set Time of Day	Push NEXT until time of day screen is displayed. Press and hold ▼ until SET TIME is displayed and the hour flashes once. Press ▲ or ▼ until the correct hour is displayed. Then press NEXT. The minutes will flash. Press ▲ or ▼ until the correct minute is displayed.

6 TROUBLESHOOTING

Problem	Possible Cause	Solution
1. No Display on PC Board	a. No power at electric outlet b. Control valve Power Adapter not plugged into outlet or power cord end not connected to PC board connection c. Improper power supply d. Defective Power Adapter e. Defective PC Board	a. Repair outlet or use working outlet b. Plug Power Adapter into outlet or connect power cord end to PC Board connection c. Verify proper voltage is being delivered to PC Board d. Replace Power Adapter e. Replace PC Board
2. PC Board does not display correct time of day	a. Power Adapter plugged into electric outlet controlled by light switch b. Tripped breaker switch and/or tripped GFI c. Power outage d. Defective PC board	a. Use uninterrupted outlet b. Reset breaker switch and/ or GFI switch c. Reset time of day. If battery is present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions. d. Replace PC board
3. Display does not indicate water is flowing. Refer to user instructions for how the display indicates water is flowing	a. Bypass valve in bypass position b. Meter connection disconnected c. Restricted/stalled meter turbine d. Defective meter e. Defective PC board f. Meter not installed g. PC board incorrectly programmed	a. Put bypass valve in service position b. Connect meter to PC board c. Remove meter and check for rotation or foreign material d. Replace meter e. Replace PC board f. Install meter g. Refer to programming instructions
4. Control valve regenerates at wrong time of day	a. Power outage b. Time of day not set correctly c. Time of regeneration set incorrectly d. Control valve set at "on 0" (immediate regeneration) e. Control valve set at "NORMAL + on 0" (delayed and/ or immediate)	a. Reset time of day. If PC Board has battery back up present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions b. Reset to correct time of day c. Reset regeneration time d. Check programming setting and reset to NORMAL (for a delayed regen time) e. Check programming setting and reset to NORMAL (for a delayed regen time)
5. Time of day flashes on and off	a. Power outage	a. Reset time of day. If PC Board has battery back up present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions.
6. Control valve does not regenerate automatically when the correct button(s) is depressed and held. For TC valves the buttons are ▲&▼. For all other valves the button is REGEN	a. Broken drive gear or drive cap assembly b. Broken Piston Rod c. Defective PC Board	a. Replace drive gear or drive cap assembly b. Replace piston rod c. Defective PC Board
7. Control valve does not regenerate automatically but does when the correct button(s) is depressed and held. For TC valves the buttons are ▲&▼. For all other valves the button is REGEN	a. Bypass valve in bypass position b. Meter is not connected to meter connection on PC Board c. Restricted/ stalled meter turbine d. Incorrect programming e. Meter wire not installed securely into three pin	a. Turn bypass handles to place bypass in service position b. Connect meter to three pin connection labeled METER on PC Board c. Remove meter and check for rotation or foreign material d. Check for programming error e. Verify meter cable wires are installed securely into three pin connector labeled

	connector f. Defective meter g. Defective PC Board	METER f. Replace meter g. Replace PC Board
8. Hard or untreated water is being delivered	a. Bypass valve is open or faulty b. Media is exhausted due to high water usage c. Meter not registering d. Water quality fluctuation e. No regenerant or low level of regenerant in regenerant tank f. Control fails to draw in regenerant g. Insufficient regenerant level in regenerant tank h. Damaged seal/stack assembly i. Control valve body type and piston type mix matched j. Fouled media bed	a. Fully close bypass valve or replace b. Check program settings or diagnostics for abnormal water usage c. Remove meter and check for rotation or foreign material d. Test water and adjust program values accordingly e. Add proper regenerant to tank f. Refer to Trouble Shooting Guide number 12 g. Check refill setting in programming. Check refill flow control for restrictions or debris and clean or replace h. Replace seal/stack assembly i. Verify proper control valve body type and piston type match j. Replace media bed
9. Control valve uses too much regenerant	a. Improper refill setting b. Improper program settings c. Control valve regenerates frequently	a. Check refill setting b. Check program setting to make sure they are specific to the water quality and application needs c. Check for leaking fixtures that may be exhausting capacity or system is undersized
10. Residual regenerant being delivered to service	a. Low water pressure b. Incorrect injector size c. Restricted drain line	a. Check incoming water pressure – water pressure must remain at minimum of 25 psi b. Replace injector with correct size for the application c. Check drain line for restrictions or debris and clean
11. Excessive water in regenerant tank	a. Improper program settings b. Plugged injector c. Drive cap assembly not tightened in properly d. Damaged seal/ stack assembly e. Restricted or kinked drain line f. Plugged backwash flow controller g. Missing refill flow controller	a. Check refill setting b. Remove injector and clean or replace c. Re-tighten the drive cap assembly d. Replace seal/ stack e. Check drain line for restrictions or debris and or un-kink drain line f. Remove backwash flow controller and clean or replace g. Replace refill flow controller
12. Control valve fails to draw in regenerant	a. Injector is plugged b. Faulty regenerant piston c. Regenerant line connection leak d. Drain line restriction or debris cause excess back pressure e. Drain line too long or too high f. Low water pressure	a. Remove injector and clean or replace b. Replace regenerant piston c. Inspect regenerant line for air leak d. Inspect drain line and clean to correct restriction e. Shorten length and or height f. Check incoming water pressure – water pressure must remain at minimum of 25 psi

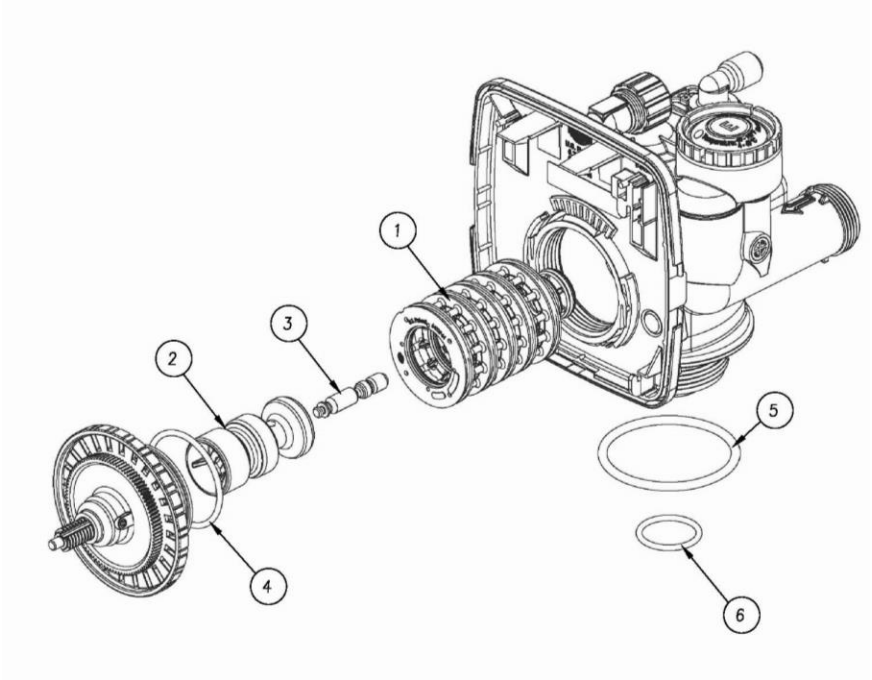
13. Water running to drain	a. Power outage during regeneration b. Damaged seal/ stack assembly c. Piston assembly failure d. Drive cap assembly not tightened in properly	a. Upon power being restored control will finish the remaining regeneration time. Reset time of day b. Replace seal/ stack assembly c. Replace piston assembly d. Re-tighten the drive cap assembly
14. E1, Err – 1001, Err – 101 = Control unable to sense motor movement	a. Motor not inserted full to engage pinion, motor wires broken or disconnected b. PC Board not properly snapped into drive bracket c. Missing reduction gears	a. Disconnect power, make sure motor is fully engaged, check for broken wires, make sure two pin connector on motor is connected to the two pin connection on the PC Board labeled MOTOR. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect b. Properly snap PC Board into drive bracket and then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect c. Replace missing gears
15. E2, Err – 1002, Err – 102 = Control valve motor ran too short and was unable to find the next cycle position and stalled	a. Foreign material is lodged in control valve b. Mechanical binding c. Main drive gear too tight d. Improper voltage being delivered to PC Board	a. Open up control valve and pull out piston assembly and seal/ stack assembly for inspection. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect b. Check piston and seal/ stack assembly, check reduction gears, check drive bracket and main drive gear interface. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect c. Loosen main drive gear. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect d. Verify that proper voltage is being supplied. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect

16. E3, Err – 1003, Err – 103 = Control valve motor ran too long and was unable to find the next cycle position	a. Motor failure during a regeneration b. Foreign matter built up on piston and stack assemblies creating friction and drag enough to time out motor c. Drive bracket not snapped in properly and out enough that reduction gears and drive gear do not interface	a. Check motor connections then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect b. Replace piston and stack assemblies. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect c. Snap drive bracket in properly then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect
17. Err – 1004, Err – 104 = Control valve motor ran too long and timed out trying to reach home position	a. Drive bracket not snapped in properly and out enough that reduction gears and drive gear do not interface	a. Snap drive bracket in properly then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect
18. Err -1006, Err – 106, Err -116 = MAV/ SEPS/ NHBP/ AUX MAV valve motor ran too long and unable to fi nd the proper park position Motorized Alternating Valve = MAV Separate Source = SEPS No Hard Water Bypass = NHBP Auxiliary MAV = AUX MAV	a. Control valve programmed for ALT A or b, nHbP, SEPS, or AUX MAV with out having a MAV or NHBP valve attached to operate that function b. MAV/ NHBP motor wire not connected to PC Board c. MAV/ NHBP motor not fully engaged with reduction gears d. Foreign matter built up on piston and stack assemblies creating friction and drag enough to time out motor	a. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect. Then re-program valve to proper setting b. Connect MAV/ NHBP motor to PC Board two-pin connection labeled DRIVE. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect c. Properly insert motor into casing, do not force into casing Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect d. Replace piston and stack assemblies. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect

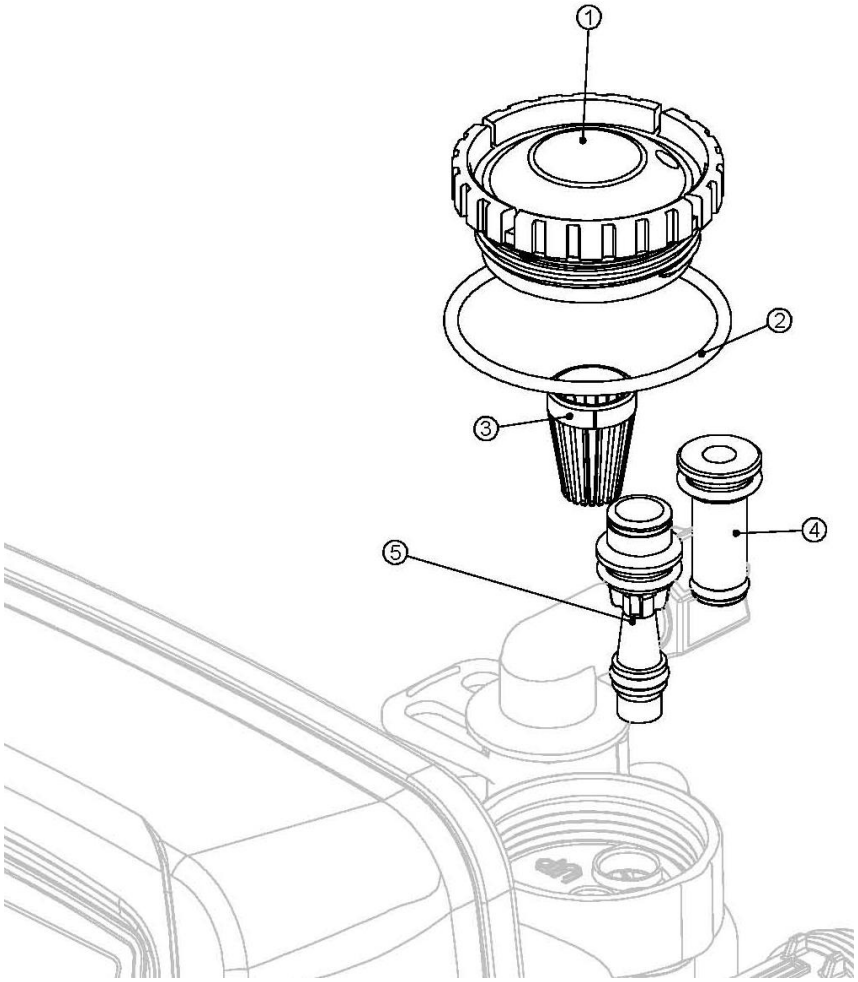
19. Err – 1007, Err – 107, Err - 117 = MAV/ SEPS/ NHBP/ AUX MAV valve motor ran too short (stalled) while looking for proper park position Motorized Alternating Valve = MAV Separate Source = SEPS No Hard Water Bypass = NHBP Auxiliary MAV = AUX MAV	a. Foreign material is lodged in MAV/ NHBP valve b. Mechanical binding	a. Open up MAV/ NHBP valve and check piston and seal/ stack assembly for foreign material. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect b. Check piston and seal/ stack assembly, check reduction gears, drive gear interface, and check MAV/ NHBP black drive pinion on motor for being jammed into motor body. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect

7 PARTS LISTS AND REPAIR DIAGRAMS

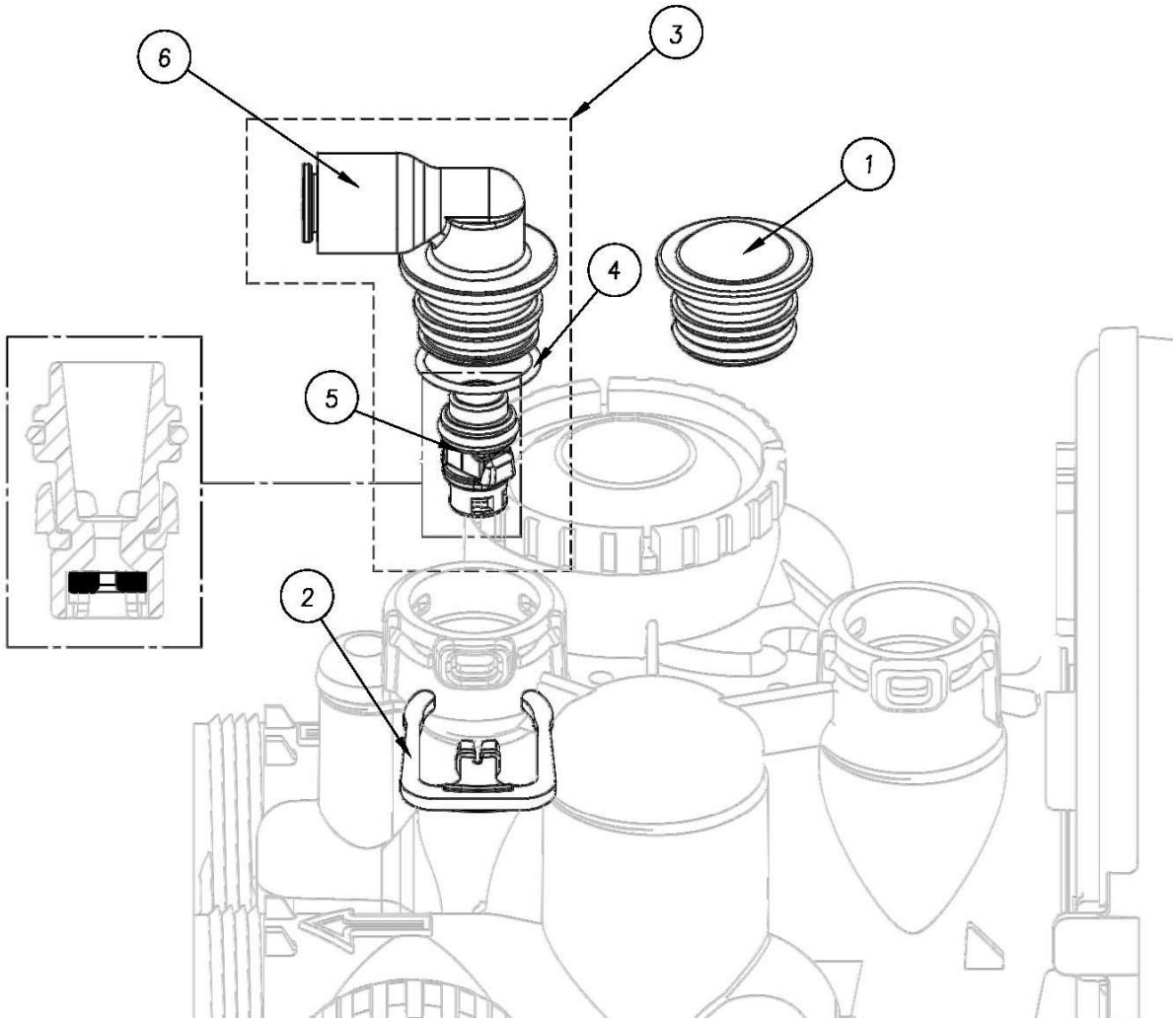
DRAWING NUMBER	ORDER NO.	DESCRIPTION	QUANTITY
1.	050-0319	CLACK,SPACER STACK ASSY,V125DTH	1
2.	050-0320	CLACK,PISTON ASSEMBLY, DOWNFLOW,V125DTH	1
3.	050-0321	CLACK,WS1 REGENERANT PISTON,V125DTH	1
4.	050-0308	O-RING, 228,CLACK V125DTH, KIT FOR ALL O-RINGS IS 911-50-0385	1
5.	050-0310	O-RING, 337,CLACK V125DTH, KIT FOR ALL O-RINGS IS 911-50-0385	1
6.	050-0312	O-RING, 219,CLACK V125DTH, KIT FOR ALL O-RINGS IS 911-50-0385	1
7. NOT SHOWN	050-0307	CIRCUIT BOARD,CLACK V125DTH,EE PROGRAM LOGIC	1
8. NOT SHOWN	50-0405	CLACK,WS1 AUXILIARY MICROSWITCH ASSEMBLY	1
9. NOT SHOWN	050-0328	CLACK,MOTOR ASSY,V125DTH	1
10. NOT SHOWN	911-50-0385-0002	KIT,DOWNFLOW PISTON AND SPACER STACK ASSY,CLACK V125DTH	1
11. NOT SHOWN	911-50-0385-0005	KIT,MOTOR AND CIRCUIT BOARD ASSY,CLACK V125DTH	1



DRAWING NUMBER	ORDER NO.	DESCRIPTION	QUANTITY
1.	050-0317	CLACK,INJECTOR CAP,V125DTH	1
2.	050-0309	O-RING, 135,CLACK V125DTH, KIT FOR ALL O-RINGS IS 911-50-0385	1
3.	050-0318	CLACK,INJECTOR SCREEN CAGE,V125DTH	1
4.	50-0411	CLACK,INJECTOR,PLUG,V125DTH	1
5.	50-0386	CLACK,INJECTOR,V125DTH,BLUE,0.9GPM TOTAL FLOW (10x54 Tank)	1
	50-0387	CLACK,INJECTOR,V125DTH,GREEN,1.23GPM TOTAL FLOW (14x47,14x65,16x65 Tanks)	1
	50-0388	CLACK,INJECTOR,V125DTH,ORANGE,1.7GPM TOTAL FLOW (18x65 Tank)	1
	50-0389	CLACK,INJECTOR,V125DTH,LIGHT BLUE,2.1GPM TOTAL FLOW (21x62 Tank)	1
6. NOT SHOWN	911-50-0385-0001	KIT,INJECTOR CAP,SCREEN AND PLUG ASSY,CLACK V125DTH	1

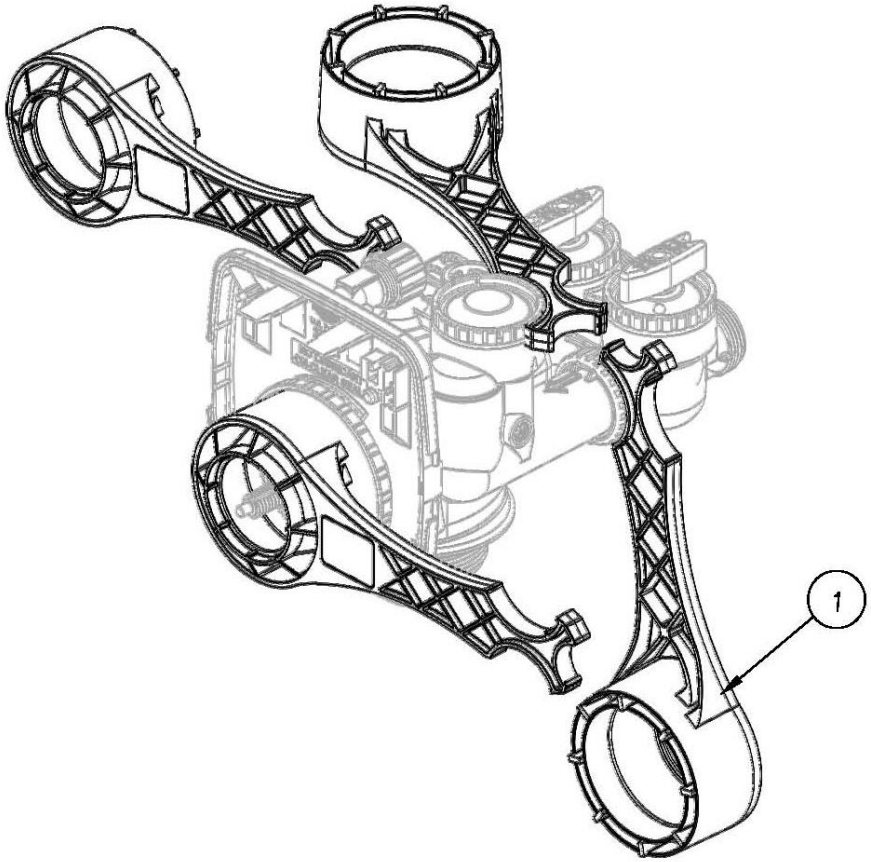


DRAWING NUMBER	ORDER NO.	DESCRIPTION	QUANTITY
1.	50-0412	CLACK,BRINE REFILL,PLUG,V125DTH	1
2.	050-0322	CLACK,ELBOW LOCKING CLIP,REFILL FLOW CONTROL ASSY,V125DTH	1
3.	050-0323	CLACK,ELBOW 3/8" LIQUIFIT,REFILL FLOW CONTROL ASSY,V125DTH	1
4.	050-0314	O-RING, 019,CLACK V125DTH, KIT FOR ALL O-RINGS IS 911-50-0385	1
5.	050-0324	CLACK,REFILL FLOW CONTROL RETAINER ASSY,V125DTH	1
6.	050-0316	ELBOW,.38 LIQUIFIT ASSY, WITH REFILL FLOW CONTROL	1
7. NOT SHOWN	911-50-0385-0003	KIT,REFILL FLOW CONTROL ASSY,CLACK V125DTH	1

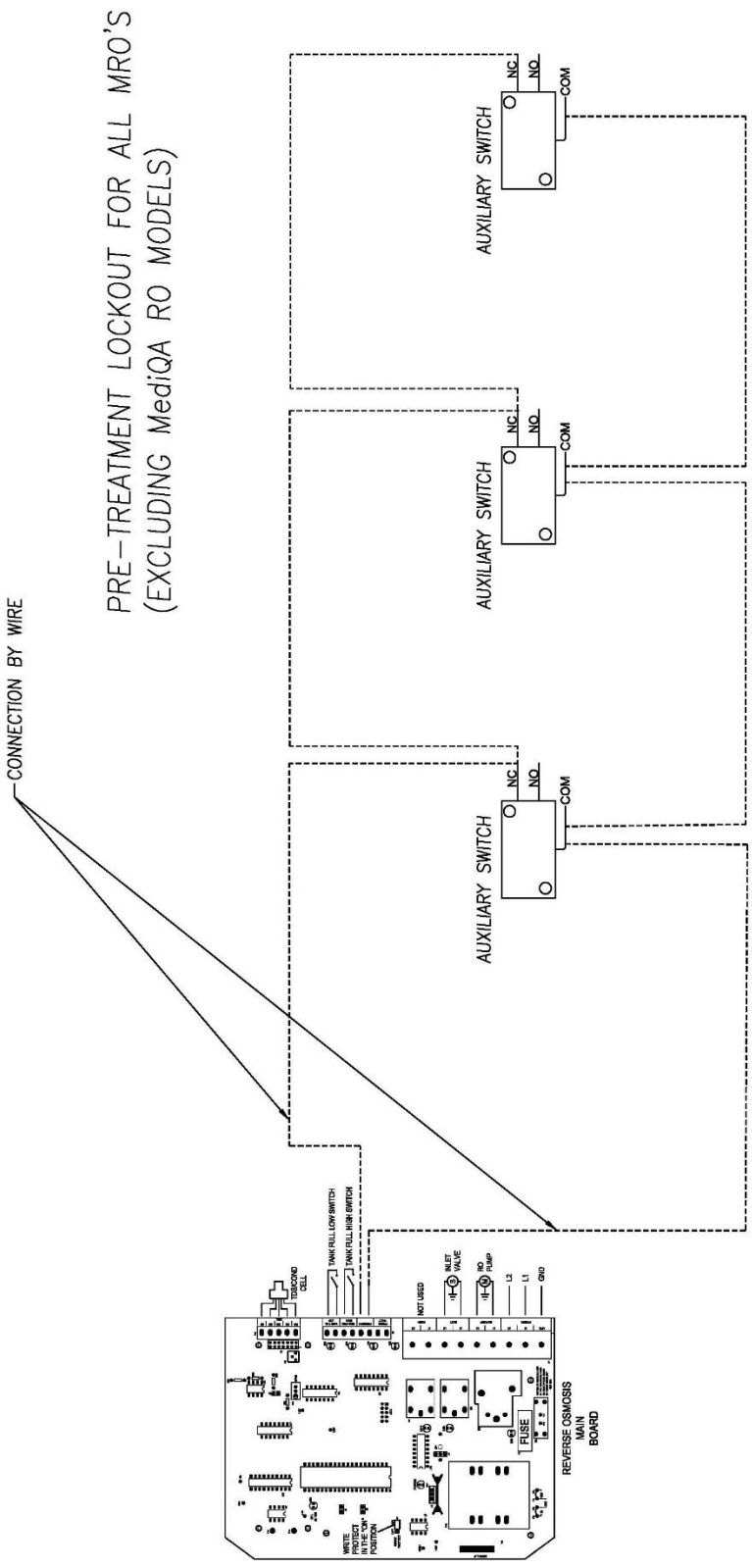


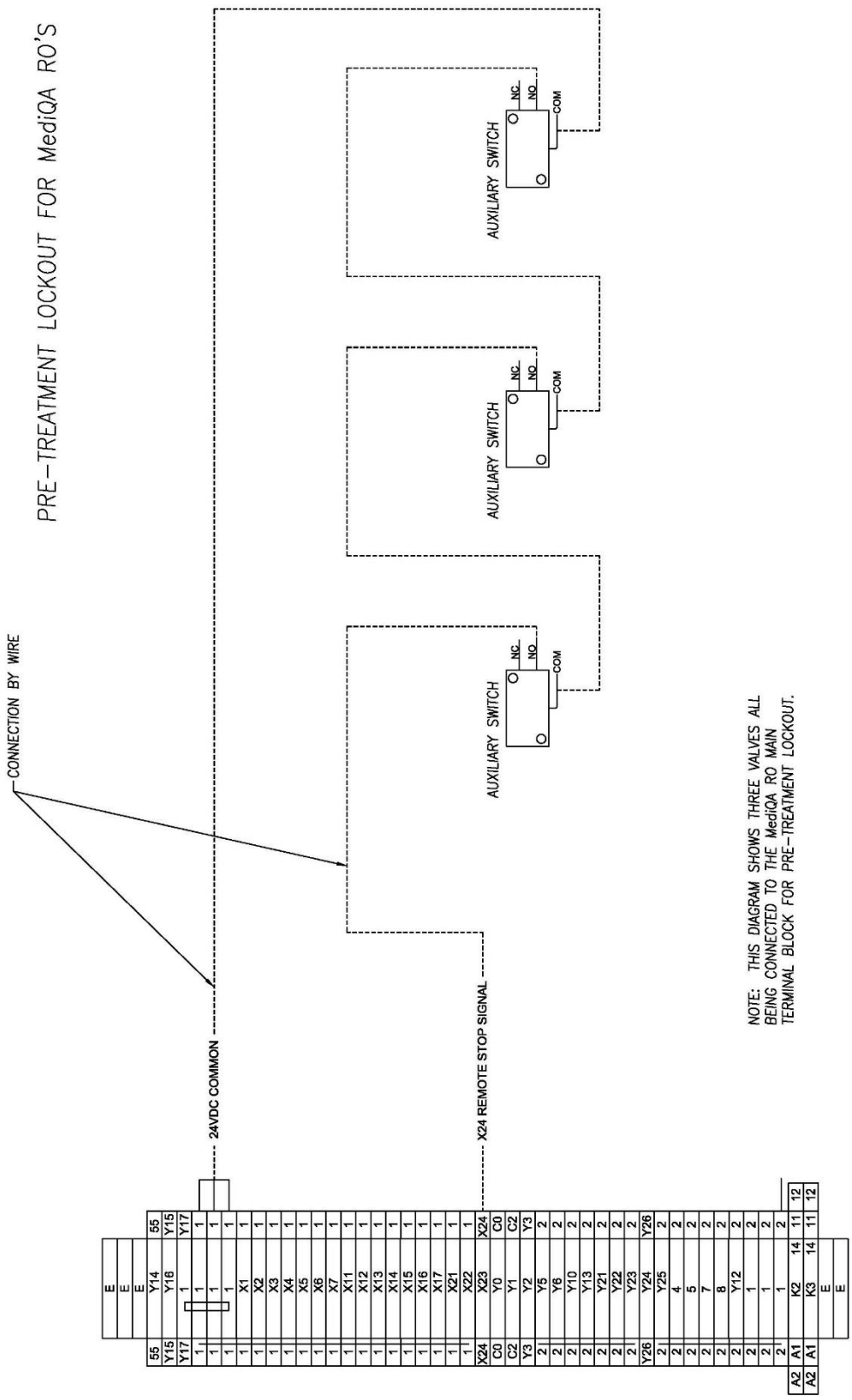
DRAWING NUMBER	ORDER NO.	DESCRIPTION	QUANTITY
1. NOT SHOWN	050-0326	CLACK,DRAIN LINE ASSY,3/4 INCH,V125DTH	1
2. NOT SHOWN	050-0327	CLACK,DRAIN LINE ASSY,1 INCH,V125DTH	1
3. NOT SHOWN	50-0392	CLACK,DRAIN LINE FLOW CONTROL,2.7GPM,V125DTH (10x54 Tank)	1
4. NOT SHOWN	50-0393	CLACK,DRAIN LINE FLOW CONTROL,5.3GPM,V125DTH (14x47, 14x65 Tank)	1
5. NOT SHOWN	50-0394	CLACK,DRAIN LINE FLOW CONTROL,6.5GPM,V125DTH (14x47, 14x65,16x65 Filter Tank)	1
6. NOT SHOWN	50-0395	CLACK,DRAIN LINE FLOW CONTROL,9.0GPM,V125DTH (18x65 Tank)	1
7. NOT SHOWN	50-0396	CLACK,DRAIN LINE FLOW CONTROL,11.0GPM,V125DTH (21x62 Tank)	1
8. NOT SHOWN	50-0397	CLACK,DRAIN LINE FLOW CONTROL,15.0GPM,V125DTH (21x62, 24x65,24x72 Filter Tank)	1
9. NOT SHOWN	50-0398	CLACK,DRAIN LINE FLOW CONTROL BODY,1 INCH,V125DTH (21x62, 24x65,24x72 Filter Tank)	1
10. NOT SHOWN	50-0399	CLACK,DRAIN LINE FLOW CONTROL,10.0GPM,V125DTH (16x65,18x65 Filter Tank)	1
11. NOT SHOWN	50-0400	CLACK,DRAIN LINE FLOW CONTROL,7.5GPM,V125DTH (16x65 Tank)	1

DRAWING NUMBER	ORDER NO.	DESCRIPTION	QUANTITY
1.	50-0403	CLACK,WRENCH,REPAIR AND BREAK APART,V125DTH	1



8 PRE-TREATMENT LOCKOUT




PRE-TREATMENT LOCKOUT FOR MediQA RO'S
CONNECTION BY WIRE
24VDC COMMON
X24 REMOTE STOP SIGNAL
AUXILIARY SWITCH
NC
NO
COM
AUXILIARY SWITCH
NC
NO
COM
AUXILIARY SWITCH
NC
NO
COM
NOTE: THIS DIAGRAM SHOWS THREE VALVES ALL BEING CONNECTED TO THE MediQA RO MAIN TERMINAL BLOCK FOR PRE-TREATMENT LOCKOUT.

⚠ WARNING

This product can expose you to chemicals such as vinyl chloride (used in the production of PVC) or Nickel (used in the production of stainless steel), that are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Dear Valued Customer,

California Proposition 65 (Prop 65) is the Safe Water and Toxic Enforcement Act of 1986. The State of California began enforcing amendments to California Prop 65 at the end of August 2018. Prop 65 requires manufacturers to provide a clear and reasonable warning to residents of California about chemicals used in products that they purchase that are included on the Prop 65 Chemical List. The chemicals included on the list are chemicals that are known to the State of California to cause cancer, birth defects, or other reproductive harm. One such chemical is Vinyl Chloride, a compound used to produce Polyvinyl Chloride (PVC). The AmeriWater system you have purchased may contain PVC or stainless steel parts.

While warnings are only required in the State of California, AmeriWater has initiated the use of Prop 65 labeling for all products to ensure compliance with California regulations. Please note that the above warning does not necessarily mean that the product that you have purchased is unsafe. Products that have been cleared for market by FDA have been determined to be safe and effective by the United States Food and Drug Administration. The warning is simply a requirement by the State of California. If you wish to obtain additional information, please visit: p65warnings.ca.gov. You may also contact your AmeriWater representative if you have any questions.

Thank you for your understanding and we look forward to continuing to serve you.