Post-Treatment Rack

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1 GENERAL INFORMATION
1.1 Preface

This Operation & Maintenance Manual provides information required for trained renal technicians to operate and perform basic service and maintenance required on the Post-Treatment Rack.

Please read and understand all of the instructions carefully prior to using the device or carrying out any service or repairs.

CAUTION: No person should attempt to service the device without prior authorization, instruction, and training from AmeriWater, the medical facility director, or an authorized dealer.

CAUTION: *When used as a medical device, Federal law restricts this device to sale by or on the order of a physician per 21CFR §801.109 (b)(1).*

1.2 Intended Use

The Post-Treatment Rack is a multi-function post treatment device for water purification. The device is a combination of a DI Bypass header, endotoxin filter, and alarm panel that is easily mountable and serviceable.

1.3 Restrictions on Use

Federal law restricts this device for sale by or on the order of a physician when used as a water treatment device for hemodialysis.

1.4 Contact Information

Please read the Operation Manual before using the system. Contact AmeriWater Technical 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. This entire Operation Manual should be read before operating or servicing the system. This Operation Manual should then be kept near the system and used as a reference and troubleshooting guide.

This manual is available in pdf form on our website, www.ameriwater.com.

1.5 Definitions and Cautionary Labeling

WARNING: This symbol is used to alert the user not to take a certain action, which if taken could cause a potential hazard and result in a serious adverse reaction, injury, or even death. The warning symbol may also be used to alert the user to take a certain action to avoid a potential hazard. In all cases within this document, where this symbol is used it is important that you familiarize yourself with the nature of the potential HAZARD and any action that needs to be taken.

CAUTION: A reminder or useful information that can be used to help explain a command or action or give guidance.

This symbol indicates possible hot surface. Touching parts of the machine showing this label should be avoided. Failure to observe these references may result in malfunctions in the system or impact on the environment.

1.6   Safety Considerations

Installation instructions should be followed to assure the unit is properly secured against the wall and prevent a possible hazard.

1.7   Warranty Claims and Liability

The buyer has a one year warranty on all equipment and parts, excluding non-durable components (e.g., filter cartridges, reverse osmosis membranes, filter media, consumable chemicals, etc.); provided that the system is not subject to abuse, misuse, alteration, neglect, freezing, accident or negligence; and provided further that the system is not damaged as the result of any unusual force of nature such as, but not limited to, flood, hurricane, tornado, or earthquake.

The warranty covers the replacement of equipment and/or parts only. The warranty does not cover labor charges or travel expenses resulting from the service of equipment. The manufacturer is excused if failure to perform its warranty obligations is the result of strikes, government regulation, materials shortages, or other circumstances beyond its control.

To obtain warranty service, notice must be given to the manufacturer within 30 days of the discovery of the defect.

There are no warranties on the AmeriWater system beyond those specifically described above. All implied warranties, including any implied warranty of merchantability or of fitness for a particular purpose are disclaimed to the extent they might extend beyond the above periods. The sole obligation of the manufacturer under these warranties is to replace or repair the component or part which proves to be defective within the specified time period, and the manufacturer is not liable for consequential or incidental damages. No dealer, agent, representative, or other person is authorized to extend or expand the warranties expressly described above.

Some states do not allow limitations on how long an implied warranty lasts or exclusions or limitations of incidental or consequential damage, so the limitations and exclusions in the warranty may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Manufacturer:
AmeriWater   Telephone: 1-800-535-5585
3345 Stop 8 Road   Fax: 1-937-461-1988
Dayton, OH 45414
United States of America

2   ABOUT YOUR DEVICE
2.1   Overview

The Post-Treatment Rack is a multi-function post-treatment device for water purification. The device is a combination of a DI Bypass header, endotoxin filter, and alarm panel that is easily mountable and serviceable.

The DI Bypass Header allows for emergency use of DI exchange tanks when RO function is compromised. When necessary to bypass the RO, the pretreated water will be directed to the Post-Treatment Rack, which will direct water to the DI tanks. The header is designed to work with the alarm system so that when the water quality goes outside of the acceptable range, the divert to drain valve on the DI header will open, sending the unacceptable water to the drain.

The Endotoxin-Retentive Filters are the final purification process prior to distribution of the product water. They are sub-micron filters with the ability to remove bacteria and endotoxin. The filters are enclosed in an opaque housing to inhibit the proliferation of algae. Water flows through the filter, which traps bacteria and endotoxin.

The alarm monitor package is designed to let technicians and nurses know when something is not functioning properly with the water equipment. This Alarm Panel will warn the user by illuminating an alarm light and sounding an audible alarm, indicating that some limit has been exceeded. The Alarm Panel is provided with an LCD display that will indicate the status of the water system. The nurse's station remote will correspond to what is indicated on the alarm panel. The alarm panel is equipped with a conductivity cell to monitor final water quality and a resistivity sensor to monitor the polisher DI tank when in DI bypass.

2.1.1   Models

Part Number	Description
00PTR1-L2R	Post-Treatment Rack, Single Endotoxin Filter, DI Bypass, Alarm Panel, Left to Right
00PTR2-L2R	Post-Treatment Rack, Dual Endotoxin Filter, DI Bypass, Alarm Panel, Left to Right
00PTR1-R2L	Post-Treatment Rack, Single Endotoxin Filter, DI Bypass, Alarm Panel, Right to Left
00PTR2-R2L	Post-Treatment Rack, Dual Endotoxin Filter, DI Bypass, Alarm Panel, Right to Left

2.1.2   Dimensions
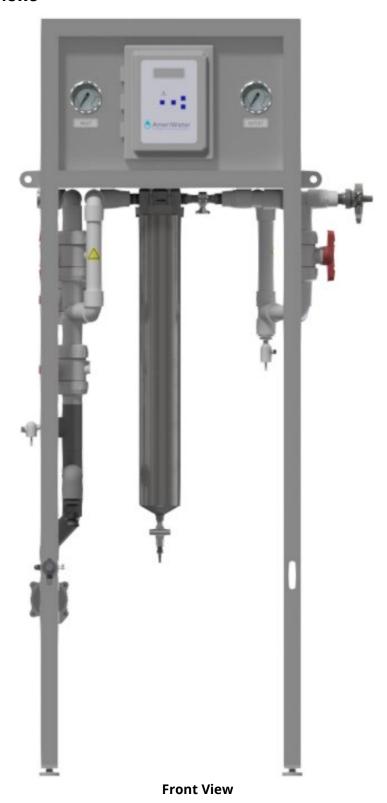
Width	Depth	Height
29 $^3/_{16}$"	14 ¼"	65 $^3/_8$"

2.1.3   Connections

Inlet*	Outlet*	To DI	From DI	Divert to Drain
1" FPT	1" FPT	¾" Q-CON	¾" Q-CON	1" FPT

*Fittings provided to adapt to ¾" PVC or PEX and 1" PVC, PEX, SS, and PVDF.

2.2   General Views

Front View

Left View   **Right View**

2.3 Detailed Features

- Alarm Panel with nurse's station remote panel
  - Write protect feature to prevent unwarrented changes to programming
  - Resistivity connection for DI Bypass monitoring
  - Conductivity connection for final quality to be monitored
  - Contrast adjusting display
  - Inputs available to communicate with RO, Storage Tank, Bicarb, and Heatsan Disinfection system
- DI Bypass plumbing
  - 3 valve bypass to allow connection to DI exhaust tanks
  - Audible resistivity monitor on outlet of worker (primary) DI tank
  - Resistivity probe to monitor polisher (secondary) DI tank
  - Automatic Divert to Drain valve triggered by resistivity meter exceeding set-point
  - Sample port to monitor polisher DI tank
- Endotoxin filter plumbing
  - Pressure gauges to monitor differential pressure across filter(s)
  - Inlet and outlet sample ports
  - Inlet and outlet manual isolation valves
  - Drain valves on each filter housing
  - Filter cartridges validated for use in dialysis water systems
    - Materials of Construction: Polypropylene, Polysulfone
    - Extended life – cleanable, compatible with disinfection by PAA or heat
    - Patented highly asymmetric membrane provides higher flow rates at lower pressure drops (5 GPM at 2.4 PSI ΔP per 10" length)
    - Three times the endotoxin retention of comparable products on the market
    - FDA clearance under AmeriWater 510K for Water Purification Systems

2.4 Electrical Specifications

Electrical Supply	Operation	Distance
1$\emptyset$, 120VAC, 20 A	Alarm panel power	Within 6 ft
1$\emptyset$, 120VAC, 20 A	1 Meg-ohm Audible Worker Resistivity Monitor	Within 4 ft

2.5 Technical Specifications

Specification	PTR1	PTR2
Dry Weight	50 lbs	60 lbs
Temperature Rating	200°F	200°F
Flow	Dependent on filter	Dependent on filter

3   INSTALLATION & START-UP
3.1   Packing List

Item	Description
1	Nurse's Station Remote Alarm Panel and 100' cable
2	Mounting Screws
3	Washers
4	Filter(s) (sold separately)
5	Hosing for DI Bypass
6	Loose loop connection fittings
7	Housing removal rods

3.2   Installation Instructions

1.   Lay the Post-Treatment rack face down near the desired mounting location. Be gentle as to not damage the alarm panel or any other components. In some cases it may be necessary to lay a cloth or towel down.

2.   With post-treatment rack face down, lift the unit to standing on legs. Shift the unit to have the mounting tabs pressed against wall in desired installation location. Use the mounting screws and washers to drill into wall through the mounting tabs. Reference **Figure 1** for a visual representation.

    a.   Locate within 5 feet of a 120-volt outlet.

    b.   Keep in mind the limited length of the wires from the float switches on the storage tank if applicable.

CAUTION: **Disconnect ALL power supplies to the equipment, prior to wiring the alarm panel or electrical shock could result.**

WARNING: **For all RO's except MediQA, be sure jumpers on the auxiliary board on the RO's controller are jumpered between J3 & J4 ONLY. If not, damage to the alarm panel or RO controller will result.**
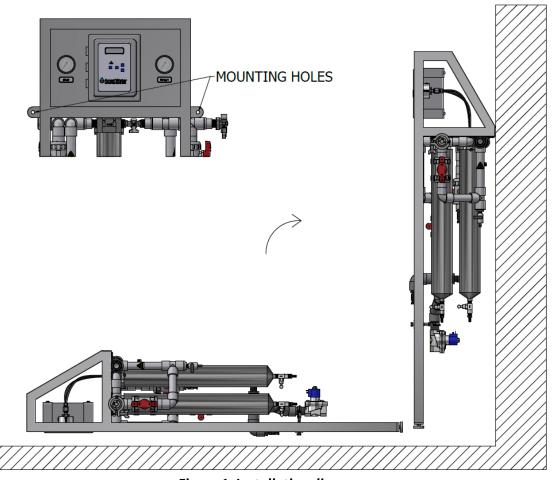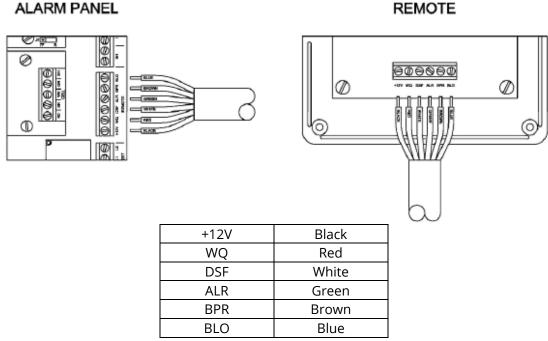
Figure 1. Installation diagram

3.   Bring in the alarm dry contact from the RO through one of the open strain reliefs on the bottom of the alarm panel. Route this wire to the terminal labeled IN1. Strip the insulation back about ¼" on each wire and secure into terminal IN1.

4.   If you are going to monitor a low storage tank condition, bring in a dry contact from the storage tank low float into the alarm panel. Route this to the terminal labeled IN2. Strip the insulation back about ¼" on the wires and secure into terminal IN2.

5.   To utilize the low bicarb alarm function, bring in a dry contact from the lower float on the bicarb distribution tank. This will need to be routed to the terminal labeled IN3. Strip the insulation and secure in terminal IN3.

6.   If you have the Heatsan Disinfection System, you will need to bring the dry contact from this into the terminal labeled IN4. See the operators manual for the Heatsan for detailed instructions.

7.   Install the Remote alarm near the nurse's station in a highly visible location and run low voltage wire from the alarm panel to the remote box location. Connect the alarm panel to the remote by connecting the wires as shown. Terminate the free end of the provided wire in the alarm panel in a like manner.

+12V	Black
WQ	Red
DSF	White
ALR	Green
BPR	Brown
BLO	Blue

8.   AmeriWater supplies all remote panels with 100' of connection cable for the remote. If distances between the remote and the alarm panel are greater than 100' up to 500', contact AmeriWater to order the exact length of cable you will need.

9.   If you purchased an additional remote for use at a second nurses station, connect this to the same terminals on the alarm panel as indicated in step 7.

10.   Hard plumb the unit to the distribution loop. The provided fittings allow connection to 1" PEX, PVC, PVDF, or Stainless Steel and ¾" PEX or PVC. Other loop connections will need to be provided by the customer.

Loop Type	Loop Size	Fittings to use from install kit
PEX	¾"	1" to ¾" bushings and ¾" PEX adapters
PEX	1"	1" PEX adapters
PVC	¾"	1" to ¾" bushings and ¾" PVC MIPs
PVC	1"	1" PVC MIPs
SS	1"	1" Sanitary clamp adapters
PVDF	1"	1" Sanitary clamp adapters

11.   Plumb a catch cup to the drain line for each sample port.

12.   Use section 7.3.1 to install the endotoxin filter(s). Place the housing removal rod in a safe location for reuse (such as inside the alarm panel or on the flat platform above the plumbing).

13.   Find a safe location to store the hoses used for DI bypass.

3.3   Initial Start-Up

1.   When power is applied to the unit, the 1st line of the display will momentarily show the version number of the software. If no inputs are active, the display will then show **SYSTEM NORMAL**.

2.   Make sure the alarm panel operates correctly by creating faults with the equipment connected to the alarm panel and then clearing them.

3.   In order to be compliant with ANSI/AAMI standards and CMS conditions of coverage, resistivity meter alarm set-points must be set at 1 Meg-ohm (reference Section 6.2 for programming steps).

4.   Reference standard settings in Section 6.4.2.

3.3.1   Endotoxin Wetting Procedure

The wetting procedure is to slowly wet the filter and allow air to exit the system, while not over-pressurizing the filter.

1.   Starting with the inlet isolation valve closed, open the outlet sample port.

2.   With the RO or distribution pump running, gradually open the inlet isolation valve. Throttle the valve to stay nearly closed, checking the pressure gauges to make sure they remain low.

3.   Air will exit the outlet sample port. When a steady stream of water is seen exiting the outlet sample port, let it run for 5 more minutes.

4.   After the 5 minutes, the outlet sample port should be closed and the inlet isolation valve can be opened fully.

4   OPERATION

The DI hoses on the heat disinfection models are not to be installed during regular operation. When DI operation is required, the hoses **MUST** be spot disinfected prior to installation on the DI tanks. If these are coupled together during normal operation, they will be damaged during the heat disinfection cycle.

Alarm Silence; the Nurse's Station Remote has a set of lights and audible alarm that will indicate with the main panel in the water room. There is no "Alarm Silence" on the Remote Panel. To silence alarm, it will require the user's attention, in the water room.

Using the "ALARM SILENCE" button on the main monitoring panel will "silence" the alarm for 3 minutes only. The alarm will re-indicate 3 minutes after each time it is silenced until the condition causing the alarm has been rectified.

In the event that there are multiple alarms active at once, the display on the alarm panel will scroll through the alarms.

4.1   DI Bypass Procedure

WARNING: **This procedure is for emergency use only. Placing the water treatment system in bypass may potentially contaminate the water distribution loop with bacteria from the carbon filtration (Carbon is a natural breeding ground for bacteria). Disinfect the water system at the next available down time after placing the water treatment system back on-line, or serious injury and/or illness to the patient(s) may occur!**

Reference the Piping and Instrumentation Drawing (P&ID) provided for your site for a procedure that is catered to your system. This should be hanging on the wall in the water room.

1.   When DI operation is required, the hoses **MUST** be spot disinfected prior to installation on the DI tanks. If the DI connections are coupled together during normal operation, they will be damaged during the heat disinfection cycle.

2.   Turn the RO off.

3.   On the alarm panel, set RES ENABALE to "1" (reference Section 6.2 for how to change set-points).

4.   Install the DI bypass hoses between the Post-Treatment Rack and the DI exhaust tanks (reference **Figure 2**). Plug in the 1 Meg-ohm audible worker resistivity monitor.

5.   Use the RO bypass headers to divert the pretreatment water to the Post-Treatment Rack.

6.   Use the loop return bypass header to divert loop return water to the drain.

7.   On the Post-Treatment Rack, close the inlet isolation valve and open the DI bypass inlet valve

and the DI sample port to allow the DI exchange tanks to rinse for 10 minutes.

8.   After 10 minutes, open the DI bypass outlet valve, close the DI sample port and verify pressure on loop return gauge.

4.1.1   Divert to Drain

When in DI Bypass, the resistivity sensor will monitor the water quality from the polisher DI tank. If the resistivity exceeds the RES LMT set-point, the Alarm panel will sound and the Divert to Drain valve will open. This prevents poor quality water from getting to the patients.

4.1.2   Rinse Procedure

When utilizing DI Bypass, the loop should be rinsed daily to remove any water that has sat stagnant for a long period. To do this, each morning make sure to allow the system to run to drain for at least 15 minutes prior to patients being put on.
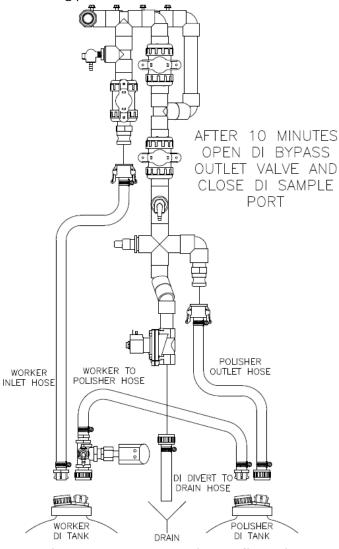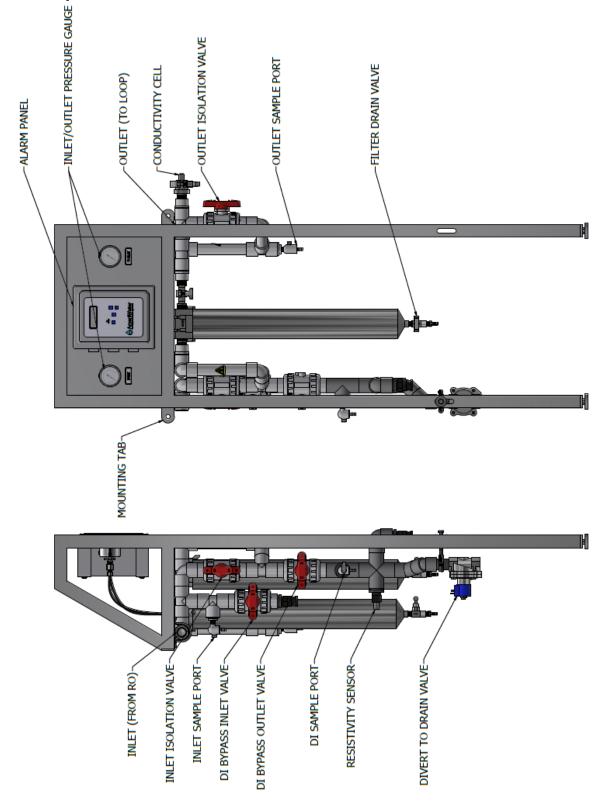

Figure 2. DI Bypass starting configuration

5 COMPONENT IDENTIFICATION AND SCHEMATICS

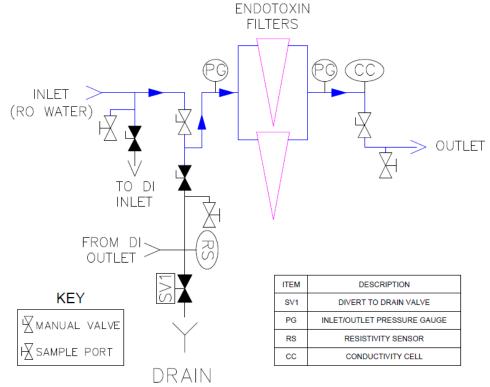## 5.1 Component Identification

5.2   Flow Schematics

Figure 3. Normal Operation Schematic
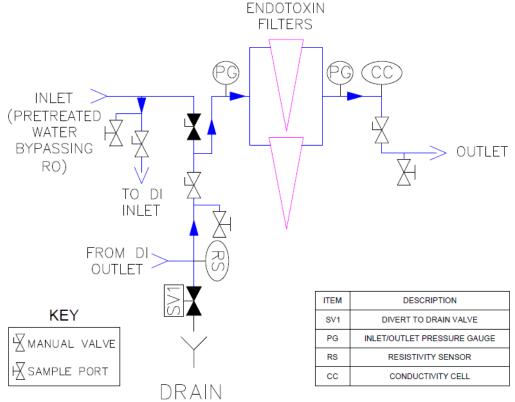
Figure 4. DI Bypass Schematic

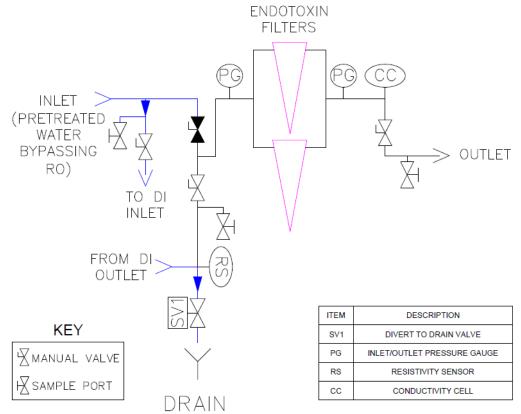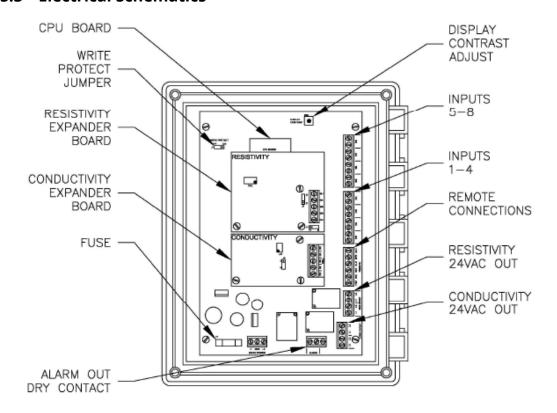**Figure 5. DI Bypass Resistivity Alarm Schematic**

ITEM	DESCRIPTION
SV1	DIVERT TO DRAIN VALVE
PG	INLET/OUTLET PRESSURE GAUGE
RS	RESISTIVITY SENSOR
CC	CONDUCTIVITY CELL

5.3 Electrical Schematics

6   CONTROLLER
6.1   Controls

Alarm Panel:

Item		Description
1	DISPLAY	Shows status of system and conductivity reading
2	ALARM LIGHT	Flashes when fault causes an RO system shut down. On steady when a set-point is exceeded that does not cause an RO system shut down
3	ENTER KEY	Holding up and enter key allows modification of current set-point Confirms entry of new set-point value
4	ALARM SILENCE/RESET KEY	Push once for alarm silence (for 3 minutes) Hold to put into DISINFECT mode
5	UP ARROW KEY	Scrolls through set-points starting with first set-point When modifying set-point, increases value of set-point
6	DOWN ARROW KEY	Scrolls through set-points starting with last set-point When modifying set-point, decreases value of set-point

Remote Panel:
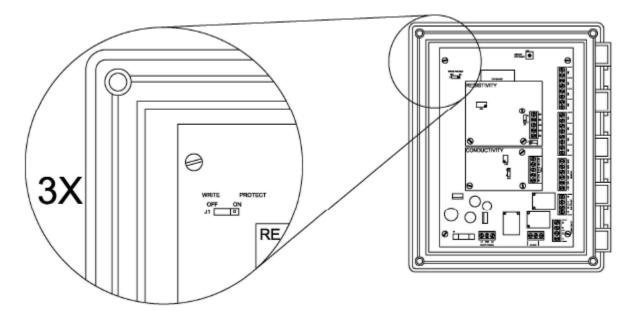
Item		Description
7	GOOD QUALITY LIGHT	Indicator that the water quality is below the conductivity set-point when lit
8	DISINFECT LIGHT	Indicator that the system is being disinfected when lit
9	ALARM LIGHT	Flashes when fault causes an RO system shut down. On steady when a set-point is exceeded that does not cause an RO system shut down
10	BICARB LOW LIGHT	Indicator that the Bicarb mixer is running low when lit

6.1.1 Adjusting Display Contrast

The contrast of the LCD display can be adjusted on the alarm panel. Begin by opening the alarm panel and locating the DISPLAY CONTRAST resistor R39 on the upper right hand side of the main board. Using a small Phillips head screwdriver, insert this into the set-screw and adjust the resistor R39. As the setscrew is turned, you will increase or decrease the contrast of the display. **It is recommended that small adjustments are made to prevent over travel of the set-screw.**

6.2   Programming

This alarm panel has the ability to lock out changes by utilization of a write protect jumper (J1) on the main board. The alarm panels are, by default, shipped out with write protect jumper in the "OFF" position. This allows anyone to make changes to the programming without requiring the alarm panel to be opened and the jumper repositioned. This jumper is shown in figure 6 below.

To prevent any changes after the set-points have been entered into the alarm panel, simply pull the write protect jumper off of the left "OFF" pins and place it onto the right "ON" pins. The middle pin is used with both settings.

Use the up and down arrow keys to browse through the possible settings.

When you arrive at the setting you wish to change, you will need to depress the UP arrow and ENTER buttons simultaneously. A "BEEP" will sound and the top line of the display will show **SETPOINT**. Use the UP and DOWN arrow keys to change the value of the set-point. Pressing UP and DOWN at the same time will reset the set-point to 0. To save the new value, you will need to press the ENTER key. If you wish to exit without saving the changes, simply depress the ALARM SILENCE RESET key.

6.3   Unit Operating Parameters

Parameter	Description
CON LMT	This is the value that the water must be below in order to show **SYSTEM NORMAL**. When the cell indicates a value above this set-point, the alarm panel will begin to count down for the amount of time programmed into the **CON DELAY**. Once this time has elapsed, the audible and visual alarms on the alarm panel and remote will indicate, the good quality light on the remote will turn off and the alarm panel screen will indicate **HIGH CONDUCTIVITY**. The two 24VAC outputs labeled as COND DIVERT on the alarm panel (P10) will receive power.
CON DELAY	The setting that determines the amount of time between when high conductivity is detected and when the alarm indicates. This can be set from 0 – 999 seconds.
RES LMT	The value that the water must stay above in order to show the **SYSTEM NORMAL** message. When the cell indicates a value below this set-point, the alarm panel will begin to count down for the amount of time programmed into the RES **DELAY**. Once this time has elapsed, the audible and visual alarms on the alarm panel and remote will indicate, the good quality light on the remote will turn off and the alarm panel screen will indicate **LOW RESISTIVITY**. The two 24VAC outputs labeled as RES DIVERT on the alarm panel (P9) will receive power to open the Divert to Drain Valve.
RES DELAY	This is the setting that determines the amount of time between when low resistivity is detected and when the alarm indicates. This can be set from 0 – 999 seconds.
COND RANGE	Will allow for changes to the range at which the conductivity sensor operates. By default, this is set to 1 (0-100 µS). This can be adjusted to 0 (0-50 µS), 2 (0-250 µS), 3 (0-500 µS), or 4 (0-1000 µS). Changes to this set-point **REQUIRE** a new resistor and calibration prior to use.
RES ENABLE	This is the setting that can enable (1) or disable (0) the resistivity expander board. When DI tanks are on line, this will need to be enabled. During normal operation, this should be disabled.
SW SELECT	This set-point allows each input to be configured as normally open (N.O.) or normally closed (N.C.). All panels are set to normally open at the factory. See section 6 for details on making adjustments.
SAN SENSOR	This is the set-point that allows the new conductivity board used in heat systems to account for temperature. (1) enables the temperature allowance. (0) disables this. (1) should be used when the alarm panel is in operation with a heat disinfect system.

6.4   Alarms

NOTE: All Low Resistivity and / or High Conductivity set-points should match the Set-Points of the device(s) that are in use with your particular system.

RO Alarm; this will warn the user that the measured conductivity of the water generated by the RO is higher than what has been determined to be appropriate by the Facility Director, and has been programmed into the RO controller. The dry contact input for this is labeled as IN1 on the main board.

NOTE: **MRO products will provide a normally open (N.O.) contact closure to the alarm panel. The MediQA will provide a normally closed (N.C.) contact closure to the alarm panel.**

Low Storage Tank; this will warn the user that the low water float switch has been activated in the storage tank, and that the RO is not producing water flow sufficient to stay above this low water level. The dry contact input for this is labeled as IN2 on the main board.

Low Bicarb Level; this will indicate when the Bicarb Distribution tank is low and may need to be re-filled if use is to continue. The dry contact input for this is labeled as IN3 on the main board.

Heatsan Active; this will indicate to the user that the Heatsan system is running and that hot water for disinfection is circulating in the loop. The good quality light on the remote will extinguish and the disinfection light will illuminate. The dry contact input for this is labeled as IN4 on the main board.

There are 4 additional dry contact inputs provided. They are labeled IN5 – 8. When one of these receives a closure from the external source, the LCD will indicate an alarm and display the appropriate AUX #. IN5 = AUX2, IN6 = AUX3, IN7 = AUX4 & IN8 = AUX5.

WARNING: **All inputs are dry contacts only. Applying power to any of these will damage the alarm panel and render it unsafe for use.**

6.4.1 Changing Input Type

The alarm panel is set to alarm on a normally open (N.O.) contact closure by default. The alarm panel can be configured to work with devices that provide a normally closed (N.C.) signal that opens on alarm.

The table below lists the values used to configure the alarm panel for your installation. To configure the settings, select the type of software switch to be used for each input and enter the corresponding number in the value column. Add the values and enter the total for the 'SW SELECT' set-point.

For example: If the RO ALARM and AUX 2 ALARM inputs are to be normally closed (N.C.) and the remainder of the inputs are normally open (N.O.), the 'SW SELECT' set-point value would be 17 (1+16).

Software Switch	N.O.	N.C.	Value
RO ALARM	0	1	
TANK LOW	0	2	
BICARB LOW	0	4	
HEATSAN ACTIVE	0	8	
AUX 2 ALARM	0	16	
AUX 3 ALARM	0	32	
AUX 4 ALARM	0	64	
AUX 5 ALARM	0	128	
		Total:	

6.4.2 Standard Settings

Setting	Heatsan/MediQA	Heatsan/MRO	Cold Water System
CON LMT	50 uS	50 uS	50 uS
CON DELAY	20 s	20 s	20 s
RES LMT	1 Meg-ohm	1 Meg-ohm	1 Meg-ohm
RES DELAY	30 s	30 s	30 s
COND RANGE	1	1	1
RES ENABLE	0	0	0
SW SELECT	1	0	0
SAN SENSOR	1	1	0

7 MAINTENANCE
7.1 Planned Routine Checks

Frequency	Monitoring
Daily	Monitor and record the pressure drop (delta pressure) across the filters daily. The delta pressure should be < 15 psi.
Monthly	Disinfection is recommended monthly and should be included with the loop disinfection.
Yearly	AmeriWater recommends that Endotoxin-Retentive Filters be replaced at least every 12 months or when delta pressures > 15 psi. *If the filter cartridge manufacturer recommends more frequent replacement, follow their recommendation for frequency of exchange.*
	Verify values of conductivity and resistivity are within 5% of calibrated meter reading.

WARNING: **ENDOTOXIN-RETENTIVE FILTERS ARE ESSENTIAL TO PATIENT SAFETY AND SHOULD NEVER BE BYPASSED OR REMOVED DURING TREATMENT!**

7.2 Disinfection

The endotoxin filters provided by AmeriWater are specifically designed with heat disinfection in mind. These filters are compatible with disinfection using heat and PAA. All other disinfection chemicals (bleach or ozone) require the filters to be removed during disinfection. Failure to remove the filter will lead to a breakdown of the materials and a potential hazard to the patient.

For other filters, reference the manufacturer specifications for disinfection protocol.

DI bypass hosing should not be installed during normal operation of the RO or disinfection of the loop.

WARNING: **PASSING HOT WATER THROUGH THE DI BYPASS HOSES WILL LEAD TO DAMAGE TO THE MATERIAL AND POTENTIALLY A HAZARD TO THE PATIENT. THE HOSES ON SYSTEMS THAT**

UTILIZE HEAT DISINFECTION MUST NOT BE INSTALLED DURING NORMAL OPERATION. PRIOR TO DI BYPASS, THESE HOSES MUST BE SPOT DISINFECTED.

7.2.1 Heat Disinfection

During a distribution loop heat disinfection the alarm panel will receive a signal and display **HEATSAN ACTIVE**. The disinfect light on the remote panel will illuminate. An alarm will sound for five minutes when hot water is ready to enter the loop. This 5 minute period is to make sure no patients are being treated.

7.2.2 Chemical Disinfection

This alarm panel contains a method to bypass all alarms for use during a chemical disinfection of the loop. The alarm will display **DISINFECT** and the disinfect light on the remote will illuminate.

CAUTION: **No alarms will indicate when the alarm panel is placed into disinfection mode! Ensure that no patients are being treated prior to initiating your disinfection procedures.**

To enter disinfect mode, press and hold both the Enter and Alarm Silence/Reset keys together for approximately 4 seconds. When successfully done, the 1st line of the display will indicate **DISINFECT** and the disinfect light will illuminate on the remote. To exit the disinfect mode, simply press the Alarm Silence/Reset key. This will return the alarm panel and remote to normal operation.
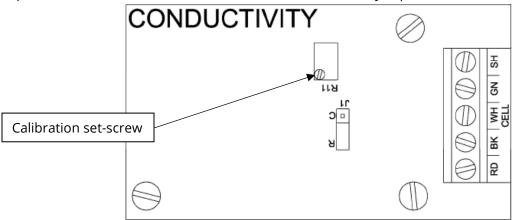
7.3 Planned Preventative Maintenance
7.3.1 Replacing Endotoxin Filter

1.   With the RO off, open the drain port on the bottom of the filter to relieve pressure and drain some of the water.

2.   Use the housing removal rod shipped with your system to insert into the circular hole in the filter housing cap and rotate it counter clockwise. Use your hands to untwist the filter housing from the cap when possible.

3.   Discard the exhausted filter and place new filter inside the housing.

4.   Reinstall the housing into the cap and close the drain port.

5.   Perform the wetting procedure in section 3.3.1.
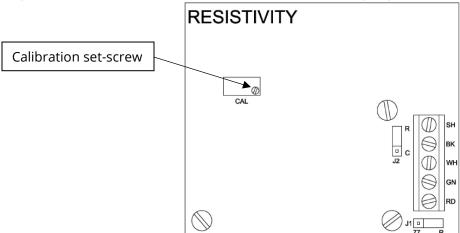
7.3.2 Conductivity Cell Calibration

Open the face of the Alarm Panel and locate the conductivity expander board as shown.

Using a small slotted screwdriver, adjust the set-screw on calibration adjustment R11 until the value displayed matches the calibrated hand held meter. It is recommended that small adjustments are made to prevent over travel of the set-screw.

7.3.3 Resistivity Sensor Calibration
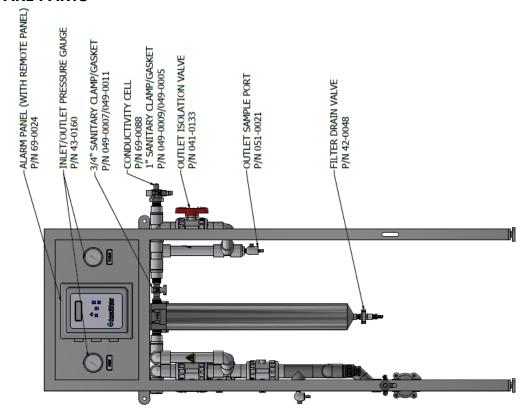
Open the face of the Alarm Panel and locate the resistivity expander board as shown.
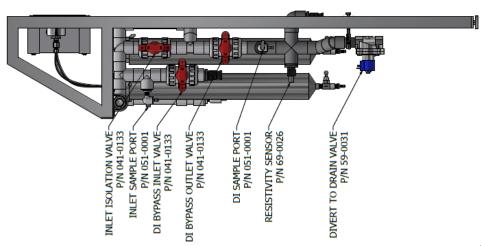

Using a small slotted screwdriver, adjust the set-screw on calibration adjustment R25 (CAL) until the value displayed matches the calibrated hand held meter. It is recommended that small adjustments are made to prevent over travel of the set-screw.

NOTE: Can be bold or not based on importance and length

8   SPARE PARTS

ALARM PANEL (WITH REMOTE PANEL)
P/N 69-0024

INLET/OUTLET PRESSURE GAUGE
P/N 43-0160

3/4" SANITARY CLAMP/GASKET
P/N 049-0007/049-0011

CONDUCTIVITY CELL
P/N 69-0088

1" SANITARY CLAMP/GASKET
P/N 049-0009/049-0005

OUTLET ISOLATION VALVE
P/N 041-0133

OUTLET SAMPLE PORT
P/N 051-0021

FILTER DRAIN VALVE
P/N 42-0048

INLET ISOLATION VALVE
P/N 041-0133

INLET SAMPLE PORT
P/N 051-0001

DI BYPASS INLET VALVE
P/N 041-0133

DI BYPASS OUTLET VALVE
P/N 041-0133

DI SAMPLE PORT
P/N 051-0001

RESISTIVITY SENSOR
P/N 69-0026

DIVERT TO DRAIN VALVE
P/N 59-0031

P/N	Description
75679117	1 Meg Hydro-check
75679118	Transformer for Hydro-check
20-3046	Endotoxin Filter
010-0113	Filter housing O-ring

CALIFORNIA PROPOSITION 65

⚠ 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.