BWS1500 High Flow Simple Install Guide

Rev. 1

OptiPure™

❖ General Information

System must be installed indoors and easily accessed for service and maintenance.

Water supply is cold water only, at a minimum of 45 psi, maximum of 80 psi.

Distribution plumbing from the system to equipment location(s) should be minimum ¾" nominal. Hose, PEX or other non-metal pipe is recommended.

Cut tubing and hoses to an appropriate length and avoid loops or kinks in tubing. Do not cut tubing with wire crimpers or dikes. Route and secure lines in an orderly manner.

Installation must conform to all local codes and regulations.

Equipment layout:

Take time to visualize the final placement of equipment. Hose, tubing and electrical connections will be made between the Processor, Storage Tank, RP Pump, Buffer Tank and the distribution plumbing.

Consider the placement of components in relation to the utilities (described below), and allow easy access for operation and service. For example, make certain that an operator can see and access the Emergency Bypass Valve on the left side of the Processor; and that the power cords from the Processor and RP Pump can be routed to the power outlet.

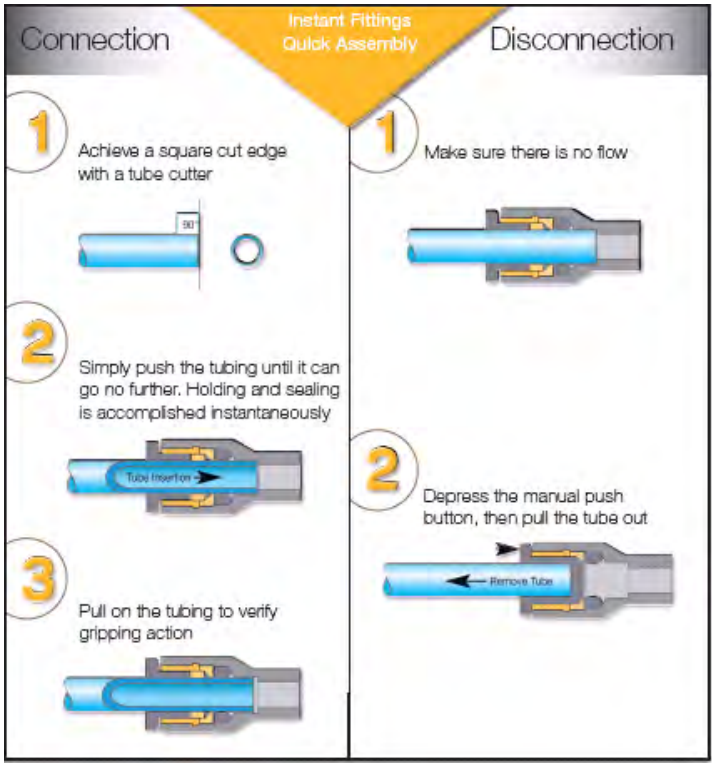
Utility requirements:

Water Supply – A minimum ½" dedicated water supply line* with ½" NFPT full-flow ball valve is required within 6 feet of the processor. When possible, locate the supply valve to the left of the processor and install a pressure gauge.

Drain – A drain with a capacity of 4 gallons per minute flow is required within 4 feet of installation location.

Power – Two 120 VAC electrical outlets are required; one for the Processor and one for the RP Pump.

*NOTE: A dedicated supply line is a water line run directly from a main water source. It does not branch out and is uninterrupted along its path.



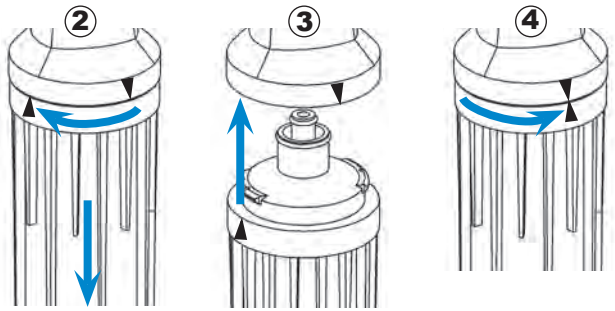
Completed BWS1500 High Flow Installation

175 gal. storage tank shown

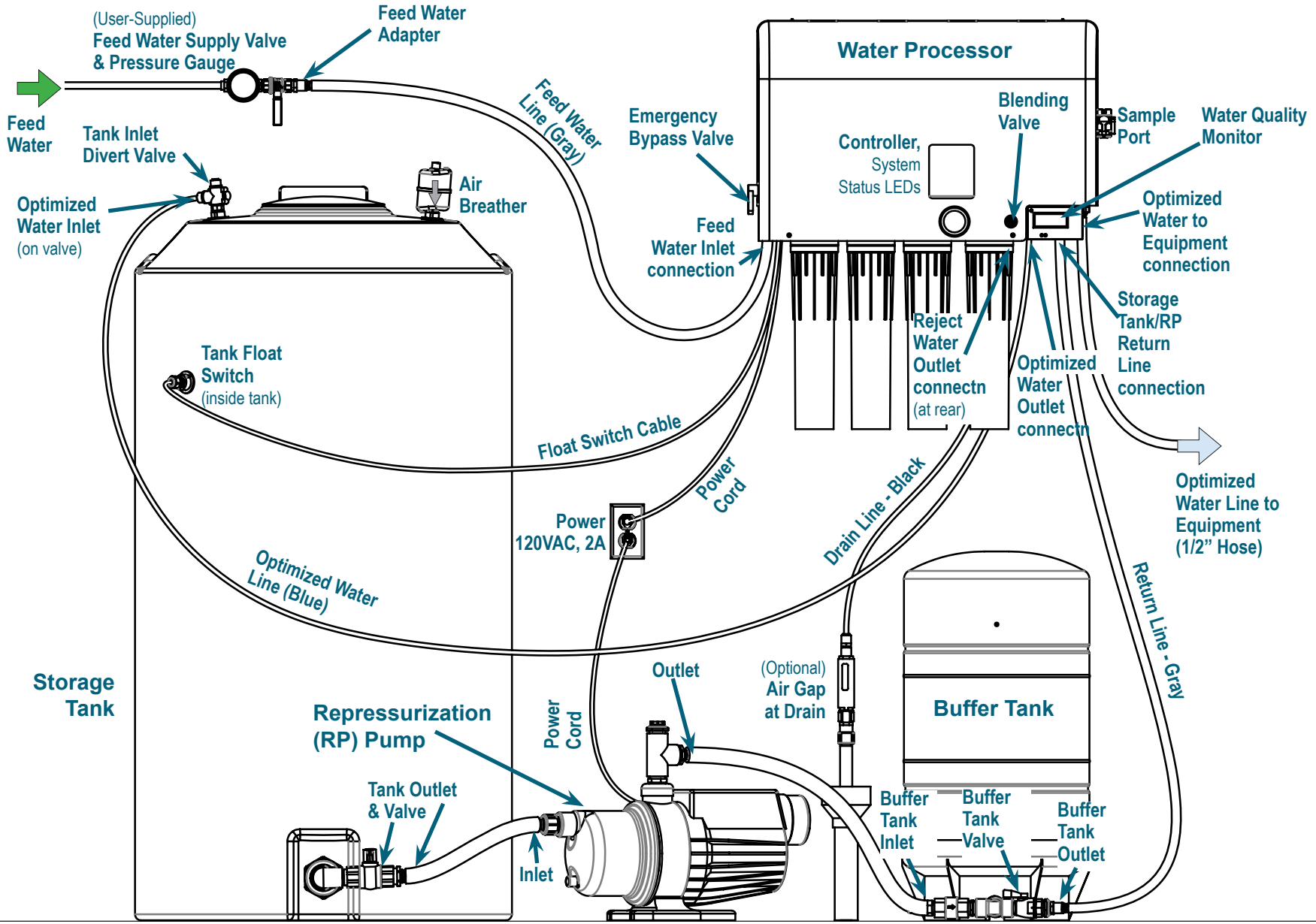
Installing or Replacing QT Cartridges

NOTE: Before installing or replacing QT Cartridges, make sure to remove the plugs in the QT heads.

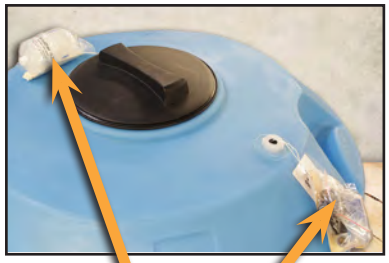
1. Close feed water valve.
2. Twist and pull down to remove cartridges.
3. Align the upward-pointing arrow on the new cartridge with the upward-pointing arrow on the head. Push cartridge up into head until it stops.
4. Turn to right until it stops. NOTE: labels might not always face forward.
5. Open feed water valve.



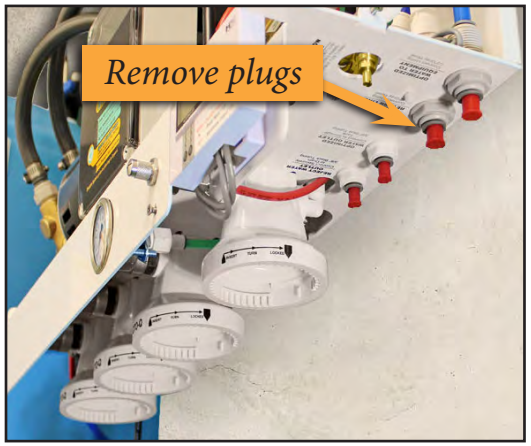
❖ BWS1500/175 High Flow Installation Diagram



❖ Prep the Components



Unwrap accessories and install on Tank



Step 1a

Unwrap accessories on the Storage Tank and install the Divert Valve and Air Breather in the fittings on the top of the Storage Tank.

Step 1b

Remove black plastic shroud from Processor by removing four screws: two on front and one on each side.

Step 1c

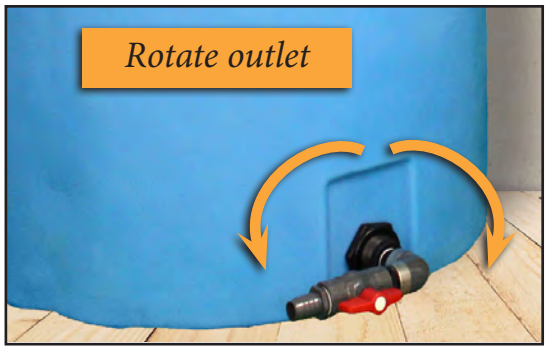
Remove the plugs from all water connections on bottom of Processor.

Step 1d

Place system components where they are to be located.

Step 1e

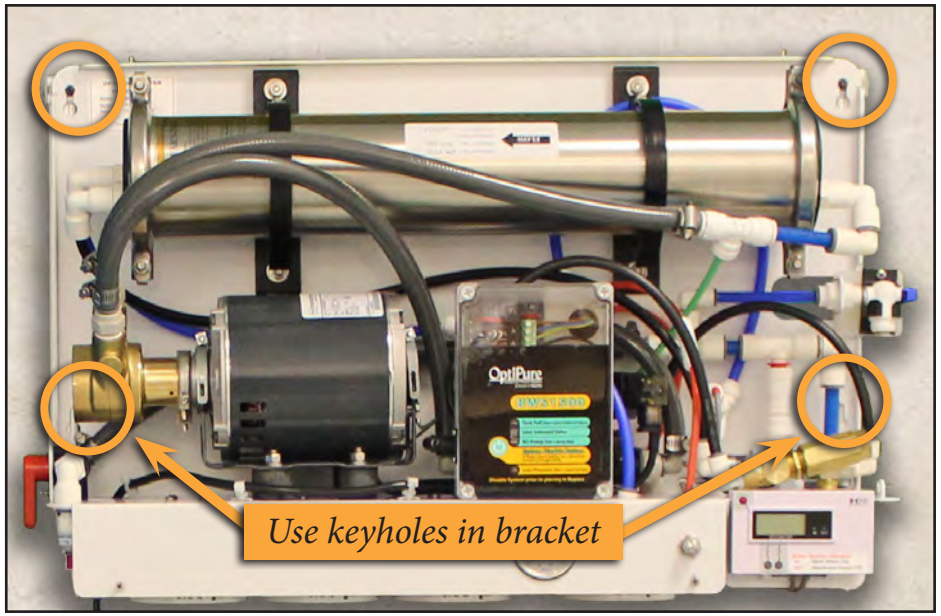
Rotate Storage Tank outlet to horizontal position, providing for a direct connection to RP Pump.



Step 1f

Select a secure mounting location for Processor, with access to the dedicated cold Water Supply, Drain & 120VAC power outlet.

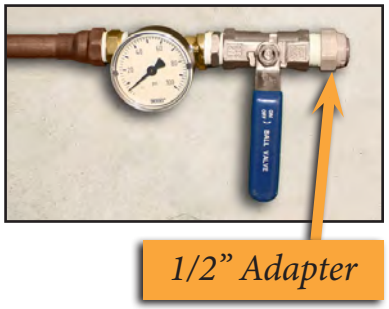
❖ Mount the Processor



Step 2

Attach Water Processor at the upper and lower keyhole mounts. DO NOT PLUG IN PROCESSOR.

❖ Make the Feed Water Connection



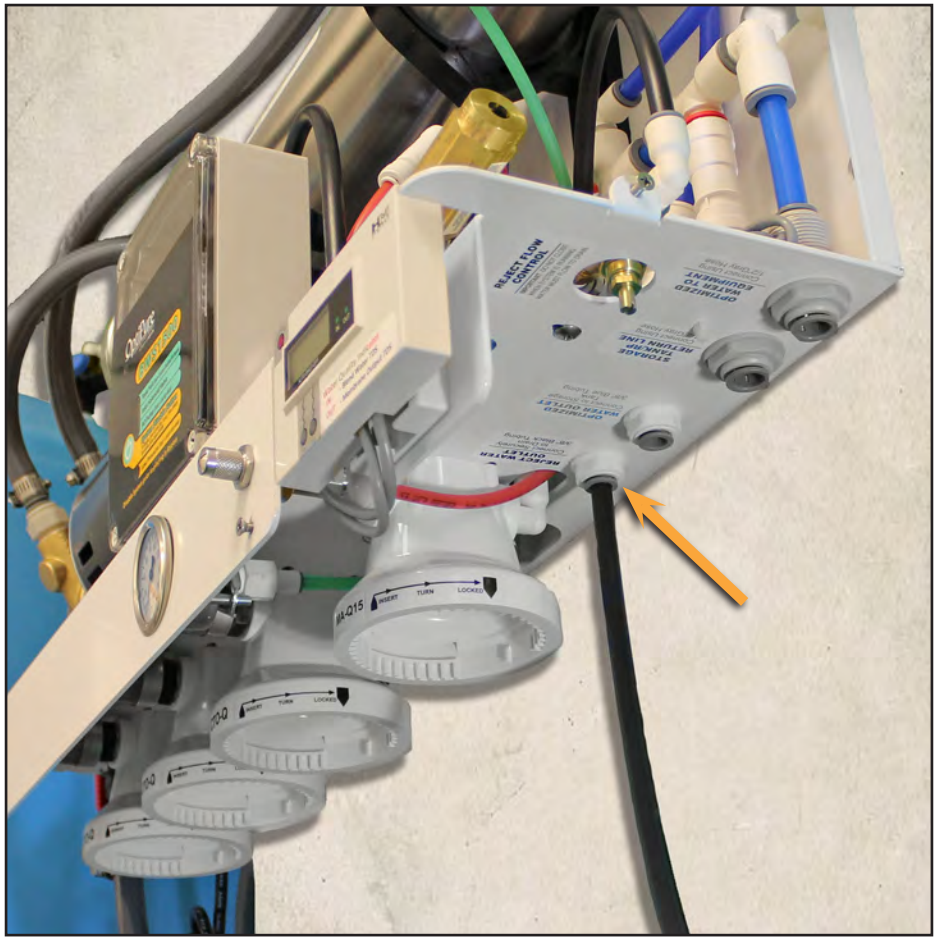
Step 3a

Install the ½" Feed Water Adapter (included) into the user-supplied 1/2" Feed Water Supply Valve.

Step 3b

Attach ½" hose barb adapter with clamp to ½" gray hose, and connect to Water Supply. Route other end of ½" hose to the Water Processor Feedwater Inlet, attach hose barb adapter with clamp and connect.

❖ Make the Drain Connection



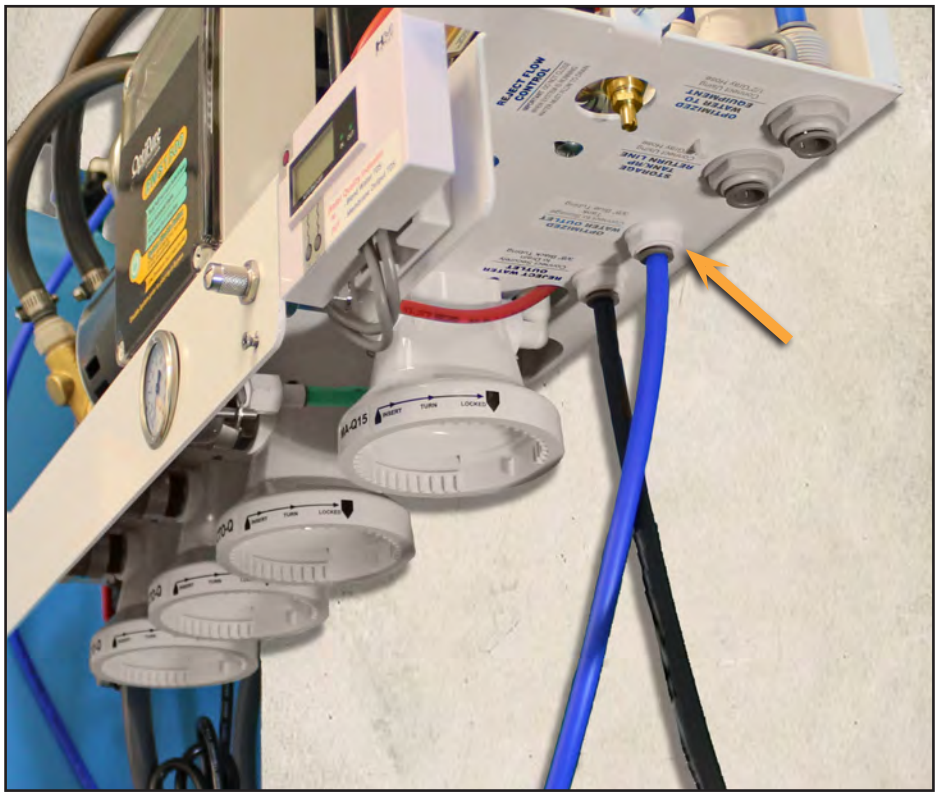
Step 4a

Connect 3/8" black tubing to Reject Water Outlet on Processor.

Step 4b

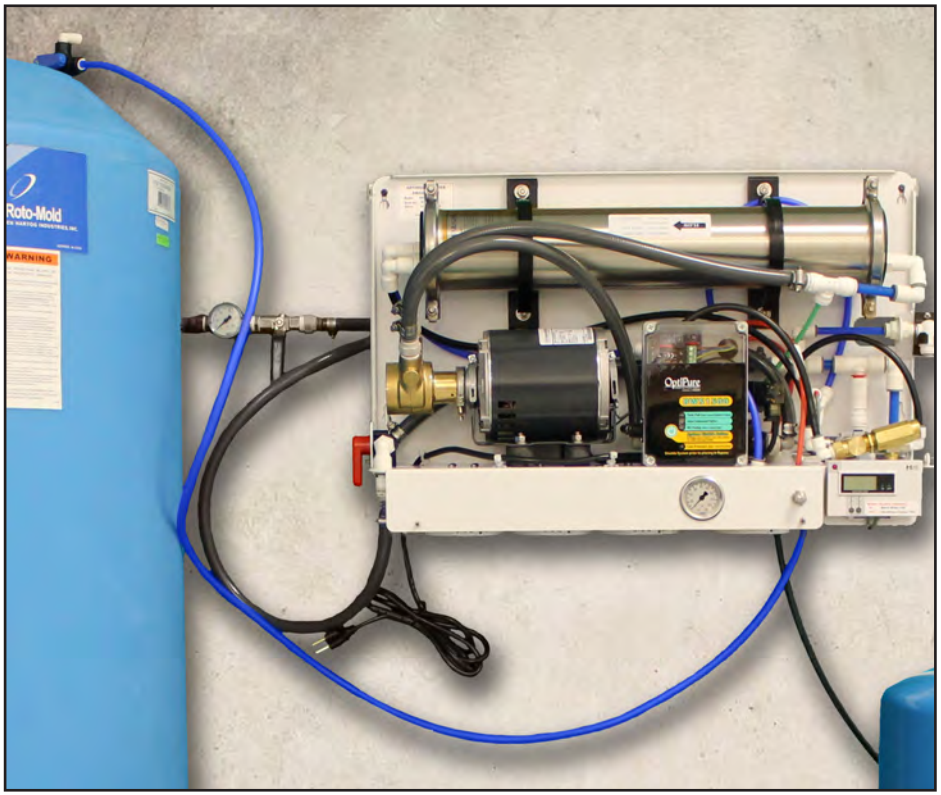
Connect the other end of the black tubing from Reject Water Outlet to an approved Air Gap (if used), route to the Drain, and secure.

❖ Make the Processor to Storage Tank Connection



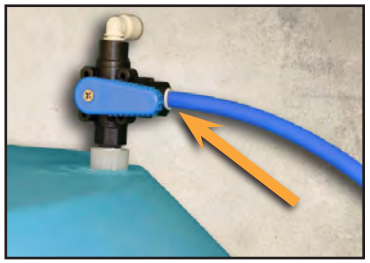
Step 5a

Connect 3/8” blue tubing to Optimized Water Outlet connection on the Processor.



Step 5b

Route blue tubing to Optimized Water Inlet at Tank Inlet Divert Valve on Storage Tank, cut to length and connect.



❖ Make the Storage Tank to RP Pump and Buffer Tank Connections

Step 6a
RP Pump must be located near the Storage Tank on the floor or on a stand not more than 8" above the bottom of the Tank. Connect 1" gray hose to Tank Outlet and secure with large clamp.

Step 6b
Cut hose to length and connect other end with clamp to RP Pump Inlet.

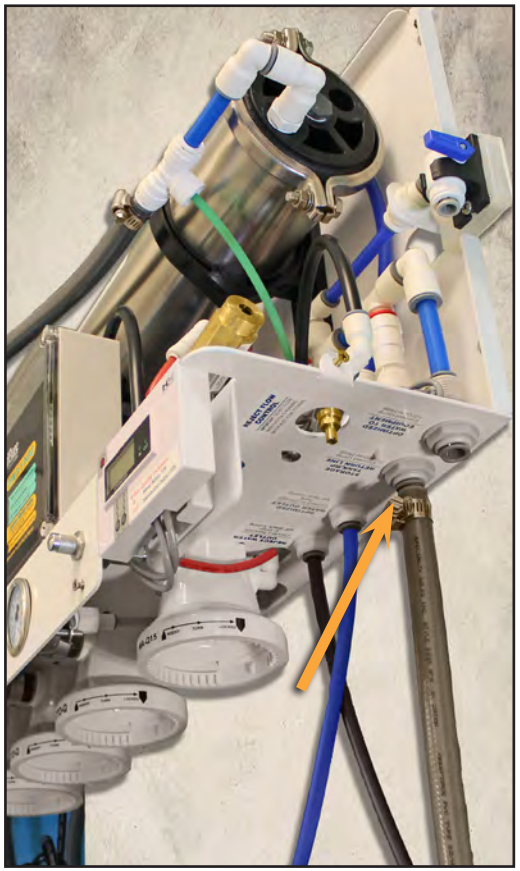
Step 6c
Connect 3/4" hose to RP Pump Outlet and secure with clamp.

Step 6d
Connect the other end to Inlet of Buffer Tank and secure with clamp.

❖ Make the Buffer Tank Outlet to Processor Connection

Step 7a

Attach ½" hose barb adapter with clamp to ½" gray hose. Connect to the Buffer Tank Outlet.



Step 7b

Route gray hose to Storage Tank/RP Return Line connection on Processor, cut to length and connect with hose barb adapter & clamp.

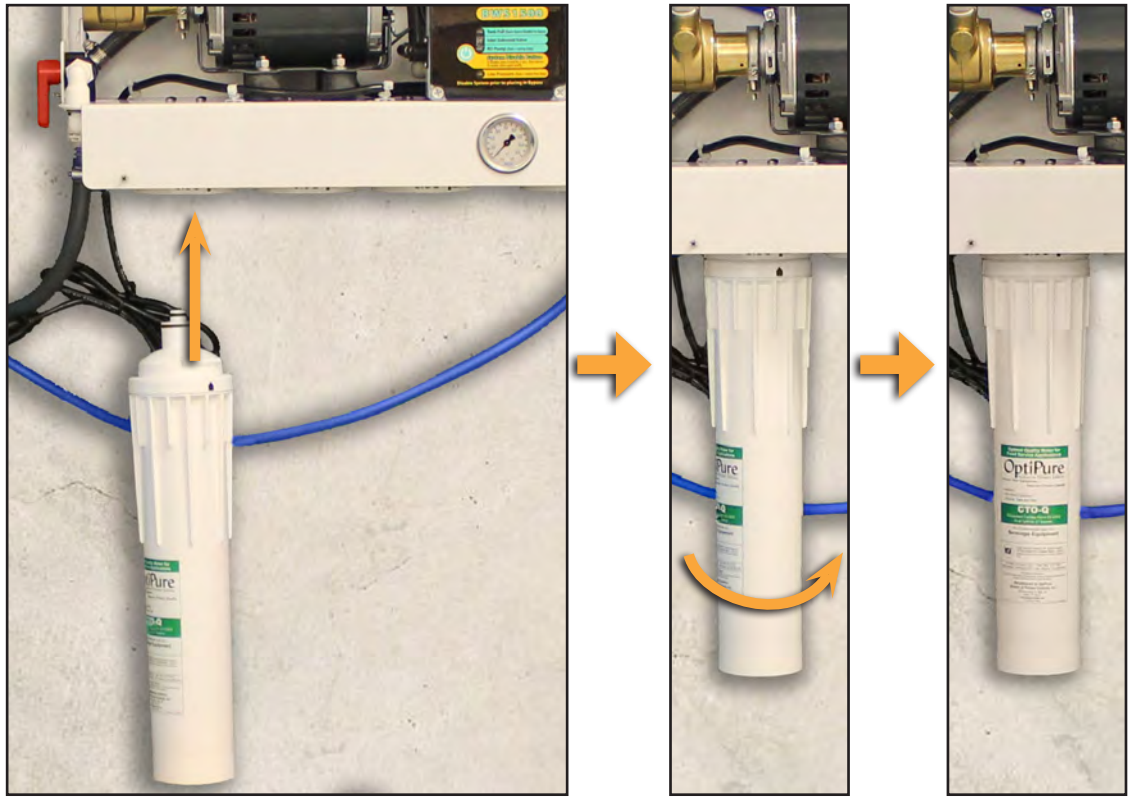
❖ Make the Optimized-Water-Line Connection to Processor

Step 8

Attach ½” hose barb adapter with clamp to ½” gray hose and connect to Optimized Water to Equipment connection on Processor. (The other end will later be connected to the distribution plumbing that supplies equipment.)

The Optimized Water Line will be connected later, either directly to equipment, or to an optional post-treatment filter and then to equipment.

❖ Install Filter & Mineral Addition Cartridges



Step 9a

Install three CTO-Q cartridges into QT heads 1, 2 &3 starting from the left side of the Processor. Align arrows, insert and turn to lock in place.

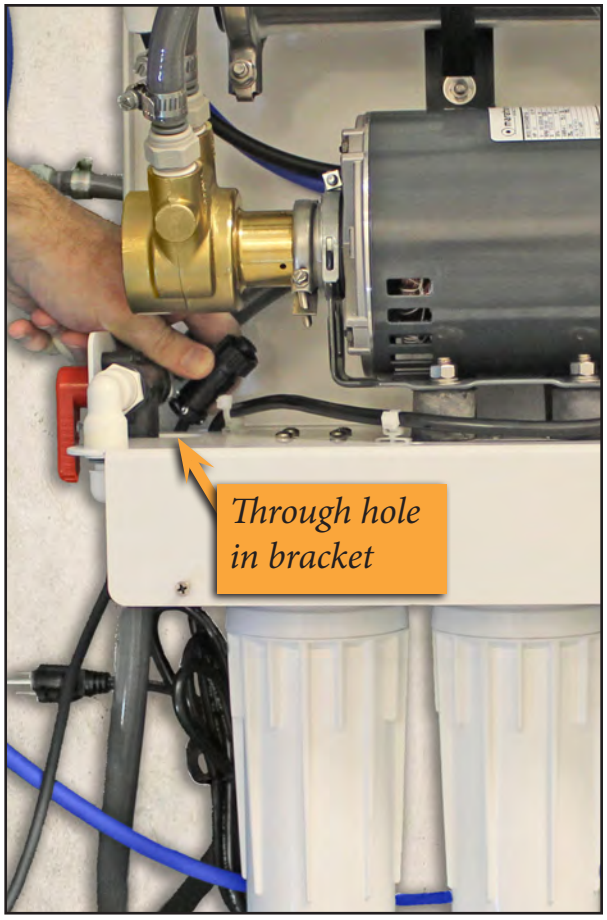
Step 9b

Install Mineral Addition Cartridge in 4th position.

❖ Make the Storage Tank Float Switch Connection

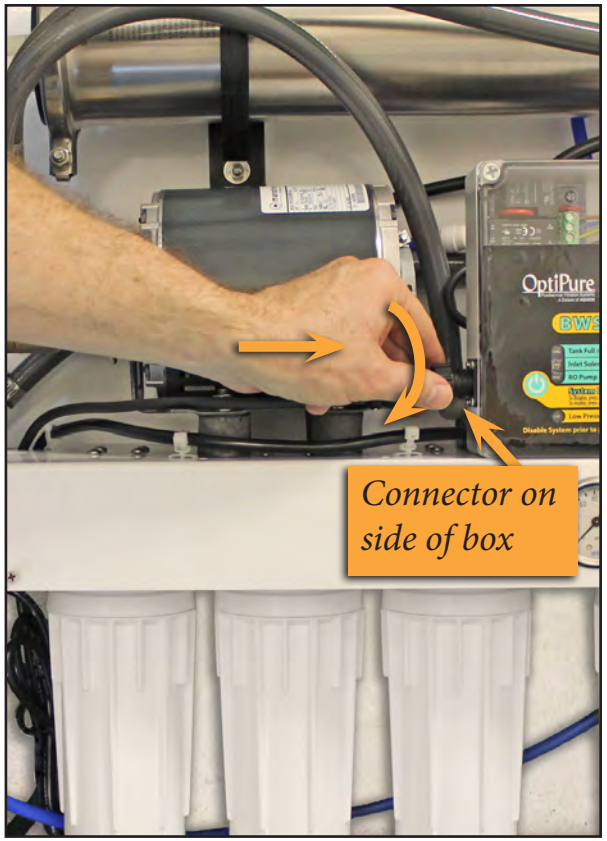
Step 10a

Route the Float Switch Cable (attached to the side of the Storage Tank) from the Tank to the left side of the Processor.



Step 10b

Route the cable through the same opening in the white bracket that the Processor's power cord passes through, and then around the front to the control box.



Step 10c

Bring the plug to the Tank Switch Cable connector on the side of the control box. Align the key slot on plug with connector on box, push in, and rotate plug to lock in place.

❖ System Start-Up

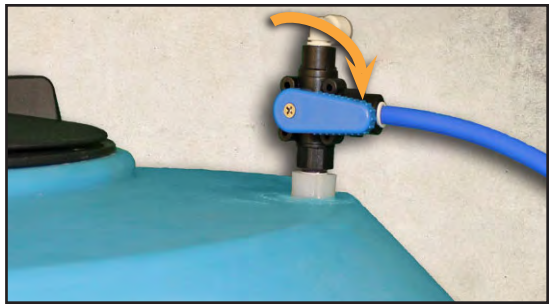
❖ Purge Air & Flush System

Step 11a

Remove the Storage Tank cover. Temporarily route the 1/2" Optimized Water Line into the opening of the Storage Tank and keep it in place throughout system start-up (temporarily fasten if necessary).

Step 11b

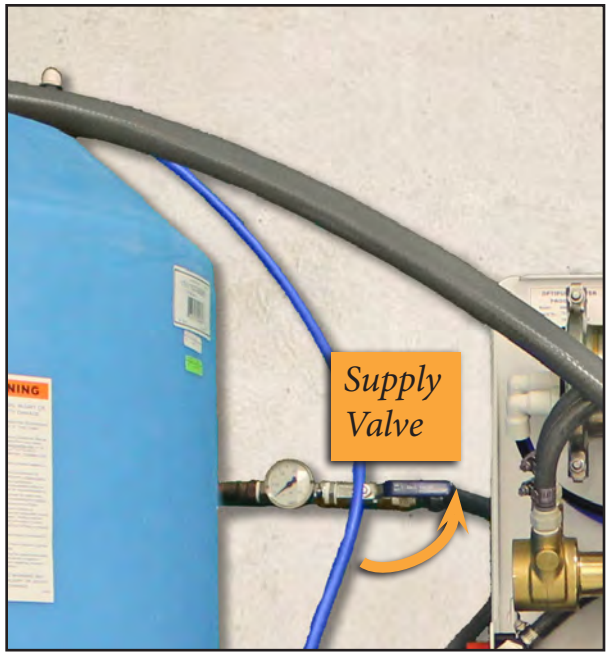
Ensure the Storage Tank Inlet Divert Valve is in the Down position.



Step 11c

Make certain the Emergency Bypass Valve on the Processor is in the "SERVICE" position (pointed downward).

❖ Purge Air & Flush System



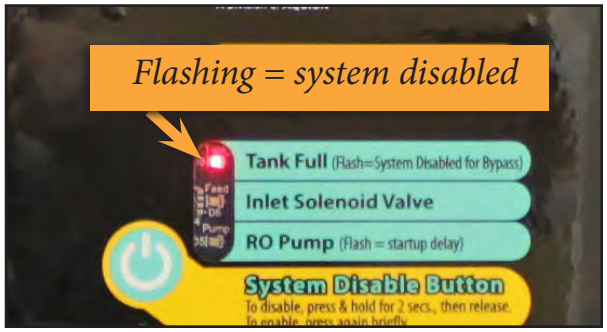
Step 11d

Open Feed Water Supply Valve.

Step 11e

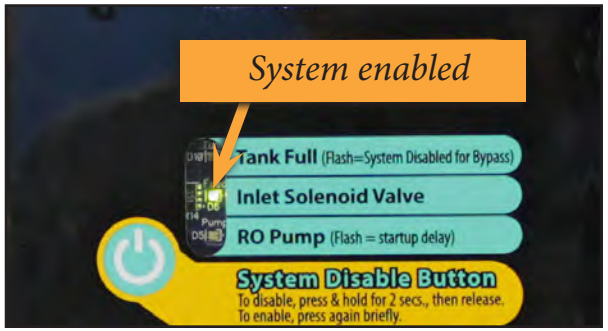
Plug in the Processor power cord at this time.

Step 11f

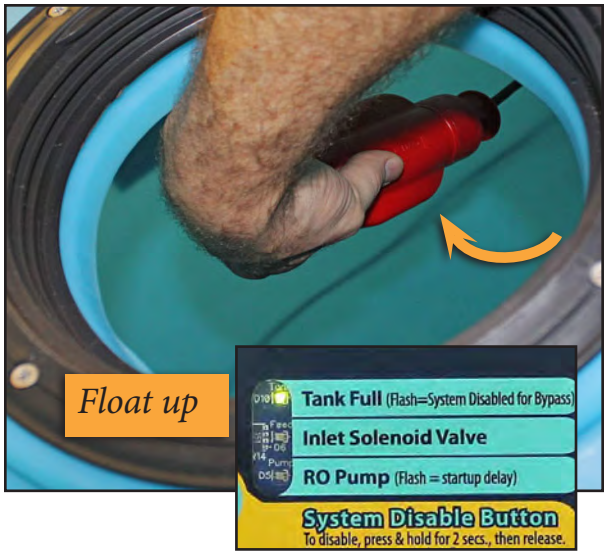


The Controller will power up, but will be in "System Disabled" mode (indicated by "Tank Full" LED flashing red). To enable the system, press and hold the "System Disable Button" until you hear a click, then release. (The "Inlet Solenoid Valve" LED will illuminate).

Water will begin to flow through the system. In approximately 30 seconds, the Processor pump will start. Allow filters and the membrane to purge air. Water will begin flowing to the Drain, and water will flow through the blue Optimized Water Line to the Storage Tank.



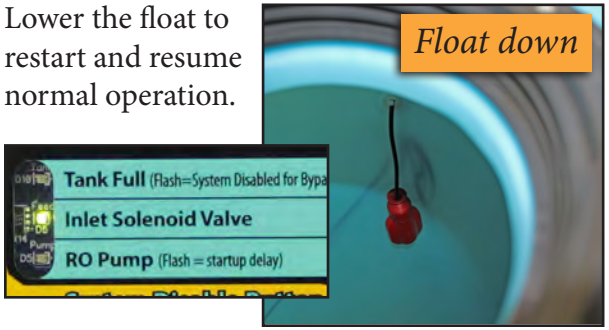
❖Check Tank Float Switch



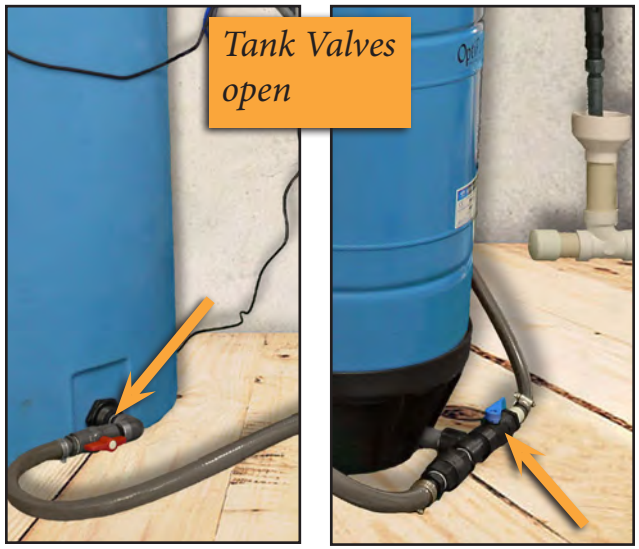
Step 12

Verify operation of the Float Switch inside Storage Tank. Manually raise float (point upward). The Processor pump will turn off and the "Tank Full" LED on the Controller will illuminate.

Lower the float to restart and resume normal operation.

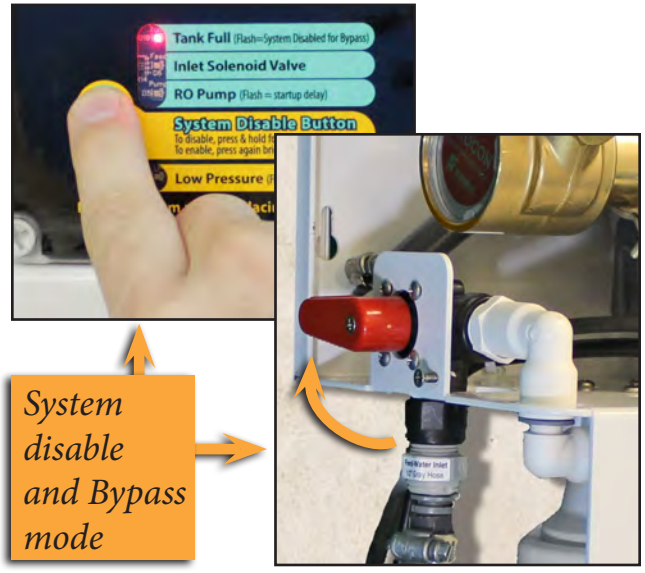


❖ Rapid-Fill the Storage Tank



Step 13a

Ensure the Storage Tank Outlet Valve and the Buffer Tank Valve are both open (handle in line with valve body).



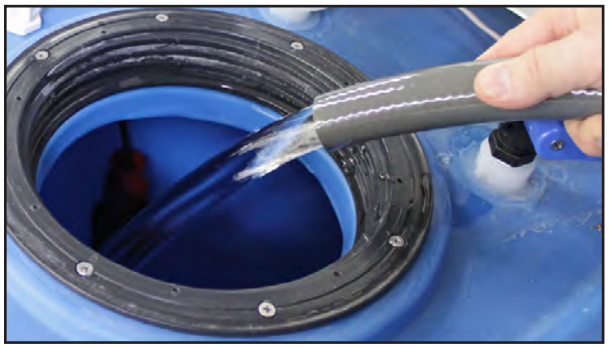
Step 13b

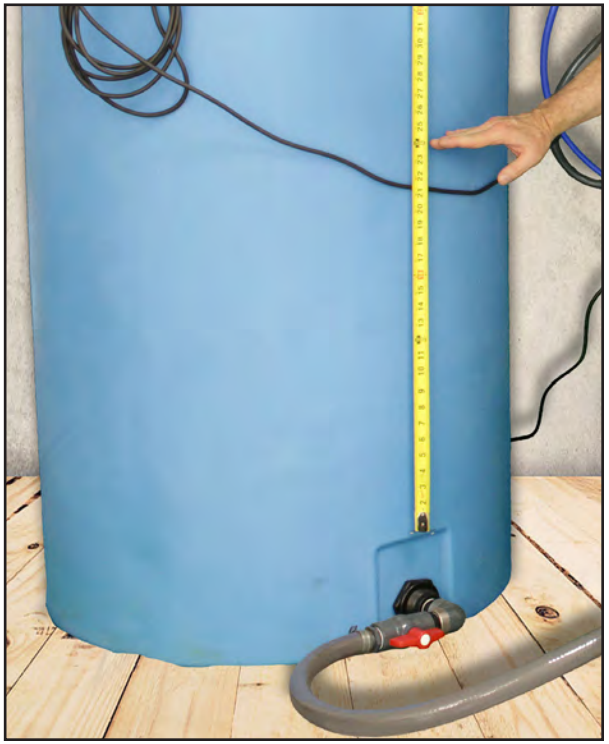
Disable the system: On the Processor Controller, press and hold the "System Disable Button" until the "click," then release. The "Tank Full" LED should begin flashing (red), indicating the system is disabled.

Step 13c

While securely holding the 1/2" gray Optimized Water Line over the Storage Tank opening, turn the Processor Emergency Bypass Valve to the "BYPASS" position.

❖ Rapid Fill the Storage Tank





Step 13d

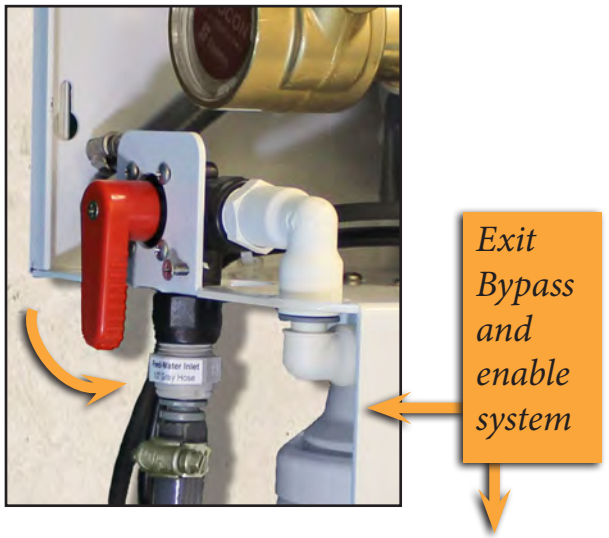
Water will flow rapidly into the Tank. Allow the Tank to fill to at least 2 FEET ABOVE THE HEIGHT OF THE PUMP INLET.

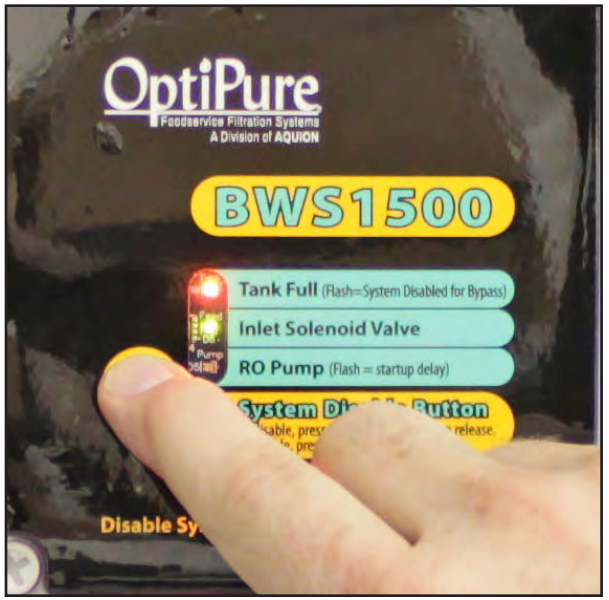
Step 13e

When the Tank reaches this level, turn the Processor Emergency Bypass Valve to the "SERVICE" position.

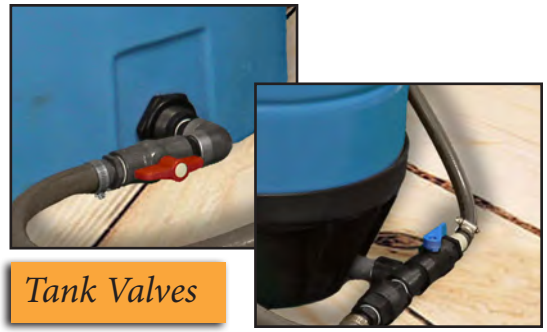
Step 13f

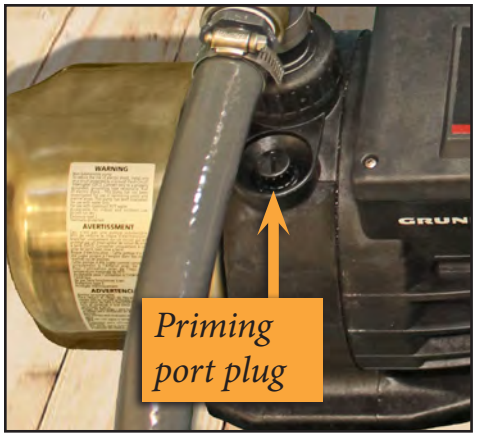
Resume normal operation: Press and hold the "System Disable Button" until the "click," then release. The "Inlet Solenoid Valve" LED on Processor Controller will illuminate (green).





❖ Prime the Repressurization Pump





(Ensure Storage Tank and Buffer Tank Valves are open.)

Step 14a

Remove priming port plug on the top of the RP Pump. Allow water from the Tank to fill Pump until it begins to flow out of the port. Replace the priming port plug.

Step 14b

Holding the 1" gray Optimized Water Line over Storage Tank opening, plug in RP Pump power and turn RP Pump on with the button located on top. Allow to run until water flow is steady and free of air.

Step 14c

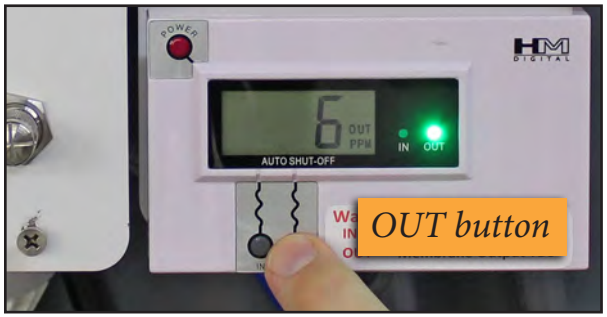
After flow becomes steady, close Buffer Tank Valve. This will stop water flow through the gray Optimized Water Line and allow the Buffer Tank to fill. When full, the RP Pump should turn off.

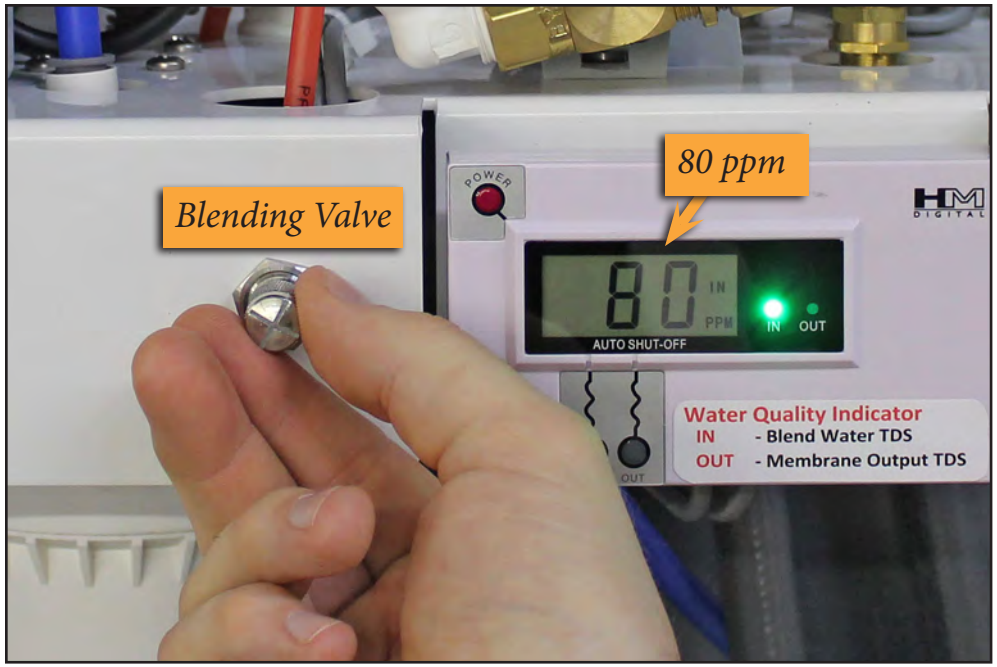
Step 14d

If the RP Pump does not turn off, then the air is not fully purged. With the Optimized Water line in place over the Storage Tank opening, reopen the Buffer Tank Valve, then when flow is steady without air, close it and wait to see if Pump shuts off. Repeat this process until Pump shuts off when Buffer Tank is full.

❖ Adjust the Blend TDS

Allow the system to continue to operate in normal service mode (filling the Storage Tank), with the Buffer Tank Valve closed.





Step 15a

Turn on power to Water Quality Monitor. Press the OUT button. This indicates the TDS of the water exiting the membrane. Enter on the *Post Installation Checklist*.

Step 15b

Press the IN button. This indicates the TDS of the Optimized Water flowing to the Storage Tank.

Step 15c

Adjust the Blending Valve to 80 ppm (or to user-required TDS).

Step 15d

Make single-turn adjustments, waiting 30 seconds between, until TDS is at desired level.

Step 15e

After 5 minutes, re-check the TDS IN and make final adjustments if necessary.

❖ Make Connection to Equipment and Complete the Installation

Step 16
Connect Optimized Water Line to Post-Treatment (if used) and downstream equipment.

Step 17
Open Buffer Tank Valve to allow flow to downstream equipment. Start equipment and check for leaks.

Step 18
Secure tubing, hoses and wires to assure the installation is neat and not susceptible to damage. Place shroud back onto Processor. Replace the Storage Tank cover.

Step 18
Complete the *Post Installation Check List* and the *Service Log* and leave them with the operator/owner.

OptiPure™

Access manuals, spec sheets and additional educational materials for foodservice water treatment at our website.
www.optipurewater.com