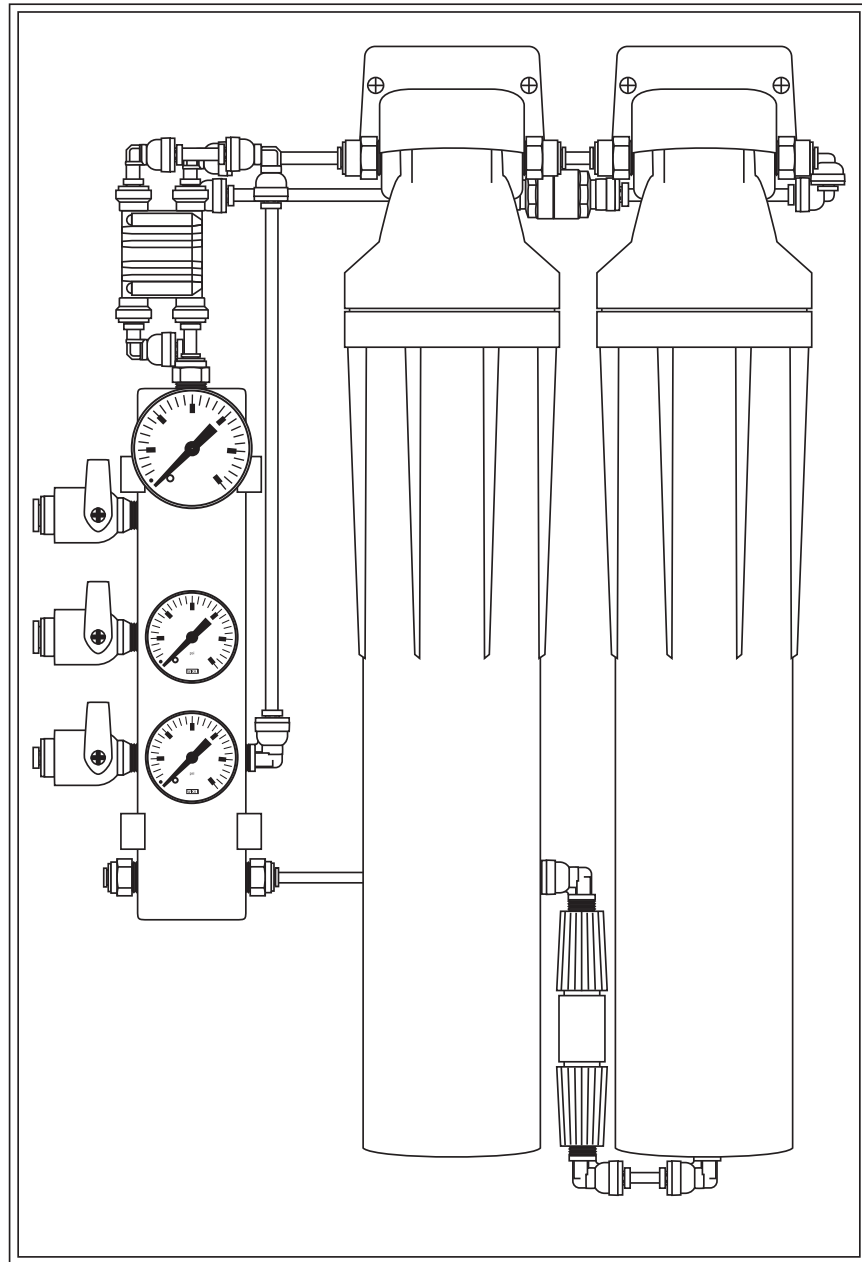


VistaBrite™

Installation Guide & Owner's Manual



Model V4700

VistaBrite™

Water Filtration for Dental & Medical
Instrument Washing Equipment

Safety Guides & General Information

- Please read this manual completely before attempting installation.
- Please follow all local plumbing codes.
- A licensed plumber may be required for installation of this system in some locations.
- Do not use this system to attempt to make safe drinking water from non-potable water.
- Do not use this system on microbiologically unsafe water, or water of unknown quality without adequate disinfection before or after the system.
- This water treatment system contains filter elements that must be periodically replaced in order to maintain quality water output. Please follow directions in this manual for testing and replacement.
- This system has certain minimum and maximum parameters for input water quality, pressure, temperature, etc. Please read and comply with all the specifications found on the back of this manual.
- Prefiltration and/or softening of the input water quality may be required in certain situations. See specifications.
- This system **MUST** have at least 40 psi (2.8 bar) input water pressure in order to operate properly. If available pressure is insufficient, a booster pump (optional) must be used on the input water supply line.
- Never install this system in an environment that ever experiences ambient temperatures below 40°F (4°C) or above. Do not expose unit or tubing to direct sunlight.
- This system is designed to treat cold/warm water. **Never** introduce hot water or water greater than 100°F (38°C) or damage to the system and filter elements will occur.



System Performance

The VistaBrite is designed to remove the vast majority of TDS, chlorides, etc. that negatively impact instrument wash water and instruments. For example, if the municipal water for a particular application has a total dissolved solids (TDS) reading of 250 ppm (mg/l), a typical “treated” water reading should be about 25 ppm – about 10% of the inlet reading or a removal rate of about 90%. If the chlorides (which cause tremendous corrosion problems in instrument washers above 50 ppm) in a particular water system are, say, 110 ppm, the VistaBrite should reduce them to about 11 ppm assuming suitable water pressure is available. An 80% - 90% reduction of TDS and general contaminants should produce great results and clean instruments. However, remember that inlet water pressure is the greatest factor on performance of the VistaBrite.

If the treated VistaBrite water is to be heated before it enters the instrument washer, a heater can be added in the treated water line between the VistaBrite storage tank and the washer. This must be a dedicated hot water tank for this system only. Make certain to follow local plumbing codes and provide at least three (3') feet of rubber or steel braided washing machine hose between the heater and the VistaBrite. A small tank-type water heater or an “instant” or “tankless” type water heater can be used. Check the instrument washer specifications for setting the temperature on hot water pre-heaters. Check the water heater specifications for flow switch requirements, etc.



If the particular instrument washer being installed “requires” completely “deionized” (D/I) water, know that VistaBrite does not produce this type of water. A deionized water has had all TDS removed from the water and can be highly corrosive but can be suitable for rinsing instruments in certain environments. If an instrument washer calls for “purified” or “reverse osmosis-quality” (R/O) water, VistaBrite is compatible.



Regardless of the quality of water used, instruments can become stained and pitted if they are of poor quality, old, damaged or contain iron (carbide) edges, are made of aluminum or mixed metals, are chrome plated, etc. Damaged instruments can actually leach out metals that deposit on other instruments causing staining. Be certain to never mix instruments that are incompatible. Please check with the manufacturers of the instrument washer and instruments for their recommendations on what instruments can and cannot be used in an instrument washer. VistaBrite will provide excellent quality water by removing the vast majority of contaminants. However, even great quality water will not prevent corrosion, staining and spotting where incompatible instruments have been mixed together or where improper instrument washer methods have been used.

Location of System

The VistaBright has been designed to be able to fit in the base cabinet of most sterilization centers. The system is board-mounted and can hang on the inside of a cabinet wall. Or, some may prefer to mount the board on drawer slides so the system can be pulled out for service and filter changes. The slides and additional mounting boards should be obtained locally. The treated water storage tank can stand upright or can be laid on its side using the plastic tank support included with each system.

The VistaBright can also be placed in an equipment room or other remote location as needed. The line running from the storage tank to the instrument washer can be run as far as is necessary within reason. Just remember that every foot of tubing will cause a slight reduction in water pressure and flow. Additional tubing can be purchased. See your dealer or local hardware supplier for a good quality LLDPE or similar 3/8" O.D. tubing.

Water Supply

VistaBrite is designed to use both potable COLD and potable HOT water supply – NEVER allow blended input water above 100°F (37.78°C) to reach the filter elements. Keep the feed water points as close to the system manifold as possible to avoid pressure losses. Remember, the higher the inlet water pressure, the higher the quality of water will be and the faster the VistaBrite will make it. If the supply water is excessively hard (over 10 grains per gallon) or has elevated levels of iron and/or manganese, installation of a water softener or suitable filter is highly suggested.

Drain Line

VistaBrite requires an unrestricted line to a drain so that the contaminants removed from the water can be washed away from the hyperfiltration membrane. A floor drain, laundry tub, standpipe, etc. are all permissible if a physical airgap is provided. Codes on drain connections vary greatly but the typical discharge point for drains in a plumbing system are usually to the tailpiece area between the sink drain and trap. The VistaBrite includes a fitting called a "drain saddle" which is especially helpful in tight spots. It simply aligns and clamps over a small, drilled hole in the 1-1/2" drain pipe between the sink drain and the trap. It has a quick push-to-connect fitting for the 1/4" drain tubing. Check local codes to see if this type of device is permitted. If a full air gap type connection is required, check for such an approved device at a local home center or hardware store in your area.

Connecting to the Instrument Washer

The treated water from a VistaBrite can be plumbed directly into an instrument washer's cold, hot or treated water rinse port. The system includes a supply of 3/8" O.D. LLDPE natural tubing that runs from the storage tank to the instrument washer. A special 3/8" tube x 3/4" female garden hose adapter is included. Also included is a 3/4" MGH x 3/4" MGH adapter and a valved garden hose wye. In normal situations, simply connect the hot and cold instrument washer appliance hoses to the two, valved extensions on the wye then connect the other end to the storage tank supply line. See the illustration later in this manual.

If the instrument washer only has one inlet (or has a treated rinse water inlet), simply connect the 3/8" O.D. line coming from the treated water storage tank to the appropriate inlet fitting on the instrument washer. The special 3/8" tube x 3/4" garden hose adapter is included for making these connections.



The adapter is made of non-corrosive plastic and should never be over-tightened. Avoid using tools that can break the adapter.

Installation

These steps are for “standard” installations (Typical Installation A) shown in the illustrations later in this manual. Simply modify appropriately for other installations as needed.



Make certain to read this entire manual, review all the drawings and inspect all system components and supplies before proceeding with installing VistaBrite. If you are not familiar with general plumbing procedures and codes, please consult a licensed plumber. These instructions do not detail every single step since we cannot know exactly what is required for every installation.

Pre-Installation

Determine the exact location for the installation of the VistaBrite and make certain that there is sufficient water pressure provided from the hot and cold water supply connections. If there is less than 40 psi (2.76 bar), a booster pump will be required. A simple pressure test device can be made using a pressure gauge and garden hose wye available from your local home center store. Simply attach the assembly to the drain of a water heater or garden hose fitting. The VistaBrite does not require tools for most installation steps. For example, filter sumps should be hand-tightened only. A tubing cutter should be all that’s required. There may also be need for a drill, drill bits, adjustable wrench, rags, slotted and Phillips tip screwdrivers, etc. for mounting the system and/or making drain connections.

Unpacking

Remove all parts from the carton and assemble as follows:

1. Carefully remove the three cartons from the overpack carton.
2. Remove VistaBrite system board from the large carton. Remove the stretch wrap and packing materials.
3. Remove the tank and tank stand from its carton.
4. Remove the tubing and accessories from the large flat carton.
5. Inspect all items for damage. If damage is found, please contact the carrier who delivered the system.

Mounting the System Board

The VistaBrite is conveniently mounted on a 16” W x 22” H board to aid with installation. Technically, it can be oriented in any direction during use. However, it must be vertical for filter changes. Therefore, it’s always best to orient the system vertically. **It’s important to mount the system so that there is at least 2” space below the bottom edge of the board so that filter modules can be easily changed in the future.** Please see the illustrations found later in this manual for suggestions.

You may wish to mount the system on another board with drawer slides so it can easily be pulled in and out of a cabinet. Or, you may use the included mending strips to create a temporary mounting ... much like hanging a picture. Simply attached the metal strips in the orientation that best suits your application, install a few nails or screws and “hang” the system on the inside of a cabinet. The system can also be flush mounted on a wall in an equipment room as well.

Locating the Treated Water Storage Tank

The treated water storage tank can stand vertically since it has built-in feet. Alternatively, if space requires, the tank may lay on its side. Use the included plastic tank support stand and “cradle” the tank into the desired position. Always position the tank (whether vertically or horizontally) to protect the tank water valve and air valve assemblies. If necessary, the tank may be remoted away from the VistaBrite system board. However, please know that longer distances will require additional tubing and pressure may be negatively affected.

Install COLD Water Supply Adapter & VistaCheck Backflow Preventer

Attach the provided 1/4" tube push-to-connect x 3/4" garden hose adapter to the "cold" inlet supply valve. Attach the BLUE 1/4" O.D. tubing to the adapter. **IMPORTANT:** Run the water for at least a minute to make certain the line is cleared of debris and that the cold water is as cold as it will get then turn water valve off. Cut the BLUE 1/4" O.D. tubing to the appropriate length to reach the VistaBrite blending manifold and push the other end into the inlet end of a VistaCheck backflow preventer. Cut a short piece (6" - 12") of BLUE tubing then push it into the outlet of the VistaCheck. Push the remaining end of the short tubing into the COLD Inlet valve on the manifold. See the illustrations later in this manual for graphic detail.

Install HOT Water Supply Adapter & VistaCheck Backflow Preventer

Attach the provided 1/4" tube push-to-connect x 3/4" garden hose adapter to the "hot" inlet supply valve. Attach the RED 1/4" O.D. tubing to the adapter. **IMPORTANT:** Run the water for at least a minute to make certain the line is cleared of debris and that the hot water is as hot as it will get then turn water valve off. Cut the RED 1/4" O.D. tubing to the appropriate length to reach the VistaBrite blending manifold and push the other end into the inlet end of a VistaCheck backflow preventer. Cut a short piece (6" - 12") of RED tubing then push it into the outlet of the VistaCheck. Push the remaining end of the short tubing into the HOT Inlet valve on the manifold. See the illustrations later in this manual for graphic detail.

Install Drain Line Adapter

Attach the drain saddle valve to the drain system. Simply align the semi-circle portion that has the drain line inlet at the selected point on the drain line pipe, mark the location for the hole then drill a 1/4" hole. Clear the hole of debris, align the semi-circle portion of the fitting exactly over the hole and attach the back semi-circle using the screws and nuts provided. Push the BLACK 1/4" O.D. tubing into the drain port, cut the tubing to the appropriate length to reach the blending manifold and push the other end into the TO DRAIN fitting on the manifold.

Install Storage Tank Valve and Fittings

Locate the tank valve assembly and firmly attach it to the 1/4" male sput on the top of the tank. **DO NOT OVER TIGHTEN. DO NOT USE TOOLS.** Make certain the valve, cross, test cock valve and 1/4" x 3/8" union adapter are properly assembled as shown in the illustration found in this manual. Make certain all push-to-connect fittings are firmly engaged. Attach the NATURAL 1/4" O.D. tubing to the adapter cross as shown in the illustration. Cut the NATURAL 1/4" O.D. tubing to the appropriate length to reach the VistaBrite blending manifold and push the other end into the TO TANK valve on the manifold.

Connect VistaBrite System to Instrument Washer

Attach the 3/8" NATURAL tubing to the 3/8" end of the 1/4" x 3/8" union on the tank. Cut the NATURAL 3/8" O.D. tubing to the appropriate length to reach the instrument washer (or water heater if one is to be used). Attach the 3/8" NATURAL tubing into the 3/8" O.D. push-to-connect by 3/4" garden hose adapter provided. Thread the adapter onto the male x male garden hose adapter and attach to the inlet side of the garden hose wye. Now attach the hot and cold appliance hoses supplied with the instrument washer to the valved ends of the wye.

Testing and Preparation

Follow these steps to test all aspects of the system:

1. Attach a section of spare 1/4" O.D. tubing to the test cock valve on the tank assembly. This will be used to run start-up water to the drain.
2. Fully open the "To Tank" valve on the manifold to allow treated water to flow toward the tank and test cock.
3. Turn on the COLD water supply and fully open the COLD inlet valve on the VistaBrite blending manifold.
4. Close the tank valve and open the test cock valve. Secure the end of the tubing running from the test cock to a drain. Allow the system to become fully wetted and discharge air from the system. Allow the product water to run to drain until all air is gone and a solid water stream emerges.
5. Open the HOT supply line fully, then slowly open HOT inlet on the blending manifold. Watch the temperature gauge on the manifold and adjust the hot/cold mix until the temperature reaches a steady 95°F (35°C). Depending on the hot water temperature setting on the water heater, some installations may require reducing the flow from the cold water inlet valve. Simply adjust the valves to achieve the desired temperature. Make certain that the temperature does not exceed 95°F (35°C) and that office staff knows not to move the valve handles from the installer's pre-set position.
6. After the appropriate temperature is reached, close the test cock and open the tank valve on the top of the storage tank. After about 5 minutes, close the tank valve, open the test cock and collect a small sample of water in a cup. Close the test cock and open the tank valve and allow the system to fill the tank with treated water.
7. Using the included hand-held TDS meter, test both the source (city) water and the collected treated water sample. Record the two results in the chart provided in this manual. For example, the city water may read 200 ppm. In this case, the treated water sample may read approximately 020 ppm. This number will vary depending on the severity of the water quality and the pressure from the source water supply.

System Start-Up

After the VistaBrite is completely installed, all air is purged from the system and tests are done, the instrument washer can be operated. Please observe the following:



After the VistaBrite tank is full, run the instrument washer for TWO full cycles WITHOUT any instruments present. This is to assure all water lines and spray arms are completely voided of old water, air and debris.



If treated water from the VistaBrite is directed to a water heater before the instrument washer, make certain that the hot water tank is completely full of water BEFORE sending power to the heating elements. Refer to the water heater and instrument washer manufacturer's instructions for details on temperature settings, cycle settings, connections, flow switches, etc.

System Maintenance General Testing

The water quality from the VistaBrite should be tested at least quarterly to make certain the TDS (total dissolved solids) are being reduced properly. This data is also very important in the event troubleshooting is required. Record the results in the table provided on page 10 of this booklet.

To test the treated water, close the tank valve and fully open the test cock valve. Allow the water to run for at least two (2) full minutes. Collect a water sample and test it using the handheld TDS meter. Test the cold, untreated water supply after allowing it to run for at least 10 seconds. With the test cock valve open, also note the water pressure on the gauge to determine the pressure being sent to the VistaBrite during operation. Check the temperature gauge on the VistaBrite blending manifold periodically to make certain the temperature settings are correct. Close the test cock valve and open the tank valve to reset the system to full operation.

Filter Changes

Performance of the VistaBrite is completely dependent upon proper filter replacement frequency and the water pressure being sent to the system. The Prefilter should be replaced at least ANNUALLY. If the source water quality is poor, change frequency of the Prefilter should be EVERY SIX MONTHS to insure that sediment and certain chemicals are removed from the water. The Hyperfiltration Element should be changed at least every TWO YEARS or if the percentage TDS reduction drops below 70%.

For example, if the inlet water TDS is 300 ppm (mg/l), the Hyperfiltration Element should be changed when the TDS level in the treated water exceeds 90 ppm. This is a general rule and will be dependent upon the inlet water quality TDS, the system water pressure and the volume of water used daily. The higher the TDS level and/or the more water used, the greater the frequency of the Hyperfiltration element changes.

Changing Filter Elements

Whether changing only the Prefilter, Hyperfiltration Element or both of them at once, follow these steps:

1. Turn off the hot and cold supply valves that feed the VistaBrite system. Leave the actual hot and cold valves on the VistaBrite blending manifold in place to avoid having to recalibrate the temperature.
2. Open the test cock valve to drain to contents of the treated water storage tank and to relieve the pressure from the system.
3. Twist the filter module(s) to be changed to the left until it hits the stop. Pull downward to remove it from the head(s). NOTE: Before removing the Hyperfiltration module, disconnect the white tubing from the male adapter located at the bottom of the module and set it aside. Leave the drain line flow restrictor in position as it will be reconnected.
4. Remove the blue protective cap from the top of the filter module, wet the "O" rings with water or high quality silicon. NEVER use petroleum jelly, Teflon paste or pipe dope! Align the notches of the replacement module with the corresponding notches inside the filter head. Push upward until the module touches the inside top of the head then twist to the right to lock the filter module into the head.
5. If the Hyperfiltration module was changed, wrap several rounds of new Teflon tape onto the male threads of the male adapter elbow and install it into the bottom of the Hyperfiltration module. Push the white drain line tubing into the end of the adapter.
6. With the storage tank valve closed and the test cock valve open, turn the hot and cold supply valves back on and check for leaks. Allow water to fully wet the modules and run to drain until all air is out of the system.
7. When the air is gone, close the test cock and open the tank valve to allow new treated water to fill the tank. Note: This is also a good time to take a sample of the feed and treated waters and record the data in the chart.

The VistaBrite is now ready for use.



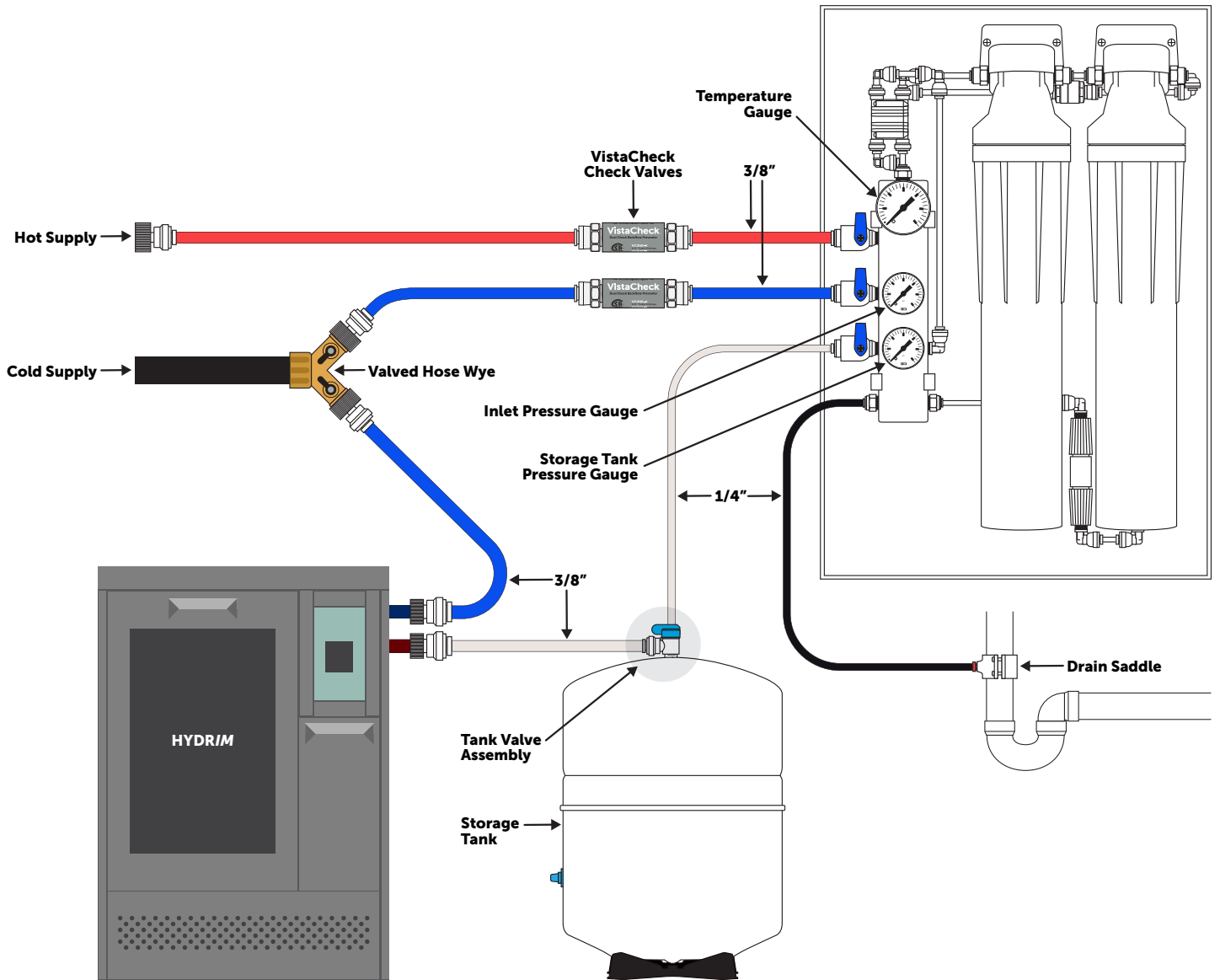
Run the instrument washer for ONE full cycle WITHOUT any instruments present. This is to assure all water lines and spray arms are completely voided of old water, air and debris.



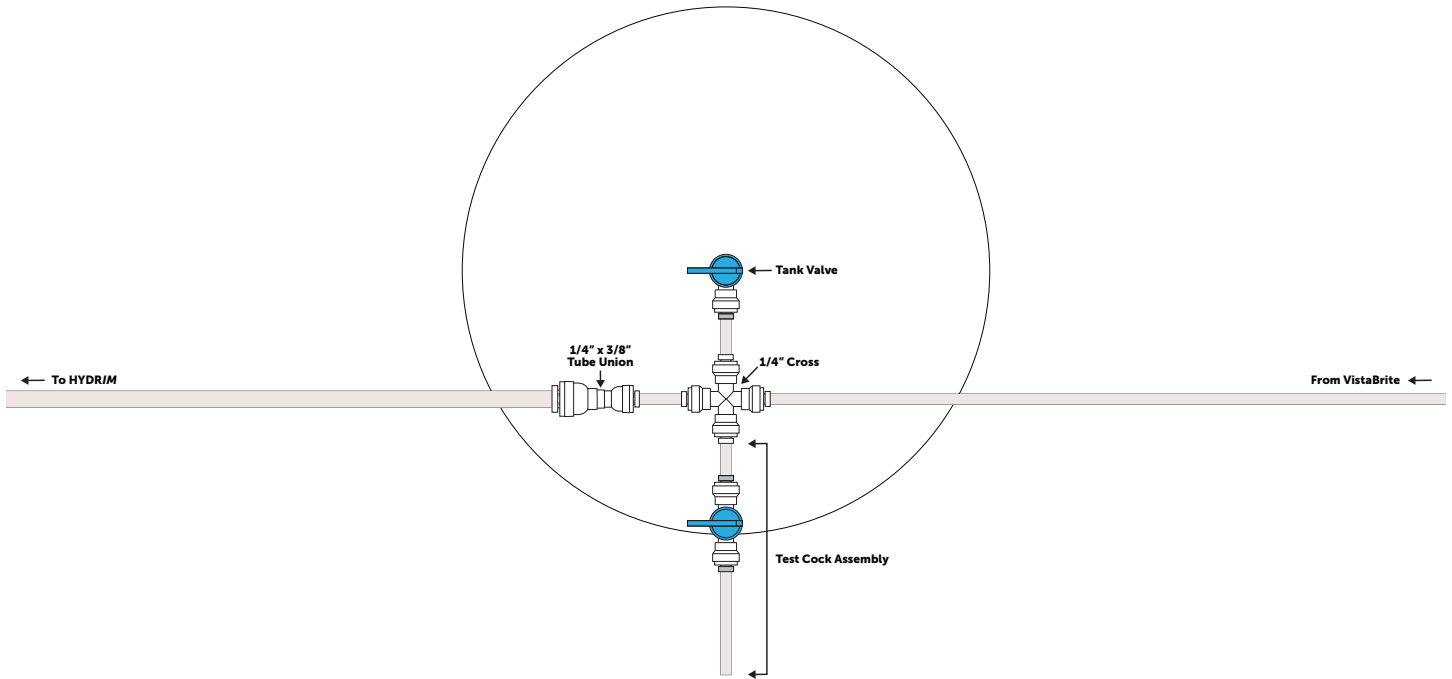
NOTE ABOUT GAUGES

The two pressure gauges on the VistaBrite system are there to allow reading of the (1) inbound water pressure from the water supply source and (2) the pressure of the treated water in the storage tank. Reading the two gauges can also help one determine the amount of water in the storage tank. There is a standard differential reading of about 15 psi between the inbound source water and the tank pressure when the tank is full. For example, if the net delivered pressure from the city while the system is making water is 50 psi, the pressure on the "tank" pressure gauge will be about 35 psi when the tank is full. This is also when the automatic shut-off valve recognizes the tank is full and stops the water flow to the system. If the system is running and the inbound pressure is 50 psi and the tank gauge is reading 20 psi, this means the tank is about half full. Remember, the 15 psi is an approximate value but should be helpful in understanding the status of the system.

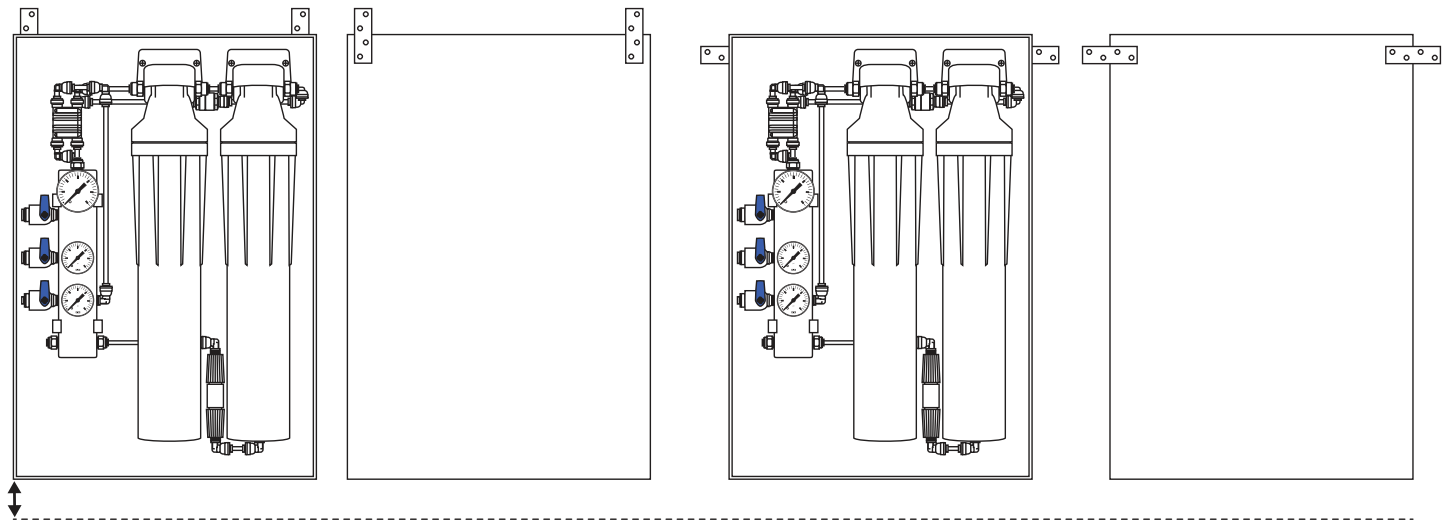
Typical Installation



Tank Valve Assembly



Mounting Options



VistaBrite System Information

Thank you for purchasing the VistaBrite system for your practice! The following chart is for necessary information for future reference. Please fill this out completely and keep this manual in a convenient place for ready access and reference.

Be sure to use our convenient online warranty registration form at vrg.support/register. If you'd prefer, you may complete and return the included Warranty Registration sheet. Make a copy of the form for your records, then mail the original to us.

VistaBrite: Water Filtration for Dental & Medical Instrument Washing Equipment	
System Model #	V4700
System Serial #	
Installer Name	
Installer Phone	
Install Date	
Dealer	
Dealer Phone	
Dealer Address	
Notes	

Average TDS Rejection Rate *	90%
Inlet Pressure Range	40-80 psi (2.76-5.52 bar)
Inlet Temperature Range	40°-100°F (4.44°-37.78°C)
Inlet TDS Range	50-2,000 ppm
Inlet Hardness Range	0-171 ppm (0-10 grains)
Inlet Iron Range	0-0.1 ppm
Inlet Manganese Range	0-0.05 ppm
Inlet pH Range	4-10
Inlet Turbidity	0-1 NTU
Prefilter Replacement Order #	R4151
Hyperfiltration Replacement Order #	R4155
System Dimensions (W x H x D)	22" x 16" x 4.75"
Tank Dimensions (Dia x H)	12" x 18.25"
Approximate Ship Weight (Dry 2 Cartons)	36 lbs

