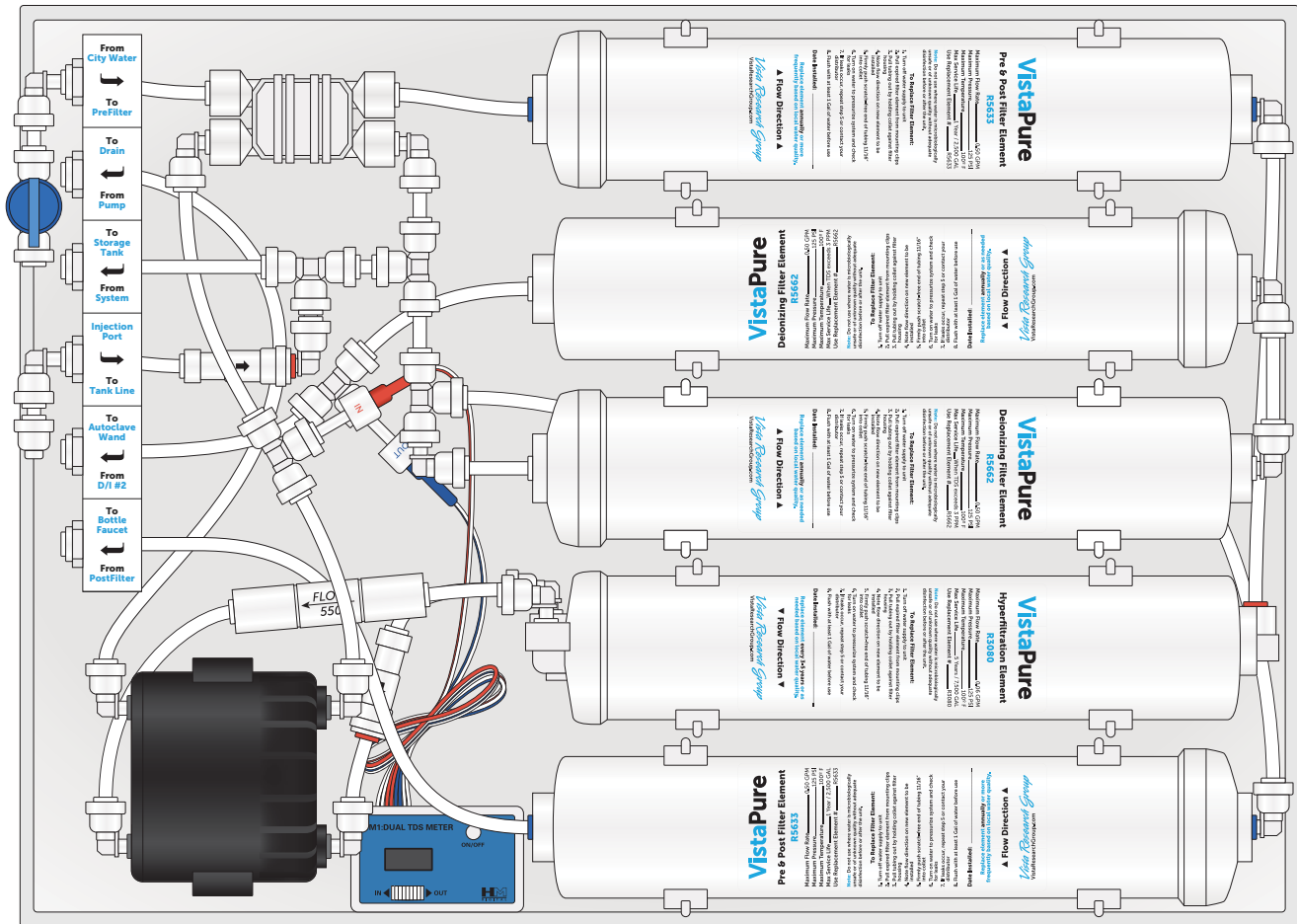


VistaPure™

Installation Guide & Owner's Manual



Model V3000



Specialized water filtration for autoclaves, dental bottles, ultrasonic cleaners & instrument washers

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Distribution

VistaPure systems are sold through dental and medical dealers throughout North America by:

Pelton & Crane

Pelton.net
11727 Fruehauf Drive
Charlotte, NC 28273
United States of America

CUSTOMER SERVICE
(800) 659-6560

TECHNICAL SUPPORT
(800) 659-5922

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701 Technology Drive
Canonsburg, Pennsylvania 15317
United States of America

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FAX (724) 820-1479
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SciCan Ltd.

SciCan.com
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Vista Research Group

VistaResearchGroup.com

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VistaPure is a trademark of Vista Research Group, LLC.

Introduction

VistaPure is designed to produce two grades of high-purity water: distilled-quality water for use in autoclaves, and non-corrosive, low-TDS water for filling dental bottles, ultrasonic cleaners and for final rinse cycles in instrument washers. Water used in autoclaves must be virtually free of dissolved solids in order to protect the heating chamber and to prevent buildup of contaminants that can create hard deposits and necessitate more frequent cleanings. Water used in self-contained dental bottle systems should be of a high quality, but not distilled-grade water, which is corrosive to metals used in the construction of dental units.

The VistaPure system is designed to be built in to sterilization center cabinetry, and can also be installed in an equipment room. The system provides up to 4.25 gallons of treated water in its pressurized storage tank (based on city water pressure), and automatically replenishes this supply as water is drawn from storage. The system does not require electricity—it needs only a potable supply of cold water and a drain. To maximize the life of the system filtration elements, we recommend that the water supplied to the system be free of sediment, and softened if the source water is very hard.

IMPORTANT INFORMATION

For System Owners



We recommend that a professional technician or plumber familiar with dental/medical offices perform the installation since interface with a cold water line and drain is involved. He/she should be familiar with local plumbing codes and techniques for successful dental/medical equipment installations.

Please keep the Installation Guide & Owner's Manual handy for future reference and ensure that anyone responsible for operation and maintenance of the system is familiar with all details contained in this manual.

Please return the Warranty Registration form or register online immediately upon installation.

IMPORTANT INFORMATION

For System Installers



Please read this entire manual before proceeding with installation and operation, and always follow local plumbing codes.

The VistaPure system can be installed nearly anywhere in the typical dental, medical, lab or hospital setting, typically near a faucet and sink. The system and tank are designed to fit under a countertop, but can be installed anywhere there is a quality cold water supply and drain connection. The system board is designed for horizontal installation. Please keep the system board and water storage tank at the same level.

Please locate the system label on the corner of the mounting board and record the installation date using a fine-tipped permanent marker or some other writing instrument that will not smear.

Preparation

Every VistaPure comes in two (2) cartons. Box 1 of 2 contains the system. Box 2 of 2 contains all other items, including the Installation Guide & Owner's Manual, warranty registration card, water storage tank, dispensing wand, faucet, drain fitting, TDS meters, colored tubing and all other accessories. Make sure all items needed for installation are present and undamaged. If damage is evident, contact the shipping company or your distributor immediately.

Box 1

VistaPure System

Box 2

S9111

Water Storage Tank

S9155

VistaPure Chrome Faucet
(with Adapter)

S9300

VistaPure Wand
(with clip, wrench, screws)

TU933

10' Blue Coiled Tubing

S6592

Plastic Line Stiffeners

S6310P

3/8" x 1/4" Union

S9035

Syringe

S9146

Drain Tee Line Adapter
(with Stem Reducer)

x2

S6588

Cable Tie

S6589

Mounting Cable Tie

x5

S6112P

Swivel Elbow

S6160P

Tank Valve

S9118

Economy TDS Meter

Tubing

6' White

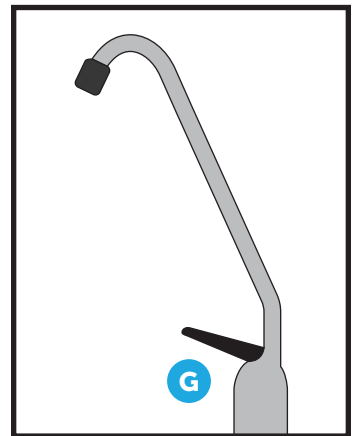
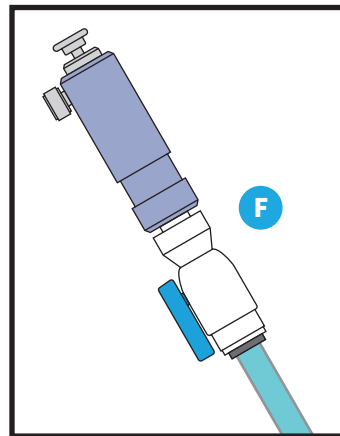
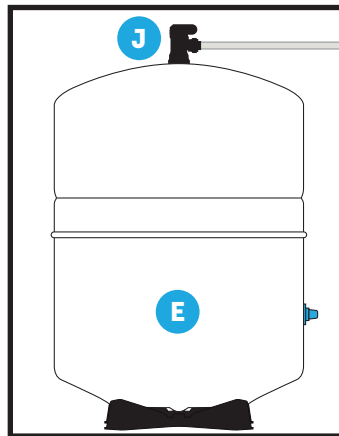
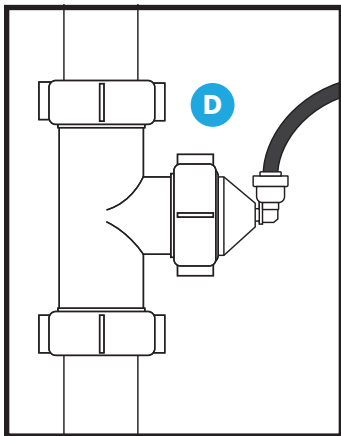
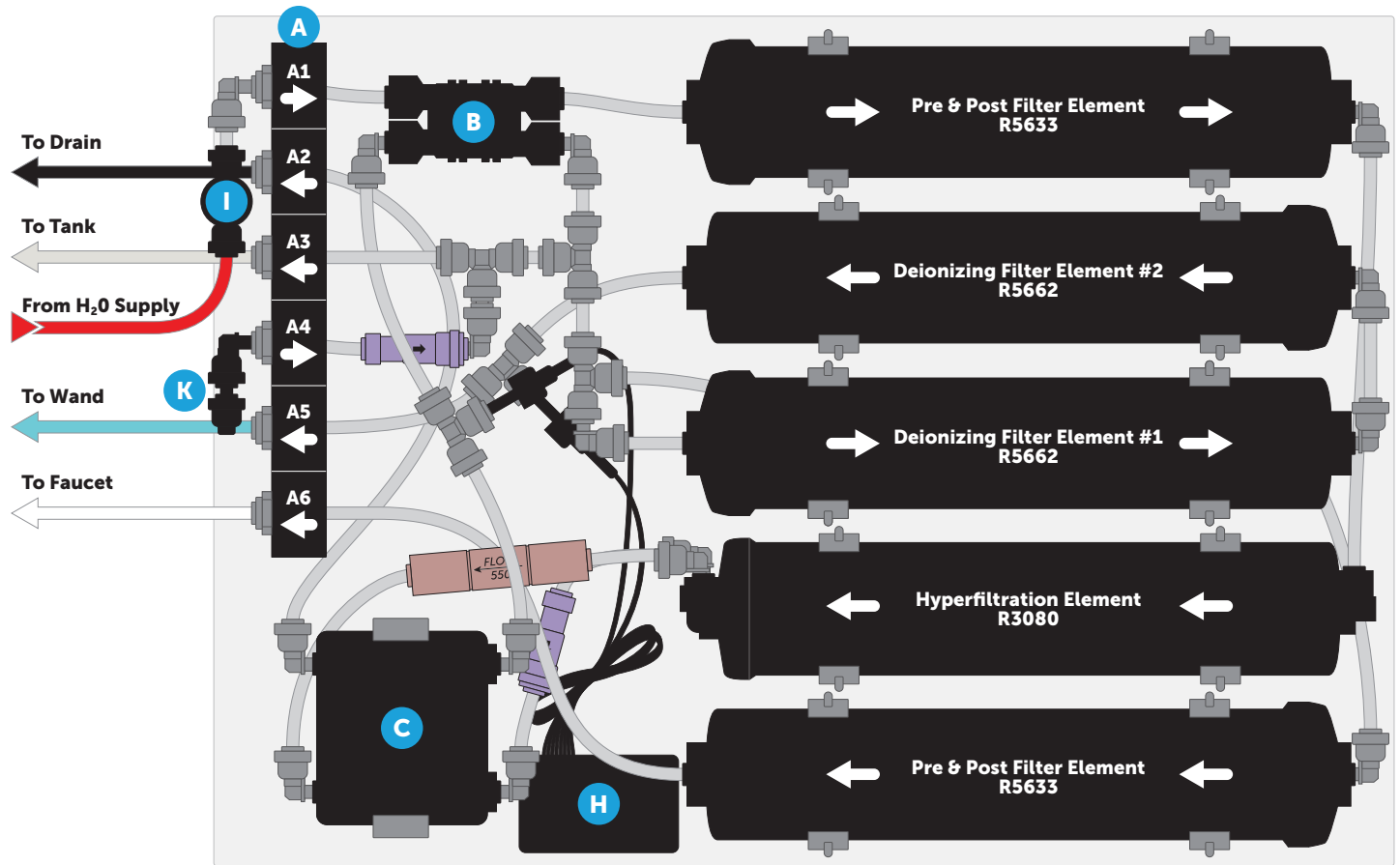
6' Red



6' Black

6' Natural

12' Blue

System Overview



- | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>A System Manifold</p> <p>A1 From City Water to Prefilter</p> <p>A2 To Drain from Pump</p> <p>A3 To Storage Tank from System</p> <p>A4 Injection Port to Tank Line</p> <p>A5 To Autoclave Wand from DI #2</p> <p>A6 To Bottle Faucet from Post Filter</p> | <p>B Automatic Shut-Off Valve</p> <p>C Permeate Pump</p> <p>D Drain Fitting (see page 7)</p> <p>E Water Storage Tank</p> <p>F VistaPure Wand</p> <p>G VistaPure Chrome Faucet</p> <p>H Dual TDS Meter</p> | <p>I System Water Shut-Off Valve</p> <p>J Storage Tank Shut-Off Valve</p> <p>K Injection Port Assembly</p> <p> Flow Restrictor</p> <p> Check Valve</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Installation

- 1 If the system is not already mounted in another product (sterilization center, etc.), mount as desired near a cold water source and 1-1/2" drain.
- 2 Position the water storage tank as near to the VistaPure system board as possible, at the same level.
- 3 Locate the white elbow tank valve in the accessory pack and attach valve to the top of the storage tank. Hand-tighten only—never use tools on system valves and fittings! Make sure to open the tank valve after installing it on the tank—the system will not work if the tank valve is closed. (A valve handle in the open position is in line with the tubing; when closed, it is 90° to the tubing.)
- 4 Provide for a 1/4" connection to the cold water supply. This is usually accomplished using a piercing saddle valve or compression fitting on the cold water line. Check local codes.
- 5 Provide a drain connection using 1-1/2" material with trap as shown on page 7. A 1-1/2" utility Tee with both 3/8" and 1/4" push-in type fittings are included with each VistaPure. Various optional configurations are available. See page 7 for details.
- 6 Mount the faucet on the sink or countertop deck in the sterilization center, lab or kitchenette as desired. The faucet & 1/4" push-type faucet connector fitting are included in the accessory kit.
- 7 Attach colored tubing to the proper segments on the system manifold and the appliance/device as shown below and on page 5. When attaching tubing to the push-type fittings, make certain all tubing cuts are straight and free from burrs. Tubing must be firmly inserted into the fitting (11/16" plunge) to avoid leaks.

- If the system is mounted inside a cabinet, under a sink or on a sliding device, be careful that tubes are not crushed or crimped. If the system is on a sliding device for easy access, make certain to create a coil with the tubes that will allow the system to move in and out without causing damage or restriction.
- If the VistaPure system is to be installed remote to the autoclave(s) and/or in a cabinet, fish the solid blue tubing behind cabinetry to the autoclave center. Join the solid blue tubing and the coiled blue tubing with the white 1/4" x 3/8" push-type union that is already attached to one end of the coiled tubing. Make certain to provide a restraint at the straight end of the coiled tubing near the union so that when pulling out on the autoclave wand and coiled tubing the union connection is not stressed. Extra lengths of tubing are included with each system. A zip tie with mounting hole is provided with system.



RED	From Cold Water Supply	NATURAL	To and From Tank	BLUE (STRAIGHT)	To Autoclave Area
BLACK	To Drain	WHITE	To Faucet	BLUE (COILED)	To Autoclave Filler Wand

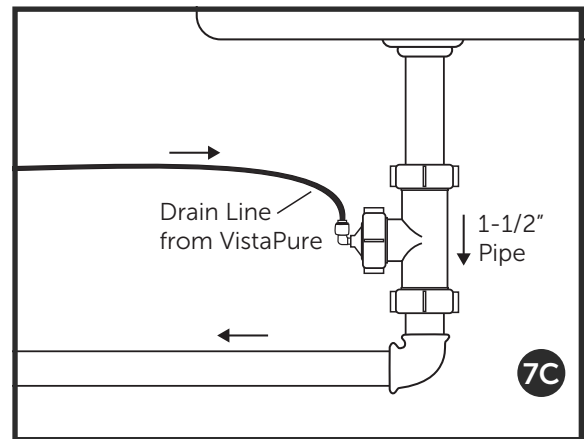
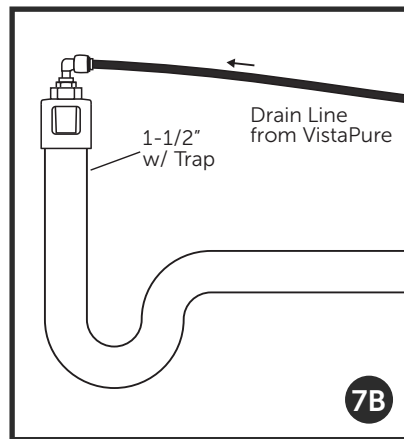
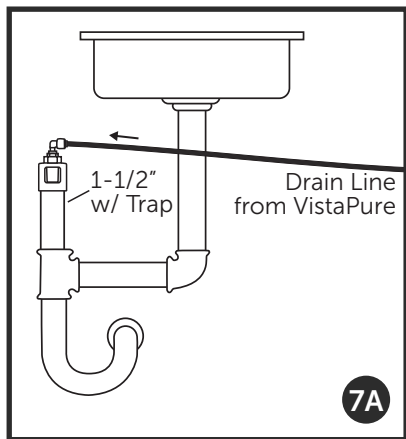
- 8 After all tubing connections have been made, it's very important to cleanse the system. Place 20-30 mL of clean water into a small paper cup and add about two (2) drops of standard household bleach. Stir gently with the 35 mL syringe included in the accessory kit, then pull the solution into the syringe. Remove the safety cap from the injection port on the manifold (see page 5) by holding the collet back against the cap fitting and pulling it away from the check valve. Inject the mixed solution into the Injection Port. Then, draw another 20-30 mL of fresh water into the syringe and inject it into the Port in order to push all the bleach out of the check valve. Replace the safety cap by pushing it firmly onto the Injection Port tube. Immediately open the Water Supply Inlet Valve (I) on the manifold and water will begin to flow into the system, filling the tank with treated water and the bleach.

- 9 Allow the system to run for 20 minutes. Wastewater should be running to the drain Air Gap (D) and a pulsing / clicking sound should be heard coming from the Permeate Pump (C). After 20 minutes, close the Water Supply Inlet Valve (I) on the system manifold, then discharge water from the Faucet (G) until Tank (E) is empty and water flow stops. The system is now cleansed and ready for use.

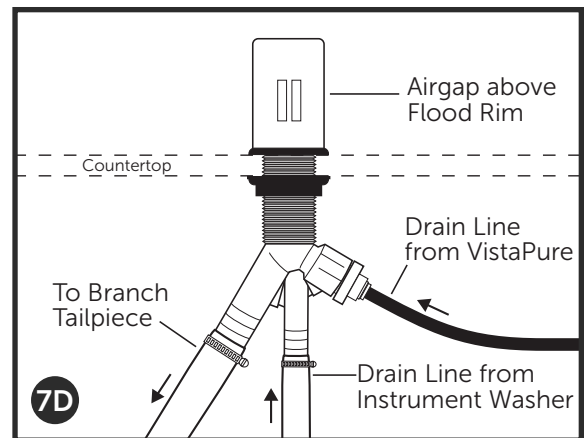
NOTE:

When starting the system for the first time, black/ gray water will flow from the bottle faucet for 30-60 seconds as the filter is purged.

- 10 Open the Water Supply Inlet Valve (I) and allow it to run until the tank is full. This may take over an hour for the tank to fill completely. However, water can be used anytime after about 30 minutes since the system produces and stores up to 4.25 gallons of water and can deliver water to both the Wand and the Faucet even while it's making new water. The system capacity is about 25 gallons of production per 8-hour work day.



- 7A Typical installation of drain Air Gap (S9145) using existing sink drain system. Order separately.
- 7B Typical installation of drain Air Gap (S9145) using separate riser and trap. Order separately.
- 7C Typical installation of drain Tee (S9146) using existing sink drain system. Included with unit.
- 7D Typical installation of dual inlet drain Air Gap system (S9147) using branch tailpiece. Order separately.



NOTE:

Local codes vary greatly, so be sure to verify the preferred method prior to installation. Every VistaPure has a pressurized drain discharge and multiple check valves in the system to prevent backflow from drain connections.

Monitoring TDS

Total dissolved solids (TDS) is the quantitative measure of virtually all constituents found in a particular water supply, counted as parts per million (ppm) or milligrams per liter (mg/L). Water is simply H₂O; basically, everything else found in it would contribute to the TDS. A typical city water supply will have a TDS reading of 150-350 TDS, although it varies greatly. The federal standard for municipal water systems is a maximum of 500 ppm TDS. Please do not use VistaPure with private water wells since TDS can be very high and contain high levels of contamination.

Water for use in autoclaves should be of distilled quality, which is a TDS of 0-5 ppm (some more sensitive autoclaves require 0-3 ppm). Water with TDS readings higher than 5 ppm will eventually cause staining, scale build-up, and more frequent cleaning and/or repair. The worse the water, the more costly the maintenance and repairs—to the point that some autoclaves won't even operate if the TDS is high.

The VistaPure system comes equipped with a battery-operated dual TDS meter that enables you to check the water quality throughout the system. For example, slide the switch on the TDS meter (see Figure 8F) to "IN." This reads the level of TDS in the water emerging from the Hyperfiltration module (before it goes into DI #1). Slide the switch to "OUT" to display the level of TDS emerging from the Deionization modules (after DI #2) on its way to the Autoclave Wand. Water should always be running while testing TDS!

A separate, handheld TDS meter is also included, which can be used to determine the level of TDS in the supply water fed to the system. With these data, one can monitor the complete process as necessary. Under normal operating conditions, TDS levels might be as follows in this example:

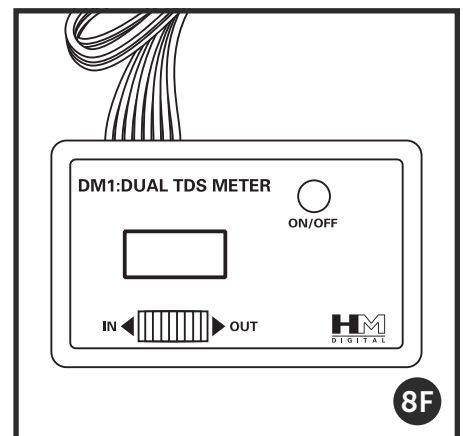
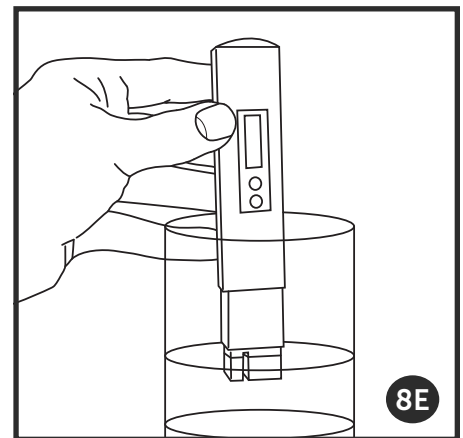
City Water Feed = 200 TDS = X
After Hyperfiltration = 010 TDS = 5% of X
After Deionization = 000 TDS

Remember, this is only an example. However, the reading on the "IN" should generally be about 5% of the inbound water TDS. The Deionization (D/I) modules remove the balance remaining to achieve the 0-3 TDS level desired.

Figure 8E shows the handheld TDS monitor provided with your system. It can be used to determine the quality of the raw and treated water. Simply remove the protective cap exposing the probe, push the power button to activate, and immerse the probe into the water. The LCD display will show the TDS level. After use, shake the water out of the probe area and wipe the outer portion dry—never push anything into the probe area. Check the water quality frequently and change filter elements as required. Both TDS monitors are powered by a simple button-cell battery, available at most any store.

NOTE:

Replacement batteries for meters should be purchased locally. Both included TDS meters take two (2) of the following battery: 357A (LR44) Alkaline Button Cell - 1.5V 110mAh.



Filter Performance Record

Date	"A" City Water to System (Use Handheld TDS Meter)	"B" After Hyperfiltration (Use Mounted Meter "IN")	"C" % TDS Remaining (Divide Column B by Column A)	"D" TDS after D/I (Use Mounted Meter "OUT")	Water at Autoclave Wand (Use Handheld TDS Meter)	Water at Chrome Faucet (Use Handheld TDS Meter)

Typical Filter Life & Replacement Thresholds

Pre & Post filters (R5633): approximately one year (change at least annually).

Deionization filters (R5662): 4 months to 3 years, depending on volume of usage and quality of local water supply. Change BOTH deionization filters whenever the system-mounted TDS meter "OUT" (recorded in Column D above) displays a number equal to or greater than 4 parts per million (ppm).

Hyperfiltration filter (R3080): 3-5 years, depending on the volume of usage and quality of local water supply. Replace the hyperfiltration filter whenever the system-mounted TDS meter "IN" exceeds 10% of the TDS of the municipal water supply TO the system, as measured with the included, handheld meter (percent recorded in Column C above).

Changing Filter Elements



Warning: never attempt to change any filter element(s) with pressure on the system. Follow these steps when changing filter elements:

- 1 Turn OFF water inlet supply (Figure I on page 5).
- 2 To relieve all pressure from the system, discharge all water from the storage tank by locking open the handle on the chrome faucet (lift UP on the black handle)
- 3 Disconnect the tubing from any filter element(s) to be replaced by pushing in on the collet and removing the tubing, starting on the side of the filter(s) opposite the system manifold.
- 4 Pull the filter(s) out away from the board, one clip at a time, then disconnect the tubing from the other end of the filter(s).
- 5 Reverse the process to install your replacement filter(s). Take care to note the proper direction of flow. Don't forget to record the installation date on the filter label using a permanent marker and in the table on the back panel of the instruction manual.
- 6 After any filter elements are replaced, perform a system cleansing procedure as outlined in steps #8 and #9 in the installation instructions section of this manual. This cleansing procedure should be followed at least once per year and anytime a filter element is changed.



Notice: During the initial installation and at least once per year during the tank cleansing process, check the air precharge pressure in the water storage tank using a digital tire pressure gauge. With the tank empty and water valve in the OPEN position, remove the cover cap from the air valve and check the precharge air pressure. The precharge pressure should be set at 7.5 psi for most applications. Add air as needed using a tire pump or compressor. To lower air pressure if too high, depress the stem in the air valve and re-check.

VistaPure Wand Installation & Use Instructions

Each wand includes an integrated shut-off valve, a friction clip holder, two 1/2" machine screws and a hex wrench for the setscrew on the mushroom push-button. Be sure to leave the hex wrench with the system after installation.

USE

To use the wand, remove it from the clip holder, turn the blue valve handle so it's inline with the tubing, then press downward on the mushroom button. Water will flow from the spout.

To store the wand after use, turn the blue handle so it is 90° to the tubing and press the wand into the clip holder.

INSTALLATION

- 1 Push wand assembly valve onto the end of the 3/8" O.D. coiled tubing. Firmly push and twist the tubing to make certain it engages into the O-ring in the valve.
- 2 Attach the white 3/8" x 1/4" union adapter on the opposite end of the coiled tubing to the 1/4" tubing that runs to the "Autoclave Wand" port on the VistaPure system manifold.
- 3 Attach the small wand holder clip to the desired location using the two screws provided. The clip may be oriented in any direction and mounted in any location.

VistaPure Limited Warranty

During the time period and subject to the conditions hereinafter set forth, Vista Research Group, LLC (VRG) will repair or replace to the original user any portion of a VistaPure which proves defective due to defective materials or workmanship of VRG. Contact your nearest authorized VRG distributor/ dealer for warranty service. At all times VRG shall have and possess the sole right and option to determine whether to repair or replace defective equipment, parts, or components. Damage due to conditions beyond the control of VRG is **NOT COVERED BY THIS WARRANTY**. (Contact parcel or freight company for claims on freight damaged in transit)

WARRANTY PERIOD: VRG shall warrant its VistaPure systems for a period of one (1) year from the date of installation, or eighteen (18) months from the date of manufacture, whichever comes first.

LABOR, ETC., COSTS: VRG shall *IN NO EVENT* be responsible or liable for the cost of field labor or other charges incurred by any customer in removing and/ or re-affixing any VRG product, part or component thereof.

THIS WARRANTY WILL NOT APPLY: (a) To defects or malfunctions resulting from failure to properly install, operate or maintain the unit in accordance with printed instructions provided; (b) to failures resulting from abuse, accident or negligence; (c) to normal maintenance services and the parts used in connection with such service; (d) to units which are not installed in accordance with applicable local codes, ordinances and good trade practices; (e) if the unit is moved from its original installation location, or; (f) if the unit is used for purposes other than for what it was designed and manufactured.

RETURN OF REPLACED COMPONENTS: Any item to be replaced under this Warranty must be returned to Vista Research Group, LLC (VRG) in Ashland, Ohio, or such other place as VRG may designate, freight prepaid. Write to the address listed below for a return authorization and the physical address to which items should be returned for warranty attention.

Vista Research Group

VistaResearchGroup.com

P.O. Box 321

Ashland, Ohio 44805-0321

United States of America

PHONE (419) 281-3927

FAX (419) 281-7380

PRODUCT IMPROVEMENTS: VRG reserves the right to change or improve its products or any portions thereof without being obliged to provide such change or improvement of units sold and/or shipped prior to such change or improvement.

WARRANTY EXCLUSIONS: As to any specific VRG product, after the expiration of the time period of the warranty applicable thereto as set forth under the heading "Warranty Period" above, *THERE WILL BE NO WARRANTIES, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.*

Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. No warranties or representations at any time made by any representative of VRG shall vary or expand the provisions hereof.

LIABILITY LIMITATION: *IN NO EVENT SHALL VRG BE LIABLE OR RESPONSIBLE FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES RESULTING FROM OR RELATED IN ANY MANNER TO ANY VRG PRODUCT OR PARTS THEREOF.*

Some states do not allow the exclusion of limitation of incidental or consequential damages, so the above limitation or exclusion 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.

For your warranty protection (Magnason-Moss Warranty Act), the warranty card, if provided, should be completed and returned to VRG within ten (10) days of installation. Alternatively, register your product online within ten (10) days of installation at **vrg.support/register**. In the absence or other suitable proof of installation date, the effective date of this warranty will be based upon the date of manufacture plus one hundred eighty (180) days.

VistaPure System Information

Thank you for purchasing the VistaPure 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.

VistaPure Specialized water filtration for autoclaves, dental bottles, ultrasonic cleaners & instrument washers	
System Model #	
System Serial #	
Installer Name	
Installer Phone	
Install Date	
Dealer	
Dealer Phone	
Dealer Address	
Notes	

Operating Temperature Range	45° - 100° F
Operating Pressure Range	40 - 100 psi
Optimal pH Range	6.5 - 8.5
Max Total Dissolved Solids (TDS)	500
Max pH Range	5.5 - 9.5
Max Influent Hardness	10 gr / 171 ppm
Max Influent Manganese	0.05 ppm
Max Influent Iron	0.1 ppm
Max Influent Hydrogen Sulfide	None
Max Influent Chlorine / Chloramine	2 ppm
Max Daily Output (12 hours)	25 Gal (94 L)
Pre/Post Filter Element Service Life	1 Year Max
Pre/Post Filter Replacement Order #	R5633
Hyperfiltration Filter Element Service Life	3-5 Years
Hyperfiltration Replacement Order #	R3080
Deionization Filter Element Service Life	4-18 Months
Deionization Filter Replacement Order #	R5662
System Dimensions (W x H x D)	22" x 16" x 5"
Tank Dimensions (Dia x H)	12.75" x 18"
Approximate Ship Weight (Dry 2 Cartons)	36 lbs

Vista Research Group

VistaResearchGroup.com

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