VistaClear™

Installation Guide & Owner's Manual

Model V1000-28-HP

VistaClear™

Centralized backflow prevention, submicron water filtration
& operatory cleaning

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Distribution

VistaClear 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

SciCan Inc.

SciCanUSA.com

701 Technology Drive
Canonsburg, PA 15317
United States of America

PHONE
(724) 820-1600

TOLL FREE PHONE
(800) 572-1211

SciCan Ltd.

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1440 Don Mills Road
Toronto, Ontario M3B 3P9
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(800) 870-7777

Vista Research Group

VistaResearchGroup.com **vrg.support** **(419) 281-3927**
1244 County Road 1475, Ashland, Ohio 44805

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Introduction

The VistaClear™ Centralized Water Filtration System is a patented filtration system designed to provide centralized backflow prevention and submicron filtration for water used for general dentistry applications including water used for irrigation, cooling, lubrication and scaling procedures. It can also help to reduce microbial contamination that may be present in the municipal water source to which the system is connected.

It is important never to use water from a standard dental delivery system during surgical procedures. Instead, use sterile water or saline delivered by sterile means, such as autoclavable bulb syringes, or autoclavable or disposable sterile tubing (per CDC MMWR *Guidelines for Infection Control in Dental Health-Care Settings* – 2003).

VistaClear can be installed in an equipment room, hallway or cabinetry located centrally in an office to provide filtered water to all handpieces, air/water syringes, scalers and quick-disconnects in each dental operatory.

The system provides a centralized delivery method for periodic antimicrobial treatments for dental unit waterlines. The system includes a starter supply of EPA-registered VistaTab™ Dental Waterline Cleaner Tablets by Hu-Friedy, which are used for the cleaning and control of microbial contaminants in dental unit waterlines. This manual includes instructions for using these tablets upon system installation and for periodic routine maintenance. The system also includes third-party-certified VistaCheck™ backflow preventers, which can eliminate the need for RPZ valves and other backflow prevention devices in most cities.

PLEASE NOTE:

Use of a VistaClear system does not, by itself, eliminate the need for proper user maintenance. Due to the nature and complex design of dental delivery units, the periodic use of antimicrobial waterline cleaners is extremely important for proper dental waterline care.

According to the CDC, even sterile water introduced to a typical dental delivery system can be contaminated quickly due to a combination of factors, including: low-volume, slow flow rates; the use of small-diameter tubing that contributes to laminar water flow; acquiescence to room temperature; and the use of quick-connect fittings, handpieces and other devices that can introduce contamination from the environment to the waterlines. For these reasons, in addition to the possibility of insufficient user maintenance of the system, Vista Research Group, LLC does not make specific bacteria-reduction claims for the process water output from the system.

We recommend testing water quality via heterotrophic plate count (HPC) on a regular basis using in-office test kits or laboratories certified to perform such tests. Should HPC ever exceed 500 colony-forming units per milliliter (CFU/mL), the waterlines should be flushed and treated with an approved antimicrobial cleaner, such as VistaTab by Hu-Friedy.

IMPORTANT INFORMATION

For System Owners

We recommend that a professional technician or plumber familiar with dental/medical offices perform the system installation since interface with a cold water supply line, drain, and air supply line 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.

The filters included with this system and its replacement filters may contain an antimicrobial agent that helps to protect the filters and system from microbiological colonization. Both filters should be changed at least once per year, or after 800 gallons (3,028 liters) of use, whichever occurs first. Do not operate the system unless the filters are installed in their proper locations.

The VistaClear system can be bypassed in an emergency or in case maintenance ever needs to be performed during business hours. Please see instructions on page 14.

Please return the Warranty Registration form or register online at *vrg.support/register* upon installation.

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IMPORTANT INFORMATION

For System Installers

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

We strongly recommend using only 1/4" O.D. (soft) copper tubing for dedicated lines to each operatory. If copper tubing is unable to be installed for some reason, use only 1/4" O.D. LLDPE tubing. Do NOT use standard plumber's PEX tubing, which is usually 3/8" O.D. Do not exceed 90' in length for runs to any operatory.

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.

For any questions regarding the installation or operation of a VistaClear system, please see our online support resources at **vrg.support** or call us at (419) 281-3927.

Preparation

Every VistaClear comes in one box containing the assembled system board, two (wrapped) filters inside their respective filter housings, and two accessory kits. Make sure all items needed for installation are present and undamaged. If any damage is evident, contact the shipping company or your distributor immediately.

Inside Filter Housings

R9721
VistaClear HP Ceramic Filter

R9722
VistaClear HP Carbon Block Filter

Accessory Kit A

x10 **VC250-A**
VistaCheck Dual Check Backflow Preventer

x2 **S6121**
Male Adapter
⅛" NPT x ¼" Tubing

x2 **S7215**
Adapter for Regulator
⅛" NPT x ⅜" Tubing

x2 **S7215**
Back-Mount Pressure Gauge

x2 **S7205**
Air & Water Regulator

S9145
Air Gap Drain Fitting with ¼" Tubing Adapter

S9035
Injection Syringe

S6115
Union Tee - ¼" Tubing

S6130
Plug - ¼" Tubing

Accessory Kit B

3' **TU901**
Clear Transparent Poly Tubing
¼" O.D. x ⅛" I.D.

3' **TU903**
Yellow Transparent Poly Tubing
¼" O.D. x ⅛" I.D.

3' **TU904**
Red Transparent Poly Tubing
¼" O.D. x ⅛" I.D.

6' **TU944**
Black LLDPE Tubing
¼" O.D. x 0.17" I.D.

S2500
Quick-Disconnect Drain Accessory

S7106
VistaClear HP Filter Housing Wrench

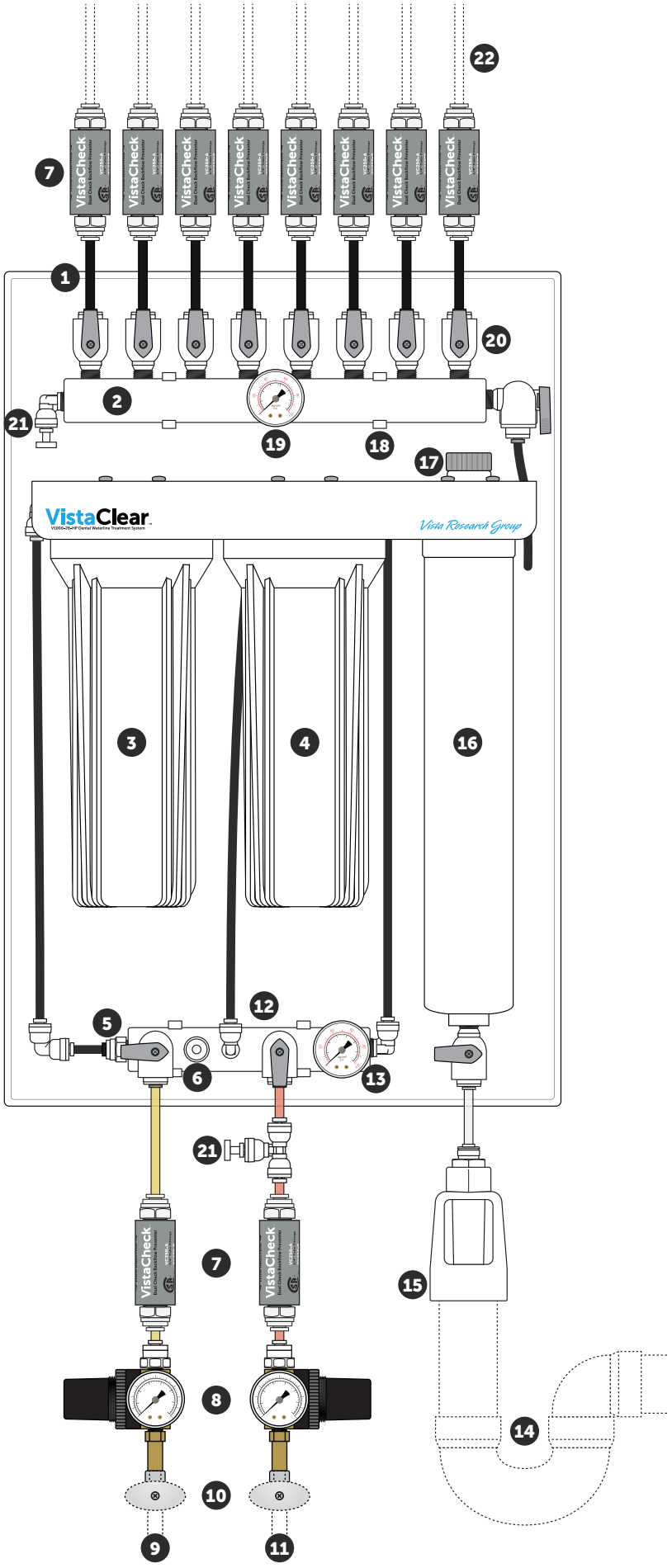
S1040
Emergency Bypass Kit

IMS-1451 *
Box of VistaTab™ Dental Waterline Cleaner Tablets by Hu-Friedy

* Approved for use in the United States only. Outside the U.S., please follow Alternative Cleaning Procedures outlined on page 12.

System Overview

1. ¼" O.D. LLDPE tubing
2. Distribution manifold
3. Submicron Ceramic Filter
4. Submicron Carbon Block Filter
5. Check valve
6. Injection port
7. VistaCheck dual check backflow preventers CSA-certified
8. Pressure regulators (set at 40 psi)
9. Compressed air
10. Shutoff valves
11. Cold water from main supply, after shutoff solenoid
12. Control manifold
13. Control manifold pressure gauge
14. 1½" drain with trap
15. Drain air gap assembly (meets ASME A112.1.2-1991, BOCA P-201.0 and P-1505.11)
16. Mixing chamber
17. Access port
18. Mounting clips
19. Distribution manifold with pressure gauge
20. Operatory ball valves
21. Bypass fittings
22. Dedicated ¼" O.D. lines to each operatory
    We recommend using only ¼" O.D. (soft) copper tubing for dedicated lines to each operatory. If copper tubing is unavailable or unable to be installed, use ¼" O.D. LLDPE tubing. Do NOT use standard plumber's PEX tubing, which is usually ⅜" O.D. Do not exceed 90' in length for runs to any operatory.



NOTE:

items 9, 10, 11, 14 and 22 to be provided prior to installation by plumbing contractor

The VistaClear V1000-28-HP serves up to eight (8) operatories standardly, and can be extended to serve up to 10 operatories with an optional distribution manifold accessory (DM125-10C). For more than 10 operatories, zone systems based on specific needs.

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Typical System Configurations

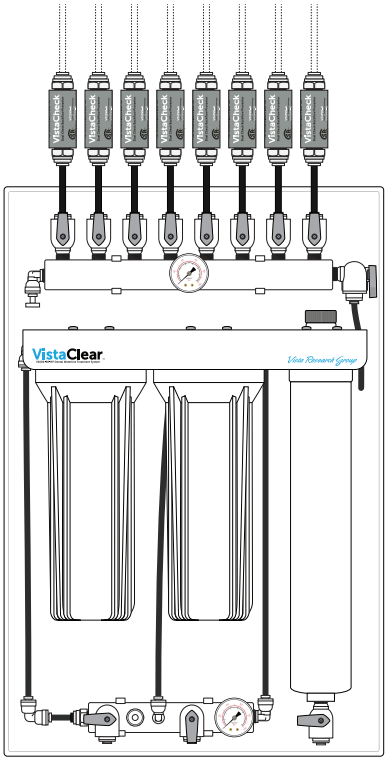
VistaClear systems are modular in design and standardly serve up to eight (8) operatories. An optional 10-operatory distribution manifold is also available (DM125-10C). For offices with more than 10 operatories, multiple systems for distribution "zones" can be used based on need.

NOTE:
Connect operatory lines starting from the LEFT end of the distribution manifold to prevent "dead legs."
Unused or disconnected lines should always be at the right end of the manifold.

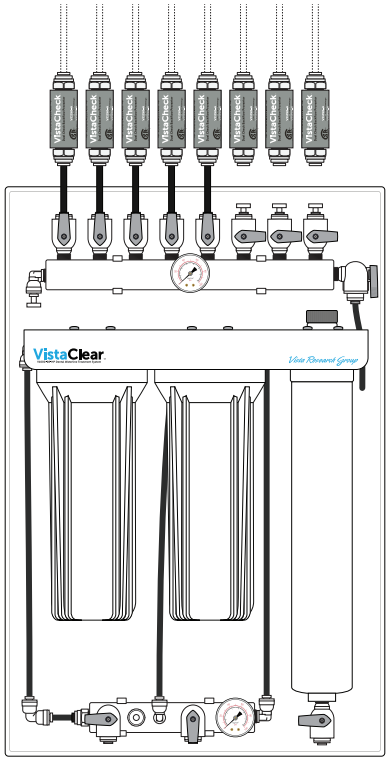
A **Standard 8-Operatory Installation**
VistaClear HP serving eight operatories.

B **Installation for 5 Operatories, Pre-plumbed for 3-Operatory Expansion**
Eight-operatory installation serving only five operatories currently. In this case, the plumbing contractor has already run the copper lines from the system location to operatories #6-8 for future expansion. When ready, all that is required for expansion is the jumper tubing from the distribution manifold to the VistaCheck backflow preventers before opening the lines.

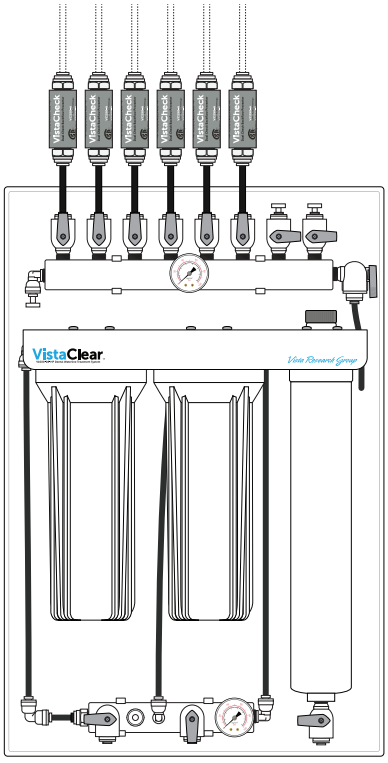
C **Installation for (Only) 6 Operatories**
Six-operatory office requiring only six dedicated lines. Outlet valves on the distribution manifold are simply turned off and plugged permanently, and the two unused VistaCheck backflow preventers can be stored for replacement at a later date if required.



Example A



Example B



Example C

System Installation

Location

The VistaClear system should generally be installed centrally in the dental office—often in an equipment room, sterilization center or hallway—either mounted on a wall or inside cabinetry.

The system should be installed near a pressurized supply of cold, potable municipal water, compressed air and a drain. Make sure that dedicated ¼" O.D. soft copper lines are run to each operatory from the desired location for the centrally installed VistaClear system.

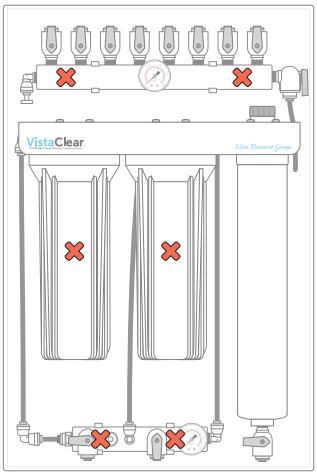
Tools & Supplies Required

Measuring tape	Adjustable wrench	Assorted drill bits & screws	Cotton swabs
Drill	Screwdriver	Tubing cutter or sharp knife	Clean rags

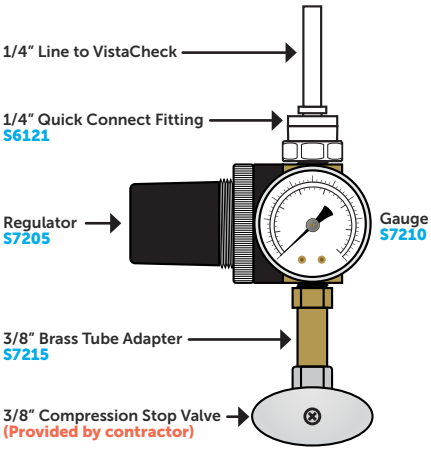
Mounting the System

Always install the system board vertically. The system weighs approximately 25 pounds (11 kg), so use a minimum of two (2) lag screws to mount the system board—ideally into at least one stud or support structure. If no studs are available, be sure to use appropriate anchors.

TIP:
"Hide" anchors behind filter housings or manifolds near the spots marked with an "X" for a cleaner appearance. Simply remove the filter housing(s) and/or manifold(s) from their clips, drill pilot hole(s), anchor and replace.



Regulating Water & Air Pressure



Each water and air inlet line should be regulated to 40 psi. Two complete regulator assemblies are included with the VistaClear system for this purpose.

Assemble each regulator assembly as shown or as required for the plumbing provided by the contractor. To ensure leak-free connections, use Teflon tape or sealant. Be sure to use the small brass regulator plug on the unused port on the brass body of the regulator.

After connecting regulator assemblies to plumbing shut-off valves, adjust regulator knobs until the outbound pressure for both air and water inlet lines to the VistaClear is 40 psi.

Install an included VistaCheck backflow preventer on both the air and water inlet lines above the regulators and before the VistaClear system. Make sure that each backflow preventer is oriented in the correct flow direction!

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System Installation (Continued)

Connecting the System

After mounting the system, connect the water and air supply lines, the drain line and all individual operatory lines to the VistaClear system as shown in this manual. A supply of tubing has been included for cutting short transitional pieces to connect the valves on the upper (distribution) manifold of the system to the VistaCheck backflow preventers.

RED	Unfiltered Water	**YELLOW**	Compressed Air
BLACK	System Tubing	**CLEAR**	Drain Line

1. Use a tubing cutter or sharp razor knife to make sure all tubing cuts are square and clean. Burrs can damage the internal "O" rings of push-to-connect fittings, and scratches on the surface of the tubing can create leak paths.

2. Mark tubing 11⁄16" back from the end—this is the plunge depth into the fitting.

3. To install, push tubing firmly into fittings until it stops (a slight twist while pushing helps). The mark on the tubing will help to confirm that you have achieved full plunge depth.

4. To remove tubing (if necessary), simply push in on the collet while pulling the tubing out of the fitting. A gentle twist while pulling helps the fitting release the tubing.

Installing System Filters

1. Carefully unthread and remove both filter sumps from the filter manifold. Do not drop! The filter elements inside are fragile.

2. Remove the labels and plastic wrap from both filters. Wear clean gloves and try not to touch the surface of the ceramic filter. Check for any cracks in the surface of the filter elements, and do NOT install if cracks are discovered. (Contact the factory for help.)

3. Carefully lower the unwrapped filters into their respective filter sumps, making sure the open-ended cap is "up" in the housing. Be sure that the white ceramic filter is installed in the LEFT sump, and the filter with the netting is installed in the RIGHT sump.

4. Making sure the filters are centered in their housings, carefully thread the sumps onto their respective locations on the manifold. Do not cross thread and hand-tighten only! The sump wrench should NOT be used to tighten sumps—only to help remove them.

Testing the System

1. Temporarily close all outlet valves on the upper (distribution) manifold by turning the handles 90 degrees relative to the waterlines.

2. Confirm that both filter sumps are (hand) tightened, then turn on the water supply to the system by turning the handle on the water valve on the lower (control) manifold. Water will start to flow into the filter housings.

3. Open the drain valve on the bottom of the mixing chamber to allow air to be purged from the system. Once water has filled both filter sumps, water from the filters will begin to flow to the drain. Allow the water to run to the drain for 5 minutes.

4. Close the drain valve on the mixing chamber, then check the system for any leaks. If a leak is detected, turn off the water supply and open the drain valve to relieve pressure. Attend to the leak (see "Connecting the System"), then repeat these steps to check for additional leaks.

5. If the system and attached plumbing fittings are leak-free and the dental delivery units in each operatory have been connected to the feed lines from the VistaClear system, open each of the valves on top of the upper (distribution) manifold of the system. Water will flow to each operatory. Check for leaks at the operatory-end of each line.

6. If all connections are leak-free, begin the "Purge & Clean" procedure as described on page 11 of this manual to ensure all waterlines are clean and ready for use. Only upon initial installation, this cleansing procedure should be performed *twice*.

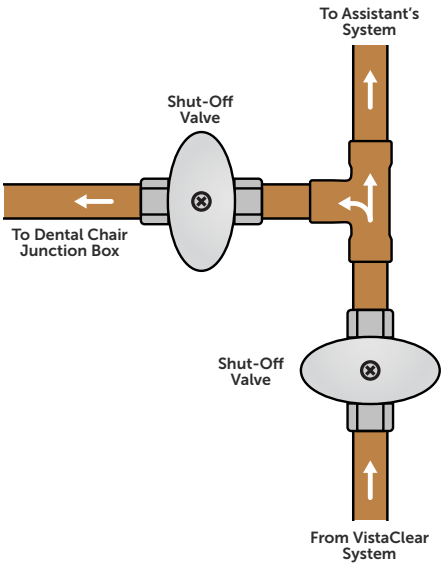
Optional: Multiple-Outlet Connection Instructions

Some operatories have more than one dental delivery system. For example, a dental assistant's system might be located at a side or rear-delivery position, while the doctor might have an "over-the-patient" system.

It is possible to provide filtered water to two delivery systems in the same operatory by using multiple shut-off valves configured as shown here.

Usually the main valve after the filtration system would be located inside cabinetry at the rear or side delivery position, with the secondary waterline running under the floor in a trench or conduit system to the dental chair. An additional valve will be needed in the junction box at the chair.

Both dental delivery systems will be able to be purged with air and flushed with proper cleaning agents if this design is utilized. If, for some reason, the main (assistant's) dental unit will be in constant use but the secondary (chair) line out of service or disconnected for long periods, the secondary line should be purged of all water and the valve serving the chair in the cabinetry shut off. If water lays unused in such a "dead leg," it could encourage the growth of organisms.



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System Maintenance

As with any piece of equipment, proper installation and maintenance of your VistaClear system is critical. After installation, the dental waterlines will need to be cleaned to remove any contamination following the "Purge & Clean" procedure outlined on page 11 twice. The installer or service technician should perform the initial line cleaning.

DAILY

No system maintenance is necessary. However, it's important to follow these waterline protocols recommended by the CDC and Canadian guidelines:

- Discharge all water-bearing lines at the beginning of each work day for a minimum of two (2) minutes. This should include all handpiece, syringe and quick-disconnect lines with handpieces and tips removed.
- Purge all water-bearing lines for a minimum of 20 seconds after each patient.

QUARTERLY*

Perform "Purge & Clean" procedure

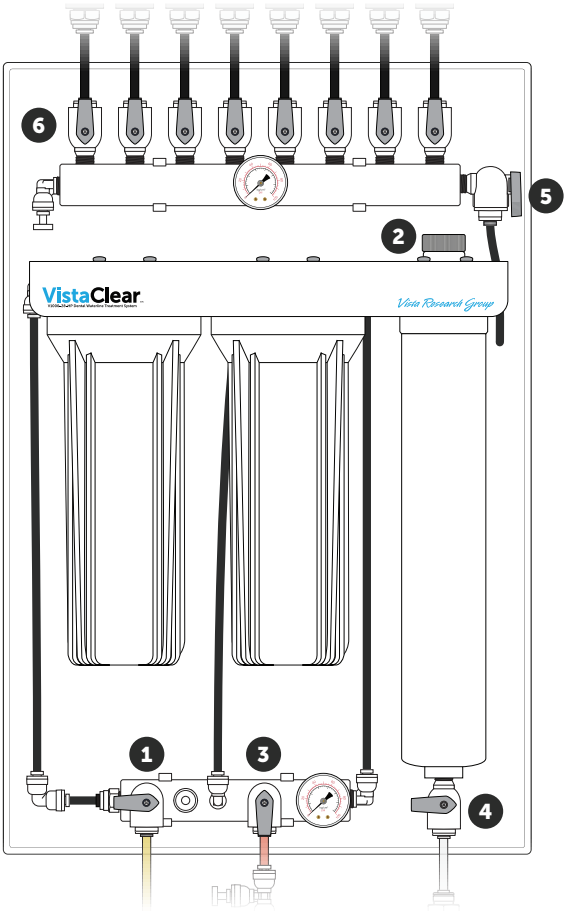
ANNUALLY

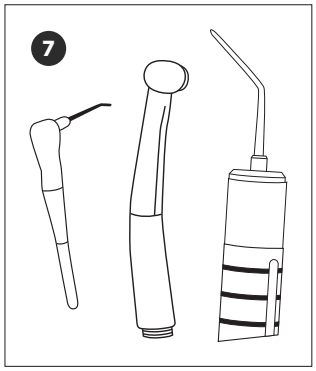
Change water filtration elements as outlined on page 13. For your convenience, a two-filter annual replacement kit is available from your dental dealer (part number R9720).

Test VistaCheck backflow preventers as outlined on page 14.

Perform "Purge & Clean" procedure

1. Air inlet valve
2. Mixing chamber cap
3. Water inlet valve
4. Drain valve
5. Distribution manifold valve
6. Operatory valves
7. Dental appliance lines





* Purge & Clean procedure should be followed if bacteria count ever exceeds 500 CFU/mL, as recommended by the CDC and ADA.

Purge & Clean Procedure

* Approved for use in the United States only. Outside the U.S., please follow Alternative Cleaning Procedures outlined on page 12.

Step 1: Purging the System & Waterlines

1. Close water inlet valve 3.
2. Slowly open drain valve 4.
3. Open air valve 1.
4. Close drain valve 4 when water stops running to drain.
5. Discharge all dental appliance lines 7 in each operatory into sink, cup or bucket until all water is evacuated and air emerges. **Begin by discharging the quick-disconnect fitting on the delivery unit, if present, to speed the process considerably.**
6. Close air valve 1.
7. Open drain valve 4 to relieve all pressure from system.
8. Close drain valve 4.
9. Close all operatory valves 6.

Step 2: Adding Line Cleaner

You will need to follow this procedure for each operatory, one at a time. Never attempt to add cleaner if there is pressure on the system!

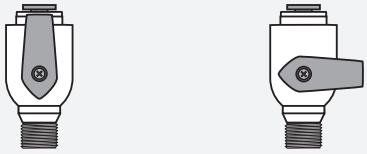
1. Remove the mixing chamber cap 2 from the top of the mixing chamber.
2. Add one VistaTab* to the chamber and thread the cap back into place. (Use two tabs per operatory for initial cleaning after system installation.)
3. Open water inlet valve 3 to fill the mixing chamber with water to dissolve the VistaTab.
4. Close water inlet valve 3 when the two gauges read the same pressure and the mixing chamber is full. Wait at least one minute for the tab to dissolve completely.
5. Open air inlet valve 1.
6. Open one of the valves 6 for the operatory to be treated.
7. Go to operatory and discharge all dental appliance lines 7 in that operatory into sink, cup or bucket until all air is evacuated and cleaning solution emerges from each appliance line, then stop. **Again, start with the quick-disconnect fitting on the delivery unit to speed the process.**
8. Return to the central system board and close air valve 1.
9. Open drain valve 4 to relieve all pressure from the system and both system pressure gauges read zero, then close drain valve 4.

Repeat Steps 1–9 for all remaining operatories (one operatory at a time) and allow solution to remain in water lines for at least five minutes.

Step 3: Line Rinsing Procedure

1. Slowly open air valve 1.
2. Slowly open drain valve 4 to remove remaining cleaner from mixing chamber.
3. Close drain valve 4 when air emerges from drain.
4. Discharge all dental appliance lines 7 in each operatory into sink, cup or bucket until all cleaner is evacuated and air emerges.
5. Return to the VistaClear system and close the air valve 1.
6. Open drain valve 4 to relieve all pressure from system.
7. Close drain valve 4.
8. Open water inlet valve 3 to fill mixing chamber.
9. Return to each operatory and discharge all dental appliance lines 7 into sink or cup until all air is evacuated and clear water emerges. Rinse each line for at least 10 seconds (or a total of 500 mL of clear water for each operatory).

Valve Operation



Open **Closed**

Valve Positions for Normal Use

1	Air Inlet Valve	CLOSED
3	Water Inlet Valve	OPEN
4	Drain Valve	CLOSED
5	Manifold Valve	OPEN
6	Operatory Valves	OPEN

A video tutorial of this process is available online at **vrg.support/purge.**

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Alternative Cleaning Procedures

Using bleach instead of VistaTabs

We recommend using VistaTab™ antimicrobial cleaning tablets upon initial system installation and for periodic "shock" treatments. This product is sold by Hu-Friedy and is available from dental dealers throughout the United States.

However, if for some reason VistaTab tablets are unavailable, **household bleach (Sodium Hypochlorite) may be used as an alternative solution.** However, it is important not to flush bleach into any vacuum or drain system that contains an amalgam separator. Also, do not leave any bleach solution in dental waterlines for more than 10 minutes.

Follow the "Purge & Clean" instructions for the VistaClear HP system outlined on page 11, substituting the bleach solution for the VistaTab in Step 2 (Adding Line Cleaner).

- If using **8.25% bleach** solution, add **2 ounces** (or about **58mL**) to the mixing chamber in lieu of one (1) VistaTab.
- If using **5.25% bleach** solution, add **2.5 ounces** (or about **75mL**) to the mixing chamber in lieu of one (1) VistaTab.

Note that you will need to follow this process for each operatory.

Using the injection port

An injection port on the lower (control) manifold of the VistaClear system enables the injection of cleaning solution. Be sure to depressurize the system following the "Step 1: Purging the System & Waterlines" instructions on page 11 before injecting cleaning solution into this port.

To remove the cap covering the injection port, simply hold the cap's collet back against the cap body and pull the cap away from the tube. Be sure to replace the cap by pushing firmly onto the tubing when finished.

- If using VistaTab antimicrobial cleaning tablets, simply dissolve each tablet in 20-30 mL of water, then inject the solution into the port using the 35 cc luer-tip syringe included with the system.
- If using bleach, simply inject the appropriate amount of solution depending on the concentration of the bleach solution available.

Filter Replacement

VistaClear filters should be replaced at least annually, or more frequently as needed depending on local water conditions.

If you notice lower-than-usual water flow or that the "throughput" of the system appears to be restricted, it's time to change the filters. Restricted water flow can require filter changes more frequently than once per year in areas with poor water quality or heavy sediment in the water supply (sometimes caused by nearby construction).

1. Turn off the cold-water inlet on the lower (control) manifold to stop water flow to the system.
2. Open the drain valve on the lower end of the mixing chamber to relieve pressure from the system.
3. Open the air valve for a few seconds to purge any remaining water from the mixing chamber. Once only air is emerging from the drain valve, turn OFF the air valve.
4. When the pressure gauges on the system register "0," use the supplied sump wrench to remove the filter sumps. Support the system by holding the filter manifold while loosening the filter sumps.
5. Remove and discard the expired filters in the normal trash.
6. Wash and rinse each of the filter sumps. Wipe the center section of each filter cap with an alcohol wipe to clean.
7. Replace the "O" ring in each sump with the pre-lubricated "O" ring supplied with each replacement filter. Discard old "O" rings.
8. Transfer the filter serial numbers from the outside of each replacement filter to the permanent record table on the back page of this manual along with the date replaced. Do not drop! The filter elements are fragile.
9. **Completely remove the labels and plastic wrap from both filters.** Try not to touch the surface of the ceramic filter, or wear clean gloves. Check for any cracks in the surface of the filter elements. Do NOT install if cracks are discovered! Contact the factory for help.
10. Carefully lower the filters into their respective filter sumps. **Make sure the open-end cap is "up" in the housing.**
11. Making certain the filters are centered in the housing, carefully thread the sumps onto their respective filter caps on the manifold. Do not cross thread. Hand-tighten the sumps while supporting the metal manifold.
12. After both sumps have been hand-tightened, turn on the water supply by turning the handle on the water valve on the lower manifold. Water will start to flow into the filter housings.
13. Open the drain valve on the bottom of the mixing chamber, allowing air to be purged from the system. Once water has filled both filter sumps, water from the filters will begin to flow to the drain. **Allow the water to run to the drain for two (2) minutes to flush filters.**
14. Close the drain valve on the mixing chamber and check the system for any leaks. If a leak is detected, immediately turn off the water supply and open the drain valve on the mixing chamber to relieve the water pressure. Attend to the leak then repeat the steps to check for additional leaks.
15. If all connections are leak-free, begin the Purge & Clean procedure (as described on page 11) to ensure all lines are clean and ready for use.

Left Sump:
Ceramic Filter
R9721

Right Sump:
Carbon Block Filter
R9722

Annual Kit
(Includes both filters)
R9720

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Backflow Prevention Testing

All VistaCheck backflow preventer valves downstream from the upper (distribution) manifold of the VistaClear system should be checked annually to ensure they are working properly.

For specific details on testing VistaCheck backflow preventers, go to the VistaCheck Resources page and download or print the testing protocol document, including the step-by-step directions, Annual Test Record and VistaCheck Maintenance Record tables.

VistaResearchGroup.com/VistaCheck

Bypassing the System

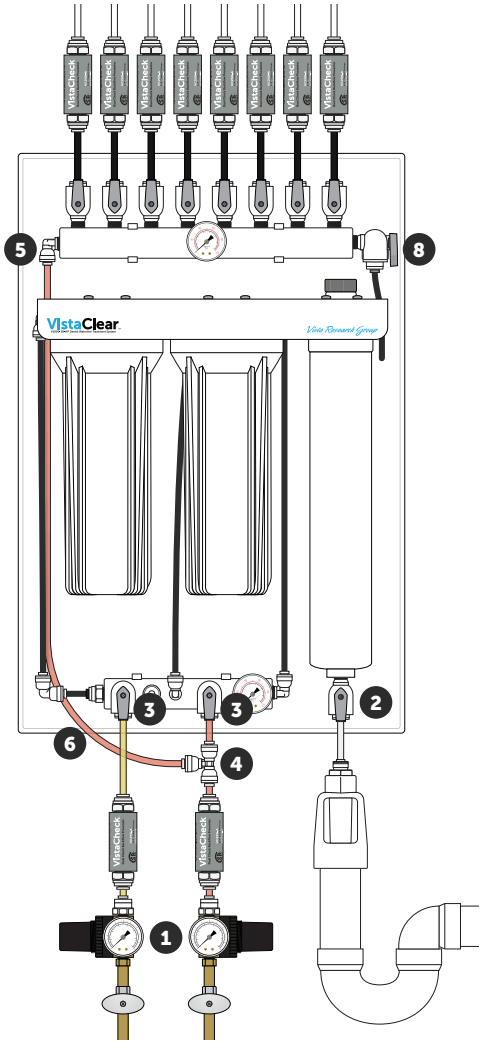
The VistaClear system includes an optional bypass feature. While the bypass tubing should NOT be connected during installation, the system filters can be bypassed temporarily for either of these reasons:

- In the event of a malfunction or leak in the system, the clinical staff can bypass the filter network temporarily while a service technician is en route to fix the problem.
- A service technician can bypass the system to allow unfiltered municipal water to be delivered to the operatories while performing a repair, filter change, etc.

Bypass procedure:

1. Turn off the master air and water supply valves 1, leaving the air and water supply valves on the system control manifold 3 open.
2. Open the drain valve 2 to relieve system pressure.
3. Remove the plugs from the tee 4 and elbow fitting on the upper (distribution) manifold 5. Do not discard these tees, as you'll need to reinstall them.
4. Connect one end of the provided red tubing 6 to the elbow fitting 5 , and the other end of the tubing to the tee 4.
5. Close the service valve 8 on the right end of the upper (distribution) manifold.
6. Close both the air and water valves on the lower (control) manifold 3.
7. Close the drain valve 2.
8. Open the master water supply valve, leaving the master air supply valve off. Unfiltered water will fill the distribution manifold and flow to the operatories.

Reverse these steps to convert back to normal filtration mode. Disconnect, drain and store the bypass tubing. Follow Purge & Clean procedure outlined on page 11 to clean waterlines, since they will have been exposed to unfiltered water.



VistaClear 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 VistaClear 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 VistaClear 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. Filtration elements subject to varying types of water conditions are not warranted for performance due to fouling by local water conditions, but are warranted for defects in materials and workmanship.

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.

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.

Direct all notices, etc. to:

Service Department
Vista Research Group
1244 County Road 1475
Ashland, Ohio 44805

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VistaClear System Information

Thank you for purchasing the VistaClear 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.

System Name	VistaClear
System Model #	V1000-28-HP
System Serial #	
Purchased From (Dealer)	
Dealer's Address	
Dealer's Telephone #	
Name of Installer	
Installer's Telephone #	
Date Installed	
Notes	

Filter Replacement Record	
Date	Date

We strongly suggest that you mark your calendar eleven months ahead so that you don't forget to order your replacement filter elements (**Annual Kit #R9720**). Also mark the anniversary date of the installation on your calendar as an added reminder. It's important to **replace the filter elements AND test your VistaCheck Backflow Preventers every 12 months** and perform a complete system cleaning in order to assure the best quality water for your practice. Ask your distributor to put you on an automatic reminder and/or shipment program.

Vista Research Group
VistaResearchGroup.com vrg.support (419) 281-3927
1244 County Road 1475, Ashland, Ohio 44805