

PureHome Ultra

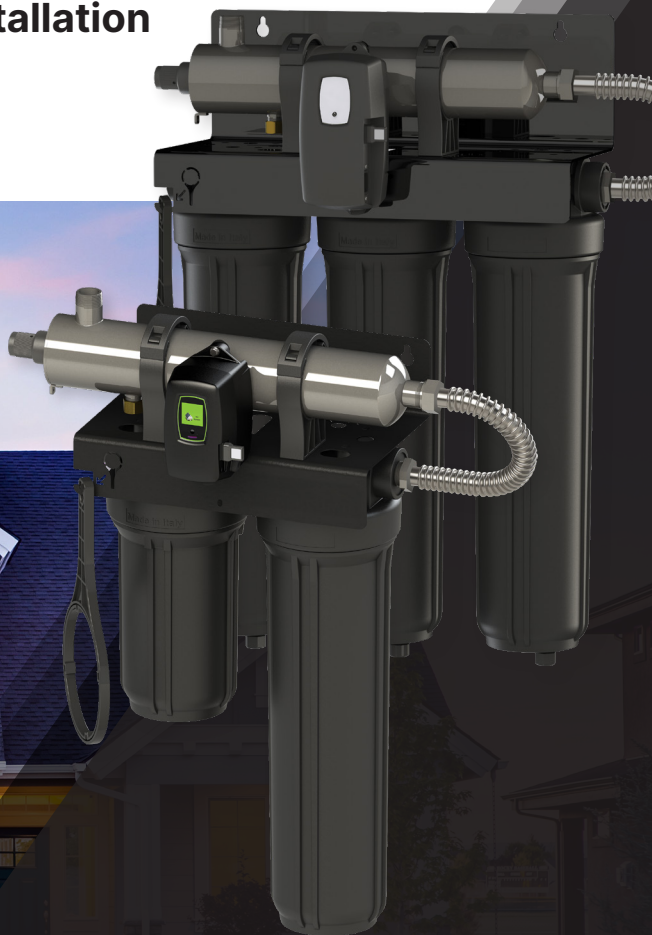
Pure Home Ultra Max



UV DISINFECTION RACK SYSTEM

Operation & Installation Instructions

PureHome Ultra & Ultra Max



PureHome Ultra **PureHome Ultra Max**



Congratulations on purchasing this PureHome Ultra UV System.

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SAFETY CONSIDERATIONS

It is important that care is taken when operating and/or maintaining your system.

Please read the instructions

- The appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.
- Children should be supervised so that they do not play with the appliance.
- WARNING: Do not operate the UV-C emitter when it is removed from the appliance enclosure.
- The appliance is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA.
- This appliance contains a UV-C emitter.
- Unintended use of the appliance or damage to the housing may result in the escape of dangerous UV-C radiation. UV-C radiation may, even in little doses, cause harm to the eyes and skin.
- The appliance must be disconnected from the supply before replacing the UV-C emitter.
- The appliance is intended to be permanently connected to the water mains and not connected by a hose-set.
- Maximum working voltage of built-in UV driver U-OUT=240V
- If the supply cord is damaged, it must be replaced by Nature's Air and Water in order to avoid a hazard.
- Before servicing this equipment, disconnect the power cord from the electrical outlet.
- Energy given off by the UV lamp is harmful to your eyes and skin. NEVER look directly at an illuminated UV lamp without adequate eye protection and always protect your skin from direct exposure to the UV light.
- For complete disinfection**, use ONLY genuine replacement parts.
- Do not operate the unit if it has any damaged or missing components.
- To avoid possible electrical shock, use only with a properly grounded electrical outlet.
- Never perform any maintenance to the system unless you are comfortable in doing so. Contact Nature's Air and Water for service instructions if required.
- Do not use this system for any purpose other than what it was intended for. Misuse of this system could potentially cause harm to the user or others.
- Your system is intended to be installed indoors and away from leaking plumbing. DO NOT plug the unit in if the system or any of the components are wet.
- The system should be directly installed into a ground fault circuit interrupter (GFCI). If the use of an extension cord is required, the cord must be manufactured with a minimum of 16 gauge wire and care should be taken to avoid potential tripping hazards.
- We recommend that a licensed plumber or certified technician install the system.

This product is not to be used for general lighting / illumination.

BEFORE YOU BEGIN

The following will be needed for installing the UV system:

Tools

- Pipe cutter, hacksaw or other specialized tools required to cut into your existing plumbing (e.g. if you have PEX piping)
- Wrench (for tightening fittings)

Other Materials

- Inlet/outlet connections
- Teflon™ tape

WATER QUALITY PARAMETERS

Treated water should be tested for at the least the parameters listed below. If the water exceeds the listed parameters Nature's Air and Water strongly recommends that appropriate pretreatment equipment be installed (equipment required will depend on parameters being treated):

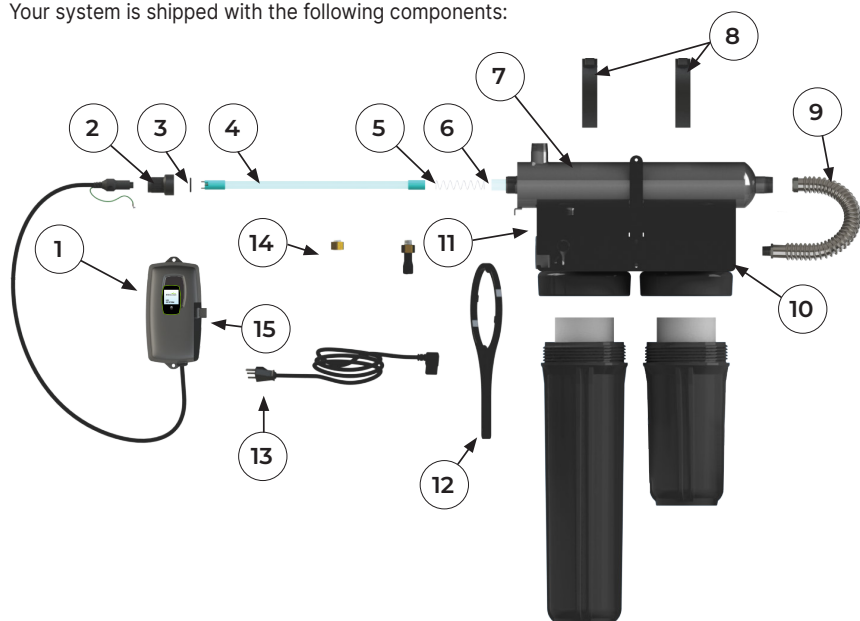
Hardness:	<7 gpg (120 mg/L) – if hardness level is 7 gpg or slightly below the quartz sleeve must be cleaned periodically in order to ensure efficient UV penetration; if above the water must be softened.
Iron (Fe):	<0.3 ppm (0.3 mg/L)
Manganese (Mn):	<0.05 ppm (0.05 mg/L)
Turbidity:	< 1 NTU
Tannins (organics):	<0.1 ppm (0.1 mg/L)
UVT (transmittance):	>85% (Please contact Nature's Air and Water if water has a UVT that is less than 80% for pre-treatment recommendations)

You can have your water tested at a private analytical laboratory. It is always recommended to install pre-filtration of at least 5 microns prior to a Nature's Air and Water UV disinfection** system.

****Nature's Air and Water systems are tested for reduction of the MS-2 coliphage challenge microorganism to demonstrate a log reduction greater than or equal to the reduction caused by a dose of 40mJ/cm².**

ASSEMBLY

Unpack the system and ensure all the components are included with the system.
Your system is shipped with the following components:



1 CONTROLLER

W-R-UV-WH-008-01

2 GLAND NUT

W-R-UV-WH-005-01

3 O-RING

W-R-UV-WH-006-01

4 UV LAMP

W-R-UV-WH-001-01

5 SLEEVE SPRING

W-R-UV-WH-025-01

6 QUARTZ SLEEVE

W-R-UV-WH-004-001

7 REACTOR

W-R-UV-WH-018-01

8 CLAMPS

W-R-UV-WH-019-001

9 FLEXIBLE HOSE

W-R-UV-WH-020-01

10 MOUNTING PLATE

W-R-UV-WH-021-01

Double Filter

11 MOUNTING SCREWS

W-R-UV-WH-024-01

12 FILTER WRENCH

W-R-UV-WH-013-01

13 POWER CORD

W-R-UV-PL-021-01

14 GLOW PLUG

(Complete Assembly)

W-R-UV-WH-010-01

15 LAMP KEY

Not Sold Individually

CONFIGURATION OVERVIEW

Filter Configuration (if equipped):

- 1 PP Sediment
- 2 CTO Activated Carbon
- 3 RES Ion Exchange



PureHome Ultra



PureHome Ultra MAX

SYSTEM SIZING

All Nature's Air and Water UV systems are rated for a specific flow rate in water that meets the quality parameters on page 5. **PLEASE NOTE:** increasing the flow above this rating or disinfecting** water that does not meet the quality parameters will decrease the dose and therefore compromise the efficacy of the system.

If you need to determine your maximum flow rate, you can fill a 1 gallon bucket with water and time how long it takes to fill up. It is always better to oversize your system than to undersize. For example, if your pump delivers 8 gpm it is recommended to install a 10 gpm system.

LOCATION

Choose a location where the main cold water line is accessible. The system must be installed after other water treatment equipment (i.e. softener), but before any branches (See Figure 1).

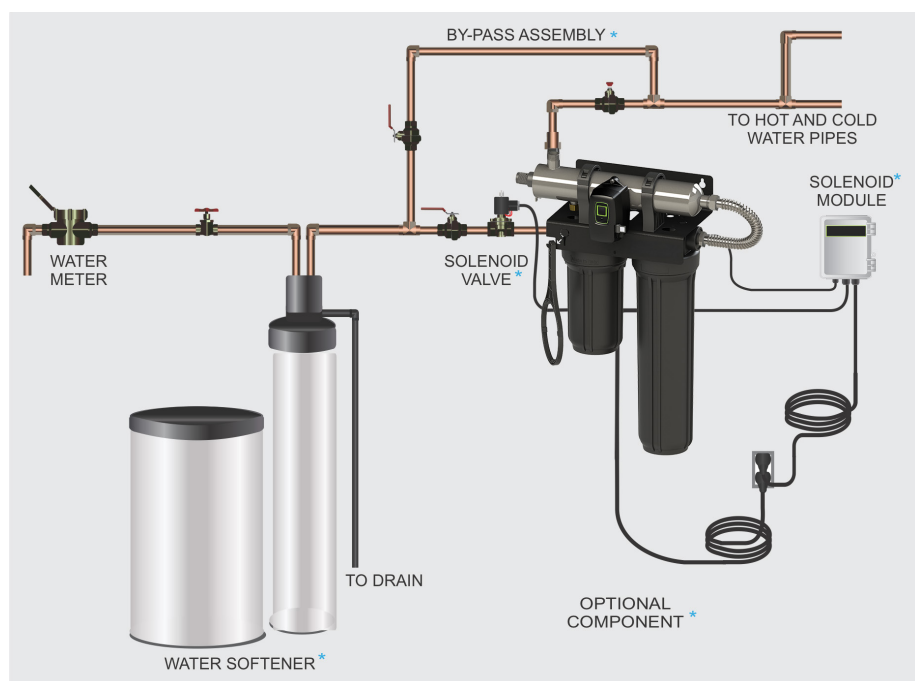


Figure 1. Typical Installation

All Nature's Air and Water UV disinfection systems are intended for indoor use only.
A ground fault circuit interrupter (GFCI or GFI) outlet is required.**

ORIENTATION

This system has the ambidextrous capability of being able to have the main water inlet enter from either the left hand side or right hand side of the unit. While the whole system can be setup in either orientation, the filter head and UV reactor must be rotated. The filter head inlet is indicated by the "Inlet" sticker that must be removed after the desired orientation is configured and before plumbing the system. The units comes pre-configured from the factory for a left-hand water inlet. To change to a right-hand water inlet (See Figure 2) follow these steps:

Step 1: Remove the filter sump housings (either two or three housings depending on the model purchased) from the filter head and set aside.

Step 2: Remove the filter head screws from the top mounting plate.

Step 3: Carefully lower the filter head(s) from the rack assembly and rotate 180 degrees. Reassemble onto the rack assembly and take note of the arrows located on the top of the filter head(s) indicating water flow (which now should be indicating a flow direction of right-to-left).



Figure 2. System Orientation (water inlet)

Step 4: Remove the stainless steel UV reactor from the two plastic clamps located on the top of the rack. Carefully remove the top straps securing the reactor with the aid of a standard (slot) screwdriver). Rotate the reactor 180 degrees (with the inlet now facing to the left and the lamp connections located towards the right) and place back into the cell clamps and re-affix the two top straps.

In either the left or right configurations, to facilitate lamp removal, ensure there is enough space at the lamp connector end to safely remove the UV lamp and/or quartz sleeve (See Figure 3).

Step 5: Once the system is setup in your desired orientation and flow direction, remove the "Inlet" sticker before continuing installation.



Figure 3. Lamp Removal Spacing

INSTALLATION

Step 1: Once both the orientation and location have been selected, securely fasten the rack to a suitable backing. As the rack system is extremely heavy when filled with water, it is imperative that the rack be mounted with suitable fasteners for the particular installation. Mounting to a drywall backing is not suitable, unless the rack is fastened directly to the wall studs.

Step 2: The use of a by pass assembly is recommended as it will allow you to isolate the UV system. This will allow for easier access in case maintenance is required.

Step 3: For water supplies where the maximum flow rate is unknown, a flow restrictor is recommended so that the rated flow of your particular PureHome Ultra system is not exceeded. The flow restrictor should be installed on the inlet port of the reactor.

Step 4: It is recommended to have a licensed plumber connect the UV reactor to the water supply and may be a requirement depending on where you are located.

Step 5: Wrap the MNPT side of the flex hose with an appropriate amount of teflon tape. Install the flex hose by first tightening the MNPT side of the hose into the outlet of the filter housing. Be careful not to over tighten and crack the housing. After the MNPT side is tightened, connect the FNPT side of the hose to the stainless chamber. The gasket should compress and seal on the chamber.

Step 6: Connect both the inlet and outlet to the rack system with the applicable connections based on your particular plumbing requirements. The inlet port of the filters is a 1" FNPT connection and the outlet port of the UV reactor is a 1" MNPT connection.

Step 7: Once the system has been plumbed in, gently remove the quartz sleeve from its packaging being careful not to touch the length with your hands. The use of cotton gloves is recommended for this procedure as oils from the hands can leave residue on the sleeve and lamp which can ultimately block the UV light from getting to the water.

Carefully slide the sleeve into the reactor until you can feel it hit the opposite end of the reactor. Align the sleeve so it centered along the length of the reactor, then gently push it in to lock it into the internal centering springs in the far side of the reactor. CAUTION: Pushing too hard when the sleeve is not aligned can damage the centering springs. Slide the o-ring onto the sleeve until it is butted up against the reactor (See Figure 4).

Step 8: Hand tighten the provided gland nut over the quartz sleeve onto the threaded end of the reactor. It has a positive stop to prevent over-tightening. A firm force may be required to fully tighten the gland nut, but DO NOT USE TOOLS for this step. Insert the provided stainless steel compression spring into the quartz sleeve. The spring works with the lamp and connector to create the proper lamp alignment. PLEASE NOTE: DO NOT install a UV lamp inside the quartz sleeve without the sleeve spring in place.

Step 9: Install the filter cartridges in their appropriate housings. For the PureHome Ultra branded products, please refer to the PureHome Ultra Rack-Mount UV System Specification chart.

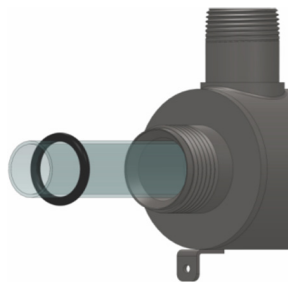
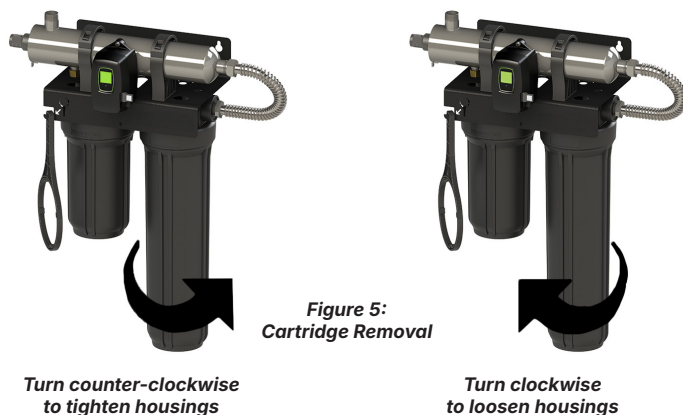


Figure 4. Quartz Sleeve Installation

PLEASE NOTE: This chart indicates the correct cartridge position for the default “left-hand” orientation with the water inlet located on the left side of the rack system. If the orientation was switched, the cartridge placement must also be switched. Once the cartridges are in place, use the supplied filter wrench to “snug” the filter housing onto the filter head (See Figure 5).



Step 10: Install the optional UV sensor (purchased separately). Align the flat portion so it faces the gland nut end and matches up with the half metal lip on the sensor port (see Figure 6). Insert the sensor so it is fully seated and hand tighten the sensor nut. Insert the sensor connector into the IEP port located on the right side of the controller (Figure 7). For the sensor to be recognized by the controller, the controller power must be plugged in last. **Do not plug the controller power cord in before the last step.**

Step 11: The system is now ready for water flow. **WARNING: Sudden filling of an empty reactor could potentially break the protective quartz sleeves.** It is strongly recommended to gradually fill the empty reactor. Damage because of sudden filling is not covered under warranty.

When all plumbing connections have been completed, slowly turn on the water supply and check for leaks. Make sure the bypass valves are functioning properly and that the water is flowing through the system. The most common leak is from the o-ring not making a proper seal on the reactor. For new installations, review steps 6 and 7. For older systems drain the reactor, remove the o-ring, dry it and reapply silicon grease. Reinstall the o-ring ensuring that it is properly sealed against the reactor and check again for leaks. To help vent the pressure from the system while the system is filling up with water, it is a good idea to twist open the pressure relief valve located on the top of the filter head. Close the valve once water appears at the port. If the system has two filters, perform this function on the housing closest to the water inlet first and then on the next filter in sequence.

WATER-HAMMER WARNING: Quartz sleeves can break inside the reactor if water-hammer occurs. Water hammer is caused by sudden closing of valves elsewhere in the piping system. It is strongly recommended to ensure that the piping and valve system is designed to prevent water-hammer. Damage due to water-hammer is not covered by warranty.

Step 12: Always hold UV lamps by their ceramic ends, not by the lamp quartz. Remove the lamp from its packaging. Again, the use of cotton gloves is recommended. Remove the lamp key from the lamp's connector and set it aside for the next step. Be careful to not touch the key's exposed contacts. Insert the UV lamp into the reactor, being careful not to drop it.

Step 13: Install the lamp key into the controller. The key always comes packaged with the lamp and sits on the connector. With the key removed from the lamp, orient it so the label is upright and facing you. The key will plug into the lamp key port on the right side of the controller (Figure 9).

Step 14: Plug the lamp connector into the lamp. Note the keying for proper alignment. Insert the lamp connector into the gland nut and turn the connector approximately $\frac{1}{4}$ turn to lock the connector to the gland nut as in Figure 11.

Step 15: Tighten the captive ground screw to the ground lug on the UV reactor to ensure proper grounding (Figure 12).

Step 16: Ensure all connections are sealed prior to pressurizing system, including factory connections.

Step 17: Your system is now ready to be plugged into the appropriate GFCI protected outlet. Refer to the following section before any water is allowed to flow through the system.

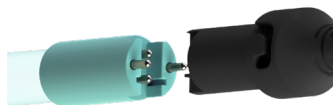


Figure 8. High Output UV Lamp Connection



Figure 9. Lamp Key Installation

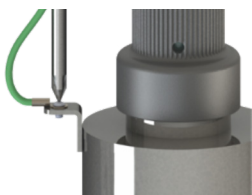


Figure 12. Ground Screw Connection



Figure 11. Connector

SYSTEM PREPARATION

With a new installation, or any time the UV system is shut down for service, without power, or is inoperative for any other reason, the lines in the home or facility could be contaminated. Use the following steps to prepare the lines throughout the entire home or facility.

Step 1: Check for and remove any “dead ends” in the lines throughout the home as these can harbor dirt and debris. Plug in the UV system and wait until it is ready for operation.

Step 2: Remove the filter cartridge from the last sump and fill it with 1-2 cups of household bleach (most are 5.25% chlorine). Replace the sump and slowly turn on the water supply.

Step 3: At a water outlet, run the water until bleach can be smelled. Repeat this for all faucets, toilets, shower heads, refrigerators, outdoor taps, the washing machine, dishwasher, etc. at the home or facility. Once finished, wait a minimum of 30 minutes before continuing.

Step 4: Reinstall the filter cartridge into the sump and flush the chlorine solution by opening all faucets until chlorine can no longer be detected. Your PureHome Ultra UV system is ready to use.

CLEANING THE QUARTZ SLEEVE

Depending on the water quality, the quartz sleeve may require periodic cleaning. At a minimum, the quartz sleeve should be cleaned on an annual basis. The following steps outline a basic cleaning procedure.

Step 1: If a by-pass assembly is installed, shut the inlet valve off to prevent water flow through the system. Otherwise, turn off main water inlet valve (and/or turn off the water pump).

Step 2: Disconnect power cord of UV system from electrical outlet.

Step 3: Release water pressure by opening a downstream faucet and then close the outlet shut-off valve (if any). If there is no outlet shut-off valve, expect water to drain from the system as the head pressure in the system will cause the water to flow back down.

Step 4: Remove the captive ground screw from the ground lug on the UV reactor.

Step 5: Remove the lamp connector from the reactor (gland nut) by pushing the connector in and turning it ¼ turn counter-clockwise. Disconnect the lamp connector from the lamp. CAUTION: the lamp may be hot!

Step 6: Being careful to touch only the ceramic ends, remove the lamp out of the reactor.

Step 7: Unscrew the gland nut from the reactor exposing the end of the quartz sleeve.

Step 8: Remove the quartz sleeve and o-ring by **gently twisting and pulling** the quartz sleeve.

Step 9: Using a soft, lint-free cloth or towel wipe the sleeve down using a commercial scale cleaner (i.e. CLR® or LIME-A-WAY®). This removes scaling or iron deposits that may be on the outside of the quartz sleeve. Be careful not to get any moisture or liquids inside of the sleeve.

Step 10: Dry the sleeve with separate cloth.

Step 11: Replace the o-ring and slide the sleeve back into the reactor following steps 6 and 7 from the installation section of the manual.

CLEANING THE UV SENSOR

Depending on the water quality, the UV sensor may require periodic cleaning. At a minimum, the UV sensor should be cleaned on an annual basis. The following steps outline a basic cleaning procedure.

Step 1: If a by-pass assembly is installed, shut the inlet valve off to prevent water flow through the system. Otherwise, turn off main water inlet valve (and/or turn off the water pump).

Step 2: Disconnect power cord of UV system from electrical outlet.

Step 3: Release water pressure by opening a downstream faucet and then close the outlet shut-off valve (if any). If there is no outlet shut-off valve, expect water to drain from the system as the head pressure in the system will cause the water to flow back down.

Step 4: Place something under the reactor to catch any water that may come out of the reactor during the removal of the UV sensor.

Step 5: Unscrew (counterclockwise) the sensor nut from the reactor and pull the sensor slowly out of the sensor port.

Step 6: Holding the sensor in your hand wipe the flat portion (sensor face) of the sensor with isopropyl alcohol using a clean lint-free cloth.

Step 7: Replace sensor following step 8 from the installation section of the manual.

FILTER CHANGES

Activated Carbon Cartridge

For devices containing activated carbon technology, the filter cartridges should be replaced after six months of use. Carbon filters have the potential for bacteriological contamination, and they should be changed after six months regardless of actual water usage.

Sediment Cartridge

For most installations, the filters included with your PureHome Ultra UV Rack system are designed to be changed in conjunction with the UV lamp. In some applications, for example with high sediment or iron content, the filters may need to be changed more frequently based on pressure drop. Filtration cartridges become loaded (plugged over time and it is this loading that leads to a drop in water pressure. Typically, filters should be changed with the service pressure (the available water pressure when water is being drawn) reaching 20-30 psi or a pressure drop of 10-15 psi. This endpoint may be different depending on the specific application and pressure requirements. For example, an occupant of a three-story house may notice low water pressure earlier on the third story than the first floor.

Ion Exchange Resin Cartridge

For devices containing ion exchange resin technology, the filter cartridges should be replaced after six months of use. Ion exchange resin filters have the potential for bacteriological contamination, and they should be changed after six months regardless of actual water usage.

PRESSURE GAUGES

Your PureHome Ultra UV Rack system is equipped with pressure gauge ports to monitor the pressure drop across each specific filter. Depending on the application it may be important to monitor pressure drop across one, two or all three filters. A pressure gauge should be installed before and after each filter being monitored.



FILTER HOUSING DRAIN PLUG

In order to remove all water from the filter housing, unscrew the drain plug from the underside of the housing.



Filter housing drain plug

OPERATION

PureHome Ultra systems come with a feature-laden controller that incorporates both the lamp driver (ballast) and control features in one water-tight case. Both models feature a power factor corrected, constant current lamp driver with a universal power input.

PLEASE NOTE: While the LED or display screen is red and the buzzer is sounding the water from the system should NOT be consumed. If any water does pass through the system during this period, please follow the disinfection** procedure as outlined in this manual before the water is consumed. For PureHome Ultra UV systems, even though they have a visual and audible warning built into the controller, a green LED or status screen does not necessarily indicate that the water coming from this system is in fact potable (safe to drink). These systems do not measure the level of disinfection**; they simply measure the “on-off” status of the lamp. Please have your water checked for microbiological contaminants on a regular basis.

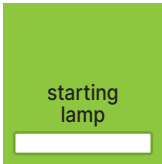
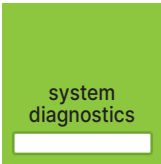
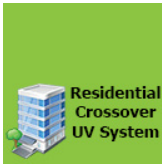
PUREHOME ULTRA UV CONTROLLERS



A full color LCD screen provides the user with a detailed description of the system's performance in addition to providing any applicable fault messages and system diagnostics. The controllers used in both the PureHome Ultra and PureHome Ultra Max are identical. All PureHome Ultra and PureHome Ultra Max controllers include an "infinite expandability port" located on the right side of the controller. Simply plug in an optional UV sensor module into the expandability port of a PureHome Ultra controller and the system will now monitor the UV intensity of the system!

PUREHOME ULTRA POWER-UP SEQUENCE

On start-up, the controller will run through a diagnostic start-up and the sequence will be displayed as follows on the color LCD:



Next, the controller checks for and initializes any optional modules that may be attached to the system.

Optional Modules Check:

-  - UV Sensor
-  - Flowmeter



OR

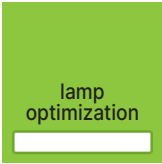


A final module screen is displayed showing which specific modules were initialized.

The controller then displays the lamp optimization screen for 60 seconds to allow the lamp to reach its optimum output. Finally, a final "start-up complete" screen is displayed. The system will now be ready to disinfect** water flow.



all detected modules



lamp reaching max output



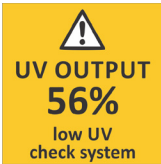
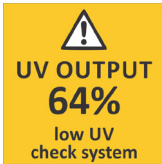
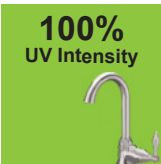
successful start-up

PUREHOME ULTRA UV OPERATIONAL SCREENS

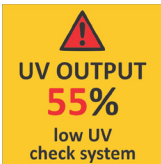
On systems without the UV monitor, the default screen shows the Nature's Air and Water Home Screen. At any point during operation the user is able to scroll through the Nature's Air and **Water Home Screen, Lamp Life Remaining, QR Code, Contact Info and Maintenance Parts** screens by pressing the button located on the front of the controller.

PUREHOME ULTRA UV OPERATIONAL SCREENS

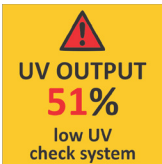
On systems with the UV monitor, the system will display the same screens as on the PureHome Ultra except the UV Intensity replaces the home screen. The UV Intensity screen displays the level of UV light detected by the sensor. UV intensity can be affected by poor water quality, scaling on the quartz sleeve and/or sensor, lamp failure or lamp expiration. The following screens show the UV Intensity dropping.



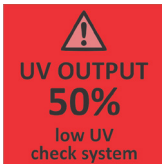
Below 56%, the numbers and warning sign turn red and an audible chirp is given by the ballast every 15 seconds. Below 51%, the screen is solid red and a constant audible alarm is given. This alternates with a screen indicating "water may be unsafe for consumption". With the solenoid module, the controller de-activates the solenoid valve, shutting off all water flow.



audible chirp every 15 seconds



audible chirp every 15 seconds



constant audible alarm



cycles with red low UV screen

LAMP COUNTDOWN SEQUENCE

The system counts down the number of days until a lamp change is required.

PureHome Ultra
UV



At thirty days remaining, the display screen will change to a yellow caution indicator. At seven days remaining, the system will additionally repeat an audible chirp. Past the zero day threshold, the display screen changes to solid red with a continuous buzzer.

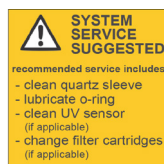


At any point during this sequence, the audible chirp or alarm can be deferred for seven days by holding the controller button down for a period of five seconds. The number of deferrals used will be displayed as below. Once the deferral expires, the alarm will sound once again. The deferral can be repeated up to three times. PLEASE NOTE: At any point after lamp expiration, the water may be unsafe for consumption and should not be consumed without another form of disinfection**.



SYSTEM SERVICE SUGGESTED

PureHome Ultra UV controllers will display the System Service Suggested Screen every 6 months to remind consumers to maintain both their UV and other prefiltration. This will serve as a prompt only and will not put the system into alarm. To clear this condition simply press the button located below the screen.










LAMP REPLACEMENT


After the lamp is expired, it must be replaced with the same part number as indicated on the Maintenance Parts screen or on the label on the reactor. With the system powered down, remove and discard the lamp key from the controller. The replacement lamp is packaged with a lamp key on the connector at the end of the lamp. Remove the key from the lamp and place it in the controller. Refer to **Installation**, starting with step 11 (page 11) for instructions on installing the new lamp.

SYSTEM TROUBLESHOOTING

Hard Alarms: The following give a constant audible alarm. If present, the solenoid valve is closed, and the 4-20, remote alarm and wifi modules transmit the alarm.

<i>System Display</i>	<i>Problem</i>	<i>Resolution</i>
 lamp failure replace lamp	The system has detected a problem with the lamp.	Reset lamp protection circuit -unplug unit for 10 seconds. Replace the lamp with the part as indicated on the silver label on the reactor or on the Maintenance parts screen.
 lamp expired 1 days ago press button for lamp change info.	Although the lamp is powered and visibly illuminated, due to the lamp's age its UV output is no longer sufficient for proper disinfection*.	Replace the lamp with the part as indicated on the silver label on the reactor or on the Maintenance parts screen.
 UV OUTPUT 50% low UV check system	Low UV Intensity.	Remove and clean the quartz sleeve and sensor. Check water quality meets requirements on page 5 and add filtration as required. Replace lamp.
LAMP INCORRECT Required Part: W-R-UV-WH-001-01 Installed Part: W-R-UV-WH-011-01	Wrong lamp or sensor installed.	Replace component with proper model as indicated.
UV SENSOR FAILURE  check connection or see manual	The UV sensor is no longer communicating with the system.	Ensure all modules are connected properly to the system and to each other. Modules can be tested individually by plugging in one at a time and cycling power to the system.
CONNECTION FAILURE  check connection or see manual	A bad connection has been detected in the IEP port.	Replace any module that is not detected when plugged directly into the controller.
LAMP KEY NOT FOUND  check connection or see manual	Missing or incorrect lamp key.	Ensure the lamp key (packed with the lamp, on the connector) is installed. Unplug and reinstall the key. Ensure the key part number matches Lamp on Maintenance Parts screen.
LAMP KEY INVALID  check connection or see manual		

Soft Alarms: The following remaining errors give a 15 second audible chirp only

System Display	Problem	Resolution
<div><div>FLOW METER FAILURE</div><div></div><div>check connection or see manual</div></div> <div><div>ERROR</div><div>Flow Rate</div><div>FULL POWER</div></div>		Refer to flow meter manual for detailed troubleshooting

Warning: After any hard alarm, the home or facility should be disinfected**. Follow the steps under the “System Preparation” heading.

BOIL WATER ADVISORY: If any failure occurs on a PureHome Ultra UV system, the water must not be used for human consumption until the system is returned to normal operational mode. If the water is used for human consumption during this period, the water must be boiled (minimum 20 minutes at a full boil) prior to consumption.

EXPANSION MODULES

PureHome Ultra UV controllers incorporate an **"Infinite Expandability Port" (IEP)** which allows for expansion to the UV sensor and all other modules. Each module (including the sensor) comes with both a male and female connection. Connect any device to the controller and all subsequent devices are then connected into the female end of the last device added in a "daisy chain" configuration.

The following optional expansion modules are available for use on PureHome Ultra UV controllers. Contact Nature's Air and Water for purchasing information.



The **Ultrasonic Flow Meter** enables your UV system to dim power in times of low to no flow, saving you money on energy, reducing water temperature, and decreasing the risk of fouling.

PUREHOME ULTRA RACK-MOUNT UV SYSTEM SPECIFICATIONS

MODEL	PureHome Ultra	PureHome Ultra MAX
Flow Rate (30mJ/cm2 @ 95% UVT)	8 GPM 30.3 lpm 1.8 m3/hr	15 GPM 56.8 lpm 3.4 m3/hr.
Alternate flow rate (40 mJ/cm2 @ 95% UVT)	5.6 GPM 21.2 lpm 1.3 m3/hr.	12 GPM 45.4 lpm 2.7 m3/hr.
1st Filter Housing	5 micron sediment	5 micron sediment
2nd Filter Housing	Activated carbon	Activated carbon
3rd Filter Housing	N/A	Ion Exchange Resin
Port Size	1" MNPT	
Electrical	90-265V/50-60Hz.	
Plug Type	American: NEMA 5-15P *See Note (below)	
Lamp Power (Watts)	45 (high-output lamp)	
Power (Watts)	57 (48 @ 230V.)	
Replacement Lamp	W-R-UV-WH-001-01	
Replacement Sleeve	W-R-UV-WH-004-001	
Reactor Dimensions	3.5" x 20" (8.9 x 50.8 cm)	
Chamber Material	Polished 304 Stainless Steel, A249 Pressure Rated Tubing	
Controller Dims.	8.6 x 4.2 x 4" (21.7 x 10.8 x 10.2 cm)	
Operating Pressure	10-120 psi (0.7-8.3 bar)	
Operating Water Temp.	36-104° F (2-40° C)	
UV Monitor	Optional (requires additional UV sensor module)	
Lamp Change Reminder	YES (audible and visual)	
Lamp-Out Indicator	YES (audible and visual)	
Shipping Weight	33.5 lbs (15.2 kg)	39.9 lbs (18.1 kg)

LIMITED WARRANTY STATEMENT:

Products of Nature's Air and Water are warranted to the original user only to be free of defects in material and workmanship for a period as specified below.
This warranty only applies to the original purchaser and is not transferable.

UV SYSTEMS

Ten (10) year Limited Warranty on the stainless steel reactors, from the date of original purchase, or installation (proper documentation required for verification).

ELECTRONICS

Three (3) year Limited Warranty on the ballasts and controllers, from the date of original purchase, or installation (proper documentation required for verification).

UV LAMPS, UV SENSORS & QUARTZ SLEEVES

One (1) year Limited Warranty on all Nature's Air and Water ultraviolet lamps, UV sensors and quartz sleeves from the date of original purchase, or installation (proper documentation required for verification).

Nature's Air and Water warrants that it will repair, replace or refund, at Nature's Air and Water's sole option, any ultraviolet system or component that is defective in materials or workmanship for the period as outlined above, subject to the "Limitations of Warranty" as outlined below. Nature's Air and Water's liability under this warranty shall be limited to repairing or replacing at Nature's Air and Water option, without charge, F.O.B. Nature's Air and Water's factory or authorized service depot, any product that Nature's Air and Water manufactures. Nature's Air and Water will not be liable for any costs of removal, installation, transportation, or any other charges which may arise in connection with a warranty claim. Products which are sold but not manufactured by Nature's Air and Water are subject to the warranty provided by the manufacturer of said products and not by Nature's Air and Water's warranty. Nature's Air and Water will not be liable for damage or wear to products caused by abnormal operating conditions, accident, abuse, misuse, unauthorized alteration or repair, or if the product was not installed in accordance with Nature's Air and Water's printed installation and operating instructions.

LIMITATIONS OF WARRANTY

This warranty does not apply to any of the following:

- Water Quality Parameters lie outside of the following ranges

Hardness:	>7 gpg (120 mg/L)
Iron (Fe):	>0.3 ppm (0.3 mg/L)
Manganese (Mn):	>0.05 ppm (0.05 mg/L)
Turbidity:	>1 NTU
Tannins (organics):	>0.1 ppm (0.1 mg/L)
UVT (transmittance):	<75%

- A product that has been incorrectly installed according to the owners manual.
- A product that has been modified in any manner, unless approved by Nature's Air & Water.
- A product where the serial number has been altered defaced or removed.

- Damage caused by the use of parts that are not compatible, suitable and/or authorized by Nature's Air and Water for use with the product (e.g. non-original lamps or sleeves).
- Damage caused during shipment of the product.
- Water damage is found inside ballast housing or controllers.
- Product is installed outdoors in direct contact with the environment (rain).
- Product is installed in freezing temperatures.
- Product is used in conditions that exceed Nature's Air and Water's specifications.

TO GET WARRANTY SERVICE

To obtain service under this warranty, you must first contact support@naturesairandwater.com to obtain a Warranty Return Authorization. You will require proof of purchase and installation date, failure date, and any other requested data. Unless otherwise provided, the Dealer or Distributor will contact Nature's Air and Water for instructions on returning the product. Any defective product to be returned to Nature's Air and Water must be sent freight prepaid; documentation supporting the warranty claim and/or a Return Goods Authorization must be included if so instructed.

NATURE'S AIR AND WATER WILL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY FIRE, FLOOD, OR ACTS OF GOD, LOSSES, OR EXPENSES ARISING FROM INSTALLATION, USE, OR ANY OTHER CAUSES. THERE ARE NO EXPRESS OR IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH EXTEND BEYOND THOSE WARRANTIES DESCRIBED OR REFERRED TO ABOVE.

THIS LIMITED WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY MADE BY NATURE'S AIR AND WATER WITH RESPECT TO THE PRODUCT, AND IS GIVEN IN LIEU OF ANY OTHER WARRANTY. TO THE EXTENT ALLOWED BY APPLICABLE LAW, ANY AND ALL EXPRESS OR IMPLIED WARRANTIES NOT SET FORTH HEREIN ARE WAIVED AND DISCLAIMED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE. NATURE'S AIR AND WATER LIABILITY UNDER THIS LIMITED WARRANTY IS LIMITED SOLELY TO THOSE LIABILITIES SET FORTH ABOVE. IN THE EVENT THAT ANY PROVISION OF THIS LIMITED WARRANTY SHOULD BE OR BECOME INVALID OR UNENFORCEABLE UNDER APPLICABLE LAW, THE REMAINING TERMS AND CONDITIONS HEREOF SHALL REMAIN IN FULL FORCE AND EFFECT AND SUCH INVALID OR UNENFORCEABLE PROVISION SHALL BE CONSTRUED IN SUCH A MANNER AS TO BE VALID AND ENFORCEABLE.



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W-P-00-WH-001-01
W-P-00-WH-002-01