

CLEANING AND DISINFECTION CONTINUED

NOTE: Refer to Exploded Schematic to ensure each filter is installed in the correct position.

2. Install the filters into the appropriate sump. Hold filter by its protective plastic bag and insert the filter into the sump.

CAUTION: TIGHTEN SUMPS BY HAND ONLY. Do not use tools as they will over-tighten and may damage sump. Take care not to cut or pinch "O" rings or gaskets. Use sump wrench for removal only.

3. Slide bag from filter and discard. Replace each sump as each filter is installed.
4. Plug system into electrical outlet. Turn on water supply and check for leaks. Flush system for several minutes to remove carbon fines.

ROUTINE MAINTENANCE UV LAMP REPLACEMENT PROCEDURE

NOTE: Refer to the system assembly and activation procedures to identify specific components matching the descriptions shown in this procedure.

1. Disconnect system from electrical outlet.
2. Shut feed water supply valve and open downstream faucet to relieve system pressure.

CAUTION: Do not attempt to remove sumps until water flow stops. This reduces pressure inside the system so sumps may be safely removed.

CAUTION: Use care when sanitizing UV head. Do not get the UV control module or connectors wet.

3. Remove sump from UV head and set aside.

CAUTION: Do not touch Quartz Sleeve or UV lamp with bare hands. Fingerprints will reduce the effectiveness of the light.

WARNING: Do not attempt to remove Quartz Sleeve. Damage to system and personal injury may occur if the sleeve is removed incorrectly. Contact Mercola.com if Quartz Sleeve is broken or needs replacement.

4. Clean Quartz Sleeve carefully using vinegar to remove hardness. Do not use abrasive materials. Rinse sleeve thoroughly with clean potable water. Replace any sleeve that is damaged or that will not come completely clean.
5. Gain access to UV lamp:
 - a. Remove UV Control Module (Item 10) from Mounting Bracket (Item 6) by removing four screws (Item 11).
6. Remove UV lamp from system being careful not to break UV lamp or dislodge Quartz Sleeve:
 - a. Remove UV control module with UV lamp by gently lifting control module straight up from mounting bracket. Grasp UV lamp firmly and remove lamp from the four-pin socket.

NOTE: The inside of Quartz Sleeve must be completely dry before installing the replacement UV lamp.

NOTE: Hold replacement UV lamp by the ceramic ends only. Do not touch the glass. Clean glass with isopropyl alcohol if necessary.

7. Install the replacement UV lamp by reversing steps 5 and 6 of this procedure.

INSTALLATION MANUAL AND OWNER'S GUIDE

Pure & Clear UV Well Water FILTER

Model PC UVS2000

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INTRODUCTION DESCRIPTIONS AND DEFINITIONS

You have purchased one of the most technologically advanced Ultraviolet Water Treatment System available anywhere in the world. It has been designed with you, the consumer, in mind. Dr. Mercola's Pure & Clear products will provide you with healthy, clean drinking water for years to come.

WHAT IS ULTRAVIOLET?

Ultraviolet (UV) light from the sun has long been known for its ability to destroy microorganisms. However, it has only been in recent years that equipment producing UV light has been manufactured for residential use.

WARNING: NEVER LOOK DIRECTLY AT A LIGHTED UV LAMP. ULTRAVIOLET RAYS CAN BE HARMFUL TO EYES.

Energy produced by the UV lamp has the ability to destroy microorganisms that can live in water. There are five major groups of microorganisms that are altered by a specific spectrum of ultraviolet light: viruses, bacteria, fungi, algae, and protozoa.

When these microbes are exposed to the proper amount of UV energy, their DNA structure is scrambled, and they are unable to reproduce. Since the cell is now sterile or dead, it is no longer a threat.

WHAT IS ACTIVATED CARBON?

Activated carbon has been used for hundreds of years to treat taste, odor, and color problems in water. Activated carbon has been proven to be an excellent media to produce produce better tasting water and to remove harmful water contaminants at a reasonable cost.

Carbon used for filters may be manufactured from wood, coal, or coconut shells. The raw carbon is ground up and "activated" by heating the granules at a controlled temperature and pressure.

This process causes the carbon granules to expand and create active sites where pollutants can be collected by adsorption. These new sites dramatically increase the total surface area and capacity of each granule.

CLEANING AND DISINFECTION CONTINUED

damage (i.e. nicks or scratches). Replace damaged "O" Rings.

CAUTION: Use care when cleaning UV head. Do not get the UV control module or connectors wet.

7. Clean sumps and heads, inside and outside with washcloth and cleaning solution. Do not use abrasive materials.
8. Rinse sumps and heads with clean potable water.
9. Clean and rinse the Stainless Steel Channeling Sleeve (Item 3) and Sleeve Gasket (Item 4) shown in Figure 2.
10. Inspect head and sump "O" ring groove area for damage (i.e. nicks or scratches). Replace damaged components.
11. Place a small amount of silicone based "O" ring lubricant on the filter sump "O" ring. Install the "O" ring into the filter sump groove.

DISINFECTION PROCEDURE

CAUTION: WEAR SAFETY GLASSES AND SANITARY RUBBER GLOVES WHILE PERFORMING THIS PROCEDURE.

CAUTION: EXCESSIVE CONCENTRATIONS OF BLEACH WILL DAMAGE PLASTIC AND RUBBER COMPONENTS. Rinse all parts that contact bleach thoroughly with clean potable water.

CAUTION: Read the "WARNINGS" on the bleach container before using.

CAUTION: Handle sanitizing solution carefully. Avoid contact with unprotected areas.

1. Disconnect system from electrical outlet.
2. Mix sanitizing solution:
 - a. Mix 237 ml (1 cup) of household bleach

and 237 ml (1 cup) of clean, potable water in a bucket. Mix the solution well.

CAUTION: Use care when sanitizing UV head. Do not get the UV control module or connectors wet.

CAUTION: TIGHTEN SUMPS BY HAND ONLY. Do not use tools as they will over-tighten and may damage sump. Take care not to cut or pinch "O" rings or gaskets. Use sump wrench for removal only.

3. Add sanitizing solution into system:
 - a. Add 473 ml (2 cups) of sanitizing solution to the sump that contains the UV lamp.
4. Slowly open the feed water supply valve.
5. Open all downstream faucets. Keep faucets open until a chlorine smell is detected at each faucet, then close faucets.

NOTE: Water lines downstream from UV housing must be disinfected to destroy any bacteria that might remain in the pipes.

6. Verify disinfection solution has reached every water outlet downstream of UV system. Solution must remain in the system for at least four hours.
7. Open outlet valve and let water flow for 5 minutes to flush disinfection solution from the water lines.

ROUTINE MAINTENANCE FILTER REPLACEMENT PROCEDURE

1. Perform Cleaning Procedure (Page 10, steps 1-11).

NOTE: Do not remove protective plastic bag from filters. Open bottom of bag only enough to expose bottom of filter.

Maintenance

CLEANING AND DISINFECTION

Cleaning, Disinfecting, and Routine Maintenance Procedure

RECOMMENDATIONS

HAVE ALL COMPONENTS ON HAND AND READY BEFORE BEGINNING PROCEDURE
A CLEAN WORK AREA AND EQUIPMENT ARE ESSENTIAL TO PROPERLY CLEAN AND/OR DISINFECT THE SYSTEM (i.e., CLEAN HANDS, TOOLS, WORK SURFACE, AND CONTAINERS)

EQUIPMENT NEEDED

- Safety Glasses
- Rubber Gloves, Sanitary
- Wash Cloth, Clean and Lint-Free
- Liquid Dish Soap
- Household Bleach Unscented Only (5 ¼% Sodium Hypochlorite)
- Plastic Bucket
- "O" Ring Lubricant, Silicone Based

REPLACEMENT FILTERS

Refer to system parts list for specific component numbers

REPLACEMENT UV COMPONENTS

Refer to system parts list for specific component numbers

CLEANING PROCEDURE

NOTE: Refer to individual system assembly and activation procedures to identify specific components matching the descriptions shown in this procedure.

1. Disconnect system from electrical outlet.
2. Mix a mild cleaning solution of dish soap and clean potable water in a plastic bucket.
3. Close feed water supply valve and open downstream faucet to relieve system pressure.

CAUTION: Do not attempt to remove sumps until water flow stops. This reduces pressure inside the system so sumps may be safely removed.

4. Remove each sump. Remove each filter as its sump is removed. Discard the filters. Use sump wrench to remove stubborn sumps.

NOTE: Use sanitary rubber gloves for this procedure to avoid contaminating cleaning solution or filters. Wear gloves whenever cleaning components or handling new filters.

5. Clean Quartz Sleeve carefully using vinegar to remove hardness. Do not use abrasive materials. Rinse sleeve thoroughly with clean potable water. Replace any sleeve that is damaged or will not come completely clean.
6. Remove sump "O" rings and wash with cleaning solution. Rinse them well with clean potable water. Inspect "O" rings for

DESCRIPTIONS AND DEFINITIONS CONTINUED

What is Adsorption?

Adsorption is the physical process where certain water pollutants are attached to the surface of carbon particles as the water flows through the filter. The pollutants are removed from the water and locked into the carbon granule.

Activated carbon is also able to filter out sediment through a process of mechanical filtration. The particles are captured in the spaces between carbon granules.

Dr. Mercola's Pure & Clear UV Well Water Filter

Dr. Mercola recommends that all UV systems include pre-filters to process the water before it reaches the UV lamp. This will ensure that maximum UV exposure is achieved.

Dr. Mercola's Pure & Clear UV Well Water Filter is designed for indoor use only.

Dr. Mercola's Pure & Clear UV Well Water Filter is designed to provide complete water treatment in a compact, easy-to-use package. Please follow the directions in this guide exactly when installing your UV Well Water Filter system to ensure that it operates correctly.

The UV lamp requires a start-up period of one to two minutes in order to achieve full intensity. Repeated starting of the UV lamp will shorten its life. Therefore it is recommended that the UV lamp remain on at all times during use.

CONDITIONS FOR USE			
Source Water Supply Profile		Chemical Parameters	Max mg/L
Feed Water Pressure†	20 – 75psig (138 – 517kPa)	Hardness (CaCO ₃)	< 120 (7 gpg)
Feed Water Temperature	38° – 105°F (3.3° – 40.5°C)	Iron (Fe)	< 0.3
pH Range	6.5 – 9.5	Manganese (Mn)	< 0.05
Total Dissolved Solids	<1500 mg/L	† Water Pressure must not exceed 75 psig (517 kPa) or a pressure regulator must be installed.	
Total Suspended Solids	< 10 mg/L		
Turbidity	< 5 NTU		

ROUTINE MAINTENANCE

It is important that any water treatment system be properly maintained to ensure consistent water quality. The information provided on this page is of a general nature. See Cleaning, Disinfecting, and Routine Maintenance Procedure on Page 10 for detailed information. Refer to Mounting Bracket and System Plumbing Installation Instructions on Page 5, and System Assembly and Activation Procedures for detailed information to install your **Pure & Clear** system.

CLEANING

The inside of the system and the quartz sleeve should be cleaned each time the filters are changed. Clean all parts (except the filters and electronic parts) with soap and rinse them thoroughly with clean potable water. Dry the inside of the quartz sleeve thoroughly before re-assembling system.

NOTE: *Presence of iron or general poor water quality will require frequent inspection and cleaning.*

“O” Rings: Lubricate each “O” ring with a silicone based “O” ring lubricant to ensure a proper seal.

NOTE: *UV lamp should remain on at all times during use because: repeated starting of UV lamp shortens lamp life, and UV lamp requires a warm up period of 1-2 minutes.*

FILTER REPLACEMENT

Filters will normally last approximately four to six months. Filter life will vary due to water conditions. A reduced flow rate or deteriorating water quality indicates that filters must be changed.

Use only Pure & Clear Filters. Pure & Clear filters are specially designed to work in the ultraviolet disinfection process. Use of non-Pure & Clear filters voids the warranty.

CAUTION: Use care when changing the filters to avoid breaking the quartz sleeve.

UV Lamp Replacement: Lamps must be changed every twelve months. While UV lamps rarely burn out, they do lose their disinfection power. Use only **Pure & Clear** UV lamps as they are specifically designed for the **Pure & Clear** UV Water Filter system to deliver high quality drinking water.

SPECIFICATIONS

Shipping Weight lbs. (kg)	Dimensions Inches (Centimeters) Height x Width x Depth	Flow Rate Gallons Per Minute Liters Per Minute	Lamp Type & Power Used Watts	Inlet/ Outlet
16.0 lbs (7.3 kg)	25.0" (63.5 cm) x 5.5" (14.0 cm) x 5.5" (14.0cm)	10 gpm (38 L/min)	UV Lamp #20 22 Watts	3/4" NPT†

† Female thread as recognized by United States *National Pipe Thread*

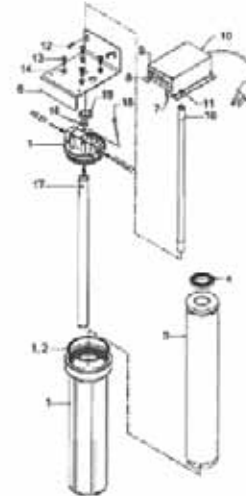
SERVICE REQUIREMENTS AND RECOMMENDED SERVICE INTERVALS

Service Requirements	Recommended Service Intervals
<p>To ensure the system operates at its optimum level, certain routine maintenance must be performed. Frequency of maintenance performance will depend on source water quality and level of system usage.</p> <p>CLEAN: each time filters are replaced DISINFECT: At least once a year</p>	<p>UV Lamp: Change Annually</p> <p>Quartz Sleeve and Channeling Sleeve: Clean when changing filters. Replace only if damaged or cannot be cleaned by non-abrasive methods.</p> <p>Filters: Normal life 406 months. Filter life will vary due to water conditions. A reduced flow rate or deteriorating water quality indicates that filters must be changed.</p>

PARTS ILLUSTRATION & PARTS LIST

Exploded Schematic
Pure & Clear UV Well Water Filter

FIGURE 2



Item	Description
1	Housing, UV, Sump, “O” Ring, Head UV
2	“O” Ring, Sump #10/20
3	Sleeve, Channeling S/S, #20
4	Gasket, Sleeve
6	Mounting Bracket, 1 Sump
7	Switch, Safety
8	Indicator, LED
9	Fuse, 1A Type 3AG
10	Module, UV control #20
11	Screw, 6/32 x 3/8”
12	Screw, #10 x 3/4”
13	Screw, 1/4” x 1-1/2”
14	Washer, #14 Nylon
15	“O” Ring, Quartz Sleeve, Standard (2)
16	Lamp UV #20
17	Sleeve Quartz #20, with “O” rings
18	Rod, Safety Plunger
19	Spacer, Bushing #10/20

SYSTEM ASSEMBLY AND ACTIVATION PROCEDURES CONTINUED

Sleeve Gasket are in sump as shown in Figure 2.

CAUTION: TIGHTEN SUMPS BY HAND ONLY. Do not use tools as they will over-tighten and may damage sump. Take care not to cut or pinch "O" rings. Use sump wrench for removal only.

- Being careful not to dislodge Quartz Sleeve, install sump with Stainless Steel Channeling Sleeve and Sleeve Gasket onto UV head.

**CAUTION: DO NOT INSTALL A DAMAGED LAMP
INSTALL CONTROL MODULE AND UV
LAMP**

INSTALL CONTROL MODULE AND UV LAMP

NOTE: Hold UV lamp by ceramic ends only. Do not touch glass. Clean it with isopropyl alcohol if necessary.

- Remove UV lamp from packing tube and inspect it for damage. If damage is found, contact Mercola.com for a replacement.

The UV Well Water Filter control module installation kit includes:

- Control Module—Qty 1
 - Screws, 6.32 x 3.8—Qty 4
 - Washer, Lock, #8—Qty 1
 - Safety Rod Plunger—Qty 1
**(ONLY FOR SYSTEMS WITHOUT THE
LAMP OUT CIRCUIT OPTION)**
 - Installation Guide
- Unpack the carton box and verify that all the required components have been received.
 - Connect UV lamp into four-pin socket located at the bottom of UV control module.
 - Verify Safety Plunger Rod is in place.

NOTE: System with Light-Out Circuit does not have a safety plunger rod.

- Carefully insert the UV control module with UV lamp through mounting bracket into the Quartz Sleeve.
- Install the UV control module on top of the ultraviolet disinfection system's bracket with four screws and one lock washer (for grounding purposes) as shown in the Figure 2.

ACTIVATE SYSTEM

CAUTION: Verify that inlet and outlet ports are connected to appropriate inlet/outlet pipes (see Figure #).

- Plug system into an electrical outlet. If the LED indicator does not light up within one minute, verify UV lamp is securely plugged into UV control module and safety plunger rod is in place (see Note in Step 7 above). It is normal for the LED indicator to flicker slightly.

NOTE: The UV lamp should remain on at all times during use because: repeated starting of UV lamp shortens lamp life, and UV lamp requires a warm up period of 1-2 minutes.

- Turn on water supply and check for leaks.
- Flush system, connectors, and water lines for several minutes to remove carbon fines.

NOTE: When an ultraviolet water treatment system is unused for several hours, water within system could become warm. This is a normal condition. To cool the water, dispense water from system.

NOTE: System is now ready for use.

Installation

WARNING: NEVER LOOK DIRECTLY AT A LIGHTED UV LAMP.

ULTRAVIOLET RAYS CAN BE HARMFUL TO EYES.

ALWAYS SHUT OFF WATER TO SYSTEM AND DISCONNECT POWER WHEN SERVICING.

ASSEMBLY IS REQUIRED BEFORE INSTALLATION.

FRAGILE PARTS INSIDE.

FOLLOW INSTRUCTIONS CAREFULLY!

This system must be installed in accordance with applicable city, country, and local plumbing codes.

Dr. Mercola's Pure & Clear products are designed to provide years of trouble-free service if properly maintained.

Retain these instructions for future reference.

MOUNTING BRACKET AND PLUMBING

This guide covers installation and maintenance of a basic "generic" system. Installer determines configuration of each system and must adapt these instructions to meet the specific requirements for that configuration. Specific component and assembly information is provided only for components that are unique to Pure & Clear Systems. All inter-component connections use standard plumbing components and tools.

INSTALL MOUNTING BRACKET

CAUTION: Do not use any damaged component. If damage is found, contact Mercola.com before proceeding.

- Unpack boxes and verify that all required components have been received (see Preparation section).
- Inspect each component for damage.
- Determine location for installation of the UV system:
 - The UV Well Water filter system should be installed with the sumps oriented vertically.

CAUTION: The UV system may be installed horizontally, but the Quartz Sleeve will be in a position that makes it susceptible to breakage.

- Mounting point should allow sufficient room above and below UV system to service the sumps and UV lamp without removing the UV system. The minimum space is 20" (above and below).

MOUNTING BRACKET AND PLUMBING CONTINUED

4. For ease of mounting, reduce the weight of the larger systems by removing the sumps and filters prior to installing the mounting bracket.
5. Select a location and install the mounting bracket using the provided screws.

INSTALL SYSTEM PLUMBING

CAUTION: Water pressure must not exceed 75 psig (517 kPa) or a pressure regulator must be used.

CAUTION: Do not install pump on outlet side of system as damage to the quartz sleeve may occur. If pump is required, install it on inlet side of system and verify output pressure does not exceed 75 psig (517 kPa).

CAUTION: Warranty is void if the unit is used with pressure exceeding 75 psig (kPa). Higher pressures may damage equipment and may not allow for proper exposure time with UV lamp or both.

CAUTION: The system will not function properly if water flow is reversed. See the Exploded Schematic on the following pages to ensure proper flow direction.

1. Turn off source water supply.

CAUTION: Mercola.com recommends using only plastic fittings to connect the inlet and outlet ports of the UV Well Water Filter system. Use of metal male fittings inside of plastic female threaded heads voids the warranty.

CAUTION: Do not over tighten fittings connected to inlet/outlet ports of the UV Well Water Filter system.

2. Connect inlet of UV system to source water supply using proper fittings and thread sealing tape.
3. Connect outlet of UV system to water distribution lines using proper fittings and thread sealing tape.

CAUTION: Do not install clear or translucent tubing on the outlet side.

4. See appropriate system assembly and activation procedures for your system to complete installation.

SYSTEM ASSEMBLY AND ACTIVATION PROCEDURES

PREPARATION—INSPECT ALL PARTS

NOTE: Read mounting bracket and system plumbing installation instructions on Pages 5 & 6 and all instructions in this section before installing system.

UV Well Water Filter

UV Ultraviolet System
Control Module Box
Ultraviolet Lamp (in packing Tube)
Quartz Sleeve (in packing Tube)
Mounting Screws (4 pieces)
Installation Manual and Owner's guide
Sump Wrench

NOTE: See Page 9 for detailed parts breakdown. Refer to the label affixed to the mounting bracket to identify filter (s) to be installed with UV module.

INSTALL QUARTZ SLEEVE AND DISINFECT SYSTEM

CAUTION: QUARTZ SLEEVE IS VERY FRAGILE!

For safety, wear a protective glove when handling quartz sleeve. Do not touch Quartz Sleeve or UV lamp with bare hands. Fingerprints will reduce the effectiveness of the light.

1. Remove Sump from UV head

NOTE: Do not remove protective plastic bag from Quartz Sleeve until so instructed.

2. Remove Quartz Sleeve from packing tube. While holding middle of Quartz Sleeve with one hand, slide protective bag with other hand to expose open end.
3. Place a small amount of silicone based "O" ring lubricant on the outside of the open end of the Quartz Sleeve only on the area that will

engage with the "O" ring.

CAUTION: Apply even pressure to push the Quartz Sleeve into the UV head. To avoid breakage, make sure Quartz Sleeve goes in straight by pushing it with slight twisting motion.

4. Insert Quartz Sleeve into the UV head. As Quartz Sleeve passes both "O" rings, resistance will be felt. Remove protective bag from Quartz Sleeve.
5. Disinfect the system (Pages 11, Steps 1-7).

INSTALL ULTRAVIOLET LIGHT AND FILTERS

1. Remove from UV head

NOTE: Wipe all fingerprints and excessive lubricant from Quartz Sleeve with isopropyl alcohol.

2. Verify Stainless Steel Channeling Sleeve and