

About Ultraviolet Sterilizers

Q. How do ultraviolet ("UV") sterilizers work?

A. UV sterilizers work by exposing water to powerful germicidal ultraviolet light. DNA and protein links in bacteria are destroyed by exposure to this light.

Q. Does the water become radioactive by this radiation?

A. No. No radiation residual or any chemical residual is left in the water as a result of the UV rays.

Q. Do these systems come in different sizes?

A. Yes. The size of the systems is directly proportional to the flow rate of the water in gallons per minute. The higher the flow rate, the larger the system and lamp.

Q. Does the water have to sit in the UV sterilizer to be disinfected?

A. No. If the system is sized correctly, the water is disinfected as it flows through.

Q. What if the water flows faster than is allowed through the system?

A. If the flow rate exceeds the design flow rate of the UV sterilizer, then there is a possibility that the water will not be properly disinfected. It is important to use a flow restrictor so that the flow rate cannot be exceeded.

Q. How long does the lamp last?

A. The lamps last approximately 10,000 hours. That is why we recommend replacement approximately every 12 - 14 months of continuous operation. After this period, the lamp itself becomes solarized and blocks the rays from entering the water.

Q. Are these systems bigger energy users?

A. No. The 12 gallon per minute model, for instance uses only 39 watts, about half the amount an ordinary light bulb uses.

Q. My water is sometimes cloudy. Is that a problem?

A. Yes. The water that enters the ultraviolet sterilizer must be absolutely clear and have a turbidity of less than 1 NTU. If your water is cloudy, then it must be pretreated.

Q. My water is very high in hardness and iron. Is that a problem?

A. Yes. The water to be sterilized must be free of iron, manganese, tannins, and other minerals that can build up on the quartz sleeve. Some of our UV sterilizers come with wipers that allow cleaning of the UV sterilizer quartz sleeve without disassembly. The quartz sleeve should be periodically inspected to make sure it is clean. Use an iron filter, or a softener ahead of the UV sterilizer for trouble-free operation if you are on well water high in iron or hardness.

Q. How can I tell if it is working?

A. All of the systems come with a "glow plug" so you can tell if the lamp is glowing. You can also order an optional light monitor that actually measures the rays and lets you see the intensity. The product water should be periodically tested for coliforms.

Q. What if the power goes off?

A. If the power goes off, no disinfection will take place if water flows through the system. If power failures are common, a fail-safe optional solenoid valve can be installed that shuts off all water flowing if the power goes off.

Q. What types of microorganisms will ultraviolet sterilizers inactivate?

A. These systems will easily destroy Influenza, Staphylococcus, Fecal Coliform, Salmonella, Legionella, Pneumophila, Dysentery Bacilli and many other types. Cysts may be damaged, but for cysts (Giardia, Cryptosporidium) we recommend pre-filtration with cyst-certified filter systems, typically 1 micron or less absolute. Ultraviolet sterilizers are frequently paired up with filtration, softening or other types of treatment.