RESIDENTIAL WATER UV DISINFECTION SYSTEMS

UV SYSTEM DISINFECTION

The technology uses a special UV lamp to target and disable harmful waterborne disease causing microorganisms (pathogens).

Over 100 years ago, scientists found that when pathogens were exposed to UV light, their reproduction was limited. The light resided in the UVC range of the spectrum. Specifically, they discovered that light in the 254 nanometer (nm) range was the most effective.

When pathogens are exposed to UV light, their cells become damaged and this inhibits reproduction. UV light damages the cell's DNA and RNA and once damaged, they are unable to replicate and therefore, rendered harmless.

The amount of damage is a result of the intensity of the UV light multiplied by the time the water is exposed to the light (time x intensity). The dosage, referred to as microwatts, is often expressed as mJ/cm2. A 40,000 microwatt dose (40 mJ) is accepted for water disinfection.

FUV C10 PLUS SYSTEM

WATER QUALITY

- 5 Micron Pre-Filter
- Turbidity: 5 NTU
- Color: None
- Iron: 0.3 ppm
- Solids:10 mg/l
- Manganese: 0.05 mg/l
- pH: 6.5 – 9.5
- Hardness: 7 grains
- Tannins: < 0.1 ppm
- UV Transmission: >75%

UV ACCEPTANCE

The Environmental Protection Agency (USEPA) recently published the Long Term 2 Rule (LT2), which is aimed at combating waterborne pathogens like Giardia and Cryptosporidium.

The USEPA recognizes UV as a method to disable pathogens that can cause gastrointestinal illness, other health issues and even death.

UV EFFECTIVENESS

- Bacteria
- Viruses
- Fungi
- Algae
- Protozoa

SPECIFIC MICROORGANISMS

- Cryptosporidium
- Giardia
- Cholera
- Salmonella
- E-coli
- Coliform Bacteria
- Fecal Coliform

FULLER ULTRAVIOLET

FREQUENTLY ASKED QUESTIONS

What happens to the microorganisms after they are exposed to UV light?
UV prevents microorganisms from reproducing and that is what makes them harmless. They are still present in the water, but are no longer a health risk.

Is UV light dangerous?
Just like sunlight, the light used for disinfection (UVC) is dangerous to both eyes and skin. Exposure to UVC light will cause harm, so systems are designed to protect the end user from being exposed.

How is the lamp protected from the water?
The UV lamp does not come in contact with the water. The lamp is placed into a glass like tube called a quartz sleeve. This material allows UV light to transmit into the water and allows the lamp to maintain optimum temperature. Depending on water quality, the sleeve will need to be cleaned on a periodic basis.

What type of maintenance is involved?
The actual lamp needs to be replaced on a yearly basis. While the lamp may glow for a couple of years, the lamp only produces the UVC light output for a year. The system is designed to run 24 hours a day.

Does UV disinfection change the water?
UV light does not change the taste, color or odor of water. Since it is a chemical free process, nothing is put into or taken out of the water.

How are systems sized?
Systems are sized based on flow rates. Small homes and cabins are 7-10 GPM (gallons per minute) and larger homes range from 15-20 GPM. Your water professional will select the appropriate size.

MODELS	GPM	LPM	INLET/OUTLET	WATTS	AMPS	VOLTS	DIMENSIONS
FUV C7/C7 Plus	7	132	3/4" MNPT	17	.6	120V	18" x 5" x 7"
FUV C10/C10 Plus	10	283	3/4" MNPT	32	.7	120V	18" x 5" x 7"
FUV C15/C15 Plus	15	379	3/4" MNPT	42	.75	120V	37" x 5" x 7"
FUV C20/C20 Plus	20	568	1" MNPT	80	1	120V	37" x 5" x 7"

STANDARD FEATURES

- 304L Electropolished SS Vessel
- Powder-Coated Aluminum Cover
- 100 PSI Pressure Rating
- Flow Control Device (not on FUV C20/C20 Plus)
- On Board Electronics
- Efficient Electronic Ballast
- On Board Audible Lamp Out Alarm
- LED Lamp Status Indicator
- 9,000+ Hour Lamp Life
- GE Type 214 Quartz Sleeve
- Built in Mounting Brackets

FUV PLUS FEATURES

- Lamp Countdown Timer
- Lamp Change Reminder
- Contacts for Solenoid or Remote Alarm

OPTIONAL FEATURES

- UV Monitoring
- Solenoid Shut Off Valve
- 220 Volt Electrical
- Systems with Quartz Sleeve Wipers

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9416 GULFSTREAM ROAD | FRANKFORT, IL 60423 | (815) 469-3301 | FULLERUV.COM