

microlene

Ultra Violet Disinfection Systems

Frequently Asked Questions

Some important information about the effectiveness of UV Disinfection systems. It is recommended, depending on your water source and quality, to have a pre-filtration system installed.

The benefits of Pre-filtration.

The use of pre-filters is very important in ensuring the removal of microscopic particles which are invisible to human eyes. These particles and biological organism can shadow the UV from hitting other microorganisms or pathogens contained in the water.

1. Rainwater Pre-filtration:

Microscopic particles or biologicals are present in nearly all rainwater tanks. Davey recommend a primary stage 20 micron poly pleated filter will remove most larger sediment and a secondary stage fine pre-filter of 1 micron to remove most cysts such as Giardia or Cryptosporidium before the water passes through the UV system.

2. Mains Water Pre-filtration:

Mains water is usually treated with residual chemicals, but can still occasionally contain fine particles. For additional filtration of mains water applications, Davey recommends a 5 micron poly spun cartridge for removal of sand and grit and a 5 micron carbon filter for reducing the taste and odour associated with chlorine and other chemicals used to treat the water.

Water Problems

FAQs

Why does my water smell like rotten eggs?

In some parts of the country, drinking water can contain the chemical hydrogen sulphide (H₂S) gas, which smells just like rotten eggs. This can occur when water comes into contact with organic matter or with some minerals, such as pyrite. The situation mostly occurs as ground water filters through organic material or rocks. Hydrogen sulphide can be treated by a manganese greensand filter, or by chlorination Support on Davey HQ.

Why is our porcelain sink stained brown?

The brown stain is from a large amount of iron in your water. It is closely related to simple rust you see on metal, which is iron oxide. The source of the water you use probably is ground water, and the water has filtered through rocks containing iron-rich minerals on the way to the well.

My water smells like rotten eggs, but I had it tested on site and there is now hydrogen sulphide in the water. Could it be anything else?

First, it still could be hydrogen sulphide, it just may not have been present in the water supply when you had it tested. It is important to remember that H₂S is a gas and levels can fluctuate from a day-to-day basis due to barometric pressures. If you are sure it is not H₂S, it could be a reaction of the magnesium anode rod located in your hot water heater. To remedy this, remove the rod, or replace it with an alternate material such as aluminium.

Why does it take so long to rinse the soap off my hands?

The terms "soft water" and "hard water" are important here. Water is said to be soft if it has a low concentration of calcium and magnesium ions in it, and hard water has a high concentration of calcium and magnesium. If you use soft water, the ions react with the soap you use to produce a residue that feels like it is difficult to wash off. If you use hard water, you also will have a harder time working the soap up into a lather. Hard water is typically the number one concern of water treatment professionals and can easily be addressed with a water softener.

Sometimes my drinking water look cloudy?

Once in a while you get a glass of water, and it looks cloudy; maybe milky is a better term. After a few seconds it miraculously clears up! The cloudiness is due to tiny air bubbles in the water. Like any bubbles, the air rises to the top of the water and goes into the air, clearing up the water. The water in the pipes coming into your house might be under a bit of pressure, and gases (the air), which are dissolved in the pressurised water, will come out as the water flows into your glass, where is under normal atmospheric pressure.

I've noticed that my stainless-steel sinks and flatware have black stains and are pitted. What could this be caused from?

It sounds like there is a very high chloride (Cl⁻) content in your water. The problem with the stainless-steel flatware is likely enhanced if they are cleaned in a dishwasher as the high drying temperatures of the dishwasher will accelerate the corrosion. High chlorides can be reduced with reverse osmosis technology.

My porcelain-sinks and bath-tub have green stains on them and my water has a blue-green tinge to it. Can this be fixed?

It sounds like the water has a high carbon dioxide content (pH below 6.8) reacting with the brass and copper pipes that are causing the staining. To remedy this acid water condition, you could use a calcite filter to neutralize the pH, feed soda ash into the water with a feeder, or use a mixed media of calcite/magnesia oxide.

My water is yellow (like tea)....what's up?

Your water contains tannins (humic acids) which are harmless organics caused by water seeping through decaying organic matter such as leaves or peat. Water with tannins are typically from a surface water supply such as lakes and streams. Tannins can be removed by an absorption process using a special macroporous Type 1 anion exchange resin or by chlorination.

My municipal water has a fishy taste to it, is this normal?

If your municipally treated water has a fishy taste and brewed beverages (coffee & tea) don't taste right, the problem is likely caused by a residual of chloramines (chlorine & ammonia) in the water. Municipalities like to use chloramines as they tend not to form disinfection by-products like traditional chlorination does. Activated carbon filters work extremely well to reduce the chloramine level in drinking water.

Water Problems

FAQs

Why does my water taste like a swimming pool?

Your municipality is adding chlorine to the water at the water treatment plant to ensure that the treated water leaving the plant arrives to your tap, wherever it may be located in the distribution system, with enough of a residual chlorine level to ensure safe bacteriological levels. Unfortunately, this chlorine is the same basic compound that you likely use in your swimming pool and it can be objectionable in regard to both taste and odour. Simple activated carbon filtration will easily remove this chlorine taste and odour from the water.

My water has a distinct grittiness to it, and it leaves a residue in the bath and sink. How can I get rid of this?

The grittiness you are experiencing is caused from excessively fine sand or silt in the water supply that is bypassing any well screens and settling out in the bathtubs and sinks. Simple sediment reduction cartridges will address this common problem and should be used prior to UV disinfection otherwise the sediment will create blackspots where the UV does not treat all the water flowing into your house.

My water has a distinct salty taste, what could this be?

The problem could be one of two things. The first, could be from a high sodium or magnesium content (e.g., NaCl, NaSO₄, or MgSO₄), while the second could be a malfunction of a water softener resulting in brine entering the water lines. The first problem can be fixed with RO or distillation technologies and the second would require a service call to fix the water softener.

I have been hearing a lot about E.coli on the news, how can I treat E.coli?

Escherichia coli, or E.coli for short is a bacterium found in the lower intestine of warm-blooded organisms. There are many strains of E.coli, some of which can be found in the water supply. Although E.coli has been blamed for many deaths, when exposed to ultra violet light, at relatively a relatively low dose UV is easily destroyed. Even the particularly virulent O157:H7 strain of E.coli has a 4-log (99.99%) reduction at a UV dose of 6 mJ/cm². It should be mentioned that Microlene UV systems UV24, UV57, UV80, UV151, MCS and MCXS all deliver a UV dose in excess of 30 mJ/cm² at the end of the lamp life.

The water at my parent's farm has a strong metallic taste. What could this be caused from?

The metallic taste is likely the result of one of two things. First, it could be a high iron content in the water, and this would be recognisable if there was any staining in the fixtures in the home, or, it could be the result of a very low pH (acid water), in the range of 4.5 - 5.5. The iron can be address with a water softener or iron filter and the low pH can be corrected with a calcite media filter.

What technology should I use for microorganisms?

UV does have an effect on all microorganisms to some effect. Whether it is bacteria, virus, algae, protozoan cysts, spores, mould, etc., exposure to UV light will harm the organism. Each individual organism requires a different level of exposure (know as UV Dose) in order to prevent cell replication. Some organisms, usually viruses, require extremely high doses of UV light in order to achieve disinfection. The important issue here is that one should ensure that the UV system they are purchasing delivers enough UV dose at the end of the lamp life to ensure adequate disinfection against a typical array of organisms found in drinking water.

My water has a strong alkali taste, like baking soda, and my aluminium pots are all stained. Is this a water issue?

The likely cause of this phenomenon is a high dissolved mineral content (TDS) and high alkalinity in the raw water (e.g., SO₄, Cl, or HCO₃). Davey reverse osmosis technology solutions will address these issues.

My area has had problems with Cryptosporium and Giarda lamblia, I have read that UV is not effective against these organisms.....is this true?

No, although you may have read scientific articles from prominent researchers and from other UV companies, this information was based on old research studies. Original studies performed in the 1980's were based on excystation methods which lead to the belief that UV was ineffective against these protozoan cysts. In the early 2000's, it was proven by a host of independent research that UV was in fact extremely effective against both Cryptosporium and Giarda lamblia at a UV dose of less than of 10 mJ/cm². The change was a result of testing methodology used in the earlier testing. This new information has opened the doors for UV to become a mainstream disinfection method.

Before Purchase FAQs

I've never heard of UV as a treatment method before, is it new?

Although the term "UV" is most commonly associated with the potentially harmful exposure to the sun, UV has been in use for water treatment for over 100 years. UV was first used by the French in 1906 and has become commonplace in the residential, commercial and municipal markets over the past 20 years. Today, UV is likely the first form of treatment that one will look at when looking to address microbiological concerns in your drinking water.

I understand the need for pre-treatment, but how can I tell if I have any of the problems that potentially require pre-treatment?

Before the installation of a Microlene UV system, your water should be tested to determine the basic water chemistry. The minimum tests should include hardness, tannins, turbidity, iron, manganese and UV transmittance. These tests can be typically performed by testing laboratories that are in existence.

I grew up on a farm with a tank that stored rainwater, my parents said it was the best, but I still often got sick, were my parent's right?

Your parents were right and wrong! It is true that rainwater, when it leaves a cloud, is pretty-close to pure H₂O, but that's about where it all stops. As that raindrop falls to earth through the atmosphere it picks up many impurities along the way. Then it lands in a creek or stream, or even the roof of your house before it travels into and enters the tank, even more issues begin to happen (roofs for example can have bird droppings and other matter on them that the water passes through). Although tanks store water, they also act as a huge breeding grounds for all forms of bacteria. No water should be consumed from a tank without being disinfected by some method such as ultraviolet light.

Is a UV system expensive to operate and maintain?

When compared to other disinfection systems, the answer is no. As long as proper pre-treatment is maintained, an annual system check-up and lamp replacement is all that is required. As most UV systems are designed to be left on at all times, a typical household system will draw about the same energy requirements as a 40 watt light bulb!

Tannins are mentioned in the pre-treatment process. What are tannins and why do I need to remove them from my water prior to the UV?

Tannins, also known as tannic acid or humic acid is a nuisance contaminant that affects the functionality of a UV system. Tannin in drinking water usually comes from composting organic matter (i.e. leaves, vegetable matter, etc.) and is most likely to appear in springs and wells bordering swampy areas or near coniferous trees. Tannins colour the water with a yellow hue and can cause staining on fixtures and affect the aesthetic quality of drinks. In relation to UV tannins interfere with the UV's ability to penetrate into the water due to the tannins absorption capabilities. For a UV system to function properly, tannins must be removed from the water via a special macroporous Type 1 anion exchange resin, or by chlorination.

The media says UV is bad for me, how can UV be good?

Sounds conflicting, but there is truth to this statement. Exposure to excessive amounts of sunlight can be harmful to your health. UV energy is actually broken up into three distinct wavelengths; UV-A, UV-B, and UV-C. Sunlight is comprised of all three UV rays, however the most powerful UV-C rays are blocked out by the earth's ozone layer thereby protecting us on earth. Direct exposure to the sun should be carefully monitored in order to minimize the exposure risk. It is the UV-C portion that is used for the disinfection of drinking water and to a microorganism such as E.coli marker, UV-C is deadly. It is true that you don't want to expose your eyes or skin directly to the UV light in a treatment system, however the system is designed to prevent this from happening. In a properly designed UV system, there is absolutely no risk to the homeowner.

Does UV work on all microorganisms?

UV does have an effect on all microorganisms to some effect. Whether it is bacteria, virus, algae, protozoan cysts, spores, mould, etc., exposure to UV light will harm the organism. Each individual organism requires a different level of exposure (known as UV Dose) in order to prevent cell replication. Some organisms, usually viruses, require extremely high doses of UV light in order to achieve disinfection. The important issue here is that one should ensure that the UV system they are purchasing delivers enough UV dose at the end of the lamp life to ensure adequate disinfection against a typical array of organisms found in drinking water.

The word "Dose" is mentioned in the UV literature, what is dose and why is it important?

UV dose is the product of UV intensity (total UV energy per unit volume) and residence time (total time the water is in contact with the UV light), expressed by the equation $D = I \times T$. Typically UV dose is expressed in the units mJ/cm^2 but can also be in $\text{microWsec}/\text{cm}^2$. The conversion between the two is, $1 \text{ mJ}/\text{cm}^2$ equals $1,000 \text{ microWsec}/\text{cm}^2$.

Before Purchase FAQs

I don't drink the water in my bathroom, why should I install a Point of Entry (POE) system (of water supply to the home) that also treats the bathroom?

You may decide not to drink from the bathroom tap, but what if you have guests, or someone who visits your home and assumes the bathroom water is okay for consumption. Where do you brush your teeth? If it is in the bathroom, then treating potential contaminated water in the bathroom is imperative. You don't have to swallow the water to become infected with a potentially harmful organism. Consider the brushing action against sore or bleeding gums and one can easily see the consequences. It is because of this that it is highly recommended to install a whole home POE system whenever possible.

Can I install a Microlene UV system outside?

These systems are designed to be installed protected from the elements. The controllers are splash proof but a suitable cover recommended to protect from rain. The warranty will not apply if the units are installed in an outside environment without any protection from rain.

What level of UV Dose is right for my application?

The right UV dose can be a difficult question and is directly dependant on the application. Many industrial applications are pathogen specific, meaning equipment and UV dose is chosen based on the dose requirements of a specific pathogen or group of pathogens. For the average home owner, the target pathogens typically require low UV dosages to be eradicated. As an example, E.coli, requires a UV dose of 6 mJ/cm² for a 4-log or 99.99% kill. Currently, three different UV dose levels exist in the market; 16, 30 and 40 mJ/cm².

The 16 mJ/cm² dose is based on a US Public Health document produced in the 1960's. Typical waterborne pathogens will be eradicated at this UV dose, but with the emergence of some new viral contaminants and with the lack of a safety margin, this dose is typically used in instances to treat non-pathogenic or nuisance bacteria. Typical industry standards have long suggested a UV dose of 30 mJ/cm² at the end of lamp life. This dose allows for nearly double the original US Public Health dose and allows for a comfortable safety margin. The most recent UV dose suggested is that of NSF International (NSF) and the US EPA drinking water regulations, who suggest a UV dose of 40 mJ/cm². This dose is the direct result of the introduction of certain emerging pathogens (specifically rotavirus) found to require a dose of 36 mJ/cm² for eradication. The Microlene systems have flow rates published at all three dose levels in their literature and allows the customer to make their own educated decision on what is best for their requirements.

I live in the city.....do I need to install a UV system?

The answer to this question depends on one's level of confidence. Although most municipalities do provide bacteriological safe water to their clients, and this is closely monitored by most provincial, state, or other regulators, there have been numerous instances around the globe where water has been provided from the municipality that may not be safe. In these cases, the municipality will inform their clients that the water is in fact unsafe for consumption and will suggest alternate means. In these cases, the UV system installed in your home acts as "insurance for your water supply". The need for this level of insurance is up to you, but considering the fact that water is the number one key to life, it seems to be a very inexpensive way to offer the security that you may be looking for you and your family.

I've read about "log kills".....what does this mean and how does it apply to UV?

The term log kill or more aptly log reduction, refers to the level of reduction that the ultraviolet energy has on a specific organisms in a logarithmic ratio. The "Sanitation" is commonly referred to as a 2-log reduction which translates into a 50-99% reduction or a reduction of 1 out of 100. The term "Disinfection" is commonly referred to as a 4-log reduction which translates into a 99.99% reduction or a reduction of 1 out of 10,000. The term "Sterilization" is sometimes incorrectly associated with UV technology and represents a 6-log reduction which translates into a 99.9999% reduction or a reduction of 1 out of 1,000,000.

Does UV need any pre-treatment?

Yes, UV works extremely well at addressing the microbiological issues, but can be greatly impeded by the presence of other water chemistry issues. The main concerns for UV are that of water hardness, tannins, turbidity, iron, manganese and UV transmittance. As hard water can physically stain the quartz sleeve component of a UV, it is recommended that the water hardness be less than 26.5lpg. Tannins should be less than 0.1 ppm or 0.1 mg/l. Turbidity should be less than 1 NTU. Iron should be less than 0.3 ppm (0.3 mg/l) and manganese should be less than 0.05 ppm (0.05 mg/l). Although UV can be used on waters with a UV transmittance of less than 75%, for residential applications at the systems rated flow, it is recommended that UVT levels be greater than 75%. All these issues can be addressed by other water treatment equipment such as filters and water softeners. The minimum pre-treatment that is recommended is the installation of a 1 micron prefilter (such as a Microlene 1 Micron Poly Spun Filter) in front of the UV system. Ideally before the 1 Micron pre filter there should be a 20 micron Poly Pleated filter to capture larger sediment).

Does the UV process change the taste of my drinking water?

No, disinfection by UV is a physical process and not a chemical process. UV does not alter the water chemistry and will not affect the taste or odour of your water. UV only addresses the microbiological concerns.

Before Purchase FAQs

I've made the decision to install a whole home Point of Entry (POE) UV system, but where exactly do I install the system?

The UV system should be the last piece of treatment equipment. Water softeners, filters, etc. should all be installed prior to the UV system. All the treatment equipment should be installed on the mains cold water line feeding the house and before any branch lines including those feeding the hot water heater.

I've been told that UV does not have any residual disinfection like chlorine, so how do I get rid of the bacteria that may reside in my plumbing system?

Before the water is consumed after the installation of a UV system, the entire distribution system (piping) must be disinfected with chlorine to ensure that the UV system delivers its disinfected water through a disinfected distribution system.

This can be easily done by adding household bleach, or similar disinfectant, in the prefilter housing (that must be installed with each UV system).

First, remove the filter and then fill the filter sump with the bleach. Then go to each tap in the house and run water until you smell the bleach and then turn off the tap. Make sure you flush the toilets, run water into the dishwasher and washing machine as well as any showers. Finally run water through any outside hose outlets and any other location that has water. Leave the entire system for a minimum of 30 minutes (relatively short period to disinfect water in all house lines) and then flush the system to remove the bleach. Once this is complete, the water will be ready for consumption. Throughout this process, do not shut off the UV system (please note that if you have a UV system that contains a UV monitor, the alarm may sound during this process as the bleach interferes with the proper reading of the UV monitoring system).

Can I chemically treat water before putting through the UV systems?

Chemical dosing with Microlene Acquasafe is acceptable practice with a prefiltered/UV system. In fact all systems on first installation should have Microlene Acquasafe added for at least the first month to ensure all pipework downstream (i.e. towards the home from the UV system) is sanitised of any prior pathogen infestations.

I have a vacation property and I only use it occasionally.....can I turn off the Microlene UV system to save energy?

You can turn the system off if you are away for extended periods of time, however you must remember that if you turn the system off, you will need to disinfect the distribution system each time you restart the UV system as there is a possibility that the bacteria that may exist in the water can migrate and replicate through the UV system when the system is off and could contaminate the distribution system after the UV system. As UV has no residual, there will be no way to clean up the down bound distribution system besides disinfecting the entire system with bleach (using Microlene Acquasafe chemical disinfectant would be possible but would require a 24 hour contact time instead of the bleaches 30 minutes). Considering this and the fact that a typical household UV system consumes about as much power as a 40-watt light bulb, many people elect to leave the UV system on, even when they are away for an extended period of time.

What makes the Microlene lamps so special?

The UV lamp acts as the heart of the UV system and Davey uses the best available lamp technology. All our Microlene lamps are manufactured with a proprietary internal coating providing consistent UV output over the entire life of the lamp. Ceramic lamp bases are used for thermal efficiency and structural integrity. The Microlene lamp bases are colour coded (green for Standard output, Blue for High output) and base marked for easy identification and maximum output.

Are the Microlene UV systems designed to be installed vertically or horizontally?

As the UV unit is a self contained pressurised vessel, the orientation of the chamber is not a concern from a disinfection standpoint, however for ease of installation and service, it is recommended to install the system in a vertical orientation with the retaining lamp (and lamp removal) located at the top. If fitting horizontally, ensure the water outlet is as close as possible to a vertical position (at minimum between a 0 - 40° angle from the top to avoid air bubbles in the chamber).

If I install UV, how does it actually work?

The UV process is a physical process as opposed to the addition of chlorine to the water to address microbiological issues which is a chemical process. This is important as UV addresses the microbiological issue without adding anything to the water or creating what is known as disinfection by-products (like trihalomethanes, which are proven to be carcinogenic). In simple terms, when a microbe is directly exposed to the UV light, the DNA (its fundamental building block) of the cell is damaged thus preventing replication. If a cell cannot reproduce, then the cell cannot cause infection.

Will my water pressure be reduced with the installation of a Microlene UV system?

No, the new UV24, UV57, UV80, UV151, MCS and MCXS Microlene systems are engineered to achieve a minimal pressure drop for the specific flow rates of each individual model. Typically pressure drops are less than 20.7kPa (3 PSI).

What is UVT and why is it important?

UV transmittance or simply UVT describes the measurement of a fluids ability to transmit UV light. Typically, municipal water supplies have UVT levels of greater than 95%, whereas deep water wells typically have UVT levels around 85%. The UVT of surface waters can vary greatly depending on the source and surrounding geography. UVT can be easily tested with a spectrophotometer which most laboratories have. Waters with lower UVT's will require more UV energy to deliver a similar UV dose than waters with a higher UVT. Microlene UV systems (UV24, UV57, UV80, UV151, MCS and MCXS) are tested at a 95% UVT level and their rated flow is based on the waters having a minimum UVT level of 95%. If your water has a lower UVT, the system will deliver a lower UVT dose, or the flow rate through the system will need to be decreased to achieve the same UV dose. Dosage curves are available for all Microlene UV systems to aid in this selection. As a precaution, it is recommended that all water treated by a UV system have a minimum UVT level of 75%.

After Purchase FAQs

How do I change the lamps?

Refer to the I&OI Instruction Manual on the products listing on daveywater.com (search the UV model and see the attachments).

How do I change the sleeve?

Refer to the I&OI Instruction Manual on the products listing on daveywater.com (search the UV model and see the attachments).

How many O-rings do I need when changing over the lamp and sleeve?

Only one is required.

Do I need to order the O-ring separately when doing lamp or sleeve replacement maintenance?

No, an O-ring is supplied with each replacement lamp and each replacement sleeve as standard (for convenience), only one O-ring is required, the O-ring for UV24, UV57, UV80 and UV151 is the same part for all models. If you ordered both a new lamp and sleeve, you'll have one spare O-ring left over.

How often should I replace the lamp on Standard Output systems?

Every 9,000 continuous hours on the Standard output systems (UV24, UV57, UV80) yet the count down timer will give you how many hours are left so you don't have to remember when you last changed.

How often should I replace the lamp on High Output systems?

Every 10,000 continuous hours on the High output system (UV151) yet the count down timer will give you how many hours are left so you don't have to remember when you last changed.

How often should the quartz sleeve be changed?

With Water Quality Parameters listed below, and the sleeve being cleaned every 12 months they could potentially last up to 3 years, but as water quality can vary and consistent cleaning by end user can't be guaranteed, for safety, Davey recommends replacing the sleeve every time the lamp is replaced.

Hardness: <120ppm (120 mg/l) if hardness level is 120ppm, 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: <0.3 ppm (0.3 mg/L)

Manganese: <0.05 ppm (0.05 mg/L)

Turbidity: < 1 NTU

Tannins: <0.1 ppm (0.1mg/L)

How do I clean the quartz sleeve and what materials should I use?

This is covered on page 12 of the I&OI Instruction Manual which can be found on this products listing on daveywater.com (search UV model and see the attachment).

Why do I need to change or clean the quartz sleeve?

The quartz sleeve provides a waterproof barrier between the UV lamp and the water. If the quartz sleeve breaks (due to not being replaced) water will break through to the lamp which is not waterproof and will result in product failure which is not covered under warranty. If the quartz sleeve gets dirty, these dirty spots stop the UV penetrating all the water as it passes through the chamber which means your water is not being treated properly, potentially letting harmful bacteria through to your drinking supply.

How do I know my Microlene UV system is working?

Generally the spare part consumables will be the lamp, sleeve and O-ring. An O-ring will come with all Lamps, another will come with the Sleeves. Therefore really the customer will only need to purchase the lamp and sleeve during servicing. Potentially the sleeve every second year pending water quality and if the sleeve is being cleaned every 12 months as mentioned earlier.

Can I buy all the UV spare parts together?

The new UV24, UV57, UV80, UV151, MCS and MCXS systems come with a lamp monitoring system. If the lamp is not illuminated and audible alarm will sound. Please note that this alarm deals with a "lamp-on" condition only. Lamps that are not changed out on an annual basis, or systems that do not follow the pre-treatment protocols may result in a false sense of security. The only way to ensure the system is working properly is to obtain a bacteriological test.

After Purchase FAQs

If the Microlene UV units are rated at a certain flow rate, how do I make sure I don't exceed that rated flow?

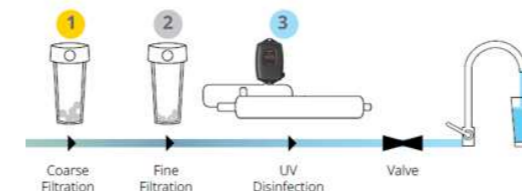
To be absolutely sure that the UV system does not exceed the rated flow, the installation of a flow restrictor is recommended. These flow restrictors are designed with a variable orifice that fluctuates with variations in water pressure. The maximum flow is controlled by the restrictor which is ideally installed on the outlet port of the Microlene UV chamber. Flow restrictors can be purchased through your local plumbing supply store / distributor.

How do I dispose of my Microlene UV lamp?

The UV lamp should be disposed in accordance with your local regulations. The lamps should be disposed in the same fashion as any other fluorescent light fixture that may be in your home or office.

Can't I just treat rainwater from my tank with UV? Why do I need the filters?

The use of prefilters is very important in ensuring the removal of small, but still microscopic particles and biological organism which as they pass through (as part of the water passing through) the chamber, would shadow the UV from hitting all microorganisms / pathogens contained in the water. These microscopic particles or biologicals are present in nearly all rainwater tanks yet are too small to be seen by the unassisted human eye. A final stage fine prefilter of 1 micron before the water passes through the UV system is strongly recommended as it will remove many cysts such as Giardia or Cryptosporidium.



Is it recommended to install a bypass to allow for water flow in case the Microlene UV is offline?

Yes, the installation of a bypass valve is highly recommended in order to allow water flow in case the UV system has to be removed for some reason. Please note that notification should be provided, and posted, at each location where water is drawn to ensure that no one accidentally consumes contaminated water. When the system is put back online, a full chemical disinfection must be made on the distribution system.

The water coming out of my cold-water tap is warm, what's up?

The Microlene UV system is installed on the cold-water line in your home. The disinfection occurs by the ultraviolet lamp contained inside the stainless-steel chamber. Although the UV energy itself gives off no heat, the low-pressure mercury vapour lamp ("light bulb") does emit energy in the form of heat. It is this energy that can in some cases warm the water up. This may be a problem when there is a long period of dormant (no flow) activities such as at night. The problem may be compounded if the UV system is located close to a tap. To remedy this situation, and recommend by most municipalities, run the water for a few seconds before filling a glass. This will not only rinse the lines with any stagnant water, but will also flush the warm water from the system. Most people view this feature as an additional way to know that your system is still on and operating as in most cases the Microlene UV system is installed somewhere out of the way and away from normal view.

I've heard that I may need to clean the quartz sleeve in the unit...how is this done?

Correct, Quartz sleeves should be periodically cleaned. Depending on the influent water quality, the quartz sleeves may need to be removed and physically cleaned. The sleeve is easily removed by removing the top retaining nut and carefully sliding out the quartz sleeve. A commercially available scale cleaner such as Lime-Away or CLR can be used to clean the sleeve. When cleaning the sleeve wear gloves to ensure that no fingerprints are left on the sleeve and ensure that the sleeves are thoroughly rinsed with clean water to remove any of the cleaning agents before reassembling.

If you have any concerns about your water quality, or would like more information about the right Davey microlene products for your installation, please get in touch with Davey Customer Support on 1300 369 100 or head to daveywater.com

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