



STERIFLO DOMESTIC UV Systems



The **Steriflo** domestic UV water disinfection systems are an effective and economical means of eliminating harmful bacteria and other microbes from drinking water supplies, regardless of source. UV is suitable for water supplied from rain tanks, springs, bores and surface sources such as lakes and streams.

UV is commonly used for water disinfection on a wide range of water sources by many local councils, the food, dairy and brewing industries and by thousands of private consumers to ensure their water is safe to drink.

UV light at the 254nm wavelength generated by the lamp in a Steriflo unit is lethal to most micro-organisms as it damages their ability to reproduce. The organism is then no longer viable as it cannot grow to cause infection or be counted on a culture plate.



Bacteria such as E.Coli and human pathogens like Staphylococcus, Legionella and Pseudomonas are readily inactivated by UV light. It has also been shown in the last few years that cysts such as Giardia and Cryptosporidium are very susceptible to UV as are most viruses.



To ensure success the water has to be very clean and free of particulate matter that can shield microbes from the UV. Therefore filtration is part of virtually all recommendations for UV disinfection.

Water from almost any source is likely to contain harmful microbes. Obviously streams or springs are open to contamination by animals but studies have shown that most rain water tanks contain a significant degree of contamination resulting in tummy upsets at the least. Precautions such as keeping debris out of the tank and keeping the tank clean assist but since even the water fresh from the roof always contains microbes the only certain way of providing protection is disinfection and a UV system is the simplest and most reliable method available.



Treating the whole supply to a home is usually an economical approach and this ensures that all taps are safe to drink from, rather than just a single faucet though this approach is available if appropriate. The wide range of units available means that any flow requirement can be met.



Separate leaflets are available detailing UV systems for the treatment of hot water, waste water and industrial or municipal applications.

Effective

Low maintenance

Inactivates Giardia

No moving parts

Whole house or single tap treatment

No chemicals

No taste

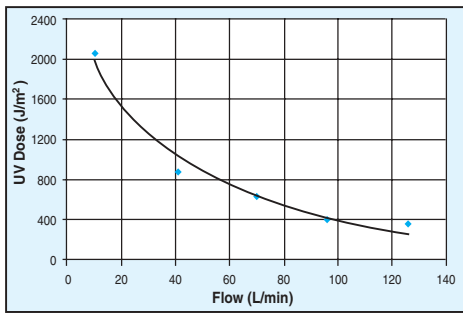
Impossible to overdose

Made in New Zealand

Meets New Zealand and Australian electrical standards

System design and performance testing

The basic Steriflo design of the UV lamp encased in a quartz sleeve down the centre of a stainless steel cylinder is the most efficient available and has been proven in thousands of installations. However independent verification of performance is needed to support performance claims and ensure that these claims are not inflated or simply not achieved in practice because of design flaws.



FLOW vs DOSE SF1000

This has been done for all models in the domestic Steriflo range by independent microbiology consultants using the spores of *Bacillus Subtilis* as a bioassay organism. This harmless spore is the internationally accepted organism used to test UV disinfection systems.

By demonstrating that Steriflo units achieve satisfactory reduction of the spores in tests at various flow rates Contamination Control have shown that these UV units are as effective as claimed under practical conditions of flow and water quality even against relatively difficult to kill organisms.

Tests using other organisms that are more susceptible to UV such as coliform bacteria have no practical use as these organisms are so easy to inactivate with UV light that performance claims made based on reducing their numbers are meaningless.

Specifications

Model	Maximum Pressure	Treatment Capacity ¹ L/hr	Typical Use	Power (Watts)	Connections ² (bsp male)
369P 900P 1000P	60 psi (cold water only)	1,000 - 1,500 2,500 - 3,500 6,000 - 10,000	Single tap or bach Whole house Farm, Motel, Campground	35 50 85	20mm 20mm 40mm
300S 369S 800S 900S 940S 1000S 2500S	125 psi (at up to 60° C, unsuitable for treating water above 45° C)	300 - 500 1000 - 1,500 1,500 - 2,500 2,500 - 3,500 3,500 - 4,500 5,000 - 10,000 10,000 - 15,000	Separate drinking faucet Single tap or bach Whole house (minimum) Whole house Large house, Farm Farm, Motel Campground Community or Commercial	35 35 50 50 50 85 170	8mm 20mm 20mm 20mm 25mm 40mm 50mm

Notes: 1. These capacities are for peak flow rates, ie maximum throughput at any time, not average daily use which is much lower. Treatment capacity is based on water clarity (%UV transmittance) and the likely level of contamination. A UV transmittance test should be carried out before a UV unit is selected. There is no charge - a 50ml sample is required. Figures shown apply to clear drinking water. 2. Connections shown are stocked. Other sizes are available to order at additional cost.

Options (to order, additional cost)

- Viewing port for lamp and sleeve (not available on P models, standard on 1000S and 2500S).
- Flow restrictor to limit throughput to recommended maximum (always fit if in doubt regarding peak flows).
- Alarm circuit board. This includes a relay with volt free contacts which change over in the event of lamp failure, standard on SF1000 and SF2500). Can be used to shut a solenoid valve or stop a pump.
- Residual current protection plug (RCD) instead of standard 3 pin plug (always connect your Steriflo unit using an RCD protected socket or plug).
- 316L Stainless steel treatment chamber (304L is standard except 2500S which is always 316L).
- Hour meter. Lamps should be changed annually but in installations used intermittently the hour meter can be used to ensure the lamp is changed at the correct intervals. The SF1000 and SF2500 include a timer in the circuit board that beeps after a year's time.
- If you can't see what you want ask us, we have models to cover virtually any flow rate and often custom build to meet specific requirements.

Model	Lamp Fail Alarm	View Window	Flow Restrictor	Alarm Contacts	RCD Plug	316L Chamber	Hour Meter
SF300	Standard	Optional	Optional	Optional	Optional	Optional	Optional
SF369	Standard	Optional	Optional	Optional	Optional	Optional	Optional
SF800	Standard	Optional	Optional	Optional	Optional	Optional	Optional
SF900	Standard	Optional	Optional	Optional	Optional	Optional	Optional
SF940	Standard	Optional	Optional	Optional	Optional	Optional	Optional
SF1000	Standard	Standard	Optional	Standard	Optional	Optional	Standard
SF2500	Standard	Standard	Optional	Standard	Optional	Standard	Standard

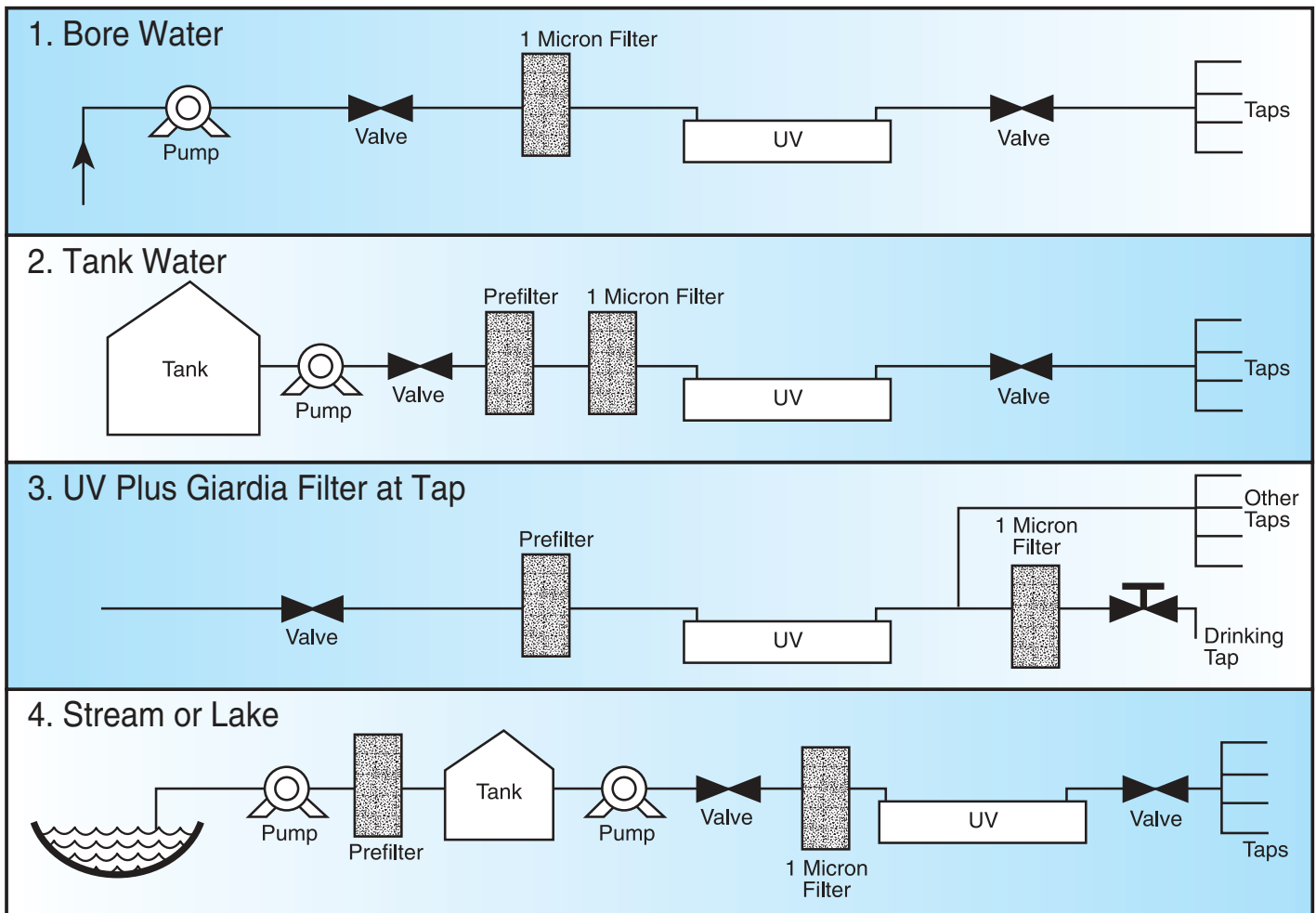
Pre-treatment (Drinking Water)

Pre-filtration is usually required to ensure that particulate matter does not shield micro-organisms from the UV light. 20 micron cartridge filtration is the usual minimum. In cases with fine turbidity in the water, or if cysts like Giardia or Cryptosporidium may be present finer filtration may be necessary. In this case one micron filtration is required, usually but not necessarily for the whole supply, filtration for the drinking tap only may be practical.

In drinking water treatment in particular the dual barrier approach to disinfection of using one micron filtration and UV is strongly recommended for the security this provides the user.

For water containing high levels of sediment or iron pretreatment with a backwashing filtration system is likely to be cost effective.

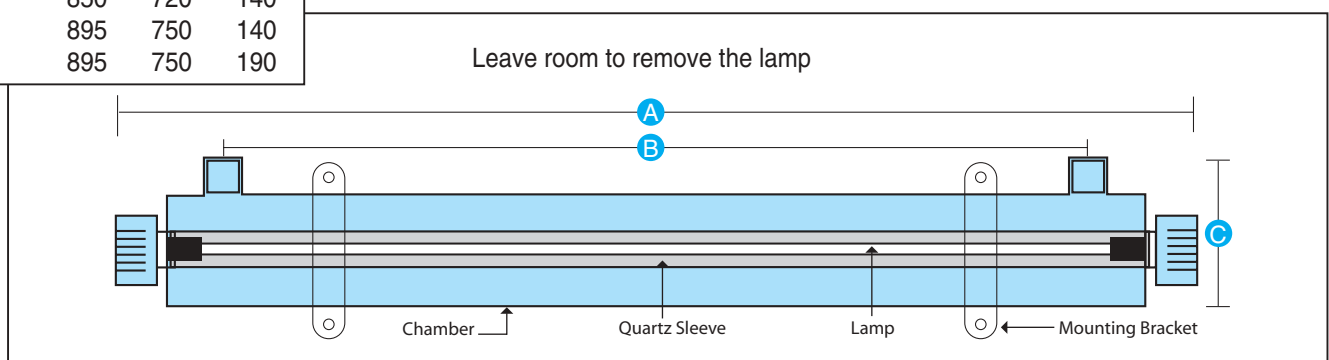
Typical Installation Schemes



Steriflo Dimensions (mm)			
Model	A	B	C
300	460	390	65
369	460	330	120
800/900	850	720	120
940	850	720	140
1000	895	750	140
2500	895	750	190

WARNING

Do not look at operating UV light without eye protection.
 Chamber under pressure, release pressure before disassembly.
 High voltage inside UV power supply, switch off at mains before service.



Notes on installation and operation

These notes are to assist with your selection and location of a Steriflo system, use in conjunction with the installation and operating instructions supplied with each system.

Purchase a unit with the capacity to meet your peak water flow (e.g. pump capacity) or if in doubt fit a flow restrictor to ensure the rating of the UV unit is not exceeded.

The Steriflo unit should be located under cover in a dry area. The treatment chamber is usually installed horizontally with the inlet and outlet above. Vertical installation is possible, in which case the inlet should be at the bottom. Leave a chamber length's space at the lamp connector end for lamp removal, with 100mm free at the other end for access to the end nut. The 'open' end nut and the blank end nut are interchangeable, so lamp removal can be from either end.

Install UV power supply above the treatment chamber with cables at the bottom in a position where water cannot drip onto it.

Connect power supply to RCD protected socket or purchase RCD plug option.

Lamp life is one year's continuous operation for all models.

Power consumption during operation is small and as there is a 2 minute warm up time for the lamp the Steriflo should be left running at all times to ensure that untreated water does not pass. Shut off water supply with valve if UV unit is to be switched off.

Cleaning of the quartz sleeve around the lamp is needed from time to time so install the unit in a position where water can be drained from the treatment chamber.

Do not locate where small children have access.

PVC pipe should not be used for immediate connections to the treatment chamber as it is rapidly damaged by germicidal UV light. Copper, stainless steel, galvanised, ABS or alkathene are all suitable.

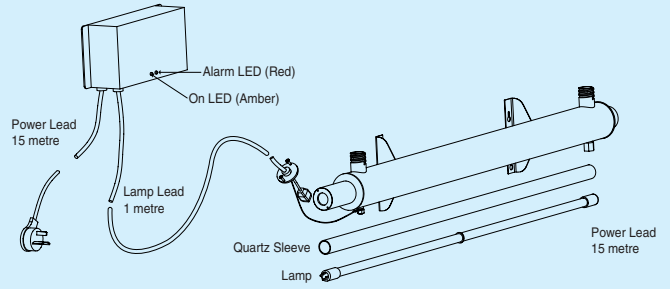
Threaded connections should be sealed with PTFE tape not hemp as it can be a source of bacterial growth.

Indicator light on power supply shows unit is running. An audible alarm sounds if the lamp fails or a connection is faulty. The alarm function can be tested by turning the steriliser off, unplugging the lamp connector and switching on again.

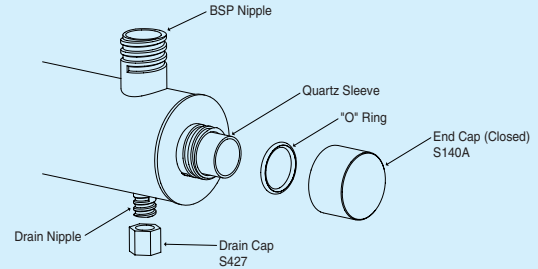
Contamination Control recommend that the water tank (if present) and piping are sterilised after installation. Contact CCL for details of "Steritank HP" solution.



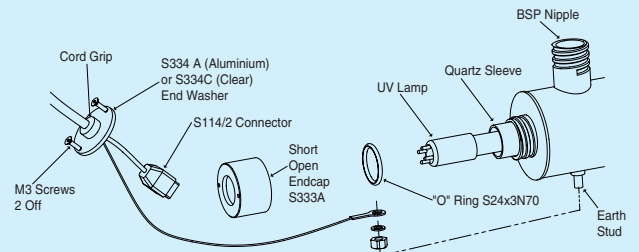
UV SYSTEM



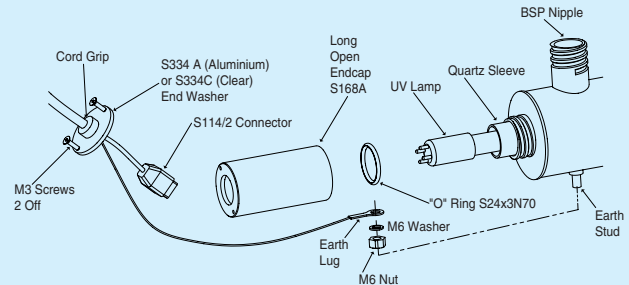
CLOSED ENDCAP DETAILS (ALL MODELS)



OPEN ENDCAP AND LAMP DETAILS SF300, SF369, SF1000, SF2500 (2 LAMPS)



OPEN ENDCAP AND LAMP DETAILS SF800, SF900, SF940



LAMP	PART NO.	QUARTZ SLEEVE	PART NO.
SF300	GPH369N/S	SF300	QS450
SF369	GPH369N/S	SF369	QS450
SF800	GPH840N/S	SF800	QS834
SF900	GPH840N/S	SF900	QS834
SF940	GPH840N/S	SF940	QS834
SF1000	GPH840N2/S	SF1000	QS880
SF2500*	GPH840N2/S	SF2500*	QS880

*SF2500 has two lamps and two sleeves