Saphir UV DISINFECTION UNITS

- Suitable for a range of domestic and commercial applications.
- Available in various sizes to suit required flow rates.
- Effective microbiological protection.
- Uses no chemicals & produces no by-products.
- Economical, safe & reliable
- Lamp operation indicator.
- Does not affect taste or odour.
- Long life lamps require only annual replacement.
- Simple to install & maintain.
- *Saphir*+ version now available with additional telemetry.

Why use UV treatment?

The quality of untreated rainwater is such that it cannot be classified as potable or 'wholesome' and therefore is not fit for drinking. Even though it is widely used for drinking, bathing etc. in various parts of the world, it is not deemed acceptable practice for the UK.

Untreated rainwater is not considered safe for personal use due to the contamination risk, particularly from bird droppings. To be sure that any 'unwholesome' water is fit to drink it should therefore be treated, and the simplest and most reliable way of doing this on a small scale is to use Ultra-Violet (UV) sterilisation. The water to be treated must first be free of even microscopic particles, so it is usually necessary to fit sediment pre-filters prior to the water entering the UV unit.

How does it work?

UV disinfection works by destroying the DNA of potentially damaging micro-organisms, thus rendering them harmless. This process is instant, effective and reliable. No chemicals are involved and the process does not affect the taste of the water in any way. UV radiation is part of natural sunlight, and a UV lamp emits a particular wavelength at high concentration to destroy bacteria, viruses and cysts.

Saphir UV unit

UV treatment is safe, reliable and simple to maintain. It is generally deemed to be ecologically preferable to chlorination and reverse osmosis (RO). However, please note that UV treatment alone will not remove discolouration or bad taste.

Several models available to suit most applications

Model	flow rate @ 40mJ/cm²	flow rate @ 25mJ/cm²	Inlet / outlet size	Power consumption	Length mm
Saphir 1	13.5 l/min.	20 l/min.	3/4" bsp	15w	405
Saphir 2	22.5 l/min.	36.5 l/min	3/4" bsp	25w	554
Saphir 3	40 l/min.	63 l/min	3/4" bsp	40w	554
Saphir 4	46.5 l/min.	73 l/min	1" bsp	36w	962
Saphir 7	89 l/min.	140 l/min	1" bsp	36w	962
Saphir 10	120 l/min.	183 l/min	1 1/2" bsp	75w	962

** mJ/cm² = millijoules per cm² at end of lamp life*

Saphir UV

Standard units have:
- Stainless steel chamber
- High-output low-pressure UV lamp
- Lamp on indicator
- IP55 rated controls
- Control module can be chamber or wall mounted
- Chamber can be mounted vertically or horizontally
- Up to 10 bar pressure
- UK manufactured
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Saphir+

The + version of the Saphir unit has several additional features:
- Micro processor control
- Lamp status indicator to show when the lamp needs changing
- Alarm & processer reset button
- volt-free contacts for remote alarm output.

SEDIMENT PRE-FILTERS FOR USE WITH UV UNITS

- For use with pressurised water supplies.
- Sediment removal down to 5 microns.
- Available in a range of sizes to suit different flow rates.
- Replaceable polypropylene cartridges or bags.
- Simple cartridge changing.
- Nitrate and Carbon filters also available.

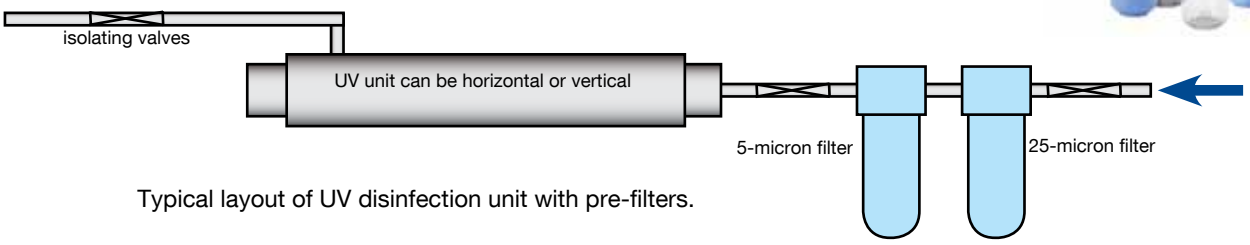
When using *Saphir* UV units to disinfect rainwater we recommend that additional filtration is added prior to the water passing through the UV chamber. It is important that the water to be treated is as clean as possbile, otherwise small particles can create a 'shadow' which the UV light cannot penetrate. We recommend that water is cleaned down to 5 microns prior to UV treatment.

The filters require pressure in order to work effectively so are suitable only for pumped supplies. The cartridges require regular replacement, frequency of which will vary according to the nature of the water they are treating.

Water is normally pumped through 25-micron and 5-micron wound sediment filters to ensure that sufficient material is removed. These are available in a range of sizes to suit different flow rates. For larger UV units where a higher flow rate is required, a single 5-micron 'bag' filter is sufficient.

Filters are selected to match the flow rate of the UV unit

UV Unit	25-micron pre-filter	5-micron pre-filter	Connection size
Saphir 1	10" standard wound cartridge	10" standard wound cartridge	3/4" bsp
Saphir 2	20" standard wound cartridge	20" standard wound cartridge	3/4" bsp
Saphir 3	10" 'Big Blue' wound cartridge	10" 'Big Blue' wound cartridge	3/4" bsp
Saphir 4	10" 'Big Blue' wound cartridge	10" 'Big Blue' wound cartridge	1" bsp
Saphir 7	N/A	10" 'Big Blue' bag filter	1" bsp
Saphir 10	N/A	10" 'Big Blue' bag filter	1 1/2" bsp



Typical layout of UV disinfection unit with pre-filters.

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