UVC water steriliser

User Manual

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How does UV sterilisation work?

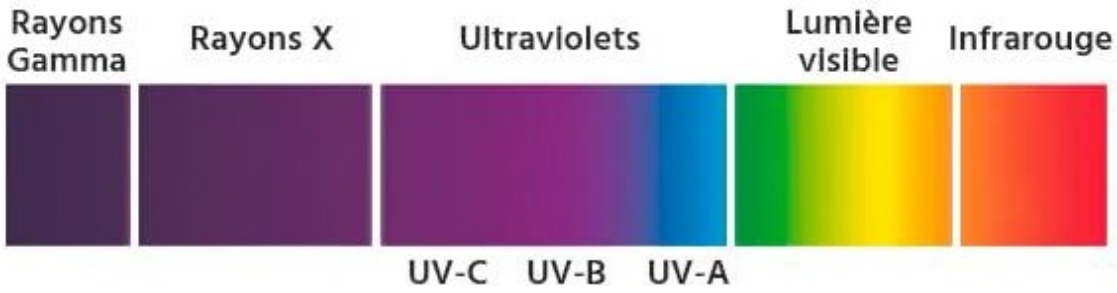
To neutralise bacteria, microbes, viruses, single-celled algae or any living cells in the water, the water is passed through a treatment chamber where it is irradiated with ultraviolet rays

Depending on the amount of energy received (measured in micro-Ws/cm²), the microorganisms will be:

- Sterilised by a bacteriostatic effect (they continue to live but can no longer reproduce).
- Destroyed (bactericidal effect).

However, care must be taken to use the correct electromagnetic wave frequency for ultraviolet rays.
Not all UV rays have a sterilising or disinfecting effect:

- UV-C: ozone formation around 185 nm
- UV-C: destruction of microorganisms between 200 and 280 nm
- UVB: fortification of food products with vitamins between 285 and 315 nm
- UVA: skin pigmentation between 315 and 400 nm



To sterilise water, a wavelength of approximately 254 nm is required inside the treatment chamber.
It is therefore this type of toilet that you should use.

UV sterilisation eliminates pathogenic microorganisms, but this does not always mean that the water is pleasant to drink or use. That is why this process is sometimes combined with a filtration method that improves the taste of the water.

Although UV sterilisation eliminates pathogenic microorganisms, it has no effect on the taste or turbidity of the water.
It will therefore be necessary to combine it with a filtration method to make it more pleasant to drink and use.

Why choose this technique?

UV sterilisation offers a number of advantages:

- Does not use chemicals
- No chemical or physical alteration of the treated water
- Compact system that takes up little space and is relatively easy to install
- Easy to maintain: simply replace the UV lamp when it stops emitting light
- Instant bactericidal effect

It is ideal for:

- Sterilising water from local sources (springs, rain, rivers, wells, boreholes, etc.)
- Maintaining your swimming pool whilst minimising the use of chemicals
- A professional who discharges water and wishes to minimise their environmental impact

Unlike other water treatment techniques (water softeners, reverse osmosis, water purifiers, filter jugs or filter cartridge holders), UV sterilisation is a process that provides effective water disinfection.
Passing water through a UV lamp therefore serves a different purpose to techniques designed to soften the water, limit the formation of limescale crystals, or remove suspended impurities from the water.

25 or 55-watt UV steriliser

Warning! Sterilisers are effective only against bacteria and do not replace filters.
For best results, we recommend using it with at least a 5-micron sediment filter (this helps keep the quartz clear and ensures the UV light can effectively target the bacteria)**.**

25-watt model:
To make the water drinkable, this unit can treat 4.8 GPM or 18.2 litres per minute, equivalent to 1.30 m^3 per hour.
To purify the water, this unit can treat 6 GPM or 27 litres per minute, equivalent to 1.63 m^3 per hour.

55-watt model:
To make the water drinkable, this unit can process 9.6 GPM or 43.64 litres per minute, equivalent to 2.18 m^3 per hour.
To purify water, this unit can process 12 GPM or 54.55 litres per minute, equivalent to 2.72 m^3 per hour.

The model from 25w will be sufficient for in standard residential homes. Indeed, 10-inch sediment filters generally limit the water flow rate to 25 l/minute, whilst activated carbon cartridges limit it to less than 10 l/minute. This does not prevent you from using the taps as normal, whilst consuming less water…

It is important to remember, for example, that the role of tap aerators is to restrict the flow rate.
The use of a 55W model would be more appropriate for specific applications (water features, industrial treatment, fish farming, etc.).

It consists of:

- 1 steriliser body made of 304/316 stainless steel
- 2 screw caps, 1 of which is open
- 1 quartz tube (silicon glass tube)
- 2 silicone seals
- 1 x 220V ballast
- 1 UV-C amalgam lamp (16,000 hours)

Specifications:

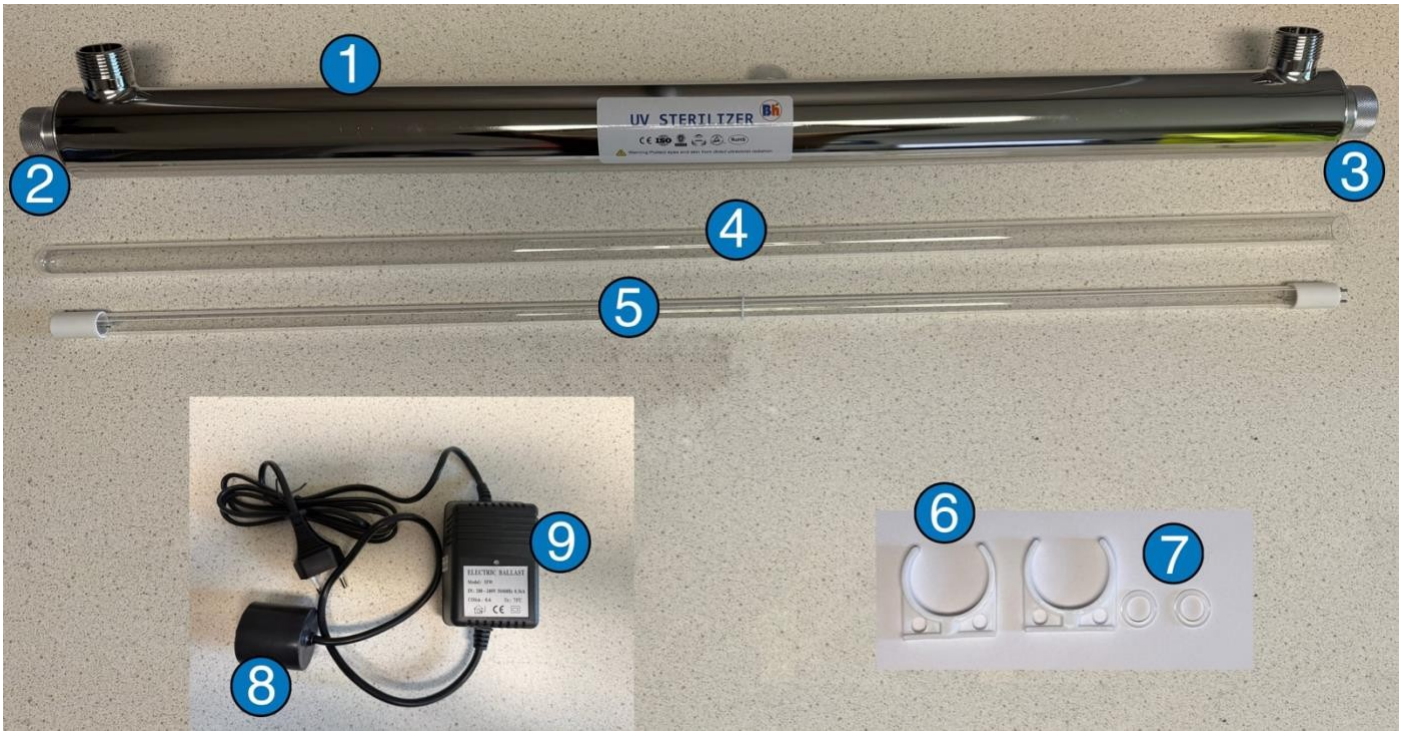
- Length of ballast power cable: 1.95 metres
- Outer diameter of stainless steel tube: 64 mm
- Stainless steel tube length: 520 mm / 950 mm for the 55-watt model
- Connection: 20/27 (¾ inch) for the 25-watt model – 26/34 (1 inch) for the 55-watt model

Quartz (also known as silica) is made of silicon glass.
It is a high-quality type of glass composed almost entirely of pure silica.

Assembling the steriliser

The steriliser consists of various components to be assembled:

1. The body of the steriliser, also known as the reactor, is fitted with a 3/4-inch (20-27) male threaded inlet/outlet for the 25W model and a 1-inch (26-34) male threaded inlet/outlet for the 55W model
2. A threaded plug
3. An open threaded plug (for the lamp power cable)
4. A quartz tube (a type of high-quality transparent glass)
5. A 55 or 25-watt Amalgame UV-C lamp – 16,000 hours – 4-pin connection
6. 2 holders
7. 2 silicone seals for sealing the quartz tube
8. A dust/moisture cap (already fitted to the 4-pin connection cable)
9. A ballast with its 220V power cord (specific transformer rated at 55 or 25W depending on the model)



TO PROTECT THE USER'S EYES AND SKIN, PLEASE SWITCH OFF THE UV LAMP BEFORE REPLACING IT!

Note: the Amalgame ultraviolet lamp has a lifespan of approximately 16,000 hours; please replace it every 2 years to ensure its sterilisation function.

1. Precautions for installation and use

1.1. Ultraviolet light can damage your eyes. Please do not look directly at the lamp when it is switched on.

1.2. If you find yourself in a situation where there is no earth connection, please unplug the electrical sockets for safety reasons.

2. Important note:

The ultraviolet lamp will work effectively if you regularly maintain the quartz tube. If the water hardness is above 25°f, it is advisable to install an anti-scale system.

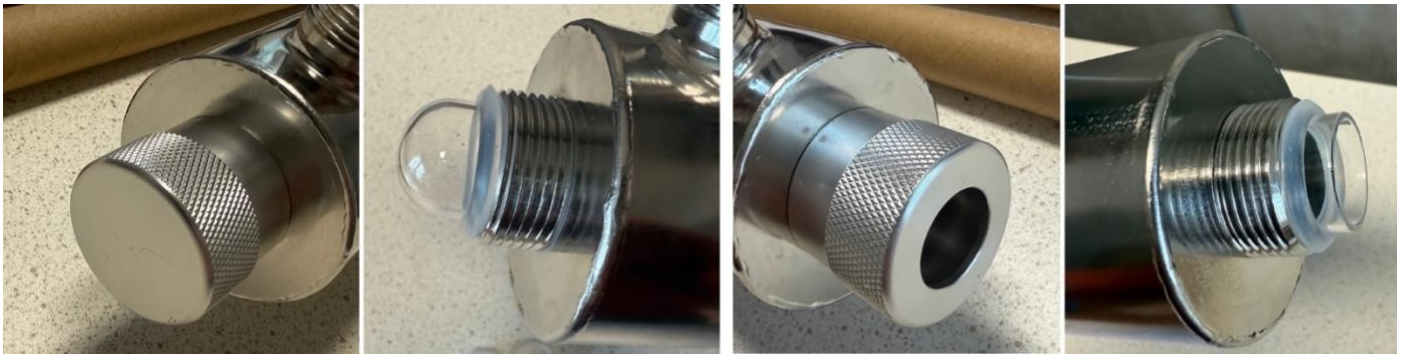
The unique feature of this steriliser is that it eliminates germs, viruses, algae and fungi in the water by irradiating it with powerful ultraviolet rays. It can produce water that is bacteriologically safe.

4. Installing the steriliser

The steriliser can be installed horizontally (with the inlet facing upwards) or vertically (with the plastic covers facing upwards and the inlet facing downwards). For optimal performance, the water must be filtered to 5 microns or less before it flows through the UV-C treatment system.

4.1 Assembling the quartz sleeve.

- First, fit the silicone seal to the outside of the quartz tube, approximately 1 to 1.5 cm from the open end. (Moisten the seal with water or lubricate it with silicone grease to make fitting easier – the grease will prevent it from sticking during disassembly/cleaning.)
- Next, insert the quartz sleeve into the stainless steel housing.
- Ensure that the sections of the quartz tube protruding from either side of the unit's body are roughly the same length.
- Readjust the silicone seal so that it rests flush against the body of the steriliser.
- Fit and tighten the open screw cap.
- Then insert the second silicone seal on the outside of the quartz tube on the closed side.
- Tighten the screw cap (unopened).



4.2 Electrical connection.

- Connect the lamp's rectangular pin to the ballast connector (please ensure it is positioned correctly)
- Insert the lamp into the quartz tube
- Fit the dust cap onto the outside of the threaded plug.

4.3 Wall mounting

- Secure the steriliser using brackets firmly anchored to a wall or rigid surface.
- In the case of vertical installation, to prevent the steriliser from slipping in the brackets, it is advisable to use rigid pipes at the inlet and outlet and to secure them with wall mounting clamps.

4.4 Commissioning

- Check all connections to make sure everything is in order before plugging in the appliance.
- Turn on the water to check there are no leaks.
- Connect the ballast so that the system is operational.
- A green light will then come on on the ballast to indicate that the system is working properly.

Note: To ensure the steriliser is fully operational on first use, allow it to run for 3 to 5 minutes before turning on the water supply. Additionally, to remove any air or impurities from the unit, turn on the tap and let the water run through the steriliser for 2 to 3 minutes.

5. Operation and maintenance

Note: Always ensure that the appliance is disconnected from the mains before dismantling or assembling the steriliser for use.

1. Check regularly that the ultraviolet lamp in your steriliser is working properly. If the lamp is faulty, the ballast indicator light will change from green to red.

2. After 2 years of continuous use, the ultraviolet lamps must be replaced to ensure a high sterilisation rate. Particular attention should be paid to the fact that it is preferable for the lamp to remain on continuously, as repeated switching on and off seriously affects the lamp's lifespan.

3. To replace the UV lamp, remove the rubber cover, disconnect the lamp pins from the ballast connector, then remove the old UV lamp and install the new one. Do not let your fingers touch the quartz glass of the new lamp, as any smudges will affect the sterilisation process. Carefully place the tube in the stainless steel steriliser, then secure the rubber housing. Finally, switch on the power to check that the LED is glowing steadily.

4. If the water hardness (calcium or magnesium), iron or manganese content in the water is high, the quartz sleeve must be cleaned periodically. Remove the UV lamp tube before removing the quartz sleeve. Refer to the instructions in step three above, then proceed as follows:

- Turn off all water supplies.
- Carefully remove the silicone seal from the quartz sleeve.
- Dip a cloth in vinegar, citric acid or soap to clean the quartz sleeve.
- Reinstall the quartz tube inside the stainless steel housing, ensuring it protrudes by the same distance on either side.
- Ensure that the silicone seal is damp and that the quartz sleeve is smooth on both sides, then fit the aluminium cap (tighten firmly by hand again).
- Fit the UV lamp and the rubber cap, as described above.
- Connect the power supply.

OEM equipment distributed under various brand names, meeting all the standards and certifications required for Europe.

The warranty on equipment used under normal conditions is valid for two years from the date of purchase. One or more photographs of the installation will be required for all claims.
Due to their susceptibility to even minor impacts and/or to switching cycles that cannot be verified, monitored or certified, ballasts and lamps cannot be covered by the warranty and are considered consumable items.