



Priva Vialux HD/UV

Effective disinfection of irrigation water

Priva Vialux UV systems are specially designed to provide effective and efficient disinfection of irrigation water in horticulture.

They use the principle of High Density UV, making them suitable for disinfection of either large or small volumes of water. Disinfection of drain and surface water enables expensive water and/or fertilizers to be recycled.



The operation of the Vialux is as simple as it is effective. The system demands little energy and minimum maintenance. Investment and operating costs are very competitive. The composition, acidity and temperature of the water are not altered. Experience with Vialux in the field over time, has shown it to be a reliable and easily controlled system offering growers a complete solution for disinfection of surface or drain water. The Vialux is available in a number of versions with increasing levels of lamp power and capacity. Only the addition of a water filter (e.g. a sand filter) is needed to complete the disinfection unit.

What is UV disinfection?

UV stands for ultraviolet light. The active UV-C, which has a wavelength of approximately 254 nanometres, alters the DNA of micro organisms, such as microbes, bacteria and moulds, destroying them in the process. UV-C light also makes viruses inactive.

The permeability of UV-C light, called the T10 transmission, is an important factor in the process. A high T10 transmission figure facilitates water disinfection.

Total or selective disinfection

The UV-C intensity of the Vialux has ample power to render fungi, bacteria and viruses harmless. The PPO (Plant and Environmental Research Centre) has carried out a number of biological tests to establish minimum UV-C dose levels to prevent the spread of disease through water. For selective disinfection (microbes, moulds and bacteria), with Priva Vialux this dose is 80 mJ/cm². For total disinfection (including viruses), the minimum UV-C dose is 250 mJ/cm². To disinfect the Pepino mosaic virus, which occurs in tomato crops, a dose of 150 mJ/cm² is required. These doses render pathogens completely inactive.





Vialux properties

The water to be disinfected is passed through the stainless steel exposure chamber at a defined speed. The high-pressure UV-C lamp is located in this chamber. The lamp, enclosed in a quartz tube, irradiates the water passed through the chamber with UV-C. A wiper mechanism working together with minimal acid dosing cleans the quartz tube. The high power of the HD/UV lamp means that one lamp in one chamber is sufficient, whereas other UV systems require between ten and thirty lamps and chambers. The UV-C intensity is measured by a UV-C sensor. A computer controls and protects the whole disinfection process and ensures that the chosen UV-C dose is delivered.

Automatic calculation and power control
The Vialux always operates using the correct T10 value. In addition, the Vialux has three power levels. If the dose decreases because the water has a reduced T10, the lamps are switched from the low to the medium power level or from the medium to the high power level. If the dose remains too low, the process is interrupted, the water is automatically diverted to the drain tank and the unit raises an alarm to ensure that the crop never comes into contact with partially disinfected water.

Reserve power

Calculations to determine the required capacity of your Vialux system are based on a radiation power of the lamp at the end of its life, assuming it is operated at the low power level. This means that you will always have available a reserve capacity of approximately 35%.

Turbulence

The design of the exposure chamber ensures a turbulence current for all water capacities, starting with minimum flow of 1.5 m³/hour. The turbulence in the water current ensures that the water is evenly exposed to the UV-C light and is irradiated with the same UV-C dose selected.

Most significant advantages

- No increase in water temperature
- No change in the composition or pH of the water
- Completely automatic, safe and reliable
- Automatic cleaning
- Power level control and water flow control
- Automatic T10 calculation
- Simple design, one exposure chamber, one UV lamp and one UV-C measurement
- Low investment and operating costs
- Suitable for the drain water from your growing medium
- Blending of drain and sump and/or surface water
- Disinfection of drain and surface water alternately
- Also suitable for Ebb and flood and NFT water

Need to know more?

Visit our website www.combiflame.com
We will be delighted to help you with your next step.



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