ADVANOX™
powered by VAN REMMEN UV Technology

Reference case

Removal of plant protection products from drainage water in a collective horticultural area

The background

Increasing numbers of pesticides and other micro pollutants enter our water cycle with our horticultural drainage water. Dutch horticulture is proven to give the highest yields per square meter couple with the lowest water and pesticide use in the entire world. Despite that further regulation has been implemented to make sure no unwanted compounds from our greenhouses enter the environment through their drainage.

The case

TOM (Tuinbouwontwikkelingsmaatschappij) was the first developer of horticultural areas in The Netherlands to see the need for investing in new and advanced water treatment. At that time no regulation was yet implemented and the political discussion around it was still in development. Despite that they chose to go ahead and ask Van Remmen and Bruine De Bruin BV to develop a new treatment system for them to comply with new regulations even before it was made official.

The solution

A combination of technologies was chosen to yield optimal flexibility and to make sure that the system would always comply, even if regulations became stricter during the project, which they did. Eventually a staged system was built that used Microfiltration to keep sediments out and Ultrafiltration as a pre-treatment. The actual work was done with a combination of Activated Carbon and Advanox™ which had an optimised synergy to improve system efficiency and reliability. By putting the Advanox™ in front of the activated carbon the lifetime of the Activated Carbon bed could be improved while the UV-C dose - the amount of light and energy needed – could be kept low because of the added removal of the bed.

Facts

Contractor
Tuinbouwontwikkelings-maatschappij (TOM)

Location
The Netherlands, Dinteloord

Purpose
Removal of plant protection products

Solution
Advanox™ Focus series

Results

The system was approved following the strict Dutch regulation. It is the first approved collective system in The Netherlands for collective horticultural drainage water treatment. In 2019 the system was upgraded to deliver higher capacity for the growing modern greenhouse area it serves.