



UVGERMI[®]
ULTRAVIOLETS DE HAUTE TECHNOLOGIE

*Specialist in
drainage water treatment
for soil-less crops
using ultraviolet reactors.*

● ○ ● MADE IN FRANCE

TREATMENT OF **GREENHOUSE CROP WATER**

THE ISSUE

Farmers cultivating soil-less fruit, vegetables or plants allow their drainage water, which contains high concentrations of fertiliser, to flow directly into the mains drainage system. The re-use of such water stored after drainage can save a lot of fertiliser and water.

Furthermore, some crops are sensitive to bacteria found in re-used water (which can result in total crop failure); UV treatment solutions can prevent such problems.



NEEDS

To reduce the use of chemical reagents, energy and water, the full, autonomous **GERMISERRE** skid can be installed to limit investments and guarantee disinfected water with no risk of contaminating the crops.

THE SOLUTION

The **GERMISERRE** skid implements automatic filtration with a filter screen (20 µm) followed by UVC treatment at a wavelength of 254 nm. The nucleic acids (DNA and RNA) of the microorganisms (bacteria, viruses, protozoa) are damaged by the UV radiation from the lamps, causing their immediate destruction.

The germicidal effectiveness of the UV reactors depends upon several factors: water quality (transmittance), flow rate, UV dose delivered and contact time.



PROPERTIES

We use modelling software developed by our design office to guarantee a UV dose of 250 mJ/ cm² at the end of the lamp's service life to enable 3 log removal of *Pseudomonas syringae* and *Clavibacter michiganensis* type bacteria, which are particularly common on tomato plants.

BEFORE

Photons
UV



AFTER

Damaged
DNA chain



UVGERMI[®] BENEFITS OF GERMISERRE

SPECIFIC FILTRATION

- No risk of bacteriological re-contamination, as can happen in the dead zones of sand filters.
- No interruption of treatment during counter-washing of the filter.
- Less energy consumed by the supply pump
- because of lower load losses.

UV TREATMENT WITH REACTORS IN SERIES

- Guaranteed service life of low pressure lamps
- of 16,000 hours or 2 years.
- In the event of lamp failure, the supply pump output is reduced to guarantee the same UV dose and treatment continuity at all times.

SIMPLE, USER-FRIENDLY SUPERVISION IN FRENCH

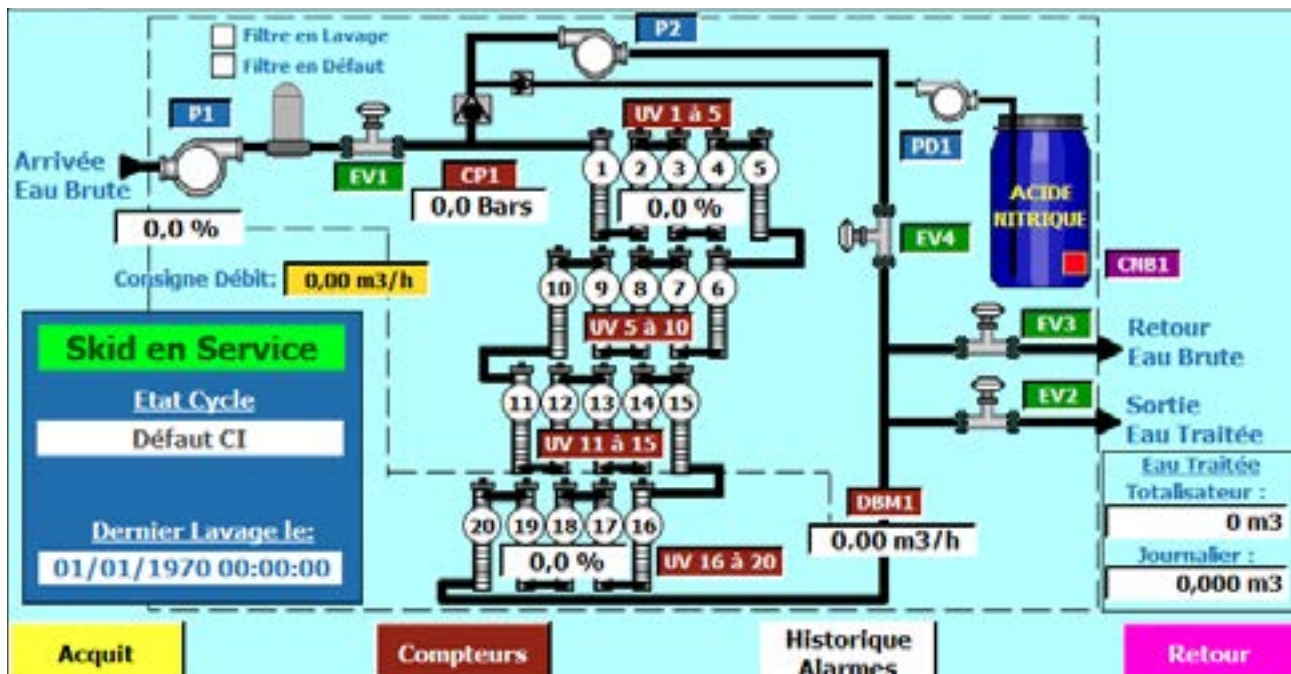
AUTOMATED CHEMICAL CLEANING BASED ON SENSOR INFORMATION

SMALL SKID SIZE

AUTOMATED OPERATION

THE GERMISERRE RANGE				
DESIGNATION	Max. flow treated m ³ /h	Total power (kW)	Number of reactors	Chassis dimensions (mm) L x w
GERMISERRE 4	4	4.8	8	2,016 x 1,500
GERMISERRE 6	6	6	12	2,700 x 1,500
GERMISERRE 8	8	7.2	16	2,700 x 1,500
GERMISERRE 10	10	8.4	20	2,700 x 1,500
GERMISERRE 12	12	9.6	24	2,700 x 1,500
GERMISERRE 16	16	12	32	2,940 x 1,500

REAL TIME VIEW OF OPERATION



BENEFITS

- 1. Real-time operation traceability** via the supervision screen.
- Simplified alarm logs and **failure resolution**.
- 3. Adaptability of treatment** according to water permeability, number of lamps in service and clogging of the quartz sleeve by pump output variation.



Do not hesitate to contact us for more information
on our solutions for THE TREATMENT
OF **IRRIGATION WATER**



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