VSE PRO
UV DISINFECTION SOLUTIONS

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Protect your plantation. Protect tomorrow.

Trusted water disinfection, delivered with excellence.



MADE IN THE NETHERLANDS



EACH YEAR, MORE BANANA CROPS FAIL
DUE TO DISEASES PRESENT IN IRRIGATION WATER

Banana farming, especially of the popular Cavendish variety, is under serious threat from two major diseases: Fusarium Wilt (TR4) and Moko. Fusarium TR4 is a highly resilient fungus that spreads through contaminated soil, tools, and water, making it hard to remedy once it circulates in a plantation. Once a field is infected, the soil can remain contaminated for up to 30 years, making it nearly impossible to grow bananas there again. Vast areas are devastated, resulting in colossal damages.

Moko disease, caused by the Ralstonia bacteria, is just as dangerous. It spreads rapidly through water, soil, and infected plants, leading to wilting and plant death. The problem is made worse because Cavendish bananas are all genetically the same, making them especially vulnerable. If these diseases aren't controlled, they could severely reduce global banana production, affecting millions of people who rely on this crop.

The Problem: Irrigation water gets infected and stays in the soil for years.

Disinfecting irrigation water is crucial in the fight against Fusarium TR4 and Moko disease. Both diseases spread rapidly through contaminated water, carrying pathogens across fields and regions. Fusarium TR4 spores and Ralstonia bacteria are highly persistent in water, making untreated irrigation a major risk.

To protect banana crops, especially the vulnerable Cavendish variety, it is essential to treat and disinfect irrigation water. Chemical treatment has its limits and many disadvantages, while UV disinfection has proven to be massively effective for water disinfection. Prevent the diseases from spreading and protect your banana production and be secure.



Scan:
Discover the journey to transform your water disinfection.



HortiGuard Model 2.4 in action in the Philippines.

EXPERT SUPPORT.
ANYTIME, ANYWHERE


HortiGuard in operation at a plantation in Ecuador.

Local support
Our team of specialists and VGE representatives are ready to provide local top-tier service across Latin America and Southeast Asia, ensuring smooth, uncompromised support.

In-depth assessment to ensure the perfect fit.
On our first visit, we examine your pump station and take water samples for analysis. This allows us to select the ideal solution tailored to your exact needs.

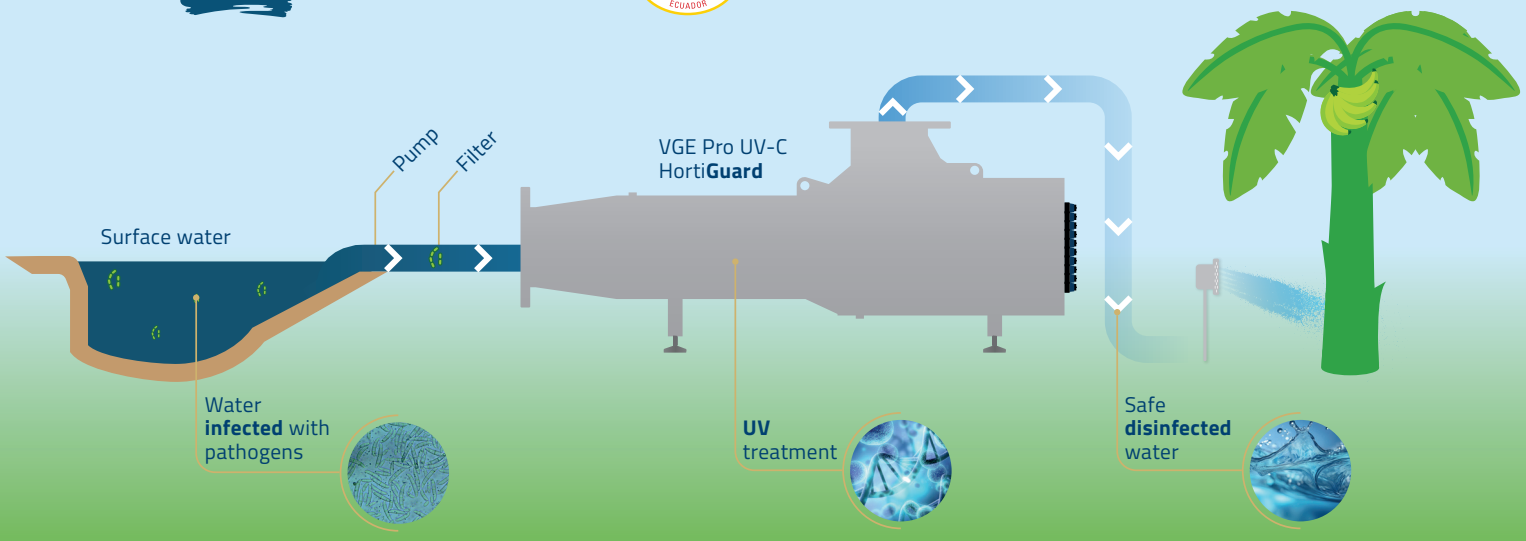
Tested and endorsed by Wageningen University: Proven Excellence
Whether you're seeking a full turn-key installation for your pump station or specific support with the HortiGuard, our solutions are tailored to meet your exact needs. Backed by research from Wageningen University, we ensure every step aligns with your goals. Your success is our priority, and customized service is at the core of everything we do.



Validated by:

WAGENINGEN UNIVERSITY & RESEARCH

favorita ECUADOR



THE SOLUTION:
DISINFECT IRRIGATION WATER USING UV LIGHT

Our company, VGE, has developed a cutting-edge solution to address the critical issue of contaminated irrigation water in banana production. The VGE Pro HortiGuard utilizes advanced UV irradiation technology to completely eliminate both Fusarium TR4 and Moko disease-causing Ralstonia bacteria from irrigation water. This solution has been rigorously tested and validated through extensive research conducted by Wageningen University, a leading agricultural research institution.

The VGE Pro HortiGuard has undergone quadruple validation, with successful trials carried out not only in the Netherlands but also in key banana-growing regions like the Philippines and Ecuador. These validations confirm the effectiveness of our UV irradiation technology in providing a reliable, chemical-free method for disinfecting irrigation water, ensuring that it is safe for use in banana plantations. By implementing the VGE Pro HortiGuard, you can significantly reduce the risk of disease spread, helping to protect their crops and secure the future of global banana production.

QUADRUPLE VALIDATION

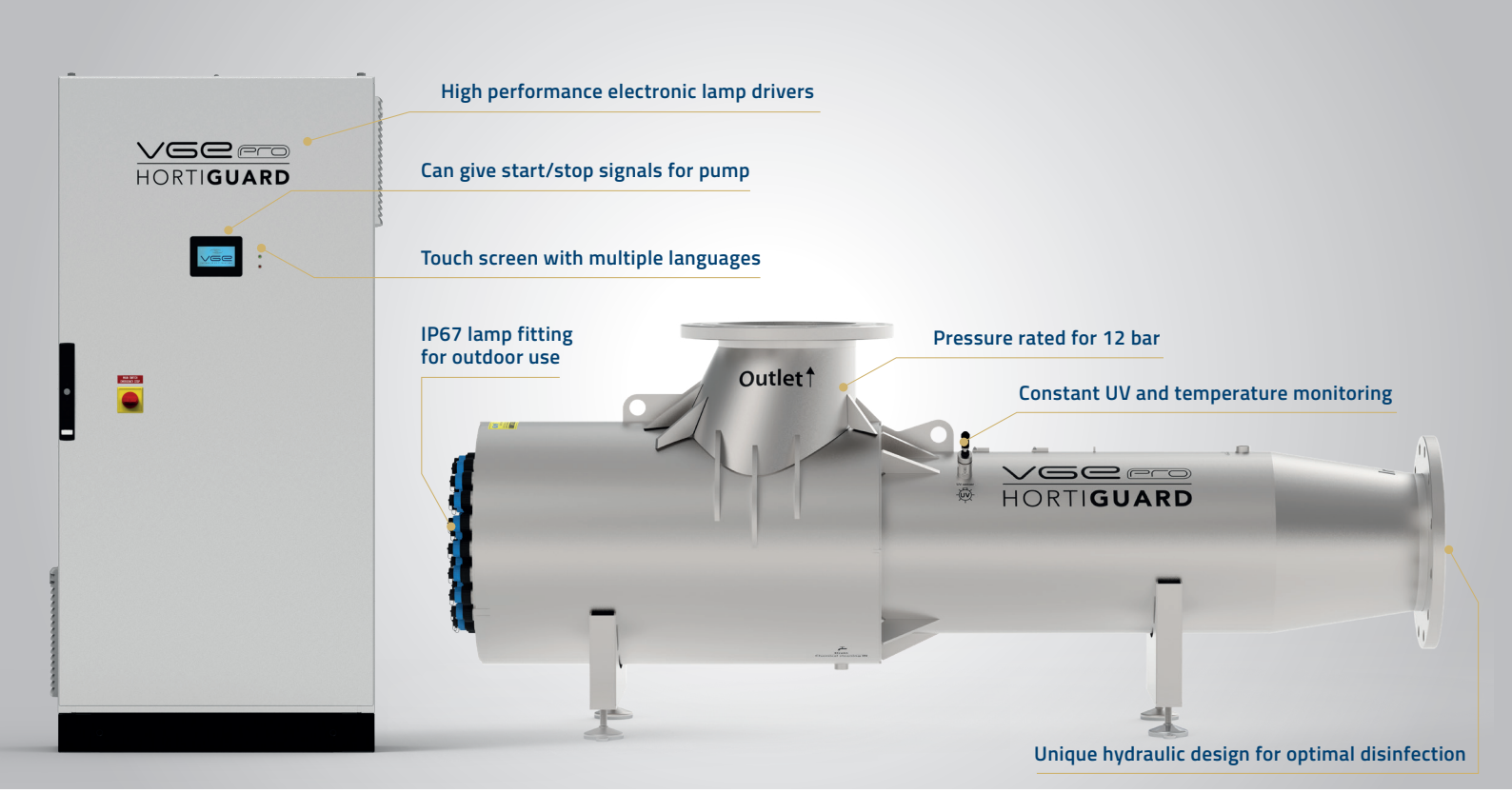


Static test:
determining efficacy of UV irradiation on both TR4 and Moko.

Dynamic test:
prototype of smaller HortiGuard for treatment of water.

Field trials:
successful field trials in Ecuador and Philippines, achieving 100% inactivation of TR4 and Moko.

Global operation:
over 30+ installations at banana farms worldwide, protecting over 6.000+ hectares.



VGE PRO HORTIGUARD

YOUR FIRST LINE OF DEFENSE

For clean, safe water in large-scale operations, the VGE Pro HortiGuard series delivers unmatched power and reliability. Built to tackle tough irrigation water challenges, this advanced UV-C disinfection solution acts like a security guard for your water. Its powerful lamps neutralize harmful microorganisms by disrupting their DNA, preventing reproduction and causing harm. It's a chemical-free, eco-friendly way to keep your water pure and safe.

A Model for Every Need: The HortiGuard series offers five models to suit any operation:

Small but Mighty: The smallest model, with 6 powerful lamps, handles flow rates of 51 m³/h (225 GPM). Compact yet effective, it's ideal for smaller setups needing strong protection.

The Titan of UV-C: The largest model features 34 lamps at 400 watts each, managing flow rates up to 455 m³/h (2000 GPM). Perfect for large-scale operations demanding maximum capacity.

MODELS:



2.4 6 lamps x 400 W

Capacity*: 51 m³/h (225 GPM)

Design Pressure: 12 bar / 175 psi

Lamp lifetime: 16.000 operating hrs

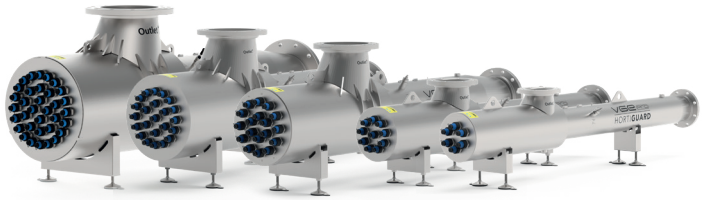


4.0 10 lamps x 400 W

Capacity*: 108 m³/h (475 GPM)

Design Pressure: 12 bar / 175 psi

Lamp lifetime: 16.000 operating hrs





7.2 18 lamps x 400 W

Capacity*: 208 m³/h (915 GPM)

Design Pressure: 12 bar / 175 psi

Lamp lifetime: 16.000 operating hrs



9.6 24 lamps x 400 W

Capacity*: 323 m³/h (1420 GPM)

Design Pressure: 12 bar / 175 psi

Lamp lifetime: 16.000 operating hrs



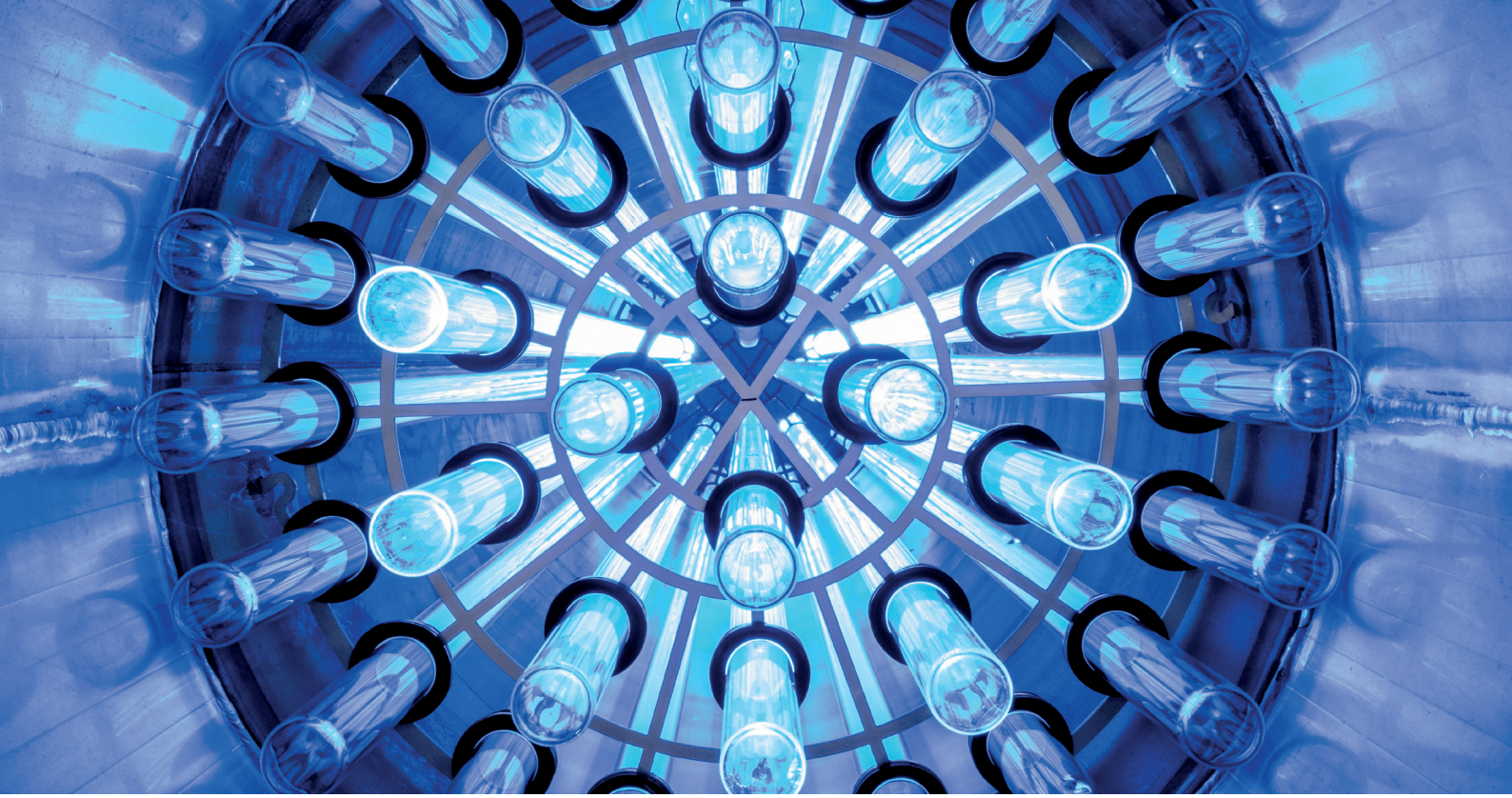
13.6 34 lamps x 400 W

Capacity*: 455 m³/h (2000 GPM)

Design Pressure: 12 bar / 175 psi

Lamp lifetime: 16.000 operating hrs

* Based on 85% UVT10 Transmittance



VGE FROM THE NETHERLANDS

YOUR PARTNER IN UV DISINFECTION SOLUTIONS



2x HortiGuard Model 13.6 in action in Ecuador.

VGE HortiGuard UV treatment

- Chemical-free, without harmful byproducts
- Non selective and effective against all pathogens
- Instant disinfection (physical) in-line
- Low operating costs (only consumes electricity)
- Safe to use, without any storage

Traditional chemical treatment

- Can create byproducts harmful for your soil
- Selective and pathogens often develop resistance
- Requires long contact/very high dose to be effective
- Constant purchase of chemicals and handling
- Requires careful handling and storage

CONTACT US

- VGE B.V.
- Nieuwe Eerdsebaan 26
- 5482 VS Schijndel The Netherlands
- Tel. +31 88 222 1999
- info@vgebv.nl
- www.vgepro.com

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