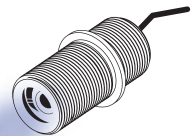




# Water Purification- UVC LED Sterilizer

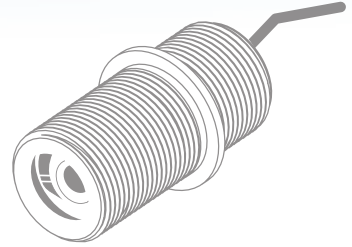


Aquatech Amsterdam 2025

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# UV-C LED Optical Water Sterilization System

 EFFECTIVE SOLUTION

 OPTICAL SYSTEM

 LONG LIFE UV-C LED

 INSTANT SWITCH ON

 ENERGY EFFICIENCY

 LESS WASTE HEAT

 COMPACT DESIGN

 MERCURY(Hg) FREE

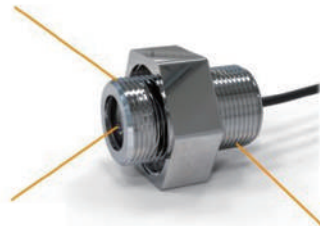
## Core Module Introduction

Silica Optics



Water Proof Module

Water Cooling System















Patented Optical Design

Food Grade SUS 316

## Eco-friendly Design

Our UV-C LED water sterilization system offers low energy use and instant activation, cutting carbon emissions compared to mercury UV systems. Its mercury-free design prevents pollution, meets global eco-standards, and ensures safe, sustainable use.

Image	Power Consumption	Size	Lifetime	Toxic Material	Recycling Cost
 NOVATICS WS CORE				 MERCURY FREE	
 Mercury UV Lamp				 Hg	



## Water cooling design

Traditional water sterilization faces high power use and heat buildup. Our water-cooled UV-C LED system efficiently dissipates heat, maintaining optimal LED temperature for longer lifespan and lower energy consumption. Compared to air or passive cooling, water cooling reduces LED degradation, ensuring stable and efficient sterilization.

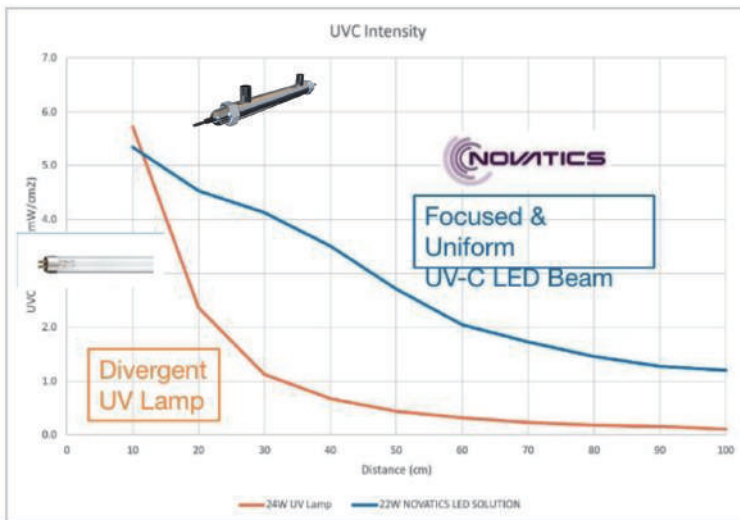
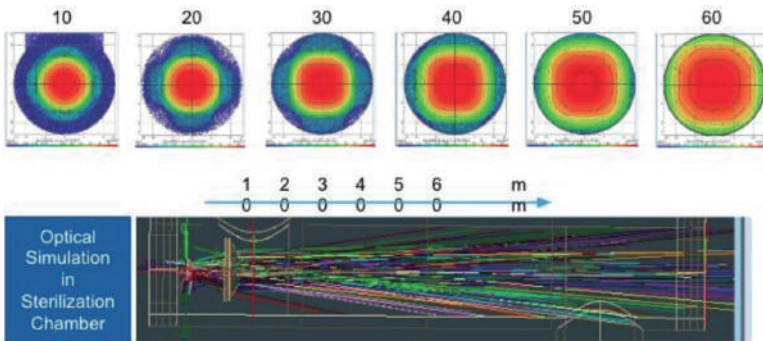


## Water cooling LED module

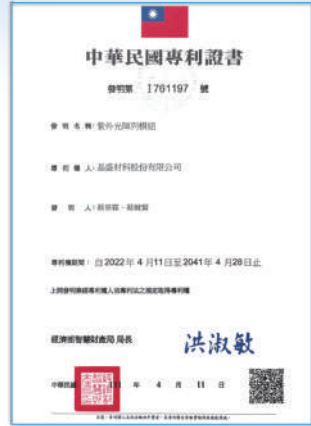
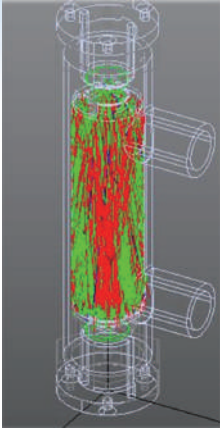
Born for high flow rate water purification

# Optical Technology

UV-C (200–280nm) effectively destroys bacteria, viruses, and microorganisms by breaking their DNA/RNA, preventing reproduction. Our UV-C LED water sterilization system uses high-power LEDs and precision optics for even light distribution and enhanced disinfection.

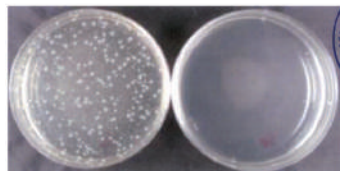


# Patented Design

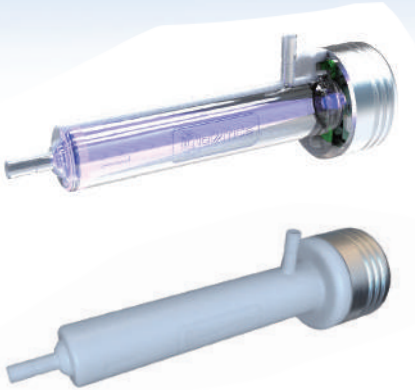


# Test Report

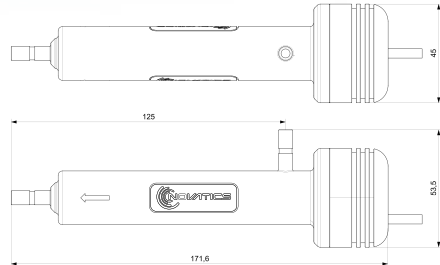
Model	Flow Rate	E.Coli
WS TIR	2.0 LPM	99.9%
WS G4	15 LPM	99.9%
WS T5	75 LPM	98.8%



## NOVATICS WS Series



Tir 2D

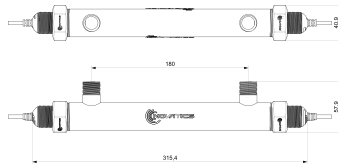


NOVATICS WS Series	WS TIR
Max Flow Rate	0.3 GPM
LED Lifetime	10,000 hrs
Inlet Diameter	1/4"
Input Voltage	DC 12 V
System Power	2.7 W
System Weight	130 G
Applicable Temperature	5 – 45 °C

# NOVATICS WS Series



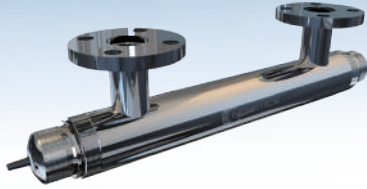
WS 2D



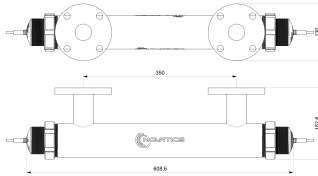
NOVATICS WS Series	WS G4
Max Flow Rate	4 GPM
LED Wavelength	275 nm
LED Lifetime	10,000 hrs
Inlet Diameter	½" male
Input Voltage	100 – 240 VAC
System Power	10 W
System Weight	1.5 kg
Applicable Temperature	5 – 45 °C



# NOVATICS WS Series

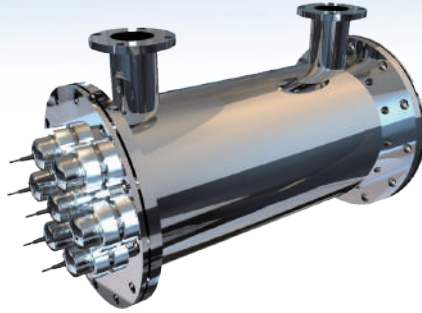


4WS 2D



NOVATICS WS Series	WS T5
Max Flow Rate	20 GPM
LED Wavelength	275 nm
LED Lifetime	10,000 hrs
Inlet Diameter	1½” flange
Input Voltage	100 – 240 VAC
System Power	50 W
System Weight	12 kg
Applicable Temperature	5 – 45 °C

## NOVATICS WS Series



NOVATICS WS Series	WS T30
Max Flow Rate	120 GPM
LED Wavelength	275 nm
LED Lifetime	10,000 hrs
Inlet Diameter	3" flange
Input Voltage	100 – 240 VAC
System Power	360 W
System Weight	75 kg
Applicable Temperature	5 – 45 °C

# Application — Whole-house Water Filtration

As modern households demand higher water quality, whole-house water purification systems have become essential for healthy living. Our UV-C LED water sterilization system uses deep UV-C technology to effectively eliminate bacteria, viruses, and parasites in water, ensuring chemical-free, instant purification for the entire home.

**NOVATICS**

**UVC LED**  
**Optical Water Sterilization System**

Kill the following bacteria

- E.coli*
- Staphylococcus aureus*
- Pseudomonas aeruginosa*

# Application – Sturgeon Farming



As modern households demand higher water quality, whole-house water purification systems have become essential for healthy living. Our UV-C LED water sterilization system uses deep UV-C technology to effectively eliminate bacteria, viruses, and parasites in water, ensuring chemical-free, instant purification for the entire home.

## Ensure Pure Water, Boost Aquaculture Efficiency

Sturgeon require high water quality, as pathogens, algae, and harmful microbes can impact their health. Our UV-C LED water sterilization system uses advanced UV technology to eliminate bacteria, viruses, and parasites, ensuring clean water, reducing disease risk, and improving survival rates.

### Model: 4WS T5 Concept

Flow Rate: 3.5 m<sup>3</sup>/hr

YEAR	CONDITION	EGGS	HATCHES	HATCH RATE	HATCH RATE
2022	NO UV TREATMENT	10,000 (rough)	353	3.5%	
2023	NOVATICS 4WS TEST	10,000 (rough)	1,178	11.8%	

NOVATICS 4WS Concept enhances hatch rate by 3 times

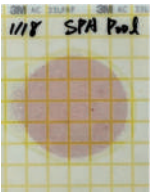
# Application — Swimming Pool

Pure & Safe Pool Water, Chlorine-Free

Traditional chlorine disinfection can create harmful byproducts. Our UV-C LED system uses advanced UV technology to eliminate bacteria and viruses, reducing chlorine use for cleaner, odor-free water.

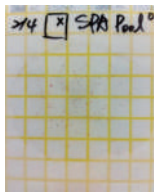


No treatment in water for 12 hrs



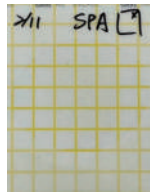
$3 \times 10^6$  CFU/mL

UV circulation only for 24 hrs



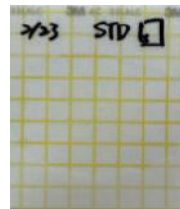
146 CFU/mL

UV circulation + 0.5 ppm Cl



1 CFU/mL

Regular Cl 1.5 ppm



2 CFU/mL

# Application Livestock Industry

Water quality is crucial for animal health and productivity in livestock farming. Our UV-C LED optical water sterilization system offers an efficient, safe, and eco-friendly solution, ensuring clean, bacteria-free drinking and cleaning water while enhancing overall farm hygiene.



## Application Food Processing Industry

Our UV-C LED Optical Water Sterilization System uses mercury-free UV technology to eliminate 99.9% of bacteria and viruses, ensuring water safety in food processing and compliance with international standards.



## Application Home Water Purification

Pure & Safe – Clean Drinking Water Anytime

Our UV-C LED Water Sterilization System uses deep UV-C technology to eliminate bacteria, viruses, and contaminants, ensuring safe and pure drinking water.





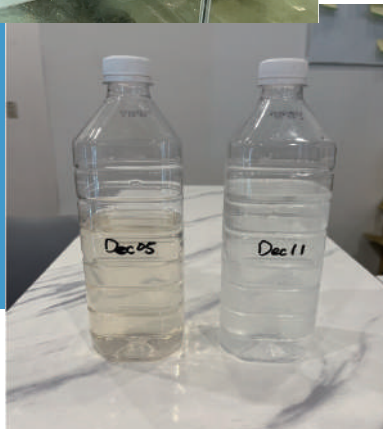
## Application Beverage Shop

Our UV-C LED water sterilization system ensures chemical-free, high-efficiency sterilization, keeping water pure and safe to enhance beverage quality and consumer trust.



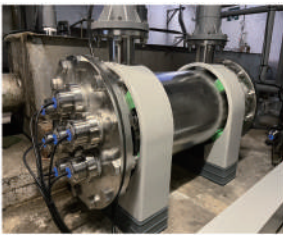
## Application Seafood Restaurant

Water quality is key to seafood freshness and customer trust. Bacteria, viruses, and impurities can harm seafood and food safety. Our UV-C LED sterilization removes 99.9% of microorganisms without chemicals, ensuring a clean water environment.



## Application Hospital

Hospital wastewater contains pathogens and harmful substances, posing risks if untreated. Our UV-C LED system eliminates 99.99% of bacteria and viruses, ensuring safe discharge.

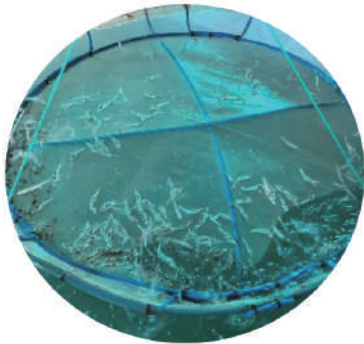


# Application Shrimp Farm

In shrimp farming, water quality affects shrimp health, growth, and survival. Our UV-C LED water sterilization system eliminates pathogens, reduces disease risks, and boosts efficiency and yield.

**Model: WS T10 Matrix**

**Flow Rate: 5 m<sup>3</sup>/hr**

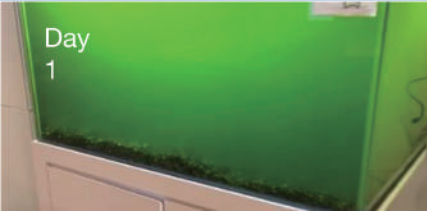


## Application – Aquarium

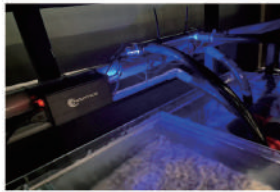
Our UV-C LED water sterilization system eliminates bacteria, viruses, and algae, ensuring clear, odor-free water while reducing disease risks. More energy-efficient and long-lasting than traditional UV lamps, it's mercury-free and eco-friendly. Ideal for freshwater and saltwater aquariums, it integrates seamlessly with filtration systems for safe, low-maintenance water quality.



# Application – Aquarium Algae Removal

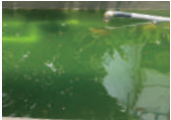


Greenish algae water to be removed in 3 days by NOVATICS  
WS G2 (3 ft tank)



# Application – Aquarium Algae Removal

**Before  
Treatment**



**24  
hours**



**48  
hours**



**72  
hours**



**96  
hours**



# Application – Aquarium Algae Removal

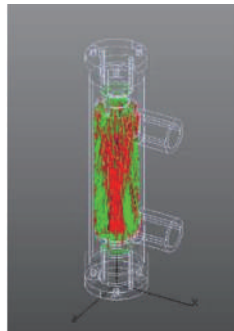
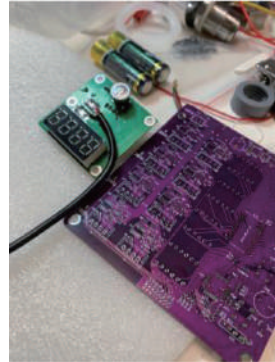
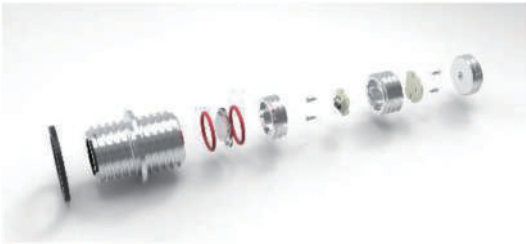
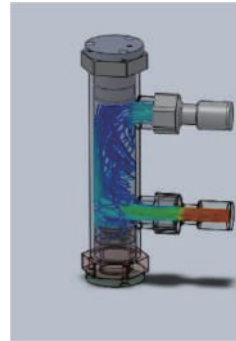
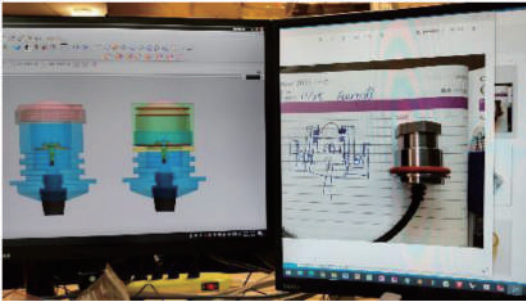
**Before Treatment**      **24 hours**      **48 hours**      **72 hours**      **96 hours**





# NOVATICS Team Service

- Optical Design
- Optics Manufacturing
- Fluid Dynamics
- Mechatronics Design
- Module Design
- System Integration





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