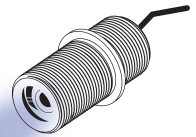




Water Purification- UVC LED Sterilizer



Aquatech Amsterdam 2025

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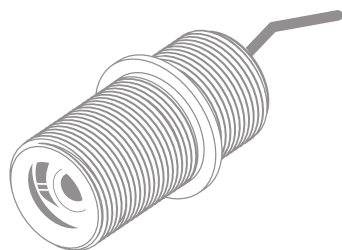
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UV-C LED Optical Water Sterilization System



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



UV-C LED

Water Proof Module

Water Cooling System















02

Patented Optical
Design

Food Grade SUS 316

Eco-friendly Design

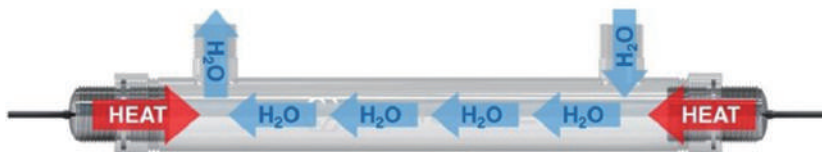
Our UV-C LED water sterilization system offers low energy use and instant activation, cutting carbon emissions compared to mercury UV systems. Its mercury-free design prevents pollution, meets global eco-standards, and ensures safe, sustainable use.

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



Water-cooled design, stable and efficient

Our UV-C LED systems enhance sterilization and reduce waste heat with optical design, enabling efficient water cooling without fans or complex structures. This keeps the LED at optimal temperature, ideal for outdoor or high-heat environments, while reducing light decay, saving energy, and extending lifespan for stable disinfection.

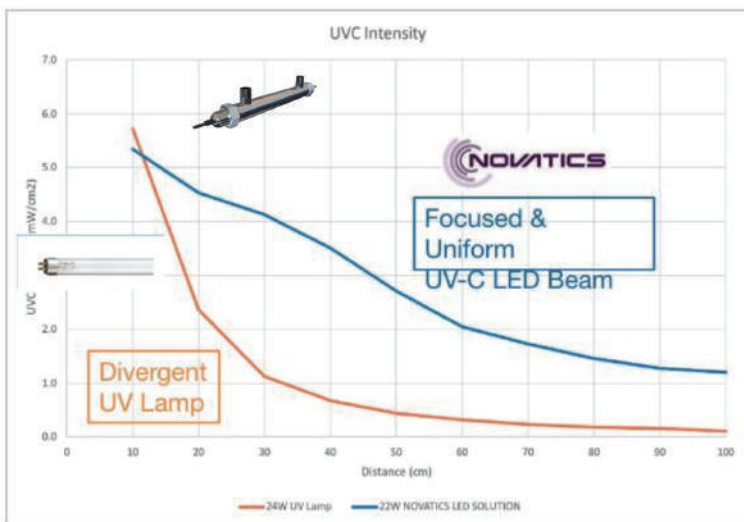
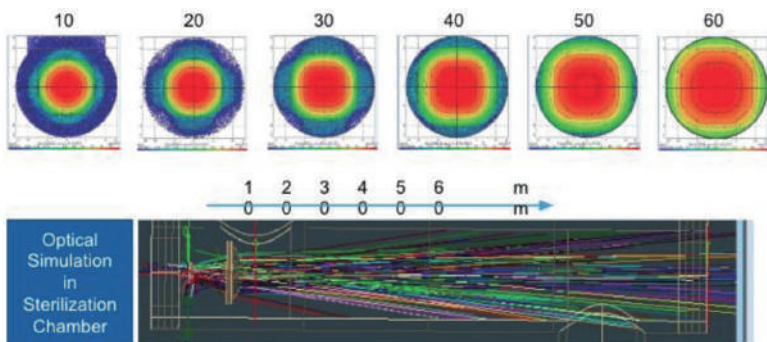


The water-cooled LED module

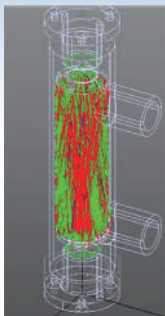
is designed for high flow rate water purification

Optical Technology

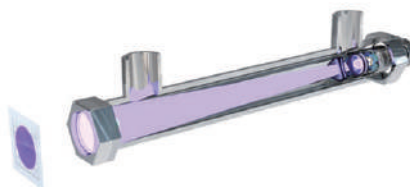
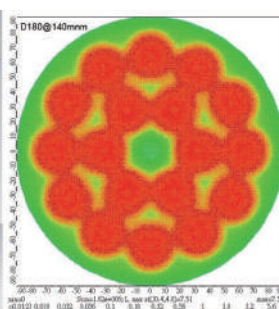
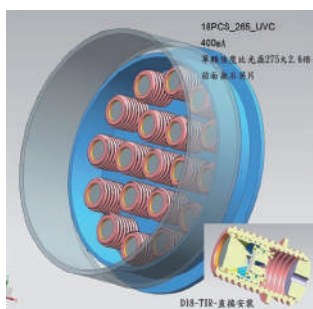
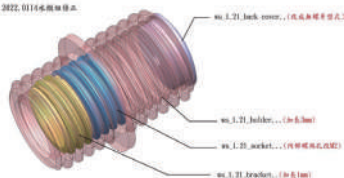
Our patented optical design boosts UV-C LED efficiency by directing light precisely to the target area. Compared to typical UV-C LED solutions, our system offers higher sterilization performance, less heat waste, and a more compact size—ideal for space-limited or long-term use.



Product Patents



2022.01166 鋼絲產品



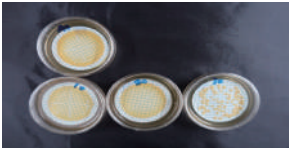
Test Report



Model	Flow Rate	E.Coli	Staphylococcus aureus	Pseudomonas aeruginosa
WS TIR	2.0 LPM	99.9%	N/A	N/A
WS G4	15 LPM	99.9%	99.9%	99.9%
WS T5	75 LPM	98.8%	N/A	N/A



E.Coli



Staphylococcus aureus



Pseudomonas aeruginosa

NOVATICS WS Series

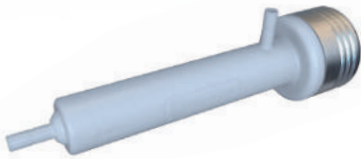
FEATURES

-  **EFFECTIVE SOLUTION**
-  **LONG LIFE UV-C LED**
-  **ENERGY EFFICIENCY**
-  **COMPACT DESIGN**
-  **OPTICAL SYSTEM**
-  **INSTANT SWITCH ON**
-  **LESS WASTE HEAT**
-  **MERCURY (Hg) FREE**

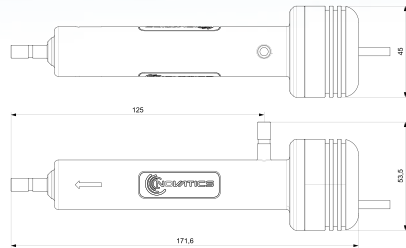


NOVATICS WS 系列	WS TIR	WS G2	WS G4	WS G8	WS T5	WS T30
Max Flow Rate	0.3 GPM	2 GPM	4 GPM	8 GPM	20 GPM	120 GPM
LED Wavelength	275 nm					
LED Lifespan	10,000 hrs					
Inlet Diameter	1/4 in male	1/2 in male	1/2 in male	3/4 in male	1.5 in flange	3 in flange
Input Voltage	5V DC	100-240V AC	100-240V AC	100-240V AC	100-240V AC	100-240V AC
System Power	2.7W	6W	12W	24W	50 W	360 W
System Weight	130 g	1.2 kg	1.5 kg	3 kg	12 kg	75 kg
System Length	17 cm	35 cm	35 cm	35 cm	60 cm	75 cm
Applicable Temperature	5 – 45 °C					

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 5V 1A (USB-A)
System Power	2.7 W
System Weight	130 g
Applicable Temperature	5 – 45 °C

APPLICATION :

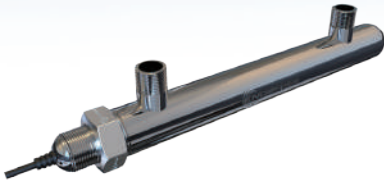


Camping Water



Household Water Purification

NOVATICS WS Series



NOVATICS WS Series	WS G2
Max Flow Rate	2 GPM
LED Wavelength	275 nm
LED Lifetime	10,000 hrs
Inlet Diameter	1/2 in male
Input Voltage	100-240V AC
System Power	6 W
System Weight	1.2 kg
Applicable Temperature	5 – 45 °C

APPLICATION :



Household Water Purification



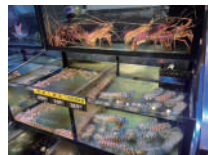
Beverage Production



Small Aquariums



Laboratories



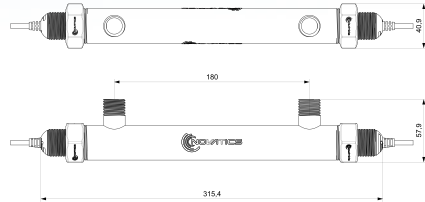
Seafood Restaurants



Outdoor Fish Ponds

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	1/2 in male
Input Voltage	100-240V AC
System Power	12 W
System Weight	1.5 kg
Applicable Temperature	5 – 45 °C

APPLICATION :



Household Water Purification



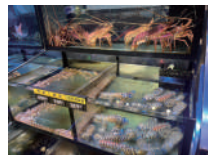
Beverage Production



Small Aquariums



Laboratories

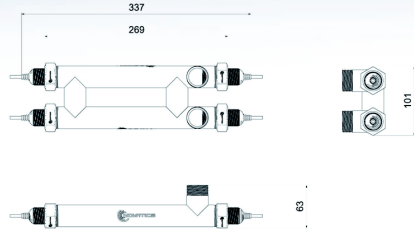
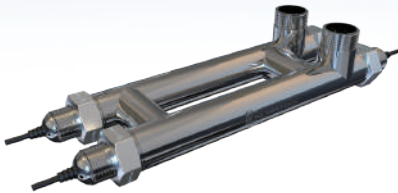


Seafood Restaurants



Outdoor Fish Ponds

NOVATICS WS Series



NOVATICS WS Series	WS G8
Max Flow Rate	8 GPM
LED Wavelength	275 nm
LED Lifetime	10,000 hrs
Inlet Diameter	3/4 in male
Input Voltage	100-240V AC
System Power	24 W
System Weight	3 kg
Applicable Temperature	5 – 45 °C

APPLICATION :



Home Water Towers



Beverage Production



Water Resorts



Hospitals

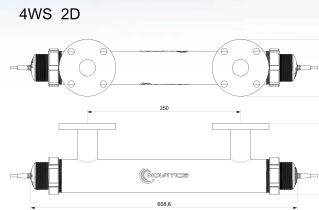
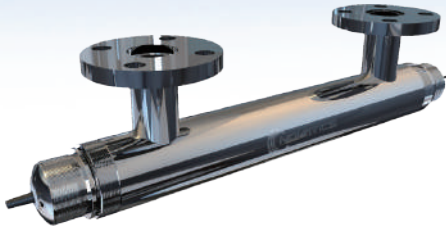


Seafood Farms



Breeding Farms

NOVATICS WS Series



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	100-240V AC
System Power	50 W
System Weight	12 kg
Applicable Temperature	5 – 45 °C

APPLICATION :



Home Water Towers



Beverage Production



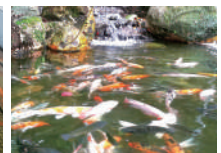
Hospitals



Breeding Farms

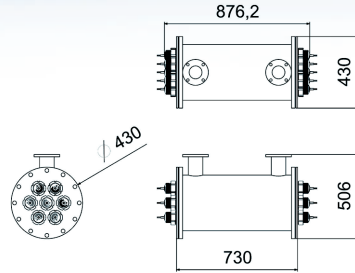


Seafood Farms



Outdoor Fish Ponds

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	100-240V AC
System Power	360 W
System Weight	75 kg
Applicable Temperature	5 – 45 °C

APPLICATION :



Home Water Towers



Beverage Production



Hospitals



Breeding Farms



Seafood Farms



Swimming Pools

Application Scenarios & Models



01

Whole Household
Water Purification
(G8)

02

Swimming
Pool(T30/T5)

03

Fish Pond
(T5/G8/G4)

04

Landscape
Pool(G4/G8)

05

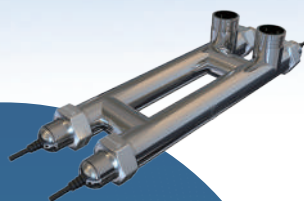
Water Tower
(G8/T5)

06

Reservoir
(G8/T5)



Mobile
Demand (TIR)



Water Tower (G8)



Whole Household
Water Purification



Bathroom
(G4)

Fish Tank
(G2/G4)

Kitchen
(G4)

Practical case – Sturgeon Fish Farming

Modern families increasingly value water quality, making whole-house purification systems essential for healthy living. Our UV-C LED system uses deep UV-C technology to eliminate bacteria, viruses, and parasites in real time—without chemicals—ensuring safe water for the entire household.

For sturgeon farming, clean water is vital. Our system helps remove harmful bacteria, algae, and microorganisms, reducing disease risk and improving survival rates.





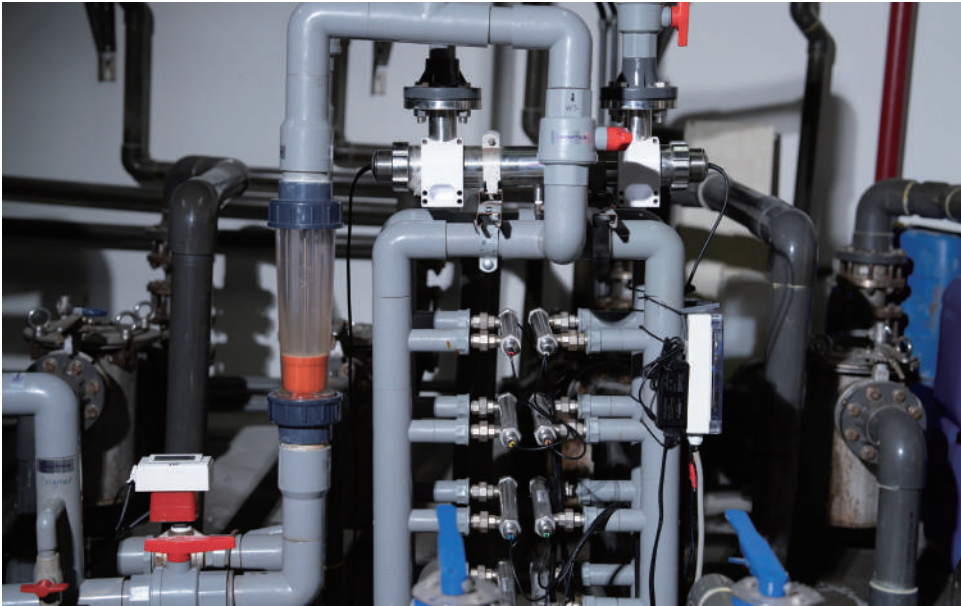
**The NOVATICS 4WS Concept delivers a
3-fold increase in hatchability**

Application – Sturgeon Farming

Model: 4WS T5 Concept

Flow Rate: 3.5 m³/hr

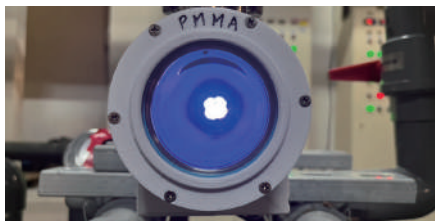
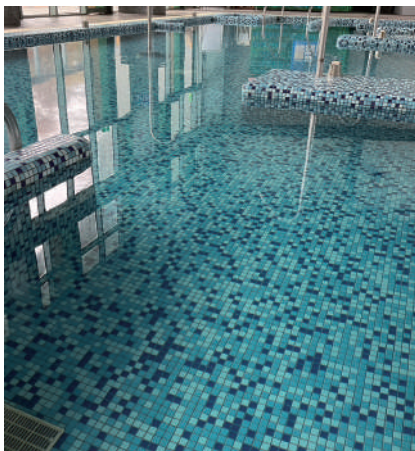
YEAR	CONDITION	EGGS	HATCHES	HATCH RATE	HATCH RATE
2022	NO UV TREATMENT	10,000 (rough)	353	3.5%	
2023	NOVATICS 4WS TEST	10,000 (rough)	1,178	11.8%	



Practical Case – Swimming Pool Water Purification

Pure and safe pool water, chlorine-free and safer.

Traditional chlorine disinfection may produce harmful by-products. Our UV-C LED system uses advanced UV technology to kill bacteria and viruses, reduce chlorine use, and keep water clean and odor-free.

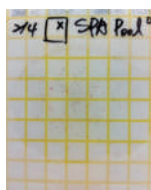


No treatment in water for 12 hrs



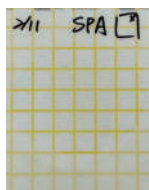
3×10^6 CFU/mL

UV circulation only for 24 hrs



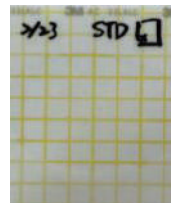
146 CFU/mL

UV circulation + 0.5 ppm Cl



1 CFU/mL

Regular Cl 1.5 ppm



2 CFU/mL

Practical Case – Water Purification for Farming

Water quality impacts animal health and farm efficiency. Our UV-C LED system offers a safe, efficient, and eco-friendly way to purify drinking and cleaning water—reducing disease risk, improving survival rates, and enhancing overall hygiene.



Practical Case – Water Purification for Food Processing

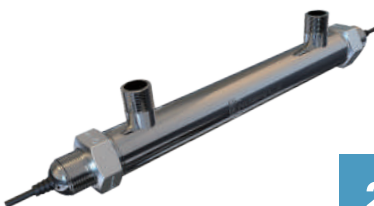
Our UV-C LED optical water sterilization system uses mercury-free UV technology to remove 99.9% of bacteria and viruses, ensuring water safety in food processing and meeting international standards.



Practical Case – Water Purification for Beverage Stores

Our UV-C LED water sterilization systems provide chemical-free, high-efficiency products

Sterilization technology ensures that the water is pure and safe, and helps to improve the quality of beverages and build consumer trust.



Practical Case – Whole-House Water Purification

Our UV-C LED water sterilization
The system uses deep
UV-C technology, there is:
Effectively removes bacteria,
viruses and contaminants,
Ensure safe and pure drinking
water.



Practical Case – Water Purification for Seafood Restaurants

Water quality is essential for seafood freshness and safety. Bacteria, viruses, and impurities can affect quality and cause higher loss. Our UV-C LED system eliminates 99.9% of microorganisms without chemicals, improves water clarity, reduces live stock loss, and builds customer trust.



Practical Case – Wastewater Treatment for Medical Centers

VERIFIED BY RESEARCH UNITS AND HOSPITALS, NOVATICS WS T30 IS EFFECTIVE

Removes bacteria and pathogens from medical wastewater to ensure safe discharge.

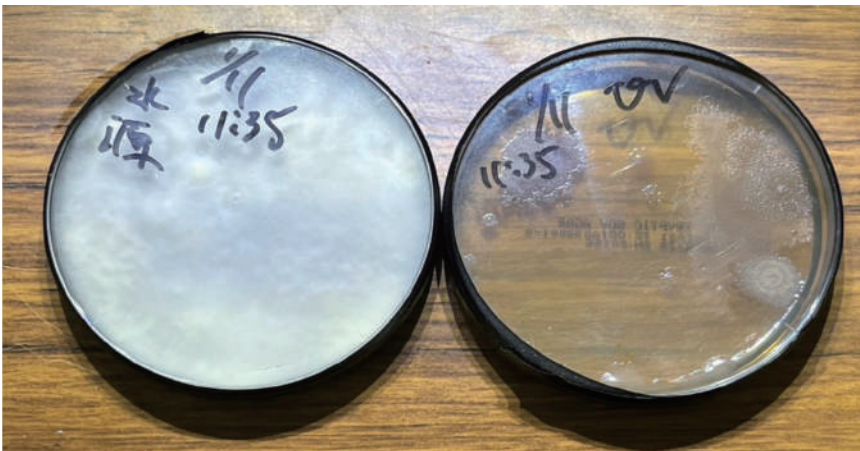


Practical Case – Water Purification for Shrimp Farming

In shrimp farming, water quality directly impacts shrimp health, growth, and survival. Our UV-C LED sterilization system removes pathogens, reduces disease risk, and improves breeding efficiency and yield.

Model: WS T10 Matrix

Flow Rate: 5 m³/hr



Practical Case – Water Purification for Aquariums

Our UV-C LED sterilization system effectively removes bacteria, viruses, and algae, keeping water clear and odor-free while reducing disease risk. Compared to traditional UV lamps, it's more durable, mercury-free, and eco-friendly.

Suitable for both freshwater and saltwater tanks, and works with filtration systems to maintain safe, low-maintenance water quality.



Practical Case – Aquarium Water Purification (Green Algae Removal)



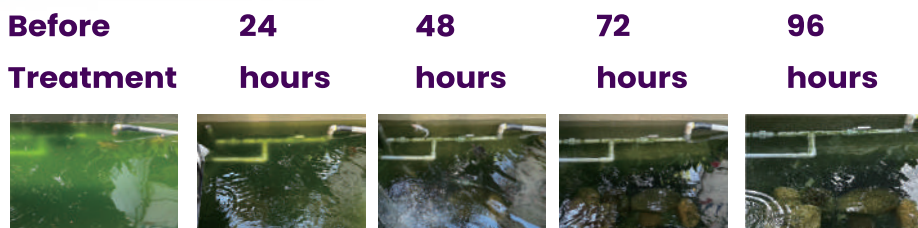
Using the NOVATICS WS G2 with a 3-foot tank, green algae was effectively eliminated within 3 days, improving overall water clarity.

Practical Case – Water Purification for Seafood Tanks



Practical Case – Water Purification for Aquatic Exhibits

Effectively controls algae within 3 days, turning green water into clear, clean water.



Under the
Microscope



Under the
Microscope



Practical Case – Aquarium Algae Removal and Water Purification

From cloudy to clear in just 3 days — effectively removes green algae and improves water quality.

**Before
Treatment**



**24
hours**



**48
hours**



**72
hours**



**96
hours**



Practical Case – Green Algae Removal for Outdoor Fish Ponds

Purify water quality



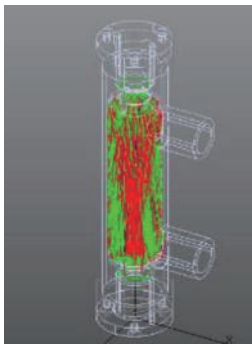
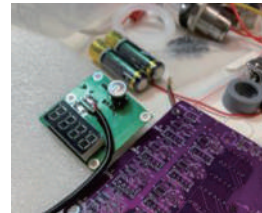
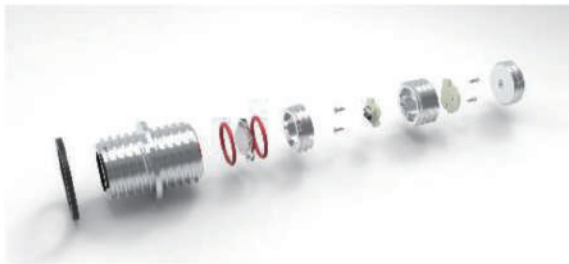
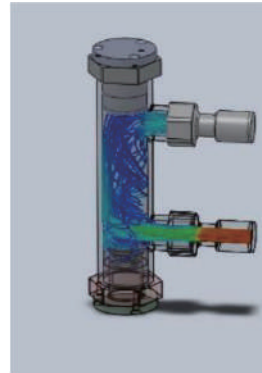
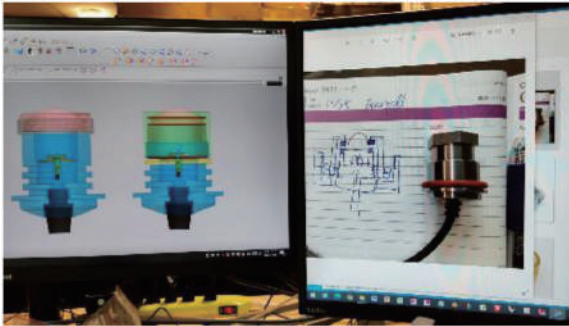
Before the test



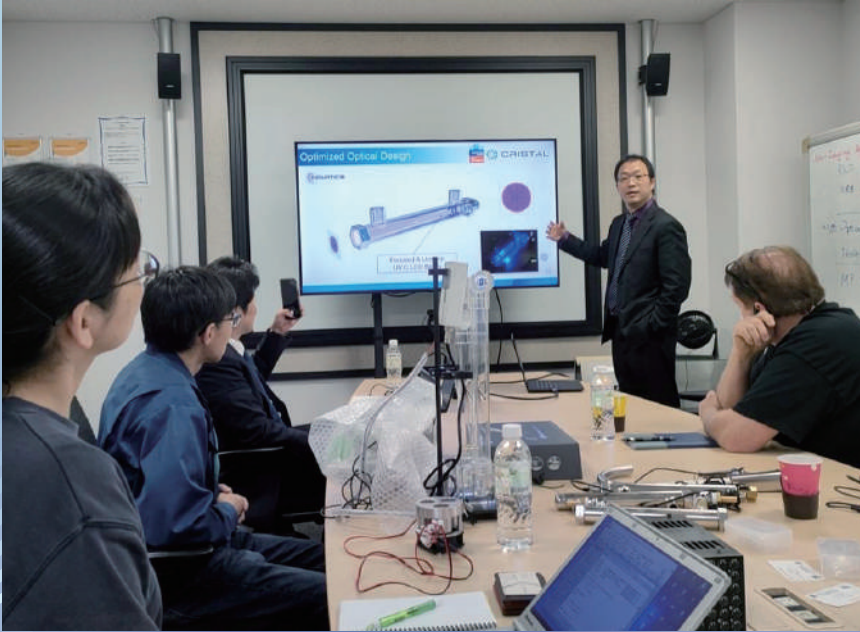
After one week of testing, our UV-C LED sterilization system effectively removed bacteria, algae, and harmful microorganisms, keeping the pond water clear and healthy.

NOVATICS TEAM SERVICE

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



About Us



The NOVATICS WS module uses innovative UV-C LED technology with a patented quartz optical design to enhance purification efficiency and save energy. It keeps water pure and safe without producing ozone, heat, or altering taste.

Its mercury-free design minimizes environmental impact during disposal. The system achieves a 99.9% sterilization rate, meets international drinking water standards, and delivers water that's safe to drink.

The modular system can be flexibly expanded based on flow needs, making it ideal for various applications—home, commercial, medical, lab, food processing, swimming pools, aquaculture, aquariums, and wastewater treatment.



CRISTAL MATERIALS CORPORATION

TEL +886-2-2657-6200

FAX +886-2-2657-9109

EMAIL info@cristalmat.com

WEB <https://novatics-uv.com/#Products>

Add: 3F-No.53, Lane 258, Ruiguang Road, Neihu Dist.,
Taipei City, Taiwan, 11491