

ENTERPRISE INTRODUCTION

⋮

2024



SHENZHEN HECHUANG HITECH CO., LTD.

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01

Company Introduction



Shenzhen Hechuang Hitech Co., Ltd. is a national high-tech enterprise and have obtained multiple invention technical patents. We focus on the research, development and application of UVC-LED sterilization technology, which includes revolutionary optical and fluid science innovation technology. It can remove 99.999% bacteria and viruses within 0.2 second, providing safer, more efficient and more humanized sterilization module for products used in the sterilization field such as air, water and surface.

Our Vision

To create a higher quality and safer life for everyone in the world, and to make positive contributions to environmental protection and society.

Our Duty

To design and produce the most advanced and cost-effective UVC-LED disinfection products with our enthusiasm, creativity and talent for every consumers around the world.



01

Company profile



- 1 . Dust-free Workshop
- 2 . Intelligent Exhibition Hall
- 3 . Machining Center
- 4 . R&D Department
- 5 . Exhibition Show
- 6 . Testing Lab

01

Development History



2005

- The predecessor of the company was established,
- Two CNC Metal Parts Machining Factories and two Plastic Injection Molding factories



2017

- Fluid sterilization technology project was set up jointly developed by China and foreign countries



2020

- The headquarters of Hechuang Hitech was settled in Shenzhen, and focused on the development and application of UVC-LED fluid sterilization technology



2021

- Hechuang Hitech cooperated with Shenzhen Advanced Technology Research Institute of the Chinese Academy of Sciences to design and develop a number of UVC-LED sterilization products



2022

- Shenzhen Hechuang Technology Co., Ltd. Dongguan Branch (R&D Exhibition Center) was established



2023

- Collaborate with multiple domestic and foreign enterprises
- Expand the product line and dust-free workshop start to operate



2025

- The production scale will be expanded and the core parts production line will be improved in the upcoming Tangxia Industrial Park



01

Key Statistics



7

years of R&D and
manufacturing

18

utility model patent
certificates

50+

Sales in more than 50
countries

500+

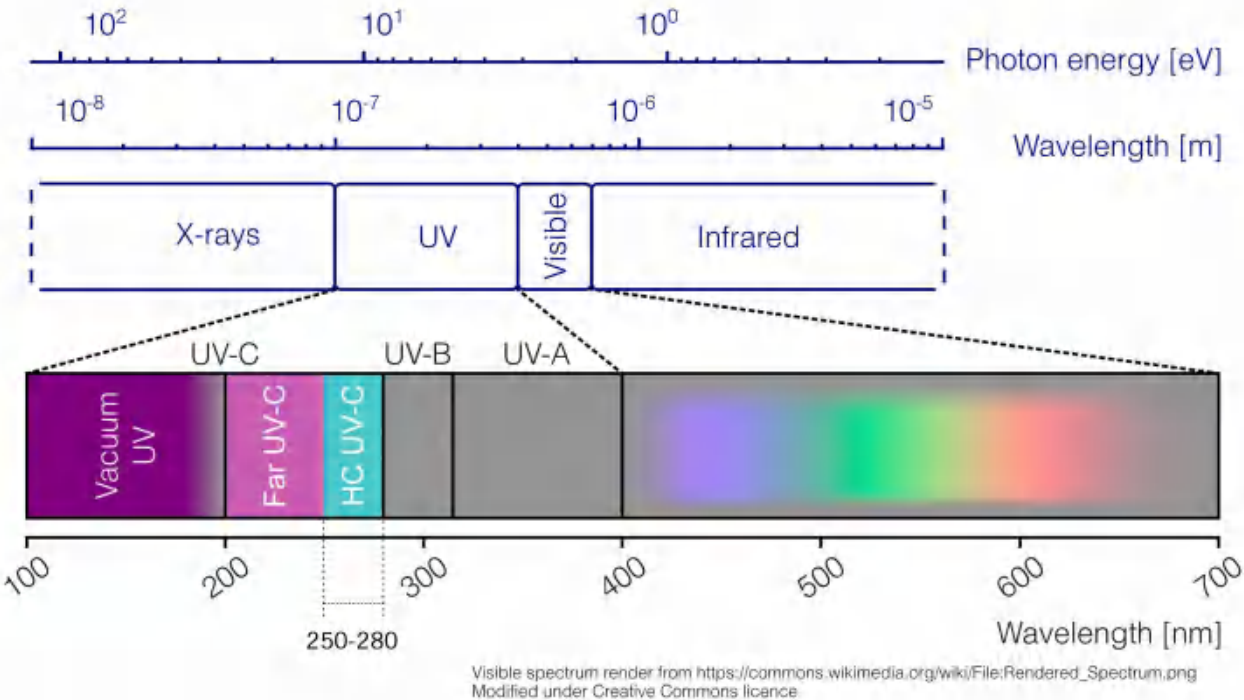
employees

5,133,931,200+

Save more than 5,133,931,200+ plastic bottles

02

Core Principle



Principle of Ultraviolet Sterilization

Ultraviolet sterilization utilizes strong short wave (250-280nm) radiation to inactivate microorganisms by damaging their DNA or RNA, causing growth cell death and/or regenerative cell death, achieving the effect of sterilization and disinfection. This makes ultraviolet radiation one of the fastest developing sterilization technologies.

02

Core Technology



Exclusive-patented Technology

Create a controlled environment matching fluid velocity with ultraviolet radiation based on the principle of optics and fluid dynamics



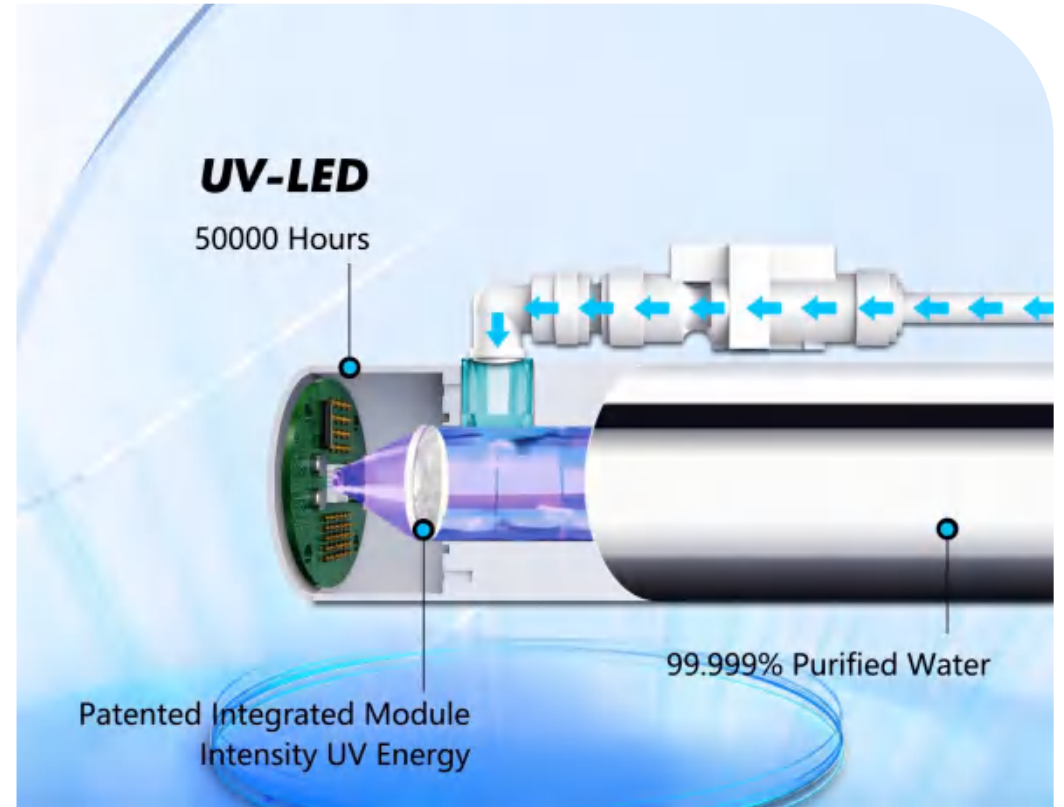
Targeted Sterilization

Integrated Module design transmit high-intensity ultraviolet energy into the fluid directly. Fluid activation switch lengthens the service life of the product.



Efficient Sterilization

The strong ultraviolet energy can directly inactivate bacteria and viruses in water or air by providing unparalleled high-efficiency sterilization rate greater than 99.999%

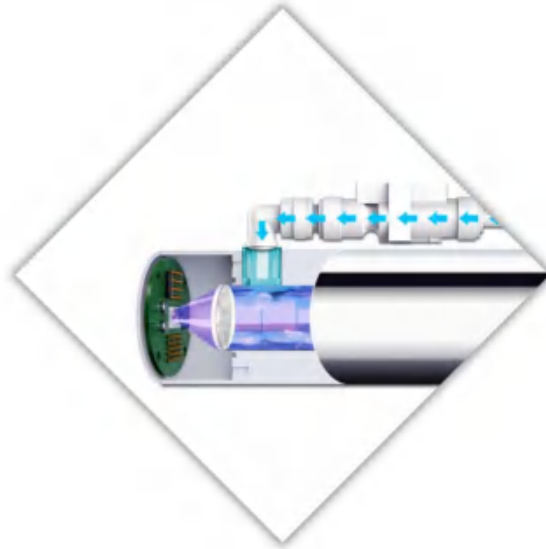


02

Technical Advantages



Maintenance-free
No Replacement Parts



Rapid Sterilization within 0.2 second
99.999% Sterilization Rate



Chemical-free
Low Energy Consumption











Customizable Integrated Module
Wider Application Range

National High-tech Enterprise

Fully replace traditional UV mercury lamps

UV LED will provide a wider range of applications and a broader development market

	Wavelength	Service Life	Warm-up	Product Size	Environment Impacts	Energy
 <p>Current Technology (UV Mercury Lamp)</p>	 254nm generated by heat and ozon	 3000-5000hours UV lamp needs to change when the time is due	 10-30 minutes	 Difficulty in miniaturization	 Contain mercury	 High wattage consumption
 <p>Technology (UVC-LED)</p>	Any narrow wavelength	More than 10000 -30000 hours	Within 0.2 second	Easy in miniaturization	Do not contain mercury	Low wattage consumption

*Mercury uv lamps emit a large amount of heat which causing insoluble calcium carbonate to form a coating on the surface of the quartz sleeve around the lamp. It requires regular opening of the reactor to manually clean the quartz.

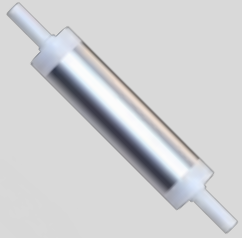
03

A Full Range Of Products



03

UVC-LED Water Sterilizers



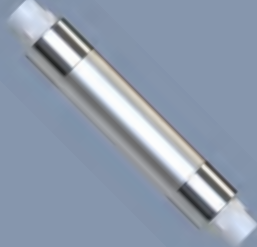
1-1.5L/min

Size: 23*130MM



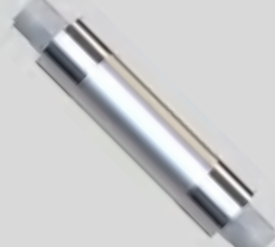
1.5-3L/min

Size: 23*138MM



4-6L/min

Size: 23*152MM



6-10L/min

Size: 30*162MM



10-15L/min

Size: 30*261MM



15-30L/min

Size: 30*261MM

The household UVC-LED Water Sterilizers can be applied at Water Dispensers, Water Coolers, Drinking Water Fountain, Water Filtration Systems and other Water purification systems.

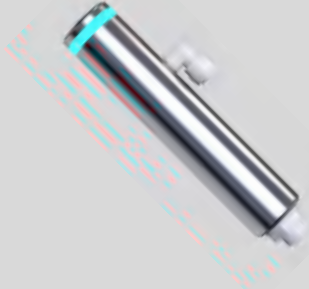
03

Application for Household Water Purifier



03

Medical & Automobile Water Purification Module



1-3L/min
Size: 32*155MM



4-6L/min
Size: 32*200MM



7-11L/min
Size: 44.5*142MM



7-15L/min
Size: 44.5*200MM

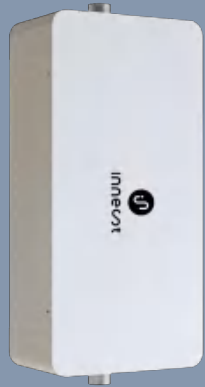


15-30L/min
Size: 44.5*300MM

The Medical & Automobile UVC-LED Water Sterilizers can be applied at Medical/Lab Ultra-pure Water Machines, Mobile Water Treatment Systems(RV, Boats, Outdoor) or other Household/commercial Water purification systems.

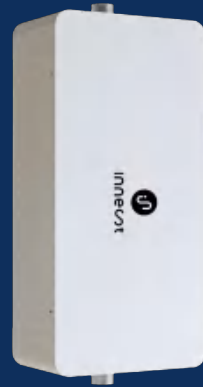
03

Finished Product Series



50L/min

尺寸: 533*290*118MM



75L/min

尺寸: 533*370*118MM



1-4L/min

尺寸: 227*146*56MM



1-4L/min

尺寸: 227*146*56MM

For whole house UVC-LED Water Treatment Systems or other large water purification applications.

For Drinking Water Tap, Combination installation with Water Filtration Systems, RVs & Boats Water purification systems etc.



HC-JSH-001

INNEST UVC-LED WATER PURIFIER

Features

- Flexible size (227*146*56mm) Easy to install/ Leak proof/ Water flow switch
- No need to replace accessories/ 5-8 year service life/ 99.999% sterilization rate

Installation Method

- Under-sink and counter-top installation
- Insert 1/4' pipe into the product and connect to the power supply, water flow switch

Application

- Kitchen: Drinking Tap, under-sink and counter-top water purification system
- Wash Room: Smart toilet, Showering system
- Outdoor: Water purification system in RV and Yacht

03

Installation and application scenarios



03

UVC-LED Whole House Water Purification System



HC-DLL

UVC-LED Whole House Water Purification System

Features

- Large purified water flow rate:50L/min, 75L/min
- Size:530*290*118mm
- Low-power Consumption:45W; 65W
- Service Life: 5-8 years (no replacement parts)
- Sterilization Rate: 99.999%

Applicable Scene

- Whole house water purification system
- Apartment/hotel water purification system
- Other large purified water flow applications

UVC-LED Water Sterilizing Spray Nozzle System

Features

- Perfect combination of the most advanced UV fluid sterilization technology and smart toilet spray bar, effectively removing harmful bacteria such as Staphylococcus, Escherichia coli, Vibrio, and Spirochetes
- Sterilization rate of 99.999% within 2 second
- Water Flow:0.8-1.5L/min
- Global Exclusive Technology Patent
- Providing customized solutions based on different product structures



UVC-LED Water Sterilization Cannister

Features

- Water Flow: 6-11L/min
- Extra low-power Consumption: 15W
- Service Life: 5-8 years (no need to replace accessories)
- Sterilization Rate: 99.999%

Applicable Scene:

- RV,Yacht,Home,Hospital,Office, Factory and other household and commercial water purification applicable scene



04

Application



Water dispensers, filtration systems, water coolers and ice makers etc



Medical/laboratory Water purification equipments and applications



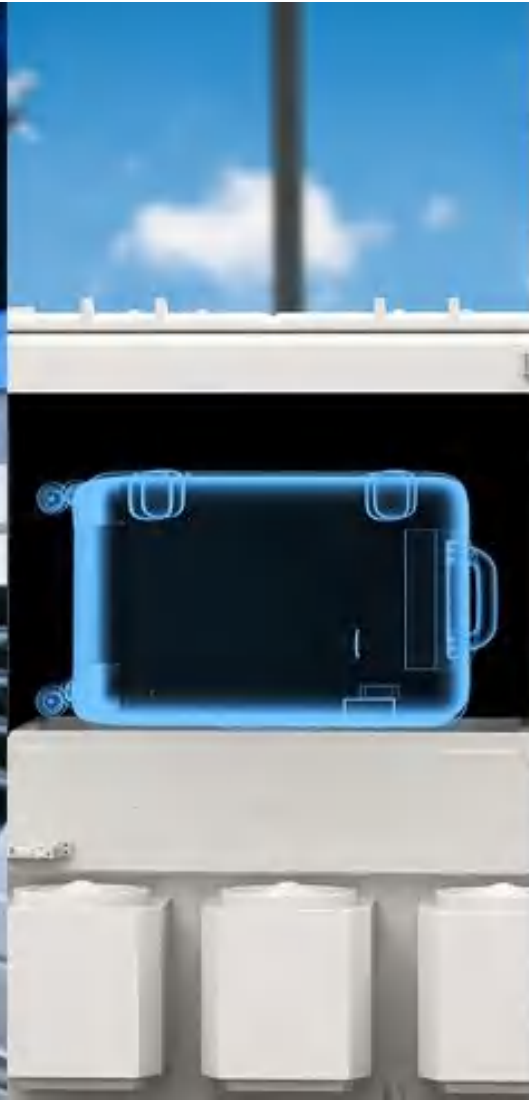
Water treatment systems for large public places such as hotels, apartments, shopping malls, schools, etc



Mobile water purification systems for RV, yacht, outdoor, etc

04

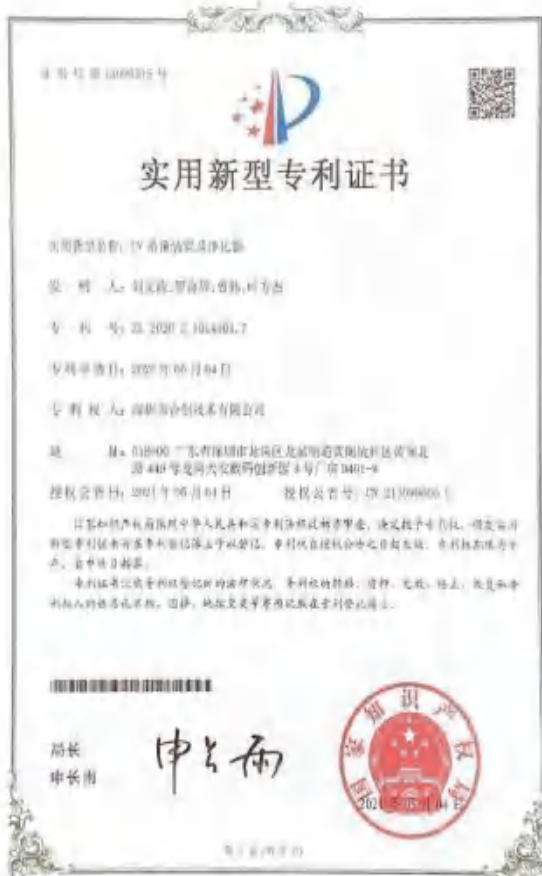
Application



04

Cooperative Partner

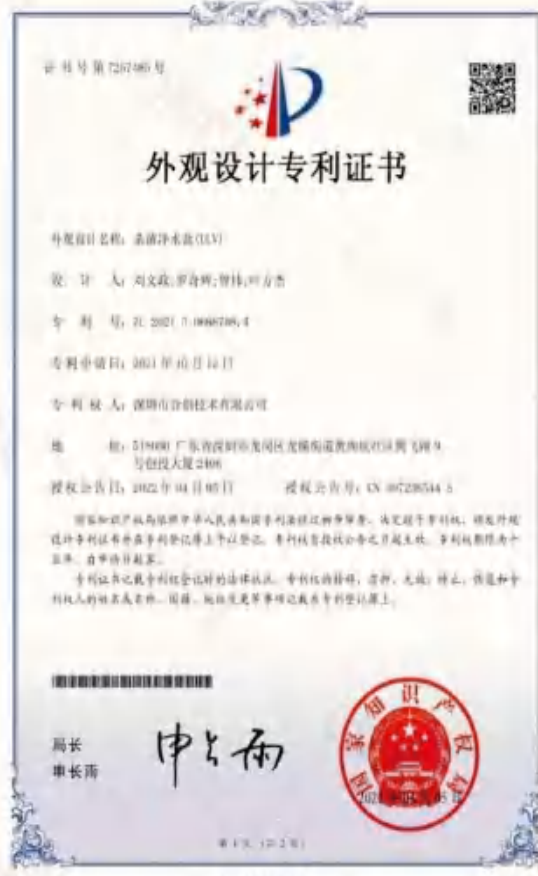




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04

Certificates



广微测
Gmicro Testing

GUANGDONG DETECTION CENTER OF MICROBIOLOGY

ANALYSIS AND TEST RESULT

Report No.: 2023SP06493R01E

1. Method description: according to the client's requirements, made pure water come out of the faucet. Based on the water flow rate of 15L/minute condition, turned on the faucet, the product started to work, took the water sample for testing.

2. Results:

Test germ	Test group	Average cfm of testing groups (cfu/100mL)	Sterilization rate (%)
Escherichia coli-8099	1	<1	>99.999
	2	<1	>99.999
	3	<1	>99.999

Sample picture:



PSE



ROHS



EPA



FCC



FDA



IEC62471



LVD



EMC

05

Industry Prospect



In February 2021, the US FDA cited the research of Nature, a journal of Nature, and confirmed that the wavelength of 200~280nm deep ultraviolet UVC can effectively inhibit COVID-19 spread in water and air



Main Sterilization Scenarios

Market

Stable expending of water sterilization market

Development of Products

Perspective

Three main sterilization scenarios are water sterilization, air sterilization, surface sterilization
In addition to the water sterilization market, air conditioners, air purifiers, humidifiers, washing machines, vacuum cleaners, refrigerators, bathroom equipment, etc. are application scenarios of UVC LED

In 2022, the global and Chinese UVC LED market sales revenue reached 3.826 billion yuan and 1.25 billion yuan. Driven by segmented markets, the scale of the UV LED market continues to expand. It is expected that the global market will reach 13.591 billion yuan in 2028, with a compound annual growth rate (CAGR) of 23.2% during the forecast period

Angel, a top water purifier manufacturer in China, sold approximately 50000 to 100000 sets of UVC-LED modules throughout the year, an increase of over 60% compared to the previous year. Qinyuan ships out 1 million water purifiers annually, of which 300000 use UVC technology. Fangtai, Midea, and others all sell UVC-LED related products.

The UVC-LED module has a smaller size, flatter shape, low energy consumption and cost, high sterilization efficiency, and long service life. The product has also begun to transition from a single POU to a POE. Driven by the epidemic, countries such as Europe, America, and Japan have reached an unprecedented level of attention to drinking water safety. Overflow water sterilization has entered a flourishing period of development, and the overall performance of the product has also risen to a new level

The sterilization of direct drinking faucets, home and commercial water dispensers, and bathroom equipment are key areas for the development of the mobile water sterilization market. UVC-LED is expected to replace industrial mercury lamps around 2026, and is expected to achieve the goal of replacing mercury lamps worldwide by 2032

The challenge spirit of HC Hitech- Exploring new markets



The Company since its inception has been adhering to the business philosophy of cooperation and creation and continuously exploring the possibilities of deep ultraviolet sterilization. After the COVID-19 epidemic, people around the world have paid more attention to the safety of water and air than ever before. The company's UVC-LED sterilization module is precisely a solution to meet this demand. In the future, we will continue to strive to contribute to society as our goal. In case of any advice or guidance from our cooperating enterprises, we will humbly accept it. Thank you

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