Welt Electronic
electronic components distribution
A Steliau Technology Company

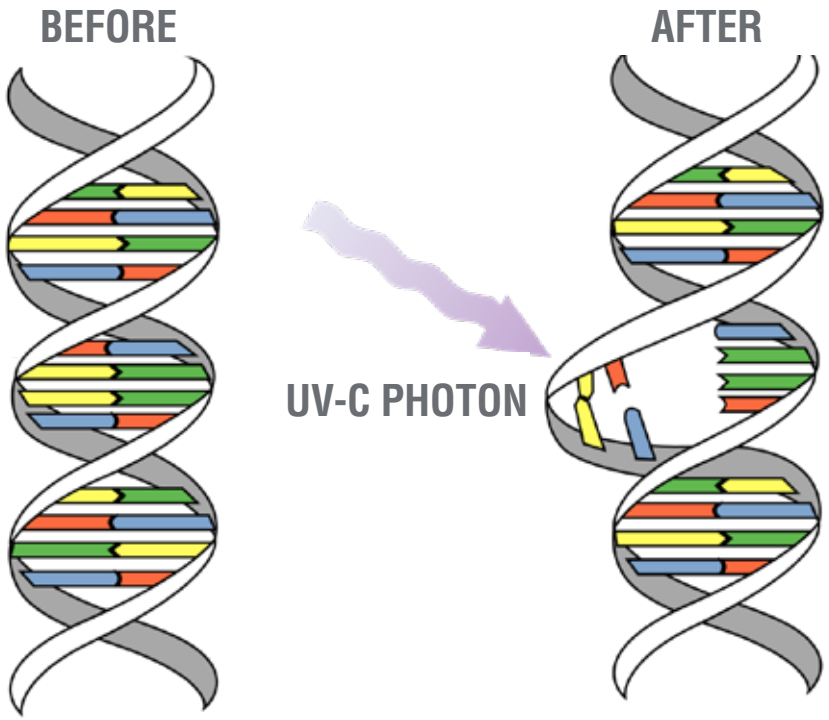
Welt Electronic SpA

NEW UV-C LED SOLUTIONS

Is it possible to sanitize environments and surfaces using UV-C LEDs?

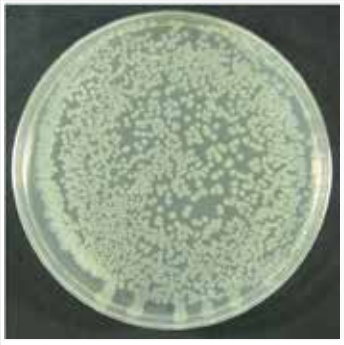
- Already known the antibacterial and antiviral power of ultra-violet light, LEDs represent for sure an efficient solution for sterilization of environments and surfaces.
- The UV-C LEDs are suitable for water, air and surface treatments application, in skin treatments, in medical spectroscopy, in fluorescence analyzers, in food and pharmaceutical transformation, in horticulture lighting.
- The COVID-19 infection can be caused touching contaminated surfaces, where the virus can survive up to three days (both on plastic and steel), for this reason it becomes essential to minimize this risk.
- The UV-C light, in wavelengths from 200nm to 280nm, inactives and kills at least two more near-relatives of COVID-19's viruses, the SARSCOV-1 and MERS-CoV, so it's conceivable that it can be equally useful to inactivate COVID-19 as well.

Efficient against 99,99% of germs and bacteria



From a scientific study about the antimicrobial power of UV-C LEDs we know that they have an efficiency of 4 Log with the elimination of 99,99% of tested microorganisms: E. Coli, Staphylococcus Aureu (MRSA) and Monilia Albican.

The ultraviolet UV-C LED ray starts a photochemical reaction inside the germs that destroys their DNA, RNA and/or proteins making them unable to reproduce.

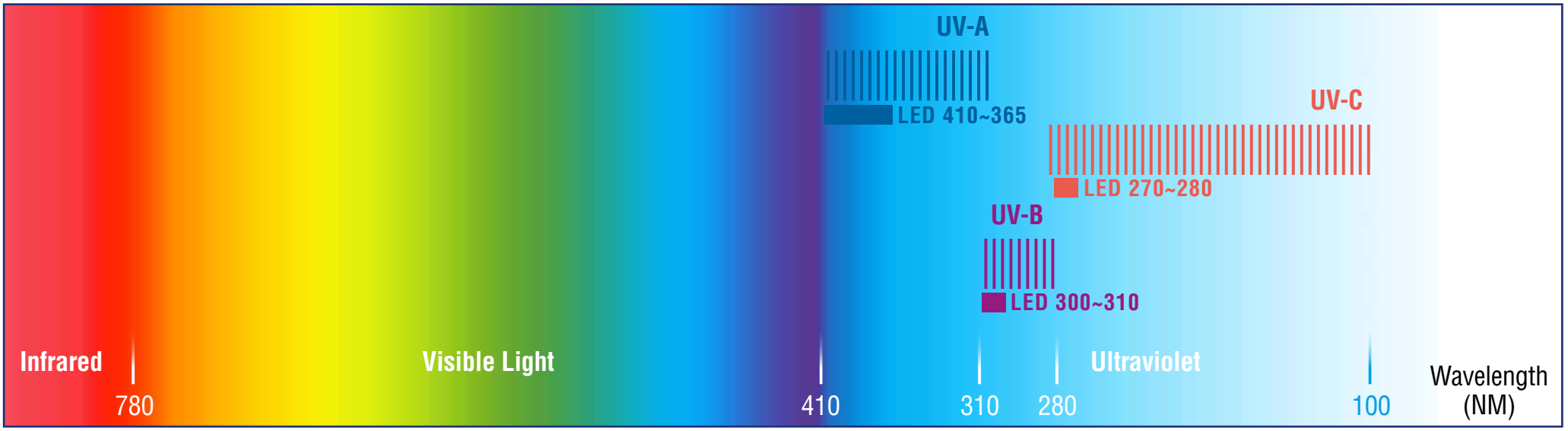
Irradiation Time	0 sec.	10 sec.	20 sec.
E.coli (10,000 dilution) Peak Wavelength 280nm Radiant Flux 59mW			

*Note: This data is a reference value, hence Nichia cannot make guarantee these results, Please treat this data the as reference

Information from Nichia Model No, NCSU334BT Product Specification

UV Applications

The UV technology employed to LED lamps can be very useful in lots of applications and it's used in a different way depending on the intensity and wavelength (UV-A, UV-B, UV-C). In particular, it can be very efficient to reduce the quantity of bacteria, the virulence of harmful organisms, the presence of pathogens and bad smells in general.



Industrial	Residential		Bio
Counterfeit money detector/Entertainment	Sterilization		Horticulture
Ink (Adhesion/Ink/Nail)	Indoor Tanning	Surface Distinction	Dentist
	Photocatalyst	Water Distinction	Sterilization
	Mosquito Killer		

Main UV LED applications

WATER DISINFECTION

Drinkable water for domestic use

Waste water

Swimming pool

Water purifier

AIR DISINFECTION

Air conditioning system

Office

Healthcare facilities

SURFACES DISINFECTION

Food and pharmaceutical packaging

Aseptic area

Medical equipment

Restaurant and kitchen

Docking station for mobile phones

Beauty equipment

Baby bottle sterilizer

UV-C LED components solutions

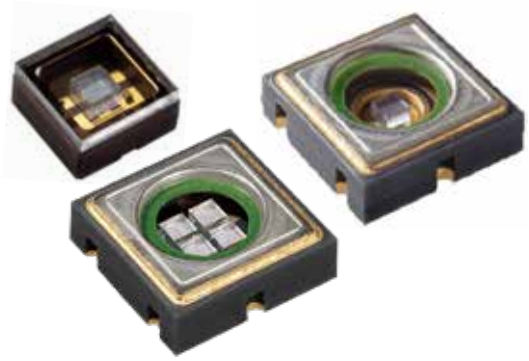
NICHIA

NC4U334BRT

NCSU334BT

NCSU434BT

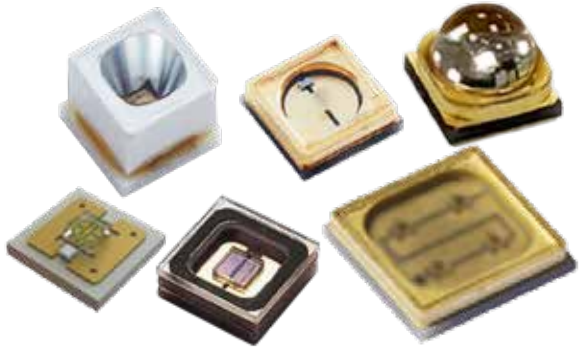
NCSU434AT



Lextar

PU35CL1-V1
PU35CM1-V3
PU35CM1-V3
PU35CM1-V6
PU35CM2-V0
PU35CM3-V0
PU35CM7-V0
PU35CH1-V0
PU35CH1-V0
PU35CH1-V1
PU35CH2-V0
PU68CH1-V0

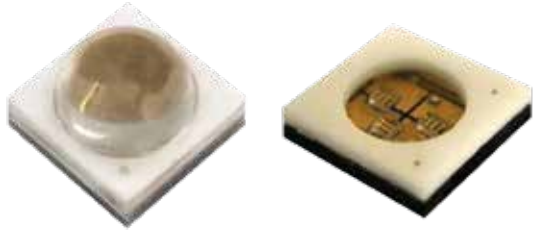
Coming Soon:
PU68CH1-VX [Q4 2022]



CT Micro
International Corporation

UVK5050Q11-B20

UVK5050O37-G0

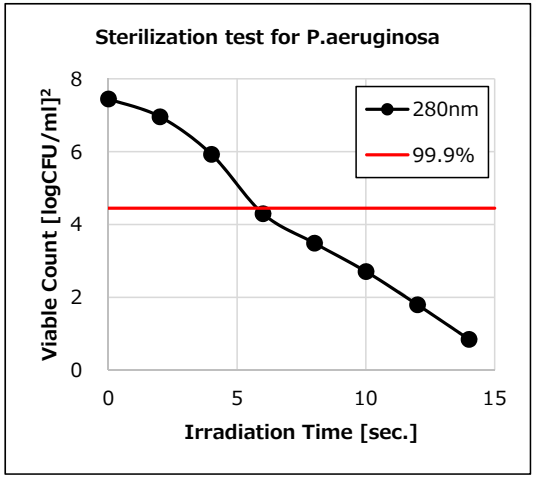


NICHIA UV-C LED

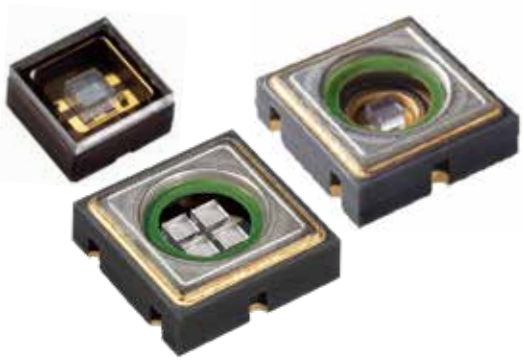
The Nichia's UV-C LED (334 and 434 series) are designed to satisfy the sterilization mass market demand through the solid-state lighting. These small size but highly efficient LEDs guarantee 40% more efficiency than competitors. This solution ensures the maximum miniaturization system and long-time performances more sable than the actual UV-C technologies on market.

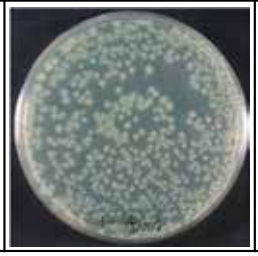
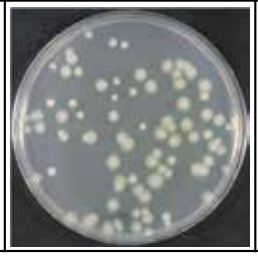
Part No.			NCSU334B	Unit
Wavelength Rank			280	nm
Test Condition	Number of LED		1	pc.
	Forward Current		350	mA
	Peak Wavelength		280	nm
	Radiant Flux		59	mW
	Working Distance		50	mm
Irradiation[1] Time	Gram Negative Bacteria	E.coli	14	sec.
		P.aeruginosa	6	
	Gram Positive Bacteria	S.aureus	11	

[1] Irradiation time for 99.9% sterilization.



[2] log = Logarithm
CFU = Colony Forming Unit



Irradiation Time	**0 sec.** (10,000 dilution)	**2 sec.** (10,000 dilution)	**4 sec.** (10,000 dilution)	**6 sec.** (10,000 dilution)	**8 sec.** (10,000 dilution)
P.aeruginosa Peak Wavelength 280nm Radiant Flux 59mW					

Note: This data is a reference value, hence Nichia cannot make guarantee these results. Please treat this data the as reference.

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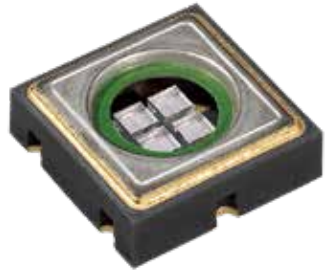
NICHIA UV-C LED

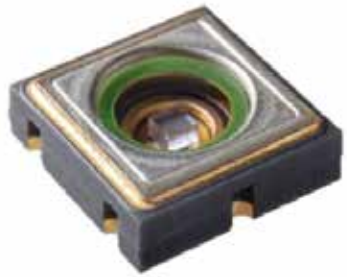
SMD NC4U334BRT UV-C LED features

- High performances with typical radiant flux 200mW
- Peak wavelength 280nm
- Typical voltage 22.5 V, typical current 350mA, maximum current 500mA
- Typical power consumption: 7.87W
- 110° deg viewing angle
- Dimensions (LxWxH): 6.8x6.8x2.12mm



SMD NCSU334BT UV-C LED features

- High performances with typical radiant flux 70mW
- Peak wavelength 280nm
- Typical voltage 5.5 V, typical current 350mA, maximum current 500mA
- Typical power consumption: 1.92W
- 115° deg viewing angle
- Dimensions (LxWxH): 6.8x6.8x2.12mm



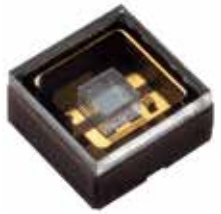
Applications

- Disinfection
- Sterilization

NICHIA UV-C LED

SMD NCSU434BT UV-C LED features

- High performances with typical radiant flux 17,5mW
- Peak wavelength 280nm
- Typical voltage 5.3 V, typical current 350mA, maximum current 500mA
- Typical power consumption: 1.99W
- 110° deg viewing angle
- Dimensions (LxWxH): 3.5x3.5x1.72mm



SMD NCSU434AT UV-C LED features

- High performances with typical radiant flux 17,5mW
- Peak wavelength 280nm
- Typical voltage 5.3 V, typical current 100mA, maximum current 150mA
- Typical power consumption: 0.53W
- 110° deg viewing angle
- Dimensions (LxWxH): 3.5x3.5x1.72mm

Applications

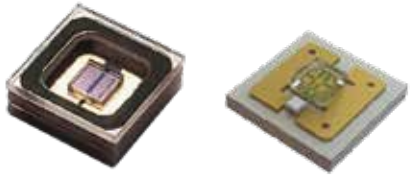
- Disinfection
- Sterilization

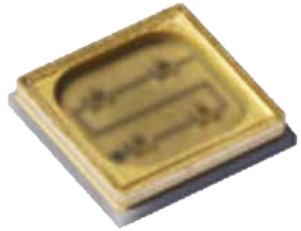
LEXTAR UV-C LED

The LEXTAR UV-C LED series includes many different types and powers to be suitable for everyday objects and many other applications.

Test Method: JIS Z 2801
UV LED Model: PU35CM1 V1

Test Bacteria	Concentration of Bacteria (CFU/mL)	Concentration After Testing (CFU/mL)		Antibacterial Efficacy (%)
		Reference	Treated	
Escherichia coli (ATCC 8739)	9.5×10^5	7.9×10^5	3.3×10^4	95.82 *(1 min)*
			1.7×10^4	97.85 *(3 min)*
			6.5×10^3	**99.18** *(5 min)*
Staphylococcus aureus (ATCC 6538P)	4.3×10^5	3.8×10^5	2.5×10^3	93.42 *(1 min)*
			2.3×10^3	**99.39** *(3 min)*
			1.6×10^3	**99.58** *(5 min)*
Pseudomonas aeruginosa (ATCC 9027)	7.2×10^5	6.7×10^5	1.1×10^4	98.36 *(1 min)*
			2.8×10^3	**99.58** *(3 min)*
			9.6×10^2	**99.86** *(5 min)*





LEXTAR UV-C LED

APPLICATIONS

High power
Air disinfection

- Ultra-high radiant intensity
- High flow rate (>2L/min)

Mid power
Water disinfection

- High radiant intensity
- Low flow rate (1-2L/min)

Low power
Surface disinfection

- Wide angle
- High performance/cost ratio
- Static state

Typical current	20mA	100mA	200mA	350mA	500mA	1400mA
Maximum current	30mA	150mA	300mA	500mA	600mA	2000mA

PU35CL1-V1
3,5 mW
125° - 3535

PU35CM2-V0
12 mW
35° - 3535

PU35CM1-V6
14 mW
60° - 3535

PU35CM1-V3*
15 mW
125° - 3535

PU35CM7-V0
25 mW
125° - 3535

PU35CM3-V0
24 mW
125° - 3535

PU35CH1-V0*
50 mW
125° - 3535

PU35CH1-V1
80 mW
140° - 3535

PU35CH2-V0
50 mW
125° - 3535

PU68CH1-V0
70 mW
125° - 6868

PU68CH1-VX
200 mW
125° - 6868

Coming Soon:
[Q4 2022]

* Available 265nm

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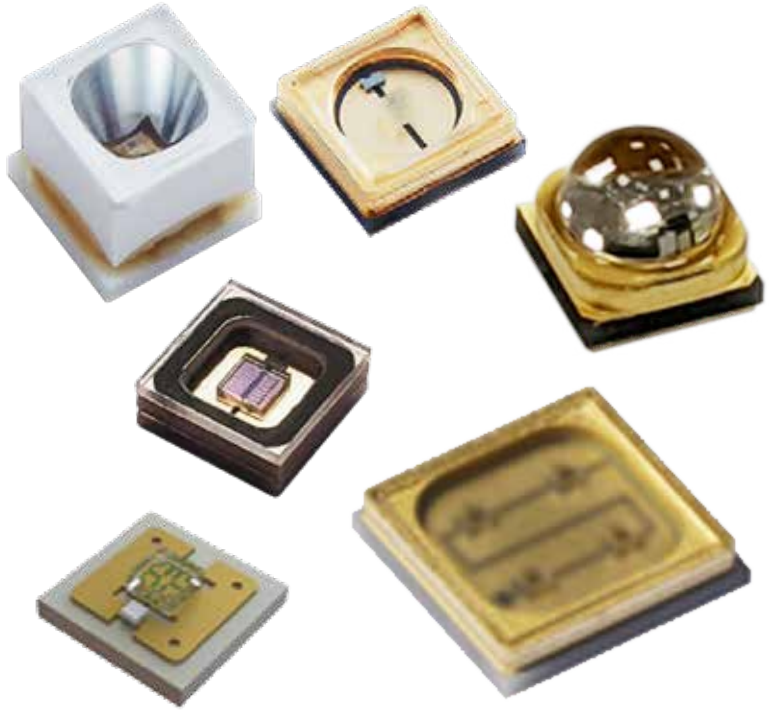
LEXTAR UV-C LED

Features

- SMD standard package
- UV-C Wavelength from 265nm to 280nm
- Different emitting angle options from 35° to 140°
- High reliability, long life
- Environmentally friendly, RoHS compliance



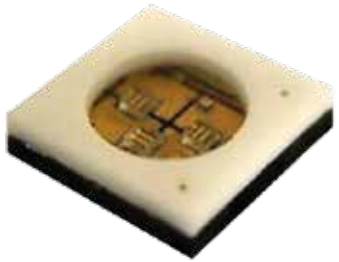
Applications

- Surface sterilization
- Food and pharmaceutical processing
- Air and water disinfection

CT MICRO UV-C LED

Features

- SMD standard package
- UV-C Wavelength from 270nm to 280nm
- Different emitting angle options from 60° to 120°
- High reliability, long life
- Environmentally friendly, RoHS compliance



Applications

- Surface sterilization
- Food and pharmaceutical processing
- Air and water disinfection

UV-C LED module solutions

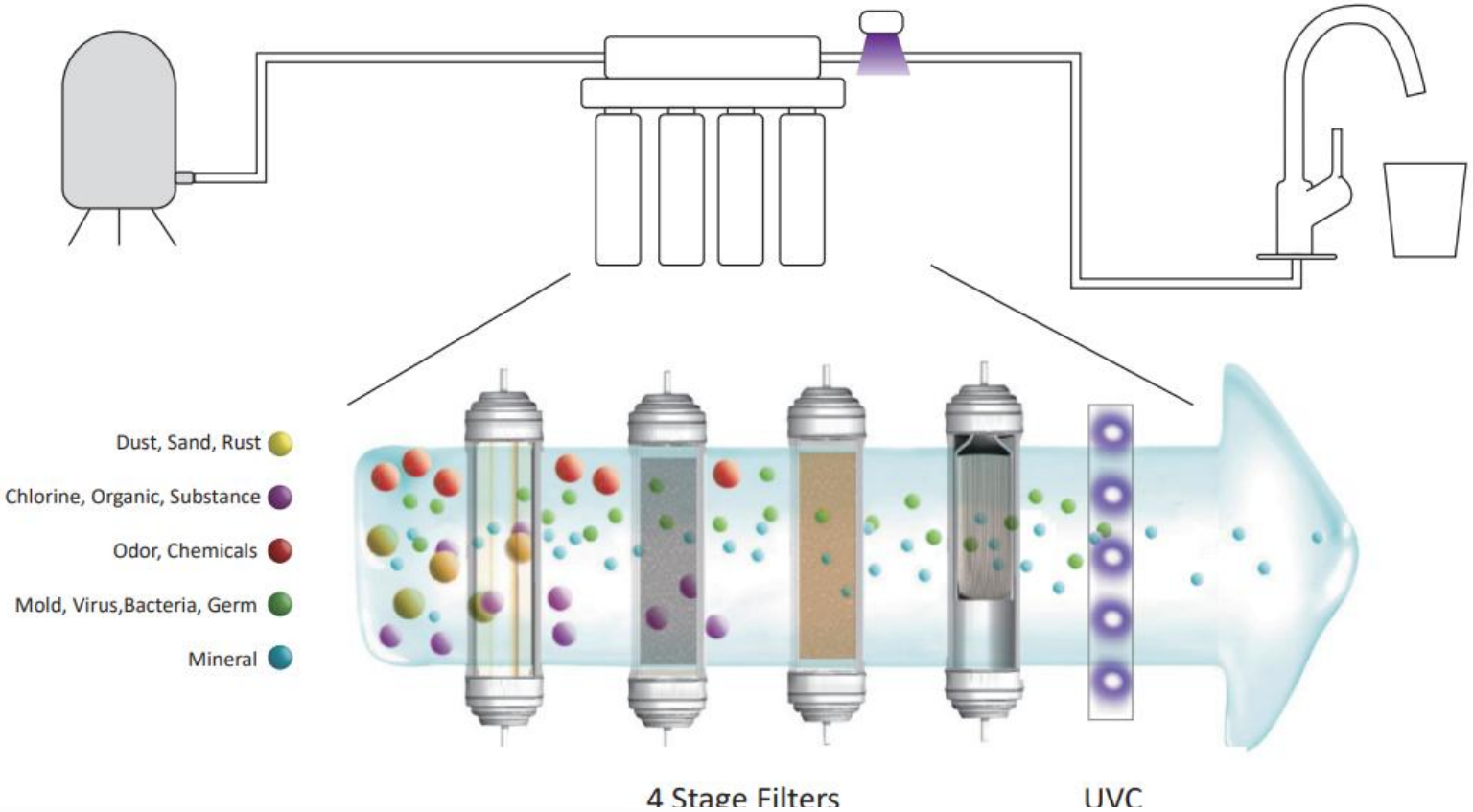
HARVATEK

UV-C LED MODULE

LUX LUCIS

UV-C LED MODULE

HARVATEK UV-C LED MODULES



Water flux type

TEST RESULT(S):

Test item(s)	Unit(s)	Test method(s)	Test result(s)		Removal rate(s)(%)**
			Influent spiked water	Effluent filtrated water	
Total coliforms*	cfu/100mL	GB/T 5750.12-2006	8.0×10^4	<1	>99.99

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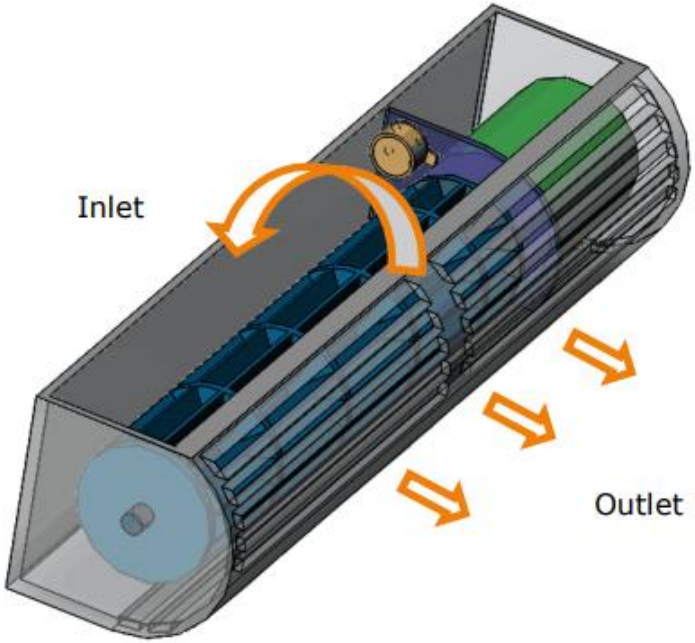
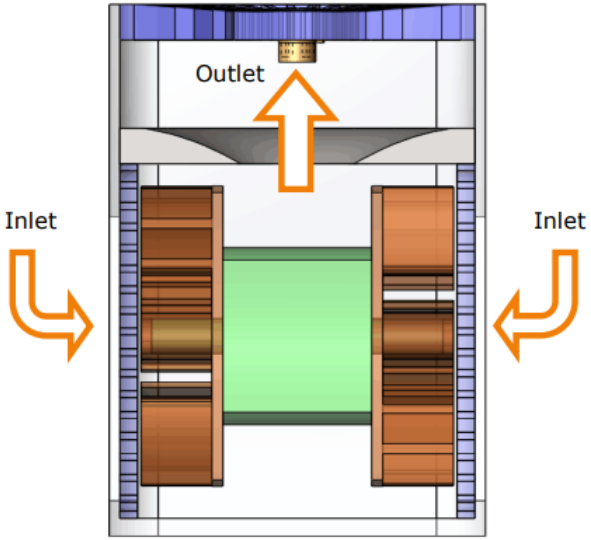
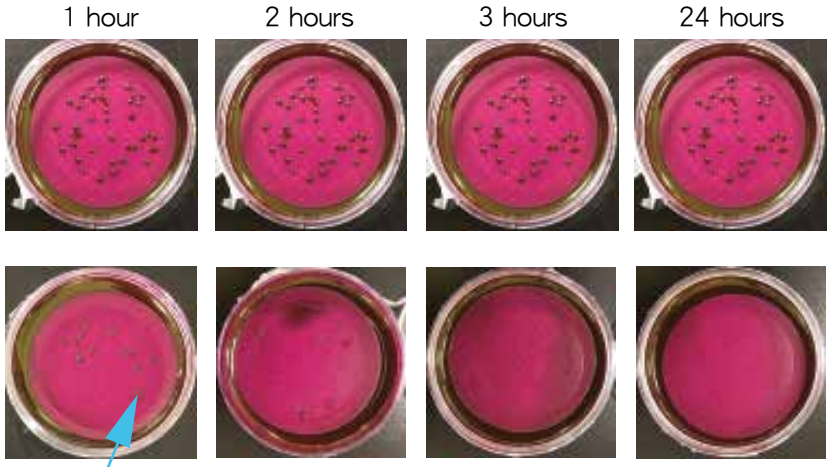
HARVATEK UV-C LED modules





Air type sterilization



100% sterilization rate
in petri dishes
after UVC LED irradiation

Welt Electronic

LUX LUCIS UV-C LED modules

LUX LUCIS offers UV-C LED modules designed with highly dissipative materials and completely customized in dimension, LED wheelbase and total radiant power.
Possibility to realize spots or driven strips in 12/24Vdc voltage and different dimensions and shapes modules as well. Suitable with NICHIA, LEXTAR and CT MICRO components depending on the required application type. Suitable with a wide range of LEDiL optics.

- IMS material aluminum-based with 1/1.2/1.6 mm thickness
- Copper circuit with up to 70 µm of thickness
- Surface in passivated copper
- cUL/CE marking
- Customizable with customer mark

Optics for UV-C LED modules and components

LEDiL®

VIOLET

STELLA

ZORYA

JENNY

SAGA

G2-ROSE-UV / G2-NIS033U

SAKURA

LEDIL optics for UV-C LEDS

VIOLET

- 12 up lens,
- Clusters or single LEDs 3535, 6868, CSP

UV-A UV-B UV-C

STELLA

- Clusters up to 30 mm
- 3535, 6868 packages, CSP

UV-A UV-B UV-C

ZORYA

- Big clusters
- Clusters 3535, 6868, CSP

UV-A UV-B UV-C

JENNY

- Clusters up to 11 mm
- 3535, CSP

UV-A UV-B

SAGA

- Clusters up to 14 mm
- 3535, 6868, CSP

UV-A UV-B

G2-ROSE-UV / G2-NIS033U

- Single LEDs 3535/6868

UV-A UV-B

SAKURA

- Clusters up to 25 mm
- 3535, 6868, CSP

UV-A

Welt Electronic
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A Steliau Technology Company

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