



TECHLUMEN

STERILUMEN UT-225 Air Sterilizing Unit

For a virus-free environment

MANUFACTURED IN GREECE



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COVID-19
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STERILUMEN UT-225

Air Sterilizing Unit



STERILUMEN UT-225 is an air sterilization device that uses advanced UVC technology to neutralize the bacterial and viral charge of the air in indoor areas.

The powerful UVC radiation is completely isolated inside the device ensuring the safety of people nearby and therefore safely allows human presence in the room. Its innovative design provides fast and effective sterilization of any space.



UVC technology



Air sterilization



Safe & easy to use



Easy maintenance



Unobstructed air flow



Laboratory tested

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Air Sterilizing Unit



HOW DOES IT WORK?

STERILUMEN UT-225 uses a powerful fan to pull in the air and channel it to a series of chambers that contain the high radiation UVC bulbs. The air remains in the chambers long enough for the viruses and other micro-organisms to be neutralized. The clean air is redistributed into the room free of any infectious organisms.

HOW IS IT SO EFFECTIVE?

The effectiveness of the STERILUMEN UT-225 is a combination of the high radiation UVC light, the small space in the chambers and the time that any microorganism stays in the chambers. UVC radiation loses its efficiency geometrically with distance. The small chambers assure us that the microorganisms will pass adjacent to the UVC light and receive enough radiation. Moreover, the geometry of the device is such to cause the infected air to be exposed to the UVC radiation long enough to achieve the neutralization of the microorganisms and viruses.

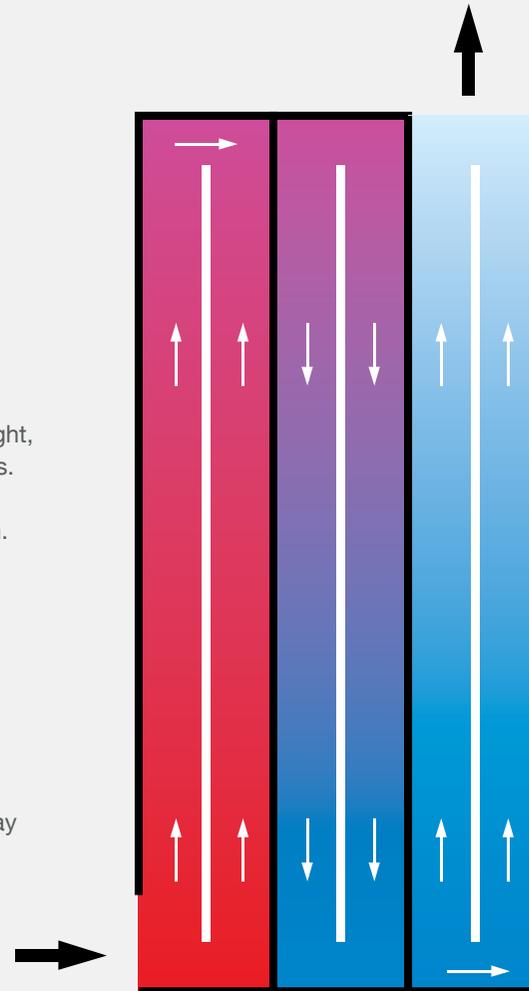
SAFE TO USE

STERILUMEN UT-225 prevents UVC radiation spill completely through an automatic sensor that shuts off the device in case someone opens it while in operation - much in the same way microwave ovens switch off if opened while in use.

EASY MAINTENANCE

Components that require replacement are easily accessed ensuring hassle-free maintenance. There are light sensors on the control panel that indicate when to change the bulbs.

UPRIGHT DESIGN FOR UNOBSTRUCTED AIR FLOW.



PHILIPS LAMPS INSIDE



TECH LUMEN

WHAT TECHNOLOGY DOES STERILUMEN UT-225 USE?

STERILUMEN UT-225 unit uses UVC radiation to neutralize the viruses and other microorganisms present in the air. The exposure to the UVC light causes alterations to their DNA and they cannot reproduce and therefore are unable to infect any persons.

WHAT IS UVC RADIATION?

UVC or UVGI (Ultraviolet Germicide Irradiation) is a disinfection method that uses short-wavelength ultraviolet (ultraviolet C or UV-C) light to kill or inactivate microorganisms by destroying nucleic acids and disrupting their DNA, leaving them unable to perform vital cellular functions.

WHAT TYPES OF SPACES ARE BEST SUITED FOR THE STERILUMEN UT-225?

STERILUMEN UT-225 can be used in any space that the air needs to be cleaned. It is highly recommended for spaces that many people meet at the same time.



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RESTAURANTS



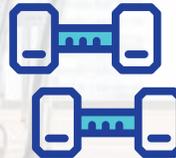
HOSPITALS
& CLINICS



PRIVATE
& PUBLIC OFFICES



SHOPPING MALLS
& RETAIL SHOPS



GYMNASIUMS
& INDOOR SPORTS
FACILITIES



SCHOOLS
& UNIVERSITIES



AIRPORTS
& AIRPLANES



PLACES OF
WORSHIP

IS STERILUMEN UT-225 SAFE?

UT-225 is absolutely safe to people. Even though the exposure to the UVC radiation can be harmful to people, the UT-225 unit contains the radiation within its walls. The device has been tested in the laboratory while people were present for 8 hours.

WHY TEST THE STERILUMEN UT-225 IN THE LABORATORY?

Even though the UVC radiation is being used since the 1800's as a germicide, we wanted to test whether the STERILUMEN UT-225 can neutralize the viruses in the air in a live office. The presence of people in the room causes the air to maintain a microbial load at all times, making it more difficult to clean. The laboratory results have shown that the UT-225 can kill 93.2% of all microbes within the first hour (the tested space was 100sq. meters).

This result supplements CDC recommendations for UVGI, which they consider as an effective method in reducing the transmission of the airborne bacterial and viral infections.

WHAT TYPES OF GERMS AND MICROORGANISMS

IS IT MOST EFFECTIVE AGAINST?

STERILUMEN UT-225 is very effective in targeting many types of viruses and microorganisms that causes infections and allergies, including algae, yeast, fungus and airborne viruses.



ALGAE



VIRUSES



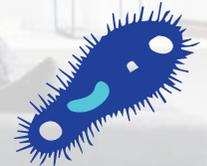
YEAST



FUNGUS



MICROORGANISMS



PROTOZOAN

UVGI is a method of disinfection that uses short-wavelength ultraviolet UV-C light to kill or inactivate microorganisms by destroying nucleic acids and disrupting their DNA, leaving them unable to perform vital cellular functions. Over the last 40 years, UVGI has been used for disinfecting drinking water, air, wastewater, pharmaceutical products and surfaces against human pathogens.

Viruses and bacteria are highly responsive to UV disinfection at appropriate doses.

Published studies show that UV-C completely inactivates the other corona viruses (SARS-CoV-1 and MERS-CoV) and that is also effective on Sars-CoV-2 (virus which causes COVID-19) peer review is still pending.

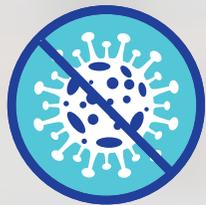
There are no known micro-organisms which are resistant to UVC radiation. The UV-C radiation break down the DNA and RNA of bacteria, viruses and spores, making them harmless.

Hospitals and governmental buildings have used UV-C technology safely and effectively.

UVC lamps are safe when used properly. If exposed to UVC lighting, there is risk of burning skin or superficial tissue damage of eye. It is important that lamps are always shielded and out of sight/touch.



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WHY STERILUMEN UT-225 IS BETTER THAN OTHER SOLUTIONS:

- A.** STERILUMEN is 100% safe to be used while people are present in the room as the UV radiation is hermetically trapped inside the machine. Other devices that can be found in the market use open UVC light that can be harmful to people and should only be used while wearing protective equipment for the skin and the eyes. Moreover, the lamps that STERILUMEN uses come with a filter that prevents the production of Ozone, unlike other devices in the market.
- B.** STERILUMEN has been designed in a way that the radiation that hits the air is so strong that it completely neutralizes the microbial load.

ARE THERE OTHER SOLUTIONS IN THE MARKET? WHAT ARE THEIR DISADVANTAGES?

1. *Open type UVC devices.*

For safety reasons, these devices cannot be used while people are present in the room. The UVC bulbs only sterilize the air that passes next to them (mm) and cannot be effective at a distance.

2. *Ceiling mounted UVC luminaires with indirect lighting (towards the ceiling).*

These devices need to be placed in high ceiling and away from reflective surfaces in order to avoid being harmful to people. They only sterilize the air in close vicinity. Therefore, the sterilization takes much longer.

3. *Closed type UVC devices like STERILUMEN.*

The devices currently available in the market are either too weak to neutralize the virus or the air remains in the machine for too little making them completely inefficient.

4. *UVC devices for HVAC.*

The UVC dose that hits the incoming air is not enough for sterilizing the air. Moreover, the installation of such devices inside the A/C ducts, causes pressure drop and reduces the efficiency of the A/C unit.

5. *Air Ionisers.*

They are not very efficient on bacteria and viruses.





STERILUMEN UT-225

Air Sterilizing Unit



fan controller

time programmer

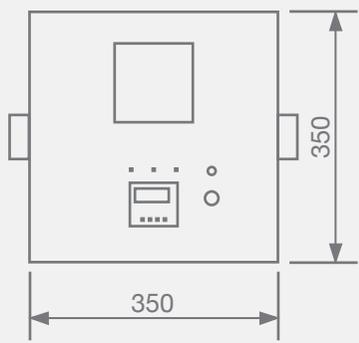
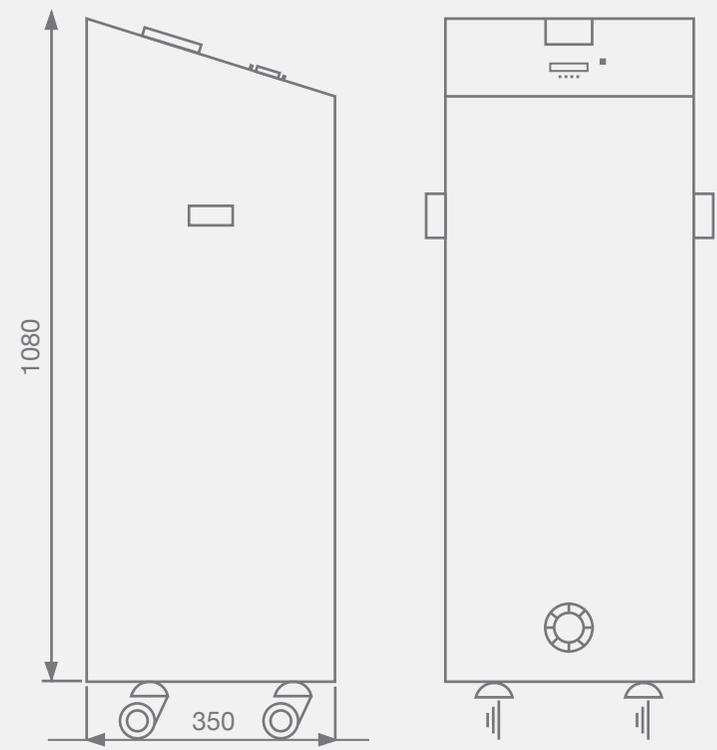
lamp status indicator

protective cap

air output



fan controller





STERILUMEN UT-225 SPECIFICATIONS

Air Sterilizing Unit

Type	UT-225					
	1 st speed	2 nd speed	3 rd speed	4 th speed	5 th speed	
Power	330W					
UV lamp power	225W					
Average UVC dose	110.5 mJ/cm ²	61.8 mJ/cm ²	41.6 mJ/cm ²	24.7 mJ/cm ²	16.5 mJ/cm ²	
Air volume flow	45 m ³ /h	80 m ³ /h	120 m ³ /h	200 m ³ /h	300 m ³ /h	
Max noise level	38.2 dB(A)	40.2 dB(A)	41.5 dB(A)	48.0 dB(A)	54.0 dB(A)	
Dimensions						
Outer case	350x350x1080					
Accessories						
	Stainless steel 316					
	Carbon filler					
	HEPA filler					
	Castor wheels					
	Time programmer					
	Wall mounting bracket					

Sample Pathogenic Organism	UVC dose for 99.9% kill (mJ/cm ²)
BACTERIA	
Bacillus anthracis (Anthrax)	8.7
Scherichia coli	5.5
Mycobacterium tuberculosis	10.0
Proteus vulgaris	6.6
Psuedomonas aeruginosa	10.5
Salmonella typhosa (Typhoid Fever)	5
Shigella dyseteriae	6.4
Staphylococcus aureus (e.g MRSA)	6.6
Vibrio comma (Cholera)	6.5

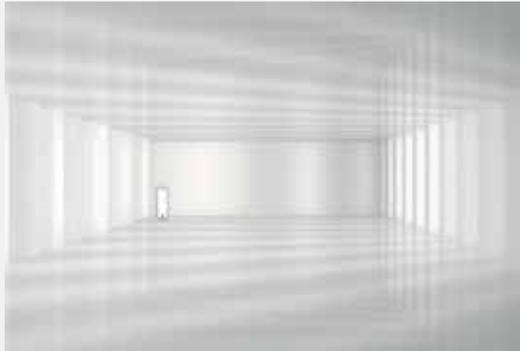
Sample Pathogenic Organism	UVC dose for 99.9% kill (mJ/cm ²)
VIRUSES	
Ebola	6.0
Hepatitis	8.0
Norovirus Family	22.0
Influenza	6.6
SARS Coronavirus CoV-P9	16.0
Murine Coronavirus	26.0
Calicivirus Feline	30.0
Coxsackie A	27.0
Coxsackie B	12.0

Sample Pathogenic Organism	UVC dose for 99.9% kill (mJ/cm ²)
ORGANISM	
S. aureus	6.5
E. coli	5.5
Salmonella	5.0

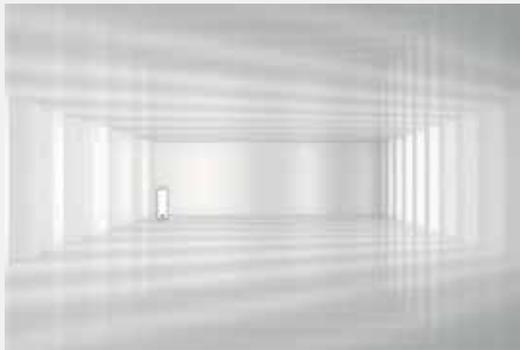


STERILUMEN UT-225 STERILIZATION TIME

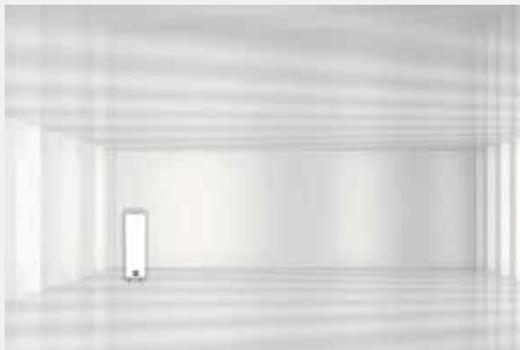
Air Sterilizing Unit



Room Dimensions	Sterilization Time (1 st Speed)	Sterilization Time (2 nd Speed)	Sterilization Time (3 rd Speed)	Sterilization Time (4 th Speed)	Sterilization Time (5 th Speed)
10m x 10m x 3m	6h	3.7h	2h	1.2h	1h



Room Dimensions	Sterilization Time (1 st Speed)	Sterilization Time (2 nd Speed)	Sterilization Time (3 rd Speed)	Sterilization Time (4 th Speed)	Sterilization Time (5 th Speed)
8m x 8m x 3m	4h	2.4h	1.2h	50m	40m



Room Dimensions	Sterilization Time (1 st Speed)	Sterilization Time (2 nd Speed)	Sterilization Time (3 rd Speed)	Sterilization Time (4 th Speed)	Sterilization Time (5 th Speed)
5m x 5m x 2.6m	1.4h	50m	30m	15m	10m

CONTACT INFORMATION

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