

SPECTRUM UVC DISINFECTION ROBOT 360 SENSOR TECHNOLOGY

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No more handling of hazardous chemicals is required to clean surfaces when the SPECTRUM is deployed. In today's continuously changing environments it has become even more important than ever to effectively protect from the various infectious microbes.

SPECTRUM is a high-output UV disinfection robot using unique room mapping technology to deliver a fast and effective germicidal dose of continuous wave UVC energy killing germs and pathogens when and where you want. SPECTRUM is intelligent and completely removes the guess work and ineffectiveness of regular cleaning. The SPECTRUM will deliver exactly this protection to its users by efficiently and effectively eradicating harmful microbes on surfaces and in the air with the use of UV energy.

SPECTRUM is the latest constant wave UV-C surface and air disinfection technology designed specifically for all areas of the hospital and healthcare environment. SPECTRUM incorporates unique patented design features that reduce shadowing. Log 6 reduction (99.9999%) bacterial kill achieved in minutes.

The SPECTRUM-C is completely mobile, making it perfect for disinfecting ambulances and suitable for disinfecting patient rooms, operating theatres and all over the hospital, including the smallest of spaces. SPECTRUM Smart UVC is the portable UV disinfection system that precisely measures reflected UVC emissions with 360Sensor to automatically deliver the pathogen-lethal UV dose required for each room, dynamically compensating for room size, shape and other dose altering variables such as the position of contents, windows, blinds and doors.

• SPECTRUM uses narrow band UVC light for a high efficiency targeting of the DNA-disrupting wavelength that stops pathogens.

• SPECTRUM is safe to use in rooms with glass windows and doors. UVC is not transmitted through glass windows.

SPECTRUM Target Dose Chart to Deactivate Germs

Microorganism	D99% Dose Required (micro watt-sec)	Time to reach D99 Dosage in Minutes Direct Distance to Surface in feet		
VIRUS		5FT	10FT	15FT
Influenza A (flu)	4,558	2	3	5
Coxsakievirus (hand , foot , mouth disease)	16,250	5	10	15
Herpes Simplex	7,453	3	5	10
BACTERIA				
methicillin-resistant Staphylococcus aureus	7,106	3	5	10
Carbapenem-resistant Klebsiella pneumoniae	11,000	4	7	12
Escherichia coli(E-coil)	3935	1	2	4
FUNGAL SPORES				
Cladosporium spores	121,188	30	50	80
Aspergilli's Niger spores	317,598	70	120	225
Candida Albian's	81,554	20	30	60

The SPECTRUM can be used for the following environments or wherever microbial disinfection is required:

- NURSING HOMES
- OUTPATIENT SURGERY CENTERS
- PHYSICIANS OFFICES, AMBULANCE
- PATIENT ROOMS, WAITING ROOMS
- TESTING LABORATORIES
- VENTILATORY CLINICS & KENNELS
- PASSENGER FLIGHTS AND BUS AND TRAIN
- SCHOOLS-CLASSROOMS, FOOD PROCESSING
- DETENTION CENTERS, HOMELESS SHELTERS
- SHOPPING COMPLEX, MOVIE THEATERS
- HOTEL ROOMS, LOCKERS ROOMS

SPECTRUM-C

BENEFITS

- Four (4) high output extended length UVC Teflon coated lamps.
- Built in mast handles for help in moving the unit.
- Digital Timer/Counter to set actual sanitizing cycle time up to 99 hours.
- Six infrared motion sensors to automatically shut off device if someone enters the room during the disinfection cycle.
- Built in aluminum reflectors to direct light to hard to reach areas such as corners, ceilings and floor surfaces.
- Four wheel design to make it easy to transport the device from room to room. One wheel castor can be locked in place.
- Tri-color LED indicates status of operation.
- Four maximum output extended length UV-C LED with combined output of 100W/200W/500/1000 watts.
- Digital timer/counter to set disinfection cycle times of up to 99 hours.
- Optional Inbuilt Battery 6 Hours Backup
- Remote Operation With the Smartphone
- Optional Charging By Solar Panel

SPECIFICATION

- Construction Materials 304 Stainless steel
- Lamp Type UV-C LED
- LED Driver Inbuilt
- Lamp Length 1.2Meter
- Footprint 200mm diameter
- Lamp life 20000 hours continuous operation
- Power Source 120/230 VAC, 50/60Hz
- Power ON Indicator Illuminated Switch
- Power Rating: 100W/200W/500W/1000W
- Delay timer to turn unit ON 5 seconds delay
- Power Interruption Memory Device will resume operation after set point
- Operation Modes Indicated by LED
- Motion sensors (safety) 360 degrees
- Operating Environment Indoor 40°F to 135°F, 0-95% RH
- Metal reflectors to protect lamp and better distribute UV energy
- Tri-color LED indicates status of operation
- Optional Inbuilt Battery 6 Hours Backup

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UV SAFETY Ultraviolet (UV) MPE's Maximum Permissible Exposure

UV REGION	WAVELENGTH	MPE(MAXIMUM PERMISSIBLE EXPOSURE)
UV-A	315 - 400 nm	1mW/cm2 8 hrs
UV-B	285 - 315 nm	500 uW/cm2 1 min
UV-C	100- 285 nm	100 uW/cm2 1 min

UV DOSE

UV light can inactivate waterborne infectious organisms but there is an important detail to understand: That is the concept of UV dose. UV dose is a calculation that consists of three variables:

- The speed of the fluid moving past the lamps. This speaks to "contact time"
- The transparency of the fluid to UV light (transmittance). This is called UVT or T10
- The power of the UV light emitting from the lamp expressed in Wm2

UV TECHNOLOGY



- LOW ENERGY CONSUMPTION
- EASY TO CONTROL THE DOSE

Lamp type continuous lighting LED type continuous lighting



Full 360°

360



Full 360° Coverage



Floor to Celling Disinfection



Extends to Shadowed Areas



Adjusts & Operates up to 2.2m



Easy to Transport

UVC is proven to kill all known pathogens at 250nm -280nm.

SPECTRUM-C is proven to destroy some very infectious pathogens over a rapid disinfection cycle, including Enterococcus, MRSA, C.difficile and Ebola.





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