UVDI
UltraViolet Devices, Inc.

UVDI-360 Room Sanitizer

Designed and Manufactured by UVDI in California, USA

ISO 9001:2015
ISO 14001:2015

UVDI EPA Establishment Number 73542-CA-001

RECOGNIZED COMPONENT
Intertek
3060071

The Need for Enhanced Environmental Hygiene

1.4 million[1] patients worldwide are affected by a Healthcare-associated Infection (HAI) at any given time.

[1] World Alliance for Patient Safety. The Global Patient Safety Challenge 2005-2006 "Clean Care is Safer Care". Geneva: World Health Organization; 2005.

Pathogens Survive

on surfaces from days to years.[2]

[2] Adapted from Hota B, et al. Clin Infect Dis 2004;39:1182-9 and Kramer A, et al. BMC Infectious Diseases 2006;6:130

Less than 50% of hospital room surfaces are adequately cleaned and disinfected.[3]

[3] Carling P. AJIC 2013;41:S20-S25

200% - 300% Greater Risk

of infection if prior room occupant was contaminated with an infectious pathogen.[4]

[4] Otter, Yezli, French. ICHE. 2012;32:687-699

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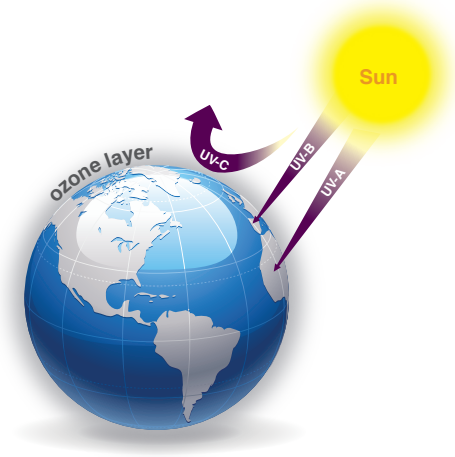
How UV-C Works: No-Touch Disinfection Rooted in Science

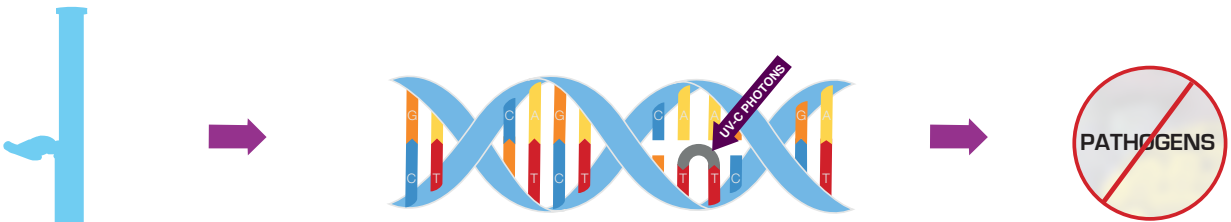
The UVDI-360 Room Sanitizer Inactivates Pathogens with Germicidal Ultraviolet Light

- UV-C wavelengths are naturally produced by the sun, yet do not penetrate the ozone layer.
- Unlike UV-A and UV-B, UV-C wavelengths between 200 and 280 nanometers have been proven to be germicidal by nature.
- The UVDI-360 Room Sanitizer's lamps emit the same powerful germicidal UV-C wavelengths as the sun.
- UVDI has harnessed germicidal UV-C power for proven disinfection of air, water and surfaces for over 70 years.



How 254 nm UV-C Energy Inactivates Pathogens

UV-C energy alters the DNA of microorganisms preventing them from reproducing and causing them to become non-pathogenic, or incapable of causing disease.



The 254 nm energy damages the DNA of the pathogens

UVDI-360 Room Sanitizer:

- ✓ **Proven to Help Decrease Healthcare-Associated Infections** in published clinical studies
- ✓ **99.99% Inactivation of Over 35 Pathogens**, including *C. difficile* spores and coronavirus
- ✓ **Rapid, Efficient UV-C Disinfection:** 10 minutes for an average-size patient room and 5 minutes for the bathroom
- ✓ **360° Surface Coverage Confirmation** with proprietary UV Dose Verify™ technology
- ✓ **Intuitive Ease of Use | Cloud-Based Analytics**
- ✓ **Designed for User Safety**

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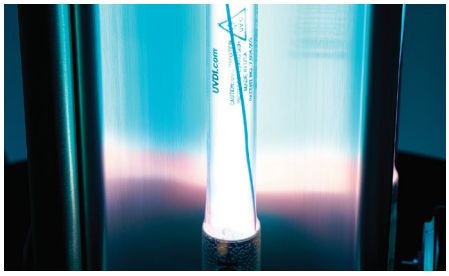
Advanced Ultraviolet Disinfection *Simplified*

Performance by Design

Patented Powerful UV Technology

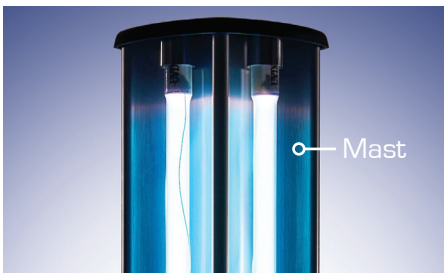


- Generates maximum output UV-C light from 158 cm long lamp technology.

Polymer-Encapsulated UV Lamps

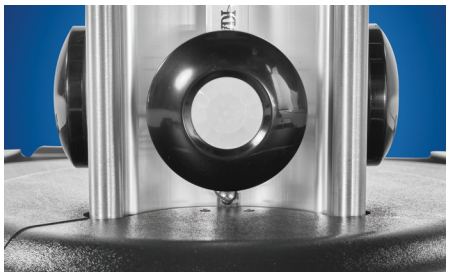
- Enhances user safety by containing glass in case of bulb breakage.

Highly Reflective Aluminum Mast



- Amplifies lamp intensity, reach and room coverage.

Infrared Motion Sensors



- Four infrared motion sensors prevent device operation if people are present.

Color Touchscreen

- Manage rooms, locations and operators for reporting analytics.
- Large color touchscreen for ease of operation.

Remote Control Operation

- Enables simple operation.
- Device has a range of 15 m through walls.

Proven Clinical Results | Improved Patient Outcomes

The **UVDI-360 Room Sanitizer** reduced ***C. difficile* infection (CDI)** rates by **25%** and **prevented $134,568-$191,604** annual direct medical costs.*

- David Pegues, MD, et. al., Hospital of University of Pennsylvania, *Infection Control and Hospital Epidemiology 2017*

*Pegues et. al. Impact of Ultraviolet Germicidal Irradiation for No-Touch Terminal Room Disinfection on Clostridium difficile Infection Incidence Among Hematology-Oncology Patients. Infect Control Hosp Epidemiol. 2017;38(1): 39-44.

Proven Efficacy and Performance

Performance Validated by Third-Party Laboratory Microefficacy Testing:

99.99% inactivation of over 35 pathogens in 5 minutes at 2.44 meters, including *C. difficile* spores and coronavirus.*

Testing Distance and Time: 5 minutes at 2.44 meters			
	≥ 4.0 Log Reduction	≥ 5.0 Log Reduction	≥ 6.0 Log Reduction
Fungi	• *Candida auris*†	• *Candida albicans*	
Bacterial Spores	• *Clostridium difficile*		
Viruses	• Adenovirus • Hepatitis A Virus • Hepatitis C Virus†† • Herpes Simplex Virus 2 • Human Coronavirus • Measles Virus • Respiratory Syncytial Virus • Rhinovirus • Rotavirus	• Ebola • Enterovirus 68 • Herpes Simplex Virus 1 • Influenza A Virus (H1N1) • Middle East Respiratory Syndrome Coronavirus (MERS-CoV) • Norovirus††† • Poliovirus	
Bacteria		• *Acinetobacter baumannii* • *Bordetella pertussis* • *Escherichia coli* • *Escherichia coli* (carbapenem-resistant; CRE) • *Enterococcus faecium* (vancomycin-resistant; VRE) • *Listeria monocytogenes* • Methicillin-resistant *Staphylococcus aureus* (MRSA) • *Mycobacterium bovis* (TB surrogate) • *Pseudomonas aeruginosa* • *Salmonella enterica* • *Staphylococcus aureus* • *Staphylococcus epidermis* (coagulase-negative; CoNS)	• *Enterobacter aerogenes* • *Enterococcus aecalis* • *Klebsiella pneumoniae* • *Proteus mirabilis* • *Serratia marcescens*

*Based on third-party laboratory testing †Between 3-and-4-log reduction achieved at 20 minutes †† Via bovine viral diarrhea virus surrogate †††Via feline calicivirus surrogate

Proven Clinical Results | Inactivation of High-Risk Pathogens

"...the **UVDI-360 Room Sanitizer**...was **effective in 5-10 minutes** in **eliminating >5-log MRSA and Carbepenam-Resistant Klebsiella Pneumoniae** when the surfaces were in **direct line of sight** and **>4-log** when the surfaces were in **indirect line of sight**."

- William Rutala, MS, MPH, PhD, Director of Hospital Epidemiology, et. al., UNC School of Medicine
Infection Control and Hospital Epidemiology 2016

Rutala, W.A. et. al. Patient Room Decontamination against Carbapenem- Resistant Enterobacteriaceae and Methicillin-Resistant Staphylococcus aureus Using a Fixed Cycle-Time Ultraviolet-C Device and Two Different Radiation Designs. Infect. Control Hosp. Epidemiol. 2016, 1- 3.

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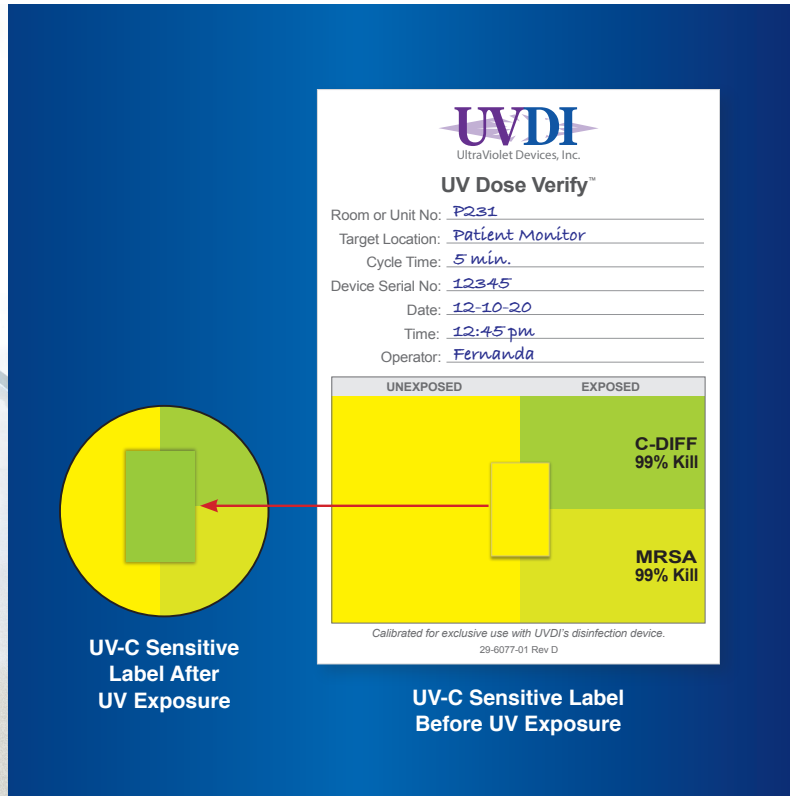
View and download our clinical studies at **www.uvdi.com/international**

360° Surface Coverage Confirmation



UV Dose Verify™ Technology

Proprietary UV Dose Verify™ technology confirms the necessary germicidal UV-C dose has reached a target surface, whether indirect or direct line of sight to the device. UV Dose Verify™ is also used to set or adjust cycle protocols for any room type.

- UV-C sensitive label in the center of the cards changes color from yellow to green when exposed to UV-C energy. The color change is calibrated to specific germicidal dose levels — the greater the UV-C dose on a surface, the darker the green color change.
- Independent laboratory testing validated color change associated with 2-log (99%) reduction for MRSA and *C. difficile* spores.

Proven Results | Dose Verification

"Color change from **yellow to dark green** on device dose indicators was used to **verify** that adequate **UV light to kill *C.difficile*** and **methicilin-resistant *Staphylococcus aureus*** was emitted."

- Lisa Maragakis, MD, MPH, Senior Director of Infection Prevention and Associate Professor of Medicine, et. al.
The Johns Hopkins Health System.
Infection Control and Hospital Epidemiology 2016

Maragakis, L.L. et. al. UV-C Light Disinfection of Carbapenem-Resistant Enterobacteriaceae from High-Touch Surfaces in a Patient Room and Bathroom. Infect. Control Hosp. Epidemiol. 2016, 1- 2.

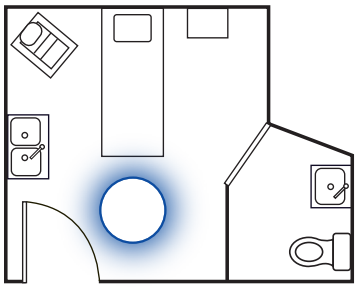
Rapid, Efficient UV-C Disinfection

Disinfection without Workflow Disruption

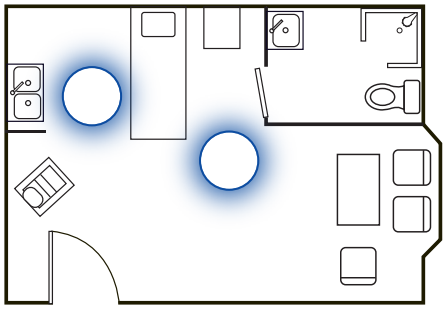
The UVDI-360 Room Sanitizer generates high intensity UV-C germicidal light using only four maximum output 62" lamps. The combination of long lamp technology and our proprietary highly reflective aluminum mast enables rapid disinfection of different room types integrating with - and not disrupting - your workflow.

Average-Sized Patient Room: One or Two Cycles

Start Cycle Directly on Device Touchscreen or via Remote Control

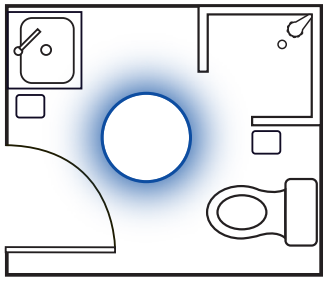


One Cycle Protocol (Average Cycle Time 10 Minutes)

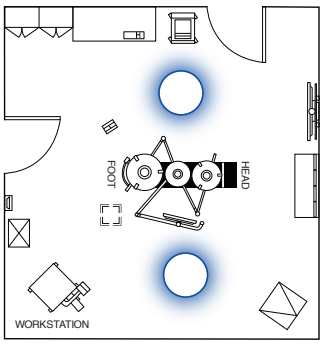


Two Cycle Protocol (Average Cycle Time 5 Minutes)

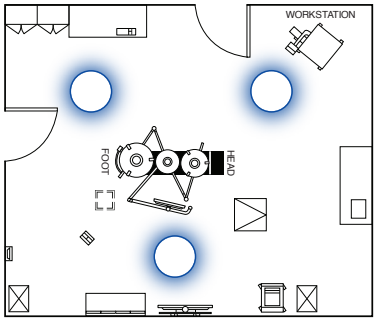
Bathroom: One 5-Minute Cycle



Operating Room: Two to Three Cycles



Two Cycle Protocol (Average Cycle Time 5 Minutes)



Three Cycle Protocol (Average Cycle Time 5 Minutes)

Patented Powerful UV-C Lamp Technology

- **Long Lamp Technology:** 158 cm high-powered lamps.
- **254 nm UV-C Output:** powers photochemical destruction of microorganism DNA via absorption of UV-C light.
- **Sustainable Solution:** uses only four lamps tested to last 4,000 hours; other UV devices use up to 28.
- **Rigorously Tested** during manufacturing process to ensure lamp power, efficiency, quality and safety.

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Designed for User Safety

Built to Protect Those who Protect Us

- **Bulb Breakage Protection:** lamps are encapsulated with built-in polymer casing to contain glass in case of bulb breakage.
- **Embedded Infrared Motion Sensors:** prevent device operation if people are present.
- **Lightweight:** only 40 kg with a compact base for ease of mobility.
- **2-in-1 Protective Case:** durable case protects both device and serves as in-use door signage.

Bulb Breakage Protection

Embedded Infrared Motion Sensors

Protective Case Closed

Protective Case Opened

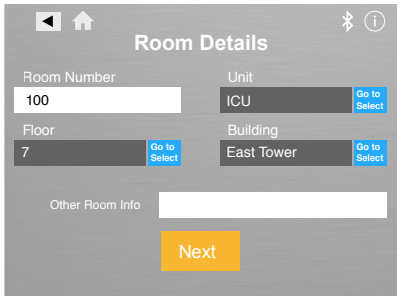
Intuitive Device Use

Device Operation and Data Management Made Simple

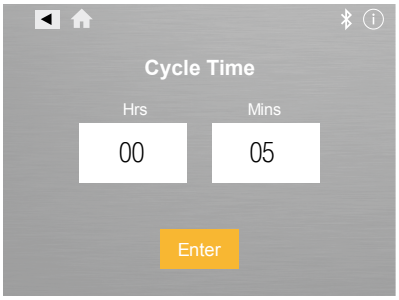
Enhance your disinfection protocols without substantial workflow increases. The UVDI-360 includes several automated features to simplify operation and data management.

Color Touchscreen Interface and Operation System

- Record specific operator information
- Store and save hospital locations for ease of use and monitoring device use for those locations



Program Location-Specific Cycles



Enter Custom Cycle Times

- Input and run device cycles
- View lamp life status; receive automated on-screen notifications of lamp errors
- Upload usage history to the cloud-based Smart Data portal

Easily Start Cycles in a Few Taps

Remote Device Operation

- Allows for remote cycle with a single push of a button
- Device has a range of 15 m through walls

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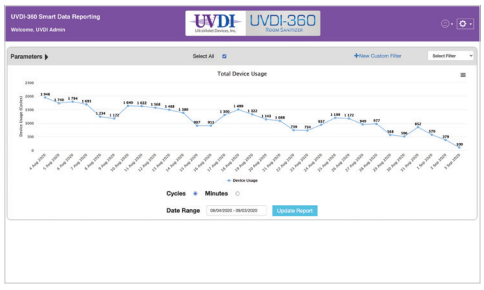
Advanced Analytics | Smart Data Portal

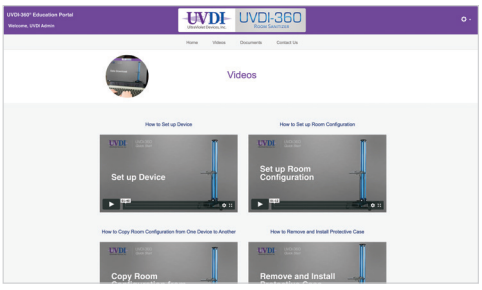
- Provides analytical and diagnostic tools that help you determine where, when, and how UV systems are working
- Outputs custom reports that can be filtered by multiple parameters including specific devices, dates, operators and rooms
- Supports data-based communication of the value of and investment in UV-C treatment to facility leadership
- Protects device and user data in secure password-protected online hub

Additional Online Resources



Data Analytics

In-Servicing Tools



Training Videos

Your Partner in Improved Patient Outcomes

70 Years of UV-C Expertise

- Globally trusted: More than 1,500 devices used in over 650 hospitals in 25 countries.
- Next generation technology: developed, rigorously tested and certified to the highest quality standards.

360° Implementation Support

- Expert distribution representatives in Europe, MENA, the Americas and Asia-Pacific.
- Training resources to ensure your team is empowered to operate your UV system.
- Marketing and Public Relations expertise to inform your community about enhanced initiatives to protect patients and staff.

MKTFM 544 Rev A 100720 International

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