

# Decontamination of Cleanroom Facilities



## A letter from our expert



Christian Holm, Professor in Infection & Immunology at Aarhus University (Denmark) and CEO of UV Medico.

Good Manufacturing Practice (GMP) is paramount to pharmaceutical production. At UV Medico, we are committed to increasing the safety of pharmaceutical production by preventing microbial contamination in and around aseptic production lines. Our new and innovative product portfolio is based on human-safe Far-UVC technology and targets different challenges at different stages of production. This ranges from decontamination of gowned operators to the prevention of microbial contamination of products in the filling-lines themselves.

GMP in high-grade classified areas include a commitment to prevent microbial contamination, a commitment that has been sharpened with the publication of Annex 1. Far-UVC is a versatile tool for both targeted and general microbial decontamination within pharmaceutical production with the overall aim to increase safety in pharmaceutical production.



## Cutting-Edge Far-UVC Solutions for Aseptic Manufacturing



### Challenge: Gowned Personnel introduce contamination to cleanrooms

- Gowned operators are a major source of microbial contamination in cleanrooms.
- This directly impacts the stringent sterility requirements in Grade A and B cleanrooms.

### Solution and Impact:

- The **UV222 Booth** and **UV222 Step-On** prevent contamination by gowned personnel.
- Reduces microbial deviations introduced by operators in Grade A and B cleanrooms.

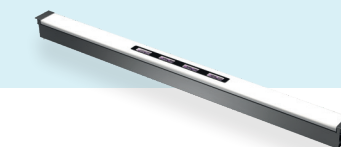


### Challenge: Sterility in Aseptic Filling Lines

- Microbial contamination in conventional filling-line rooms is a major problem.

### Solution and Impact:

- The **UV222 Linear** enhances microbial control along aseptic filling lines.
- Killing of bacteria and spore-forming microorganisms continuously during production.
- This state-of-the-art tool boosts operational productivity.
- Seamless integration into existing laminar-airflow already installed in the ceiling.



### Challenge: Transfer from Tank to Filling Line

- Aseptic coupling to filling-line inlets represents a major risk for contamination.
- Microbial presence during aseptic coupling leads discarding of batch or batch investigation.

### Solution and impact:

- The **Vertex 222** creates a microbe safe-zone around the coupling to prevent contamination.
- The **Vertex 222** reduces risk of introducing microbial contamination during aseptic coupling.







# UV222 Booth

Personnel entering classified areas such as cleanrooms are the main source of microbial contamination. This constitutes an important challenge to pharmaceutical production lines.

UV Medico has developed a revolutionary solution for the next generation of cleanrooms: The UV222 Booth.

Using UV222 technology, the UV222 Booth has been designed specifically for eliminating microbial contamination on personal protective equipment (PPE) before entering cleanrooms or other working environments that must be kept free of microbial pathogens.

Several parameters make the UV222 Booth unique. Using the versatile UV222 patented filtered Far-UVC light, which has been proven to be safe for use in occupied spaces, the UV222 Booth offers decontamination in seconds. It is chemical free and decontaminates the entire body.

The UV222 Booth is an advanced add-on to the existing validated gowning procedures in cleanrooms, eliminating microorganisms present on PPE.

The time required to eliminate different viruses and bacteria is shown on page 5.

## UV222 Booth Characteristics:

- Care222® patented filtered Far-UVC.
- Programmable decontamination cycle
- Fully touchless.
- Built-in safety features (emergency stop, self-diagnostics).
- High efficacy against bacteria, spores, and fungi.
- No impact on gloves, uniforms and gear.
- Easy installation and use.

Made with high-grade stainless-steel surfaces to comply with cleanroom interior standard procedures in cleanrooms, eliminating microorganisms present on PPE.

Learn more about the UV222 Booth here:



## Time required to deactivate different microorganisms using the UV222 Booth:

Microorganism	Type	Time for decontamination (sec.)*	Reduction in 30 sec. (%)
Escherichia coli	Bacteria	4.78	>99,9 %
Listeria monocytogenes	Bacteria	8.15	>99,9 %
Salmonella Typhimurium	Bacteria	4.49	>99,9 %
Staphylococcus aureus	Bacteria	7.38	>99,9 %
Candida albicans	Fungi	22.37	95.4 %
Bacillus subtilis spores	Spores	14.44	99.2 %
Influenza virus	Virus	2.92	>99,9 %
SARS-Cov-2	Virus	2.73	>99,9 %

\*Calculated taking as reference the values from Hessling M, 2021, *The impact of far-UVC radiation (200-230 nm) on pathogens, cells, skin, and eyes - a collection and analysis of a hundred years of data*; and the customized UV222 Booth with 156 light sources.

## Transmission through materials

The effective blocking of UVC is key for ensuring the safety of the UV222 Booth. The threshold limit value (TLV) for U222 light, defined by the American Conference of Governmental Industrial Hygienists (ACGIH), is 23 mJ/cm². This is the daily allowed dose an operator can be exposed to. Testing of transmission

through cleanroom gowning materials show insignificant optical transmission of 222 nm light. The added protection of the gowning ensures that an operator can go through 20 cycles in the UV222 Booth and only be exposed to less than 5% of the daily allowed dose.

## Material transmission of UV222 light

Material	Transmission [%]
Aseptic production suit (Elis)	0.05%
Protective goggles (DOTCH Puru Vision 1.0)	< 0.01%
Face mask (Elis)	0.38%
Gloves Nitrile 400 DI (Shieldskin Xtreme)	< 0.01%
Gloves Nitrile 300 DI (Shieldskin Xtreme)	< 0.01%

The UV222 Booth can be delivered as a stand-alone solution or as a customized solution to fully integrate in a grade A/B area.

The following images illustrate a customized installation done for one of UV Medico's customers. The UV222 Booth was installed up one wall and with top and bottom skirts as accessory for a stainless steel frame solution from floor to ceiling, for full integration in their preparation room.

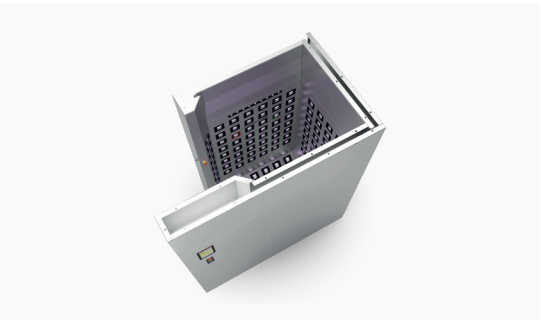
UV Medico manufactures all products according to local regulations, and one side was prolonged to shield off Far UV-C light to the remaining space of the room to ensure the daily threshold limits (TLV) for the users are not exceeded.

Customized UV222 Booth.



The UV222 Booth is designed to be intuitive, easy to use, and quick. With two motion sensor modules installed, operators can start and stop the system without touching any surfaces. The decontamination cycle is completed in seconds and the operator has audiovisual cues throughout.

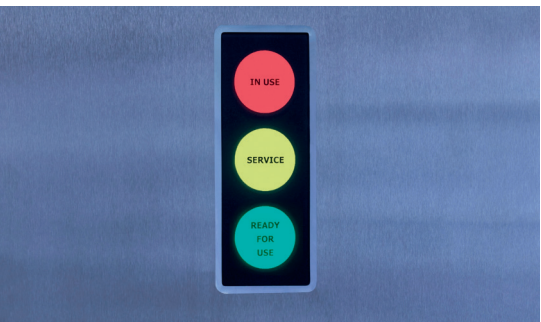
Customized UV222 Booth.



Users outside the UV222 Booth can see if the system is ready for use or is in use, by the Operating status indicator module.



Touchless interface, and audiovisual cycle status indicator.



Operating signal light.



- Countdown bar
- 121/156 Far UV-C light sources\*
- 304L/316L stainless steel
- Operating signal light
- Touchless ON/OFF sensors
- Emergency stop

Learn more about the UV222 Booth here:



\* 121 light sources for stand-alone booth.  
156 light sources for customized booth.

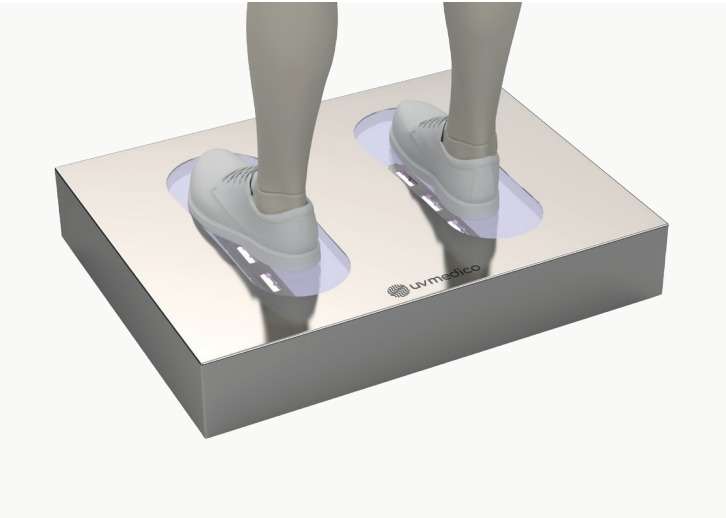


# UV222 Step-On

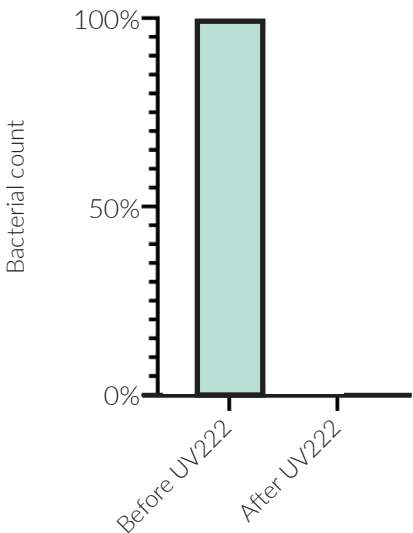
Personnel working in cleanrooms are trained to minimize their bioburden by following strict protocols and wearing specific protective equipment. This includes wearing specially designed cleanroom shoes, which are easy to clean, that secure stability, and are often made of a non-shedding fabric.

Although the shoes are easy to clean, they still represent a risk of contamination, when personnel put on their shoes and move through different cleanroom areas. Sticky mats are now used in cleanroom settings, doing a good job in removing dust and dirt from under the shoes.

The UV222 Step-On is touchless, chemical-free, and a fast and effective way of decontaminating the entire outsole of the shoes, reaching areas inaccessible to sticky mats and wipes.



A controlled study involving a cleanroom shoe demonstrates a 99.7% reduction in bacterial load post-exposure.



# Integrating UV222 Step-On with the UV222 Booth for Enhanced Cleanroom Decontamination

Combating contamination in cleanroom environments requires a multifaceted approach, addressing all potential sources of microbial intrusion. While the UV222 Booth offers an innovative solution for decontaminating personnel, the UV222 Step-On complements this process by specifically targeting one of the most challenging areas to maintain sterility; the footwear. Together, these two solutions from UV Medico present a comprehensive decontamination strategy for cleanrooms and controlled environments.

## The UV222 Step-On: A Closer Look

The UV222 Step-On is a touchless, chemical-free solution designed to decontaminate cleanroom shoes, both upon entry and exit. It addresses contamination risks not fully mitigated by traditional methods like sticky mats. Utilizing Far-UVC technology, the Step-On effectively inactivates microorganisms on the soles of shoes in just seconds, ensuring that footwear does not become a vector for contamination.

### Key Specifications of the UV222 Step-On:

- Light Source:** Krypton chloride excimer lamp
- Wavelength:** 222 nm
- Average Irradiance on Sole:** 1000  $\mu\text{W}/\text{cm}^2$
- Dose in 15 sec on Sole:** 15  $\text{mJ}/\text{cm}^2$
- Mode:** 15 sec duty cycle
- Dimensions:** 540 x 700 x 126 mm (approx. 21.3 x 27.6 x 5 inches)



## How the UV222 Step-On complements the UV222 Booth

The UV222 Step-On perfectly complements the UV222 Booth by providing a targeted solution for decontaminating footwear, a critical aspect often overlooked in cleanroom protocols. Here's how these two solutions work together to enhance cleanroom sterility:

### Comprehensive Decontamination

While the UV222 Booth takes care of the overall decontamination of personnel and their exposed equipment, the Step-On ensures that the soles of the shoes—often in direct contact with the cleanroom floor—are free from contaminants.

### Optimized Workflow

Positioned strategically at the entrance and exit points, the Step-On can significantly optimize the workflow. Personnel can decontaminate their shoes before entering the booth for a full-body decontamination, streamlining the sanitization process without compromising thoroughness.

### Annex 1 Compliance

The UV222 Step-On and Booth combination facilitates compliance with the new Annex 1 regulations, which emphasize minimizing microbial contamination risks in the manufacturing of sterile products. Their integration demonstrates a commitment to adopting innovative and effective measures to safeguard product sterility. What is Annex 1?

Learn more about Annex 1 here:



## Reduce Contamination on Gowned Personnel

Despite rigorous gowning protocols, the risk of microbial and particulate contamination adhering to gowns and footwear cannot be overlooked. This challenge directly impacts the stringent sterility requirements operating within Grade A and B cleanrooms.

The UV222 technology is specifically engineered to be safe for human exposure, making it an ideal decontamination method before entering critical areas. By integrating a Far-UVC technology into cleanroom entry protocols, facilities can enhance their contamination control measures, ensuring product and process integrity in line with the stringent requirements of Annex 1.

The UV222 Booth and UV222 Step-On are solutions designed to significantly reduce contamination on gownned personnel before they enter Grade A and B cleanrooms. By employing Far-UVC light at 222 nm, these systems effectively deactivate bacteria, viruses, and other harmful microorganisms on the surface of gowns, shoes, and any exposed skin, thus ensuring an optimal reduction in microbial contamination. This innovative approach allows personnel to comply with Annex 1 regulations regarding microbial and particle contamination control, promoting a safer and more compliant cleanroom environment.

### A deep dive on the UV222 Booth

The UV222 Booth represents a significant leap in decontamination technology, specifically tailored for cleanrooms and other classified areas where microbial control is essential. This innovative solution employs filtered Far-UVC light to decontaminate gownned personnel before they enter high-grade clean areas, effectively reducing the risk of contamination.



Read the deep dive on the UV222 Booth here:





# UV222 Linear



In pharmaceutical manufacturing, especially in aseptic filling lines, maintaining a microbe-free environment is critical. The UV222 Linear brings significant innovation by combining Far-UVC technology's decontamination power with robust lighting capabilities.

This system uses Far-UVC light to actively neutralize microorganisms in the air and on surfaces, which is essential for keeping pharmaceutical production areas sterile when products are at risk of contamination during the filling process.

Unlike traditional HVAC systems that primarily remove particulates, Far-UVC provides a continuous decontamination solution, improving safety and efficiency in production lines.

Designed to integrate seamlessly into existing cleanroom setups, the UV222 Linear meets the strict requirements of aseptic processing areas. It helps maintain low microbial counts and provides high-quality lighting to enhance operational precision.

The UV222 Linear aids in meeting and exceeding the stringent cleanliness standards of Annex 1 for grade A and B areas. Its safety profile allows decontamination with personnel present, supporting uninterrupted production and emphasizing a commitment to safety and quality.

Adding the UV222 Linear to aseptic filling lines provides a tool that not only improves microbial control but also enhances operational efficiency and clarity. This innovation underscores the commitment to leveraging advanced technologies to improve cleanroom conditions and deliver safer pharmaceutical products.

Learn more about the  
UV222 Linear here:



# How to Comply with Annex 1 in Aseptic Filling Lines with the UV222 Linear

Compliance with Annex 1 of the guidelines regarding the manufactured sterile medicinal products is fundamentally crucial in ensuring the safety and efficacy of pharmaceuticals. This annex, focused on aseptic processing and sterile drug products, emphasizes the importance of maintaining an environment that reduces the risk of contamination. Among the technologies that can aid in achieving compliance, the UV222 Linear lamp stands out as a noteworthy solution, particularly in the context of aseptic filling lines.

## Understanding Annex 1 Requirements in Aseptic Filling Lines

The primary aim of Annex 1 is to safeguard the manufacturing process from microbial, particulate, and pyrogen contamination. For aseptic processing environments, this means stringent control over the cleanroom conditions, including air quality, personnel hygiene, materials, and equipment. Specifically, it requires robust microbial control to prevent the introduction, growth, and proliferation of contaminants.

## The Aseptic Challenge

The very nature of aseptic filling lines, where products are filled and sealed in a non-sterile environment, mandates superior control strategies to mimic the sterility achieved in terminal sterile products. It's a complex dance of ensuring equipment sterility, cleanroom air quality, and personnel discipline, all while maintaining operational efficiency.

## Advancing Sterility Assurance: Innovative Strategies for Contamination Control in Aseptic Processing

In the complex landscape of aseptic processing and stringent cleanroom standards, particularly those governed by Annex 1, the essence of contamination control cannot be overstated. Ensuring the integrity of pharmaceutical products hinges significantly on advanced detection strategies and an unwavering commitment to maintaining a contamination-free environment. Distilling this complexity into manageable insights, we underscore the importance of innovative practices in safeguarding sterility across production operations.

To align with Annex 1 requirements, it is imperative to employ a suite of modern contamination control technologies like the Cleanroom Downlight and UV222 Linear. These tools not only identify potential contamination sources with unparalleled accuracy but also facilitate swift corrective actions. The integration of such technologies into the manufacturing ecosystem represents a cornerstone of proactive risk management, vital for the delivery of safe, effective pharmaceuticals.

In essence, the journey towards full compliance with Annex 1 and beyond is underpinned by a relentless pursuit of excellence in contamination control. By embracing state-of-the-art solutions and fostering a culture of continuous improvement, manufacturers not only meet but exceed the highest standards of product safety and integrity. This commitment not only augments the well-being of end-users but also solidifies a manufacturer's reputation as a stalwart in the domain of cleanroom technology, trusted by professionals across pharmaceuticals, biotech, and healthcare industries.

### The UV222 Linear Solution

The UV222 Linear emerges as an ingenious ally in this meticulous process. Designed for deployment in operating theaters, it boasts versatility that makes it equally at home in the stringent environment of aseptic filling lines. Let's delve into how this innovative technology meets, and in some aspects surpasses, the Annex 1 criteria:

#### Continuous Air and Surface Decontamination

The UV222 Linear seamlessly integrates visible light with continuous decontamination of both air and surfaces. Its utility in operating theaters – a benchmark for sterile environments – translates perfectly to aseptic filling lines, offering a dual effect of visible and Far-UVC light at 222 nm. Notably, it can function as a standalone unit or be integrated with Laminar Air Flow (LAF) systems, assuring effective, chemical-free microbial control without risking product or personnel safety.

#### Targeted Microbial Load Reduction

In the heart of the UV222 Linear is its Far-UVC technology operating at 222 nm, which has been proven to significantly reduce microbial load. This is particularly crucial in aseptic filling lines, where the minimization of microbial contamination is key to product safety. Its ability to inactivate viruses, bacteria, and fungi, while being safe for human exposure, aligns with the Annex 1 emphasis on microbial control.

#### Enhanced Cleanliness and Safety Standards

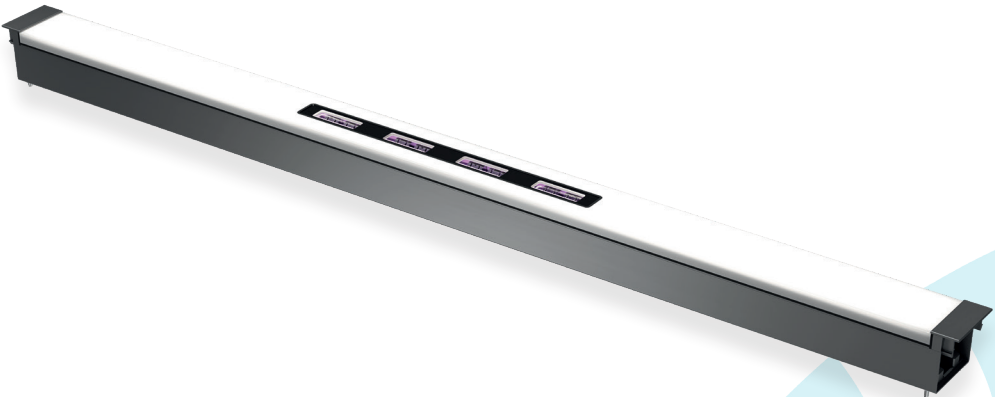
The flexibility and efficacy of the UV222 Linear render it an indispensable asset for upholding the cleanliness and safety standards essential for sterile drug manufacturing. Its integration guarantees not only compliance with Annex 1 requirements but also enhances overall productivity and safety in aseptic filling lines.

### Improved Visibility and Reduced Fatigue

The illumination system embedded within the UV222 Linear delivers potent white light, ensuring true and distinct colors with a high color rendering index (CRI) and minimal flicker. This feature is vital in reducing the fatigue of operators, thereby indirectly promoting a more attentive and hygienic work environment.

### Conclusion

Achieving compliance with Annex 1 in aseptic filling lines is undeniably challenging, yet undeniably crucial for ensuring the safety and integrity of sterile medicinal products. The UV222 Linear offers a technologically advanced and versatile solution that not only meets the stringent requirements laid out in the guidelines but also provides additional benefits that enhance the overall sterility assurance of the manufacturing process. By integrating UV222 Linear into the aseptic filling lines, pharmaceutical manufacturers can significantly bolster their contamination control strategies, ensuring a safer product for the end users and full compliance with regulatory standards.



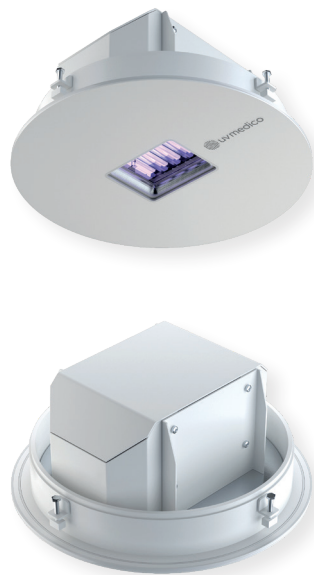


# UV222 Cleanroom Downlight

With an increased focus on viable bacteria counts across all levels of pharmaceutical production; efficient disinfection is key in cleanroom contamination control strategies. The UV222 product line harnesses an emerging technology providing unprecedented efficiency for whole room disinfection.

As opposed to filtration and ventilation systems, the Far-UVC light targets living microorganisms directly, inactivating them in the air or on surfaces. The UV222 Cleanroom Downlight offers a novel addition to the everlasting ambition to improve production quality and bring down contaminants. The fixtures are easily integrated even to pre-existing cleanrooms, since seamless installation in the ceiling requires nothing but power and has no input requirements nor need for maintenance after configuration.

Strategically placed UV222 Cleanroom Downlight fixtures will lower the general microbial load in your cleanroom. With the recent instatement of Annex 1, grade B, C, and D areas, face the challenge of achieving low CFU count in populated work environments. Due to the safety given by this new UV technology, both surfaces and air will continuously be decontaminated with staff present in the room.



Learn more about the UV222 Cleanroom Downlight here:



# UV222 Pass-Through Box

Consumables and equipment can introduce unwanted contaminants, especially if they are not specifically designed for cleanroom use.

When transferring materials into the cleanroom, the main goal is to reduce any possibility of contamination. There are a variety of ways to achieve this. Some of the methods include using multiple bags, decontaminating the materials in several stages, and sterilization once in the cleanroom. The extent of cleaning varies depending on the cleanroom classification. In addition, the cleaning procedure can be a risk of contamination in itself. Particles that are released during a cleaning process can either originate from the surface itself, from the chemicals used for cleaning or from the different tools and equipment used for cleaning.

The UV222 Pass-Through Box targets the reduction of microorganisms on materials and equipment entering cleanrooms. A case study for the decontamination of cleanroom shoes demonstrated a germ reduction of up to 99%.



Learn more about the UV222 Pass-Through Box here:



# Vertex 222 - From Container to Filling Line

The process transfer of the product from the container to the aseptic filling line represents a pivotal phase in aseptic production, where the utmost degree of sterility and caution is required to prevent microbial contamination. Consequently, advanced technologies and processes are employed to ensure that the product remains sterile throughout the entire transfer process.

Should a contamination event be detected, the affected batch is promptly quarantined to mitigate risk. This decisive measure is integral to safety protocols, safeguarding product integrity and public health.

The Vertex 222 lamp stands out for its strategic placement at the sensitive interface between container and filling line. Utilizing Far-UVC light at a wavelength of 222 nm, the Vertex 222 ensures potent antimicrobial efficacy while maintaining safety for human exposure.

Equipped with a uniform distribution capability, the Vertex 222 lamp effectively neutralizes a wide array of pathogens, including viruses, bacteria, and fungi, on surfaces and in the air within the critical transfer area. The device's design incorporates robust construction and flexible installation options, with customizable operating modes such as continuous operation and motion activation to accommodate the specific sterilization needs of the environment.



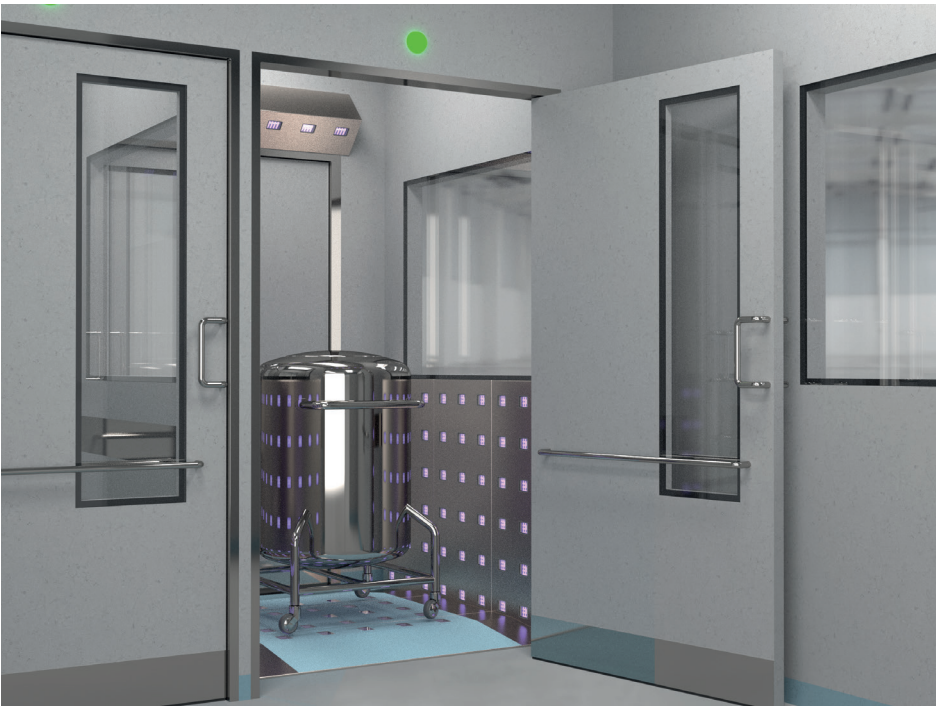
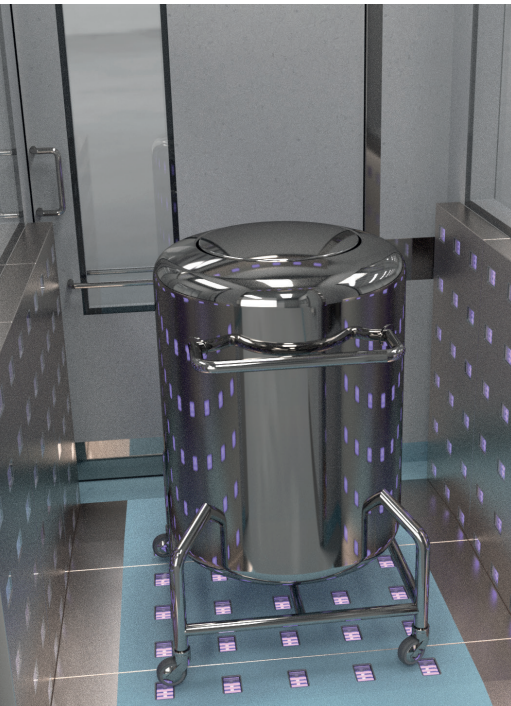
## Key features:

- Optimal Wavelength:** Utilizes 222 nm light for effective sanitization.
- Flexible Installation:** Designed for corners, maximizing room coverage.
- Customizable Operation:** Features continuous, duty cycle, and motion sensor modes.
- Durable and Efficient:** IP65 rated with minimal power consumption.



# UV222 Material Airlock

Equipment entering the cleanroom is a source of contamination. Cleaning represents a significant amount of time and effort for the operators. The UV222 Airlock can be installed in airlocks intended for the transfer of materials to reduce the amount of microorganisms present on the equipment, and to accelerate the process.

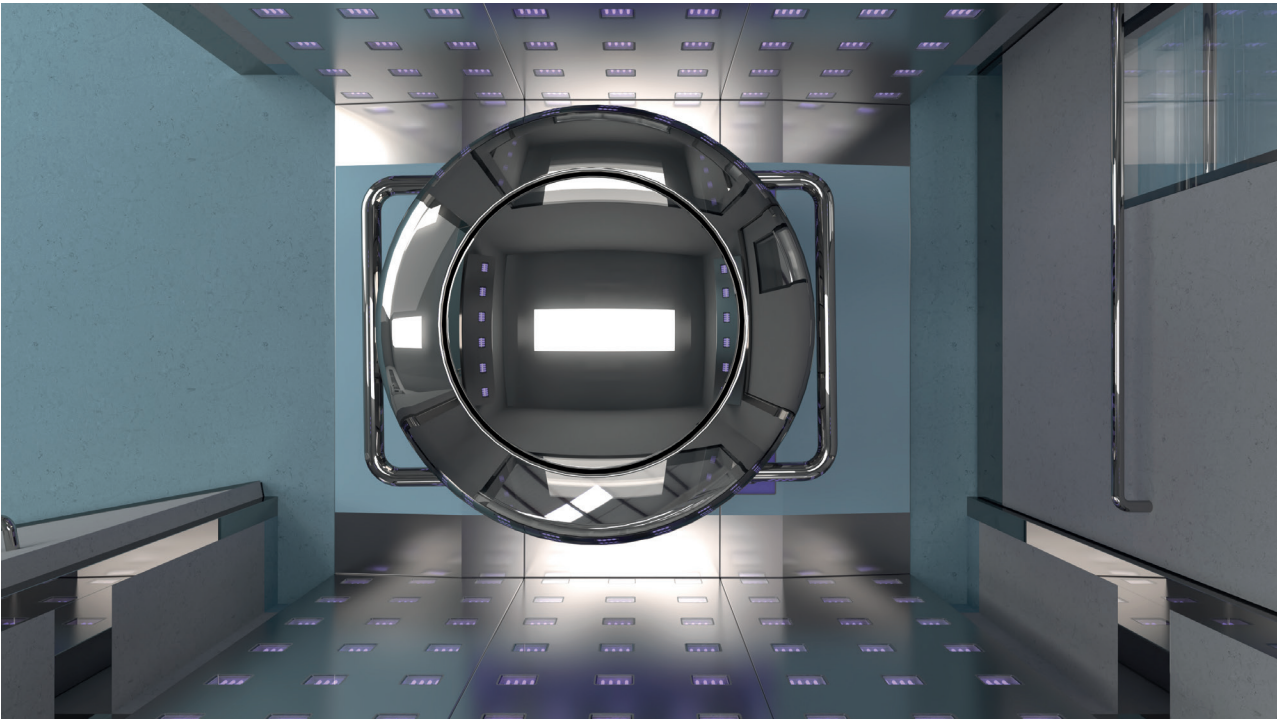


Learn more about the UV222 Material Airlock here:



## Ensure equipment decontamination during transfers

The UV222 Material Airlock forms a protective barrier between cleanroom zones, ensuring seamless equipment decontamination during transfers and effectively preventing particle transfer, safeguarding the cleanliness standards of the cleanroom.



When transferring equipment to higher-grade cleanroom areas, decontamination is essential, encompassing both smaller and bigger items including substantial equipment such as vessels. Cleanroom requirements specify the number of particles and microbial load, creating a restrictive work environment, where every risk of contamination should be minimized.

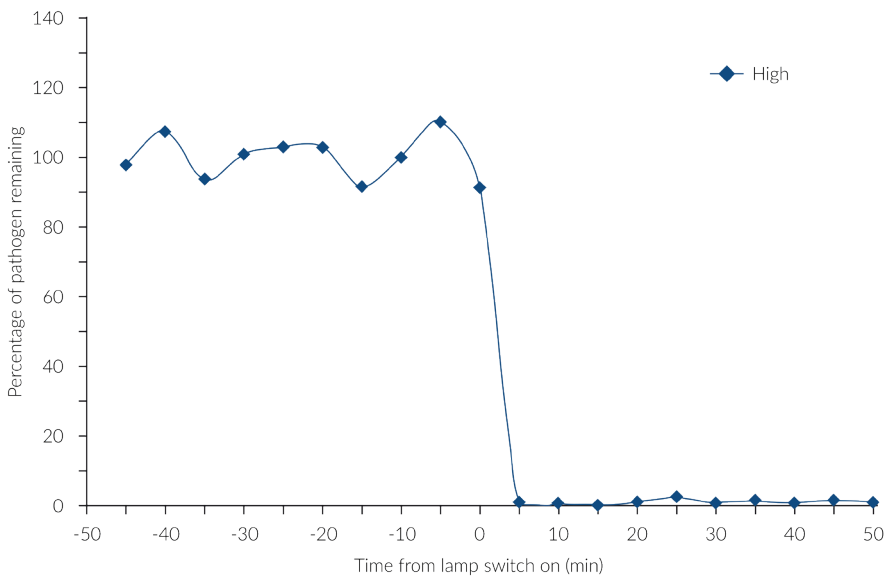
# Effect on indoor air quality

Cleanrooms are classified based on the size of particles and the number of particles per cubic meter of air. The ISO classification will vary depending on the use of the clean-room area. Cleanrooms often present different grade zones, starting from a lower level of cleanliness, ISO 8, found in changing rooms, until the ISO Class 5, found in the more sensitive manipulations, such as aseptic preparations.

Dust and aerosols in the air represent the second main source of cleanroom contamination. They move unpredictably, acting as carriers of viable or live particles, which have an extraordinary ability to reproduce under favorable environmental conditions. HEPA filters cannot remove particles smaller than 0.3 microns, and viruses can be as small as 0.02 microns.

Far-UVC light has been studied to provide 184 equivalent air changes (eACH), which makes it greatly effective against pathogen contamination in cleanroom areas, significantly reducing the microbial load in the air [1].

UV222 products from UV Medico have been designed for the decontamination of demanding environments, such as cleanroom changing areas and production lines.

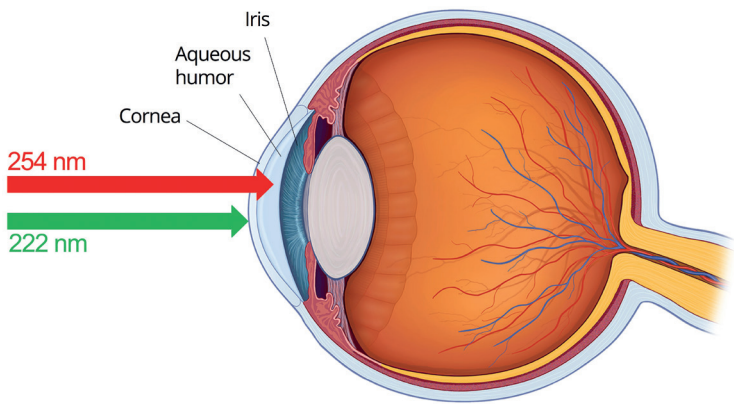


**Equivalent to 184 eACH**  
(478 mJ/cm² at 222 nm over 8 h for the skin)

# UV222 Safety

Ten minutes under the sun corresponds to four years of UV222 exposure [2].

It is well established that UV222 light is human safe because UV222 is greatly absorbed in proteins. This causes the light to be absorbed by the dead cells covering the outer layer of the skin, preventing the light from penetrating the skin [3, 4]. The light is also prevented from penetrating the eyes, as the light is absorbed by the outermost layer of the cornea that is covered by a protein-rich tear film [5]. Thus, UV222 can be used to continuously disinfect air and surfaces in occupied spaces. UV222 is recommended by The World Health Organization for preventing transmission of diseases.



## In compliance with

- International Standard:
- ISO 15858 UV-C Devices – Safety information – permissible human exposure.
  - IEC 62471 Photobiological safety of lamps and lamps systems.
  - IEC PAS 63313 ED1 Position statement on germicidal UV-C irradiation -UV-C safety guidelines (see GLA).
- International Guidelines:
- ACGIH® 2021 TLV (Threshold Limit Values) & BEI (Biological Exposure Indices)for chemical substances and physical agents.



# Solutions from cleanrooms and Far-UVC decontamination

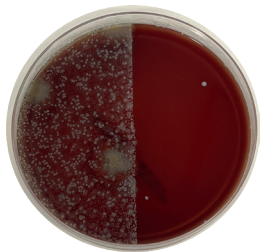
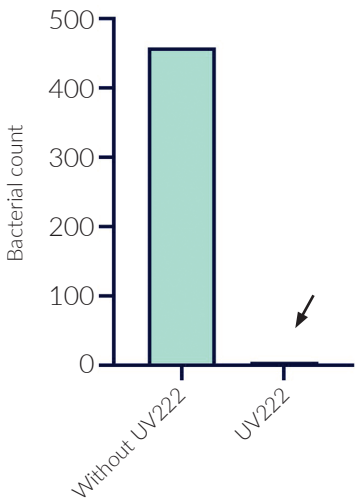
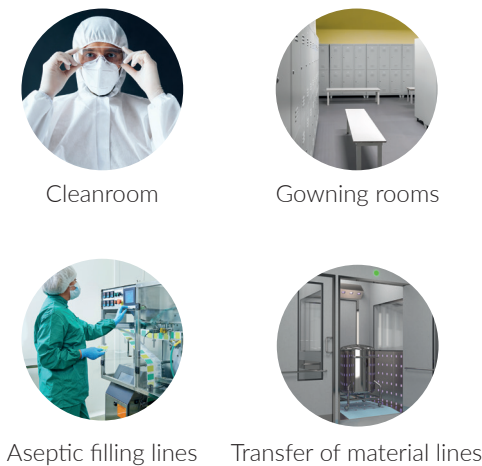
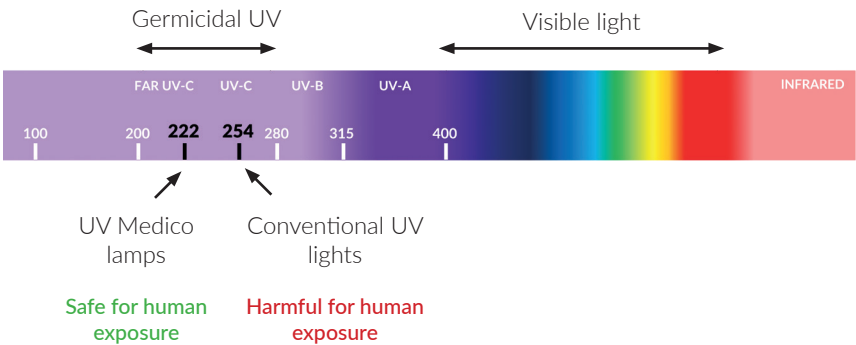
UV Medico is a high-tech Danish company focused on developing human-safe and effective Far-UVC light emitting devices. It is composed of a team of scientists, experts, and pioneers passionate about preventing the spread of infectious viruses, both existing and emerging, as well as bacteria, mold, spores, and even antibiotic-resistant super bacteria.

Pharmaceutical companies have very restrictive limits of microbial contamination. That is why bioburden needs to be kept under control. We know cleanroom deviations can decrease productivity and increase costs. Far-UVC provides a continuous decontamination of your high-grade classified areas, both in air and on surfaces.

## Far-UVC technology

Far-UVC technology has recently emerged as an effective strategy for microbial control. The Far-UVC light at 222 nm exhibits strong antimicrobial properties and inactivates viruses, bacteria, and fungi. In contrast to conventional UVC light at 254 nm, UV222 light also remains safe to humans as the light does not penetrate human skin nor eyes, because it is completely absorbed by the outer layer of the epidermis and the tear layer of the eye.

UV Medico develops Far-UVC solutions to create healthy environments that can be used in the presence of people for the continuous decontamination of occupied spaces.



# About UV Medico

UV Medico is a high-tech company and the global leader in the Far-UVC field.

We are a team of scientists, experts, and pioneers passionate about developing human-safe Far-UVC solutions to prevent the spread of infectious viruses, both existing and emerging, as well as bacteria, mold, spores, and even antibiotic-resistant super bacteria like MRSA.

At our Headquarters in Denmark, you will find our Research and Development department with some of the premier experts in the world in the fields of photonics, electronics, and microbiology.

We hold multiple ground-breaking patents and have pioneered cutting-edge decontamination solutions. Our UV222 products are trusted by some of the world's largest hospitals and pharmaceutical companies.

UV Medico's products are based on Care222 technology from Ushio Inc. in Japan.

We collaborate with international universities and hospitals, and with leading companies in the healthcare and pharmaceutical industries to provide safer environments.

We are already selling in more than 30 countries, and we are continuously growing.

*“At the core of UV Medico’s mission is the safety of our users and their environments. Our technologies are designed with human health as a priority, offering effective disinfection solutions that are safe for people, materials, and the environment.”*

# Connect with UV Medico

Are you interested in learning more about UV Medico or our products?

Scan the QR code to engage directly with our experts. Schedule a consultation to explore tailored, scientifically grounded strategies that address your unique Cleanroom challenges.

Contact us here:



Follow us on Social Media



## Other products



UV222 Downlight



UV222



UV222 - Industrial



UV222 Ambulance

UV222™ and its logo are registered trademarks of UV Medico A/S. All rights reserved. No part of this document may be copied or published by means of printing, photocopying, microfilm or otherwise without the prior written consent of the manufacturer.

The information given in this document has been collected for the general convenience of our customers. It has been based on data and research available to the public and is therefore subject at any time to change or amendment, and the right to change or amend is hereby expressly reserved.

The information in this document only serves as a guideline for the use of the UV222 Far-UVC lamps from UV Medico. The manufacturer cannot be held responsible for any damage resulting from the application of this document to any other product.

## Contact

UV Medico A/S  
Søren Frichs Vej 50  
8230 Åbyhøj  
Denmark  
P: +45 20 90 71 30  
E: [info@uvmedico.com](mailto:info@uvmedico.com)  
W: [uvmedico.com](http://uvmedico.com)

