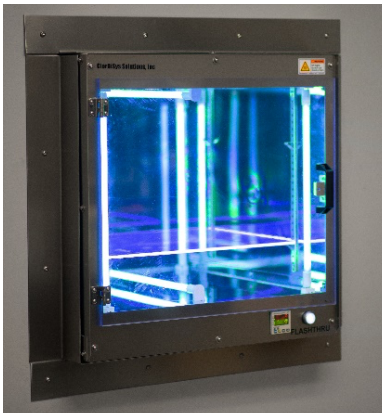
ClorDiSys

An Allentown company

Providing you with ultraviolet light solutions for your disinfection needs

Flash-Thru UV Disinfection Chamber



The Flash-Thru UV Disinfection Chamber is a simple disinfection pass-through system designed for use in any setting, but particularly caters to the needs of those in healthcare, pharmaceutical, laboratory, or research settings. Flash-Thru provides a swift and highly effective method to disinfect equipment, tablet computers, laptops, keyboards, phones, miscellaneous electronics, instruments, and components to reduce the transfer of organisms. Flash-Thru offers dual-door design to enable a way to disinfect components in between an ordinary room and a clean, disinfected room without any risk of cross-contamination. Items enter the Flash-Thru, remain in the chamber until exposure time has elapsed, and then the items are ready to be accessed inside the clean room from the chamber's door on that end. Items are now disinfected and can be appropriately used without risk of contaminating the facility. The Flash-Thru contains a quartz glass shelf which allows UV-C to penetrate through and disinfect the bottom surface of items. The Flash-Thru can be hardwired or simply plugged into any wall outlet. The disinfection chamber produces an efficient UV-C output of 60 mJ/cm^2 every minute to get a calculated 99.9% reduction of MRSA in 10-seconds and a 99% reduction of *Clostridium difficile* spores in 1-minute.

Specs

Usable Space for items: 14" H x 23" D x 18.5" W
Overall Dimensions: 25.75"H x 25"D x 24"W
Power: 115 VAC, 60 Hz, 3 Amps
Bulb Lifespan: 16,000 hours
UV-C Output:
60 mJ/cm^2 per minute (1000 µw/cm^2)

Efficacy

- The Flash-Thru contains 6 protected UV-C bulbs to provide increased disinfection coverage of items placed inside the chamber
- The Flash-Thru provides over 1000 µW/cm^2 of UV-C intensity. This intensity correlates to a 60 mJ/cm^2 UV-C dosage during a one minute exposure
- The Flash-Thru's UV-C output was validated using two independent UV-C Sensors, the Solar Light Company's PMA1122 Germicidal UVC Sensor and the General® UV512C Digital UVC Meter

Operation

- Easily operated
- No chemicals to store and handle
- Simple manual timer to set disinfection time
- The Flash-Thru has two transparent doors, allowing visual confirmation that the unit is working properl

Safety

- The door contains a safety switch which turns the unit off if the door is opened during an exposure
- The glass door blocks UV-C wavelengths from passing through, such that it is safe to look through the glass while the unit is running

Options

- An interlock system with magnetic door latches can be added as an option. This will not allow the "clean side" door to be opened unless a cycle is run. However, this will cause the overall dimensions to change

Disinfection Dosage Times

The chart below describes the required dosage time necessary to achieve a given log reduction of that particular organism, based on published data. Times are rounded up to the nearest half minute. The chart can be used to determine the necessary length of UV-C exposure time is needed to get the disinfection level desired.

Time Required (mJ/cm^2) to Achieve a Given Log Reduction[1,2]						
	1-Log (90%)	2-Log (99%)	3-Log (99.9%)	4-Log (99.99%)	5-Log (99.999%)	Reference
Spore						
Bacillus anthracis spores - Anthrax spores	.5 min	1 min				Light Sources Inc. 2014
Bacillus subtilis ATCC6633	.5 min	1 min	1 min	1.5 min		Mamane-Gravetz and Linden 2004
Clostridium difficile spores	3 min	5.5 min				Antimicrobial Test Laboratories 2015
Bacterium						
Bacillus anthracis - Anthrax	.5 min	.5 min				Light Sources Inc. 2014
Campylobacter jejuni ATCC 43429	.5 min	.5 min	.5 min	.5 min	.5 min	Wilson et al. 1992
Clostridium tetani	.5 min	1 min				Light Sources Inc. 2014
Corynebacterium diphtheriae	.5 min	.5 min				Light Sources Inc. 2014
Escherichia coli	.5 min	.5 min				Light Sources Inc. 2014
Escherichia coli O157:H7	.5 min	.5 min	.5 min	.5 min		Tosa and Hirata 1999
Klebsiella pneumoniae	.5 min	.5 min	.5 min	.5 min		Giese and Darby 2000
Legionella pneumophila	.5 min	.5 min	.5 min	.5 min	.5 min	Oguma et al. 2004
Mycobacterium tuberculosis	.5 min	.5 min				Light Sources Inc. 2014
Pseudomonas aeruginosa	.5 min	.5 min				Light Sources Inc. 2014
Salmonella enteritidis	.5 min	.5 min	.5 min	.5 min		Tosa and Hirata 1998
Salmonella typhosa - Typhoid fever	.5 min	.5 min				Light Sources Inc. 2014
Shigella dyseteriae - Dysentery	.5 min	.5 min				Light Sources Inc. 2014
Staphylococcus aureus ATCC25923	.5 min	.5 min	.5 min	.5 min		Chang et al. 1985
Vibrio comma - Cholera	.5 min	.5 min				Light Sources Inc. 2014
Molds						
Aspergillius flavus	1 min	2 min				Light Sources Inc. 2014
Aspergillius niger	2.5 min	5.5 min				Light Sources Inc. 2014
Mucor racemosus A & B	.5 min	1 min				Light Sources Inc. 2014
Viruses						
Adenovirus type 15	1 min	1.5 min	2.5 min	3 min	3.5 min	Thompson et al. 2003
Adenovirus type 2	.5 min	1 min	1.5 min	2 min		Shin et al. 2005
Bacteriopfage - E. Coli	.5 min	.5 min				Light Sources Inc. 2014
Calicivirus canine	.5 min	.5 min	.5 min	.5 min	1 min	Husman et al. 2004
Calicivirus feline	.5 min	.5 min	.5 min	.5 min	1 min	Husman et al. 2004
Coxsackievirus B3	.5 min	.5 min	.5 min	1 min		Gerba et al. 2002
Hepatitis A	.5 min	.5 min	.5 min	.5 min		Wiedenmann et al. 1993
Hepatitis A HM175	.5 min	.5 min	.5 min	.5 min		Wilson et al. 1992
Influenza	.5 min	.5 min				Light Sources Inc. 2014
Norovirus	.5 min	.5 min	.5 min			Lee et al. 2008
Poliovirus 1	.5 min	1 min	1 min	1.5 min		Gerba et al. 2002

1. **Disinfection times are rounded up to the nearest 30 seconds**
2. **Not to be used in a hospital setting for internal medical devices for humans**