

ClorDiSys

"Infection Prevention from A to UV"

Providing you with UV solutions for your disinfection needs

FLASHBOX-mini

Description:

The small FLASHBOX-mini UV Disinfection Chamber is an easily transportable, small chamber designed for use in any healthcare, pharmaceutical, manufacturing, laboratory, or research setting. It is used to provide a rapid and highly effective method to disinfect tablet computers, phones, remote controls, miscellaneous electronics, instruments, and components to reduce the transfer of dangerous organisms. It also offers a way to disinfect components without removing them from the room, which helps minimize the chance for cross-contamination.

The FLASHBOX-mini contains 1 shelf to support the item(s) being disinfected. It simply plugs into any wall outlet. The disinfection chamber produces an efficient UVC output of approximately $500 \mu\text{W}/\text{cm}^2$ to get a calculated 99.99% reduction of MRSA in 1 minute and a 99% *Clostridium difficile* spores in 2 minutes.

Features:

Efficacy:

- The FLASHBOX-mini contains 2 protected UV-C bulbs, one on the top and one on the bottom, to provide increased disinfection coverage of items placed inside the chamber.
- At the furthest point from the bulbs, the FLASHBOX-mini provides over $500 \mu\text{W}/\text{cm}^2$ of UV-C intensity. This intensity correlates to a $30 \text{ mJ}/\text{cm}^2$ UV-C dosage during a one minute exposure.
- The FLASHBOX-mini'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 UVCMeter.

Operation:

- Easily operated with minimal training.
- No chemicals to store and handle.
- Simple manual timer to set disinfection time.
- The FLASHBOX-mini has a semi-transparent door, allowing visual confirmation that the unit is working properly.

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.



Specs:

Usable Space for items: 3.25"H x 8.5"D x 9.7"W
Overall Dimensions: 8.25"H x 11"D x 14.5"W
Power: 115 VAC, 60 Hz, 2 Amps

UV-C Output: $30 \text{ mJ}/\text{cm}^2$ per minute ($500 \mu\text{W}/\text{cm}^2$) at a 3" distance.



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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	1 min	2 min				Light Sources Inc. 2014
Bacillus subtilis ATCC6633	1 min	1.5 min	2 min	3 min		Mamane-Gravetz and Linden 2004
Clostridium difficile spores			2 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	1 min	1 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 dysenteriae - 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						
Aspergillus flavus	2 min	3.5 min				Light Sources Inc. 2014
Aspergillus niger	4.5 min	11 min				Light Sources Inc. 2014
Mucor racemosus A & B	1 min	1.5 min				Light Sources Inc. 2014
Viruses						
Adenovirus type 15	1.5 min	3 min	4.5 min	5.5 min	7 min	Thompson et al. 2003
Adenovirus type 2	1 min	1.5 min	3 min	4 min		Shin et al. 2005
Bacteriophage - E. Coli	.5 min	.5 min				Light Sources Inc. 2014
Calicivirus canine	.5 min	.5 min	1 min	1 min	1.5 min	Husman et al. 2004
Calicivirus feline	.5 min	1 min	1 min			Husman et al. 2004
Coxsackievirus B5	.5 min	1 min	1 min	1.5 min		Gerba et al. 2002
Hepatitis A	.5 min	.5 min	.5 min	1 min		Wiedenmann et al. 1993
Hepatitis A HM175	.5 min	.5 min	1 min	1 min		Wilson et al. 1992
Influenza	.5 min	.5 min				Light Sources Inc. 2014
Norovirus			1 min			Lee et al. 2008
Poliovirus 1	.5 min	1 min	1 min	1.5 min		Gerba et al. 2002
Staphylococcus aureus phage A 994	.5 min	1 min	1 min	1.5 min	2 min	Sommer et al. 1989

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



How to Operate the FLASHBOX-mini:

1. Open Door
2. Insert Item
3. Close Door
4. Turn timer clockwise until you reach your desired time (typically 1 minute)
5. Wait until timer chimes
6. Remove items from FLASHBOX-mini

