

# CD ClorDiSys

"Infection Prevention from A to UV"

Providing you with UV solutions for your disinfection needs

## Flashbox

### Description:

The Flashbox UV Disinfection Chamber is an easy-to-use disinfection 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, laptops, keyboards, phones, 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 contains 1 shelf to support the item(s) being disinfected and plugs into any wall outlet. The disinfection chamber produces an efficient UVC output of 60 mJ/cm<sup>2</sup> every minute to get a calculated 99.9% reduction of MRSA in 10 seconds and a 99% reduction of *Clostridium difficile* spores in 5 minutes.

### Features:

#### Efficacy:

- The Flashbox contains 6 protected UV-C bulbs to provide increased disinfection coverage of items placed inside the chamber.
- The Flashbox provides over 1000 μW/cm<sup>2</sup> of UV-C intensity. This intensity correlates to a 60 mJ/cm<sup>2</sup> UV-C dosage during a one minute exposure.
- The Flashbox'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 has a 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: 14"H x 17.5"D x 17.5"W  
Overall Dimensions: 23.5"H x 22.25"D x 22.5"W  
Power: 115 VAC, 60 Hz, 3 Amps

UV-C Output: 60 mJ/cm<sup>2</sup> per minute (1000 μW/cm<sup>2</sup>)



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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 <sup>2</sup> ) to Achieve a Given Log Reduction <sup>1,2</sup>						
	1-Log (90%)	2-Log (99%)	3-Log (99.9%)	4-Log (99.99%)	5-Log (99.999%)	Reference
<b>Spore</b>						
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
<b>Bacterium</b>						
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 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
<b>Molds</b>						
Aspergillus flavus	1 min	2 min				Light Sources Inc. 2014
Aspergillus niger	2.5 min	5.5 min				Light Sources Inc. 2014
Mucor racemosus A & B	.5 min	1 min				Light Sources Inc. 2014
<b>Viruses</b>						
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
Bacteriophage - 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 medical devices for humans



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