

AAW Handheld Germicidal Ultraviolet Wand

The Handheld UVC Wand is a portable direct germicidal UV system for surface disinfection. It can help control the growth of germs such as viruses, bacteria, mold and mold spores and reduce spreading of infections.



This UV-C wand is designed for applications where a permanent UVC installation is not desired or needed. The UV system can help reduce or eliminate microbial contamination in spaces that do not need constant exposure to UVC light. Common environments include laboratories, hospitals and food plants. The High Output UV lamp emits high intensity UV so the system should be positioned in a way to avoid exposing people to direct or reflected UV light.

Each Handheld UV disinfection system features:

- On/off switch
- Safety glasses
- Tool-free lamp change
- 14" shatterproof UV lamp
- 6' three-prong power cord
- Oversized handle
- Spectrally polished reflector
- 120-277V, 50/60Hz
- One year prorated warranty on the UV lamp
- Five-year, non-prorated warranty on the chassis

AAW Handheld Specs

Lamp #	SBL350T
Lamp Life	17,000 hours
Lamp Intensity at 6"	>735µW/cm ²
UV Dose /1 min at 6"	>44,000µW-sec/cm ²
Size	18"L x 5"W x 6.25"H
Weight	5lbs

Refer to the attached UV dose sheet. Divide the desired UV dose by the lamp intensity to calculate the exposure time in seconds. Note: the UV intensity is higher if you place the unit closer to the surface. At 2" the intensity will be 2.5 times higher. Example: UV dose of 6,600µWs/cm² is needed for 99% inactivation of e. coli. $6,600 / 735 = 8.9$ sec.

The UV lamp must be replaced before the end of effective lamp life. Lamps will continue to operate after that but 254nm UV is not emitted. Always unplug the power cord before replacing the lamp. When installing the UV lamp or relamping use cotton gloves or make sure not to touch the lamp. Fingerprints on the glass portion of the germicidal UV lamp will reduce the ultraviolet output.

Benefits of the handheld germicidal UV wand:

- Improves the indoor environment by reducing surface and airborne bacteria, viruses, mold and spores
- Reduces the risk of transmission of cold, flu, TB and other illnesses
- Reduces the irradiation time by using a high output UV lamp and spectrally polished reflector
- Produces no ozone or any other secondary contaminants

Handheld UVC Wand Price

Model	Description	List Price
AAW Handheld	Direct handheld germicidal UV system with a shatterproof High Output UV lamp, reflector, on/off switch and ergonomic handle	\$799
	Replacement Parts	
SBL350T	High output germicidal UV lamp with shatterproof coating	\$115



Germicidal UV Irradiation Dose Table

Many variables (air flow, humidity, exposure time) take place in a real world environment that make actual calculating very difficult. It is proven that UV light will kill any microorganism given enough dosage. UV works on a cumulative basis. Therefore, as air circulates through the ductwork of an HVAC system the UV light continuously cleanses the air. If a microorganism is not deactivated on the first pass, the UV light will continue to break its DNA down on subsequent passes. Microorganisms do not sit in a static environment in HVAC systems except on coils which can be exposed to UV lights.

Tests conducted by Light Sources, Inc and verified by American Ultraviolet Company revealed the American-Lights® 36W high output UV lamp produces 800µW/cm² @ 1' with 534FPM air flow @ 55° F. To compute time needed to sterilize microorganisms in the following chart at 1 foot distance, simply divide the dosage required by 800. **Example:** for 90% kill factor of Bacillus subtilis spores: 11,600 divided by 800 = 14.5 seconds.

The following are incident energies of germicidal ultraviolet radiation at 253.7 nanometers necessary for 1 log (90%) reduction and for 2 log reduction (99%) of microorganisms:

Organisms:	UV dose in µWs/cm² needed for kill factor:		Organisms:	UV dose in µWs/cm² needed for kill factor:	
	90%	99%		90%	99%
Bacteria			Streptococcus viridans	2,000	3,800
Bacillus anthracis - Anthrax	4,520	8,700	Vibrio comma - Cholera	3,375	6,500
Bacillus anthracis Anthrax spores	24,320	46,200			
Bacillus magaterium sp. (spores)	2,730	5,200	Molds	90%	99%
Bacillus magaterium sp. (veg.)	1,300	2,500	Aspergillus flavus	60,000	99,000
Bacillus paratyphus	3,200	6,100	Aspergillus glaucus	44,000	88,000
Bacillus subtilis spores	11,600	22,000	Aspergillus niger	132,000	330,000
Bacillus subtilis	5,800	11,000	Mucor racemosus A	17,000	35,200
Clostridium tetani	13,000	22,000	Mucor racemosus B	17,000	35,200
Corynebacterium diphtheriae	3,370	6,510	Oospora lactis	5,000	11,000
Ebertelia typhosa	2,140	4,100	Penicillium expansum	13,000	22,000
Escherichia coli	3,000	6,600	Penicillium roqueforti	13,000	26,400
Leptospira canicola - infectious Jaundice	3,150	6,000	Penicillium digitatum	44,000	88,000
Micrococcus candidus	6,050	12,300	Rhizopus nigricans	111,000	220,000
Micrococcus sphaeroides	7,000	15,400			
Mycobacterium tuberculosis	6,200	10,000	Protozoa	90%	99%
Neisseria catarrhalis	4,400	8,500	Chlorella Vulgaris	13,000	22,000
Phytomonas tumefaciens	4,400	8,000	Nematode Eggs	4,000	92,000
Proteus vulgaris	3,000	6,600	Paramecium	11,000	20,000
Pseudomonas aeruginosa	5,500	10,500			
Pseudomonas fluorescens	3,500	6,600	Virus	90%	99%
Salmonella enteritidis	4,000	7,600	Bacteriophage - E. Coli	2,600	6,600
Salmonella paratyphi - Enteric fever	3,200	6,100	Infectious Hepatitis	5,800	8,000
Salmonella typhosa - Typhoid fever	2,150	4,100	Influenza	3,400	6,600
Salmonella typhimurium	8,000	15,200	Poliovirus-Poliomyelitis	3,150	6,600
Sarcina lutea	19,700	26,400	Tobacco mosaic	240,000	440,000
Serratia marcescens	2,420	6,160			
Shigella dysenteriae – Dysentery	2,200	4,200	Yeast	90%	99%
Shigella flexneri – Dysentery	1,700	3,400	Brewers yeast	3,300	6,600
Shigella paradysenteriae	1,680	3,400	Common yeast cake	6,000	13,200
Spirillum rubrum	4,400	6,160	Saccharomyces carevisiae	6,000	13,200
Staphylococcus albus	1,840	5,720	Saccharomyces ellipsoideus	6,000	13,200
Staphylococcus aerius	2,600	6,600	Saccharomyces spores	8,000	17,600
Staphylococcus hemolyticus	2,160	5,500			
Staphylococcus lactis	6,150	8,800			