



American Ultraviolet®

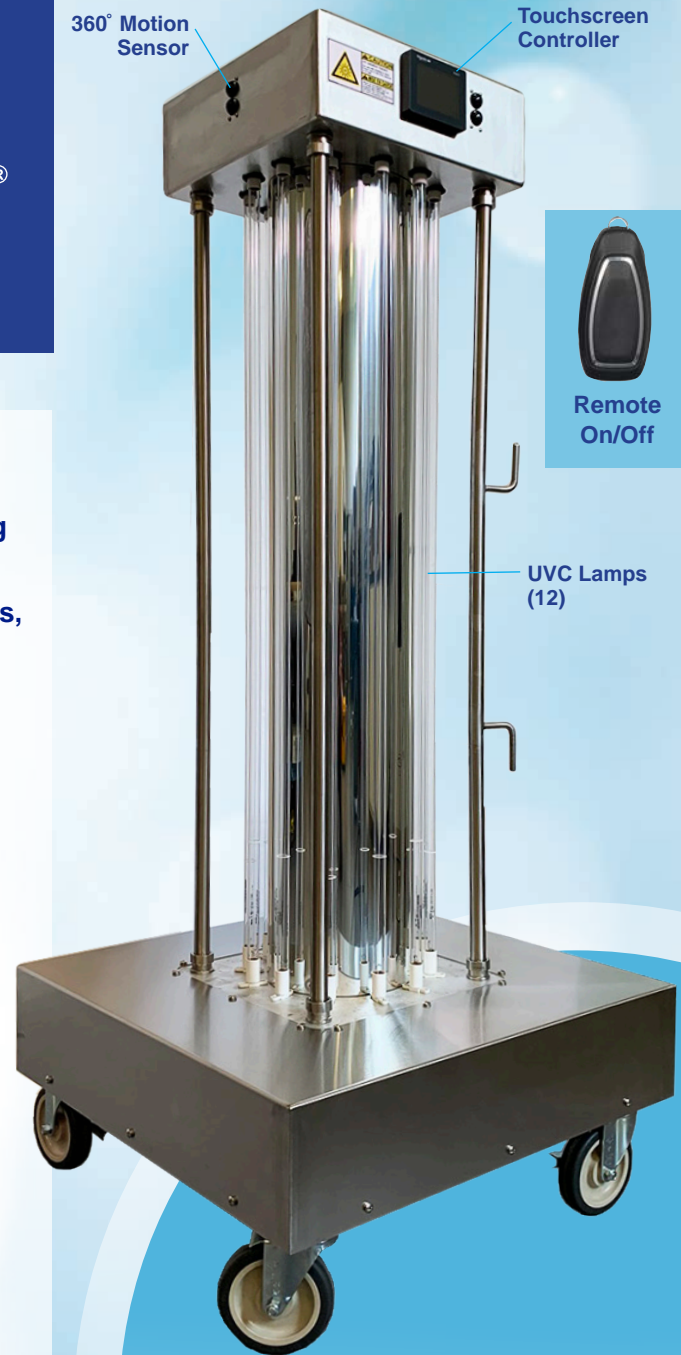
Insightful Solutions. Remarkable Results. Since 1960.

The MRS45-12 mobile UVC device is ideal when fast UVC disinfection times are needed, including in patient care environments, operating suites, nursing homes, emergency shelters, gymnasiums, manufacturing facilities, and prison / jail cells.

UVC energy has been shown to reduce pathogens by 99.9%.¹ An estimated 3-log (99.9%) pathogen reduction at 10 feet distance to an object can be estimated utilizing energy values compared against UVC output. Coronavirus (SARS) in less than 1 minute; MRSA in less than 5 minutes; *C. diff.* in less than 8 minutes.¹

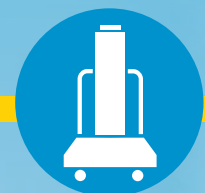
FEATURES

- 304 stainless steel construction
- Twelve (12) 45" slimline UVC lamps
- Polished reflector for maximum intensity
- Motion and IR sensors for 360° automatic shut off
- Remote On/Off
- Touchscreen controller with preset and manual disinfection cycles
- Large, high-quality locking casters
- 120/220 Volt, 50/60 Hertz
- Formed stainless tube structure protects lamps and improves ability to handle and transport the device



MRS45-12

12-Lamp Mobile Room Solution



UVC Germicidal Solutions



MRS45-12

12-Lamp Mobile Room Solution

Each pathogen has a specific k-value, which simply means that a specific amount of UVC dose (UVC Dose = UVC intensity x time) will break the DNA / RNA bonds of the DNA / RNA chain when a certain amount of UVC dose is applied. The pathogen will no longer be able to replicate², and is no longer capable of causing disease.

Example: Using the American Ultraviolet Pathogen Inactivation Chart¹ for Coronavirus at 99.9% (3-log reduction) and the table on this page, which shows UVC dose (mJ/cm²) values, the following can be estimated:

Coronavirus (SARS): UVC dose 5.00 mJ/cm²

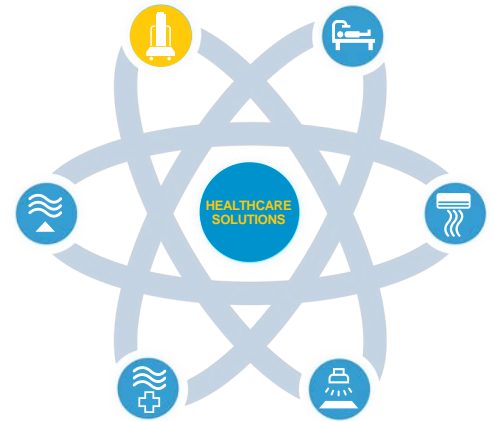
5.00 mJ/cm² is the estimated UVC dose for a 3-log coronavirus reduction and referring to the dosage table and rounding this value the following can be estimated: MRS45-12 at 10 feet distance takes less than 1 minute to inactivate coronavirus to 99.9%. If the object being disinfected is closer to the MRS45-12 it would require a lower run time.

Additional examples are MRSA (estimated UVC dosage 25 mJ/cm² for a 2 to 3-log reduction, 50 mJ/cm² for 3+log reduction) or *C. diff.* (estimated UVC dosage 50 mJ/cm² for 2 to 3 log and 100 mJ/cm² for 3+ log reduction)¹. Looking at the table for a dose value near 25, 50 or 100 at various distances allows to estimate the run time for these two pathogens.

APPROXIMATE UVC DOSE (mJ/cm²) AT VARIOUS DISTANCES

1 mJ/cm² = 1000 μW-s/cm²

Time (minutes)	24"(0.6m)	36"(0.9m)	60"(1.5m)	120"(3m)
5	1285	670	250	60
10	2570	1340	500	120
15	3866	2024	749	190
30	7732	4048	1499	381
45	11598	6072	2249	572
60	15464	8097	2999	763



One size mobile UVC device does not fit all environments and budgets. We offer solutions that fit.

COMPARISON OF MOBILE UVC DEVICES

	ARTZ 2.0®	MRS45-12	MRS33-8	MRS14-4
Lamp Qty	24	12	8	4
Lamp Size	45"	45"	33"	14"
Controller	Any WiFi Enabled Device	Onboard Touchscreen w/ Remote ON/OFF	Onboard Touchscreen w/ Remote ON/OFF	Digital Controller w/ Remote ON/OFF
Data Logging	Yes	No	No	No
360° Motion & IR Sensors	Yes	Yes	Yes	Yes
Weight	130 lbs (59kg)	95 lbs (43kg)	80 lbs (36kg)	20 lbs (9kg)
Dimensions	67"H x 28"W x 31"D	67"H x 26"W x 26"D	47"H x 20"W x 20"D	25"H x 10"W x 10"D
Amperage Draw at 120V	15A	8A	4A	1A
Power Cord	Retractable 20'	15'	15'	8'
Replacement Lamps	GML 515	GML 515	GML 100	GML 600A

¹ Based on current literature such as Ultraviolet Germicidal Irradiation Handbook 2009 by Kowalski; Boston University and Signify study on Covid19 Jun 2020; IUVA Guidance Documents

² ASHRAE Applications Handbook Ch 62 UVC for Air and Surface Disinfection

All American Ultraviolet mobile devices are designed to provide UVC energy. No warranty is offered, or responsibility taken, by American Ultraviolet, in regards to the process or efficacy of the device, as American Ultraviolet has no control over the use of the device. American Ultraviolet makes no claims to the actual log reduction of pathogens, as it can greatly vary depending on environment. UVC is an adjunct cleaning method, and dirt, dust, and debris should be removed from surfaces before UVC treatment.

Prolonged, direct exposure to UVC light can cause temporary skin redness and eye irritation, but does not cause skin cancer or cataracts. American Ultraviolet devices are designed with safety in mind and, when used in accordance with the Operation and Maintenance Manual, do not allow exposure to UVC irradiation, and do allow for safe operation and maintenance.



American Ultraviolet®

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