Ultravation®

BIOGARDUV™

Upper Level Convection Germicidal UV Room Air Purifier

Commercial and Institutional Applications

made in VT USA

Safe and effective ultraviolet air disinfection for occupied spaces

Ultravation® BioGardUV™ germicidal ultraviolet air disinfection destroys airborne pathogens by exposing the upper regions of the room to germicidal UV light. Since air naturally circulates in a room due to convection, air that is warmed in the lower part of a room (from respiration and other sources) continually rises where it will be exposed to UV light, which kills airborne bacteria and viruses in seconds. Since the UV light field is restricted to areas above seven feet, the room is safe for occupancy while the air is continuously disinfected.

BioGardUV™ is completely quiet and is energy efficient, using no more power than a fluorescent lamp and uses no fans or blower.

Two wall-mount models are available plus a ceiling mount model that installs flush-to-ceiling or with optional pendents. The ceiling mount model creates two disinfection zones, front and rear.

Contact Ultravation for information and advice on the number of units required based on room size, and for placement suggestions.

Important: The 7-foot minimum installation height requirement must be observed to assure the safety of the occupants.

Three Models:

FS-22 wall mount 23 7/16" wide

FS-33 wall mount 35 1/8" wide

FS-233-CR front-rear bi-directional ceiling mount 35 1/8" wide

Member:

EPA establishment number: 074725-VT-001

Ultravation®

Better Air | Better Water | Better Living™

ultravation.com

Features:

- Focused 254nm germicidal UV wavelength
- 9,000 hour UV lamp life
- Silent operation
- Energy efficient
- Aluminum construction
- Powder coat finish
- Safety interlock switch
- Hinged access door
- No tools required for UV lamp changes

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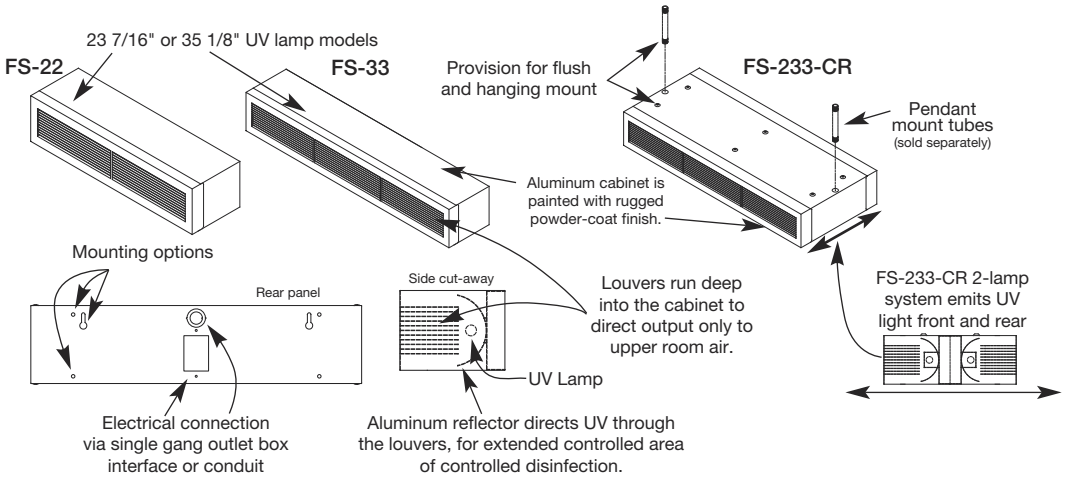
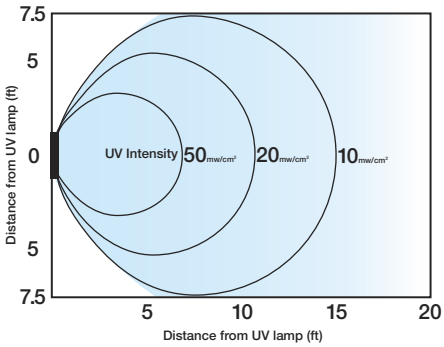
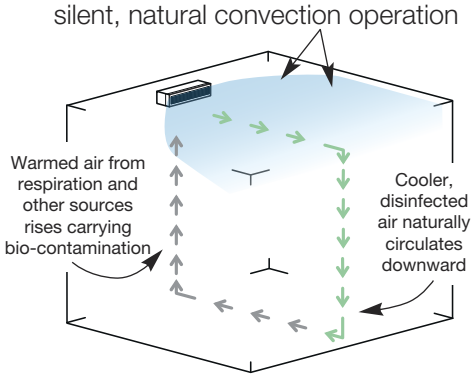


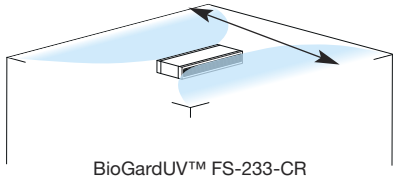
BioGard™ FS-22
upper air irradiance
15 x 20 ft room



BioGard™
silent, natural convection operation



BioGard™
Coverage for large spaces



BioGardUV™ FS-233-CR ceiling mount UV system creates disinfection zones front and rear

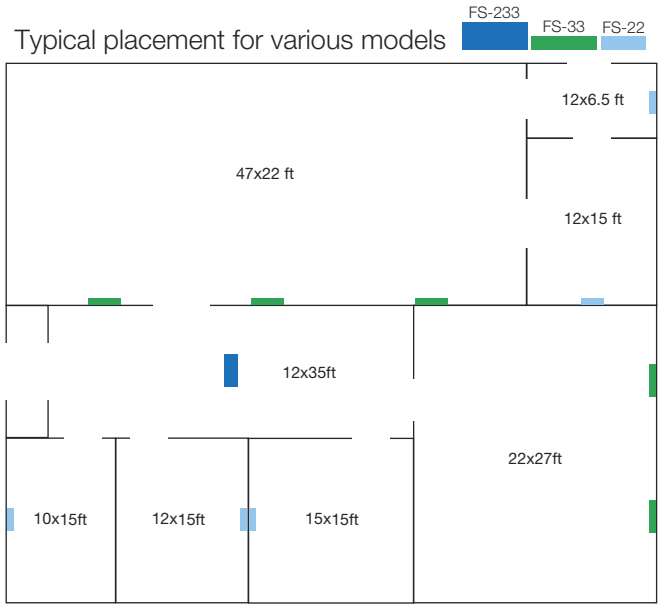
Specifications

Model	Coverage sq. ft.	Total UV-C output	UV lamp wavelength	UV lamp life	Power consumption	Width	Height	Depth
BioGardUV™ FS-22	225 (15'x15')	10w	254nm	9,000 hrs	25VA	23 7/16"	5 1/2"	7 1/4"
						59.53cm	13.97cm	18.42cm
BioGardUV™ FS-33	350 (16'x22')	16w	254nm	9,000 hrs	36VA	35 1/8"	5 1/2"	7 1/4"
						89.22cm	13.97cm	18.42cm
BioGardUV™ FS-233-CR	750 (16'x44')	32w	254nm	9,000 hrs	72VA	35 1/8"	5 1/2"	15 1/16"
						89.22cm	13.97cm	38.26cm

Power: All models auto-sensing 120-277 VAC, 50/60 hz.

Important: When installed, bottom of fixture must be at least 7 feet above the floor.

Typical placement for various models



made in VT USA

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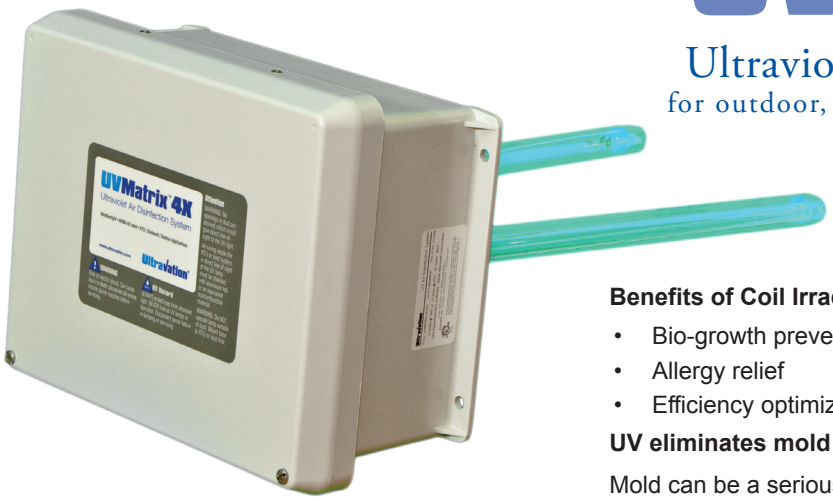
UVMatrix™ 4X

Ultraviolet Air Disinfection Equipment

for outdoor, RTU and other HVAC system applications

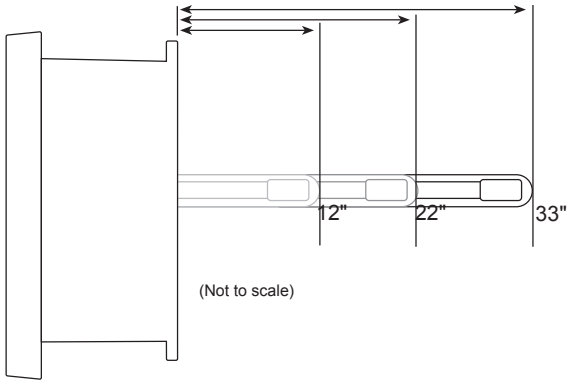
Product information



UVMatrix™ 4X-Series

Single or dual lamp configurations and
3 lamp lengths available

Model Number	No of Lamps	Lamp Length
UVMatrix™ 4X-112	1	12"
UVMatrix™ 4X-122	1	22"
UVMatrix™ 4X-133	1	33"
UVMatrix™ 4X-212	2	12"
UVMatrix™ 4X-222	2	22"
UVMatrix™ 4X-233	2	33"



Available from:

Air Duct Mounted Accessory Classified by Underwriters Laboratories Inc. with Respect to Electrical Shock, Fire and Casualty Hazards Only

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DC-OH-0008

Benefits of Coil Irradiation

- Bio-growth prevention
- Allergy relief
- Efficiency optimization
- Elimination of coil cleaning as result of bio-contamination
- Airstream disinfection

UV eliminates mold on AC coils

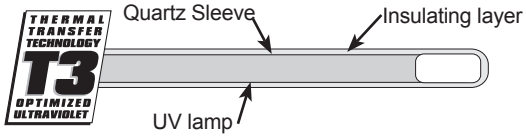
Mold can be a serious problem for allergy sufferers, and a drain on HVAC efficiency and even cause property damage. Ultravation UVMatrix™ 4X UV systems are specially designed to install in outdoor HVAC air handlers. Their design reflects Ultravation's in-depth knowledge of ultraviolet light—and how it is optimized for HVAC coil disinfection.

UVMatrix™ 4X: Compact, NEMA 4X rated electrical cabinet

The 4X-Series is a compact, lightweight and easy-to-install design with no installation hardware to buy. The cabinets are fiberglass and weathertight for outdoor use.

T3™ Enhanced UV Lamps

The UVMatrix™ 4X-Series comes with one or two 12", 22" or 33" Philips UV lamps that are enhanced with the Ultravation T3™ thermal optimization system, allowing much higher UV lamp output in cold HVAC air conditions. This design maximizes coil exposure, for more complete reduction or elimination of mold, and maximizes residual airstream disinfection. T3™ design allows lamps to be changed without removing or replacing the quartz glass thermal shield.



T3™ Optimized Ultraviolet

ESP™ Electronic-Smart Power

The Ultravation ESP™ power supply is auto-voltage sensing and operates at frequencies far exceeding a standard magnetic ballast. Its exceptional stability of voltage and current flow maximizes lamp output and lamp life. In a lamp-out situation, it automatically protects itself from an un-loaded condition. ESP™ simplifies installation still further, because with a single connection—regardless of voltage—the system automatically adjusts to voltages ranging from 120 to 277 VAC 50/60Hz with no step-down transformers or switches.

Additional features…

- Low power consumption
- Ultravation 360° UV dispersion means that a higher percentage of microbes will be eliminated in a single pass through the ultraviolet light.
- Safety Interlock System
- Dry contacts provided for use with optional remote lamp monitoring devices
- Lamp life expectancy 18,000 hrs (approx 24 months)
- 10 year UV system warranty Covers entire unit except lamp(s).
- One year UV lamp warranty

Ultravation®

Professional Indoor Air Quality Products

UVMatrix™ 4X

Ultraviolet Air Disinfection Equipment

for outdoor, RTU and other HVAC system applications

Specification Sheet

1. Scope of Supply

The outdoor rated UV equipment shall consist of a NEMA 4X fiberglass enclosure, UVC Lamp(s), quartz sleeve assembly, and an electronic power supply.

A. Power Supply Housing

i. The power supply housing shall be NEMA 4X rated.
ii. The power supply housing shall be lightweight and constructed of fiberglass.
iii. All electrical connections shall be housed inside the power supply housing.

B. UVC Lamps

i. One or two UVC Lamp(s) and a protective quartz sleeve assembly shall be utilized in cold air conditions to provide maximum thermal optimization of the germicidal UVC Lamps
ii. The quartz sleeve assembly, when screwed into the back panel inside the power supply housing, shall have no wires or electrical connections exposed to the UV radiation, or the air handler internal environment.
iii. The UVC Lamps shall be Slimline type, T5 diameter, 2G11 type base, and will produce broadband UVC of 250-260nm.
iv. The UVC Lamps shall produce 85% of the initial UVC output at end of lamp life (9000 hours), or 70% of initial UVC output at extended life (18,000 hours).

C. Electronic Power Supply

i. Electronic power supplies shall operate on universal voltages from 120VAC to 277VAC at either 50 or 60Hz.
ii. Electronic power supplies shall have a power factor of greater than 96%.
iii. Maximum power consumption shall be no more than 0.50A @ 120V.

2. Installation:

A. Determine a suitable location to install unit. Air handler or Ductwork should be of sufficient strength as to support the unit; otherwise reinforcement of the mounting location may be necessary.
B. Mark hole location and using a 11/4" hole saw, cut 1 or 2 hole(s).
C. Lift UVC equipment into place against air handler or ductwork. Fasten unit in place with self- tapping screws or standard hardware.
D. Install the quartz assembly by inserting it into unit and screwing into back panel until hand tight against enclosure. Slide lamp into quartz assembly. Push socket onto lamp base.
E. Make electrical connections. THIS SHOULD BE DONE IN ACCORDANCE WITH ALL STATE AND LOCAL ELECTRICAL AND BUILDING CODES.
F. Turn on unit and inspect operation.

3. Optional Equipment:

A. UVC lamp monitor – Provided with dry contacts to indicate lamp operation status.
B. UVC intensity monitor – 0-100% meter, measuring 254nm UVC, includes dry contacts that switch state when adjustable set point is reached.

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