

UVMatrix™ SI

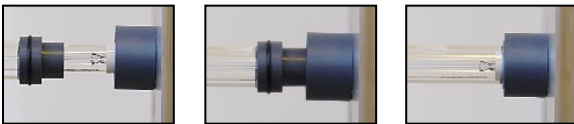
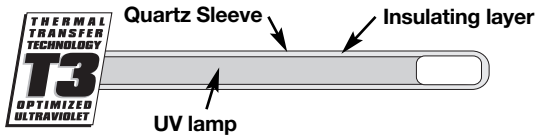
Coil Irradiation Equipment

for Commercial HVAC Systems

Specification Sheet



Ultravation™
UVMatrix™-SI Series™
for HVAC coil irradiation



Ultravation **T3™** lamps are very easy to replace (18,000 hour (approx 24 month) replacement schedule recommended). Lamps easily remove from unit with no system disassembly is needed.

Patent pending

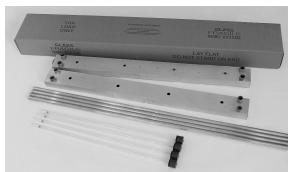
Available from:



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

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Units are shipped in compact packaging, and are easy to assemble and install.



Benefits of Coil Irradiation

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

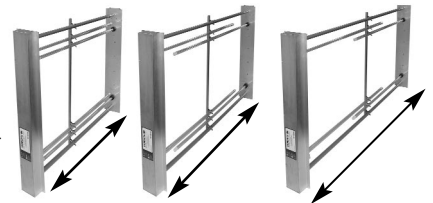
UV eliminates mold on AC coils

Mold can be a serious problem for allergy sufferers—and a drain on HVAC efficiency. Ultravation UVMatrix™ SI systems for commercial and industrial HVAC, deliver the highest level of performance and safety in UV air disinfection. Their design reflects Ultravation's in-depth knowledge of ultraviolet light—and how it is optimized for HVAC coil disinfection.

UVMatrix SI—Unprecedented installation flexibility

The SI-Series is a complete, flexible, modular and easy-to-install design with no extra frames or hardware to buy.

They feature an innovative horizontal expansion ability (patent pending) that makes them easily adjust to variations in HVAC physical installation characteristics—with no compromise in UV irradiation. In fact, the SI-Series design



is such that it maximizes airstream disinfection exposure time, as the lamps are suspended in the air with 360° UV dispersion.

T3™ Enhanced UV Lamps

Ultravation T3™ thermally optimized germicidal UV lamps are standard, allowing much higher UV lamp output in cold air conditions. Lamps are easily changed with no quartz replacement required.

ESP™ Electronic-Smart Power

UVMatrix-SI systems utilize discrete ESP™ electronic auto-voltage sensing power supplies with no more than two lamps per power supply module—eliminating the possibility of complete loss of disinfection due to UV system trouble. An optional set of remote alarm contacts will help protect against an extended lamp out condition. ESP™ optimizes lamp performance because it 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.

Auto-voltage sensing

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
- Lamp life expectancy 18,000 hrs (approx 24 months)
- 3 year UV system warranty
Covers entire unit except lamp(s).
- One year UV lamp warranty
- T3 enhanced lamp systems for large air handlers utilize **Philips** premium UV lamps—the world's lowest mercury content lamp.

Ultravation™
Ultraviolet Technology

UVMatrix™ SI

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Specification Sheet

1. Scope of Supply

The surface irradiation equipment shall consist of durable, adjustable sliding racks, UVC Lamps encapsulated within a protective quartz sleeve assembly, electronic power supplies, and aluminum power supply housings.

A. Adjustable Sliding Rack

- i. To optimize installation, the surface irradiation equipment shall be assembled as an adjustable sliding rack.
- ii. Adjustment capabilities enable the installation of equipment to fit a wide range of applications, while utilizing the same product.
- iii. The installing contractor is provided with the required framework as part of the irradiation equipment design.
- iv. The rack shall be constructed of aluminum and consist of a vertical aluminum power supply housing at each end, and joined together by horizontal telescoping support arms. A center support is supplied to hold each protective Lamp/Quartz Sleeve assembly.
- v. The aluminum housing will contain all power, power supply, and lamp connections.
- vi. Adjustable rack shall be installed either inside or outside of the air handler, depending on site layout.
- vii. To ensure maximum exposure the lamps must be suspended in airstream.

B. UVC Lamps

- i. A lamp and protective quartz sleeve assembly shall be utilized in cold air conditions to provide maximum thermal optimization of the germicidal UVC Lamps.
- ii. The lamp and protective quartz sleeve assembly, when plugged into receptacle on the adjustable aluminum power supply housing shall have no wires or electrical connections exposed to the UV radiation.
- 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 80% of initial UVC output at extended life (18,000 hours).
- v. The UVC lamps shall contain no more than 5 milligrams of mercury.

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. Each power supply shall draw no more than 0.71A @ 120V for each G64 lamp or 0.35A @ 120V for each G36 lamp.

2. Installation

- A. UV equipment shall be shipped unassembled for ease of transporting to the air handler.
- B. Equipment shall be assembled, located, and extended on the supply side of the coil. The adjustable rack shall be extended enough to provide total coil surface irradiation by continuous exposure to the UVC lamps.
- C. Power connections can be made at either end of the rack.
- D. Safety interlock power switches must be installed (available separately), on all air handler access panels and/or doors.

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 UV, includes dry contacts that switch state when adjustable set point is reached. A 4-20ma signal shall also be provided for remote monitoring.