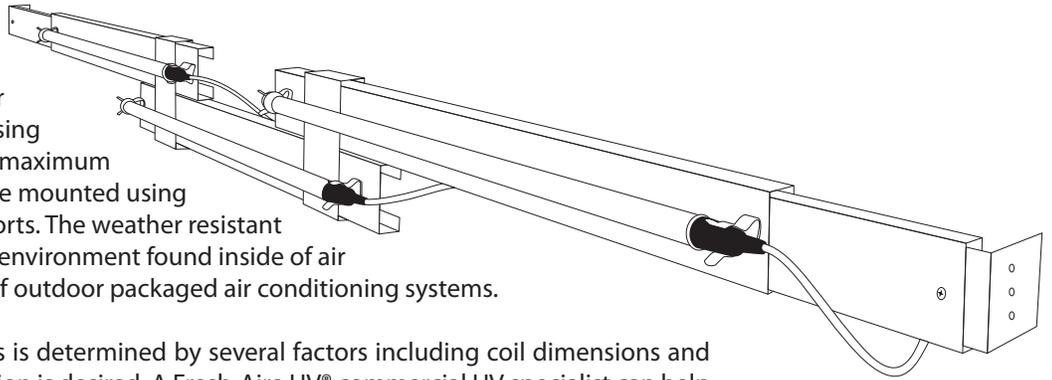


Installation & Maintenance of the Fresh-Aire UV® Modular Rack System for Commercial Air Handler Systems

FRESH-AIRE UV® COMMERCIAL SERIES MODULAR RACK SYSTEM

The Fresh-Aire UV® Modular Rack System is designed for installation into commercial air handling units for the purpose of surface disinfection using ultraviolet germicidal irradiation. For maximum installation flexibility the UV lamps are mounted using extendable modular mounting supports. The weather resistant power supply can withstand the wet environment found inside of air handlers or the exposed conditions of outdoor packaged air conditioning systems.



The number and placement of lamps is determined by several factors including coil dimensions and whether surface or airborne disinfection is desired. A Fresh-Aire UV® commercial UV specialist can help configure the best system for your application.

As a general rule, standard output UV lamps and power supplies are recommended for surface treatment applications. Higher output lamps and power supplies are only recommended for airborne treatment. Both types of systems may be installed in a similar fashion with the same mounting hardware.

WARNING
PROTECT EYES FROM UV LIGHT
TURN OFF UNIT OR DISCONNECT
BEFORE SERVICING

IMPORTANT!

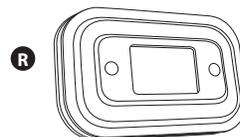
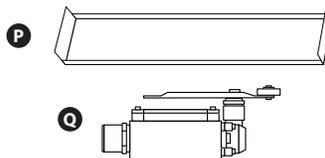
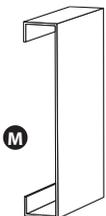
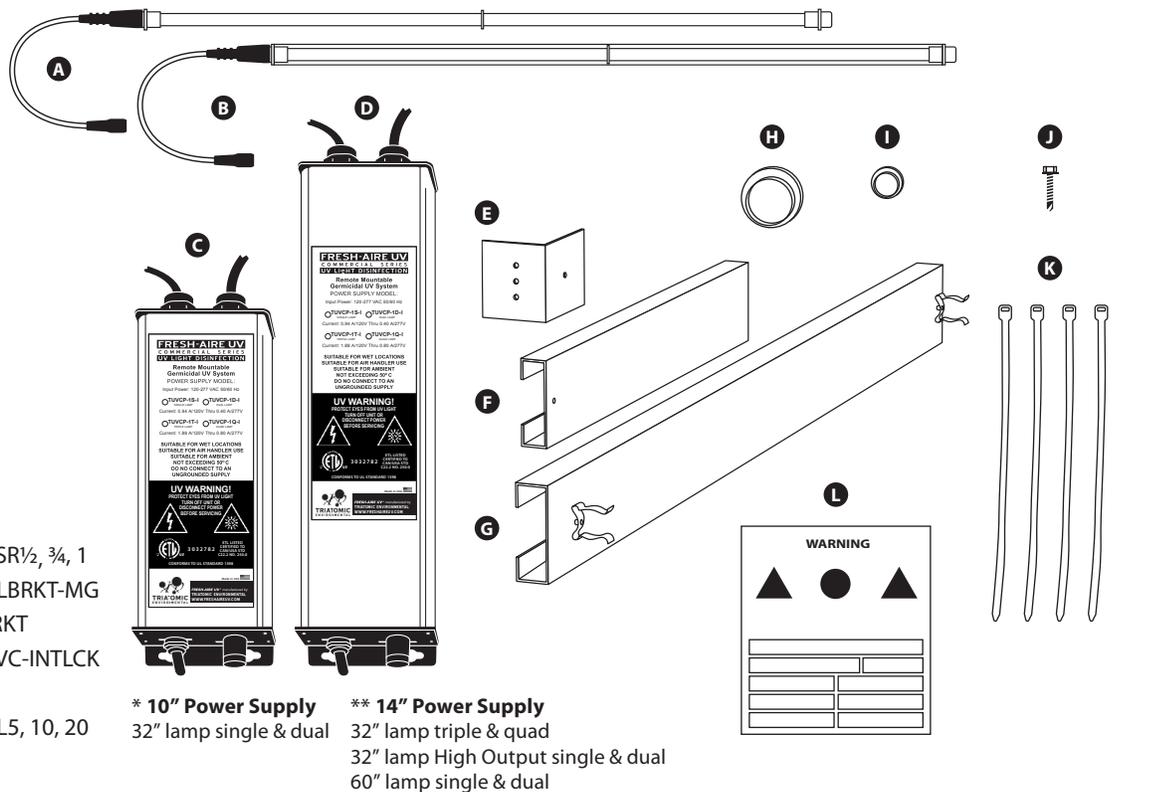
- Only qualified technicians should install this product
- Install in accordance with relevant building codes
- Read instructions carefully including safety warnings

Parts Included

- A** UV Lamp(s) 1 Year
- B** UV Lamp(s) 2 Year
- C** Power Supply(s) 10" **
- D** Power Supply(s) 14" **
- E** L - Bracket
- F** Extender
- G** Modular UV Lamp Mount
- H** Sight Glass 1"
- I** Sight Glass ½"
- J** Self-Tapping Screws
- K** Black Nylon Zip-Ties
- L** UV Warning Sticker

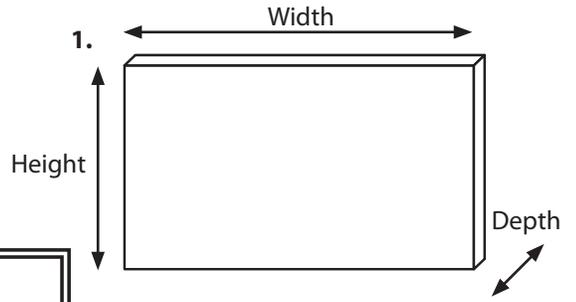
Optional Parts

- M** Coupler TUV-CCMODCPL
- N** Cable Strain Relief TUV-C-SR½, ¾, 1
- O** Mounting Magnet TUV-C-LBRKT-MG
- P** 12" Stand-off TUV-C-CMBRKT
- Q** Door Interlock Switch TUV-C-INTLCK
- R** View Port TUV-C-VP-D
- S** Cable Extensions TUV-C-BL5, 10, 20



System Configuration

1. Determine the dimensions of the coils or area to be irradiated.
2. Use the following guidelines to estimate the number of lamps needed for proper coverage.



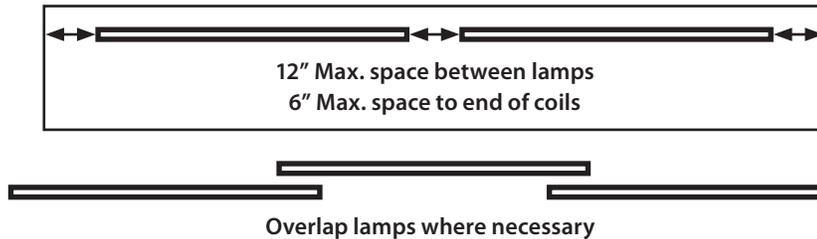
UV Lamp Configuration Guidelines

- Maximum germicidal effectiveness is within an 18" radius from UV lamp center axis
- The optimal distance between UV lamp(s) and the irradiated surface is 12"
- The distance between stacked UV lamps should not exceed 35"
- The distance between end to end UV lamps should not exceed 12"
- The distance of UV lamp ends to the edge of irradiated surface should not exceed 6"

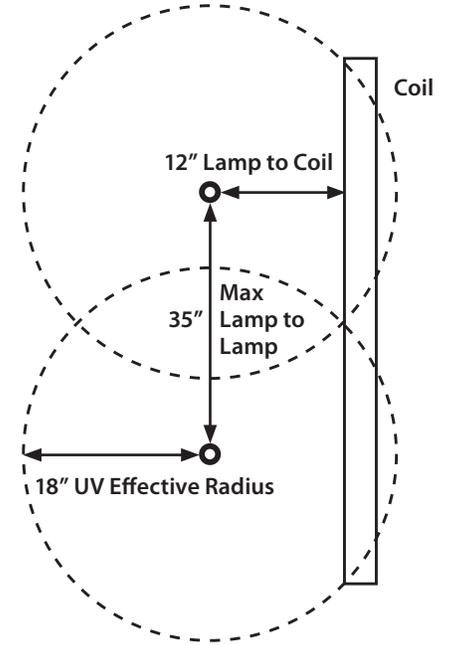
Fresh-Aire UV offers a free system configuration consultation service for commercial projects. Contact Fresh-Aire UV for details.

3. Before attaching the **L-Brackets** for mounting use the **Optimal Irradiation Distance** and **Lamp Spacing** diagrams to confirm that when installed the **Uv Lamps** will be positioned properly.

Lamp Spacing

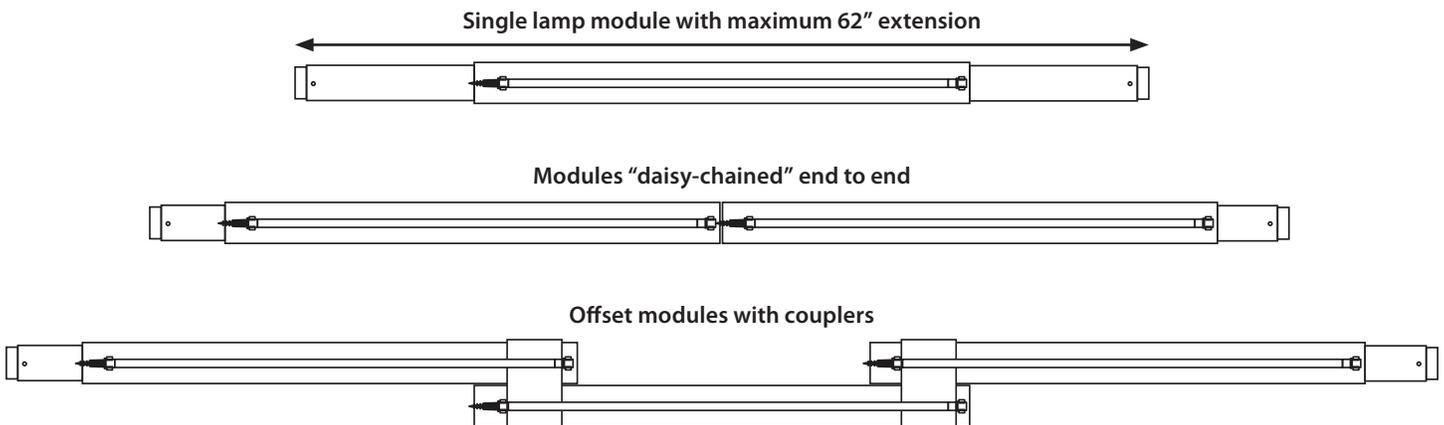


Optimal Irradiation Distance



4. The **Modular Rack System** can be configured to fit virtually any commercial/industrial HVAC application. Modules can be "daisy-chained" end to end or offset with couplers to achieve the desired width.

Modular Rack Configurations



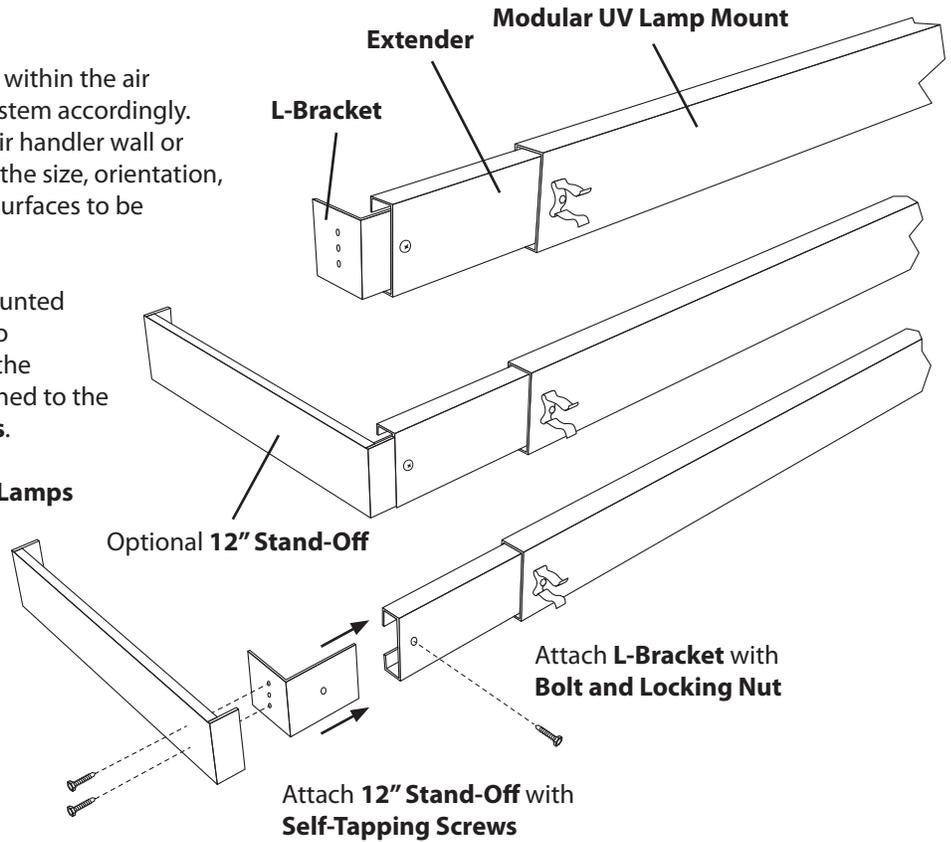
1 Module Assembly & installation

First, determine the ideal mounting location within the air system then configure the **Modular Rack** system accordingly. The **Modular Rack** can be mounted to the air handler wall or similar support several ways depending on the size, orientation, and distance of the mounting surfaces and surfaces to be irradiated.

1. In most situations, when the system is mounted to surfaces perpendicular to the surface to be irradiated, **L-Brackets** are attached to the **Extenders**, then the **L-Brackets** are attached to the wall or support with **Self-Tapping Screws**.

2. If more space is needed between the **UV Lamps** and the irradiated surface optional **12" Stand-Offs** can be added. Slide the **L-Brackets** inside the **12" Stand-Offs** to adjust the spacing from 2" to 12". Attach them using **Self-Tapping Screws**.

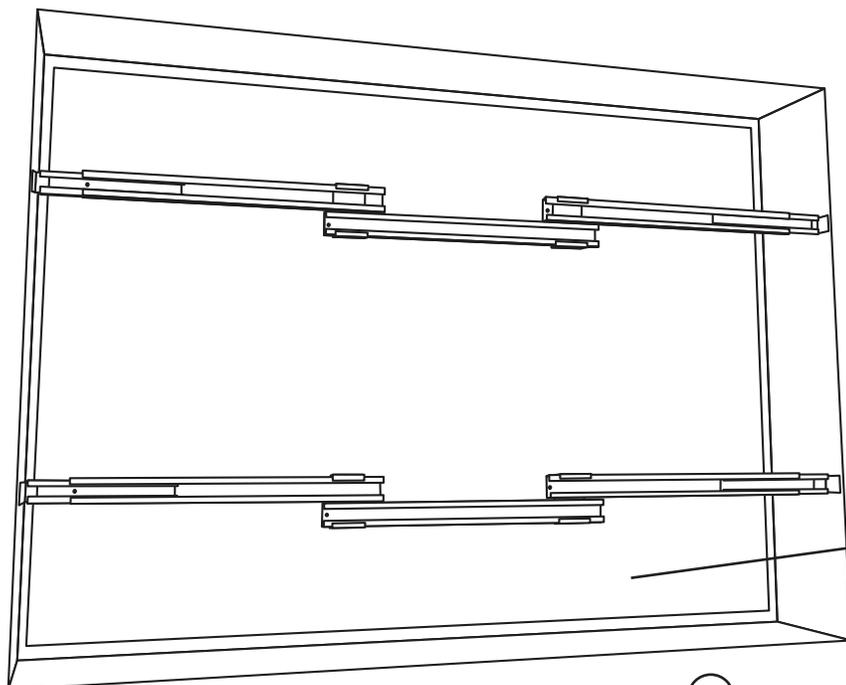
3. The system can also be mounted to a surface parallel to the surface to be irradiated by screwing the **Extenders** directly to a wall or support.



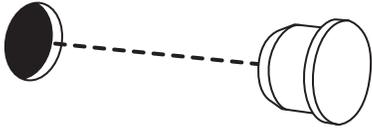
2. perpendicular mounting with 12" Stand-Off

1. L-Bracket perpendicular mounting

3. Extender direct parallel mounting



When properly installed the **Modular Rack System** shines UV light evenly across the HVAC cooling coils.



5 Sight Glass Installation

1. The sight glass allows safe viewing of the UV light system when in operation. Find a suitable location such as a door to the HVAC system for the sight glass.
2. Drill a 1" hole and press the base of the sight glass through it.

6 Power-up System

Caution: UV-C light that can cause **Serious Eye Burns** and **Temporary Blindness**, Ensure all access panels have been replaced and doors closed before powering-up the system.

Turn on the main power then switch on the UV light power supply(s). Use the sight glass to confirm that the UV Lamp(s) is operating.

7 UV System Maintenance

Periodically wipe the UV lamps with a clean cloth or alcohol swab to remove any accumulated dust or dirt. This should be performed at least every 6-9 months or during routine maintenance intervals. Fouling could occur if lamps are installed under chilled water lines. Wipe clean or install optional shield.

8 UV Lamp Replacement

Fresh-Aire UV® lamps are rated for either one or two years germicidal effectiveness. The lamps will continue to glow after they have passed their rated life span but their germ-killing effectiveness diminishes with time so they must be replaced on schedule for the system to function properly.

Contact your local dealer for replacement lamps.

Part# TUVCL-100	1 Year Effective Lamp Life
Part# TUVCL-100HO	High Output - 1 Year Effective Lamp Life
Part# TUVCL-200	2 Year Effective Lamp Life
Part# TUVCL-160	60" 1 Year Effective Lamp Life
Part# TUVCL-260	60" 2 Year Effective Lamp Life

Important! Use only Fresh-Aire UV® replacement lamps. Use of replacement lamps from other manufacturers voids the warranty.

9 Trouble Shooting

Problem	Solution
UV Lamp(s) Not Lighting	<ol style="list-style-type: none"> 1. Check that power is applied. 2. Check that the unit is turned ON. 3. Ensure the remote lamp cables are properly connected. 4. Check the fuse. Replace only with same size and type. 5. Reset power switch on power supply (off then on). 6. Install New UV Lamp(s). 7. Consult Factory.
UV Lamp(s) Flickering	<ol style="list-style-type: none"> 1. UV Lamp(s) have reached end of effective service life. Install new lamp(s) of same type. 2. If unit is new, check remote cables to ensure they are properly connected. 3. Reset power switch on power supply (off then on). 4. If new lamps still flicker, consult factory.
UV Lamps Have burned Out Prematurely	<ol style="list-style-type: none"> 1. Consult Factory.
Power Supply Will Not Light UV Lamps even after new lamps are installed	<ol style="list-style-type: none"> 1. Consult Factory. 2. External power suppressor may be needed if power surges occur.

Fresh-Aire UV® Commercial Series

Fresh-Aire UV® lights save energy by reducing microbial growth inside HVAC systems, lower maintenance costs and reduce maintenance workers exposure to chemicals while improving indoor air quality. Our commercial systems are renowned for their quality materials, innovative features, ease of installation, and flexible mounting options. Most feature our advanced multi-voltage water-resistant power supply. All come with the Fresh-Aire UV® Lifetime Warranty on all parts except lamps.

Standard Commercial UV Light System

Standard 32" lamps with L-brackets for easy installation. Optional 60" and 32" High-Output lamps (for air treatment) are available. Combine single, dual, triple, quad lamp configurations to suit any size HVAC installation.

Tubular Rack System

The Fresh-Aire UV® Tubular Rack System offers easy, flexible installation of multi-lamp configurations. The Tubular Rack System works with standard ½" EMT tubing or have custom steel tubing prepared for you by Fresh-Aire UV®. The system includes all the clamps and hardware necessary for mounting.

Modular Rack System

Similar to the Tubular Rack System but uses modular rack panels in place of conduit tubing. These work to shield non-UV resistant HVAC system interior components. The system includes all the clamps and hardware necessary for mounting.

Modular Rack APCO® System

Same as our Modular Rack System with the addition of activated carbon cells for photocatalytic VOC reduction.

Airborne Duct System

Features High-Output lamps for air-steam disinfection. Ideal for hospitals, clean-rooms, and other IAQ priority situations.

Panel Mount System

Installs in hard to reach areas by allowing access to the coil from the outside of the air system.

Tight-Fit Kit™

Low-voltage UV disinfection for PTACs, fan coils, & wall-mount systems.

Unlimited Lifetime Power Supply Warranty

This warranty supersedes and replaces any warranty statements orally made by the Sales Person, Distributor or Dealer or contained in the written instructions or other Brochures or informational documents in relation to this product. This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

Manufacturer warrants the Fresh-Aire UV to be free from defects in material and workmanship under the normal use and service when operated and maintained in strict accordance with manufacturer's instructions for the lifetime from the date of purchase of equipment, with exception of the Ultraviolet Lamp(s), which are warranted for UV germicidal output only for one (1) year or two (2) years depending on lamp model. The UV lamp warranty does not cover cracked or broken lamps.

Manufacturer's obligation under this warranty is being limited to repairing or replacing any part found to its satisfaction to be so defective. This warranty does not cover parts damaged resulting from misuse, abuse, or any other than its intended use, accident, neglect, or from improper operation, maintenance, installation, modification or adjustments. Triatomic Environmental, Inc. shall have no responsibility for charges incurred by the customer for installation or removal of warranted items.

This warranty does not cover parts or equipment used with the Fresh-Aire UV that are not made by Manufacturer, since these items are covered by warranties of the respective manufacturer. This warranty shall be void if UV lamps from manufacturer's other than Triatomic Environmental, Inc. are used with this equipment.

Manufacturer assumes no liability for any harm, which may occur as a result of the use of the equipment herein and shall not be liable for consequential or any other damages whether or not caused by manufacturer's negligence or resulting from any express or implied warranty or breach thereof. Consequential damages for the purpose of this warranty shall include, but not be limited to, loss of use, income or profit, or loss of or damages to property or injury or death to persons or animals occasioned by or arising out of operation, use, the operation, installation, repair or replacement of the equipment or otherwise.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF

To obtain warranty service your local dealer or ship the part at your cost along with an explanation of the problem or defect to:

Triatomic Environmental, Inc.



Manufactured by Triatomic Environmental, Inc.

WWW.FRESHAIREUV.COM

sales@freshaireuv.com

