

COMMERCIAL UV-C SYSTEM INSTALLATION MANUAL



WARNING

UV-C light is hazardous, proper personal protection equipment is required.
All lamps must be turned off or disconnected prior to
accessing or servicing this system.

La lumière UV-C est dangereuse, personnelle l'équipement de protection est nécessaire.
Toutes les lampes doivent être éteintes ou déconnectées avant d'accéder ou
d'entretenir ce système.

WARNING: UV-C light is hazardous. Read all warnings and directions.
Follow installation instructions and user manual.
Never expose unprotected eyes and skin to ultraviolet light

AVERTISSEMENT : La lumière UV-C est dangereuse.
Lisez tous les avertissements et les instructions.

Suivez les instructions d'installation et le manuel d'utilisation.
Ne jamais exposer les yeux ou la sans protection aux rayons ultraviolets



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COMMERCIAL UV-C SYSTEM INSTALLATION



1. Introduction

Thank you for using RGF Environmental's Commercial UV-C (CUV) coil disinfection systems. CUVs are intended for installation in commercial and industrial HVAC units only. These systems are designed, when properly configured and installed, to provide continual disinfection and maintenance of HVAC coils, using UV-C light to significantly reduce if not eliminate the buildup of molds and bacteria on the HVAC coils. The CUV system may also provide limited treatment of the HVAC pan depending upon configuration and installation.



2. Safety

It is the responsibility of the installer to ensure that this system is installed according to all applicable codes and regulations.

To achieve maximum effectiveness, the CUV lamp system must be properly configured, installed and operated, as described herein. All power supplies and connections are water and weather resistant and can be installed either in or out of the AHU.

To determine the proper placement of the lamps for maximum effectiveness contact your local representative or RGF Environmental. The lamp configuration and placement are determined by the coil dimensions (length, width and depth), mounting location, available work area, etc.

SAFETY CONSIDERATIONS

- Avoid exposure to direct or reflected UV-C light. UV-C light is harmful to the eyes and skin and can cause temporary blindness and sunburn. Prolonged exposure can cause permanent damage.
- Unless otherwise noted below, the system components are intended for use with commercial or industrial HVAC systems only.
- Altering the design or construction of any component may void the warranty and create additional hazards for personnel.
- Do not use CUV lamp systems for other than their intended purpose.
- Do not mount electrical components under any source of moisture, standing water or condensation.
- Never operate CUV without a proper electrical ground.
- Do not operate CUV system if there is visible or suspected damage to any of the provided components.
- Disconnect power to the unit before performing any service or maintenance. Never work on charged electrical components.
- UV-C light must be contained within duct and visible only through the supplied sight safety glass.



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- Lamps do contain small amounts of mercury and should be handled and disposed of accordingly.

3. Materials and installation check/familiarization

Refer to your RGF Environmental design document for the recommended materials list.

This CUV Kit includes:

- UV-C lamp(s)
- Lamp Reflector(s)
- NEMA 4X power supply
- 6' Power supply cable
- CUV Rack Hardware Kit
- Cable ties
- Warning stickers
- Safety glass
- Alcohol wipe



4. Component Assembly and AHU Preparation

- a. Rack (fittings, top pressure, bottom screw foot and magnetic mount on each rack). Measure the interior height of the AHU where the rack posts will be installed, cut your u-channel approximately 2 inches shorter that the measured length. Place the 1/4" thick EPDM Foam to the bottom of half of the provided Leveling Feet mounts. This is shown in figure (1) below.

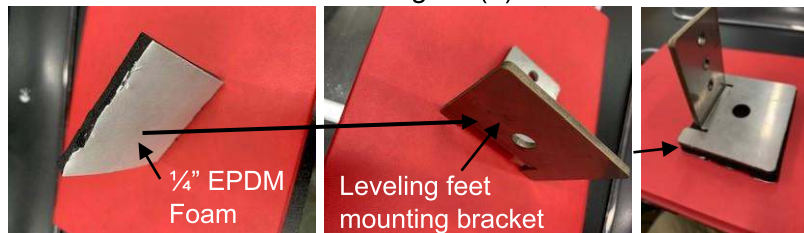


Figure (1) - EPDM Foam Attachment

- b. Connect the leveling feet mounting brackets to each end of the U-channel using the provided fender washers and 1/4"-20 x 1/2" hex bolts. The hex bolt screws directly into the tapped holes of the leveling brackets, which is shown in figure (2).

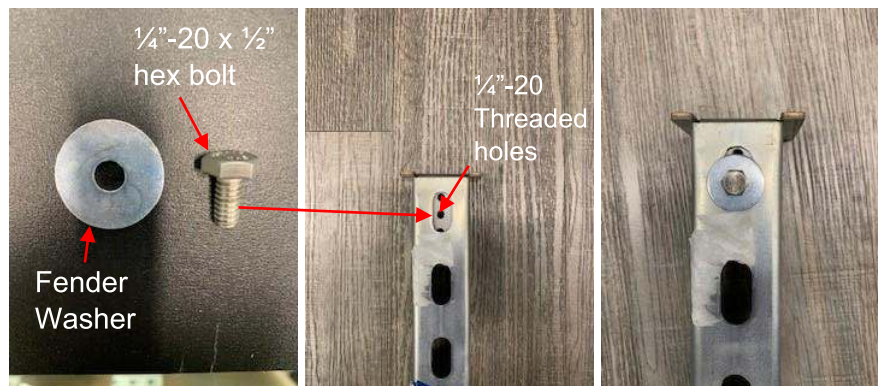


Figure (2) - Leveling Feet Mounting Bracket Attachment



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- c. Insert the threaded leveling feet into the Leveling Feet mounts that don't have foam connected to them using the holes on the bottom of the mounts. Secure the leveling feet using (2) 3/8" -16 nuts per foot. Screw one nut completely flush to the foot before inserting the rod into the hole of the leveling foot. The other nut is then screwed on, but not tightened, which is shown in figure (3). These nuts will both be tightened when the rack is set up within the AHU.



Figure (3) – Threaded Leveling Foot Attachment

- d. Insert the magnetic mount into the desired U-channel location, making sure the mounts on each rack post are parallel to each other. Once the mount is in the proper position, bend the tab shown in figure (4) on the mount so it locks itself into place on the U-channel.

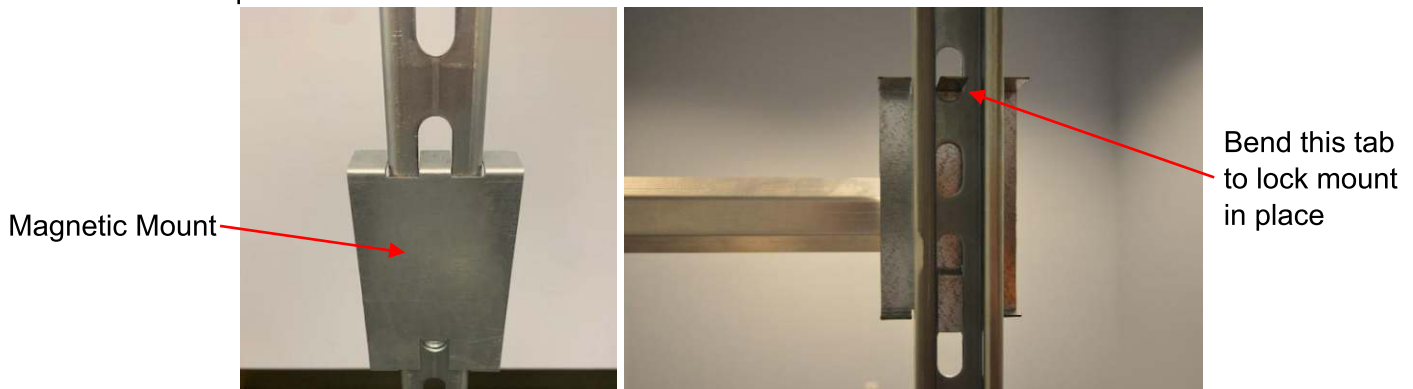


Figure (4) – Magnetic Mount Attachment

- e. Lamps/Reflectors. The reflector assemblies are fully assembled. Clean the lamps prior to installation. Install the lamps into the reflectors, ensuring that the lamps are clipped to the blue porcelain or black Viton surface only. Use figure (5) as a reference for lamp placement. Do not place clips on the glass surface of the lamp.

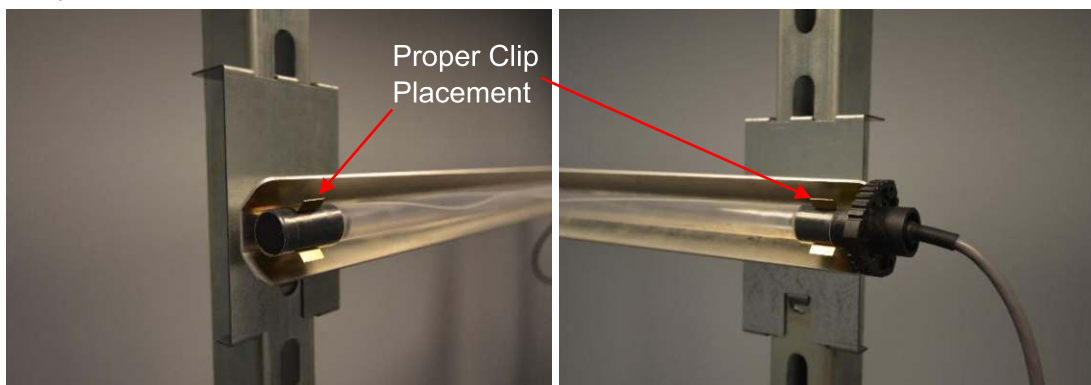


Figure (5) – Proper Lamp Installation

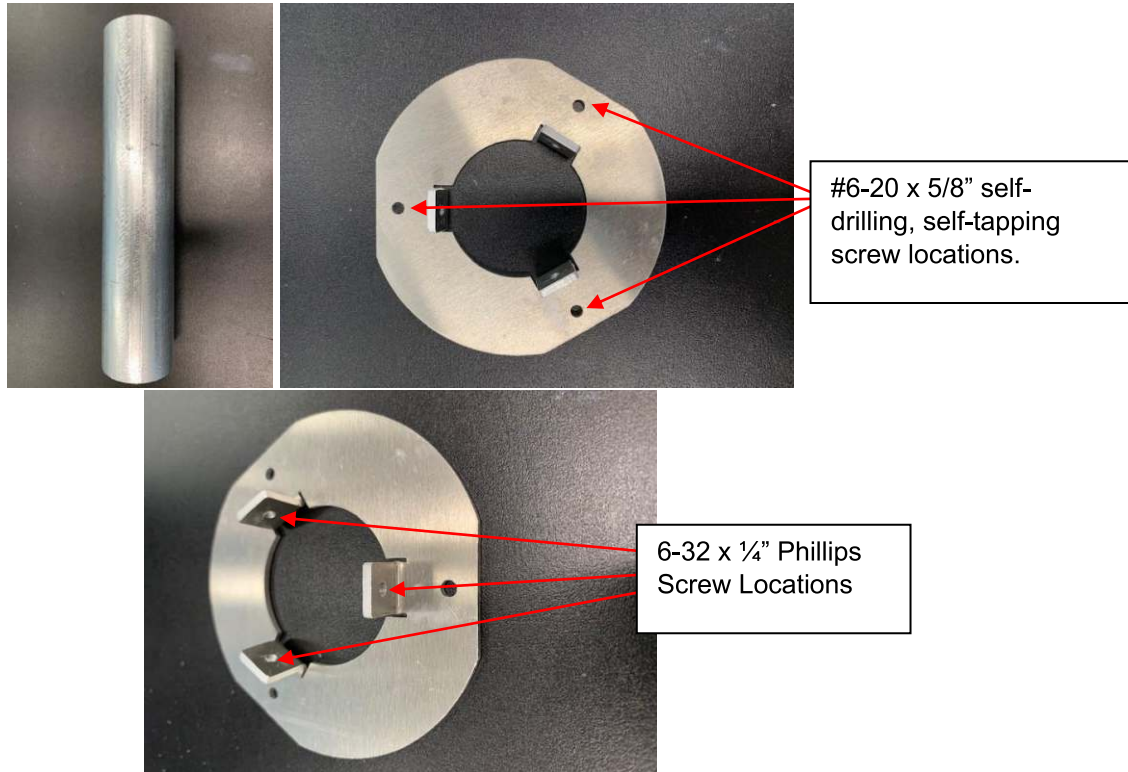


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- f. Drill 1 3/4 inch hole for AHU cable AHU penetration accessory at the desired location and install using the provided flanges, conduit, 6-32 x 1/4" screws and #6-20 x 5/8" self-drilling, self-tapping screws. Screw the flanges to the AHU wall using the #6-20 screws and attach the conduit to the flanges using the 6-32 screws. Feed lamp cables and if included optional safety lockout switch cable so they are accessible on the inside, but not in water.



5. Install Rack or L-brackets inside AHU.

- a. Rack posts. Install the posts at the determined location with the magnetic mounts facing the coil.

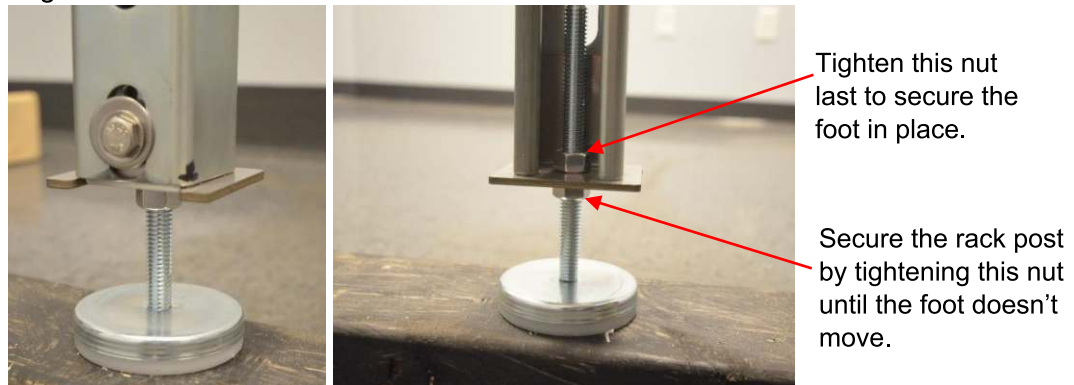


Figure (6) – Rack Installation



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- b. Magnetic L-brackets. If not using posts, the magnetic L-brackets should be installed on either side of the AHU at the locations provided in the design document. When using the magnetic mounts make sure the magnets are in direct contact with the metal housing.
 - i. If more than a single lamp is required make sure that the lamps are installed not more than 12" from the top/bottom and not more than 32" apart.

6. Install Lamp-Reflector assembly

- a. The Lamp-Reflector assembly(s) are installed by simply placing the reflector magnets on the magnetic mounting plate or L-bracket.

This magnet sticks directly to the magnetic bracket

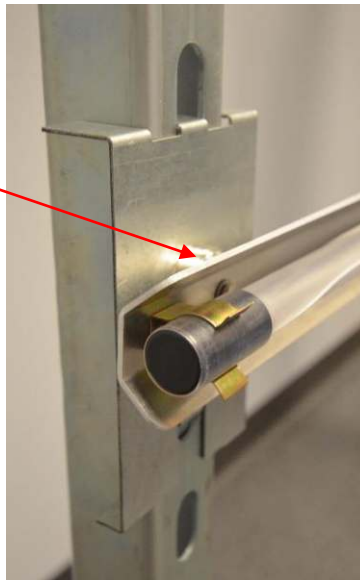


Figure (7) – Reflector Magnet Placement

7. Secure lamp power cables

- a. Before connecting lamp power cable to the lamps, use zip ties to secure the power cable(s) to the AHU and backs of reflectors where appropriate. It is important to secure the cables.

8. Connect the lamp cable to the lamps.

- a. Connect the power supply cable to the lamp by pressing the one end of the power supply cable into the cable attached to the lamp until the connectors snap together.



UV Light Power Connector

6' Power Supply Cable

Figure (8) – Power Supply Connection



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9. Optional - Safety Door Lock-out Switch

- a. If the Safety Lock-out Switch was purchased with the CUV-Kit, consult the provided Safety Lock-out Switch installation manual.

10. Power Junction Panel.

- a. The power must be turned off prior to accessing. The power panel must be installed accordance with all applicable state and local electrical and building codes by a qualified electrician.
- b. Locate and install panel using the provided self-tapping screws. The panel should be installed level and all plugs, switches fuses, etc. should be on the bottom.
- c. DO NOT CONNECT LAMP POWER CORDS AT THIS TIME.
- d. Use the connected power supply line to connect the power supply.



11. Sight glass and warning labels.

- a. Drill a 1" hole in a location that all allows easy viewing of the UV lamps and install.

12. Safety Stickers.

- a. Place safety stickers on the AHU access panel/door in a highly visible location.

13. UV-C Shielding

- a. UV-C light will degrade most plastic and rubber materials including wire insulation, blower belts, door seals, etc. (the cables provided by RGF Environmental are UV-C resistant and do not require shielding). It is recommended that any such materials be covered with aluminum foil tape or shielding.

14. Powering the System

- a. Make sure the power switch on the supplied Power Junction Panel is in the off position.
- b. Connect lamp cable(s) to power supply.
- c. Turn on the power to the Power Junction Panel.
- d. Turn on power to the lamp(s).
- e. Use the sight glass to check the system is on.



LIMITED WARRANTY

This warranty supersedes and replaces any warranty statements made orally by the Sales Person, Distributor, or Dealer, or contained within the written instructions or other brochures or informational documents related to this product.

Manufacturer warrants the new **PHI CELL by RGF®** equipment to be free from defects in material and workmanship under normal use and service when operated and maintained in strict accordance with manufacturer's instructions for a period of twenty four (24) months from the date of receipt of equipment. **(For international orders twelve (12) months parts only. Shipping not included.)**

Manufacturer's obligation under this warranty is limited to repairing or replacing any part found to its satisfaction to be so defective. This warranty does not cover parts damaged by decomposition from chemical action or wear caused by abrasive materials, nor does it cover damage resulting from misuse, abuse, or any use other than the intended use, accident, neglect, or from improper operation, maintenance, installation, modification or adjustments.

Manufacturer assumes no liability for any harm that may occur as a result of the use of this equipment 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, profit, or damages to property, or injury or death to persons or animals occasioned by or arising out of operation, use, 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 and return authorization number, contact the factory at (561) 848-1826 / 800-842-7771, fax (561) 858-9454, or ship the part, postage prepaid, to:

RGF Environmental Group, Inc.
Customer Service Department
1101 West 13th Street Riviera Beach FL 33404USA

Include a copy of your Bill of Sale, Invoice or Receipt of Purchase, with an explanation of the problem or defect.
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Hg- LAMP CONTAINS MERCURY Manage in accord with disposal laws See: www.lamprecycle.org
