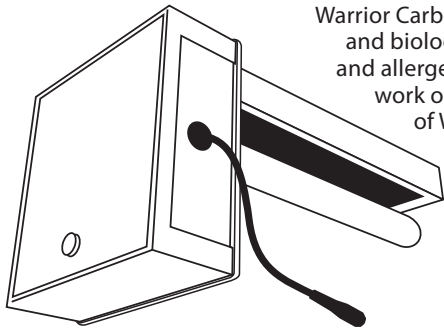




# IN-DUCT CARBON RT AIR PURIFIER INSTALLATION GUIDE



US patent #7,704,463

Warrior Carbon RT reduces odors (volatile organic compounds) and biological contaminants such as mold, bacteria, viruses, and allergens in indoor air. The system is installed in the duct work of the central air system. The award-winning design of Warrior Carbon RT uses a unique combination UVC light and activated carbon cells to clean the air.



## IMPORTANT!

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

## WARNING!

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

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## 1 Installation Notes

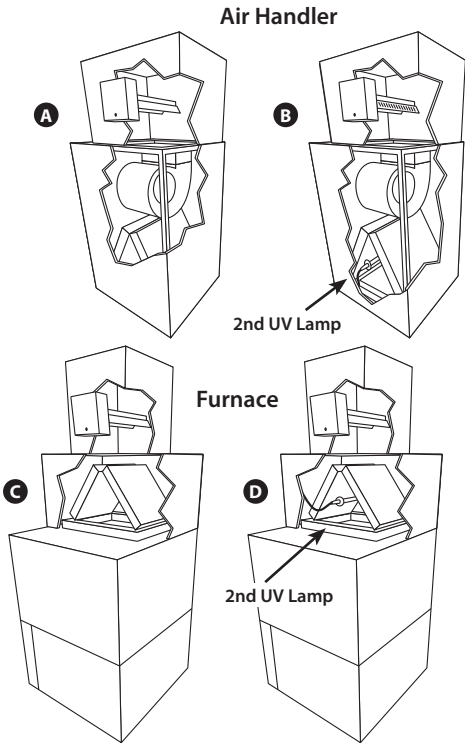
**Carbon RT** is usually installed on the supply side duct just above the air system but can also be installed on the return side if necessary.

The **Carbon RT** unit should be oriented so that the air flows past the **UV Light** first then into the **Matrix Element**.

If a second optional UV lamp is used (**Carbon RT Dual**) select a location inside the air system that will allow it to shine on the greatest surface area or the area with the most evident microbial growth. To install the secondary UV light use the **Optional 2nd Remote UV Light Installation Instructions** provided with **Carbon RT Dual**.

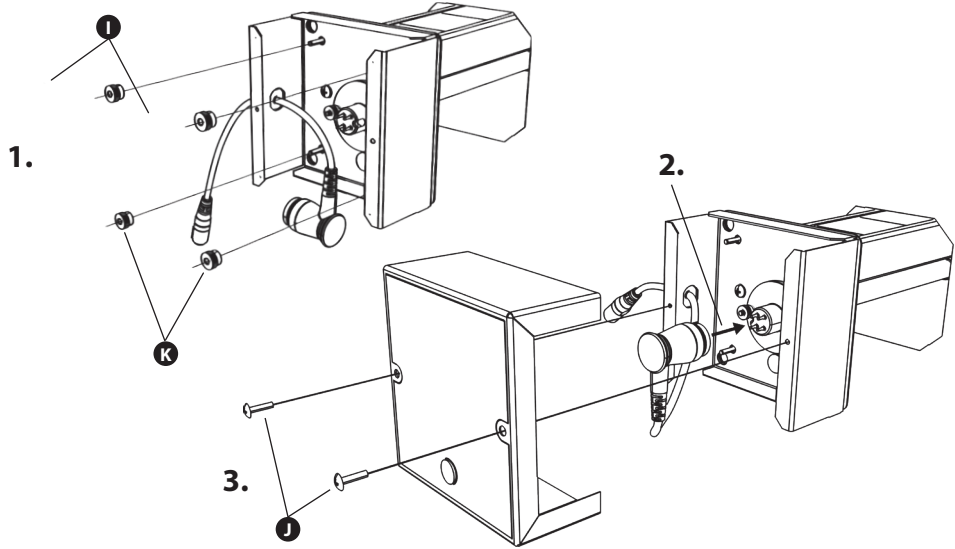
Typical installations include:

- A** Carbon RT single in air handler
- B** Carbon RT dual in air handler
- C** Carbon RT single in Furnace
- D** Carbon RT dual in Furnace



## 3 Attach Lamp Housing to Duct & Connect UV Lamp

1. Fit the **Carbon RT Main Unit** through hole in duct. Attach directly to metal duct using (4) **Self-tapping Screws**. If the **Backing Plate** is used (for duct board etc.) fit the unit over the threaded posts and use (4) **Quick Nuts** to secure it.
2. Connect **UV Lamp** (be sure to align the four connector pins).
3. Attach the cover with machine screws.



## IMPORTANT!

Systems with high 24 VAC loads may require the installation of a separate 24 VAC transformer to power the UV light.

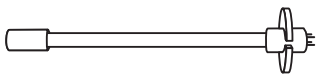
Always use a separate 24 VAC transformer with “communicating” air systems and all Carbon RT Dual models.

Draws 16 VA, may need to do load calculation: Volts under load X Amps under load.

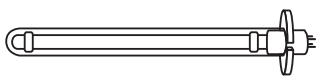
## 5 Lamp Replacement

The germicidal UV lamp in **Carbon RT** needs to be replaced periodically. **TUVL-111** lamps should be replaced every year. **TUVL-211** should be replaced every 2 years. Note: UV lamps will continue to emit visible light but lose germicidal effectiveness over time. You can upgrade to a 2 year lamp with your existing **Carbon RT Power Unit**.

### B TUVL-111 (1 Year)

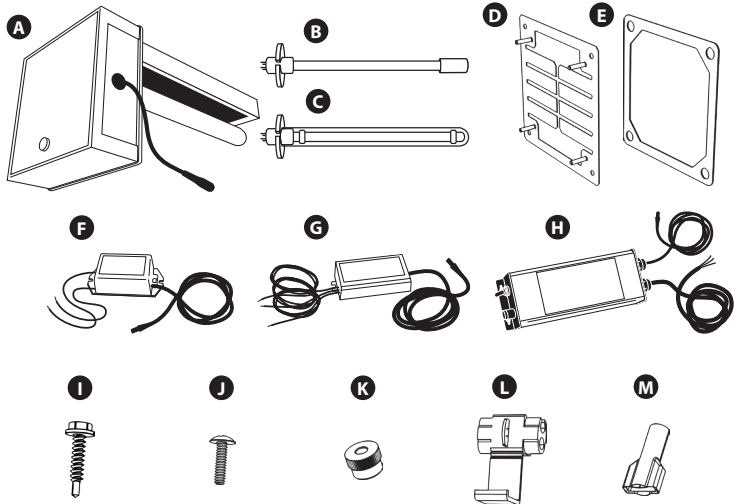


### G TUVL-211 (2 Year)

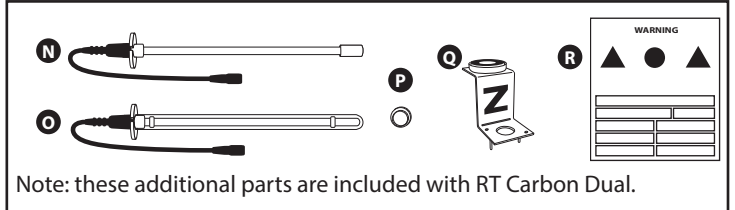


## 1 Parts List

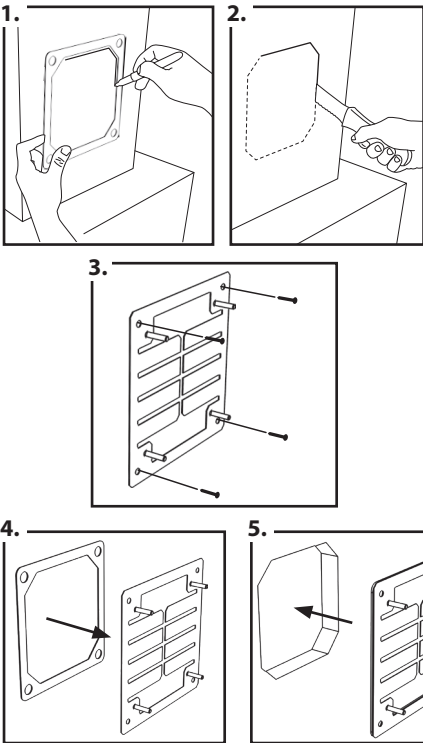
- A** Carbon RT Main Unit
- B** RT UV Lamp 1 Year\*
- C** RT UV Lamp 2 Year\*
- D** Backing Plate
- E** Gasket
- F** ER Power Supply\*
- G** ST/DT Power Supply\*
- H** SI/DI Power Supply\*
- I** Self-tapping Screws
- J** Machine Screw
- K** Quick Nut (plastic)
- L** Tap-in Connector
- M** Spade Connector
- N** Optional Remote UV Lamp 1 Year
- O** Optional Remote UV Lamp 2 Year
- P** Sight Glass
- Q** “Z” Mounting Bracket
- R** Warning Sticker



\*Note: only one lamp and one power supply are included.



## 2 Duct Mounting



1. Use gasket to trace cut-line onto duct.
2. Cut hole in sheet metal or duct board.

**IMPORTANT! Remove and dispose of cut-out piece of material.**

3. For sheet metal duct secure mounting plate to sheet metal ducts using self-tapping screws.\*
4. Remove paper backing from one side of gasket and fix gasket to the back of the mounting plate.
5. Remove paper backing from back of gasket then fix mounting plate and gasket to the duct.
6. Bend mounting plate flanges around the edges of the hole to secure mounting plate. For duct board use tape on edges of mounting plate for air leaks and additional hold.

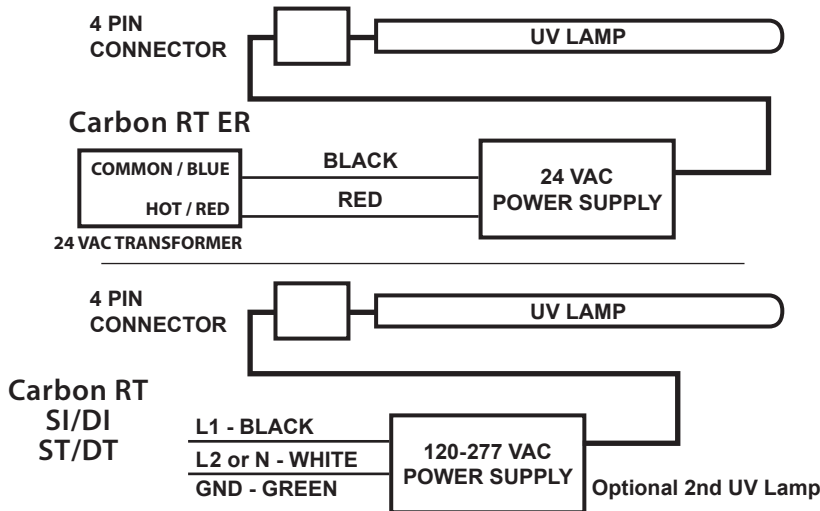
\* To install without backing plate mount with (4) self-tapping screws.

## 4 Connecting to Power

### IMPORTANT

Before connecting to power confirm which **Carbon RT** model is being installed. Turn off main power source before installation. Model information is printed on the **Power Unit** cover.

**IMPORTANT! Must be wired to constant power - do not connect to blower relay.**

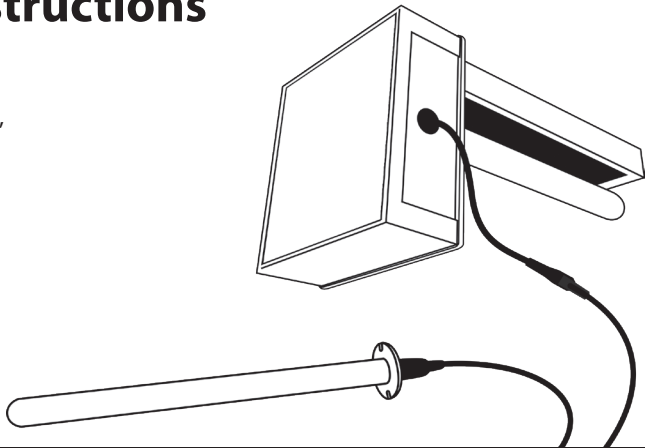


## CAUTION!

UV lamps contain small amounts of mercury - dispose of lamps in accordance with local environmental regulations. For more information visit [www.lamprecycle.org](http://www.lamprecycle.org)

# Optional 2nd Remote UV Light Installation Instructions

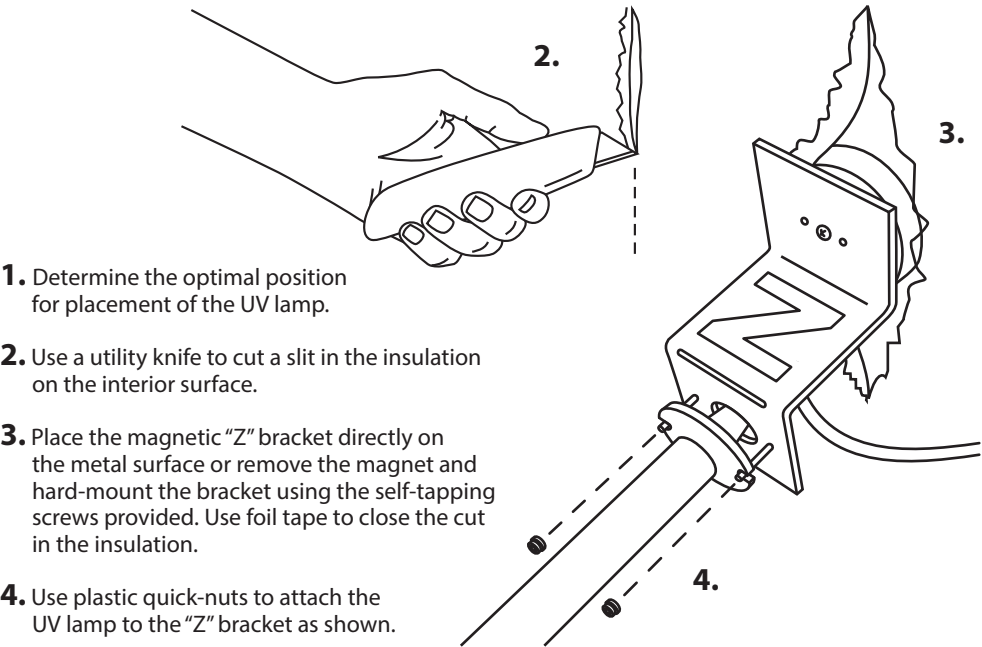
The optional second Remote UV Light works with the Carbon RT system for enhanced disinfection, reduced system maintenance, and improved indoor air quality.



### IMPORTANT!

- Carbon Dual lamps are wired in series - both must be connected for lamps to light
- Only qualified technicians should install this product
- Install in accordance with relevant building codes
- Read instructions carefully including safety warnings

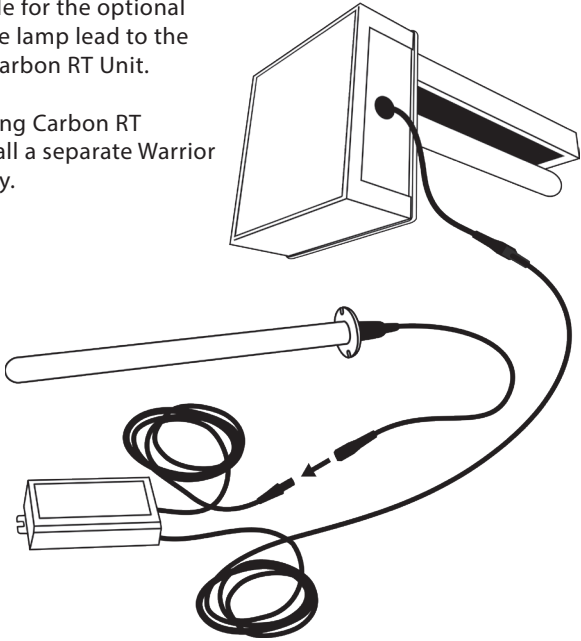
## 1 Air Handler Interior Surface Installation



## 3 Remote UV Light Configuration

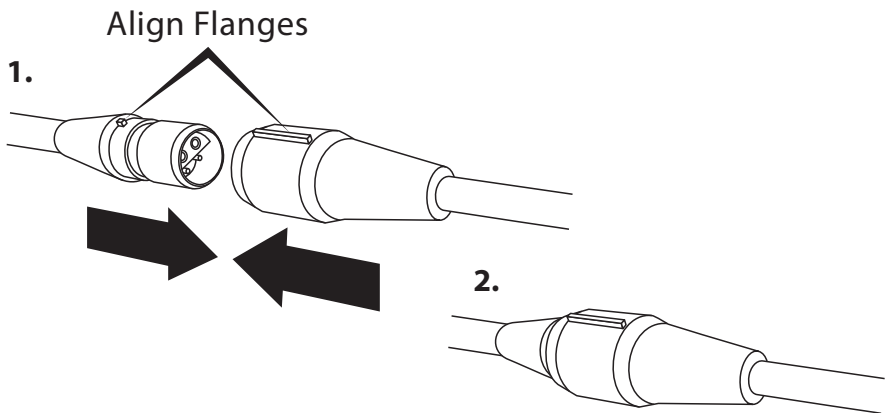
**IMPORTANT!** Only the Carbon RT Dual model has the electrical capacity and attached cable for the optional Remote UV Light. Simply connect the lamp lead to the power cable on the left side of the Carbon RT Unit.

To add a second UV light to an existing Carbon RT system that is not a Dual model install a separate Warrior UV system with its own power supply.



## 5 Remote UV Lamp Connection

1. When all the other components are properly installed connect the UV Lamp cable to the Warrior Carbon RT Power supply cable.
2. Make sure the flanges are aligned and then push the connectors firmly together. A tight connection ensures a proper water-resistant seal.



## Installation Notes

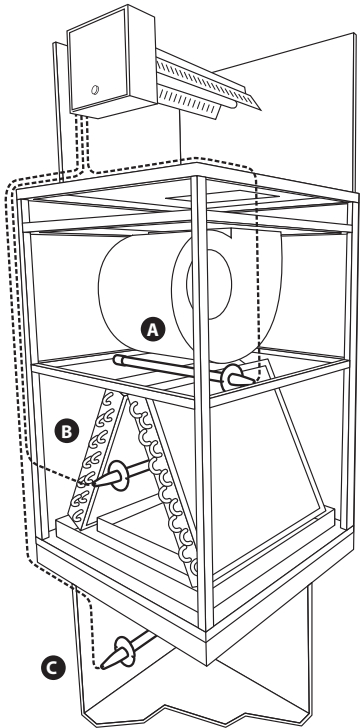
Before installing a second remote UV Light it is necessary to determine the optimal mounting location inside the air system. First, look for the area with the heaviest mold growth. Also consider a location that will allow the germicidal UV light to shine on the greatest surface area.

Some typical mounting locations:

- A Across top of coils
- B Coil "A" plate
- C Return-side duct

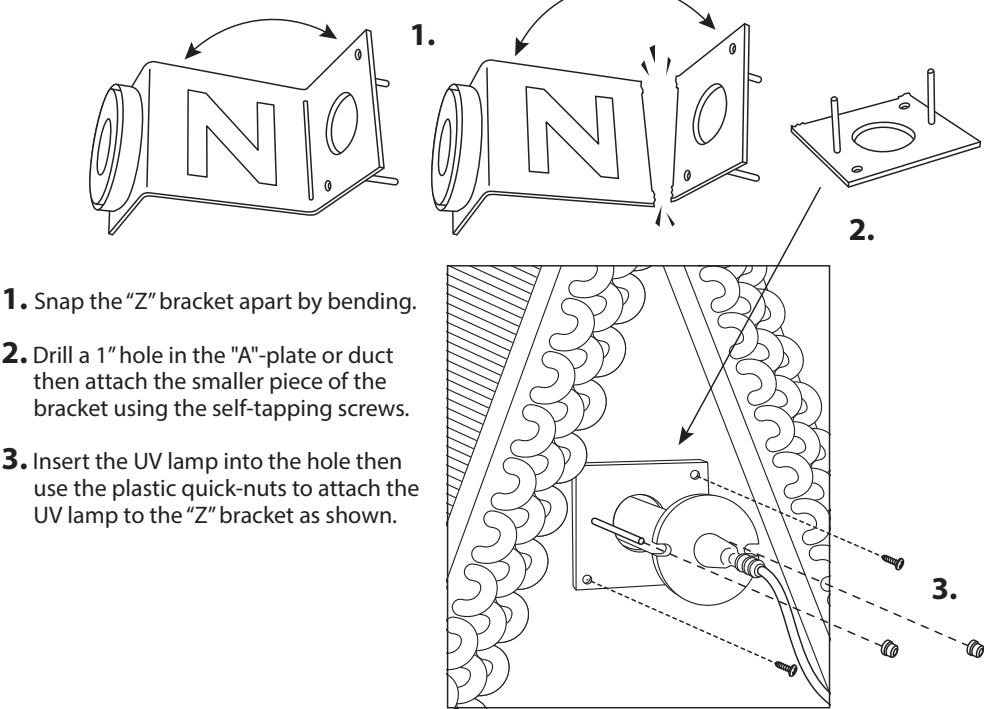


**Important:** some materials inside the air system (including filter media, flex duct, wiring etc.) may not be UV light resistant. Use the optional UV shield (part #TUV-SHIELD-LPC) or cover the materials with reflective tape.



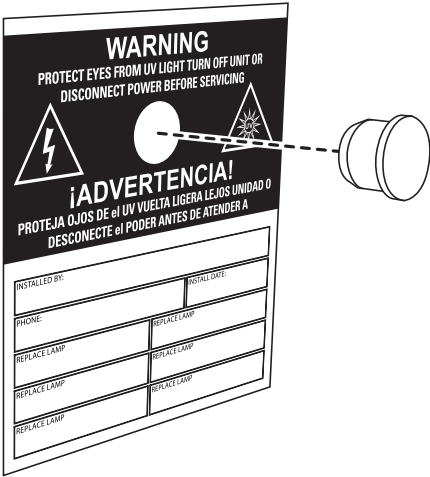
Mounting Options

## 2 Coil "A" plate or Duct Installation



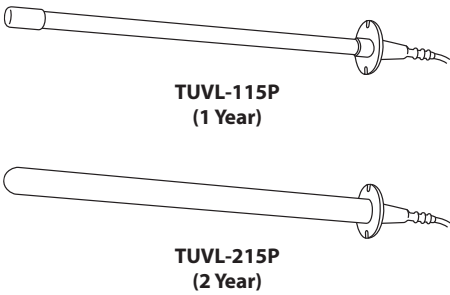
## 4 Sight Glass Installation

1. Find a suitable location on the outside of the duct-work near the UV Lamp installation and apply the warning/lamp replacement sticker.
2. Drill a ½" hole through the orange circle on the sticker. Press the UV safety viewport into hole.
3. Turn on the power and use the sight glass to confirm that the UV Lamp is operating.



## 6 Lamp Replacement

The germicidal UV lamp in the Remote UV Light needs to be replaced periodically. A TUVL-115P lamp should be replaced every year. The TUVL-215P should be replaced every 2 years. Note: UV lamps will continue to emit visible light but lose germicidal effectiveness over time. You can upgrade to a 2 year with your existing power supply.



### CAUTION!

UV lamps contain small amounts of mercury - dispose of lamps in accordance with local environmental regulations. For more information visit [www.lamprecycle.org](http://www.lamprecycle.org)