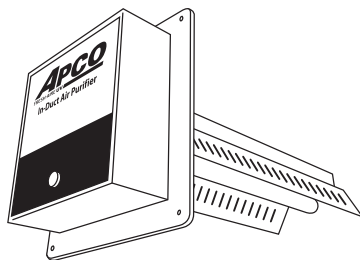


# FRESH-AIRE UV<sup>®</sup> APCO<sup>®</sup> IN-DUCT AIR PURIFIER



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



**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-LP) or cover the materials with reflective tape.

US patent #7,704,463

## IMPORTANT!

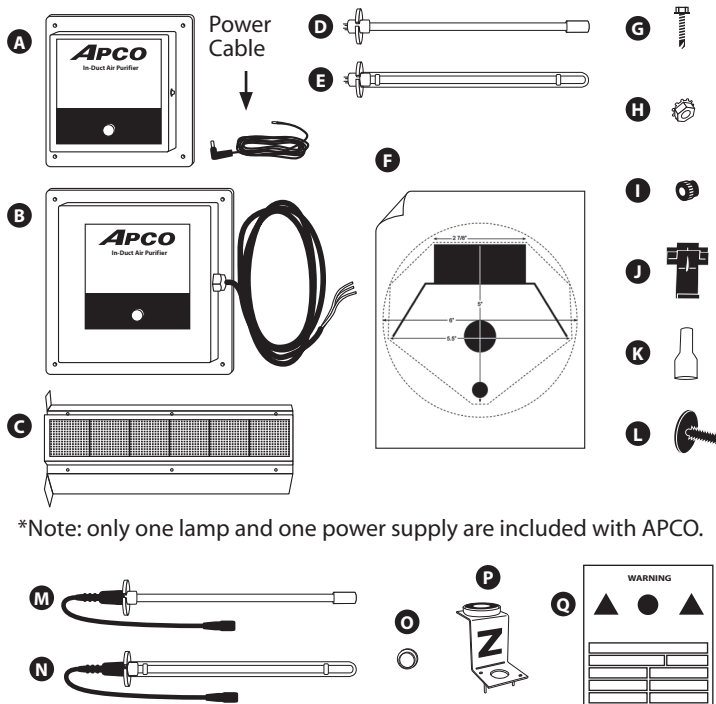
- Only qualified technicians should install this product
- Install in accordance with relevant building codes
- Read instructions carefully including safety warnings

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TUV-APCO-MAN 9.6.12

## 1 Parts List

- A ER Power Unit\*
- B DER/SI/DI Power Unit\*
- C Matrix Element
- D UV Lamp 1 Year\*
- E UV Lamp 2 Year\*
- F Mounting Template
- G Self-tapping Screws
- H Locking Nut (1 1/32")
- I Quick Nut (plastic)
- J Tap-in Connector
- K Spade Connector
- L Duct Rivet
- M Optional Remote UV Lamp 1 Year
- N Optional Remote UV Lamp 2 Year
- O Sight Glass
- P "Z" Mounting Bracket
- Q Warning Sticker



Note: lamp M or N and parts O P Q are included with APCO Dual.

## 2 Installation Notes

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

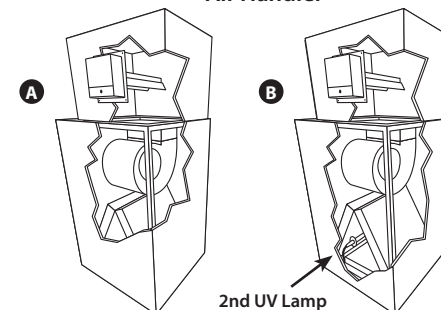
The APCO unit should be oriented so that the air flows past the **UV Light** first then into the **Matrix Element**.

If a second optional UV lamp is used (APCO 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 APCO Dual.

Typical installations include:

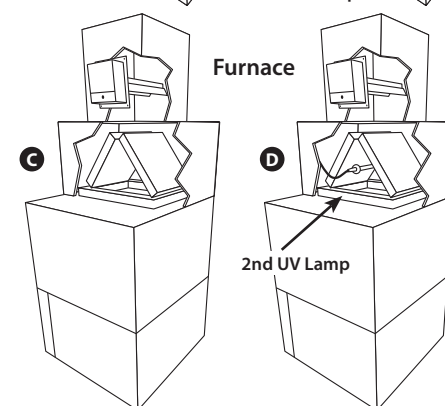
- A APCO single in air handler
- B APCO dual in air handler
- C APCO single in Furnace
- D APCO dual in Furnace

### Air Handler



2nd UV Lamp

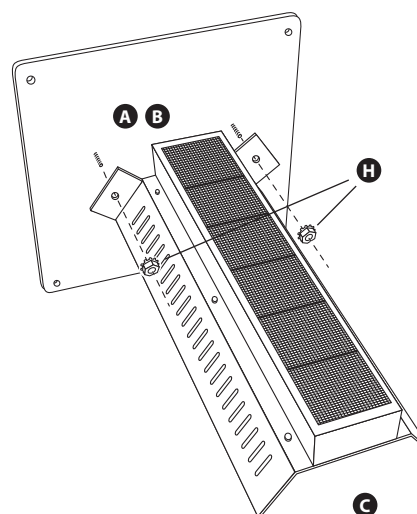
### Furnace



2nd UV Lamp

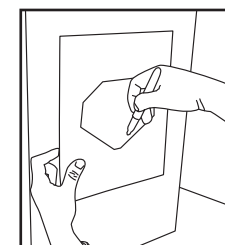
## 3 Join Matrix Element To Power Unit

Attach the **Matrix Element** to the **Power Unit** using (2) **Self-Tapping Screws** and (2) **Locking Nuts**.

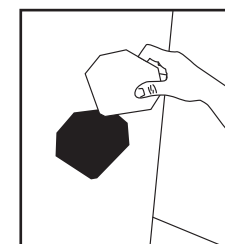


## 4 Cut Hole In Duct Using Template

Use scissors to cut out center of paper template (pick circular or linear). Trace cut-line onto duct using template.



Cut hole in duct using a cutting tool appropriate for the duct material.



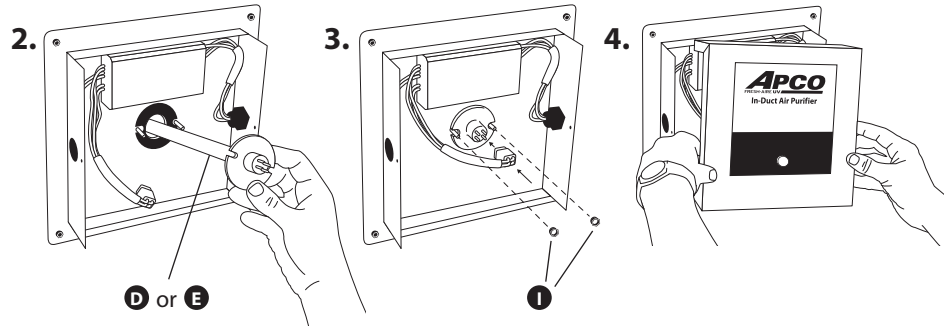
## 5 Attach Power Unit to Duct & Mount UV Lamp

1. Fit the Matrix Element through the hole cut in the duct so that the Power Unit lies flush against the duct surface. To attach the Power Unit to metal ducts use 4 **Self-tapping Screws**. For soft duct materials use **Duct Rivets** and duct tape or scrim tape and mastic.

2. Insert UV Lamp

3. Mount UV Lamp using (2) **Quick Nuts** and attach lamp connector (be sure to align the four connector pins)

4. Replace **Power Unit** cover

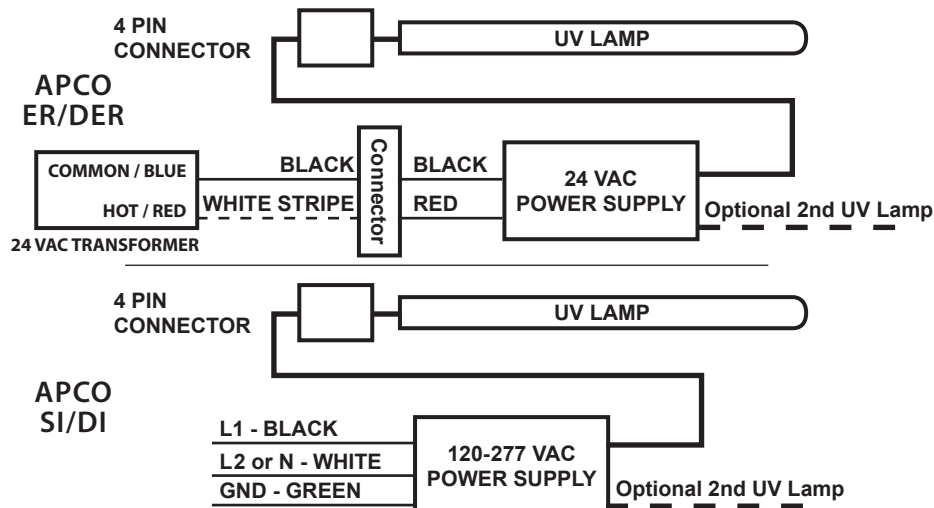


## 6 Connecting to Power

### IMPORTANT

Before connecting to power confirm which APCO 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.**



### IMPORTANT!

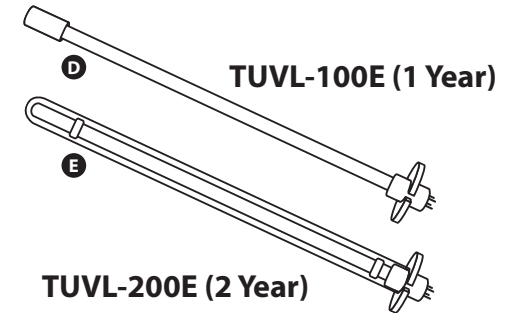
**Systems with high 24 VAC loads may require the installation of a separate 24 VAC transformer to power the UV light.**

**Always use a separate 24 VAC transformer with "communicating" air systems and all APCO Dual (TUV-APCO-DER) models.**

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

## 7 Lamp Replacement

The germicidal UV lamp in APCO needs to be replaced periodically. TUVL-100E lamps should be replaced every year. TUVL-200E 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 APCO Power Unit.



### 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)

**Note:** Use of replacement UV lamps other than Fresh-Aire UV® voids warranty.

### 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 APCO 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 of the equipment, with exception of the Ultraviolet Lamp, which is warranted for UV germicidal output only for the following: TUVL-1XX Series – one (1) year; TUVL-2XX Series – two (2) years. The UV lamp warranty does not cover cracked or broken lamps due to mishandling or improper application.

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.

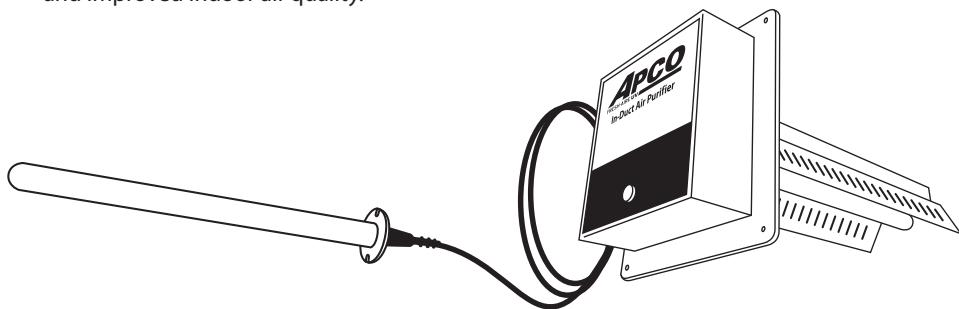
This warranty does not cover parts or equipment used with the Fresh-Aire APCO that are not made by Manufacturer, since these items are covered by warranties of the respective manufacturer. This warranty shall be void if UV lamps from manufacturer's other than Triatomic Environmental, Inc. are used with 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 you should contact your local dealer or the part should be shipped at your cost to:

# 1 Optional 2nd Remote UV Light Installation Instructions

The optional Fresh-Aire Remote UV Light works with the APCO system for enhanced disinfection, reduced system maintenance, and improved indoor air quality.



## IMPORTANT!

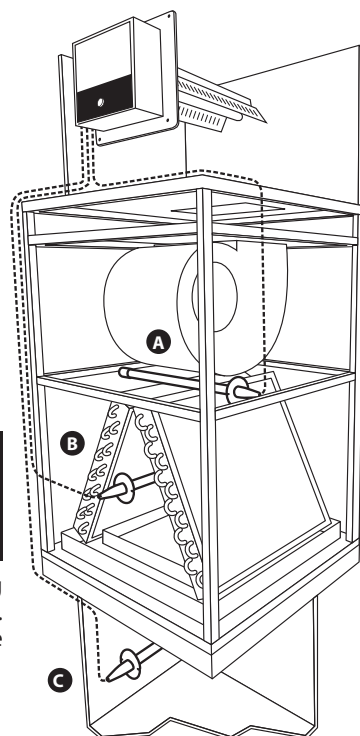
- APCO Dual lamps are wired in series - both must be connected for lamps to light
- Only qualified technicians should install this product
- Install in accordance with relevant building codes
- Read instructions carefully including safety warnings

## 2 Installation Notes

Before installing the Fresh-Aire 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

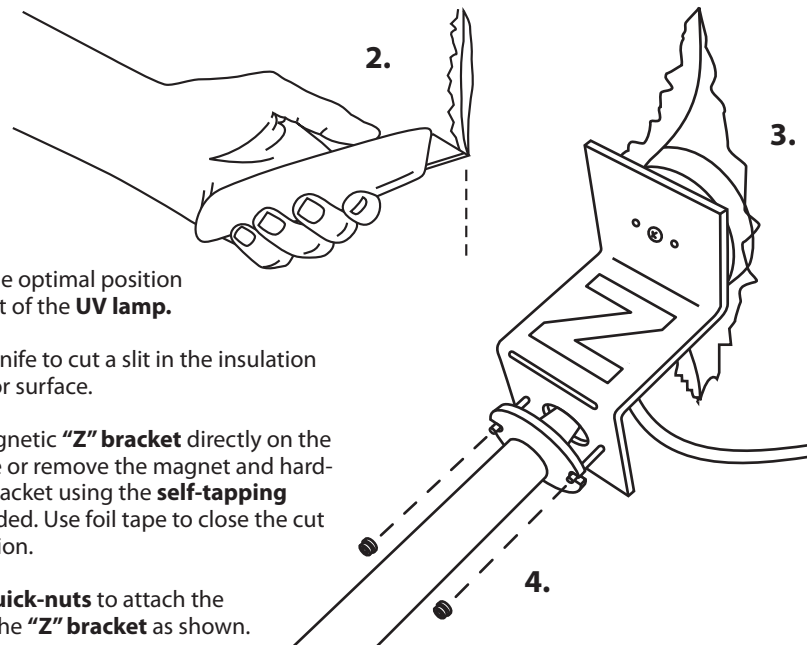


Mounting Options



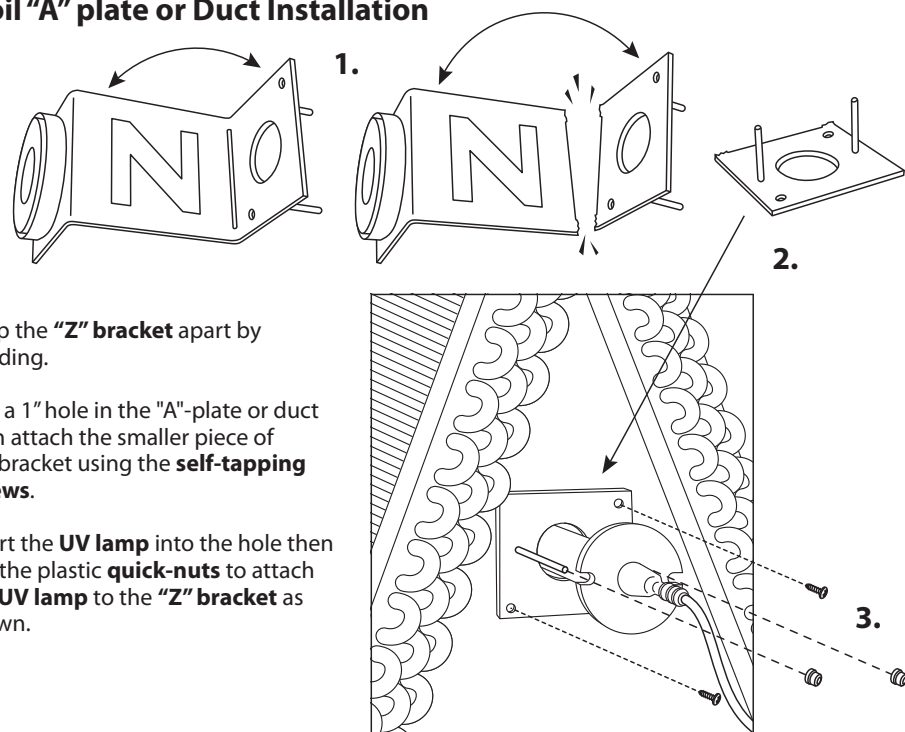
**Important:** some materials inside the air system (including filter media, flex duct, wiring etc.) may not be UV light resistant. Use the optional UV shield (part #TUV-SHIELD-LP) or cover the materials with reflective tape.

## 3 Air Handler Interior Surface Installation



1. Determine the optimal position for placement of the **UV lamp**.
2. Use a utility knife to cut a slit in the insulation on the interior surface.
3. Place the magnetic **"Z" bracket** directly on the metal surface or remove the magnet and hard-mount the bracket using the **self-tapping screws** provided. Use foil tape to close the cut in the insulation.
4. Use plastic **quick-nuts** to attach the **UV lamp** to the **"Z" bracket** as shown.

## 4 Coil "A" plate or Duct Installation

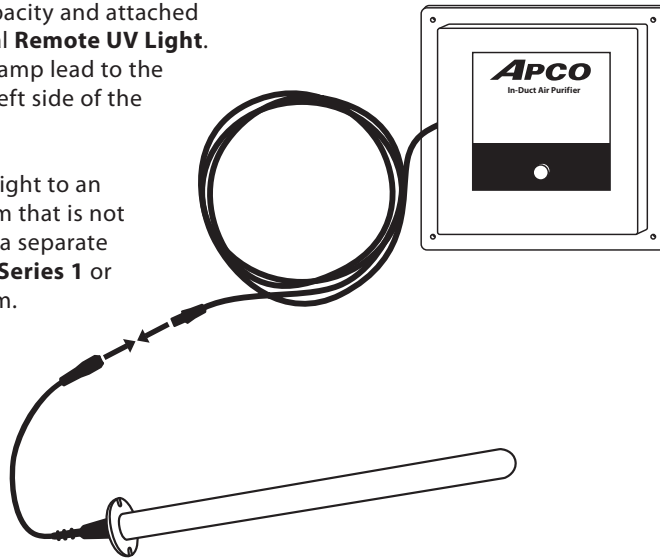


1. Snap the **"Z" bracket** apart by bending.
2. Drill a 1" hole in the "A"-plate or duct then attach the smaller piece of the bracket using the **self-tapping screws**.
3. Insert the **UV lamp** into the hole then use the plastic **quick-nuts** to attach the **UV lamp** to the **"Z" bracket** as shown.

## 5 Remote UV Light Configuration

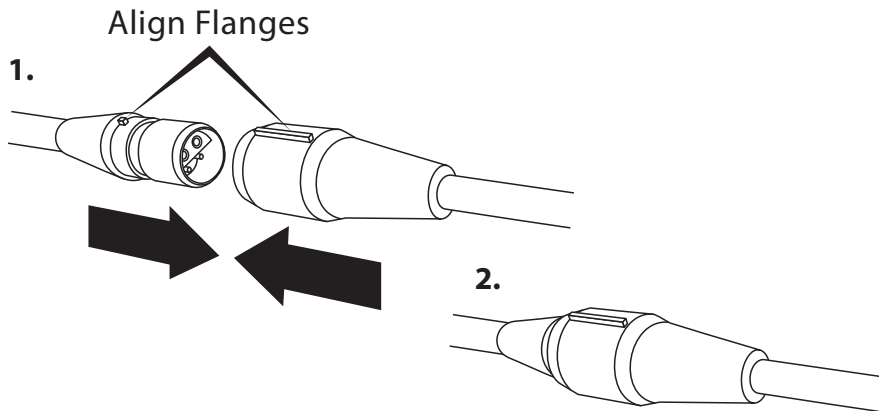
**IMPORTANT!** Only the **APCO Dual** model has the electrical capacity and attached cable for the optional **Remote UV Light**. Simply connect the lamp lead to the power cable on the left side of the **APCO Power Unit**.

To add a second UV light to an existing **APCO** system that is not a **Dual** model install a separate **Fresh-Aire UV AHU Series 1** or **Blue-Tube UV** system.



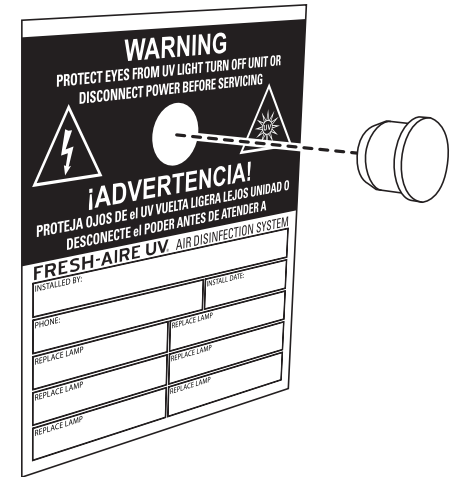
## 6 Remote UV Lamp Connection

1. When all the other components are properly installed connect the UV Lamp cable to the **APCO** 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.



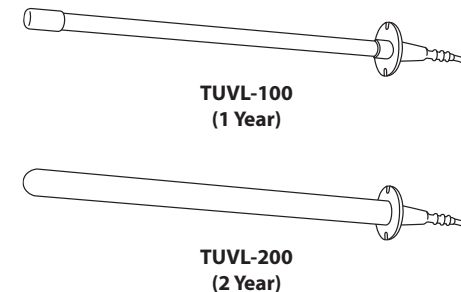
## 7 Sight Glass Installation

1. Find a suitable location on the outside of the duct-work near the UV Lamp installation and apply the Fresh-Aire UV® 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.



## 8 Lamp Replacement

The germicidal UV lamp in the **Fresh-Aire Remote UV Light** needs to be replaced periodically. A TUVL-100 lamp should be replaced every year. The TUVL-200 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)

**Note:** Use of replacement UV lamps other than Fresh-Aire UV® voids warranty.



### Duct Hole-Cut Template

Use scissors to cut away the circular or linear center of this template (dotted lines).

