

APCO-X Ultra reduces odors (VOCs) 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 APCO-X Ultra uses a unique combination of UVC light and activated carbon cells to clean the air.

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

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

\*Installation of this product by anyone other than licensed HVAC or electrical contractors voids warranty. LIT-FAUV-APCO-XU-MAN 022725

## **Parts** A Main Unit **B** UV Lamp (3 Year) © Duct Plate Gasket Tap-in Connector (U/UD Models) G Power Cord (U/UD Models) **D** Thumb Screws H Quick Nut (plastic) Sight Glass Self-tapping Screws **W** Warning Sticker $\triangle \bullet \triangle$ **Dual System Only** M Secondary UV Lamp Magnet Bracket Transformer (120V, 208V, 240V to 24V)

## **1** Installation Notes

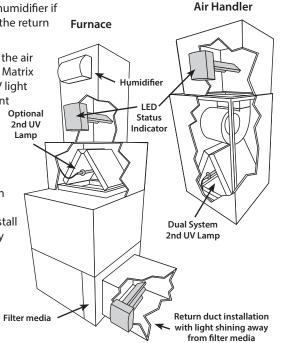
APCO-X Ultra is usually installed on the supply side duct just above the air system (upstream of a humidifier if there is one) but can also be installed on the return side if necessary.

The main unit should be oriented so that the air flows past the UV Light first then into the Matrix Element. Position the main unit so the UV light does not shine directly on non-uv-resistant materials (filters, humidifiers, flex duct, etc) and if possible orient it so UV light shines on the cooling coil.

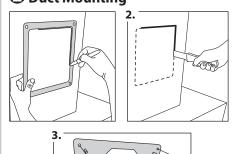
When installing a dual system (a second remote UV Lamp) select a location inside the air system that will allow it to shine on the greatest surface area or the area with the most evident microbial growth. To install the secondary UV light use the Secondary UV Light Installation Instructions on the next page.

#### **LED Status Indicator**

**SOLID BLUE** = Normal Operation **FLASHING BLUE** = Replace UV Lamp FLASHING RED = UV Lamp Expired **SOLID RED** = UV Lamp Failure



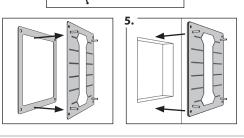
2 Duct Mounting



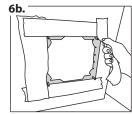
- 1. Use gasket to trace cut-line onto duct.
- 2. Cut hole in sheet metal or duct board.

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

- 3. For sheet metal duct secure mounting plate with Self-tapping Screws 1.\*
- 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. \* If the backing plate can't be used install directly

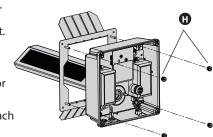




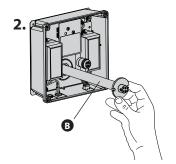


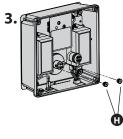
## Attach Power Unit to Duct & Mount UV Lamp

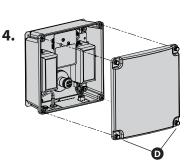
- 1. Fit the Main Unit through hole in duct. If attaching directly to metal duct use 4 Self-tapping Screws 1 If the Backing Plate is used fit the unit over the threaded posts and use 4 Quick Nuts (1) to secure it.
- 3. Mount UV Lamp using 2 Quick Nuts **(H)** and attach lamp connector (be sure to align the four connector pins).
- 4. Rotate the cover so it is oriented correctly then attach with thumb screws.



1.





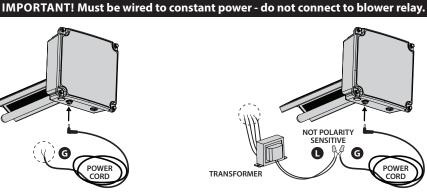


#### **Electrical Configration**

Before connecting to power determine if the transformer is needed. Turn off main power source before installation. Always wire according to local and national electrical codes.

DIRECT TO HVAC PANEL

Power Cord **G** is connected directly to 18-32V constant power terminals in HVAC system control panel.



USE TRANSFORMER

Power Cord wires are spliced to Transformer 24V leads after Transformer has been connected to a high voltage source (see installation instructions included with transformer).

### **4** Lamp Replacement

Replace the UV lamp in APCO-X Ultra (model TUVL-315) every 3 years. Note: UV lamps will continue to emit visible light but lose germicidal effectiveness over time.







### **CAUTION!**

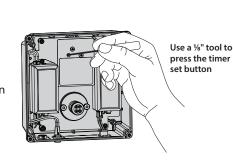
UV lamps contain small amounts of mercury - dispose of lamps in accordance with local environmental regulations. For more information visit www.lamprecycle.org Note: Use of replacement UV lamps other than TUVL- 315 voids warranty.

# **5** Replacement Lamp Timer Set

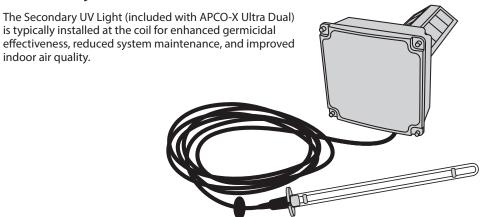
- 1. With the Power Head in hand connect power without the lamp installed.
- 2. For lamp replacement hold the timer set button for 5 seconds to enter timer mode. The LED will flash purple once indicating timer mode.
- 3. Within 5 seconds press the timer set button once, twice or thrice. LEDs will flash 1, 2, or 3 times indicating numbers of years set.



Scan for more information and video



# **Secondary UV Light Installation** (Dual Systems)



#### **IMPORTANT!**

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

#### **Installation Notes**

Before installing the Secondary 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.

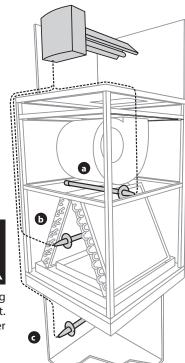
Some typical mounting locations:

- a Across top of coils
- **b** Coil "A" plate
- Return-side duct



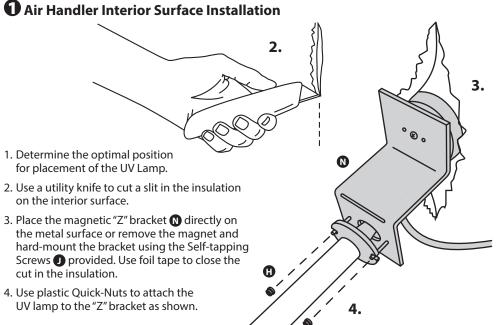
WARNING PROTECT EYES FROM UV LIGHT TURN OFF UNIT OR DISCONNECT **BEFORE SERVICING** 

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-LPC) or cover the materials with reflective tape.

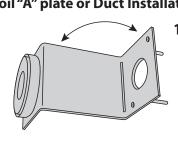


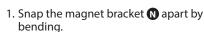
**Mounting Options** 

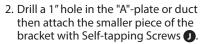




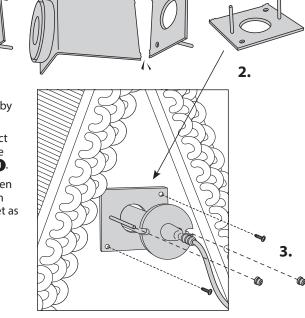








3. Insert the UV lamp into the hole then use the plastic Quick-Nuts to attach the UV Lamp to the magnet bracket as



# **3** Remote UV Light Configuration

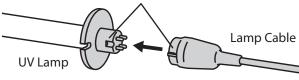
IMPORTANT! Only Dual System models have the electrical capacity and attached cable to power the Secondary UV Light.

Find the secondary lamp cable on the right underside of the Dual System Main Unit.

Drill a 1" hole in the air system housing then pass the lamp cable through the hole. The hole is then sealed with the rubber grommet to minimize air leakage.

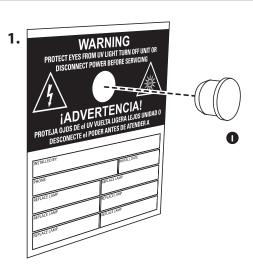


Align Pins with Alignment Key



## 4 Sight Glass Installation

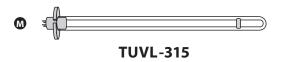
- 1. Find a suitable location on the outside of the duct-work near the UV Lamp installation and apply the warning/lamp replacement sticker (K).
- 2. Drill a 1/2" hole through the circle on the sticker. Press the sight glass 1 into hole.
- 3. Turn on the power and use the sight glass to confirm that the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



#### **6** Lamp Replacement

The second germicidal UV Lamp M should be replaced every three years along with the primary lamp.

Note: UV lamps may continue to emit visible light after three years, however, germicidal effectiveness falls off over time and will quickly drop to near zero after three years.





#### **CAUTION!**

UV lamps contain small amounts of mercury - dispose of lamps in accordance with local environmental regulations. For more information visit www.lamprecycle.org

Note: Note: Use of replacement UV lamps other than TUVL- 315, TUVL- 215, or TUVL- 115 voids warranty.