

# UVPhotoMAX™

Advanced Oxidation Photocatalytic  
Whole House Air Purifier  
For HVAC systems



## Homeowner / User Guide

1-866-GO-UV-AIR (468-8247)  
ultravation.com

DC-OH-0234M R1013

**Ultravation®**  
Professional Indoor Air Quality Products

Thank you for purchasing an Ultravation®  
Professional Indoor Air Quality Product

## Introduction

The Ultravation® UVPhotoMAX™ for HVAC is a unique air quality improvement device that uses a photocatalytic (PCO) process to treat the air for organics from microorganisms to allergens to odors.

The UVPhotoMAX will be effective when used in structures up to 5,000 sq. ft.

## Package Contents:

- Steel electrical housing
- Mounting plate / PCO module
- 4- 3/4 inch 5/16 self tapping sheet metal screws
- UVC warning label
- Warranty card
- Remote mount viewport label
- Remote mount viewport / sight stick
- One 12" photocatalyst oxidation Dual Spectrum UV lamp
- Sealing Gasket
- Two wire nuts
- 40 VAC multi-tap transformer

2

## SAFETY PRECAUTIONS:

It is recommended that this unit be installed and maintained by a trained technician:

- ⚠ **WARNING: UV Hazard. Always protect eyes from ultraviolet light. NEVER look at UV lamps in operation. Unplug or disconnect power before replacing lamps or servicing.**
- ⚠ **WARNING: Severe eye damage or temporary blinding may occur.**
- ⚠ **WARNING: DO NOT operate outside of air handler. Operate only after installed.**
- ⚠ **WARNING: No openings in HVAC system are allowed which would give direct line-of-sight to the UV light.**

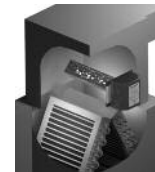
In the event of accidental breakage or replacement of the ultraviolet lamp, please ensure that the lamp is disposed of in accordance with local and state environmental laws regarding fluorescent lamps containing mercury.

**Notice:** All wiring inside air handling system in direct line of site of the UV lamp must be shielded with aluminum foil tape or equivalent non-combustible material. When installing this unit, select a mounting location that prevents ultraviolet light exposure to plastic non UV-rated flexible duct liner or other plastic components with unknown resistance to ultraviolet light. Ultraviolet light may cause color shift or structural degradation of plastic HVAC components. If installing where UV light can directly contact fiberglass duct board, contact manufacturer of fiberglass product for advice on UV rating. If unknown, install metal sheathing or foil tape to completely protect fiberglass duct board from UV light exposure.

3

## Installing the UVPhotoMAX™

1. Determine a location for the UVPhotoMAX. Mount the unit on the exit or supply side of the HVAC system and before the ductwork branches off.
2. Separate the power module from the mounting plate. See Fig. 1.
3. Remove blue lamp protector. See Fig. 2.
4. Mark a 4" round opening (or use the end of the PCO chamber to mark the area) on the air duct and cut the hole needed for the insertion of the advanced photocatalytic chamber. See Fig. 3.
5. Thread supplied gasket over PCO module and attach to mounting plate. (Seals against air duct.)
6. Insert the mounting plate / PCO module into opening and attach to duct with two supplied self tapping screws in the lower left and upper right (only). See Figs. 4 and 5.



Typical placement in HVAC system



Fig. 1



Fig. 2



Fig. 3



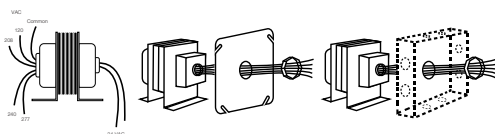
Fig. 4

4

## 24VAC Transformer

1. Disconnect power supply before beginning installation to prevent electrical shock or equipment damage.
2. Connect secondary voltage. Refer to voltage color or terminal coding on transformer for proper wire combination. On terminal type transformer, be sure that no exposed wire can come in contact with any terminal.
3. Connect primary voltage. Refer to voltage color coding on transformer for proper wire combination. See Fig. 1 for connection and installation.
4. Tape or protect all unused exposed wire separately to avoid a possible electrical short.
5. Check installation and reconnect power supply for proper operation.

Fig. 1 Connect power to proper line voltage



## Fuse

Some models are equipped with an in-line fuse. If necessary, replace with an AGC type fuse, 2 AMP MAXIMUM.

6

7. Adjust Photon Clarifier. See page 7.
8. Place the power module on the unit aligning holes in tabs with holes in mounting plate (upper left / lower right). See Fig. 6.
9. Secure the power module to the mounting plate with the remaining two self-tapping screws.
10. Plug power cable in.



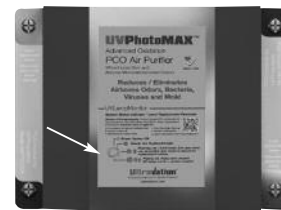
Fig. 5



Fig. 6

## UVLampMonitor Status

Your UVPhotoMAX is equipped with an electronic power supply that monitors operation and protects the UV lamp filaments. It also monitors elapsed time and reminds after 9000 hours of operation that lamps need to be replaced. Below is a chart that describes how to interpret the display.



LED	Audible Alarm	Unit Status
Green	No Sound	Normal
Flashing red	3 Min beep	One year use exceeded
Pulsing red	1 sec beep	Lamp out, service required
Steady Red	No Sound	Replace lamp(s)

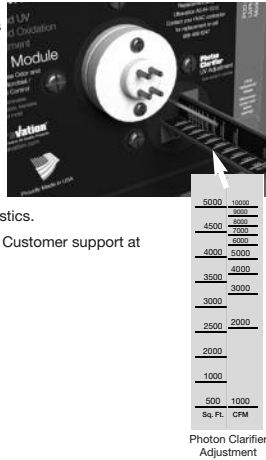
5

### Adjusting the Photon Clarifier

The UVPhotoMAX™ is a universal air purifier with a patented design that provides adjustability to the advanced photocatalytic process for a variety of treated space sizes. When setting up your equipment, adjust the Photon Clarifier Adjuster (under electronics cover) to the appropriate position based on the square footage of the home or CFM of the air handler.

Fine adjustments may be required depending upon household living characteristics.

For more information please call Ultravation Customer support at 1-866-468-8247.



7

### Maintenance

Typical maintenance of the UVPhotoMAX™ system includes recommended annual service and the replacement of the Dual Spectrum UV Lamp. UV lamps undergo a photochemical process during operation that slowly reduces the amount of germicidal UV light generated.

When installing new lamps, ensure that the lamp glass is free from any fingerprints or debris, as this may alter the path of the UV energy. Use rubbing alcohol and a dry cloth to remove any surface contaminants.

### Service Indicator Reset

1. To set or reset the Bi-Annual Service Indicator the unit must be connected and have power.
2. Press and hold the square yellow RESET button for 10 seconds using a non-metallic implement. The LED should turn blue while the button is depressed.
3. Release the RESET button, and the LED will return to green status.



### Replacement Parts

Model	Description	Replacement Part Number
PCO Lamp	12" Dual Spectrum Lamp	AS-IH-1013
PCO Module	Replacement base	94-201
EZ-Light	12" UVC Lamp	AS-IH-1001
EZ-Light	17" UVC Lamp	AS-IH-1003

8

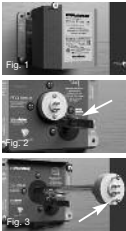
### Important Information About UV Lamp Replacements

Replace UV lamps at each annual service in order to maintain optimum effectiveness in the reduction of pathogens such as bacteria, viruses and microscopic mold. Lamps operating beyond one year do not provide adequate reduction of pathogens and must be replaced. Lamps operating beyond two years draw excessive electrical current which may result in damage to the UV system. If UV lamp(s) have been operating for more than two years, the system must be turned off until replacement lamp(s) are installed. Failure to do so may void the warranty.

### Lamp Replacement

The UV lamp is shipped installed in the equipment and should be replaced during an annual service. To replace the UV Lamp follow the steps below:

1. Unplug power cord and remove power module. See Fig. 1.
2. Note the position of the Photon Clarifier and pull adjustment bar to its full-out position. See Fig. 2.
3. Remove lamp screws and pull lamp out of PCO module. See Fig. 3.
4. Install new lamp and fasten with lamp screws.
5. Return the Photon Clarifier to its noted setting.
6. Place the power module on the unit and fasten.
7. Plug in power cord.



9

### EZ-Light™ UV Option

A UVPhotoMAX™ is capable of powering an optional single Ultravation® T3™ Germicidal UV lamp to keep HVAC internal surfaces clear of mold which reduces airborne mold allergen and helps minimize HVAC energy consumption.

The EZ-Light™ option may be advisable in the southern regions or where there is a constant demand for air conditioning. Heavier use frequently leads to bacterial/mold fouling of AC equipment. In these cases it may be beneficial to add a 3rd lamp for items such as blower motor assemblies or turning vanes. Stand-alone Ultravation® UltraMAX™ Germicidal UV light kits are available.

We recommend that this unit be installed and maintained by a trained HVAC professional technician. Consult your HVAC service provider or call 1-866-468-8247 for more information.

### Installation Steps (If EZ-Light was purchased separately see instruction for connection to UVPhotoMAX accompanying EZ-Light.)

1. Select location for UV lamp. Drill a 1" hole. Install mounting plate over drilled hole with the provided screws. Insert UV lamp module into hole. Attach to HVAC system with two provided self-tapping screws.
2. Plug the rubber lamp connector fully onto the installed UV lamp assembly. Be sure the four pinholes are oriented to match the four pins on the lamp (see diagram pg. 11).

### Notes:

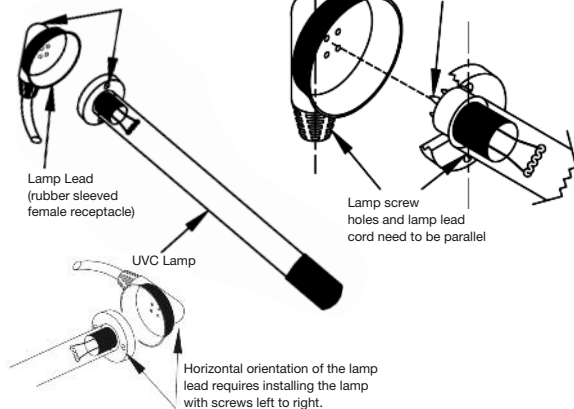
The rectangular pin pattern allows connection in two positions (see diagram pg. 11).

A UV status viewport lens is supplied to verify lamp operation. Drill a 3/8" hole within a 3" radius around the lamp, and on the "lamp side" of the "V" in the light shield (if used), to accommodate installation of the viewport.

10

### EZ-Light UV Option Diagram

The screw holes on the UV lamp must be parallel to the lamp lead cord on the back of the female receptacle for correct assembly!



11

### Warranty

Ultravation® UVPhotoMAX™ features a ten-year warranty, with the exception of the ultraviolet lamp(s), which are warranted for a period of one year after date of consumer purchase.

This warranty does not include damage to the unit from accident, misuse or improper installation.

If this product should become defective, Ultravation will elect to repair or replace the product free of charge. Ultravation will return repaired or replaced warranted products pre-paid to the customer, provided that the product was delivered pre-paid.

Ultravation shall have no responsibilities for charges incurred by the customer for installation or removal of warranted items. Liability is limited only to the replacement or repair of this product.

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. All returns must be accompanied by a return authorization number, which may be obtained by contacting Ultravation, Inc.

### Ultravation, Inc.

Phone: 1-866-GO-UV-AIR (468-8247)  
www.ultravation.com • info@ultravation.com



UL Listed. The health aspects associated with the use of this product and its ability to aid in disinfection of environmental air have not been investigated by UL.



Ultravation.com