

## UV Air Cleaner Features & Benefits

- American-Lights® is the #1 selling UV Air Cleaner on the market.
- Its technology has been proven by medical studies.
- It reduces or eliminates airborne mold, bacteria, viruses, fungi and spores from the indoor air.
- It produces no ozone, fumes or other secondary contaminants.
- It operates continuously at maximum efficiency without the need for constant adjustment.
- It is specifically designed for HVAC conditions while providing high “kill ratios” over a broad range of germs.
- It features no plastic parts, which might be susceptible to deterioration.
- It is inexpensive to operate and features a low level of maintenance.
- It is approved for residential, commercial and industrial applications.
- It is designed to prolong the life of the HVAC system and maintain its efficiency.
- It is completely silent.
- It provides energy savings.
- It includes a 100% Customer Satisfaction Guarantee, with a 30-day manufacturer's refund.
- 5 years warranty on the chassis if installed and serviced by a qualified contractor.
- 1 year warranty on the high output germicidal UV lamp.



Schedule  
Contract GS-07F-0256U

## Warranty

*The following warranty applies only when this product is installed by a professional technician employed by an authorized licensed contractor / dealer in compliance with all local building and construction codes.*

AAW warrants this product against defects in material or workmanship as follows:

**WARRANTY:** 5 years on the chassis and 1 year on the UV lamp from date of installation by authorized contractor, documented by sales receipt or contractor warranty card. If this unit is determined to be defective, it will be exchanged for a new or rebuilt unit at no charge.

- This warranty does not cover customer instructions, installation or set up adjustments.
- This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence or modification of, or to any part of the unit. This warranty does not cover damage due to improper operation or maintenance or connection to improper voltage supply. This warranty applies only to the original purchaser.
- This warranty is valid only in the United States.
- All service and removal must be performed by an authorized contractor for valid warranty coverage.

## American-Lights® Specifications and Installation

The American-Lights® UV air cleaner is manufactured in the USA. All units are factory assembled and tested. They consist of electronic ballast, germicidal UV lamp and chassis, all constructed to withstand HVAC environments.

The American-Lights® is UL Listed\*\* for multi-volt operation at 120/240/277V, 50/60Hz. File # E42012



AIR DUCT MOUNTED ACCESSORY  
WITH RESPECT TO ELECTRIC SHOCK,  
FIRE AND CASUALTY HAZARDS ONLY.

**BALLAST:** The automatic electronic ballast is designed to deliver maximum UV production and reliability while suppressing noise. The ballast will automatically switch to 120/240/277VAC at 50/60Hz and will operate the American-Lights® HO germicidal UV lamps in temperatures of 35-135° F and airflows to 1,000FPM. Use of other lamps will void warranty.

**CHASSIS:** The chassis is constructed of durable, commercial grade 304 STAINLESS STEEL for many years of worry-free service. It is one integral assembly that maximizes serviceability. The lamp is held in place and supported in the air stream by heavy-duty steel clip which allows quick and easy service.

**UV LAMP:** The high output germicidal UV lamp has a 4-pin ceramic base with Teflon wiring. The quartz tube eliminates ozone production. Heat output is low, allowing the UV lamp to be installed safely in several different locations within the HVAC system.

UV Lamp Specs:	Model: AAWHO/14
Length:	14.5"
Base / End cap:	4-pin base, ceramic
Effective lamp life:	12,000 hours
Etch:	AAWHO/14 GML600 www.americanairandwater.com
Lamp Diameter:	15mm
Base Diameter:	18.5mm
Operating Voltage:	54VAC @ 60Hz
Starting Voltage:	120VAC @ 60Hz
Lamp Wattage:	36W
UV Output /254nm@100hrs/	12W
UV Intensity:	106µW/cm <sup>2</sup> /sec @ 1m 800µW/cm <sup>2</sup> /sec @ 1 foot

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

**Installation Tips** (detailed instructions are included with each air cleaner): Please observe all warnings. Disconnect power before lamp removal or lamp replacement. Proper installation should have lamp(s) at right angles to airflow, centered in duct or plenum.

UV light may be installed on either supply or return side of the coil and is equally effective.

**Note:** if UV is close to register or grill, lamp glow may cause objectionable night light effect.

Having established the location, drill a 1" hole for the lamp. Snug unit to desired location. Using cotton gloves slide the UV lamp through the hole in the unit and duct until the retaining ring will not allow further insertion. Slide retaining clip over retaining ring and tighten the retaining clip's fasteners so it will not move. Carefully attach the plug to the 4-pin end of the lamp. Snap cover in place and power unit.

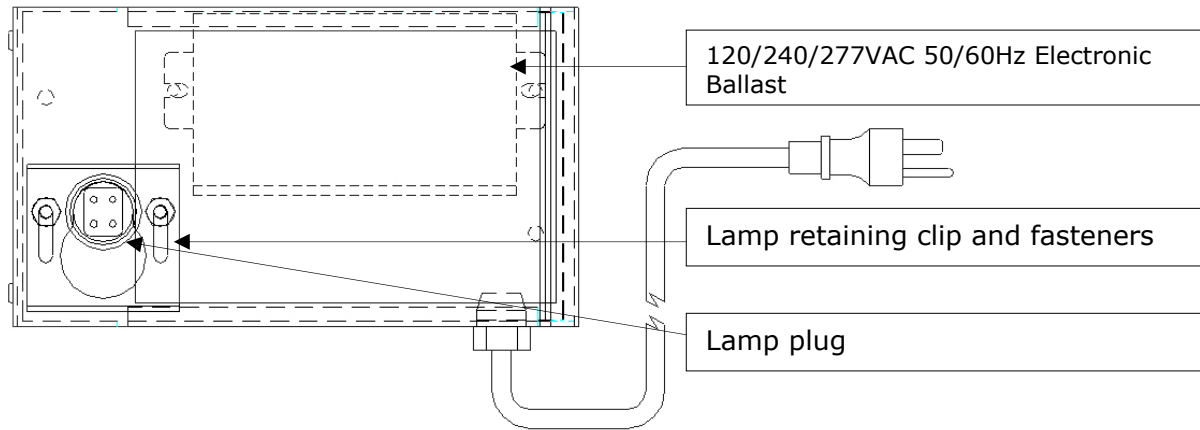
Drill a 7/16" hole in the duct 6 inches away from the mounting position of the UV lamp. Insert the indicator in the hole. When the lamp is lit, the plug will glow as an indicator that the unit is working correctly.

Lamp replacement: Requires original American-Lights® UV lamps Model # AAWHO/14.

**CAUTION:** The UV Light should be mounted a minimum of 36" from plastic air filters and heat source if on supply side.

**WARNING:** Prolonged exposure to UV light will burn the retina of the eyes and the skin.

Chassis Material: Commercial Grade 304 Stainless Steel

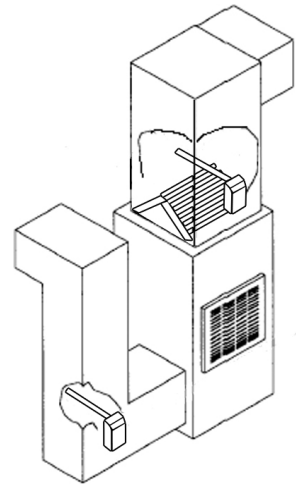


### Installation Tips

#### **FOLLOW ALL LOCAL CODES AND REGULATIONS WHEN WIRING THIS UNIT!**

Because the American-Lights® UV Air Cleaner is designed for multiple and diverse applications keeping in mind the need for profitability and time constraints by installers, it requires a minimum of rules for a productive installation.

- Avoid direct exposure (within 36") of non-UV inhibited plastics. (Including drip pans, plastic air filters and filter frames) Avoid plastic coated wires, even if the coating is UV inhibited.
- Avoid ANY location that would permit the homeowner access to the lamp. (Example: closet door with louvers and the unit exposed when door is open or light is seen through the louvers.) The night light issue should be considered if the UV air cleaner is not being placed in the optimum location.
- Best location: across top of coil @ right angles to "A"; also return plenum if not within visible range of filters, grills etc. (Do not install this where a homeowner can remove the filter and see or touch the lamp).
- This High Output germicidal UV lamp will provide strong germicidal protection for 1 year. The reason - it does not cycle on/off thereby maximizing its life and efficiency. To keep the system in top performance range, it is strongly recommended to replace the UV lamp every year.
- Review of the specification sheet and installation instructions will provide answers to most situations and questions.



# Underwriters Laboratories - UL

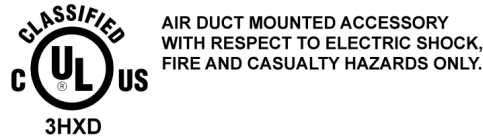
## Certification # E42012

UL is the trusted source across the globe for product compliance. Benefiting a range of customers - from manufacturers and retailers to consumers and regulating bodies - UL have tested products for public safety for more than a century.

Underwriters Laboratories Inc. (UL) is an independent, not-for-profit product safety certification organization that tests products and writes Standards for Safety. UL evaluates more than 19,000 types of products, components, materials and systems annually with 21 billion UL Marks appearing on 71,000 manufacturers' products each year. UL's worldwide family of companies and network of service providers includes 66 laboratory, testing and certification facilities serving customers in 104 countries

### American-Lights® - Multi-Volt UL Certified

American-Lights® is UL certified for 120/240/277V, 50/60Hz, file #E42012 and carries this mark:



This C-US Listing Mark indicates compliance with both Canadian and U.S. requirements. UL encourages those manufacturers with products certified for both countries to use this combined Mark.

The UL Mark on our product means that UL has tested and evaluated representative samples of that product and determined that they meet UL's requirements. Under a variety of programs, products are periodically checked by UL at the manufacturing facility to make sure they continue to meet UL requirements.\*

The UL Marks may be only used on or in connection with products certified by UL and under the terms of written agreement with UL.

The fastest way to access the UL Certifications is going to [www.ul.com](http://www.ul.com) and searching the UL Online Certifications Directory to:

- Verify a UL Certification
- Verify a UL Certified product use
- Verify a product safety standard

Or call a Customer Services Representative at 1-877-ULHELPS (854-3577).  
File #E42012

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## Lamp Replacement Instructions

For Best Results the UV Lamp Should Be Replaced Annually!

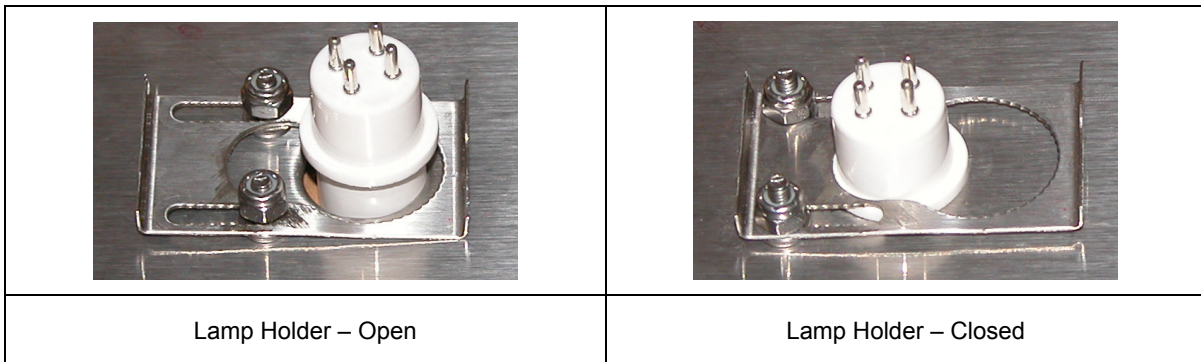
**WARNING:** Overexposure to germicidal UV can cause severe and permanent damage by burning the retina of the eyes. It could also burn the skin. Do not look directly at the UV light. Use special protective goggles.

**WARNING:** Before replacing the lamp, make sure the power is turned OFF.

**IMPORTANT:** Do NOT touch the glass portion of the lamp with bare hands. Use cotton gloves to avoid leaving fingerprints that will diminish the UV output. If you touch the lamp, clean it with soft cotton cloth.

**NOTE:** American Air & Water®, Inc. recommends that only authorized and qualified technicians perform the lamp replacement by following these guidelines:

1. Remove the protective outer cover of the chassis.
2. Pull the electrical connector from the lamp until disconnected.
3. Loosen the 2 fasteners that hold the lamp clip and slide the lamp clip in *OPEN* position.
4. Pull out the lamp by holding the ceramic base.
5. Using gloves slide the new UV lamp through the hole in the unit and duct until the retaining ring will not allow further insertion. Slide retaining clip over lamp ring and tighten the clip's fasteners so it will not move.



6. Reconnect electrical connection by attaching the plug to the 4-pin end of the lamp.
7. Replace protective outer cover and turn power source back on.

The American-Lights® High Output UV lamp



American-Lights® is registered in the U.S. Patent and Trademark Office.  
US Trademark Registration No: 2,839,201

## Questions And Answers

**Q. Does UV really work for air disinfection?**

**A.** Absolutely. The ability of UV to breakdown the DNA of germs like mold, spores, viruses and bacteria has been proven under numerous studies. Delivering the appropriate UV dose depends on the application.

Example 1: In critical environments, i.e. hospitals, clean rooms, food processing plants, the objective would be to have instantaneous kill. Therefore, UV lamps would blanket the air passage system and the airflow directed over and between lamps, which provide for maximum kill of germs.

Example 2: In residential applications, the objective is to create a cost effective and continuous method for air disinfection and energy savings. Properly installed UV systems will keep the cooling coil free of microbial growth which results in energy savings. Also, a cumulative UV dose will be introduced to the air flow in each consecutive passing by the UV lamp promoting healthier indoor environment.

**Q. How does UV provide energy savings?**

**A.** It is a well known fact that mold and other microbes grow on the cooling coil clogging it and reducing the heat exchange ratio. UV shining on the coil will promote energy savings by:

- a) Keeping the coil in "like new" condition therefore preserving or improving the heat exchange rate.
- b) Removing mold growth from the coil prevents clogging therefore improves the pressure drop across the coil and reduces the load on the blower.

**Q. How does UV prolong life of the AC system?**

**A.** By keeping the air handler free of microbial growth UV preserves the coil and reduces the total load on the AC unit, which translates into fewer and shorter on/off cycles and, respectively, in longer effective life of the AC system.

**Q. Has UV technology been tested?**

**A.** Yes. Westinghouse, General Electric, Penn State University, Harvard School of Public Health and the EPA, among others, have conducted tests on the UV germicidal effectiveness. UV light has also been field tested in commercial settings, hospitals and laboratories for many years.

**Q. What does GSA say about UV?**

**A.** UV has been incorporated in the Facilities Standards for the Public Buildings by the US GSA Office of the Chief Architect as follows: *"Ultraviolet light (C band) emitters/lamps shall be incorporated downstream of all cooling coils and above all drain pans to control airborne and surface microbial growth and transfer. Applied fixtures/lamps must be specifically manufactured for this purpose."*

**Q. What is the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) position on UV?**

**A.** *"Airborne infectious disease transmission can be reduced using dilution ventilation, ... filtration, and UVGI (ultraviolet germicidal irradiation)."* ASHRAE recommends further research to be conducted with top priority given to filtration and UVGI research.

**Q. Have indoor airborne contaminants increased?**

**A.** Yes! Self defrost refrigerators, air conditioning and energy tight homes, are a few examples of environments that now provide breeding grounds for growth of mold and bacteria that can get airborne.

**Q. What types of germs are affected by UV?**

**A.** Germicidal UV is very effective against virtually all microbes including cold-causing viruses, infectious bacteria, allergens and asthma triggers like various molds and toxic mold spores.

**Q. Is UV light harmful to people?**

**A.** Prolonged exposure to UV light is harmful to all living organisms, including people. That's why the UV systems are designed with safety in mind. With properly installed UV units the risk of exposure to UV is minimized by warning labels, interlock switches and proper training. This provides for safe operation and maintenance.

**Q. If UV is harmful, is it safe to look at the light through the sight-glass?**

**A.** UV cannot pass through regular glass. There is no harm to look at the sight-glass to see if the lamp is on. The sight-glass is an indicator - there is no need to look through it. Just observe from a distance.

**Q. How does the American-Lights® UV Air Cleaner Work?**

**A.** The American-Lights® is installed on either the cold air return or supply side of your HVAC system. The lamp emits germicidal UV light that greatly reduces or eliminates germs circulated by the HVAC system. If installed on the coil, the UV lamp will keep it clean of microbial growth which will result in energy savings.

**Q. What is the life of the UV lamp?**

**A.** The American-Lights® UV lamp has an effective life span of one year. It is strongly recommended that the UV lamps are replaced annually to keep the UV system in top performance range. The lamp will continue to shine after one year but UV, which is invisible to human eye, deteriorates rapidly.

**Q. How do I know when it is time to replace the lamp?**

**A.** The indicator glows if the lamp is working. The UV lamp should be replaced every year.

**Q. Does the American-Lights® UV air cleaner operate continuously?**

**A.** Yes. The American-Lights® UV air cleaner must stay on 24 hours a day.

**Q. Is the American-Lights® expensive to operate?**

**A.** Not at all. The American-Lights® lamp only consumes about 7 - 10 cents a day in energy costs. For best results, simply keep the lamp free of dust and replace the lamp once a year.

**Q. Is UVC similar to ozone?**

**A.** No! Ozone is a gas; UVC is electromagnetic energy similar to light. Ozone can mix with the air and travel by air currents into the breathable air space. Ozone is very corrosive - it oxidizes the material it contacts. UVC is wave energy and does not mix with the air. To be effective, that energy has to be in direct line of sight. The UVC energy diminishes with distance from the UV source.

**Q. Why not use an ozone generating air cleaner?**

**A.** The EPA and American Lung Association are strongly against the use of ozone indoors. It has been determined that ozone is corrosive to lung tissues. In addition, ozone can damage your HVAC system.

**Q. Don't filters eliminate germs?**

**A.** Filters do trap microbes; but even the most sophisticated ones do not contain 100% of the germs. Germs reproduce rapidly and re-contaminate the indoor air. The air filters can easily become breeding grounds for new colonies of microorganisms.

**Q. Do microorganisms have to be within sight of the UVC to be killed?**

**A.** Yes. Germs must be exposed to UVC. Germs can be affected by reflected UVC also but it takes longer and they must be closer to the reflected light. Some materials, primarily polished aluminum, effectively reflect UVC. The common mirror will not.

**Q. What is the American-Lights® warranty?**

**A.** 5 years from the date of installation by an authorized dealer, documented by sales receipt or warranty card.

**Q. Is the American-Lights® certified?**

**A.** Yes. The American-Lights® is UL listed\* for multi-volt operation at 120/240/277V, 50/60Hz. The UL file number under which the system is listed is: E42012.

**Q. How can I get American-Lights® Air Cleaner installed?**

**A.** If you cannot find a contractor that carries American-Lights®, call American Air & Water®, Inc. at 888-378-4892 or visit our website [www.americanairandwater.com](http://www.americanairandwater.com) for the name of a contractor near you.

**Q. During initial operation, the lamp burns green instead of blue. Is this normal?**

**A.** No. After five (5) minutes, the lamp may be deemed defective.

**Q. Where in your home should you place UVC?**

**A.** Standing indoor air has such volume and is so dispersed throughout the rooms it is next to impossible to effectively purify it. But there is one place where 100% of the air can be conditioned every 12 to 15 minutes. That area is in the operating central HVAC system. Cleaning and purifying the indoor air should be done within the HVAC system. It is within this system that the UVC lamp should be placed to take advantage of the one point through which all the air passes several times a day and where it can be disinfected.

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## Affordable And Effective Whole House UV Air Purification



## UV Light Fights Germs and Promotes Safer, Healthier Indoor Environment and Energy Savings

As you may know, the sun is a natural atmospheric germ controller. Unfortunately, it is prevented from performing this function indoors.

However, this problem can be solved with specially designed germicidal UV disinfection systems, which generate light similar to sunlight. The shortwave UV light reduces or eliminates germs such as bacteria, viruses, mold, fungi and spores from the indoor air of homes, offices and public buildings. UV has been used for decades in commercial settings and now it is widely popular for residential use.

In addition to the health benefits, properly installed UV will keep the cooling coil and drain pan free of mold growth which results in energy savings and prolonged life of the AC system.

Just as important, the American-Lights® UV disinfection system will accomplish the sun's job indoors both efficiently and inexpensively.

Now that we've shed some light on the topic, call us direct at: (941)376-8484