

Ultravation®

Professional Indoor Air Quality Products

UltraMAX[™]GOLD EXTREME

Germicidal UV Lights for HVAC
Air and Surface Treatment



AIR DISINFECTION SYSTEMS OWNERS GUIDE

**Models: UMX-1224T / UMX-1924T / UMX-12242T / UMX-19242T – 24v Power Input with Remote Mount Lamps
UMX-1200T / UMX-1900T / UMX-1202T / UMX-1902T – 120v Power Input with Remote Mount Lamps**

**UMX-1424T / UMX14242T – 24v Power Input with Remote Mount 3 Year Lamps
UMX-1400T / UMX1402T – 120v Power Input with Remote Mount 3 Year Lamps**

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LEAVE FOR HOMEOWNER

Shipping and Packaging List:

- 1 UMX Electrical Housing
- 10 3/4 Inch self tapping screws
- 1 UVC warning label
- 1 Warranty card
- 1 View port label
- 1 View-port lens
- 2 Wire nuts for 24V systems
- 4 1 " Lamp mounting screws
- 2 Flex Mount Brackets
- 1 or 2 lamp shields.
- 2 Lamp mounting gaskets

Models: UMX-1224T,1200T

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. Turn off power before re-lamping or servicing.

WARNING: Severe eye damage or temporary blinding may occur.

WARNING: DO NOT operate outside of Air Handler. Mount lamp base to duct first.

WARNING: No openings in duct 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 of the duct or 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 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

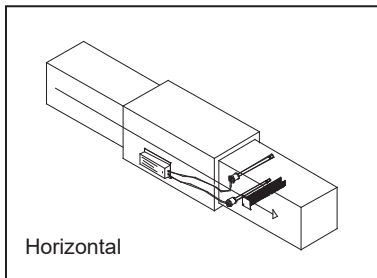
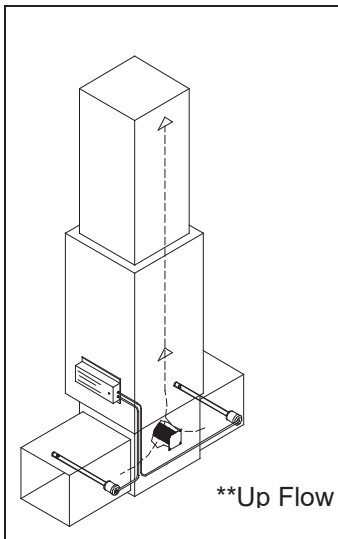
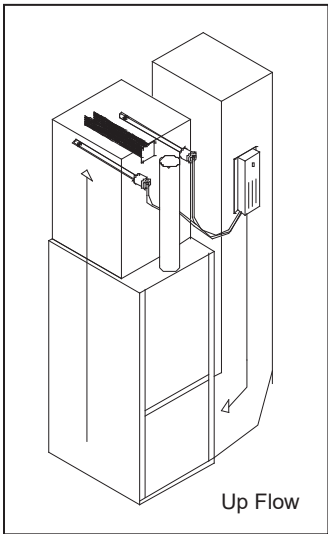
Disclaimer: The health aspects associated with the use of this product and its ability to aid in disinfection of environmental air have not been investigated by UL.

OPTIONS

-PCO (Photocatalytic Oxidation Module)

- Ultra-Ion Re-refresh PCO module w/ gasket
- Four 3/4 inch 5/16 self tapping sheet metal screws

General application guidelines for Ultramax Ultraviolet air purification systems



Ultravation manufactures several configurations of Ultraviolet disinfection products to meet any installation criteria. Ultravation two lamp ultraviolet systems are designed to adequately treat up to a 5 ton system or 3,500 sq ft.

Whenever possible use a two-lamp configuration with the longest lamp length possible for the installation.

Ultravation suggests mounting on the exit side of the HVAC system before the ductwork branches off. This will ensure that the airborne contaminants reaching the ultraviolet purification system and the OPTIONAL Re-Fresh Odor reduction module have been reduced to an acceptable Micron size by the HVAC systems filter.

Ultravation Ultramax products have been designed for peak performance in the cooler temperatures commonly found in the supply plenum of a typical HVAC system.

Installing an Ultraviolet system in the return may degrade the media filter and/ or collect dirt particles on the UV lamp glass gradually decreasing performance. If this is the obvious source of microbial growth, then placing the Ultraviolet system in the return is the best solution. ****Caution must be taken to ensure Ultraviolet light is not coming in contact with the media filter or being exposed outside the enclosed system.**

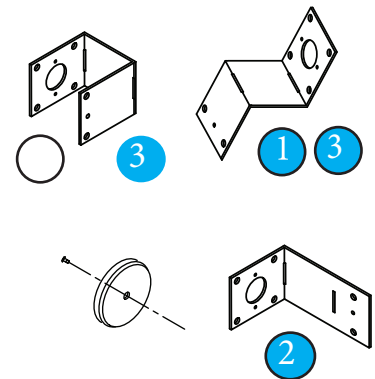
Ultravation's exclusive OPTIONAL Re-Fresh odor reduction module performs continuous photo catalytic processing, constantly reducing or eliminating unwanted odor and bacteria resulting in clean fresh breathable air.

Ultravation Ultraviolet systems produce no ozone. There is no harmful by-products or off gassing taking place in the sterilization process or the photo catalytic process.

The surrounding illustrations show the flexibility offered with the Ultravation Ultramax product line actual installation may vary depending upon installation criteria, if you need help or have questions call our toll free help line:
1-866-GO-UV-AIR 468-8247 ext 16
9:00 am – 5:00 pm Est.



The EZ-Flex bracket ships flat and is easily bent into the proper configuration without the necessity of any tools. Simply bend by hand any configuration that is required.



Recommended Installation

OPTIONAL:
Exclusive Re-Fresh
PCO odor reduction
Module - reduces
odor, VOC's and
bacteria. Simply add
more for greater
odor reduction.
Produces no ozone
or other hazardous
gases!

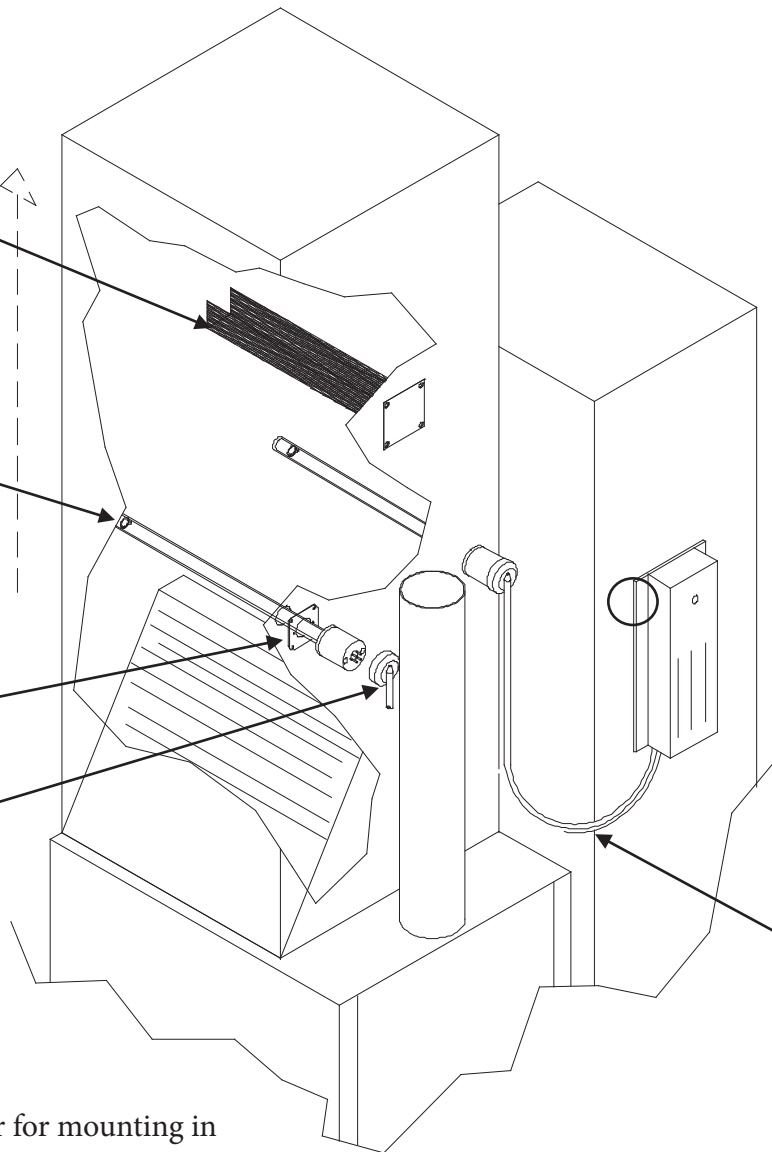
Patented T3
lamp technology
provides 40%
more UV than
the competition

Mounting Plate
with gasket
material
provides a safe
air tight fit

Patented
lamp safety
connection,
prevents
accidental
exposure to
harmful UV
rays.

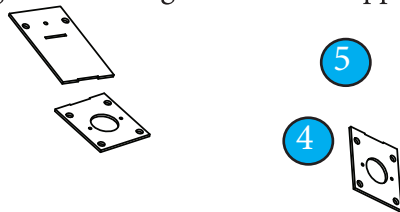
Available in single
and dual lamp
configurations.
Ships with multitap
transformer to adapt
to all household
voltages

Full Lifetime
warranty



6 Ft. remote
lamp leads
allow for the
flexibility
required for
most installs.

For external mounting or for mounting in the center of an "A" coil. Bend the metal back and forth until in breaks leaving a mounting flange and screw guides for this application.



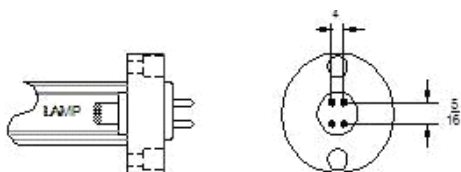
Discard the remaining
metal and magnet for this
application.

Installation steps for remote lamp mounting, remote lamp replacement, and external mounting of power supply:

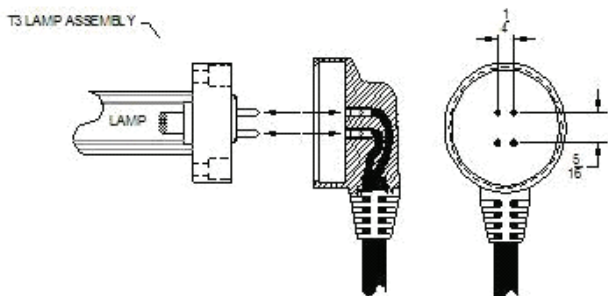
1. Remove the cover from the electronic housing.
2. Determine a suitable location to install unit housing. Mounting location should be of sufficient strength as to support the unit; otherwise reinforcement of the ductwork may be necessary. Lift into place against ductwork. Fasten unit in place with two self-tapping screws (supplied).
3. Install supplied #10 3/8 inch pan head screw (for anchoring electronic housing cover)
4. Select location for UV lamp module; drill a 1" hole for each lamp. Mount mounting plate over drilled hole with screws provided. Insert UV lamp module into hole. Attach to mounting plate with 2 self-drilling screws (provided).
5. Plug the rubber lamp connector fully onto the installed UV lamp assembly. Be sure the 4 pinholes are orientated properly to the 4 mating pins of the lamp.
6. Connect power to unit. (It is recommended that the system be powered constantly, not cycled with HVAC system power)

Note: The T3 UV lamp assembly can be removed independently, simply by removing the 2 screws in the lamp base.

Note: the pins are in a rectangular patent and can only be mated in 2 positions. (See below)



TYPICAL T3 LAMP 4 PIN CELL BASE



TYPICAL T3 LAMP 4 PIN CONNECTOR BASE

Installation options for Optional ILS (Internal Bracket/Light Shield):

The Internal Bracket/Light Shield is a versatile kit that can be used for mounting the UVC lamp(s) internally via screw mount or utilizing the heavy-duty magnet for even easier mounting. It can also be used as a light shield to block the intense UVC energy from breaking down nonmetallic materials such as filters or allowing the UVC energy to escape through return grills.

For the full range of configurations please review page 8.

Installation steps for Optional Exclusive Refresh PCO odor reduction Module:

1. Find a location adjacent to the UV lamps to mount the PCO module. To activate the PCO module it requires UV light shining on its surface. PCO module can be mounted within inches of the UV light, or if necessary, the module can be within 2 ft. of direct UV light and still be activated.
2. To mount the PCO module you will need to drill one 2 1/2" diameter hole. The base plate of the module will need to be screwed to the duct or air handler with the 4 screws supplied.
3. The PCO module measures 14 3/4" inches long by 2 1/2" diameter. The surface area of the module relates directly to the amount of VOC's it can eliminate. If necessary, the Module can be trimmed to a shorter length to accommodate installation in the air handler.

It is beneficial to install additional PCO modules in the area of the UV lights, thereby increasing the airborne bacteria disinfection rate and the removal of VOC's. Also, the PCO modules may be installed completely internally.

Installation steps for UVViewport:

1. Find a location on the airhandler or ductwork that will be visible and be in direct line of site of UVC light.
2. Affix UVViewport label to air handler or ductwork.
3. Drill a 3/8" hole through label and air handler or ductwork in marked location on label.
4. Press in UVViewport until it snaps into place.

Maintenance:

Typical maintenance consists of replacement of the ultraviolet lamps.

UV lamps undergo a photochemical process during operation. This slowly reduces the amount of UV light generated to disinfect against airborne pathogens. For optimum air stream disinfection against airborne pathogens, it is recommended the UV lamps be changed on an annual basis.

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.

The Optional PCO/VOC Module when used with a MERV 11 (minimum) rated filtration, no maintenance will be required for 10 years.

Troubleshooting:

Important information: It is a normal characteristic of all UV lamps to blacken around the filaments of the lamp. This does not signify the lamp is defective or not emitting Ultraviolet light.

The only time a UV lamp is defective is if it will not light. UV Lamps that illuminate will not qualify for Warranty.

- Verify the unit has 24vac or 120V - 240V
- When resetting the unit, depress reset button. (if the unit does not reset, wait 5 minutes to depress again)
- Power switch is in the ON position
- Lamps are securely plugged into their sockets
- The electronic circuit of a 2-lamp system only operates when both lamps are operating.
- Verify what signal if any the UV Lamp Monitor LED is emitting. (See adjacent).
- Verify if in fact the UV lamps are on or off. **Do not look at the UV light without proper eye protection.**

NOTE: If just a single UVC lamp of a 2 lamp UVC system is light, than the lamp that is not light is out of orientation.

Lamp Replacement and Reset Procedure:

***See Lamp Installation for Replacement Procedure.**

NOTE: When replacing lamps after 1 ,2 or 3 years of operation disconnect power to the unit first. After the lamps are in place, complete steps 1-4 to set the service indicator to 0.

For optimum 24/7 air stream disinfection it is recommend the UV-C lamp is replaced on an annual basis.

Service Indicator Light:

To reset the service indicator Light: It is recommended that a certified technician perform this operation. (For the fixed lamp UMX system the cover must be removed, and power left on – the reset switch in inside the equipment)

1. To set or reset the service indicator the unit must have power to it.
2. **Using a non-metallic implement** - Press down and hold the **RESET** button (hold down for 10 sec.) on end of the ballast, **the LED** should turn **Blue** while the button is depressed.
3. Release the **RESET** button.
4. LED should be Blue.

Please contact your local dealer or Ultravation directly for replacement lamps

There are NO user serviceable parts inside. Refer servicing to qualified service personnel.

Please contact your local dealer or HVAC contractor for replacement lamps.

UV Lamp Monitor:

LED Color	Audible Alarm	Visual	Unit Status
Blue	No audible		OK
Solid Red	Beeps every 2 seconds (5 times) then repeats 5 hours later until reset		Indicates UVC Lamp Failure – replace the UVC lamp(s) and with power applied, press and hold reset button (under the cover) for 10 seconds or until Blue LED illuminates
Flashing Red (Every 2 seconds)	Beeps every 2 seconds (5 times) then repeats 5 hours later until reset		Lamp has exceeded 2 years of operation, replace the UVC lamp(s) and with power applied, press and hold reset button (under the cover) for 10 seconds or until Blue LED illuminates
Pulsing Red (Every 1 second)	Beep every 1 second		UV lamp(s) are not lit (verify if possible)

Replacement Parts:

Model	Description	Replacement Part Number
UMX 1224T, 12242T, 1200T, 1202T, 1000T3, 2000T3	12" T3 Lamp 2 year life	ASIH1001
UMX 1924T, 19242T, 1900T, 1902T, 1036T3, 2036T3	17" T3 Lamp 2 year life	ASIH1003
UMX 1424T, 14242T, 1400T, 1402T	14" T3 Lamp 3 year life	AS-IH-1024
All UVC Equipment	Ultra-ion Re-fresh PCO Module	94-004

Warranty:

Ultravation warrants this product against any defects in material or workmanship for a period of 10 years after date of consumer purchase or lifetime of the original purchaser except for the Ultraviolet Lamp, which is 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 during the warranty period, Ultravation will elect to repair or replace the product free of charge.

Ultravation will return repaired or replaced warranted products pre-paid, 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.

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