

## UVC LLC SHO Super High Output Kit™ Installation Guide

### Model UVC Configurations:

UVC SHO 14K 14-inch 75 watt

UVC SHO 24K 24-inch 100 watt

UVC SHO 32K 32-inch 200 watt

### General installation information

- Only a licensed professional, trained in UVC for HVAC should perform the installation.
- Unit must be installed in accordance with all applicable governing codes.

- **Read all safety instructions in this manual.**

Failure to do so could lead to death, personal injury, and/or equipment damage.

- Read the installation manual for the equipment on which the UV lamps are being installed, for additional information and warnings.

- Wiring and branch circuit protection must be provided by the installer and follow National Electric Code (NEC) latest edition.

- Install door interlock safety switches if required, on all access doors where exposure to UV light can occur.

- Install power disconnect switch for UV system.

### Where to install:

Install the UV lamps when possible, in the largest part of the plenum, duct or HVAC system for Maximum Kill.

The same UV lamps can be used to kill germs in the air stream or mold and slime on the coils, depending on the placement of the lamps.

Many applications may require multiple lamps. "The more lamps the Higher the kill Rate.

**NOTE:** It is the responsibility of the installer to ensure that all applicable local and national electrical and local building codes are complied with in the installation and operation.

### **WARNING: NEVER EXPOSE EYES OR SKIN TO UV RAYS.**

### Electrical requirements:

- **Disconnect the power to HVAC system to avoid electrical shock hazard.**
- **Locate a 120 or 220 Single Phase 50/60 Hz fusible (15 amp) electrical supply,**
- **(Do not connect to 3-phase power, 460 or 277 VAC or damage will occur)**
- **Install or add 15-amp circuit protection and disconnect switch for the ballast (check with local electrical codes).**
- **If installed on a 3-phase system, 460 vac, the use of a step down UL listed transformer can be used.** Check with electrical codes for approved installation of this device.
- It is recommended that the UVC lamps are powered "**ON**" at all times for maximum lamp life and not cycled with the fan or the HVAC system.
- High cycling more than 2 times per day will reduce the life of UV lamps.
- Energy consumed is < 100 watts per lamp (depending on model)

### Installation:

- Ballast cannot be installed inside the duct or plenum unless enclosed in an approved plenum rated box. National Electrical Code.
- Whenever possible mount ballasts inside the electrical cabinet of the HVAC system.
- If the ballast is mounted outside in a separate electrical box, **IT MUST BE IN A VENTED ELECTRICAL ENCLOSURE TO AVOID OVER HEATING in hot climates, do not mount in direct sun.**

Ballast and lamp harness wiring instructions.

LAMP CABLE	BALLAST
Blue	Blue
White	Blue
Red	Red
Black	Red



**Example of HVAC electrical box mounting**

**PROTECT ALL WIRES, PLASTICS, MOTOR WIRES, BELTS FROM UV RAYS.**

**UV rays may damage plastics over time.**

**This is accomplished by shielding the wiring or other component, with foil tape, metal conduit, or sheet metal.**



**SHO Kit all pieces required for assembly**



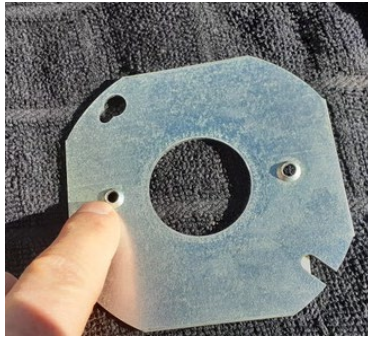
Drill 2-inch hole in duct or HVAC unit.



File sharp edges to avoid injury or damage to the lamp wires.



Measure cover and mark where screws are to be installed. Install foam water proofing gasket between mount and HVAC unit. Use self-taping screws. **DO NOT OVER TIGHTEN**



Mounting plate has 2 sides. Flat side to duct or wall. Punch side out or up.



Install lamp mount and nut to tighten to Xx inch pounds.



Slide threaded cap over lamp.



Tighten to xx inch pounds. Do not over or under tighten or damage will occur



Install mount assembly with 2 self-taping screws.



Inside view.



Connect 4 pin lamp **plug FIRMLY ONTO LAMP PINS or connection may be lost.**



## **WARNINGS:**

### **What effect will UVC light have on the filters?**

Typically, filters are located upstream of the coil and degradation is not a concern; glass media filters are the most resistant to UV energy. Polyester and plastic filters may be damaged by UV light, Check with Filter Manufacture.

### **Maintenance and lamp replacement:**

No manual cleaning is required during normal operation.

The “glass” portion of the lamp should not be touched by unprotected hands. Handle lamp using clean gloves.

### **Lamp installation:**

- Clean by wiping the lamp with alcohol using a lint-free cloth.
- Dispose of used lamps in the same manner as fluorescent lighting tubes.



Review **all** Safety Precautions regarding UVC light hazards, hot lamps, breakable glass and mercury notice before servicing.

- Turn power off to HVAC equipment.
- Disconnect power at ballast location.
- Unplug lamp
- Remove mounting screws
- Carefully remove old lamp(s) not to break them.
- Install new lamps with lamp mount per instructions.
- **Tighten all fasteners and lamp mounting components per factory torque specs to hold lamp in place**  
**Over or under tighten mounting parts will cause damage and lamp failure.**

## **TROUBLESHOOTING**



**NEVER EXPOSE EYES OR SKIN TO UV LIGHT OR INJURY MAY OCCUR**

### **DO NOT INSPECT LAMP WITH POWER CONNECTED**

#### **Installation:**

UV Disinfection System has no field-serviceable parts except for the lamp.

Some model ballast has LED indicators if so, Check LED indicators on ballast to see if the problem is with ballast or with UV lamp.

Blue LED off - UV lamp not lighting.

Green LED off - No input power



**Never look directly into the duct to see the UV lamp is illuminated without protection to eyes and skin.**

- 1. Check that lamp socket is firmly engaged with the lamp.**
- 2. Check for power at ballast and proper line voltage.**
- 3. Check cord connectors are securely fastened.**
- 4. Check to see if lamp has burned out (blackening at the ends) and needs to be replaced.**



#### **NOTICE:**

**Prior to mounting any part of the Kit, check to make sure that pre-drilling any holes and full installation of screws will not protrude into any other component, Freon lines, AC coils, wiring, etc. and cause damage. Avoid mounting lamp in areas where it can encounter water or condensation.**



**CAUTION**

Personal Injury Hazard.  
Power supply can cause electrical shock. Disconnect power supply before beginning installation. Do not open ballast. There are no user-serviceable components.

**CAUTION**

Equipment Damage Hazard.  
Ultraviolet light can cause color changes and structural degradation of plastics. Select mounting location that prevents exposure to plastic components with unknown resistance to UVC light. Consult manufacturer before installing. Plastic-fabricated devices (such as humidifiers and non-fiberglass media filters) may be damaged. If this cannot be avoided, shield plastics and wires with aluminum tape, conduit or sheet metal.

**CAUTION**

Breakable Glass Hazard. Can cause personal injury.  
Be careful when inserting lamps(s) into lamp base or mounts. Wear protective gloves when handling lamp. Must clean lamp with alcohol before use or damage to lamp will happen.

**MERCURY NOTICE**

UV lamp contains mercury. Do not place your used lamps in the trash. Dispose properly.

**Broken lamp Cleanup.**

Do not use a household vacuum. Sweep debris into a plastic bag and dispose of properly. Follow local regulations for cleanup procedures.



Contact your local waste management authority for instructions regarding, clean up, recycling and the proper disposal of old lamp (s).