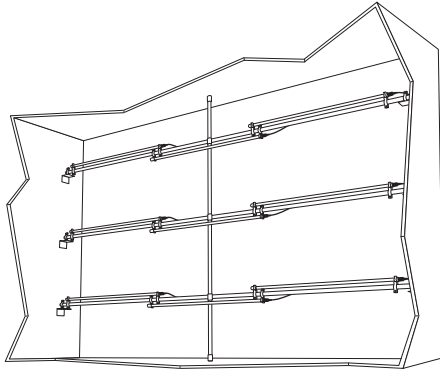


UVL-COIL Ultraviolet Lamp Kits for AHU Coils

PRODUCT DATA



APPLICATION

The system is designed for installation into commercial air handling units for the purpose of surface disinfection using ultraviolet germicidal irradiation. For maximum installation flexibility and cost-effectiveness, the UV lamps are mounted onto a framework of standard ½ inch EMT tubing (not included). The remotely mounted weather resistant power supply can withstand the wet environment found inside of air handlers or the exposed conditions of outdoor packaged air conditioning systems. The number and placement of lamps is determined by the coil dimensions.

FEATURES

- UV-C light irradiates coil & air handler interior, killing mold, bacteria and viruses
- Scalable design allows wide variety of multi-lamp configurations
- High quality water-resistant lamps
- Mounts using off-the-shelf ½ inch EMT conduit tubing
- Includes 10 foot cable & all mounting hardware except ½ inch EMT conduit
- Saves energy by keeping components cleaner

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SPECIFICATIONS

Models: See Table 1.

Efficiencies: 99.9% disinfection of irradiated surfaces when properly positioned

Approvals: ETL/CSA, RoHS standard 2011/65/EU, WEEE, EPA Est. No. 075179-FL-2

Electrical Ratings:

Power Rating: 120-277 Vac, 50/60 Hz

Current Rating: 2 A except dual 60 inch, 3 A

Temperature Ratings:

Lamp Temperature Range: 35 to 185 °F (1.7 to 85 °C)

Dimensions:

Power Supply: 13.0 in x 3.75 in x 2.5 in
(330 mm x 95.3 mm x 63.5 mm)

Bulb:

UVL-32-LAMP: 33.75 in (857 mm) length

UVL-60-LAMP: 61.25 in (1156 mm) length

UV-C Power:

UVL-32-LAMP: 28 W

UVL-60-LAMP: 54 W

Output at 1 Meter:

UVL-32-LAMP: 250 $\mu\text{W}/\text{cm}^2$

UVL-60-LAMP: 395 $\mu\text{W}/\text{cm}^2$

Spectrum:

100% 254 nm Germicidal UV-C

Bulb Type:

Shielded Quartz Hot Filament

Bulb Life:

18,000 hours

Accessories:

UVL-32-LAMP 32 inch replacement lamp

UVL-60-LAMP 60 inch replacement lamp

Table 1. Models.

| Part Number | Description | Replacement Lamp(s) | Power Supply* |
|--------------|---------------------------|---------------------------------------|-----------------------|
| UVL-COIL-32S | RTU / AHU 32" Single Bulb | UVL-32-LAMP (MFR# TUVCL-232HO) | (MFG# TUVCPH-HS) |
| UVL-COIL-32D | RTU / AHU 32" Double Bulb | UVL-32-LAMP (2) (MFR# TUVCL-232HO) | (MFG# TUVCPH-H32D) |
| UVL-COIL-60S | RTU / AHU 60" Single Bulb | UVL-60-LAMP (MFR# TUVCL-260HO) | (MFG# TUVCPH-HS) |
| UVL-COIL-60D | RTU / AHU 60" Double Bulb | UVL-60-LAMP (2) (MFR# TUVCL-260HO) | (MFG# TUVCPH-H46-60D) |

*Power supply not available for purchase outside of kit.

PLANNING THE INSTALLATION



WARNING

Only qualified technicians should install this product.

Install in accordance with relevant building codes. Read instructions carefully including safety warnings.

Parts Included

- A. UV Lamp(s) 2 Year
- B. Lamp Cable
- C. Power Supply(s)
- D. Sheet-metal Screws
- E. 1/2" Pipe Straps
- F. 1/2" Pipe Couplings
- G. Lamp Clip/Conduit Clamps
- H. L - Mounting Brackets
- I. Black Nylon Zip-Ties
- J. UV Warning Sticker
- K. Sight Glass
- L. 1/2" EMT Electrical Conduit (not included, several lengths required depending on configuration)

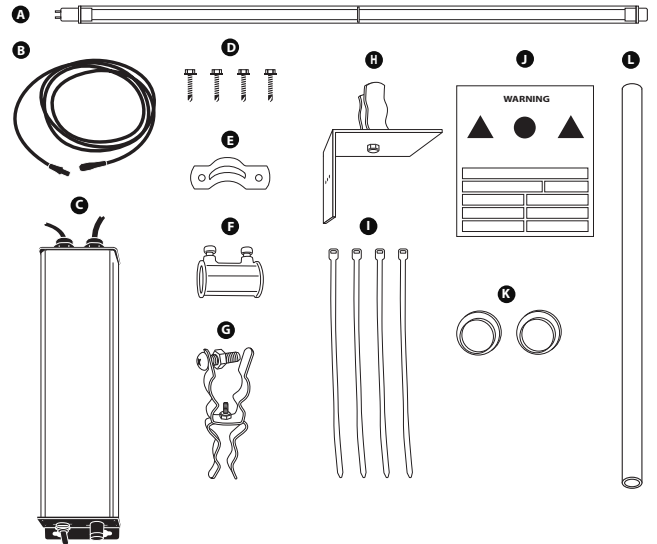


Fig. 1. Parts

System Configuration

Determine the dimensions of the coil to be irradiated. Use Table 2 To determine which kit is needed based on the coil size. Table 3 can be used to estimate the kits needed based on the tonnage of the unit. The coil size should be verified to insure proper fit.

Before attaching the L-brackets for mounting use optimal irradiation distance (Fig. 2.) and lamp spacing (Fig. 3.) diagrams to confirm that when installed the UV lamps will be positioned properly. The UV lamps are mounted onto a framework of EMT tubing. When two or more UV lamps are supported on a single length of EMT it is recommended to add an optional vertical support. (Fig. 4.)

Table 2. Sizing Based on Coil Dimensions.

| | | Coil Width (inches) | | | | | |
|----------------------|----|---------------------|--------------|--------------|--------------|--------------|--------------|
| | | 32 | 40 | 48 | 56 | 62 | 72 |
| Coil Height (inches) | 24 | UVL-COIL-32S | UVL-COIL-32S | UVL-COIL-32S | UVL-COIL-32S | UVL-COIL-32D | UVL-COIL-60S |
| | 32 | UVL-COIL-32S | UVL-COIL-32S | UVL-COIL-32S | UVL-COIL-32D | UVL-COIL-60S | UVL-COIL-60S |
| | 40 | UVL-COIL-32S | UVL-COIL-32S | UVL-COIL-32S | UVL-COIL-32D | UVL-COIL-60S | UVL-COIL-60D |
| | 56 | UVL-COIL-32D | UVL-COIL-32D | UVL-COIL-32D | UVL-COIL-32D | UVL-COIL-60D | UVL-COIL-60D |
| | 62 | UVL-COIL-32D | UVL-COIL-32D | UVL-COIL-32D | UVL-COIL-32D | UVL-COIL-60D | UVL-COIL-60D |
| | 72 | UVL-COIL-32D | UVL-COIL-32D | UVL-COIL-32D | UVL-COIL-32D | UVL-COIL-60D | UVL-COIL-60D |

Table 3. Sizing Based on Unit Tonnage.

| Tonnage | | | | |
|--------------|--------------|--------------|--------------|--------------|
| 6-10 Ton | 10-15 Ton | 15-30 Ton | 20-30 Ton | 30-40 Ton |
| UVL-COIL-32S | UVL-COIL-32S | UVL-COIL-32D | UVL-COIL-60D | UVL-COIL-60D |

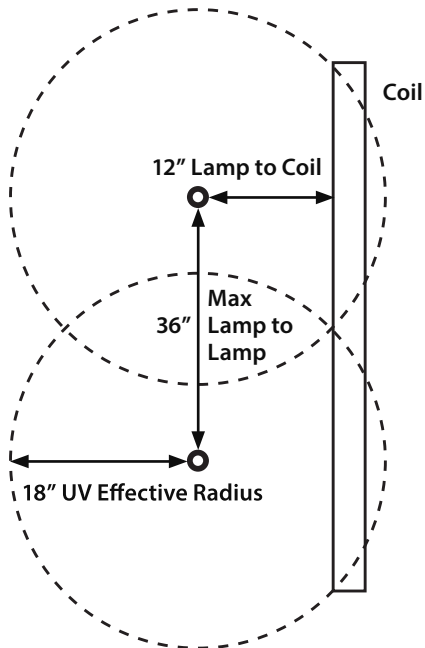


Fig. 2. Optimal Irradiation Distance.

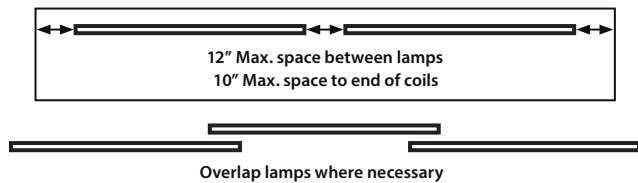


Fig. 3. Lamp Spacing.

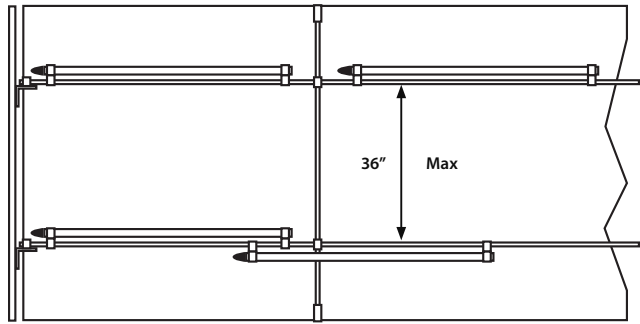


Fig. 4. Vertical Support Configuration.

UV Lamp Configuration Guidelines

- Maximum germicidal effectiveness is within an 18 inch radius from UV lamp center axis.
- The optimal distance between UV lamp(s) and the irradiated surface is 12 inch.
- The distance between stacked UV lamps should not exceed 36 inches.
- The distance between end to end UV lamps should not exceed 12 inches.
- The distance of UV lamp ends to the edge of irradiated surface should not exceed 10 inches.
- The spacing guidelines above may not apply for all applications. Use recommendations in Table 2 to select appropriate kit based on coil size.



WARNING

Be careful of damage to equipment.

Ultraviolet light can cause color fading or degraded structure of plastic material found in HVAC equipment, avoid plastic material or equipment with unknown performance against ultraviolet light in the area of irradiation.



WARNING

UV Light Hazard.

Harmful to bare skin and eyes.

Can cause temporary or permanent loss of vision.

Do not look at the UV lamp when lighting is on. Use indicator light on the ballast to check status. In order to prevent exposure to UV light, before repair of any parts of HVAC system, shut off power supply to UV system. Do not install in a position where UV lamp is visible during normal operation of HVAC equipment.

INSTALLATION

When Installing This Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.



WARNING

Electric Shock Hazard.

Can cause electrical shock or equipment damage.
Do not connect to power before installation is complete.

Assemble Conduit Framework

1. Measure and cut tubing to length then slide on conduit/lamp clamps (Fig. 5.), do not fully tighten bolts yet.

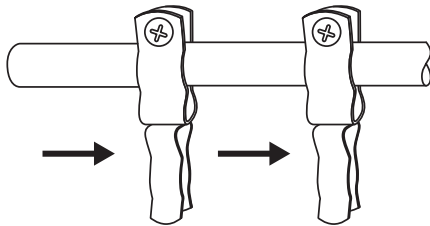


Fig. 5. Slide on Hardware.

2. Use self-tapping screws to attach L-brackets to the air handler wall or supporting structure. Then use the 1/2 inch pipe clamps to attach the tubing sections to the L-Brackets. (Fig. 6.)

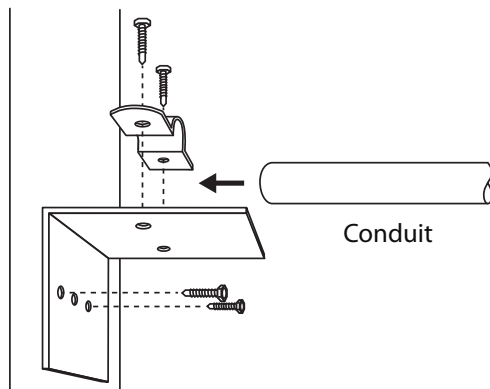


Fig. 6. Mount L-bracket and Tubing.

3. An optional vertical support adds strength to the conduit tubing to support framework and prevents sagging on installations with three or more lamps per

tubing length. Measure the distance from floor to ceiling then measure and cut tubing 1.75 inches less than that length. Use 1/2 inch pipe coupling to extend the vertical support to the floor and ceiling for a snug fit. (Fig. 7.)

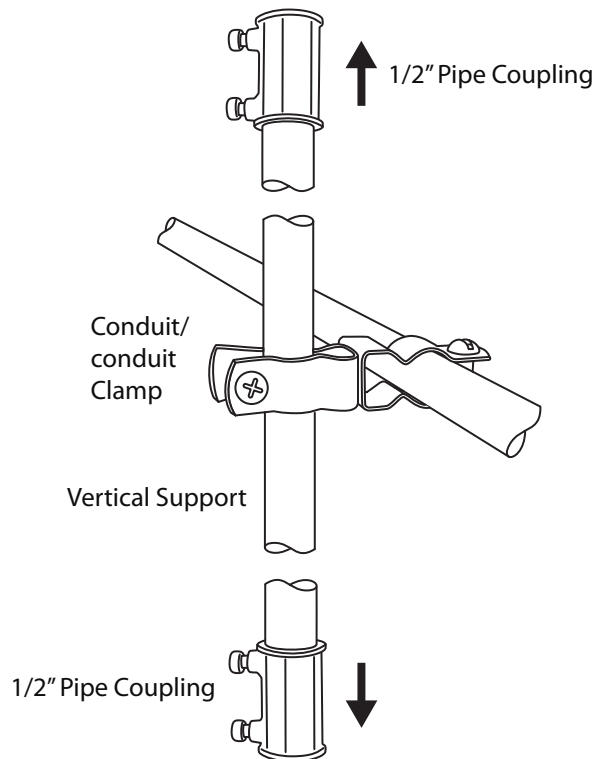


Fig. 7. Optional Vertical Support.

Install UV Lamps

Snap UV Lamps into the lamp/conduit clamps. Be sure to clamp to the rubber lamp connector on one end and the ceramic lamp tip on the other end. **DO NOT** clamp onto the lamp glass. Use black nylon zip-ties to secure lamp cables to tubular rack components and/or supports.



CAUTION

Breakable Glass Hazard.

Can cause personal injury.

Be careful when inserting bulb(s) into lamp base. Wear protective gloves when handling bulb(s).



MERCURY NOTICE

This device contains mercury in the sealed ultraviolet bulb(s). Do not place your used bulb(s) in the trash. Dispose of properly.

Broken Bulb Cleanup

Do not use a household vacuum. Sweep debris into a plastic bag and dispose of properly.

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

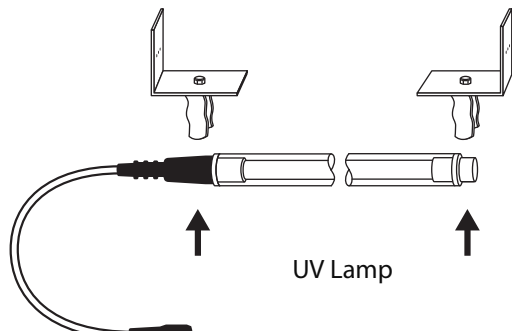


Fig. 8. Installing UV Lamp.

Mount Power Supply(s)

Mount the power supply in a location (inside or outside of the HVAC system) that is convenient for access to the main power supply and for connection to the UV lamps. The power supply is weather resistant and is suitable for mounting inside or outside of the air handler.

Use the supplied self-taping sheet metal screws to mount the power supply in place through the mounting holes on the sides of the base. It is recommended to use wire boxes, cable strain relief fittings, or other sealing methods in order to pass the power cord and lamp cables into the interior of the air handler for connections.

Sight Glass Installation

The sight glass allows safe viewing of the UV light system when in operation. Find a suitable location such as a door to the HVAC system for the sight glass. Drill a 1" hole and press the base of the sight glass through it.

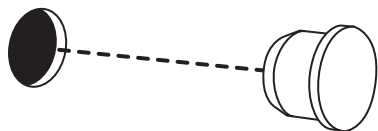


Fig. 9. Sight Glass Installation.

WIRING

⚠ WARNING

Electric Shock Hazard.

Can cause personal injury.

Turn off main power before making electrical connections.

Refer to electrical diagram (Fig. 10.) for proper connections of the power supply to the main power.

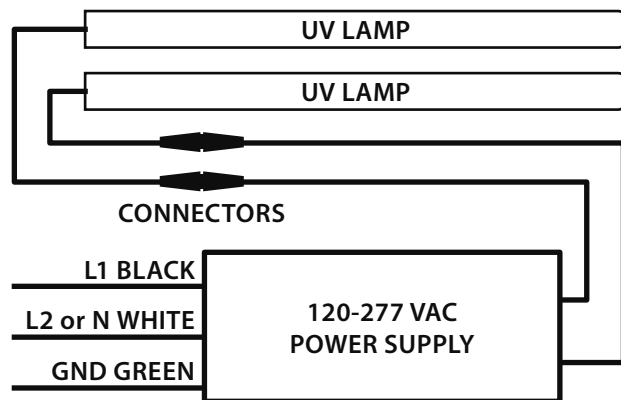


Fig. 10. Electrical Connections.

Connect Lamps and Cables

Arrange cables as needed for installation. If necessary, use cable strain relief fittings or other means to pass cables through the cabinets or air system walls. When UV lamps, power supplies, and cables are in place join the lamp and power supply cables by aligning the electrical pins and flanges on the rubber connectors and pushing them firmly together.

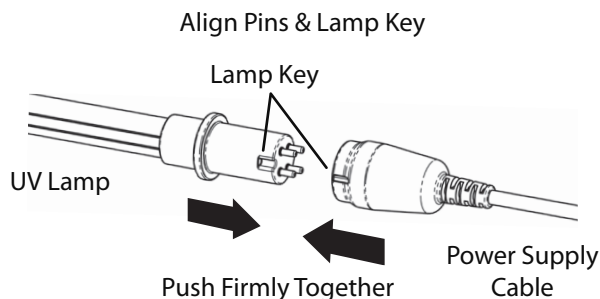


Fig. 11. Align Pins and Lamp Key.

MAINTENANCE

Honeywell UVC lights are made of Hard Quartz. Unlike Soft Quartz, these lamps do NOT need to be wiped of grease or other contaminants, and are NOT affected by humidity. They are warranted for 2 years of UVC output, to 60% of their original output. Sizing guidelines are based on the end of lamp life output levels.

Honeywell UV lamps are rated for two years germicidal effectiveness. The visible blue light will continue to illuminate, but does NOT have any germicidal effectiveness. Bulbs must be replaced on schedule for the system to function properly.

IMPORTANT

Use only Honeywell replacement lamps. Use of replacement lamps from other manufacturers voids the warranty. See Table 1 for replacement lamp part numbers.

TROUBLESHOOTING

Table 4. Troubleshooting.

| Problem | Solution |
|---|--|
| UV Lamp(s) Not Lighting | <ol style="list-style-type: none"> 1. Check that power is applied. 2. Check that the unit is turned ON. 3. Ensure the remote lamp cables are properly connected. 4. Check the fuse. Replace only with same size and type. 5. Reset power switch on power supply (off then on). 6. Install New UV Lamp(s). 7. Consult Factory. |
| UV Lamp(s) Flickering | <ol style="list-style-type: none"> 1. UV Lamp(s) have reached end of effective service life. Install new lamp(s) of same type. 2. If unit is new, check remote cables to ensure they are properly connected. 3. Reset power switch on power supply (off then on). 4. If new lamps still flicker, consult factory. |
| UV Lamps Have burned Out Prematurely | <ol style="list-style-type: none"> 1. Consult Factory. |
| Power Supply Will Not Light UV Lamps even after new lamps are installed | <ol style="list-style-type: none"> 1. Consult Factory. 2. External power suppressor may be needed if power surges occur. |

Honeywell Building Technologies

In the U.S.:

Honeywell

715 Peachtree Street NE

Atlanta, GA 30308

customer.honeywell.com

buildingcontrols.honeywell.com

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