

## INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

### CAUTION!

**TURN ALL POWER OFF. NEVER EXPOSE EYES OR SKIN TO UVC LIGHT FROM ANY SOURCE. WEAR PROTECTIVE EYEWEAR AND COVER ALL EXPOSED SKIN.**

### SAFETY CONSIDERATIONS

---

Improper installation, adjustment, alteration, service, maintenance, or use can cause fire, electrical shock or other conditions which may cause personal injury or property damage. Installation must be done by a qualified professional installer or service agency.

#### CAUTION!

**Before installing fixture or performing maintenance or service on fixture, turn off main power switch to unit. Electrical shock can cause injury or death. There may be more than one disconnect switch.**

#### CAUTION!

**Never expose eyes or skin to ultraviolet light from any source. After installation, provide an interlock to turn off germicidal lamps when access door is opened. Lamp must be off before entering HVAC unit to perform maintenance or service. Personal injury may result.**

#### CAUTION!

**Do not touch lamp glass without gloves. Damage to lamp may result. Oil from fingerprints will permanently etch quartz envelope of lamp, weakening structure and diminishing output. Clean lamp after handling.**

#### CAUTION!

**Lamps contain a small quantity of mercury. In case on lamp breakage, take proper precautions in clean-up and disposal.**

The qualified installer must use factory kits or accessories when installing this product. Refer to individual instructions packaged with kits or accessories when installing them.

Follow all safety codes, wear safety glasses and work gloves. Read all instructions thoroughly and follow any warnings or cautions attached to any accessed area. Consult local building codes and National Electrical Code (NEC) for special requirements.

Understand the signal words **DANGER**, **WARNING** or **CAUTION**. These words are universally used for overall safety. **DANGER** identifies the most serious hazards, which will result in severe personal injury or death. **WARNING** signifies hazards, which could result in personal injury or death. **CAUTION** is used to identify unsafe practices, which would result in minor personal injury or product and property damage.

*Thank you for purchasing from American Ultraviolet Company – the leader in ultraviolet technology!*

## GENERAL

- Lamps are intended for use inside an Air Handling Unit (AHU). It is best that they are located at known growth areas such as downstream of the cooling coil and over the drain pan or where best accommodates the system.
- Fixtures are to be hard-mounted to racks/supports. American Ultraviolet offers several rack-mount kits to accommodate a variety of mounting options. A typical installation example appears below in Fig. 1 & 2.

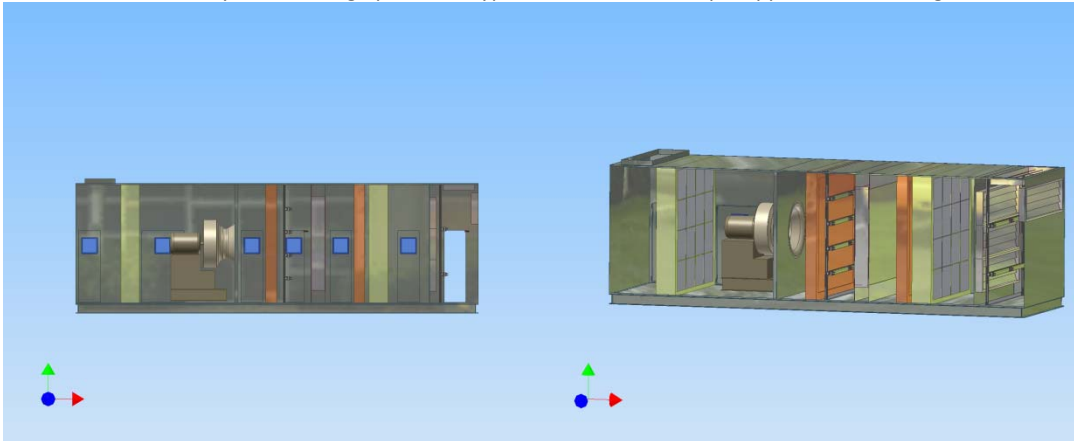


Figure 1. Typical AHU with UVC installation

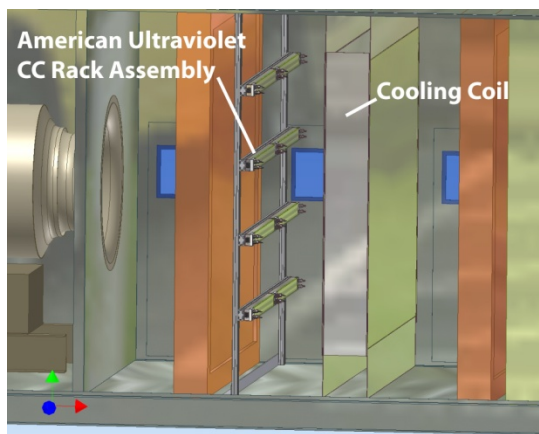


Figure 2. CC fixtures rack mounted to irradiate HVAC coil

- When choosing the site, make sure that it can be supplied with the necessary power requirements, and suitable physical access for service.
- Reflecting UVC energy is recommended as it enhances irradiance. Lining the UVC cavity with aluminum allows photons to bounce, reducing possible shadow areas thus increasing efficacy.
- Permanently installed monitoring devices, such as radiometers or lamp failure indication, are recommended for ease of maintaining system efficiency

***Thank you for purchasing from American Ultraviolet Company – the leader in ultraviolet technology!***

## INSTALLATION

- Consult all applicable codes before installing. Check fixture label(s) for correct power requirements and supply the correct voltage from a suitable, protected (fused), and grounded power source.

### CAUTION!

**Other voltages will void fixture warranty and do permanent damage to the entire unit. Fixtures should be operated continuously to preclude the development of mold and bacteria.**

- The lamp access door panel is to be interlocked with the power source to turn lamp(s) off when the system is opened. Existing access panels in the AHU are to be used (see figure 1). It should not be necessary to cut additional access doors/panels for UVC fixture installation. It should have signs (provided) in appropriate languages alerting maintenance personnel to the possible hazard of looking at or exposing skin to UVC energy. Service accesses may be equipped with a glass or polycarbonate window for visual inspection of lamps. UVC energy does not penetrate common glass or polycarbonate.
- UVC energy may damage some plastics (with the exception of UV rated and HVAC-style drain pans). Wrap suspect items with aluminum tape; use metallic conduit or use other appropriate shielding where these items may be in “line of sight” of UVC.
- Determine the most desirable location for the intended use and install reflecting material (optional, but recommended).
- Consult amperage chart to ensure installation does not exceed maximum amperage per row of 15A.

American Ultraviolet Part Number	Input Operating Voltage		
	120V	230V	277V
CC18-1	0.4	0.2	0.2
CC18-2	0.8	0.4	0.4
CC24-1	0.6	0.3	0.3
CC24-2	1.2	0.6	0.6
CC36-1	0.8	0.5	0.35
CC36-2	1.6	1	0.7
CC48-1	1.2	0.6	0.5
CC48-2	2.4	1.2	1
CC60-1	1.8	0.8	0.7
CC60-2	3.75	1.6	1.4

**Table 1. Amperage draw per fixture. All values in amperes.**

- All fixtures are designed to mount to rail/rack systems. Consult factory prior to using alternative mounting equipment.

If installing end-to-end connector fixtures provided with field-assembled mounting rails or brackets, mount fixtures to rails using hardware kit (part # 2570-03) and install at spacing, distance and fixture quantities specified by engineering approval drawings. Install fixture(s), using one junction box (part # 2540-15B) and one end cover (part #2540-18) per row of fixtures (see figure 3). Bring breaker rated wire to row-end junction box after making certain fixtures are properly connected to each other. If more than one row of fixtures is to be installed, power can be run from the first junction box to junction box at the end of each additional row, or separate breaker rated wire can be brought to each row-end junction box (see figure 4).

**Thank you for purchasing from American Ultraviolet Company – the leader in ultraviolet technology!**

# CC SERIES

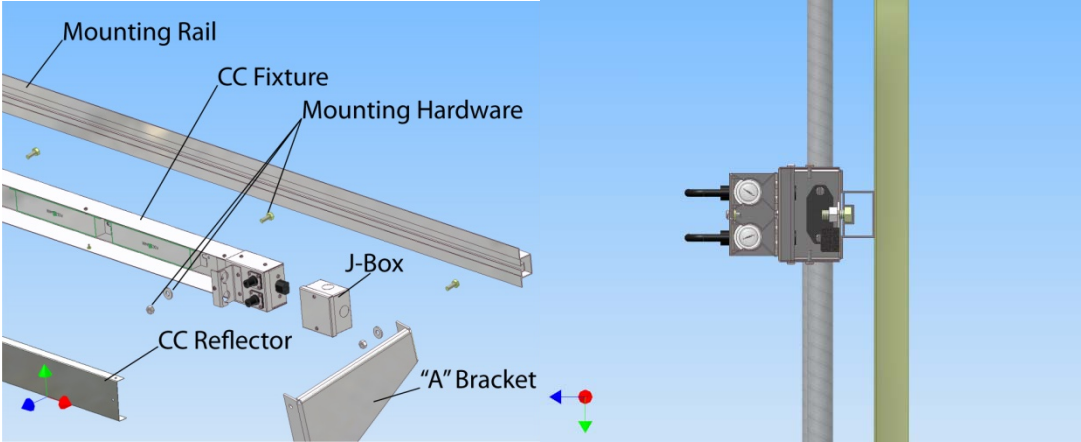


Figure 3. Mounting Hardware (2570-03), Mount Rail (2570-01), J-Box(2540-15B) and A-bracket hanger (2570-02)

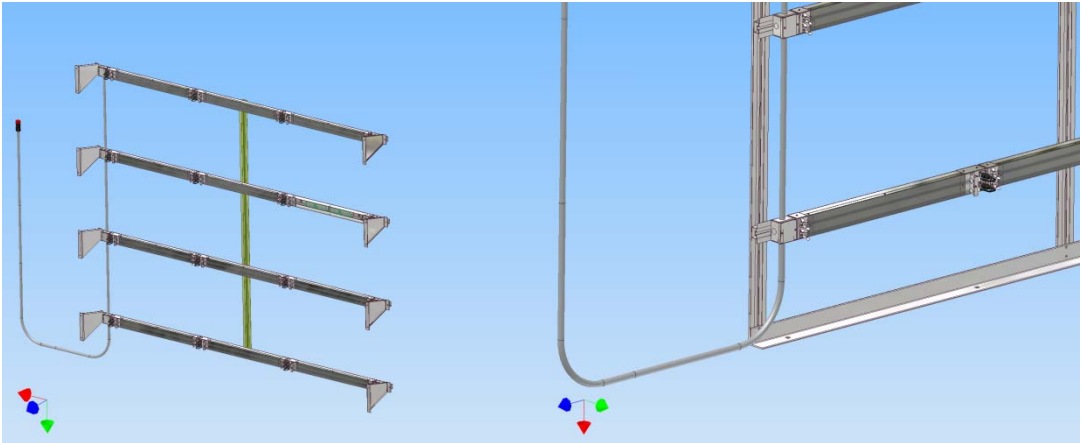


Figure 4. Multiple fixture installation

If installing factory pre-wired and pre-mounted fixtures, bolt rack to floor and ceiling through provided mounting brackets and bring breaker rated wire to specified junction box on rack. (see Figure 5)

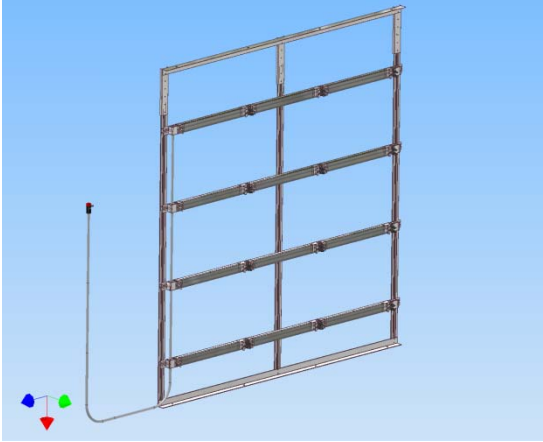


Figure 5. Factory-assembled rack system provided as shown above

*Thank you for purchasing from American Ultraviolet Company – the leader in ultraviolet technology!*

# CC SERIES

- Install lamp(s) in fixture(s) being careful not to touch lamp glass with bare hands. Lamps are installed by sliding domed end into retaining clip, setting ceramic end into retaining bracket, attaching top of bracket with provided screw (clip in both lamps in 2-lamp CC fixtures), and connect lamp lead to socket provided on fixture housing, taking care to line up indexing line on lamp lead with line on fixture socket. Make certain water-tight connection is fully engaged. Using 99% isopropyl alcohol and a lint-free cloth or wipe, clean lamps and fixture reflectors to remove any fingerprints, dust, etc. that have accumulated on lamp glass during installation.
- Test all circuits and turn system power on. Each lamp will have a blue “glow” which indicates that fixtures are operating as designed.

### Caution!

**UV lamps to be viewed only with proper protection for eyes and all exposed skin.**

- Affix warning label to all access panels and doors. Make certain labels are prominently visible and replace any worn labels.
- Lamps are designed for an effective life of 17,000 hours (approximately 2 years). Lamps must be changed at or before 17,000 hours to maintain designed efficacy.

## OPERATION & MAINTENANCE

---

- Fixtures should remain “on” at all times. Cycling fixtures on/off with blower operation or on a timer is not recommended and can severely shorten effective lamp life.
- Lamps are designed for an effective life of 17,000 hours (approximately 2 years). Lamps must be changed at or before 17,000 hours to maintain designed efficacy.
- Lamps should be visually inspected and cleaned (if necessary) every 3-6 months to ensure proper function.

### Caution!

**UV lamps to be viewed only with proper protection for eyes and all exposed skin.**

Inspection/cleaning interval varies based on system conditions. Using 99% isopropyl alcohol and a lint-free cloth or wipe, clean lamps to remove any fingerprints, dust, etc. that have accumulated on lamp glass and fixture reflectors since last cleaning/installation.

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

***Thank you for purchasing from American Ultraviolet Company – the leader in ultraviolet technology!***

## SPARE AND REPLACEMENT PARTS

---

<b>Part Number</b>	<b>Description</b>
GCL-18	Lamp for all CC18 Fixtures
GCL-24	Lamp for all CC24 Fixtures
GCL-36	Lamp for all CC36 Fixtures
GCL-48	Lamp for all CC48 Fixtures
GCL-60	Lamp for all CC60 Fixtures
TXG270	Ballast for 120V Fixtures (except CC60)
TXG275	Ballast for 230/208V fixtures (except CC60)
TXG280	Ballast for 277V fixtures (except CC60)
TXG285	Ballast for 120V CC60 Fixtures
TXG290	Ballast for 2300V CC60 Fixtures
TXG295	Ballast for 277V CC60 Fixtures
2540-15B	Junction Box
2540-18	Row End Cap
2570-01	Aluminum mount rail (order by the inch)
2570-02	"A" Bracket Hanger
2570-03	Mounting Hardware Kit (1 per fixture)

*Thank you for purchasing from American Ultraviolet Company – the leader in ultraviolet technology!*