

## CC HIGH OUTPUT UV COIL CLEANERS

**CC Series High-Output UV systems** are designed specifically for HVAC applications. They can be mounted in various configurations to irradiate cooling coils and drain pans and for optimum pass-by air decontamination. Individual fixtures can be mounted to plenum walls or multiple fixtures can mount to frame assemblies that span supply ducts or cooling coils. This type of UVC fixtures has been incorporated in the **Facilities Standards for the Public Buildings** by the U.S. General Services Administration Office of the Chief Architect



**Applications:** Coil Clean (CC) Series UV fixtures are ideal for internal installation in medium to large HVAC systems in commercial, industrial, health care and institutional buildings. They are an excellent choice for mounting close to the coil and drain pan areas to inhibit the growth of mold and mildew in these areas. The CC UV Systems are moisture proof and are offered in single and double lamp configurations. They can be mounted individually or in built-up banks, or in parallel rack-system configurations in a variety of locations, including coils, drain pans, ductwork, mixed air plenums and exhaust systems. The CC fixtures are available in 18", 24", 36", 48" and 60" lengths and 115, 208, 230 or 277VAC voltage options, providing installation flexibility to accommodate virtually any HVAC system.

The CC fixtures are designed for moisture-proof applications with UVC lamps that incorporate a built-in outer quartz sleeve with protective boot on the power end for sealing purposes. Power is brought to the lamp with coated lead wires through a waterproof connector that is securely sealed to the lamp. The UV lamps are rated for two-year continuous operational life with approximately 20% drop in UVC output at end of lamp life.

### Features and Benefits of CC germicidal UV systems installation:

- Improves Indoor Air Quality (IAQ) by reducing bacteria, viruses, mold and spores that either grow or pass through the air handling systems. Reduces the risk of cold, flu, allergies and other illness associated with air handling systems
- "Green" lamps contain ≤8mg of mercury
- Two-year (17,000 hours) guarantee on lamps with only 20% decrease in UV output over the two years
- Five-year, non-prorated warranty on the ballast
- Continuously cleans coils, drain pans, plenums and ducts - eliminating costly cleaning programs and the use of harmful chemicals and disinfectants
- Reduces HVAC energy costs by restoring heat transfer and net cooling capacity
- Produces no ozone or any other secondary contaminants
- Plug-in connections mean no field wiring required to connect fixture to fixture when building banks of rack systems

### SPECIFICATIONS:

Every CC Series fixture is manufactured and factory assembled in the USA and tested prior to shipment. Each assembly consists of housing, reflector, electronic ballast(s), lamp bracket, plug-in power connectors and high output lamp(s).

**FIXTURE:** Housings are constructed of heavy gauge hospital grade stainless steel. Reflectors are fabricated from the highest grade bright annealed polished stainless steel, which has a reflectivity rate of 88% when exposed to short-wave UVC in the range of 254 nm. All components are in one integrated assembly to maximize serviceability.



Water-tight lamp connection



Connect multiple fixtures to one power source



Hardwire fixtures are also available



**BALLAST:** The solid-state electronic ballast (furnished with this series), is a Class P rapid start with a power factor minimum of .95. It is available for 120, 208, 230, or 277VAC 50/60Hz and is designed to maximize photon production in air temperatures of 35° to 175° F. Minimum ballast start temperature is minus 20° F. Ballasts have an RFI - EMI rating as defined by FCC part 18A for industrial / commercial applications in regards to suppression. Ballasts are UL listed and suitable for use in air handling spaces.

**LAMPS:** CC Series UVC lamps are high-output (800mA), T5 tube diameter, and constructed from hard glass tubing for superior UV transmittance. Lamps are “green”, containing ≤8mg of mercury (Hg) and they produce no ozone. Lamps shall retain, at minimum, 80% of initial output after 17,000 hours of use. They are sealed for moisture protection with a water-tight connection. Electrodes are designed to maximize plasma convection and stability for superior lamp performance. Lamps are rated to produce 11.7µW/cm<sup>2</sup> per linear inch of lamp arc length at 1m in airstreams of 400FPM velocities at temperatures of 45° F.

**INDEPENDENT TESTING:** Units are tested in accordance with the general provisions of IES Lighting Handbook, 1981 Applications Volume, and provide output per 1" arc length of not less than 11.7µW/cm<sup>2</sup> at 1m in a 400FPM airstream of 45° F.

		CC Series Fixture Offerings				
		120VAC, 50/60Hz		208/230VAC, 50/60Hz		277VAC, 50/60Hz
2-LAMP UNITS		End-to-End Plug-in	Hardwire	End-to-End Plug-in	Hardwire	Hardwire
Fixture Length	18"	CC18-2-120C	CC18-2-120	CC18-2-230C	CC18-2-230	CC18-2-277
	24"	CC24-2-120C	CC24-2-120	CC24-2-230C	CC24-2-230	CC24-2-277
	36"	CC36-2-120C	CC36-2-120	CC36-2-230C	CC36-2-230	CC36-2-277
	48"	CC48-2-120C	CC48-2-120	CC48-2-230C	CC48-2-230	CC48-2-277
	60"	CC60-2-120C	CC60-2-120	CC60-2-230C	CC60-2-230	CC60-2-277
1-LAMP UNITS						
Fixture Length	18"	CC18-1-120C	CC18-1-120	CC18-1-230C	CC18-1-230	CC18-1-277
	24"	CC24-1-120C	CC24-1-120	CC24-1-230C	CC24-1-230	CC24-1-277
	36"	CC36-1-120C	CC36-1-120	CC36-1-230C	CC36-1-230	CC36-1-277
	48"	CC48-1-120C	CC48-1-120	CC48-1-230C	CC48-1-230	CC48-1-277
	60"	CC60-1-120C	CC60-1-120	CC60-1-230C	CC60-1-230	CC60-1-277

All CC Fixtures are 3.07" wide and 5.2" deep (including lamps). End-to-End Plug-in units require one (1) female junction box and one end cover per row; Junction Box 2540-15B, End Cover 2540-18. Amperage draw provided on submittal drawings. Cord kits available for 120V units to plug into standard 120V receptacle.

**Technical Data**

Models	Lamp Model	UVC Watts	UVC Intensity * µW/cm <sup>2</sup> @1m	Coil Coverage /Sq. Ft./
CC18-1	GCL 18	10	175	2
CC18-2	GCL 18 (2)	20	350	4
CC24-1	GCL 24	16.2	245	3
CC24-2	GCL 24 (2)	32.4	490	6
CC36-1	GCL 36	25	386	5
CC36-2	GCL 36 (2)	50	772	10
CC48-1	GCL 48	36.1	526	7
CC48-2	GCL 48 (2)	72.2	1,052	14
CC60-1	GCL 60	46	667	10
CC60-2	GCL 60 (2)	92	1,334	19

\* Units are tested in accordance with the general provisions of IES Lighting Handbook, 1981 Applications Volume in a 400FPM airstream, at 45° F.



**CC HIGH OUTPUT UV COIL CLEANERS**

The CC High Output UV systems are designed for general-purpose air and surface disinfection of cooling coils and drip pans inside large AHUs. Constructed of high grade stainless steel with moisture proof connections for installation downstream of cooling coils. Germicidal energy at 254nm is effective for 17,000 hours. Lamps should be replaced before the end of effective life. Clean, monitor and check lamps regularly.

<b>Model</b>	<b>Description</b>
<b>CC18-1-120</b> <b>CC18-1-230</b> <b>CC18-1-277</b>	120V, 18", Single lamp fixture, hardwire connection 208/230V, 18", Single lamp fixture, hardwire connection 277V, 18", Single lamp fixture, hardwire connection
<b>CC18-1-120C</b> <b>CC18-1-230C</b>	120V, 18", Single lamp fixture, "Power Port" connection 208/230V, 18", Single lamp fixture, "Power Port" connection <i>One junction box and one end cap required per row</i>
<b>CC18-2-120</b> <b>CC18-2-230</b> <b>CC18-2-277</b>	120V, 18", 2 lamp fixture, hardwire connection 208/230V, 18", 2 lamp fixture, hardwire connection 277V, 18", 2 lamp fixture, hardwire connection
<b>CC18-2-120C</b> <b>CC18-2-230C</b>	120V, 18", 2 lamp fixture, "Power Port" connection 208/230V, 18", 2 lamp fixture, "Power Port" connection <i>One junction box and one end cap required per row</i>
<b>GCL-18</b>	Lamp for all CC18 Fixtures
<b>CC24-1-120</b> <b>CC24-1-230</b> <b>CC24-1-277</b>	120V, 24", Single lamp fixture, hardwire connection 208/230V, 24", Single lamp fixture, hardwire connection 277V, 24", Single lamp fixture, hardwire connection
<b>CC24-1-120C</b> <b>CC24-1-230C</b>	120V, 24", Single lamp fixture, "Power Port" connection 208/230V, 24", Single lamp fixture, "Power Port" connection <i>One junction box and one end cap required per row</i>
<b>CC24-2-120</b> <b>CC24-2-230</b> <b>CC24-2-277</b>	120V, 24", 2 lamp fixture, hardwire connection 208/230V, 24", 2 lamp fixture, hardwire connection 277V, 24", 2 lamp fixture, hardwire connection
<b>CC24-2-120C</b> <b>CC24-2-230C</b>	120V, 24", 2 lamp fixture, "Power Port" connection 208/230V, 24", 2 lamp fixture, "Power Port" connection <i>One junction box and one end cap required per row</i>
<b>GCL-24</b>	Lamp for all CC24 Fixtures
<b>CC36-1-120</b> <b>CC36-1-230</b> <b>CC36-1-277</b>	120V, 36", Single lamp fixture, hardwire connection 208/230V, 36", Single lamp fixture, hardwire connection 277V, 36", Single lamp fixture, hardwire connection
<b>CC36-1-120C</b> <b>CC36-1-230C</b>	120V, 36" Single lamp fixture, "Power Port" connection 208/230V, 36" Single lamp fixture, "Power Port" connection <i>One junction box and one end cap required per row</i>
<b>CC36-2-120C</b> <b>CC36-2-230C</b> <b>CC36-2-277</b>	120V, 36", 2 lamp fixture, hardwire connection 208/230V, 36", 2 lamp fixture, hardwire connection 277V, 36", 2 lamp fixture, hardwire connection
<b>CC36-2-120C</b> <b>CC36-2-230C</b>	120V, 36", 2 lamp fixture, "Power Port" connection 208/230V, 36", 2 lamp fixture, "Power Port" connection <i>One junction box and one end cap required per row</i>
<b>GCL-36</b>	Lamp for all CC36 Fixtures
<b>CC48-1-120</b> <b>CC48-1-230</b> <b>CC48-1-277</b>	120V, 48", Single lamp fixture, hardwire connection 208/230V, 48", Single lamp fixture, hardwire connection 277V, 48", Single lamp fixture, hardwire connection
<b>CC48-1-120C</b> <b>CC48-1-230C</b>	120V, 48" Single lamp fixture, "Power Port" connection 208/230V, 48" Single lamp fixture, "Power Port" connection <i>One junction box and one end cap required per row</i>

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CC48-2-120 CC48-2-230 CC48-2-277	120V, 48", 2 lamp fixture, hardwire connection 208/230V, 48", 2 lamp fixture, hardwire connection 277V, 48", 2 lamp fixture, hardwire connection
CC48-2-120C CC48-2-230C	120V, 48", 2 lamp fixture, "Power Port" connection 208/230V, 48", 2 lamp fixture, "Power Port" connection <i>One junction box and one end cap required per row</i>
GCL-48	Lamp for all CC48 Fixtures
CC60-1-120 CC60-1-230 CC60-1-277	120V, 60", Single lamp fixture, hardwire connection 208/230V, 60", Single lamp fixture, hardwire connection 277V, 60", Single lamp fixture, hardwire connection
CC60-1-120C CC60-1-230C	120V, 60", Single lamp fixture, "Power Port" connection 208/230V, 60", Single lamp fixture, "Power Port" connection <i>One junction box and one end cap required per row</i>
CC60-2-120 CC60-2-230 CC60-2-277	120V, 60", 2 lamp fixture, hardwire connection 208/230V, 60", 2 lamp fixture, hardwire connection 277V, 60", 2 lamp fixture, hardwire connection
CC60-2-120C CC60-2-230C	120V, 60", 2 lamp fixture, "Power Port" connection 208/230V, 60", 2 lamp fixture, "Power Port" connection <i>One junction box and one end cap required per row</i>
GCL 60	Lamp for all CC60 Fixtures
	<b>Junction box, End Cap and Ballasts</b>
2540 15B	<b>Junction box</b> (1 per row)
2540 18	<b>Row end cap</b> (1 per row)
CORDKIT	120V 8' power cord kit with strain relief
TXG270 TXG275 TXG280	Ballast for 120V Fixtures (except CC60) Ballast for 230/208V fixtures (except CC60) Ballast for 277V fixtures (except CC60)
TXG285 TXG290 TXG295	Ballast for 120V CC60 Fixtures Ballast for 2300V CC60 Fixtures Ballast for 277V CC60 Fixtures
	<b>Mounting Rails and Brackets – "A" bracket attachment to Coil Frame</b>
2570-02	"A" bracket hanger with bolts & nuts to attach to mounting rail
2570-01	Aluminum Horizontal Light Rail – 3.04"H x 1.13"D
2570-03	CC fixture Mounting Kit with 2 bolts, 2 nuts, 2 lock washers
	<b>Note:</b> Add 3" – 6" to each horizontal fixture rail length for attachment to "A" bracket. Specify cut length dimensions and place order in inches
	<b>Vertical and Horizontal Frame Mounting Rack</b>
2570-01	Vertical aluminum extrusion support legs – 3.04"H x 1.13"D
2570-01	Aluminum Horizontal Light Rail – 3.04"H x 1.13"D
2570-03	CC fixture Mounting Kit with 2 bolts, 2 nuts, 2 lock washers
	<b>Note:</b> The maximum allowable span between vertical support legs is ten feet (10') Attachment of the horizontal rails to the vertical support legs is by means of field assembly and field supplied parts (drill, tap and join with sheet metal bolts, nuts, lock washers)
	<b>Fully Assembled Rack Systems</b> We can provide complete rack systems (including appropriate CC fixtures) to specified dimensions, fully wired and ready for installation. Please contact us for design and pricing

Specify voltage and type of connection – "plug-in" or "hardwire" when ordering.

With questions about CC systems contact American Air & Water at 888-378-4892 or info@americanairandwater.com

**CC INSTALLATION INSTRUCTIONS \***

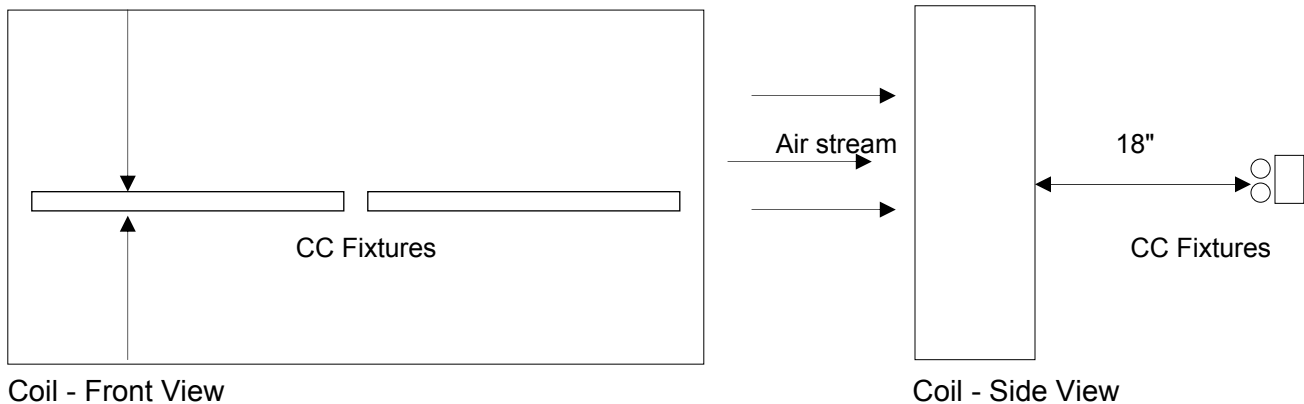
1. The CC UV fixtures should be mounted on suitable support angle or channel and positioned across coil face as shown on the drawing.
  - a. If support channels are provided by American Air & Water, Inc., fixtures will be pre-assembled and pre-wired to support channels at factory.
  - b. If others furnish support members, mount utility fixtures to supports as shown on the drawing.
  
2. Install mounted fixture assemblies into AHU as follows:
  - a. Position fixture and rail assemblies as shown on the supplied arrangement drawing.
  - b. For American Air & Water, Inc. supplied rails, drill 3/8" diameter holes into AHU wall in the positions shown on the arrangement drawing.
  - c. Use 5/16" hardware for securing mounting rails to wall.
  
3. Supply power to each row of fixtures as required - Supply power can be parallel wired through a DPDT safety switch mounted to maintenance access panels for safety reasons.
  
4. Optional UVC Sensor can be mounted by drilling a 9/16" diameter hole in the duct wall. A connecting cable can be provided in any specified length to run from the sensor(s) to the panel mount monitor. The panel mount monitor can be mounted in existing enclosure or can be provided with an enclosure as an option.

**CC Installation Specifications**

The Coil Clean (CC) systems are designed for HVAC cooling coil disinfection to mount across the face of the coil singularly or in grid patterns to irradiate the entire surface of the coil. Typical installations require (1) CC36-2 fixture per 10 square feet of coil surface, mounted approximately 18" from the coil surface.

On existing systems, CC fixtures should be mounted downstream of the cooling coil facing the coil. All CC models are moisture proof, with unique quartz sleeve/lamp combination and moisture proof power connection.

**Visualization Drawing**



\* Complete Installation Instructions and Installation Drawings are provided for each job.