

# American

HIGH-OUTPUT COMMERCIAL/RESIDENTIAL UVC GERMICIDAL SOLUTIONS

# Ultraviolet®

Since 1960. It's all we do.

UVC HVAC Solutions



High Output Commercial  
UVC Germicidal Solutions  
from American Ultraviolet

**Increase Efficiency**

**Prolong Equipment**

**Improve Air Quality**



**American  
Ultraviolet®**



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*Cleaning coils is like treating symptoms. Using UVC Germicidal Fixtures from American Ultraviolet, on the other hand, is actually more like curing the disease.*



**American Ultraviolet®**

## How UVC Helps

### Efficiency & Safety

UVC Germicidal Fixtures increase the value of all air conditioning and air-circulating systems by maximizing system efficiency and prolonging blower life. In addition, by treating air that passes through your HVAC unit with ultraviolet light, you will reduce, or eliminate, DNA-based airborne contaminants (bacteria, viruses, mold spores, yeast, protozoa), and provide people in offices, and at home, with much healthier air to breathe. For more than 75 years, tens of thousands have been safely installed in hospitals, clinics, processing plants, commercial offices, manufacturing sites and other commercial facilities and multi and single-family residences around the world.



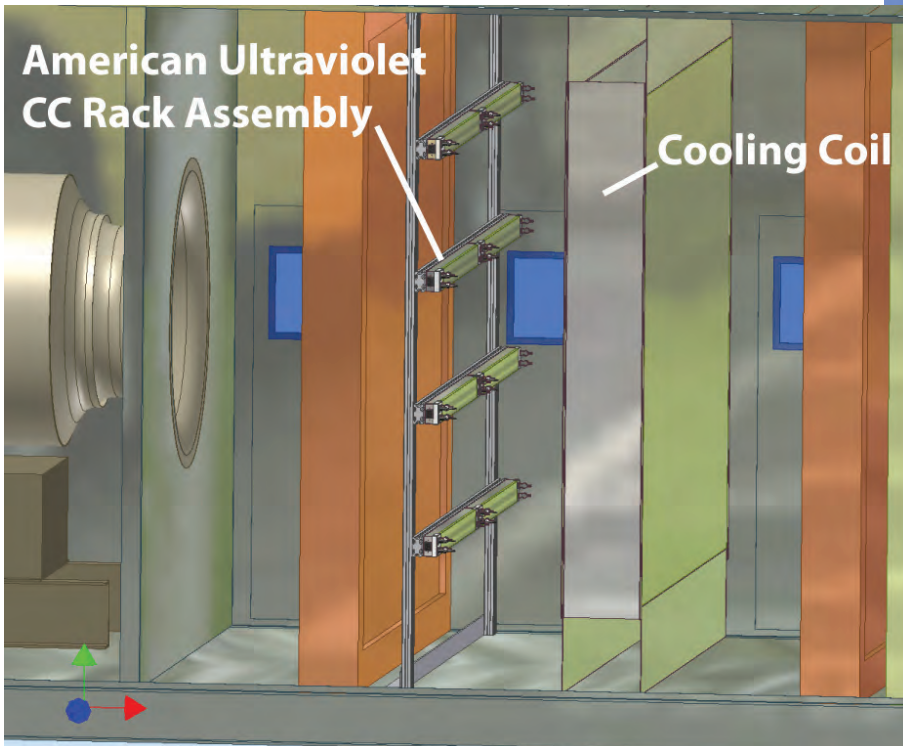
### UVC and Filters

Though you still need filters, which can trap dust, pollen and other particles, to actually remove harmful bacteria and viruses from the air stream you need the addition of UVC light, which renders these microorganisms sterile, and therefore unable to reproduce. Without UVC, coils require constant cleaning, an expensive and inferior process. In fact, many cleaning techniques rely on toxic and/or flammable solvents that are dangerous, and that can diminish the life of the coil. Cleaning also frequently leaves material embedded in the center of the fin pack. Steam cleaning, in particular, can actually force growth deeper into the fin pack, compressing it so tightly that the only solution could be to replace the coil.



## Return On Investment

UVC Germicidal Fixtures are a labor-free solution that will not harm occupants, equipment or furnishings in buildings or residences because they produce no ozone or secondary contaminants. And they keep coils clean all of the time, enabling HVAC systems to perform as originally intended, and ensuring system efficiency, longer equipment life, and lower energy and maintenance costs. In fact, they'll often pay for themselves in only months and save many thousands of dollars in on-going energy and maintenance costs. In processing plants they'll also contribute to improved product quality, greater yield and longer shelf life. In addition, they play a very important role in improving air quality. UVC Germicidal Fixtures eliminate the awful odor and slimy build up associated with mold and bacteria that thrive when temperatures are between 50-70°F, and when moisture is present, and that is unhealthy for all building and residential occupants. Healthier employees mean better productivity and less sick time off.



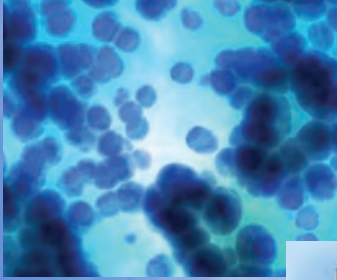
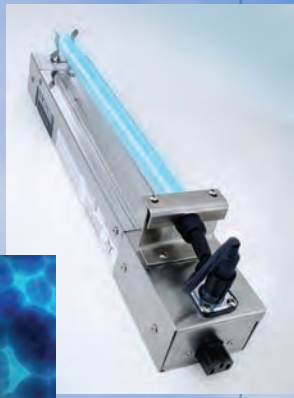
*UVC Disinfection— UVC attacks DNA-based airborne & surface contaminants, rendering them unable to reproduce.*

*“The lights are awesome. And I am most impressed with your service - the goods were here when you said they would be; the quartz sleeves arrived as replacements when you said they would; and the fixtures work better than you said they would. I have installed some in a very nasty sewage room where we have a wet HVAC system that we clean weekly so that it works properly. This room historically had the most horrible smell one could imagine. I installed your lights, and within 2 days the smell was gone. American Ultraviolet is literally transforming our living space into a safer, more enjoyable place to work, and for that, I thank you. American Ultraviolet has transformed our nastiest working environments into areas we can feel a little more comfortable in doing the nastiest jobs, and for that, we ALL thank you for your help in keeping us safe.”*

**John**  
Electrical Systems Department  
with a Major Hospital



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for additional product information



## Why American Ultraviolet

### Our History

American Ultraviolet has manufactured UVC Germicidal Fixtures since 1960 – 35+ years longer than our competitors. More than 60,000 of these products have been safely operating in hospitals, laboratories, clean rooms, doctors' offices, commercial buildings, food processing plants, and residences throughout the world – any place a concern for clean air exists. American Ultraviolet is the clear leader in UV technology, and remains committed to providing the highest quality equipment at a fair price.

### What Makes American Ultraviolet Different

UVC Germicidal Fixtures from American Ultraviolet are unique. They feature the highest High Output (HO) Lamps, which provide even greater efficiency than lamps other companies offer. And our lamps don't lose as much germicidal energy when temperatures fall within the HVAC system, enabling them to kill more mold and bacteria across a wider temperature and air velocity range than all others.

UVC Germicidal Fixtures from American Ultraviolet:

- Resist moisture, which prevents corrosion on lamp ends and electrical connections that can shorten lamp life (our fixtures actually outlive the lamps)
- Feature patent pending lamps that are the easiest to install and replace
- Two-year guarantee on lamps with only 20% decrease in output over the two years
- Ten year ballast warranty
- "Green" lamps ( $\leq$  8mg of mercury)
- Made, assembled and tested in the USA
- Designed for direct coil irradiation; Dual lamp systems also disinfect pass-by air
- Optional indicator lamps to notify customers when the lamp life has expired
- Maintenance – simply wipe down with a damp cloth when performing already scheduled filter cleaning – no additional maintenance is necessary



**American  
Ultraviolet**



# COMMERCIAL

American Ultraviolet manufactures a range of UVC Germicidal Fixtures that are ideal for commercial applications, including the CC Series, DC Series, CK Series, NC Series and ICR Series.

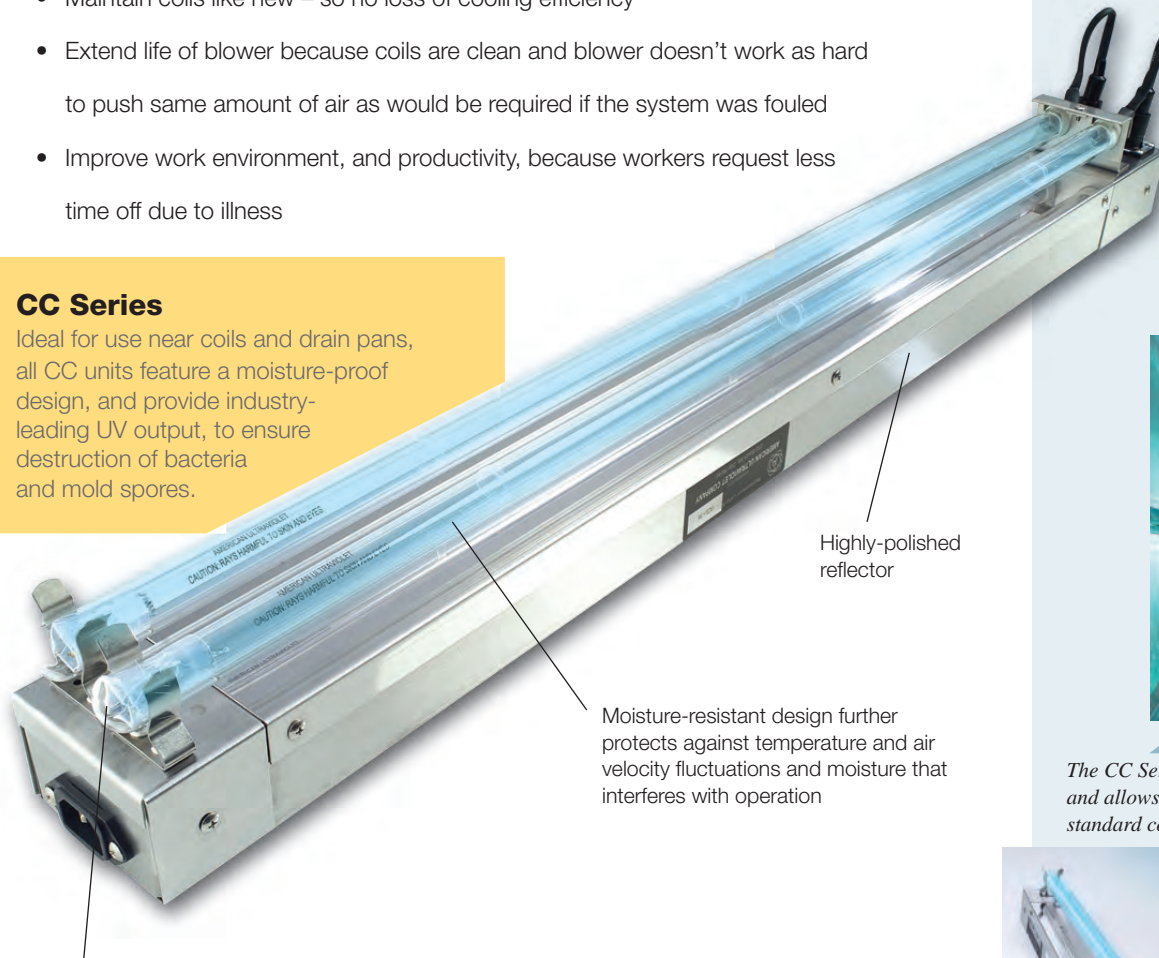
Located on the discharge side of the cooling coil, the CC series of germicidal fixtures expose the coil surface and drain pan to UVC light, eliminating DNA-based airborne contaminants by rendering them sterile, and therefore unable to reproduce. Mold and bacteria simply won't build up or be introduced into the air stream.

## In addition, Coil Clean UVC Germicidal Fixtures:

- Eliminate costly manual and chemical cleaning of mold and bacterial growth from coils
- Maintain coils like new – so no loss of cooling efficiency
- Extend life of blower because coils are clean and blower doesn't work as hard to push same amount of air as would be required if the system was fouled
- Improve work environment, and productivity, because workers request less time off due to illness

### CC Series

Ideal for use near coils and drain pans, all CC units feature a moisture-proof design, and provide industry-leading UV output, to ensure destruction of bacteria and mold spores.



Single-ended design for easy replacement

Moisture-resistant design further protects against temperature and air velocity fluctuations and moisture that interferes with operation

Highly-polished reflector

## CC Series Features:

- Two-year guarantee on lamps with only 20% decrease in output over the two years
- Highest Output Lamps (800mA)
- "Green" lamps ( $\leq 8\text{mg}$  of mercury)
- Easy to Install/Replace
- Stainless steel construction with polished reflector
- 120/230/277 volt HO ballast options allow worldwide operation
- Ten year ballast warranty
- 5 sizes: from 19-65" with single or dual lamp

configurations

- Moisture resistant to prevent electrical connections from being rendered useless by moisture
- UL Listed



*The CC Series is ideal for large installations and allows optimum lamp placement in non-standard coil configurations.*



◀ CC Series single lamp configuration

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## DC Series Features:

- Two-year guarantee on lamps with only 20% decrease in output over the two years
- Highest Output Lamps (800mA)
- “Green” lamps ( $\leq 8$ mg of mercury)
- Easy to install/replace (do not need to remove fixture from duct)
- 2 or 4 lamps, with support bars, improve structural rigidity and assist in high velocity air streams
- 5 sizes: from 14-45” insertion depth with 2 or 4 lamps per fixture
- Locking mechanism that keep lamps in place and allow ease of replacement without removing fixtures from ducts
- Custom Configurations (e.g. 6 lamps or 10 lamps; 67” insertion depth, etc.)

When air stream contamination by mold and bacteria is of greater concern, incorporate the DC Series UVC Germicidal Fixtures. DC fixtures are placed throughout ductwork and can also be incorporated into the return air stream.

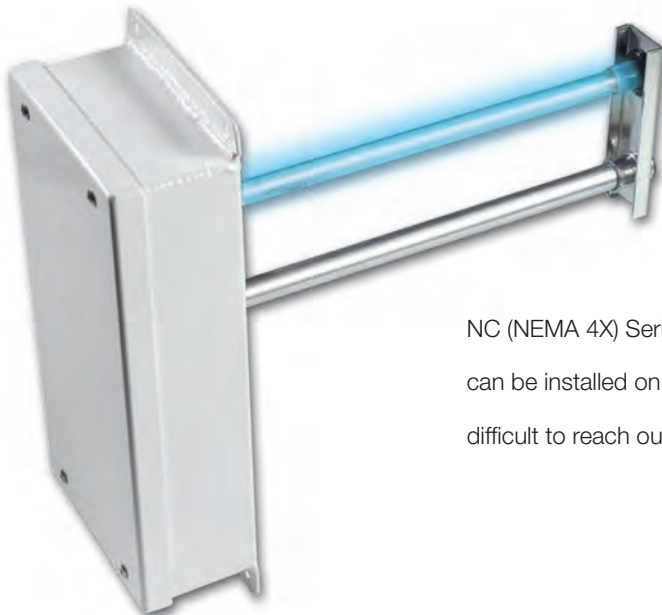
## DC Series

User-friendly, multi-lamp, duct-mounted UV fixtures treat airstream and allow lamp access without needing to un-mount the fixture from ducting.



## 4 Lamp DC Series

(Also available in 2 lamp configuration)



## NC Series

Featuring the externally mounted design of the DC Series, these fixtures include weather-resistant NEMA 4X housing that makes them ideal for outdoor HVAC units.

NC (NEMA 4X) Series Germicidal Fixtures are available in one or two lamp configurations that can be installed on the exterior of rooftop A/C units, or ductwork, enabling easy access to difficult to reach outdoor locations.

# COMMERCIAL



## CK Series

Self-assembled kit for OEM customers where CC fixtures are not required.

## CK Series Features:

The CK kits are the most basic, least expensive, yet still excellent UVC solutions for on-coil HVAC installations.

Features include:

- High-output (800 mA) lamps
- Waterproof connections
- Clamps that mount to conduit (a simple and inexpensive railing solution)
- Up to 8 ballasts mounted in a single enclosure; includes LED lamp indication
- 120-277V; 50/60Hz operation
- 18, 24, 36, 48 and 60" lamps available
- Shatterproof lamps optional
- Optional reflectors

## ICR Series

Custom designed per application for critical areas requiring pass-by air and/or direct surface UVC exposure.

American Ultraviolet High-output ICR Series fixtures are designed specifically for large air handling systems that serve critical areas where a high level of disinfection is required. These ready to install framed structures can be easily mounted on coils, to provide the desired airstream and on-coil disinfection to protect personnel from unwanted bacteria, mold, viruses or fungi travelling in the air airstream.

## ICR Series Features:

- Reduce bacteria, viruses and fungi with one pass through ICR
- Custom sized to individual duct and desired microbial reduction rate at no additional charge
- Reduction rates up to 99.9% (dependent upon microbe)
- Install in minutes; comes with ready assembled frame structure that easily attaches to plenum wall
- Installation down-stream offers removal or prevention of biofilm build-ups on cooling coil; and restores coil back to optimum heat transfer properties
- "Green" lamps contain  $\leq 8$ mg of Mercury
- Exclusive 2-year guarantee on high output lamp life
- No maintenance required, other than changing lamps every 2 years



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## DE Replacement Kit

The DE Replacement Kit from American Ultraviolet is a direct, bolt-in upgrade for all Steril-Aire "DE" fixtures (18, 24, 30, 36 and 42"; 120, 208/230; or 277V 50/60Hz). The DER features a two-year, high-output, low-mercury UVC lamp and comes with a full five-year warranty on the ballast.



## Safety Equipment

Goggles, glasses and shields for eye protection when servicing or installing UVC lights.

## OUR CLIENTS

Since 1960 American Ultraviolet has manufactured more than 60,000 effective products for use in commercial and residential environments. Following are just a few of the many companies we've proudly served:

- Albert Einstein Medical Center
- American Home Products
- American Cyanamid
- Anheuser-Busch
- Ayerst Laboratories
- Baxter Laboratories, P.R.
- Becton Dickinson
- Borden Foods
- Bristol-Myers Squibb
- Burbank Hospital
- Campbell Soup
- Children's Hosp. Med. Center of Boston
- Coca-Cola
- Cornell University
- Culligan Water Conditioning, Kingston, Ontario
- Del Monte
- Dr. Pepper/7-Up
- Dupont
- E.I. Dupont Medical Center
- Eli Lilly
- Faberge
- Filtradin, Israel
- General Foods
- Gerber Products
- Guinness
- Heinz
- Hershey's
- Howard Johnson
- IBM
- Infectious Disease Research Institute
- Johns Hopkins University
- Kraft
- Laboratorio Chile S.A.
- Lederle Laboratories
- M&M/Mars
- Merck
- Methodist Healthcare of San Antonio
- Methodist Hospital
- Minute Maid
- Monsanto Company
- New York State Dept. of Health
- Ohio State University
- Ortho Diagnostics
- Pepperidge Farms
- Pepsi Cola
- Princeton University
- Proctor & Gamble
- Ralston Purina
- Safeway Stores
- St. Francis Medical Center
- St. Joseph Hospital
- 3-M
- Union Carbide
- U.S. Army, Air Force and Naval Hospitals
- U.S. Department of Agriculture
- U.S. Food & Drug Administration
- U.S. Veterans Administration Hospitals
- W. R. Grace
- Wright Memorial Hospital

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# Clear the Air with American Ultraviolet

Review  
The  
Latest Data!

**UPDATED**  
07/10/08

**U.V. RESEARCH REPORT**

EPA RTI

PERCENTAGES REPRESENT THE "DESTRUCTION" OF THE PERSPECTIVE BACTERIA/VIRUS

Manufacturer	Spore form of bacteria ( <i>B. atrophaeus</i> )	Vegetative bacteria ( <i>S. marcescens</i> )	Bacterial virus ( <i>MS2 bacteriophage</i> )
American Ultraviolet	98%	≥99.5%	99%
Sanuvox Tech.	95%	99.97%	99%
Steril-Aire	96%	99.98%	99%

**Biological Inactivation Efficiency**

■ Spore form of bacteria (*B. atrophaeus*)  
■ Vegetative bacteria (*S. marcescens*)  
■ Bacterial virus (*MS2 bacteriophage*)

**Dosage Per Watt Efficiency**  
(EPA Technology Evaluation report)

Manufacturer	June 2006	January 2008
American Ultraviolet	48.35%	48.35%
Sanuvox Tech.	17.41%	17.41%
Steril-Aire	47.09%	47.09%
UVDI	10.03%	10.03%

■ January 2008  
■ June 2006

**New Government Research Studies Indicate American Ultraviolet Leads the Competition in Active "Dosage Per Watt Efficiencies."**

**June 2006 Report:**  
A June 2006 EPA report compared In-duct UVC fixtures bio-aerosol inactivation efficiency in HVAC applications. Because the amount of UVC energy produced effects inactivation efficiency, all fixtures tested should have had a similar rating/sizing for the number of lamps, wattage and output - this was not the case, and some performance ratings were promoted as higher than others. One manufacturer published a finding that showed their fixture produced a much higher "dose (uWsec/cm2) per watt" rating, however, they simply increased the number of lamps and added reflective material with a rough surface, but only to their product, which unfairly enhanced their results.

**January 2008 Report:**  
American Ultraviolet chose to re-submit a standard UVC in-duct fixture to the RTI/EPA testing facility, however, this time the fixture had the exact same number of high-output lamps (6) as the Steril-Aire in-duct fixture used in the June 2006 test. **Following the same test protocol previously used, the American Ultraviolet fixture is now rated higher than all other manufacturer's fixtures for "dose (uW-sec/cm2) per watt."** In addition, American Ultraviolet's biological inactivation rates also compared equal to or higher than the others in most instances.

*Please review the accompanying charts for American Ultraviolet model DC24-G-120 to see how it compares to other manufacturers' fixtures that also have high ratings. View the full report at [www.auvhvac.com/epastudy](http://www.auvhvac.com/epastudy).*

American Ultraviolet has manufactured UVC germicidal fixtures for HVAC applications since 1960 – 30+ years longer than our competitors. More than 50,000 of these fixtures are safely operating throughout the world. Designed specifically for HVAC applications, Duct Clean (DC Series) and Coil Clean (CC Series) UVC fixtures increase the value of all air conditioning and air-circulating systems by maximizing system efficiency and prolonging blower life. In addition, American Ultraviolet fixtures treat air that passes

through HVAC units with UV light that will reduce, or eliminate, DNA-based airborne contaminants and provide building occupants with healthier air to breathe.

**All American Ultraviolet UVC fixtures are made in the U.S. and feature:**

- Highest Output Lamps (800mA)
- "Green" lamps (≤ 8mg of mercury)
- Two-year (17,000 hours) guarantee on lamps
- Easiest to install and replace patent-pending lamps

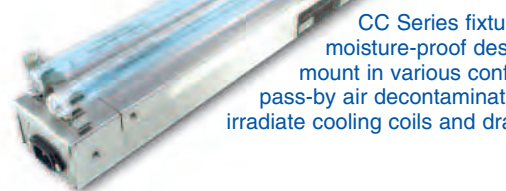
Contact American Ultraviolet today. We'll clear the air about the EPA report. And, in addition to clearing the air in your building, we'll help you ensure HVAC system efficiency, prolong equipment life and lower your energy and maintenance costs.



**American Ultraviolet**

Since 1960. It's all we do.

**CC Series**



CC Series fixtures feature a moisture-proof design and easily mount in various configurations for pass-by air decontamination and/or to irradiate cooling coils and drain pans.

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# UVC HVAC Solutions

Distributed By:



Prolonged, direct exposure to UVC light can cause temporary skin redness and eye irritation, but does not cause skin cancer or cataracts. American Ultraviolet systems are designed with safety in mind and, when properly installed by a professional contractor, do not allow exposure to UV irradiation and allow for safe operation and maintenance.

## **American Ultraviolet**

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