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# Air purification systems: Fresh-Aire UV®

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**Fresh-Aire UV®** has introduced its Commercial Series' APCO® Rack System, a non-ozone air purification system for HVAC units in commercial, industrial and institutional facilities. The device is the first system to combine ultra-violet germicidal irradiation (UVGI) for airborne and HVAC unit internal surface disinfection, with gas-phase air purification and photocatalytic oxidation (PCO) to capture and neutralize volatile organic compounds (VOC) contaminants.

The APCO Rack System is a commercial-grade version of Fresh-Aire UV's APCO non-commercial system, which was the international "IAQ Category" winner at the 2011 AHR Expo Innovation Awards. The APCO Rack System combines the same award-winning technology with Fresh-Aire UV's commercial-grade 32- or 60-in.-long UV lights.

The APCO Rack System installs quickly inside all brands of HVAC package and AHUs ranging from 10 to 200 tons. It's designed for hospitals, offices, schools, hotels, and other commercial buildings requiring reductions of odors and toxic vapors associated with airborne microbial and VOC contaminants.

Besides optimum IAQ, the APCO Rack System also keeps air conditioning coils, interior HVAC unit surfaces, and drain pans clean of mold and other biological growths, which increases operational efficiency, lengthens equipment lifecycles and reduces maintenance costs.



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The APCO Rack System, which was recently proven "highly effective" in minimizing microbes and VOCs in an ASHRAE Standard 52.2 certified chamber test by third-party laboratory, Airmid Healthgroup, Dublin, Ireland, combines the following three technologies:



- UV-C lights (254-nm) sterilize airborne and surface mold, germs, viruses, and allergens found in supply air distribution and on interior HVAC surfaces.
- Titanium Dioxide-Infused Carbon Cell Matrix adsorbs VOCs in a gas-phase air purification process and removes them from the airstream.
- PCO chemically transforms the captured VOCs into harmless water-vapor and CO<sub>2</sub> when the UV-C light shines on the titanium dioxide-infused carbon to create a photocatalytic effect. The lifetime-guaranteed carbon never becomes fully adsorbed and is essentially self-cleaning.

The APCO Rack System is available with Fresh-Aire UV's proprietary tubular rack installation concept, which includes brackets and mounting hardware for assembling a framework of off-the-shelf EMT tubing. The quick installation kit accommodates multiple APCO Rack System units in tandem that can be stacked or staggered to fit any coil size or configuration. Specifying engineers can quickly size a project with the Fresh-Aire UVC Exposure Software Tools program available at [www.freshaireuv.com](http://www.freshaireuv.com).

Other APCO Rack System features are:

- Lamp electrical connections are all pre-wired with quick-connect plugs for easy installation and replacement;
- Water-resistant, ETL and CSA-listed power supplies withstand condensation inside air handlers and all weather conditions when mounted externally on outdoor equipment;
- Special coil-mounted stand-off brackets or industrial-strength magnetic mounts are available

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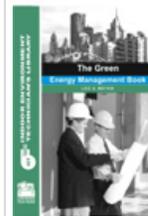
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that don't pierce the wall of single-wall air handlers;

- Can qualify as "Air Cleaning Equipment" for the IAQP procedure, the new outdoor air reduction provision now permitted by ASHRAE Standard--62;
- Maintenance requires only periodical lamp replacements that can be installed within minutes;
- APCO carbon matrix elements can be retrofitted onto existing Fresh-Aire UV commercial UV installations;
- Compatible for high-output UV-C lamps and installable with Fresh-Aire UV's Airborne Duct System hardware.
- Clean coils help extend equipment life and reduce employee exposure to chemical cleaner odors;
- Same award-winning technology as the non-commercial APCO that now has tens of thousands of units installed.



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