

CASE STUDY

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STERIL AIRE

Ultraviolet Energy Protects Travelers at DFW Airport

UV Resources Installs 600+ UV-C Disinfection Fixtures at World's Fourth Busiest Airport

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DFW Airport Safeguards Travelers with UV-C Systems from UV Resources

Dallas Fort Worth International (DFW) Airport installed Ultraviolet-C (UV-C) equipment from UV Resources as part of its multilayered-infection control strategy designed to reduce passenger exposure to any infectious pathogens, including the SARS-CoV-2 virus. UV-C has documented efficacy at reducing bacteria and mold exposures and viruses.

The \$7.5 million air disinfection initiative will improve the air quality in all five of DFW's Terminals and its Rental Car Center. Recently, ultraviolet germicidal irradiation (UVGI) or UV-C disinfection fixtures were installed in 614 HVAC air handling units (AHU) that serve the airport's six passenger terminals and all public and nonpublic spaces, including TSA security checkpoints, ticket counters, gate areas and food courts.

To help put the scale of this project into perspective, a typical office building has an AHU on each floor. So, the DFW project was similar to outfitting the equivalent of 30, 20-story office buildings with UV-C disinfection fixtures.

The upgrade also required more than 3,600 UV-Clamps, or about ten times the number of lights used to illuminate Dallas' iconic Reunion Tower Ball.

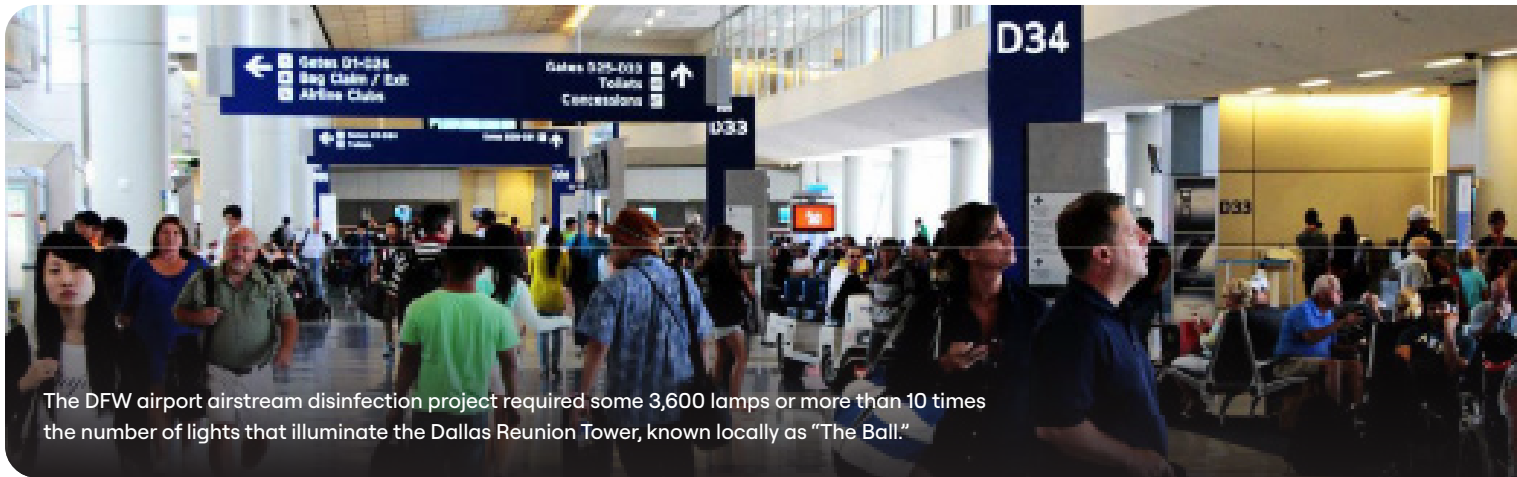
All of this demand occurred at a time when pandemic supply chains quadrupled product and lamp delivery times, pushing the conventional two to four week timeline to upwards of 20 weeks virtually overnight.

This impressive undertaking was led by teams from Manhattan Construction, Texas AirSystems, DFW Electric and MEPC (consulting engineers). It is the latest in enhanced efforts by the airport in response to the COVID-19 pandemic. The ultraviolet light technology aligns with innovative projects like the touchless fixtures in Smart Restrooms and targeted sanitization by cleaning Strike Teams throughout all five terminals.

"The use of UV-C light technology, combined with other health and safety protocols the Airport has implemented, significantly reduces the exposure risk to passengers and employees in the terminals and prevents the spread of the COVID-19 virus," explains Sean Donohue, CEO of DFW Airport.



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Proven to Disinfect Air

Since the 1930s, scientists have known that germicidal energy in the Sun’s C-band wavelength quickly and completely deactivates bacteria and germs in the air and on surfaces.

This near-century-long track record of infection-control efficacy figured prominently into the airport’s selection of UV-C technology, according to Rusty Vaughn, Vice President of Business Development and Special Projects at Texas AirSystems, which provided the UV Resources germicidal equipment. “The peer-reviewed science coupled with the fact that UV disinfection is endorsed by the U.S. Centers for Disease Control and Prevention and the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) helped substantiate the plan,” says Vaughn.

Germicidal UV-C air disinfection systems are installed in a building’s AHUs to disinfect moving airstreams before the treated air reaches occupants. Through a process known as photo dimerization, ultraviolet energy damages a cell’s nucleic acids and disrupts its genetic code, preventing microorganisms from infecting and reproducing.

Vaughn recommended the RLM Xtreme™ fixtureless UV-Clamp system from UV Resources for its high-output performance and installation versatility.

Designed for high-volume HVAC environments, the versatile RLM Xtreme can be installed in almost any position to generate 360-degree high output UV-C irradiation to inactivate bacteria, viruses, molds, and other pathogens—including antibiotic-resistant superbugs. The uniform 360-degree distribution provides the best air treatment effectiveness and is consistent with ASHRAE Handbook guidance.



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Depending on the available space in each of the 600+ AHUs, we installed a bank of UV-C fixtures to disinfect airstreams and keep the coil, drain pan, and plenum free of infection-causing and efficiency-robbing microorganisms,” recalls Vaughn. “This is in addition to the MERV 13 filters already installed, which also remove airborne particles.”

Because the UV-C disinfection fixtures are installed inside the airport’s air handling units, virtually all occupied spaces will receive air treated by the UV-C systems. As air is recirculated, concentrations of infectious pathogens can be further reduced by each subsequent pass or cycle through the HVAC system, known as “multiple dosing.”

UV-C – A PROVEN INDOOR AIR QUALITY SOLUTION:

Ultraviolet light or germicidal UV-C scrambles the genetic material in bacteria, viruses and fungi so they can't replicate. Since the 1930s, UV-C has been proven to inactivate infectious diseases in commercial offices, hospitals, urgent care centers, schools, universities, and first-responder locations.

Hundreds of successful, peer-review research studies have demonstrated its ability to halt these viruses, bacteria, fungi and other pathogens.

Even better, UV-C creates no hazardous chemicals, VOC, ozone or dangerous byproducts. UV-C disinfection technology can be combined with your existing filtration to create a layering of technologies that can capture and destroy pathogens without sacrificing airflow or ventilation levels.

It's one of the most affordable infection mitigation strategies. And it can reduce your HVAC energy use by up to 20%.

And, unlike some other technologies, UV-C's electromagnetic energy does not "add" chemicals, voes, or dangerous byproducts to the environment in or to perform deactivation of target pathogens.

After observing the potential benefits of the newly installed germicidal disinfection system, facilities staff agrees that this technology has become an important component of the ever increasing infection mitigation controls for the fourth busiest airport in the world.



The market-leading RLM Xtreme™ UV-C lamp system from UV Resources is one of the most effective germicidal HVAC solutions available today.

Wells WF, Fair GM. Viability of B. coli exposed to ultra-violet radiation in air, Science 1935. 82:280-281. Retrieved from <https://www.science.org/doi/10.1126/science.82.2125.280>.

LEARN MORE

Reach out to our UV-C disinfection experts today to learn how ultraviolet energy in the 253.7 nm wavelength can help improve your indoor air quality, whether in a classroom, commercial office, restaurant, or community center. See why HVAC researchers and infection preventionists view germicidal UV airstream (in-duct) disinfection and Upper-Room UVGI technologies as an extremely promising control strategy against infectious diseases. Call us today at 877.884.4822 or email UVR.info@UVResources.com.