

• AIR FILTRATION

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Indoor Air Quality: Adapting to the New Normal

Since COVID-19, the demand for better IAQ has added new challenges and complexity to product selection in new and existing HVAC systems. Although occupants want safer and cleaner air, the reduction of energy and operating costs is still a driving force in design requirements.

Now, it is possible to do all three. Dynamic Air Quality Solutions offers several products that provide safe, simple, and effective air filtration that meet CDC and ASHRAE recommendations – and reduce costs at the same time.

Safe, simple, and effective air filtration that meet CDC and ASHRAE recommendations

In order to reduce concentrations of airborne pathogens such as SARS-CoV-2, the ASHRAE Epidemic Task Force (October, 2021) recommends at least minimum outdoor airflow rates for ventilation in addition to MERV 13 or better levels of air filtration for air circulated by HVAC systems. Control options can be deployed to reduce exposures while also considering constraints such as comfort, energy use, and costs. They discourage the use of devices for which evidence of effectiveness and safety is unclear.

Dynamic Air Quality Solutions offers several products that provide safe, simple, and effective air filtration that meet CDC and ASHRAE recommendations:



Air Filtration

At the top of the line, the Dynamic V8 Air Cleaning System offers MERV 15 performance with a static pressure drop that saves an average of 1" of static compared to conventional MERV 13 filters. In addition, the Dynamic V8 offers the high dust-holding capacity on the market. Its high dust-holding capacity translates into a service life that is measured in YEARS instead of months. In addition to the Dynamic V8, Dynamic Air Quality Solutions offers a wide range of products that are easy to retrofit into existing systems.



The same technologies that clean the air in hospitals and clean rooms are available to keep building occupants safe in light commercial environments. Dynamic panel air cleaners utilize non-ionizing polarized-media technology to deliver exceptional air quality - removing ultrafine particles (including viruses) at a lower static pressure than conventional filters. Available in 1-inch and 2-inch panels, these air cleaners operate on low voltage acquired from the HVAC system and slide into existing filter tracks to provide performance that exceeds that of MERV 13 passive filters but with a much lower pressure drop.







As shown above, a Dynamic 2" Panel Air Cleaner provides comparable effectiveness to a MERV 13 conventional filter, while holding almost four times the dust (below)



Air Purification

UVGI (ultraviolet germicidal irradiation) has long been an established means of disinfection and has been used successfully to prevent the spread of infectious diseases. The technology has been recommended as a supplement by the CDC and ASHRAE. UVC is not an *additive* technology and does not put chemicals, ions, or other substances into the airstream. UVC effectiveness is based on proximity and dwell time. The application of induct UVC systems has been proven to efficiently and affordably disinfect air in moving airstreams. Test results clearly point to the effectiveness of UVGI over other emerging technologies including bipolar ionization.

Proven Effectiveness

Dynamic dual remote UVC systems tested in a moving airstream achieved >99% inactivation of viral aerosols in just 6.4 air changes. Under the same conditions, a bipolar ionization device would require almost 27,000 air changes to achieve a similar inactivation rate.

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To download the test, visit www.DynamicAQS.com/UVCtest.



From the U.S. Environmental Protection Agency at epa.gov, March 2021

[Bipolar ionization] is an emerging technology, and little research is available that evaluates it outside of lab conditions. As typical of newer technologies, the evidence for safety and effectiveness is less documented than for more established ones, such as filtration. Bipolar ionization has the potential to generate ozone and other potentially harmful by-products indoors unless specific precautions are taken in the product design and maintenance.

From the National Center for Biotechnology Information at NIH.gov, May 2020

Since coronaviruses do not differ structurally to any great extent, the SARS-CoV-2 virus - as well as possible future mutations - will very likely be highly UV sensitive, so that common UV disinfection procedures will inactivate the new SARS-CoV-2 virus without any further modification.

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