

Federal Agencies Highlight COVID-19 Best Practices for HVAC Systems

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As businesses and commercial buildings reopen following shutdowns due to the coronavirus pandemic, the Federal Interagency Committee on Indoor Air Quality used their June 26 meeting to highlight recommendations on heating, ventilation, and air conditioning (HVAC) system operation.

Particular interest in these systems has increased due to the [potential ability](#) for the coronavirus to be transmitted through HVAC systems via droplets in the air. Most recently, Governor Cuomo [suggested](#) that New York would make it “mandatory that” malls “have air filtration systems that can filter out the Covid virus” before they may reopen. The [EPA Science Advisory Board](#) has noted that researching the potential for the coronavirus to travel through the HVAC system is “important,” and recommended investigating whether “installation of UV lights in HVAC systems and areas of air exchange facilitate virus inactivation.” Likewise, DOE announced it would devote resources over the next six months to 11 national labs for research regarding how aerosols move in our environment, focused on COVID-19.

In the meantime, the Committee outlined certain immediate recommendations regarding HVAC systems. Importantly, the agencies did not indicate that any regulatory requirements are imminent, but instead provided a collection of non-binding recommendations from various organizations, gathered by the National Institute of Standards and Technology (NIST). Highlights of the recommendations include:

- **Filtration.** Install a minimum of MERV-13, if the system allows. MERV-14 is better, and HEPA is preferred.

Recommended by American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), U.S. Dept. of Energy (DOE), APPA

- **UV-C Air Cleaners.** “Consider” as a supplementary tool.

Recommended by ASHRAE, DOE, APPA

- **Outdoor Ventilation**

- Increase ventilation and/or reduce recirculation.

Recommended by the American Industrial Hygiene Association (AIHA), the National Institute of Building Sciences, U.S. Dept. of Labor, DOE and Centers for Disease Control and Prevention (CDC)

- - Maintain 24/7 outdoor ventilation.

Recommended by ASHRAE, Building Owners and Managers Association International (BOMA), REHVA

- - Check airflow directions and pressures. Maintain airflow *from* clean spaces *to* dirty spaces.

Recommended by ASHRAE

- **Relative Humidity.** Maintain between 40% and 60% relative humidity.

Recommended by ASHRAE, DOE, Federal of European Heating, Ventilation and Air Conditioning Associations (REHVA), Nation Institute of Building Sciences

NIST also highlighted a new web-based tool for simulating aerosol flow associated with ventilation, filtration, and deposition. Fate and Transport of Indoor Microbiological Aerosols (FaTIMA) allows specification of system mechanisms, type of emissions (sneezing, coughing, breathing), and removal mechanisms to simulate exposure to occupants in a 24-hour period.

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