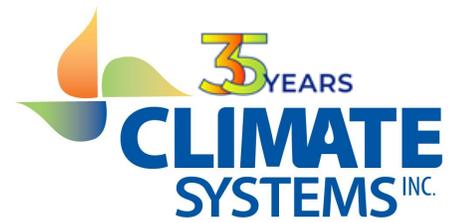


Building Readiness Guidance



Additional COVID-19 Resources

Infectious aerosols can be disseminated through buildings by pathways that include air distribution systems and interzone airflows. Various strategies have been found to be effective at controlling transmission, including optimized airflow patterns, directional airflow, zone pressurization, dilution ventilation, in-room air-cleaning systems, general exhaust ventilation, personalized ventilation, local exhaust ventilation at the source, central system filtration, UVGI, and controlling indoor temperature and relative humidity.²

Ventilation

On the recommendation of the ASHRAE Epidemic Task Force, ASHRAE Leadership states that transmission of SARS-CoV-2 through the air is sufficiently likely that airborne exposure to the virus should be controlled. Unconditioned spaces can cause thermal stress to people that may be directly life threatening and that may also lower resistance to infection. In general, disabling of heating, ventilating, and air-conditioning systems is not a recommended measure to reduce the transmission of the virus.¹

- Increase outdoor air ventilation if feasible²
- Continued operation of HVAC if possible²
- Maintain temperature and humidity as applicable²
- Add portable room Air Cleaners²
- Daily outside air flushing sequence for two hours before occupancy³

**Bonus Material:
ASHRAE Webinar on
Re-opening Schools**

Filtration

Ventilation and filtration provided by heating, ventilating, and air-conditioning systems can reduce the airborne concentration of SARS-CoV-2 and thus the risk of transmission through the air. Most would agree that upgrades to filter efficiency, whether it's a mask or an AHU system, would be an effective way to assist in filtering out unwanted airborne particles. However, careful consideration needs to be made when selecting the types of filters used for existing AHU systems.²

- Improve Central Air Filtration to MERV-13 or higher²
- Camfil recommends for standard risk areas such as commercial office and retail buildings, schools, airports, manufacturing facilities, if the current configuration of HVAC ventilation system allows, the minimum efficiency recommended is a MERV 15/15A. Healthcare facilities should refer to the most current version of ANSI/ASHRAE/ASHE Standard 170 for guidance.⁴
- Corona discharge or Electronic Devices decrease IAQ⁷

UVC

The entire ultraviolet (UV) spectrum can kill or inactivate microorganisms, but UV-C energy (in the wavelengths from 200 to 280 nm) provides the most germicidal effect, with 265 nm being the optimum wavelength. The majority of modern UVGI lamps create UV-C energy at a nearoptimum 254 nm wavelength. UVGI inactivates microorganisms by damaging the structure of nucleic acids and proteins with the effectiveness dependent upon the UV dose and the susceptibility of the microorganism.²

- Add UVC devices in High-density spaces
- Recirculating air in HVAC systems creates redundancy in exposing microorganisms to UVC.⁵
- Steril-Aire UV germicidal Emitters are installed on the supply side of the system, downstream from the cooling coil and above the drain pan. This location provides more effective biofilm and microbial control than in-duct UVC installations.⁵
- UVC Products for Providers⁶

Footnotes:

1. Discussing the CDC and ASHRAE Recommendations for HVAC Systems (the NEWS Article dated April 16, 2020)
2. ASHRAE Position Document on Infectious Aerosols (April 14, 2020)
3. ASHRAE Occupancy Guides
4. Reducing the Risk of Infection through Viruses by Combating Air Pathogens from Camfil filtration. As a leading manufacturer of premium clean air solutions, we provide commercial and industrial systems for air filtration and air pollution control that improve worker and equipment productivity, minimize energy use and benefit human health and the environment.
5. White paper "Coronavirus & UVC" from Steril-Aire. Steril-Aire invented UVC for HVAC™ technology 25 years ago and has continued to upgrade it. Imitators have never been able to equal the original, which includes superior construction and engineering support. Independent testing has proven that Steril-Aire's emitters deliver up to 7 times more energy than competitor products and last 4 times longer in the cool and damp HVAC environment.
6. UVC Products - Climate Systems Blog Post (Dated April 3, 2020)
7. ASHRAE Journal Article (December 2018)