



# MEP Design Response to COVID-19

## Utilizing Smart Mechanical and Electrical Design to Slow the Spread of Coronavirus

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The course of events in 2020 has forced all of us to make adjustments. How we live, work, and interact as human beings has changed dramatically in a relatively short time. This also impacts the way we interact with buildings, and how we ask them to perform.

We all quickly came to realize the importance of resources, including a high performing building, in the healthcare industry this past Spring. Today, we're turning to our schools and wondering if many of these aging buildings can deliver safe learning environments for our children. While these are hot button issues right now, the reality is that COVID-19 will impact building design across all industries and markets to some degree.

Engineers and architects are working to provide a holistic design response to COVID-19 and guide clients through options to create the best working and living environments in their buildings. While many of these items were brought to the forefront by the pandemic, professionals in our industry have recommended and implemented some of them, like UV emitters, for years. Others, like NeedlePoint Bi-Polar Ionization, are emerging technologies that can not only impact the spread of COVID-19 but improve the indoor environment to decrease occurrences of the common cold and influenza as well.

When it comes to mechanical and electrical systems, the approach should be comprehensive. In existing facilities, conducting a conditions assessment can first help determine what types of upgrades are able to be implemented within the current system(s) with minimal additional equipment. This, in turn, can reduce the cost.

Mechanically, there are essentially three paths to bolstering the HVAC system, a critical ally in fighting the spread of contagious disease. Dilution, filtration, disinfection (eradication) or some combination of the three are essential in the engineer's toolbox for helping create healthy indoor environments. Solutions can range from simply increasing ventilation in the space to adding UV emitters in air handling units or programming pre- and post-occupancy purge sequences. If the building is new construction, the design team should also pay particular attention to air distribution layout and patterns given the building design.

While the mechanical system can make the greatest impact on reducing spread through air flow, other design improvements certainly have a role to play through surface materials, automation, germicidal lighting, and attendance logging. Touchless controls, if not already present, can be installed in bathroom fixtures, light switches, door operators, etc. to reduce contact spread.

If exposure is suspected, attendance logs can be reviewed through card access and/or video systems. Thermographic screening is a fairly new technology in the private sector, but it can be an effective first stage in identifying individuals who may pose a health concern based on body temperature readings.

While the way we interact – with each other and the world around us – may change, the need for safe and comfortable spaces remains fundamentally essential in our lives. Our industry recognizes the challenges we face and is happy to report that the solutions are out there. We look forward to helping people find them.

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