

- Hospitals
- Healthcare
- Assisted Living

COVID-19 Air Quality Management

In the era of COVID-19, we have all become acutely aware of the necessity of providing and maintaining Quality Air Purification Systems and Protocols to mitigate the risks of infectious airborne pathogen transmission. Earth Core Energy Services can provide the means to ensure COVID-19 protocols are established. Our solutions range from HVAC ventilation optimization to HEPA filtering.

Concerned About Indoor Air Quality?

- Most people spend over 90% of their time indoors. The Environmental Protection Agency has reported that indoor air pollution levels can be 100 times higher than the air outdoors.
- The American College of Allergist says that 50% of illnesses are caused or aggravated by polluted indoor air.
- 50% of all major office buildings have contaminated heating, ventilation and air conditioning systems (HVAC). If not properly maintained, they are a susceptible to the growth of harmful molds and bacteria.
- Airborne pollutants can contribute to odors, headaches, lung irritation and fatigue as well as exacerbating long-term illnesses such as asthma, allergies and infectious diseases.
- Hospitals and Healthcare facilities are particularly vulnerable to infectious airborne pathogen transmission due to the often-compromised immune system of the elderly and infirmed residents.

Let Us Help You!

- *FRESH AIR* is the key to diluting the virus. The greater the fresh air entering the building the safer the indoor space will be. We can set up an ASHRAE certified HVAC ventilation system to purge the indoor air periodically throughout the day. Intaking 100% fresh air and exhausting 100% of the indoor air reduces the risk of airborne contaminants being transmitted. [negative pressure rooms save lives](#)
- *HEPA FILTRATION* and contamination control products such as the MICROCON filtering system, reduce the risk of airborne infection and disease transmission by up to 99.97% and is FDA 510k compliant.
- Our filtration and contamination control products have been used in the *PHARMACEUTICAL, ELECTRONICS, MEDICAL and HEALTH-CARE INDUSTRIES.*

Plans:

- Earth Core Energy Services offers an array of solutions and plans based on the size and/or complexity of the facility.

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Factors to Consider

NEGATIVE PRESSURE - Control and Measurement

- To control the direction of airflow between the room and adjacent areas, thereby preventing contaminated air from escaping from the room into other areas of the facility.
- The direction of air flow is controlled by creating a lower (negative) pressure in the area into which the flow of air is desired.
- *Differential Pressure-sensing* Devices can be used to monitor negative pressure for *Negative Pressure Rooms*; periodically or continuously. They may include visible and/or audible warning signal that air pressure is low, for example when a indicate that was left open.
- A *time delayed signal* should allow sufficient time for persons to enter or leave the room without activating the audible warning.

HEPA FILTRATION

- *HEPA Filtration* devices such as the MICROCON are air-cleaning devices with a minimum removal efficiency of 99.97% of particles greater than or equal to 0.3 um in diameter.
- EPA filters can be used to clean air before exhausting outside recirculated to other areas of the facility, or recirculated within a room.
- *Portable* HEPA filtration units may be considered for recirculating air within rooms in which there is not a general ventilation system capable of providing adequate airflow
- *Wall-Mounted* HEPA filtration is an alternative to mobile HEPA filtration units

PRESSURE SENSING AND FILTER REPLACEMENT

- A Pressure Sensing device should be installed in the filter system to provide a means of determining the need for filter replacement. Pressure drop is an indication the filter requires replacement. Installation of the filter should allow for maintenance that will not contaminate the delivery system or the area served.

ISOLATION ROOMS – Exhaust to outside

- *HVAC ventilation* should *exhaust 100%* of the indoor air from *isolation rooms* used to treat patients who have confirmed or suspected infectious illness. This prevents re-circulated air from entering the general ventilation system.

ISOLATION ROOMS – HEPA Filtration

- For some existing facilities, venting the 100% of the indoor air exhaust outside is difficult or impossible. In such cases, *HEPA filters* should be installed in the exhaust duct leading from the room to the general ventilation system to remove infectious organisms and particulate