Coronavirus and UVC

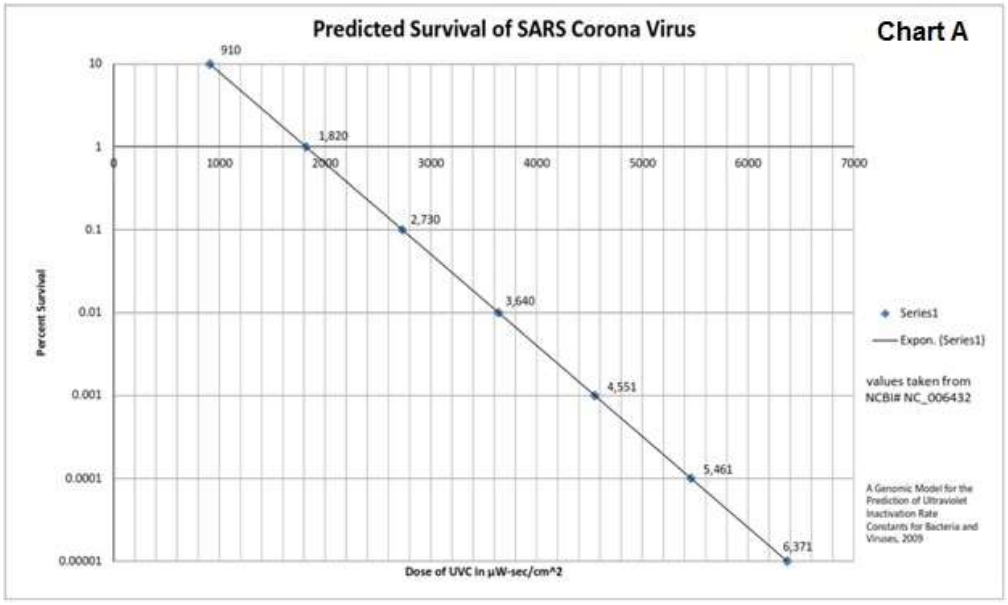
The 2019 Novel Coronavirus, or 2019-nCoV, is a new respiratory virus first identified in Wuhan, Hubei Province, China.

Coronaviruses are a large family of viruses that are common in many different species of animals, including swine, cats, cattle, camels and bats. Rarely, animal coronaviruses can infect people and then spread between people such as with MERS, SARS, and now with 2019-nCoV.

It's important to note that how easily a virus spreads person-to-person can vary. Some viruses are highly contagious, while other viruses are less so. There is much more to learn about the transmissibility, severity, and other features associated with 2019-nCoV and investigations are ongoing.

Most often, spread of novel coronavirus from person-to-person is believed to happen among close contacts (about 6 ft or 2m). Person-to-person spread is thought to occur mainly via respiratory droplet nuclei produced when an infected person coughs or sneezes, like how influenza and other respiratory pathogens spread. These droplet nuclei can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs. If these droplets are hearty enough to survive a period of time in the air, they can be spread in a building by the air handling system.

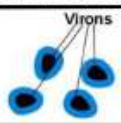
Previous Corona family of viruses have shared similar traits of vulnerability to UVC at varying dosage (see chart A). Viruses that are airborne can be safeguarded against with high doses of UVC in the Airstream. Steril-Aire has control mechanisms to stop that spread.



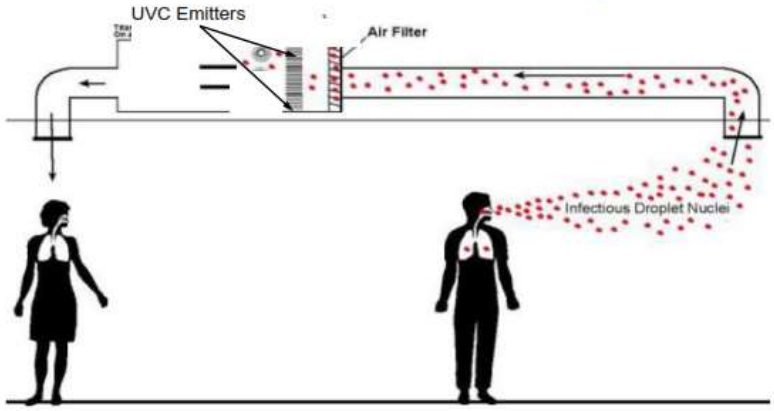
For the most effective microbial control, Steril-Aire UV germicidal Emitters are installed on the supply side of the system, downstream from the cooling coil and above the drain pan. This location provides more effective biofilm and microbial control than in-duct UVC installations.

The recirculating air in HVAC systems creates redundancy in exposing microorganisms to UVC, ensuring multiple passes so the light energy is effective against large quantities of airborne microorganisms. Steril-Aire UVC delivers the highest UVC output, driving HVAC system efficiency while improving indoor air quality.

Stages of Infectious Droplets & Droplet Nuclei:

	Large Infectious Droplets: Mucus/water encased Viruses are aerosolised by the infector or by toilet water. These quickly fall to the ground after traveling up to 3 feet (1 m)
	Small Infectious Droplets: Mucus/water coating starts to evaporate. These will travel 3 to 6 Feet (1-2 m) before falling to the ground. These droplets can become **Droplet Nuclei**
	**Infectious Droplet Nuclei:** Mucus/water coating has totally evaporated leaving only the VIRON. **This is a Droplet Nuclei** Droplet Nuclei are so microscopic they can float in the air indefinitely

How Steril-Aire Emitters inactivate airborne Infectious Droplet Nuclei:



Steril-Aire is the first manufacturer of UVC solutions for the air and air handlers. Since 1994, solutions from this company have consistently been found to be the highest intensity output of UVC of any commercially available products. Steril-Aire also utilizes a software configuration tool that allows a customized solution to be easily configured and shows the intensity of UVC being generated. Steril-Aire's SmartTool™ provides an environment to design the system that best addresses the needs for a science based UVC solution to the problems of airborne viruses.

If your goal is to maintain higher indoor air quality and protect those in your environment, then your best option is to contact a Steril-Aire Authorized distributor or Steril-Aire directly at 818-565-1128 or Coronavirus@steril-aire.com