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# ROLE OF Membranes and COVID-19

As the entire world is struggling with the anxieties and consequences caused by the Coronavirus disease (COVID-19), water and wastewater treatment professionals are carefully re-evaluating their role and responsibilities towards the protection of public health. The severity and catastrophic magnitude of the impacts of this pandemic clearly demonstrate that we are not prepared for an infectious disease outbreak such as Coronavirus.

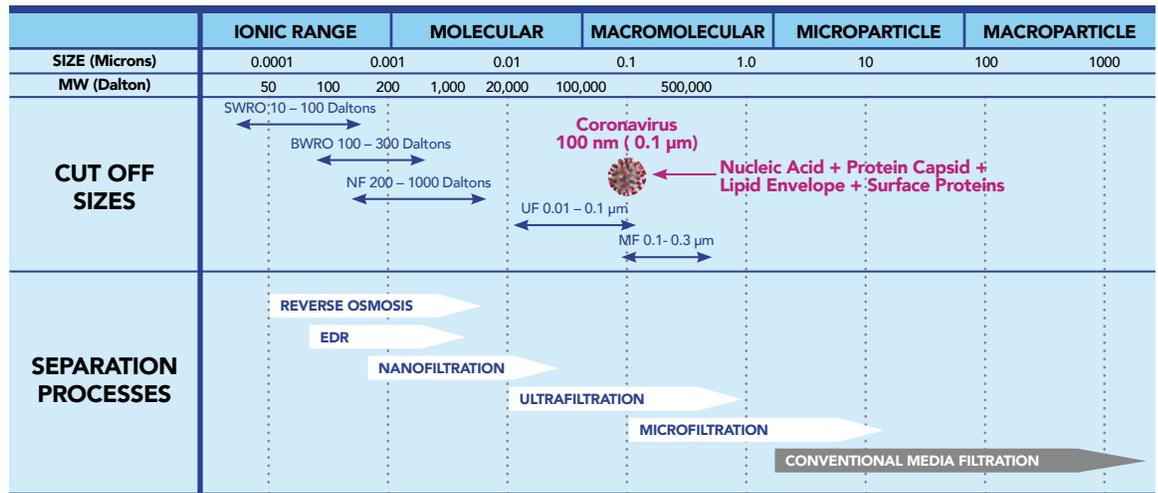
The good news is that, fortunately, most current water and wastewater treatment processes are considered effective for the destruction and/or removal of viruses. Disinfection with chlorine, oxidation and ultraviolet disinfection are some examples of technologies that are commonly used and are expected to be effective.

However, the bad news is that some ongoing tests suggest that coronaviruses can remain infectious for many days in both water and wastewater systems. It is important to note that as the World Health Organization (WHO 2020)

has indicated, investigations into this pandemic outbreak are ongoing and the information that we currently have may change as we learn more about this pandemic.

At AMTA, we pride ourselves with our knowledge about the reliability and consistency of membranes to effectively remove various contaminants, including viruses, from water and wastewater systems. The chart below shows the nominal size of a Coronavirus in relation to membrane separation pore sizes.

## Placement of Coronavirus in a Membrane Separation Chart



Membranes have been proven globally for decades to provide the best protection against pathogens/viruses as a physical separation barrier. These membranes, combined with UV, provide the most reliable treatment technology available.

For wastewater treatment facilities, the use of biological treatment processes combined with the physical separation provided by membrane

bioreactors followed by UV can also effectively remove viruses, including Coronavirus, from the wastewater effluent and water reuse applications.

These are challenging times—both scary and exciting at the same time—pushing us forward to expand our global knowledge about the role of membranes for innovative scientific solutions and the protection of public health.

Ongoing research and testing will help the water industry to more confidently answer these critical questions about occurrence and behavior of such contaminants in the months and years to come. However, we do know that we are much better protected with advanced treatment technologies such as membranes. ■