



PREVENT SPREAD AND TRANSMISSION OF PATHOGENS THROUGH WATER

CERAFILTEC[®]
CLEAN WATER. EVERYWHERE.

The currently escalating coronavirus pandemic is teaching us how crucial it is to prevent the spread of pathogens.

The social and economic consequences of the coronavirus first spreading to patient zero have been devastating and continue to proliferate.

It is of utmost importance for us to re-think disease and infection preventative mechanisms in our ecosystems. This very much pertains to the water cycles as much as to any other possible way of transmitting illnesses.

Pathogens that can be transported through water include Norovirus, Coronavirus, Poliovirus, E. Coli bacteria, Salmonella Typhi, Cholera Vibrio and many other harmful microbes. The spread and transmission of such infectious pollutants can be prevented by multi-barrier water treatment systems. Unfortunately, such highly effective methods are still not commonly used, even for obvious applications such as hospital sewage.

This poses an inherent risk; a risk we must consider mitigating now that we know the life-changing and economic consequences.

A multi-barrier water treatment system that removes more than 99.99999999% of pathogens

Already in 2012, Dr. Martin Kaschek and Sylvie Verplancke invented a multi-barrier system for water treatment using ceramic flat sheet membrane filtration and AOP (Advanced Oxidation Process) which includes ozone and UV light. This system removes essentially all pathogens and therefore prevents any kind for water transmitted diseases – a matter that seems highly relevant now to the industry and regulators, given the current global pandemic emergency case.

For the first time, ozonation, ultrafiltration, and UV can be combined in one process due to the unique properties of ceramic flat sheet membranes.

Unlike all polymeric-based ultrafiltration technologies, CERAFILTEC's ceramic filtration and fiberglass-reinforced resin-based module are insensitive to ozone and UV light. The ozone-filtration step even has performance-enhancing properties such as eliminating membrane fouling, increasing flux rates, reducing the need for backwash and cleaning, hence increasing recovery rates and reducing backwash waste.

The reliability and effectiveness of the UV step are further enhanced due to the particle-free, low turbidity, and low SAC254 adsorption value filtered water from the ceramic ultrafiltration.

CERAFILTEC's ceramic flat sheet membrane treatment step as the main part of this multi-barrier system results in a very compact and cost-efficient complete solution.

The combination of ceramic flat sheet membrane filtration and AOP is an extremely robust and reliable treatment solution to prevent the spread of any harmful pathogens into the environment and into our ecosystem.

Planned use for hospital sewage treatment application

The CERAFILTEC multi-barrier system is currently in evaluation for comprehensive use for hospital sewage treatment in China. It can be implemented as an add-on to existing sewage treatment plants to achieve the necessary pathogen removal. Alternatively, the system can be built from ground up as a complete and cost-effective solution, preceded either by activated sludge or an MBBR biological treatment.

Other applications where pathogen removal and treatment targets are vital include Aquaculture, Food and Beverage, and TSE (Treated Sewage Effluent) re-use.

For more information, please visit: <http://www.cerafiltec.com/prevent-spread-and-transmission-of-pathogens-through-water/>