Water Solutions

DUPONT™

Municipal Wastewater

MEMCOR™ MemPulse™ Membrane Bioreactor System: Maximizing Efficiency with a Minimum Footprint

The challenge

Processing 12.8 million gallons a day, the membrane bioreactor system (MBR) at Morgantown's wastewater treatment plant is one of the largest in the US. Serving the community of Morgantown, West Virginia, the facility also operates a conventional activated sludge process running in parallel with the MBR treatment system, allowing for a real-world side-by-side comparison of the technologies.

The solution

Data collected over a sustained period has shown that MEMCOR™ MemPulse™ MBR is ten times as efficient as the conventional system it runs alongside. The effluent produced by the MBR system for discharge into the river is visually almost indistinguishable from tap water, typically containing less than 1mg per liter of BODs and less than 2mg per liter of TSS. The high effluent quality and pathogen removal encouraged the plant to request permission for the effluent to bypass the UV disinfection system, providing additional energy and cost savings.

The benefits

Because there was limited space available to deliver this much-needed capacity upgrade, the compact and configurable nature of the MEMCOR™ MBR tank made this the perfect solution as it ensured a minimal footprint. Placing the membranes in the tank has minimized ongoing operational costs, while having the MEMCOR™ MemPulse™ devices connected to each of the membrane modules to provide a dedicated aeration source ensured optimal performance while reducing energy use and the need for chemicals.

Fast Facts

Location: Morgantown, West Virginia

Technology: Membrane Bioreactor

Product: MEMCOR™ MemPulse™

Application: Surface Discharge

Plant capacity: 2,424 m^3/h

Start-up date: June 2020

Water Type: Wastewater

# of Elements: 3,050

10x more efficient

Compact, flexible, and adaptable solution found to be ten times more efficient than conventional methods.

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Have a question? Contact us at:
dupont.com/water/contact-us

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