

New Enhanced Anaerobic Mixing Technology from EnviroMix Saves Energy and Reduces Environmental Impact

New solution optimizes anaerobic fermentation process in wastewater treatment by alternating a short mixing cycle with a long deep cycle.

CHARLESTON, SOUTH CAROLINA, UNITED STATES, June 2, 2021 /EINPresswire.com/ -- EnviroMix is excited to introduce the [BioMix-DC](#) Enhanced Anaerobic Mixing System, a new solution that optimizes the anaerobic fermentation process in wastewater treatment facilities by alternating a short mixing cycle with a long deep cycle.



During BioMix-DC's deep cycle, mixing is suspended to allow solids to accumulate.

BioMix-DC is proven to provide customers:

- Consistently low effluent phosphorus levels
- Maximized fermentation to enhance biological phosphorus removal
- Minimized chemical addition and sludge production

BioMix-DC is designed to adapt to changing process conditions for treatment plants of any size. During the mixing cycle, complete mixing of tank contents is provided by bursts of compressed air fired through patented, engineered nozzles located at the floor of the tank. During the deep cycle, mixing is suspended for prolonged periods of time, allowing solids to accumulate and driving down oxidation-reduction potential (ORP). The deep cycle stratifies the reactor in order to increase anaerobic solids retention time and maximize volatile fatty acid (VFA) formation.

Building off the company's already proven BioMix Compressed Gas Mixing technology, BioMix-DC uses 40-60% less energy than conventional mechanical mixers during the short mixing cycle. And, by purposefully creating deep anaerobic states during the long deep cycle, the system creates net energy savings of 90% or greater compared to continuous mechanical mixing.

Treating municipal wastewater to remove phosphorus in order to comply with permitted effluent limits helps protect surface water bodies from experiencing disastrous ecological results — the formation of algal blooms and dead zones caused by eutrophication. Therefore, regulatory changes throughout the United States drive the need for facilities to implement enhanced biological phosphorus removal (EBPR) in a sustainable way.

EBPR is the biological uptake of phosphorus by selected microorganisms called phosphorus-accumulating organisms (PAOs). While the actual uptake of phosphorus occurs in an aerobic environment, PAOs must first be conditioned by exposure to VFAs in an anaerobic environment. PAOs store food under anaerobic conditions and then process the food once under aerobic conditions. To avoid costly carbon addition, facilities with insufficient influent VFAs needed for effective phosphorus removal can encourage additional VFA production through fermentation.

To learn more about the energy efficiency, process optimization, straightforward operation, and unparalleled flexibility a BioMix-DC Enhanced Anaerobic Mixing System provides, visit www.enviro-mix.com/BioMix-DC.

About EnviroMix: Headquartered in Charleston, South Carolina, EnviroMix designs and manufactures treatment systems for municipalities and industrial facilities to dramatically reduce energy costs and help meet nutrient removal limits. Utilizing patented and proprietary technology, EnviroMix provides complete mixing systems, process controls, and energy management solutions to enhance plant performance in the water and wastewater markets. Visit www.enviro-mix.com for additional information.

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