



AEROBIC
DIGESTION



Mem-TAD™ Process

Membrane thickened aerobic digestion

What are your needs?

- Smaller sludge volumes for disposal
- Enhanced pH and temperature control
- Improved pathogen destruction
- Enhanced nutrient removal
- Compact footprint

Key Benefits

- Sludge quality will meet or exceed Class B standards
- Capable of thickening up to 5% Total Solids
- Reuse quality permeate
- Automation allows for lower operational requirements
- No daily start up or clean up required

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Mem-TAD™ Process

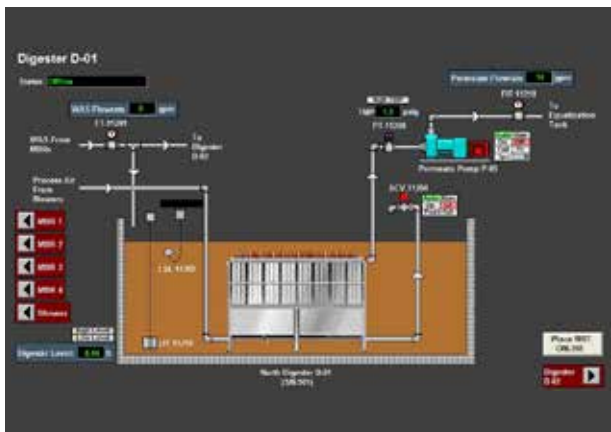
Description

The Mem-TAD™ (Membrane Thickened Aerobic Digestion) process brings together Ovivo's aerobic digestion and flat sheet membrane experience into one integrated system. This combination provides owners with a truly revolutionary solids handling technology.

The system consists of two or more aerobic digesters operating in conjunction with a membrane thickener (MBT) and optional anoxic basin. One aerobic digester forms a recycle loop with the MBT and anoxic basin that causes the digested sludge to be continuously thickened while undergoing both nitrification and denitrification.

Application Opportunities

- Expand capacity of existing digestion systems
- Upgrade sludge holding tanks to Class B performance
- Decentralize treatment facilities
- Perfect complement to membrane bioreactors





How It Works

Raw sludge containing organic material is introduced into the Anoxic basin, where it is vigorously mixed with nitrified sludge recycled from the in-loop digester. The combined sludge mixture contains the necessary substrates (carbon and energy sources) for the sludge to be denitrified by microbial action under anoxic conditions.

The driving force for the circulating flow of sludge through the in-loop basins is a simple airlift pump operating at approximately 3Q flow. Sludge is airlifted from the Anoxic basin into the MBT where it is thickened by the action of pulling water (permeate) through the membrane using a pump. Thickened sludge overflows from the MBT into the Aerobic Digester where it is aerated and nitrification occurs using less aeration than normally required in a digester, due to the effect of alternating anoxic/aerobic phases.

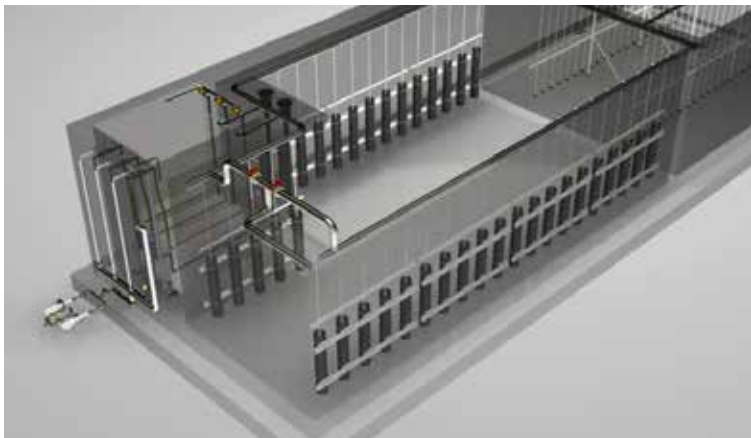
Digested sludge gravity flows from the Aerobic Digester to the Anoxic basin, where it is mixed with incoming raw sludge, completing the loop. In this manner the digested sludge is continually thickened and denitrified.



Mem-TAD™ Process

Technical Information

For larger facilities or those with dilute Waste Activated Sludge, Ovivo offers the Two pass Mem-TAD process. The first pass is able to operate at a higher flux rate due to the relatively low concentration of solids while the second pass operates at a lower flux to prevent premature fouling of the membranes. This approach allows Ovivo to minimize the membrane area required thus lowering overall system costs.



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Get Connected! Like all Ovivo equipment, your new Mem-TAD™ process will provide you with access to the Ovivo® ConnectSM portal, our innovative client resource application.

- Need access to your O&M Manual?
- Needs spare parts?
- Want the latest tips and news on your product?



Just scan the QR Code, or type-in the URL featured on the nameplate, to access dedicated web pages that will help you maintain and optimize your plant and your Ovivo equipment!



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