



Anaerobic Digester Upgrades

Omnivore™

The Omnivore™ retrofit package increases solids loading and biogas production through recuperative thickening, high solids mixing, and digestion of external feedstock. An Omnivore™ retrofit can triple the biogas production of a traditional anaerobic digester.

Increase Biogas Production with a retrofit

Overview

Municipal wastewater treatment is an energy intensive process. The solid portion of Municipal Wastewater (sludge) is high in energy value which can be made available for energy production via anaerobic digestion. For most municipal treatment plants, biogas is considered a secondary byproduct of a process focused on sludge stabilization and effluent quality.

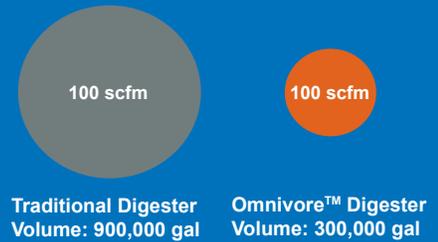
The Omnivore retrofit package offers existing wastewater treatment facilities the ability to convert existing digesters into high-solids Omnivore™ digesters, significantly increasing biogas production while ensuring continued wastewater treatment efficacy.

Applications

- Transform a wastewater treatment facility into a renewable energy production facility.
- Increase the capacity of existing digesters by up to three times.
- Enable reception and co-digestion of high strength waste streams such as fats, oils, and grease, or the organic fraction of municipal solid waste.
- Reduce foaming potential with high-torque mechanical mixing.

Capacity Comparison

A traditional digester must have three times the volume of an Omnivore™ digester to produce the same amount of biogas.



Components of a Full Omnivore Retrofit

Omnivore™ Retrofits are engineered according to specific site conditions and facility goals. Though they are not all necessary for each installation, the components described below represent the full Omnivore™ retrofit package.

Substrate Reception

Liquid feedstock is received from haulers via a quick-connect flange, and is pumped through a rock trap and grinder before it is stored and fed to the Omnivore™ digester.

Membrane Cover

The double membrane gas storage cover includes an outer membrane that maintains shape and absorbs external loads from wind and snow, while the internal membrane fluctuates to provide gas storage volume.

High Solids Mixing and Service Boxes

Anaergia's unique hydraulic and electric mixers handle high viscosities and solids content and are resistant to ragging. The patented service box allows for mixer access and maintenance without disrupting digester operation.

Recuperative Thickening

Anaergia's proprietary recuperative thickener is the key to increasing digester solids. The thickener separates digestate into filtrate and solids, returning the solids fraction to the digester while filtrate is discharged.

