

# Monsal\* advanced digestion technology (ADT) SGM

## high efficiency mixing for anaerobic digestion

### overview

SUEZ's line of Monsal advanced digestion systems use bacteria in the absence of oxygen to break down matter and create biogas.

Trends in anaerobic digestion aim to reduce retention time and increase dry solids concentrations, raising organic loading and improve efficiency.

With increased organic loading of digesters, mixing becomes critical to ensure that:

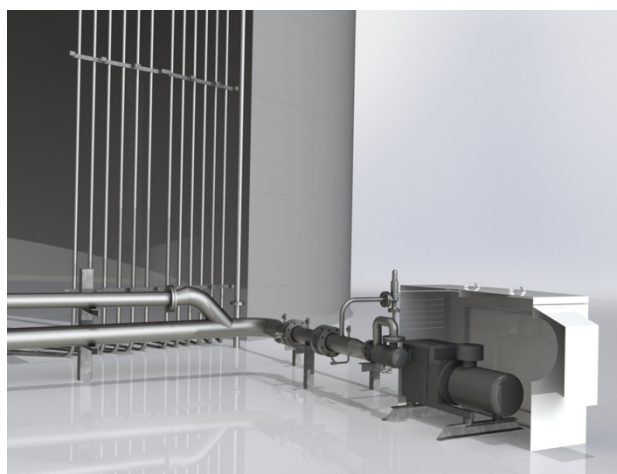
- The whole digester volume is available for processing
- Fresh feed material is mixed uniformly within the reactor
- The biological breakdown products of digestion are dispersed

Sequential Gas Mixing (SGM) ensures anaerobic digesters are mixed continuously to without thermal layering and accumulation of volatile fatty acid (VFA) pockets. The Monsal ADT SGM system (Figures 1 and 2) has been optimized for low power while achieving complete digester mixing

### benefits

The Monsal ADT Sequential Gas Mixing (SGM) system offers the following benefits:

- High active digester volumes >90%
- Fully mixed within 2 hours



**Figure 1: Monsal ADT SGM**

- Dry solids concentrations up to 10% in the digester
- Simple retrofit solution
- Proven for mixing digesters with thermal hydrolysis pre-treatment
- Low mixing energies (1.5 W/m<sup>3</sup> – 2.0 W/m<sup>3</sup>) reducing plant power consumption
- Operates continuously to prevent buildup of VFA's within digester.
- Smaller electrical infrastructure requirements
- No internal moving parts
- Easy maintenance and operation.

Find a contact near you by visiting [www.suezwatertechnologies.com](http://www.suezwatertechnologies.com) and clicking on "Contact Us."

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## applications

The Monsal ADT SGM process can mix a wide range of digester geometries and dry solids concentrations including:

- Low aspect ratio “pancake” digesters to high aspect ratio CSTR’s
- Any tank construction



Figure 2: Monsal ADT SGM system

### applications (continued)

- Any roof configuration
- Ground or roof mounted
- Remote or local to digester

The Monsal ADT SGM system can achieve greater than 90% active volume in a digester with mixing energies of 1.5 to 2.0 W/m<sup>3</sup> which when compared to typical design figures of 5 to 10W/m<sup>3</sup> lead to significant reduction in power consumption dedicated to digester mixing, as well as size of installed electrical infrastructure.

### high efficiency mixing

With increasing momentum toward energy neutrality, the energy used to mix the anaerobic digesters becomes an area for improvement.

### improved performance

Continuous and effective mixing ensures maximum performance of the anaerobic digestion process and biogas production and prevents build-up of unwanted VFA byproducts while minimizing foaming caused by process instability.

### more information

If you would like to learn more about how SUEZ can provide high efficiency mixing for your anaerobic digester, contact your local SUEZ representative or visit us at our website [www.suezwatertechnologies.com](http://www.suezwatertechnologies.com).