

Monsal* advanced digestion technology (ADT) Re:Smart_s*

steam heating for sludge

overview

SUEZ's line of Monsal anaerobic 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 to raise organic loading and improve efficiency.

Steam heating has a number of benefits including smaller heat transfer infrastructure, nearly no fouling of heating surfaces and resistance to struvite and vivianite deposition.

The Monsal Re:Smart_s system (Figures 1 and 2) uses high pressure steam to direct heat sludge by injection utilizing a unique delivery method to minimize noise and optimize steam condensation into sludge.

benefits

Monsal ADT Re:Smart_s systems offer the following benefits:

- Precise automatic temperature control of any anaerobic digester or process to +/- 1°C
- Multiple micro steam injection points for intimate and instantaneous steam heating
- Prevents fouling on heat transfer surfaces by struvite or vivianite
- Up to 1 MW heating from one standard unit
- Large, blockage free sludge pipe sizes
- Low head loss due to pressure recovery venturi



Figure 1: Monsal ADT Re:Smart_s

- Delivered skid mounted with integral control system
- Suitable for sludge with dry solids of over 15%, depending on sludge type

applications

Monsal ADT Re:Smart_s offers configurations for:

- Heating mesophilic and thermophilic digesters of over 30% dry solids concentration within the digester.
- Pasteurization processes and hygienisation processes.
- In line heating raw sludge as a pre heat stage prior to digestion.

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Figure 2: Monsal ADT Re:Smart, Installation

precise control

Anaerobic digesters are biological systems which react sensitively to changes in temperature. By controlling to +/- 1°C, biological stress from temperature change is minimized and the biology can be set to run under optimal conditions.

The Monsal Re:Smart_s injects steam inline into sludge as a direct heating medium, ideal for challenging applications where sites have experienced struvite or vivianite deposition or where high levels of fats oils and greases (FOG) can cause fouling of heat exchangers.

multiple sizes

Standard units have a heating range up to 1MW per injector utilizing steam at a pressure of 6 bar to 10 bar. The units feature a modular design with no upper limit to heat input when multiple injectors are utilized.

The Re:Smart_s is supplied as a skid mounted package with integrated condensation removal, control panel and automatic isolation. The only thing not supplied is the steam.

more information

If you would like to learn more about how SUEZ can provide steam heat for your sludge system, contact your local SUEZ representative or visit us at our website www.suezwatertechnologies.com.