



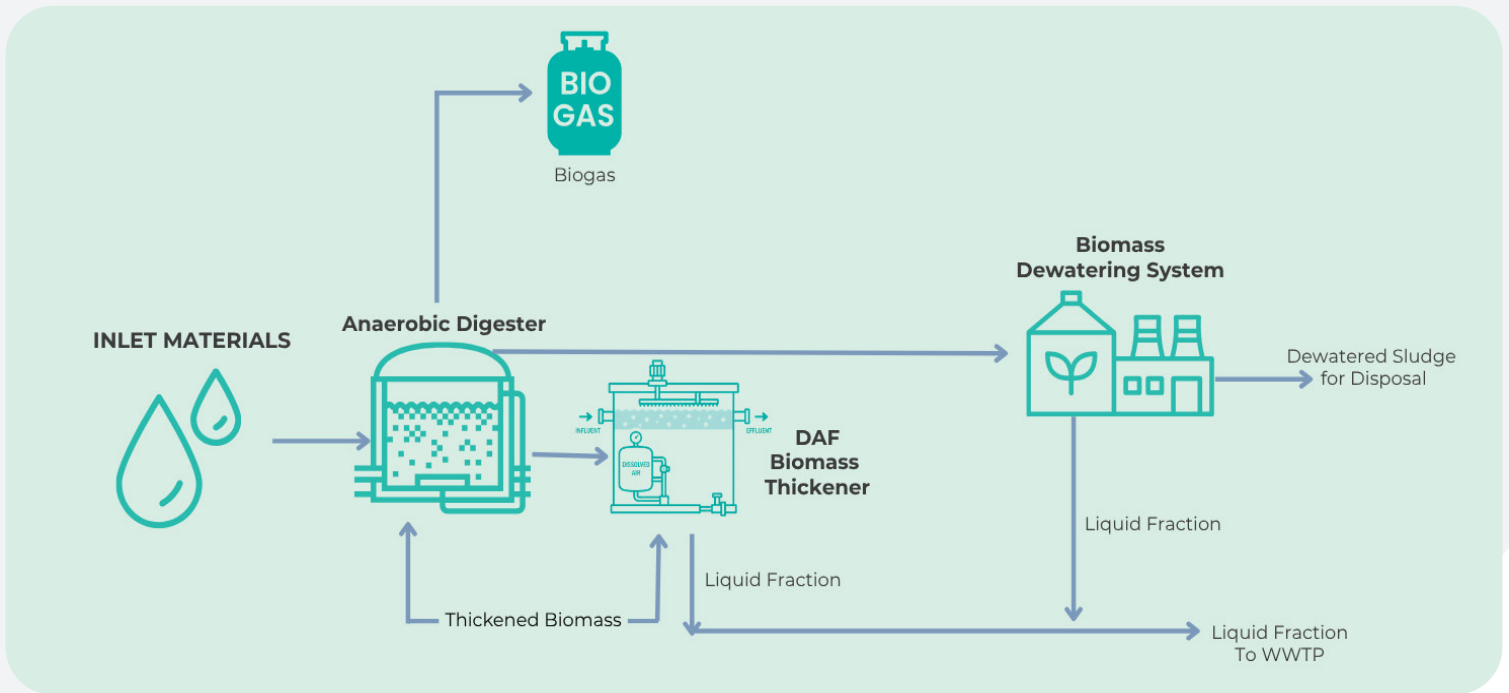
Recuperative Thickening AnDAF



Are you struggling with:

- An undersized or overloaded digester
- Limited space for expansion
- Insufficient SRT (Solids Retention Time) and HRT (Hydraulic Retention Time)
- Low biogas production
- Substrates with poor digestion properties
- Diluted biomass or low TS feedstock

How it works:



AnDAF separates digestate into solid and liquid fractions. The solids, rich in active biomass, are recirculated to the digester, increasing microbial concentration and enabling higher organic loading without increasing tank volume.

The AnDAF unit is a specialized dissolved air flotation (DAF) system designed for digestates. Clarified effluent is typically treated for nitrogen and residual COD or sent to downstream wastewater treatment.

AnDAF offers a simple, low-energy, and easy-to-maintain solution, using a minimal polymer dose to support efficient phase separation.

Fluence's AnDAF solution:

- Increases viable biomass present inside the digester without increasing the tank volume
- Allows active control of SRT and biomass inventory
- Operates with liquid or low TS content
- Produces a more stabilized digestate
- Increases organic loading up to 3x



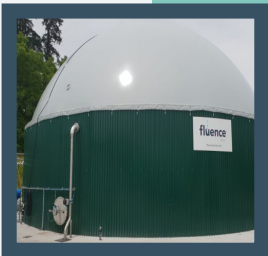
Featured Installations & Solutions

Soligo – Italy

Biogas Plant for Treatment of Scotta Whey

Anaerobic digestion plant for the treatment of scotta, a hot whey liquid by-product from ricotta cheese production and dairy processing that is high in lactose.

The system was designed based on Fluence's Recuperative Thickening principle, where biomass recirculation is utilized to increase microbial concentrations to lower digester volumes. Recuperative thickening also allows the processing of lower strength substrates where COD values may be below 100,000 mg/L. The client elected the Fluence system following evaluation of a reference facility with similar operating conditions. The process ensures stable operation with liquid and or low-solids substrates having dry matter content (down to 2% dry matter). Fluence's recuperative thickening improves overall biological efficiency and digestate stabilization for dairy operations.



Moro Dairy Farm – Italy

Biogas Plant for Dairy Whey Waste-to-Energy

Anaerobic digestion system integrated into an existing wastewater treatment plant for the treatment of scotta-whey from ricotta production. The solution was added without interrupting plant operations and enables continuous treatment of dairy wastewater and whey-derived substrates.

The system uses a Continuous-Flow Stirred Tank Reactor (CSTR), producing biogas from high-strength organic dairy waste. After digestion, the digestate is separated into solid and liquid fractions, with solids (17–18% dry matter) used in agriculture and liquids directed to the upgraded aerobic treatment stage for nitrogen removal.

