



Anaerobic digestion

Biogas production

This document examines two anaerobic digestion processes, each with different organic matter. Verder are at the forefront of pumping solutions for slurries and media with a high solids content with many installations in sites specializing in renewal energy using recycled organic matter.

Recovery of waste food and the production of biogas

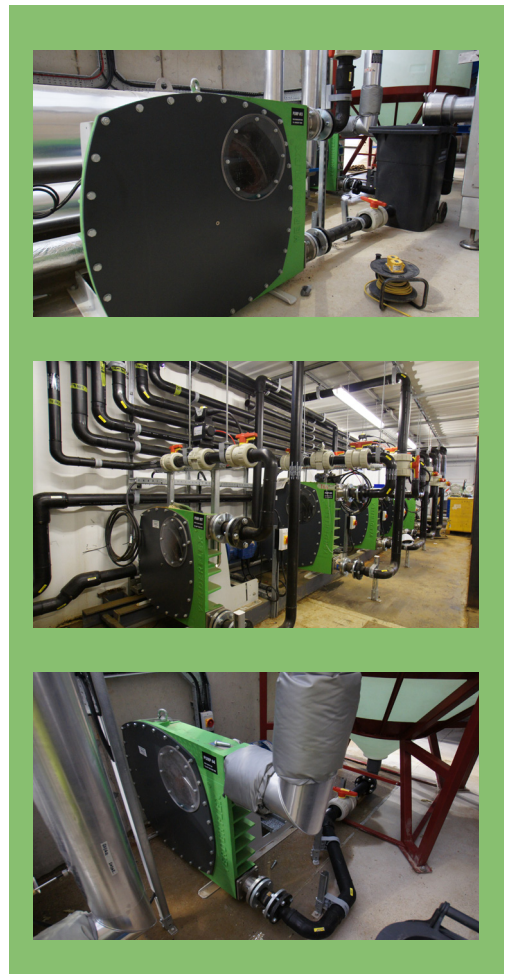
A prestigious brewery based in Norfolk, who produce fine quality real ales have installed an anaerobic digestion (AD) facility for producing biogas to be inputted into the national gas grid.

The anaerobic digestion facility is fed with kerbside-collected food waste, food processing waste, supermarket food waste and brewery waste.

The organic matter is entered into a feed inlet at the start of the process where a rotor chopper breaks down the raw material. Verderflex pumps move the chopped slurry from holding tanks and through a heat exchanger to raise the temperature prior to entering the main AD facility.

As the hot organic material enters the main AD facility it is dosed reliably and accurately by a Verderflex Dura pump with an inorganic pH buffer to accelerate and maximize the breakdown of the material.

The large mass of organic material is 'churned' by Verderflex pumps in a plant room connected through a series of pipes to maximize the surface area and further accelerate the AD process and obtain the greatest yield of heat and biogas. The heat is recycled back into the heat exchanger.



Upon completion of the AD process, the digestate and waste water is pumped from the tank by a Verderflex pump for further use as fertilizer.

The final product of biogas is then filtered and processed further ready to be inputted into the national gas grid.

The Verderflex range handled

- Rotor-chopped cold organic material
- Warm organic material
- Warm slurry
- Digestate
- Waste water liquor
- Enzyme and chemical solutions



A Verderflex Dura unit dosing a pH buffer into the main tank holding organic matter

VERDERFLEX®

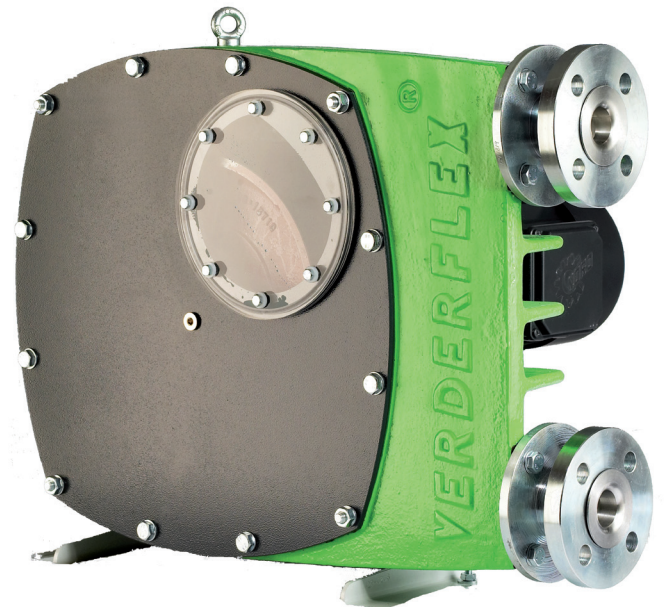
Peristaltic Pumps

The Verderflex range of peristaltic pumps are suitable for pumping abrasive and thick slurries and dosing solutions.

Verderflex is renowned in the industry for a high level build quality and reliable operation.

Dosing

In partnership with Naiad Aquatic Environmental Solutions, Verder offer an innovative dosing system allowing both crystal saturation and liquids to be dosed reducing site costs and carbon footprint. This can be used for the treatment of wastewater from the AD process and for the addition of enzyme solutions in the AD process itself.



The Verderflex range is a proven success in anaerobic digestion facilities

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passion for pumps