



# Anaerobic digestion

## Biogas production

*Anaerobic digestion provides renewable energy. Organic matter is transformed to biogas, mainly through the absence of air. And adding micro organisms. Verderflex hose pumps have proven to be excellent pumps for anaerobic digestion. Read here about two examples: **"Recovery of waste food"** and **"production of biogas"**.*

### 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.

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**Other applications of Verderflex in Anaerobic Digestion are**

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



## Other biogas pumping solutions

**HUS screw channel pumps**

Because of their construction HUS screw channel pumps are excellent pumps for pumping waste with large solids such as bones. The percentage of solid matter can sometimes increase up to 10-13 %.

Executions available in standard with shaft sealing or cantilever version. Close coupled on base plate or in vertical position. Long coupled in standard or with V-belt drive. Max. flow : up to 1030 m<sup>3</sup>/h



**Verderpro progressing cavity pumps**

For a.o. the pumping of fish waste to produce biogas a Verderpro pump is being used with a real "green" development.



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**VERDER**  
 passion for pumps