

# Problem Solving Bulk Reduction



NOV Mono's® successful partnership with organic waste disposal company Tanks & Vessels Ltd has built on the success of a pilot aerobic digestion plant in Doncaster to secure their first commercial order, now up and running in East Yorkshire.

The plant, built by Tanks and Vessels, processes food and vegetable waste with the help of Mono's progressing cavity pumps and Munchers®. The organic material is fed into the process in its raw form where it is finely macerated by a NOV Mono Muncher®. The homogenous slurry is then transferred to the digestion tanks to produce a useful end product, liquid soil conditioner, which can be sold to substitute fertilizer to some degree.

The new plant in Goole, commissioned by two farmers, processes organic waste, acting as a cost effective and environmentally friendly alternative to land fill for local businesses. From their initial investment the farms not only benefit from the waste handling charges but they can also use or sell the end product, which is rich in Nitrogen, Potassium and Phosphorus. A number of aerobic digestion plants are now in operation in the UK on a commercial basis demonstrating not only that the technology used is tried and tested but that it is also economically viable.

The Munchers® perform an essential role in reducing the material to a small particle size, whilst also providing protection to the transfer pumps, eliminating blockages and subsequent

downtime. The installed SB and TR Munchers® offer bulk reduction of the pre-shredded food waste to around 70% of the original volume, at low energy costs and can macerate a variety of solids within a flow, including hard particles. An important issue given that the plants process a wide range of organic waste in a variety of textures.

The EZstrip™ TR Munchers® make light work of fruit stones which jammed previous macerators causing the shafts to twist and shear initiating costly repairs and downtime. Biodegradable waste passes through the Muncher® cutters, which revolve at differential speeds to pull apart, crop and shear any solids, such as bones, feathers, offal and vegetable waste. Liquid passes through the cutter stacks, whilst solids are trapped and macerated to a small consistent particle size, to help comply with legislation and improve process efficiency.

The Munchers® are accompanied by NOV Mono progressing cavity pumps providing maximum performance characteristics and efficient handling of highly viscous materials such as non-flowing pastes.

Pump and Muncher: **Compact Pumps, CW081 W Range Pumps, CB201 SB Munchers and CT203 TR Munchers**

Product: **Shredded food waste**

Capacity: **Up to 20m<sup>3</sup>/h**

Pressure: **0.5 - 1.8 bar**

Pump Speed: **167 - 384 rpm**

Drive: **Pumps: 3kW and 5.5kW motors  
Munchers: 2.2kW and 5.5kW motors**



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