

# Bio-waste Processing



## Adding Value to your Waste Stream

NOV Mono is a leading name in the design, manufacture and distribution of progressing cavity pumps, parts, grinders, screens and packaged systems, worldwide.

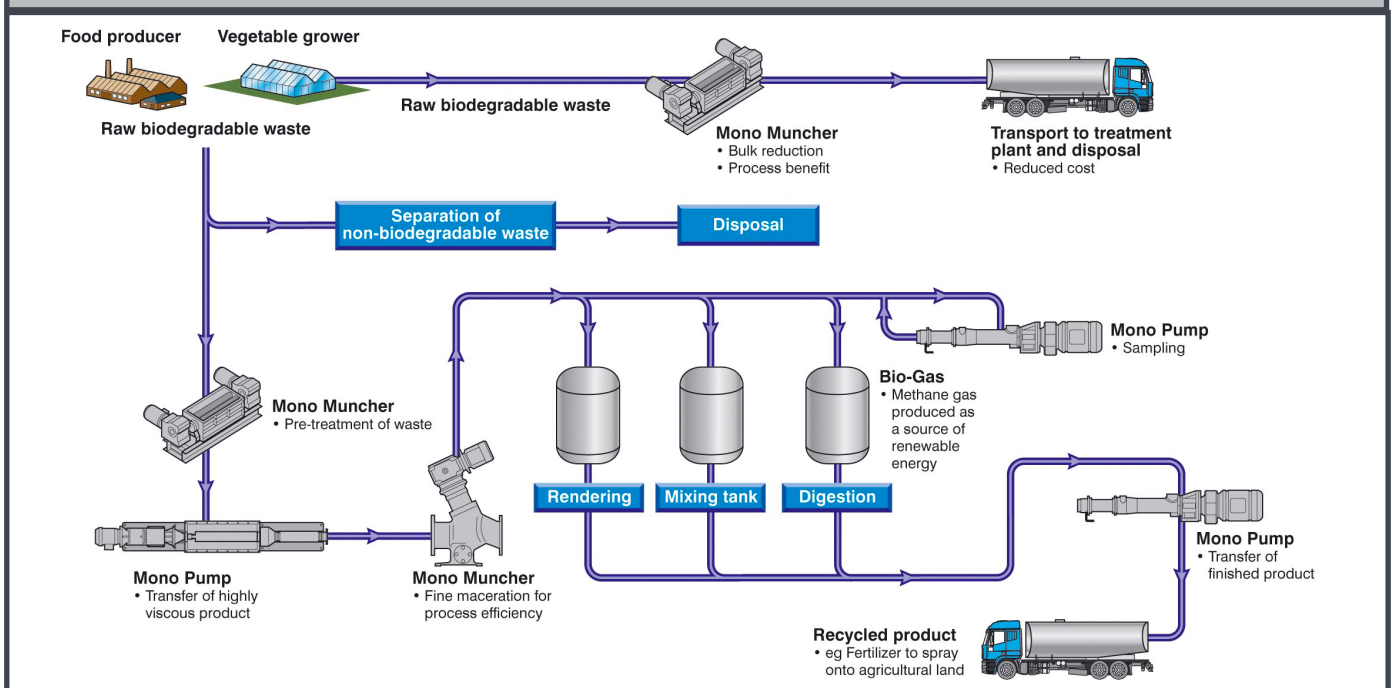
We are unique in providing a comprehensive range of solutions for the multiple application requirements of today's industries, including water supply & waste water, oil & gas, food & beverage, paper & pulp, chemical & pharmaceutical, mining & mineral and agriculture. Our experience in these industries allows us to have an in-depth understanding of your needs, providing a customer focused solution.

Our biogas solutions can assist in the pre-treatment process through transferring and significantly reducing the bulk and particle size of biodegradable waste to help assist with the Anaerobic Digestion process. NOV Mono can also provide products which can improve the overall efficiency of the digestion process when dealing with a range of source materials such as food & drink, agricultural residues and sewage sludges.

## Maceration & Pump Solutions

Already well-proven in food production processes and many mainstream waste and sewerage applications, the Muncher<sup>®</sup> range of grinders and NOV Mono's PC pumps are increasingly finding their way into various bio-waste processes. Our Muncher<sup>®</sup> solutions can macerate solids to a consistent particle size and to a more homogenous consistency which increases the speed of the biological breakdown of products and the overall efficiency of the bio-waste process. Package a Muncher<sup>®</sup> with a NOV Mono pump and you have an efficient, integrated solution which will grind down products to the required particle size, reduce bulk and transfer the macerated product for further processing and disposal.

### How a pump and grind solution can fit into the waste handling process.



One Company, Unlimited Solutions

## Pre-treatment Technologies



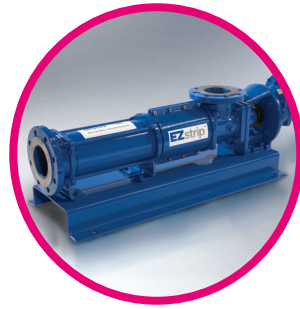
### Series F Muncher®

The Series F Muncher® is a heavy duty, twin shaft grinder ideal for bio-degradable waste processing. The twin shafts are fitted with a series of interleaving cutters and spacers, operating at differential speeds to create an effective tearing, cropping and shearing action for grinding down products to required particle size meeting stringent European regulations.

The Muncher® offers volume reductions of up to 70%, can devour whole 'off field' products such as fruit and vegetables in a matter of seconds, and makes light work of larger products such as meat and bones, that conventional macerators have difficulty with.

### Features

- Cutters can be stacked into various arrangements to create a larger or smaller particle size
- Various thicknesses of cutter and numbers of teeth to meet varied application requirements
- Can consume up to 10 tonnes p/h of food waste
- Independent drive shafts offer greater torque
- Comb bars are fitted as standard to stop material build up on the cutters and spacers
- Can be supplied with a feed hopper or delivery chute to assist material entry and discharge



### EZstrip™ Transfer Pump

The EZstrip™ pump range provides outstanding performance with efficient transfer of highly viscous, fatty or greasy materials, and their low maintenance ensures huge advantages in terms of whole life operational costs.

The EZstrip™ range has a unique ability to handle hard, angular and abrasive solids, such as crunched up carcasses and bones and can greatly reduce transport costs as well as improving the overall bio-waste process efficiency.

### Features

- Handles capacities up to 165m³/h
- Quick and easy to de-rag
- Reduced maintenance downtime and labour savings ensures huge advantages in terms of whole life operational costs
- Can be retrofitted into existing pump installations
- Enclosed system
- Eliminates dismantling lengths

## Process Benefits



### EZstrip™ TR Muncher®

NOV Mono's EZstrip™ TR Muncher® is a twin shaft, low speed, high torque grinder specifically designed for efficient maceration of biodegradable solids which can be added to a digestion process to make it work more effectively.

Biodegradable waste passes through a series of cutters, which revolve at differential speeds to pull apart, crop and shear any solids, such as bones, flesh, offal and vegetable waste. Liquid passes through the cutter stacks, whilst the solids are trapped and macerated to a small, consistent particle size, to help comply with legislation, protect pumps and improve process efficiency.

### Features

- PLC protection against blockage
- No special tools required
- Full access port allowing ease of inspection and removal of any rejected debris
- Maintain-in-place of the cutters and spacers
- Easily removed cutter stack
- No need to disconnect pipe work to inspect
- Saves on maintenance downtime and associated costs
- Costs savings on replacement parts due to low wearing components
- Different cutter and cutter configurations are available to handle various products
- Energy efficient motors



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