

Hard-to-handle fruit, veg and poultry waste proves easy pickings

As sophisticated chopping, pumping and waste removal solution from progressive cavity (PC) pump specialist Seepex UK is making light work of previously challenging by-products from whole chickens, potatoes and cabbages to peelings and fruit stones. The BTM range is not only cutting food producers' costs, it is also improving their standards of hygiene and health and safety.

by **SEEPEX UK Ltd,**
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Waste is an unavoidable part of the production process at fruit, vegetable and poultry processing facilities. Whether in the form of trimmings, wash residue and by-products, or as a result of off-specification batches, overproduction or expired goods, it must be handled within strict sanitary guidelines and quickly removed from production areas.

Not only does this free capacity so that primary processing operations can continue, but waste and by-products can also create an additional revenue stream as animal feed or compost, or to generate renewable energy.

This makes their efficient removal and swift onward transfer even more important to manufacturers' bottom lines.

However, some waste products are notoriously difficult to handle. Large, highly viscous or non-flowable foodstuffs can prove particularly challenging: for example, whole chickens; chicken frames, heads, feet and necks; whole cabbages or potatoes; and fruit stones, seeds and peels from vegetables and fruit.

As a result, some operators still rely on traditional methods to remove them from the production area.

It is not uncommon to find conveyor belts, compressed air systems, vacuums, water flumes, and manual handling via waste containers such as tote bins being used even at large food production factories. These methods can be inefficient, unsanitary and expensive.

Automated, all-in-one alternative

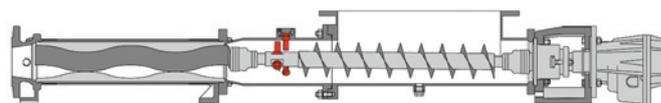
Fortunately, there are sophisticated, hygienic and cost-effective alternatives on the market. The Seepex BTM pump range is one such option. The patented chopping and pumping solution, featuring an enclosed pipework system, is already being used in waste handling applications at many fruit, vegetable and poultry processing factories throughout the UK and Europe.

Thanks to an integrated cutting unit that reduces particle size, the BTM effectively chops and pumps in a single operation, reducing the solids volume by up to 60%. This creates a pumpable consistency, without requiring the addition of water, enabling whole vegetables and even entire birds such as DOA or off-specification chickens to be hygienically and efficiently removed off-site.

Hygienic waste removal

The benefits to food manufacturers of switching from conventional waste removal methods to an enclosed, automated solution like the BTM are three-fold.

Firstly, it is more hygienic. Transferring waste products through a closed pipe system eliminates, for



SEEPEX BTM pumps chop and pump in a single operation.

example, the need for dedicated cleaning of tote bins prior to re-entering high-care areas which prevents potential cross contamination.

Secondly, it is safer. Manual handling or conveying systems often result in waste product falling or being dropped onto the floor, presenting an immediate health and safety risk to operatives, who are in danger of slipping on it.

Furthermore, this fully automated solution requires only one staff member to load product into the hopper.

This leads to improved health and safety on the factory floor due to a reduction in traffic and hazards in high-risk areas – fewer forklift trucks, fewer operatives and fewer tote bins.

Finally, the BTM pump range is more efficient, generating significant cost savings. By chopping, pumping and transferring all-in-one, the BTM is able to create a pumpable consistency without requiring any additional water, resulting in savings from water usage.

SEEPEX PC pumps are used in poultry processing and for the efficient and cost-effective removal of by-products and waste.



This has the additional benefit of reducing the volume of waste by up to 60%, making it easier to transport and thereby cutting transport costs.

The operating and energy costs of the BTM are considerably lower than vacuum or compressed air systems, generating savings there.

By removing a manual element from the process and automating it, food producers are saving on labour costs, too, freeing employees for more lucrative, primary production roles.

Where high care production areas are chilled, removing waste via a simple pipeline rather than manually through doorways, will also assist in reducing energy costs as well as minimising potential contamination from external sources.

Bespoke options for most challenging waste streams

Where more challenging by-products need to be transported, customised solutions are available.

'Bridging' can be an issue with certain wastes, so the BTM pump range includes augers with a large pitch that enables the product to be conveyed into the cutting elements to ensure continuous pumping.

Horizontal and vertical grinders can also be integrated, as can stone and knife traps to prevent pump damage, while dewatering devices can help to reduce waste volume even further.

Finally, all BTM pump systems can be fitted with Smart Conveying Technology (SCT); an innovation from Seepex that enables rapid dismantling and cleaning, increasing pump stator life by up to 200% and reducing maintenance time by up to 85%.

Pumps fitted with SCT are also suitable for Clean-Out-of-Place (COP) or Cleaning-in-Place (CIP). ■