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RECYCLING & WASTE MANAGEMENT

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UK FOOD MANUFACTURER FOCUS

P04



Five New TS1260 Separators Ordered by Large UK Food Manufacturer

Atritor was approached by a UK Food Manufacturer to design and build a small scale Turbo Separator which could be installed inline with their packaging machinery.

The machine had to be capable of separating a powdered foodstuff from its small paper bag packaging when diverted from the packaging machines during blockages to reduce downtime.

A prototype was installed on the customer's site and ran in conjunction with one of their packaging lines resulting in the development of the new TS1260 model Turbo Separator.

The recovered foodstuff separated from the bags is clean enough to allow it to be fed back into the filling line, with the separated bags being used for animal bedding.

The largest (30t/hr) and smallest (600kg/hr) Turbo Separators presently available



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WRD INSTALL NEW TS42120

Waste Recycling and Destruction install the NEW 30 tonne/hr TS42120 Turbo Separator as part of their ongoing expansion plans.

Adding value to waste

Packaged food waste is a rich source of material for anaerobic digestion plants if it can be separated from its bag. Here's how **Atritor's Turbo Separator** can help

Packaged food waste is a valuable commodity and a rich source of material for anaerobic digestion (AD) plants.

The main foodstuff materials available are packaged supermarket waste and kerbside-collected kitchen waste which generally arrives in the dreaded biodegradable starch bags.

Starch bags pose their own problems to AD: if not removed they wrap around mixers, block pumps and screw conveyors and take up valuable space in the digesters.

The bags will not break down in the digesters as they require air to degrade (aerobic). Depending on the environmental conditions and thickness, starch bags will take from six weeks up to one year to totally degrade. Farmers are not so keen to spread digestate which includes starch bags, because their fields initially gain the appearance of a landfill site prior to the bags decomposing. Starch bags are only made up of typically 15% starch, the remainder being inorganic matter.

There are a growing number of machines

coming onto the market professing to be the solution to the depackaging problem.

The majority of the depackaging equipment presently available is based on hammer mills or shredding machinery which shred the packaged food waste before passing it through a squeezing process. Shredding reduces all the material to a similar size increasing the difficulty of separation at the next stage. The size of the screens fitted has a profound effect on the amount of packaging passing through with the feedstock, and on the quantity of organics >>>



Turbo Separator system

Separated supermarket food packaging

Recovered kitchen/restaurant food waste

Kitchen waste before separation

The Atritor TURBO SEPARATOR

Reduce landfill and recycle at the same time



The Atritor Turbo Separator effectively separates products from their packaging with up to 99% efficiency.

Applications include:

- Supermarket waste
- Tinned products
- Soft packaging
- Sachets
- Pouches
- Cereal products
- Plastic bottles
- Beverages
- Plasterboard
- and more...

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carried over with the separated packaging.

The smaller the screen size the cleaner the feedstock and higher the organic material content of the separated packaging.

The amount of organics found in the packaged waste after separation is also effected by the size of the dry solids content of the organic fraction. The larger the size of the organic solids, the higher the organic content of the separated packaging will be, using this method of separation.

The organic carryover must be kept to a minimum, as not only are you losing it as a fuel source, but paying to dispose of it.

With some packaged materials, the organic content found in with the packaging after separation was greater than 20% using this method of depackaging.

Shredding the materials prior to separation makes it more difficult to achieve the high separation efficiencies required by anaerobic digestion plants.

The greater the size difference achieved between the packaging and contents the easier it is to separate them efficiently.

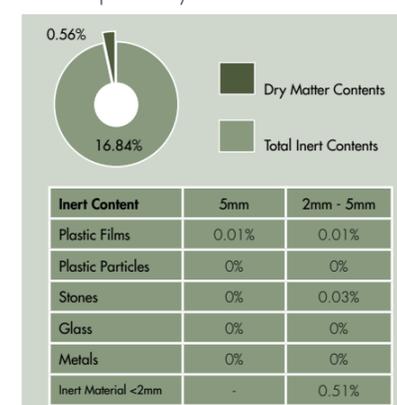
The Atritor Turbo Separator is designed to open the packaging just enough to allow the contents to be removed. Keeping the size differential as large as possible between the packaging and the organic

contents allows high separation rates to be achieved using relatively low power when compared with the alternatives.

Both packaged dry and liquid materials can be efficiently separated using the Turbo Separator method of separation.

The Atritor Turbo Separator, utilising centrifugal forces and the mechanical action generated by the paddle system, damages the packaging just enough to achieve separation rates of up to 99% efficiency.

The results taken from a sample of recovered material (feedstock) which had been separated from packaged mixed supermarket food waste using a TS3096 Turbo Separator system were as follows:



The total sample size collected was 20kg and the analysed sample size was 1.272kg.

The organics were removed from the solids content by dissolving and flushing the material in three separate stages which consist of three-hour, four-hour and six-hour process periods to reveal the inert contents.

The analysis was conducted by a company independent from either Atritor or the anaerobic digestion plant where the sample was taken.

Atritor has supplied over 80 Turbo Separator systems separating a wide range of packaged materials to waste companies, AD plants, composting companies, rendering companies, animal feed companies, food manufacturers and secure destruction plants.

The first TS42120 model Turbo Separator has recently been supplied to an anaerobic digestion company based in Canada; they are achieving separation rates of over 20 tonnes/hr of mixed packaged food waste.

A number of AD Plants using this depackaging technology already have or are in the process of achieving PAS110.

For more information contact
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