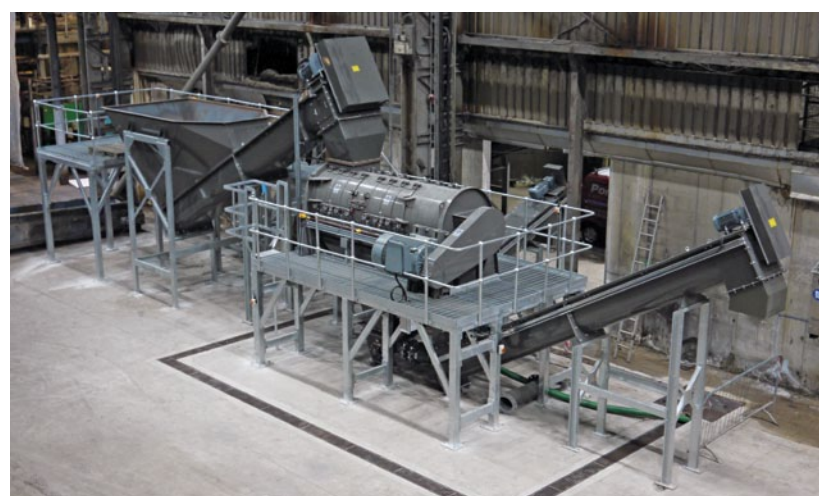




## Turbo Separator Features



TS3096 Turbo Separator system with caterpillar in-feed conveyor capable of separating up to 10 tonnes per hour of mixed packaged food waste



TS42120 Turbo Separator system capable of separating over 25 tonnes per hour of mixed packaged food waste

The Atritor Turbo Separator is the most versatile packaging separation machine capable of separating liquids and solids from numerous types of packaging and containers.

- Durable construction and adjustable paddles enable the separation of a wide variety of products.
- Revolutionary tubular design allows for efficient product change without cross-contamination, even where strict purity standards must be maintained.
- Custom manufactured with various inlet and discharge designs to meet specific separation requirements.
- Variable shaft speed of 100 rpm to 1,000 rpm to enhance separation efficiency.
- Models available in carbon steel or grade 304 stainless steel.
- Available in capacities from 1 tonne per hour to over 25 tonnes per hour.
- Up to 99% efficient in product recovery.

### Turbo Separator Estimated Throughputs

TS model	TS1260	TS2096	TS3096	TS42120
Drive (kW)	3	22	45	75
Material	Tea, food sachets	Mixed packaged supermarket waste	Mixed packaged supermarket waste	Mixed packaged supermarket waste
Separation rate (material dependent)	Up to 600 kg/h	Up to 5,000 kg/h	Up to 10,000 kg/h	Over 25,000 kg/h

### Typical Packaging

Tin cans, tin trays, plastic bottles, soft packaging, aluminium cans, sachets, pouches, polymer bags, paper bags, boxed products, Tetra Paks, plastic containers, steel drums, plastic drums, trays, blister packs, tubes, cartons, plastic jars, cardboard containers, tea bags

### Typical Products

Beans, cigarettes, deodorants, processed meats, soups, toothpaste, beverages, coleslaw, detergents, pasta, potato chips, sugar, biscuits, coffee, gravy granules, pet foods, powdered milk, tea, baby foods, cosmetics, household products, water, pharmaceuticals, juices, vegetables, cereals, custard, insecticides, sauces, flour, yogurt, soap powder, shampoo, oil, paint, plasterboard and many more...

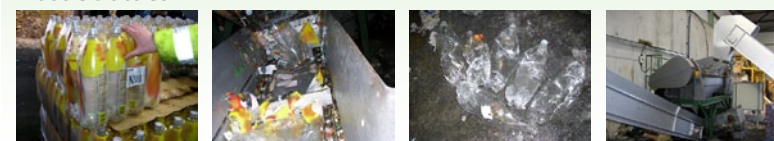


## Turbo Separator Applications

### Bread Products



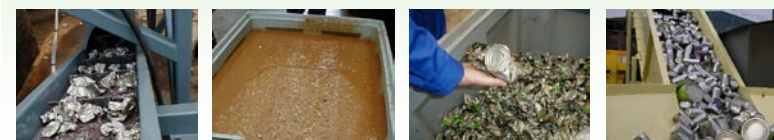
### Plastic Bottles



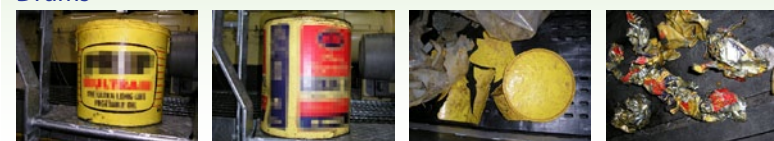
### Sandwiches



### Canned Products



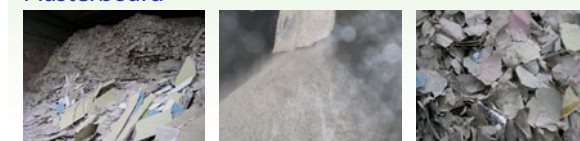
### Drums



### Various Containers



### Plasterboard



### Cereal Products



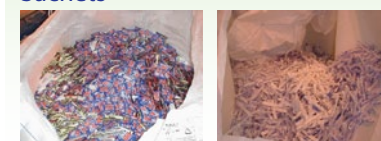
### Tetra Pak Containers



### Soft Packaging



### Sachets



Atritor's test facility in Coventry is equipped with a Turbo Separator model TS2096 which is available for customer product trials.

### Atritor Limited

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All Atritor equipment is built to  
the rigorous standards of  
BS EN ISO 9001:2000



Certificate No. FM 11960

### Website

For more information about the  
Turbo Separator, visit our website:

[www.turboseparator.co.uk](http://www.turboseparator.co.uk)

and send us your enquiry.

1304



# TURBO SEPARATOR

*Separates products from packaging  
for disposal or recycling*

*Separation for  
waste-to-energy*

*Separates liquids  
from solids*

*Separates a wide  
range of packaged  
waste for recycling*

*Reduces  
disposal costs*

*Separates cans,  
polymer containers  
and soft packaging*

*Separates gypsum  
from plasterboard*

*Diverse range  
of applications*

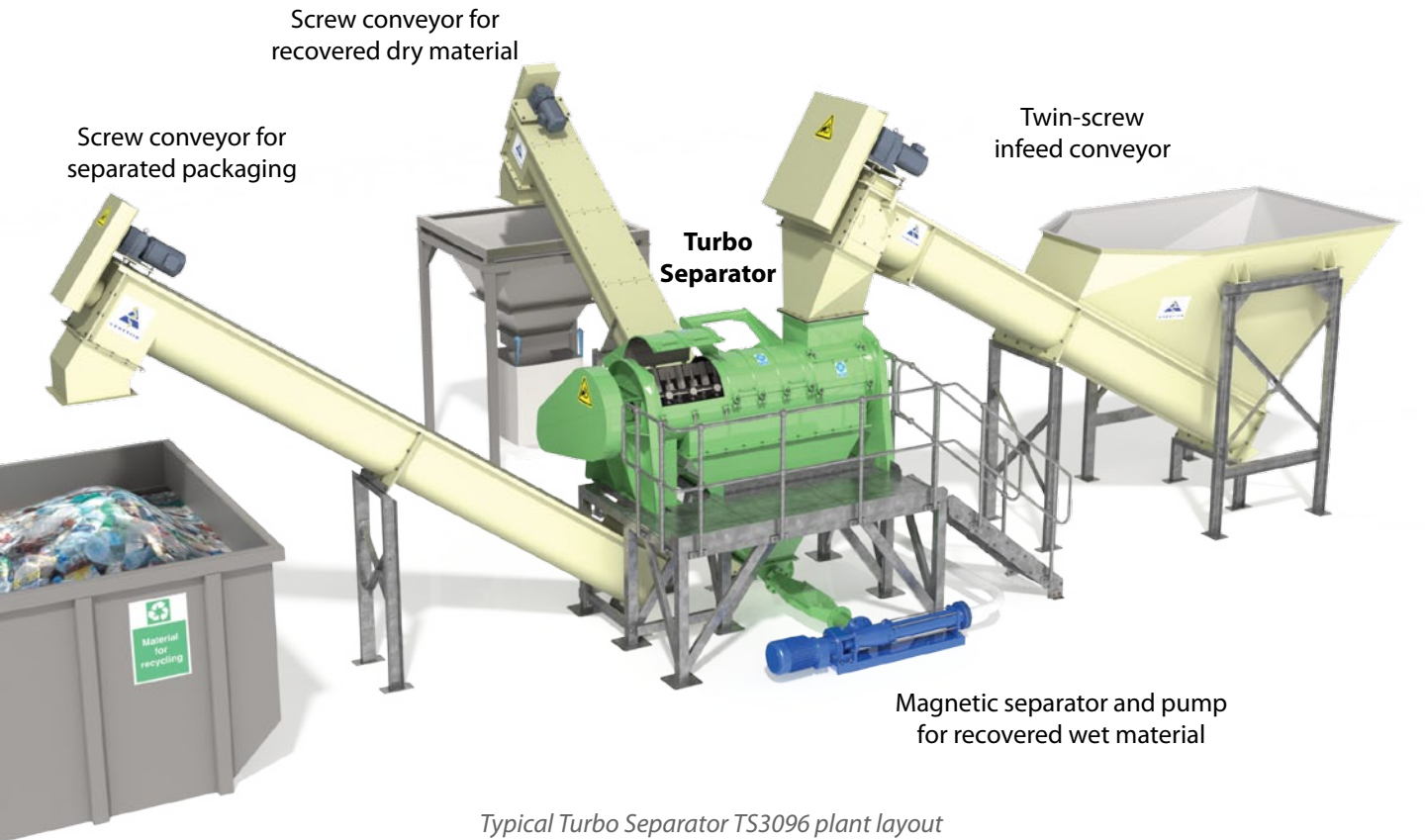
[www.turboseparator.co.uk](http://www.turboseparator.co.uk)

What does it do?

The Atritor Turbo Separator has been developed to remove products from their packaging, releasing them for recycling or disposal.

Through a combination of centrifugal forces, self-generated air flow and mechanical action, up to 99% of dry or liquid materials can be removed from their packaging. When compared with other methods of packaging separation, the Turbo Separator achieves higher separation efficiencies with lower power consumption which results in reduced running costs.

The Turbo Separator is ideal for separating out of spec, out of date and mislabelled products from a variety of packaging including cans, plastic bottles and boxes. The diverse range of applications includes the separation of paper from gypsum in plasterboard, glass from laminate in car windscreens and general foodstuffs from their packaging.



How does it work?

The Atritor Turbo Separator includes a variable-speed shaft which is fitted with paddles. The shaft rotates above a number of screens, each of which is available in a variety of sizes and designs.

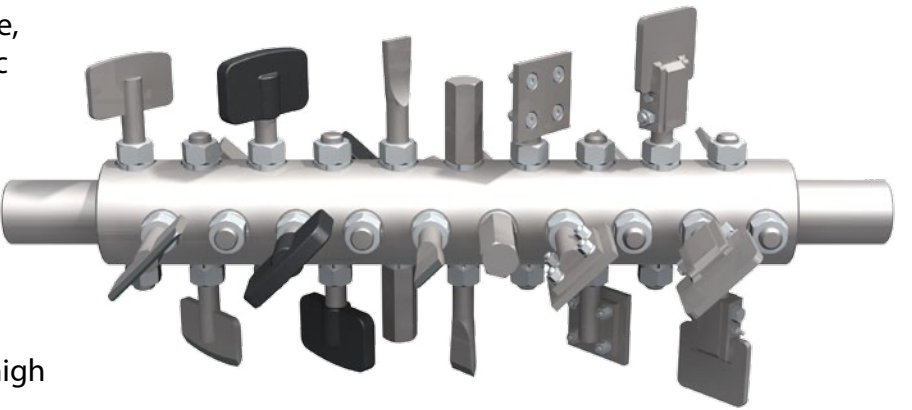
The Turbo Separator shaft typically runs between 100 rpm and 1,000 rpm, generating air flow as well as providing centrifugal and mechanical forces required for packaging separation.

The material to be separated enters the separation chamber and comes into contact with the primary paddles which open the packaging. Paddles and screens are configured so that maximum separation is achieved with minimum damage to the packaging.

The longitudinal strips of steel (“grinding bars”) inside the casing of the Turbo Separator, when used in conjunction with beater paddles, cause a squeezing effect which is especially effective at separating pouches and sachets from their contents.

Paddle Design

Various types of paddles are available, each designed to perform a specific function. One type generates air flow, others are more efficient at opening particular types of packaging with further designs used to convey or retain material within the separation chamber. By combining different types of paddles in the Turbo Separator, very high separation efficiencies can be achieved.



Screen Design

Each Atritor Turbo Separator is fitted with a number of screens. Each screen is sized and designed to achieve the optimum separation efficiency. There are over 20 sizes available with round, square, rectangular and triangular apertures.



Which industries currently use the Atritor Turbo Separator?

Food and beverage manufacturers	To separate packaging from out of specification, out of date or incorrectly packaged products for recycling, repackaging or disposal
Renderers	To separate food waste and out of date products, releasing the product for rendering and the packaging for recycling
Plasterboard recyclers	To separate gypsum from its backing paper releasing both materials for recycling
Waste companies	To reduce landfill costs by separating materials for recycling
Waste-to-Energy	To separate materials from their packaging for use in energy generation
Composters	To separate materials from their packaging to use in composting
Cosmetic manufacturers	To separate contents from packaging for recycling or disposal
Waste glass	To separate glass from the waste stream or from laminate (e.g. auto windscreens) for recycling
Animal feed manufacturers	To separate packaged food products for incorporating into animal feed
Secure destruction	To separate contents from packaging for secure destruction of packaging

Turbo Separator Running Costs	TS2096	TS3096	TS42120
Turbo Separator drive (kW)	22	45	75
Infeed conveyor drive (kW)	3	15	15
Recovered material conveyor drive (kW)	5.5	5.5	5.5
Separated packaging conveyor drive (kW)	3	3	5
70% of total power (kW)	23	48	70
Running cost (based on £0.10 per kWh)	£2.30 per hour	£4.80 per hour	£7.00 per hour

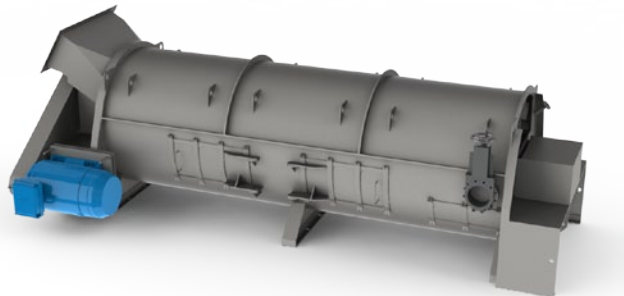
Other Equipment Supplied for the Recycling Industry

The Air-Swept Tubular (AST) Flash Dryer is available in nine models, uniquely capable of drying materials with as much as 95% moisture in the feed without requiring any form of feed conditioning.

The flexibility in settings allows a wide range of materials to be processed, with the AST Dryer capable of reducing moisture content to less than 1%.

Evaporative capacities from 380 kg/h to 8,800 kg/h are achievable over the model range.

Typical waste products include sewage sludge, brewer's grains, filter cake, paper sludge, municipal waste, refuse-derived fuel, sawdust chips, chemical waste, pharmaceutical waste.



Air-Swept Tubular Dryer model AST8420