

RECYCLABLE MATERIAL RECOVERY

ZAC ZIGZAG AIR CLASSIFIER



SRF GLASS METAL PLASTIC COMPOST FINES DMR

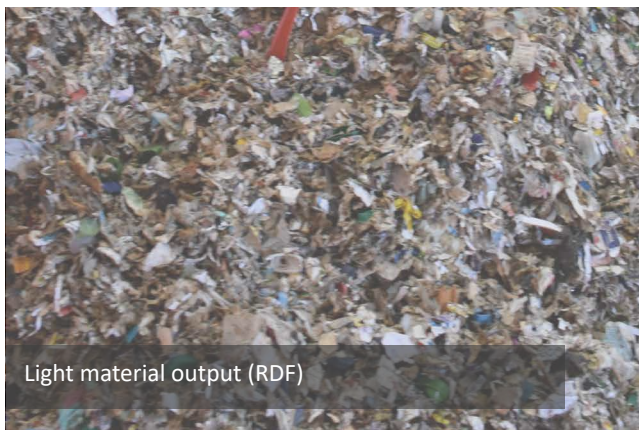


Zigzag Air Classifier

Zigzag material separation technology is used to separate light weight material particles from heavier particles by cascading the mixed in-feed material through an upwards travelling air stream inside a zigzag shaped enclosure.

The design is based on density separation, an upwards travelling air stream takes with it the light weight material particles, allowing separation or grading of feedstock. Heavier material particles are not as affected by the air stream and discharge at the bottom of the zigzag enclosure.

The zigzag air classification technology is ideally suited to low moisture, free flowing, consistently sized material particles up to approximately 60mm in size, where there is a noticeable difference in the product density or weight (i.e. separation of light weight paper, film and plastic from heavier stone, glass or metal).





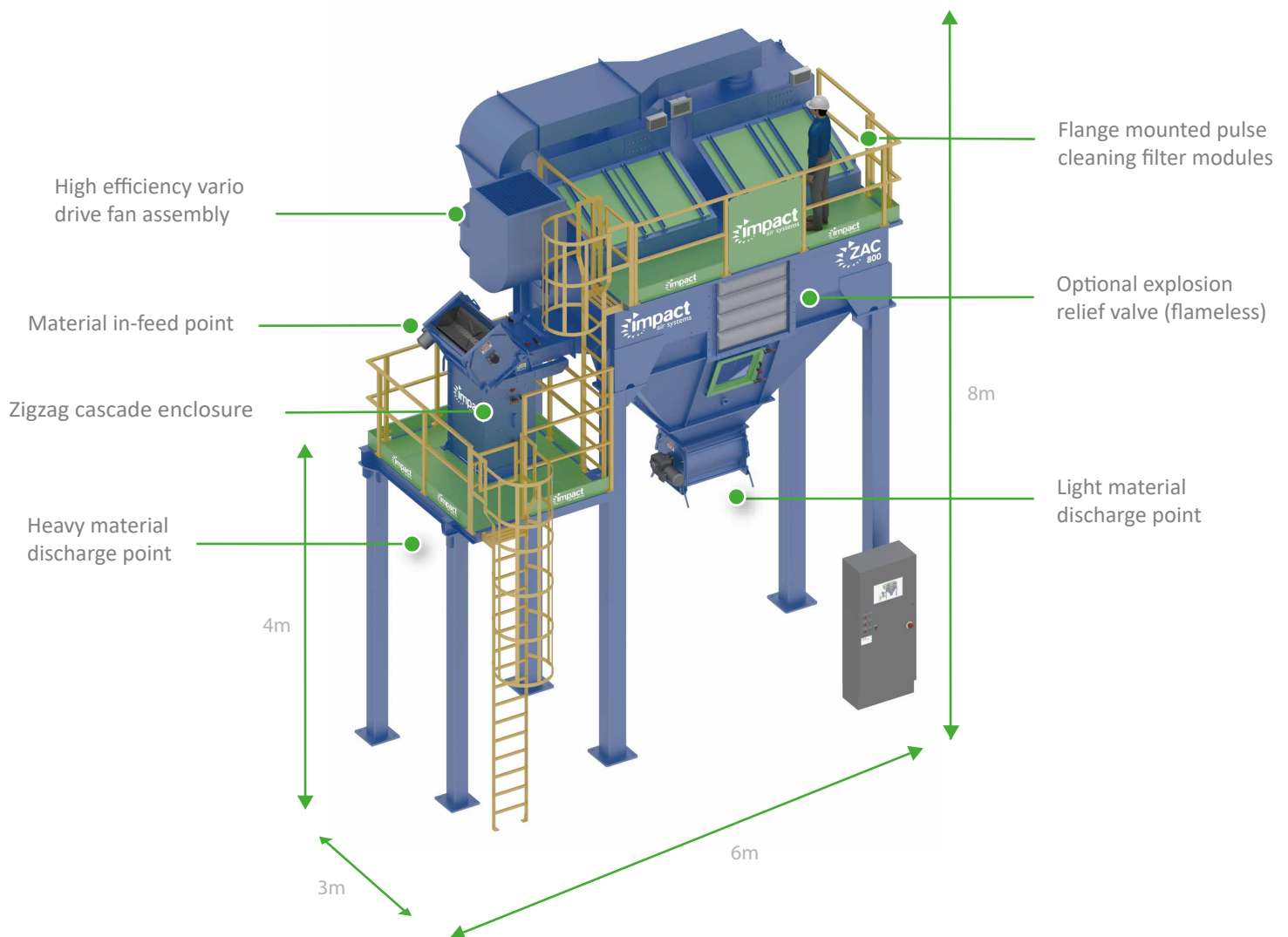
Advanced Waste Separation

The Zigzag Air Classification System is the very latest version of the tried and tested zigzag separation technology which you will find in operation in many applications in waste recycling facilities around the world.

We pride ourselves on listening to our valued customer feedback and constantly striving to improve our products. The upgrades made to the latest ZAC are a result of exactly that. Using our highly skilled in-house engineering team, 3D modelling software and working in conjunction with our carefully selected external supplier base, the ZAC boasts impressive resistance to abrasive materials, less moving parts and the very latest filtration technology, whilst maintaining its exceptional separation efficiency.

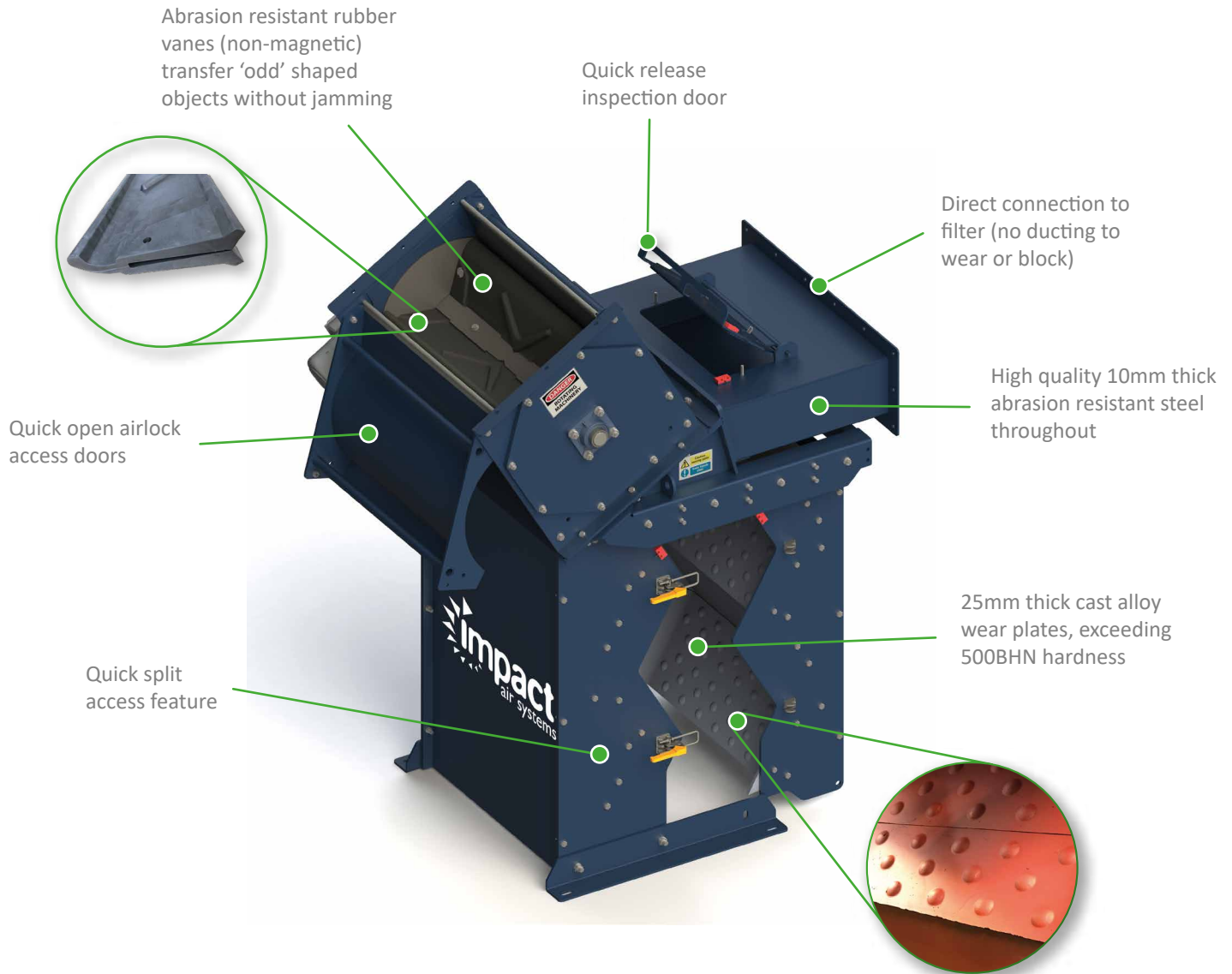
Specially engineered for processing of glass rich or highly abrasive sub 60mm material streams, the ZAC system is constructed from carefully selected materials ensuring exceptional durability. The Zigzag cascade enclosure includes hardened chromium cast plates to greatly reduce wear from glass.

The ZAC is an effective addition to any existing material recovery process enabling a high hourly throughput and high-grade quality output fractions from the MRF residue material that otherwise would have been sent to landfill or incineration.





Features & Benefits



Key benefits:

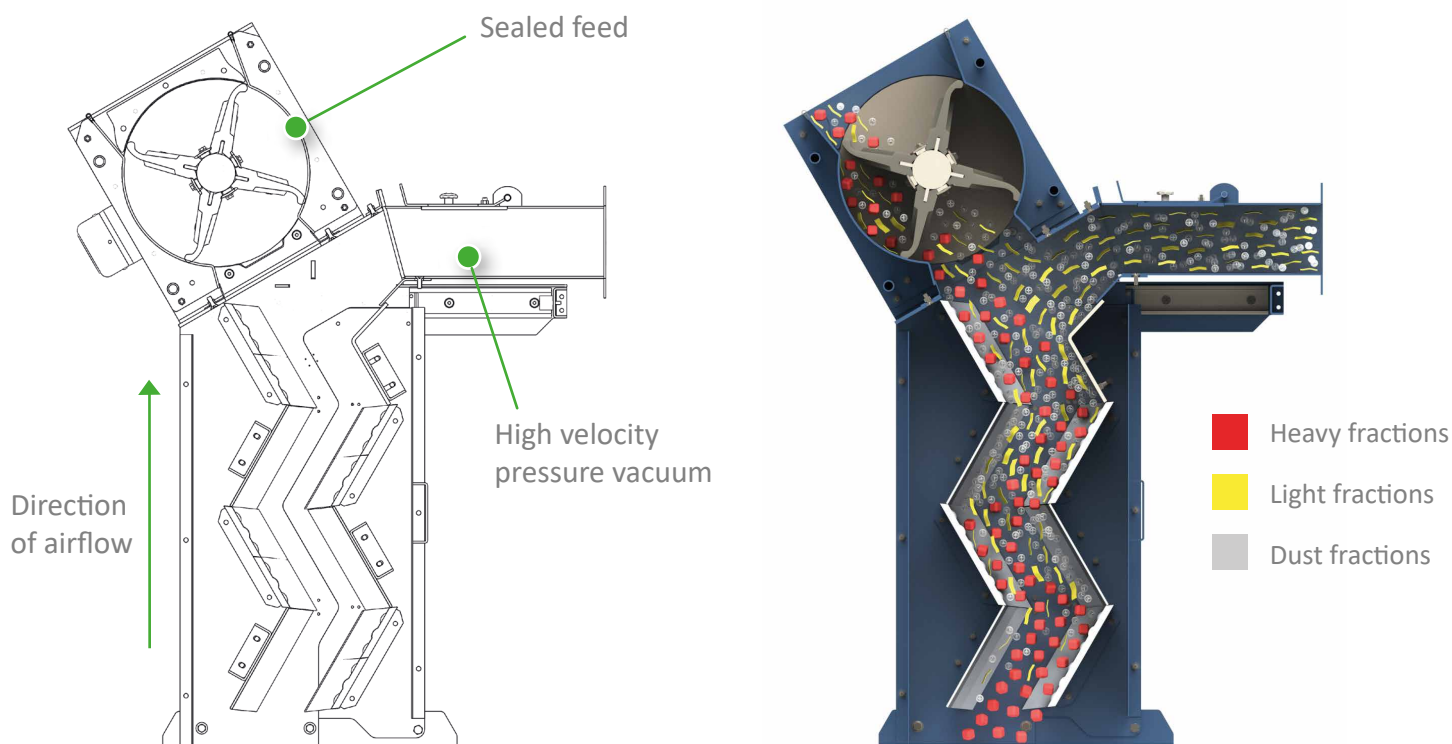
- High quality material stream output using state of the art combined technologies
- Minimal downtime due to easy access split access feature
- Long-life wear plates and rubber blades
- Maximised throughput of a variety of material due to Filtersep engineering
- Easy operation with full colour 10" HMI user interface
- Available in 800mm & 1200 mm widths depending on throughput requirements

▶ Principle of Operation

The material is introduced into the cascade enclosure via a specially engineered rotary feed valve to ensure the separating air stream can only enter the enclosure at the bottom and not at the point where material is introduced. A discharge rotary valve is located at the lights discharge hopper as an integral part of this air control.

Mixed material fed into the system via a belt conveyor is processed by the zigzag system, splitting the material based on density, size and shape into a stream of heavy and light materials. Heavy material is discharged from the base of the zigzag classification chamber, whilst the lighter material and fine dust particles are transported in the air stream and discharged at the base of the rotary valve and from the fully integrated dust filter unit.

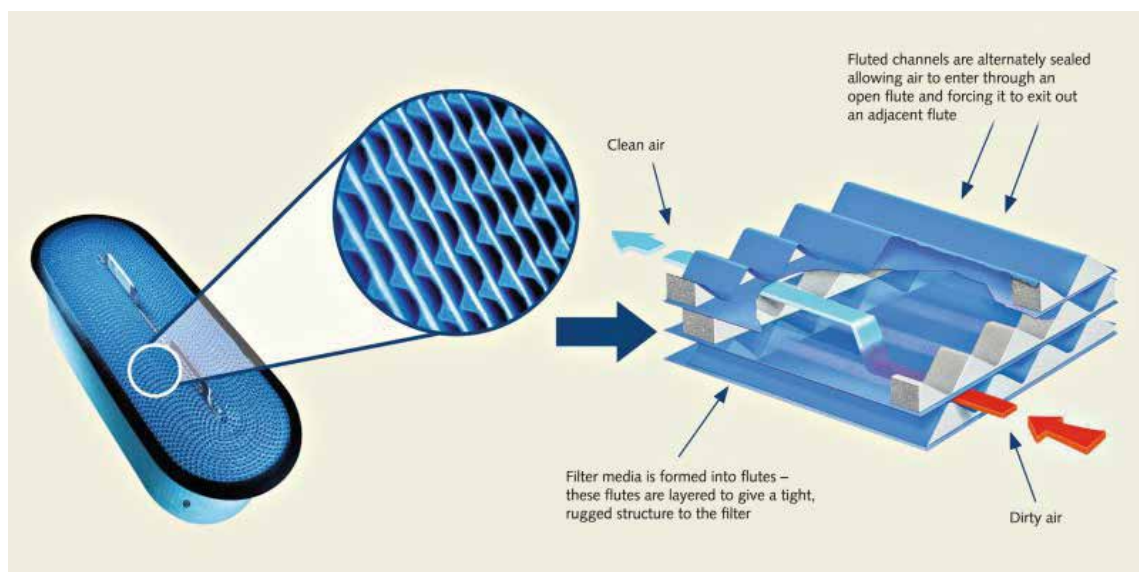
In practice, the optimum separation is determined by trial and sampling until the desired level of heavy and light separation is achieved, (by varying the feed rate and the velocity of the upwards travelling air stream).



► Filtration Specification

The dust filtration is provided by two flange mounted, ultra web spun bond filter media, twenty four module filter units, cleaned on demand using pulse jet compressed air cleaning technology, allowing minimum pressure differences during normal operation whilst maintaining optimum air flow through the unit.

The filter units are engineered with quick maintenance access in mind. The ultra web nanofibre filter media ensures longer life span at reduced pressure drop and offers a very high filtration surface area in a very compact housing. It is particularly suited to high fibrous dust applications typically found in the comingled waste streams.



► Breakthrough technology unfolds

At the core is Powercore® - the most innovative filtration technology from Donaldson. Powercore® filter packs combine proprietary Ultra-Web® nanofibre technology with new media packaging expertise, creating a revolutionary filtration technology unlike anything else in the industrial filtration market.

► Ultra-web® nanofibre technology

Proven and proprietary Ultra-web® filter media delivers longer life, cleaner air and greater cost savings than other traditional filter media. It is made with an electrospinning process that produces a very fine, continuous, resilient fibre layer of 0.2-0.3 microns in diameter.

PowerCore® filter packs with UltraWeb® media keep dust on the surface of the fluted channels where it is easily cleaned off unlike conventional depth loaded filter media.

- Surface loading promotes efficient filter cleaning and longer life
- Improved pulse cleaning lowers operational pressure drop and energy use
- Smaller and lightweight filter pack design with built-in handles for easy handling
- Easy filter replacement for quick maintenance - no tools required

Full Colour HMI User Interface



The ZAC is supplied with a full colour 10" touch screen interface to allow fine tuning of the separation process.

The colour touchscreen enables intuitive parameter entry and a variety of ways to display variable data, including trend graphs and alarm elements. The high resolution LCD display visualises operating, monitoring and efficient control in real time.

In addition, the user-friendly editing software guides users in quickly making adjustments, scheduling, and programming operational sequences that enhance flexibility and save development time. This simplifies wiring and installation, saves operating expenses and makes systems more efficient, eliminating time-consuming adjustment and additional maintenance costs.

System Specification

	ZAC800	ZAC1200
Mains power supply required	80amp 3 phase	80amp 3 phase
Compressed air	6.2 bar at 50m ³ /hr	6.2 bar at 63m ³ /hr
Filter media efficiency	BIA class M DIN 60335-2-69 max penetration <0.01%, 0.2-2.0 microns	
Filter modules total area	150m ²	188m ²
Noise level nominally	>85dB	<85dB
Hourly throughput (volumetric)	24m ³	36m ³
Rotary valve unit power consumption	1.5kW	1.5kW
Suction fan power consumption	18.5kW	30kW
Weight	8000kgs	9000kgs
Height	8m	8m
Width	6m	7.5m
Depth	3m	3m

Test Facility - Try before you buy!



We understand that customers would like to see the results for themselves, and so we have developed a standalone test facility at our head office in Leicester.

We invite you to make an appointment to bring along a sizeable sample of material to be processed.

Alternatively, arrangements can be made for you to send the sample to us. In return, we will send you a video file of your material being processed through our Zigzag Air Classifier demonstration unit along with a sample of the separated material.

SRF GLASS METAL PLASTIC COMPOST FINES MSW



clever thinking : clear results

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