Efficient, low cost separation of secondary metals and minerals

SANDFLO™
METAL RECOVERY

Sandflo™ fluidised-bed separator

The Sandflo fluidised-bed separator provides efficient low-cost dry separation of secondary metals and minerals according to their density. Sandflo is ideal for the recovery of high value aluminium and zinc/copper/brass fractions from mixed non-ferrous metals in processing plants.

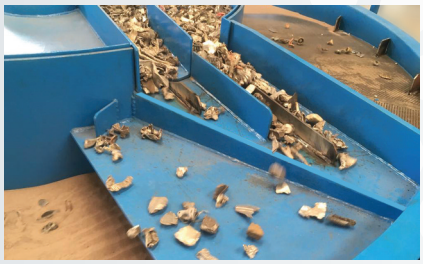
Metal recovery technologies

The sorting of non-ferrous metals from mixed scrap residues warrants a careful selection and costing of technology.

The replacement of hand sorting by automatic equipment can be difficult to justify economically for such varying and mixed feed materials. Expensive systems using, for example, x-ray fluorescence, have not been taken up generally by the industry. The use of wet separators also presents challenges, creating effluents that are becoming more difficult and costly to treat. Sandflo is a simple cost effective solution to these metal recovery issues.

Sandflo - a cost effective dry separation solution:

- Cost effective with high recovery performance
- An environment friendly dry process with no contaminated effluent to treat
- A proven commercial solution for upgrading non ferrous fragmented scrap
- Continually cleaned sand eliminates disposal problems



www.blaker.co.uk

BLAKER TECH
ADVANCED RECYCLING EQUIPMENT

SANDFLO™
METAL RECOVERY

Sandflo™ fluidised-bed separator

Efficient, low cost separation of secondary metals and minerals

The Sandflo process

The system is based on an annular trough around which sand and metal are continuously circulated by vibrating the trough. Air is fed into a section of the trough base, creating a buoyant fluidised bed of sand into which scrap particles sink according to their density.

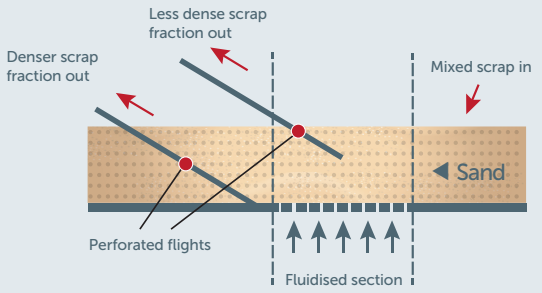
After magnetic separation of any residual ferrous material, mixed crushed scrap from a fragmentiser is screened to improve its uniformity. Non-metallics are removed using the Magthro™ eddy current separator, and the mixed non-ferrous metals are then fed into the annular trough up-stream of the fluidised bed.

As the scrap is carried across the fluidised region by the continuously circulating sand, the less dense materials (aluminium and magnesium) remain near the surface and are conveyed out of the sand by an inclined perforated flight, fixed across the width of the trough.

The heavier metals (zinc, brass, copper and any residual stainless steel) sink deeper as they travel through the fluidised zone and are conveyed out of the trough by a second lower perforated flight, downstream of the fluidised zone.

The sand particles pass through the perforated flights and end up back at the feed point, re-circulating continuously around the annular trough.

Section view - the Sandflo™ process



A simple, low cost solution

The Sandflo process is simple to operate and has a low capital cost. One or more units may be needed to process the scrap output of a conventional fragmentiser. A trommel screen is often included with each Sandflo processing to a dedicated size. Sandflo is a dry process and produces no contaminated liquid effluent. The sand can be constantly cleaned and therefore does not present a disposal problem.

> "Smelters of aluminium recovered by Sandflo reported a **4% better melting yield** compared with that recovered by the heavy media process."

For more information about Sandflo metal recovery, call or email our team.

01403 783634
info@blaker.co.uk

BLAKER TECH
ADVANCED RECYCLING EQUIPMENT

www.blaker.co.uk UNIT 1, THE YARD, ADVERSANE LANE, BILLINGSHURST, WEST SUSSEX RH14 9EG

SANDFLO™
METAL RECOVERY

Sandflo™ fluidised-bed separator

Specifications

SANDFLO OPERATING BED

Diameter of bed excluding main shaft (motor mountings):	2812 mm
Main shaft excluding motors:	2900 mm
Main shaft including motors:	3620 mm

DEPTH OF BED

Base frame:	1685mm x 1685mm (diagonal size: 2300)
Overall height:	standard: 2191mm - optional: 2670mm

ELECTRIC VIBRATING MOTORS

Make:	Vibratechnique
Model:	MVSI 15/9000 220/380 3hp 50 hz
Power supply required:	44amp inc. air blower
Noise levels:	94-99 Db

SandFlo will process circa 2.0 to 2.5 tonnes per hour providing material presented in acceptable form and SandFlo is set up correctly.

For more information about Sandflo™ metal recovery, call or email our team.

01403 783634
robin@blaker.co.uk

BLAKER TECH
ADVANCED RECYCLING EQUIPMENT

www.blaker.co.uk UNIT 1, THE YARD, ADVERSANE LANE, BILLINGSHURST, WEST SUSSEX RH14 9EG