

PRESS INFORMATION

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Contact: Paul Fears

E-mail: press@buntingeurope.com

Bunting Metal Separation Module Cleans Recycled Plastic for Recapture Plastics

Bunting Magnetics Europe Ltd has manufactured and supplied a complete Metal Separation Module and Metal Separator to Recapture Plastics to cleanse recycled plastic of metal. The Metal Separation Module consists of a large Vibratory Feeder that delivers material onto a strong Magnetic Drum before passing over an Eddy Current Separator.

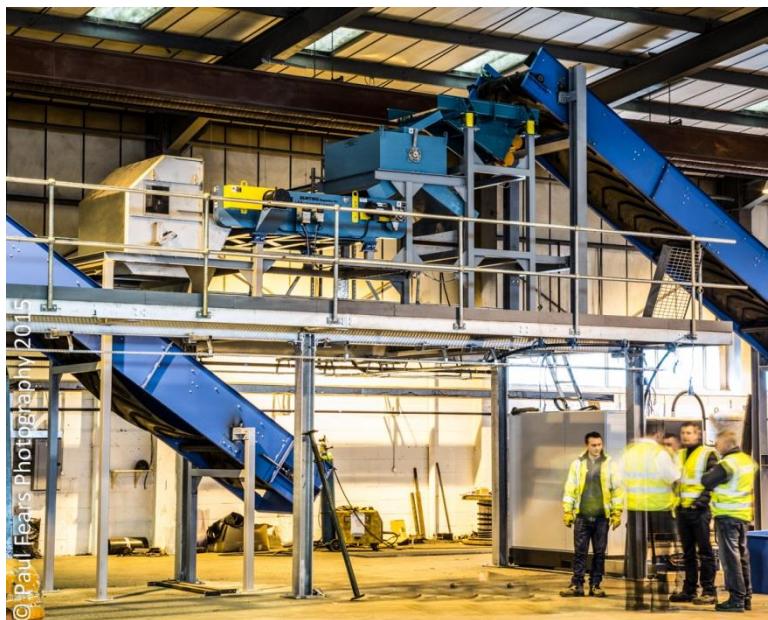


Figure 1 - Bunting Metal Separation Module at Recapture Plastics

Bunting Magnetics Europe Ltd, a leading Magnetic Separator manufacturer based in the UK, worked closely with Recapture Plastics to provide a range of metal separation equipment that would ensure a metal-free final product.

Recapture Plastics developed and built the new plastics recycling plant in Rochester, Kent. The plant is designed to handle up to 25 tph infeed of recycled plastic material with a view to future expansion. Plastic is sourced from across the UK, mostly in baled form, and the operation is one of a few recycling plants with the ability to process and separate the materials effectively.

The plastics recycling process designed by Recapture Plastics has a number of key stages. Initially, the bales of mixed plastics are broken up and shredded to reduce the particle size and liberate materials to enable optimum separation. The shredded plastic mix then passes over the Bunting Metal Separation Module where a strong Magnetic Drum removes ferrous metals and then an Eddy Current Separator ejects non-ferrous metals.



Figure 2 - View from above of the Bunting Metal Separation Module during installation

The Bunting Magnetic Drum is designed with strong permanent Rare Earth Magnets configured in an axial magnetic field. This enables high levels of separation with a minimal loss of clean material. The shredded plastic is evenly fed onto the top of the Magnetic Drum by a large Vibratory Feeder with out-of-balance motors. Any ferrous and weakly magnetic material becomes magnetically attracted to the surface of the non-magnetic stainless steel shell by the stationary magnet element inside the Magnetic Drum. Attracted metal then moves with the rotational motion of the non-magnetic outer shell until it leaves the magnetic field and is deposited in a waste chute directly underneath the drum, away from the shredded plastic.



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Figure 3 - Bunting Metal Separation Module during installation

The ferrous-free plastic fraction falls evenly onto the conveyor of the Bunting Eddy Current Separator, which transports it into the rotating magnetic field. Non-ferrous metals, such as aluminium, brass and copper, are propelled away from the rotating magnetic field and non-metallic shredded plastic over a strategically-placed adjustable splitter. This enables a clean separation.

The cleansed plastic fraction continues through the process, which includes polymer sorting and further size reduction before passing through a Bunting Quicktron Metal Separator. This final stage of metal separation is positioned to remove any metal freed during the second stage of shredding.

The shredded plastic falls down an inlet pipe into the Electromagnetic Field of the Metal Separator search coil. Any metal alters the high frequency magnetic field generated by the search coil signalling contamination and a signal is sent to the double actuating air cylinder of the reject assembly underneath the unit. The metal contamination, with a minimal amount of



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Figure 4 - Metal Separator for final stage separation

clean material, is then diverted out of the clean material flow and into a waste collection area. Often this is recycled to reduce product loss. The reject time is adjustable to suit each specific application. After the metal has been removed, the reject flap returns to the normal position, once again allowing clean product to flow through.

The metal-free plastic moves onto a washing stage and colour sorting prior to bagging for shipment.

The plastics recycling plant starting processing material in November 2015, only 3 months after Recapture Plastics moved into the building.



Figure 6 - Separated metal from the Magnetic Drum and Eddy Current Separator

Neale Buttery, Recapture's Operation Manager, explained the reason behind selecting Bunting equipment:

"We have worked with Carlton [Hicks – Bunting's UK Sales Manager] before and knew that he understood what we were looking for. This whole operation depends on producing metal free, clean plastic and we felt that the Bunting equipment would make sure we achieved that goal."

Simon Ayling, Bunting Europe's Managing Director added: "The successful installation and operation of any Magnetic Separation or Metal Detection equipment is down the supplier and user working together. Neale and Roger [Evans] were very clear in explaining what they wanted and that helped us select the best equipment. Carlton's experience in the recycling industry was invaluable in ensuring we met their expectations."

Bunting Magnetics manufactures and supplies a wide range of Metal Separators for the recycling industry including Magnetic Separators, Eddy Current Separators, and Metal Detectors. The company will be exhibiting at both Waste 16 (Salford, UK 9th June 2016) and RWM (NEC, Birmingham 13-15 September 2016).



Figure 7 - Simon Ayling (Bunting) with Neale Butterly (Recapture Plastics)

High resolution JPGs of all the images provided with this press release are available from the Bunting Press Officer, Paul Fears. Also, for additional information on this recent installation or any other issue mentioned in this article please contact Paul on 07909 103789 or press@buntingeurope.com or visit www.buntingeurope.com. Recapture Plastics can be contacted via their website <http://www.recaptureplastics.com/>

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- Print copies to Paul Fears, Press Officer, Bunting Magnetics Europe Ltd, 12 Wakelin Close, St David's Manor, Church Village, CF38 1GA
- Please email links to online coverage to press@buntingeurope.com



Northbridge Road
Berkhamsted
Hertfordshire
HP4 1EH, UK
Tel: +44 (0) 1442 875081