



MASTER MAGNETS INDUSTRY GUIDE



SIZE REDUCTION & SORTATION FOR THE RECYCLING INDUSTRY



RECYCLING SYSTEMS AND TECHNOLOGY

Master Magnets has developed a series of "tools" for the size reduction and sortation of waste and scrap which, when used in combination, permit the economic processing and recovery of re-useable material prior to disposal of the residues.

Master Magnets specialise in the design, manufacture and installation of complete plants to meet specified customer requirements and can if required provide complete "Turn Key" management of new plants.

In all recycling operations the two principal needs are size reduction and sortation.



Size Reduction - To reduce the size of the waste or scrap to permit either economic relocation through increased density or viable re-processing, and to subsequent separation of individual material types from each other.

- Mon-Shear Shredder
- Contra Shear Knife Shredder
- Horizontal Shaft Hammermill Shredder
- Twin Roll Crusher
- Can Flatteners

Sortation - To sort the different types of material into discrete types for subsequent processing.

- Magnetic Separators
- Eddy Current Separators
- Plastics Separation
- Density Separators
- Ballistic Separators
- Stainless Steel Separators
- Screens



Miscellaneous Equipment

- Conveyors
- Air Cleaning Systems
- Density Classifiers
- Vibration Isolation Units
- Hydraulic Control Systems
- Control systems for complete plant control and operation incorporating inverter and plc systems.
- Air lock valve systems
- Rotary kilns
- Waste skips
- Turbine rotor shipping containers with inert atmosphere control
- Vibratory Feeders



FULLY INTEGRATED PLANTS AND SYSTEMS

- Material Recycling Facilities (MRF) for sorting of co-mingled household separated recyclable and post consumer waste.
- Processing plants for ferrous and aluminium scrap preparation.
- Industrial waste processing plants.
- Scrap car shredding plants.
- Cable processing plants for recovery of copper and aluminium.



SHREDDERS

- Mono-Shear Shredders
- Contra-Shear Shredders
Twin Shaft, high torque, low speed shear shredder for size reduction of general waste, drive motor power 15kW - 320kW.
- Hammermill Shredders
Swing hammer, horizontal rotor, hammermill shredders for metals and solid wastes, drive motor power 15kW - 3000kW.
- Twin Roll Crushers
For size reduction of friable materials to controlled sizes i.e. coal, etc. Drive power 15kW - 150kW.



CAN FLATTENERS

- For densification of ferrous and aluminium drink and food containers
- The unit will flatten typical food and drink containers of up to 25 litre capacity and increase the bulk density by a factor of at least 4:1.
- The cans are trapped between the roller and a formed contact plate fabricated in abrasion resistant steel. The contact plate is spring loaded to permit incompressible items to pass through the flattener without jamming.



SCREENS

- Trommel screens for size separation of large throughput, large particle size materials.
- Air swept trommel screens for simultaneous size and density separation.
- Vibrating screens including:
 - Single deck
 - Multi deck
 - Harp wire
 - Wedge wire and shakey bar dewatering screens

Screens are designed with eccentric weight vibratory motor drives and four bearing eccentric drive systems.

Designs are both for fixed and mobile installations.

CONVEYORS

- Rubber belt
- Vibratory - natural frequency
- Oscillating - forced frequency
- Plate feeders
- Screw
- Scraper chain



MONO-SHEAR SHREDDERS

The Mono-Shear designed and built by Master Magnets is a new concept in size reduction technology that is now proven in use throughout the world. It has been developed to provide a low cost, efficient method of size reduction of high density solids to a uniform product size. The new concept utilising a single shaft, low speed, high torque shredder has wide application for the economic processing of difficult materials prior to recycling.

The particular feature of the Master Magnets Mono-Shear Shredder is its ability to process any size of material that can be charged into the feed hopper and to produce a uniform size of shredded product with the minimum of 'fines' or small particles. The shredder will process without adjustment, bales of all densities and sizes.

Baled materials including:

- Aluminium sheet and profiles
- Steel and aluminium UBC's
- Plastics, Paper and Textiles

Reels and coils:

- Aluminium sheet and laminates
- Paper
- Plastic

Factory Waste:

- Pallets
- Packing materials

Production waste:

- Extruder purgings
- Plastic components
- Plastic film
- Electronic assemblies

Recycling:

- Household waste & 'Green' waste
- Computer scrap
- Industrial waste

SECURITY SHREDDER

The ultimate security shredding system featuring the new and exclusive variable speed drive system with maximum torque available at all speeds. This mono-shear shredder incorporates our unique reel/bin lift system. Capable of automatic feeding of bins and reels upto 1500mm diameter and weights in excess of 1 tonne.

- Consumer products
- Business paper
- Computer paper
- Credit cards

Visit our website at www.mastermagnets.co.uk for the entire range of Master Magnets products.



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