



# MASTER MAGNETS INDUSTRY GUIDE



## MAGNETIC SEPARATION EQUIPMENT FOR CERAMICS AND POWDER HANDLING INDUSTRY



**The production of fine, white ceramics requires the removal of iron contaminant content from the raw materials. Master Magnets manufacture a comprehensive range of magnetic separation equipment to protect and separate tramp and fine iron from the product. Iron contaminants can be naturally present in**

### SUSPENSION MAGNETS

For the extraction of occasional tramp iron from deep product burdens. Available with air or oil cooled electro magnet system or permanent magnet system.



Can be installed over conveyor, vibratory feeder or gravity chute for separation of fine or coarse materials.

Available with complete range of ancillary equipment to aid cleaning operation and to suit application criteria.

### OVERBAND MAGNETS

Permanent or Electro magnetic self cleaning units for installation over conveyor lines, feeders or gravity chutes.

Overbands allow the continuous separation of general tramp iron from raw ceramic product. The unit is self-cleaning and low maintenance.



Overbands are available with armour-clad belting, alternative frame design to assist belt change and as heavy duty electro magnets.

### PULLEY MAGNETS

Installed as head pulley in belt conveyors for the continuous extraction of iron contamination.

360° magnet system retains extracted iron, discharging it behind the centre line of the pulley. Clean product follows its natural trajectory.

All units are available with either a permanent or electro magnet system. Shafts are keywayed to suit drive requirements.



### BULLET SEPARATORS

The Bullet separator is normally a permanent magnetic separator for use in gravity feed, and pressurised pipeline systems.

Material flows over the internal "bullet" system, extracted tramp iron is held firmly in place whilst clean product flows undisturbed.

Also available with high intensity rare earth magnetic system for fine iron removal or as a self-cleaning electro unit.

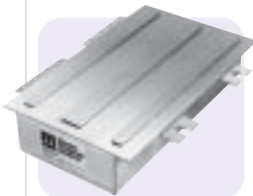


### PLATE MAGNETS

Plate Magnets are an inexpensive form of magnetic protection against occasional tramp iron contamination.

Available in a range of housings and with ceramic or high intensity rare earth magnetic material.

Plate Magnets can be configured into Deep Reach or Diagonal Leg housings for deeper burdens.

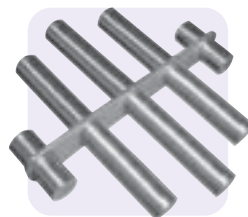


### GRID MAGNETS

Comprised of ceramic or rare earth magnetic tubes, grids are single or multibank racks for installations in hoppers, chutes and ducts.

Grids are available in a range of housings, with drawer openings for easy cleaning, or as self-cleaning pneumatic units.

Single tubes are also available for product testing.



raw material or can be introduced through the process lines or in the continual abrasion of the interior of pipelines: The MasterMag range of separators below can be installed at several points in the process over conveyors and chutes, through pipelines and in the final stages of pre-firing production.

### MASTERTRAP SEPARATORS

The Mastertrap is a permanent magnetic separator for the extraction of fine iron from wet or viscous product conveyed by pipeline.



Incorporating a series of ceramic or rare earth tubes, the unit is installed into existing pipeline as an effective means of magnetic protection.

Manufactured from stainless steel complete with flanges or threaded ends and available with water jacket for temperature regulation.

### RARE EARTH DRUMS

Constructed with a core of Neodymium Iron Boron, Rare Earth Drums are used where extremely high magnetic intensities are required on the face of the drum.



Suitable for the treatment of fine ferromagnetic and paramagnetic materials.

Rare Earth drums can be fitted into totally enclosed housings where product must be kept free from external contamination.

### MASTERROLL RARE EARTH ROLLS

Powerful Neodymium Iron Boron (Rare Earth) magnetic rolls suitable for the processing of fine powders.

Masterrolls are available in single, double or triple roll configurations with auto belt tracking, enclosed guarding and variable speed belts and rolls.

Applications include the removal of paramagnetics from quartz, feldspar and other dry ceramic minerals.



### HIGH INTENSITY FILTERS

Filters incorporate a powerful electro magnetic coil or permanent magnetic element which surrounds a matrix.

The filter is used for the continuous separation of fine paramagnetic contamination from raw ceramic material slips and glazes.

Filters can be designed to produce very high gauss intensities within the matrix for extremely high purity separations. Electro filters are fitted with self cleaning auto backflush systems.



### INDUCED ROLL SEPARATORS

High capacity separators for the concentration of finely sized paramagnetic ores and for the purification of non metallic minerals.



Induced Roll Separators utilise the magnetic induction of rolls via powerful electro magnets to treat a variety of material. Single and multiroll arrangements up to 1000mm wide are available.

### WHIM SEPARATORS

High Intensity High Gradient Wet Separators are used for the continuous extraction and concentration of fine paramagnetic materials presented in a wet state.



WHIM units can be designed as single, double, 4-station or 8-station units. The 8-station separator has a capacity of up to 160 tonnes per hour.



## LABORATORY SAMPLE TESTING SERVICE

To arrive at the best separation criteria, Master Magnets uses a fully equipped laboratory for material testing to ensure optimum equipment selection.

Customers are invited to submit samples for testing and evaluating to enable separation guarantees to be given.

Initial trials are normally carried

out free of charge and customers are encouraged, if practicable, to participate in the testing and processing procedure.



## LABORATORY SCALE EQUIPMENT

The MasterMag range of magnetic separation equipment can be supplied to laboratory scale.

Separators previously supplied to laboratories include induced rolls, alternating pole drums, isodynamic separators, wet high intensity separators and wet drums.

Other laboratory equipment for the

minerals dresser includes ore testers and wet test chutes with feeders as required.

*Laboratory scale Masterroll with vibratory feeder.*



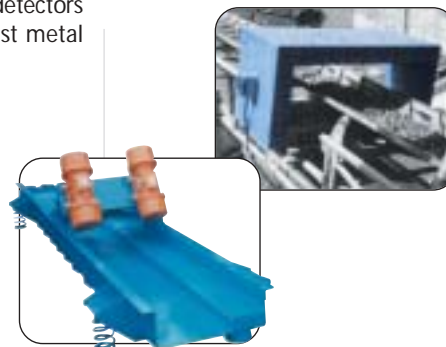
## METAL DETECTORS, VIBRATORY FEEDERS AND SCREENS

To complement the range of magnetic separators, Master Magnets offers a full range of metal detectors, vibratory feeders and screens.

For the transportation and feeding of materials vibratory feeders, elevators and screens can be supplied as single units or integrated into magnetic separators.

Where extremely high product purity is required, Master Magnets offer a

range of high sensitivity metal detectors as additional protection against metal contamination.



Master Magnets have over twenty five years experience providing innovative magnetic solutions to industries involved in recycling, demolition and reclamation, mining and quarrying, food processing, ceramics production and powders and minerals processing. The MasterMag range of systems are known for high performance and reliable operations including magnetic separators for metals reclamation, tramp metal protection and high intensity mineral separation.

**Visit our website at [www.mastermagnets.co.uk](http://www.mastermagnets.co.uk) for the entire range of Master Magnets equipment**



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