



# MASTER MAGNETS



## PERMANENT AND ELECTRO DRUM SEPARATORS

[www.mastermagnets.com](http://www.mastermagnets.com)

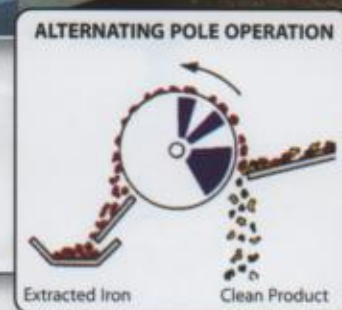


# MAGNETIC DRUM SEPARATORS

Magnetic Drum Separators are designed for the continuous extraction of iron from material being fed uniformly onto the face of the drum.

## Principal of Operation

Magnetic Drums are constructed with a 180° stationary magnet system, around which a cover revolves. Material is fed onto the drum cover at the leading point of the magnet section. Magnetics will adhere to the drum cover as it revolves around the magnet system and will be discharged behind the normal trajectory, assisted by the axial wiper bars after leaving the magnetic field. Non-magnetic materials will fall forward following their normal trajectory.



# PERMANENT MAGNETIC DRUMS

Permanent Drums are built using fully stabilised non-deteriorating strontium ferrite permanent magnets which do not require a power source. The magnets are specifically designed to concentrate all flux at the peak of separation, providing a separator that works constantly at maximum efficiency and is virtually maintenance free.

In certain size ranges, Permanent and Electro Drums have comparable performance and can provide very similar levels of separation. Permanent Drums are generally available at a lower cost than Electro models and are more efficient in the smaller size ranges.

Typical applications of Permanent Drums include the separation of steel swarf from aluminium and for the removal of ferrous contaminants from shredded wood and glass cullet.



# PERMANENT & ELECTRO DRUM SEPARATORS



## ELECTRO MAGNETIC DRUMS

With larger drums, the magnet unit is usually electro type with the coil being wound with insulated aluminium wire. Electro Drums are available in diameter sizes of up to 72 inches (1830mm).

For the large scale processing of material, Master Magnets manufacture a range of Electro Fragmentiser and Slag Drums for special applications.

Fragmentiser Drums are heavy duty alternating pole drums suitable for the reclamation of fragmentised metals in applications such as municipal refuse and vehicle recycling stations. The alternating pole design allows entrapped metals to flip on the face of the drum resulting in cleaner separated ferrous product.

Slag Drums are powerful radial pole drums suitable for the reclamation of slag in the production of steel. The pole design allows the maximum entrapment of metals and the highest levels of separation.



## RARE EARTH MAGNETIC DRUMS

Constructed with a core of Neodymium Iron Boron, Rare Earth Drums are used where high intensities are required on the face of the drum in order to achieve separation requirements.

Rare Earth Drums are suitable for the treatment of ferromagnetic materials. Magnetic lines of flux are concentrated in each internal pole, creating a very high-gradient magnetic field. For more extreme applications, Master Magnets can offer Rare Earth Drums that are constructed with wire wrapping to further enhance the magnets intensity.

As well as standard sizes, drums are available bespoke to suit a customers specific requirements and can also be fitted into totally enclosed surroundings (see over).





## TOTALLY ENCLOSED DRUMS

Where product needs to be kept free from external contamination or where any dust given off from processed material needs to be kept within the system, drums can be supplied in fabricated housings.

Housings are manufactured in robust mild steel or stainless steel. Inspection covers, aspirators and divider plates are provided as standard.



## HIGH SPEED MAGNETIC DRUMS



High Speed Permanent Drums are designed to suit specific application requirements and are suitable for the dry separation of highly magnetic ores such as iron ores, nickel ores (magnetite), roasted ilmenite and similar.

To suit a customer's specific application, the number of magnetic poles, pole configuration, magnetic intensity, magnet arc, and drum shell peripheral speed are all specified.

The drum is installed within a robust mild steel totally enclosed housing. The enclosure is provided with inspection covers, feed hopper, product divider plates and aspirators for dust extraction all as standard.

The range incorporates Magnetic Drums of 36" (915mm), 48" (1067mm) and 48" (1219mm) diameters, varying from 36" (915mm) to 120" (3048mm) effective magnetic widths.

## APPLICATIONS OF MAGNETIC DRUMS

Magnetic Drums have cross industry applications and are generally regarded as one of the most effective forms of magnetic separation.

During operation, material is fed directly onto the face of the magnet. The proximity of the material to the magnet means that separation is carried in optimum conditions.

Drums also have the advantage of a longer service life than other types of separator. Replaceable drum wear covers are constructed from manganese or stainless steel and have a longer life than other wear parts such as belting, when handling abrasive materials.

Drums are suited to any continuous processing of material; from the separation of paramagnetics from minerals and powders, to the recovery of ferrous metals from fragmented end of life vehicles and refuse reclamation.



Master Magnets have over thirty 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 their high performance and reliable operations.

Please visit our Website at [www.mastermagnets.com](http://www.mastermagnets.com) to view the entire range of Master Magnets Equipment where brochure and video downloads are available.



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