Suspended Permanent Magnets

Models CP, OP and TP

Suspended permanent magnetic separators or overband magnets are positioned over moving conveyor belts or in a chute for the purpose of removing ferrous contaminants from bulk product flows.

Applications

Quarry industry

Recycling industry

Any other industry where dry ferrous contamination is found on a conveyor belt or chute system

Magnet Strength

Eriez offers three permanent magnetic field configurations, CP, OP and TP, providing different field strengths and field profiles. Our highly trained Application Engineering staff will recommend the best model for each specific model.

CP ~ ideal for mobile crushers and steel can separation.

OP ~ suitable for separating smaller tramp metal.

TP ~ designed for applications such as removing nails from conveyed shredded wood.

Eriez also offers an extensive range of Suspended Electromagnetic Separators (ref SB 320).

Magnet Selection

The model of magnetic separator to be selected is dependent upon the specific application. Eriez Engineers would need the following information to determine the optimal size and configuration for a particular requirement:

- Material type
- Material bulk density
- Material condition
- Material size
- Type and minimum size of tramp iron
- Maximum lump size
- Conveyor belt/chute width
- Conveyor belt speed
- Conveyor belt/chute dimensions and incline
- Angle of ‘troughing’ idlers
- Machinery to be protected
- Head pulley diameter
- Head pulley material

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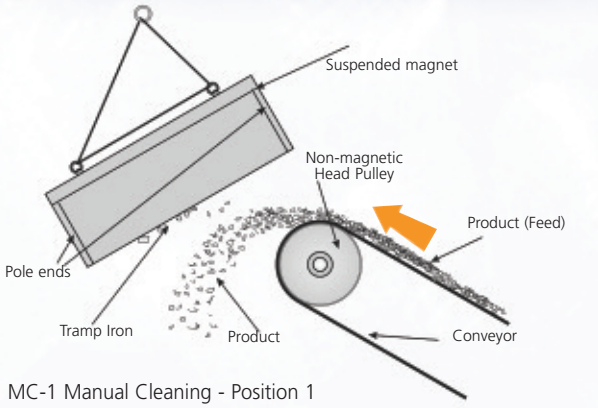
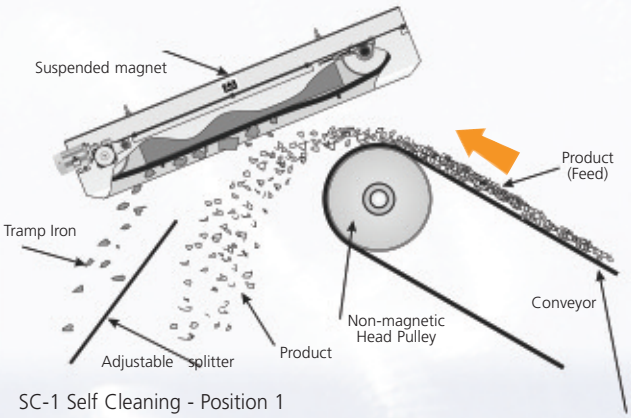
Magnet Installation

Position 1 -
Over head pulley

To achieve maximum separation efficiency, a suspended magnet should be placed immediately above the trajectory of material leaving the belt conveyor as shown.



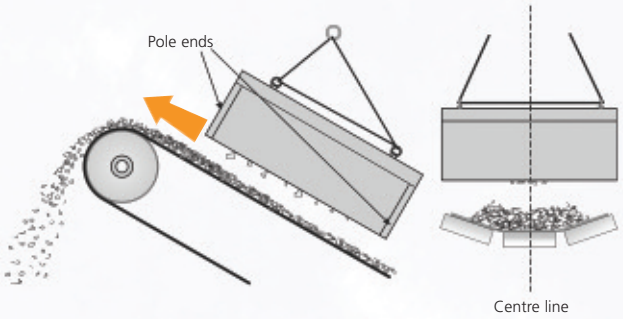
MC-1 Manual Cleaning - Position 1



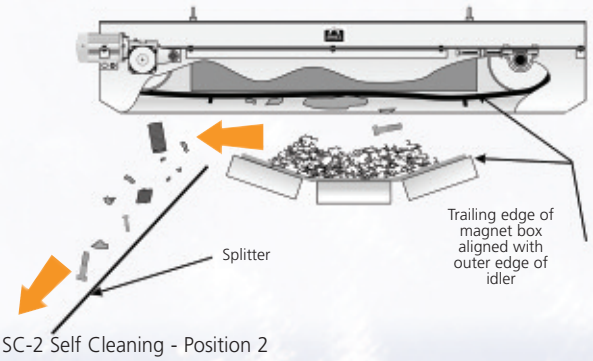
SC-1 Self Cleaning - Position 1

Position 2 -
Across Conveyor Belt

The magnet can also be placed across the conveyor belt. This position normally requires a stronger magnet, as separation of metal out of a static burden is more difficult. Raised, or rapping idlers under the conveyor belt can assist in freeing trapped iron.



MC-2 Manual Cleaning - Position 2



SC-2 Self Cleaning - Position 2

Magnet Cleaning

Extracted ferrous metals must be removed from the magnet face - the unit's separation efficiency would otherwise be impaired by an accumulation of metals on the magnet face. There are two available options for cleaning the magnet.

Manual Cleaning (MC)

For low levels of ferrous contamination, the magnet can be manually cleaned by wiping the magnet face. This can be easily done with a stripper plate (optional extra)

Self Cleaning (SC)

A moving continuous belt surrounds the magnet box. Ferrous material attracted by the magnet is held on the belt, as the belt moves clear of the magnetic field, ferrous materials fall away under gravity into bins for collection and disposal.

Optional Extras

Flame-proof motors, special belts, speed sensitive switches, belt tracking devices and extension magnets are all available as options to suit specific requirements.

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