



Magnetic Solutions Since 1896

DRUM TYPE MAGNETIC SEPARATORS

Electro & Permanent

**DEPENDABLE, AUTOMATIC & CONTINUOUS
SEPARATION OF FERROUS FROM MATERIALS
IN SCRAP, WASTE-TO-ENERGY, SLAG,
FOUNDRY SAND AND MINERAL PROCESSING**



Magnetic Drums are used for separating and concentrating magnetic materials by using a stationary magnet, surrounded by a rotating shell, that imparts movement to attracted materials.

Walker Magnetics manufactures two styles of Magnetic Drum Separators, electro and permanent drums, with either radial or axial pole designs, in single or multiple drum arrangements.

Each application requires Walker's expertise and we will work with you to customize the type of Magnetic Drum Separators that will fit your needs. Magnetic Drum Separators can be incorporated into your system and housings.

These units offer the benefit of providing you with a Magnetic Drum Separator that requires minimal power consumption and reduces initial installation costs.



AXIAL POLE DESIGN*

MODEL AFD AND APD

Features:

- Drum diameters from 36 to 72 inches
- Field strengths to suit customers needs using strontium ferrite in permanent magnet units
- Variety of cylinder thicknesses
- Heavy-duty bearings and seals
- Class R insulation on electro units
- Non-magnetic drum heads
- Heavy-duty bearings and seals

Electro Type

MODEL AFD

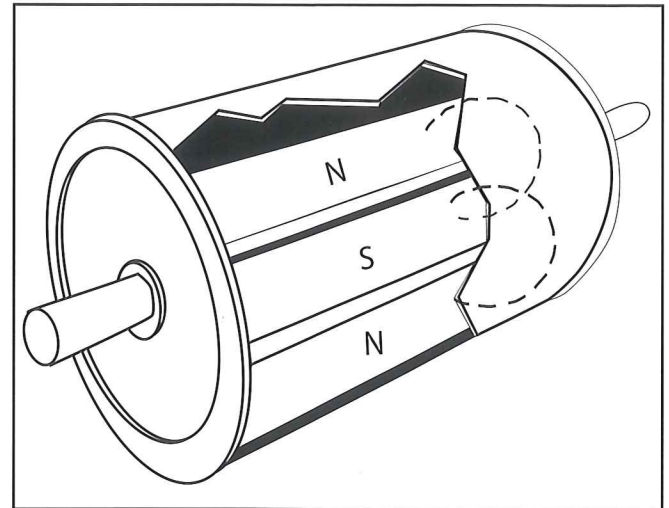
Walker Electro Magnetic Drums that have axial pole* construction are available in diameters of 36, 42, 48, 60 and 72 inches. Feed widths up to 10 feet are available.

Walker Electro Magnetic Drums are used where increased field strength is required.

Electro Drums are primarily used in applications for auto shredding and municipal solid waste. The degrees of arc on the stationary magnet are 170°.

These units are wound with Class R (220°C) insulated aluminum wire. They are designed to dissipate concentrated heat without external cooling. All drums are provided with shells of stainless steel or manganese, depending upon the application.

Non-magnetic manganese sweeps or cleats are included to transport the removed ferrous by discharging it from the magnetic field. Power sources are available for all electro units.



Permanent Type

MODEL APD

Walker Permanent Magnetic Drums, which have an axial pole* construction are also available in diameters from 36 to 72 inches. They are designed to accommodate feed widths from 36 through 120 inches.

Walker Permanent Magnets are constructed of strontium ferrite, which is designed to be stable through operating temperatures of 40°C up to 150°C. The feed presented to these units should be relatively uniform in size. The particle size can vary up to 6 inches throughout the material feed.

Grade of separation can be influenced by the drum diameter, number of poles and the speed of the drum in overfeed separation.

Centrifugal forces affect the purity and grade of product concentrate. Units are available with housings that incorporate either one or two adjustable splitters which provide up to three products- tailings (non-magnetic), middling (non-liberated) and concentrate (magnetic).

Axial Pole Permanent Drums produce high grade magnetic concentrates while field uniformity is maintained across the entire magnetic width.

* Axial poles alternate along drum circumference while remaining the same along drum width.

Primary Applications Requiring High Purification

Auto Shredding
Foundry Sand - Fine Iron
Iron Ore Concentration
Slag Reclaiming
Fly Ash

Municipal Solid Waste
Cement Purification
Sponge Iron Purification
Steel Shot Recovery
Brass Chip Cleaning

Aluminum Chip Cleaning
Abrasive Cleaning
Magnetite from Silica Sand
Aluminum Dross

Plastic Pellet Purification
Steel from Shredded Tires
Pipe Conveyance
Skelp Conveyance
Grain - Iron of Abrasion

RADIAL POLE DESIGN*

MODEL RED AND RPD

Features:

- Drum diameters from 36 to 72 inches
- Field strengths to suit customers needs
- Variety of pole configurations
- Variety of cylinder materials and linings
- Heavy-duty bearings and seals
- Class R insulation on electro units
- Non-magnetic drum heads
- Manganese cleats
- Grease while drum is rotating

Electro Type

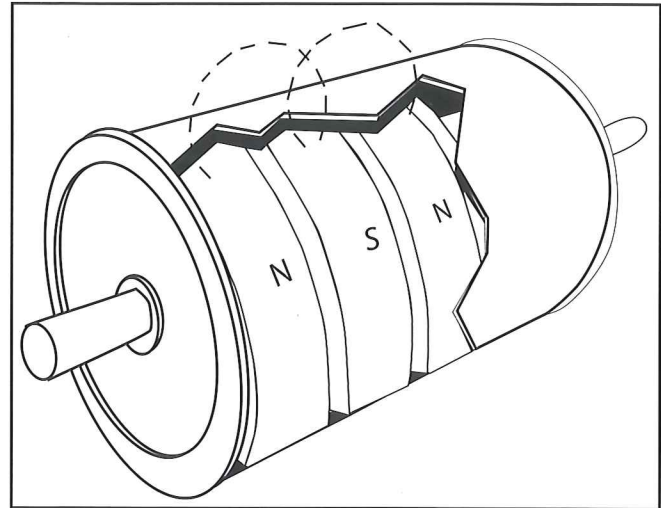
MODEL RED

Walker Electro Magnetic Drums with radial poles* are available in diameters from 36 to 72 inches and feed widths up to 120 inches can be specified.

Walker provides pole shapes, which are designed specifically for either overfeed or underfeed applications. All the features of the permanent type are available, however these units offer a variable field strength and deeper field penetration of up to 14 inches.

Coils for these units are wound with Class R insulated wire. Power sources are available for these units to accommodate customer requirements.

Walker Electro Drums provide the ultimate in design and performance for heavy-duty tramp iron removal, iron ore cobbing, auto shredder and municipal waste ferrous recovery.



Permanent Type

MODEL RPD

Walker Permanent Magnetic Drums have a radial pole* configuration and are available in diameters from 36 to 72 inches. Feed widths up to 120 inches can be accommodated.

Walker utilizes a variety of magnet arrangements to produce a depth of field or holding power to acquire the desired amount of separation. Radial pole magnets orient long material, such as roof bolts or re-bars, along the drum width so they cannot be knocked off. Materials as large as 12 inches can be processed by 48 or 60 inch diameter units.

These magnets produce deep-reaching magnetic fields for suspended arrangements to pluck ferrous particles up to a height of 12 inches.

All units have heavy-duty manganese shells, heavy-duty bearings and non-magnetic drum heads.

The advantages of these units are that they require no power and are permanently magnetized for the life of the installation.

*Radial Poles alternate along drum width while remaining the same along circumference.

Primary Applications Requiring Large Magnetic Removal

Auto Shredding
Foundry Sand - Sprues - Gaggers
Iron Ore Concentration
Slag Reclaiming
Engine Block - Crushing
Grain-Tramp Iron

Wood Chips-Tramp Iron
Plastic - Large Tramp
Parts Recovery
Sheet Conveyance
Skelp Conveyance
Chip Cleaning

Coal - Tramp Iron
Municipal Refuse Ferrous Recovery
Sugar Cane - Tramp Iron
Foundry Castings
Crushed Concrete - Re-bar
Quarry - Tramp Iron

FACTORS IN CHOOSING A SEPARATOR:

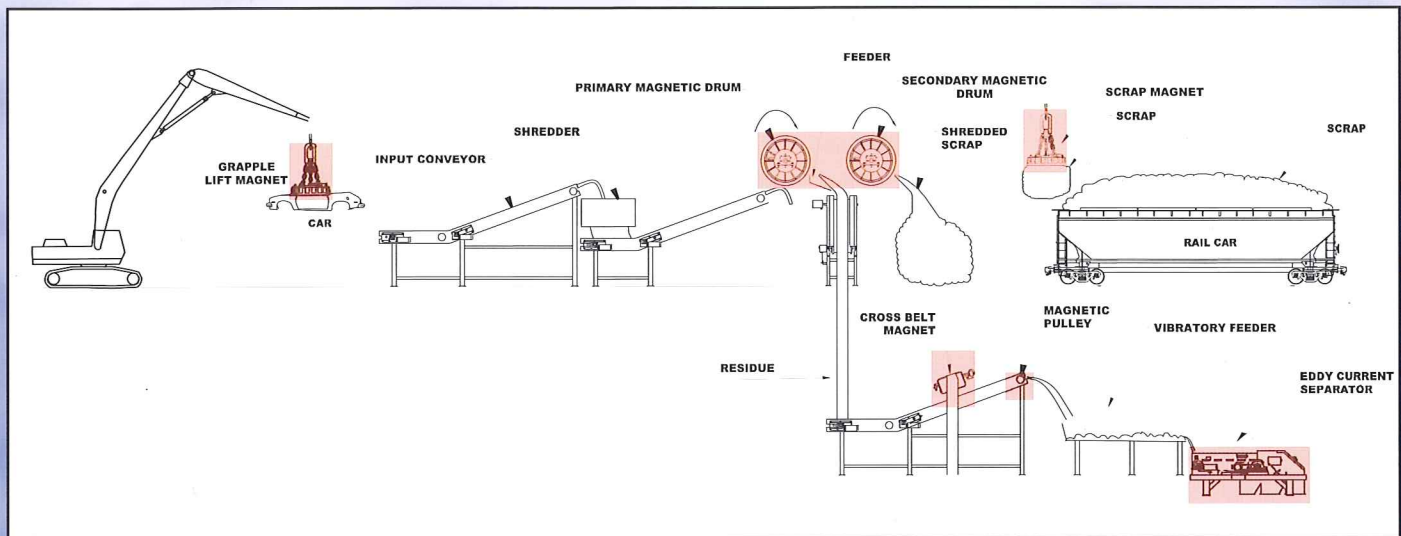
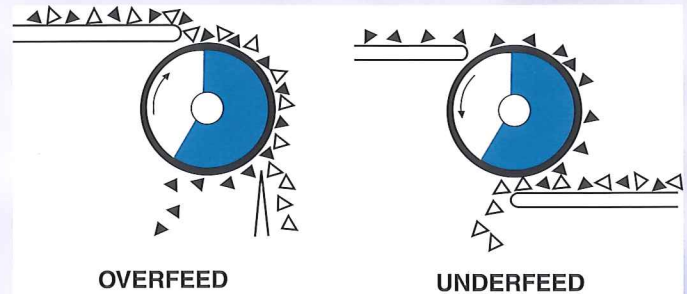
As is true in any material handling application, Walker requires information on the characteristics of the product to be separated. The following are important items Walker requires to make a recommendation.

- Capacity - Tons/hr. or cu. ft./hr.
- Material Density - #cu./ft.
- Feed Width or Available Space
- Moisture Content
- Material Size:
 - Screen Analysis
 - Size Range
- Magnetic or Ferrous Content [%]
- Type of Magnetics Present
- Belt Speed if Mounted over Conveyor
- Grade Required of Concentrate
- Available Power:
 - AC Input
 - DC if produced in-plant

After Walker reviews the information, a drum size selection, as well as feed arrangement can be determined. Walker will also take into consideration the number of units required for total plant capacity. The appropriate power supplies can be provided if required.

After reviewing this bulletin, send Walker the factor data. Please contact a Walker representative today to discuss your separation application.

DRUM SEPARATOR APPLICATIONS



WALKER

**WALKER
MAGNETICS**

Magnetic Solutions Since 1896

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