

# ERIEZ



## MAGNETIC SCRAP DRUM SEPARATORS

ELECTROMAGNETIC & PERMANENT DRUM MAGNETS



## About Eriez

Established in 1942, Eriez stands as a pioneering force in separation technologies, embodying a truly global presence.

With 12 wholly owned subsidiaries spread across the globe, we proudly design, manufacture, and support our magnetic separation, flotation, metal detection, and material handling equipment on an international scale.

Our dedicated team of knowledgeable and experienced sales engineers collaborates closely with customers, understanding their unique challenges to deliver dependable, high-performance equipment, systems, and solutions.

Whether clients require our standard equipment or bespoke solutions tailored to their precise specifications, Eriez delivers.

Drawing from more than 80 years of experience across diverse industries, including mining and minerals processing, food processing and packaging, aggregates, metals recycling, and many other sectors, Eriez leverages its extensive experience to design and supply products that elevate productivity, efficiency, and product purity.

Eriez remains steadfast in its commitment to setting the global standard for excellence in key technologies, driving innovation and reliability across industries worldwide.





## Eriez Scrap Drum Separators (Electro/Permanent)

Using our sophisticated design software and unique magnetic circuits, Eriez provides permanent and electromagnet scrap drums with deeper magnetic fields to reclaim ferrous materials in scrap metal yards, materials recovery facilities (MRF), municipal solid waste (MSW), wood waste, slag, incinerator bottom ash, foundry sand and minerals processing applications.

Depending on your application, Eriez offers a choice of agitating field to provide a cleaner ferrous or a radial field for maximum recovery. Multiple drum configurations are available to meet specific requirements.

### Options to Fit Special Applications

- Eriez-built rectifiers to convert AC power to 230 VDC. Units utilize avalanche diodes and the cabinet is available in NEMA 1, 3, 3R, 4, 4X, 12, or 9 construction; available with IP65 for European models. **Electro Drums only.**
- Replaceable shell wear wrap. Available in both multipiece, weld-on or bolt-on styles. This makes shell replacement easy in highly abrasive applications.
- Box type support frame with heavy steel channels and four turnbuckle suspension; this allows the drum to be supported over conveyors, oscillators and feeders.
- Optional Traction Plate® Drum Wrap improves cleaning action by gripping ferrous, allowing it to agitate on the face of the drum and releasing fluff and dirt.
- Drive packages complete with TEFC gearmotor, chain, drive sprocket and chainguard.
- Zero speed switches to monitor drum shell RPM.
- Available up from 36" to 72". (914 to 1829 mm) diameter with widths up to 110". (2794 mm)

# P-Rex<sup>®</sup> Drum Magnet

Eriez' innovative Permanent Rare Earth Xtreme<sup>®</sup> Drum Magnet, P-Rex<sup>®</sup>, is a breakthrough in ferrous separation.

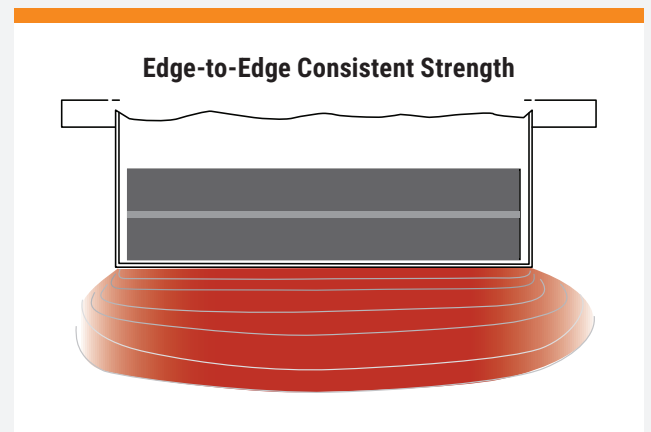
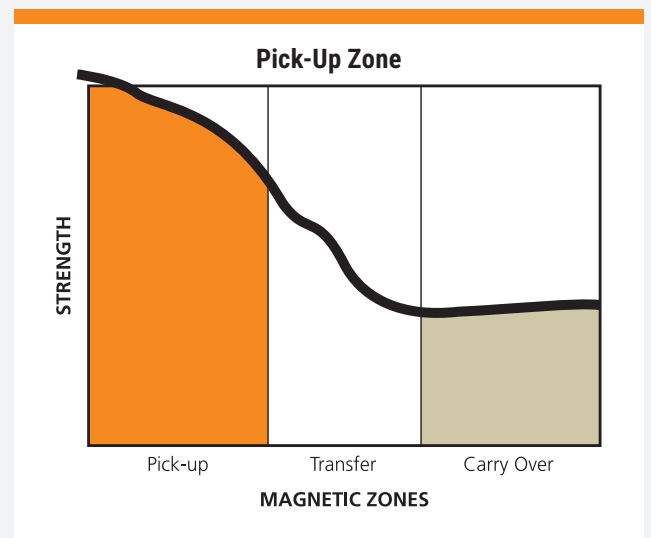
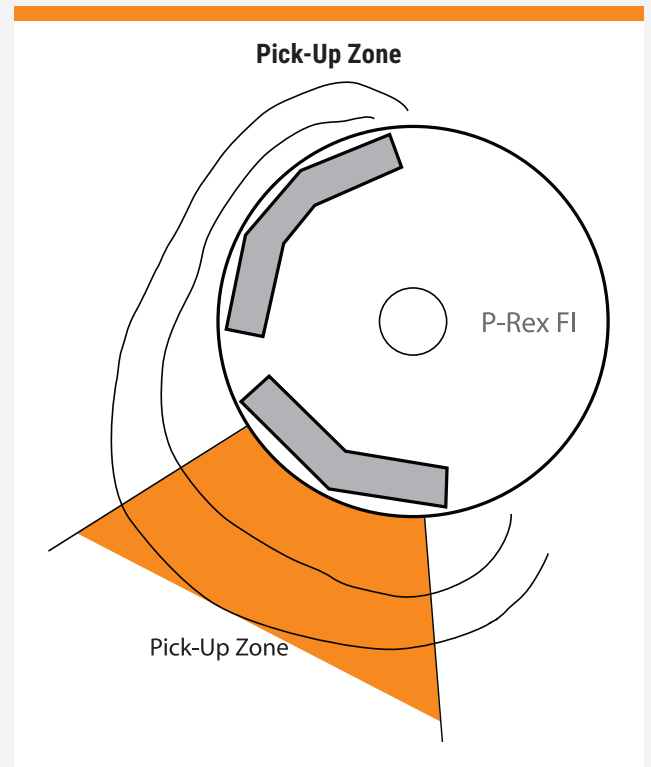
P-Rex's powerful permanent magnetic circuit designed using sophisticated modeling techniques is up to 40% stronger than an electro and is capable of recovering large spherical objects at twice the distance.

Current electromagnetic drum technology simply is not capable of sustaining a deep enough magnetic field to attract much of the "heavy spherical" ferrous during scrap metal processing. These heavy spheres, referred to as meatballs and knuckles, often contain valuable nonferrous metals and represent the most difficult type of object to capture magnetically.

While P-Rex maintains a constant strength profile, all electros are subject to significant strength loss due to heat gain.

## Benefits

- 40% stronger during operation
- Significantly wider pick-up zone
- Edge-to-edge performance
- No heat induced strength loss
- Agitates and flips material for cleaner ferrous





# Eriez Scrap Drum Separators (Electro, Permanent, or P-Rex)

## Optional Traction Plate® Drum Wrap

Eriez' Traction Plate® Drum Wrap significantly improves cleaning action by gripping ferrous, allowing it to agitate on the face of the drum and releasing fluff and dirt. The Traction Plate keeps the ferrous from sliding down and "clumping" on the cleat, which entrains more dirt and fluff.

- Innovative deep recessed pattern
- Made of 1/4" (6 mm) thick manganese
- Adds a layer of protection

## Benefits

### Low Maintenance

The drum shell that contacts the ferrous material is made of heavy manganese steel and is abrasion resistant for extended operating life.

### No Jamming

Eriez drum separators are completely enclosed; there is no possibility of pieces of iron jamming internally and stopping their operation. Outdoor installation with exposure to the weather presents no problems.

### Only Two Bearings

Virtually maintenance-free other than the occasional lubrication of the bearings and the drive chain.

### Easy Installation

The shaft clamp mounting blocks simplifies installation either by suspension or support from below.



## Features

- Thick steel shell with 3" (76 mm) vertical cleats
- Fabricated heavy duty end flanges with 3" (76 mm) high side skirts
- Heavy duty sealed bearings and drive option
- Suspension or base mounted support stand options
- Optional Traction Plate® drum wrap

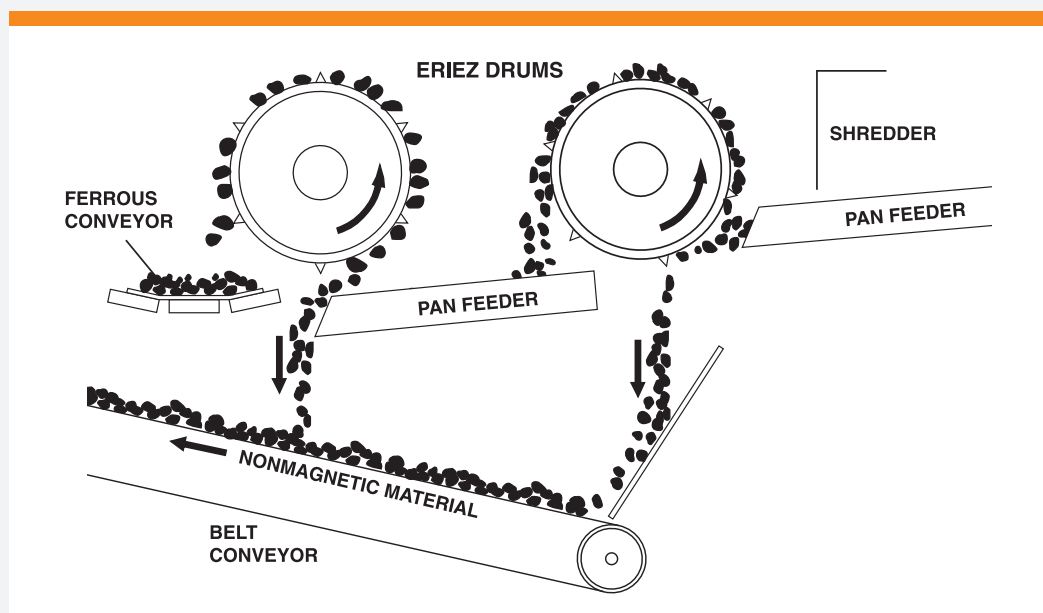
# Typical Drum Installations

Four recommended installations of drum separators are illustrated. Each will attain maximum recovery of ferrous material from properly prepared shredded scrap, municipal waste or other materials. A wide variety of diameters, widths and magnetic strengths are available to provide the desired capacity and degree of separation at the lowest possible cost. Consult your Eriez specialist for recommendations.

NOTE: This equipment is intended for use in areas where personnel are not in direct proximity. When personnel are assigned in separator areas, protective guards and/or other safety devices must be used.

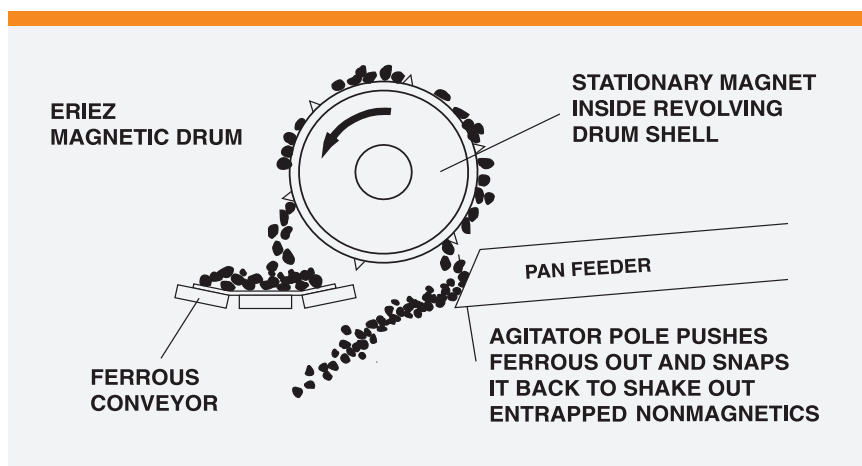
## Style 1 - Double Drum

For the cleanest possible recovered metal without secondary shredding or air classification, a two drum installation as shown in Figure 1 is recommended. The first drum, suspended above the primary feed conveyor, picks up ferrous material from the waste and carries it up and over the top to the intermediate conveyor section. The bulk of the non-magnetic material falls to a take-away conveyor located below the primary separator. The drum rotates in a direction opposite to the material flow, insuring no jamming or bridging. Clean metal with only a minimum of nonmagnetic material is deposited on the ferrous conveyor.



## Style 2 - Suspended Drum

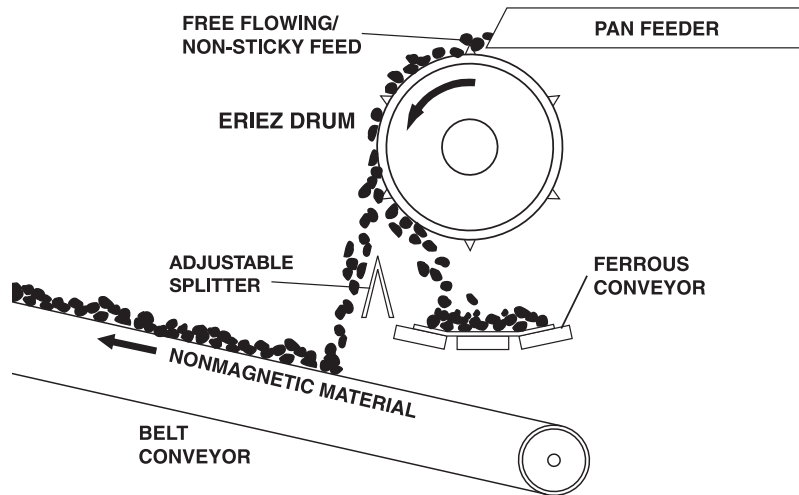
This installation suspends the drum at the discharge end of a conveyor, using the trajectory of the discharged shredded waste to help separate loose non-magnetics and recover the ferrous materials. Feed to the separator can be either by belt conveyor, oscillating conveyor or chute.



### Style 3 - Top Feed

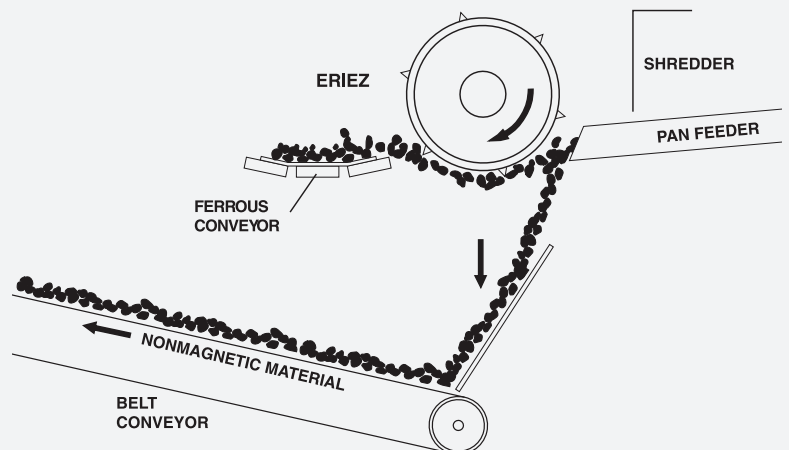
Material is introduced to the top of the drum rotating in the same direction as the feed.

This is recommended only for non-sticky products and large iron. It can be used to remove large liberated ferrous pieces from shredded or unshredded products.



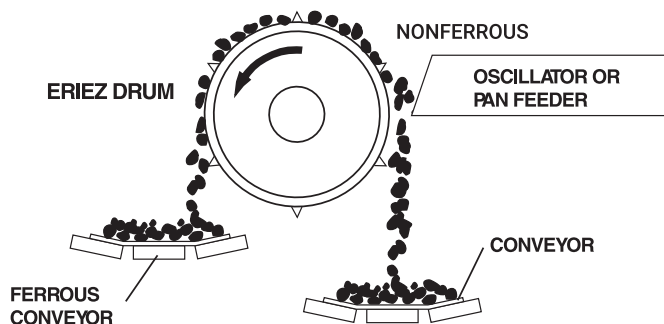
### Style 4 - Underflow

The Bottom Feed scrap drums provide maximum grade of ferrous. As ferrous agitates between poles, the nonmagnetic material will fall directly to nonferrous discharge, allowing for a cleaner ferrous product. This set up can only be used with permanent magnet drum separators. These are widely used when air cleaning systems are not available.



### Style 5 - Side Feed

This type of installation is typically used in foundries to remove large, heavy sprues, gates and risers from shakeout sand. The iron jumps to the magnet and is pushed/pulled over the top discharging on a ferrous take-away conveyor.



# ERIEZ

GLOBAL LEADER IN SEPARATION TECHNOLOGIES

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