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# COAL PROCESSING

EQUIPMENT FOR THE COAL INDUSTRY



# Equipment Overview

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Eriez offers a wide array of products that were developed to assist in the processing of coal. No other source designs, manufactures and locally supports such a variety of equipment to convey, clean and analyze coal. Eriez is truly a one-stop resource.

**WANT MORE INFORMATION?**

**Contact us!**

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# **Eriez Products For The Coal Industry**

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- ***Suspended  
Electromagnets***
  - ***Bin Vibrators***
  - ***Mechanical Feeders,  
Conveyors & Screeners***
  - ***Wet Drum Magnetic  
Separators***
  - ***Heavy Duty Vibratory  
Feeders, Conveyors &  
Screeners***
  - ***Metal Detectors***
  - ***Crossflow<sup>®</sup> Teeter  
Bed Separators***
  - ***CoalPro<sup>™</sup> Column  
Flotation Cells***
  - ***Electric Rotary Vibrators***
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## 1 Suspended Electromagnets

Model 7000 Series Suspended Electromagnets remove tramp metal from conveyor lines. Sized for any belt width. Manual cleaning and self-cleaning models available.



## 2 Bin Vibrators

Totally enclosed, electromagnetic Bin Vibrators provide “pinpoint” vibration. Maintains free flow from small hoppers up to large bunkers with reinforced heavy steel plates and liners.



## 3 Mechanical Feeders, Conveyors & Screeners

Heavy-duty, high-capacity feeders for the controlled movement of coal. Eriez Model HVF Mechanical Feeders are simple, rugged vibrating units that move high volumes of bulk coal reliably and economically. The compact, straight-line design results in a low-profile feeder requiring minimum headroom.



## 4 Wet Drum Magnetic Separators

Eriez Self-Leveling Wet Drum Magnetic Separators are unequaled in operation and performance. Their “plant-proven” design provides the highest magnetite recovery in the industry. Designed to handle fluctuations in slurry flow and magnetite content while offering simple, straightforward control and operation.



## 5 Heavy Duty Vibratory Feeders, Conveyors & Screeners

Eriez’ Hi-Vi electromagnetic design allows AC operation for up to 68% less power consumption than competitive units. Advantages include a 20% higher feed rate, encapsulated coils and heavy duty construction.



## 6 Metal Detectors

Eriez offers a variety of Metal Detectors, each designed for easy installation on existing conveyor systems — without cutting the belt! They are sensitive to ferrous and nonferrous metals and are built for rugged outdoor use.



## Crossflow™ Teeter Bed Separators

Tangential (cross flow) feed design provides high-capacity operation with effective density separation. Upgrades run-of-mine coal, producing a high-ash refuse product.



## CoalPro™ Column Flotation Cells

State-of-the-art column flotation design using Slam-Jet® spargers. Increase plant yield with the recovery of fine coal. These high-capacity columns offer low operating and maintenance costs.

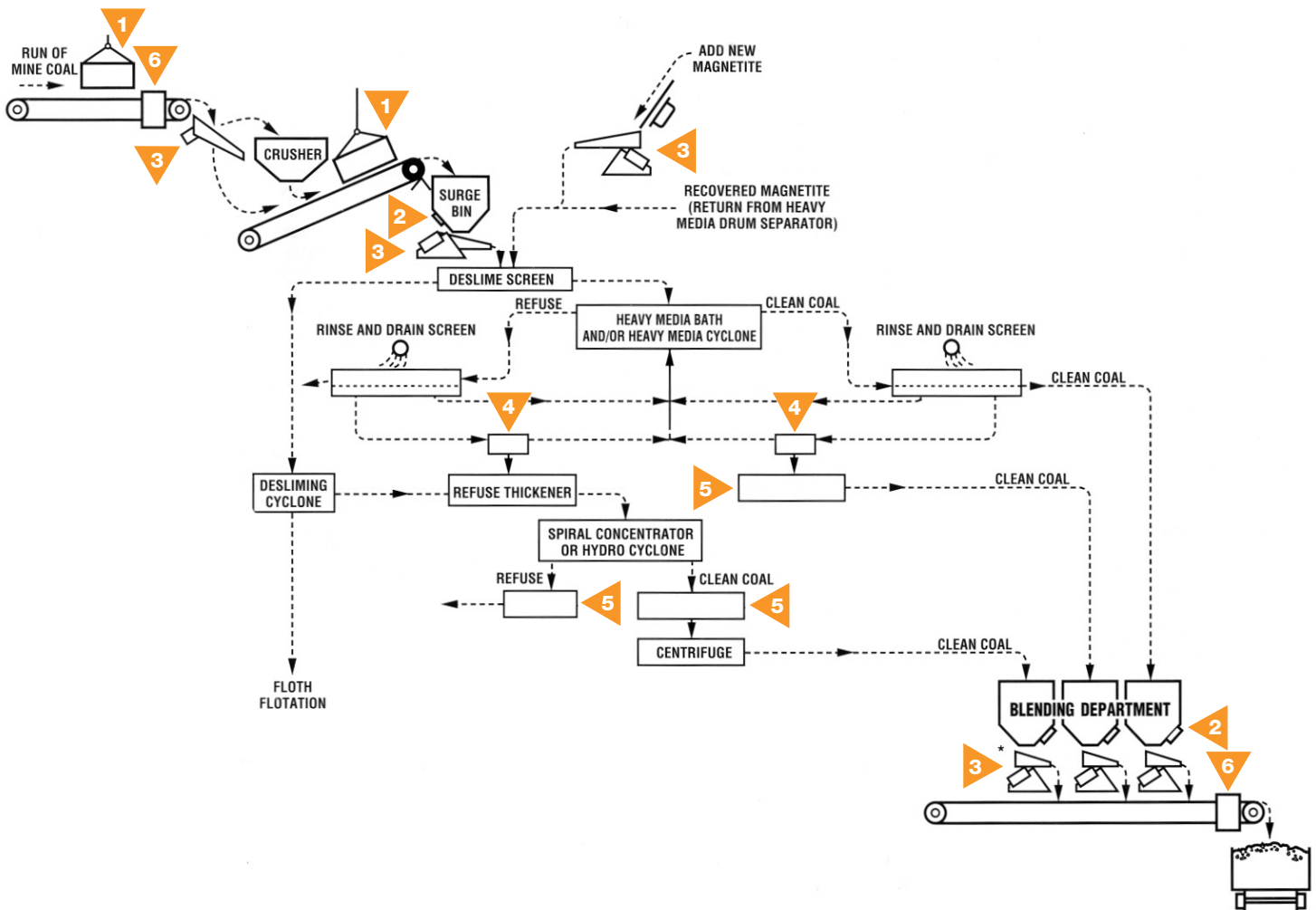


## Electric Rotary Vibrators

This broad array of Mechanical Vibrators can handle practically any application need. They offer an effective driving force for vibratory screeners, feeders and conveyors. Efficiently move materials, from small hoppers to large bunkers. Elliptical action helps settle material in bags, boxes or other materials for shipping or storage. Models are constructed for wet or dusty environments.



# Equipment Used in Coal Preparation Plants



## Eriez Engineering Services

Eriez provides Engineering Services to cover a wide range of functions, assistance and support. Engineering features related to specific equipment and coal processing are as follows:

- Equipment modifications incorporating specific features and options. The equipment may include various options and features applicable to the installation and process.
- Equipment layout and dimensional drawings. Modifications are common to fit an existing plant or provide specific operating characteristics.
- Equipment selection, sizing, material flows and balances. Eriez has a database for accurate sizing and performance.
- In-plant audit to determine production flow rates, material handling aspects, equipment selection and sizing, and predict performance.



**Eriez World Headquarters**



**Eriez Technical Center**



**Eriez 5-Star Service™ Center**

## Eriez History

In 1941, Orange Fowler Merwin, or "O.F." as he was known, sold equipment to grain millers. Among the most common complaints heard from his customers were about "tramp iron" - stray pieces of metal, such as bits of wire, nails and bolts, even horseshoes and hammers, that somehow found their way into the grain the farmers brought to the mills for grinding.

Merwin investigated a new magnetic alloy called "alnico" (a combination of aluminum, nickel, cobalt and iron), which possessed exceptional magnetic qualities, including peak magnetic strength up to 30 times that of cobalt steel. He devised a permanent magnetic separator in 1942 and sold it to a grain miller. His company was on its way.

## State-of-the-Art Engineering

Eriez' Engineering department employs the latest computer aided engineering tools, including more than 30 CAD seats at the Headquarters office. Design software includes AutoCAD and Ansys.

Equipment "outline" drawings are available to customers in the latest AutoCAD formats.

## The Eriez Technical Center

Eriez maintains industry's largest magnetic, vibratory and inspection system test laboratory at its Technical Center, adjacent to the Headquarters plant in Erie, Pennsylvania, U.S.A. More than 100 pieces of specialized test equipment are on hand. Here, customers' products and raw materials are analyzed confidentially and ways to separate or move, screen or detect them more efficiently and economically are then suggested. Feasibility and definitive studies are also conducted.

## Global Presence

Through innovation, organization and diversification, Eriez Magnetics has evolved into a technologically advanced, financially sound, international company with manufacturing facilities in Australia, Brazil, Canada, China, Europe, India, Japan, Mexico and South Africa, as well as its Erie, Pennsylvania, U.S.A. Headquarters. Eriez has sales offices across the United States and some 80 international markets on six continents.

Customers are assured of consistent product quality and fast response from whichever plant is closest to them. Eriez sales engineers and service teams throughout the world reflect the same customer-oriented philosophy.

## Eriez 5-Star Service®

Whether it's an emergency inspection system service call or a complete rebuild of a suspended magnet, Eriez' 5-Star Service® will have you operating at original equipment standards. Our rebuild program provides complete diagnostics, tear down, inspection, updated electronics and assemblies, testing and "as new" warranty!

5-Star offers:

- 24/7 service hotline
- Original OEM parts
- On-site field service
- Equipment remanufacturing
- Full "as new" warranties

*Note: Some safety warning labels or guarding may have been removed before photographing this equipment*

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**World Authority in Advanced Technology for Magnetic, Vibratory and Inspection Applications**

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