



world authority
IN SEPARATION TECHNOLOGIES





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Many of Eriez products use magnetic technology.



Eriez' 2007 purchase of Canadian Process Technologies (CPT) established the Eriez Flotation Division as a market leader for both fine and coarse flotation.



Eddy Current Separator sorts aluminum cans in a recycling facility.

A simple permanent magnet installed in a grain mill in 1942 by founder O.F. Merwin began the Eriez legacy. Today, through the Merwin family's stewardship, the company has grown through continuous product innovation and worldwide expansion with nearly a million square feet of manufacturing space on six continents and more than 800 employees.

Eriez is the market leader in separation, inspection and material handling equipment used in process industries like food, plastics and chemical as well as in mining, aggregates, metalworking and recycling. The majority of the company's products have historically been based on the application of magnetic technology.

These include magnetic separators to remove dangerous tramp metals or fine metallic contaminants, magnetic concentrators, electromagnetic vibratory feeders, magnetic conveyors, lifting magnets and more. Investments in mineral flotation, metal detection and fluid recycling technologies have extended Eriez' leadership position in its key markets.

A look to the future sees strong global demand for raw materials like steel and aluminum, precious metals, food, pharmaceuticals and chemicals. Eriez' wide range of equipment and solutions align well with future demand in these global markets.

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metal separation

Magnetic separators are used in virtually all process industries, from removing fine metal contaminants in food processing to capturing damaging tramp metals in large mining operations.

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mineral processing

Eriez offers a variety of solutions for the beneficiation of industrial minerals to produce high purity products. Eriez Flotation Division designs flotation systems for cleaning, roughing and scavenging applications in metallic and non-metallic processing operations.

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fluid recycling

Eriez' fluid recycling equipment efficiently removes solids and tramp oils from metalworking coolants in machine tool sumps.

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metal detection

Our metal detection equipment provides critical safety measures to ensure metal is not contaminating products or damaging process equipment.

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material handling

feeders, screeners & conveyors

Light to heavy-duty feeders and conveyors accurately feed and control material flows ranging from spoonfuls to 1,800 tons per hour. Vibratory screeners classify or separate a wide variety of materials.

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lift magnets

Permanent magnets easily lift and move steel castings, parts, sheets and plates without the need for slings, hooks or cables.

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separation

METAL SEPARATION



▲ Grain mill uses Xtreme Rare Earth grate magnets to remove metal contaminants.

▼ Suspended electromagnet removes tramp metal at an aggregate plant.



Eriez' origins can be traced back to a single plate magnet installed to remove tramp metals from the flow of grain, thus removing the danger of sparks in the highly flammable environment.

Through continuous innovation, the company now offers a wide range of separation technologies designed to remove, sort, classify or concentrate materials, thereby improving product quality and often its safety. These solutions range from removing micron-sized, weakly magnetic contaminants in food to concentrating tons of iron ore in mines.

▼ Scrap drum magnets separate ferrous metals at an auto shredder.



METAL SEPARATORS IN ACTION

Magnetic equipment is commonly used to remove dangerous unwanted metal contaminants from product flows. This equipment is also widely used in Resource Recovery applications to sort and reclaim valuable metals.



Small Magnetic Separators effectively remove tramp iron in both liquid and dry processing applications.



Magnetic Traps remove metal contaminants from titanium dioxide production at a chemical plant in Ohio. Traps are available in a wide selection of sizes and configurations.



Grate Magnets used in food preparation at Better Baked Foods. Grate Magnets provide powerful, permanent protection against fine and tramp iron contamination.



Plate Magnets produce a powerful, deep magnet field to attract and hold ferrous contaminants within heavy material flows. Eriez offers the widest range of models for virtually any product free-flowing application.



Magnetic Rota-Grate® removes metal contaminants from dry process flows. The slowly rotating tube circuit catches unwanted tramp iron and prevents bridging of powdery material like flour.



Suspended Electromagnets safely and automatically remove tramp iron from heavy product flows such as wood, coal or aggregate being conveyed on belts, vibratory feeders or in chutes.



Finesort® recovers small ferrous from waste at a scrap yard in Tennessee. Powerful Rare Earth Magnets recover virtually all ferrous metal from crushed automobiles and other scrap.



Eddy Current Separators utilize Rare Earth magnets arranged into high speed, composite-shelled rotor to deliver exceptional nonferrous metal separation from PET flake and bottles.



CleanStream Process recovers 99% of the ferrous and concentrates it to less than .2% copper in auto shredding facilities.



Sorters recover nonferrous metal at a scrap yard in Mexico.



Magnetic Pulleys are used by auto shredders to separate ferrous metals on scavenger belt.



Magnetic Roll separates co-molded plastic regrind containing PolyMag™ metallic additive.

separation

MINERAL PROCESSING



▲ Column flotation cells recover fines material in processing operations.

▼ Trunnion Magnet removes broken ball fragments on a Ball Mill in Chile.



Eriez offers a variety of solutions for the beneficiation of industrial minerals to produce high purity products. Various types of low, medium and high intensity magnetic separators are used in batch or continuously, and in either wet (slurry-based) or dry processing applications. Eriez Flotation Division's flotation cells, spargers, mini pilot plants, slurry distributors and test equipment are used in roughing, cleaning and scavenging applications in metallic and non-metallic processing applications.

▼ Ball chips are attracted to the liner and form a protective layer.



▲ A magnet holds the liner to the drum.

MINERAL PROCESSING SEPARATORS



*magnetic
separators*



Low and Medium Intensity Wet Drums
continuously collect fine ferromagnetic and paramagnetic materials in ore treatment operations.

Column Cell Flotation
spargers generate bubbles in a non-turbulent environment to promote bubble-particle adhesion for "floating" the mineral to the surface.



Low Intensity DF Dry Magnetic Separators
high-speed drum concentrates iron ore or is used to remove magnetite from fly ash and other dry materials.

Mechanically-Agitated Cells
StackCells use an enclosed impeller for bubble generation making it an extremely energy efficient flotation cell.



Rare Earth Roll Separators
high intensity permanent magnets produce a magnetic field in excess of 21,000 gauss for purification or concentration of weakly magnetic materials.

CrossFlow® Separators
operate on the principle of hindered settling of solids against a rising water flow to upgrade minerals/coal based on size and specific gravity.



Wet High Intensity Magnetic Filters
continuously produce a high gradient magnetic field to remove or concentrate paramagnetic minerals in slurry form.

HydroFloat™ Separators
recover coarse particles by forming a hindered "teeter" bed of fluidized solids aided by the introduction of small air bubbles.



Dry High Intensity Magnetic Filters
for batch processing to purify valuable industrial minerals from all fine ferrous contaminants.

Sparging
SlamJet® spargers represent the leading edge in gas bubble generation while CavTube™ spargers enhance separation by producing finer bubbles.



separation

FLUID RECYCLING SYSTEMS



Eriez coolant recycling equipment is designed to remove chips and solids as well as tramp oils from machine tool sumps. This equipment helps metalworking operations maximize coolant effectiveness and longevity, improve productivity and reduce disposal costs.

◀ Eriez SumpDoc™ removes metal chips as well as completely filters fluids, removing particles down to 5 microns.



FLUID RECYCLING SYSTEMS

Applications include: Machining • Conventional Grinding • Creep Feed Grinding
Super Abrasive Machining • Water Jet Cutting • Parts Washers



Belt Skimmers
Removes surface oils from machine tool sumps



Tank Side Coalescer
Allows tramp oils to naturally separate outside of turbulent sumps



Portable Coalescer
High volume removal of free oils and fine particulates



Portable Centrifuge
Removes free and emulsified tramp oils through a high speed centrifuge



Concentration Controls
Mixing and proportioning units to simplify coolant dispensing



Rotor Bowl Centrifuge
Rotor bowl centrifuge removes sludge in grinding, honing and finishing operations



Magnetic Coolant Cleaner
Media free magnetic removal of ferrous contaminants in metalworking fluid



Sump Cleaner
Vacuums chips from the sump and filters coolant for fast and easy sump cleaning



SumpDoc™ Inline Recycling and Filtration
Two-phase cleaning operation to remove chips, oils, and fines, then replenish sump with clean fluid



Coolant Recycling Systems
Self-contained coolant and fluid management systems capable of recycling any water-miscible fluid to its maximum potential.

metal detection



▲ A 1200 Series metal detector and a suspended magnet protect downstream equipment from tramp metals.

▼ Liquid Line Xtreme Metal Detector with remote control option.



▼ Eriez' Xtreme® Metal Detector is installed in a hot dog packaging plant.



METAL DETECTION

Eriez metal detectors are used in a variety of processing applications. Whether you're scanning for small ferrous, nonferrous or stainless steel contaminants or large tramp metal like digger teeth, Eriez offers the right metal detection solution.



Xtreme Metal Detector
our highest sensitivity system for food, pharmaceutical and rubber industry.

I200 Series Metal Detector
detects large tramp metal for the aggregate and mining industries.



Xtreme Liquid Line Metal Detector
for liquid slurries and pastes.

MetAlarm Model PL
designed specifically for the plastic industry for the detection of all metals in shallow bed depths. Easily installs on light-duty conveyors.



Metal Detector Conveyor
convenient detector conveyor unit rolls into position to protect shredders, grinders and granulators.

Double Team Tramp Metals
combine powerful magnetic separators with sensitive metal detectors for the ultimate in protection from damaging tramp metals.



Pharmaceutical Metal Detector
compact system for tablet press rooms that detects and removes sub-millimeter metal.

Xtreme Vertical Detectors
ideal for detection and removal of ferrous, nonferrous and stainless steel metals in gravity-fed dry products such as plastic flake, grains, nuts, powders, etc.



material handling

FEEDERS • CONVEYORS • SCREENERS



▲ A New York-based manufacturer of chocolates uses vibratory feeders and conveyors to process candies.

Eriez' vibratory products can be found moving tons of scrap steel in recycling yards, metering precise amounts of active ingredients in a pharmaceutical production line, conveying fragile potato chips in a packaging line or screening industrial materials in a glass factory. These applications would be served through either an electromagnetic or mechanical drive unit depending on your specific requirements.

Eriez magnetic chip and parts conveyors are virtually maintenance free and are suited to move and elevate ferrous chips, turnings, small parts and stampings.



▼ Heavy duty mechanical feeders are found in high tonnage operations.



FEEDERS, CONVEYORS AND SCREENERS

In addition to standard units that are available for quick shipment, Eriez offers a broad range of customized feeders, conveyors and screeners specifically designed for your unique application.



Sanitary Vibratory Feeders present products to weigh scales in packaging applications.

Large Vibratory Feeders meter stone to a belt conveyor from a hopper.



High Deflection Feeders are designed to feed difficult materials like powders as well as sticky and leafy products.



Heavy Duty Mechanical Feeders are ideal for high capacity applications in harsh environments.



Vibratory Screeners classify chocolate ingredients.

Mechanical Feeders present an even flow of material to an automated sorter at a scrap yard.



Mechanical Conveyors receive aluminum at a foundry in New York.

Magnetic Conveyors transport steel "knock-out" scrap from a forming press in Pennsylvania.



Inspection Conveyor workers visually inspect carrots on sanitary vibratory conveyors.

MAGNETIC CONVEYORS

material handling



Eriez' SafeHold® Permanent Lift Magnets easily move semi-finished products such as machined parts, castings, press molds, steel plates, bars, tubes and more. These magnets are available in ceramic and rare earth models, lift up to 7,500 pounds with a single magnet, need no costly DC controller, and can be turned on and off with ease.

◀ Lift magnets easily move round bar and large steel shapes.

▼ Most SafeHold® Lift Magnets require no external power supply.



▲ Eriez' 5-Star Service is available should your magnet ever require recertification. Please contact Eriez or your representative.



LIFT MAGNETS

Eriez' offers a complete range of permanent and electro lifting magnets for steel service centers, fabricators and other metalworking operations, as well as unique tools to fan sheet steel, move tube and pipe and guide steel on conveyors.



SafeHold® RPL

- Super compact footprint
- Rare Earth permanent magnets
- Five models available
- Capacity: 250 to 5,000 lbs.



SafeHold® XPL

- Manually operated for flats or rounds
- Easy to operate handle
- Six models available
- Capacity: 300 to 3,500 lbs.



SafeHold® EPL

- Permanent lifting magnets require no power supply
- Four models available
- Capacity: 450 to 7,500 lbs.



SafeHold® APL

- Hands-free operation
- Crane operated on/off mechanism
- Four models available
- Capacity: 600 to 3,800 lbs.



Multi Magnet Lift System

Eriez offers a wide range of electro lift magnets in single or multiple configurations to lift larger objects.



SafeHold® MPL

- AC electrically operated permanent lift magnet
- No DC converters or batteries
- Capacity: 3,000 lbs.

MAGNETIC MATERIAL HANDLING



Magna Rolls

Located on conveyor lines. Magna rolls magnetically feed and handle steel pipe, tubes and bar.



Magnetic Rails

Hold ferrous parts to conveyor belts at high speeds and steep inclines.



Magnetic Sheet Fanners

Magnetic circuit makes light or heavy-gauge steel separate and fan easily.



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