



# HMA

INDONESIA



*world authority*  
IN SEPARATION TECHNOLOGIES





## WORLD AUTHORITY IN SEPARATION TECHNOLOGIES



*Many of Eriez products use magnetic technology.*



*The acquisition of HydroFlow Filtration in 2010 expanded the company's position in metalworking, fluid filtration and recycling.*



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

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 approximately 1,000 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. Recent investments in mineral flotation, package inspection and fluid filtration 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 like gold, silver and copper, coal for energy; as well as food, pharmaceuticals and chemicals. Even greater yet will be the environmental and economic interest in resource conservation and recycling. Eriez' wide range of equipment and solutions align well with future demand in these global markets.



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#### fluid filtration and recycling

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

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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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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.

▼ Electromagnet removes tramp metal at an aggregate plant in Pennsylvania.



Eriez' origins can be traced back to a simple magnetic separator designed to remove tramp or unwanted 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 in Ohio.





## METAL SEPARATORS IN "ACTION"

Magnetic equipment is commonly used to remove dangerous tramp or 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 Trap removes metal contaminants from titanium dioxide production at a chemical plant in Ohio. Traps are available in a wide selection of sizes and functions.



Grate Magnet used in food preparation at Better Baked Foods in Pennsylvania. Grate Magnets provide powerful, permanent protection against fine and tramp iron contamination... from simple tubes to fully automated tramp metal removable designs.



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.



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. This in-housing design is ideal for dusty installations where an enclosed system is necessary. The slowly rotating tube circuit catches unwanted tramp iron and prevents bridging of powdery material like flour.



FinesSort® 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.



Powerful 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.



The new 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.



Auto shredders use Magnetic Pulleys 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 or dry processing applications.



Eriez Flotation Division's flotation cells, gas spargers, mini-pilot plants, slurry distributors and flotation 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*

### ERIEZ

FLOTATION DIVISION



**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**  
WHIMS 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.

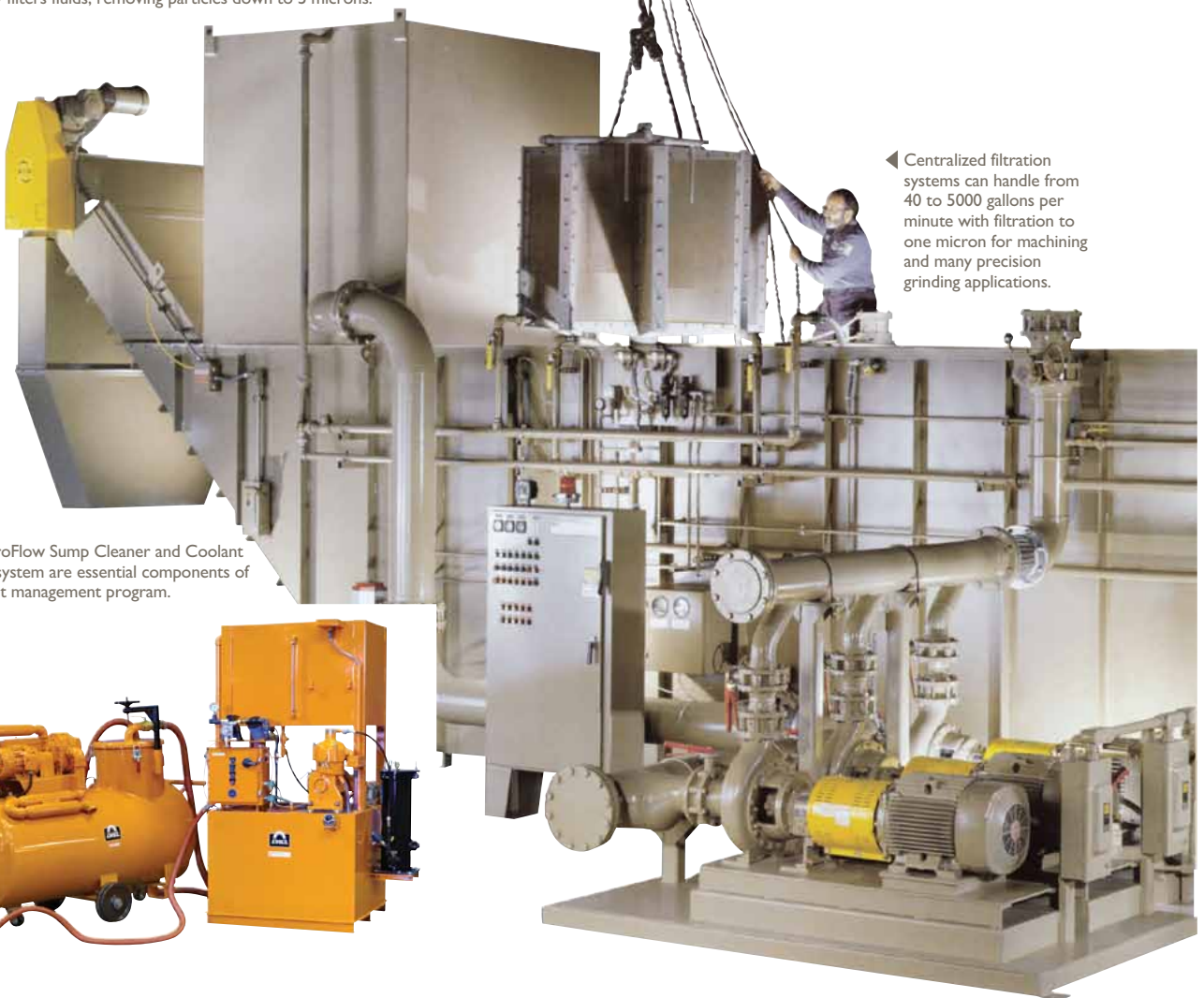


## *separation* FLUID FILTRATION SYSTEMS



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

Eriez HydroFlow equipment and systems are used in parts washing, machining, grinding, honing, super abrasive finishing and EDM applications requiring water based coolants to straight oil lubricants. Eriez offers everything from complete turnkey central vacuum filtration systems able to supply 50 machining or precision grinding centers with fresh clean fluid at a constant pressure and temperature to small sump-side tramp oil skimmers.



◀ Centralized filtration systems can handle from 40 to 5000 gallons per minute with filtration to one micron for machining and many precision grinding applications.

▼ Eriez HydroFlow Sump Cleaner and Coolant Recycling system are essential components of any coolant management program.





## FLUID FILTRATION AND 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 sump



**Portable Coalescer**  
High volume removal of free oils and fine particulates



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



**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



**Concentration Controls**  
Mixing and proportioning units to simplify coolant dispensing



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



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

**Vacuum Filters - Rolled Media**  
Providing filtration to 10 microns. House an innovative seal that prevents solids bypass



**Gravity Bed Filter**  
Uses gravity to force dirty coolant through a disposable roll filtration media



**Vacuum Filters - Permanent STAR® Element**  
Filters high volumes of fluids down to one micron with capacities to 5000 gpm. Ideal for central filtration solutions



## separation

### METAL DETECTION & SEPARATION



▲ Metal detection is an integral process in a frozen pizza production plant.

▼ MetalArm Metal Detector scans for metal tramp in coal mine operations.



Industrial metal detectors and separators have applications in most process industries including minerals processing, aggregates, coal, ceramic, chemical, food, glass, packaging, pharmaceutical, plastics and rubber. Eriez offers five different metal detectors based on application to provide added protection from both ferrous and nonferrous metal contamination... the most sensitive system is the **Xtreme®** Metal Detector used to detect and reject metal contaminants down to .2mm.

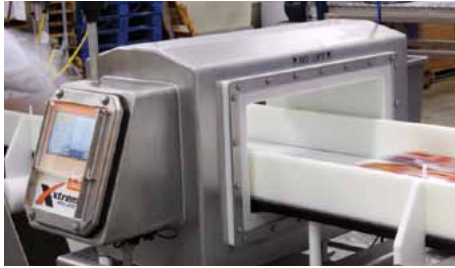
▼ Eriez' Xtreme® Metal Detector is installed in a hot dog packaging plant.





## METAL DETECTORS & SEPARATORS

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



### **Xtreme Metal Detector**

scans for any metal contamination in a food packaging operation.

### **I200 Series Metal Detector**

rejects rogue metals in a cement facility.



### **Liquid Line Metal Detector**

scans incoming liquids prior to packaging.

### **Metalarm Metal Detector**

looks for large tramp metals in a rock quarry.



### **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 dangerous tramp metals.



### **Pharmaceutical Metal Detector**

unit provides protection from metal contamination prior to packaging of capsules and tablets.

### **FF Metal 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 • 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. The pictures below illustrate the diversity of the solutions we offer our customers.



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

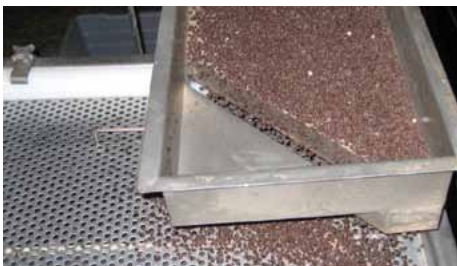
**Large Vibratory Feeders** meter stone to a belt conveyor from a hopper.



**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 Feeder** presents an even flow of material to an automated sorter at a scrap yard.



**Mechanical Conveyor** receives aluminum at a foundry in New York.

**Magnetic Conveyor** transports steel "knock-out" scrap from forming press in Pennsylvania.



## MAGNETIC CONVEYORS



**Inspection Conveyor** workers visually inspect carrots on sanitary vibratory conveyors.

## *material handling*

### LIFT MAGNETS



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 10,000 pounds, need no outside power source and can be turned ON and OFF with ease.

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

▼ 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® XPL

- Manually operated for flats or rounds
- Easy to operate handle
- Six models available
- Capacity: 400 to 5,000 lbs.



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: 4,500 lbs.



### SafeHold® RPL

- Super compact footprint
- Rare Earth permanent magnets
- Five models available
- Capacity: 300 to 7,000 lbs.



### SafeHold® APL

- Hands-free operation
- Crane operated on/off mechanism
- Four models available
- Capacity: 900 to 5,800 lbs.



### SafeHold® EPL

- Highest rated capacity on the market
- Permanent lifting magnets require no power supply
- Four models available
- Capacity: 650 to 10,000 lbs.

## ADDITIONAL 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.



**Email:** jakarta@hmagrp.com

**Tel:** +62 21 2278 3377

**Fax:** +62 21 2200 1773

**PT Halley and Mellowes Australasia (HMA Group)**

JAKARTA  
18 Office Park Tower A, 5th Floor Unit C  
JL. TB Simatupang Kav 18  
Pasar Minggu - Jakarta Sletan  
12520 Indonesia

## HMA GROUP

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