

# Magnets For The Food, Feed & Grain Industry



## **PLATE MAGNETS**

**Flush Face (FF)** Plate Magnets are designed for above-the-flow applications. The Flush Face model is available in Ceramic and Rare Earth designs to lift ferrous metal out of the product flow, protecting downstream processing equipment and product purity.

**Exposed Pole (EP)** Plate Magnets are designed for above or below the flow applications. The two 400 series (magnetic stainless steel) exposed poles provide added protection from wash-off without impeding the product flow. Exposed Pole models are ideal for low volume chute installations with either Ceramic or Rare Earth magnetic circuits.

**Spout Style (SM)** Plate Magnets feature a diverter to provide maximum tramp metal separation and superior wash-off protection for high volume below-the-flow applications. The diverter protects collected metal from being washed back into the product flow while preventing product degradation. Several strengths are available in Ceramic and Rare Earth designs to meet the requirements of difficult applications.

IMI plate magnets can be provided with engineered chutes to fit directly into your processing lines. Customer specified inlet and outlet requirements can be accommodated using custom designed housings, transitions (round or rectangular), flanges and more. Housings and chutes are available for single plate magnets, multiple plate magnets and for Manual, EZ or Self-Cleaning models.

## **GRATE MAGNETS**

### **Magnetic Grate Assemblies:**

Ideal for ferrous metal separation in (square, rectangular, or round) bins, chutes, drawers, bag dumps and hoppers.

IMI grates are constructed with 1" diameter magnetic tubes placed on 2" centers in a heavy duty stainless steel framing. Magnetic grates are available in a variety of round, square and rectangular configurations (see charts on techsheet). Special sizes, shapes and configurations are available upon request.

### **Magnet Materials for Grate Tubes and Grate Assemblies:**

**Ceramic:** Used for small to larger ferrous particle separation such as nails, bolts, washers, etc.

**Rare Earth UHI-50™ (50 MgOe Circuit):** Extremely powerful magnet is used for "fine particle" separation such as metal filings, shavings, metal wear residue, work hardened stainless steel, etc.

**Alnico (Custom Designs):** High heat applications up to 1100° F. Particle size and separation performance is the same as ceramic/Rare Earth.



Tech Sheet TG-01A



Tech Sheet TG-03A



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## **DRAWER-IN-HOUSINGS**

**SimpleClean™, EZ-Clean, Self-Cleaning & Continuous-Cleaning Drawer-In-Housings** are ideal for ferrous metal separation in a wide variety of dry processing applications. As ferrous metal passes through the magnetic field, it is held to the tubes and separated from the product. The metal must be cleaned from the tubes on a regular basis to prevent build-up and subsequent wash-off back into the product flow.

**IMI's LTH™ (Large Tube Housing)** incorporates 3 inch diameter rare earth tubes for optimum ferrous metal separation for difficult flowing products. These larger tubes are placed in the housing directly below steep angled diverters that prevent product from bridging or building up on the tubes. The spacing between the tubes is much larger than in a traditional housing allowing for product to flow freely.

## **PNEUMATIC LINE MAGNETS**

**Exposed Pole Tubes** have the magnetic portion built into the body of the housing. Ceramic EP tubes are ideal for capturing large tramp metal such as nails, bolts or screws. The Rare Earth version can capture fine particles of metal. Rare Earth EP Tubes feature a door mounted magnet (removes magnet from product flow for cleaning). Typical installations include processing of pelletized plastics, foods, feed and grain or conveying of fibrous products or similar products that may have a high moisture content with a tendency to clog or congeal.

**Bullet® Magnets** have a Flow-thru design with aerodynamic stainless steel nose cone designed to maintain a balanced flow through the housing thereby maintaining uniform velocity in line flow and can be installed anywhere in pneumatic line systems operating at or below 15 psi. Ideal for ahead of processing equipment, bulk load outs and dilute phase systems. Typical Bullet Magnet applications include: processing of powders, flour, chemical, resin, food stuff, pharmaceutical and mineral materials.

## **Pneumatic-Line Housing**

Incorporates a series of 1-in.-diam, 50 MgOe rare-earth tubes on staggered centers. This configuration ensures that all product flowing through the housing makes repeated contact with the magnets. The resulting capture rate of ferrous and weakly magnetic stainless contaminants far exceeds any other magnetic separator available. Ideal for dilute-phase pneumatic systems, the Pneumatic Housing is suitable for processing dry, powder, and granular materials.

## **DRUM SEPARATOR**

**IMI's Drum Separators** provide ferrous metal removal from dry, bulk products in free-flowing processing systems. Due to the nature of their design, Drum Separators are continuously self-cleaning units. These separators can be provided as a complete assembly with the housing and the drive package included or as the magnetic drum only.



Tech Sheet TG-03B

Tech Sheet TG-03C



Tech Sheet TG-06A



Tech Sheet TG-10A



# INDUSTRIAL MAGNETICS, INC.

1385 M-75 South • Boyne City, MI 49712

P: 888.582.0821 • F: 231.582.2704 • WWW.MAGNETICS.COM



For More Information On These Products Call For the Tramp Metal Overview

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