

MAGNETS FOR DRY OR LIQUID PRODUCT









PLASTICS, DRY BULK PROCESSING, FEED & GRAIN





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PLASTICS, DRY BULK PROCESSING, FEED & GRAIN

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, 52 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.





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.

Extended Length (XL) Plate Magnets have been designed with advanced engineering specifically for long or steep angled chutes. The Extended Length model is available in Ceramic and Rare Earth designs, ideal for capturing ferrous metal out of the high-velocity product flow, protecting downstream processing equipment and product purity. This new technology decreases the speed of the flow, allowing for higher capture rates of ferrous material.

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-52™ (52 Mg0e 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.





DRAWER-IN-HOUSINGS FAMILY



DRAWER-IN-HOUSING (DIH)

Drawer-In-Housings contain one or more rows of magnetic tubes to capture ferrous metal particles. Magnetic tubes consist of Ceramic or Rare Earth circuits encased in Stainless Steel. Two-row housings have tubes on alternating centers from one row to another, to force a zig-zag or cascading material flow over as many tubes as possible to achieve the best metal separation. Standard Drawer-In-Housings are designed for dry, free flowing product streams. If your product has a tendency to bridge or clog, talk to an IMI sales rep for one of our many solutions for difficult flowing product.

- » Designed for ferrous metal separation in dry processing systems
- » Separation is achieved with magnetic tubes assembled in a drawer
- » Tubes are aligned on alternating centers for multiple row drawer configurations forcing the product flow in a zig-zag pattern while contacting the magnetic tubes
- » The cascade effect ensures maximum tramp metal separation by causing product to have repeated and intimate contact with the magnetic tubes
- » Tubes should be cleaned regularly to prevent build-up and wash-off of collected metal.



DIH EZ Clean

SimpleClean™ Manual Drawer-In-Housings ■■

The SimpleClean™ Manual Drawer-In-Housing is an economical solution for applications with low levels of tramp metal contamination. The flanged housing comes with two or more banks of magnetic grate tube assemblies on alternating centers. Each tube is designed with a non-magnetic area located outside of the product stream for substantially easier cleaning/removal of tramp metal than traditional "manual clean" models on the market.







DRAWER-IN-HOUSINGS FAMILY

EZ-CLEAN DRAWER-IN-HOUSINGS -

The EZ-Clean design speeds up and simplifies the cleaning process, making frequent cleaning requirements user-friendly. To clean the tubes, the operator pulls two handles on the front of the housing which slides the magnetic drawer out of the product flow. As the drawer is pulled out, the tubes pass through seals which wipe off accumulated metal into a catch pan located under the wiper seal plate for proper disposal.



Self-Cleaning Drawer-In-Housings

IMI's Self-Cleaning Housings are ideal for remote magnet installation locations, applications requiring frequent cleaning and fully automated processing systems. The cleaning process is solenoid activated and can be controlled from a remote location with the flip of a switch. The cleaning cycle is completed in a matter of seconds. The air-actuated stripper seal assembly discharges collected tramp metal into a catch pan as the drawer opens.



IMI's Continuous-Clean Housings are ideal for remote magnet installation locations, applications requiring frequent cleaning and fully automated processing systems. The patented design and cleaning process is continuous and does not require the product flow to be stopped. The cleaning cycle is completed in a matter of seconds. The air-actuated stripper seal assembly discharges collected tramp metal into a leak-proof enclosure with a discharge chute that ensures clean operation and isolation of possible hazardous materials.



MTH™ Drawer-in-housing

Our MTH™ (Mid-Tube Housing) incorporates 2 inch diameter Rare Earth tubes on 4 inch centers into our proven Drawer-In-Housing configuration for optimum ferrous metal separation for difficult flowing products in high-flow rate applications.

The spacing between the tubes is much larger than in a traditional housing with 1 inch diameter tubes, allowing for product to flow freely through the housing. The 52MG0e magnetic circuit achieves 28 lbs. of pull value on a 1/2" ball - the highest value of any circuit available on the market. Combined with a gauss averaging 13,000, our design offers the strongest and most effective solution to capture ferrous pieces, as well as smaller fines and weakly magnetic contaminants from a product flow. 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 buildup and subsequent wash-off into the product flow.



DRAWER-IN-HOUSINGS FAMILY



THE OX® DRAWER-IN-HOUSING

Stainless Steel Construction similar to our other Drawer-In-Housings, the 0x° contains coated tubes, powerful compression springs and special wiper seals to virtually eliminate sticking, galling, static buildup and corrosion on the tubes.

- » Powerful 52 MgOe Rare Earth Circuit The strongest in the industry!
- » Hydex® Wiper Seals Ideal for removing sticky product residue
- » Nedox® coated tubes standard (See page 4, "Finishes and Protective Coatings")
- » Compression Spring Assisted Seal Plate
- » Food Grade EPDM Gasket Material for leak resistant operation



LARGE TUBE HOUSING™ (LTH) ■■

The LTH Drawer-In-Housing works extremely well for applications that have a tendency to bridge or plug a standard Drawer-In-Housing. Large 3" diameter tubes allow enough room for high volume product flows while capturing ferrous metal. The LTH is ideal for flour, powdered sugar or moist products.

- » Powerful 52 MgOe Rare Earth Circuit
- » BUNA Wiper Seals -for removing collected metal
- » Compression Spring Assisted Seal Plate
- » Stainless Steel Construction
- » Food Grade EPDM Gasket Material for leak resistant operation



Large Tube Housing™

THE ROTODRAWER™ DRAWER-IN-HOUSING

Rotary Style Drawer-In-Housing Magnet to rid ferrous metal from powder & bulk processed products that have a tendency to bridge, choke and require a high degree of product purity. It features a motorized, cylindrical configuration of magnetic tubes that continually rotate through a gravity fed product stream. The rotational design of the magnet, along with our unique splitter bars, serve to break up any clumps of product and allow for easy flow through the magnetic housing while capturing any ferrous metal contamination and purifying the product.

- » Powerful 52 MgOe Rare Earth Circuit The strongest in the industry!
- » SimpleClean™ & Self-Cleaning models standard (EZ-Clean available)
- » Standard sizes range from 8"x8" to 18"x18" with custom designs available



RotoDrawer™ Shown with Custom Motor and Optional Push-button controls

Pictured:

Examples of the Drawer and the Rear Access Door Lock-Out





The IMI magnets identified with are certified by HACCP International as fully conforming to HACCP International's Food Safety Standard.

The IMI separation magnets identified with ■have been accepted by the United States Department of Agriculture.

Find Drawer-In-Housings Online And Download Technical Sheets At... http://www.magnetics.com/tg/housings.asp Download Or Drawer-In-Housing Request Tech Sheets





The Round Drawer-In-Housing

Our Round Drawer-In-Housing magnetic separators are designed for ferrous metal separation in processing systems. The Round Drawer-In-Housing Series is an in-stream magnet for dry, free flowing powders and granular products. Ideal for markets such as food, feed, grain and plastics, separation is achieved with magnetic tubes assembled in a drawer configuration.

- » Powerful 52 MgOe Rare Earth Circuit
 - The strongest in the industry!
- » SimpleClean™ standard
- » Standard size options are 4", 6", and 8"
- » Offered in 1-row and 2-row configurations as standard
- » Tri-Clover inlet and outlet connections as standard

Other Options:

- » Inlet and outlet custom connection types available
- » Ideal for round pipe/tube chutes where traditional square/ rectangle drawer style magnets won't fit due to low headroom



THE SLIM™ SERIES

The SLIM™ Series of Spout Line Inspection Magnets offer single or multiple inspection points in spout lines, with the easy installation of our flanged unit. The magnet is mounted to a clamped door plate assembly and is always in the product flow. To inspect for any ferrous or weakly magnetic stainless contaminants, the operator simply needs to unclamp and extract the assembly to perform a visual check. The SLIM series is intended to be used in conjunction with a comprehensive foreign contamination program and should be strategically placed at several locations throughout the process stream, such as: discharge points of mixers, sifters, screws, etc., anywhere that product drops into a

» Available in (4) line sizes: SLIM105 (105mm 0.D), SLIM120 (120mm 0.D), SLIM150 (150mm 0.D) and SLIM200 (200mm 0.D)

» OAH: 190mm

gravity spout.

- » Inspection Opening: 105mm
- » 52 Grade Rare Earth Opti-B™ balanced magnetic tube design



DRAWER-IN-HOUSING FAMILY OPTIONS

PROTECTIVE COATINGS

IMI offers a variety of product coatings and finishes for tramp metal separation products, including Hydex® wiper seals for removing sticky product residue, Nedox® coated tubes to protect against abrasive materials and to prevent build-up and galling and MAGnanoSHIELD® that offers 99.9999% microbe resistance to assorted bacteria and fungus strains.



FINISHES

The standard finish for Drawer-In-Housings is Customary Grade. This finish features external seam welded construction with all welds free of slag, soot, spatter and burn marks. Housings are bead blasted inside and out for a clean flat finish. Food Grade and Sanitary Grade finishes are also available.



Continuous Clean We design to match your application requirements

MULTIPLE DRAWER UNITS

Drawer-In-Housings can be constructed with multiple drawers of magnetic tubes. Multiple drawers can be used to clean one bank of tubes at a time without stopping production while still offering magnetic protection. EZ-Clean units are sometimes configured with multiple drawers to reduce the pulling force required to clean the tubes on larger models.



Custom transitions and flanges are the two most common modifications specified for IMI's housings. Transitions allow for direct fit and easy installation into existing chutes and pipelines. IMI can provide inlet and outlet transitions for round to square, rectangular to square, angled chutes and more. Flanges are custom fabricated for specified mounting and coupling requirements.



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ENGINEERED HOUSINGS FOR SPECIAL APPLICATIONS

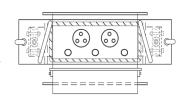
At IMI, we specialize in providing customer-driven solutions by designing and building a wide variety of custom housings and separators. Some of our unique solutions include angled wall Self-Cleaning Housings and custom fabricated hoppers with EZ-Clean Drawer-In-Housing assemblies built right into the base. No matter what your needs, we welcome the challenge of creating the solution that works best for you.

SEALED CLEANING ZONES FOR ON-THE-FLY OPERATION

Sealed cleaning zones can be provided to allow for drawer operation during production. These sealed cleaning zones are also used to isolate hazardous materials from entering the air during the cleaning cycle.



For applications that have poor flowing product characteristic like poultry or other animal meal, combined with limited head room and where purification of product is very important, use a 3" diameter magnetic tube separator with a second row of protection. The second row consists of 1" diameter magnetic tubes that are generally centered below the open spaces of the 3" diameter tubes above.



DUST HOOD GUARD

Pictured to the right is our Self-Cleaning Housing with enclosed "Dust Hood" Guard. This magnet includes valves that are opened during the magnet's cleaning cycle, assisting the plant dust control system to capture nuisance dusting that occurs, as the magnet is opened. This feature assists in housekeeping as it keeps dust off the floor and adjoining equipment.



GRATE TUBES & GRATE TUBE ASSEMBLIES

MAGNETIC GRATE TUBES ••

Ideal for custom installations that require magnetic separation, but lack space for a housing or grate assembly. Tapped mounting holes in each end of the tube allow for easy bolt-in installation. Customers can arrange these tubes in a configuration that works best for their needs. Constructed from stainless steel, tubes are available in our Customary Grade finish, Food Grade & Sanitary Grade finishes.

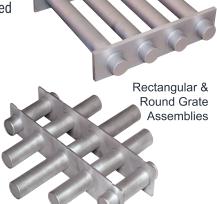
MAGNET MATERIALS FOR GRATE TUBES AND GRATE ASSEMBLIES

Ceramic: For small to large ferrous particle separation (nails, bolts, washers, etc.) **Rare Earth UHI-52™ (52 MgOe Circuit)**: Extremely powerful magnet material 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 800°F. Particle size and separation performance is the same as Ceramic.



Find Magnetic Grates & Tubes Online And Download Technical Sheets At... http://www.magnetics.com/tg/grates.asp Download Or Request Grate Tube Tech Sheet



Welded Ends

Grate Tubes

Rolled Ends

LIQUID LINE APPLICATIONS - MAGNETS INSIDE & OUTSIDE OF THE PRODUCT STREAM

LIQUID LINE T-TRAPS

IMI's T-Traps remove unwanted ferrous and work-hardened stainless contaminants from processing lines. They capture fine ferrous particles that are created by wear of upstream processing equipment. T-Traps are typically placed in front of pumps, screens and mills to protect vital plant equipment from costly metal damage and system downtime. IMI's standard T-Traps are designed for line pressures up to 200 psi (13.8 bar) and can operate at temperatures up to 290°F (143°C).

- » USDA Approved, 316 stainless steel sanitary construction
- » Powerful Rare Earth Magnetic Circuit
- » Standard line sizes from 11/2"- 6" (other sizes available)
- » Inlet/Outlet ferrules for clamping (Tri-Ciamp and weld ends are standard)
- » Quick clamp system on magnetic filter cap
- » EPDM Standard Gasket Material (BUNA-N & VITON available)
- » Designed for line pressures up to 200 psi
- » Standard maximum operating temperatures of 220°F
- » Optional Strainer Basket on Large Tube

Find T-Traps Online And Download Technical Sheets At... http://www.magnetics.com/tg/liquid.asp Download Or Request Liquid Line Tech Sheet











PNEUMATIC LINE APPLICATIONS - MAGNETS IN THE PRODUCT STREAM

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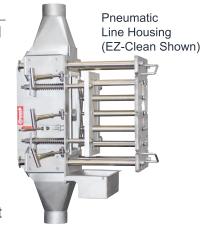
PNEUMATIC LINE MAGNETS

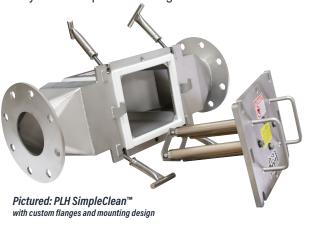
PNEUMATIC LINE HOUSING

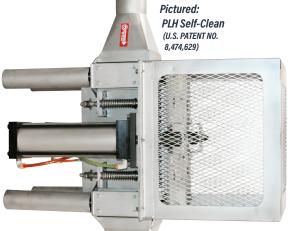
Incorporates a series of UHI-52™ MgOe Rare Earth tubes on staggered centers. This ensures all product flowing through will make repeated contact with the magnets. The resulting capture rate of ferrous and weakly magnetic stainless contaminants far exceeds any other magnetic separator available for this type of application. Suitable for processing dry, powder, and granular materials.

- » SimpleClean™, EZ-Clean & Self-Clean (U.S. PAT. NO. 8,474,629) Models available
- » Food Grade Finish Standard
- » Ideal for dilute-phase pneumatic systems operating up to 15 psi
- » Nedox® coated tubes standard (See page 4, "Finishes and Protective Coatings")

» Use ahead of processing equipment and bulk load outs to assure product purity and protect machinery from tramp metal damage



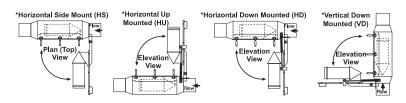




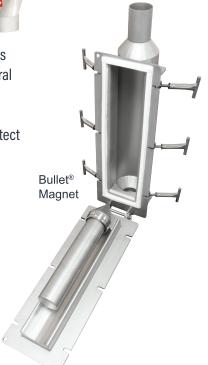
BULLET® MAGNETS ••

Bullet magnets have a solid, aerodynamic, stainless steel nose cone diverter and magnet assembly that is designed to maintain a balanced flow through the housing, maintaining uniform velocity in line flow. Ideal for dilute phase systems, typical applications include: processing of powders, flour, chemical, resin, food stuff, pharmaceutical and mineral materials.

- » Can be installed in pneumatic line systems operating up to 15 psi
- » Use ahead of processing equipment and bulk load outs to assure product purity and protect machinery from tramp metal damage
- » Helps extend the life of filters and screens
- » Cart mounted models available for truck and rail car bulk unloading



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Download Or Request Pneumatic Tech Sheet



PNEUMATIC LINE APPLICATIONS - MAGNETS IN THE PRODUCT STREAM



PNEUMATIC LINE MAGNETS

4JIT MAGNET

Ideal for vacuum or pneumatic unloading systems for handling pelletized products, plastic resins and granulars from bins, boxes hoppers and gaylords. The Vacuum 4JIT magnet captures ferrous metal contaminates. The powerful Rare Earth magnet cartridge provides optimum equipment protection and improved product purity without restricting product flow. Available from 1-1/2" to 2-1/2" line sizes.

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EXPOSED POLE TUBE MAGNETS

Used ahead of processing equipment and bulk load-outs to assure product purity and to protect machinery from tramp metal damage. Also used when conveying products that have a high moisture content that tend to plug or where degradation is a concern or products could congeal.

- » Open flow design is ideal for creating separation of product and metal to be captured
- » Can be installed in pneumatic conveying systems up to 15 psi
- » Flat to flat mating flanges reduces product leakage
- » Can be installed vertically or horizontally



Dual EP Tube Magnet

The Dual EP Tube Magnet has an extremely strong magnetic separation strength combined with a straight through-flow design. This magnet contains two separate magnets mounted opposite of each other outside of the product flow, eliminating wear points when conveying abrasive material. Both doors open to fully expose the magnets making it easier for the operator to clean and remove the captured metal. The straight-through pipe design provides long unit life as any transitions in the pipe would create other wear points for the abrasive product.

Pneumatic Line Magnet on a cart

Most of our Pneumatic Conveying Line Magnets are available on a heavy-duty cart. The industrial grade cart is equipped with pneumatic tires for easy movement. Ideal for applications in which one magnet will be used at multiple locations, such as unloading bulk trucks to storage tank.



Find Pneumatic Line Magnets Online And Download Technical Sheets At... http://www.magnetics.com/tg/pneumatic.asp Download Or Request Pneumatic Tech Sheet



USDA USDA

PLATE MAGNETS

PLATE MAGNETS

Designed to capture ferrous metal in conveyed or gravity flow applications to improve product purity and protect processing equipment from damage. They are available in Ceramic or Rare Earth and EZ-Clean or Self-Clean designs to fit your strength & maintenance demands.

Above the Flow Applications:

Flush Face (FF) and Single Product Layer Plate Magnets

Installed above the product flow, these powerful plate magnets have incredible reach-out to attract and capture ferrous metal as it passes underneath.

Below the Flow Applications:

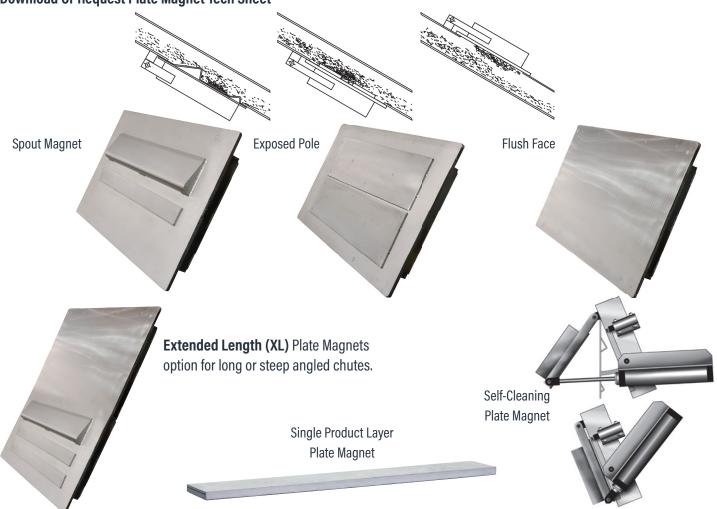
Exposed Pole (EP) and Spout Magnet (SM)

Since the product flows directly over the magnetic face, these plate magnets provide intimate contact with metal contaminants, while also reaching-out through the entire product burden. Both styles have design features to keep captured metal from washing off in the ensuing product stream.

Find Plate Magnets Online And Download Technical Sheets At...

http://www.magnetics.com/tg/plates.asp

Download Or Request Plate Magnet Tech Sheet





HUMP MAGNETS (PLATE-IN-CHUTE SEPARATORS)

HUMP MAGNETS

Sometimes referred to as "Dog Leg" magnets, are ideal for high volume gravity flow applications. Hump Magnets take product flows from vertical to 45° angles where two extremely powerful spout style magnets reach in and capture ferrous metal before returning the product flow back to vertical.

IMI Hump Magnets can be engineered with 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.

EZ-CLEAN AND SELF-CLEANING MAGNETS

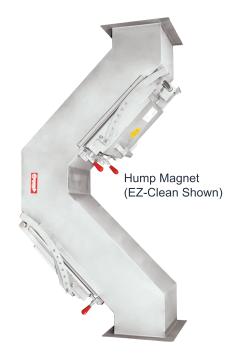
Designed to simplify the cleaning process and to increases processing line efficiency. These cleaning options feature spout faced stripper pans that swing out of the product flow and away from the magnet to release collected metal. The EZ-Clean unit is operated manually by unclamping the magnet and pulling the assembly into the open position. The Self-Cleaning model operates on the same principle but uses either pneumatic cylinders or electric actuators to open and close the plate magnet.

- » All stainless steel construction
- » Ceramic or Rare Earth Magnets
- » Features Leak resistant seals & DE-STA-CO clamps for a positive sealing
- » EZ-Clean, Self-Cleaning (Air or Electric Actuated)
- » Custom mounting flanges, inlets and outlets are available
- » Abrasive resistant product contact surfaces

Find Hump Magnets Online And Download Technical Sheets At...

http://www.magnetics.com/tg/hump.asp

Download Or Request Hump Magnet Tech Sheet





R&D LAB AND TEST CENTER

Testing available in our state-of-the-art testing facility. IMI is proud to offer a dedicated technician to assist customers with preventative maintenance, service, regulatory, audit and related requirements of magnetic equipment.

- » Simulate applications in the field and assist in choosing the right magnetic solution.
- » Lab & Testing Features Include:
- » An automated testing system for both pneumatic and gravity-fed bulk materials
- » Industry leading IMI magnetic separators
- » Gauss & pull-testing equipment
- » Parts-per-million testing for ferrous contaminants in bulk material samples
- » Test result report provided with pictures, video and recommendations
- » Testing turn-around in as little as 7 business days

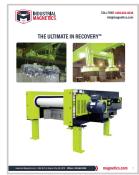
CUSTOMER SUPPORT

- » Preventative Maintenance and Service programs
- » Magnetic equipment audits and testing
- » Engineering, Operations and Sales personnel certified as HACCP Managers



OTHER FLYERS AVAILABLE







TRAMP METAL™ is a registered trademark of INDUSTRIAL MAGNETICS, INC.