

Permanent Plate Magnets

HOUSING AND SELF CLEANING MODELS



Permanent Plate Magnets

AND PLATES WITH HOUSINGS

FEATURES

- All stainless-steel construction
- 1/2" high milled 400 series tapered step
- Hinge and latch
- Smooth face for suspension mounting

Eriez Permanent Plate Magnets provide dependable and economical solutions to problems associated with tramp iron contamination in processing lines. Ceramic or Rare Earth Plate Magnets installed in chutes, spouts, ducts, pipes, or suspended over conveyors remove tramp iron to help prevent costly shutdowns associated with machinery damage, prevent spark-caused fires and explosions, prevent product contamination and improve product purity. The magnetic field penetrates the product flow and grabs tramp iron as it passes by or over the Plate holding tramp iron tightly to the magnet surface until removed during the cleaning process.

The compact design of these powerful magnetic separators makes them simple and easy to install.



Step holds ferrous material from product flow.

APPLICATION GUIDE

	Fine Ferrous Contamination	Small Tramp Iron	Medium and Large Tramp Iron
To Remove			
Choose Our	Rare Earth or Xtreme[®] Rare Earth Model	MaxiPower Model or SuperBrute for Suspended Applications	SuperPower Model or BrutePower for Suspended Applications

OPTIONAL FEATURES

Sanitary Construction

These units are identical to the standard magnets but carefully manufactured to contain no pits, cracks or crevices, in accordance with accepted sanitary requirements.



Fixed or Suspended Applications

We will provide the unit without a hinge and incorporate a flange bolt hole pattern or liflug for easy installation.

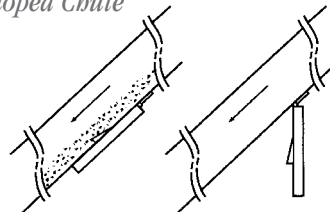
Stripper Plates

Non-magnetic stainless steel covers hinge on and off the magnet face to provide a quick and positive discharge of collected tramp metal.

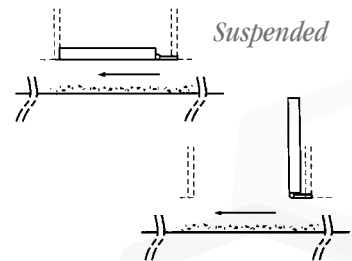


TYPICAL INSTALLATION

Sloped Chute



Suspended



STANDARD DESIGN AND CONSTRUCTION

ALL STAINLESS STEEL

For best resistance to wear from corrosive materials and atmospheres. Suitable for many food processing applications where the strictest sanitary requirements do not apply.

MILLED STAINLESS STEEL STEP

One upstream 400 series stainless steel tapered step provides a magnetic and physical barrier to provide superior removal and retention of fine ferrous contamination.

WELDED CONSTRUCTION

Each Eriez Plate Magnet is welded for the most demanding environments. This rugged design will last for years of continuous service.

MOUNTING HARDWARE

Standard hinged units include a heavy duty stainless steel hinge, zinc plated latch and latch mounting hardware for simple installation and easy maintenance.

SIX DIFFERENT PLATE MAGNET MODELS

SuperPower - 2-1/16" thick, projects 2 to 3"

Our most popular ceramic unit removes tramp metal from a variety of heavy duty applications. While only 2-1/16" (52 mm) thick, SuperPower creates a powerful magnetic field projecting 2-3" (50-75 mm) into a burden to remove large tramp iron from product flows. The unique tapered step holds tramp iron out of the product flow to minimize wash off.

MaxiPower - 2-11/16" thick, projects 3 to 4"

This extra heavy-duty ceramic magnet incorporates 75% more magnet material in not only a thicker but longer plate so feed material is exposed to the magnetic field 40% longer than our next closest size. This model creates a deep magnetic field that will project 3-4" (75-100 mm) into a burden to remove both small and large tramp iron. The addition of the tapered step helps hold tramp iron out of the product flow while acting to increase the holding force of the plate for fine tramp metal.



MaxiPower

BrutePower - 4-7/8" thick, projects 4 to 5"

BrutePower ceramic plate magnets create a deep magnetic field that will project 4-5" (102-127 mm) into a material burden to remove damaging tramp iron contamination typically used in wood chips processing, sugar cane and other extremely difficult tramp iron separation applications.

SuperBrute - 6-3/8" thick, projects 7"

SuperBrute ceramic plate magnets are typically used in suspended applications to remove large tramp iron from deep product flows in restricted height areas. Typical suspension height is less than 7" (152 mm).



SuperBrute

Rare Earth - 1-3/16" thick, high holding force

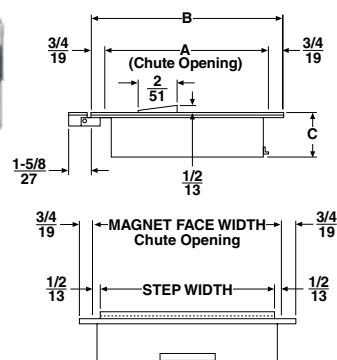
Rare Earth magnetic plates are smaller than conventional magnets, but its holding force is beyond comparison. These magnets create a field so powerful that wash off is virtually eliminated making them ideal for food and pharmaceutical applications where fine, magnetic particles can contaminate products. The intense field near the plate surface makes these units ideal for shallow burdens where product purity is the number one priority.

Xtreme® Rare Earth - 2-1/16" thick, maximum holding force

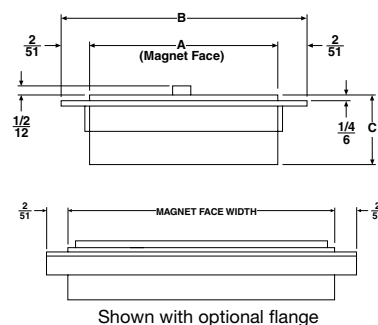
For extreme applications where deeper product depths and higher suspension heights are required, Xtreme Rare Earth magnets should be used when maximum separation efficiency is required.



Ceramic & Rare Earth



BrutePower/SuperBrute



Model	A		B		C		Approx. Weight Per Inch	
	in	mm	in	mm	in	mm	lbs	kg
Rare Earth	5-1/2	140	7	178	1-3/16	30	1.7	.77
Xtreme RE	5-1/2	140	7	178	2-1/16	52	2.4	1.1
SuperPower	7-5/8	194	9-1/8	232	2-1/16	52	2.8	1.3
MaxiPower	10-5/8	270	12-1/8	308	2-11/16	68	4.7	2.1
BrutePower	13-1/4	336	17-1/4	438	4-7/8	124	14	6.4
SuperBrute	13-1/4	336	17-1/4	438	6-3/8	162	17.25	7.8

Most units are available in even inch magnet face width increments, (e.g., 8, 10, 12 inch). Eriez stocks many standard plate magnet sizes. Please contact our factory representative or headquarters to discuss standard magnet sizes.

Permanent Magnets

WITH HOUSING AND SELF CLEANING UNITS

FEATURES

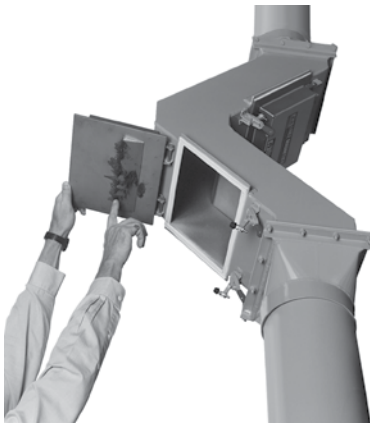
- De-Sta-Co clamps for easy operation and maintenance
- Minimized overall height for difficult retrofit installations
- All welded construction
- Mild or stainless steel construction
- Available for gravity, horizontal or vertical pneumatic installations
- Ceramic or Rare Earth available

Eriez' Magnetic Hump and Round Pipe Separators provide a simple and effective way to remove tramp iron contamination from gravity or pneumatically conveyed dry, free flowing products such as feed, grain, wood chips, food stuffs, sand or plastic.

HUMPS

Material enters the Hump and is forced abruptly to change direction against the face of a powerful plate magnet. As the material tumbles in the housing, it again changes direction and is forced against the face of a second powerful plate magnet. The Hump takes advantage of the ferrous material density because the heavier metallic are more likely to work their way to the face of the magnet, increasing the probability of capture.

The ferrous contamination remains on the face of the magnets until an operator swings the magnet out of the product flow and physically removes the metal.



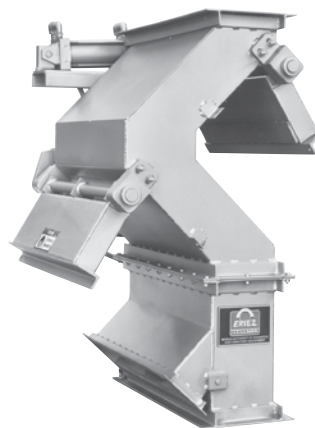
Gravity Flow Humps



Round Pipe Separators



Pneumatic Humps



Self Cleaning Units

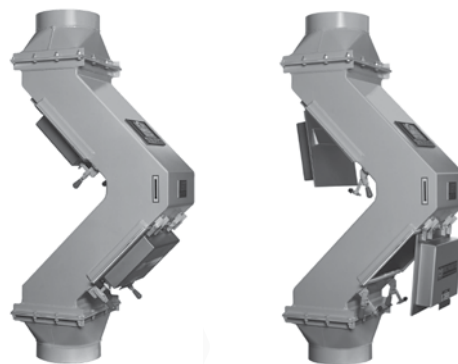
Gravity Flow Humps

The gravity flow magnetic Hump is used for tramp iron removal where heavy, loose flowing materials are conveyed in vertical gravity flow chutes.

Installed vertically the unit is highly efficient, since falling materials strike directly against the first magnet, and the subsequent change of direction permits the second magnet to remove any tramp iron not caught by the first.

Various strength magnets—Rare Earth, Xtreme Rare Earth, Superpower or Maxipower—can be selected to suit specific application requirements. Magnets are typically hinged to the housing, although on larger units the magnets can be permanently attached with cleanout panels opposite the magnet face for tramp iron removal. Adaptors are optional.

Eriez Magnetic Humps are tested and approved... they have passed rigid standards and field tests.



Operating Position

Cleaning Position



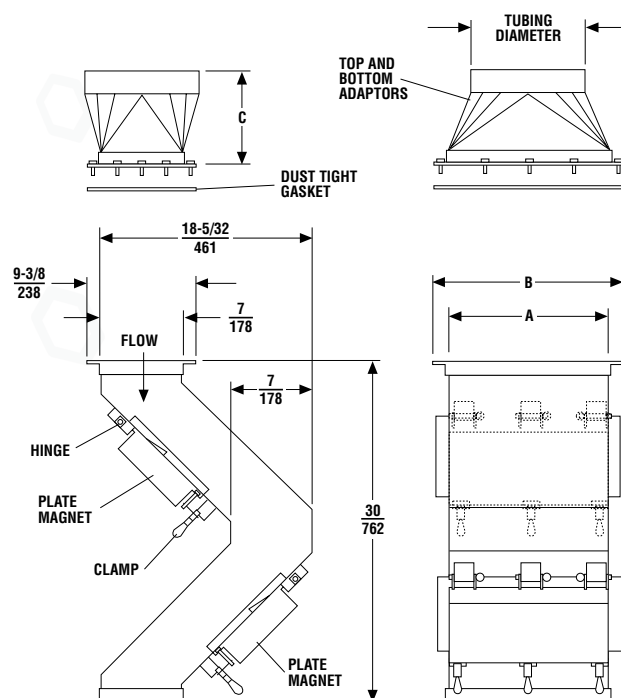
Collected Tramp Iron

Pneumatic Humps

The elimination of tramp iron from materials traveling in pneumatic lines is handled effectively by the magnetic Hump. The assembly consists of two powerful permanent non-electric plate type magnets in an enclosed rectangular sheet metal housing. Magnets are hinged to the housing and swing open for cleaning. Standard pneumatic Humps are constructed for installation on the suction side of a blower. Eriez should be consulted on applications where material is to be blown through a Hump, as special construction may be required to tolerate the expected air pressure. Adaptors can be ordered with the Hump. These convert any shaped piping or outlet to the rectangular opening of the Hump. Choking is eliminated by increasing the relative area of the Hump in correct proportion to the diameter of the pipe.

Dimensions

Hump Size		Tubing Diameter		A		B		C	
in	mm	in	mm	in	mm	in	mm	in	mm
8	203	6	152	8	203	10-3/8	264	6	152
10	254	8	203	10	254	12-3/8	314	6	152
12	305	9	229	12	305	14-3/8	365	7	178
14	356	10	254	14	356	16-3/8	416	8	203
20	508	12	305	20	508	22-3/8	568	12	305
24	610	14	356	24	601	26-3/8	670	13	330
30	762	16	406	30	762	32-3/8	822	17	432
36	914	18	457	36	914	38-3/8	975	20	508
44	1118	20	508	44	1118	46-3/8	1178	24	610



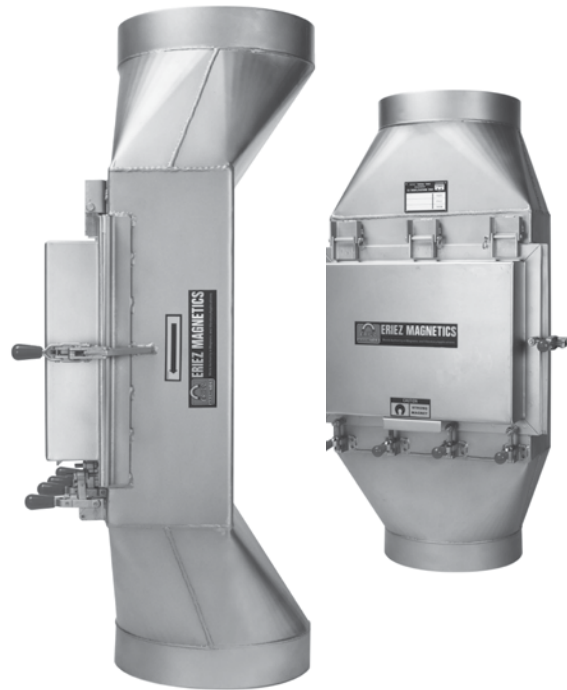
Round Pipe Separators

The Round Pipe Separator makes the installation of plate magnets in round gravity flow chutes extremely simple and economical. By building the magnet into a housing designed for efficient and effective tramp iron removal, it eliminates installation expense and assures satisfactory results.

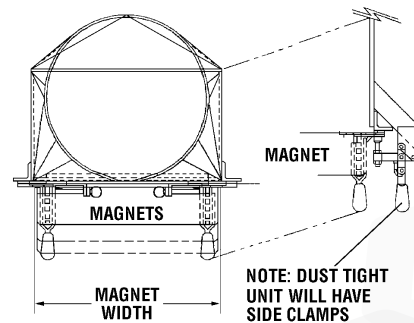
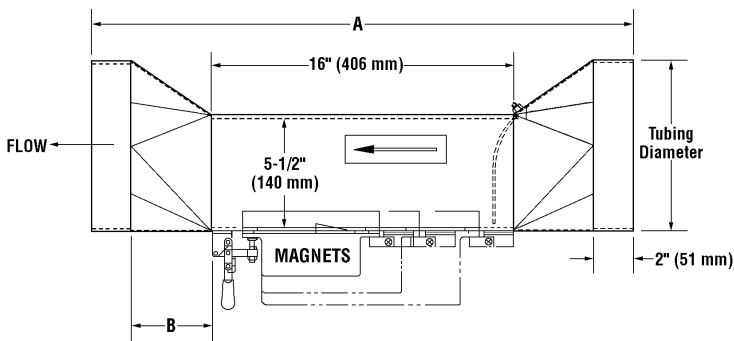
The assembly is installed by merely cutting out a section of the chute where magnetic protection is required, and slipping the separator into position. A Neoprene baffle directs the flow directly over the magnet face, which assists in tramp iron removal.

The magnet required will be determined by the application. The assembly is built to accommodate SuperPower, MaxiPower, Xtreme Rare Earth or Rare Earth magnets.

The Round Pipe Separator features powerful magnetic elements, rugged construction and no operation cost.



Dimensions



Magnet Width*		Tubing Diameter		A		B	
in	mm	in	mm	in	mm	in	mm
6	152	4	102	26	660	3	76
8	203	6	152	26	660	3	76
10	254	8	203	28	711	4	102
12	305	9	229	30	762	5	127
14	356	10	254	32	813	6	152
20	508	12	305	36	914	8	203
28	711	14	356	40	1016	10	254
36	914	16	406	44	1118	12	305
46	1168	18	457	48	1219	14	356

Dimensions and specifications are subject to change without notices.

*Smaller housing heights available on smaller diameter units

Self Cleaning Units

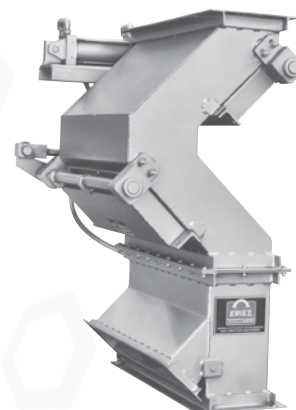
FEATURES

- Tapered step holds small iron
- Oversize air cylinders
- Self-cleaning cycle time under 15 seconds
- All stainless steel product contact surfaces
- Sizes for pipes up to 18-inch (457 mm) diameter

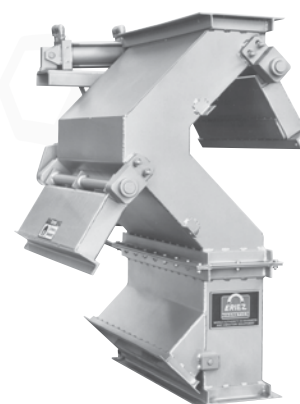
Powerful permanent self-cleaning magnets automatically remove tramp iron from free-flowing materials conveyed by gravity in vertical pipes or chutes.

OPERATION

To clean the magnets, product flow is momentarily stopped. A pushbutton (or optional timer) activates air cylinders which activates a diverter gate near the bottom of the unit to close off the product discharge area and open a tramp iron discharge chute. Then the air cylinders swing the magnets away from the housing, releasing the iron which falls by gravity to the diverter gate and out the discharge chute. Pushing the return button reverses the process and in less than 15 seconds normal production can be resumed.



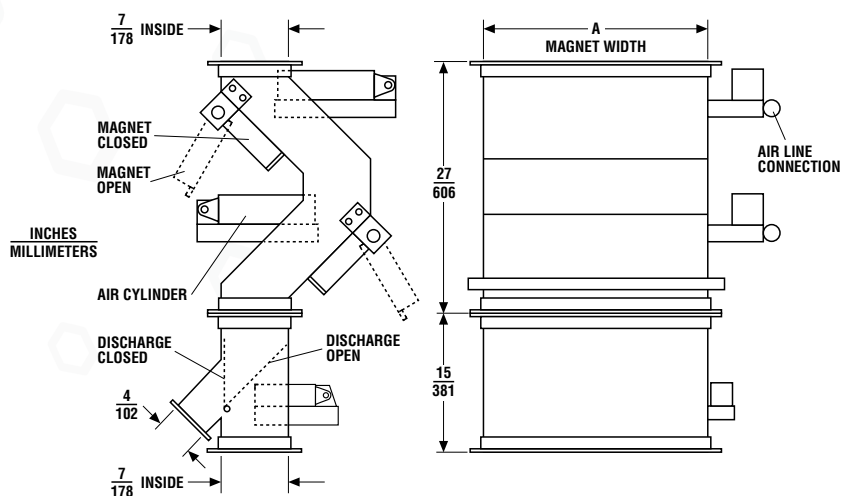
Operating Position



Cleaning Position

Dimensions

Diameter		Magnet Width		Weight	
in	mm	in	mm	lb	kg
6	152	8	203	200	91
8	203	10	254	225	103
9	229	12	305	250	113
10	254	14	352	280	127
12	305	20	508	365	166
14	357	24	610	420	191
16	406	30	762	500	227
18	457	36	914	600	272



Magnetic Pull Test Kits



Download
at Eriez.com



Eriez offers two different Pull Test Kit options. Both kits are identical except for the scale provided. We provide a kit with a mechanical scale (P/N 107121E) and a kit with a digital scale with traceable calibration certification (P/N 201512425G2).

The kit with a digital scale is recommended for customers in the food or pharmaceutical industries that require calibrated scale certification for auditor purposes. The digital scale is also available independently of a new kit.



Standard Mechanical Scale



Digital Calibrated Scale



Rare Earth Plate Magnet Pull Test using non-magnetic spacers & 1/8" bar test piece.



WORLD AUTHORITY IN SEPARATION TECHNOLOGIES

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