



Dings
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**FERROPLATES &
EQUIPMENT**

Magnetic

RESULTS

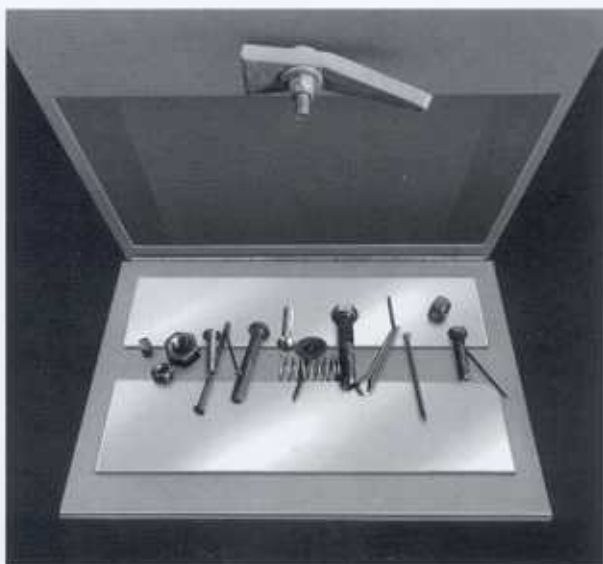
**SO SIMPLE...
SO EFFECTIVE**



You know the damage the smallest amount of tramp metal can cause to your product as well as your equipment. Protect yourself, and your reputation, with a Dings Ferroplate plate magnet.

The high surface strength of plate magnets makes them ideally suited for sloping chute applications, removing damaging metal and ferrous contaminants. Economical ceramic magnets are widely used in many industries, including food, grain, chemicals, plastics, textiles, cosmetics, minerals, and pharmaceuticals. High strength rare earth magnets can be used to separate ferrous metals from fibrous, viscous, or liquid material.

Dings Ferroplate magnets are available to fit any chute from 4" to 96" wide. Custom sizes and designs are available. Ferroplate magnets can also be installed in a variety of separator designs, including chutes, humps and pipes.

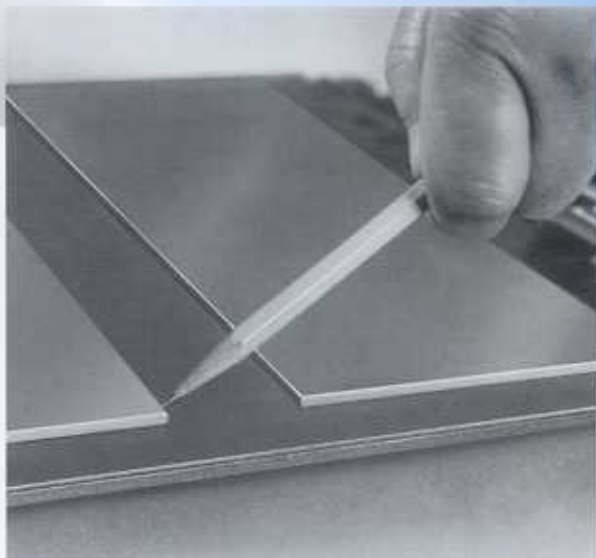


THE DINGS DIFFERENCE

When selecting a plate magnet, you typically look at the magnetic range in inches, or the capacity in cubic feet per hour of material flow. But one important factor is often overlooked — holding power. A plate magnet won't be effective unless it can attract and hold metal on its surface, preventing it from reentering the product stream.

Since the strongest magnetic field on any plate magnet is between the two poles, most of the tramp metal will accumulate in the gap between the poles. Dings Ferroplate magnets are built with raised pole pieces — two large stainless steel plates, permanently welded to the face. Since these pieces have so many edges, so much edge length, and so much top surface area raised above the face, they act as large, powerful and exposed holding areas. And, the air gap created between these pole pieces adds even more holding power.

You won't have to worry about tramp metal contamination when you use a Dings Ferroplate plate magnet. It's designed and built to provide the utmost holding power, as well as maximum magnetic range.



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WHEREVER YOU NEED HELP

There's almost no limit as to where you can use a Ferroplate magnet. They operate in any position, in hot, cold or wet locations, indoor, outdoors, and even on vibrating equipment.

Sizes start at 4" in width and increase by 2" increments for mounting on any size chute and for suspending over any size conveyor belt or pan. Because they're constructed from powerful permanent magnet material, they're always ready to work. There's no switch to turn on or off, no maintenance and no operating cost.

The most popular type of application is on the bottom side of a rectangular shaped chute that slopes downward. It doesn't matter if the chute is open or enclosed. It doesn't matter if the chute is made of ordinary steel, galvanized steel, stainless steel or any other metal. A Ferroplate is designed to work in any metal chute, and in wood chutes, too.

Ferroplates can separate all kinds of ferrous objects — nails, nuts, bolts, wire, tools, springs, abraded iron and more. By getting rid of metal buried inside processed materials, Ferroplates protect processing machinery against damage. They also purify materials to protect consumers and prevent dangerous explosion causing sparks.

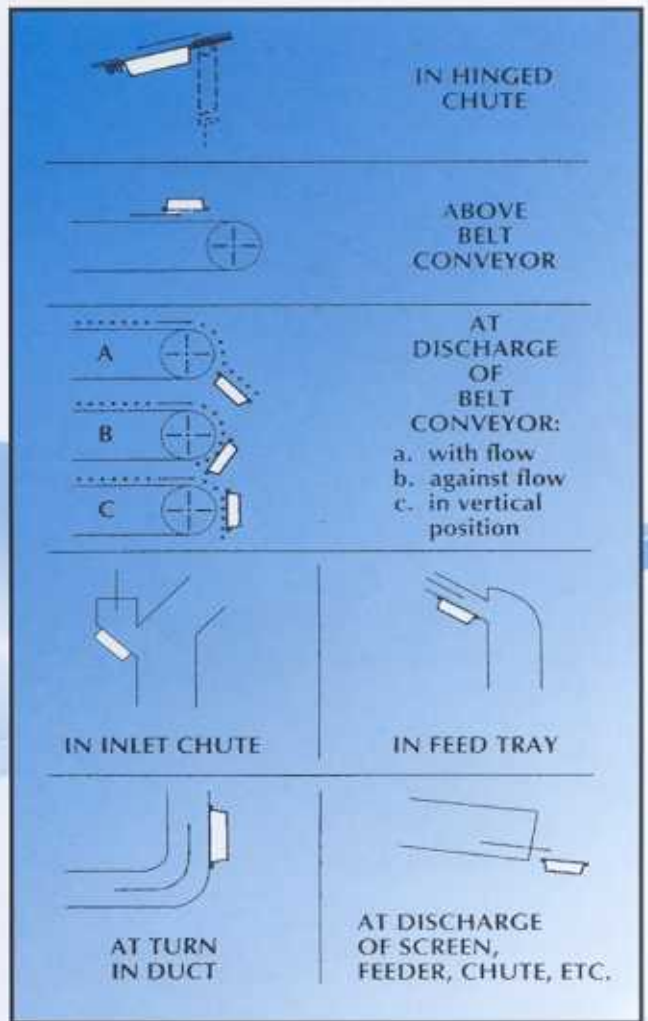
EASY TO INSTALL

Installing a Ferroplate is simple. In a chute, just cut a rectangular section out of the underside, and place the magnet over the opening. The flanges on the magnet will overlap the edges of the opening.

If the chute is an open type, allowing easy access to the face of the magnet, you can bolt the Ferroplate in place. Bolt holes can be drilled anywhere in the flanges. If the chute is a closed type, bolt the hinge on the magnet to the chute. The hinge allows the magnet to swing open for future inspections and removal of any attracted metal. A latch handle is also provided for bolting to the chute. It keeps the Ferroplate closed against the chute when operating.

A Ferroplate is easy to install above a belt conveyor, too. It can hang from or be attached to any structure that will keep it suspended at an appropriate distance above the belt.

Every Ferroplate is shipped with all the chute mounting hardware needed for the size ordered — a continuous length hinge, latch handles, bolts, nuts and washers. The hinge is conveniently predrilled with 1/4" diameter mounting holes and welded to the magnet, ready to mount.



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WITH DINGS...THE

5 MODELS TO FIT ANY APPLICATION

Depending on the requirements of your application, choose from one of the five Ferroplate models — 2100, 2200, 2300, 2400, and the most powerful model, the Ultimate. The models differ in magnetic range (the effective distance the magnetic field reaches) but each has all the advanced features of the Ferroplate design. Refer to the chart on page 7 to select the right Ferroplate for your application.

The Ferroplate line of magnets can adequately cover all chute handling conditions considered practical for plate magnet application. For conditions that exceed even the capabilities of the Ultimate model, Dings offers a Permanent Type Overhead Magnet. This separator is the ideal type for extended magnetic range applications.

UNLIMITED OPERATING LIFE

There's no limit on how frequently or continuously you can use a Ferroplate Magnet. The magnetism won't be affected by age, moisture, dust, abrasion, ambient temperature, pressure, vibration or jolting. It won't be affected by mounting position or the volume of tramp iron removed over time. In fact, the magnetism is guaranteed for life.

NO OPERATING COST

Ferroplate magnets cost nothing to operate — nothing at all.

They're built with powerful permanent magnet material that doesn't consume energy — regardless of how often they're used — regardless of how long they're used — regardless of how much ferrous metal they separate.

Because there's no operating cost, and because the initial purchase price is so nominal compared to other types of magnetic separators, a Dings Ferroplate magnet is an outstanding investment for plant and product protection.

LIQUID TIGHT FACE

You won't have to worry about liquid penetrating the face of a Dings Ferroplate magnet. A liquid tight face is standard on all Ferroplate designs. Other magnets may offer a liquid tight face at an additional cost, but with Dings you never have to remember to specify a liquid tight face. It's an advanced design feature that's included automatically — at no extra cost.



STAINLESS STEEL CONSTRUCTION

All outside surfaces (except the back) on every standard model Ferroplate are constructed from heavy gauge stainless steel. An optional stainless steel covering for the backplate is also available. For extended life, these plates are welded together and permanently fixed by weld to a thick carbon steel backplate. This is the most solid, durable and advanced construction available in plate magnets.

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ADVANTAGES ARE BUILT IN

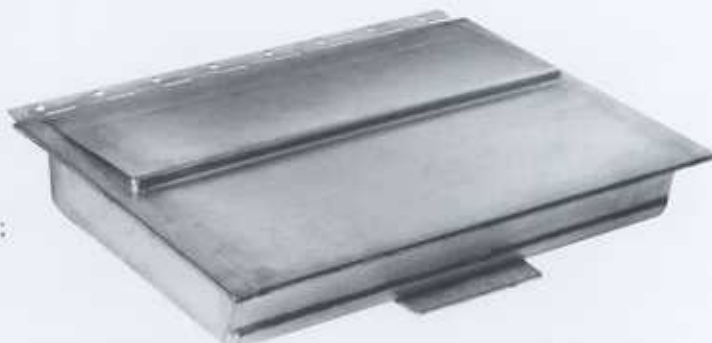
WELDING AND DRILLING CONVENIENCE

It's easy to customize the installation of your Ferroplate. If you need to install it in a unique location or in a particular way, you can weld steel mounting angles, brackets, eyebolts or other hardware right to the steel backplate.

You can even drill and tap into the thick backplate section. This can't be done with other magnet designs. No matter what your application, a Dings Ferroplate can meet your needs.

SANITARY FINISH

Ferroplates can be ordered with optional sanitary construction to meet the specific requirements of the food and pharmaceutical industries. Available sanitary features include: back surface sheathed in stainless steel; all welds ground and polished; bead blasted 2B satin finish; and sanitary flat face (no raised poles) or tapered step face (shown at right).

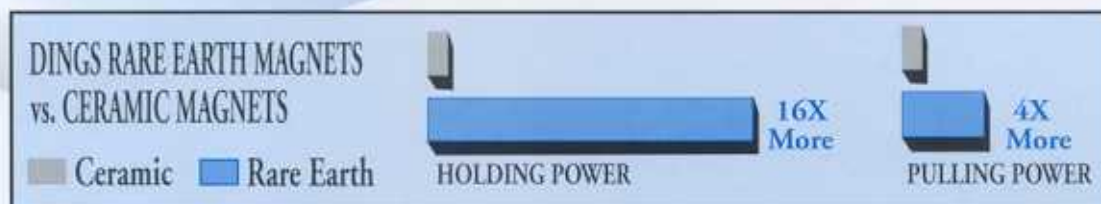


4 POLE CONSTRUCTION

If your process is operating at high speeds, a standard two pole magnet may not be sufficient. Rather than using a pair of two pole plate magnets mounted in series, consider a Dings 4 Pole Ferroplate magnet. This unique design extends the magnetic field in the direction of the material flow. This extended field allows more time for metal to be attracted to the surface. And, since you're using one magnet instead of two, installation and cleaning is simpler and more convenient.

RARE EARTH PROVIDES MAXIMUM HOLDING POWER

In addition to the raised pole Ferroplate design, Dings also offers flat face plate magnets with rare earth magnetic material. Rare earth plates have 16 times more holding power than magnetic plates made from ceramic material. This stronger holding force, along with more pulling power, is important for separating weakly magnetic material. Pulling or attracting power is needed to make the separation; holding power prevents the nonmagnetic product flow from brushing off the attracted magnetic particles.



Compared to ceramic, Dings rare earth magnets have 4 times more pulling power and 16 times more holding force.

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BEST LOCATIONS

The location of your Ferroplate magnet can influence its effectiveness. Good performance is by no means limited to ideal installation conditions, but certain locations are better than other, and should be used if conditions permit.



Below material flow. Because iron settles due to the force of gravity, maximum efficiency is obtained when the magnet is placed beneath, rather than above, material flow. Magnet can then work **with** rather than **against** the force of gravity.



Where material is thin. Find a location where material thins out so that magnet face will be in close proximity to iron.



Where material is slow moving — to permit optimum time for magnetic force to work. If in chute or spout, keep the angle below 45° and keep magnet near top of chute.



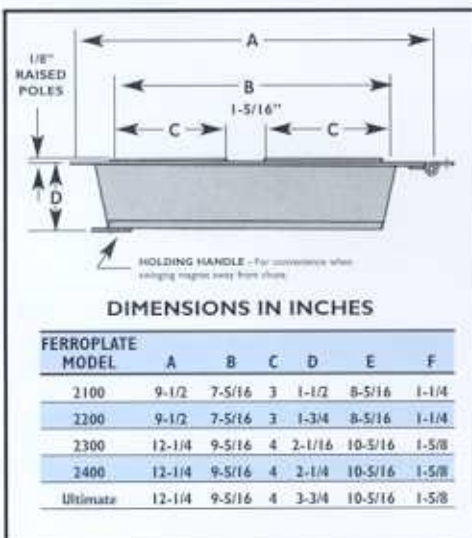
If angle of flow is between 45° and 70° — use a 4 pole magnet.



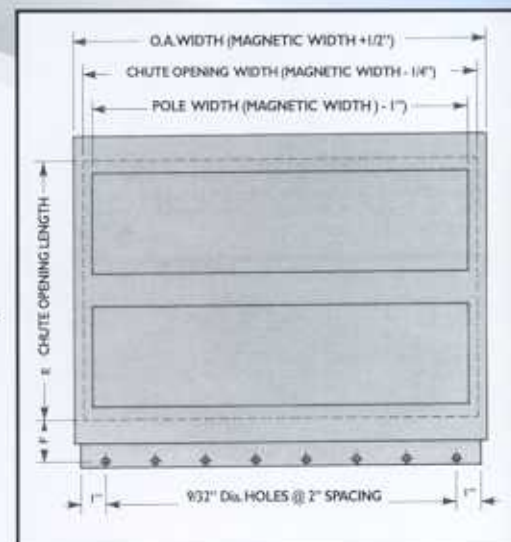
If angle is more than 70° — or if the flow is vertical, use a Ferroplate Hump.

MAGNETIC WIDTH AND DIMENSIONS

Each Ferroplate model is available in magnetic widths that range from 4" to 96". Magnetic width is the distance over which magnetic separation can be accomplished. It corresponds to chute width. That means, for example, that a 12" magnetic width Ferroplate is made to fit a 12" wide chute.



There is no physical dimension on a Ferroplate corresponding to a magnetic width. Because of the invisible extension of the magnetic field outward from the ends of the exposed poles, the magnetic width is considered 1" wider than the physical width of the poles. A 12" magnetic width Ferroplate therefore has poles that measure 11" wide.



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WEIGHT COMPARISONS

Plate magnets increase in weight not only by size, but also by magnetic strength – the next stronger (range/capacity) model. A number of design factors determine the magnetic strength, including the amount of magnet material and steel used in construction.

More magnet material and steel usually increase magnetic strength. That means weight can indicate the difference between models. But, more significantly, weight can mean an opportunity to compare different designs – to learn which offers better value.

For example, when the weight of the beginning strength model available in the Dings line, the Ferroplate 2100, is compared with the weight of the beginning strength model in a well known competitive line, the Ferroplate 2100 is at least 50% heavier in the same magnetic width. Comparing the next stronger Ferroplate 2200 with the next stronger competitive model, the Ferroplate is 25% to 30% heavier, depending on magnetic widths compared. And, the Ferroplate 2300 is 33% heavier than the comparable competitive model – in any width!

On the basis of weight and related magnetic strength, and because of exposed poles, plus an exposed gap between poles, the Ferroplate design is now the leading value available. Going further into comparing costs of comparable models, the Ferroplate design is an even more outstanding value.

MAG. WIDTH	NET WT. LBS. FERROPLATE MODELS				
	2100	2200	2300	2400	ULTIMATE
4"	9	10	15	18	25
6"	15	17	23	28	39
8"	20	23	32	38	53
10"	25	29	40	48	68
12"	30	35	49	59	82
14"	35	41	57	71	98
16"	40	48	66	80	112
18"	45	54	74	92	126
20"	50	60	83	100	141
22"	55	66	92	111	155
24"	60	72	100	121	171
26"	65	79	109	131	185
28"	70	85	117	140	200
30"	76	91	126	152	214
32"	81	97	134	163	228
34"	86	103	143	174	244
36"	91	110	151	184	258
40"	102	122	168	203	287
44"	112	134	185	224	317
48"	122	146	202	245	346

EASY TO SELECT A MODEL

It's easy to select a Ferroplate model for your application. The table below indicates which model to use for separation of ferrous tramp metal objects such as nails, nuts, bolts, screws, tacks, staples, washers, bits of wire, tools, springs and other ferrous metal.

MAXIMUM DEPTH OF MATERIAL (in inches)	FERROPLATE MODEL SELECTION TABLE				
	3"	3-1/2"	4-1/2"	5-1/2"	6-1/2"
MATERIAL IS					
• Free flowing, dry, loose, granular	2100	2200	2300	2400	Ultimate
• Moist, Fibrous	2200	2300	2400	Ultimate	
• Dense, wet, viscous, liquid	2300	2400	Ultimate		

Notes: (1) Above table applies when Ferroplate is installed according to the material flow conditions outlined under BEST LOCATIONS. If speed of material flow exceeds 200 fpm, use 4 pole Ferroplate.
(2) If Ferroplate is suspended over a conveyor, subtract 1" from maximum material depth shown in table.

Selection is a simple matter of matching your material with a description in the table, and determining which maximum material depth in the table applies in your case.

As a convenience to those users who prefer to select a model for a chute on the basis of capacity in cubic feet per hour, a table of capacities is provided below.

MAG. WIDTH	CUBIC FEET PER HOUR CAPACITIES				
	2100	2200	2300	2400	ULTIMATE
4"	1000	1170	1500	1700	2100
6"	1500	1750	2250	2500	3200
8"	2000	2340	3000	3300	4300
10"	2500	2900	3750	4200	5400
12"	3000	3500	4500	5000	6500
14"	3500	4100	5200	5800	7500
16"	4000	4700	6000	6600	8600
18"	4500	5300	6700	7500	9700
20"	5000	5800	7500	8300	10800
22"	5500	6400	8300	9100	11900
24"	6000	7000	9000	10000	13000
26"	6500	7600	9700	10800	14000
28"	7000	8200	10500	11600	15000
30"	7500	8800	11300	12500	16000
32"	8000	9300	12000	13300	17000
34"	8500	9900	12700	14000	18000
36"	9000	10500	13500	15000	19000
40"	10000	11670	15000	16000	20000
44"	11000	12800	16500	17000	21000
48"	12000	14000	17000	18000	22000

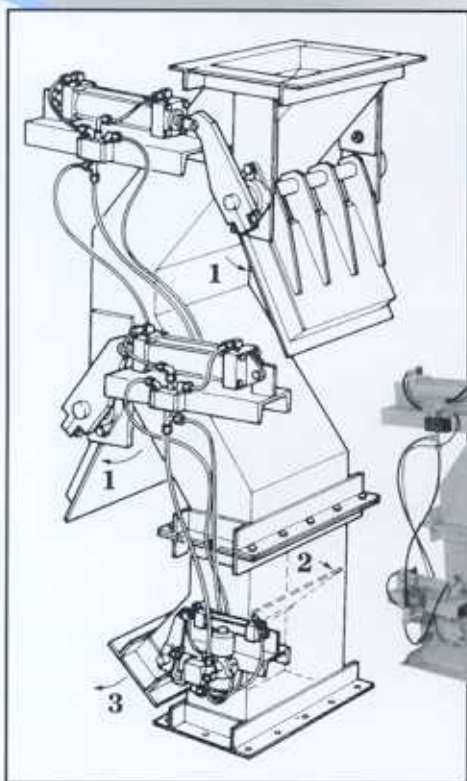
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Several kinds of related magnetic separators are described here — all equipped with the Ferroplate. These separators make it possible to have the advantages of Ferroplates in applications where there is no sloping rectangular chute — in places where Ferroplates by themselves would be unsuitable. An example would be in a vertical chute, where flow speeds and depths would exceed the capacity of a plate magnet.

FERROPLATE DRY HUMP

One type of separator that not only makes it possible, but very practical to adapt Ferroplates to vertical chutes, is the Ferroplate Dry Hump. It's built with two Ferroplates located on opposite sides of a specially shaped duct. Simply remove a section of vertical chute to make room for it. Ferroplate Dry Humps are made in many sizes to fit rectangular chutes of any width. For round chutes, adapters are available. Construction is in either carbon steel or stainless steel.



EASY CLEAN MAGNETIC HUMP

The Dings Easy Clean Magnetic Hump is a practical solution to purifying materials in hard-to-reach pipes or chutes. A pneumatic system controls the self-cleaning cycle, reducing downtime and allowing the magnetic hump to be used in remote locations.

Cleaning the magnets takes only seconds. Air cylinders are activated to control the magnetic plates and diverter gate:

- First, the diverter gate (1) closes the product discharge, opening another chute for discharging the ferrous material.
- Next, the air cylinders swing the magnets (2) away from the housing, releasing the accumulated ferrous which drops down the discharge chute (3).
- The air cylinders then return the magnets and discharge gate back to their original positions, and normal processing can resume.

The magnet plates and diverter gate are counterweighted so they will remain in or return to the cleaning position if air pressure is lost. This ensures product flow will always be contaminant-free. An optional timer operates the pneumatic system automatically at regular intervals — guaranteeing the separator is consistently operating at peak efficiency.

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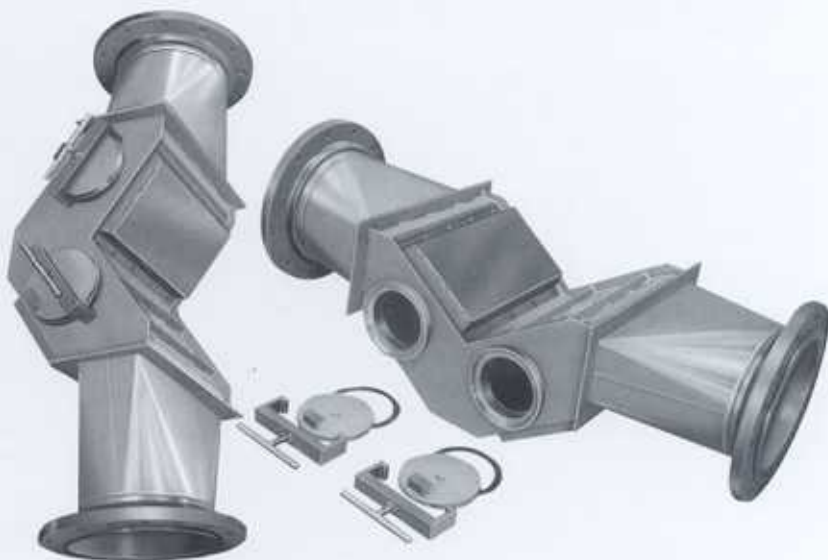
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FERROPLATE HYDRO HUMP

Ferroplates can also be adapted to liquid pipe lines when they're mounted on a Hydro Hump. It operates in a similar manner to the Dry Hump. A flow of liquid impinges first against one Ferroplate and then against another.

The Hydro Hump has a pressure tight design. Maximum working pressure in the standard design ranges from 21 psi for 6" or 8" diameter pipes, to 5 psi for 20" pipe. Special designs for higher pressure are available. When installed in a pressure line, the Ferroplate Hydro Hump will work in either a horizontal or vertical position.

Access to separated metal is through two locking pressure tight ports. Flanges on each end of the separator are of the 150 lb. type as shown. Construction is of welded stainless steel.



FERROPLATE ROUND PIPE SEPARATOR

Ferroplates can be adapted to round sloping dry chutes too. It's done with a Ferroplate Round Pipe Separator. This separator has one Ferroplate mounted on a rectangular center section. Round adapters are welded on each end of the rectangular section.

Ferroplate Round Pipe Separators are made to fit most chute diameters. The inside area across the rectangular section is somewhat larger than across the adapters. This ensures free flow without choking.

The Ferroplate is hinged so it can be unlatched and swung open for inspection and removal of attracted tramp iron. Any of the available Ferroplate Magnet models can be applied to this separator. Construction is in either carbon steel or stainless steel.



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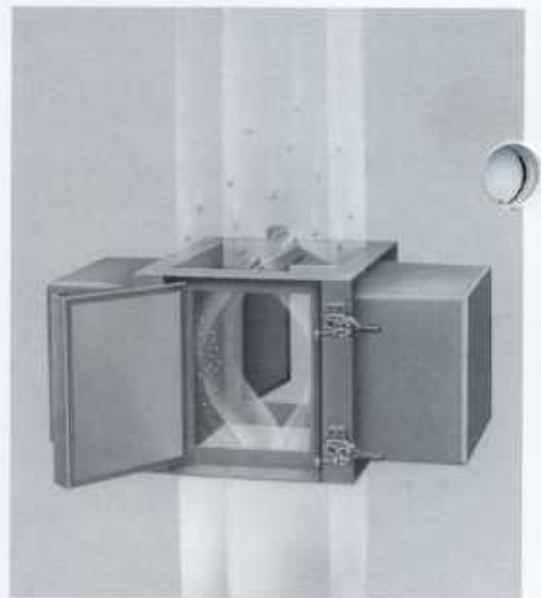
FERROPLATE PERMA CHUTE

Powders and coarse materials that fall freely through a vertical chute can be effectively cleaned of ferrous contaminants with a Ferroplate Perma Chute.

Two massive magnets are mounted on opposite walls of the Perma Chute enclosure, projecting intense magnetism into the product flow area. Perma Chutes are used where space is limited, with materials which couldn't pass freely through a grate magnet, or when the chute is too vertical for a plate magnet to work effectively.

Perma Chutes are invaluable to material processors who must have effective protection against damaging and contaminating tramp iron. Perma Chutes operate every day in plants processing materials such as: chemicals, pharmaceuticals, food, grain, plastics, clay, minerals, wood chips, insulation, and others. Perma Chutes operate continuously, quietly and reliably year after year, and with no maintenance beyond the occasional removal of separated tramp iron.

Options include: round chute adapters, sanitary finish, and door closure sensors.



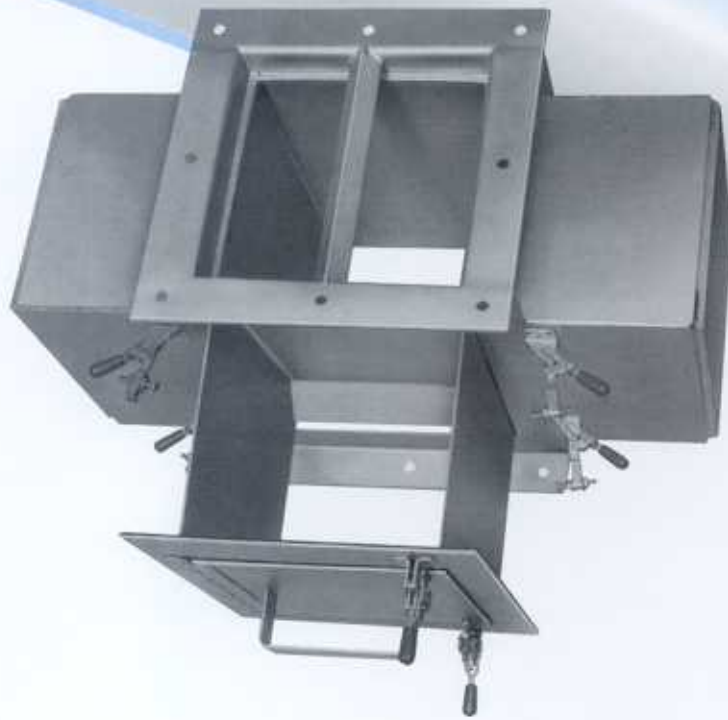
QUICK CLEAN PERMA CHUTE

The quick clean model combines the advantages of the free-flowing Perma Chute with the convenience of a built-in drawer for disposing of the separated metal. It saves time and eliminates messy hand cleaning.

In a standard Perma Chute, the ferrous metal accumulates on the two inside magnetic walls. In the quick clean design, an open drawer slides into the Perma Chute as a sleeve. Metal accumulates on the two stainless steel walls of the drawer, which is next to the magnets.

The view at right shows a Quick Clean Perma Chute ready to install and operate in a vertical chute. Both the drawer and an inspection door are closed with clamps. In most applications it's possible to use the inspection door to see if there is a build-up of separated metal — and without any need to stop the flow of material.

At left, the drawer is shown unlocked and nearly removed from the housing. Metal that had been held by magnetism against two sidewalls of the drawer will fall away as the drawer is pulled out of the separator flow space. A diverter at the bottom of the drawer directs metal away from the flow space.



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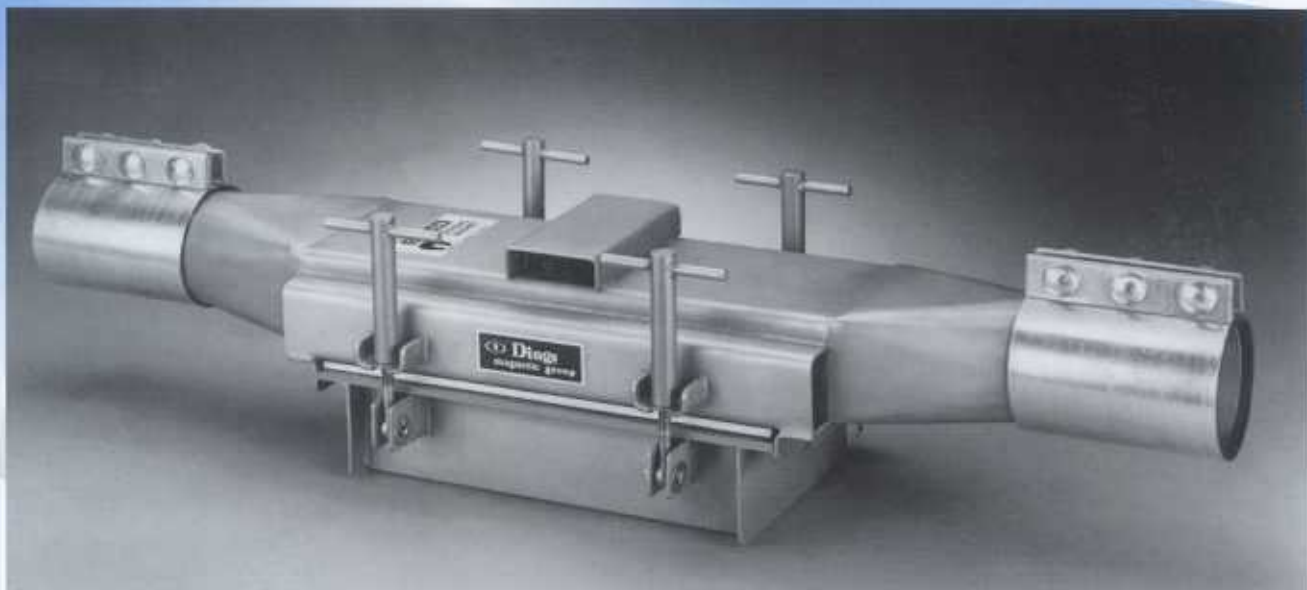
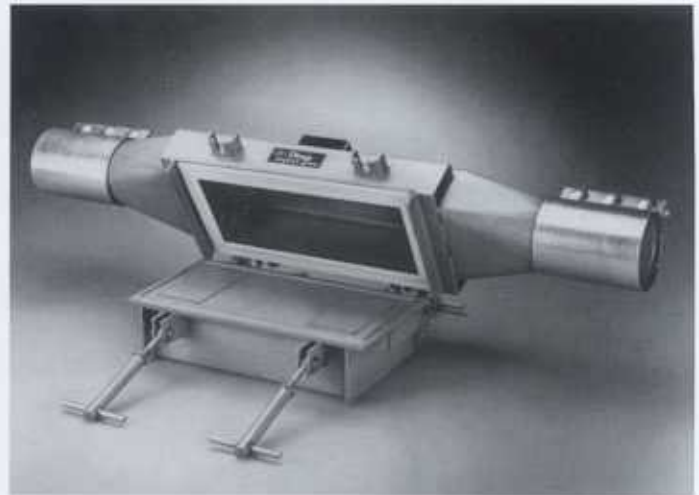
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PNEUMATIC IN-LINE MAGNET

Dings Pneumatic In-Line Magnets can be located virtually anywhere in pneumatic lines to trap tramp metal before it reaches vulnerable equipment. It is an enlarged line section with an external magnet. The change in size creates slight turbulence in the material flow, which helps the magnet easily capture ferrous metal that is mixed with the product. The magnet draws the metal away from the product stream, away from the flow. This reduces the chance of product brushing the captured materials off the magnet.

The separator may be installed in vertical or horizontal pneumatic lines. Horizontal mounting with the plate magnet at the bottom will give the best separation. This takes advantage of the natural material settling that occurs in a horizontal line due to gravity. Tramp metal, being heavier, tends to settle and ride in the bottom portion of the line at a lower speed than the rest of the material. This, combined with the unique housing design, directs material flow to the plate magnet's face.

Dings' design has a plate magnet that swings away for easy and safe external cleaning, which protects against accidental "wipe-off" of tramp iron into the line. To clean the plate, simply loosen the clamping handles and swing the magnet open. Then wipe any tramp metal off the plate magnet. And, since the Dings' surface area is 37% larger than competitive designs, it holds more tramp metal — enabling you to wait longer between cleanings.



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Call today to get all the details of the Dings Difference
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Dings Company Magnetic Group
4740 W. Electric Avenue
Milwaukee, WI 53219
414.672.7830
414.672.5354 Fax
www.dingsco.com

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