

MAGNET EXAMPLE CATALOGUE

Our magnets are custom made to suit the location and purpose. We've put together a collection of examples of designs that can be built in a range of sizes, materials and magnet strengths.

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BULLET MAGNET



DESCRIPTION

The Greenwood Permanent Magnetic Bullet Separator is a compact, efficient in-line magnetic separator for extracting ferrous metal contamination from either gravity fed or pneumatic pipelines. Manufactured from stainless steel, the dry free-flowing product flows through the body and over the 'bullet' magnet which extracts the contamination. Internal deflectors ensure that the product is diverted over the 'bullet' magnet with minimal turbulence and no blockage.



Bullet magnet totally encased in stainless steel. Door closed and door open showing "bullet magnet"

MODEL SHOWN

All stainless steel Rare Earth Bullet Magnet for 150mm dia pipeline.

Fully welded, crack and crevice free with welds ground smooth to food industry standards.

Length: 670mm

Diameter: 270mm

Weight: 40kgs

Customer : Leading Confectionary Manufacturer

The bullet magnet is also easily cleaned by releasing the quick release latches on the door, allowing the magnet (attached to the door) to swing open for cleaning.

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BULLET MAGNET



"4" bullet for food application. Flat door bolted design for pressurised line.

FEATURES

- Easily installed
- Highly effective and consistent performance
- Flanges or connections made to your requirements
- Easily cleaned
- Ideal for free flowing powders and granules: plastics, food ingredients
- Hygienic sealed quick release door



200mm dia. bullet for wood shredding application. Mild steel, painted to customers colour.

SPECIFICATION

- Available with either ceramic or powerful rare earth magnets
- Manufactured to fit various pipelines ranging from 50mm - 350mm diameter
- Round door - suitable for pressure up to 0.5 bar
- Flat door - Suitable for pressure up to 2 bar
- Specials available including full stainless steel manufacture and higher pressure resistant units
- Magnet strength up to 10,000 gauss

SINGLE ROW GRID BOX



DESCRIPTION

The Greenwood Single Row Magnetic Grid Box is an inline magnetic separator used in gravity feed chutes for the extraction of ferrous particles within powder or granular materials being processed. Manufactured in stainless steel, the flanged housing enables easy installation. The drawer slides out completely, giving access to the magnets. Once the drawer is removed, the inner tubes containing powerful rare earth magnets, slide out causing the debris to fall off enabling easy and effective cleaning.

SINGLE ROW EASY-CLEAN GRID BOX WITH SQUARE TO ROUND TRANSITIONS



Removable drawer with sliding magnetic inner tubes for fast and easy contamination removal

FEATURES

- Easily installed
- Direct access to magnets in chute
- Extremely easy to clean
- High intensity Rare Earth magnets
- Available with flanges to suit square and round pipelines
- Available with angle deflectors above and between the tubes for heavy contamination

SINGLE ROW EASY-CLEAN GRID BOX - NO TRANSITIONS



Crack and crevice free: all sealed stainless steel grid box for the food industry

Drawer slides out giving easy access to magnets

Tubes slide out causing debris to fall off enabling easy cleaning magnets

SPECIFICATION

- Standard height 350mm (with transitions)
- Standard height 150mm (without transitions)
- Can be manufactured to food industry standards
- Manufactured to your specific dimensions
- Available with several detachable drawers
- Tube spacing set according to your product being processed and rate of flow
- Magnet strength - standard up to 12,000 gauss, easy-clean tubes 9,000 gauss

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SINGLE ROW GRID BOX



Single row grid box with 2 parallel drawers for ease of handling. Polished finish.



Single row grid box with angle deflectors to improve flow.

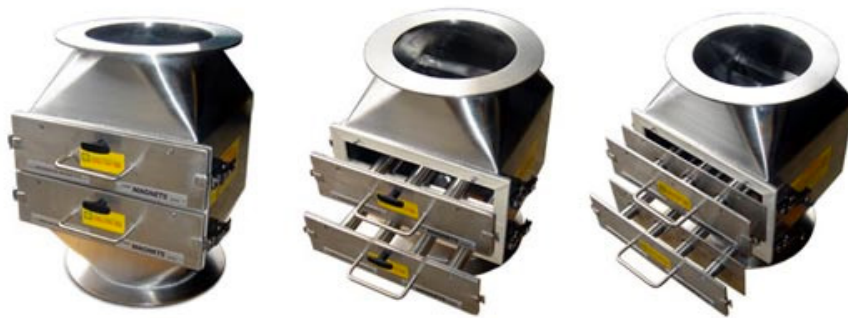
DOUBLE ROW EASY CLEAN GRID BOX



DESCRIPTION

The Greenwood Double Row Easy-Clean Magnetic Grid Box is an inline magnetic separator used in gravity feed chutes for the efficient extraction of ferrous particles within powder or granular materials being processed. Manufactured in stainless steel, the flanged housing enables easy installation. The double rows of magnetic grids are arranged alternatively, providing an excellent method of extracting ferrous contamination. Cleaning is extremely easy. Simply remove the quick release door, withdraw the grids from the box, and slide the magnetic tubes from their housing. The contamination drops off easily.

Double Row High Intensity Rare Earth Magnetic Grid Box with polish finish supplied to a world leading confectionery manufacturer.



Easy clean grid box with transitions to round flanges, manufactured to customer requirements with two removable drawers with easy clean facility

Grid box showing both drawers partially withdrawn

Grid box showing how the inner tubes slide out for easy cleaning (once the drawers have been completely removed)

DOUBLE ROW EASY CLEAN GRID BOX



FEATURES

- Easily installed
- Highly effective and consistent performance Double rows of magnets provide maximum extraction of ferrous contamination
- Direct access to magnets in chute
- Extremely easy to clean
- Available with high intensity rare earth magnets
- Supplied with flanges to suit square and round pipelines

SPECIFICATION

- Standard height 450mm (with transitions)
- Standard height 250mm (without transitions)
- Can be manufactured to food industry standards
- Manufactured to your specific dimensions
- Available with several detachable drawers
- Tube spacing set according to the product processed and rate of flow
- Magnet strength - standard up to 12,000 gauss, easy-clean tubes 9,000 gauss

GRID BOX WITH ADJUSTABLE TUBES

The Magnetic Grid Box With Adjustable Tubes is sometimes specified by customers where the size of product and rate of flow may alter. Hence the customers can add or remove the magnetic tubes according to their wishes. This also enables the customer to alter the spacing between the tubes according to the specific nature of the product and the flow rate.



Magnetic grid box with double row adjustable grids. This particular model independently pressure tested to 6 bar and operates at 120°C.

We also manufacture various other types of grid boxes depending upon the application required. See also our single row magnetic grid box.

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FLO-MAG MAGNET



DESCRIPTION

The Greenwood Flo-mag is a rare earth magnetic separator similar to the Magnetic Grid Boxes but designed for smaller pneumatic lines. The sealed removable drawer has an offset double row of high intensity rare earth magnetic tubes with easy-clean facility. Simply release the stainless steel catches - which are lockable and adjustable, remove the drawer, and by undoing the front T knob, this releases the inner magnetic tubes causing the metal contamination to fall off into a waste receptacle. The magnetic tubes are so powerful that they will extract ferrous and stainless steel particles at speeds of more than 20m/s.

Ideal for free flowing powders and granulates, it can be incorporated into either blown or vacuum lines, such as flour, sugar, salt, plastics recycling....

This type of separator can be offered as a viable alternative to the bullet magnet, with the added advantage of the easy-clean facility. Furthermore it actively improves safety with regards to ATEX/ DSEAR regulations by effectively reducing spark risk in the process line.

IMÁN FLO-MAG



FEATURES

- Easily installed
- Direct access to magnet in chute
- Extremely easy to clean
- Lockable adjustable stainless steel catches
- Metal detectable food quality seal

SPECIFICATION

- Full 316 stainless steel construction
- Manufactured to food/pharmaceutical quality : fully welded, fully crack and crevice free
- Maximum strength rare earth magnetic tubes
- Manufactured to specific customer specification and size of pipeline
- Conforms to ATEX and DSEAR zone 22 regulatches
- Available with ATEX rated safety switches
- Optional internal/external finish : polish/bead-blast/mill
- Magnet strength - standard up to 12,000 gauss, easy-clean tubes 9,000 gauss



Designed and manufactured for a global leader on pharmaceuticals: 75mm line, fully welded, mirror finished, passivated.

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MAGNETIC GRIDS



DESCRIPTION

Greenwood Permanent Magnetic Grids are designed primarily for fitting in hoppers for the extraction of ferrous metals from materials being processed. Manufactured to any size or shape, they are simply placed in the hopper to rest against the sides thus allowing the materials to flow through the grid. These grids encased totally in stainless steel for rigorous handling are often used in hoppers in the plastics industry.

For an even higher level of protection, double and triple banked grids can be manufactured. All grids are manufactured with powerful rare earth magnets, which can extract fine ferrous particles such as rust etc. Single Magnetic Tubes are also available with ends drilled and tapped to your requirements.



Magnetic Grids, from left to right

Square Grid (25mm Spacing)

Grid manufactured for a food customer

12000 Gauss - fully welded & mirror finish

Square Grid (75mm Spacing) with optional angle deflectors

MAGNETIC GRIDS

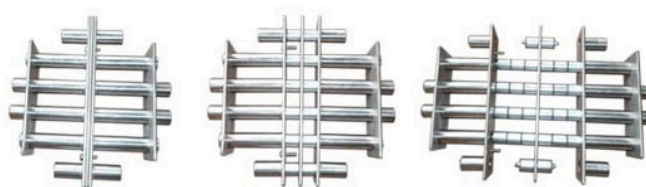


Easy Clean Magnetic Grids are being increasingly used by customers who require fast and easy metal contamination removal. These grids are fitted with an interlock. To clean the grids, remove them from the hopper, slide open the interlock, and slide out the inner magnetic tubes. The metal debris simply falls off. This is an excellent feature for operatives who clean the grids on a regular basis and saves downtime. Available in various magnetic strengths.

CLOSED, OPEN & DOUBLE ROW EASY CLEAN SQUARE GRIDS



CLOSED, PARTIALLY OPEN & OPEN EASY-CLEAN ROUND GRIDS



FEATURES

Easily installed

Highly effective and consistent performance

Magnetic surfaces easily cleaned manually

Standard grids have 25mm (1 inch) mesh

Can be manufactured to any size or shape

Double and triple banked grids available

Powerful rare earth magnets

Magnet strength - standard up to 12,000 gauss, easy-clean tubes 9,000 gauss

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PIPELINE MAGNET



DESCRIPTION

The Greenwood Permanent Magnetic Pipeline Magnet is designed for the extraction of fine ferrous particles such as rust from fluids conveyed by pressurised pipelines.

Manufactured in 316 stainless steel, the unit is simply connected to the existing pipeline via flanged or threaded ends. Sealed high intensity rare earth magnetic rods filter the flow and extract the unwanted ferrous metal. Simple and easy access is possible using the quick release lid. Manufactured with high intensity rare earth magnets up to 12,000 gauss.

We manufacture 2 main types:

Type A – the “pot” design which helps in circulating the flow around the magnetic rods.

Type B – the “T” design where unimpeded flow is imperative.

Both types are available in standard version – 12,000 gauss and easy-clean version – 9000 gauss. They are also available with double wall water jackets for heated pipelines.

All products are manufactured to order to suit various volumes, pressures, and temperatures. All connections as required. We also manufacture specific designs to accommodate customer requirements such as vertical flow.



PIPELINE MAGNET



EASY CLEAN PIPELINE MAGNET - TYPE A

The easy-clean version allows the inner magnetic rods to be removed from the outer sleeve for fast and easy contamination removal.



EASY CLEAN PIPELINE MAGNET - TYPE B

“Flat floor T” design for unimpeded flow with added advantage of easy-clean function



1" pipeline with tri clover connections. Polished inside and out to pharmaceutical standards. Supplied to a leading contacts lens manufacturer for saline solution.

Manufactured for a FTSE 100 pharmaceutical company

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PIPELINE MAGNET



BESPOKE DESIGN FOR VERTICAL FLOW



Manufactured for use installation in a vertical pipeline. The angled branch allows the magnet to be cleaned without the use of shut off valves (in a non pressurised line) and prevents spillage.

FEATURES

- Easily installed
- Cleaned simply and efficiently
- Easy-clean and water jacketed versions available
- Highly effective performance due to powerful rare earth magnets
- Specially manufactured to your dimensions
- No reduction in pressure

SPECIFICATION

- Full 316 stainless steel construction
- Manufactured to food/pharmaceutical quality : fully welded, fully crack and crevice free
- Standard version 12,000 gauss
- Easy-clean version 9000 gauss
- Manufactured to specific customer specification and size of pipeline
- Pressure rated to 10 bar at ambient temperature (21°C)
- Optional internal/external finish : polish/bead-blast/mill

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MAGNETIC PLATES



DESCRIPTION



The Greenwood Magnetic Plate Type Elephant is designed for fitting into inclined chutes. Manufactured with a 3 mm thick stainless steel angle frame means that the construction is robust, allowing rigorous handling. It also allows the angle frame to be drilled for fitting purposes. Available with either standard ferrite magnets or the more powerful rare earth magnets.

Plates are usually installed in the base of inclined gravity feed chutes for the extraction of powder or granular materials being processed. It is simply fitted into the cut-out in the base of the chute or hinged from underneath. State which method when ordering.



Greenwood spout fitted with stainless steel encased rare earth magnetic plate. Note that angle is welded to the sides of the chute allowing fixing of the hinge and star knobs and wider magnetic coverage inside the chute.



Magnetic plate hinged open for cleaning. This plate is fitted with 3mm thick magnetic stainless poles for greater strength.

MAGNETIC PLATES



Magnetic plate shown in situ in flour mill

FEATURES

- Encased in stainless steel
- Manufactured in various shapes and sizes
- Magnetic surfaces easily cleaned manually
- Effective and consistent performance due to high magnetic flux density
- Easily installed
- Powerful rare earth magnetic probes can be fitted for extra penetration of materials

SPECIFICATION

- Magnet strength - will extract ferrous metal objects weighing 12 grams against gravity from a distance of 100mm (12 grams is equivalent to the weight of a standard 100mm long nail).
- Flush face magnetic plates on request
- Can supply spout fitted with plates to suit your pipe dimensions
- Available with powerful rare earth magnets for extraction of fine ferrous particles
- Can be supplied totally encased in stainless steel and fully welded (typically food and pharmaceutical applications)

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DOUBLE DOOR FILTER BOX



DESCRIPTION

The Greenwood Double Door Filter Box is an in line magnetic separator used within vertical gravity feed chutes for the extraction of ferrous metals from materials being processed. The product is diverted by the angle deflectors onto the central deflector and then onto the magnetic side doors. Hence the clean product flows through the box and any ferrous contamination is held by the powerful magnetic doors. These quick release doors also provide easy access for cleaning. As a solely contained unit, it is very adaptable, and is ideal for products which do not flow particularly easily and may have a tendency to bridge. The stainless steel housing is flanged for fitting into process chute work. Square to round transitions can be made to suit round pipes.



Manufactured for a leading animal feed producer, maximum protection is provided by the powerful high intensity magnetic doors and central deflector

FEATURES

- Easily installed
- Central deflector
- Hygienically sealed quick release magnetic side doors
- Direct access to magnetic surfaces for cleaning purposes
- All stainless steel construction
- Manufactured to suit square or round pipelines
- Available with powerful high intensity rare earth magnets
- Manufactured to your specific dimensions

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TANKER MAGNET



DESCRIPTION

The Greenwood Tanker magnet has been designed to fit on tanker outlets to filter ferrous contamination as it is delivered from the tanker to the point of entry. The tanker magnet is manufactured from 304 stainless steel, fully welded to food industry standards, and pressure rated to 10 bar. Ferrous metal blown through the pneumatic conveying line will be picked up by the high intensity rare earth bullet shaped magnet whilst keeping blockage to a minimum. The bullet magnet can be removed easily for cleaning by undoing the T knob (which can be locked with a nut if preferred) whilst keeping operational time to a minimum. Typically used in the food and animal feed industries, it has proved to be a great success for suppliers looking to improve contamination traceability, while offering a better, safer product to their customers.



CUSTOMER QUOTES

“Having this magnet on the tanker outlet gives us the confidence that we have protected our product from ferrous metal contamination right up to the point of entry into our customer’s facility. We have protection against ferrous metal contamination in our products up to the point of bin storage. This added magnet now gives us the confidence that we have protection from the tanker discharge, thus closing off a potential gap in our product traceability.”

“We have now supplied a second tanker magnets to one customer following the success of the first unit. Both are used for final product protection at point of delivery, guaranteeing that their products will be free of ferrous metal contamination. From an operational point of view the magnets seal perfectly in the pneumatic conveying line ensuring no leaks and importantly are very quick and easy to clean”

TANKER MAGNET



FEATURES

Robust design
Easy to fit into the line with tanker connections
Easy to clean with stainless steel T knob
Permanent Magnets, no power required

SPECIFICATION

High intensity rare earth magnets up to 9000 gauss
Pressure Rated to 10 bar
Made to fit any line connections
Weight : 5kgs
Magnet weight : 2 kgs
Width : end to end : 340mm
All 304 Stainless Steel

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MOBILE HOPPER MAGNET



DESCRIPTION

The Greenwood Mobile Hopper Magnet is designed primarily for the food industry where the product is being batch processed. Manufactured from 316 stainless steel to food quality standards, the hopper magnet can be moved around easily to various process locations.

It is designed for various free flowing food ingredients such as additives, flavourings, chopped meat and vegetables. We manufacture the hopper to suit the customer's batch work, to sit over tote bins and containers as a check before continuing along the process stream or finally bagging up. Ideal for production areas where the magnetic hopper can be moved to cover various outlets, the powerful magnetic grid is fixed in secure housing to ensure safe and hazard free use.

The magnetic grid can be removed easily for cleaning, and the outer housing is designed to be washed down for a clean hygienic environment. It is designed and manufactured to suit your requirements, and is available in fixed single tube format.



Designed and manufactured for several leading food companies. The mobile hopper magnet sits under vegetable and meat slicing chutes, and over the collection tote bins, as a check against broken blades entering the food process.

MOBILE HOPPER MAGNET



It is designed and manufactured to suit your requirements, and is available in fixed single tube format as in photo 1, or in easy-clean double row format photo 2.

FEATURES

- Ease of mobility
- Safe to use in a food production environment
- High intensity rare earth magnets capable of attracting minute contamination
- Adjustable height
- Permanent magnets, no power required, no loss of strength
- Easy to clean after use
- Spare interchangeable grids available

SPECIFICATION

- All 316 stainless steel manufacture to food quality standards
- Choice of easy-clean or fixed tube grids
- Lockable height adjustable food quality wheels
- Manufactured to your specific requirements
- Magnetic tube spacing set according to your product being processed and rate of flow

SUSPENSION MAGNETS



DESCRIPTION

The Greenwood Permanent Magnets type CPM Elefant and CPM Elefant - Heavy Duty are designed primarily for fitting over conveyors for the extraction of ferrous metals within either wet or dry materials being processed. The CPM Elefant Heavy Duty is provided with a double row of magnets to attain the maximum magnetic strength and is used for extraction where the distance between the conveyor and the magnet face is more than 160mm.

Both magnets are fitted with support brackets and pivot studs. Two U-shaped brackets (provided with the magnets) are secured to the side mountings of the conveyor to support the studs. Fine adjustment of the height of the magnet is achieved by using the adjustable screws located on the U-shaped brackets.



On left Standard CPM Elefant. On right : All Stainless Steel encased Rare Earth CPM Elefant for the food industry

FEATURES

- Easily installed
- Effective and consistent performance due to high magnetic flux density
- Flush stainless steel magnetic surfaces are easily cleaned manually
- Provided with handle to swivel magnet for cleaning purposes

SPECIFICATION

Magnet strength - will extract ferrous metal objects weighing 12 grams against gravity from a distance of: (12 grams is equivalent to the weight of a standard 100mm long nail).

CPM Elefant - 160mm

CPM Elefant Heavy Duty - 200mm

Powerful rare earth magnetic probes can be fitted to penetrate dry granular materials for even greater efficiency Available in sealed stainless steel as shown above for the food industry

Also available with powerful rare earth magnets to extract minute ferrous particles

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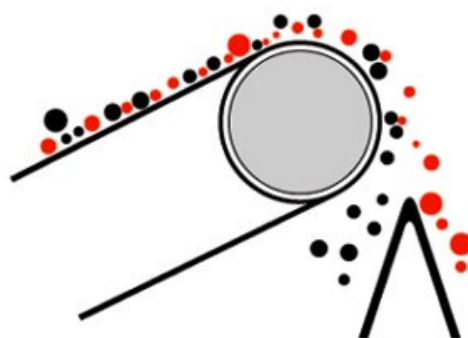
CONVEYOR HEAD ROLLER



DESCRIPTION



Magnetic Head Rollers are positioned at the “head” of belt conveyors to extract metal contamination from the product on the belt. As the roller rotates, it holds the tramp metal while clean product is discharged. Finally as the belt leaves the roller, the magnetism dissipates, and the unwanted contamination falls from under the belt into a separate receptacle. This type of magnet acts as secondary protection for deeply embedded metal in the product, which may have not been initially extracted by an overhead suspension magnet.



Separating metal contamination (Black) from clean product (Red)

CONVEYOR HEAD ROLLER



Ferrite head roller for a MRF plant. Face width 1555 x 218mm dia. Crowned face. Shafts machined to order.



Rare Earth (3500 gauss) rubber lagged magnetic head roller for tyre recycling facility.

FEATURES

- Easily installed
- Self-cleaning action
- Continuous, permanent and power free
- Available with high intensity rare earth magnets

ESPECIFICACIONES

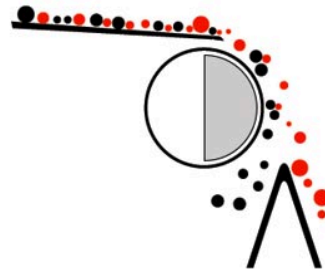
- Manufactured to specification
- End shafts to your requirements
- All stainless steel construction
- Available with crowned face
- Rubber lagging available to order

HOUSED DRUM MAGNET



DESCRIPTION

The Greenwood Housed drum magnet is designed for the continuous extraction of ferrous metal contamination from dry bulk material. Material is fed uniformly onto to the surface of the drum from a conveyor, vibratory feeder or chute work, ensuring continuous contamination removal. As the outer shell rotates, clean product is allowed to free fall through the first chute, while powerful magnets hold ferrous contamination to the point where the magnetism ends, discharging the metal through the second chute, thus ensuring separation.



High intensity (3500 gauss) Rare Earth Housed Magnetic Drum 300 dia x 600 long for metal contamination removal in a mineral plant in a high temperature environment. The motor was IP 65 rated, tropicalised with anti condensation heaters, and fitted with motion sensors.

Metal contamination in chute 1 (Black) separated from clean product - chute 2 (Red)

Ideal for free flowing dry products such as granules, grains, minerals and powders.

We manufacture the drum in a:

Standard Ferrite Version – for general tramp iron contamination such as nuts and bolts

HOUSED DRUM MAGNET



High Intensity Version – for fine paramagnetic materials where a greater level of protection is required. We can also supply the drum without housing where dust is not a problem and connecting chute work is not required.



The side panel is removed to show the magnetic drum which can be supplied without housing. The lever on the right allows for ideal positioning of the magnetic semi-sphere.

FEATURES

- High Volume Capacity
- Continuous self cleaning
- Permanent magnet - no power required
- Ideal for abrasive products

SPECIFICATION

- Available with ferrite or rare earth drums up to 3500 gauss
- Manufactured and finished to customer requirements
- Mild steel or stainless steel housing – 304 or 316 stainless steel
- Inspection covers, carry over blades and diverter plates included
- Optional Magnet positioning lever
- Drum rotation to customer requirements
- Higher temperature – up 250 degrees C magnetic material available
- 415 Volts 3 phase motor – supplied to customer specification

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MAGNETIC TUBES



DESCRIPTION

Greenwood magnetic tubes are a simple low cost form of magnetic separation. Used in a variety of industries from food or plastics processing to chemical and powder processing, they can be easily installed into machinery or assembled according to the wishes of the customers. Encased in 316 stainless steel tube 25.4mm diameter, they are manufactured with high intensity rare earth magnets (up to 12,000 gauss). We manufacture them specifically to the length requested by the customer. The sealed stainless steel ends can be left blank or drilled and tapped for fixing purposes.



A Greenwood Rare Earth Magnetic Tube 12000 gauss- mirror finish



The Magnetic Tube being tested to 12000 gauss

FEATURES

- All 316 stainless steel encased
- Manufactured to virtually any length
- Available with powerful rare earth magnets
- Tapped ends to your requirements
- Simple to install
- Easy to clean
- Can be supplied assembled in the form of a Magnetic Grid
- Available in various finishes : mill finish, dull polish, mirror finish
- Heat resistant to 80 degrees C
- Higher temperature resistant versions available

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MAGNETIC RAIL - CONVEYING



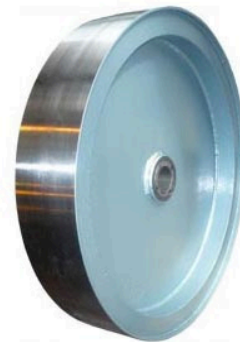
DESCRIPTION

Greenwood magnetic rails are used underneath belt conveyors to hold ferrous objects to the belt. This may include tins, aerosols, baskets, in fact any item that is magnetic that is being transported by a conveyor belt. This may take the product from one work station to another or from a machining operation to inspection, storage, packaging or cleaning. Drilled and tapped to the customer's specification, they offer easy bolt-in installation, and long-term maintenance free service, without losing their magnetism.

Although we manufacture standard sizes, we also make special sizes according to the customer's requirements. We make magnetic rails in varying strengths according to the positioning of the magnet from the belt, and the type of product being conveyed. We also manufacture radiused rails with fade offs as specified by the customer.



Greenwood magnetic rail



Crowned ferrite magnetic wheel 600mm dia x 120 wide with taper lock bushes

FEATURES

Flush Stainless steel surface

Manufactured in varying sizes

Different holding strengths

Permanent magnetism, no power supply required

Drilled and tapped for easy installation

Maintenance free

Specials available

All stainless steel encased available for prevention of water ingress

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EASY CLEAN FORKLIFT MAGNET



DESCRIPTION



The Greenwood Easy-Clean Forklift Magnet is similar to the standard forklift magnet, but is manufactured for much heavier industrial use. It also has the added advantage of an easy-clean facility. Designed to pick up larger ferrous pieces from a greater distance, with a wider face, it is ideal for scrap yards, and similar sites for collecting pieces of tramp metal, and depositing them quickly. Once the pieces of metal have been collected, the forklift magnet can then be raised over a skip for releasing the metal easily using the quick release handle.

CUSTOMER QUOTE

"We use the forklift magnet to collect metal debris from laser-cutting and general fabrication. The magnet is very effective for collecting a variety of different sized components from 10mm in diameter up to steel packaging straps. It is an ideal tool for a fabrication workshop saving damage to tyres on forklifts and other vehicles."

Andy Hutchinson of Hutchinson Engineering

EASY CLEAN FORKLIFT MAGNET



Push down on the quick release handle.

The steel pieces of tramp iron drop off quite easily.

FEATURES

- Robust heavy Design
- Easy to fit and bolt onto forks manually
- Easy-Clean Quick Release handle
- Corrosion Resistant

SPECIFICATION

- 12" wide magnetic face x 8" deep
- Will pick up contamination from approx 6"
- Manufactured to any width required
- Weight : 1.5m forklift : 160 kgs
- When ordering please specify fork width and centres for fixing purposes.

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FORKLIFT MAGNET



DESCRIPTION

The Greenwood Forklift Magnet is specifically manufactured for forklift trucks to any width required. The forks slide into the top mounted brackets which easily lock manually. Ideal for keeping car parks, container depots and warehouses free from nails, swarf, nuts and bolts, etc. Once the cleaning operation is complete, the magnet can be removed for using at a later date.



Greenwood Forklift Magnet



We also manufacture forklift magnets with eye bolts for suspension from the back of forklifts and under vehicles with chains.

FEATURES

- Robust design
- Easy to fit and bolt on manually
- Magnetic surface easily cleaned manually
- Corrosion resistant

SPECIFICATION

- 5" wide magnetic face
- Will pick up contamination from 4-5"
- Manufactured to any width required
- When ordering, please specify fork width and centres for fixing purposes

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MAGNETIC PROBE



DESCRIPTION

The Greenwood Easy Clean Magnetic Probe is designed for sampling products for metal contamination. Used at critical points throughout the production line, it is ideal for free flowing powders, granules and liquids. The stainless steel encased rare earth magnetic tube will attract ferrous contamination as it is passed through the product which can then be sent for analysis. Manufactured to food industry standards, it is light-weight and easy to handle. It can also be cleaned quickly and efficiently by releasing the catch and sliding out the magnetic inner tube which causes the contamination to fall away.



FEATURES

- Easy clean removable outer sheath
- Quick release catch
- Light-weight and easy to use
- Ideal for ferrous swarf removal in contamination sensitive areas
- Stainless steel food quality handle

SPECIFICATION

- High intensity magnetic field
- Standard length 250mm (+ handle)
- Manufactured to food industry standards
- Maintenance free
- Manufactured to any length

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MAGNETIC HUMP



DESCRIPTION

The Greenwood Magnetic Hump, is an in-line magnet for extracting ferrous metals from pneumatic conveyor systems. The dust-proof galvanised steel hump contains two powerful magnetic plates positioned at right angles to each other. Materials passing through the conveyor system are evenly distributed through the hump and across the magnets with little turbulence and no blockage. Any unwanted ferrous metals within these materials will be automatically extracted. The hump is fitted with an inspection window to provide visual evidence of the magnets functional efficiency.



FEATURES

Easily installed

Highly effective and consistent performance due to high magnetic flux density

Magnetic surfaces are easily cleaned manually

Adaptors can be manufactured to suit all sizes of round or square ducts

SPECIFICATION

Magnet strength - will extract ferrous metal objects weighing 12 grams against gravity from a distance of 160mm (12 grams is equivalent to the weight of a standard 100mm long nail).

Incorporates heavy duty magnetic plates

Manufactured in any size or materials to suit customers requirements

Specials available including twin-hinged plates (see below):
Manufactured in stainless steel where hygiene is imperative - stainless steel rare earth magnetic hump

Available with powerful rare earth magnets to extract minute ferrous particles

Weld ends can be fitted to the adaptors to suit your connections

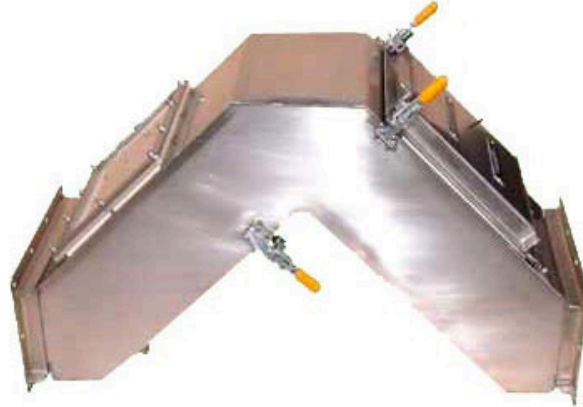
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MAGNETIC HUMP



STAINLESS STEEL RARE EARTH MAGNETIC HUMP



FEATURES

- Polished hygienic stainless steel body
- Powerful high intensity rare earth magnets
- Flush stainless steel magnetic surfaces
- Both hinged magnetic plates with quick-release clamps

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MONSTER BLOCK MAGNET



DESCRIPTION

The Monster Block Magnet is designed for suspension over conveyor belts for heavy industrial applications where maximum pull is required. Deep magnetic fields are generated due to the sheer size of the magnet, enabling a pull from a much further distance – as much as 350mm. The magnet is fitted with dynamo eye bolts for suspension purposes.

Made to suit any width of conveyor, the standard length is 500mm but this can be modified to suit customer requirements. Manufactured from a robust steel shell, it is ideal for heavy industries such as quarries and similar uses.



A Monster Block Magnet can also be manufactured as the integral magnet for overband magnetic separators where the customer prefers to assemble his own unit.

FEATURES

- Robust industrial design
- Manufactured to customer specification
- Powerful performance due to deep magnetic field
- Easily installed
- No power required

SPECIFICATION

- Will pick up a 100mm nail from 300mm (150mm deep magnet)
- Standard length : 500mm
- Width : to suit conveyor
- Standard depth : 150mm
- Weight : approx 200kgs (for 650mm wide conveyor)
- Extra deep magnet : 200mm deep
- Will pick up a 100mm nail from 350mm (200 mm deep magnet)

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HIGH PRESSURE PIPELINE MAGNET



DESCRIPTION

The Greenwood High Pressure Pipeline Magnet is similar to the standard Pipeline Magnet (see pipeline magnet) but manufactured to pressure vessel standards. High intensity rare earth magnetic tubes (up to 12,000 gauss) filter unwanted ferrous and semi-ferrous metal contamination from the liquid or gas stream present in the line. Specifically designed and manufactured to meet the customer's strict design standards, the product will be supplied in full accordance with the European directive applicable to the Pressure Equipment Directive 97/23/EC (PED) for the applicable PED conformance level and fluid applications as specified by the customer.

The outer housing can be fabricated in all materials and high alloys, working to CE PED, 5500 Category 1, 11, 111 ASME U stamped, Ispel, AD-Merkblätter and other recognised codes.



The Pipeline Magnet was manufactured to PED Category 2, Gas Group 1. Supplied to a world leader in the gas and oil industry, this was manufactured with 150lb ANSI flanges for a 3" NB line pressure rated to 10 bar for propionaldehyde gas with a design temperature of +135 / -10 Deg C, PED fluid group 1 operating in a chemical plant environment.

FEATURES

- Easily installed
- Cleaned simply and efficiently
- No power required
- Manufactured to customer's design standards
- Highly effective performance due to powerful rare earth magnets
- Specifically manufactured to your dimensions

SPECIFICATION

- Certified Drawings
- Pressure Calculations
- 100% X-ray and third party inspection
- CE Marking
- EC Conformance Declaration
- Material Composition and Mechanical Properties Certification
- Pressure Test Certificate
- ISO Certificate

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EASY CLEAN MAGNETIC SWEEPER



DESCRIPTION

The Greenwood Magnetic Sweeper is designed to provide a fast and efficient method of keeping floor space free from numerous small ferrous metal objects such as nails, swarf, tacks, nuts and bolts. The sweeper is manufactured from stainless steel housing and is fitted with two large robust rubber wheels with puncture-proof tyres. The direction of the sweeper is controlled by a long tubular steel handle which can be dismantled.



By pulling the lever the magnetic bar pulls back thus releasing the tramp metal.



The Magnetic Sweeper is designed to provide a fast and efficient method of keeping floor space free from numerous small ferrous metal objects such as nails, swarf, tacks, nuts and bolts.

FEATURES

- Robust yet lightweight design is easy to handle
- Magnetic surface is easily cleaned by pulling the "release" lever
- Effective and consistent performance due to high flux density

SPECIFICATION

- Magnet strength - will pick up ferrous metal objects weighing 12 grams against gravity from a distance of 50mm (12 grams is equivalent to the weight of a standard 100mm long nail).
- Dimensions 770mm wide (over the wheels) x 190mm
- Magnetic area : 600mm x 130mm
- Clearance from floor : 50mm
- Wheels : Solid rubber 150mm dia
- Weight : 16 kgs

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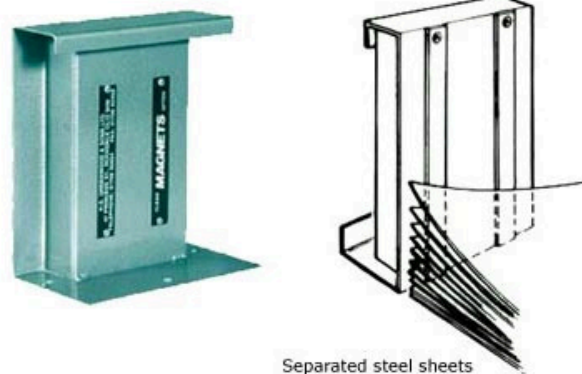
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MAGNETIC SHEET SEPARATOR



DESCRIPTION

The Greenwood Permanent Magnetic Sheet Separator provides a simple but effective method of separating large quantities of ferrous sheets for ease of handling. When quantities of sheet steel are placed against the face of the sheet separator, at least the top six sheets lift and separate due to the opposing magnetic poles. This enables the sheets to be lifted counted and distributed with the minimum of effort.



Greenwood Permanent Magnetic Sheet Separator with separated steel sheets

FEATURES

- Increases workforce productivity due to ease of handling
- Easily installed
- Can be fixed to workbench, machine, etc.
- Will separate up to 16 swg. sheet steel with ease

SPECIFICATION

- Uniform magnetic poles across the face of the magnet
- Stainless steel housing
- Standard dimensions: 220 (H) x 180 (W) x 50 (D) mm
- Manufactured to any height to suit customer requirements

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GENERAL PURPOSE BLOCK MAGNET



DESCRIPTION

The Greenwood Permanent General Purpose Block Magnet is designed as an adaptable all-purpose magnet for the extraction of ferrous metals from a variety of materials being processed.

The magnet surface is flush stainless steel. A tapped M10 thread in the centre allows the customer to bolt one or several magnets in any formation desired. We can manufacture specials to virtually any size, all stainless steel encased, fully welded and to almost any specification required.



FEATURES

Effective and consistent performance due to high magnetic flux density

Easily cleaned manually

Easily installed and handled due to light robust construction

Can be mounted collectively in lengths to suit customer requirements

SPECIFICATION

Magnet strength - will extract metal objects weighing 12 grams against gravity from a distance of 100mm (12 grams is equivalent to the weight of a standard 100mm long nail)

Uniform magnetic poles across the face of the magnet

Tapped with an M10 thread

Dimensions - 150mm x 112mm x 40mm

Weight - 3.6kg approx

Available with powerful rare earth magnets

Can be manufactured to resist temperatures up to 300°C

v

Manufactured to any size required

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CPM32 (CARDING MACHINE)



DESCRIPTION

The Greenwood Permanent Magnet type CPM32 is designed primarily for fitting over carding automatic feeders and conveyors for the extraction of ferrous metals from either wet or dry materials being processed. The CPM32 (Continuous Pole Magnet) housed in rectangular aluminium is fitted with support brackets and pivot studs at each end. Two U-shaped brackets (supplied with the magnet) are secured to the side mountings of the conveyor to support the studs. Fine adjustment of the height of the magnet is achieved by using the adjustable screws located on the U-shaped brackets.



FEATURES

- Easily installed
- Effective and consistent performance due to high magnetic flux density
- Magnetic surfaces are easily cleaned manually
- Supplied with handle to swivel magnet for cleaning purposes
- Corrosion resistant

SPECIFICATION

- Magnet strength - will extract ferrous metal objects weighing 12 grams against gravity from a distance of 100mm (12 grams is equivalent to the weight of a standard 100mm long nail)
- Manufactured in aluminium to any length to suit customer requirements
- Also available with powerful rare earth magnets to extract minute ferrous particles

CPM38 (NEEDLE-LOOMS)



DESCRIPCIÓN

The Greenwood Permanent Magnet type CPM38 with a 50mm wide magnetic stainless steel face is designed primarily for extracting ferrous metals from materials on carding, needle looms and needle punching machines. The CPM38 (Continuous Pole Magnet) will extract surface and loosely embedded needles and card wire if fitted 25mm above the material being processed.

Each end of the magnet is fitted with a pivot stud supported by aluminium brackets which are then secured to the side mounting of the needle loom or machine. The height of the suspended magnet can be adjusted by utilising the slots provided in the brackets. The magnet can be manufactured to any length however for lengths over 3 metres we advise fitting 2-3 magnets to prevent sagging.



FEATURES

- Easily installed
- Effective and consistent performance due to high magnetic flux density
- Magnetic surfaces are easily cleaned manually
- Corrosion resistant

SPECIFICATION

- Magnet strength - will extract ferrous metal objects weighing 12 grams against gravity from a distance of 85mm (12 grams is equivalent to the weight of a standard 100mm long nail)
- Manufactured in stainless steel to any length to suit customer requirements
- Also available with powerful rare earth magnets to extract minute ferrous particles

HINGED SUSPENSION MAGNET



DESCRIPTION

The Greenwood Hinged Suspension Magnet is designed for fitting over conveyors for the extraction of ferrous metals within dry materials being processed. We offer two strengths : Standard Rare Earth – typically 3000 gauss and the high intensity version with a double row of magnets to attain the maximum magnetic strength – typically 4000-6000 gauss. The advantage of the hinged design is that it allows closer proximity to the conveyor and greater safety when cleaning the very powerful magnets, as the magnets are fixed to the frame.



All stainless steel encased for fitting to a conveyor frame in the food industry.

Hinged back for cleaning.

FEATURES

- Easily installed
- Effective and consistent performance due to close proximity to conveyor bed
- Flush stainless steel magnetic surfaces are easily cleaned manually
- Secure and safe design

SPECIFICATION

Magnet strength - will extract ferrous metal objects weighing 12 grams against gravity from a distance of: (12 grams is equivalent to the weight of a standard 100mm long nail)

Standard Version - approx 80-150mm (depending upon size and shape of contaminant)

High Intensity Version – 150 - 190mm (depending upon size and shape of contaminant)

Encased in stainless steel, fully welded and sealed for the food industry

Powerful rare earth magnets to extract minute ferrous particles

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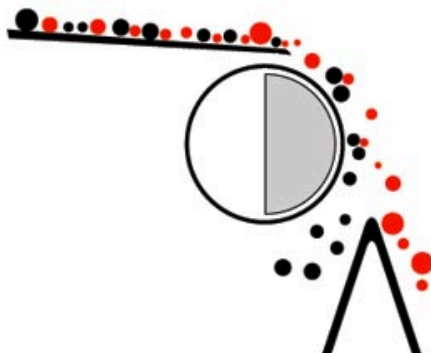
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DRUM MAGNET



DESCRIPTION

The Greenwood drum magnet is similar to the housed drum magnet but is supplied without the housing. It is designed for the continuous extraction of ferrous metal contamination from dry bulk material. Material is fed uniformly onto to the surface of the drum from a conveyor, vibratory feeder or chute work, ensuring continuous contamination removal. As the outer shell rotates, clean product is allowed to free fall from the drum while powerful magnets hold ferrous contamination to the point where the magnetism ends, discharging the metal under the drum, thus ensuring separation.



Ideal for free flowing dry products such as granules, grains, minerals and powders.

We manufacture the drum in a:

Standard Ferrite Version – for general tramp iron contamination such as nuts and bolts

High Intensity Version – for fine paramagnetic materials where a greater level of protection is required.

DRUM MAGNET



A Rare Earth Magnetic Drum supplied to the glass recycling industry

FEATURES

- High Volume Capacity
- Continuous self cleaning
- Permanent magnet- no power required
- Ideal for abrasive products

SPECIFICATION

- Available with ferrite or rare earth drums up to 3500 gauss
- Manufactured and finished to customer requirements
- Stainless steel outer shell – 304 or 316 stainless steel
- Drum rotation to customer requirements
- Higher temperature – up 250 degrees C magnetic material available
- Supplied with or without motor to customer requirements

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MAGNET CLEANING STATION



DESCRIPTION

The Greenwood Magnet Cleaning Station was designed at the request of one of our food manufacturing customers. It provides a safe place where magnets can be inspected and cleaned. Manufactured entirely from stainless steel to provide a non-magnetic area, the cleaning station is a useful tool for customers who lack a safe secure area to clean magnets. The table is mobile with lockable stainless steel casters.

It is supplied with a rubber mat to prevent abrasion. Contamination can be cleaned from the magnets, then swept into the discharge chute which can be bagged off. The contamination can then be sent for analysis.

The discharge chute can also be fitted with an optional stainless steel sieve for separating larger particles. It is also fitted with drawers for easy access to tools and gloves.



MAGNET CLEANING STATION



FEATURES

Manufactured to food industry standards

Mobile

Safe working height

Light robust construction

Non slip rubber mat

Discharge chute with lip

Optional sieves

3 light weight drawers

SPECIFICATION

1200mm wide x 505mm deep x 900mm working height

Soft Rubber Stainless Steel lockable casters

All Stainless Steel construction -304

Rubber Mat 700 x 500 x 3mm

Sieves : stainless steel 200mm dia

Drawers fitted with stainless steel runners

Various finishes available : bead blast or polished

Fully welded back plate



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RECOMMENDATIONS :

Magnet Inspection, Cleaning, Checking for Strength and Contamination Removal advice.

Inspection and Cleaning.

Processes, products and levels of contamination vary from industry. Therefore there is no set time scale for inspecting and cleaning of the magnets. However magnets operate more effectively when they are clean. It is therefore up to each company, given their expected levels of contamination, to decide when they should be cleaned. A regular rota should be set up for personnel to inspect and clean the magnets. Ideally this will be at least after each different process. This will help in identifying problems up the process line, if some processes show more collection of contamination than others.

Strength Testing.

We have supplied magnets according to strength required. We can also issue a certificate for this if required. There is no set time when the strength of magnets should be checked. It is up to the company to decide. The magnets are permanent and should not lose their strength unless exposed to heat, shock or vibration. Magnets should not be heated above their heat resistance. The heat resistance of the magnets will have been specified when ordered. As a general rule however, an annual inspection should suffice.

To test the strength, you will require a gaussmeter which ideally shows maximum readings. Using the probe on the surface, the magnet strength varies along the tube, so it is important to find the highest reading, which can sometimes take 10-15 minutes.

Contamination Removal Capabilities.

In terms of collection, it is not possible to say what size of particle will be collected. One can argue that above 3000 gauss, all particles sizes including ferrous dust will be collected. That is not to say 100% contamination will be removed, as small particles can be trapped within the product, thus preventing removal. However the higher the strength of the magnets, the more likely it is that the particles will be held to the magnets in the product stream.

Bespoke Process Magnetic Solutions Manufactured to World Class Standards

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