

# Magnetic Separators















### **Magnetic Rods**

The magnetic rods consist of stainless steel tubes and strong NdFeB magnets. They can effectively remove ferrous chips and metal particles from free flowing & sticky materials.

#### Technical data

- The standard diameter we supply is D20, D23, D25, D27 etc. The size will vary at your request.
- Magnetic Rods are usually made of seamed or seamless 304 stainless steel tubes or 316 stainless steel tubes can be fine polished and full welded to meet food grade or pharmacy application.
- Usual maximum working temperature is 80 °C.
- By using different grade rare earth magnets, different magnetic strength are available to meet every customer's requirement, the highest magnetic strength of Diameter 25mm & 27mm tubes can achieve 11,000Gauss(1.1T).







- Magnetic Grills have a standard diameter of 25mm or 27mm.
- Mainly two shapes of Grill Magnets are provided: Round shape and square shape, provide with many varies sizes for your choice.
  Single layer or multi-layers can be designed per your request.
- It has excellent performance with no leak, anti-corrosion and long working life.
- Easy-clean type can be provided on request.
- All the magnetic bars are waterproof.
- Surface : Well polished.
- The highest magnetic strength of Diameter 25mm & 27mm tubes can achieve 11,000Gauss(1.1T).

### **Drawer Magnet**

- Drawer magnets remove small-to-medium sized metal impurities from dry free-flowing or sticky material.
- They are widely used in field of ceramics, chemicals, pharmacy, food, plastic, rubber, dyestuff, mining, environmental protection, etc.
- Two models of magnetic drawers are available: Circle -shape and Square-shape.
- It has excellent performance with no leak, anti-corrosion and long working life.
- Easy-clean type can be provided on request.
- All the magnetic bars are waterproof.
- Surface : Well polished.
- The highest magnetic strength of Diameter 25mm & 27mm tubes can achieve 11,000Gauss(1.1T).







### **Liquid Line Magnetic Trap**

### Application:

- Saideep's Liquid Line Magnetic Separator are engineered to remove ferrous contaminants from liquid and slurry lines.
- Efficiently remove tramp iron before maintenance and product contamination problems occur.
- The benefits of this magnetic separator can be experienced in most case with no appreciable pressure drop or reduction in flow rates.
- All units incorporate a sump type housing to trap non-ferrous particles. Liquid Traps may be installed horizontally, vertically, or on an angle without affecting their magnetic efficiency.

### Construction :

- 100 % Stainless Steel construction
- · Liquid tight with food grade O-rings
- Easy access for inspection and maintenance
- Tri-clamp, Bevel-seat (Acme thread), or weld end inlet and outlets.
- It is equipped with high-energy Rare-earth Magnets. Diameter of magnetic bar is 1".
- Construction uses Type 304 stainless steel. Type 316 stainless steel available on request.
- It can be fastened by screw nuts; it also can be fastened by band clamp.

### **Suspension Magnet**

'SAIDEEP' Suspension Magnets are designed for high separation performance in over-the-belt conveyor applications These heavy duty permanent magnets incorporation all welded construction are particularly effective in removing tramp metal in high volume applications.

### Features of SAIDEEP Suspension Magnet:

• Permanent magnet field. • No electrical hook ups. • Compact design. • Heavy duty impact plate.

#### Industries that use SAIDEEP Suspension Magnet:

- · Cement industry.
- Power Industry.
- Ore industry
- Ceramic industry
- Non-metallic ore industry.
- · Metal industry.
- · Chemical industry.
- Glass industry.
- Paper-making industry.
- · Building industry.
- Sugar refining industry.
- Pharmaceutics industry
- Food industry.



#### **Applications of SAIDEEP Suspension Magnet:**

- · Removal of ferrous materials in mining operations.
- Separation of ferrous contamination in quarries
- Magnetic extraction of ferrous particles in wood processing.
- Recover ferrous metal in waste management process.
- Removal of ferrous particles post sand washing.

### **Over Band Magnetic Separators**



Suspended Over Band Magnetic Separators are designed for applications where ferrous contaminants are to be removed from bulk products - either on a moving conveyor belt or chute.

They utilize a permanent magnet circuit to provide a continuous and uniform magnetic field across the feed belt to optimize separation efficiency of damaging tramp iron.

The self-cleaning feature supplied with the unit provides for automatic removal of accumulated tramp metal.



- Low operating cost
- Powerful, permanent magnet requires no power
- Recommended suspension heights of 12\* (300 mm) or less
- Uninterrupted magnetic protection
- 230V/480V input for drive
- Turnbuckle suspension require for mounting (sold optionally).



### **Magnetic Pulley**

"SAIDEEP" manufacture a wide range of Rare Earth and Ferrite Magnetic Pulleys. These Pulleys are widely used to remove tramp iron mixed with the material moving on a conveyor belt.

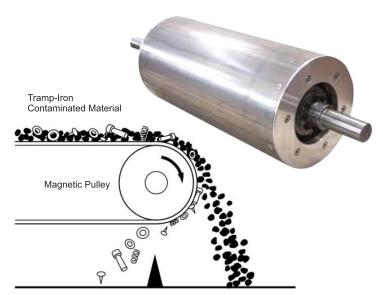
The magnet pullevs are always installed at the discharge point of the conveyor to separate tramp iron from the product moving on the conveyor belt.

### Applications:

The permanent magnetic pulley is dual-purpose equipment used for protection of crusher Jaws or other machinery and also for purification and concentration of magnetic material from the mines. It has the widest application in food, chemical, ceramic, paper, coal handling, foundry operation and mining industry.

### Selection:

Pulley width is determined by the width of conveyor belt to be used. Diameter depends on, depth of material and speed of the conveyor. It can be designed to suit customer's application.



Tramp Iron

Cleaned Material

### **Magnetic Roll Separator**

### Introduction

SAIDEEP Magnetic Roll Separators are roll type dry magnetic separators with fixed magnet having high field intensity and gradient. The magnets used in the Roller Magnetic Separators and made of alloys of rare earth elements are more powerful as compared to other magnets. They generate high attraction forces on the magnetic roller due to their properties and special magnetic series. The obtained high magnetic attraction forces have low magnetic sensitivity and therefore they make it possible to separate very fine low magnetic minerals with a high recovery.

The most distinguishing property of Magnetic Roll are used magnets that are an alloy of rare earth elements produced domestically and more powerful. Magnetic System has a number of standard sizes in which the high gradient separators are produced, and all of these sizes only require a low installation height. It is also possible to make a system in accordance with customer specifications. Depending on the requirements made and the application, a choice can be made for a single stage system or for multiple magnet rollers under one another. This results in an even higher degree of iron separation.

SAIDEEP being Asia's leading manufacturing Company in Permanent Magnetic Equipments and Vibrating Equipments in Dry/Wet Separation of minerals and metals. The Dry Permanent Magna Roll Separators systems are unique in nature and we are supplying similar equipment throughout the world and more than 1000 Industries are having our Equipments. Our experience since 1971, we can separate from Coal to Gold in all minerals and metals from anywhere in the world, depending upon on their mining location, we are able to provide you complete solutions to upgrade your metals, minerals and your processes.

These Magnetic Roll Separators are highly effective of separating para magnetic particles and weakly para Magnetic particles separately. These Rare Earth Magnetic Separators are made up of very high power specially developed Nickel, Iron Boron (Nd-Fe-B) with highest magnetic power available in the series to enable us to achieve very high gauss value compared to other similar products.

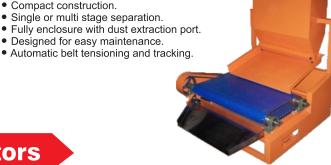
#### Applications of Magnetic Roll Separators

- Silica Carbide
- Chromite recovery
- Graphite Upgrading
- Silica Sand Alumina
- Abrasive and refractory
- Raw materials cleaning
- Magnesite beneficiation
- Copper-neckel ore
- Pre-Concentration
- Manganese and glass send beneficiation
- Andalusite and pyrophyllite beneficiation
- · Diatomaceous earth cleaning and kyanite cleaning
- Iron ore beneficiation
- Feldspar Dolomite
- Glass raw materials cleaning
- Wollastonite beneficiation

- Magnesite, Quartzite etc.
- Bauxite cleaning
- Feldspar cleaning
- Bauxite Upgrading
- · Recovery of Metals from
- Slag.
- Ceramic raw materials cleaning
- Metal value recovery
- from waste
- Ultra High Purity Quartz Cleaning.
- Flint clay and Graphite
- beneficiation
- Removal of ferro silicates limestone Magnesite etc.
- Selective separation of garnet/ilmenite/rutile/ zircon recovery

### Features of Magnetic Roll Separators

- Compact construction
- Single or multi stage separation.
- Designed for easy maintenance.
- Automatic belt tensioning and tracking.



### **Drum Type Magnetic Separators**

Saideep Drum Type Magnetic Separators are used for Automatic separation of Magnetic Particles from Fine Powder. Drum Type Magnetic Separators are available in two designs.

Magnetic Drum Separators provide an efficient means for extracting ferrous material from dry, bulk products in free-flowing processing systems. They are comprised of a stationary permanent magnet, either standard Ferrite magnet or High Power Rare Earth Magnets enclosed in a non-magnetic stainless-steel drum. Product flow is diverted so that it falls onto the top and flows across the surface of the drum. Ferrous matter contained in the product flow is drawn to the drum's surface (and held against it) by the powerful magnet housed inside.

While non-ferrous products falls from the side of the drum in a normal manner, ferrous metal clings to its surface. As the portion of the drum with the ferrous material rotates to the side opposite the product flow, the magnetic field is reduced so that the ferrous matter falls from the drum into a collection container. The end result is purified product ready for processing without the worry of costly damage caused by tramp metal. Rare Earth, Neodymium is 5 times stronger than Ceramic Magnets and can remove micron

Drum Separators can be provided as the drum only or as a complete assembly with the housing and drive included. A variety of sizes and strengths are available for many applications.

#### Features :

Drum magnets are powerful magnet assembly combined with high surface holding power.

- The magnets have greater magnetic pole area.
- They require minimum space and are simple to operate.
- They are flexible enough to be applied for various purposes Drum magnets have steel support bearings

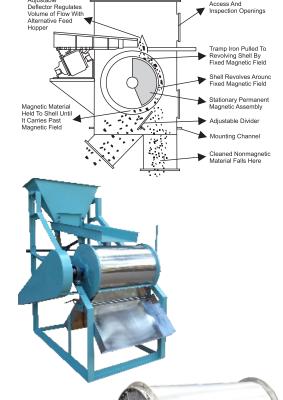
#### Application:

The magnetic drum separator is most ideal for separation of iron particles from granules and powders. It is widely used in Glass, Ceramic, Chemical, Foundry, Fertilizer, Plastic and Food Industry.

Magnetic drums up to 600mm diameter and 1500 mm length (Ferrite and Super power) can be supplied on short delivery basis. please send details of your requirement to offer the most appropriate size for your plant.

### Specification:

- The materials normally used for housing drum magnets are stainless steel, flanges etc.
- The magnete materials preferred for drum magnets are either ceramic magnets or rare earth magnets.
- They are available in different sizes and face width. Normally the drum magnets have self cleaning design.



### **Wet Drum Magnetic Separator**

The wet drum magnetic separator is ideally used to separate ferrous particles. They are so made by us to provide ultimate protection to crushers, Grinders, Pulverizers and allied equipment and is useful for mining and ore dressing industry. It is so made that one side is magnetized and the other side is not.

#### **Operating Principle:**

Only one side of the magnetic drum is magnetized and the other side is not magnetized. The stainless steel 304 shell which surrounds the magnet rotates freely and the magnet is stagnant. The ferrous particles that get attracted to the magnet are collected separately.

### **Applications**

It is ideally used in Ceramic, Chemical, Glass, Fertilizer and food industry separates iron particles from granules and powder. The magnetic drums are suitable for capacities up to 2 tons per hour can be given on short deliveries. They have a varying dimension of 300 mm. To 600 mm. The diameter and length varies up to 1500 mm and has a capacity to handle 10 tonnes.

#### Construction

The magnetic drum separator consists of a number of oriented, isotopic permanent magnets that are assembled to give alternate polarity across the circumference dependent on the application. The magnetic intensity of the electro magnets is not all that more than permanent magnets. As rectifier and electricity is not used to operate this machinery hence they operate at low costs and also during power failures.

#### **Benefits**

It conveniently removes the ferrous particles from the non ferrous powder and crystals and is ideal for Food, Fertilizer, Plastic, Pharmaceuticals, Chemical and continuous process plants. It gives maximum protection to crushers, Grinders, Pulverizers and allied equipment. It also proves to be helpful in mining and ore dressing industry and eliminates fire hazards and explosions in such plants where explosive materials are dealt. It saves time, labor, money since it reduces the chances of breakdown and has improves quality. These machines have a capacity to pay back in very short span of time



### **Bullet Magnet**



#### Introduction:

Saideep's aerodynamically shaped with a solid stainless steel nose cone, the flow through design of the Bullet Magnet allows the magnet to be used anywhere in a pneumatic line system. It can be used ahead of processing equipment and bulk load out to assure product purity and protect machinery from tramp metal damage. The nose cone diverter and magnet assembly of the Bullet is designed to maintain a balanced flow through the housing thereby maintaining uniform velocity in line flow. Ideal for dilute phase systems, typical Bullet Magnet applications include: movement of powder and granular flour, chemical, plastic, food stuff, pharmaceutical and mineral materials.

### Working:

There are guide strips within the bullet magnet, which direct the material onto the bullet face. The Bullet Separator has been specifically designed for very quick and easy cleaning, reducing production downtime to a minimum.

### Standard Features :

- Stainless steel construction.
- Rare Earth Magnetic element.
- Units available for horizontal or vertical installation.
- Glass bead surface finish.

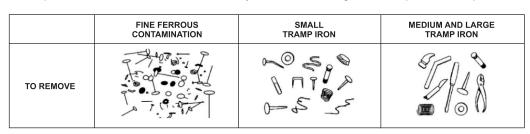
### **Bullet Magnets Applications:**

- Ceramic processing plants.
- Food manufacturing and processing plants.
- Powder handling.
- Wood recycling.
- Plastic processing.
- · Grain milling processing.
- Flour Processing and Milling.
- Grain Processing.
- Plastics Granular Processing.
- Kaolin and french chalk processing.

# **Plate Magnets**

Plate Magnets are used in the bottom of an inclined chute or suspended above a thin burden of material on a belt conveyor or stainless steel vibratory feeder to remove occasional pieces of ferrous contamination. Removing relatively large ferrous material such as nuts, bolts, staples and welding rod from a dry product flow.

In a typical chute in stallion, the magnetic material adheres to the magnet face while the product slides across the face of the magnet. The magnetic field attracts and holds ferrous material until the plate is removed for cleaning. The magnet is usually hinged and swung away from the chute and cleaned manually. Plate Magnets are simple and economical to install as well as very efficient at removing occasional pieces of tramp metal.



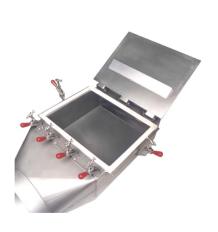
- Robust construction. Long lasting magnetic strength (Available in Ferrite & Rare Earth Magnets).
- Effective removal of ferrous impurities. Easy installation.

### **Hump Magnets**

Hump Magnets are fabricated chute and two plate magnets instead of one. This extra effectively doubles the chances to collecting ferrous material. The Hump consists of a dogleg chute that allows the product stream to cascade from one magnetic plate to another as material moves through the dogleg.

Unite are available for pressure, vertical or horizontal pneumatic applications. The material flow must be stopped to clean each plate. Self-cleaning units are also available to cycle the plate magnet away from the flow so that a stipper may automatically remove the accumulated tramp metal contamination from the plates.









# **Deep Reach Magnetic Separators**



Deep Reach Separators use a magnet style circuit but incorporate it into a vertical chute. These units work when sticky products do not readily flow down sloped chutes or when headroom is at a minimum. Two large magnet assemblies are fixed to opposite sides of a stainless steel chute and attract ferrous contamination as material flows by the chute. The magnetic circuit is designed for an exceptionally deep reach into the product flow which makes these separators effective at removing large, chunky tramp metal.

### Our other products:























Vibrating Motor

Vibrating Screen

Vibrating Conveyors / Feeders

Bin Activator

Pipe Magnet

Hump Magnet



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