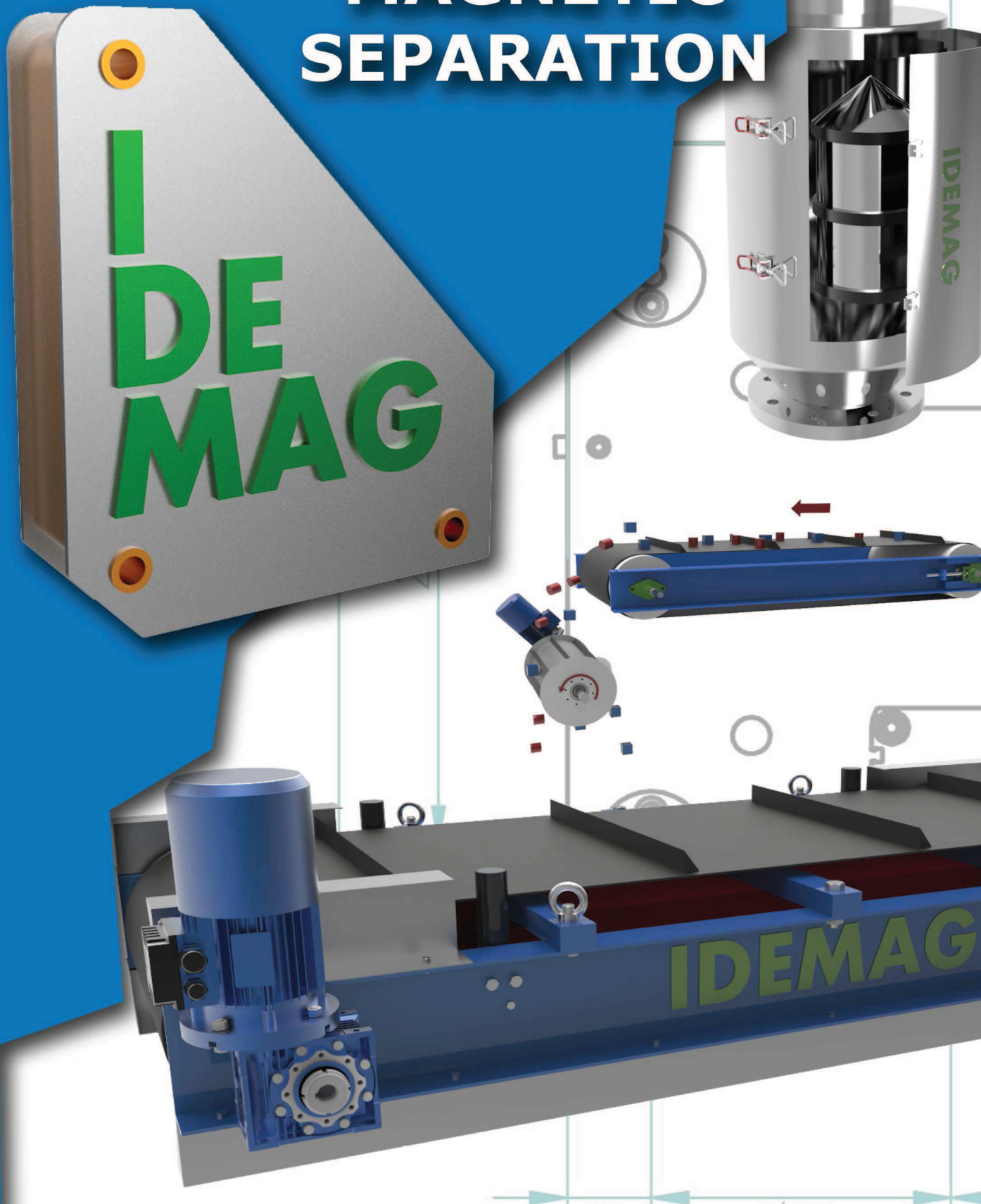
Imanes y Desarrollos Magnéticos

From design to manufacturing since 1.993

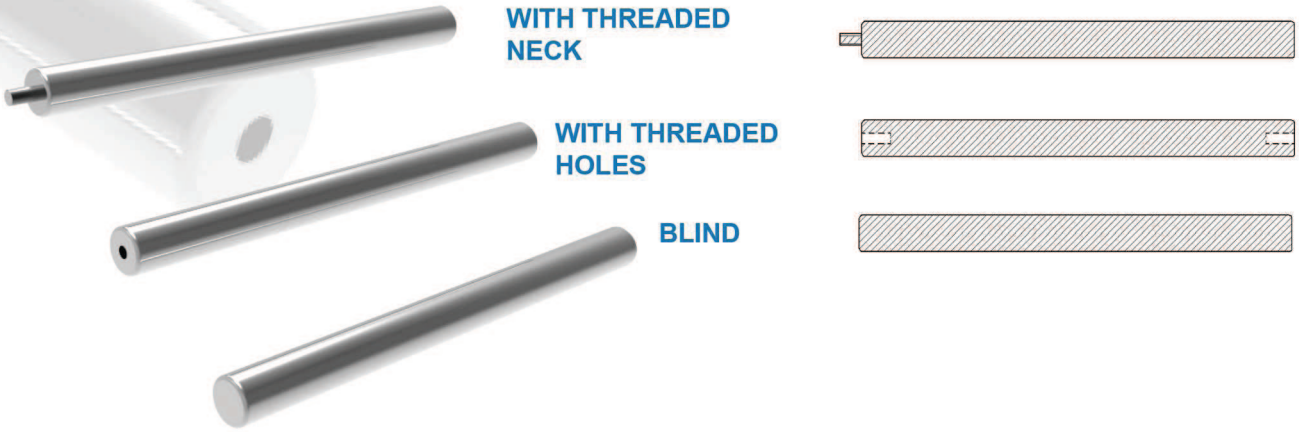
MAGNETIC SEPARATION



MAGNETIC SEPARATION

MAGNETIC BAR

Magnetic bars are used for the separation of ferrous particles mixed with all kinds of materials, dry or liquid.
They are composed of a magnetic circuit with powerful magnets, coated in stainless steel (304/316).
They are the basic units to build magnetic filters. They can be assembled into different configurations: rectangular, circular or as a single element.
We manufacture them according to each project requirements, depending on the product to be filtered, the particle size of the material, the stream flow and the available space.
They are mainly made in 25 mm or 32 mm diameter. The length will depend on the application, generally between a range of 100 mm to 1800 mm.
Our manufacturing process ensures optimal magnetic performance. The bars are manufactured according to an accurate design that guarantees a total watertightness of the built product.



FEATURES	APPLICATIONS
Medium Intensity	Removal of large particles size with high ferrous contamination.
High Intensity	Removal of medium/fine particles size with medium ferrous contamination.
Special Intensity	Removal of medium/fine particles size particles with low ferrous contamination.

FEATURES	MAGNET	GAUSS
Medium Intensity	Ferrite (Fe)	2.500
High Intensity	Neodymium (Nd)	5.500
Special Intensity	Neodymium (Nd)	10.000 / 12.000

The Gauss values are mentioned as a guideline, and should be taken as minimum values. These values can vary depending on the internal configuration of the magnets.

MAGNETIC SEPARATION

MAGNETIC GRIDS

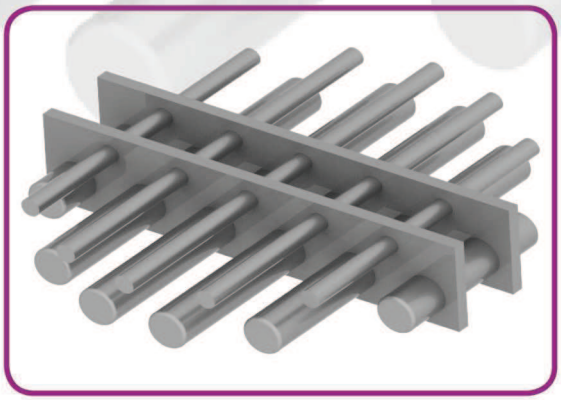
Magnetic grids are designed using different magnetic bar configurations. The magnets are placed in round or rectangular pipes, preventing ferrous contamination. Especially suitable in production lines of granulated products or bulk powders.

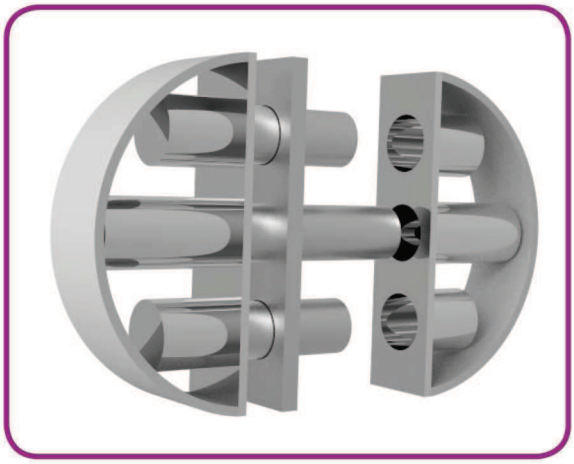
They are manufactured according to specific requirements. This magnetic system will be customized depending on its location and type of material to be filtered: measurements, type of magnet to be used, number of bars and interspaces between them, use of deflectors. The customer can receive a detailed 3D drawing before production.

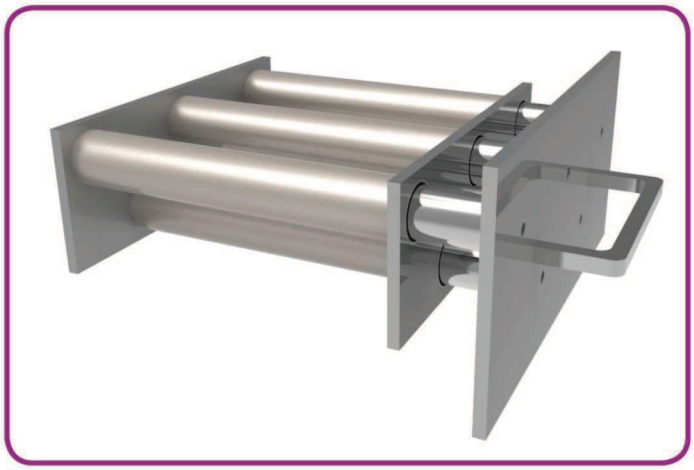
Magnetic grids are an optimal solution for high flow systems: no maintenance is required and any replacement of its elements is easy.

Magnetic grids are manufactured in 316L stainless steel for food industry.

Special magnets will be used to filter high temperature materials.







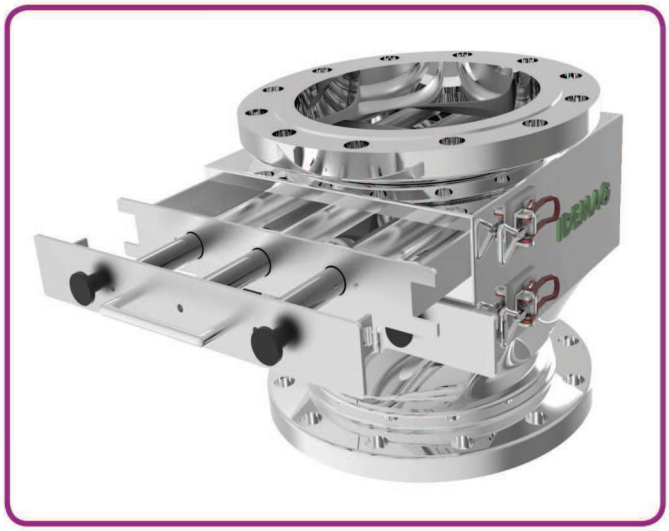
MAGNETIC SEPARATION

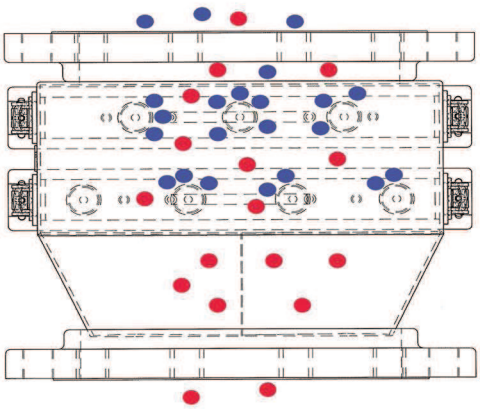
MAGNETIC FILTER FOR GRANULATES

The magnetic filters for granulates are another useful application of magnetic grids. They are designed for full adaptability to plant installations. Available under various configurations, they are very robust and easy to maintain equipment.
Specially indicated for all types of granulated products in dry state, cold or hot.
Our quality department accurately inspects the watertightness of all the welds, in order to guarantee efficient work with high material streams.

Main Features:

- High magnetic induction bars.
- Stainless steel housing case.
- No maintenance required.
- Easy cleaning of the ferrous contamination on the magnetic bars.
- Easy retrofit to the existing installation.
- No power consumption.





MAGNETIC SEPARATION

MAGNETIC CONE FILTERS

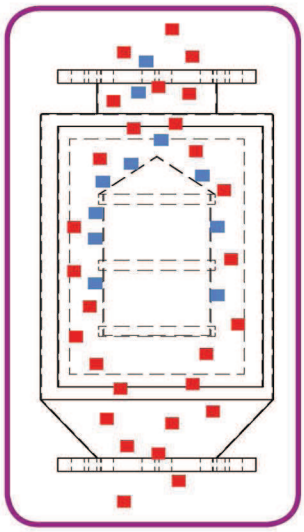
Magnetic cone filters are used for the removal of ferrous pollution (nuts, screws, staples, and ferrous parts in general) that flows with the raw material transported by the pipes, especially by powdered or granulated raw material such as grains, flours, sugar, etc..., in dry state.
The installation of these magnetic separators is very fast and simple, since they fit between the pipes through which circulates the raw material to be filtered.
IDEMAG manufactures magnetic cone separators by installing a high magnetic intensity unit, the concentrator, into the center of a stainless steel casing. This magnetic concentrator can incorporate in its interior ceramic magnets (ferrite) or rare earth magnets (neodymium).
The choice of magnetic intensity type of this magnetic filter depends on the caracteristics of the product to be filtered.

Operation mode:

The concentrator casing has a high-powered magnetic circuit that attracts the ferric particles that remain attached to its magnetic core, while the rest of the decontaminated material continues to flow through the pipes.
The cleaning of the magnetic core is very simple because it is built inside the magnetic filter door, for easier access. As no maintenance is required, this magnetic separator offers an efficient solution at a reduced cost.

Features:

- High Intensity Magnetic concentrator
- Made of stainless steel AISI 304 or AISI 316
- Pivot hinged door
- No maintenance required
- Working temperature with ceramic magnets (ferrite):-40 ° C/200 ° C
- Working temperature with rare earth magnets (neodymium):-40 ° C/80 ° C



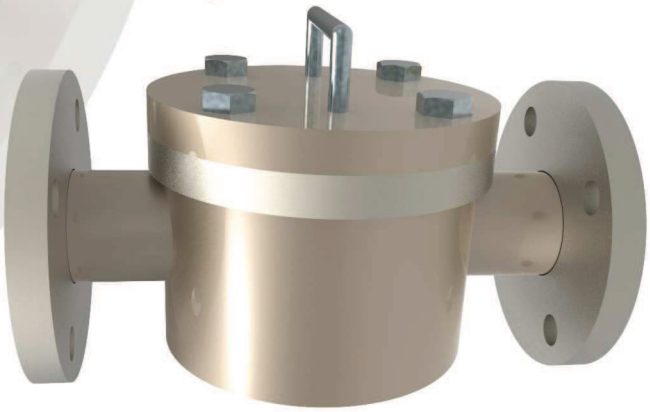
MAGNETIC SEPARATION

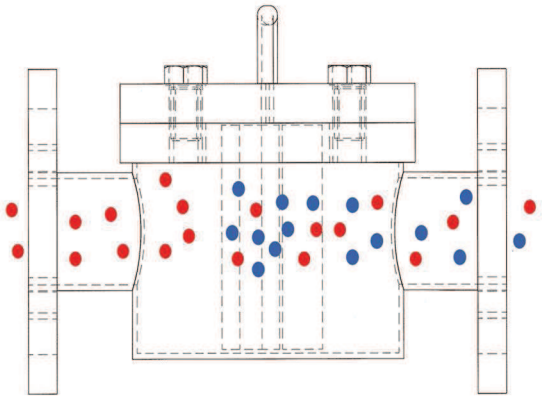
MAGNETIC FILTER FOR LIQUIDS

The magnetic filters for liquids are designed to prevent ferric pollution from damaging the process machinery such as blenders, granulators, mixers, shredders, etc.
The concentrator is a high magnetic intensity unit, that is installed into the center of the device inside a stainless steel casing where the raw material circulates and whose mission is to attract and retain all the ferrous pollution that circulates freely inside the material flow.
The magnetic concentrator can incorporate, in its interior, ferrite magnets or high magnetic intensity rare earths magnets.

Main features:

- High Magnetic Intensity concentrators.
- No maintenance required
- Easy cleaning of the ferrous contamination in the magnetic concentrator.
- Easy installation.
- No power consumption.





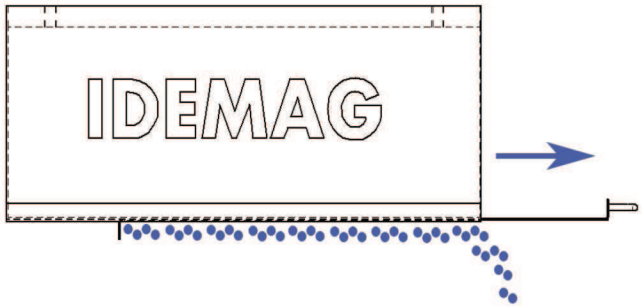
MAGNETIC SEPARATION

MAGNETIC PLATE

The magnetic plate consists of a series of ferrite or neodymium magnets coated in stainless steel. This unit is placed suspended on the conveyor belt that carries the material to be treated. It is the most simple and economical solution for the separation of ferrous elements. Its use is recommended for installations with ferrous contamination where the unit can be placed in accessible locations.

The only maintenance required is the periodic cleaning of ferrous elements attached to its surface. This equipment does not require any electric power and the magnetic field (under normal environmental conditions) has an unlimited lifetime.
This magnetic system is manufactured under two configurations: simple or with cleaning tray.

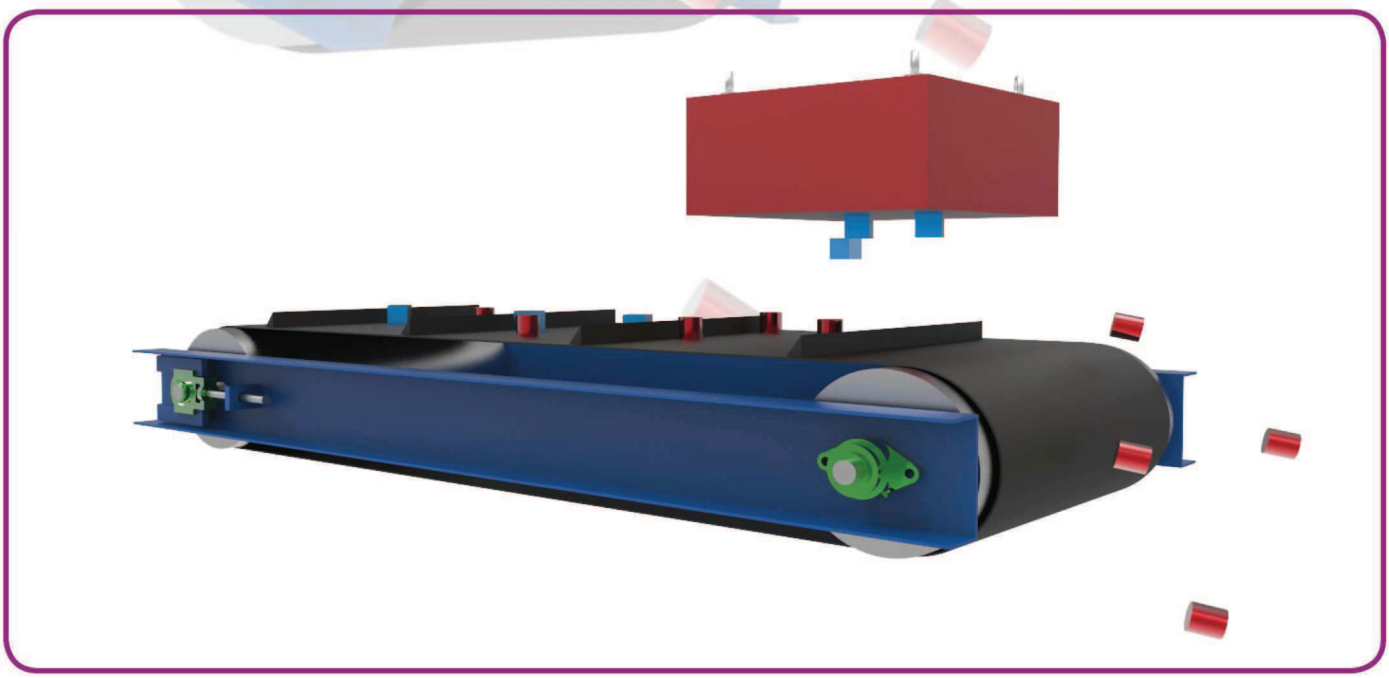
A customized design will be created depending on the material to be separated and the working height.

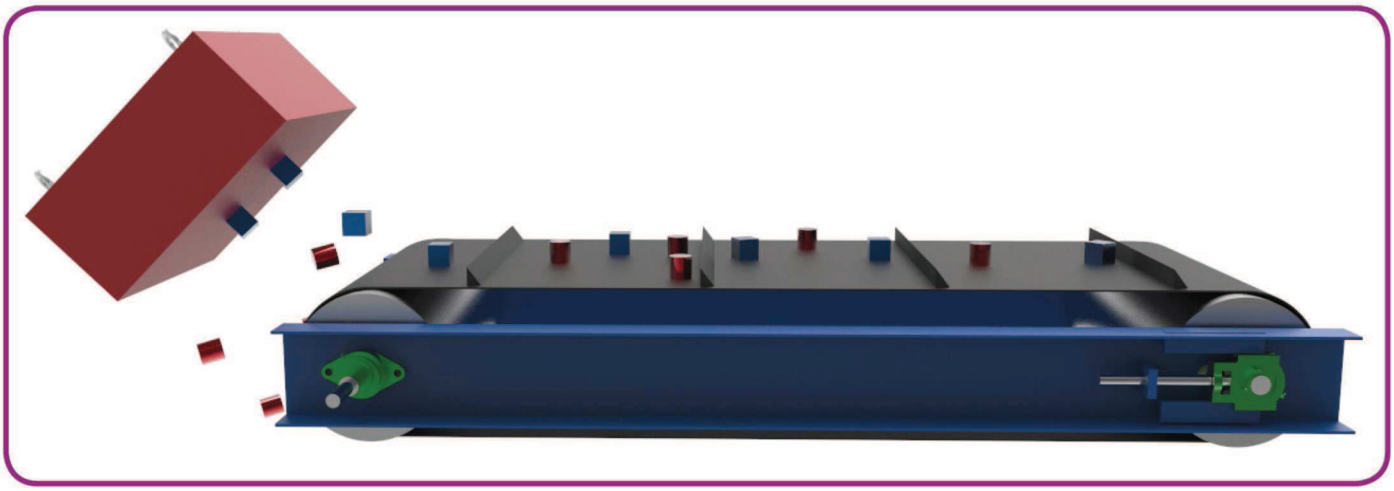


MAGNETIC SEPARATION

MAGNETIC PLATE

INSTALLATION EXAMPLES:

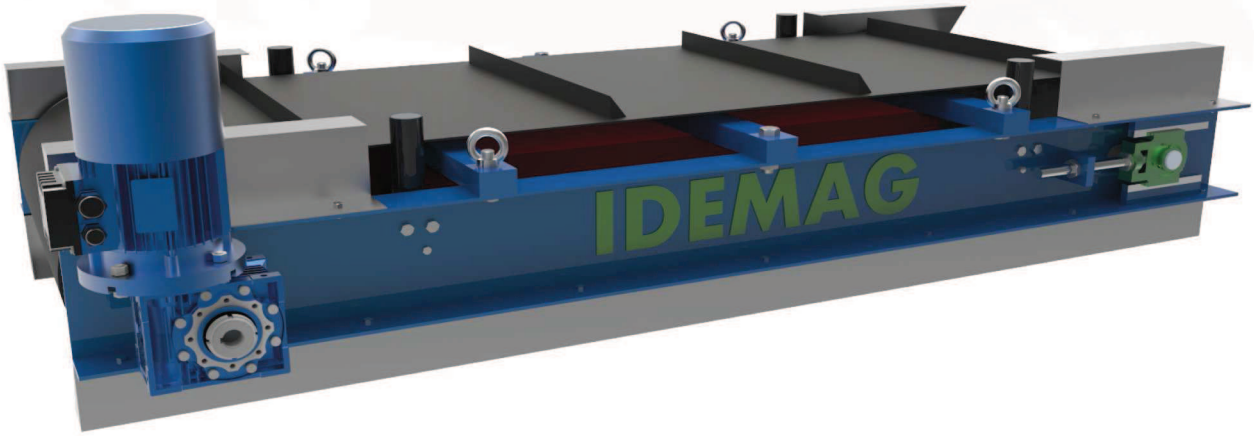


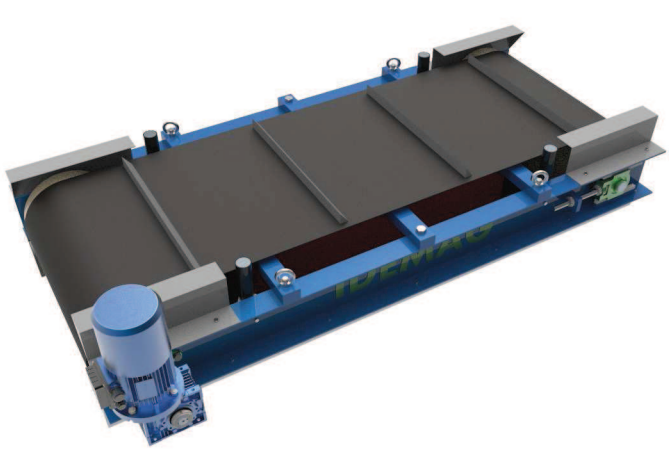


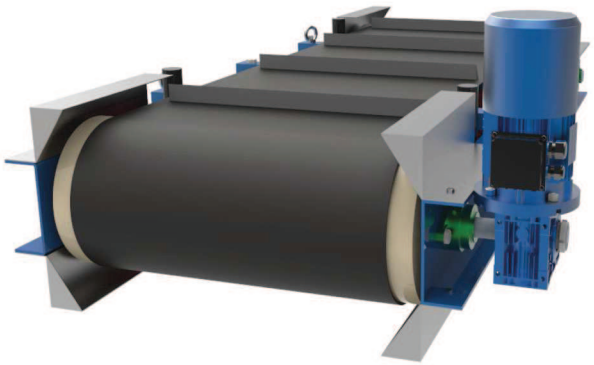
MAGNETIC SEPARATION

OVERBAND WITH PERMANENT MAGNETS

Magnetic “overband” separators are placed suspended on the conveyor belt that carries the bulk stream to be filtered. The overband is suitable for the extraction of all kinds of ferrous materials in various industries (recycling, mining, cement, chemicals, plastics, aggregates, etc.).
This equipment is designed for continuous work in very demanding working environments. They are individually designed for each specific case, according to the type of the product to be filtered, the product flow and the available space for its installation. This magnetic system requires low maintenance and has a robust construction for a long operating life. The different magnetic configurations ensure optimum performance in each project.
Unlike magnetic plates, the magnetic overband separators do not require any manual intervention for cleaning the magnetc unit. The possibility of equipping them with an electric or hydraulic motor facilitates its incorporation into mobile filtering equipment.



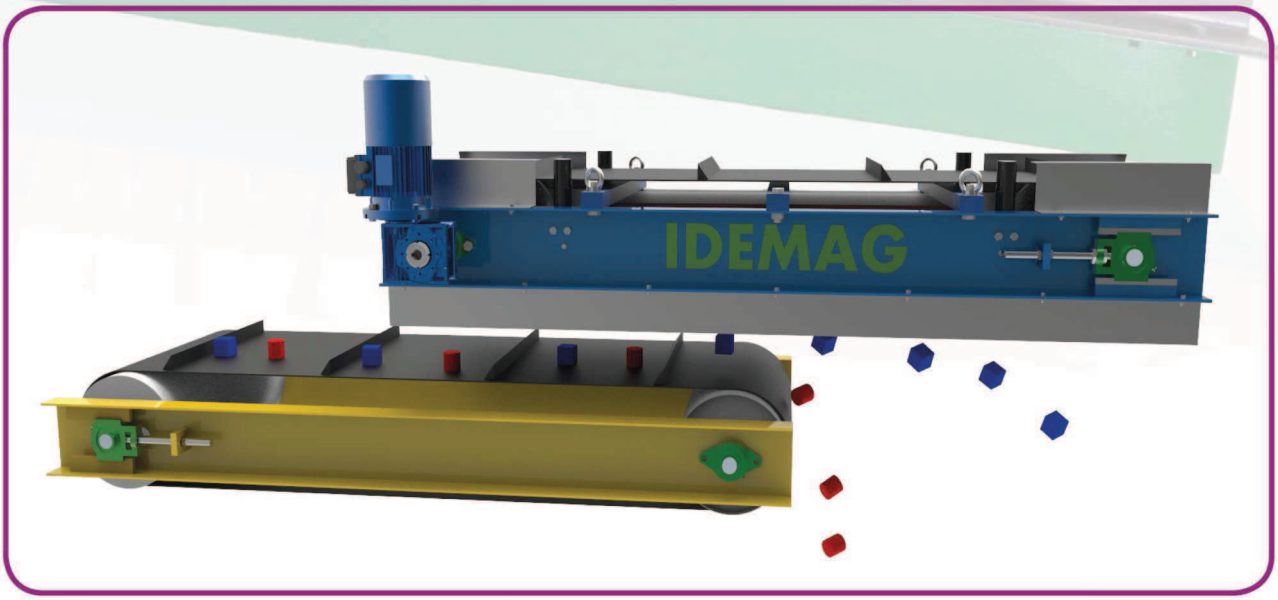


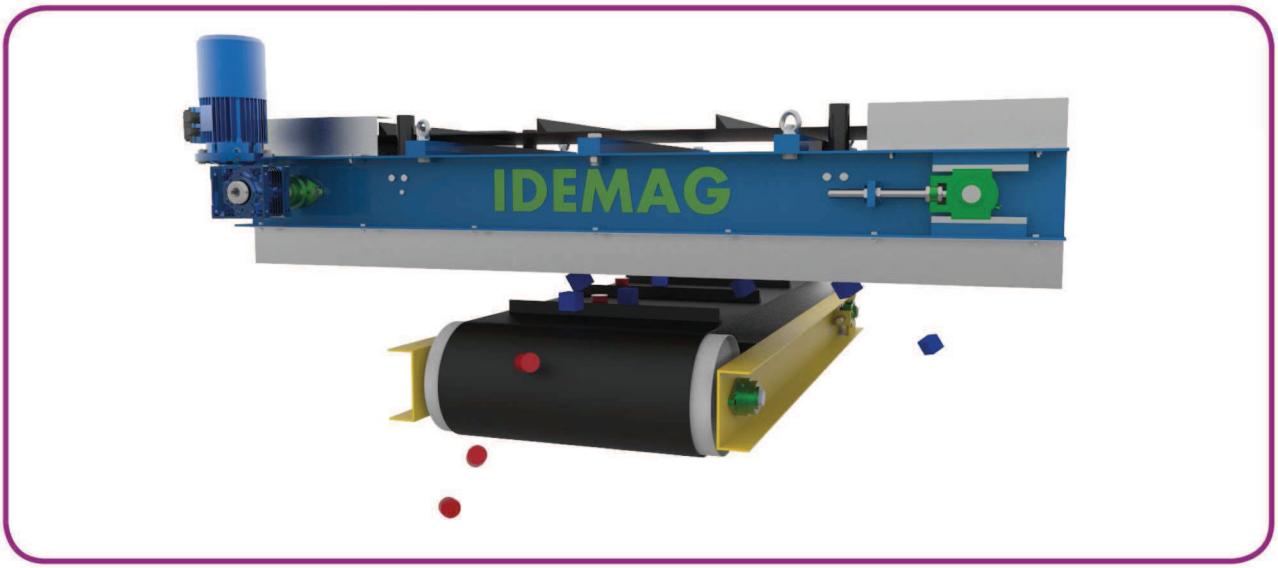


MAGNETIC SEPARATION

OVERBAND WITH PERMANENT MAGNETS

INSTALLATION EXAMPLES:





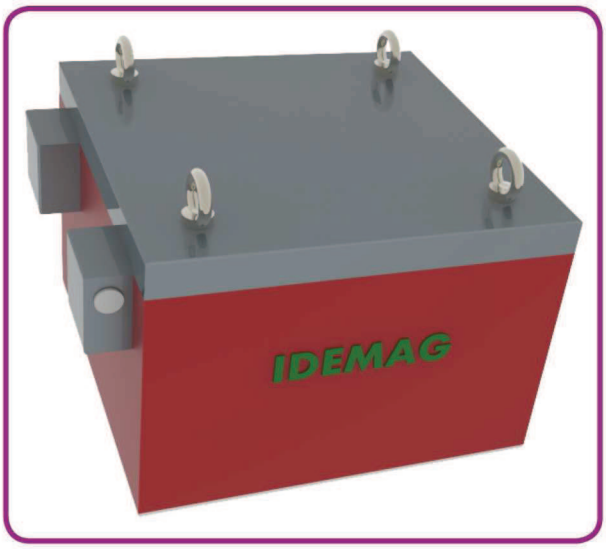
MAGNETIC SEPARATION

ELECTROMAGNETIC PLATE

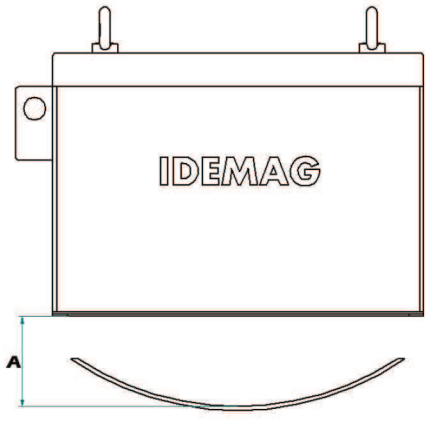
The electromagnetic plate is especially suitable for installations where the ferrous contamination is composed of large pieces or where the working height is higher than 300mm from the surface.

The unit consists of an electromagnetic coil with circular shape, in iron housing with a stainless steel base. Its design is totally customized depending on the conveyor belt above which it will be installed and taking into account a demanding working environment.

Our experience allows us to optimize electricity consumption and to provide a working cycle of up to 100%. The incorporated refrigeration system extends the lifetime of the electromagnetic coil.
They are supplied with the corresponding control panel, designed exclusively for each unit, according to coil power, and that provides all the necessary electrical protection measures for optimum and safe operation.



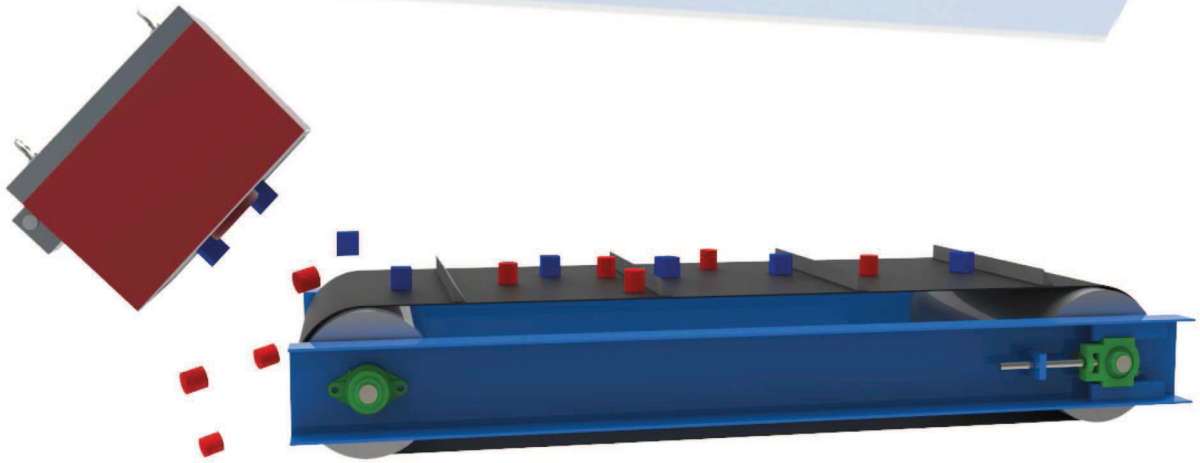
The working height (A) shall be in a range from 100 to 500 mm, depending on the power (Kw) of the electromagnetic coil.
IDEMAG manufactures electromagnetic plates with power ranging from 1.5 to 15 Kw.

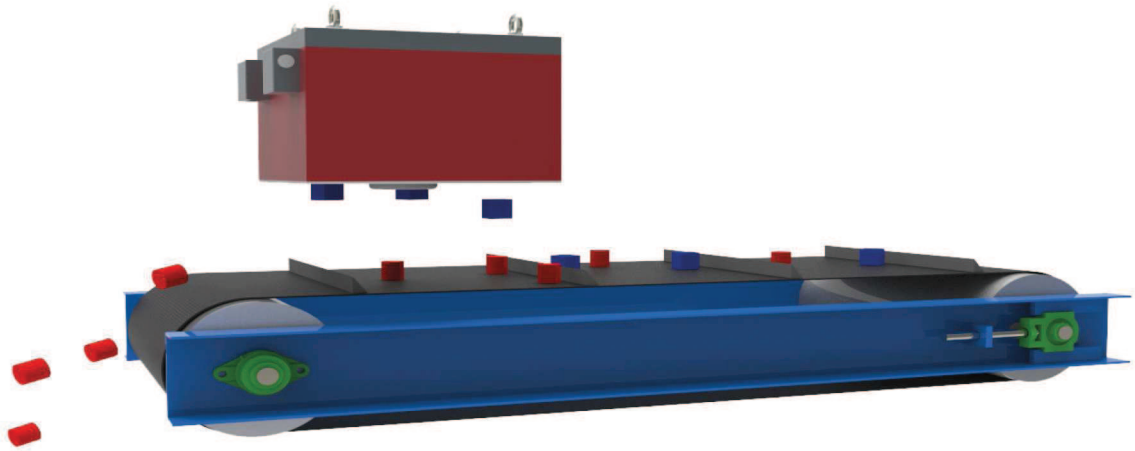


MAGNETIC SEPARATION

ELECTROMAGNETIC PLATE

INSTALLATION EXAMPLES:





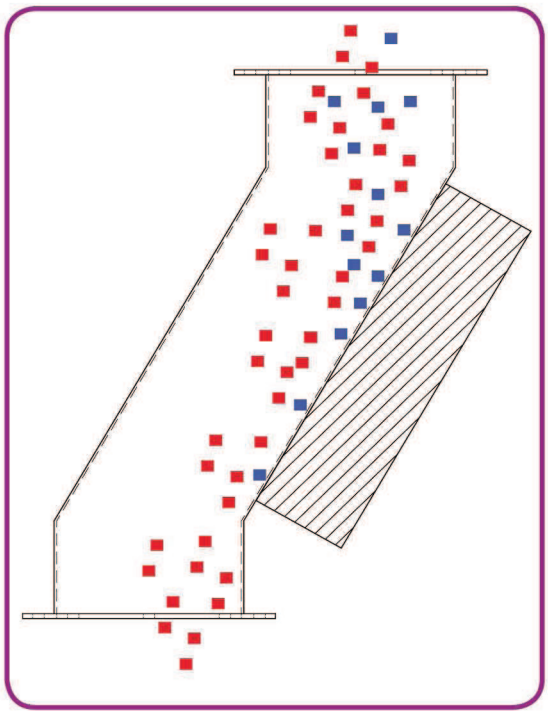
MAGNETIC SEPARATION

MAGNETIC PIPE

Magnetic pipes are used for the removal of ferrous particles in industrial systems where the raw material falls freely by gravity. These magnetic separation equipments are adapted to both round and rectangular pipes. These magnetic separators are designed to remove from thin particles up to large pieces of ferrous contamination that circulate freely through the pipes. They provide uninterrupted protection and ensure product purity. They can be installed in industrial applications that work with granulated or powdered products, in humid or lumpy states.
The magnetic pipe can be equipped with an inspection window which provides an easy and quick insight into the effectiveness of magnetic separation made by magnets. This magnetic equipment can be customized under various configurations according to the application requirements.

Specifications:

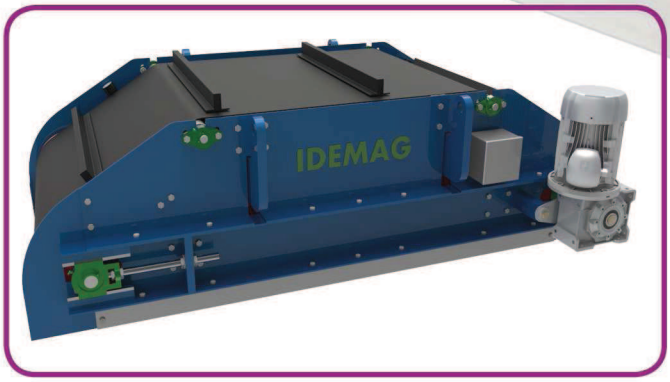
- Made of stainless steel AISI 304 or AISI 316
- Easy cleaning of the magnetic plates with hinged system.
- No power consumption.
- Maintenance is not required.
- Working temperature with ceramic magnets (ferrite):-40 ° C/200 ° C
- Working temperature with rare earth magnets (neodymium):-40 ° C/80 ° C

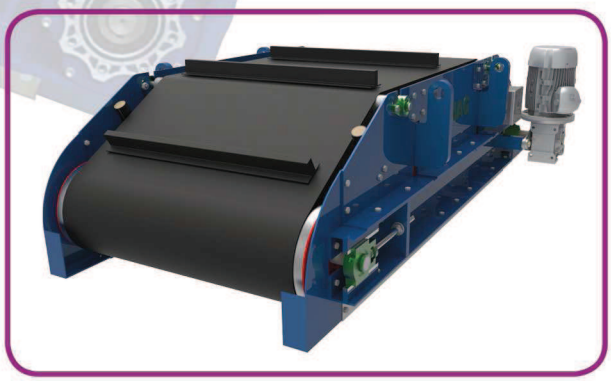


MAGNETIC SEPARATION

ELECTROMAGNETIC OVERBAND

Overband separators with electromagnetic coil are especially suitable for continuous work that requires extra magnetic power. The electromagnetic field is higher than permanent magnets, which allows installing it at a greater distance from the material to be separated. The placement on the conveyor belt is exactly the same as for the system with permanent magnets. They are especially effective in many industries (recycling, mining, cement, plastics, aggregates, etc.).
Our compact design is highly efficient in terms of coil cooling, avoiding any magnetic power loss due to heat. Each unit is designed according to each installation requirements. The magnetic system has a wide range of customized elements: electromagnetic coil power, physical measurements, conveyor belt type and type of drive fins, power and type of motor for traction, paint finishing, etc.
We have great experience in calculating the configuration of the electromagnetic coil to obtain the best magnetic values with reduced power consumption and maximum operating life.
The raw materials required for the construction of the control panel are accurately selected with top brands in order to ensure a high level of quality and reliability.





The working height shall be in a range from 100 to 500 mm, depending on the power (Kw) of the electromagnetic coil.
IDEMAG manufactures electromagnetic overbands with power ranging from 1.5 to 15 Kw.

MAGNETIC SEPARATION

EDDY CURRENT SEPARATOR

Eddy current separators are designed to separate non-ferrous metals (aluminum, brass, copper) from the rest of the bulk stream. Taking into account that these types of metals do not interact with magnets, this separation is obtained creating a repulsive effect by rotating powerful neodymium magnets at high speed. The number of magnetic poles to be used depends on the particle size of the material to be separated. Our technical team will advice on the ideal configuration of the magnetic rotor for each application.
It is recommended to previously install a magnetic separator of ferrous metal equipment (overband, magnetic pulley, magnetic drum, etc). This ensures the integrity of the conveyor belt and of the magnetic rotor, providing optimum efficiency in the separation.

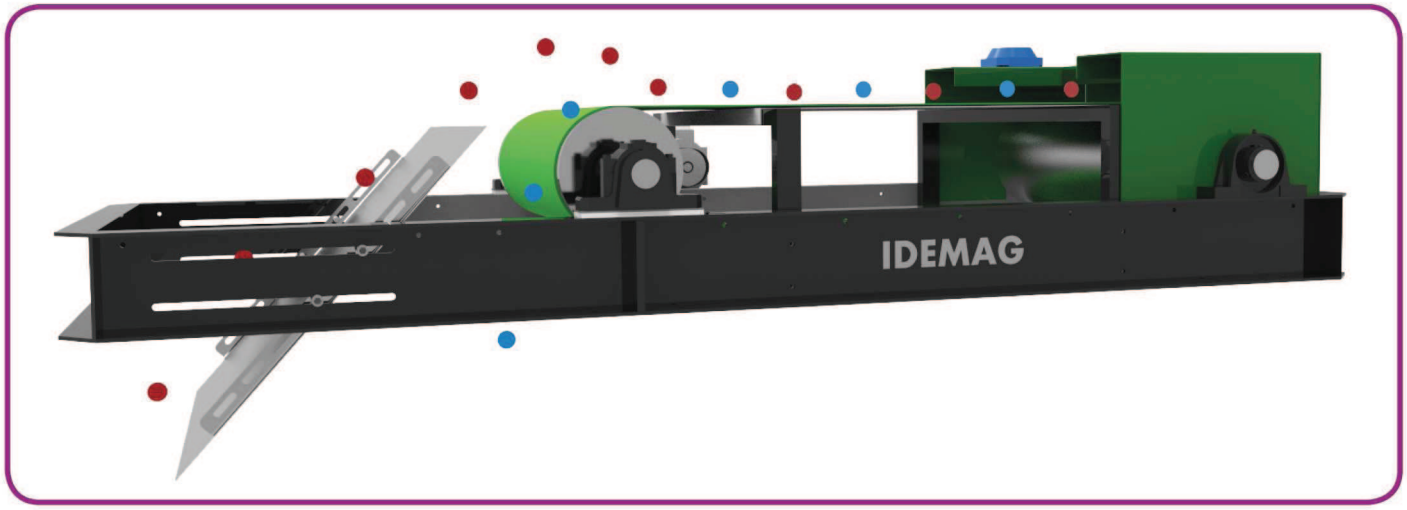
Typical examples:

- Selection of whole or crushed aluminium cans from a dry recycling stream.
- Removal of non-ferrous metals from crushed wood.
- Removal of non-ferrous metals in glass recycling.
- Separation of non-ferrous metals in crushed car parts, foundry slag, foundry sand, domestic and industrial debris, and in urban waste recycling plants.

Main features:

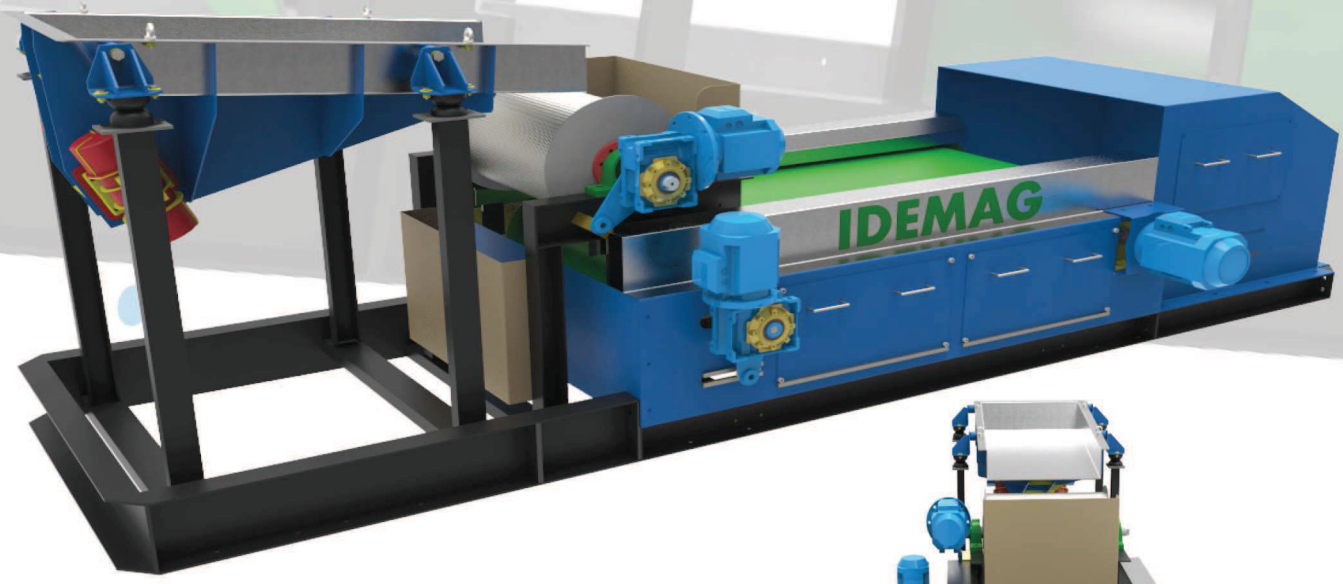
- All IDEMAG eddy current separators are designed and manufactured for optimum performance and maximum operating life.
- We can also supply vibrating feeders for a homogeneous distribution of the product on the separator in order to improve the separation process.
- The conveyor belt is made of high quality PVC for maximum durability and efficiency.

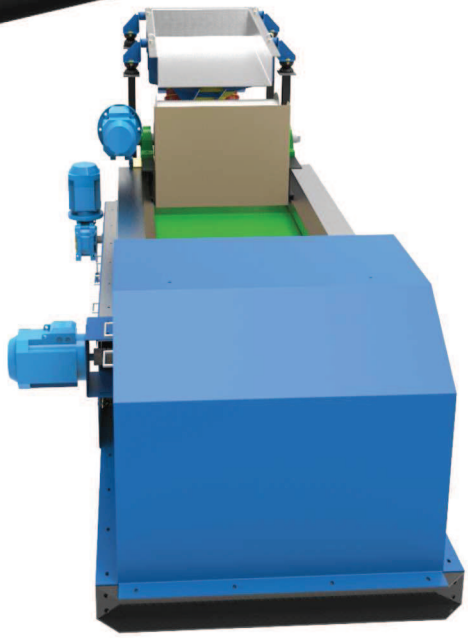
OPERATING SCHEME



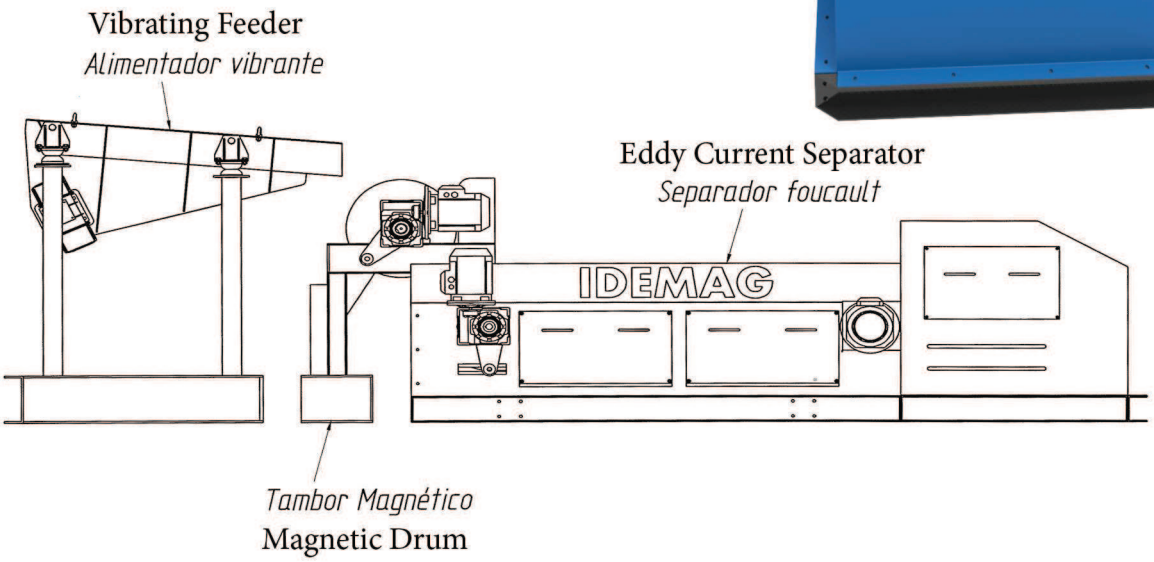
MAGNETIC SEPARATION

EDDY CURRENT SEPARATOR





The modular system for Eddy current separators, fully designed and manufactured by IDEMAG, provides fully integrated components.



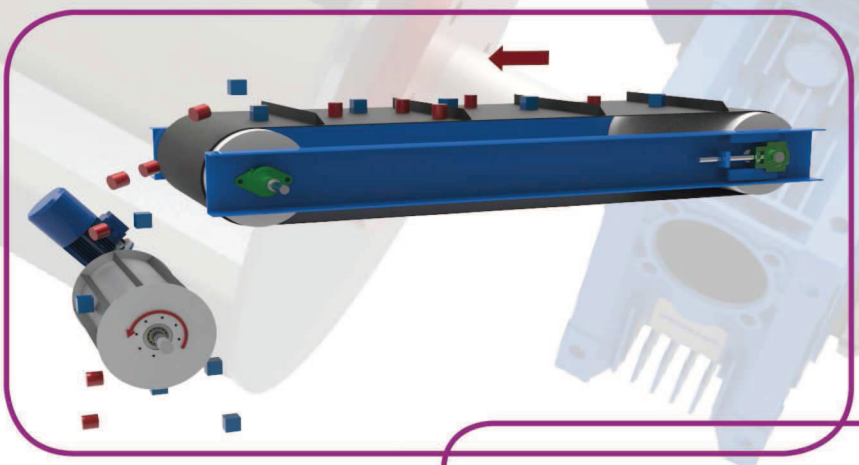
MODULAR SYSTEM

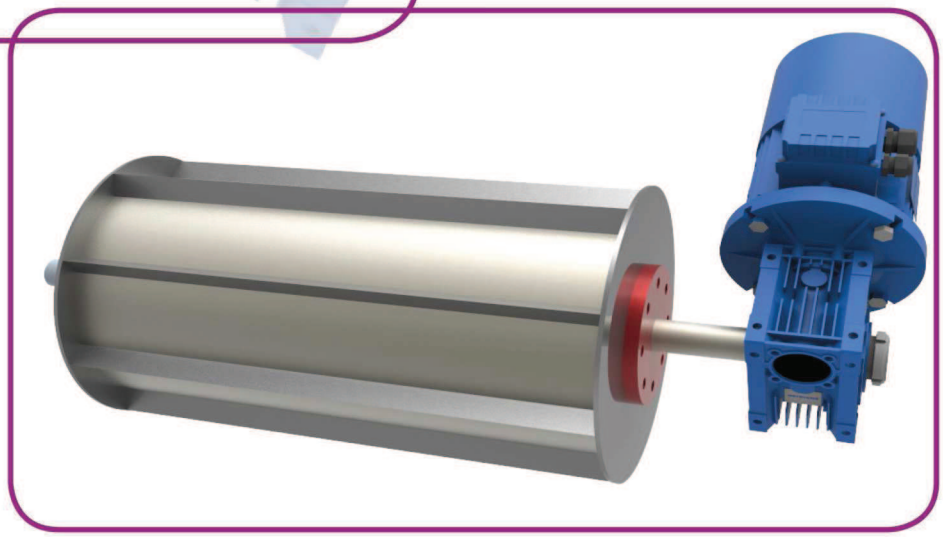
CUSTOM-BUILT PRODUCTS TO FIT YOUR SPECIFIC NEEDS

MAGNETIC SEPARATION

MAGNETIC DRUM

Magnetic drums are equipments for separation particularly suitable for continuous work in demanding conditions. They must be placed at the discharge end of the conveyors or vibrating feeders.
The magnets are placed in an internal circuitry, around a ferric support, protected by a stainless steel external coating. This protection, which can be built with different thicknesses, equips these devices with a physical robustness that makes them ideal for the removal of large particle size products.
The magnets to be used, which are chosen after the study of the product to be treated, can be ferrite or neodymium, in different degrees of magnetic strength.
The inner part where the magnets are located occupy about 65% of the total circumference of the drum and remains static. The outer part rotates to drag the ferrous elements into the enabled collection container.

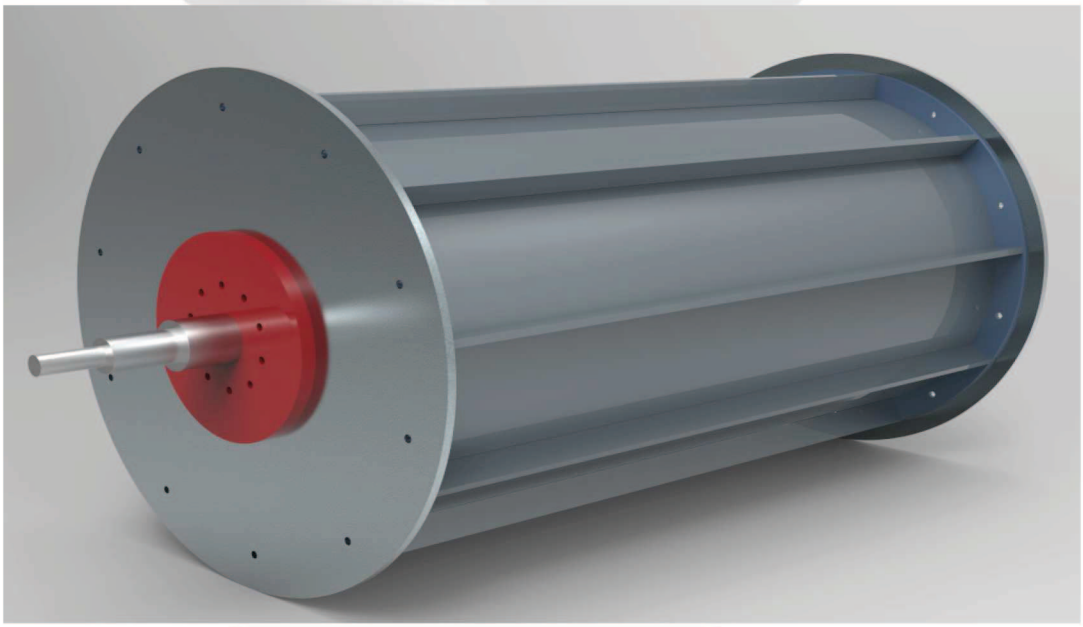


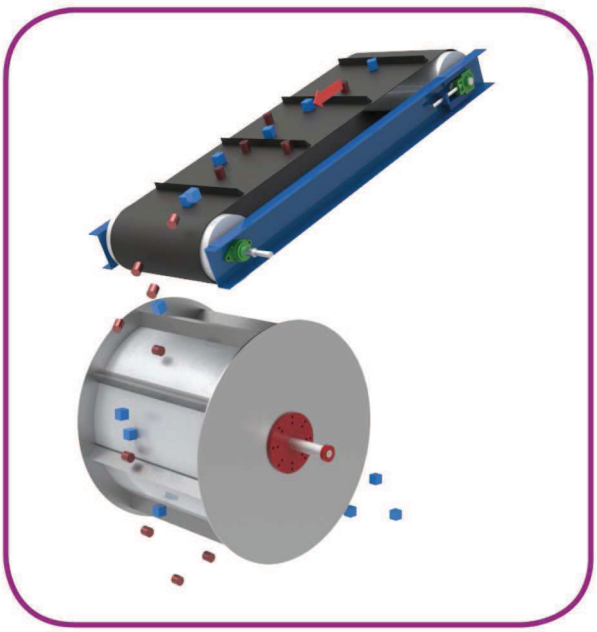


MAGNETIC SEPARATION

MAGNETIC DRUM
FOR HEAVY DUTY APPLICATIONS

They are produced in a wide range of formats, both in diameters and lengths. We fully adapt its design to the characteristics of the existing installation or to the requirements of any new project.
The drive will be adapted to the weight of the unit and can be optionally equipped with a frequency converter.
The replacement of the gear-motor is quick and easy. We always use the best brands according to market standards.





MAGNETIC SEPARATION

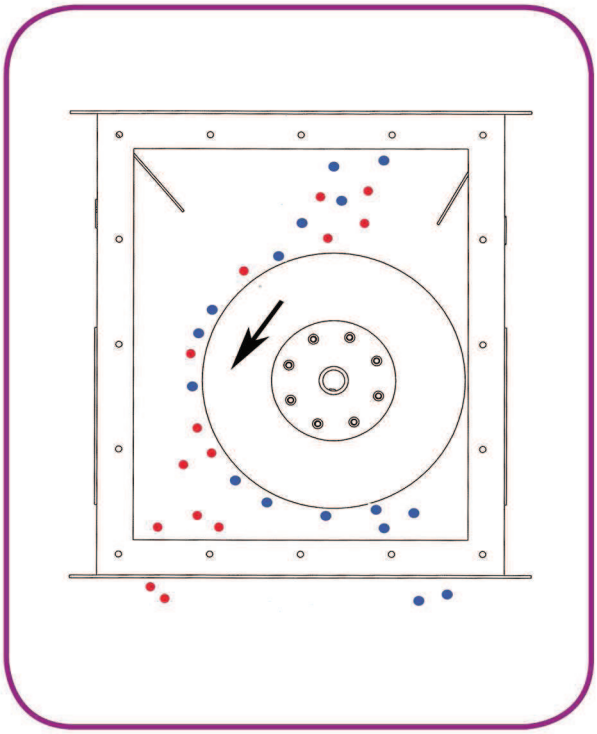
MAGNETIC DRUM WITH CLOSED HOUSING

In the separation of products with small particle size, the drum is usually mounted inside a closed housing, to prevent from any material leakage.
The product circulates inside the casing through an adjustable feed flap, whereby the material flow falls directly into the range of influence of the magnetic field.

Main features:

- Magnetic circuit built with ferrite or neodymium magnets.
- Stainless steel housing.
- Access doors for inspection and maintenance.
- Adjustable feed gate.
- Adjustable magnetic circuit position for optimum separation.
- Lower deflector for the separation of the filtered product.
- System with low maintenance requirements.

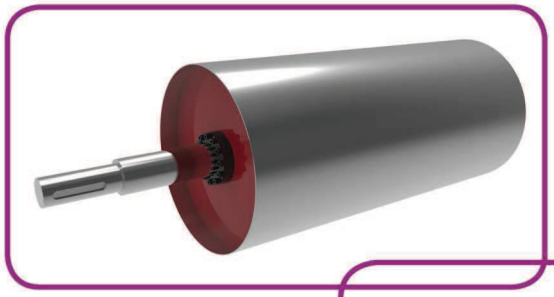
Each unit is designed according to the existing installation, achieving perfect integration in the production process.



MAGNETIC SEPARATION

MAGNETIC PULLEY

The magnetic pulleys are a highly efficient separation system to eliminate ferrous contamination from many different materials as aggregates, granulated plastics, urban waste, etc. They are especially suitable for continuous work in demanding environments.
The magnetic pulleys are installed at the discharge end of the conveyor belt. They can be installed as a drive unit or rotate by the action of the conveyor belt. For better traction, the magnetic pulley can be optionally coated with PVC rubber to get further toughness of the belt. They are manufactured in a wide range of sizes, both in diameters and lengths. The central axis is designed according to customer requirements and can be welded or removable using clamping bushings.
This equipment requires minimal maintenance. The magnetic part can be composed of neodymium or ferrite magnets in different configurations, depending on each installation case.



MAGNETIC SEPARATION

METAL DETECTOR

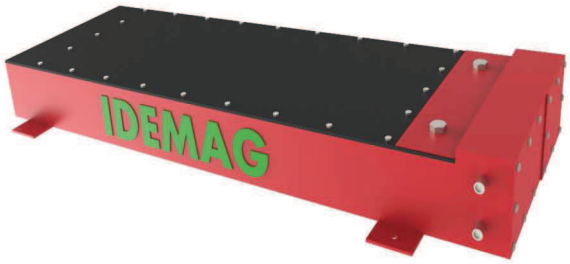
The metal detector is an electronic device designed specifically for locating metal contaminants mixed with other products. Its function is to protect any industrial equipment (crushers, shredders, mills, laminators, etc…) that can be damaged by a metallic element.

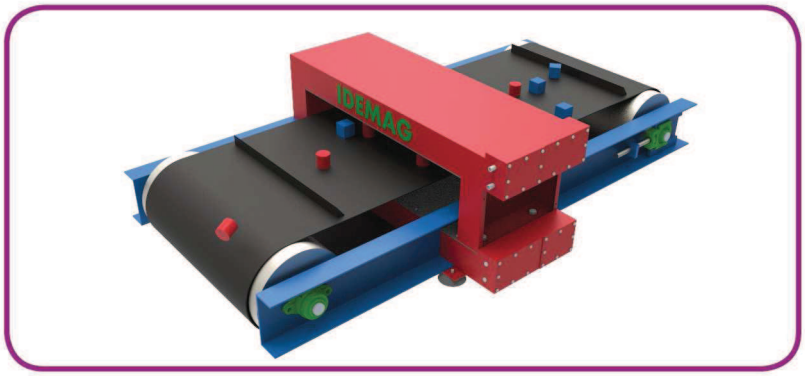
Metal detectors can be, depending on their shape, of tunnel or tray. In the tunnel model, the conveyor belt circulates inside the detector and the action radius works simultaneously on the surface and at the bottom of the transported material. The model of tray can be placed suspended on the band or under it, depending on the analysis that will be carried out by our technical department, in order to obtain an optimum performance in the detection.

Each time a metallic material detection occurs, we can generate different events; stop the conveyor belt, acoustic/luminous alarm signal, activation of baffle to separate the contaminated product, etc...

Main Features:

- Easy installation.
- Detection of all types of metals.
- Insulation of electronics to avoid any interference during the detection.
- High sensitivity.





CUSTOM-BUILT PRODUCTS TO FIT YOUR SPECIFIC NEEDS

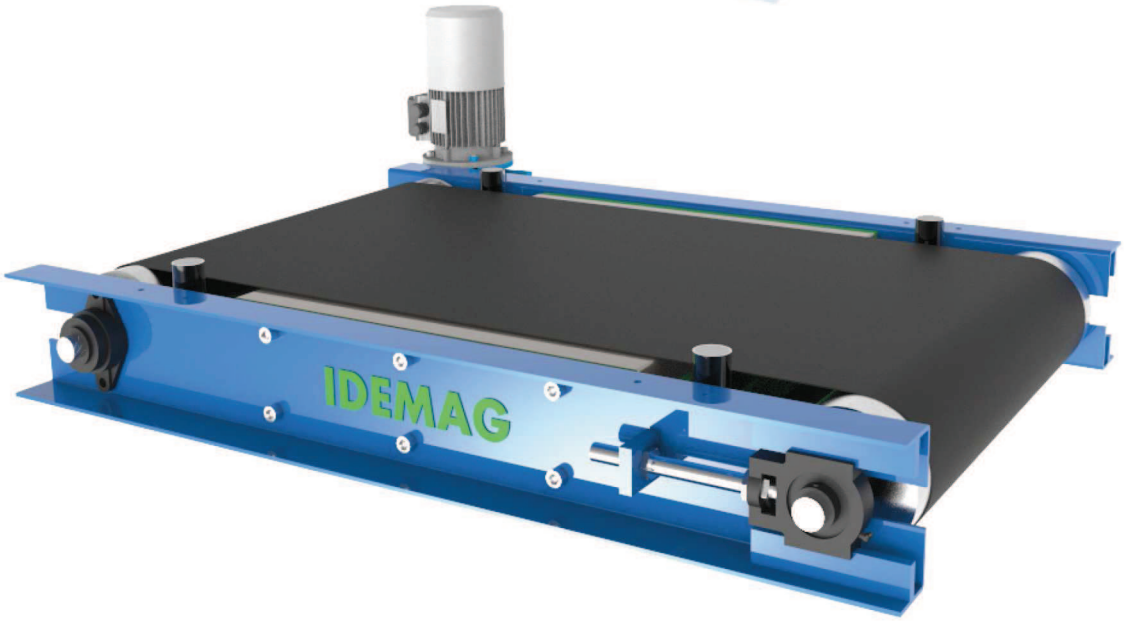
MAGNETIC SEPARATION

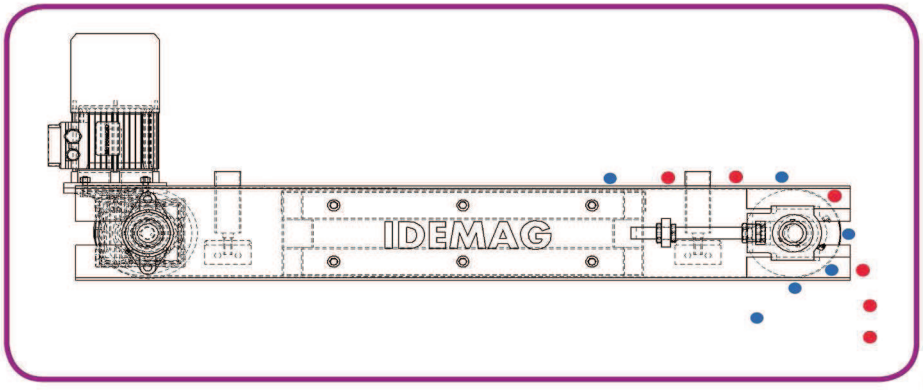
STAINLESS STEEL MAGNETIC SEPARATOR

The stainless steel magnetic separator is made up of a high induction magnetic pulley, capable of attracting stainless material. The magnetic configuration and effectiveness of this model will depend on the type and composition of stainless steel to be treated.

Our technical team will organize a performance test using the material provided by the customer.
The stainless steel magnetic separator uses the most advanced technology in permanent magnets in order to get an ultra-powerful magnetic field. This magnetic system can optionally incorporate a control panel with frequency variator to maximize the speed parameters of the conveyor belt.

The use of a vibrating feeder is recommended to increase the effectiveness of the stainless steel magnetic separator.





MAGNETIC SEPARATION

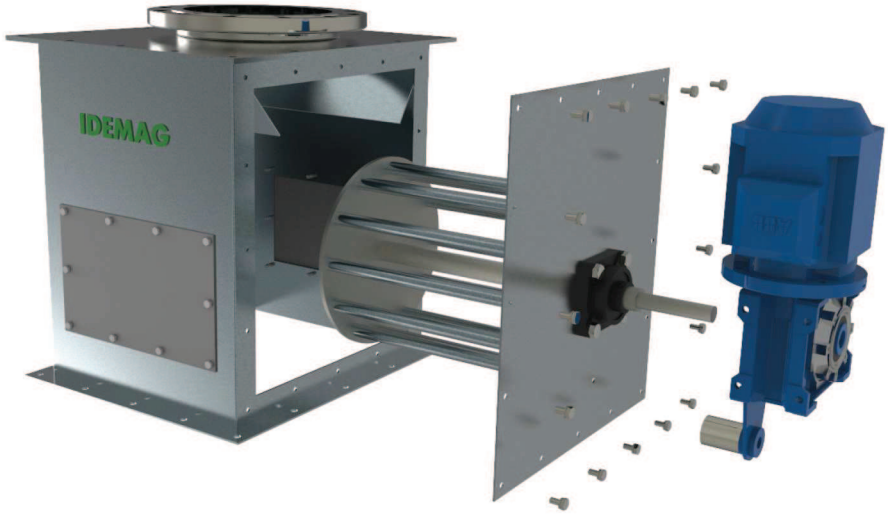
MAGNETIC ROTATING FILTER WITH BARS

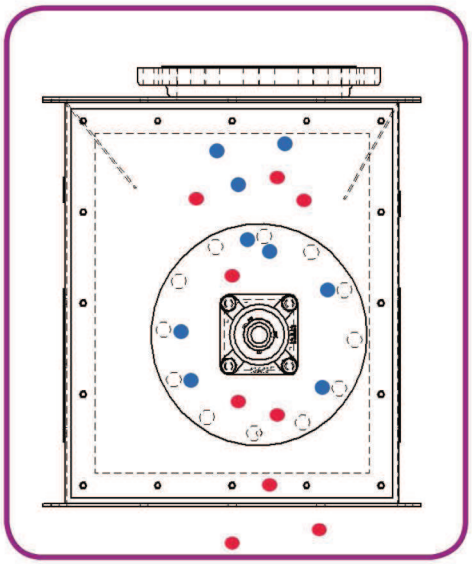
The magnetic rotating filter with bars is specially designed for ferrous impurities removal in powdered or granulated products.

The magnetic bars separation enables the flow of material avoiding any flow loss, and the rotating movement ensures the capture of all the ferrous particles.

The magnetic bars are made of high induction magnets and in stainless steel coating. The rotation speed can be fixed by factory settings or a frequency converter can be incorporated to enable speed adjustments depending on the flow rates.

The rotary drum is mounted on a removable side for easy and quick cleaning.
The equipment can incorporate any type of flange for proper integration into the existing installation. It can optionally have the bottom open or with a second coupling flange.





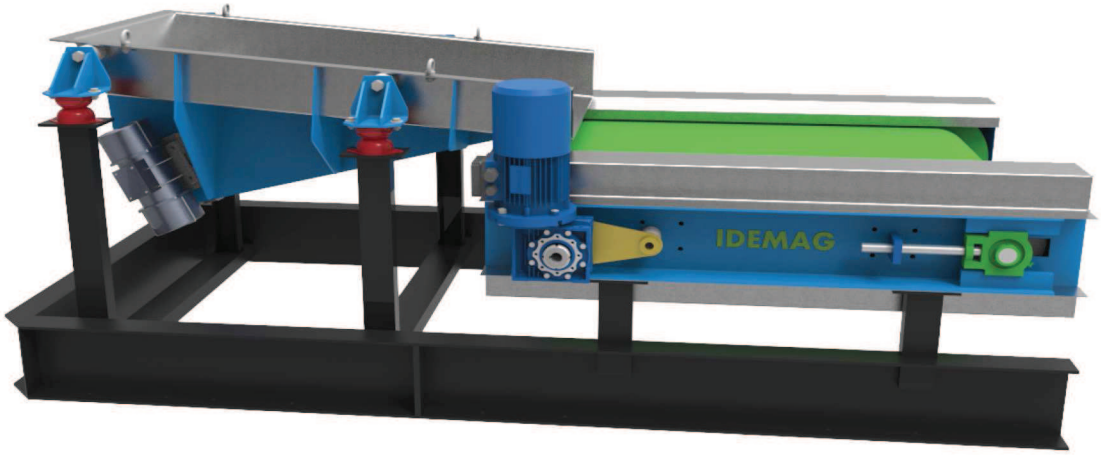
MAGNETIC SEPARATION

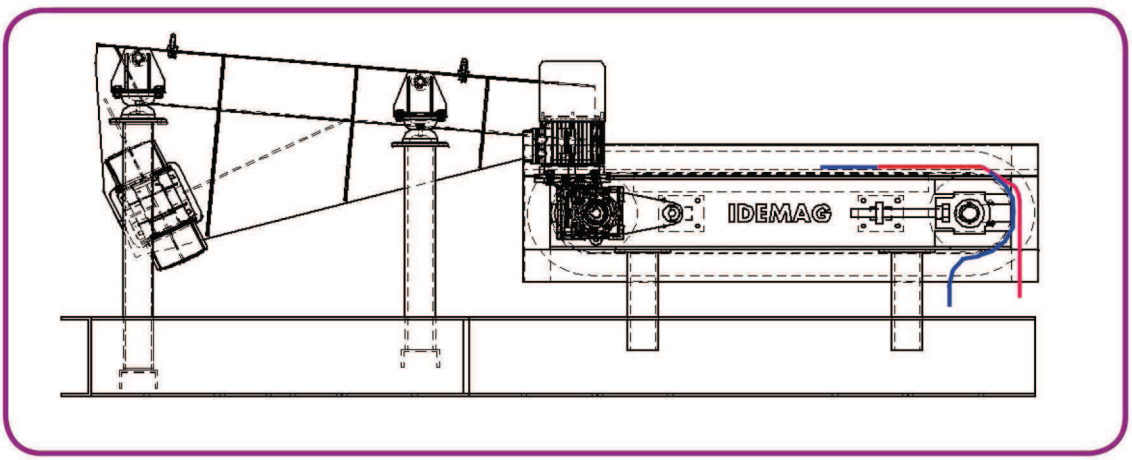
HIGH INTENSITY MAGNETIC SEPARATOR

The high-intensity magnetic separator is designed for the removal of low ferrous particles. It has a high induction magnetic circuit that, combined with a thin antistatic conveyor belt and a homogeneous product feeding, allows the separation of particles especially difficult to remove with other magnetic systems.

The typical application of the high intensity magnetic separator is the removal of ferrous pollution in crushed copper wire recycling.

The measurements of the unit are fully customized in order to get a perfect adaptation to the existing installation.



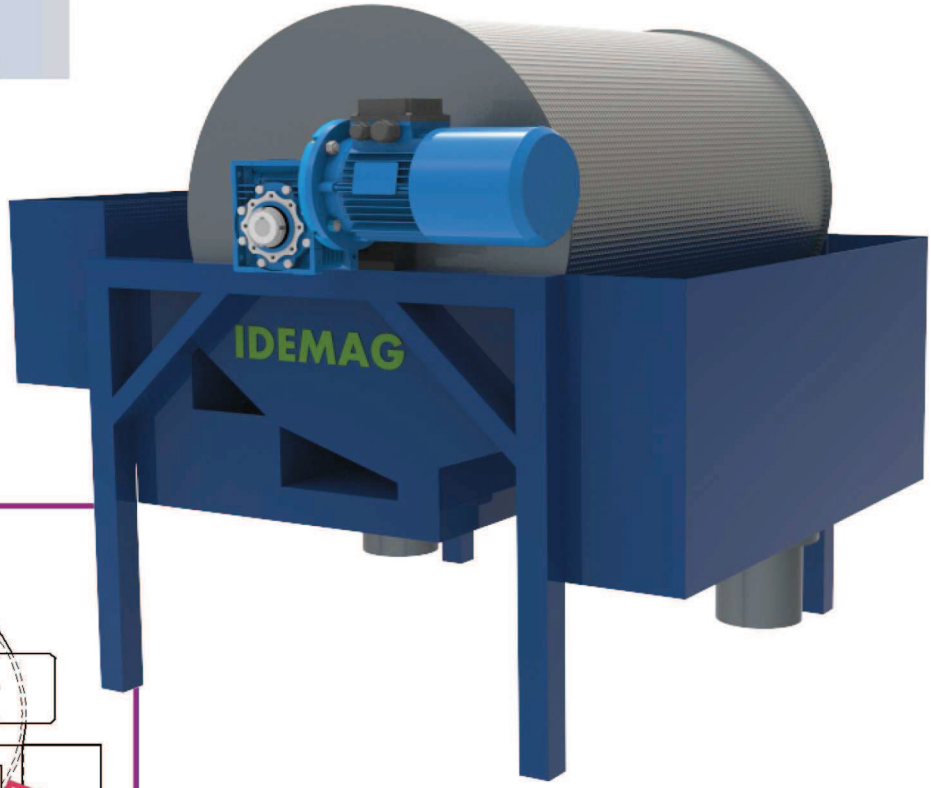


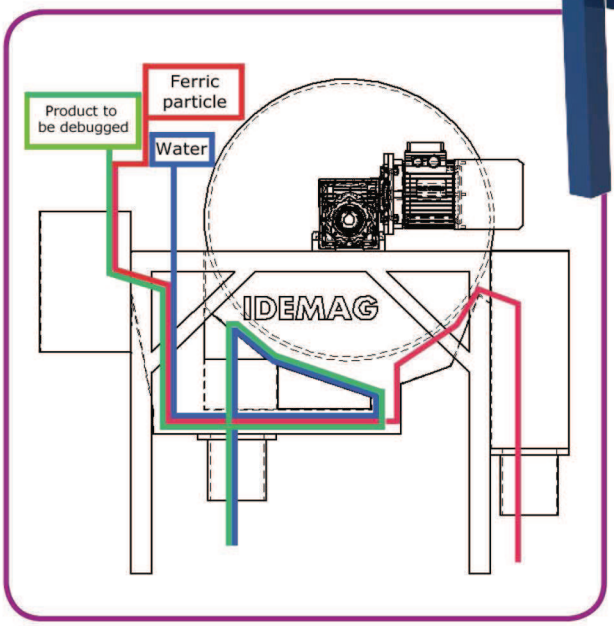
MAGNETIC SEPARATION

MAGNETIC FILTER FOR WET PRODUCTS

The magnetic filter for wet products is especially indicated for mining industry. The primary material arrives at the magnetic separator in sludge contaminated with ferric particles. In a first step the sludge is diluted with water and then the product is processed with high induction magnets. The final drain results in a clean dissolution free from ferric contaminants and a mixture of water with the removed contaminants.

The magnetic filter for wet products is a continuous, economical and reliable system for magnetic separation in sludge. Several simultaneous cascading systems can be installed for better efficiency. Its easy maintenance and effectiveness makes it as an ideal method for the demanding conditions that are required in mining industry.





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