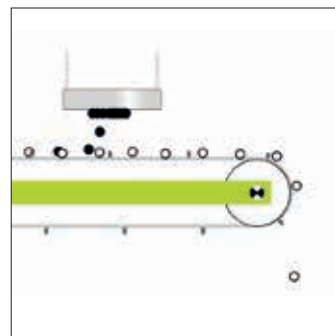
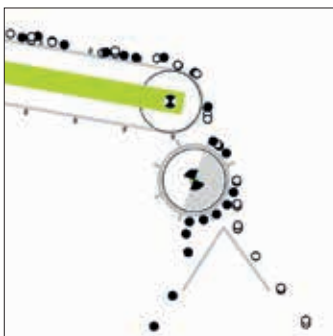
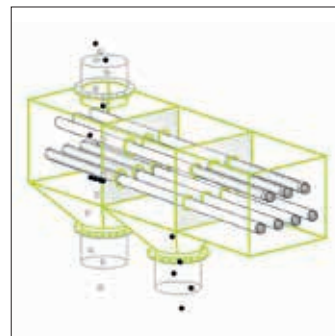
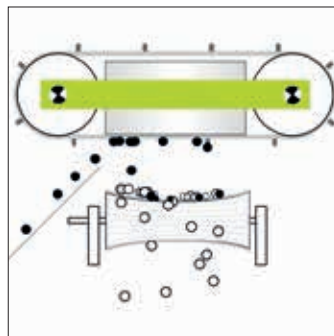
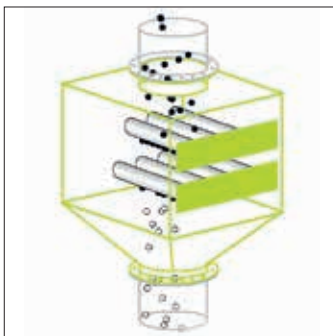
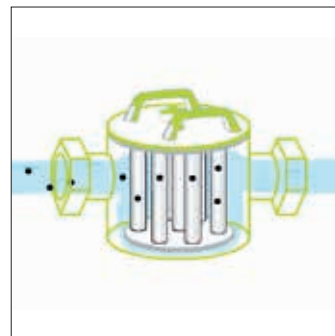
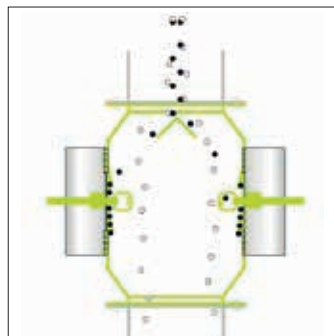
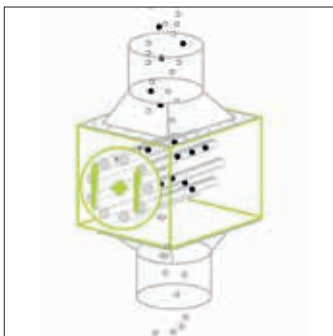


Separation of Magnetic Metals

System Catalogue



Introduction

Dear Sir or Madam,

This magnet catalogue provides you with a compact overview of all Sesotec magnets for efficient metal separation, their applications, and their benefits. Which magnet system is suitable for which purpose? What are the possible equipment versions and power ratings? Our magnet catalogue helps you to find answers to these and to many other questions.

Sesotec provides well-proven, economically interesting metal detectors and separators for all applications, production stages, and conveying methods. Magnets are used especially for applications requiring the separation of ferrous metals. Exactly matched to the respective industry sectors, material types, production stages and conveying systems (free-fall sections, pipelines, belt conveyors, ...) magnets are an efficient stand-alone solution or a reasonable add-on to inductive metal detectors and separators. In many cases magnet separators are used to reduce the load on downstream detectors, separators, or sorting systems.


Sesotec's extensive product range comprises everything from separator rods, grid magnets, inline magnets, drum magnets, roller magnets, overband magnets, through to complex magnet systems with fully-automatic cleaning.

No matter what type of magnet separator you need – you will find the suitable solution in our Sesotec magnet catalogue.

Sesotec GmbH

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Products	Plastics industry	Food industry	Chemical industry	Pharmaceutical industry	Textile industry	Wood industry	Recycling industry	Packaging industry	Other industry sectors	ATEX – type approval 	
SM separator rod	●	●	●	●	●	●	●	●	●	✓	20
GMT & GML hopper magnet	●						●				22
GM grid magnet	●	●	●	●			●	●	●	✓	24
SAFEMAG	●										26
EXTRACTOR-SE	●										28
EXTRACTOR-J	●										30
EXTRACTOR-K	●										32
MAGBOX MXP – round connections	●		●				●	●			34
MAGBOX MXP – square connections	●		●				●	●			36
MAGBOX MXF FOOD/PHARMA – round connections		●	●	●						✓	38
MAGBOX MXF FOOD/PHARMA – square connections		●	●	●						✓	40
MAGBOX AUTO CLEAN – round connections	●	●	●	●			●	●	●	✓	42
MAGBOX AUTO CLEAN – square connections	●	●	●	●			●	●	●	✓	44
PNEUMAG	●	●	●	●						✓	46
ROTOBOX	●	●	●	●		●	●		●	✓	48
ROTOBOX AUTO CLEAN	●	●	●	●		●	●		●	✓	50
PM plate magnet	●	●	●	●	●	●	●	●	●	✓	52
PRM inline chute magnet	●	●	●		●	●	●	●	●	✓	54
RM inline magnet	●		●			●	●	●			56
LIQUIMAG		●	●	●					●	✓	58
LIQUIMAG AUTO-CLEAN		●	●	●					●	✓	60
WM head roller magnet system	●	●	●		●	●	●	●	●		62
TM drum magnet system	●	●	●		●	●	●	●	●		64
TMG drum magnet system in housing	●	●	●		●	●	●	●	●		66
OM overband magnet system	●		●			●	●	●			68

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Sesotec products:	
Precision. Versatility. Economic efficiency. Individuality.	77

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LIQUIMAG - Saumweber, Munich/Germany	78
PNEUMAG - Greiwing, Wesel/Germany	80
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Sesotec Magnet Systems

Separation of magnetic metals

Sesotec is a global leader in the development and production of detection, separation, and sorting systems. Our products are used in industrial applications, both for production and for the reprocessing of recyclable materials that are reused for production.

Sesotec magnet systems and quality assurance are inseparable.

Two examples:

1. In the food industry Sesotec magnet systems make an important contribution to consumer protection, because they ensure that food products are free from magnetic metal contaminations.
2. In the plastics industry Sesotec magnet systems are used to protect processing machines. They prevent machine downtimes and thus increase process continuity and productivity.

Precision. Intelligence. Customer-orientation.

The Sesotec product range comprises separator rods, grid magnets, inline, drum, head roller and overband magnets, through to complex magnet systems with fully-automatic cleaning.

Highest efficiency. With state-of-the-art technology.

ATEX certified magnet systems are available to meet stringent explosion-protection requirements.



Which magnet system is suitable for which purpose? What are the possible equipment versions and performance ratings? This catalogue provides the answers to these and to many other questions. No matter what kind of magnet systems you need – Sesotec has the suitable solution.



Interesting facts about magnets

Technical terms

Anisotropy:	A physical quantity's property of being directionally dependent
Working point:	Mostly BH_{\max} (in the 2nd quadrant of the hysteresis loop)
B:	Flux density (Tesla)
BH_{\max} (energy product):	The biggest possible product of flux density B and its magnetic field strength H
Curie temperature:	The temperature at which a magnetic material loses its magnetic property
EASY CLEAN:	The magnet cores can be pulled out of the casings – for fast and efficient cleaning
Max. service temperature:	The highest temperature that a magnet may be exposed to without an irreversible loss of performance
Demagnetisation:	Reduction of the flux density to $B=0$
Field:	The space that bears a physical property
Field line:	A means of visualising fields
Ferrites:	Ferrimagnetic ceramic materials. Ferrites excellently conduct the magnetic flux and have a high magnetic conductivity (permeability)
Ferromagnetism:	Magnetic property of materials with a permeability of $\mu \gg 1$
Flux, magnetic:	Graphically the entirety of the field lines that penetrate a certain area
Flux density B:	The ratio of the magnetic flux ϕ (phi) to the cross-sectional area A (density of magnetic field lines)
Gauss:	Outdated unit for the flux density (1 gauss = 10^{-4} Tesla); 1 mT = 10 gauss
Gaussmeter:	A measuring instrument for determining the flux density B
H:	Magnetic field strength (A/m)
Hysteresis loop:	A graphic representation of the flux density B depending on the magnetic field strength H
Isotropy:	The uniformity of physical properties in all directions
J:	Magnetic polarisation (Tesla)
Coercive field strength:	The strength of the demagnetised field
Magnetisation:	Extremely strong external magnetic fields result in an increase of the flux density up to saturation
Magnet surface:	The surface of the actual magnet core (does not have to get in direct contact with the product)
Magnet pole:	The position where the magnet flux exits from the magnet
Neodymium (-magnet):	Rare-earth material. A magnetic material with an alloy of neodymium-iron-boron (NdFeB) that has excellent magnetic properties
Oerstedt:	Outdated unit for the magnetic field strength (1 Oerstedt = 79.6 A/m)
Paramagnetism:	Magnetic property of materials with a permeability $\mu > 1$. Above the Curie temperature all the ferromagnetic materials show paramagnetism
Permanent magnet:	A magnet that after successful magnetisation fully or partially keeps its magnetism
Permeability μ:	Magnetic conductivity. Ratio of flux density B to the magnetic field H. This value states how well the magnetic flux is conducted
Remanence B_r:	The remaining flux density in a body that was exposed to a magnetising field
Tesla:	Unit of the magnetic flux density (1 Tesla = 10^{-4} Vs/cm ²)
Preference direction:	The direction determined by the manufacturing process in which the magnet has its maximum magnetic properties
Effective surface:	The surface of the magnet separator that is in direct contact with the product (e.g. the outside of the stainless steel casings of separator rod systems)

Materials

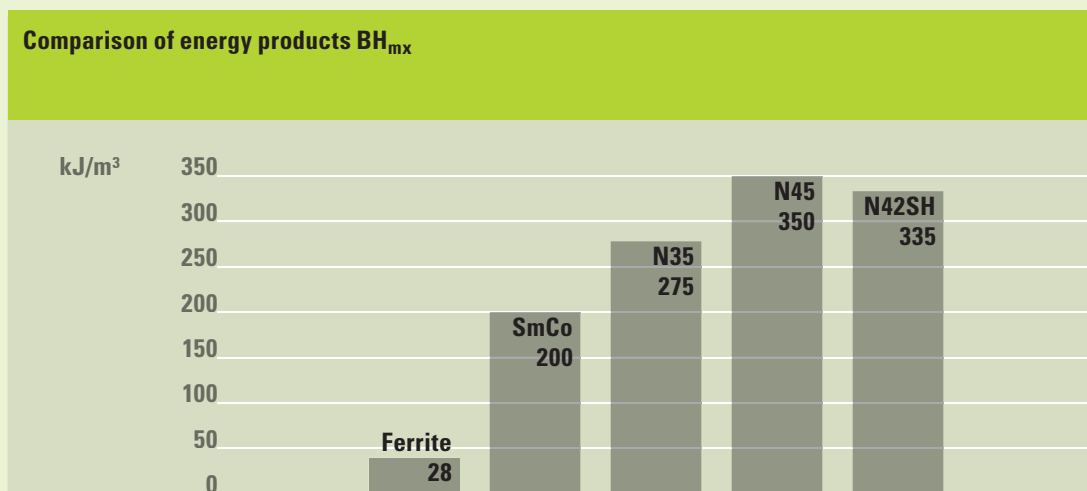
- Hard ferrites:** Are used for simple tasks.
Curie temperature: 450 °C
Max. service temperature: 220 °C
- SmCo:** A rare-earth compound of the metals samarium and cobalt.
Also suitable for high-temperature applications. Permanently keeps its magnetic power (permanent magnets).
Curie temperature: 750 °C
Max. service temperature: 350 °C
- NdFeB:** Neodymium-iron-boron alloy (rare-earth material). At present these are the most powerful magnet materials that can be economically produced.
Suitable for the separation of finest Fe contaminations.
Curie temperature: 300 °C
Max. service temperature: 100 °C (N42SH: 150 °C)

Technical data

Magnet material	Energy product BH_{max} in kJ/m ³	Remanence Br in mT	Remanence Br in gauss	Magnetic flux density at the effective surface* HcJ in kA/m	Coercive force feldstärke HcJ in kA/m	Max. operating temp.in °C
Ferrite Y30	28	400	4000	2500	200	220
Sm2Co17	200	1040	10400	8000/8000	≥1430	350
NdFeB (N35)	275	1200	12000	7000/7000	≥955	100
NdFeB (N45)	350	1370	13700	11000/9000	≥955	100
NdFeB (N42SH)	335	1330	13300	9000/8000	≥1590	150

* measured in gauss at the outer tube surface of a grid magnet system without/with EASY CLEAN

[1 gauss = 10⁻⁴ T]



Application Matrix

Plastics

Industry Segment	Application Field	Application	Product	Usage example	
Petrochemical Industry (Plastics Manufacturers)	Quality control	Free-fall	MAGBOX	after screener, inline or in packing station	
			MAGBOX AUTO-CLEAN	after screener, inline or in packing station	
	Pneumatic conveying	Free-fall	PIPE MAGNET	inline or in packing station (big bags, octabins, gaylords, packing machines, ...)	
			PNEUMAG	in conveying pipe	
Compound Manufacturers	Quality control	Free-fall	MAGBOX	after screener, inline or in packing station	
			MAGBOX AUTO-CLEAN	after screener, inline or in packing station	
			PIPE MAGNET	inline or in packing station (big bags, octabins, gaylords, packing machines, ...)	
	Tool and machinery protection	Pneumatic conveying	1-screw extruder	PNEUMAG	in conveying pipe
				EXTRACTOR	material infeed of extruder
		2-screw extruder	SAFEMAG	material infeed of extruder	
			GRID MAGNET	material infeed of extruder	
			HOPPER MAGNET	material infeed of extruder	
			MAGBOX	material infeed of extruder	
			MAGBOX AUTO-CLEAN	material infeed of extruder	
			PIPE MAGNET	material infeed of extruder	
			GRID MAGNET	material infeed of extruder	
			HOPPER MAGNET	material infeed of extruder	
Plastics Processors	Tool and machinery protection	Injection molding machine	EXTRACTOR	material infeed of injection molding machine, also in combination with PROTECTOR	
			SAFEMAG	material infeed of injection molding machine, also in combination with PROTECTOR	
		1-screw extruder	EXTRACTOR	material infeed of extruder	
			SAFEMAG	material infeed of extruder	
			GRID MAGNET	material infeed of extruder	
			HOPPER MAGNET	material infeed of extruder	
		2-screw extruder	MAGBOX	material infeed of extruder	
			MAGBOX AUTO-CLEAN	material infeed of extruder	
			PIPE MAGNET	material infeed of extruder	
			GRID MAGNET	material infeed of extruder	
			HOPPER MAGNET	material infeed of extruder	
		Blow molding machine	EXTRACTOR	material infeed of machine	
	MAGBOX		material infeed of machine		
Fine granulator	MAGBOX	material infeed of machine			
	MAGBOX AUTO-CLEAN	material infeed of machine			
Plastics Recycling	Quality control	Free-fall	MAGBOX	inline or in packing station (big bags, octabins, gaylords,...)	
			MAGBOX AUTO-CLEAN	inline or in packing station (big bags, octabins, gaylords,...)	
	Tool and machinery protection	2-screw extruder Granulator	DRUM MAGNET IN HOUSING	at feeding belt conveyor or chute	
			OVERBAND MAGNET	over feeding belt conveyor or chute	
			PLATE MAGNET	at feeding belt conveyor or chute	
			DRUM MAGNET IN HOUSING	at feeding belt conveyor or chute	
			DRUM MAGNET	at feeding belt conveyor or chute	
Rubber and Tire Industry	Quality control	Free-fall	MAGBOX	inline or in packing station (big bags, octabins, gaylords,...)	
			MAGBOX AUTO-CLEAN	inline or in packing station (big bags, octabins, gaylords,...)	
	Tool and machinery protection	Granulator	DRUM MAGNET IN HOUSING	material infeed of machine	
			OVERBAND MAGNET	over feeding belt before material inlet of the machine	
Hygiene	Quality control	Free-fall	CHUTE MAGNET	inline	
		Belt conveyor	PLATE MAGNET	over tile	
		DRUM MAGNET IN HOUSING	after feeding		
Wood	Tool and machinery protection	Chopper / size reduction machine	OVERBAND MAGNET	over belt conveyor	
Mining	Tool and machinery protection	Granulator	DRUM MAGNET IN HOUSING	material infeed of machine	
			OVERBAND MAGNET	over belt conveyor	

Food

Industry Segment	Application Field	Application	Product	Usage example	
Sausage meat	Quality control	Pump conveyance	LIQUIMAG	in conveying pipe	
			LIQUIMAG AUTO-CLEAN	in conveying pipe	
Dairy products	Quality control	Pump conveyance	LIQUIMAG	in conveying pipe	
			LIQUIMAG AUTO-CLEAN	in conveying pipe	
Grain milling products	Quality control	Free-fall	MAGBOX FOOD	in conveying pipe	
			ROTOBOX	in conveying pipe	
			MAGBOX AUTO CLEAN	in conveying pipe	
			ROTOBOX AUTO CLEAN	in conveying pipe	
		Tool and machinery protection	Pneumatic conveying	PNEUMAG	in conveying pipe
				GRID MAGNET	in hopper
			Free-fall	MAGBOX FOOD	in conveying pipe
				ROTOBOX	in conveying pipe
	Pneumatic conveying	Granulator	MAGBOX AUTO CLEAN	in conveying pipe	
			ROTOBOX AUTO CLEAN	in conveying pipe	
			GRID MAGNET	in hopper	
			PNEUMAG	in conveying pipe	
		Material infeed	MAGBOX FOOD	material infeed of machine	
			ROTOBOX	material infeed of machine	
			MAGBOX AUTO CLEAN	material infeed of machine	
			ROTOBOX AUTO CLEAN	material infeed of machine	
Spices	Quality control	Free-fall	MAGBOX FOOD	in conveying pipe	
			ROTOBOX	in conveying pipe	
			MAGBOX AUTO CLEAN	in conveying pipe	
			ROTOBOX AUTO CLEAN	in conveying pipe	
		Tool and machinery protection	Pneumatic conveying	GRID MAGNET	in hopper
				DRUM MAGNET IN HOUSING	in conveying pipe / after conveying equipment
			Free-fall	CHUTE MAGNET	in conveying pipe
				PNEUMAG	in conveying pipe
	Pneumatic conveying	Granulator	MAGBOX FOOD	in conveying pipe	
			ROTOBOX	in conveying pipe	
			MAGBOX AUTO CLEAN	in conveying pipe	
			ROTOBOX AUTO CLEAN	in conveying pipe	
		Material infeed	GRID MAGNET	in hopper	
			DRUM MAGNET IN HOUSING	in conveying pipe / after conveying equipment	
			CHUTE MAGNET	in conveying pipe	
			PNEUMAG	in conveying pipe	
Rice	Quality control	Free-fall	MAGBOX FOOD	in conveying pipe	
			ROTOBOX	in conveying pipe	
			MAGBOX AUTO CLEAN	in conveying pipe	
			ROTOBOX AUTO CLEAN	in conveying pipe	
		Tool and machinery protection	Pneumatic conveying	GRID MAGNET	in hopper
				CHUTE MAGNET	in conveying pipe
			Free-fall	PNEUMAG	in conveying pipe
				MAGBOX FOOD	in conveying pipe
	Pneumatic conveying	Granulator	ROTOBOX	in conveying pipe	
			MAGBOX AUTO CLEAN	in conveying pipe	
			ROTOBOX AUTO CLEAN	in conveying pipe	
			GRID MAGNET	in hopper	
		Material infeed	DRUM MAGNET IN HOUSING	in conveying pipe / after conveying equipment	
			CHUTE MAGNET	in conveying pipe	
			PNEUMAG	in conveying pipe	
			PNEUMAG	in conveying pipe	

Food

Industry Segment	Application Field	Application	Product	Usage example		
Coffee and Tea	Quality control	Free-fall	MAGBOX FOOD	in conveying pipe		
			ROTOBOX	in conveying pipe		
			MAGBOX AUTO CLEAN	in conveying pipe		
			ROTOBOX AUTO CLEAN	in conveying pipe		
			GRID MAGNET	in hopper		
	Tool and machinery protection	Pneumatic conveying	CHUTE MAGNET	in conveying pipe		
			PNEUMAG	in conveying pipe		
			Free-fall	MAGBOX FOOD	in conveying pipe	
				ROTOBOX	in conveying pipe	
				MAGBOX AUTO CLEAN	in conveying pipe	
		ROTOBOX AUTO CLEAN		in conveying pipe		
		GRID MAGNET		in hopper		
		Pneumatic conveying	DRUM MAGNET IN HOUSING	in conveying pipe / after conveying equipment		
			CHUTE MAGNET	in conveying pipe		
			PNEUMAG	in conveying pipe		
			Granulator	MAGBOX FOOD	material infeed of machine	
				ROTOBOX	material infeed of machine	
		MAGBOX AUTO CLEAN		material infeed of machine		
		ROTOBOX AUTO CLEAN		material infeed of machine		
		GRID MAGNET		material infeed of machine		
DRUM MAGNET IN HOUSING	material infeed of machine					
CHUTE MAGNET	material infeed of machine					
Sugar	Quality control	Free-fall	MAGBOX FOOD	in conveying pipe		
			ROTOBOX	in conveying pipe		
			MAGBOX AUTO CLEAN	in conveying pipe		
			ROTOBOX AUTO CLEAN	in conveying pipe		
			GRID MAGNET	in hopper		
	Tool and machinery protection	Pneumatic conveying	PNEUMAG	in conveying pipe		
			Free-fall	MAGBOX FOOD	in conveying pipe	
				ROTOBOX	in conveying pipe	
				MAGBOX AUTO CLEAN	in conveying pipe	
				ROTOBOX AUTO CLEAN	in conveying pipe	
		GRID MAGNET		in hopper		
		Pneumatic conveying	PNEUMAG	in conveying pipe		
			Granulator	MAGBOX FOOD	material infeed of machine	
				ROTOBOX	material infeed of machine	
				MAGBOX AUTO CLEAN	material infeed of machine	
				ROTOBOX AUTO CLEAN	material infeed of machine	
		GRID MAGNET		material infeed of machine		
		Salt	Quality control	Free-fall	MAGBOX FOOD	in conveying pipe
					ROTOBOX	in conveying pipe
					MAGBOX AUTO CLEAN	in conveying pipe
ROTOBOX AUTO CLEAN	in conveying pipe					
GRID MAGNET	in hopper					
Tool and machinery protection	Pneumatic conveying		CHUTE MAGNET	in conveying pipe		
			PNEUMAG	in conveying pipe		
			Free-fall	MAGBOX FOOD	in conveying pipe	
				ROTOBOX	in conveying pipe	
				MAGBOX AUTO CLEAN	in conveying pipe	
	ROTOBOX AUTO CLEAN			in conveying pipe		
	GRID MAGNET			in hopper		
	Pneumatic conveying		DRUM MAGNET IN HOUSING	in conveying pipe / after conveying equipment		
			OVERBAND MAGNET	after the mining process (e.g. to remove wires which have been part of the used explosive material)		
			CHUTE MAGNET	in conveying pipe		
			Granulator	PNEUMAG	in conveying pipe	
				MAGBOX FOOD	material infeed of machine	
	ROTOBOX			material infeed of machine		
	MAGBOX AUTO CLEAN			material infeed of machine		
	ROTOBOX AUTO CLEAN			material infeed of machine		
GRID MAGNET	material infeed of machine					
DRUM MAGNET IN HOUSING	material infeed of machine					
CHUTE MAGNET	material infeed of machine					
Beverage	Quality control	Pump conveyance	LIQUIMAG	in conveying pipe		
			LIQUIMAG AUTO-CLEAN	in conveying pipe		

Industry Segment	Application Field	Application	Product	Usage example	
Animal feed	Quality control	Free-fall	MAGBOX FOOD	in conveying pipe	
			ROTOBOX	in conveying pipe	
			MAGBOX AUTO CLEAN	in conveying pipe	
			ROTOBOX AUTO CLEAN	in conveying pipe	
			GRID MAGNET	in hopper	
	Tool and machinery protection	Pneumatic conveying	Free-fall	CHUTE MAGNET	in conveying pipe
				PNEUMAG	in conveying pipe
				MAGBOX FOOD	in conveying pipe
				ROTOBOX	in conveying pipe
				MAGBOX AUTO CLEAN	in conveying pipe
		Pneumatic conveying Granulator	Free-fall	ROTOBOX AUTO CLEAN	in conveying pipe
				GRID MAGNET	in hopper
				DRUM MAGNET IN HOUSING	in conveying pipe / after conveying equipment
				CHUTE MAGNET	in conveying pipe
				PNEUMAG	in conveying pipe
				MAGBOX FOOD	material infeed of machine
				ROTOBOX	material infeed of machine
				MAGBOX AUTO CLEAN	material infeed of machine
				ROTOBOX AUTO CLEAN	material infeed of machine
				GRID MAGNET	material infeed of machine
DRUM MAGNET IN HOUSING	material infeed of machine				
CHUTE MAGNET	material infeed of machine				
Chocolate	Quality control	Pump conveyance	LIQUIMAG	in conveying pipe	
			LIQUIMAG AUTO-CLEAN	in conveying pipe	

Material Specifications

Material	Specification
 Granulate	<p>Virgin material or re-pelletized material, Resin</p> <p>Characterized by regular size, geometry and surface topology</p> <p>Good flowable, unless it is resinous</p> <p>Easy to inspect with all Sesotec metal separators and magnets if <math>\lt; \varnothing 8 \text{ mm}</math></p>
 Regrind	<p>Recycled material that comes from a Granulator</p> <p>Characterized by irregular and angular form</p> <p>Medium flowable, as long as it contains only a small amount of powder</p> <p>Easy to inspect with all Sesotec metal separators and magnets if <math>\lt; \varnothing 8 \text{ mm}</math></p>
 Flakes	<p>Recycled material that comes from a Granulator or Shredder</p> <p>Characterized by shallow and ragged form and rough edges, pieces are flexible</p> <p>Bad flowable, can bridge</p> <p>Depending on the size, flakes can be separated with magnets.</p>
 PET-Flakes	<p>Recycled material that comes from a Granulator or Shredder and whose base material were PET-bottles</p> <p>Characterized by shallow and ragged form, PET-Flakes have ruffled corners, pieces are flexible and abrasive</p> <p>Bad flowable, tend to bridge</p> <p>Depending on the size, flakes can be separated with magnets (+ wear protected version).</p>
 Chips	<p>Rough cut, recycled material from a Crusher</p> <p>Characterized by the fact that its pieces are quite big, flat and not particularly flexible</p> <p>Bad flowable because of size</p> <p>Chips are usually >math>\varnothing 10 \text{ mm}</math>, due to there size they can only be separated by certain metal separators.</p>
 Shredded material	<p>Recycled material that comes from a Shredder</p> <p>Pieces are quite big, thick and not particularly flexible</p> <p>Bad flowable because of size and thickness</p> <p>Shredded material is usually >math>\varnothing 10 \text{ mm}</math>, due to there size just a certain metal detector can be used.</p>
 Powder	<p>Material that comes from a Pulverizer</p> <p>Characterized by its fine milled structure</p> <p>Bad flowable because powder tends to deposit in the edges and corners.</p> <p>Powder is material which is usually <math>\lt; \varnothing 1 \text{ mm}</math>. Not dust-proof metal separators can cause material dust in the surrounding.</p>
 Powder (absorbing moisture)	<p>Material that comes from a Pulverizer</p> <p>Characterized by its fine milled structure and its ability to absorb water</p> <p>Bad flowable because powder tends to deposit in the edges and corners. Can clump in the machine when in contact with water or humidity.</p> <p>Powder is material which is usually <math>\lt; \varnothing 1 \text{ mm}</math>. Not dust-proof metal separators can cause material dust in the surrounding.</p>
 Film shreds	<p>Recycled foils</p> <p>Characterized trough the fact that they are very thin and light as well as flexible</p> <p>Bad flow properties, tend to deposit in the edges and corners.</p> <p>Independent from foil size, only certain metal separators can handle film shreds.</p>
 Fibers	<p>Recycled material</p> <p>Characterized by their long, thin, narrow shape, are lightweight and flexible</p> <p>Medium to poor flow properties</p> <ul style="list-style-type: none"> - Fibers shorter than 8 mm can deposit - Fibers longer than 8 mm can block inside
 Glass fibers	<p>Characterized by high abrasiveness, are very hard and sharp</p> <p>Fibers shorter than 8 mm have medium flow properties</p> <ul style="list-style-type: none"> - Glass fiber share <math>\lt; 20 \%</math>: a wear protected version might be necessary - Glass fiber share >math>20 \%</math>: a wear protected version
 Carbon fibers	<p>Characterized by the property to be conductive, are flexible and lightweight</p> <p>Fibers shorter than 8 mm have medium flow properties and can deposit</p>

Product		Specifications
e.g. Flour, Sugar powder, Coffee powder, Grounded spices (e.g. Curry, Cinnamon), ... 	Powder	High hygienic requirements Bad flowable Powder tends to deposit in the edges and corners. Very fine grained material, usually $\lt; \varnothing 1 \text{ mm}$. Not dust-proof metal separators can cause material dust in the surrounding. It may happen in such applications that ATEX is necessary.
e.g. Milk powder with high fat content, Chocolate powder/ Cocoa powder, ... 	Sticky powder	High hygienic requirements Bad flowable Powder tends to deposit in the edges and corners. Can clump because of the high fat content (EASY-CLEAN option is highly recommended). Very fine grained material, usually $\lt; \varnothing 1 \text{ mm}$. Not dust-proof metal separators can cause material dust in the surrounding. It may happen in such applications that ATEX is necessary.
e.g. Salt, Coarse salt, Crystal sugar, Rock sugar, Ascorbic acid, ... 	Crystal bulk materials	Standard hygienic requirements Characterized by high abrasiveness, as the single pieces are hard and sharp. (Typically fine) grained, but size can generally vary between size between $\varnothing 1 \text{ mm}$ and $\varnothing 8 \text{ mm}$. Very good flowable, can be inspected with all Sesotec metal separators with wear-protected scanning pipe and magnets in wear down protective design.
e.g. Semolina, Breadcrumbs, Oatmeal, Herbs, ... 	Grounded bulks	Standard hygienic requirements Fine grained or coarse grained, but always $\lt; \varnothing 8 \text{ mm}$. Good flowable, easy to inspect with all Sesotec metal separators and magnets.
e.g. Rice, Corn, Wheat grains, Pepper-corns, Coffee beans, ... 	Grains	Usually low hygienic requirements in low-cost applications. Good flowable, size $\lt; \varnothing 8 \text{ mm}$. Easy to inspect with all Sesotec metal separators and magnets.
e.g. Cornflakes, Chips, Popcorn, Dried mushrooms, Dried paprika flakes, ... 	Flakes	Standard hygienic requirements Bad flowable, can bridge, pieces as well tend to break easily. Depending on the size, flakes can be separated with magnets.
e.g. Tea, Leaves (e.g. Bay leaves), Saffron, ... 	Fibers and Leafes	Standard hygienic requirements Medium to poor flow properties, depending on length: Fibers and leaves can eventually deposit.
e.g. Noodles, Nuts (e.g. Peanuts, Cashews, Pistachio), Seeds (e.g. Pumpkin seeds), Dried fruits (eg. Raisin), Spices (e.g. Cloves), ... 	bigger pieces	Usually low hygienic requirements Medium flowable because of size, which is usually from $\varnothing 8 \text{ mm}$ to $\varnothing 20 \text{ mm}$. Due to size they can only be inspected by magnets in big nominal widths and with low troughput.

Application Matrix Free Fall Applications

Product- / Materialtype		Common properties	GM Grid magnet	GMT Hopper magnet	EXTRACTOR	MAGBOX MXP
FOOD	 Powder ($\lt \emptyset$ 1 mm)	bad flowable, can deposit in the separation unit	✘/✓ design modifications may be necessary	—	—	—
	 Sticky powder ($\lt \emptyset$ 1 mm)	bad flowable, ten to clump in the machine because of the high fat content and deposit in the separation unit	✘	—	—	—
	 Crystal bulk materials	good flowable, abrasive	✓ wear protective coating	—	—	—
	 Ground bulks ($\lt \emptyset$ 8 mm)	good flowable	✓	—	—	—
	 Grains ($\lt \emptyset$ 8 mm)	good flowable	✓	—	—	—
	 Flakes	bad flowable, can bridge	✘/✓ depending on the size of flakes	—	—	—
	 Fibers and Leafes	medium to poor flow properties	✘	—	—	—
	 bigger pieces ($\lt \emptyset$ 20 mm)	medium flowable because of size	✘/✓ depending on the size of the pieces, changes in design may be necessary	—	—	—
PLASTICS	 Granulate ($\lt \emptyset$ 8 mm)	good flowable	✓	✓ up to \emptyset 6 mm	✓	✓
	 Regrind ($\lt \emptyset$ 8 mm)	medium flowable, not bridging	✓	✓ up to \emptyset 6 mm	✓	✓
	 Flakes ($\lt \emptyset$ 14 mm, thinner than 1,5 mm)	flexible, bad flowable, can bridge	✓ extended free gap between rods	✘	✘	✓ extended free gap between rods
	 PET-Flakes ($\lt \emptyset$ 14 mm, thinner than 1,5 mm)	flexible, bad flowable, tend to bridge, abrasive!	✓ extended free gap between rods	✘	✘	✓ extended free gap between rods
	 Chips ($\gt \emptyset$ 10 mm)	quite big, therefore bad flowable	✓ extended free gap between rods	✘	✘	✓ extended free gap between rods
	 Shredded material ($\gt \emptyset$ 10 mm)	quite big and thick, therefore bad flowable	✘	✘	✘	✓ extended free gap between rods
	 Powder ($\gt \emptyset$ 1 mm)	bad flowable, can deposit in the separation unit	✓	✓	✓	✓
	 Powder (absorbing moisture) ($\gt \emptyset$ 1 mm)	bad flowable, tend to clump, when in contact with water (or humidity!) and deposit in the separation unit	✓ non-stick coating, depending on moisture content	✘	✓ non-stick coating, depending on moisture content	✓ non-stick coating, depending on moisture content
	 Film shreds (independent from size)	bad flowable, tend to deposit above the flap	✘	✘	✘	✘
	 Fibers (shorter than 8 mm)	medium flowable, can deposit in the machine	✓	✓	✓	✓
 Fibers (longer than 8 mm)	medium flowable, can deposit on top of flap	✘/✓ depending on the size of the pieces, changes in design may be necessary	✘	✘	✘/✓ depending on the size of the pieces, changes in design may be necessary	
 Glass fibers (shorter than 8 mm, share \lt 20%)	medium flowable, very abrasive	✓ wear protective coating	✘	✓ wear protective coating	✓ wear protective coating	
 Glass fibers (shorter than 8 mm, share \geq 20%)	medium flowable, highly abrasive	✓ wear protective coating	✘	✓ wear protective coating	✓ wear protective coating	
 Carbon fibers (shorter than 8 mm)	medium flowable, conductive = product effect	✘	✘	✘	✘	

MAGBOX FOOD		MAGBOX AUTO-CLEAN		ROTOBOX		ROTOBOX AUTO-CLEAN		PRM Inline chute magnet		RM Inline magnet		TM / TMG Drum magnet system	
✘/✓	design modifications may be necessary	✘/✓	design modifications may be necessary	✓		✓		✘/✓	design modifications may be necessary	—		✘	
✘		✘		✓	non-stick coating, depending on the stickiness of the powder	✓	non-stick coating, depending on the stickiness of the powder	✘/✓	design modifications may be necessary	—		✘	
✓	wear protective coating	✓	wear protective coating	✓	wear protective coating	✓	wear protective coating	✓	wear protective coating	—		✘	
✓		✓		✓		✓		✓		—		✓	only possible to a limited extend
✓		✓		✓		✓		✓		—		✓	only possible to a limited extend
✘/✓	depending on the size of the pieces	✘/✓	depending on the size of the pieces	✓		✓		✓		—		✓	
✘		✘		✘/✓	depending on the size of the pieces	✘/✓	depending on the size of the pieces	✓		—		✓	
✘/✓	depending on the size of the pieces, changes in design may be necessary	✘/✓	depending on the size of the pieces, changes in design may be necessary	✘/✓	depending on the size of the pieces	✘/✓	depending on the size of the pieces	✓		—		✓	
—		✓		✓		✓		✓		✓		✓	
—		✓		✓		✓		✓		✓		✓	
—	✓	extended free gap between rods		✓		✓		✓		✓		✓	
—	✓	extended free gap between rods		✓		✓		✓		✓		✓	
—	✓	extended free gap between rods	✓	depending on the size of the pieces, changes in design may be necessary		✓	depending on the size of the pieces, changes in design may be necessary	✓		✓		✓	
—	✓	extended free gap between rods	✓	depending on the size of the pieces, changes in design may be necessary		✓	depending on the size of the pieces, changes in design may be necessary	✓		✓		✓	
—	✓	dust may leak at reject outlet		✓		✓		✓	dust may leak at reject outlet	✓		✓	✘
—	✓	dust may leak at reject outlet		✓		✓		✓	dust may leak at reject outlet	✓		✓	✘
—	✘/✓	depending on the size of the pieces, changes in design may be necessary	✘/✓	depending on the size of the pieces, changes in design may be necessary		✘/✓	depending on the size of the pieces, changes in design may be necessary	✓		✓		✓	
—	✓		✓			✓		✓		✓		✓	
—	✘/✓	depending on the size of the pieces, changes in design may be necessary	✘/✓	depending on the size of the pieces, changes in design may be necessary		✘/✓	depending on the size of the pieces, changes in design may be necessary	✓		✓		✓	
—	✓	wear protective coating	✓	wear protective coating		✓	wear protective coating	✓	wear protective coating	✓	✓	wear protective coating	✘
—	✓	wear protective coating	✓	wear protective coating		✓	wear protective coating	✓	wear protective coating	✓	✓	wear protective coating	✘
—	✘		✘/✓	depending on flowability, conductivity and static charge → product test is recommended!		✘/✓	depending on flowability, conductivity and static charge → product test is recommended!	✘/✓	depending on flowability, conductivity and static charge → product test is recommended!	✘/✓	depending on flowability, conductivity and static charge → product test is recommended!	✘	

Application Matrix Bulk Material Column

Product- / Materialtype		Common properties	GMT Hopper magnet	SAFEMAG	EXTRACTOR-SE	
FOOD	 Powder ($< \varnothing 1 \text{ mm}$)	bad flowable, can deposit in the separation unit	—	—	—	
	 Sticky powder ($< \varnothing 1 \text{ mm}$)	bad flowable, ten to clump in the machine because of the high fat content and deposit in the separation unit	—	—	—	
	 Crystal bulk materials	good flowable, abrasive	—	—	—	
	 Ground bulks ($< \varnothing 8 \text{ mm}$)	good flowable	—	—	—	
	 Grains ($< \varnothing 8 \text{ mm}$)	good flowable	—	—	—	
	 Flakes	bad flowable, can bridge	—	—	—	
	 Fibers and Leafes	medium to poor flow properties	—	—	—	
	 bigger pieces ($< \varnothing 20 \text{ mm}$)	medium flowable because of size	—	—	—	
 Granulate ($< \varnothing 8 \text{ mm}$)	good flowable	✓	up to $\varnothing 6 \text{ mm}$	✓	✓	
 Regrind ($< \varnothing 8 \text{ mm}$)	medium flowable, not bridging	✓	up to $\varnothing 6 \text{ mm}$	✓	✓	
 Flakes ($< \varnothing 14 \text{ mm}$, thinner than 1,5 mm)	flexible, bad flowable, can bridge	✗		✗	✗	
 PET-Flakes ($< \varnothing 14 \text{ mm}$, thinner than 1,5 mm)	flexible, bad flowable, tend to bridge, abrasive!	✗		✗	✗	
 Chips ($> \varnothing 10 \text{ mm}$)	quite big, therefore bad flowable	✗		✗	✗	
 Shredded material ($> \varnothing 10 \text{ mm}$)	quite big and thick, therefore bad flowable	✗		✗	✗	
PLASTICS	 Powder ($> \varnothing 1 \text{ mm}$)	bad flowable, can deposit in the separation unit	✓		✓	✓
	 Powder (absorbing moisture) ($> \varnothing 1 \text{ mm}$)	bad flowable, tend to clump, when in contact with water (or humidity!) and deposit in the separation unit	✗		✗	✓ non-stick coating, depending on moisture content
	 Film shreds (independent from size)	bad flowable, tend to deposit above the flap	✗		✗	✗
	 Fibers (shorter than 8 mm)	medium flowable, can deposit in the machine	✓		✓	✓
	 Fibers (longer than 8 mm)	medium flowable, can deposit on top of flap	✗		✗	✗
	 Glass fibers (shorter than 8 mm, share $< 20\%$)	medium flowable, very abrasive	✗		✗	✓ wear protective coating
	 Glass fibers (shorter than 8 mm, share $\geq 20\%$)	medium flowable, highly abrasive	✗		✗	✓ wear protective coating
	 Carbon fibers (shorter than 8 mm)	medium flowable, conductive = product effect	✗		✗	✗

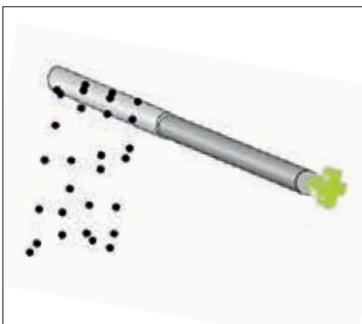
Application Matrix Pneumatic Conveying

	Product- / Materialtype	Common properties	PNEUMAG	
FOOD	 Powder ($< \varnothing 1 \text{ mm}$)	bad flowable, can deposit in the separation unit		✓
	 Sticky powder ($< \varnothing 1 \text{ mm}$)	bad flowable, ten to clump in the machine because of the high fat content and deposit in the separation unit	✓	possibly with nonstick coating, depending on the stickiness of the powder
	 Crystal bulk materials	good flowable, abrasive		✓
	 Ground bulks ($< \varnothing 8 \text{ mm}$)	good flowable		✓
	 Grains ($< \varnothing 8 \text{ mm}$)	good flowable		✓
	 Flakes	bad flowable, can bridge	✗/✓	depending on the size of the pieces
	 Fibers and Leafes	medium to poor flow properties		✗
	 bigger pieces ($< \varnothing 20 \text{ mm}$)	medium flowable because of size	✗/✓	depending on the size of the pieces
	 Granulate ($< \varnothing 8 \text{ mm}$)	good flowable		✓
	 Regrind ($< \varnothing 8 \text{ mm}$)	medium flowable, not bridging		✓
	 Flakes ($< \varnothing 14 \text{ mm}$, thinner than 1,5 mm)	flexible, bad flowable, can bridge	✗/✓	depending on the size of the flakes
	 PET-Flakes ($< \varnothing 14 \text{ mm}$, thinner than 1,5 mm)	flexible, bad flowable, tend to bridge, abrasive!	✗/✓	depending on the actual size of the flakes; wear protection may be necessary; installation as far away from the fan; vertical installation preferred
	 Chips ($> \varnothing 10 \text{ mm}$)	quite big, therefore bad flowable	✗/✓	depending on the actual size of the flakes
	 Shredded material ($> \varnothing 10 \text{ mm}$)	quite big and thick, therefore bad flowable		✗
PLASTICS	 Powder ($> \varnothing 1 \text{ mm}$)	bad flowable, can deposit in the separation unit		✓
	 Powder (absorbing moisture) ($> \varnothing 1 \text{ mm}$)	bad flowable, tend to clump, when in contact with water (or humidity!) and deposit in the separation unit	✓	non-stick coating may be necessary
	 Film shreds (independent from size)	bad flowable, tend to deposit above the flap		✗
	 Fibers (shorter than 8 mm)	medium flowable, can deposit in the machine		✓
	 Fibers (longer than 8 mm)	medium flowable, can deposit on top of flap	✗/✓	depending on the actual size
	 Glass fibers (shorter than 8 mm, share $< 20\%$)	medium flowable, very abrasive	✓	wear protective coating
	 Glass fibers (shorter than 8 mm, share $\geq 20\%$)	medium flowable, highly abrasive	✓	wear protective coating
	 Carbon fibers (shorter than 8 mm)	medium flowable, conductive = product effect	✗/✓	depending on flowability, conductivity and static charge → product test is recommended!



SM

Separator rod



For the separation of ferrous metals permanent-magnet separator rods can be installed at any position in the material flow of solid and liquid media.

With their extremely high magnetic power 1 370 mT (13 700 gauss) they even remove slightly magnetised stainless steel particles from the product flow.

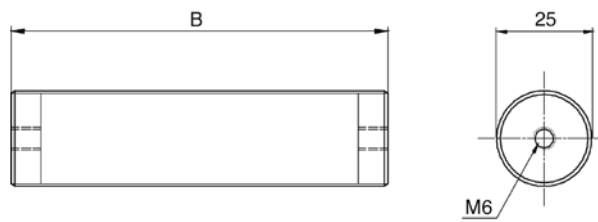
For the inspection of: Bulk materials; dry, non-free-flowing (bridging), powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky, fibrous, crumbly, moist, liquid/pasty (constant consistency)

For installation in: Free-fall/bulk conveyors

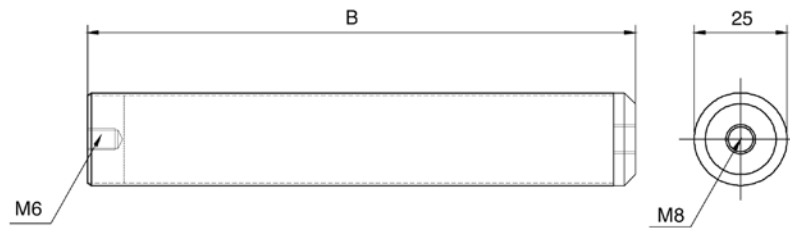
For application in: Plastics industry
Food industry
Chemical industry
Pharmaceutical industry
Textile industry
Wood industry
Recycling industry
Packaging industry
Other industry sectors

Dimensions of the separator rod

SM



SM (Easy Clean)

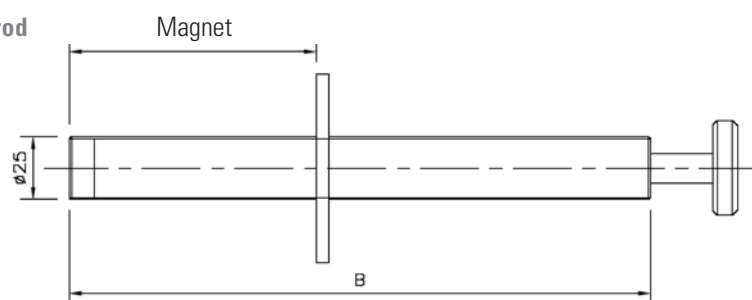


+ star grip

Technical data

Magnet material	mT*	Version	Type	Length of rod B										
				100	150	200	250	300	350	400	450	500		
Ferrite	250		SMF-											
Neodymium N35	700		SMN7-											
	700	+ Easy Clean	SMN7-E-											
Neodymium N45	900		SMN9-											
	900	+ Easy Clean	SMN9-E-											
	1100		SMN11-											
Weight [kg]				0,4	0,5	0,7	0,9	1,1	1,3	1,4	1,6	1,8		

Dimensions of the quality check rod



Magnet material	mT*	Version	Type	Length of magnet		
				100	200	300
Neodymium N45	900	+ Easy Clean	SMN9-HM-	100	200	300
Rod length B				265	465	665
Weight [kg]				1,0	1,2	1,6

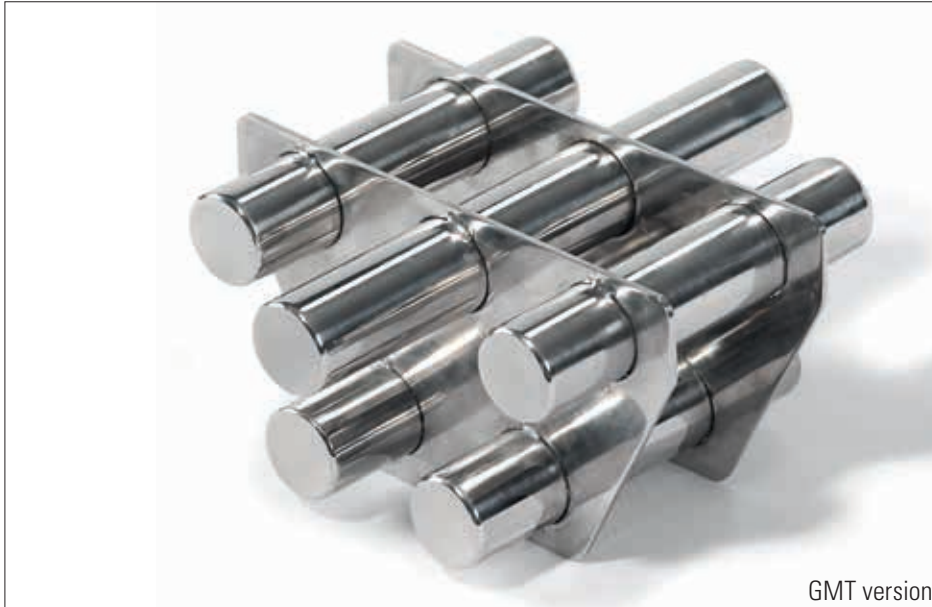
* Millitesla: readings taken from outer tube surface (+/- 5%)

Type designation: combination of "Type" and "Length of rod" (i.e. SMF-100)

All dimensions in mm



GMT & GML Hopper magnet



This version of the permanent-magnet grid magnet primarily is used in the plastics industry for the separation of coarse ferrous contaminations.

In the simple GML version the magnet cores are protected against damage by means of stainless steel casings. The double-layer GMT version simply is inserted in the hopper and with its slanted frames covers the complete area with magnetic field lines. The double-layer design of the magnet grid guarantees best possible contact between product and magnet.

The product to be inspected must be dry, free-flowing, and must not contain long fibres. The maximum grain size is 6 mm, the maximum height of free fall should not be more than 1 000 mm.

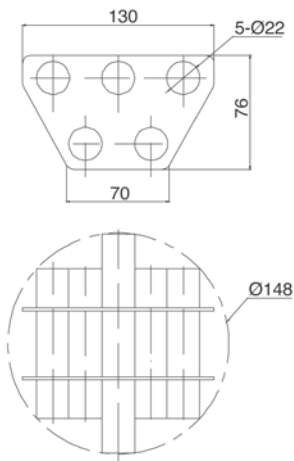
For the inspection of: Bulk materials; dry, free-flowing, powdery, fine-grained (grain size < 6 mm)

For installation in: Free-fall/bulk conveyors

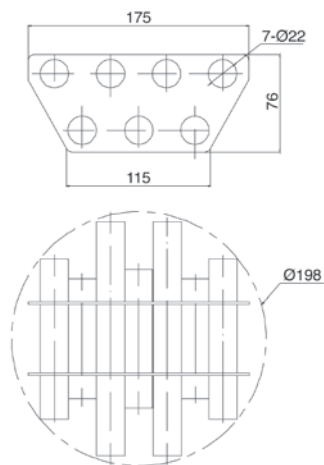
For application in: Plastics industry
Recycling industry

Dimensions

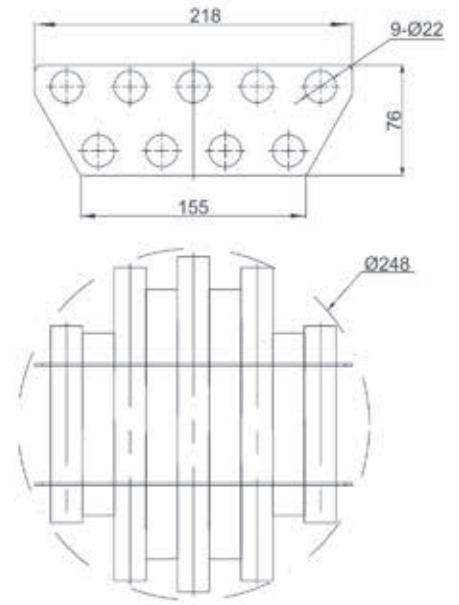
Hopper magnet GMT-0150



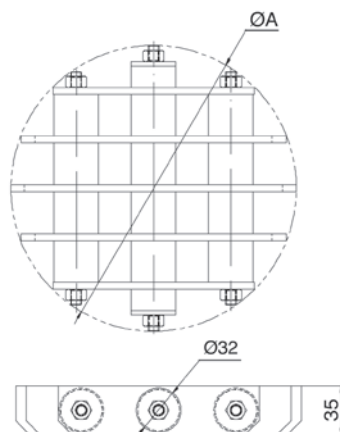
Hopper magnet GMT-0200



Hopper magnet GMT-0250



Hopper magnet GML



Technical data

GMT	mT*	Type	Diameter A		
Ferrite	300	GMT-	150	200	250
Number of magnet rods			5	7	9
Weight [kg]			1,2	1,9	4,0

GML, round	mT*	Type	Diameter A			
Ferrite	150	GML-	136	150	205	295
Number of magnet rods			2	3	3	5
Weight [kg]			1,7	2,1	3,8	8,6

* Millitesla: readings taken from outer tube surface (+/- 5%)

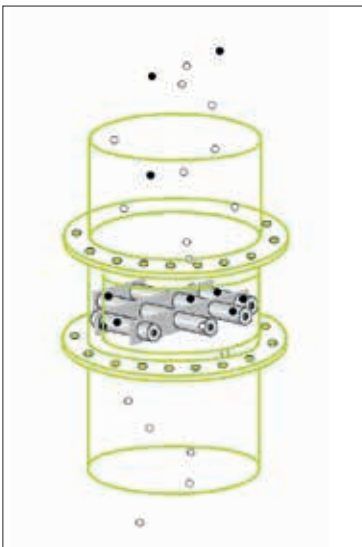
Type designation: combination of "Type" and "Diameter" or "Dimension" (i.e. GMT-150)

All dimensions in mm



GM

Grid magnet



Permanent-magnet grid magnets are available in round, rectangular, or square design and can thus be universally used. Ferrous particles are reliably removed from the bulk material as it passes through the grid magnet.

With their extremely high magnetic power these magnets even remove slightly magnetised stainless steel particles from the product flow.

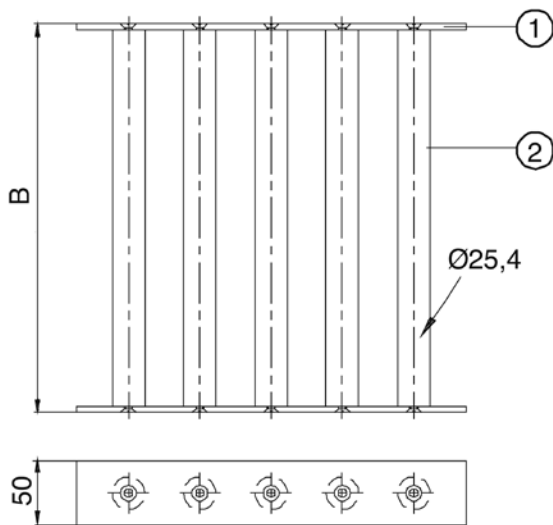
For the inspection of: Bulk materials; dry, free-flowing, powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky

For installation in: Free-fall/bulk conveyors

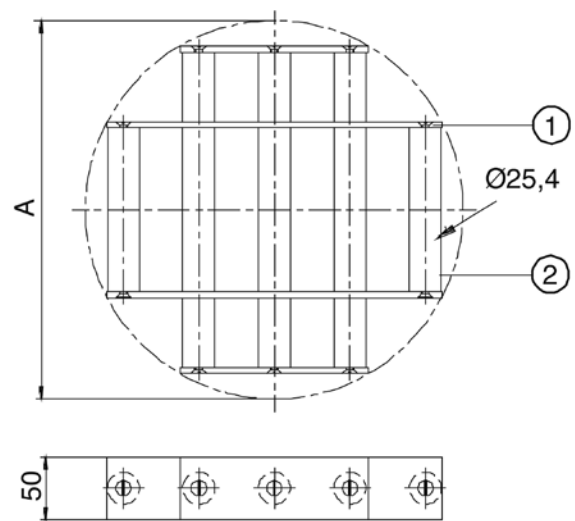
For application in: Plastics industry
Food industry
Chemical industry
Pharmaceutical industry
Recycling industry
Packaging industry
Other industry sectors

Dimensions

Square design



Round design



① Frame ② Magnet rod

Technical data

Grid magnet, round	mT*	Version	Type	Diameter A								
				100	150	200	250	300	350	400	450	500
Ferrite	250		GMF-									
Neodymium N35	700		GMN7-									
	700	+ Easy Clean	GMN7-E-									
Neodymium N45	900		GMN9-									
	900	+ Easy Clean	GMN9-E-									
	1100		GMN11-									
Number of magnet rods				2	3	3	4	5	6	7	7	8
Weight [kg]				0,8	1,5	2,1	3,2	5,1	6,7	9,0	10,7	13,3

Grid magnet, square	mT*	Version	Type	Dimension B								
				100	150	200	250	300	350	400	450	500**
Ferrite	250		GMF-R-									
Neodymium N35	700		GMN7-R-									
	700	+ Easy Clean	GMN7-ER-									
Neodymium N45	900		GMN9-R-									
	900	+ Easy Clean	GMN9-ER-									
	1100		GMN11-R-									
Number of magnet rods				2	2	3	4	5	6	7	8	9
Weight [kg]				1,0	1,6	2,8	4,3	6,3	8,7	11,2	14,2	17,5

* Millitesla: readings taken from outer tube surface (+/- 5%)

** with Easy Clean: magnetic cores in split design (for ease of handling)

Type designation: combination of "Type" and "Diameter" or "Dimension" (i.e. GMF-100)

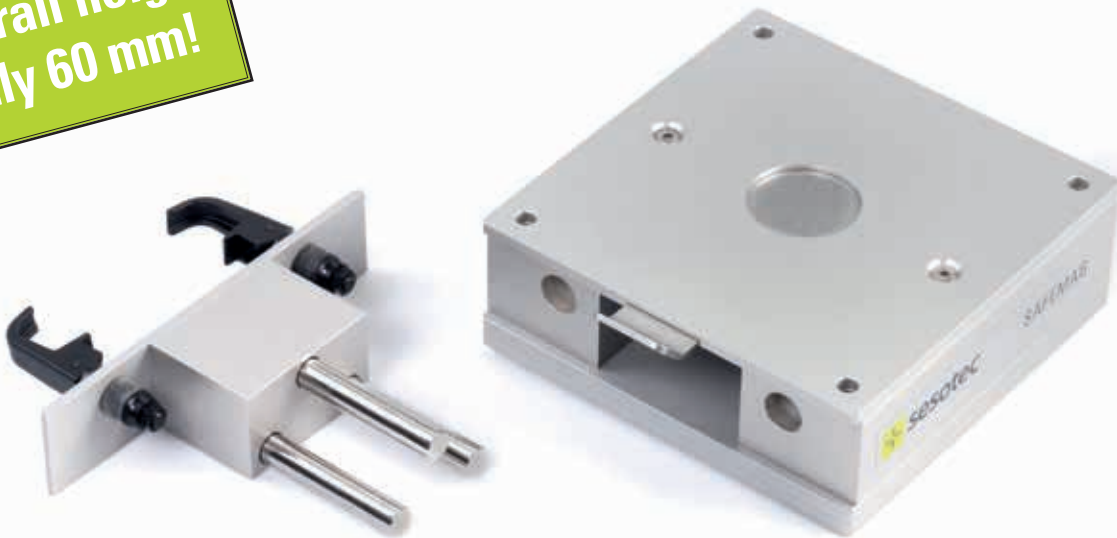
All dimensions in mm



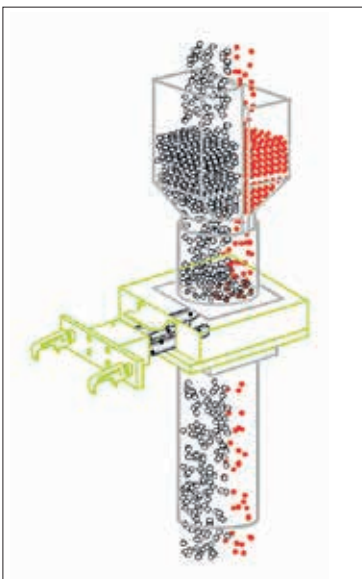
SAFEMAG

Inline magnet for the protection of injection moulding machines, extruders, and blow moulding machines

Overall height
only 60 mm!



SAFEMAG with slide gate



The SAFEMAG inline magnet was specifically developed for applications that only offer a minimum available installation height (starting from 60 mm). It can be used to inspect various types of granulates up to a grain size of 6 mm and a temperature of up to 100°C in standing or slow-moving material columns.

The outstanding advantages of this magnet separator are its especially flat and sturdy design, combined with excellent magnetic performance.

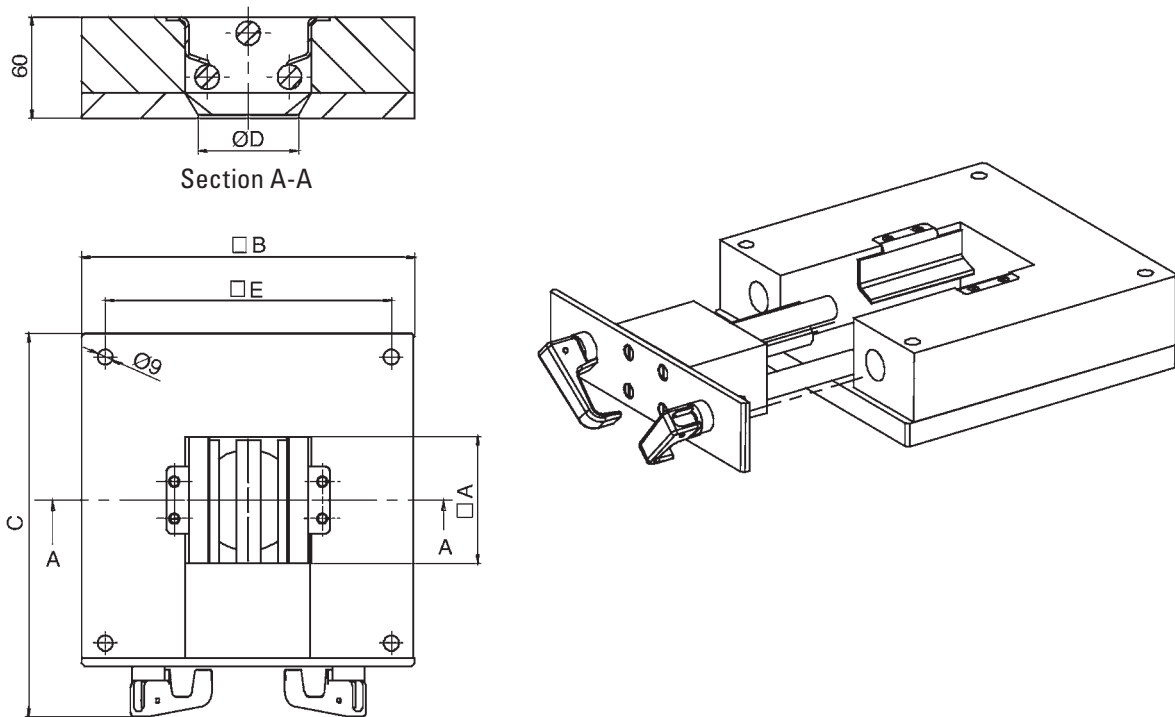
With its special design the SAFEMAG also does not allow any formation of plastic granulate deposits - which is important in case of colour or material changes.

For the inspection of: Bulk materials; dry, free-flowing, fine-grained (grain size < 6 mm)

For installation in: Bulk material columns

For application in: Plastics industry

Dimensions



Technical data

Safemag	mT*	Type	Outlet diameter D		
Neodymium N35	700	SA-	040	050	060
Dimension of inlet A			60	75	75
Mounting width B			168	198	198
Mounting depth C			198	228	228
Drilling pattern E			140	170	170
Number of magnet rods			3	3	3
Throughput capacity [l/h]			600	1200	1900
Weight [kg]			4,35	6,00	6,00

* Millitesla: readings taken from outer tube surface (+/- 5%)

Type designation: combination of "Type" and "Outlet diameter" (i.e. SA-040)

All dimensions in mm

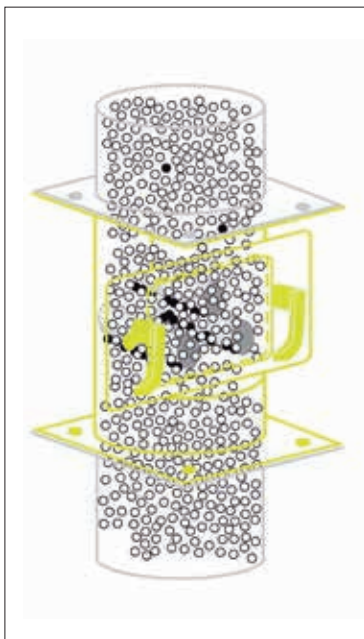
Info:

Sesotec offers a large variety of adaptors for this magnet system (e.g. for Motan, Colortronic, Piovan, Koch, Engel, Arburg, Husky systems). Please request our "Adaptor plates" data sheet.



EXTRACTOR-SE

Inline magnet for the protection of injection moulding machines, extruders, and blow moulding machines



The EXTRACTOR-SE inline magnet was specifically developed for applications in the plastics industry. It can be used to inspect various types of granulates up to a grain size of 8-10 mm and a temperature of up to 80°C in standing or slow-moving material columns. When installed directly on a machine's material inlet the magnet separator removes ferromagnetic contaminants from the granulate shortly before it is processed.

EASY CLEAN:

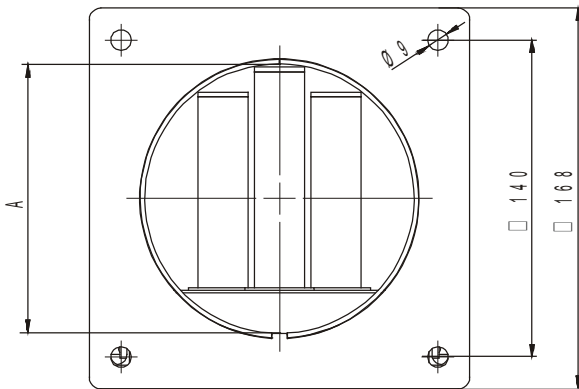
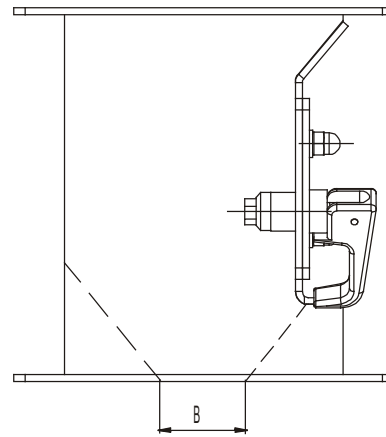
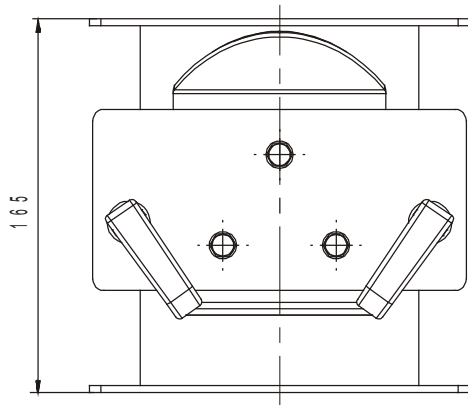
Cleaning is done by removing the magnet rod unit and then pulling off the stainless steel casings. The separated contaminations fall off the rods and can be analysed.

For the inspection of: Bulk materials; dry, free-flowing

For installation in: Standing or slow-moving bulk material columns

For application in: Plastics industry

Dimensions



The illustration shows size 1

Flange details

Size 1: See illustration (standard)

Size 2 (option): Drilling pattern 170 mm x 170 mm

Flange size 198 mm x 198 mm

Technical data

	mT*	Version	Type	Outlet diameter B						
				040	050	070	080	100	120	150
Neodymium N35	800	Size 1	ER-SE-	040	050	070	080	100	120	150
Diameter of inlet A				120	120	120	120	120	120	150
Number of magnet rods				3	3	3	3	3	3	3
Throughput capacity** [l/h]				1200	2600	7100	9000	9300	9300	17000
Throughput capacity*** [l/h]				850	1800	6000	6200	6400	6700	11500
With PP centering ring				✓	✓	✓	✓	✓	---	---
Weight [kg]				3,25	3,20	3,20	3,15	3,10	3,00	4,00

* Millitesla: readings taken from outer tube surface (+/- 5%)

** : virgin material, good free flowing, material column with 500mm free fall height

*** : regrind material, not good free flowing, material column with 500mm free fall height

Type designation: combination of "Type" and "Outlet diameter" (i.e. ER-SE-040)

All dimensions in mm

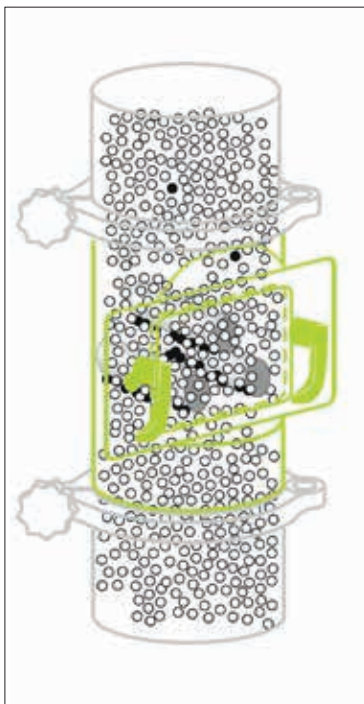
Info:

Sesotec offers a large variety of adaptors for this magnet system (e.g. for Motan, Colortronic, Piovan, Koch, Engel, Arburg, Husky systems). Please request our "Adaptor plates" data sheet.



EXTRACTOR-J

Inline magnet for installation in Jacob pipe systems and after cyclones



The EXTRACTOR-J inline magnet was specifically developed for installation in Jacob pipe systems and after cyclones in the plastics industry. It can be used to inspect various types of granulates up to a grain size of 8-10 mm and a temperature of up to 80°C in standing or slow-moving material columns. Ferromagnetic particles are reliably removed with a magnetic power of 800 mT (8 000 gauss) at the effective surface.

EASY CLEAN:

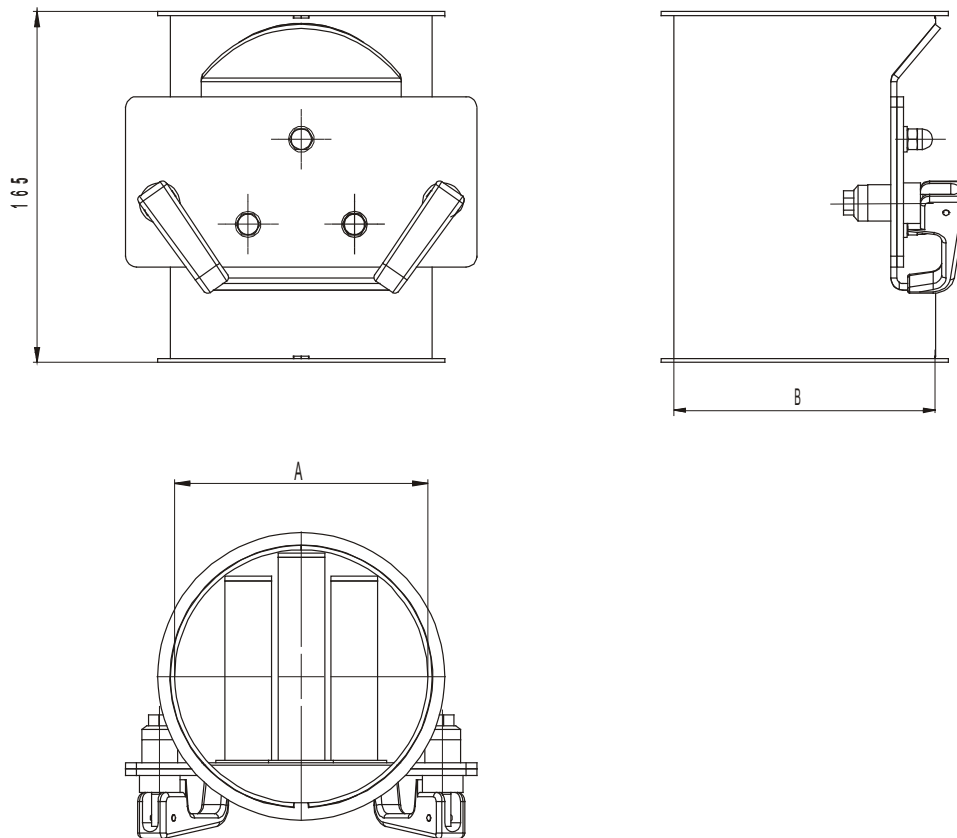
Cleaning is done by removing the magnet rod unit and then pulling off the stainless steel casings from the magnet cores. The separated contaminations fall off the rods and can be analysed.

For the inspection of: Bulk materials; dry, free-flowing

For installation in: Jacob pipe systems

For application in: Plastics industry

Dimensions



Technical data

	mT*	Type	Outlet diameter B	
Neodymium N35	800	ER-J-	120	150
Diameter of inlet A			120	150
Number of magnet rods			3	3
Throughput capacity** [l/h]			11000	17000
Weight [kg]			3,00	4,00

* Millitesla: readings taken from outer tube surface (+/- 5%)

** : good free flowing characteristics, 500 mm free fall

Type designation: combination of "Type" and "Outlet diameter" (i.e. ER-J-120)

All dimensions in mm

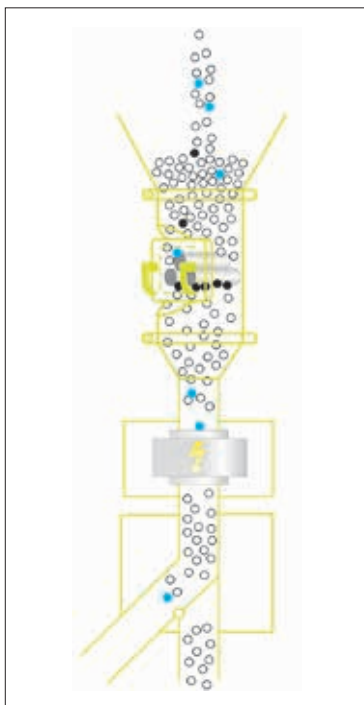
Info:

Sesotec offers a large variety of adaptors and cone pieces for this magnet system. For detailed information please consult your experienced Sesotec sales consultant – by telephone or at your location.



EXTRACTOR-K

Magnet system for combination with metal separators



The EXTRACTOR-K inline magnet was specifically developed for installation in combination with a metal separator. The inline magnet removes all the magnetic metal contaminants, and the metal separator then reliably detects and separates all the remaining non-magnetic metals. It can be used to inspect various types of granulates up to a grain size of 8-10 mm and a temperature of up to 80°C.

EASY CLEAN:

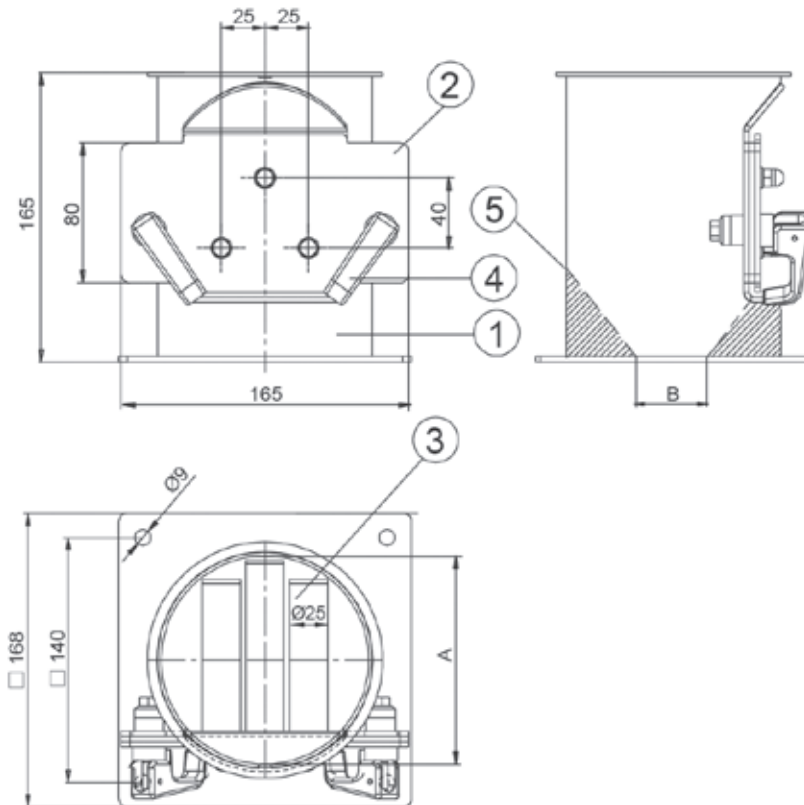
Cleaning is done by removing the magnet rod unit and then pulling off the stainless steel casings from the magnet cores. The separated contaminations fall off the rods and can be analysed.

For the inspection of: Bulk materials; dry, free-flowing

For installation in: Standing or slow-moving bulk material columns

For application in: Plastics industry

Dimensions



Technical data

	mT*	Version	Type	Outlet diameter B						
				040	050	070	080	100	120	150
Neodymium N35	800	Size 1	ER-K-	040	050	070	080	100	120	150
Diameter of inlet A				120	120	120	120	120	120	150
Number of magnet rods				3	3	3	3	3	3	3
Throughput capacity** [l/h]				1200	2600	7100	9000	9300	9300	17000
Throughput capacity*** [l/h]				850	1800	6000	6200	6400	6700	11500
With PP centering ring				✓	✓	✓	✓	✓	---	---
Weight [kg]				3,15	3,10	3,10	3,00	2,90	2,90	3,80

* Millitesla: readings taken from outer tube surface (+/- 5%)

** : virgin material, good free flowing, material column with 500 mm free fall height

*** : regrind material, not good free flowing, material column with 500 mm free fall height

Type designation: combination of "Type" and "Outlet diameter" (i.e. ER-K-040)

All dimensions in mm

Info:

Sesotec offers a large variety of adaptors and cone pieces for this magnet system. For detailed information please consult your experienced Sesotec sales consultant – by telephone or at your location

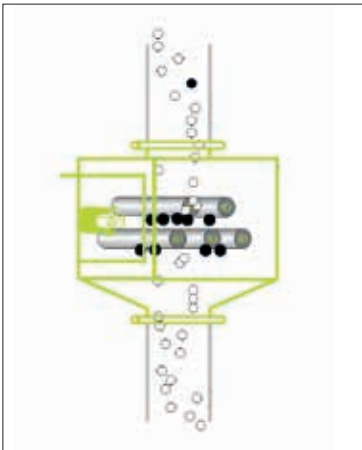


MAGBOX MXP

Inline magnet for free-fall applications
(round connections)



double row version with EASY CLEAN



MAGBOX MXP inline magnets primarily are installed in (existing) pipes for the thorough separation of fine and very fine ferrous metal contaminations from bulk materials.

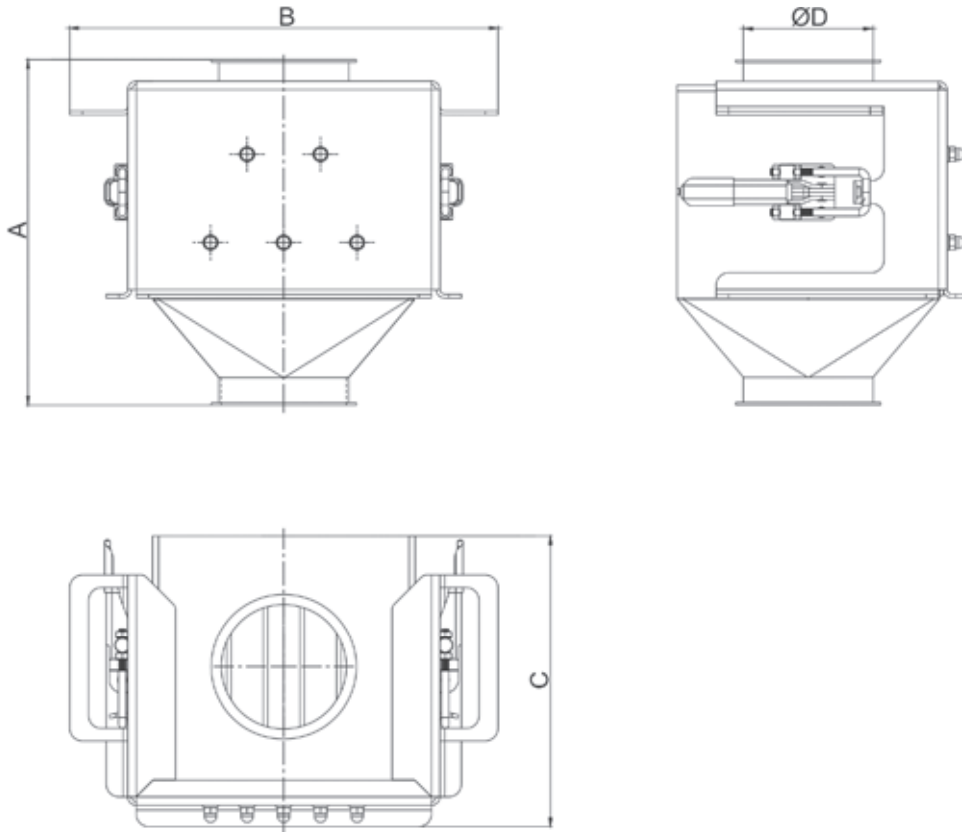
With their extremely high magnetic power 1 370 mT (13 700 gauss) they even remove slightly magnetised stainless steel particles from the product flow. The EASY CLEAN feature allows efficient and fast cleaning of the separator.

For the inspection of: Bulk materials; dry, free-flowing, powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky

For installation in: Free-fall/bulk conveyors

For application in: Plastics industry
Chemical industry
Recycling industry
Packaging industry

Dimensions



Technical data

Round	mT*	Version	Type	Connection diameter D						
				100	150	200	250	300	350	400
Neodymium N45	700	double row + Easy Clean	MXP27-E-							
	900		MXP29-E-							
Installation height A				274	284	294	304	314	324	334
Installation width B				340	390	440	476	526	576	626
Installation depth C				231	281	331	380	430	480	530
Number of magnet rods				3+2	4+3	5+4	6+5	7+6	8+7	9+8
Throughput capacity [m³/h]				15	27	43	61	71	83	98
Weight [kg]				11,5	15,5	21	30	36,5	44,5	53,5

* Millitesla: readings taken from outer tube surface (+/- 5%)

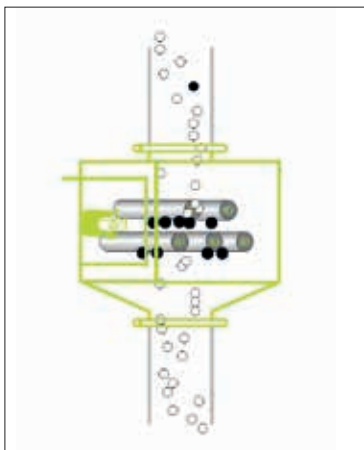
Type designation: combination of "Type" and "Diameter D" (i.e. MXP27-E-0100)

All dimensions in mm



MAGBOX MXP

Inline magnet for free-fall applications
(square connections)



MAGBOX MXP inline magnets primarily are installed in (existing) pipes for the thorough separation of fine and very fine ferrous metal contaminations from bulk materials.

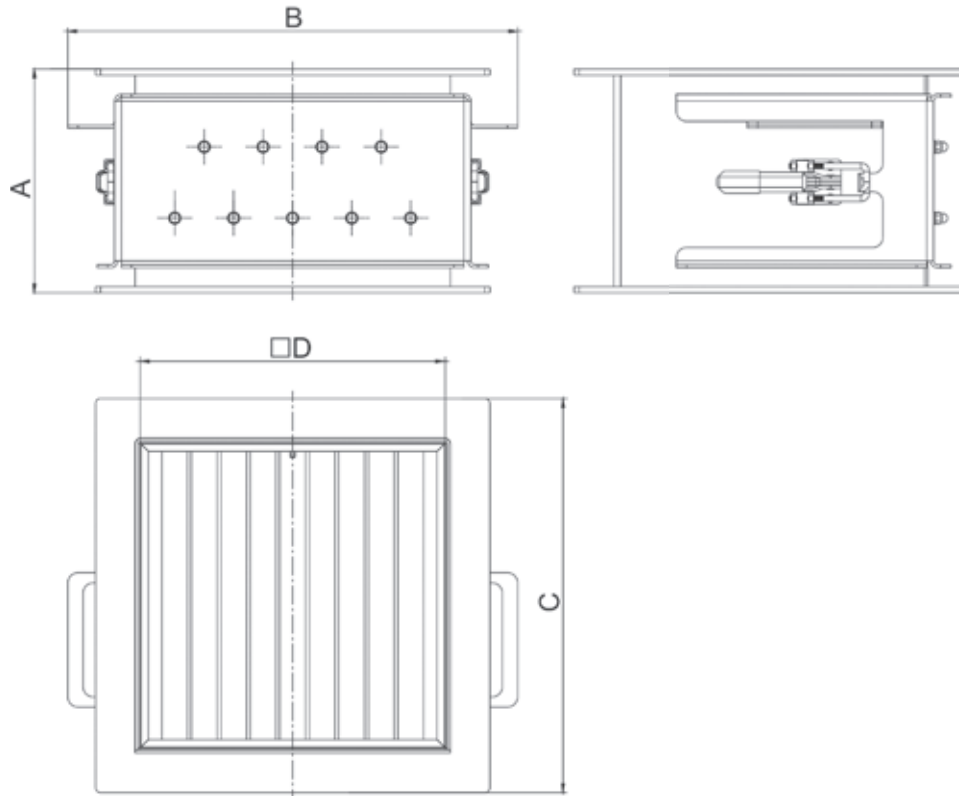
With their extremely high magnetic power 1 370 mT (13 700 gauss) they even remove slightly magnetised stainless steel particles from the product flow. The EASY CLEAN feature allows efficient and fast cleaning of the separator.

For the inspection of: Bulk materials; dry, free-flowing, powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky

For installation in: Free-fall/bulk conveyors

For application in: Plastics industry
Chemical industry
Recycling industry
Packaging industry

Dimensions



Technical data

Square	mT*	Version	Type	Connection size D					
				150	200	250	300	350	400
Neodymium N345	700	double row + Easy Clean	MXP27-ER-						
	900		MXP29-ER-						
Installation height A				205	205	220	220	220	220
Installation width B				293	343	393	443	509	559
Installation depth C				238	288	338	388	438	488
Number of magnet rods				2+1	3+2	4+3	5+4	6+5	7+6
Throughput capacity [m³/h]				12	21	34	49	67	87
Weight [kg]				10,5	14	20,5	26,5	34,5	41

* Millitesla: readings taken from outer tube surface (+/- 5%)

Type designation: combination of "Type" and "Connection size D" (i.e. MXP27-R-150)

All dimensions in mm

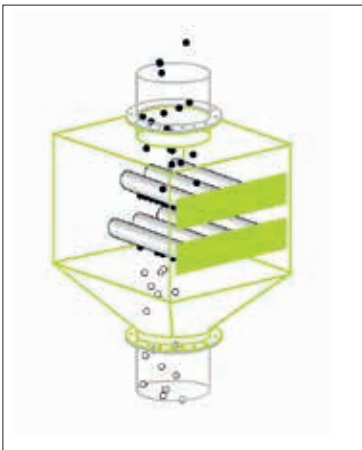


MAGBOX MXF FOOD/PHARMA

Inline magnet for free-fall applications
(round connections)



double row PHARMA version with EASY CLEAN



MAGBOX FOOD/PHARMA inline magnets primarily are used in the food industry, in the pharmaceutical industry, and in similar sensitive applications. The sturdy and wear-resistant housing is made of rust-proof stainless steel (1.4404), all the surfaces and welding joints are seamless and highly polished.

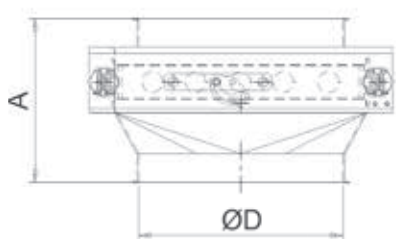
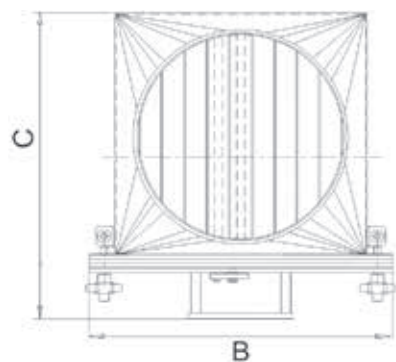
With their extremely high magnetic power they even remove slightly magnetised stainless steel particles from the product flow.

For the inspection of: Bulk materials; dry, free-flowing, powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky

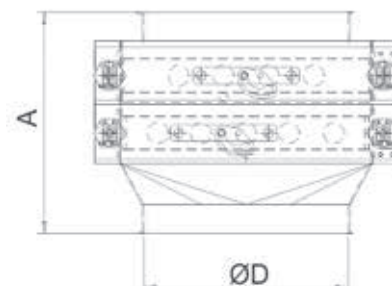
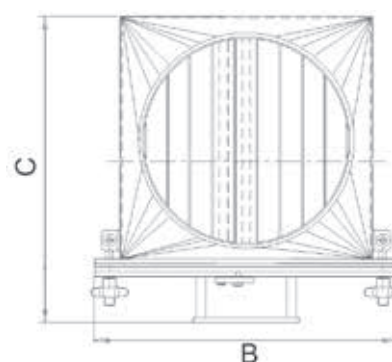
For installation in: Freifall-/Schüttförderung

For application in: Food industry
Chemical industry
Pharmaceutical industry

Dimensions



single row



double row

Technical data

Magbox, round	mT*	Version	Type	Connection diameter D													
				0100	0150	0200	0250	0300	0350	0400							
Neodymium N35	700	single row	MXF17-														
	700	+ Easy Clean	MXF17-E-														
	700	double row	MXF27-														
	700	+ Easy Clean	MXF27-E-														
Neodymium N45	900	single row	MXF19-														
	900	+ Easy Clean	MXF19-E-														
	900	double row	MXF29-														
	900	+ Easy Clean	MXF29-E-														
Neodymium N45	1100	single row	MXF111-														
	1100	double row	MXF211-														
Installation height A**		single row									200	200	200	200	200	200	200
		double row									270	270	270	270	270	270	270
Installation width B				230	280	330	380	430	480	530							
Installation depth C				224	274	324	274	424	474	524							
Number of magnet rods		single row		2	3	4	5	6	7	8							
		double row		2+1	3+2	4+3	5+4	6+5	7+6	8+7							
Throughput capacity [m³/h]		single row		9	17	30	48	68	78	90							
		double row		8	15	27	43	61	71	83							
Weight [kg]		single row		7	8	11	18	23	26	31							
		double row		11	14	18	25	31	39	50							

* Millitesla: readings taken from outer tube surface (+/- 5%)

** For the pharma version the installation height increases by 50 mm

Type designation: combination of "Type" and "Diameter D" (i.e. MXF17-0100)

All dimensions in mm

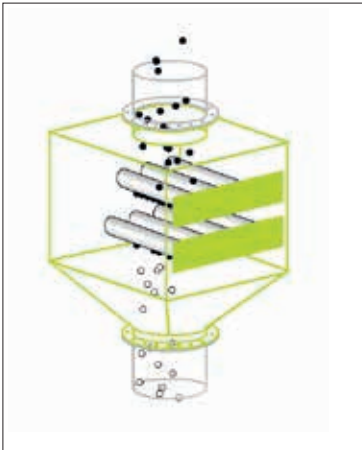


MAGBOX MXF FOOD/PHARMA

Inline magnet for free-fall applications
(square connections)



single row FOOD version with EASY CLEAN



MAGBOX FOOD/PHARMA inline magnets primarily are used in the food industry, in the pharmaceutical industry, and in similar sensitive applications. The sturdy and wear-resistant housing is made of rust-proof stainless steel (1.4404), all the surfaces and welding joints are seamless and highly polished.

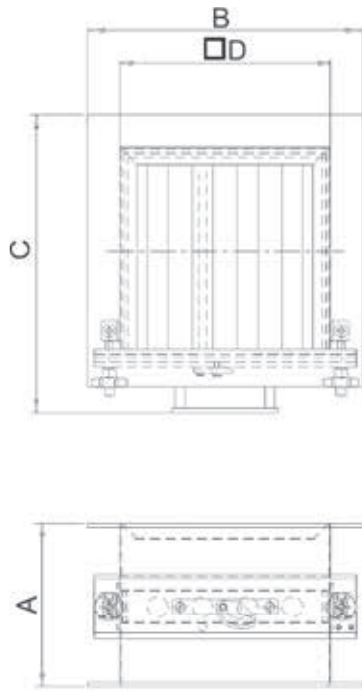
With their extremely high magnetic power they even remove slightly magnetised stainless steel particles from the product flow.

For the inspection of: Bulk materials; dry, free-flowing, powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky

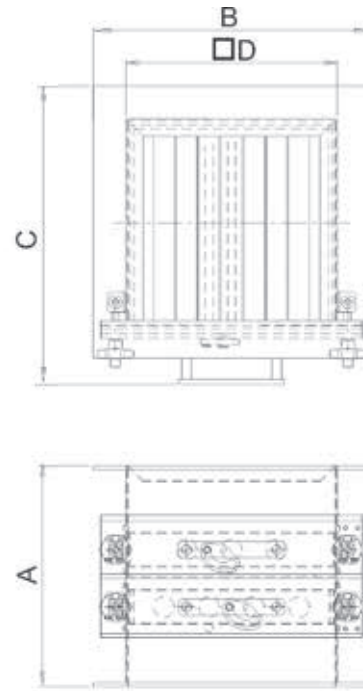
For installation in: Free-fall/bulk conveyors

For application in: Food industry
Chemical industry
Pharmaceutical industry

Dimensions



single row



double row

Technical data

Magbox, square	mT*	Version	Type	Connection size D											
				0150	0200	0250	0300	0350	0400						
Neodymium N35	700	1-layer	MXF17-R-												
	700	+ Easy Clean	MXF17-ER-												
	700	2-layer	MXF27-R-												
	700	+ Easy Clean	MXF27-ER-												
Neodymium N45	900	1-layer	MXF19-R-												
	900	+ Easy Clean	MXF19-ER-												
	900	2-layer	MXF29-R-												
	900	+ Easy Clean	MXF29-ER-												
Neodymium N45	1100	1-layer	MXF111-R-												
	1100	2-layer	MXF211-R-												
Installation height A		1-layer								200	200	200	200	200	200
		2-layer								270	270	270	270	270	270
Installation width B				230	280	330	380	430	480						
Installation depth C				265	315	365	415	465	515						
Number of magnet rods		1-layer		2	3	4	5	6	7						
		2-layer		2+1	3+2	4+3	5+4	6+5	7+6						
Throughput capacity [m³/h]		1-layer		14	24	38	55	74	97						
		2-layer		12	21	34	49	67	87						
Weight [kg]		1-layer		8	13	16	20	24	28						
		2-layer		12	17	21	28	35	43						

* Millitesla: readings taken from outer tube surface (+/- 5%)

Type designation: combination of "Type" and "Connection size" (i.e. MXF17-R-0150)

All dimensions in mm

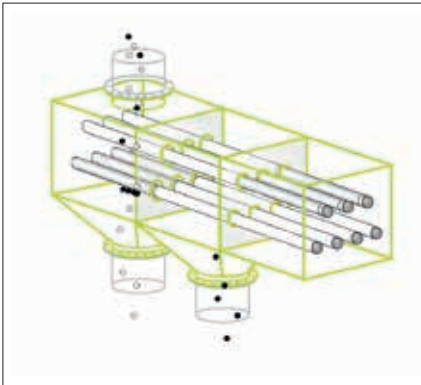


MAGBOX AUTO CLEAN

Inline magnet system with automatic cleaning
(round connections)



double row version



MAGBOX AUTO CLEAN magnet systems are installed in continuous conveying production lines for the automated separation of fine and very fine ferrous metal contaminations from various types of bulk materials. With a PLC controller the cleaning intervals can be set according to the respective level of contamination. The new "shuttle core" design ensures a compact system design without any directly moved system components.

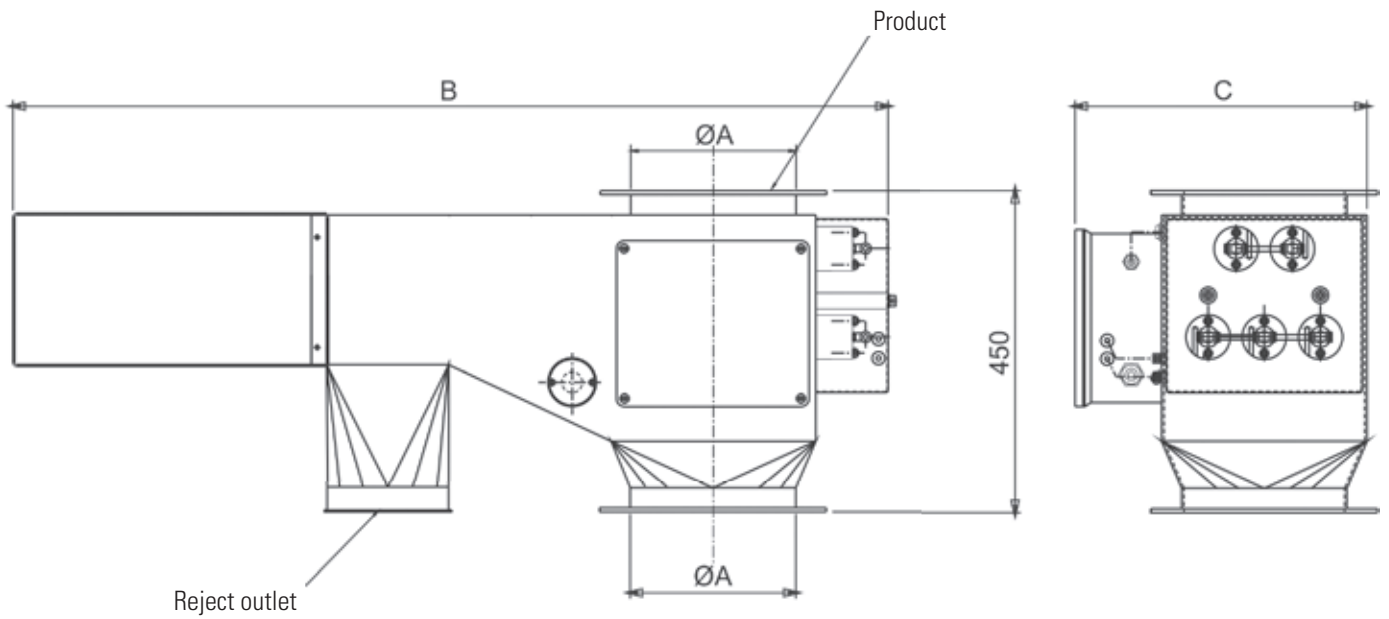
With their extremely high magnetic power 1 370 mT (13 700 gauss) they even remove slightly magnetised stainless steel particles from the product flow.

For the inspection of: Bulk materials; dry, free-flowing, powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky

For installation in: Free-fall/bulk conveyors

For application in: Plastics industry
Food industry
Chemical industry
Pharmaceutical industry
Recycling industry
Packaging industry
Other industry sectors

Dimensions



Technical data

MXA, round	mT*	Version	Type	Connection diameter A					
				0150	0200	0250	0300	0350	0400
Neodymium N45	900	single row	MXA19-						
	900	double row	MXA29-						
Installation height		single row		350	350	350	350	350	350
		double row		450	450	450	450	450	450
Installation length B				980	1080	1180	1280	1380	1480
Installation width C				310	360	410	460	510	560
Number of magnet rods		single row		3	3	4	5	6	7
		double row		3+2	3+2	4+3	5+4	6+5	7+6
Throughput capacity [m ³ /h]		single row		17	30	48	68	78	90
		double row		15	27	43	61	71	83
Weight [kg]		single row		26	33	40	50	55	64
		double row		31	38	47	58	69	81

* Millitesla: readings taken from outer tube surface (+/- 5%)

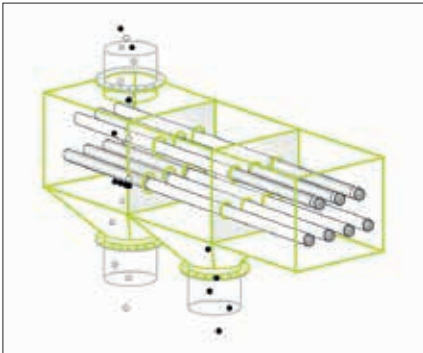
Type designation: combination of "Type" and "Diameter A" (i.e. MXA19-0150)

All dimensions in mm



MAGBOX AUTO CLEAN

Inline magnet system with automatic cleaning
(square connections)



MAGBOX AUTO CLEAN magnet systems are installed in continuous conveying production lines for the automated separation of fine and very fine ferrous metal contaminations from various types of bulk materials. With a PLC controller the cleaning intervals can be set according to the respective level of contamination. The new "shuttle core" design ensures a compact system design without any directly moved system components.

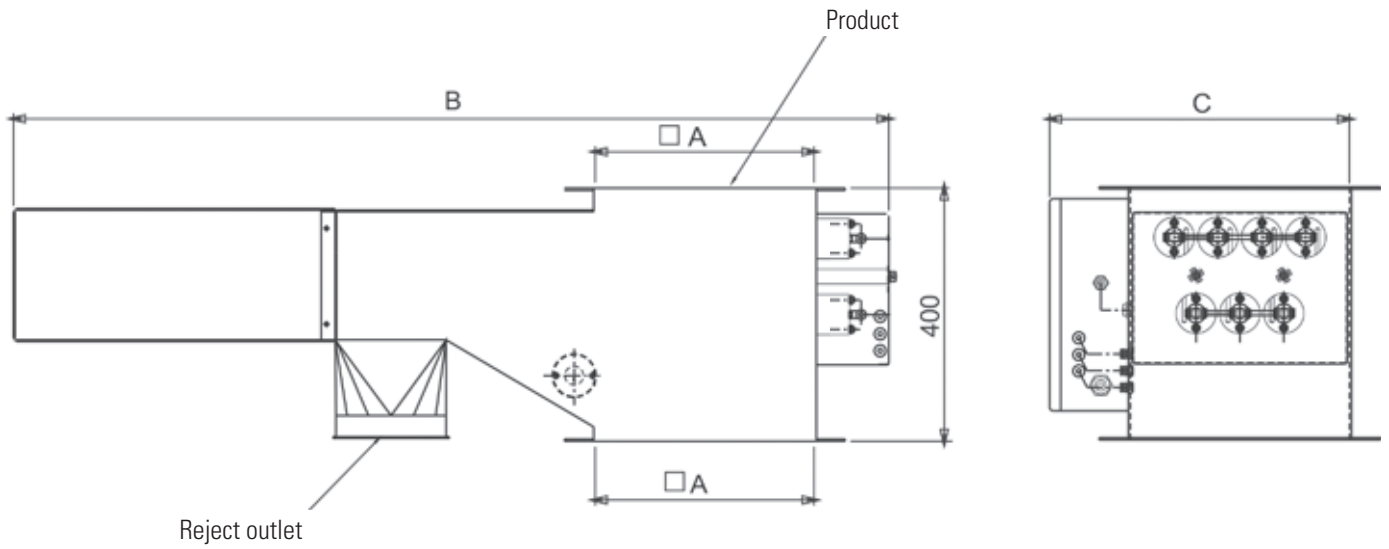
With their extremely high magnetic power 1 370 mT (13 700 gauss) they even remove slightly magnetised stainless steel particles from the product flow.

For the inspection of: Bulk materials; dry, free-flowing, powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky

For installation in: Free-fall/bulk conveyors

For application in: Plastics industry
Food industry
Chemical industry
Pharmaceutical industry
Recycling industry
Packaging industry
Other industry sectors

Dimensions



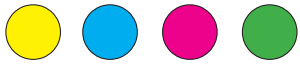
Technical data

MXA, square	mT*	Version	Type	Connection size A					
				0150	0200	0250	0300	0350	0400
Neodymium N45	900	single row	MXA19-R-						
	900	double row	MXA29-R-						
Installation height		single row		300	300	300	300	300	300
		double row		400	400	400	400	400	400
Installation length B				880	980	1080	1180	1280	1380
Installation width C				260	310	360	410	460	510
Number of magnet rods		single row		2	3	3	4	5	6
		double row		2+2	3+2	3+2	4+3	5+4	6+5
Throughput capacity [m ³ /h]		single row		14	24	38	55	74	97
		double row		12	21	34	49	67	87
Weight [kg]		single row		19	23	28	34	40	45
		double row		24	28	35	43	52	61

* Millitesla: readings taken from outer tube surface (+/- 5%)

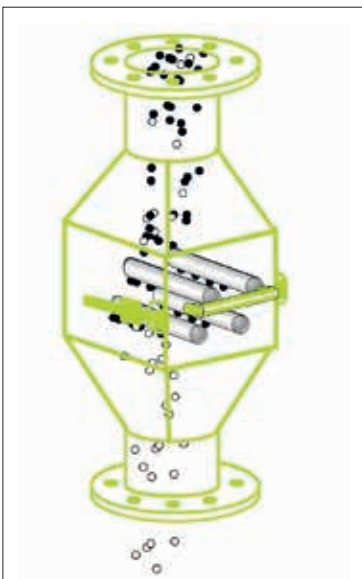
Type designation: combination of "Type" and "Connection size A" (i.e. MXA19-R-0150)

All dimensions in mm



PNEUMAG

Inline magnet for vacuum/pressure conveyor pipes



This special inline magnet was designed for applications in vacuum and pressure conveyor pipes with high flow velocities (up to 25 m/s). The special design allows a product flow through the system in both directions.

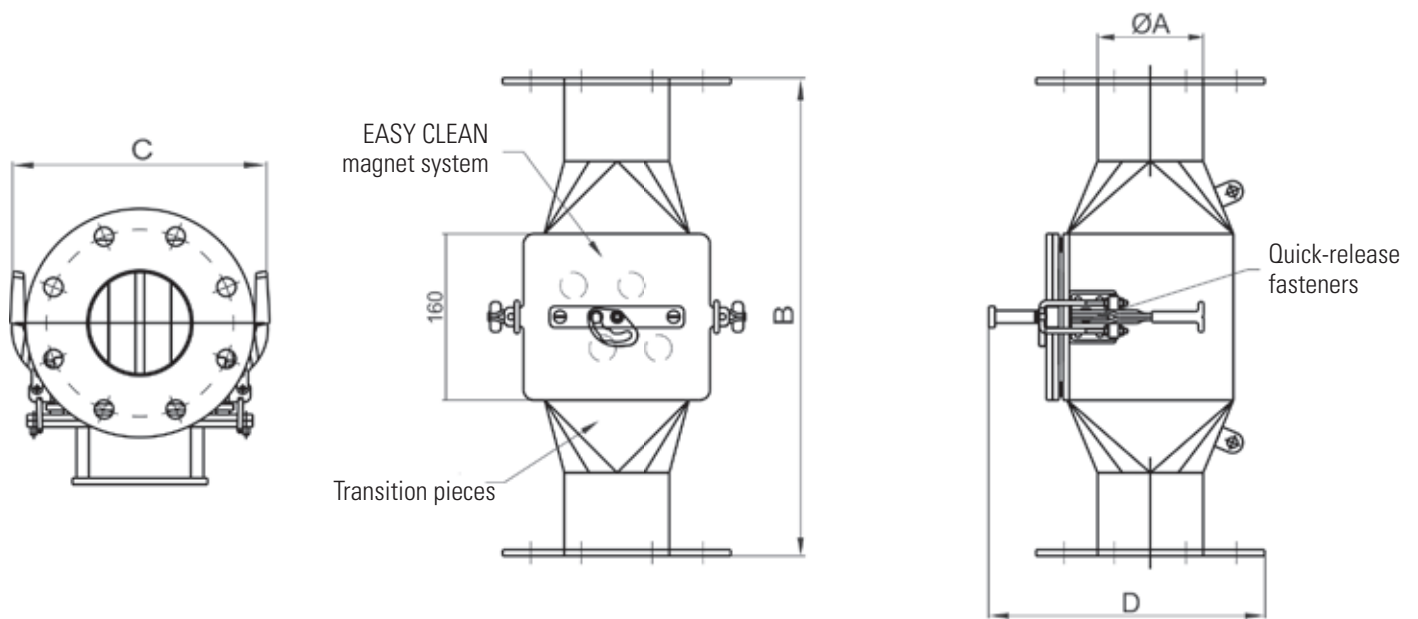
With its extremely high magnetic power this magnet system even removes slightly magnetised stainless steel particles from the product flow.

For the inspection of: Bulk materials; dry, free-flowing, powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky

For installation in: Pressure conveyor pipes/vacuum conveyor pipes

For application in: Plastics industry
Food industry
Chemical industry
Pharmaceutical industry

Dimensions



Technical data

	mT*	Version	Type	Connection diameter A						
				050	075	0100	0125	0150	0175	0200
Neodymium N45	900	Easy Clean	PG9-E-	050	075	0100	0125	0150	0175	0200
Installation height B				460	460	460	500	500	500	500
Installation width C				220	250	250	310	310	360	360
Installation depth D				215	255	255	300	300	360	360
Number of magnet rods				3	4	4	6	6	8	8
Throughput capacity [m³/h]				12	26	47	77	108	148	192
Weight [kg]				8	14	14	16	16	24	24

* Millitesla: readings taken from outer tube surface (+/- 5%)

Type designation: combination of "Type" and "Connection diameter" (i.e. PG9-E-050)

All dimensions in mm

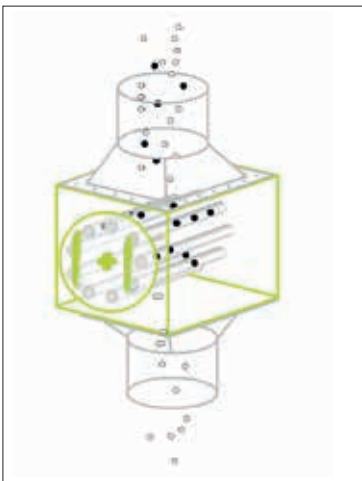


ROTOBOX

Inline magnet for free-fall applications
(poor free-flowing products)



PHARMA, EASY CLEAN (ATEX) version



The ROTOBOX magnet separator with rotating magnet rods primarily is used to remove fine and very fine ferrous contaminations from bulk materials that tend to bridging and/or caking. The rotating action of the magnet rod matrix that is powered by an electric motor prevents increasing clogging of the magnet separator and always ensures optimal contact of the product with the magnet.

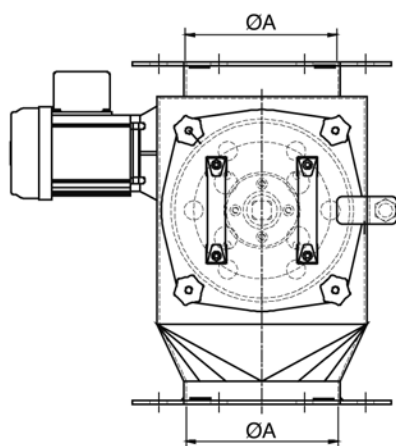
With its extremely high magnetic power 1 370 mT (13 700 gauss) this magnet system even removes slightly magnetised stainless steel particles from the product flow.

For the inspection of: Bulk materials; dry, non-free-flowing (bridging), powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky, fibrous, crumbly

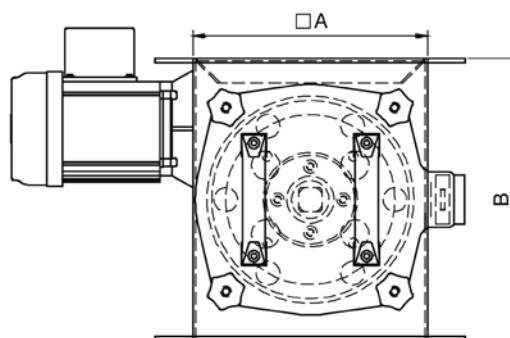
For installation in: Free-fall/bulk conveyors

For application in: Plastics industry
Food industry
Chemical industry
Pharmaceutical industry
Wood industry
Recycling industry
Other industry sectors

Dimensions



Round connection



Square connection

Technical data

Rotobox, round	mT*	Version	Type	Connection diameter A				
Neodymium N45	1100		RX11-	0200	0250	0300	0350	0400
	900	+ Easy Clean	RX9-E-					
Installation height B				450	500	550	650	675
Number of magnet rods				6	7	9	10	13
Motor power [kW]				0,25	0,25	0,25	0,25	0,25
Rotor speed [U/min]				28	28	28	28	28
Throughput capacity [m³/h]				19	30	39	48	60
Weight [kg]				35	44	55	68	82

Rotobox, square	mT*	Version	Type	Connection size A				
Neodymium N45	1100		RX11-R-	0200	0250	0300	0350	0400
	900	+ Easy Clean	RX9-ER-					
Installation height B				250	300	350	400	450
Number of magnet rods				5	6	7	9	10
Motor power [kW]				0,18	0,25	0,25	0,25	0,25
Rotor speed [U/min]				24	28	28	28	28
Throughput capacity [m³/h]				24	38	49	60	75
Weight [kg]				26	33	43	54	67

* Millitesla: readings taken from outer tube surface (+/- 5%)

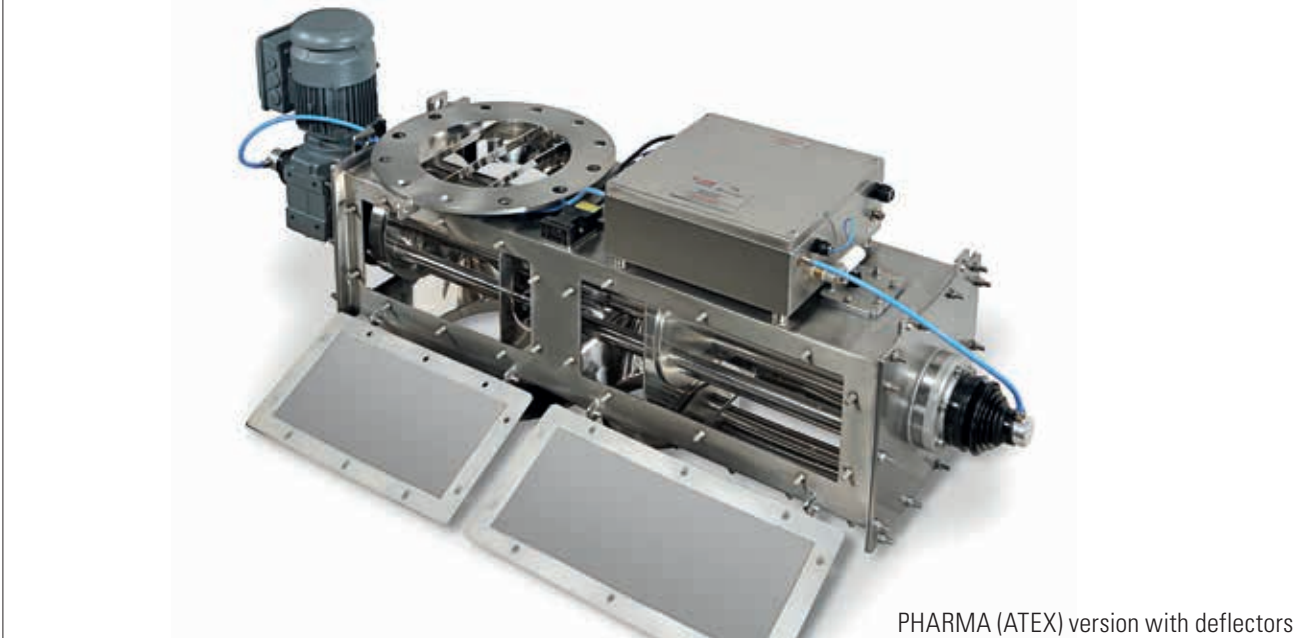
Type designation: combination of "Type" and "Diameter A" (i.e. RX9-E-0200)

All dimensions in mm

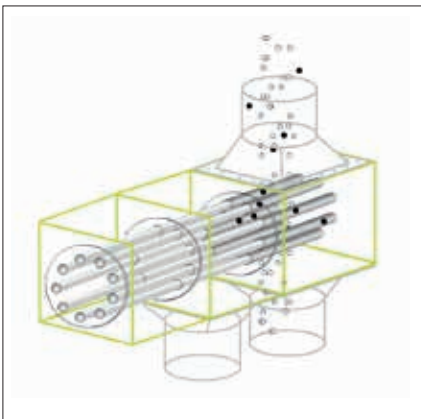


ROTOBOX AUTO CLEAN

Inline magnet for free-fall applications
(poor free-flowing products)



PHARMA (ATEX) version with deflectors



The ROTOBOX AUTO CLEAN magnet separator with rotating magnet rods primarily is used to remove fine and very fine ferrous contaminations from bulk materials that tend to bridging and/or caking. The rotating action of the magnet rod matrix that is powered by an electric motor prevents increasing clogging of the magnet separator and always ensures optimal contact of the product with the magnet.

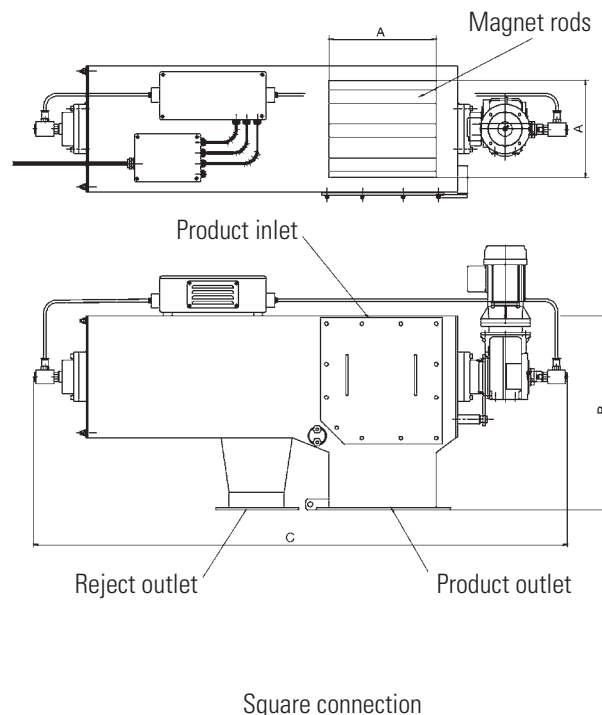
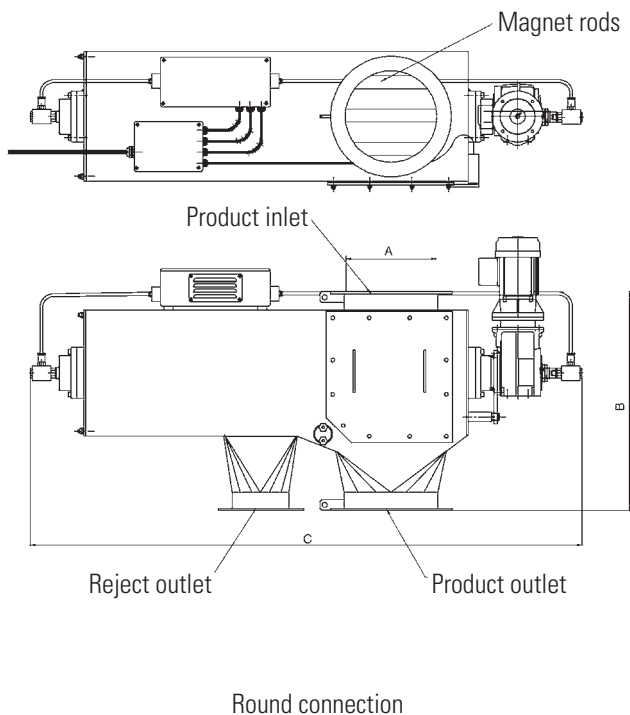
Cleaning is performed automatically: Compressed-air is applied to the magnet cores, which then in their stainless steel casings are transported to the cleaning area. With its extremely high magnetic power 1 370 mT (13 700 gauss) this magnet system even removes slightly magnetised stainless steel particles from the product flow. With a PLC controller the cleaning intervals can be set according to the respective level of contamination. The new "shuttle core" design ensures a compact system design without any directly moved system components.

For the inspection of: Bulk materials; dry, non-free-flowing (bridging), powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky, fibrous, crumbly

For installation in: Free-fall/bulk conveyors

For application in: Plastics industry
Food industry
Chemical industry
Pharmaceutical industry
Wood industry
Recycling industry
Other industry sectors

Dimensions



Technical data

RXA, round	mT*	Version	Type	Connection diameter A				
Neodymium N45	900	Auto Clean	RXA9-	0200	0250	0300	0350	0400
Installation height B				450	500	550	600	650
Installation length C				1415	1540	1665	1790	1915
Number of magnet rods				6	7	9	10	13
Throughput capacity [m ³ /h]				19	30	39	48	60
Weight [kg]				105	120	135	150	165

RXA, square	mT*	Version	Type	Connection size A				
Neodymium N45	900	Auto Clean	RXA9-R-	0200	0250	0300	0350	0400
Installation height B				450	500	550	600	650
Installation length C				1415	1540	1665	1790	1915
Number of magnet rods				6	7	9	10	13
Throughput capacity [m ³ /h]				24	38	49	60	75
Weight [kg]				100	112	126	142	155

* Millitesla: readings taken from outer tube surface (+/- 5%)

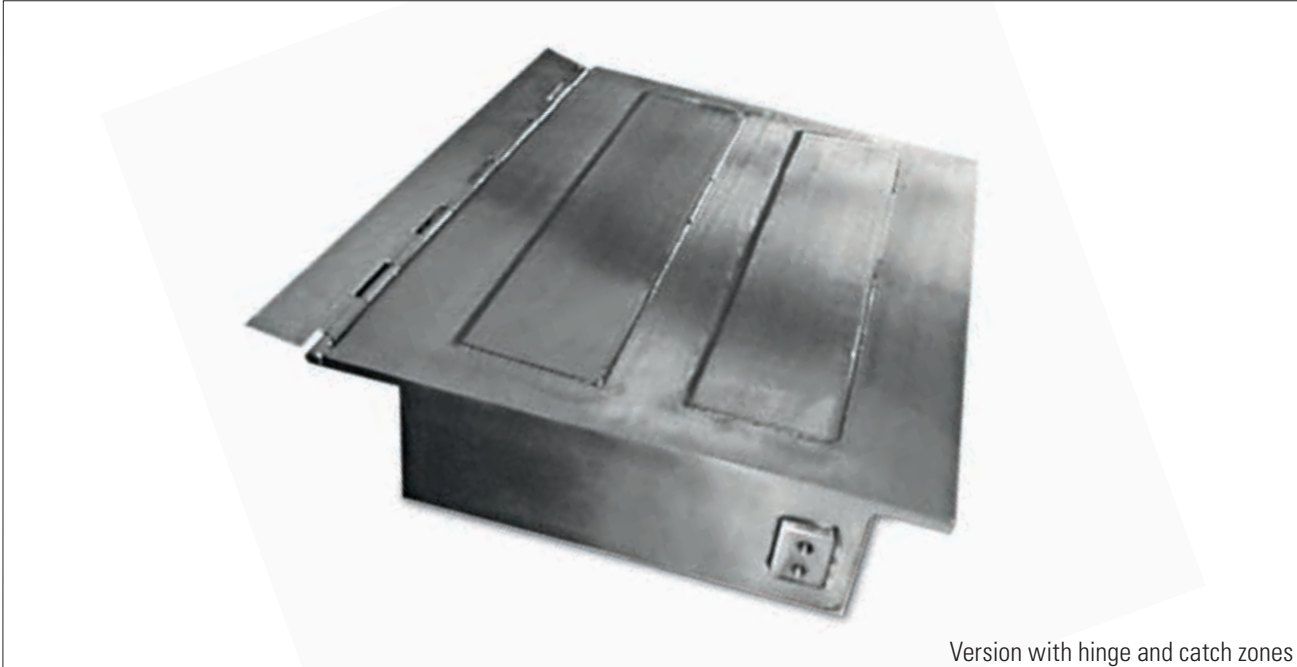
Type designation: combination of "Type" and "Dimension A" (i.e. RXA9-0200)

All dimensions in mm



PM

Plate magnet



Version with hinge and catch zones

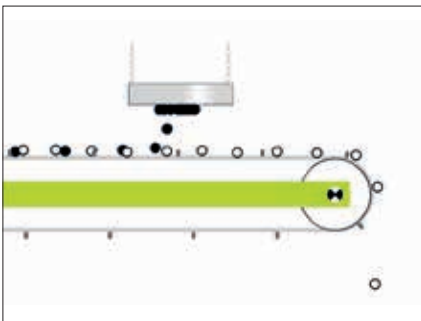


Plate magnets are installed in a continuous material flow above conveyor lines, in free fall, in vertical or inclined pipes, under chutes and slideways, etc.

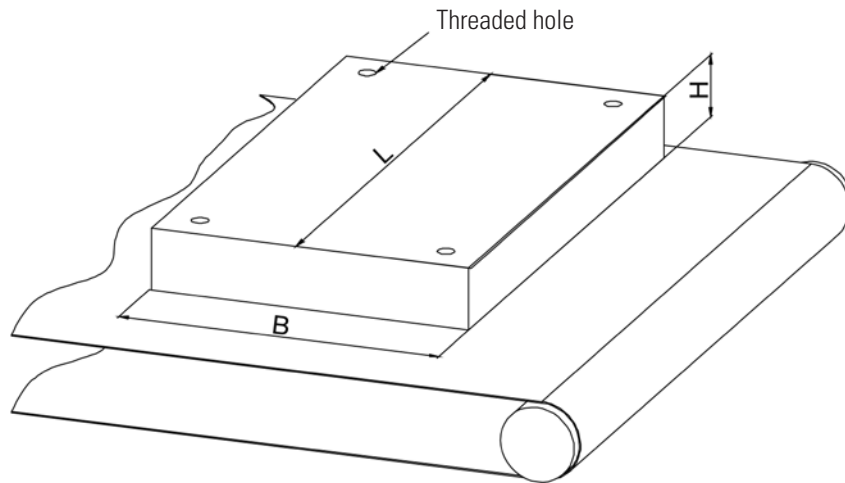
For protection against damage and for easier cleaning all the plate magnets are fully encased with stainless steel.

For the inspection of: Bulk materials, sheet materials; dry, non-free-flowing (bridging), powdery, fine-grained (grain size < 6 mm), coarsegrained (grain size > 6 mm), flaky, slightly fibrous, crumbly, moist

For installation in: Conveyor belts
Conveyor belt lines
Chutes
Vibration chute conveyors

For application in: Plastics industry
Food industry
Chemical industry
Pharmaceutical industry
Textile industry
Wood industry
Recycling industry
Packaging industry
Other industry sectors

Dimensions

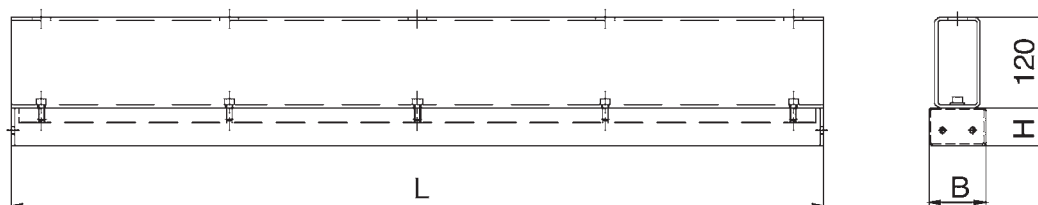


Technical data

	Working gap *	Width B	Height H	Type	Length L										
					---	200	300	400	500	600	700	800	900	1000	
Ferrite	90	200	100	PMF-	---	200	300	400	500	600	700	800	900	1000	
	180	400	200		---	---	---	---	---	---	---	---	---	---	---
	270	800	300		---	---	---	---	---	---	---	---	---	---	---
Weight [kg]	90				---	26	39	52	65	82	95	107	120	133	
	180				---	---	163	214	265	315	370	421	472	522	
	270				---	---	---	489	607	724	846	964	1081	1199	

	Working gap *	Width B	Height H	Type	Length L									
					100	200	300	400	500	600	700	800	900	1000
Neodymium N35	80	100	50	PMN-										
Weight [kg]					2,5	5,0	7,5	10,0	12,5	15,0	17,5	20,0	22,5	25,0

Version for the textile industry**:



	Working gap *	Width B	Height H	Type	Length L									
					---	1000	1500	2000	2500	3000	3500	4000	4500	5000
Ferrite	30	75	50	PMT-	---	1000	1500	2000	2500	3000	3500	4000	4500	5000
Neodymium				PMTN-	---	1000	1500	2000	2500	3000	3500	4000	4500	5000
Weight [kg]					---	40	60	80	100	120	140	160	180	200

* : relating to a 5x25mm mild steel bar (+/- 5%)

** : additionally for model PMT: carrier profile 60 x 120mm, painted RAL 9007

Type designation: combination of "Type" and "Length" (i.e. PMF-200)

All dimensions in mm



PRM

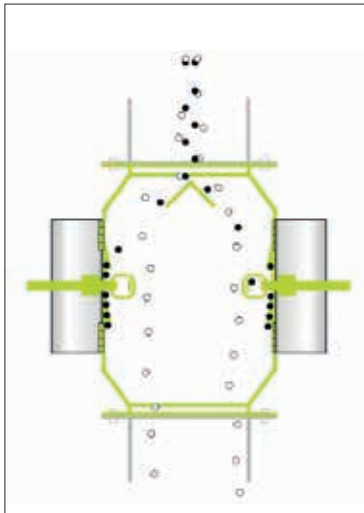
Inline chute magnet for free-fall applications (poor free-flowing, bridging products)



EASY CLEAN version



AUTO CLEAN version



These inline chute magnets primarily are used for the magnetic separation of slightly "bridging" and fibrous products, because there are no disturbing obstacles in the product flow. They also have proven to be an excellent solution for applications with very high throughput capacities and for pressure conveyor pipes.

EASY CLEAN: Hinged stainless steel plates facilitate cleaning of the magnet blocks.

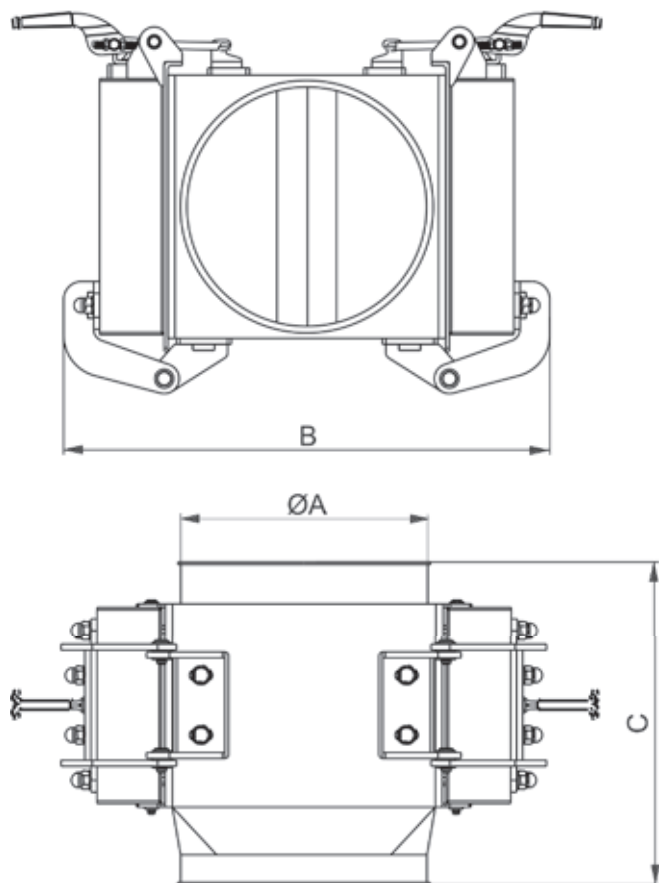
OPTION: AUTO CLEAN - The magnet plates are swivelled out by means of pneumatic cylinders.

For the inspection of: Bulk materials; dry, non-free-flowing (bridging), powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky, fibrous, crumbly, moist

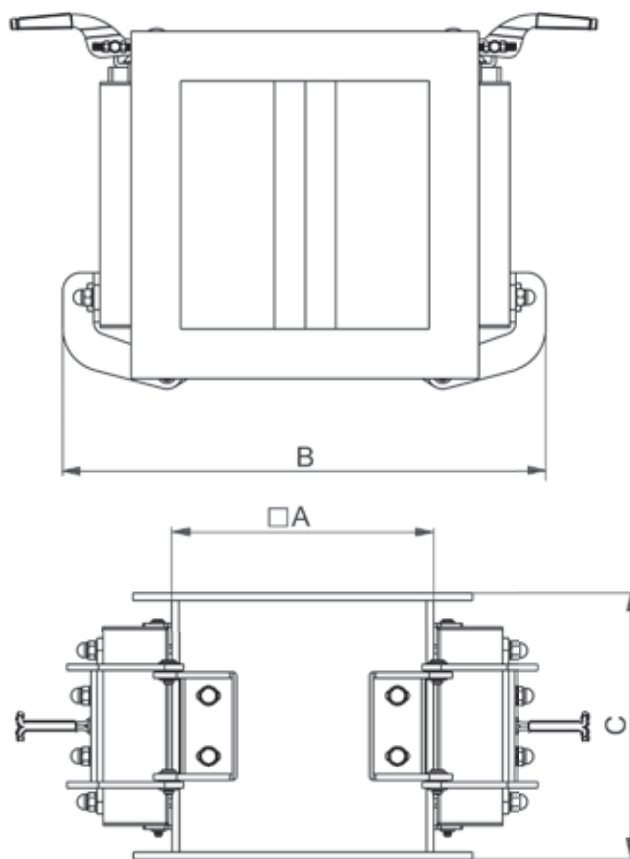
For installation in: Free-fall/bulk conveyors

For application in: Plastics industry
Food industry
Chemical industry
Textile industry
Wood industry
Recycling industry
Packaging industry
Other industry sectors

Dimensions



Round connection



Square connection

Technical data

Round	mT*	Version	Type	Connection diameter A						
				0100	0150	0200	0250	0300	0350	0400
Ferrite	120		PRMF-							
	80	+ Easy Clean	PRMF-E-							
Neodymium N35	350		PRMN-							
	250	+ Easy Clean	PRMN-E-							
Installation width B				306	356	406	470	520	570	636
Installation height C				240	270	270	370	370	370	370
Throughput capacity [m³/h]				20	30	55	84	111	150	165
Weight [kg]				13	24	32	42	56	85	100

Square	mT*	Version	Type	Connection size A						
				0100	0150	0200	0250	0300	0350	0400
Ferrite	120		PRMF-R							
	80	+ Easy Clean	PRMF-ER-							
Neodymium N35	350		PRMN-R							
	250	+ Easy Clean	PRMN-ER-							
Installation width B				284	340	390	454	506	556	606
Installation height C				190	220	220	300	320	350	350
Throughput capacity [m³/h]				25	35	67	102	134	170	200
Weight [kg]				17	22	30	39	52	80	95

* Millitesla: readings taken from outer attracting surface (+/- 5%)

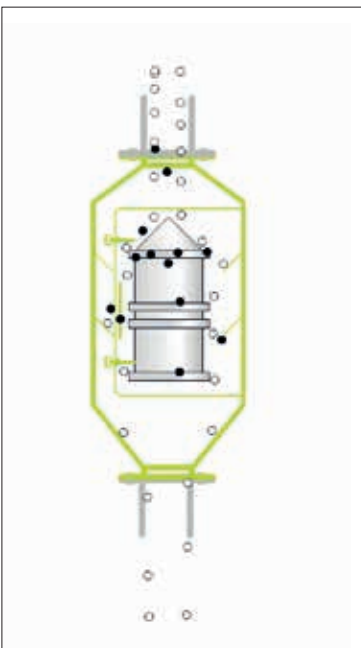
Type designation: combination of "Type" and "Dimension A" (i.e. PRMF-0100)

All dimensions in mm



RM

Inline magnet for free-fall applications (poor free-flowing products)



RM inline magnet separators are installed in pipes for the thorough separation of ferrous metals from powdery and grainy bulk materials. The housing and the cone tip of the magnet core are made of rust-proof stainless steel (1.4301).

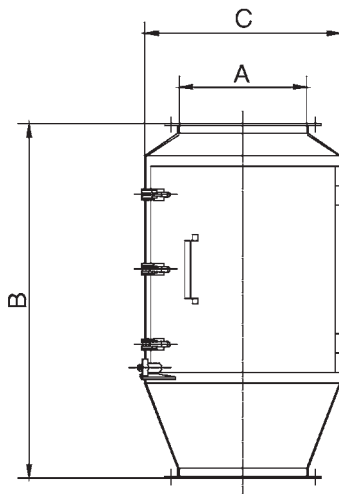
The system dimensions are chosen such that good material can freely pass between core and housing even if contaminants have accumulated at the magnet core.

For the inspection of: Bulk materials; dry, non-free-flowing (bridging), powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky, fibrous, crumbly

For installation in: Free-fall/bulk conveyors

For application in: Plastics industry
Chemical industry
Wood industry
Recycling industry
Packaging industry
Other industry sectors

Dimensions



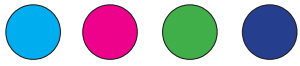
Technical data

	Type	Connection diameter A							
		0100	0150	0200	0250	0300	0350	0400	0500
Ferrite	RMF-								
Neodymium N45	RMN-					---	---	---	---
Installation height B		580	655	760	850	880	1000	1100	1200
Installation width C		224	279	351	436	491	551	608	788
Throughput capacity* [m³/h]		10	35	85	130	200	220	260	310
Weight [kg]		23	38	70	115	145	190	240	395

* : Throughput capacity based upon dry, good free flowing bulk material (grain size <6mm).

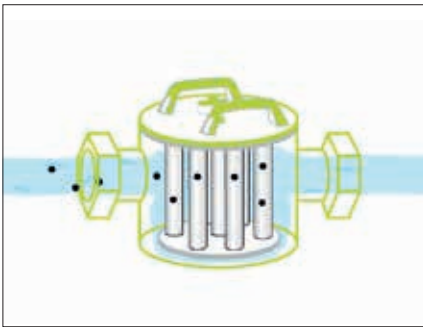
Type designation: combination of "Type" and "Diameter A" (i.e. RMF-0100)

All dimensions in mm



LIQUIMAG

Filter magnet for liquid/pasty materials



LIQUIMAG filter magnets were specifically developed and designed to reliably remove even smallest magnetic contaminants from various types of liquid and pasty products.

With their extremely high magnetic power these filter magnets even remove slightly magnetised stainless steel particles from the product flow.

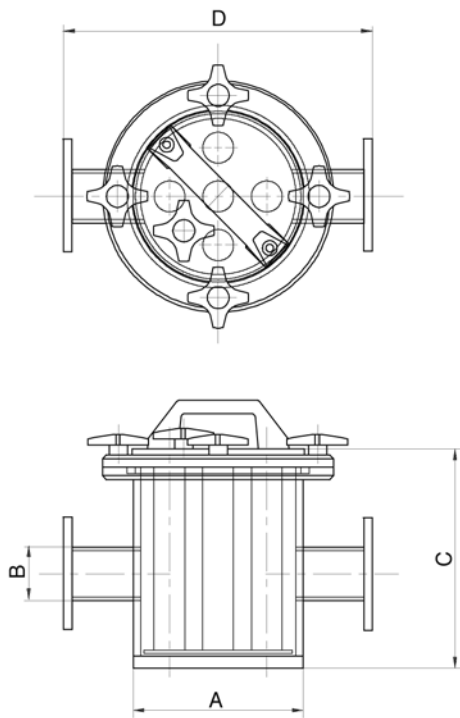
EASY CLEAN guarantees efficient and fast cleaning of the filter magnet.

For the inspection of: Liquid/pasty materials (constant consistency)

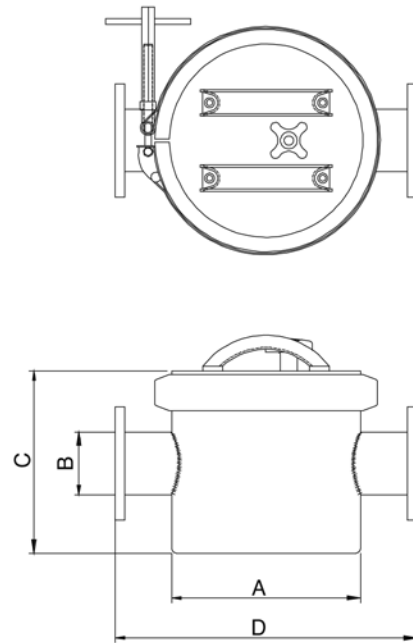
For installation in: Pump conveyor pipes

For application in: Food industry
Chemical industry
Pharmaceutical industry
Other industry sectors

Dimensions



Versions LM9-E-040-3 and LM9-E-050-5



Versions as from LM9-E-050-7

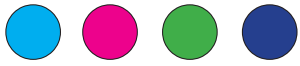
Technical data

Magnet material	mT*	Version	Type	Connection diameter B						
				40	50	50	75	50	75	100
Neodym N45	1100		LM11-	40	50	50	75	50	75	100
	900	+ Easy Clean	LM9-E-							
	1100	double-walled	LM11-D-	---						
	900	+ Easy Clean	LM9-ED-							
Housing diameter A				128	146	170	170	260	260	260
Installation height C				163	180	195	195	300	300	300
Installation length D				250	270	350	350	450	450	450
Number of magnet rods				3	5	7	7	9	9	9
Throughput capacity [m³/h]				4	9	19	44	23	52	78
Weight [kg]				8	14	22	22	55	55	55

* Millitesla: readings taken from outer tube surface (+/- 5%)

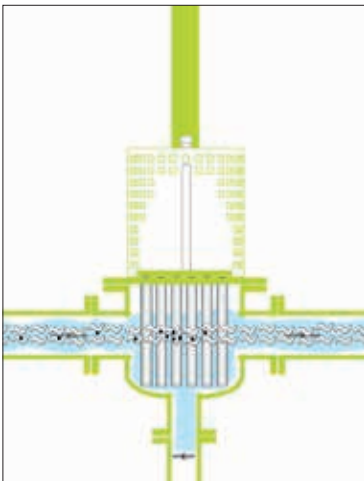
Type designation: combination of "Type" and "Connection diameter + Number of magnet rods" (i.e. LM9-E-40-3)

All dimensions in mm



LIQUIMAG AUTO-CLEAN

Filter magnet for liquid/pasty products



The magnet separators of the LIQUIMAG AUTO-CLEAN type therefore are designed to meet all the requirements and specifications applicable in food production. The filter magnets can be easily integrated in existing conveying pipes in which liquid and pasty products are transported. The magnet separators require little maintenance, are cleaned automatically, and therefore guarantee economic and efficient operation.

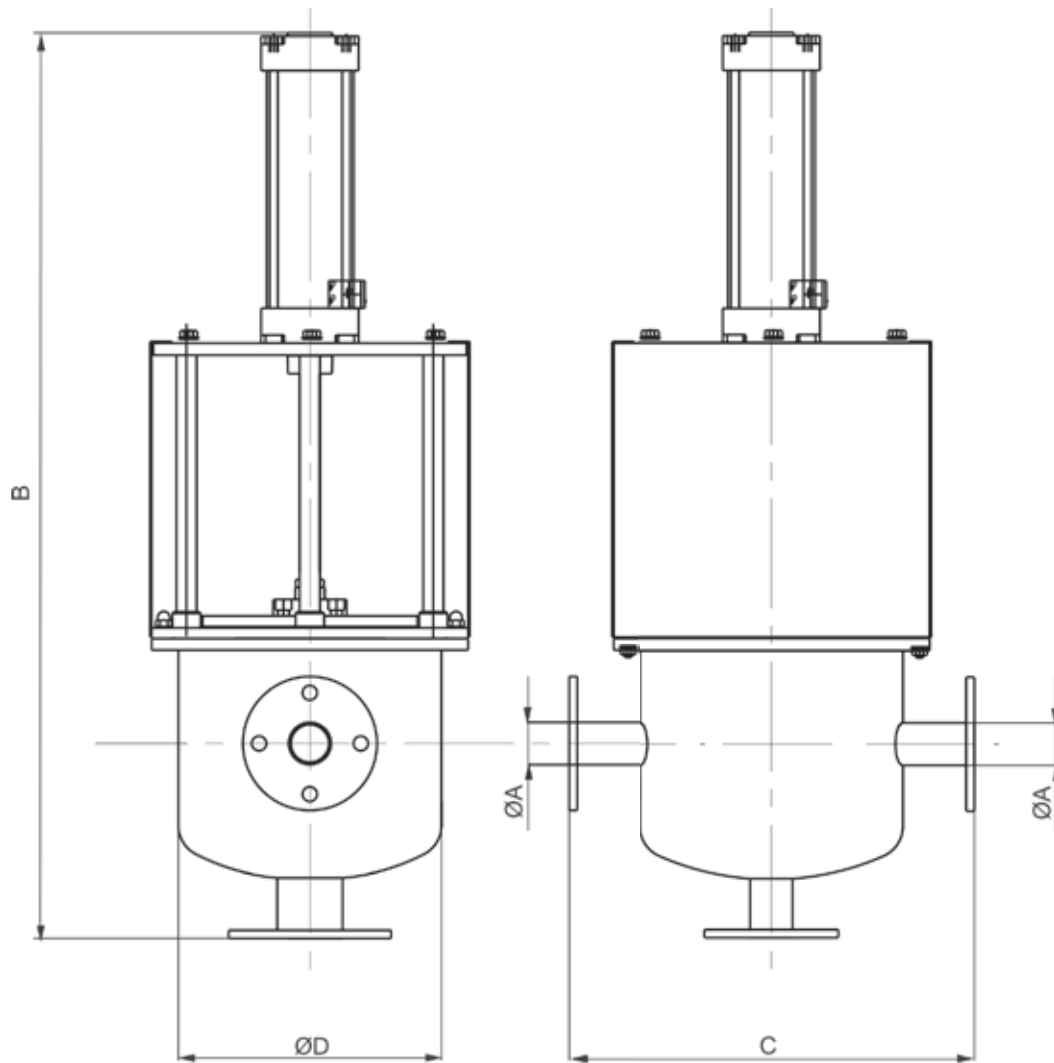
The product is cleaned by means of magnet rods. After the set cleaning time, a pneumatic cylinder moves the magnet cores out of the filter housing.

For the inspection of: Liquid/pasty materials (constant consistency)

For installation in: Pump conveyor pipes

For application in: Food industry
Chemical industry
Pharmaceutical industry
Other industry sectors

Dimensions



Technical data

	mT*	Version	Type	Connection diameter A				
				50	75	50	75	100
Neodymium N45	900	Auto-Clean	LM9-A-	50	75	50	75	100
Installation height B				756	756	976	976	976
Installation length C				350	350	450	450	450
Ø of filter body D				200	200	300	300	300
Number of magnet rods				7	7	9	9	9
Throughput capacity [m³/h]				19	44	23	52	78
Weight [kg]				38	38	54	54	54

* Millitesla: readings taken from outer tube surface (+/- 5%)

Type designation: combination of "Type" + "Connection diameter + Number of magnet rods" (e.g. LM9-A-50-7)

All dimensions in mm



WM

Head roller magnet system



The permanent-magnet head roller is designed to replace the drive roller at the discharge end of a conveyor belt. This primary system separates medium-sized and coarse ferrous contaminants.

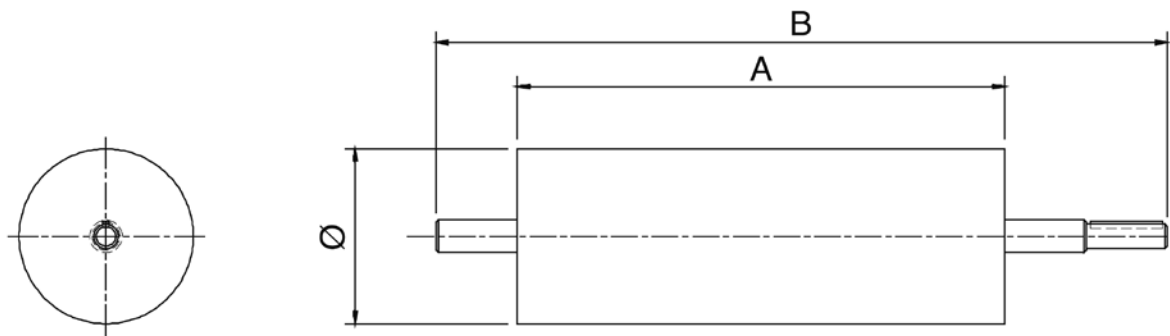
All the head roller versions are available with smooth, crowned, or rubber-coated shell design.

For the inspection of: Bulk materials; dry, powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky, fibrous, crumbly, moist

For installation in: Conveyor belts
Conveyor belt lines

For application in: Plastics industry
Food industry
Chemical industry
Textile industry
Wood industry
Recycling industry
Packaging industry
Other industry sectors

Dimensions



Technical data

Serie 1	mT*	working gap**	Diameter	Type	Roller width A					
					0400	0500	0600	0700	0800	1000
Ferrite	100	75	215	WMF-	0400	0500	0600	0700	0800	1000
Neodymium N35	300	75	215	WMN-	0400	0500	0600	0700	0800	1000
Total width B					700	800	900	1000	1100	1300
Weight [kg]					64	77	90	104	123	151

Serie 2	mT*	working gap**	Diameter	Type	Roller width A					
					0400	0500	0600	0700	0800	1000
Ferrite	100	100	315	WMF-	0400	0500	0600	0700	0800	1000
Neodymium N35	300	100	315	WMN-	0400	0500	0600	0700	0800	1000
Total width B					700	800	900	1000	1100	1300
Weight [kg]					125	148	171	194	217	271

* Millitesla: readings taken from outer roller surface (+/- 5%)

** : relating to a mild steel bar 5 x 25mm (without material)

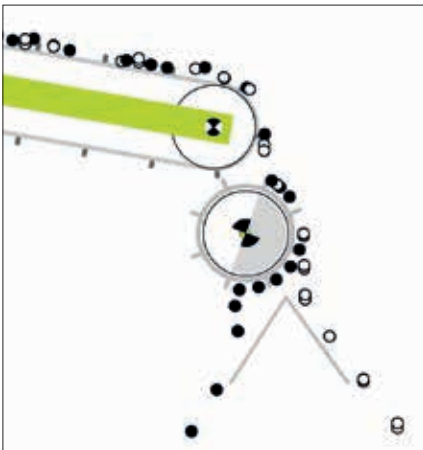
Type designation: combination of "Type" and "Roller width" (i.e. WMF-0400)

All dimensions in mm



TM

Drum magnet system



The drum magnet is an automated separating system. Ferrous contaminants are attracted to the drum magnet and then rotated out of the magnetic field where they fall off the drum and are separated from clean products by a diverter shield (option).

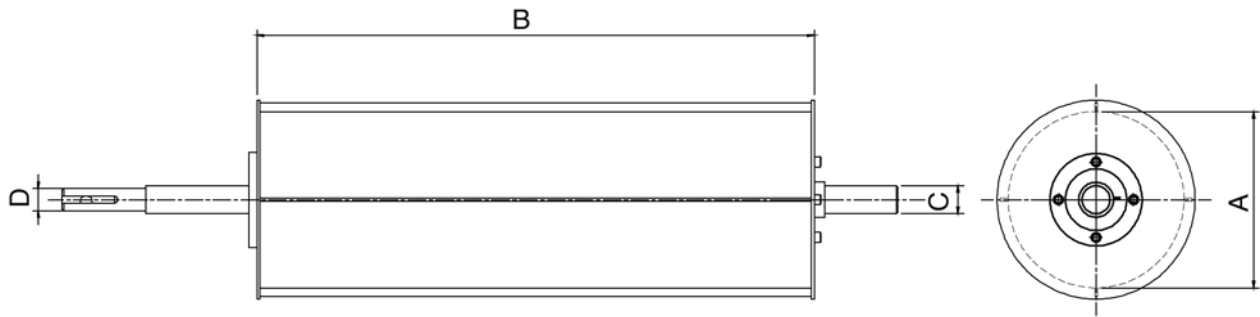
The magnetic field can be positioned such that the passing material flow is optimally separated.

For the inspection of: Bulk materials; dry, non-free-flowing (bridging), powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky, light, fibrous, crumbly, moist

For installation in: Free-fall/bulk conveyors
Conveyor belts
Vibration chute conveyors

For application in: Plastics industry
Food industry
Chemical industry
Textile industry
Wood industry
Recycling industry
Packaging industry
Other industry sectors

Dimensions



Technical data

Serie 1	mT*	Diameter A	Type	Drum width B				
				0400	0500	0600	0800	1000
Neodymium N35	350	215	TMN-	0400	0500	0600	0800	1000
Shaft Ø C				40	40	40	40	40
Shaft Ø D				25	25	25	25	25
Throughput capacity [m³/h]				28	35	43	59	70
Weight [kg]				60	72	84	108	132

Serie 2	mT*	Diameter A	Type	Drum width B				
				0400	0500	0600	0800	1000
Neodymium N35	350	315	TMN-	0400	0500	0600	0800	1000
Shaft Ø C				40	40	40	40	40
Shaft Ø D				25	25	25	35	35
Throughput capacity [m³/h]				40	50	62	85	100
Weight [kg]				82	94	108	136	154

Serie 3	mT*	Diameter A	Type	Drum width B				
				0400	0500	0600	0800	1000
Neodymium N35	350	400	TMN-	0400	0500	0600	0800	1000
Shaft Ø C				50	50	50	50	50
Shaft Ø D				25	25	35	40	40
Throughput capacity [m³/h]				52	64	76	102	124
Weight [kg]				125	140	155	185	215

* Millitesla: readings taken from outer drum surface (+/- 5%)

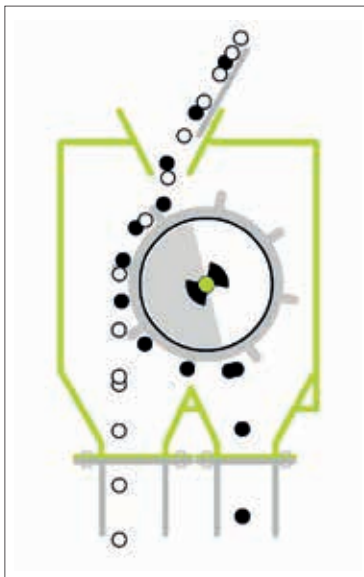
Type designation: combination of "Type" and "Drum width" (i.e. TMGN-0400)

All dimensions in mm



TMG

Drum magnet system in a housing



The drum magnet is an automated separating system. The separating drum is driven by an angular gear motor, its speed can be controlled with an optional frequency inverter.

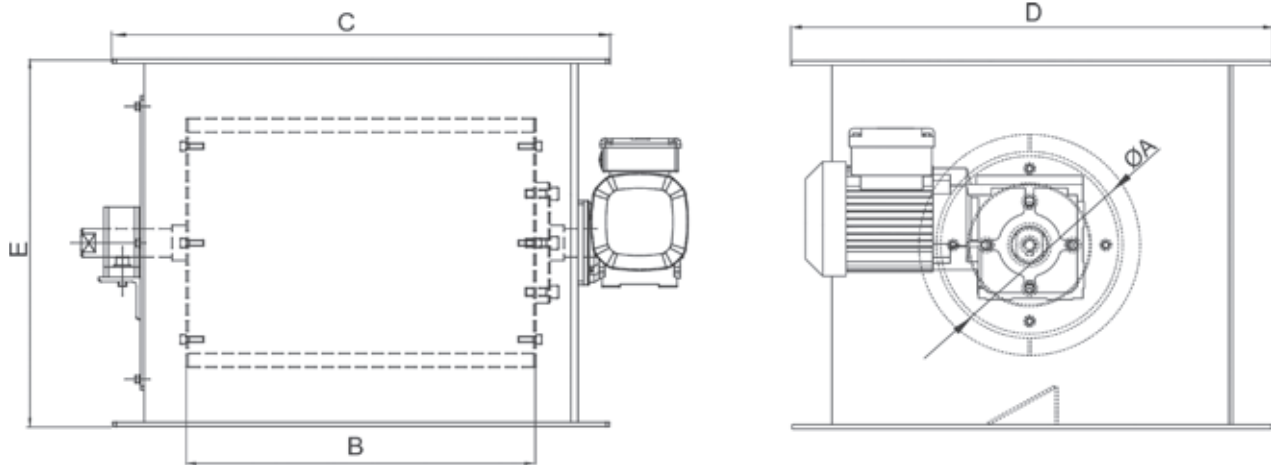
The magnetic field can be positioned such that the passing material flow is optimally separated. With customer-specific connection dimensions this complete solution can be easily integrated in existing conveyor systems.

For the inspection of: Bulk materials; dry, non-free-flowing (bridging), powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky, fibrous, crumbly, moist

For installation in: Free-fall/bulk conveyors
Conveyor belts
Vibration chute conveyors

For application in: Plastics industry
Food industry
Chemical industry
Textile industry
Wood industry
Recycling industry
Packaging industry
Other industry sectors

Dimensions



Technical data

Serie 1	mT*	Diameter A	Type	Drum width B				
				0400	0500	0600	0800	1000
Neodymium N35	350	215	TMGN-	0400	0500	0600	0800	1000
Installation width C				610	710	810	1010	1210
Installation depth D				555	555	555	555	555
Installation height E				425	425	425	425	425
Motor power [kW]				0,18	0,18	0,18	0,37	0,37
Drum speed [U/min]				28	28	28	35	35
Throughput capacity [m³/h]				28	35	43	59	70
Weight [kg]				125	140	155	190	225

Serie 2	mT*	Diameter A	Type	Drum width B				
				0400	0500	0600	0800	1000
Neodymium N35	350	315	TMGN-	0400	0500	0600	0800	1000
Installation width C				610	710	810	1010	1210
Installation depth D				655	655	655	655	655
Einbauhöhe E				525	525	525	525	525
Motor power [kW]				0,18	0,37	0,37	0,37	0,37
Drum speed [U/min]				28	35	35	29	29
Throughput capacity [m³/h]				40	50	62	85	100
Weight [kg]				165	185	205	250	285

Serie 3	mT*	Diameter A	Type	Drum width B				
				0400	0500	0600	0800	1000
Neodymium N35	350	400	TMGN-	0400	0500	0600	0800	1000
Installation width C				610	710	810	1010	1210
Installation depth D				740	740	740	740	740
Installation height E				610	610	610	610	610
Motor power [kW]				0,37	0,37	0,37	0,55	0,55
Drum speed [U/min]				35	35	29	29	29
Throughput capacity [m³/h]				52	64	76	120	124
Weight [kg]				225	245	270	330	380

* Millitesla: readings taken from outer drum surface (+/- 5%)

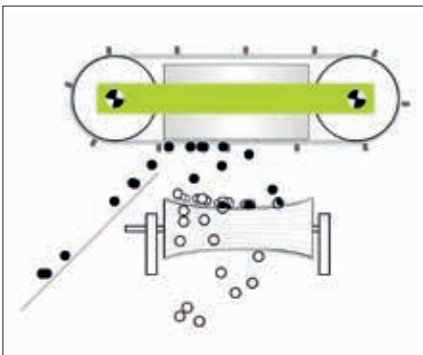
Type designation: combination of "Type" and "Drum width B" (i.e. TMGN-0400)

All dimensions in mm



OM

Overband magnet system



Overband magnets are equipped with a strong permanent magnet made of fully stabilised strontium-ferrite magnet material. As a standard the recirculating belt is powered by an attachable gear motor. Ferrous contaminants are continuously picked up and then removed by the circulating belt.

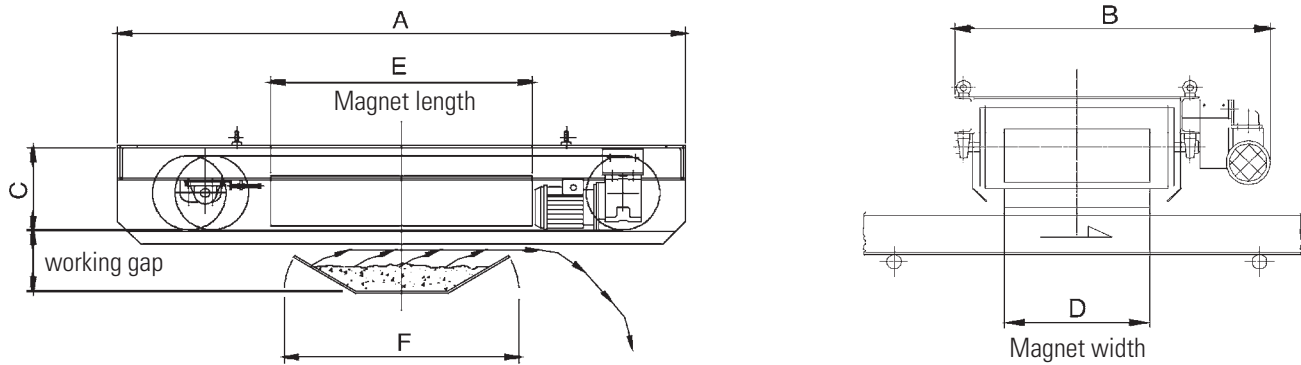
As an option the sturdy system also can be equipped with a hydraulic drive. Guards on both sides prevent injuries and damage to the recirculating belt.

For the inspection of: Piece goods (incl. packaged items - e.g. packaged bulk materials), bulk materials; dry, non-free-flowing (bridging), powdery, fine-grained (grain size < 6 mm), coarse-grained (grain size > 6 mm), flaky, fibrous, crumbly, moist, liquid/pasty (constant consistency)

For installation in: Conveyor belts
Conveyor belt lines
Vibration chute conveyors

For application in: Plastics industry
Chemical industry
Wood industry
Recycling industry
Packaging industry
Other industry sectors

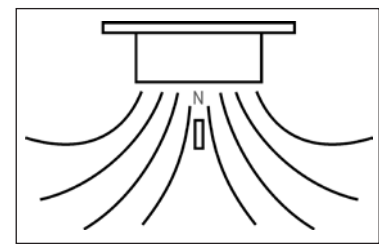
Dimensions



Technical data

Magnets in "single pole design":

Serie 200	working gap*	Type	Conveyor belt width F			
			0600	0800	1000	1200
Ferrite	200	OMS-				
Total length A			1790	2400	2400	2400
Total width B			1250	1250	1250	1250
Total height C			391	391	391	391
Magnet width D			430	430	430	430
Magnet length E			632	836	1040	1244
Motor power [kW]			1,5	1,5	1,5	1,5
Weight [kg]			800	960	1080	1200



„single pole design“

Serie 250	working gap*	Type	Conveyor belt width F						
			0600	0800	1000	1200	1400	1600	1800
Ferrite	250	OMS-							
Total length A			1790	2400	2400	2400	2590	2790	3040
Total width B			1250	1250	1250	1250	1250	1250	1250
Total height C			391	391	391	391	391	391	391
Magnet width D			530	530	530	530	530	530	530
Magnet length E			632	836	1040	1244	1448	1652	1856
Motor power [kW]			1,5	1,5	1,5	1,5	1,5	1,5	1,5
Weight [kg]			900	1049	1200	1355	1512	1673	1837

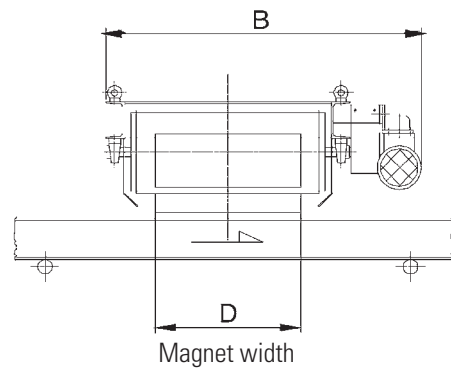
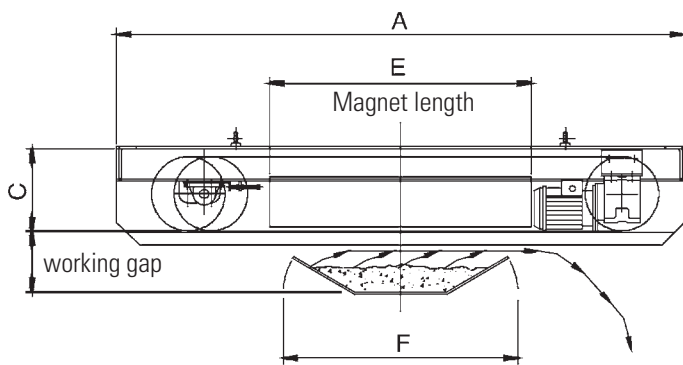
Serie 300	working gap*	Type	Conveyor belt width F						
			0600	0800	1000	1200	1400	1600	1800
Ferrite	300	OMS-							
Total length A			2066	2500	2500	2500	2866	3066	3266
Total width B			1300	1300	1300	1300	1300	1300	1300
Total height C			455	455	455	455	455	455	455
Magnet width D			520	520	520	520	520	520	520
Magnet length E			632	836	1040	1244	1448	1652	1856
Motor power [kW]			1,5	1,5	1,5	2,2	2,2	2,2	2,2
Weight [kg]			1270	1350	1620	1820	2192	2452	2726

* : relating to a \varnothing 5x25mm mild steel bar (without material) (+/- 5%)

Type designation: combination of "Type", "Conveyor belt width F" and "working gap" (i.e. OMS-0600-200)

All dimensions in mm

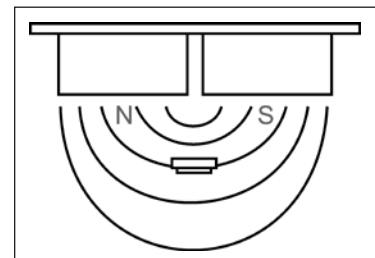
Dimensions



Technical data

Magnets in "twin pole design":

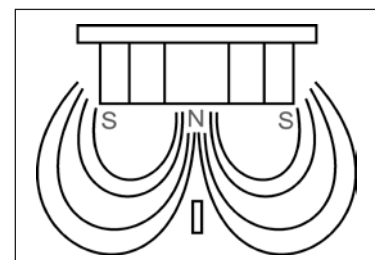
Serie 250	working gap*	Type	Conveyor belt width F			
			0800	1000	1200	1400
Ferrite	250	OMT-				
Total length A			2400	2400	2400	2590
Total width B			1250	1250	1250	1250
Total height C			391	391	391	391
Magnet width D			672	672	672	672
Magnet length E			836	1040	1244	1444
Motor power [kW]			1,5	1,5	1,5	2,2
Weight [kg]			1400	1600	1800	2000



„twin pole design“

Magnets in "multi pole design":

Serie 300	working gap*	Type	Conveyor belt width F					
			0800	1000	1200	1400	1600	1800
Ferrite	300	OMM-						
Total length A			2416	2616	2816	3016	3216	3416
Total width B			1700	1700	1700	1700	1700	1700
Total height C			572	572	572	572	572	572
Magnet width D			971	971	971	971	971	971
Magnet length E			820	1025	1227	1430	1632	1834
Motor power [kW]			1,5	1,5	2,2	2,2	3,0	3,0
Weight [kg]			2400	2842	3291	3746	4208	4677



„multi pole design“

* : relating to a \varnothing 5x25mm mild steel bar (without material) (+/- 5%)

Type designation: combination of "Type", "Conveyor belt width F" and "working gap" (i.e. OMS-0600-200)

All dimensions in mm

Annex



ATEX – certified safety

Since 1 July 2003 all equipment and safety systems for use in potentially explosive environments must comply with EC directive 94/9/EC. With this directive the European Union established a basis for binding, uniform explosion prevention standards for the design, installation and maintenance of systems, machinery and components. Explosive atmospheres may occur in a number of industries, such as e.g. the chemical, pharmaceutical and food industries. Mills and storage areas for milled products, where flammable dust is generated, are one example in the food sector. All systems, machinery and components that are used in such environments must be approved under this EC directive.



In the year 2005 Sesotec developed the world-wide first automated magnet system ROTOBX AUTO CLEAN that is certified according to the ATEX directive zone 20. Since July 2006 almost all magnet systems have an EC type examination certificate. Sesotec thus is able to provide various magnet systems for use in ATEX zones 20 (dust) and 0 (gas).

The continuously growing number of systems for ATEX applications and the extensive experience we have gathered with the most varied kinds of implemented solutions give our customers the comforting safety and certainty to have found a competent and reliable supplier with Sesotec.

Important definitions

Potentially explosive atmosphere:

- 1. A mixture of air and combustible substances in the form of gases, vapours, mists or dusts**
- 2. under atmospheric conditions**
- 3. in which, after ignition has occurred, combustion spreads to the entire unburned mixture**



ATEX – Check List Magnets

Required information of hazardous locations

1. Danger zones:

Inside:

- Zone 20 (dust)
- Zone 21 (dust)
- Zone 22 (dust)
- Zone 0 (gas)
- Zone 1 (gas)
- Zone 2 (gas)

Outside:

- Zone 20 (dust)
- Zone 21 (dust)
- Zone 22 (dust)
- Zone 0 (gas)
- Zone 1 (gas)
- Zone 2 (gas)



2. Hazardous materials:

Decisive hazardous materials: _____

Grain size (median value) mm: _____

Maximum size [mm] / maximum weight [g] of metal particles: _____

Conveying speed [m/s]/direction: _____

Ambient temperature [°C]: _____ from _____ up to _____

Product temperature [°C]: _____

Pressure in the conveyor pipe [bar]: _____

Minimum ignition energy [mJ]: _____

Ignition temperature [°C]: _____

Smouldering temperature [°C]: _____

3. Confirmation:

Customer:

Date:
Operator:

Signature:

Signature of the person in charge of assessing the respective plant

Attention:
Your inquiry can only be processed if all the required data are available!

Information on the signatory:



Check List Magnetic Separators

Required information in order to offer the most suitable equipment

1. Product characteristics:

Product: _____
Grain size [mm]: _____ (min.) _____ (max.)
Throughput [t/h]: _____ Density [kg/m³]: _____
Humidity [%]: _____ Product temperature[°C]: _____
Free fall height [m]: _____ Static: _____
Free-flowing characteristics: good _____ mid _____ bad _____
Product is tending to: bridge _____ static _____ caking _____
Specialities: _____

2. Fe contamination:

Type of Fe contamination: _____
Separate particle: _____ or inclusion in product: _____
Size [mm]: _____ (min.) _____ (max.)
Weight of the Fe contamination [g]: _____ (min.) _____ (max.)
Shape: _____ Quantity Fe [%]: _____
Specialities: _____

3. Info about conveyance:

Free fall height [mm]: _____ (max.) Pipe diameter [mm]: _____
Suction line: _____ [mbar] _____ [m/s]
Pneumatic line: _____ [mbar] _____ [m/s]
Pump line: _____ [bar] light phase or dense phase conveyance: _____
Conveyor belt: _____ [mm wide] _____ [m/s]
Chute: _____ [mm wide] Vibratory feeder: _____ [mm wide]
Specialities: _____

4. Application:

Food industry: _____ Pharmaceutical industry: _____ Plastic industry: _____ Other: _____
Ambient temperature [° C]: _____ (min.) _____ (max.)
dry/dusty: _____ humid: _____ wet: _____
Installation: outside _____ oder indoor _____
Power supply: _____ [V] _____ [Hz]
ATEX-Zone: inside _____, outside _____ (Please fill in the ATEX – Check list)
Specialities: _____

5. Others:

6. Confirmation:

Customer: _____

Date: _____

Company: _____

Signature: _____

Signature of the responsible person for the classification of the plant

Details of signatory: _____

Caution:

**A processing of
your inquiry is only
possible if all
required information
is available!**



Check List Overband Magnets

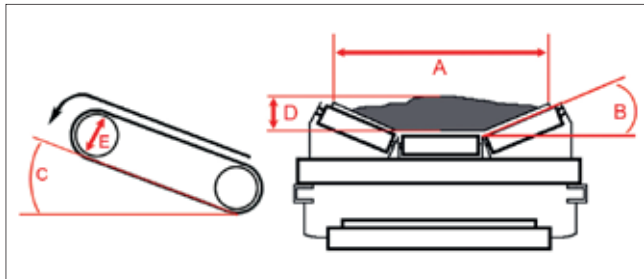
Required information in order to offer the most suitable system

1. Product characteristics:

Product: _____
 Grain size [mm]: _____ (min.) _____ (max.)
 Throughput [t/h]: _____ Density [kg/m³]: _____
 Specialities: _____

2. Conveyor belt (see drawing):

Belt width [mm]: _____ (A)
 Belt speed [m/s]: _____
 Trough angle [°]: _____ (B)
 Conveyor angle [°]: _____ (C)
 Burden depth [mm]: _____ (D)
 Head pulley diameter [Ø mm]: _____ (E)



Head pulley should be manufactured using non-magnetic material

3. Site conditions:

Ambient temperature [°C]: _____ (min.) _____ (max.)
 Humidity [%]: _____ (max.)
 Altitude [m]: _____ (above sea level)
 Specialities: _____

4. Fe contamination:

Type of the Fe contamination: _____
 Size range [mm]: _____ (min.) _____ (max.)
 Quantity Fe [%]: _____
 Equipment to be protected by magnet: _____
 Max. size of iron, which can be tolerated by equipment to be protected: _____ (e. g. M "Ø" Hex nut, mm³ (cube), other)
 Destination of product: _____
 Specialities: _____

5. Separator Type (Please select one option for each question):

Cleaning: self-cleaning _____, manual cleaning _____
 Position: cross-belt installation _____, in-line installation (above head pulley) _____

6. Confirmation:

Customer:

Date:

Company:

Signature:

Signature of the responsible person for the classification of the plant

Caution:
 A processing of your inquiry is only possible if all required information is available!

Details of signatory:

Please observe the warning signs:



"Warning: Magnetic Field"
acc. to BGV A8 W 13



**"Forbidden for people with cardiac pace-
maker"** acc. to BGV A8 P11

Application examples

Sesotec products: Precision.
Versatility.
Economic efficiency.
Individuality.

Everything we do, we do with passion and conviction. We love to be challenged by difficult problems and to provide all our customers with optimal solutions for their specific requirements.

Sesotec solutions guarantee highest precision and reliable long-time operation as well as minimum efforts for care and maintenance.

For us our commitment in many industry sectors acts like an innovation motor. In the development of new systems and technologies Sesotec observes all the important industry standards (IFS, CSA/UL, ATEX, etc.).

Individual customer-specific projects always are a challenge and an incentive for new products, and the great experience that Sesotec has gathered from such projects defines our leading position.

Application examples

Food industry

A. Saumweber GmbH, Munich / Germany

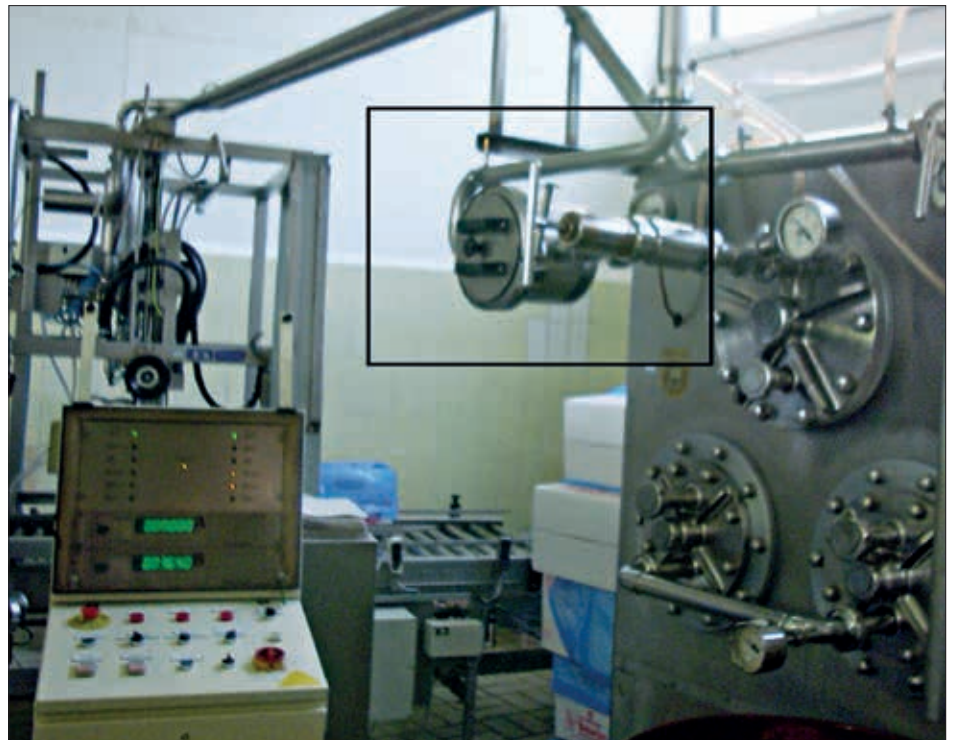
Task

A. Saumweber GmbH in Munich, a family-run company with 50 employees, is a specialist for butter, fat, and oil. The product range comprises all the standard and special fat types for human consumption, e.g. butter and butterfat, margarine and margarine spread, vegetable fats and vegetable oils.

Quality and quality inspection are of outstanding importance for Saumweber, and the company attached great value to employing processes and technologies that are absolutely state-of-the-art. In order to meet the applicable standards and specifications for food production (e.g. IFS) Saumweber uses an Sesotec LIQUIMAG LM magnet separator.

The extremely high magnetic forces of the LIQUIMAG LM 1 300 mT (13 000 gauss) make it possible to even separate slightly magnetised specialsteel particles from the product flow.

The LIQUIMAG magnet separator is equipped with the proven EASY CLEAN feature. Because of the internal production sequences and the local conditions Saumweber decided to integrate the magnet separator in the pressure conveyor pipe shortly before the station where the material is filled in big packagings.



Characteristics

- Fat and oil is conveyed in heated condition, the filling temperature is 20-30°C
- Throughput rates of up to 3 tons/hour can be reached
- Sturdy stainless steel design with polished surfaces



Solution

In May 2006 Sesotec provided Saumweber with a LIQUIMAG magnet separator for test purposes, with the aim of finding out what types of metallic contaminants could be detected.

When the test period was over, Saumweber decided to permanently install the LIQUIMAG magnet separator.

In addition to the fulfilling of the main target, the easy integration of the system in the existing pressure conveyor pipe was another convincing argument.

The reliable function without any major maintenance, and the outstanding ease of operation of the magnet separator when it comes to cleaning, allow a highly efficient and economic operation.

Advantages

- Even very fine magnetic particles (~ 10µm) are removed
- Reliable protection of final products
- The separated particles provide information about the source of contamination (e.g. machine wear)

Result

The LIQUIMAG LM magnet separator clearly improved the production reliability of oil and fat products. Even very fine magnetic contaminants are detected and separated. Continuous product purity improvements are one reason why many customers have remained loyal to Saumweber for several decades.



For further information on this project please contact:

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Application examples

Chemical industry

Alfons Greiwing GmbH, Wesel/Germany

Task

Alfons Greiwing GmbH is a family-run internationally operating logistics company headquartered in Greven in the German Münsterland. In more than 75 years Greiwing has grown from a transport service provider into a logistics specialist for complete solutions with more than 380 employees at 5 locations.

When it comes to matters of quality, Greiwing is absolutely uncompromising. Work sequences and technology are permanently inspected and improved, and all the company sectors are certified according to DIN EN ISO 9001:2000.

At the Wesel location Greiwing specialises in bulk materials, providing high silo and hall storage facilities, handling, as well as silo and box container trans-shipment. With a silo truck Greiwing picks up the product at the customers' places and transfers it to a filler silo. Before the product – for example PE – is fed into the silos through vacuum and pressure conveyor pipes, it is examined for smallest Fe contaminations. For this application Sesotec supplied the PNEUMAG inline magnet.

Solution

The PNEUMAG inline magnet was designed for applications in vacuum and pressure conveyor pipes involving higher flow rates (up to 25m/s). It is mainly used in the food and pharmaceutical industry for products such as flour, sugar, starch, pharmaceutical ingredients, and other fine-grained and powdery materials. The special design allows the product to flow through the system in both directions.

The PNEUMAG inline magnet features two rows of magnet rods in staggered arrangement. These magnet rods are made of highenergy neodymium N45 with an effective force of 900 mT (9 000 gauss) at the rod surface, which guarantees the reliable separation even of finest ferrous contaminants and magnetised stainless steel particles from the product flow.

As a standard the PNEUMAG inline magnet is equipped with the EASY CLEAN feature, which means that the magnet cores can be pulled out of the stainless steel casings, and all the separated contaminant material then falls off. This feature considerably facilitates and accelerates system cleaning.



Characteristics

- The bulk material is conveyed in a pneumatic conveyor pipe
- Magnetic contaminations must be separated and reliably held back
- Maximum process reliability is required

Advantages

- Fe separation already is performed when the silo trucks are unloaded, the Greiwing silo remains free of contamination
- Reliable protection of the silo systems

Result

"The PNEUMAG inline magnets are characterised by their enormous magnetic force. Even finest Fe contaminations are reliably separated. Furthermore the Sesotec magnet can be installed in pneumatic conveyor pipes, and with the EASY CLEAN feature the system is very easy to clean. The use of these PNEUMAG inline magnets contributes to the guaranteeing of our high quality standards." (Quotation: Michael Scholtyssek, plant manager of Alfons Greiwing GmbH, Wesel).



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Application examples

Food industry

Gebrüder Bagusat GmbH & Co. KG, Geretsried/Germany

Pure, metal-free fruit

Task

Gebrüder Bagusat GmbH & Co. KG is one of the leading manufacturers of fruit preparations in Germany. Based on half a century of experience and combined with creativity and flexibility, the company creates products as semi-finished goods for the ice-cream, baking, dairy, beverage, and chocolate industries, and finished goods for food retailers and for professional caterers. Business segments are divided into fruit preparations/purees, fruit in alcohol, and fresh convenience products (fruit salads).

Guaranteeing product quality and a sense of responsibility towards all the partners are of central importance in all the sectors. In a specifically developed quality management system every single production process – from the receipt of goods through to the final clearance of the end product – is meticulously monitored. By using first-class raw materials and gentle processing methods, supported by state-of-the-art computer systems and analysis technology, Bagusat reaches highest quality standards. For complying with the standards and specifications that are applicable in the food industry (e.g. HACCP), Bagusat has been using a magnet separator of type LIQUIMAG for years, in part combined with an Sesotec LIQUISCAN PL metal separator.



Solution

The extremely high magnetic forces of the LIQUIMAG reliably remove even slightly magnetised stainless steel particles from the product flow. The LIQUIMAG magnet separator is equipped with the proven EASY CLEAN feature that allows quick and easy cleaning. Due to the internal production sequences with frequent product changes, and to the space situation, the magnet separator operates as a mobile system at Bagusat.

After the magnet separator, the inductive metal separator LIQUISCAN PL separates non-magnetic metal particles and deflects such contaminations into a collecting vessel. The ball valve that is used here is especially suited for fruit preparations containing larger pieces. The metal separator can be easily integrated in existing pipes. State-of-the-art microelectronics with product auto teach function guarantee outstanding ease of operation.

Characteristics

- The metal separators must be mobile because of frequent product changes
- Inspection of fruit preparations of differing viscosity and partly with large pieces that are difficult to inspect
- Sturdy, customer-specific design in stainless steel, mounted on mobile racks
- Used in different production stages, e.g. between process tank and customer container

Advantages

- Finest magnetic particles (~10µm) are removed
- Reliable protection of the end products
- Time-saving, because the magnet separator can be cleaned in no time at all (no "dead zones")
- Minimum loss of good material, because the magnet separator "catches" all the magnetic metals, and the downstream inductive metal separator only has to separate non-magnetic metal particles.



Result

Wolfgang Lischka, production manager at Gebrüder Bagusat GmbH & Co.KG: "The LIQUIMAG magnet separator improves the product safety of our fruit preparations, because it even removes finest magnetic contaminations. Compared to other systems what we appreciate in these high-quality Sesotec systems are their outstanding ease of operation and their great reliability. The easy cleaning of this magnet separator, for example, saves us a lot of time when the places of operation frequently change. All these are good reasons for us to purchase more magnet separators."



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Plastics industry

Injection moulding

Task

A globally leading manufacturer of injection-moulded parts has always attached greatest importance to the subject of quality in all areas. Where quality is concerned, the company does not make any compromise, neither with respect to the safety of their products, nor with respect to their responsibility towards customers, manufacturers, consumers, and the environment. Quality is a fundamental criterion that is a central theme in the company's corporate philosophy and business policy. Quality assurance measures are defined in a global quality assurance system.

For plastics that for example are used in toys, the injection moulding company not only applies the same stringent standards that also are applicable for packagings in the food sector, but makes even further demands concerning the properties of the raw materials. The company operates its own plastics development laboratory and a test laboratory.

All the plastic articles bear the CE mark of the European Union. The company thereby guarantees that the respective product complies with the regulations of the EU directive for toys. Products for the US market must comply with the 'Code of Federal Regulation' and with the ASTM standard F963.

When the company experienced problems in the production process that were caused by metal contaminations in the plastics granulate, this was the starting point for the installation of magnet systems. Plastics recycling material from the grinding mill was considered to be the source of contamination. Metal particles had deposited in the plastifying screw and in the

nozzles and were responsible for costly downtimes of the injection moulding machines. In certain cases the metal contaminations even could have damaged the injection moulds or – in the worst case – a metal particle even could have stuck out of a finished plastic article.

Solution

Sesotec GmbH of Schönberg in Bavaria has developed a magnet system that can be installed directly on the material inlet of injection moulding machines, beneath the dosing unit. As a "last chance controller" this magnet system allows metal separation to be performed as late as possible in the production process. One important advantage is that for the

installation directly on the processing machine, only one magnet system is needed per machine.

Since the magnet system had to be integrated in an already existing line, the injection moulding company demanded a very flat design. Changing the course of the pipes above the machine would have been very difficult and would have involved immense costs. A space of approximately 80 millimetres was available for installation.

Sesotec has successfully designed a highly efficient and very flat magnet system measuring only 60 millimetres in height. The compact and sturdy aluminium-block design of the SAFEMAG allows the installation of conveyor, mixing, and dosing units directly on the inline magnet.



The magnet system had to provide outstanding ease of handling, and quick and efficient cleaning also had to be ensured. For this reason the magnet system features a pull-out at the front. Opening two quick-release fasteners is all that is required for pulling out the aluminium block with the magnet rods for cleaning purposes. Metal contaminations can then be manually removed from the magnet rods.

Following a test phase with ten SAFEMAG magnet systems, which yielded excellent results, the injection moulding company decided to install magnet systems at all the other more than 600 injection moulding machines.

Characteristics

- Only an extremely flat magnet system could be installed.
- High-performance magnets must separate even very fine ferrous particles.
- The magnet system must be able to bear heavy loads resulting from mixer systems on the inlet side.
- The system design must not allow any depositing of plastics granulate.

Benefit for the customer

- Guaranteed product quality
- Increased production reliability, optimised and increased machine operating times
- Optimal machine and mould protection
- Reduced number of rejects
- Cost reduction, the system is amortised in a very short time

Resultat

"SAFEMAG inline magnets are characterised by their extremely flat and sturdy design, and by their enormous magnetic power. Even finest ferrous contaminations are reliably separated. The system furthermore is very easy to clean. The use of SAFEMAG inline magnets contributes to the guaranteeing of highest quality standards." (Quotation: Stephan Tremel, Product Manager - Magnet Systems, Sesotec GmbH, Schönberg).



For further information on this project please contact:

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Sesotec: Perfect systems for production and recycling

Sesotec develops, manufactures and sells detectors, separators and sorting systems for applications in industrial production and recycling. Sesotec systems are used for quality assurance purposes and to increase productivity, for consumer protection, for compliance with industry standards, and for the protection of machines and equipment.

Sesotec products – for your requirements and wishes – are available for the most varied product types and conveyor systems:

Metal detectors



Tunnel metal detectors with rectangular aperture (separable or closed)



Tunnel metal detectors with circular or hexagonal aperture



Single-face metal detectors for installation in conveyor belts, vibration conveyors and chutes



Metal detection systems comprising tunnel metal detector, special conveyor belt, and controller for conveyor belt stop

Metal separators



For free-fall applications - free-fall separators installed in a downpipe, at belt transfer points, or under a cyclone or feed hopper



For vacuum/pressure conveying applications - separators for the inspection of bulk materials in pneumatic conveyor pipes



For pump conveying applications - separators for installation in pipes, for the inspection of pumped liquid and pasty products



For bulk material columns - separators for installation in the feeding area (e.g. on the material inlet of an extruder), for bulk material columns that are slowly moving downwards



For conveyor belts - separators installed for the final inspection of packed products, mostly prior to palletising, during weighing, labelling or marking



For chutes and vibration conveyors - with this type of material feeding the bulk material flows reach the detection area of the sensors in optimally scattered condition, metal parts will be separated by a blowing strip.

X-ray scanner



Apart from detecting various types of contaminations the **RAYCON product inspection system** at the same time detects other product defects or faults. The RAYCON product inspection system features a conveyor belt for bulk material that is matched to your requirements.

Sorting systems



Colour separators with high-resolution CCD camera systems are used to separate mixed-colour material flows into pure-colour material fractions



Foreign polymer separators identify different types of plastics and automatically separate foreign plastics and materials from the bulk material flow



Multi sensor systems - Sesotec separation and sorting systems are of a modular design – the optimal sensors are combined depending on the application



Glass separators



Electro and metal scrap separators



Plastics and solid waste separators

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