GOUDSMIT MAGNETICS

Installation and user manual

Semi-automatic cleaning Cleanflow magnet, series SECE

Magnetic separator with permanent magnet.

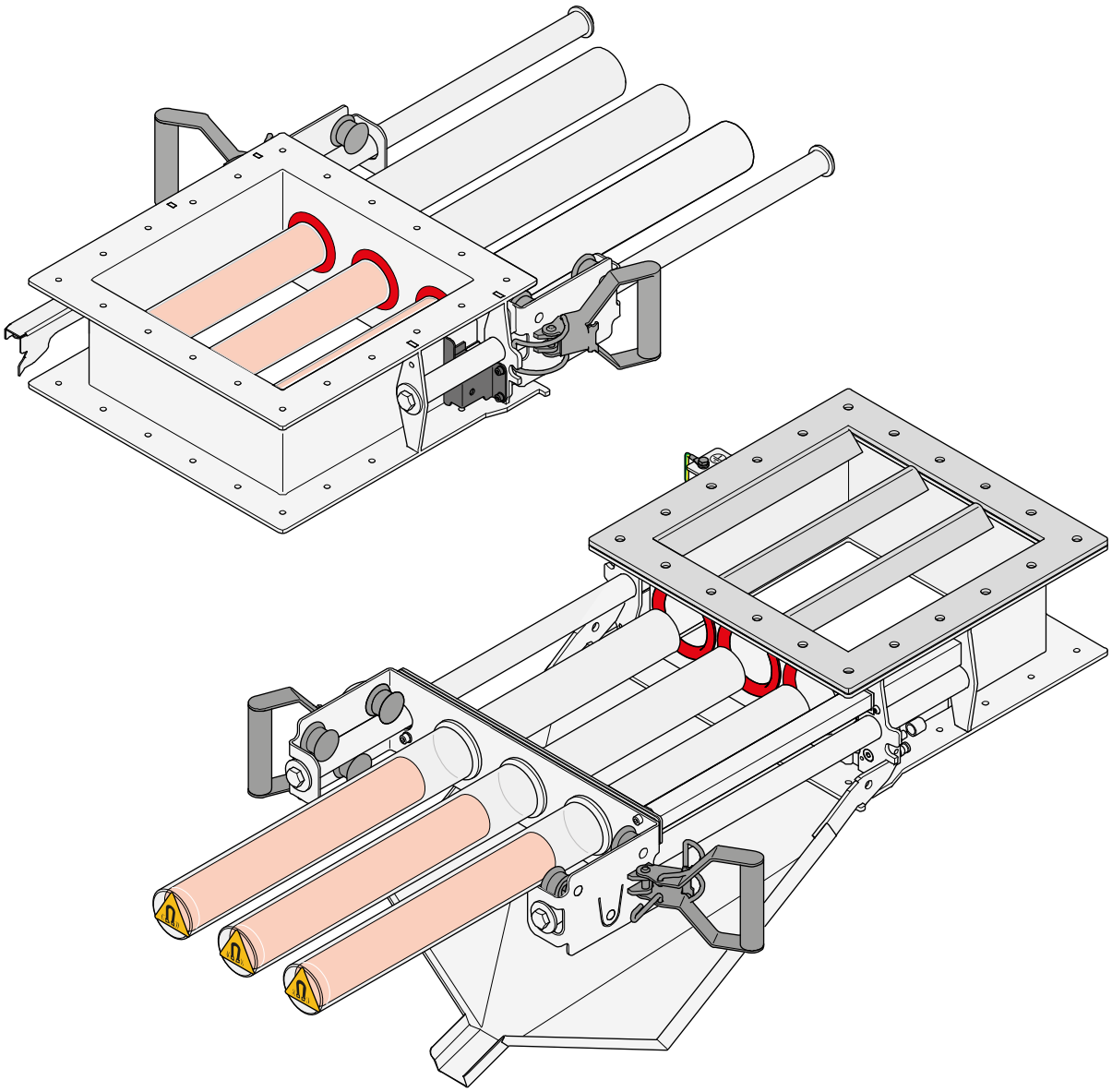

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Table of contents

1 Introduction

This manual contains information about correct use and maintenance of the device. The manual contains instructions that should be followed to prevent injury and serious damage and to ensure safe and problem-free operation of the device. Read this manual thoroughly and ensure that you fully understand everything before using the device.

If you need more information or still have questions, please contact Goudsmit Magnetic Systems B.V.. The contact details are provided on the title page of this manual. Additional copies of the manual can be ordered by providing the device description and/or article number as well as the order number.

The details published in this manual are based on the information available at the time of delivery.

We reserve the right to change or modify the construction and/or design of our products at any time, without any obligation to make the same changes to previously supplied products.

In this manual, the SECE ‘Easy Clean’ Cleanflow magnet is further referred to as the ‘device’.

NOTICE

This manual and manufacturer’s declaration(s) are to be considered part of the device.

Both documents must remain with this device if it is sold.

The manual must be available to all operating personnel, service technicians and others who work with the device throughout the life of the device.

NOTICE

Read this manual carefully before installation and commissioning!

The descriptions and figures in this manual, provided for explanatory purposes, may differ from the descriptions and figures of your version.

2 Safety

2.1 Safety risks

This chapter describes the safety risks of the device. Where necessary, warning pictograms have been affixed to the device. These pictograms are explained later in this document.

NOTICE

Observe the following measures:

- ► Read the warning pictograms on the device carefully.
- ► Check that the pictograms on the device are present and legible at regular intervals.
- ► Keep the pictograms clean.
- ► Replace pictograms that have become illegible or that have been removed with new pictograms in the same locations.

2.2 General safety instructions

- The instructions in this manual must be complied with. If they are not, there is a risk of material damage, personal injury and even a danger of death.
- The device may only be used to magnetically filter dry powders and granulates. Any other use is inconsistent with the regulations. Any resulting damage is not covered by the factory warranty.
- Ensure that people who work on the device or in its immediate vicinity wear adequate protective equipment.
- Impose additional safety measures and use additional warning pictograms if the device remains easily accessible to people. If this is not possible, ensure that clear instructions are provided for the entire system in which this device is integrated.
- Work on the device may only be carried out by qualified personnel. Ideally, maintenance work on the magnets should be carried out by Goudsmit Magnetic Systems B.V. personnel.
- Always take locally applicable safety and environmental regulations into account.

2.3 Remote control

- The device may only be operated remotely when all covers are in place and moving parts are inaccessible.

2.4 Emergencies

WARNING

Switching off in case of emergency

The device does NOT have a safety switch. It is very important that your installation includes a provision for shutting off the power and air supply to the device in an emergency.

2.5 Damage due to magnetic field

The magnets generate a powerful magnetic field that attracts ferromagnetic particles. This also applies to ferrous materials that may be carried on the person, including keys, coins and tools. When working within the magnetic field, use non-ferromagnetic tools and workbenches with a wooden worktop and non-ferromagnetic base.

WARNING

Strong magnetic field

There is a risk of personal injury when carrying out work and measurement checks on the device. Do not place the fingers or other body parts between the magnetic components.

2.6 Other remarks/warnings

Rectify all faults before operating the device. If the device is used whilst exhibiting a fault, after having completed a risk assessment, warn operating and maintenance personnel of the fault and the potential risks associated with that fault.

3 Standards and directives

3.1 CE marking

In terms of construction and operation, this device complies with European and national requirements.

The CE marking confirms the conformity of the device with all applicable EU regulations associated with the application of this marking.

3.2 Directives

The standard version of this device conforms to the requirements of the following European directives:

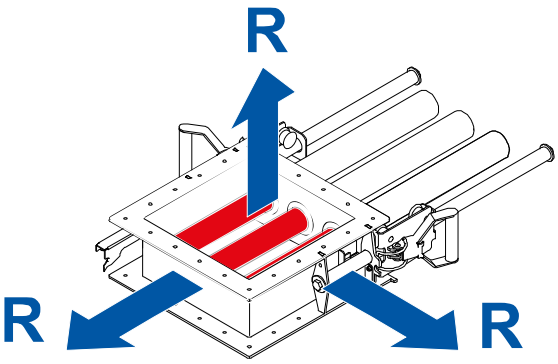
- Machinery directive 2006/42/EC
- EMC directive 2014/30/EU (if applicable)
- ATEX directive 2014/34/EU (if applicable)

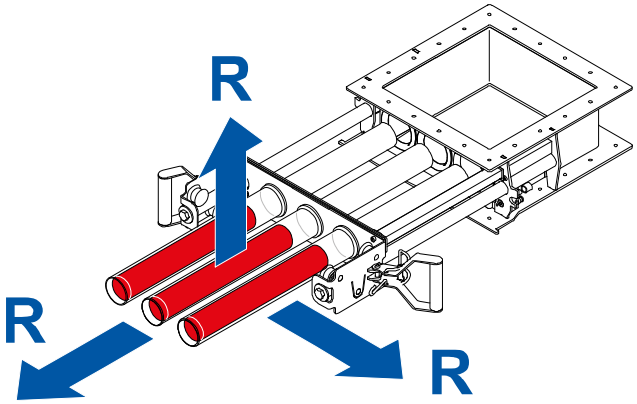
3.3 Limit values for occupational and public exposure to (electro) magnetic fields

The limit values and magnetic fields are defined in accordance with the EMC Directive 2013/35/EU as follows:

Directive 2013/35/EU of the European Parliament and of the Council of 26 June 2013 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields).

Observe the following measures in relation to exposure to magnetic fields in accordance with EN12198-1 (machine category = 0, no restrictions) of the device:





Life-threatening danger to people with implanted medical aids

People with an active implanted medical aid (e.g. pacemaker, defibrillator, insulin pump) may never be present within a radius ‘R’ of 0.25 metre(s) of the device.

Damage to products with sensitivity to magnets

Products that contain ferromagnetic parts, such as debit cards, credit or chip cards, keys and watches, may be rendered permanently damaged if they come within a radius ‘R’ of 0.1 metre(s) of the device.

Employees who are pregnant and the general public may not come within a radius ‘R’ of 0.04 metre(s) of the device.

WARNING

Projectile hazard

Ferromagnetic objects will be attracted if they come within a radius of 0.3 metre of the magnet.

Limit values for occupational exposure (general and for limbs) are not exceeded.

4 General information

4.1 Ferromagnetism

The device's principle of operation is based on ferromagnetism. Ferromagnetism is a property possessed by certain materials, such as iron, cobalt and nickel. These materials can become magnetized when exposed to an externally applied magnetic field. Materials that remain magnetized after the external magnetic field is removed are called permanent magnets or magnetically hard.

However, most magnetic materials lose their magnetism after the external magnetic field is removed. These are soft magnetic materials. Most alloys of iron, cobalt and nickel are magnetic.

However, some stainless steel alloys, such as AISI304 or AISI316, are only slightly magnetic.

4.2 Warranty conditions

The warranty on the device is void if:

- Service and maintenance are not performed in accordance with the operating instructions or are carried out by personnel not specially trained for this purpose. Goudsmit Magnetic Systems B.V. recommends having service and maintenance carried out by service technicians from Goudsmit Magnetic Systems B.V..
- Modifications to the device are carried out without our prior written consent.
- Parts of the device are replaced with non-OEM or non-identical parts.
- Parts of the device become damaged, because the device was put into production with a malfunction and/or a persistent malfunction.
- The device is used injudiciously, incorrectly, carelessly or in a manner not in keeping with its nature and/or intended use.

NOTICE

All parts subject to wear and tear are excluded from warranty.

4.3 Other remarks/warnings

- Do not use the device if it is damaged.
- Only use the device for the application for which it was designed.
- Ensure that the device is maintained correctly and in accordance with the instructions in this manual.
- Rectify all faults before operating the device.

5 Specifications

5.1 Description of function

The device is suitable for the magnetic filtration of small quantities of ferrous and even weakly magnetic contamination from high-capacity granulate and powder flows in free-fall and low-pressure conveying lines up to 2 bar. The maximum particle size is 10 mm. The product must not contain any ferromagnetic particles large or heavy enough to cause damage to the magnetic bars.

- If necessary, place a sieve in front of the product inlet of the device in your installation.

5.2 Range of applications

The device is suitable for granulates and powders with reasonable to good flow properties in free-fall conveying lines.

Under certain conditions, the device can be integrated into low-pressure conveying lines up to 2 bar. This requires the device to be equipped with a door sensor (► Accessories [▸ 14]).
In the event that the magnet unit is unexpectedly pulled out of the product channel during operation, the central controller will immediately shut off the air pressure to the conveying line.

5.3 Use in food product flows

The device is supplied as a stainless steel model as standard, with a 3 µm ceramic-blasted finish.

This finish is suitable for normal food contact applications. All contact materials are compliant with EU directive EC1935/2004. Higher-quality finishes are available for applications with more stringent requirements. See data sheet for the specifications.

5.4 Temperatures

The devices are suitable for the following ambient and product temperatures:

Magnet quality used	Max. ambient temp.	Max. ambient temp. (ATEX)	Max. product temp.	Max. product temp. (ATEX)
N-45SH	-10 to +60°C	-5 to +40°C	130°C	80°C
N-52	-10 to +60°C	-5 to +40°C	60°C	80°C

The magnetic material must be protected against higher temperatures than those specified on the data sheet as the magnet will permanently lose magnetic force if exposed to higher temperatures.

5.5 Connection voltage

The connection voltage for the detection sensor (optional) or door sensor (optional) is 24 $V/_{DC}$.

5.6 Air pressure for control

For the pneumatic connection(s), use an air pressure of 4 to 6 bar.

5.7 Air quality (compressed air)

Goudsmit Magnetics recommends using compressed air with a quality consistent with ISO 8573-1 (2:4:1) for the flow of food products.

It is your responsibility to choose the air quality that is appropriate for your product flow. There is no direct contact between the air and the product. The used air is ventilated outside the device. If an alternative setup is preferred, the exhaust air can be conveyed in a return circuit or to another space.

5.8 Free space

Ensure there is sufficient space around the device for operation and inspection and maintenance work.

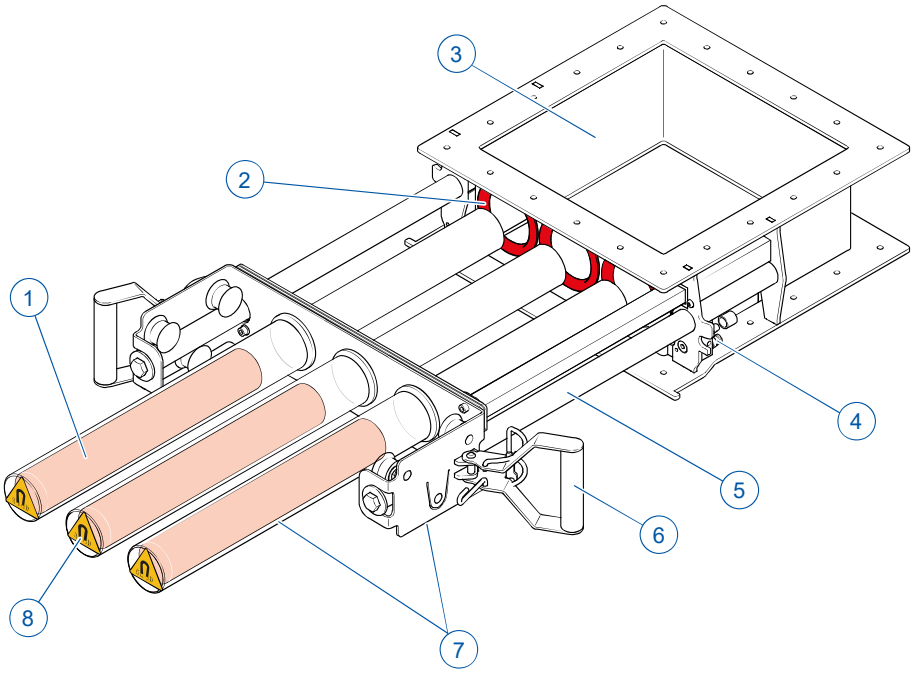
5.9 ATEX

The device is internally suitable for use in ATEX dust zones 20, 21 and 22 and externally suitable for use in ATEX dust zones 21 and 22. Special conditions apply.

The mechanical part of the device is free of own sources of ignition and thus falls outside the scope of ATEX directive 2014/34/EU. The full explanation is provided in the ATEX exclusion declaration.

6 Product information

6.1 Construction



[1]	Magnetic bar	[4]	4/2 valve	[7]	Magnet unit
[2]	Sealing ring	[5]	Side guide	[8]	Warning pictogram
[3]	Product channel	[6]	Handle with lock spring		

6.2 Scope of delivery

Check the shipment immediately upon delivery for:

- Possible damage and/or shortcomings as a consequence of transport. In the event of damage, ask the carrier for a transport damage report.

- Completeness.

NOTICE

In the event of damage or incorrect shipment, contact Goudsmit Magnetics immediately. The contact details are provided on the title page of this manual.

6.3 Identification plate

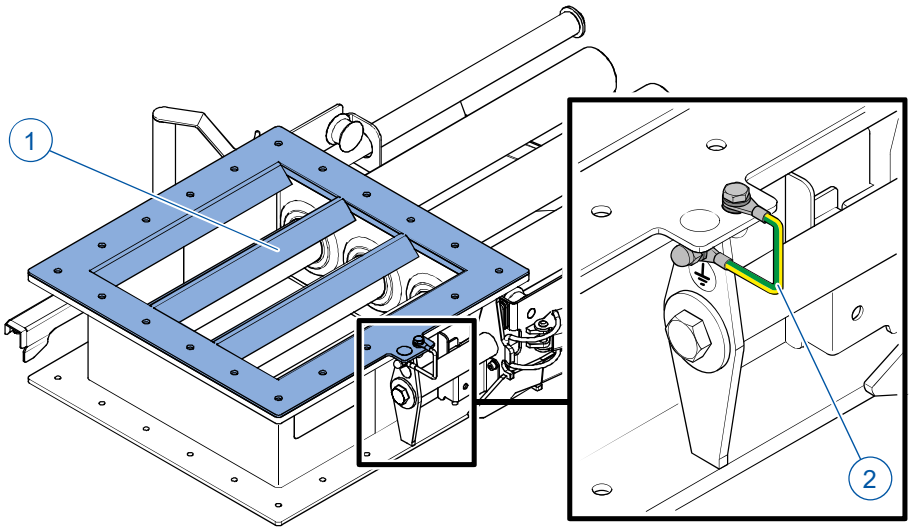
The following identification data are shown on the device. The identification data are very important for maintenance of the device.

Always keep the identification data clean and legible. Always provide the article and order numbers when ordering spare parts, requesting service or reporting a malfunction.

[1]	Product key	[4]	Year of manufacture
[2]	Article number	[5]	Weight
[3]	Order number		

6.4 Accessories

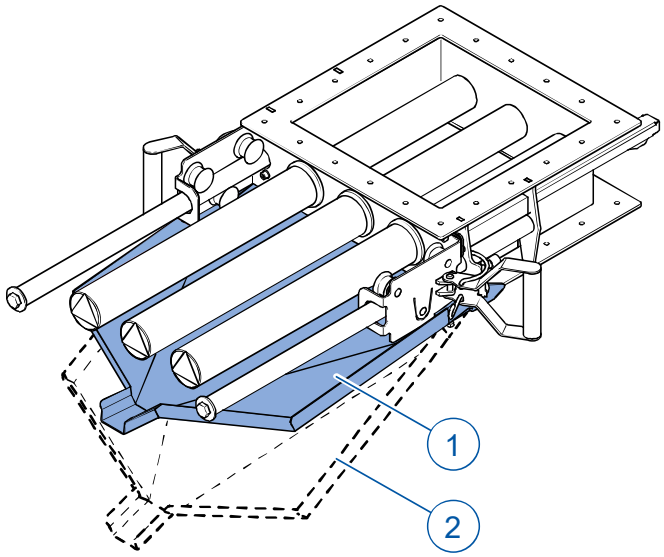
Deflector grille



A deflector grille [**1**] is optionally available to ensure that all particles in the product flow make contact with the magnetic bars or pass them very closely. If the device is supplied with a deflector grille, it will also have an earth cable [**2**]. This also applies to devices supplied with adapter pieces.

Removable collection tray

A collection tray is available for the collection and disposal of the ferromagnetic particles. The collection tray can be positioned in 2 different positions:



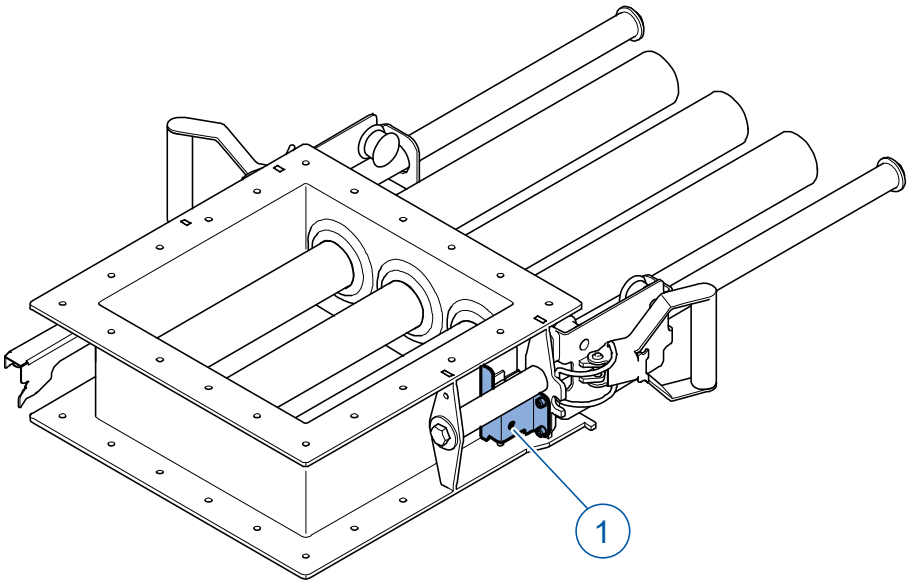
Position **1** – Production position (in operation)

Magnetic bars in product channel.

Position **2** – Cleaning position/captured particle discharge

When the magnet unit has been removed (cleaning position), the collection tray can be tilted downwards so that the particles can be collected or discharged.

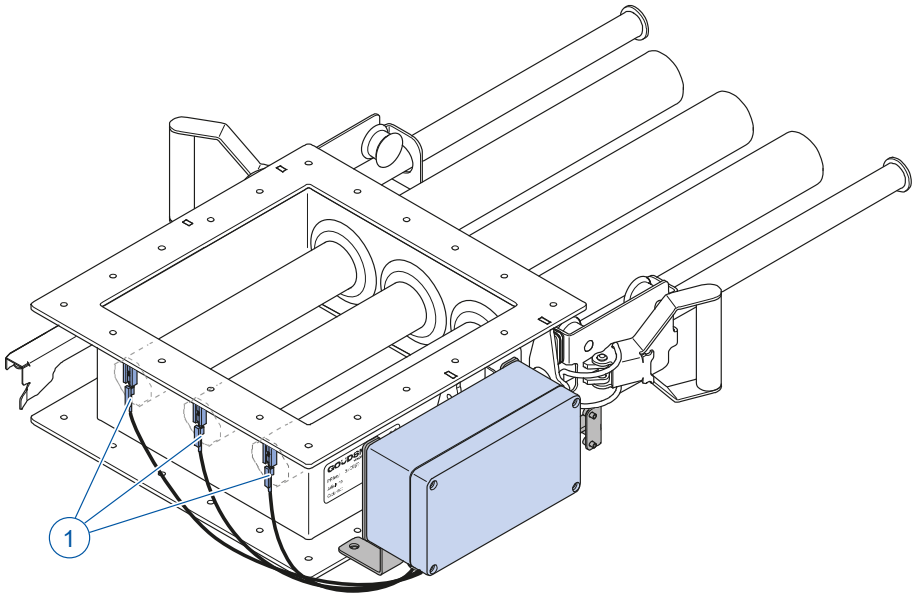
Door sensor



A door sensor (safety sensor, e.g. Steute Ex HS Si 4) can be optionally fitted to the mounting bracket [**1**] that detects when the magnet unit is open (removed) or closed. Because this sensor is used for detection, rather than a safety-related function, it is not necessary to connect it to a special safety relay for contactless sensors, which additionally feature current limitation and short-circuit detection.

This way, the central controller knows whether the magnet unit is in the product channel (ready for use) or in the cleaning position.

Detection sensor



As an option, detection sensors [**1**] can be placed on the outside of the product channel to detect whether the magnet unit is positioned fully in the product channel. The detection sensors can be connected to a central controller. When the detection sensors detect all magnetic bars fully in the product channel, a signal is sent to the (central) controller so that production can commence.

On the website you will find a complete overview of available accessories for this device.

- See the first page of this document for the web address.

7 Transport and installation

7.1 Transport

WARNING

Caution

The product flow must be stopped when work is being carried out on the device.

Exercise caution with tools. The magnetic force is permanent.

- Keep in mind the centre of gravity.
- During transport, avoid all impact in order to prevent damage, especially to the magnetic bars. In the event of damage to the tubes, the magnet packs may not move in the tubes, or only move with difficulty.

7.2 Installation

WARNING

Damage to the magnetic bars

Avoid heavy and/or coarse parts in your product flow. These can damage the tubes of the magnetic bars.

NOTICE

Take the following precautions:

- ▶ Work safely, provide ample work space and use dependable scaffolding, ladders and other tools so the device can be installed without any risks.
- ▶ The device permanently emits a magnetic force. See the Safety risks [▶ 6] section for the precautions that must be taken when working on the device.
- ▶ Only qualified personnel may work on the device.
- ▶ Ensure that there is sufficient clearance around the installation to install the device in the installation/structure and for operation, inspection and maintenance work to be carried out.
- ▶ Ensure that no external vibration is transferred to the device, as this can cause permanent loss of magnetic force.
- ▶ Only use lifting/hoisting tools that are in good condition, and do not exceed the lifting capacity of the tools.
- ▶ The product channels must be strong enough to support the weight of the device and the raw product.
- ▶ Provide inspection hatches immediately above or below the device so that you can check whether or not there are blocked particles in the product inlet or outlet of the device.
- ▶ When installing the device, ensure that the free-fall height of your product does not exceed 0.4 metres. A higher free-fall height will increase the speed of the product and lead to poorer separation as a result.
- ▶ Shut the supply of compressed air off with the on/off valve on the control panel when working on the device.

- The device is delivered in a wooden crate. Open the crate and fit 4 lifting eyes on the top flange. Attach chains or lifting straps to the lifting eyes.

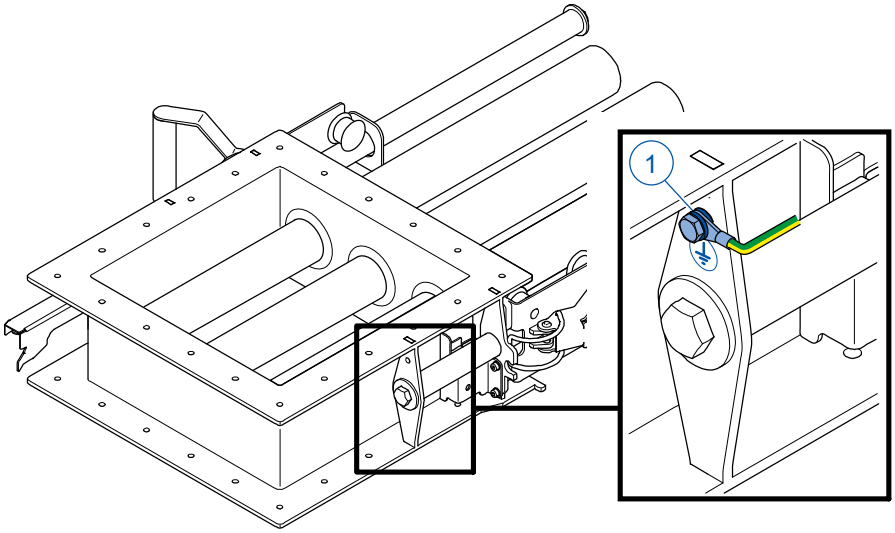
DANGER

Risk of entrapment

Do not place your hands inside the crate during lifting.

- Lift the device out of the crate.
- Preferably mount the unit at a working height of about 1.5 metres so that the operator can easily remove the magnet unit for cleaning and maintenance work.
- Connect the device flanges to the product channel with a nut/bolt connection. Exercise caution with tools due to the magnetic attraction force.
- Screw the bolts into the device flanges at the inlet and outlet flange of the product channel and tighten. Misalignment and/or loose mounting can cause leakage.
- The device must be cleaned thoroughly after installation and before commissioning.
- Remove the lifting/hoisting arrangement after installation is complete.

7.3 Preventing electrostatic discharges (earthing)



In order to prevent the occurrence and build-up of static electricity, ensure that there is a metal bridge between the magnetic device/product channel and the installation. The installation must be earthed when complete.

There is a facility for earthing [**1**] on the bracket on the housing.

7.4 Cleaning before use

The device must be cleaned thoroughly after installation. Use a cleaning agent that is suitable for the product material being filtered.

8 Operating principle

8.1 General

The magnet unit with very strong neodymium magnetic bars is located in the centre of the product flow. The product contaminated with ferromagnetic particles passes the magnetic bars as it flows through the grid.

If necessary, a deflector grille (optional) will ensure that the particles in the product flow cannot fall freely between the magnetic bars, but always come into contact with a magnetic bar.

The magnets attract passing ferromagnetic contamination, including iron/steel/stainless steel wear particles. Captured particles adhere to the magnets, while the purified product flows on.

Each magnetic bar has a magnet bundle that moves pneumatically within a closed tube, causing automatic removal of captured ferromagnetic particles.

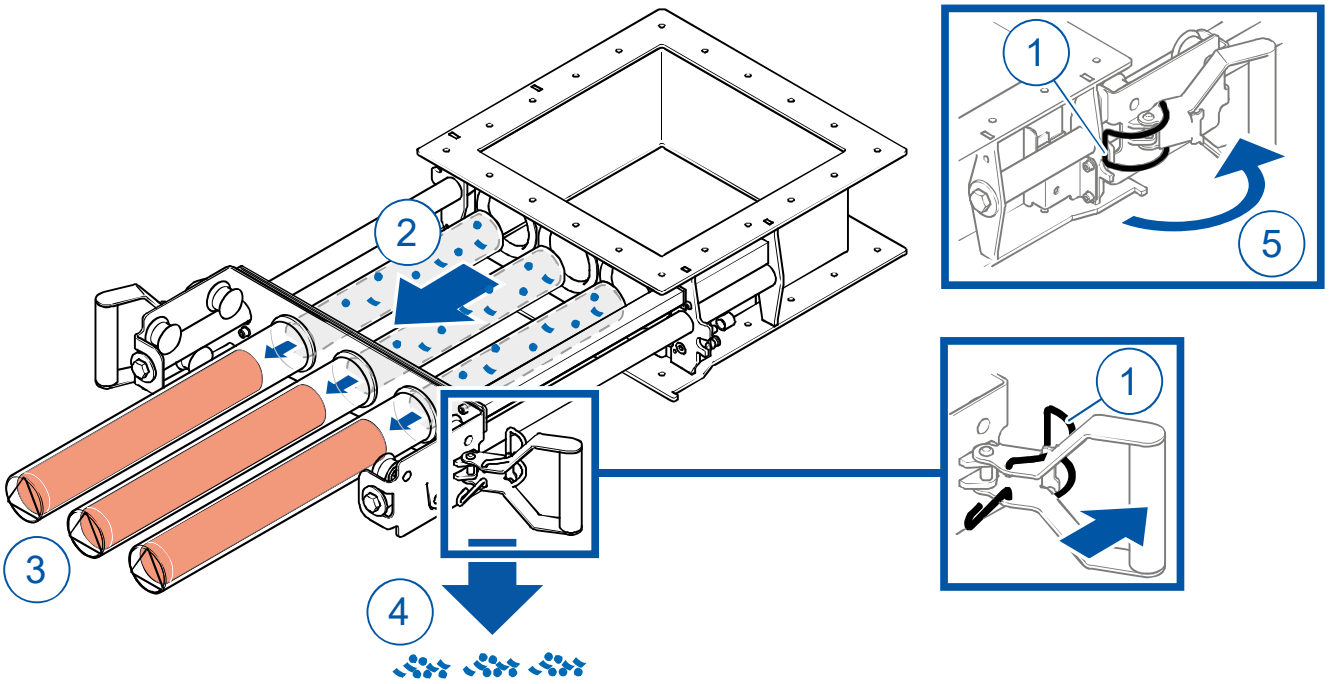
8.2 Cleaning process – removal of ferromagnetic particles

When cleaning the device, wear the requisite protective clothing, such as overalls, gloves, goggles and safety shoes.

Cleaning process

Once the product flow has been stopped, manually slide the magnet unit over the side guides out of the product channel. Once the magnet unit has been pulled out to its limit position, the magnets are pneumatically blown further out into the surrounding tubes. The moving magnets in the tubes pull the captured ferromagnetic particles outwards. They are stopped by a plate halfway along the tube. Once the magnets have moved fully outwards, the ferromagnetic particles fall from the tubes and into the collecting tray from where they can be collected and discharged.

To clean, proceed as follows:



- Stop the product flow.
- Push the handles as far forwards as possible, until the lock springs [**1**] click out.
- Then, pull the handles backwards again so that the magnet unit is unlocked.

- Pull the magnet unit at the handles, over the side guides, and fully out of the product channel [**2**].
  *In the outermost position, the magnets in the tubes automatically slide one further increment outwards [**3**], which causes the captured ferromagnetic particles to fall from the tubes automatically.*
- Collect the fallen ferrous particles and discharge them [**4**].
- If necessary, remove the captured particles from the magnetic bar tubes with either a linen cloth or compressed air.
- Slide the magnet unit back into the product duct at the handles.
  The magnets in the tubes slide back into the product channel automatically.
- Use your thumbs to press against the lock spring [**1**] and hook the lock spring behind the locking clip. Pull the handles fully backwards as far as they will go [**5**]. The magnet unit is now locked.
- Production can be safely resumed.

8.2.1 Cleaning instructions

NOTICE

For cleaning the inside of the product channel, the customer must make a provision to allow access to the inside of the product channel.

When used in food product flows

Cleaning and disinfectant methods and agents that are used for cleaning must be adapted to the specific type of soiling (carbohydrates, proteins, fats, etc.) and the degree of cleaning required for your application. The type of product that is processed thus determines to a large extent which combination of cleaning agents is suitable. Consult your cleaning agent supplier to select the correct cleaning agents for your specific situation.

The device is made of stainless steel or ‘food-grade stainless steel’ 1.4301/SAE 304L and 1.4404/SAE 316L.

Check with your cleaning agent supplier whether the products are suitable for the material of the chosen seals (silicone, NBR or Viton).

Wet or dry cleaning

If the use of fluids is prohibited in your installation, use disinfectant cloths that are suitable for contact with the processed product, if necessary.

The frequency of cleaning is dependent on the degree of cleanliness required for the processed product. The frequency of cleaning must be increased in applications where sensitive food products are processed. Perform a hygiene risk assessment to determine the requirements in your situation.

9 Maintenance and inspection

9.1 General guidelines

WARNING

Risk of crushing

In view of the large magnetic forces, replacing the internal magnet components is extremely dangerous as they are difficult to handle. Replacement may ONLY be carried out by appropriately qualified personnel or (ideally) by Goudsmit Magnetics technicians.

If the replacement is carried out by unqualified personnel, the warranty will be void.

Goudsmit Magnetics cannot be held liable for any consequential damage to people and/or materials if this prohibition is ignored.

WARNING

Caution

- ► Perform all work on the device while the product flow is stopped and the compressed air is shut off via the on/off valve.
- ► Be careful with tools and ferrous objects. The magnetic force is permanently present.

Magnetic systems attract ferromagnetic particles. These particles are removed when the magnet unit is cleaned (cleaning cycle). A small portion of your product will also 'adhere' to the magnet unit and in the discharge channel. These particles are not removed by the cleaning cycle and will need to be removed by hand. A clean magnet is considerably more effective!

- Always inform operating personnel of scheduled inspections, maintenance, repairs and in the event of faults.
- Check regularly that all warning pictograms are still present in the correct locations on the device. If the warning pictograms are lost or damaged, replace them with new pictograms in the original locations immediately.
- Ensure that the device is externally clean. Remove dust, dirt and particles from the device as appropriate.
- Check the outside of the device for any defects (e.g. loose pneumatic hose).

Frequency of maintenance

Action	Daily	Monthly	6 months
Clean the magnetic bar tubes (► Cleaning process – removal of ferromagnetic particles [▷ 19]).	min. 2x [1)]		
Check sealing rings for wear and presence	•		
Measure flux density of magnetic bars (► Flux density measurement of the magnetic bar [▷ 22])		•	
Checking magnetic bar tubes for wear		•	
Replace sealing rings (► Replacing sealing rings [▷ 23])			•

[1)] The frequency of the cleaning process depends on the capacity of your product flow and the level of soiling.

NOTICE

Goudsmit Magnetics offers an annual maintenance inspection, including replacement of the seal(s) and an inspection report with certificate for the magnets.

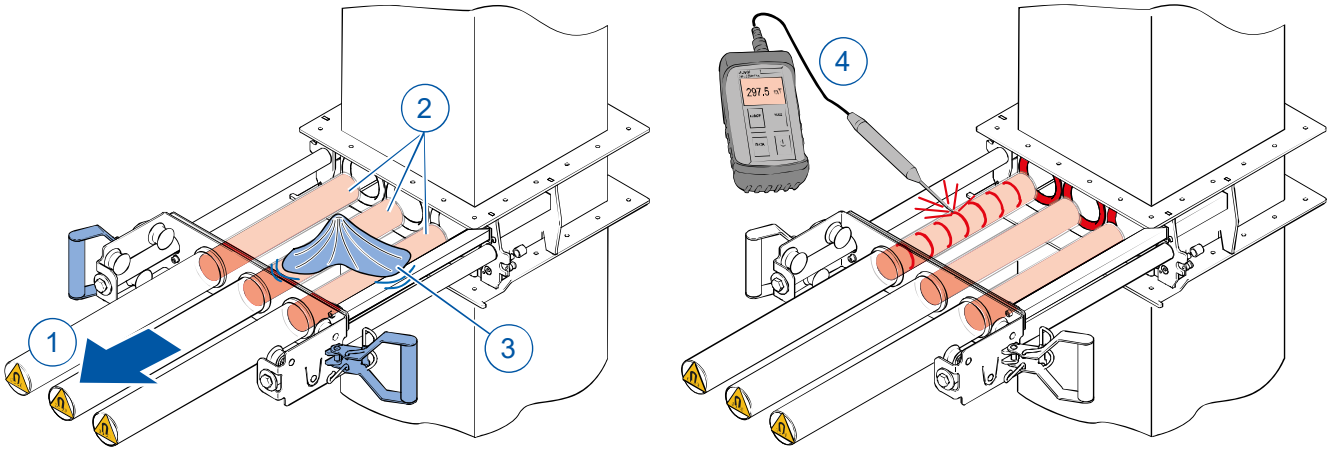
9.2 Flux density measurement of the magnetic bar

Goudsmit Magnetics can perform magnet measurements on location, if desired.

The magnetic bars must be measured at periodic intervals to check their magnetic flux density and to determine whether the magnetic force has reduced. Use a suitable gauss meter/tesla meter to measure the poles of the magnetic bar on the surface (the unit is tesla, gauss, kA/m or oersted).

Proceed as follows:

- Stop the product flow. Wait until all the product material has left the product channel.
- Carry out a normal cleaning cycle before conducting the measurement so that the magnets are clean Cleaning process – removal of ferromagnetic particles [▶ 19].
- Stop the supply of compressed air.



- Pull the magnet unit at the handles, over the side guides, and fully out of the product channel [**1**].
- The magnetic bars remain at the front of the tubes in the production position [**2**].
- Remove the captured particles from the magnetic bar tubes with either a linen cloth or compressed air [**3**].
- Move the gauss meter/tesla meter probe [**4**] along the poles on the magnetic bars.

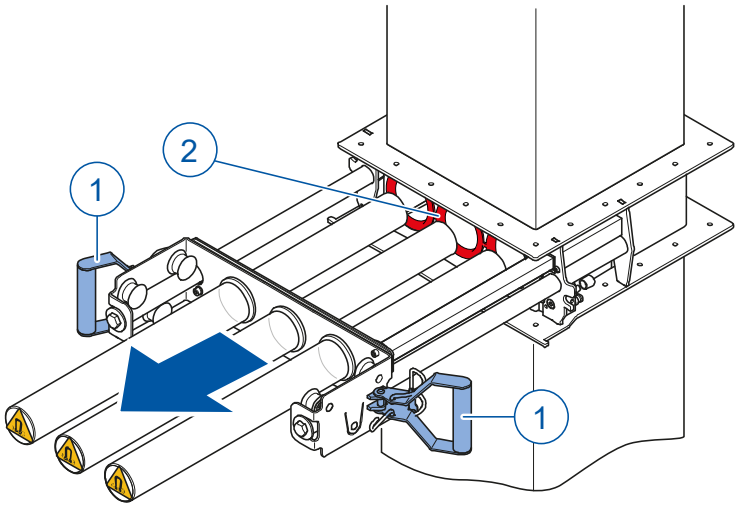
The measured values may fluctuate for various reasons, such as the position (angle) of the probe on the magnetic bar tube, the thickness of the probe and the reproducibility of the measurement. The temperature of the magnetic bar tube may be higher than 20-22°C due to the influence of the product flow.

- Record the highest measured value.
- Using the accompanying data sheet, check whether the measured value falls within the permitted range for the peak value. **Note:** The measured values on the data sheet are values measured at a measurement temperature of 20°C ± 2°C.
- Slide the magnet unit back into the product channel.
- Use your thumbs to press against the lock spring and hook the lock spring behind the locking clip. Pull the handles fully backwards as far as they will go. The magnet unit is now locked.
- Activate the supply of compressed air. The magnetic bars are blown into the product channel.
- Production can be safely resumed.

9.3 Replacing sealing rings

We recommend replacing the sealing rings at least every six months or more frequently, depending on the level of wear.

Proceed as follows:

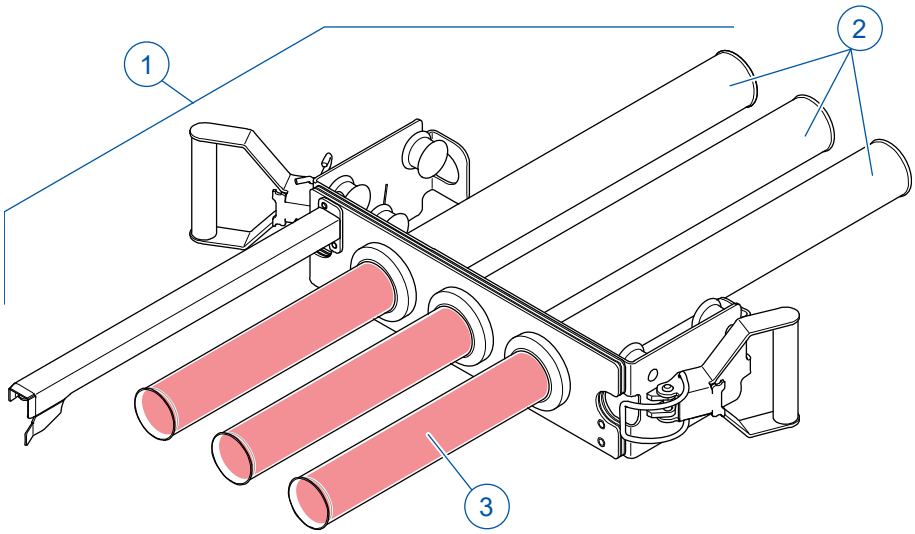


- Stop the product flow. Wait until all the product material has left the product channel.
- Pull the magnet unit at the handles, over the side guides, and fully out of the product channel [**1**].
- Remove the old sealing rings and replace them with new rings [**2**]. Before positioning the new sealing rings, clean the holes thoroughly.
- Slide the magnet unit back into the product channel.
- Use your thumbs to press against the lock spring and hook the lock spring behind the locking clip. Pull the handles fully backwards as far as they will go. The magnet unit is now locked.
- Production can be safely resumed.

NOTICE

If the seals wear quickly, e.g. due to excessive temperature or an excessively abrasive product, enquire about alternative seals.

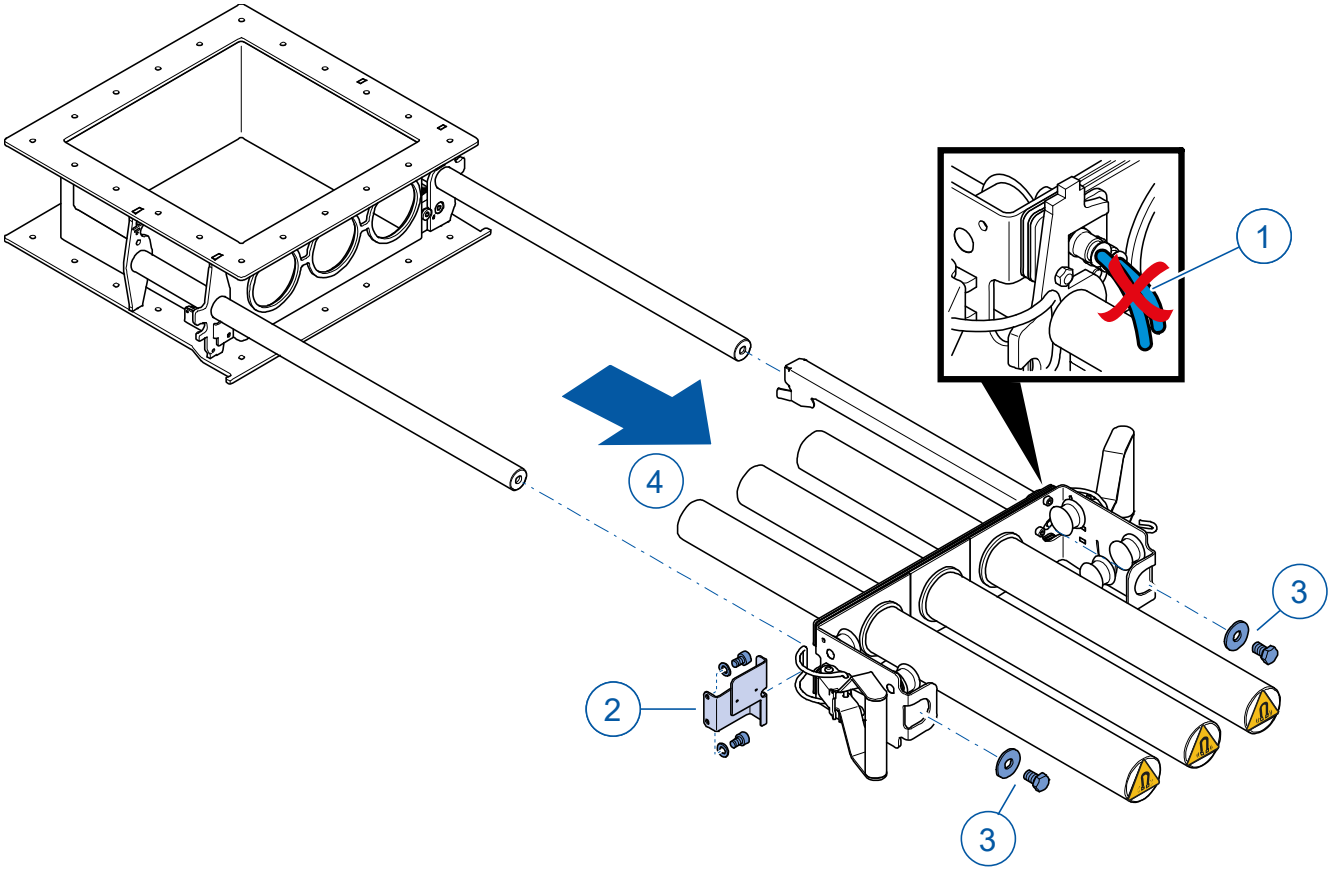
9.4 Replacing the magnet unit



The magnet unit [**1**] comprises a magnet drawer with 2 or multiple pneumatic magnetic bars [**2**].

A pneumatic magnetic bar comprises a thin-walled stainless steel tube containing a magnet bundle [**3**] that is moved into and out of the product flow. The wall thickness of the stainless steel tube is 0.7 or 1.2 mm, depending on the version.

Heavy and/or large particles in the product flow can cause dents in the tubes. These can hinder the movement of the magnet bundle in the tube and/or damage it.



To replace the magnet unit, proceed as follows:

NOTICE

The magnet unit weights a minimum of 15 kg.

Ensure that you have additional support or tools during disassembly.

- Stop the product flow. Wait until all the product material has left the product channel.
- Stop the supply of compressed air.
- Pull the magnet unit at the handles, over the side guides, and fully out of the product channel.
- Disconnect the air hoses from the magnet unit [**1**].
- Pull the magnet unit at the handles, over the side guides, and fully out of the product channel.
- If present, remove the bracket from the door safety switch [**2**].
- Remove both bolts from the side guides [**3**].
- Remove the old magnet unit and set it down carefully on a non-ferromagnetic surface.
- Clean the seals and side guide, if necessary.
- Fit a new magnet unit.
- Reassemble everything in reverse order.
- Connect the air hoses to the new magnet unit.
- Activate the supply of compressed air.

- Production can be safely resumed.

10 Troubleshooting

10.1 Troubleshooting table

Use the following table to search for faults, determine the possible cause and find the remedy. In the event of a fault that is not in the table, contact Goudsmit Magnetics customer service.

Fault	Possible cause	Solution
The device does not separate ferromagnetic particles completely or at all.	The magnetic bar is overloaded with ferromagnetic particles.	• Remove the captured particles from the magnetic bar (more frequently). • Use a permanent magnet to check whether the separated particles are ferromagnetic.
	Particles that are not attracted are not sufficiently ferromagnetic.	• Check the magnetic behaviour of the installed parts around the magnets by holding a ferrous object close to the magnets. If there are parts that react to the magnet, replace them with non-magnetic parts, such as those made from stainless steel.
	Ferromagnetic parts near the magnet reduce the ferrous separation capacity.	
Magnets are not in the correct position.	The magnets are not all in the product channel when the filter is active.	• Check the detection sensor (optional) and replace, if necessary. • Repair or replace the air connection, if necessary. • Check the 4/2 valve and replace, if necessary.
	Magnets do not move towards cleaning channel during the cleaning cycle.	
Magnets do not move in their housing.	Dents in the magnetic bars.	• Contact Goudsmit Magnetics.
	Air pressure is too low or not present.	• Repair or replace the air connection, if necessary.
Leakage from product channel to discharge channel in production position.	Sealing rings are worn.	• Replace the sealing rings.
Leakage from product channel to discharge channel during cleaning.	Product channel not depressurised.	• Despressurise product channel.
	Product flow not stopped.	• Stop the product flow for cleaning.

11 Service, storage and disassembly

11.1 Customer service

Have the following information to hand when contacting customer service:

- Data from the identification plate.
- Type and scope of the problem.
- Presumed cause.

11.2 Spare parts

Spare parts are usually parts that are subject to wear. These include:

- Sealing rings (various types are available for order). It is recommended that they be replaced every 6 months.
- Pneumatic magnetic bars.

How quickly the magnetic sealing rings wear will depend on your product and how abrasive it is, as well as the capacity of your product flow. Several types of sealing ring are available for this device. See the data sheet for the precise specifications. Please get in touch with us for information on the availability of the sealing rings.

- When ordering, state the article and order numbers that appear on the identification plate.
- For further information, please contact us by +31 (040) 22 13 283 or consult our website.

11.3 Storage and disposal

Storage

If you do not intend to use the magnet product for an extended period of time, we recommend placing the device in a dry, safe place, and applying preservative to the vulnerable parts, if necessary.

Disposal/recycling

When dismantling and/or scrapping the magnet product, keep in mind the materials from which the individual parts are made (magnets, iron, aluminium, stainless steel, etc.). This should ideally be done by a specialized company. Always observe the local regulations and standards pertaining to industrial waste disposal.

Inform those disposing of the magnet material of the hazards of magnetism. To this end, see also the Safety risks [▸ 6] section.

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