



Electro-Magnetic Solutions for Tramp Removal

- Protect your equipment
- Purify your product
- Recover ferrous material





Applications

Mining (iron ore, coal or minerals). Tramp removal

Steinert Magnets protect your equipment by removing tramp metal and preventing:

- Conveyer belt rips
- Chute blockages
- Destruction of crusher heads
- Damage to other sizing equipment

Steinert offers stationary and self cleaning (SC) Suspension magnets. Stationary Magnets are used where the amount of Tramp Iron involved is small, while (SC) self-cleaning Suspension magnets are better suited to higher concentrations of iron components.



Ship loading/unloading. Coal or other loose materials

Avoid product contamination which makes for a very unhappy customer, and can lead to further damage such as milling equipment failure and conveyor belt damage.

Thousands of Steinert Suspension magnets remove tramp iron such as nuts and bolts from coal, coke, ore and other materials - at extremely high speeds, large working distances and high burden depths. Suspension magnets also remove tramp in the following applications:

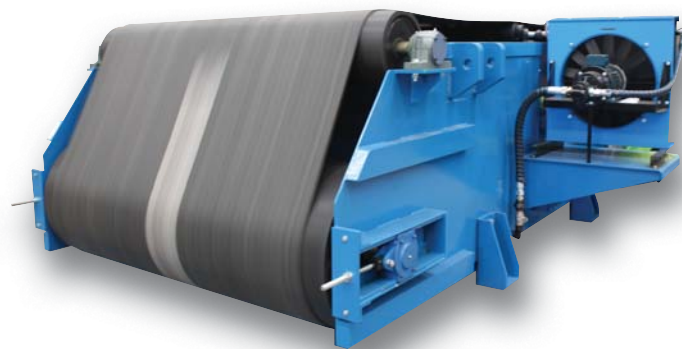
- Treatment of slags
- Pyrolysis coke
- Thermal refuse treatment
- Glass recycling and many others

Manual or motorised Trolleys are also available for:

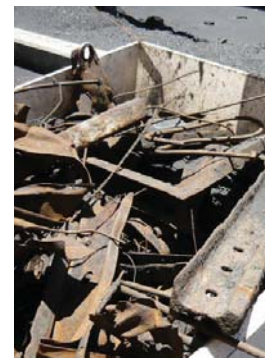
- Dumping of collected tramp from Stationary Magnets
- Maintenance - especially in the case of Self Cleaning magnets

Transformer Rectifier Control Cabinets can be supplied with the following features:

- PLC monitoring
- Trolley controls
- Self Cleaner controls
- Heat Exchanger controls
- Permanent retention switchgear
- Stainless steel housing IP55 to IP66
- Earth leakage protection etc.



Steinert offer both Permanent and Electro Magnets in either configuration and the Electro Magnets can be either oil cooled or air cooled.



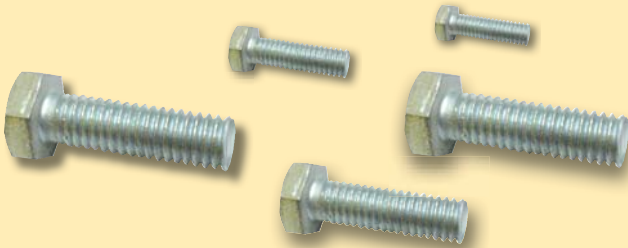
Magnet Sizing & Selection

Quick facts

Magnets are selected according to the belts widths that they cover but the main factor that determines the magnet selection is the amount of Force Index (Gauss^2/mm) that is required to remove a target size and shape of tramp from a burden of product material travelling at a certain belt speed.

Tramp Size

The smaller the tramp metal the more difficult it is to remove. Therefore a larger, heavier, more powerful and more expensive magnet is required.



Tramp Shape

Rods and Plates are relatively easy to remove as they are easily orientated North-South and present a larger surface area to the magnet.



Nuts, cubes and spheres are very difficult to remove and are often unnecessarily specified especially when the main purpose of the magnet is to protect the belt.



Metal detectors

When it is only possible to place the magnet in the Over-belt position and it is necessary to remove relatively small tramp, we recommend selecting a magnet that will remove any large tramp that might rip the belt and using a metal detector downstream of the magnet to detect the smaller tramp that is too small for the magnet to remove.

The added benefit of the metal detector is that it can also detect any non-magnetic metals that the magnet cannot remove.

In this case Steinert can offer the best solution to provide a magnet that removes the majority of damaging tramp and combining it with a metal detector that will provide ultimate protection with minimum belt stops.



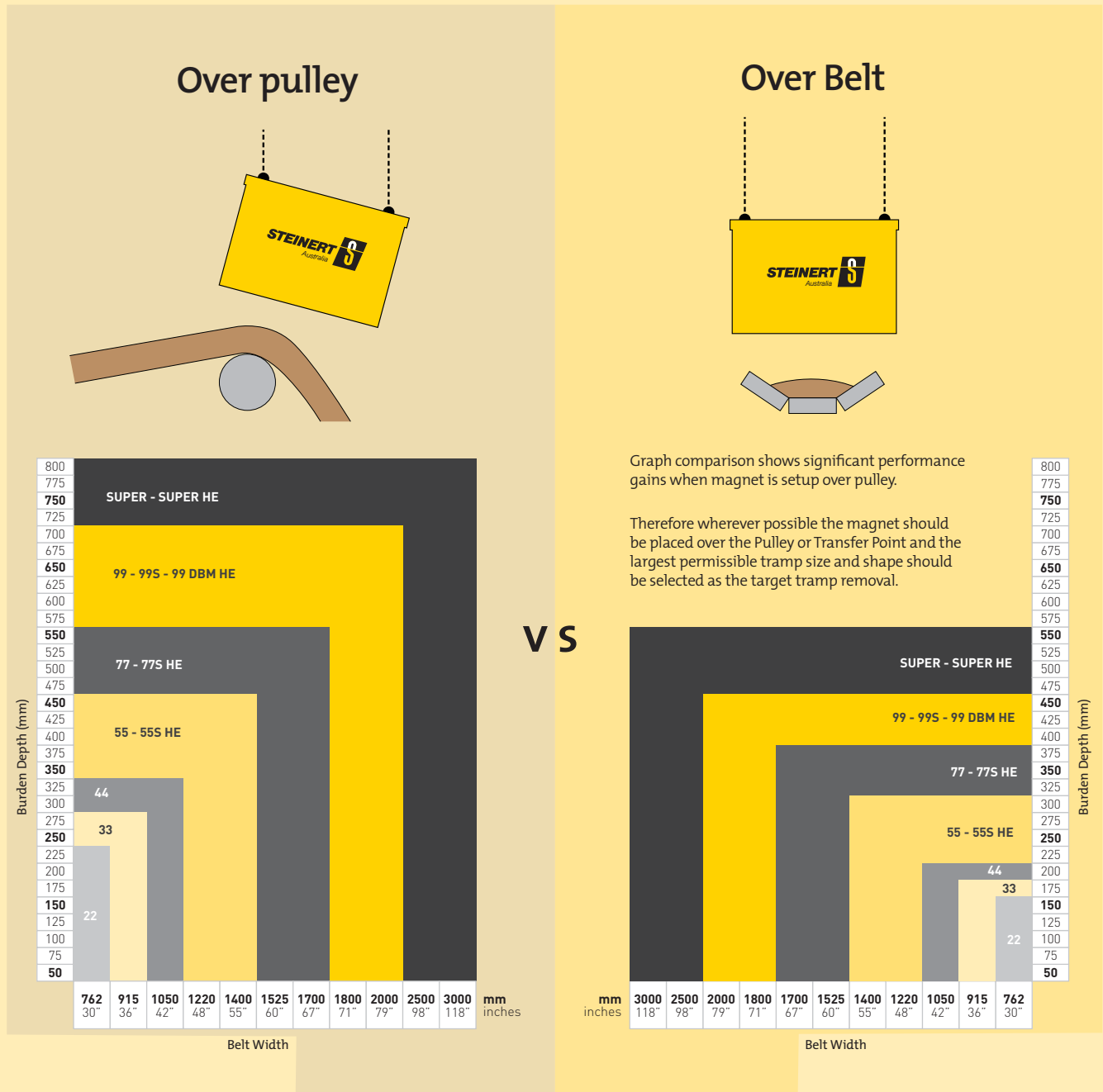
Please contact us to accurately size a magnet for your unique application. We have an easy to complete questionnaire that automatically calculates the burden depth of your conveyor or vibratory feeder.

MAGNET SELECTION AND PROTECTION QUESTIONNAIRE	
Customer Name:	STEINERT
Product Name:	STEINERT
Product Code:	STEINERT
Product Description:	STEINERT
Product Quantity:	STEINERT
Product Unit:	STEINERT
Product Material:	STEINERT
Product Finish:	STEINERT
Product Dimensions:	STEINERT
Product Weight:	STEINERT
Product Value:	STEINERT
Product Location:	STEINERT
Product Date:	STEINERT
Product Status:	STEINERT
Product Notes:	STEINERT

Magnet Sizing & Selection

Magnet Position

It is far easier to remove tramp in the over-pulley position as this takes advantage of the natural breakup of the material as it leaves the head pulley.



<p>Example: The Force Index to remove an M18 x 100mm Bolt and an M18 Nut from 300mm of Coal burden travelling at a belt speed of 3m/s is as follows:</p>	OVER PULLEY	OVER BELT	TRAMP METAL SHAPE
	1,457 GAUSS ² /MM	7,441 GAUSS ² /MM	M18 X 100MM BOLT
	3,189 GAUSS ² /MM	25,984 GAUSS ² /MM	M18 NUT

Technology

Ship loading/unloading. Coal or other loose materials

Suspension Magnets are usually mounted at a fixed working distance above a conventional belt conveyor. Tramp iron in the material conveyed is attracted by the Magnet and magnetically removed from the material flow.

Steinert Suspension Magnets may work up to 3000mm belt width and up to 900mm suspension height. The wide range of products offers the chance to find the right solution for your needs.

The well proven and dense coil design with aluminium strip allows a constant, efficient cooling and reduces the risk of coil burn-outs. The design enables maximum coil turns and a compact unit even when offered as a self cleaning magnet. No external expansion tank is needed. Wear plates underneath protect the Magnet.

Many thousands of Steinert oil filled Suspension magnets are used in the Mining Industry with limited space and in underground applications

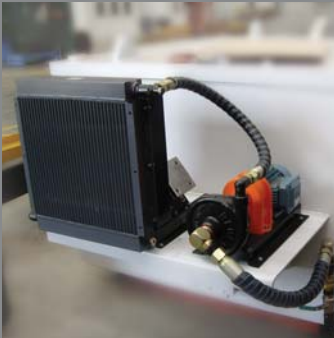


Options available are:

- Permanent retention (PR) - retains tramp metal during power failure
- Heat Exchanger (HE) – increases performance & lowers surface temperature

- Durabelts – Stainless steel pads and cleats on self cleaning belt extend belt life when tramp frequency is high or when the tramp is sharp
- Underground safety
- Decontactor plugs etc.

Add-on Enhancements



Heat Exchanger



Trolleys

Steinert's motto is "the best in the long run". This not only refers to our range of products, but also our extensive service to your investment. We offer sustainable solutions which guarantee permanent advantages in the long run!



Durabelts

Underground Safety

- Envirottemp FR3 coolant
- DIP terminal box
- Earth leakage protection
- Anti-static Belts
- 1000V Supply

All of this backed by our product performance guarantee which gives you peace of mind while we deliver performance, **shift after shift, year after year!**

Steinert Australia Pty Ltd

PO Box 335
Bayswater, Vic 3153

Tel: +61 (0) 3 8720 0800
Fax: +61 (0) 3 8720 0888
E-mail: sales@steinert.com.au
www.steinert.com.au

A.C.N. 109 025 210
A.B.N. 77 109 025 210



Suspension Magnet



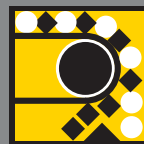
XSS X-Ray Sorting System.



Induction Sorting System



Magnetic Drum



High Gradient Magnetic Separator



Eddy Current Separator



Wet Drum Separator



Your local Steinert agent: