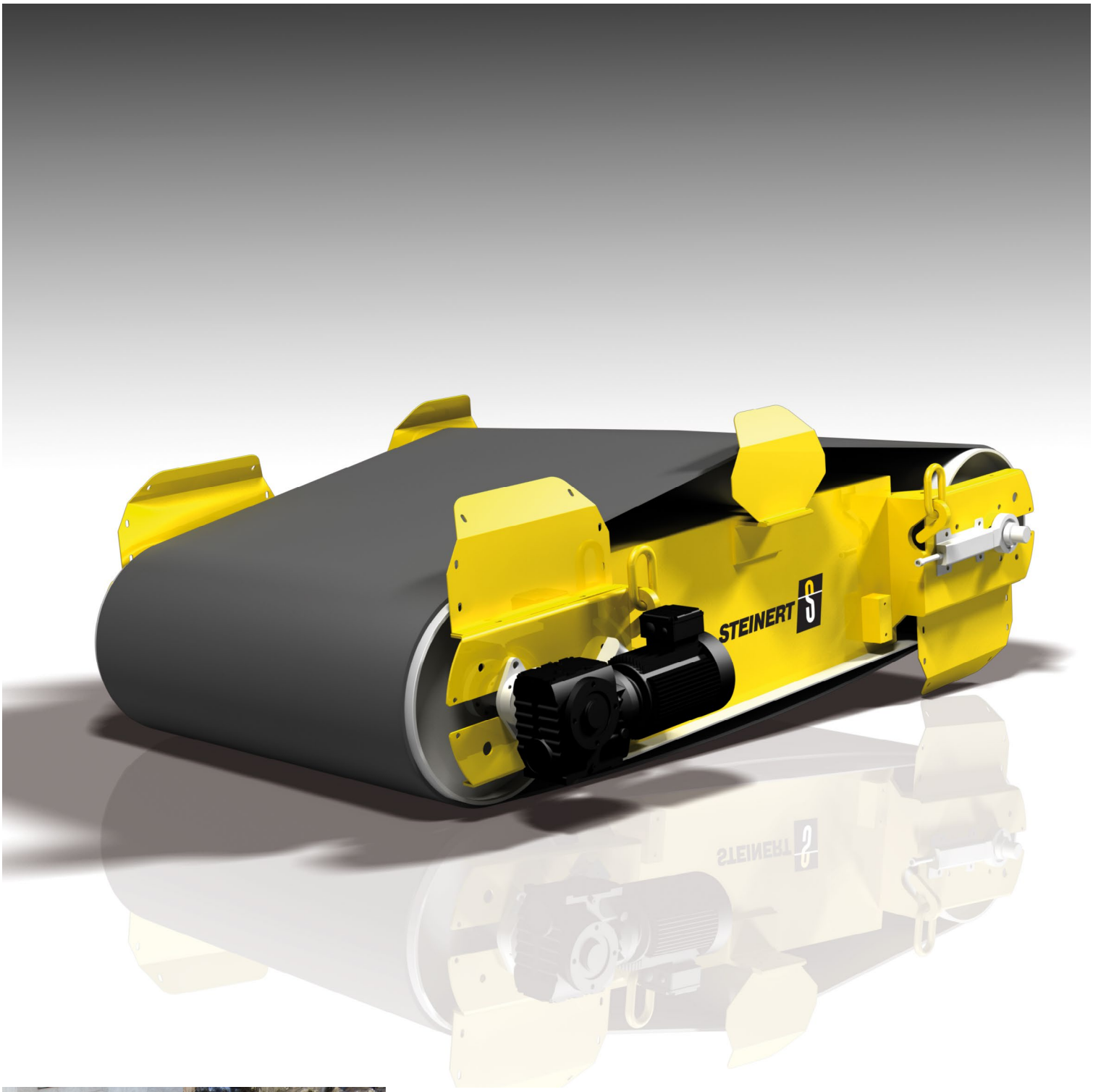
STEINERT



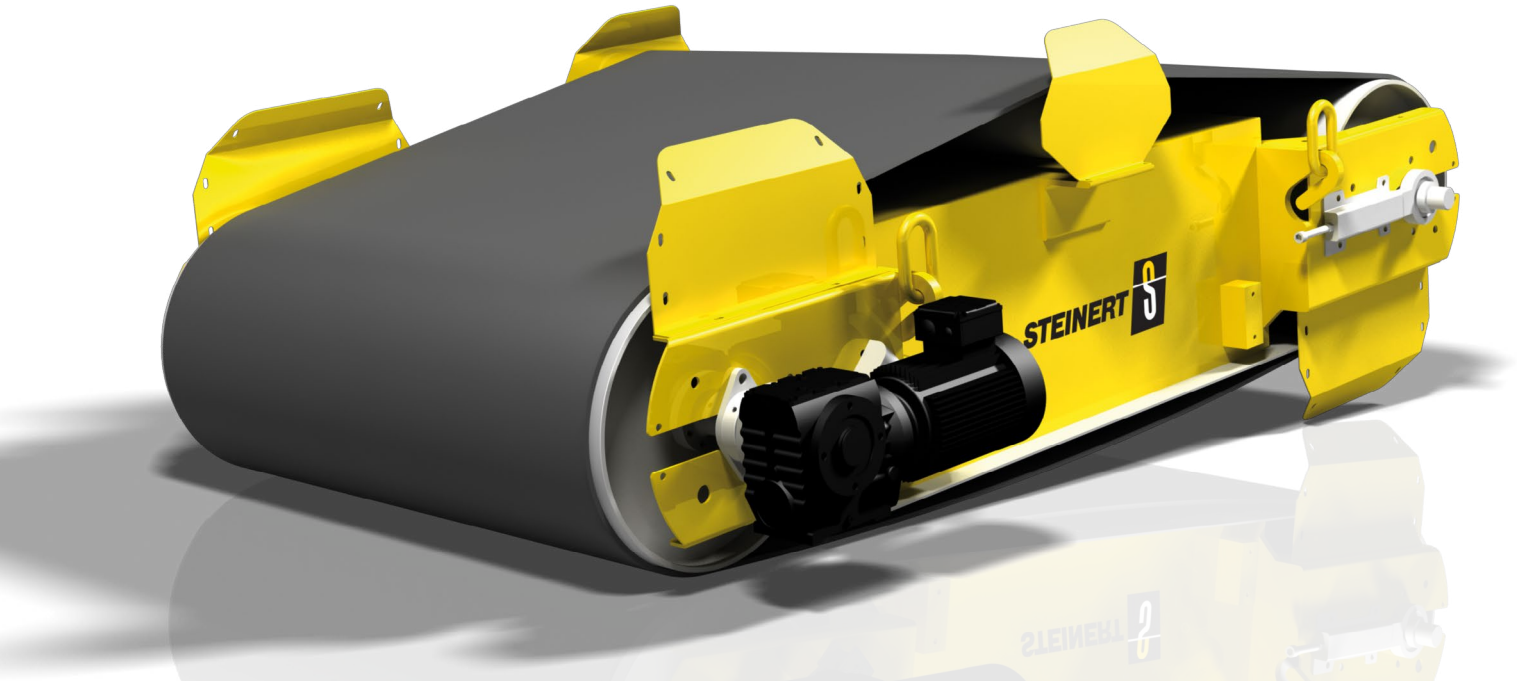
STEINERT UM/AM

Suspension Magnet

> Municipal waste, coal, ores, demolition scrap, shredder material, scrap wood, glass, foundry sand

STEINERT UM/AM
Suspension Magnet

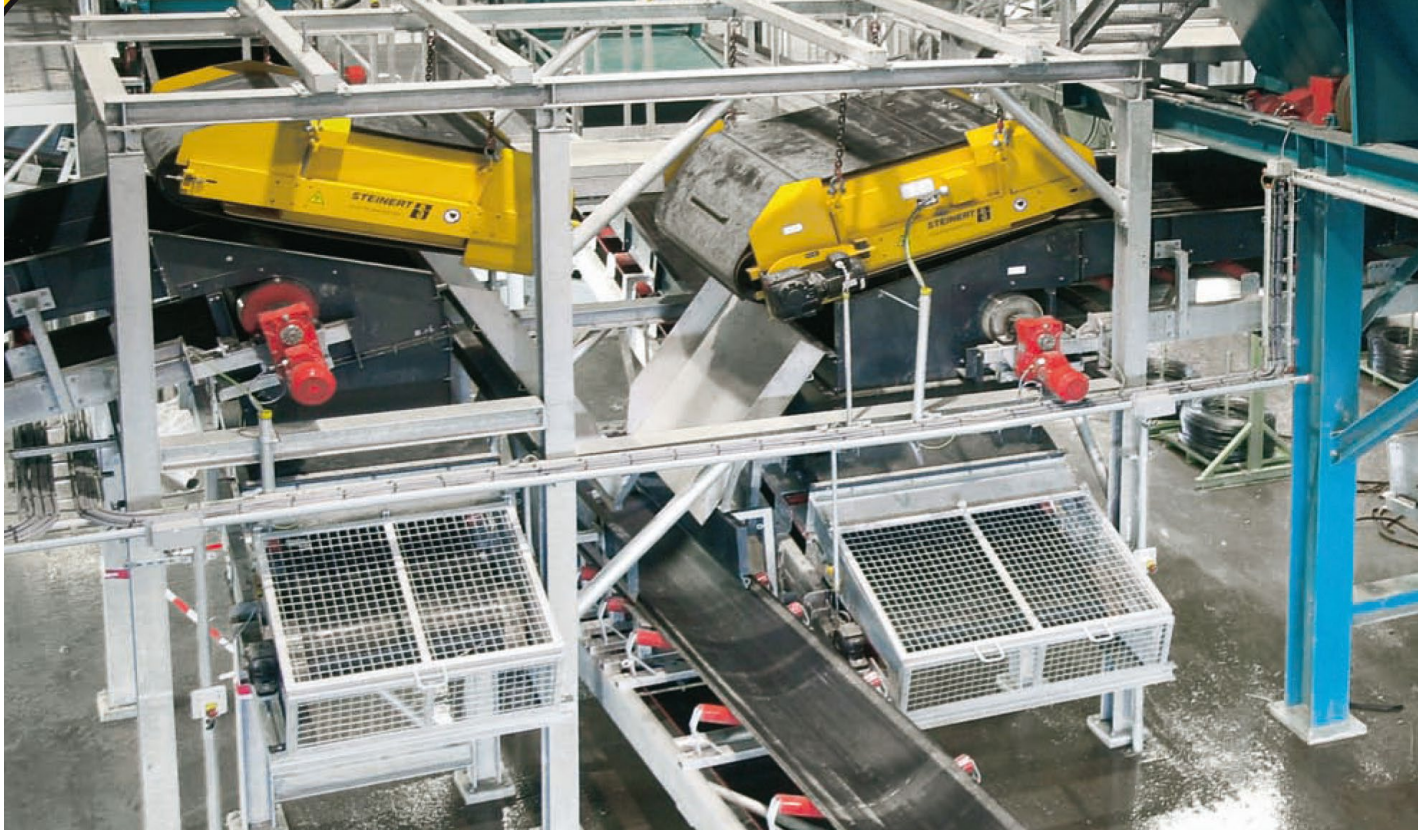
> Municipal waste, coal, ores, demolition scrap, shredder material, scrap wood, glass, foundry sand



Suspension magnets from STEINERT have been extracting iron and iron-bearing components from these and other bulk materials for many decades. On the one hand, they extract clean iron scrap and on the other, they protect grinders,mills and other processing equipment against wear and tear. What's more, they also produce iron-free raw materials for further processing. STEINERT's suspension magnets are characterized by extremely powerful and long-reaching magnetic fields. Regular product improvements ensure recognizably efficient construction and operation as well as low maintenance design.

Suspension magnets usually are mounted at a fixed working distance above a conventional belt conveyor. Iron in the material conveyed is attracted by the magnet and so removed from the flow of conveyed material.

Self-cleaning suspension magnets (UM) remove the separated iron on a moving conveyor belt. The pure suspension magnets (AM) are manually cleaned at defined intervals. These magnets are used where the amount of iron involved is small, while self-cleaning suspension magnets are better suited to higher concentrations of iron components. If suspension magnets are arranged longitudinally, above the belt discharge, then the discharge is more reliable and can, in some cases, be achieved with the use of smaller magnets. If the separator is arranged transversely above the conveyor belt, the conveyed material remains unaffected. A larger magnet is required in these circumstances. The flow of material can, however, often be improved.



Application area

Hundreds of STEINERT suspension magnets are being used for the extremely reliable separation of tin cans and other iron in municipal waste processing worldwide. An immediately salable iron fraction can also be separated from collected packaging waste. Suspension magnets are also used for the treatment of slags and pyrolysis coke from thermal refuse treatment. STEINERT suspension magnets, mostly permanent magnet models, can be used to process iron-free demolition scrap into a valuable building material. Smaller iron particles,which are not captured by the drum magnet immediately behind the shredder, are extracted from the heavy shredder fraction. Bottle caps and screw tops are removed from collected glass for recycling before it is remelted.

STEINERT permanent suspension magnets remove iron from wood chips before they are burnt or reused. STEINERT suspension magnets can remove interfering iron parts such as nuts and bolts from coal, coke, ore and other minerals – at extremely high belt speeds, large working distances and high burden depth. Large models of the active air-cooled types, UME LS and UME LR, are most often found in these applications.

The residual fraction is frequently subjected to further value-added processing by means of the STEINERT non-ferrous metal separator. The magnetic forces in STEINERT suspension magnets can be generated by permanent magnets (P) or electromagnetic coils (E) as required. STEINERT electric suspension magnets (Series UME, AME) possess a high power density and high temperature resistance thanks to their use of ANOFOL anodised aluminium strips – also a STEINERT product, in the electromagnetic coils.

What's more, pole plates are integrated in the housing to concentrate the magnetic flux. Along with the electromagnetic coils, the cross-section, structure, shape and size are responsible for STEINERT electromagnets excellent sorting capability. The result is that the electric suspension magnet is extremely effective despite its compact size, low weight and low power consumption. STEINERT consistently uses air-cooled, "dry" electro suspension magnets without oil filling.

The compact, rectangular ANOFOL coil has a stable temperature and fills almost the complete volume of the magnetic separator. The heat transfer to the outer wall is not slowed down by insulation. Other magnetic separators mostly use round coils, which scarcely fill the magnetic separator housing and are filled with oil.

This enables multiple-pole separators to achieve levels of separation performance which, until recently, were only possible when using electro suspension magnets.

The self-cleaning permanent- magnetic suspension magnet UMP is capable of considerably improved discharge characteristics for light materials and prevents iron parts from permanently adhering, thanks to the use of large-area stainless steel side panels. This self-clea ning suspension magnet is distinguished by its ease of maintenance, with access protection and infeed protection combined wherever possible. Gear motors, hydraulic motors or electric motor pulley drives can be specified.

The oil is used for heat transport and is subject to leakage and frequently requires external cooling and changing. Permanent magnetic suspension magnets from STEINERT (Series UMP, AMP) use strong permanent magnets to generate their magnetic fields.

They represent today's state of the art technology. Just like the electrical suspension magnet, the shape and size of the magnetic field inside the separator casing is also important for performance. The special design and construction of STEINERT permanent suspension magnets make it possible to individually adapt the magnetic field to the specific application.

Models

The width and speed of the conveyor are essential selection criteria for a suspension magnet. In addition, the burden depth and the nature of the iron components to be separated play a major role. Flat pieces of metal such as iron sheet are comparatively easy to separate, whereas nuts and balls require greater force.

STEINERT has developed different model series of both electro and permanent magnets in order to cater for a wide range of application areas. Permanent magnetic separators UMP and AMP are supplied with individually adaptable magnet systems,working widths of up to 110 cm (44") and lengths of up to 180 cm (71"). In recent years, the electromagnetic series UME..R / AME..R have become popular worldwide. In addition to a pole housing. The magnetic field in the centre of the magnet is particularly strong. This reliably captures iron parts, even from thicker layers.

The model series UME P and UME L are distinguished by longitudinal poles on the outer sides and an extended central pole. This feature prevents the ferrous item from remaining on the end of the magnet and being pulled back.

These magnets have proved themselves over many decades at higher belt speeds and belt widths. Tramp iron, such as bolts and rods, must be removed in mineral processing plants worldwide. STEINERT's forced- ventilated suspension magnets are actively cooling down the directly ventilated coils (Series LS) or the housing (Series LR). They are designed to exceed mine-duty specifications. The result is superior performance at large working distances and low surface temperature. Of course, STEINERT offers powerful rectifiers and special discharge belts with wear protection, or heat and chemical resistance among other options. The electrical suspension magnet can even be operated with suitable metal detectors so that the magnet is only switched on when needed. The results – improved performance and longer life! central pole, they also have an outer.

STEINERT Elektromagnetbau GmbH
Widdersdorfer Straße 329-331
50933 Köln
Germany

Phone: +49 221 4984-0
Fax: +49 221 4984-102
E-Mail: sales@steinert.de
www.steinert.de

Tochtergesellschaften
Subsidiaries

RTT STEINERT GmbH
Hirschfelder Ring 9
02763 Zittau
Germany
Phone: +49 3583 540-840
Fax: +49 3583 540-8444
E-Mail: sales@steinert.de
www.unisort.de

North America
STEINERT US Inc.
285 Shorland Drive
Walton, KY 41094
U.S.A.
Phone: +1 800 595-4014
Fax: +1 800 511-8714
E-Mail: sales@steinertus.com
www.steinertus.com

Australia/South East Asia
STEINERT Australia Pty. Ltd.
14 Longstaff Road
VIC 3153, Bayswater
Australia
Phone: +61 3 8720-0800
Fax: +61 3 8720-0888
E-Mail: sales@steinert.com.au
www.steinert.com.au

Japan
STEINERT Japan Co. Ltd
703 President Roppongi
3-2-16, Nishi-Azabu
Minato-ku, Tokyo 106-0031
Japan
Phone: +81 3-6447-0611
Fax: +81 3-6447-0610
E-Mail: sales@steinert.jp
www.steinert.jp

South America
STEINERT Latinoamericana Ltda.
Av. Heráclito Mourão de Miranda, 2080
Bairro Castelo
31330-382 Belo Horizonte
Brazil
Phone: +55 31 3372-7560
Fax: +55 31 3372-6995
E-Mail: steinert@steinert.com.br
www.steinert.com.br

Niederlassungen
Branches

Africa
STEINERT Africa
IMS Engineering (Pty) Ltd
10 Derrick Road, Spartan
Kempton Park, 1620
Republic of South Africa
Phone: +27 10 001 8200
Fax: +27 11 970 3200
E-Mail: south-africa@steinert.de
www.imsengineering.co.za

STEINERT dealers and consultants in your area: