STEINERT

NES Eddy Current Separator

> Shredder material, Municipal waste, WTE bottom ash, Non-ferrous metal, Foundry sand, Glass, E-scrap, Batteries

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The mechanical recovery of non-ferrous metals is the economic basis of all recycling – and the STEINERT Eddy Current Separator with Eccentric Pole System fulfils the associated requirements perfectly! High yield and long life are the qualities that make for assured, long-term operating result.

The non-ferrous metal separator can be used wherever non-ferrous metals have to be recovered or separated, where shredder material, municipal waste, WTE bottom ash, electronic scrap, wood chips, glass, batteries or foundry sand are processed.

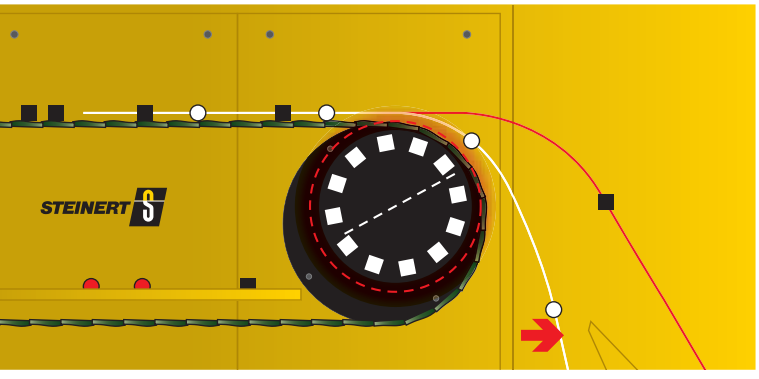
APPLICATIONS

Shredder material: Light and heavy shredder fractions contain substantial non-ferrous metals. Up to five percent non-ferrous metals are contained in the light fraction – valuable materials which, even today, often end up in the landfill.

The heavy fraction is dry-processed to recover clean, saleable non-ferrous metals after screening and magnetic separation. The non-ferrous metals separator produces a clean aluminium concentrate.

Refuse processing: Non-ferrous metal separators are used to recover metal packaging from municipal waste. Other areas of application include compost, glass, paper processing and the recycling of WTE bottom ash – for both the maximum recovery of valuable metals and for metal-free products.

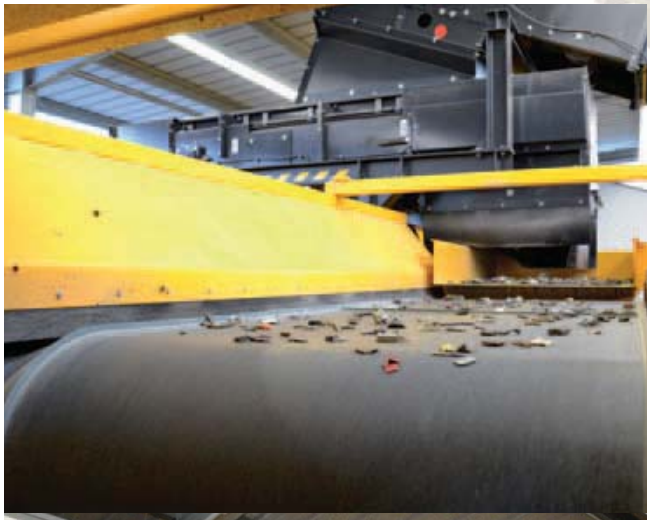
Other potential applications: Non-ferrous metal-free scrap wood is becoming more important as an alternative fuel and a raw material for the derived timber products industry. The STEINERT non-ferrous metal separator also demonstrates especially high capabilities in the processing of electronic scrap, cables, printed-circuit boards and foundry sands. Even finely divided non-ferrous metals with grain sizes down to one millimeter can be separated thanks to the eccentric system.



TECHNOLOGY

Thanks to the magnetic pole system mounted eccentrically in the head drum of the STEINERT non-ferrous separators, the effect of the changing magnetic fields is concentrated exactly on an area within which the material is most effectively subject to the forces.

The pole system is adjustable so that this position can be changed in order to have the maximum effect on the discharge parabola, and so to further amplify the effect of the forces. In the concentric pole systems offered by our competitors, the effect of the magnetic field is frequently felt too early, with the consequence that the non-ferrous metals are prematurely ejected from the magnetic field, thus resulting an inadequate deflection.



The eccentric pole system in contrast ensures that the influence of the magnetic field is only at a maximum at the moment of separation and that no magnetic field is generated at other positions on the belt drum. Residual ferrous metals cannot adhere to the head drum, which means that wear on the belt and the self cleaning drum shell are reduced to an absolute minimum – another important difference from the concentric system.

STEINERT achieves its extraordinary separation results thanks to the use of neodymium-iron-boron magnets, a thin conveyor belt and an electrically non-conductive drum body made from fibre reinforced composite materials. Together, these features ensure maximum field strength and exact, efficient separation. The eccentric pole system is also protected by a sealed cover of stainless steel. Normally the bulk density increases with decreasing particle sizes. This increases the importance of the mass throughput.

For coarse and light materials, the working width is determined by the volume-related throughput. Deep, medium-frequency fields are required for these types of material. Fine grained material requires less extensive but higher frequency fields. All these are available in STEINERT's patented eccentric design.

MODELS

The Standard Series 50 functions with medium grain sizes larger than 5 mm and with high throughputs. The selectivity is high and additionally offers the plant operator security in case of variations in throughput and materials – smaller packaging and composite materials can be reliably recovered.

The Series 61 is optimally used with particle sizes of 1mm to 20mm. It ensures the highest yields of metals from fine materials usually considered inseparable. Typical applications include the fine fraction of shredder waste, municipal waste, WTE bottom ash or old foundry sands from the aluminium industry.

STEINERT Elektromagnetbau GmbH
Widdersdorfer Straße 329–331
D-50933 Köln
Germany
Phone: +49 221 4984-0
Fax: +49 221 4984-102
sales@steinert.de
www.steinert.de

Subsidiaries:

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

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

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

Asia
STEINERT Asia
9 Temasek Boulevard
Level 31, Suntec Tower 2
Singapore 038989
Phone: +65 6559 6170
sales@steinertasia.com
www.steinertasia.com

South America
STEINERT Latinoamericana Ltda.
Rua Marechal Foch, 41-SL 303 Grajaú
30430-720 Belo Horizonte – MG
Brazil
Phone: +55 31 3372-7560
Fax: +55 31 3372-5995
sales@steinert.com.br
www.steinert.com.br

Japan
STEINERT Japan CO. Ltd
2-7-4-1301 Aomi, Koto-ku
Tokyo 135-0064
Japan
Phone: +81 3 6457-1773
Fax: +81 3 5530-0330
sales@steinert.jp
www.steinert.jp

Your local STEINERT consultants:

METATECH SDN BHD
Lot 9, Jalan Gudang 16/9, Section 16, 40200 Shah Alam
Selangor DE.
T:+603-55199633 F:+603-55199636 E:metatech@streamyx.com