

Fine grain separation using the STEINERT EddyC **FINES**



Applications:

- > Incineration bottom ash
- > Automobile shredder residue (ASR)
- > Electronic scrap
- > PET flakes
- > Dross

A new splitter for high-precision fine grain sorting.
A new belt change innovation for simplifying maintenance work.

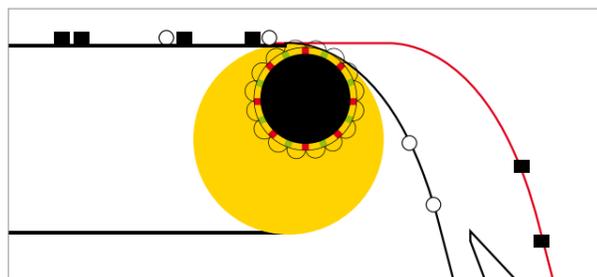
As the inventor of the eccentric pole system and a pioneer in the use of eddy current technology for the separation of non-ferrous metals, STEINERT is expanding its range of products in this sector. The new non-ferrous metals separator STEINERT EddyC **FINES** has been especially developed for recovering fine non-ferrous metals (aluminum, copper, brass,

etc.), making it ideal for applications involving small grain sizes of 0 - 10 mm:

- Incineration bottom ash
- Automobile shredder residue (ASR)
- Electronic scrap
- PET flakes
- Dross

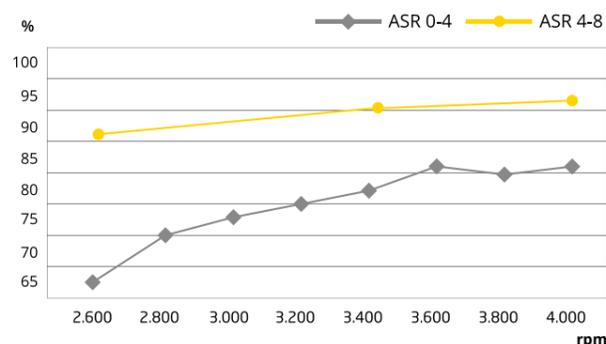
The new STEINERT EddyC **FINES** combines the tried and tested STEINERT features, such as the eccentric magnetic pole drum and high-frequency pole changes (1.3 kHz and a pole drum rotational speed of up to 4,000 rpm), with especially developed features for the fine-grain segment..

Eccentric pole system



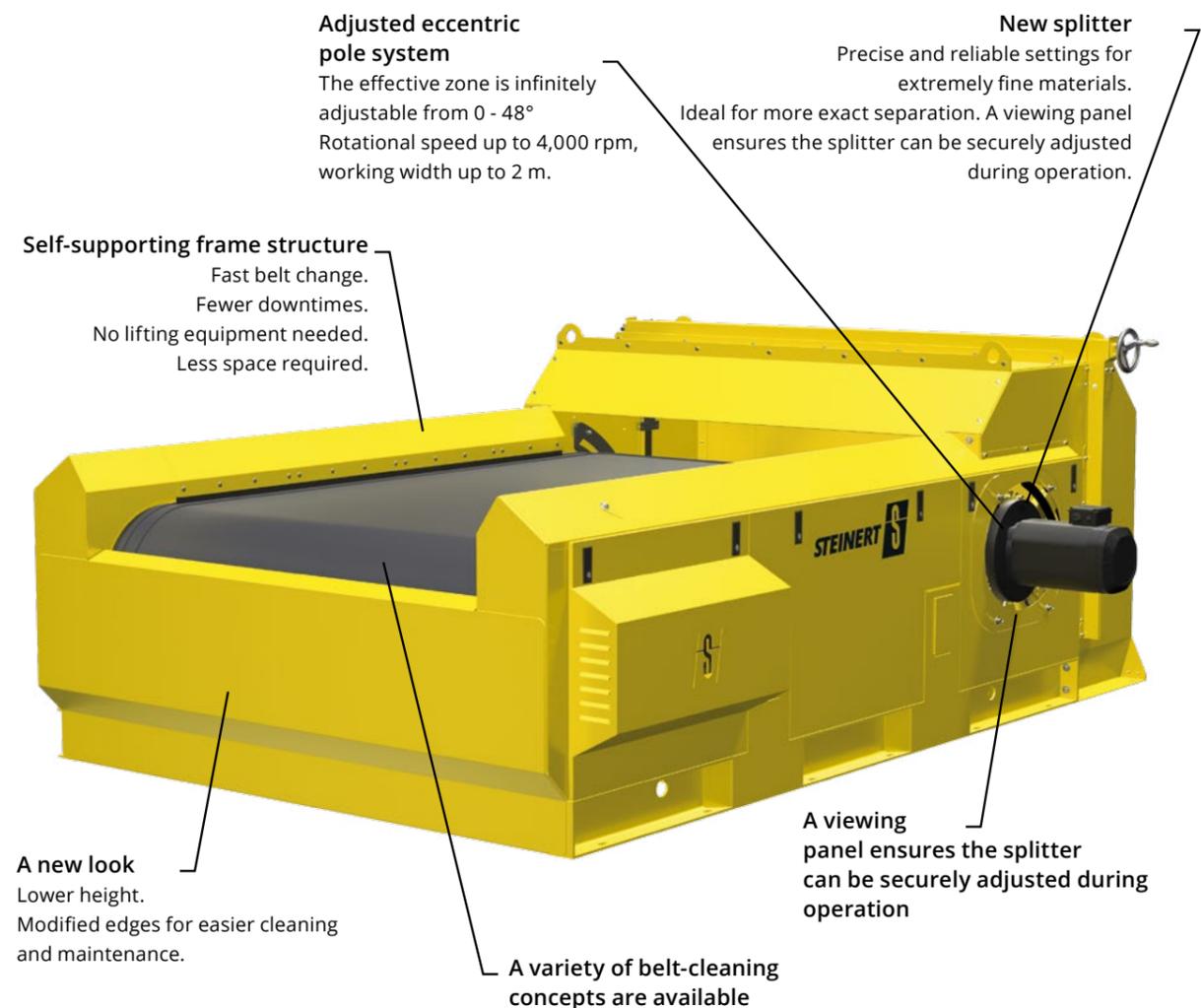
The magnetic pole system that is eccentrically arranged in the head drum concentrates the effect of the alternating magnetic fields on the precise area where the greatest force is applied to the material.

Yield at increasing rotational speed



Because it operates at up to 4,000 rpms and has a field frequency of about 1.3 kHz, the system can achieve 20 - 30 % more output than a non-ferrous metals separator with 2,600 rpm. The yields increase with increasing rotational speed and field frequency, until a maximum value is reached (dependent on grain size being sorted).

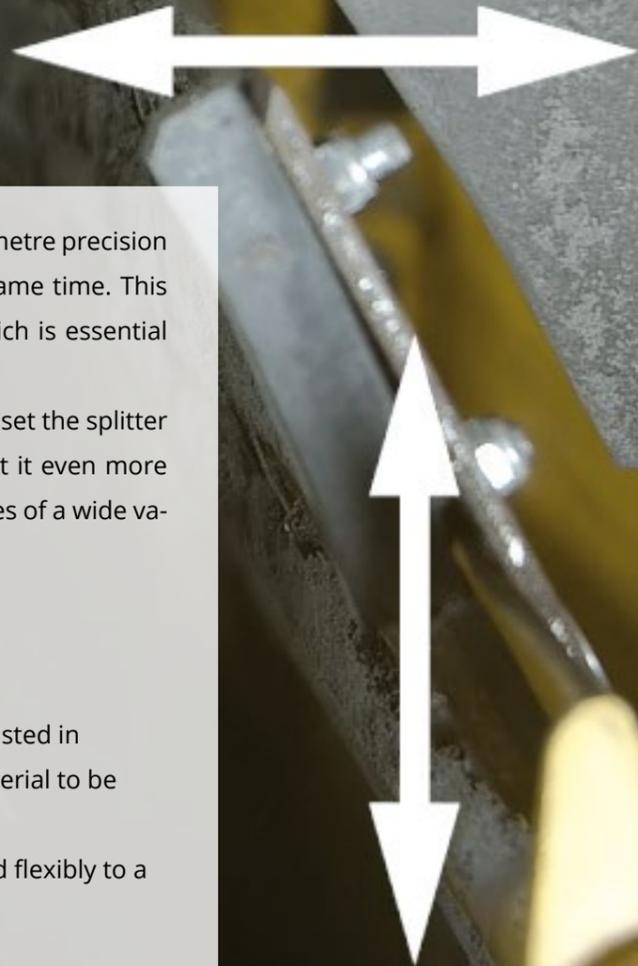
STEINERT EddyC **FINES** WITH ESPECIALLY DEVELOPED FEATURES FOR THE FINE GRAIN SEGMENT.



This separator works as follows:

A neodymium magnet system that rotates at high frequency creates a strong magnetic eddy current field. The resulting opposite magnetic field creates repulsion effects, which enables the non-ferrous product to be ejected from the stream of material. The splitter plate in the parabolic trajectory separates the non-ferrous product from the remaining stream of material.

S A NEW OUTLET WITH AN ADJUSTABLE SPLITTER

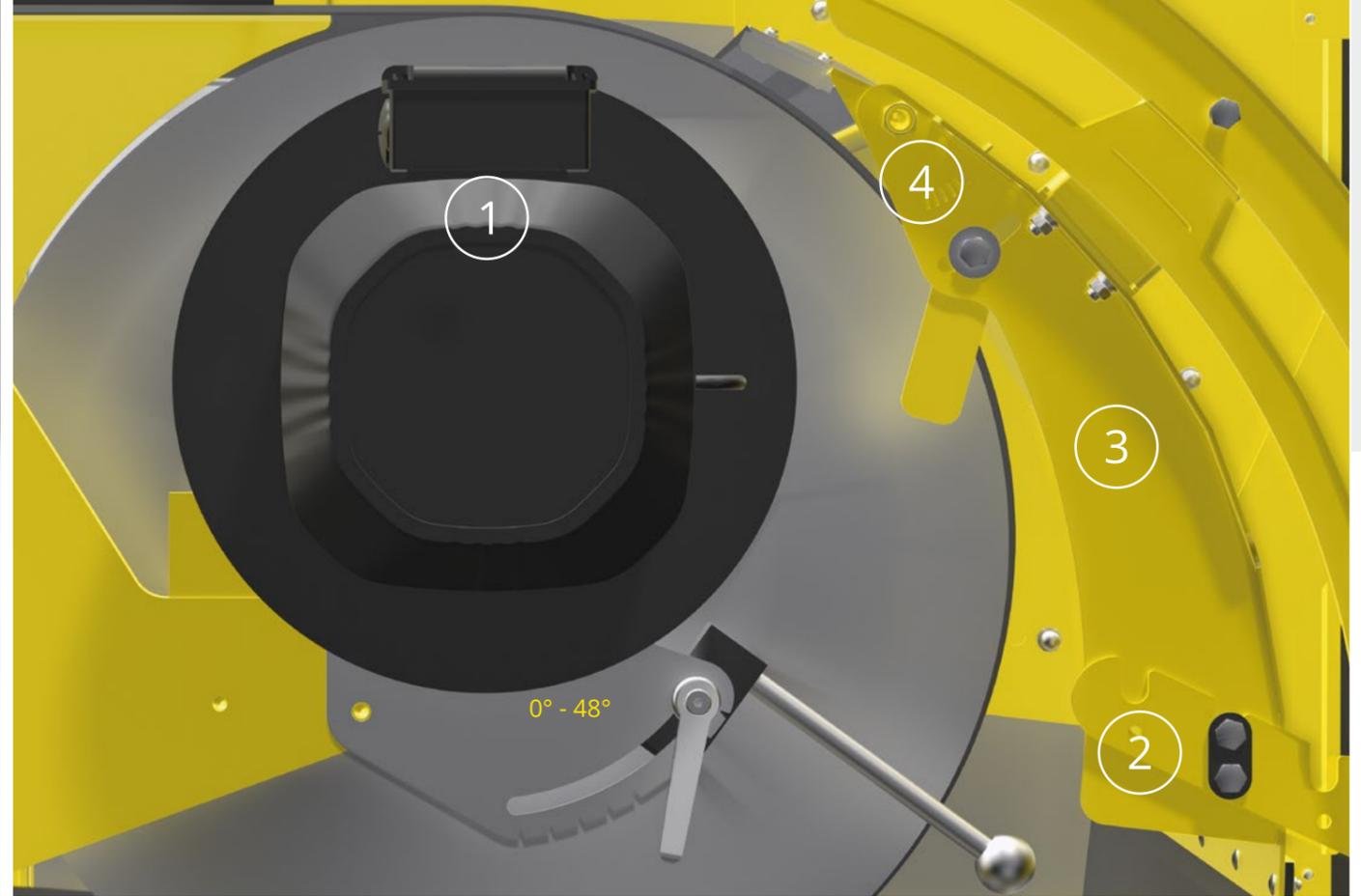


The new splitter can be set with millimetre precision – horizontally and vertically at the same time. This makes separation more precise, which is essential for fine-grain separation.

A gearbox enables users to precisely set the splitter plate along different axes and adjust it even more accurately to the parabolic trajectories of a wide variety of materials.

Benefits:

- The splitter can be precisely adjusted in accordance with the specific material to be sorted and sorting task
- It enables the system to respond flexibly to a variety of sorting tasks



- 1 The rotational speed of the pole drum can be set to up to 4,000 rpm. To ensure that the effective zone can be optimally set, users can infinitely adjust the pole system either manually or electrically from 0 - 48°.
- 2 Set of the splitter's position vis-a-vis the pole drum
- 3 The entire splitter is adjusted to the stream of material along the curved track.
- 4 Set of the knife edge (infinitely adjustable from 0 - 30°)



The system achieves optimal separation results by maintaining an adequate grain size ratio.



A window directly in the separation area: It makes the point at which the material loses contact with the belt clearly visible and more easily adjustable



BELT CHANGE IN 10 MINUTES

Thanks to a clever design, it's possible to change the belt in 10 minutes without requiring additional lifting equipment. 2 employees and some tools suffice for this task.

Benefits:

- Huge time savings
- Less downtime
- No more heavy equipment needed
- Less space needed for belt changes
- With less downtime, belts can be selected for optimizing output

Belt change video:



eddycfines.steinert.de



Remove doors and contact prevention device



Remove supports



Release belt drum tension



Fold down side plates



Change belt



PROCESSING INCINERATION BOTTOM ASH

Because the splitter plate can be precisely adjusted, non-ferrous metals can also be recovered from extremely fine residues (0 - 4 mm). This residue comes from incineration plants or WtE plants. STEINERT offers the STEINERT EddyC **FINES** for this purpose. For upstream Fe separation, the company has the STEINERT MT (magnetic drum) and STEINERT BR (magnetic head pulley) in its product range.

Benefits:

- Separation of extra-fine grains of non-ferrous metals
- If there is an appropriate amount of material to be processed, even minimal increases in the efficiency can greatly raise profitability
- The residual fraction can be used as construction material

STEINERT EddyC **FINES**

Input material incineration bottom ash



INCINERATION
BOTTOM ASH

Drop fraction



Product: Non-ferrous metals



METAL RECOVERY FROM AUTOMOBILE SHREDDER RESIDUES (ASR)

The recycling processes for ASR are becoming increasingly demanding. The trend towards steadily higher recycling and reuse rates is motivating companies to separate even materials with the finest grains.

The STEINERT EddyC **FINES** can sort input material measuring 0 - 10 mm and recover valuable non-ferrous metals.

Benefits:

- Increased value added for the fine-grain fraction as well
- Recovery of previously lost materials
- Separation of extra-fine grains of non-ferrous metals
- Reduced landfill costs
- The residual fraction is free of metals

STEINERT EddyC FINES

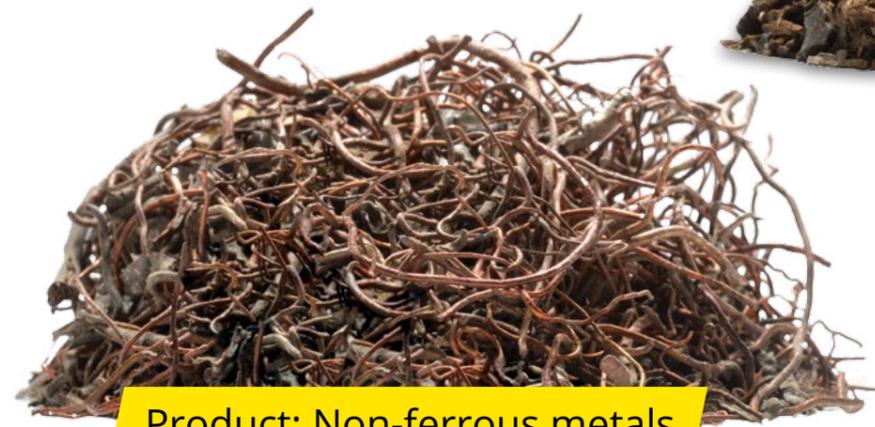
Input ASR



Drop fraction



Product: Non-ferrous metals





METAL RECOVERY FROM ELECTRONIC SCRAP

The fine-grain fraction of electronic scrap contains especially many non-ferrous metals. Shredder fractions with grain sizes under 10 mm contain high proportions of copper. This, in particular, makes the STEINERT EddyC **FINES** interesting for shredder facilities. It enables even tiny particles of metal to be recovered from eddy current separators' residual shredder fraction.

Benefits:

- Separation of extra-fine grains of non-ferrous metals
- If there is an appropriate amount of material to be processed, even minimal increases in the purity can greatly raise profitability
- The residual fraction is free of metals
- Maximize precious metal content

STEINERT EddyC FINES

Input electronic scrap



Drop fraction



Product: Non-ferrous metals



REMOVAL OF IMPURITIES IN PET FLAKES

Although the concentration of aluminum in granules of shredded PET fractions is low, this small amount of metal causes considerable wear and tear. The STEINERT EddyC **FINES** enables users to separate such contaminants.

Benefits:

- The PET flakes are very pure
- Fewer impurities and wear and tear in downstream production processes
- Separation of extra-fine grains of non-ferrous metals
- Results in a highly concentrated aluminum product

STEINERT EddyC **FINES**

Input PET Flakes



Purified PET

Drop fraction



Product: Non-ferrous metals

in this case aluminum





RECOVERY OF ALUMINUM OUT OF DROSS

The dross floats on top of the molten metal. This slag prevents oxidation and absorbs the contaminants contained in the scrap metal. After the slag is poured off, it solidifies and the aluminum it contains can then be recovered.

After they are crushed, the metals can be recycled for use as secondary raw materials. For the upstream Fe separation, the company has the STEINERT MT (magnetic drum) in its product range.

The STEINERT EddyC **FINES** makes it possible to separate the aluminum components and to process the salt slag.

Benefits:

- Aluminum separation for the efficient recycling of salt slags
- Increase aluminum content in remelt
- Lower energy consumption

STEINERT EddyC **FINES**

Input dross



Salt slag free of aluminum

Drop fraction



0,6 - 1 mm



1 - 3,4 mm



3,4 - 10 mm

Product: Aluminum



SERVICES AND OPTIONS

Your needs are our job. Our team of experts is on hand to secure your investment over the long term — reliably and at short notice.

You can reach our service hotline by calling the following numbers:

Europe	+49 (0)221 - 4984 - 100
North America	+1 (800) 595-4014
Australia	+61 3 8720 0800
Latin America	+55 (31) 3372-7560

Our global support assures your system availability::

- Technical support
- Commissioning, service and maintenance
- Spare parts
- Upgrades
- Remote maintenance online
- Training

A team of 30 technicians and engineers is available for assignments worldwide. We keep your systems ready for action with short reaction times of 24 hours for services and deliveries of spare parts.



You can have the material you want to sort tested at the STEINERT Test Center in Cologne. To make an appointment, get in touch with your contact person at STEINERT's sales department.

STEINERT EddyC FINES



OPTIONS

- Working widths: 1 m, 1,5 m, 2 m
- Application-related conveyor-belt cleaning and thicknesses
- Splitters of various types
- Controllers of various kinds
- Splitter plate, electrically or manually adjustable
- Pole drum, electrically or manually adjustable
- Stroboscope illumination
- Choice of drive side
- With or without a central point of lubrication that can be offset
- Color

General technical data:

Eccentric Neodymium magnetic pole system

Pole rotation: 2,610-4,000 rpm

Belt speed: 1-2.5 m/s

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Additional equipment in the STEINERT product range:

- STEINERT BR (magnetic head pulley)
- STEINERT MT (magnetic drum)
- STEINERT UM/AM (suspension magnet, permanent and electric)
- STEINERT NES (non-ferrous metals separator)
- STEINERT ISS (induction sorting system)
- STEINERT KSS (combination sorting system)
- STEINERT XSS (X-ray sorting system)
- UniSort PR
- UniSort Flake
- UniSort Black
- UniSort BlackEye
- UniSort Film
- UniSort Analyser

Additionally STEINERT provides solutions for special applications.



Your local STEINERT consultant