PRODUCT SHEET

EC1000/1500/2000
Eddy Current Heavy Duty Separator



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Overview

The Norditek high-performing eddy current separators are developed in collaboration with leading magnet manufacturer Goudsmit Magnetics. They separate non-ferrous (NF) metals — such as aluminum, copper and brass — from mixed material streams with high capacity. The units are fully mobile and can be adapted to specific applications.

Different material fractions require different magnet configurations and different chassis layouts. Around 90% of all projects use our standard model; for the remaining 10%, we customize based on a material analysis from our recycling lab. Whatever your material consists of, we optimize for it.

Key Capabilities

- Separates non-magnetic (non-ferrous) metals: aluminum, copper, brass, silver, gold, lead and more
- Handles fractions from 0-5 mm, 5-20 mm or 20–500 mm
- Available in 1000 mm and 1500 mm widths (also 2000 mm)
- Compatible with all Norditek machines
- Eccentric rotor design — adjustable throw parabola for precise separation
- Effective on heavy NF metals (copper, brass, silver, yellow metal) due to high magnetic strength

Standard Equipment

01 Feeder
Heavy Duty accelerator with impact bars for material up to 1000 mm. PU mat for better durability.

02 Eddy current device
Available with 12-pole (EddyCoarse), 22HI or 38HI rotor

03 Splitter
Frequency-controlled distribution roller with actuator

04 Control panel
Sequence control and monitoring with touch display

05 Chassis
Wind shifter chassis with adjustable height on each leg



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Input Materials



Construction and demolition waste



Incinerator bottom ash



Waste wood



Shooting range sand



Other mixed material streams containing non-ferrous metals

Different magnets perform differently

Heavy Duty – EC 12 poles for coarse material

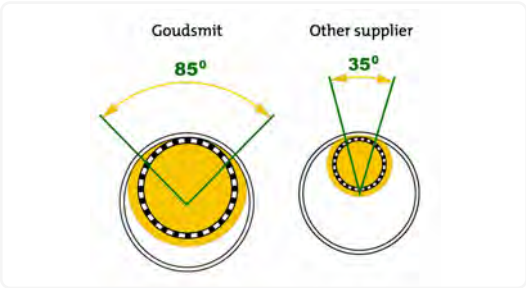
- Handles material from 30 mm up to 1000 mm
- Distribution roller with hydraulic gap adjustment
- Can replace manual picking in sorting facilities
- 12 poles for maximum magnetic force

EC 22 poles for medium-coarse material

- Handles material from 5 mm up to 100 mm
- Splitter knife for more precise separation of smaller fractions
- Available with vibro feeder and belt feeder
- Chassis on hook-lift frame or adjustable legs
- 22 poles optimized for medium-sized material

EC 38 poles for fine material

- Handles material from 0.5 mm up to 100 mm
- Splitter knife for more precise separation of smaller fractions
- Available with vibro feeder and belt feeder
- Chassis on hook-lift frame or adjustable legs
- 38 poles with large shaft diameter for high magnetic force on metals down to 0.5 mm



Typical applications

Aluminum, copper and brass are valuable raw materials — but difficult to separate from a mixed waste stream because they are non-magnetic. The eddy current separator turns what would otherwise go to landfill or incineration into a direct revenue stream.

Bottom ash from waste incineration
recovers aluminum, copper, brass and other NF metals that would otherwise be lost. This is one of the most common and economically significant applications for eddy current technology.

Construction and demolition waste
copper wiring, aluminum profiles and brass fittings are freed during crushing and can then be separated. The EC typically follows a crusher and screening plant in the line.

Crushed masses
metals are released during size reduction and can subsequently be separated by eddy current.

Industrial waste with metal residues
production scrap, offcuts and mixed industrial waste containing NF metals.

Park and garden waste with mixed metal objects
small aluminum or copper objects that have ended up in green waste streams.

Shooting range sand
recovery of lead and other NF metals from contaminated sand, making it possible to reuse the sand on the range again instead of sending it to landfill.

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Customization

We customize based on a material analysis from our recycling lab. Whatever your material consists of, we optimize for it.

Each chassi comes with 12, 22 or 38 poles magnet for whatever your material needs.

- EC1000 with wind shifter chassi
- EC1500 with wind shifter chassi, finger feeder or vibratory feeder
- EC2000 with vibratory feeder or belt feeder



EC HEAVY DUTY DESIGN (UP TO 1000 MM)



EC VIBRATORY FEEDER & DRUM MAGNET (UP TO 150 MM)



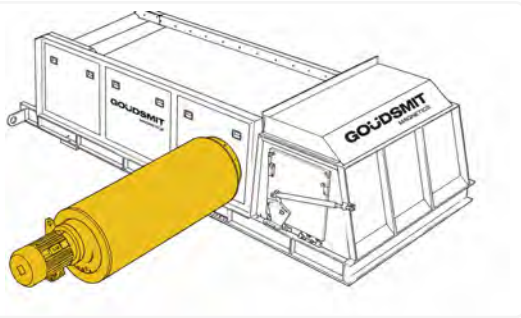
EC VIBRATORY FEEDER (UP TO 150 MM)

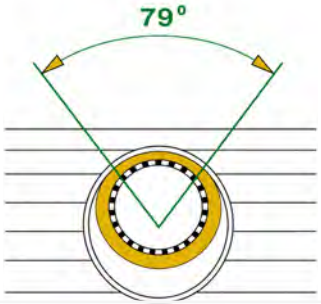
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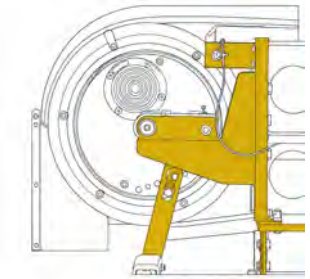
Eddy Current Device – Goudsmit

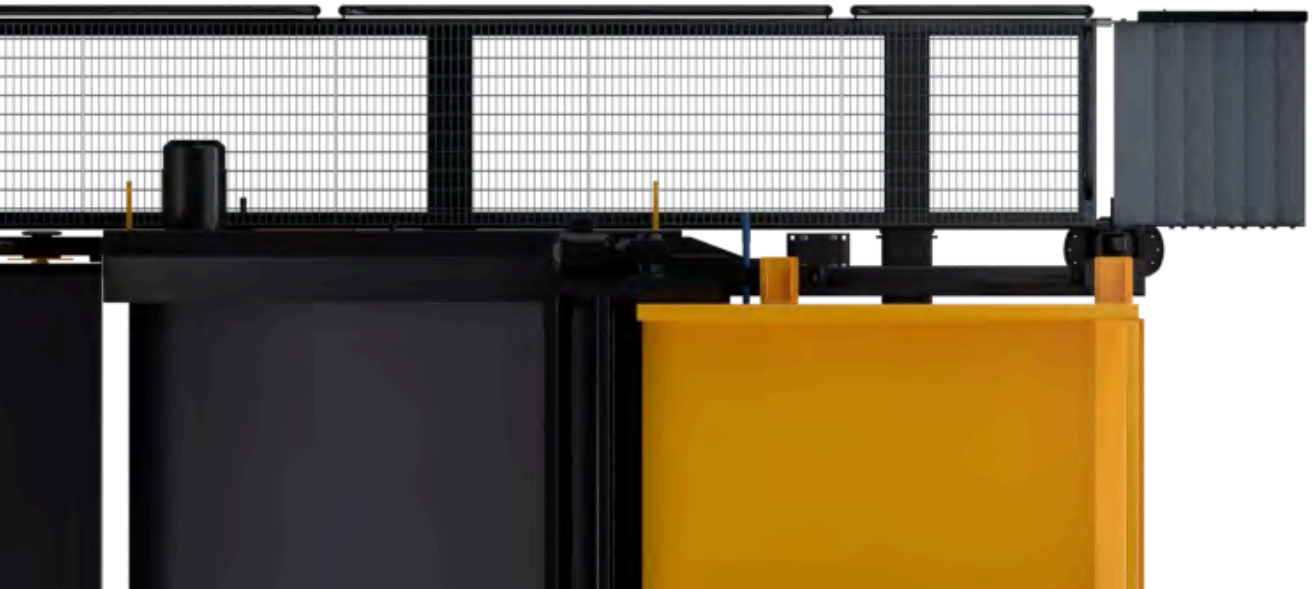
The eddy current device generates the magnetic field that ejects non-ferrous metals from the material stream. Different rotor configurations allow the machine to be optimized for varying particle sizes and applications.

- Choice of 12-pole (EddyCoarse), 22HI or 38HI rotor, 1000/1500 mm wide
- High magnetic strength — specifically effective on heavy NF metals (copper, brass, silver, yellow metal)
- Large rotor diameter provides long residence time in eddy current fields
- Eccentric rotor allows adjustment of throw parabola
- The 12-pole EddyCoarse rotor has the same diameter as the 22HI rotor and can be exchanged if application changes
- For fractions 5–20 mm: 22HI rotor. For particles below 5 mm: 38HI rotor.









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Splitter

The splitter controls and fine-tunes the separation by adjusting the discharge point of the material. Its robust design ensures stable operation and precise recovery, even with large and irregular particles.

- Rubberized, frequency-controlled splitter roller for precise separation
- Not sensitive to large and long non-magnetic particles up to 500 mm
- Enclosed, sealed and lubrication-free drum motors
- Hydraulically adjustable distribution roller — easy gap adjustment
- Open design with discharge belt to prevent large material from getting stuck
- Ejector chute for non-magnetic metal



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How Eddy Current Separation Works

Eddy current magnets use a conveyor belt system with a high-speed rotor at the end. The rotation generates a rapidly changing magnetic field (induction field). Any electrically conductive particle passing through this field is temporarily magnetized and ejected. This separates non-ferrous metals — including aluminum, copper and brass — from the rest of the material stream.

Key separation factors:

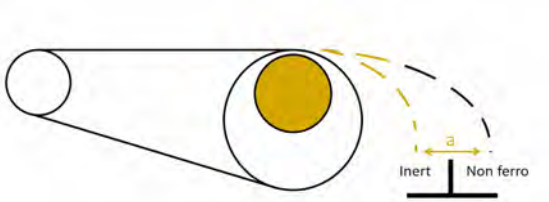
- Electrical conductivity — higher conductivity = easier to separate
- Density — lower density = easier to separate (eddy current force must overcome gravity)
- Particle size and shape — larger volume and compact shapes produce more separated ejection trajectories

Eccentric vs. Concentric Design

All Goudsmit eddy current magnets use an eccentric design, where the magnet rotor rotates eccentrically inside an outer casing.

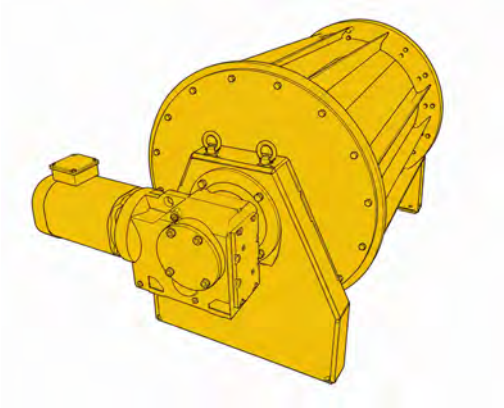
Advantages over concentric systems:

- Not susceptible to "burn-in" — a problem in concentric systems where iron particles under the belt are heated by eddy currents and burn through the protective cover
- Adjustable ejection angle — the rotor can be tilted to change the moment at which NF metals are ejected



Ferromagnetic Pre-separation

Because input material often contains iron (ferrous elements), Norditek eddy current systems can be optioned with a drum magnet to remove iron pieces via a separate discharge before NF separation takes place. Available with different magnetic strengths for strongly magnetic or weakly magnetic metals (e.g. stainless steel).



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Technical Specifications

EC1000

With wind shifter chassis

Power	17.25 kW
Electricity	400V / 32A
Suggested generator	20 kVA
Max capacity	150 m³/h
Infeed height	2,820–3,970 mm
Connection	32A
Weight	4,100 kg
Transport dimensions	L4625 x B2480 x H2595–4275 mm
Fraction range	20–1,000 mm

EC1500

With wind shifter chassis

Power	17.25 kW
Electricity	400V / 32A
Suggested generator	20 kVA
Infeed height	2,820–3,970 mm
Connection	32A
Weight	4,900 kg
Transport dimensions	L4625 x B2480 x H2595–4275 mm
Fraction range	0.5–200 mm

With finger feeder

Power	17.1 kW
Electricity	400V / 32A
Suggested generator	20 kVA
Infeed height	2,200–3,100 mm
Connection	32A
Weight	7,200 kg
Transport dimensions	L8300 x B2700 x H3340 mm

With vibrating feeder

Power	11.2 kW
Electricity	400V / 32A
Suggested generator	17 kVA
Infeed height	3,210–3,730 mm
Connection	32A
Weight	5,500 kg
Transport dimensions	L5700 x B2600 x H3210 mm

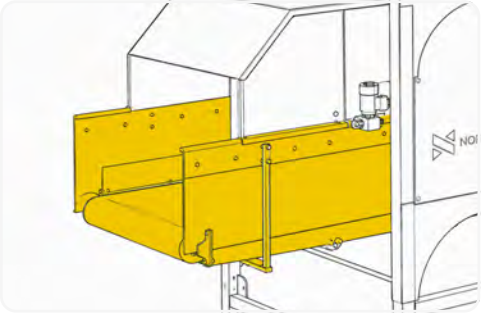
EC2000

The EC2000 handles fractions from 0.5–200 mm. Can be configured with vibrating feeder or belt feeder and equipped with magnets for ferrous metal removal. Machine configuration can be adapted to the specific application.

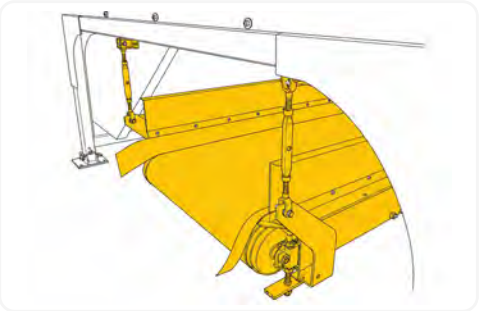
Contact Norditek for detailed specifications.

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Options



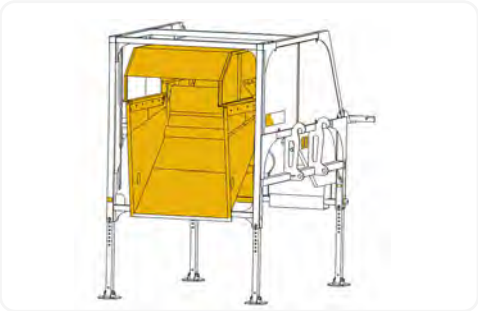
Output belt
Replaces output chute; increases stack height for the light fraction.



Drop conveyor Heavy Duty
for heavy fraction — reinforced chassis, impact bars, drive and return pulley, thicker cut-resistant rubber belt, mounts included.



Conveyor
Supplied with plain or Chevron belt; standard widths: 600 and 900 mm.



HD output chute
PU plates for reduced wear, noise and build-up of sticky material; suitable for noise-restricted areas.

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Modular System

The EC1500 is part of Norditek's modular system. All Norditek machines are compatible with each other, allowing customers to supplement, replace and adapt the system to what the material requires.

Commercial Conditions

Guarantee
1 year (from new machine) or 2,000 working hours, whichever comes first. No wearing parts. No labor cost. Norditek disclaims all liability for damage caused by use of non-original spare parts, accessories or equipment.

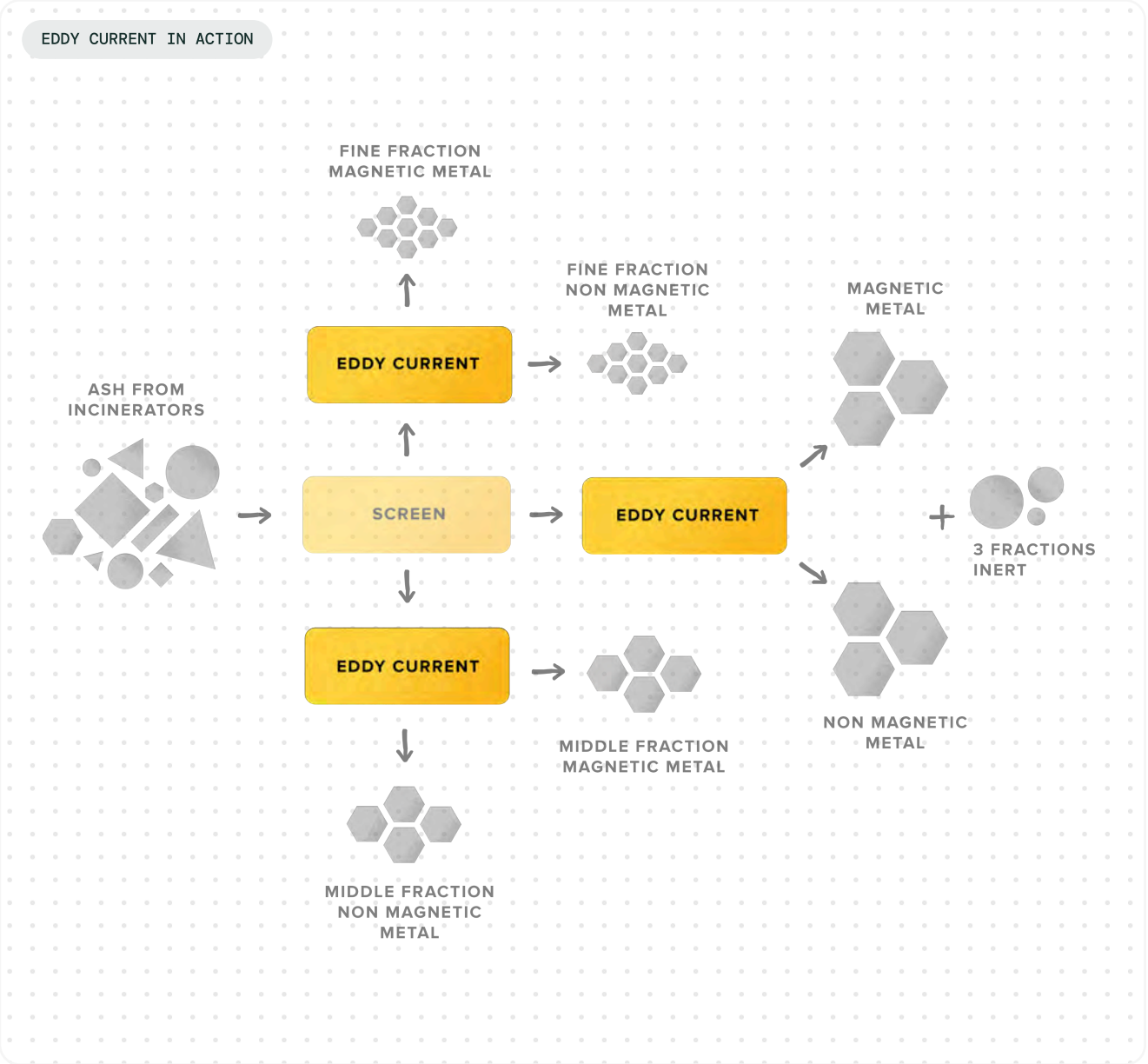
Delivery time
According to agreement.

Delivery terms
Transport costs are not included in the price and will be invoiced afterwards.

Payment terms
Payment upon delivery. Norditek notifies when machine is ready; transport is booked when payment has been received.

Offer valid
1 month

Other conditions
According to NL 17. Statutory VAT is added.



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Dealers
Visit norditek.se
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dealer information

