# Eddy Current Separators

## Models: New RevX and LC

**A comprehensive and diverse range of non-ferrous metal separators providing unique separation solutions for the dynamically changing recycling industry.**

### Features

- Designed for ease of installation into new and existing recycling plants
- Simple to operate
- Flexible and easy adjustment to maximise separation performance
- Low energy consumption
- Wide range of sizes (300mm up to 2000mm feed widths)
- Different magnetic rotor designs to suit specific separation objectives
- Robust

### Applications

- Recovery of aluminium, copper, zinc, etc from car frag (3mm - 150mm)
- Installed after a heavy media system to further improve metal recovery (3mm - 60mm)
- Extract aluminium beverage cans from either pre-sorted or mixed refuse (300mm)
- Purify small granulated plastic by ejecting aluminium contamination (2mm - 3mm)
- Remove aluminium rings and bottle tops from crushed glass cullet (12mm - 30mm)
- Separate non-ferrous metals from incinerator ash (3mm - 30mm)
- Expel aluminium from foundry sand (3mm - 30mm)
- Salvage aluminium from crushed dross (3mm - 30mm)
- Many others

ERIEZ®

## Models

Recycling demands for excellent separation but at a level of investment that keeps the whole project viable have resulted in Eriez developing a wide range of Non-Ferrous Metal Separators. Each model is designed with a specific separation objective in mind.

## The New Rev NM Models

Magnetically designed to provide enhanced separation of non-ferrous metals.

Two versions available:

NM-S For the separation of particles sub 25mm in size, especially below 10mm

NM-L For the separation of particles above 25mm

Each version has a different magnetic configuration to achieve maximum separation. Ideally suited for purifying cullet and plastics, and recovered valuable metal from secondary metals and incineration ash.

## LC Model ECS

This most robust model is designed for the separation of larger non-ferrous metals. The specifically configured magnetic rotor is ideal for arduous environments with minimum maintenance. Commonly installed in Material Reclamation Facilities (MRFs) to recover aluminium beverage cans and car recycling plants to separate larger aluminium directly after the shredder.

Shredded steel and aluminium can separation at a UK plant

ECS Module at an incineration ash recycling plant

Separation of very small (sub 5mm) aluminium chips from plastics

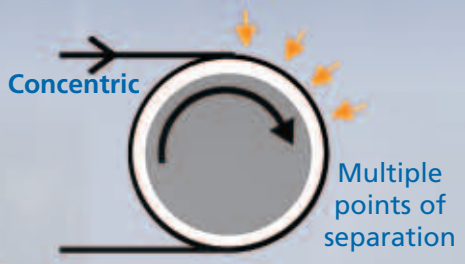
Recovery of non-ferrous metals from incineration ash

Aluminium dynamically ejected fr metallics

All the Eriez ECS have concentric magnetic rotors i.e. maximum magnetic expulsion force over the whole area of the outer shell.

Eccentric magnetic rotors only have one small point where optimum separation can be achieved.

In process terms, this means that on an eccentric style ECS there is one chance of separating a particle whilst on a concentric design, the magnetic force is working against the particle for the whole time it is in the magnetic field. This enables better separation, especially of small particles.





**ECS Design Concentric versus Eccentric**

# Eddy Current Separator Systems

When there is a requirement to separate non-ferrous metals, there usually is a reciprocal need for ferrous metal separation.

Eriez has designed a range of modular systems where customers can purchase one complete unit to separate ferrous and non-ferrous metals.

## Typical Modules:

### 1. Drum and ECS RevX

One or two Magnetic Drums with either standard strength ferrite or high strength Rare Earth elements to remove ferrous metals and stainless steel prior to the ECS/RevX. A feeder is used to control and evenly distribute the material onto the drum surface.

### 2. CP Magnet and ECS RevX Module

Commonly installed in Materials Reclamation Facilities. A CP Permanent Suspended Magnet is suspended over a large vibrating feeder to remove steel cans before the material then passes into the ECS/RevX.

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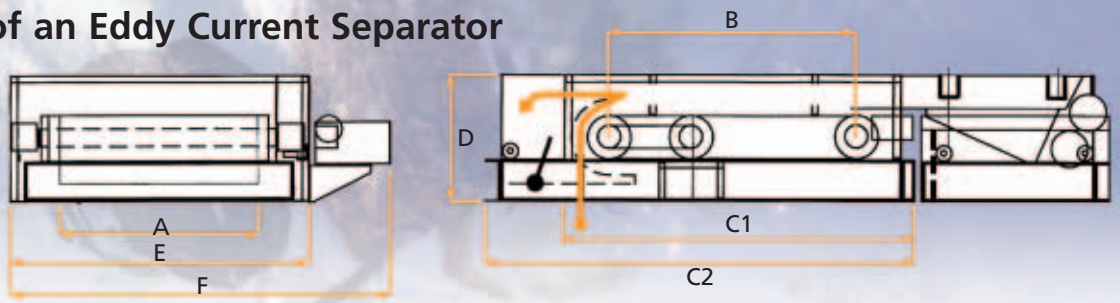
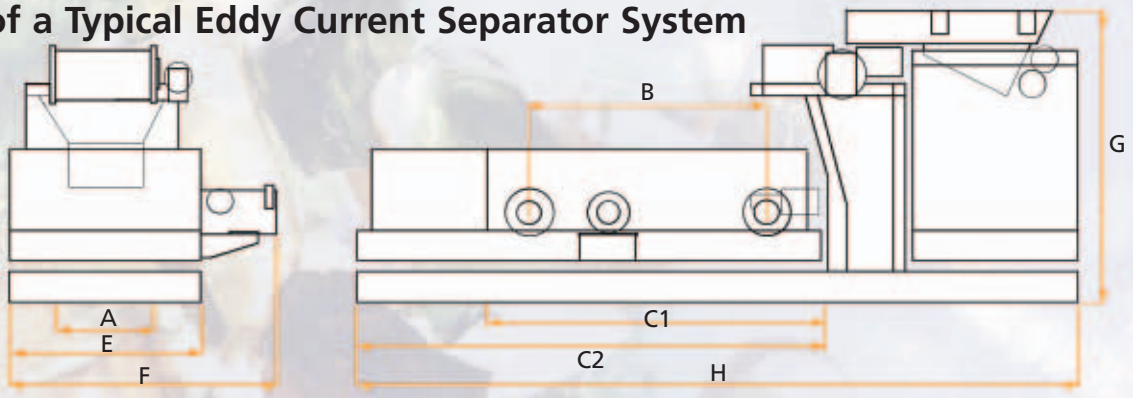
# Specifications

## Diagram of an Eddy Current Separator




## Diagram of a Typical Eddy Current Separator System




| ECS Model | Weight (kg) NM | Weight (kg) LC | Total Power belt with rotor drives NM | Total Power belt with rotor drives LC | Feed Width A | Distance between Pulleys B | Length without hopper C1 | Length with hopper C2 | Height NM D | Height LM D | Width E | Width with motor F | System height G | System length H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 400 | 450 | 7 | 6.25 | 305 | 1500 | 2110 | 2930 | 650 | 720 | 899 | 1330 | 1840 | 4120 |
| 16 | 565 | 700 | 7 | 6.25 | 406 | 1500 | 2110 | 2930 | 650 | 720 | 1000 | 1430 | 1840 | 4120 |
| 20 | 730 | 950 | 7 | 6.25 | 508 | 1500 | 2110 | 2930 | 650 | 720 | 1102 | 1530 | 1840 | 4120 |
| 24 | 895 | 1200 | 7 | 6.25 | 601 | 1500 | 2110 | 2930 | 650 | 720 | 1203 | 1630 | 1840 | 4120 |
| 28 | 1060 | 1450 | 7 | 6.25 | 705 | 1500 | 2110 | 2930 | 650 | 720 | 1305 | 1735 | 1840 | 4120 |
| 32 | 1225 | 1700 | 7 | 6.25 | 810 | 1500 | 2110 | 2930 | 650 | 720 | 1407 | 1840 | 1840 | 4120 |
| 36 | 1390 | 1950 | 7 | 6.25 | 915 | 1500 | 2110 | 2930 | 650 | 720 | 1508 | 1940 | 1840 | 4120 |
| 40 | 1555 | 2200 | 7 | 6.25 | 1015 | 1500 | 2110 | 2930 | 650 | 720 | 1610 | 2040 | 1840 | 4120 |
| 48 | 1875 | 2600 | 7 | 8.60 | 1212 | 1500 | 2110 | 2930 | 650 | 790 | 1812 | 2300 | 1840 | 5300 |
| 60 | 2275 | 3000 | 7 | 12.10 | 1500 | 1500 | 2110 | 2930 | 650 | 790 | 2118 | 2610 | 1840 | 5300 |
| 80 | 2900 | - | 7 | - | 2000 | 2500 | 3110 | 2930 | 700 | - | 2628 | 3120 | 1840 | 6300 |

*Notes:* 1 All dimensions are in mm, approximate and subject to confirmation at time of order.
2 ECS System typically includes a drum, a vibratory feeder and an ECS unit.

## Capacity per 1000mm Feed width (Tonnes/hour)

| | | |
|---|---|---|
| **Glass Cullet** | -40mm | 20.0 |
| **Car frag** | -12mm | 5.2 |
| **Car frag** | 12-30mm | 12.5 |
| **Car frag** | 30-70mm | 20.0 |
| **Shredded refuse** | -50mm | 18.0 |
| **Shredded refuse** | 50-150mm | 20.0 |
| **Plastic Al** | -10mm | 0.9 |
| **Copper Pb** | -8mm | 0.9 |
| **Copper PVC** | -6mm | 2.25 |
| **Ash NF** | -100mm | 21.5 |
| **Sand NF** | -100mm | 20.0 |

For advice on individual applications, contact Eriez engineers at address left.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