# Suspended Electromagnets


**Automatic removal of tramp iron from material flows on belt conveyors or in chutes**

## MC and SC Models

**Manual Clean** (MC) units must be periodically turned off in order to discharge iron accumulated on the face of the magnet. They are suitable for applications where only occasional tramp iron is expected. These magnets are usually suspended from a travelling trolley so that they can be swung clear of the conveyor before the iron is released.

**Self-Clean** (SC) Suspended Electromagnets provide continuous, automatic removal of tramp iron and feature a heavy-duty belt, a channel frame for supporting the pulleys, adjustable belt take-up and drive. They are recommended where a large amount of tramp iron is expected or where there may be limited access to the magnet for cleaning purposes.

## Features

- Automatic removal of small or large volumes of tramp iron
- Reliable and durable construction
- Robust design to withstand harsh conditions and heavy- duty applications
- Manual or self-cleaning models available, depending on amounts of iron contamination expected
- Installation across the conveyor belt or over the discharge head pulley
- Custom-built to suit a particular belt width and/or achieve a specific separation objective
- Special designs for explosion proof applications, suitable for underground installation
- All possible sizes - Eriez holds the Guinness World Record for the largest ever built!

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## Installation

### Option 1: In-line

Magnet suspended over the trajectory of material discharged from the belt conveyor.

Position MC1 or SC1 - see Figs 1a and 1b.

This is the preferred option because it is the most efficient use of the magnetic separator, ie when the burden is 'opened up' in flight and is moving directly toward the magnet face. The iron's momentum towards the magnet can assist in its separation.

When the magnet is in this position, it is essential that the conveyor head pulley is made of a non-magnetic material.

### Option 2: Cross Belt

Magnet located over the moving bed of material and at right angles to the conveyor.

Position MC2 or SC2 - see Figs 2a and 2b.

This position requires a stronger magnet and is not recommended for excessive belt speeds or deep material burdens where the removal of smaller tramp iron is necessary.

## Important Factors in Magnet Selection

- Material size
- Material type / density / condition
- Type and minimum size of tramp iron to be removed
- Maximum lump size
- Amount of tramp iron material
- Capacity t/hr or m3/hr
- Conveyor belt width
- Conveyor belt speed
- Conveyor belt incline
- Head pulley diameter
- Head pulley material
- Angle of troughing idlers
- Ambient temperature
- Machinery to be protected
- Available AC power supply

## Standard Models

**Manual Clean Models**

| Model | Watts | Width mm | Length mm | Height mm | Weight Kg |
|---|---|---|---|---|---|
| SE710 | 1425 | 610 | 610 | 305 | 309 |
| SE715 | 1765 | 610 | 762 | 330 | 406 |
| SE720 | 2245 | 762 | 762 | 381 | 509 |
| SE725 | 2756 | 762 | 914 | 432 | 673 |
| SE730 | 3344 | 914 | 914 | 483 | 886 |
| SE735 | 3863 | 914 | 1067 | 508 | 1155 |
| SE740 | 4444 | 1067 | 1067 | 533 | 1610 |
| SE745 | 5040 | 1067 | 1219 | 559 | 1845 |
| SE750 | 5709 | 1219 | 1219 | 584 | 2180 |
| SE755 | 6371 | 1219 | 1372 | 610 | 2545 |
| SE760 | 7107 | 1372 | 1372 | 635 | 2986 |
| SE765 | 7858 | 1372 | 1524 | 660 | 3164 |
| SE770 | 8671 | 1524 | 1524 | 686 | 4025 |
| SE775 | 9661 | 1524 | 1676 | 737 | 4761 |
| SE780 | 11,000 | 1676 | 1676 | 838 | 6005 |
| SE785 | 12,185 | 1676 | 1829 | 889 | 7020 |
| SE790 | 13,378 | 1829 | 1829 | 940 | 8318 |
| SE795 | 15,900 | 1981 | 1981 | 1041 | 10177 |
| SE796 | 15,500 | 1981 | 1981 | 965 | 11,100 |
| SE798 | 20,800 | 2286 | 2286 | 1092 | 15,500 |

Fig 1a

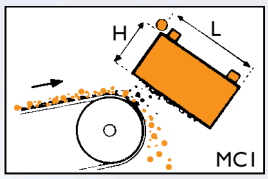



Fig 2a

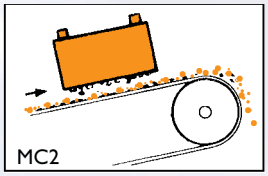



Fig 1b

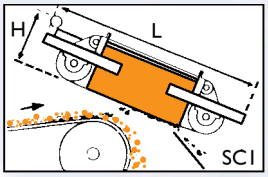
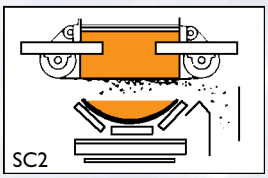



Fig 2b




**Self Clean Models**

| Model | Watts | Width mm | Length mm | Height mm | Weight Kg | Motor SC1 | KW SC2 |
|---|---|---|---|---|---|---|---|
| SE710 | 1425 | 1200 | 2050 | 700 | 599 | 0.75 | 0.75 |
| SE715 | 1765 | 1200 | 2196 | 700 | 771 | 0.75 | 0.75 |
| SE720 | 2245 | 1344 | 2196 | 766 | 946 | 1.10 | 0.75 |
| SE725 | 2756 | 1344 | 2350 | 766 | 1222 | 1.1 | 0.75 |
| SE730 | 3344 | 1500 | 2400 | 908 | 1573 | 1.5 | 1.5 |
| SE735 | 3863 | 1500 | 2534 | 908 | 2004 | 1.5 | 1.5 |
| SE740 | 4444 | 1700 | 2768 | 908 | 2721 | 2.2 | 1.5 |
| SE745 | 5040 | 1700 | 2920 | 908 | 3007 | 2.2 | 1.5 |
| SE750 | 5709 | 1850 | 2920 | 908 | 3510 | 4.0 | 2.2 |
| SE755 | 6371 | 1850 | 3072 | 908 | 3996 | 4.0 | 2.2 |
| SE760 | 7107 | 1800 | 2318 | 940 | 4568 | 4.0 | 2.2 |
| SE765 | 7858 | 1800 | 2471 | 965 | 4708 | 4.0 | 4.0 |
| SE770 | 8671 | 1950 | 2872 | 991 | 5828 | 5.6 | 4.0 |
| SE775 | 9661 | 1950 | 2969 | 1092 | 6694 | 5.6 | 4.0 |
| SE780 | 11,000 | 2156 | 2969 | 1194 | 8197 | 5.6 | 4.0 |
| SE785 | 12,185 | 2156 | 3119 | 1245 | 9295 | 5.6 | 4.0 |
| SE790 | 13,378 | 2306 | 3119 | 1321 | 10,672 | 7.5 | 5.6 |
| SE795 | 15,900 | 2500 | 3420 | 1400 | 12,640 | 7.5 | 5.6 |
| SE796 | 15,500 | 2500 | 3420 | 1738 | 13,331 | 7.5 | 5.6 |
| SE798 | 20,800 | 2800 | 3770 | 1865 | 17,990 | 11.5 | 7.5 |

Dimensions given are for guidance only

*Note:* Many applications dictate that a magnet is designed for a wide belt width or separation requirement. Eriez design and build Suspended Electromagnets to suit specific applications.

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