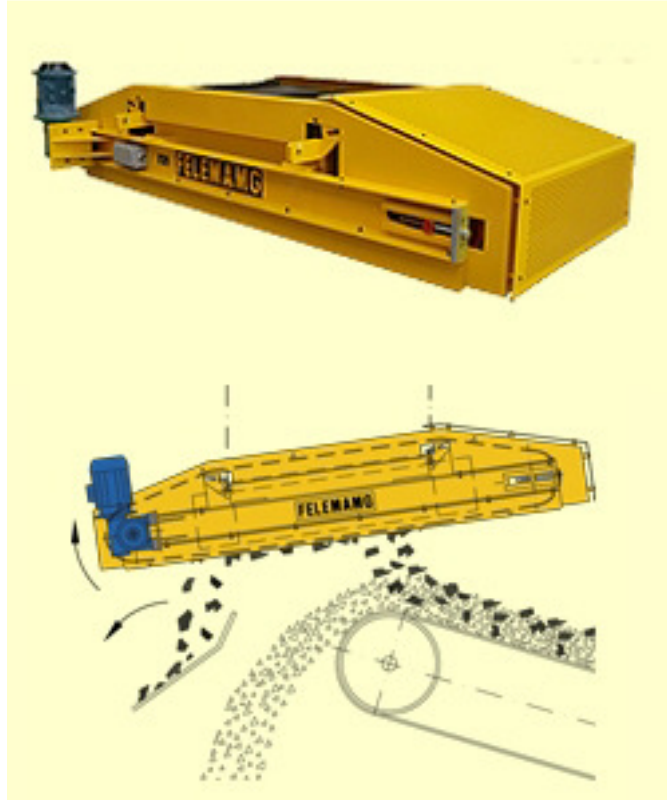


## ELEKTRO MANYETİK KONVEYÖR BANDI ÜSTÜ SEPARATÖR (SF1-RC TYPE)



### ELECTRO MAGNETIC OVERBAND SEPARATOR

#### DESCRIPTION

Self-cleaning electromagnetic overband separators are designed for extraction and retrieval of ferrous magnetic materials from conveyed material. The overband separator is made of a powerful electromagnet, which supports the small ribbed belt covering the electromagnet.

Small frames interlocked to the electromagnet support the drive drum, redelivery drums, and gear motor driving the band.

Self-cleaning electromagnetic overband separators are used for automatic extraction of materials, ensuring high recovery of ferrous materials.

#### PRINCIPLE OF OPERATION

As the ferrous magnetic materials on the conveyor belt come within the electromagnet's magnetic field, the ferrous material is attracted and pulled up to belt around the magnet. Ribs clear ferrous materials of the electromagnet's magnetic field and discharge them freely.

Separators may be cross-mounted across the conveyor belt or at the head of the conveyor.

Choice of the ideal separator and of the most appropriate erection depends on several factors:

- Product type
- Materials flow and flow rate
- Grain size
- Dimension of magnetic material

# FELEMAMG



## HAND CLEANING ELECTROMAGNETIC SEPARATOR (SF1-RS TYPE)



### HAND CLEANING ELECTROMAGNETIC SEPARATOR

#### DESCRIPTION

Hand-cleaning electromagnetic overband separators are designed for extraction of ferrous magnetic metals from conveyed material.

This separator is made up of a magnetic circuit "E" of high magnetic permeability, which houses a coil in a fully tight arrangement.

Cleaning is performed manually, after switching off the electromagnet in electrical equipment.

#### PRINCIPLE OF OPERATION

As the ferrous magnetic materials on the conveyor belt come within the electromagnet's magnetic field, the ferrous material is attracted and pulled up to separator's bottom and fully magnetized.

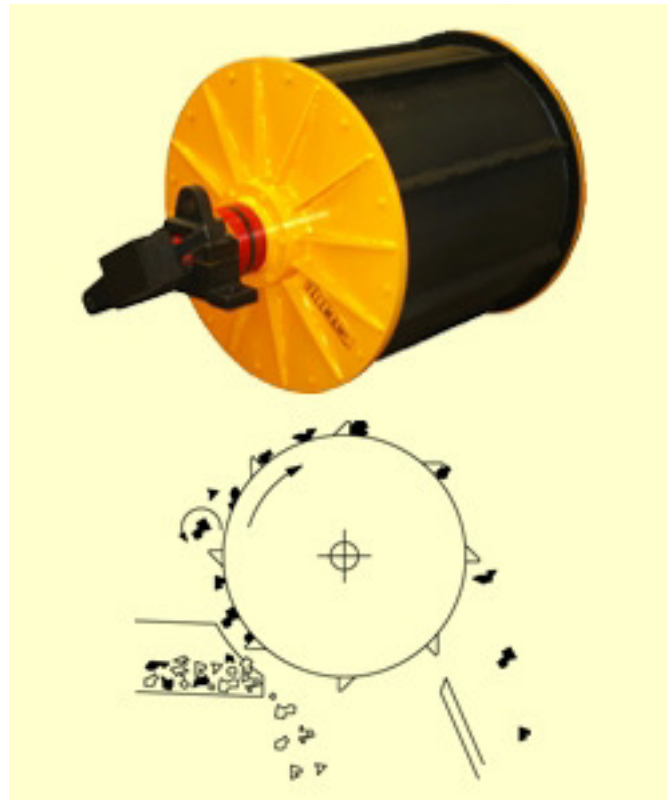
Separators may be cross-mounted across the conveyor belt or at the head of the conveyor.

Choice of the ideal separator and of the most appropriate erection depends on several factors:

- Product type
- Materials flow and flow rate
- Grain size
- Dimension of magnetic materialerection depends on several factors:
- Product type
- Materials flow and flow rate
- Grain size
- Dimension of magnetic material

# FELEMAMG

ELECTROMAGNETIC DRUM (SPF-S Type)



## ELECTROMAGNETIC DRUM

### DESCRIPTION

Electromagnetic drums are designed for extraction and retrieval of scraps from car bodies (shredders) and recycling plants.

Recommended where significant amount of magnetic scrap is present.

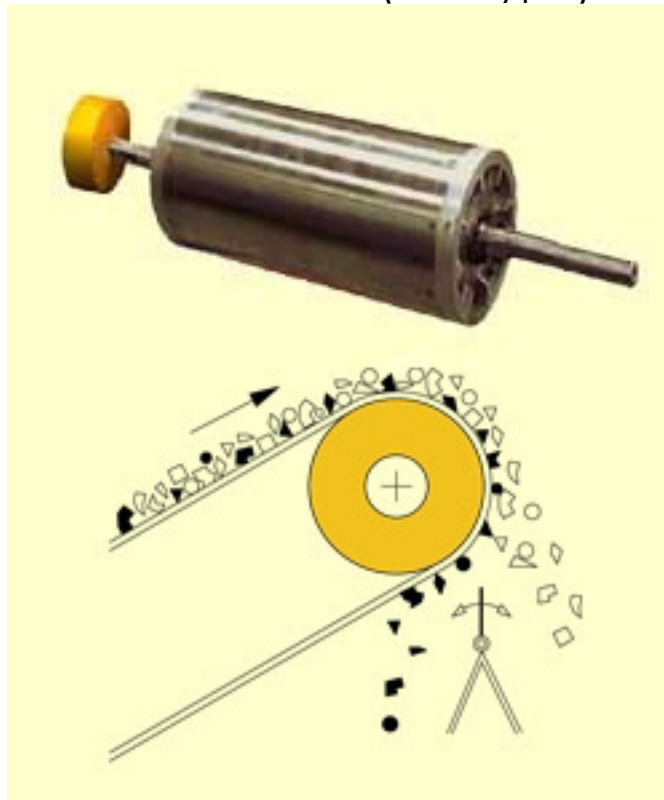
Made up of a magnetic system interlocked with axle of the drum, with a strong manganese steel ribbed shell.

The circuit is made up of three magnetic poles: a main one attracting scrap, a second one opposing the main pole aimed at revolving scrap around itself and a third pole aimed at discharging.

# FELEMAMG



## ELECTROMAGNETIC HEAD PULLEY (SF-T Type)



### ELECTROMAGNETIC HEAD PULLEY

#### DESCRIPTION

Electromagnetic head pulleys are ideal for applications that require separation of heavy duty iron parts, hence they are suitable and safe for recovery of iron in blast furnaces, municipal waste, slag tips, etc. and applications with high duty cycles per hour. Usually are mounted at drive drum positioning or motor drive of the conveyor belt. Electromagnetic head pulleys produce the greatest holding power at the center of the drum which decreases as moved away from it. Therefore, the magnetic field is distributed following shape of conveyed material.

#### PRINCIPLE OF OPERATION

As the ferrous magnetic material in the conveyed material approaches the electromagnetic drum at the head belt, it is powerfully attracted to the center of the drum and held to the drum belt while traveling round the drum. When the belt is no longer in contact with the drum, the ferrous material is separately discharged.

Positioning of discharge divider depends on specific conditions of material flow, speed and belt inclination.

FELEMAMG suggests best positioning for every case, nevertheless is it recommended to foresee positioning on site.

#### PRINCIPLE OF OPERATION

The scrap is strongly attracted by the main pole and pulled up from the conveyor to the bottom of the shell. The ribs of the shell direct scrap up towards the second pole – contrary to the first one- and thus the scrap starts revolving around itself, the material is attracted to the third pole which ramps the product over the back of the shell to be further discharged.



### DESCRIPTION

Self-cleaning electromagnetic overband separators are designed for extraction and retrieval of ferrous magnetic materials from conveyed material.

The overband separator is made of a powerful electromagnet, which supports the small ribbed belt covering the electromagnet.

Small frames interlocked to the electromagnet support the drive drum, redelivery drums, and gear motor driving the band.

Self-cleaning electromagnetic overband separators are used for automatic extraction of materials, ensuring high recovery of ferrous materials.



### Belt head drum magnetic separator (SF-TP Type )

#### PRINCIPLE OF OPERATION

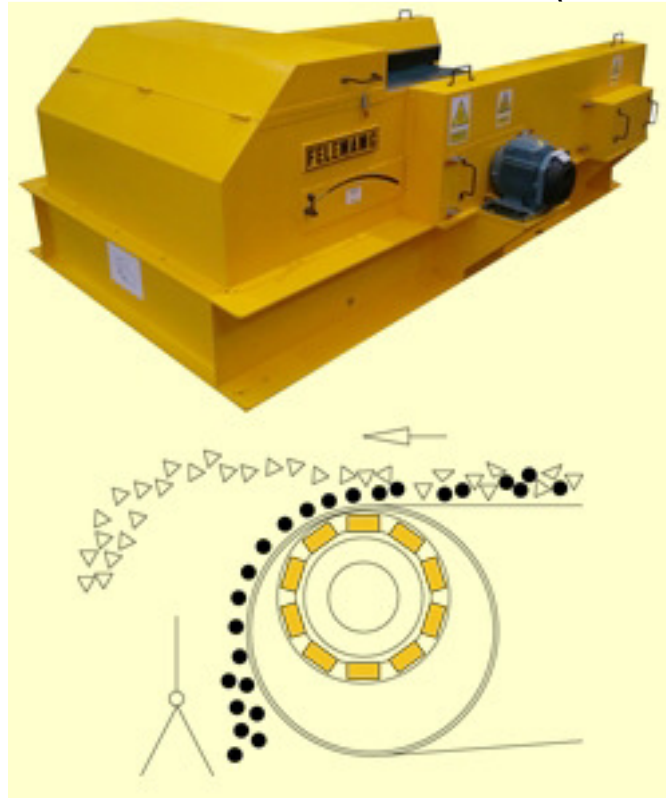
As the ferrous magnetic materials on the conveyor belt come within the electromagnet's magnetic field, the ferrous material is attracted and pulled up to belt around the magnet. Ribs clear ferrous materials of the electromagnet's magnetic field and discharge them freely.

Separators are installed across the conveyor belt.

Choice of the ideal separator and of the most appropriate erection depends on several factors:

- Product type
- Materials flow and flow rate
- Grain size
- Dimension of magnetic material

## ECCENTRIC EDDY CURRENT SEPARATOR (SFME-29 Type)



### ECCENTRIC EDDY CURRENT SEPARATOR

#### DESCRIPTION

FELEMAMG has designed the new SFME-29 eddy current separator, combining the extraordinary efficiency of SFM-29 concentric rotor and the long service life of eccentric shell.

Eddy current separators are ideal for recovery of steel, copper, brass, etc. in breaker's yards, household large electrical equipment, municipal waste plants, glass recycling plants, plastic plants, treatment of aluminum slag, etc.

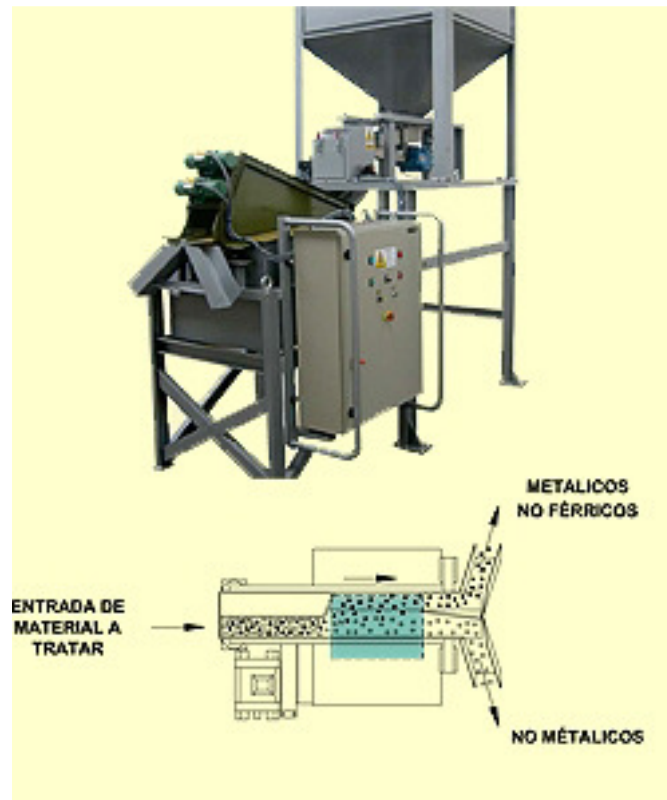
The dividing element consists of a magnetic rotor with a diameter of 290 mm, provided with permanent magnets of Neodymium and of high magnetic power. The high frequency magnetic field, induces Foucault currents to conductor metallic parts. These parts create a magnetic field opposed to that of the rotor. The result is a repelling power on the metallic parts and the rest of the elements follow their ordinary trajectory.

The eccentric shell provides effective protection against iron particles between the rotor and the conveyor belt. The particles will come off automatically on the bottom of the shell.

#### PRINCIPLE OF OPERATION

This metal separator should be fed from a vibrating feeder to distribute the material over the conveyor belt. When the material reaches the discharging area -location of the magnetic drum- metallic non ferrous pieces are "thrown" forward, overpass the divider and are collected at the front. Lastly, non metallic pieces follow normal trajectory of the belt from where they are discharged.

## TRANSVERSAL EDDY CURRENT SEPARATOR TYPE SFM-T & SFM-TD



### DESCRIPTION:

This metal magnetic separator employs the principle of eddy current separation. A magnetic roller made of rare earth magnets revolving at high speed which generates a powerful, high frequency alternating magnetic field.

Electrical conductive metals, led by the vibrating groove are forced to rotate moving away from the material flow due to the repulsion effect between the field created by electric currents in the metal and the field generated by the magnetic roller.

Non electric conductive materials follow their direction without being influenced by the magnetic field to the point of collection.

In this way, we obtain two different products at the outlet of the separator, Non-metallic and non ferrous metals.

Any ferrous metals are strongly attracted by the magnetic rotor and they are not evacuated by the vibrating chute. This means that ferrous metals must not reach the metal separator.

By this reason, before the metal separator, a small magnetic drum is mounted to remove all ferrous particles.

### APPLICATIONS:

The main application is the field of electrical conductors separation of metals such as aluminium, copper, etc. Grain sizes ranging from few microns to 4 mm.

### ELEMENTS OF INSTALLATION:

- Hopper bolted to the structure of the separator.
- Vibrant feeder to extract the material of the hopper.
- Drum separator to extract ferrous materials.
- Vibrating chute.
- Magnetic rotors.
- Exhaust chutes for metallic and non-metallic materials.
- Electric cabinet.



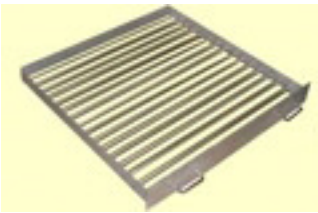
### **Electromagnetic separation**

- Overband electromagnetic separator above the conveyor (SF1-RC Type)
- Manual cleaning electromagnetic separator above the conveyor (SF1-RS Type)
- Rotary drum electromagnetic separator (SFP-S Type)
- Belt-head drum electromagnetic separator (SF-T Type)
- Overband electromagnetic separator above the conveyor (SF2-RC type)



### **Permanent magnet separation**

- Overband magnetic separator above the conveyor (SF1-RCP Type)
- Overband Neodymium magnetic separator above the conveyor (SF-RCN Type)
- Manual cleaning magnetic separator above the conveyor (SF-RSP Type)
- Rotary drum magnetic separator (SFP-TP Type)
- Low intensity and high gradient rotary drum magnetic separator (SFP-TPG Type)
- Wet separator (SFMD Type)
- Belt head drum magnetic separator (SF-TP Type )



### **Other applications**

- Magnetic bars
- Permanent magnetic plate
- Magnetic separator for cooling liquids (FFCA Type)
- Tube Magnets



### **Overband electromagnetic separator above the conveyor (SF1-RC Type)**





**Manual cleaning electromagnetic separator above the conveyor (SF1-RS Type)**



**Rotary drum electromagnetic separator (SFP-S Type)**



**Belt-head drum electromagnetic separator (SF-T Type)**



**Overband electromagnetic separator above the conveyor (SF2-RC type)**



**Overband magnetic separator above the conveyor (SF1-RCP Type)**



**Overband Neodymium magnetic separator above the conveyor (SF-RCN Type)**



**Manual cleaning magnetic separator above the conveyor (SF-RSP Type)**



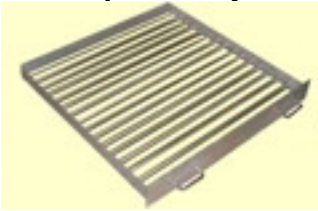
**Rotary drum magnetic separator (SFP-TP Type)**



**Low intensity and high gradient rotary drum magnetic separator (SFP-TPG Type)**



**Wet separator (SFMD Type)**



**Magnetic bars**

- Magnetic Grates
- Magnetic Pots
- Self-cleaning Magnetic Grates



**Permanent magnetic plate**



**Magnetic separator for cooling liquids (FFCA Type)**



**Tube Magnets**