

# Overband Magnets



**Overband Magnets can be installed in-line or across the feed line and are used where a high level of contamination is expected and a self cleaning device is required.**

The principle of operation is relatively simple: The overband magnet is suspended above the feed line. As tramp metal passes under the magnet, it is lifted out of the product feed, and then swept out of the magnetic field to a discharge point by the cleaned rubber belt. Depending on the application, permanent or electro magnets can be utilised.

## PERMANENT OVERBAND SEPARATORS

**The Bunting Overband is an economic and highly versatile magnetic separator.**

With a permanent magnet block, the separator is considerably lighter, more compact and often much cheaper than electro magnets and requires no power source to the magnet. The permanent magnetic block is non-deteriorating and barring mistreatment, will have an unlimited operating life.

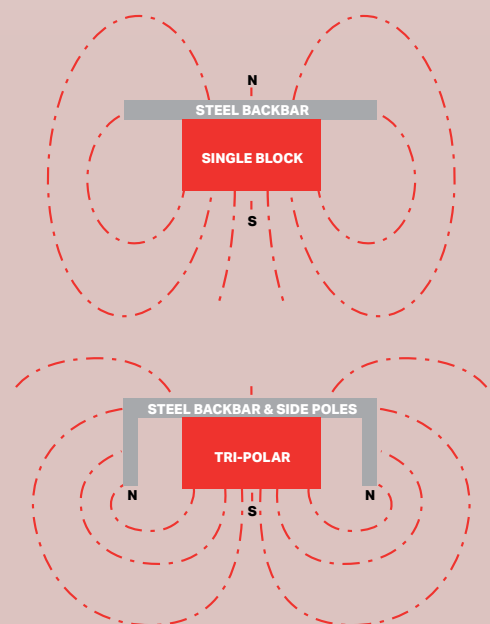
The permanent self cleaning magnet is mainly used in quarrying and recycling applications where it can be positioned either inline over the head pulley or across a conveyor belt. It is designed to be virtually maintenance free and is available with either electric or hydraulic drive.

Bunting supply overband magnets to operate over conveyor belts up to 2000mm wide. They can also be custom designed to suit the application and additional support structures can also be manufactured to suit each unit.

If the operating gap is 300 mm or higher, the Bunting Overband incorporates a Tri-Polar design as standard. The Tri-Polar design utilises large steel side members to effectively give three poles across the bottom face of the magnet, intensifying the field in the centre of the magnet block. Bunting also recommend a Tri-Polar design, where there is need to separate small ferrous contaminants such as nails and screws.

### The Tri-Polar Advantages

- ❑ Prevents magnetic leakage
- ❑ Produces a cleaner frame
- ❑ Achieves a slightly better extraction
- ❑ Reduces belt damage





## **ELECTROMAX**

The range of machines are designed to meet the ever-increasing demand for high powered self-cleaning electro magnets, that are both lightweight and compact, a requirement which has been predominantly driven by the mobile crusher market.

The Electro-max is based on a similar frame design as the permanent magnet range, utilising only two pulleys, instead of 4. The new units are also air cooled, eliminating the need for any oil or conservator tanks.

The high gradient magnetic field emitted from the Electromagnet enables the recovery of smaller iron contaminants, which may have otherwise been missed by a permanent magnet. The additional strength also improves the magnets capability of lifting heavier tramp metals

**This development provides a client with:**

- ▣ **Economical means of separating ferrous from waste materials**
- ▣ **A separator that is lighter in weight**
- ▣ **A more compact separator**



## **ELECTRO OVERBAND SEPARATORS**

Electro magnetic overbands are typically used at greater operating gaps, where the magnetic strength required cannot be achieved by permanent magnets.

They can also be used where there is a need to de-energise the magnet or if the client requires a specific extraction. Magnet selection takes into account the full application parameters, including the extraction of specific size particles from a given product stream. This ensures that the most economical design is proposed to meet the required performance.

The magnet can be air or oil cooled and in both cases, computer design techniques ensure that the coils remain at their optimum working temperature.

All of our oil cooled magnets benefit from a special coil design that ensures that the cooling medium reaches all areas of the winding, which in turn maximises the life and efficiency of the coil.

Specific designs are available to cope with continuous operation in high ambient temperatures. Coils are wound in nomex covered aluminium, around high permeability steel cores and are encased in substantial steel fabrications.

The casing design takes into account structural and magnetic design factors to ensure that the field is concentrated in the working area of the magnet.

The overbands are manufactured with heavy duty frameworks and utilise high quality bearings and conveyor belting to give a long and virtually maintenance free operating life. Purpose designed suspension mountings make site installation simple and straightforward.



## ATEX

In line with the current European ATEX directive 2014/34/EU we have developed a range of permanent and electromagnetic overband magnets for ATEX Zone 22:

*"A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is not likely to occur in normal operation but, if it does occur, will persist for a short period only."*

For this environment we have ensured that the products meet all of the essential health and safety requirements, have undergone appropriate conformity procedures for the required Zone and a technical dossier has been produced that includes drawings, hazard analysis, risk assessments and user manuals. Using their technical experience Bunting are also able to produce equipment that conforms to other National Standards, such as CSA & UL.

## AVAILABILITY

Bunting now hold Overband Magnets in stock, ready for a next day delivery. Only common sizes and models will be held in stock, so please contact the Bunting Sales team to check stock availability. More uncommon sizes and bespoke designs can still be produced on short delivery periods.



*Bunting has over sixty years experience providing innovative magnetic solutions to industries involved in recycling, demolition and reclamation, mining and quarrying, food processing, ceramics production and powders and minerals processing. The Bunting range of systems are known for their high performance and reliable operations.*

*Please visit our Website at [www.bunting-redditch.com](http://www.bunting-redditch.com) to view our full range of Equipment where brochure and video downloads are available.*

For more information on our full range of products please contact us on the contact details below.

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