



## MASTERMAG PERMANENT AND ELECTRO PULLEY MAGNETS



**Master Magnets Permanent and Electro pulleys for continuous extraction at the terminal head of a conveyor for use in Mining and Recycling applications and where tramp metal needs to be continually and safely removed from the product stream**

Magnetic Pulleys are designed specifically for installation at the head of conveyors for the continuous extraction of iron contamination from conveyor burden.

MasterMag magnetic pulleys can be supplied as permanent magnetic units, or electro, dependant on the application.

The permanent magnetic pulley, type PPH, is of advanced design and incorporates a magnet system constructed from powerful fully stabilised non-deteriorating strontium ferrite magnet blocks mounted on a high permeability steel back bar and fitted with a heavy duty non-magnetic stainless steel crowned face cover. The magnet system is of 360° design and is mounted on a high tensile steel shaft which is keyed to suit customers drive requirements.

The MasterMag Electro Magnetic Pulley, type EPH, is of heavy duty design and has a magnet unit which is

shaft mounted and revolving with the pulley, ensuring that the entire pulley face is magnetised whenever the pulley is energised.

The magnet unit is a totally enclosed system, with magnet yoke, cores and poles being of high permeability steel, keyed and positively located on a high tensile steel shaft. The magnetising coils are wound in high conductivity insulated aluminium, fully impregnated and are designed for continuous duty.

The shaft is partially bored hollow to allow the leads from the winding to pass through for connection to the current collector gear which is mounted on one end of the shaft external to the bearings. The current collector gear is of totally enclosed dust proof pattern, with removable cover. It houses heavy duty slip rings and brush gear with connectors for incoming cable. The pulley cover is in non-magnetic stainless steel, of heavy gauge, crowned face and mounted on the end flanges.

## Operation

The magnetic pulley is used at the head end of a conveyor system and operates by retaining the magnetic content of the conveyor burden for discharge behind the centre line of the pulley as the belt leaves the pulley face, whilst non-magnetics are discharged in the normal trajectory. Typical applicational positions are shown in the diagrams.

**Fig 1**

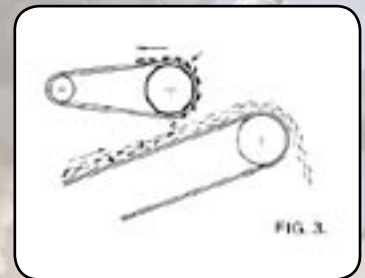
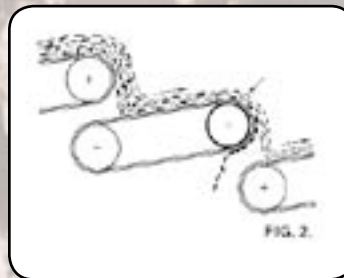
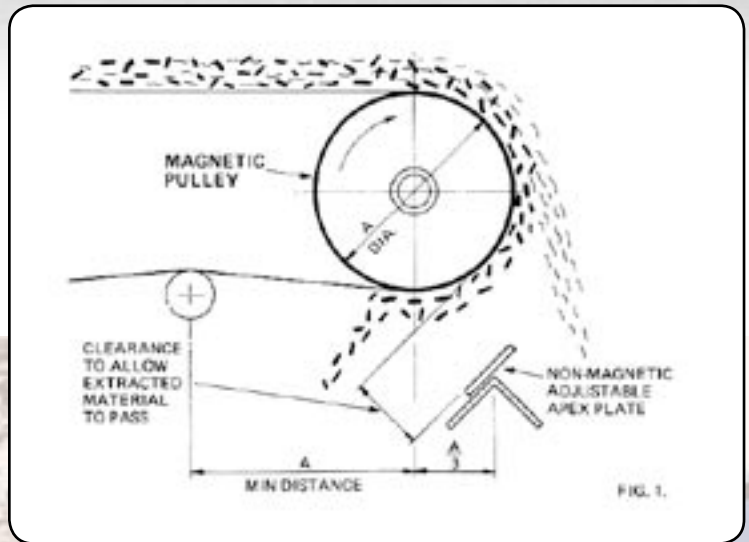
Conventional method, fitted as head pulley of standard conveyor.

**Fig 2**

Installed in slow moving conveyor system with pulley separator speed greater than main conveyor.

**Fig 3**

Pulley separator mounted above inclined conveyor.

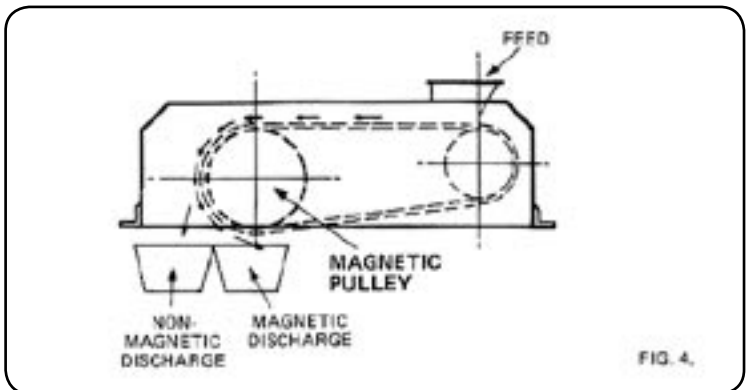


## Application

The prime function of a magnetic pulley is for extraction of general tramp iron for protection of processing machinery such as crushers, grinders, pulverisers and other valuable equipment. Secondly, it is used for the purification of foodstuffs, chemicals, pharmaceuticals and similar products. It is also frequently used recycling for the reclamation of iron from other metals and non-metals.

### Conveyor Pulley Type Separators

The MasterMag conveyor pulley type separator is a self-contained unit which can be supplied either open style or enclosed, and is normally used where there is no existing conveyor, or space restrictions preclude the use of a pulley in the normal terminal head position. It is a complete unit, utilising space to the full.



Master Magnets have over twenty five 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 separation. The MasterMag range of systems are known for high performance and reliable operations and also include suspension magnets, overband magnets, drums and pulleys, eddy current separators and lifting magnets and are complemented by our range of vibratory feeders and metal detectors

**Visit our website at [www.mastermagnets.co.uk](http://www.mastermagnets.co.uk) for the entire range of Master Magnets equipment**



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