Installation and Operations Manual
Magnetic Separation Pulleys

TRAMP METAL GROUP

TOLL FREE: 888.582.0821

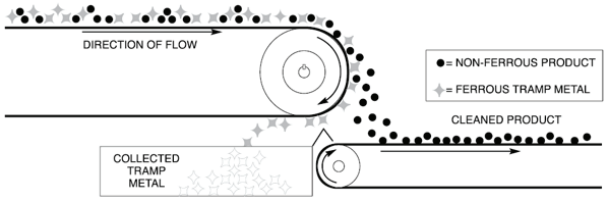
P.O. #: Order #: Part #:

OPERATING PRINCIPLE

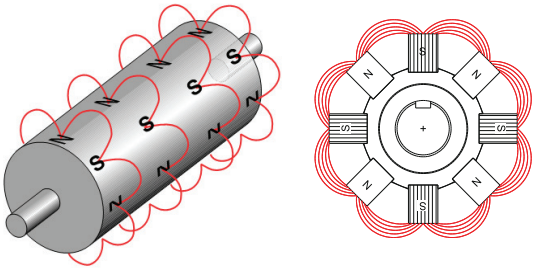
Magnetic Separation Pulleys provide effective, automatic and continuous removal of tramp metal from material flow. They are typically installed as head pulleys and occasionally as tail pulleys in conveyor system applications.

As the belt-conveyed product travels over the magnetic head pulley, any ferrous metal that is mixed with the product is attracted and held to the face of the belt and carried to the underside of the conveyor. After the metal passes out of the magnetic field, it is released and discharged into a chute or bin for disposal.

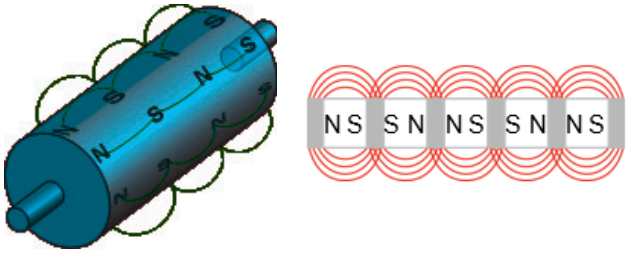
The cleaned product, which is unaffected by the magnetic field, is discharged normally over the pulley away from the tramp metal.



The standard magnetic pulley circuit is an axial design.The axial design provides superior depth of field compared with that of a radial design, however the holding strength is less than a that of radial circuit. The axial circuit is suited for removing larger contaminants and agitation, whereas the radial circuit is designed to remove very small weakly magnetic contaminants such as shavings and filings. These are key factors to consider when specifying other machine variables to ensure efficient separation.



Standard Axial Magnet Circuit



Optional Radial Magnet Circuit

OPTIONAL CONFIGURATIONS

Magnetic Separation Pulleys can be configured with the following options:

- Crowned face
- Stainless steel shaft
- Lagging available
- Special diameters and lengths
- Many hub styles including Taperliock and QD
- Radial magnet circuit design
- Custom computer designed magnetic circuits for difficult applications
- Pulley sizes available up to 60 inch diameter and up to 96 inches wide

HEALTH and SAFETY WARNINGS

GENERAL

Please be advised that in and around the application of magnetic equipment, there are potential safety concerns that can arise with sensitive medical devices:

- Pacemaker behavior can be affected when they are near strong magnetic fields
- Medical implants and external fixation systems can be influenced by magnetic fields
- Hearing aid behavior may be affected when exposed to strong magnetic fields

Any individual that carries the above equipment or other sensitive medical devices should use caution when they are around or handling magnets. For more specific information the wearer should contact their physician.

Beware of pinch points from sudden attraction and unexpected movement between magnets and ferrous metal equipment components or tools.

UPON INSTALLATION - MOTOR DRIVEN ROTATING EQUIPMENT

Rotating shafts, gears, sprockets and drum components can present hazards when running; keep hands and feet clear at all times. Equipment should only be serviced by trained service personnel.

Machine guarding is essential. Rotating pulleys present pinch points, nip points and entanglement hazards. It is the responsibility of the Plant and System Integrator to provide appropriate guarding in accordance with OSHA requirements and any local ordinances.

Electric shock hazard - observe all local plant Lockout/Tagout procedures before removing any guards or initiating service or cleaning activity.

MAGNET DEGRADATION

The force of a permanent magnet can degrade over time and when subjected to external influences. The most common factors for loss of performance or failure include:

- Blunt force impact such as dropping or banging on a magnet which can cause fractures
- Temperatures exceeding the operating range of the magnet material
  - 180°F for neodymium material
  - 480°F for ceramic grade 8
  - High temperature options are available.
- Exposure to electrical fields, like generators, lightning or welding ground circuits, can result in loss of magnetism

It is recommended that magnetic devices are audited annually. IMI can provide a Magnet Audit and Plant Survey to evaluate magnetic equipment performance and assist with compliance to global industry standards; Pull Test Kits are available for self-auditing plant activity.

INSTALLATION GUIDELINES

The Magnetic Separation Pulley conveyor may be installed into any industrial grade conveyor which is located on a stable surface, mounted to stands, machine mounting brackets or other sturdy fabricated structure.

Pulley bearings should be industrial grade ball bearing type selected for the operatng environment and rotating speed.

Machine guarding is essential. Rotating pulleys present pinch points, nip points and entanglement hazards. It is the responsibility of the Plant and System Integrator to provide appropriate guarding in accordance with OSHA requirements and any local ordinances.

MAINTENANCE

Observe all plant Lock-out/Tag-out procedures before initiating maintenance procedures - do not attempt to maintain the equipment with the conveyor running.

The surface of the Magnetic Separation Pulley should be inspected periodically for wear or other damage.

Magnet strength (gauss or pull strength) should be checked on an annual basis to confirm performance.

TROUBLE SHOOTING

MAGNET WILL NOT ATTRACT METAL

POSSIBLE CAUSE	SOLUTION
A. Burden depth is too deep.	A. Check depth of burden and use a leveling bar to reduce if possible.
B. Tramp Metal is non-ferrous	B. Check with permanent magnet to determine whether Tramp Metal is magnetic.

COMMENTS OR CONCERNS?

We believe Industrial Magnetics, Inc. offers the finest Magnetic Separation Pulleysconveyors available today. Great pride has gone into the design and manufacture of this unit. Any comments or concerns should be directed to our Customer Service Department at 1-888-582-0821.

We appreciate the opportunity of serving you!

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