

Installation and Maintenance Manual For

Dings Stationary Permanent Overhead Magnet



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General Information

Magnet

Dings Model:

Dings Part Number:

Dings Serial Number:

Permanent overhead magnets are non-electric type magnetic separators. They are used to separate tramp iron (unwanted, damaging metal) and ferrous impurities from nonmagnetic materials conveyed in bulk form.

Standard models are designed to be installed in a suspended position over belt conveyors. During operation, tramp iron contained inside material conveyed under the magnet is magnetically attracted. Magnetic force lifts the ferrous metal to the face of the magnet – the bottom surface of the magnet. Metal attracted by a permanent stationary overhead magnet must be manually removed from the magnet face.

Warnings:

Magnetic separators can project magnetism through a considerable distance and exert much pulling force on magnetic metals. Be cautious when working with tools near the magnet.

CAUTION: STRONG MAGNET

Strong magnetic field may have and affect on pacemakers and other electrical devices. Please contact the device manufacturer for further information.

Operating Temperature:

Ceramic magnets: -40°F through 482°F (-40°C through 250°C).

Rare earth magnets: 176°F (80°C) or less.

NOTE: Extreme temperatures may affect the performance of the magnet.

Refer to Bulletin 1214T.

Installation Procedures

Unpacking and Handling

Upon receiving, check all packaged material for shortage of parts and possible damage. Report shortages and damage to the carrier who delivered shipment. The magnet was shipped fully assembled, ready for operation. If a sweep arm assembly was supplied, it may have been shipped separately and must be bolted on before operation.

Magnet

This Dings stationary permanent magnet was shipped using 4" x 6" wooden beams as supports under the two sides of the magnet. This is done to protect the magnet surface from damage during shipment. After unloading, the magnet should never be placed directly on the ground. Rather, wood beams or some other means of support should be placed beneath the two sides of the magnet box to raise the magnet above the ground.

The magnet should always be moved using the three lifting lugs or sling assembly provided. Never use a forklift or other device to lift the magnet from the bottom.

The magnet should be stored indoors prior to installation.

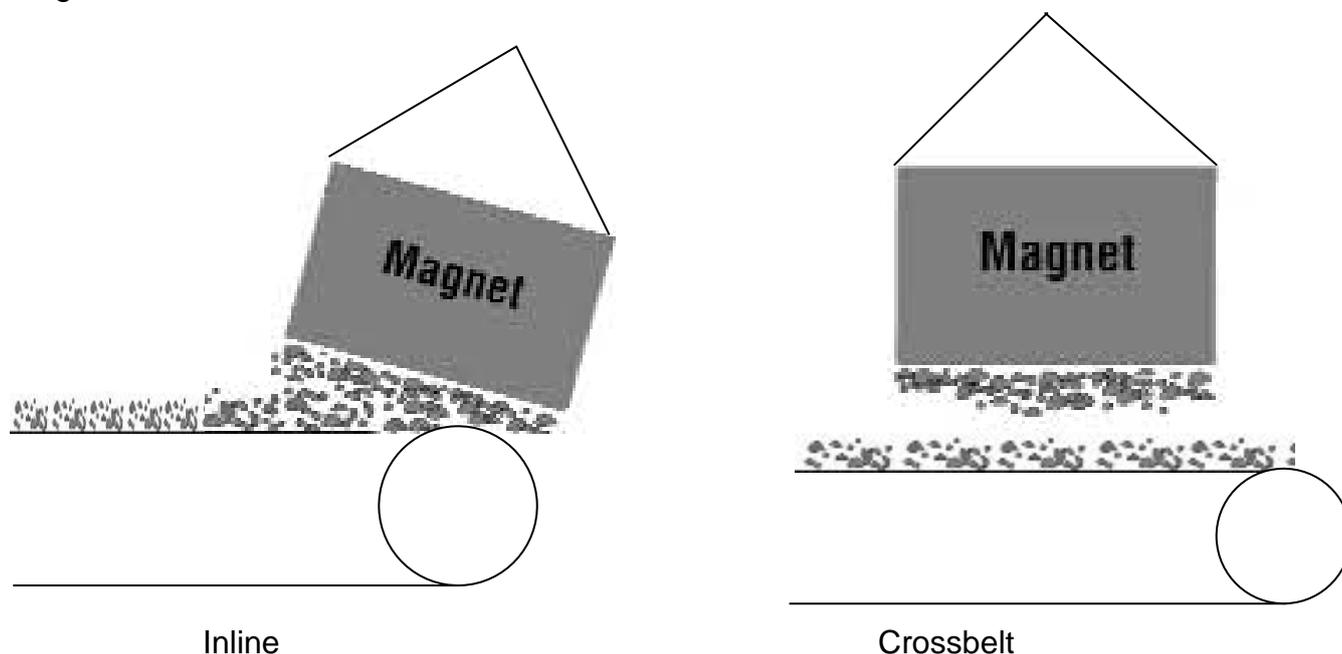
Recommended Storage of Overhead Magnets

- 1) The following precautionary procedures are recommended:
 - a) Store magnet indoors in a low humidity, even temperature environment if possible.
 - b) Keep water and any other form of moisture away from the magnet while in storage.
- 2) This is a procedure for indoor storage only. Outdoor storage is definitely not advised and will null and void our warranty on the magnet assembly.

Installation

This permanent stationary overhead magnet is shipped fully assembled and ready to install. Dings permanent stationary overhead magnets are built in 2 types: Inline and Crossbelt. An Inline type is installed over a conveyor head pulley so that the magnet face is parallel to the travel direction of material falling off the conveyor. The head pulley must be made from non-magnetic material. This location is preferred because separation efficiency is better when the magnet is located over where the conveyed material open up during its path through the air. Material discharging from the head pulley is not packed as tightly around buried metal. Consequently, there is less resistance to magnetic pull.

A Crossbelt type is installed over a conveyor so that the magnet is at a right angle to the travel direction of the material on the conveyor. If the magnet cannot be installed over the head pulley, install it over a flat section of the conveyor. Magnetic performance may be affected by magnetic material in the field. This includes such items as I-beams, metal supports, hoppers, or splitters. These and other ferrous objects need to be kept out of the magnetic zone.



Suspend the magnet from a rigid support structure. Provide adjustment in the suspension for positioning of the magnet – moving up, down, sideways, forward, backward and tilt.

Suspension height is critical to the performance of the magnet. This distance is measured from the bottom of the magnet face to the surface of the material handling belt.

Elevate the magnet to the suspension height that is appropriate for the application. An appropriate height is 2" – 3" above the top of the conveyed material or the height specified at the time of purchase. If a height is specified, measure it as the middle of the conveyor belt, on its surface, up to the magnet face – the bottom surface of the magnet.

The magnet should be mounted at the recommended suspension height. **If the magnet is too high above the burden, sufficient magnetism may not reach into the burden. Too much height will cause a loss in separation efficiency.** For best results, crossbelt separators should be centered over the belt and parallel to the slope of the belt conveyor.

Unloader Arm or Sweep Arm

If this magnet is equipped with a pivot unloader arm, use it to push attracted material off the magnet face. The arm is made of non-magnetic stainless steel angle. One end is bolted near a corner on the magnet face. A pipe receptacle is welded to the angle so a pipe can be inserted to act as a handle.

If this magnet does not have an unloader arm, metal must be removed by hand. It is advisable to wear gloves to protect your hands.

Maintenance

Check magnet face to see if metal objects have been attracted. Do not allow a build-up on the magnet face because attracted metal causes a loss in separation efficiency. Remove attracted metal as soon as possible.