

Installation, Operation and Maintenance Instructions



GRATE MAGNETS

ERIEZ MAGNETICS HEADQUARTERS: 2200 ASBURY ROAD, ERIE, PA 16506-1402 U.S.A.
WORLD AUTHORITY IN SEPARATION TECHNOLOGIES

Introduction

This manual applies to the Eriez Magnetix grate magnets. The installation and maintenance procedures for these magnets are detailed in the text.

A careful reading of these Installation, Operation and Maintenance Instructions will assure your magnet's most efficient and dependable performance.

If there are any questions or comments about the manual, please call Eriez at 814/835-6000 for assistance.



CAUTION - STRONG MAGNET

This equipment includes one or more extremely powerful magnetic circuits. The magnetic field may be much stronger than the Earth's background field at a distance several times the largest dimension of the equipment.

- **If you use a heart pacemaker or similar device you must never approach the equipment because your device may malfunction in the magnetic field, with consequences up to and including death.**
- **To avoid serious pinch-type injuries caused by objects attracted to the magnet, keep all steel and iron objects well away from the equipment. Do not allow hands, fingers, and other body parts to be caught between the equipment and nearby steel or iron objects.**
- **Keep credit cards, computer disks, and other magnetic storage devices away from the equipment because magnetically stored information may be corrupted by the magnetic field.**
- **Keep electronic devices, such as computers or monitors, away from the equipment because exposure to the magnetic field may result in malfunction or permanent damage to such devices.**

Contact Eriez if you have a question regarding these precautions.



CAUTION

Safety labels must be affixed to this product. Should the safety label(s) be damaged, dislodged or removed, contact Eriez for replacement.

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SUSPENDED PERMANENT MAGNETS

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General Description

The Eriez permanent magnetic grate is a series of parallel non-magnetic thin-walled stainless steel tubes that contain a powerful magnet circuit. The tubes are spaced and held rigidly in position.

The grate will operate efficiently on almost any free-flowing material whose maximum size does not exceed 3/8" to 1/2" (10-12 mm) in diameter for the tramp iron models and 3/16" to 1/4" (5-6 mm) diameter for fine iron models. Tramp iron models have 2" (51 mm) tube spacing and fine iron have 1-1/2" (38 mm) magnet tube spacing.

Standard magnet circuits are suitable for temperatures below 150 degrees Fahrenheit (65°C). Special circuits are required for higher temperatures depending upon application criteria. Please review the Eriez order acknowledgment or contact your local representative if you have questions about the circuit provided and its temperature limitations.

Installation

Model P

A magnet of the proper size has been furnished to fit the hopper of your machine. For employee safety and the best separation results; the hopper should be made with a non-ferrous material such as 300 series stainless steel, aluminum or plastic. Place the magnet in the hopper so that it lies flat with the grid bars on the top side.

If your hopper is steep and the magnet side slips too easily, we suggest that clips or strips be fastened to the sides of the hopper to keep the unit level. The grate should rest on the ends of the magnet tubes.



MODEL P

Model S-1 and S-2

The wing type grate is designed for installation in a horizontal position with the angle grid on top. It can be placed in hoppers, closed vertical chutes, openings in floors, etc. The stainless steel wing can be bent if necessary to accommodate small variations in opening sizes. The grate should be in a location where it can be easily pulled or lifted out for frequent cleaning.



MODEL S-2

Model D-1 and D-2

The drawer grate is designed for installation in closed vertical chutes. It should be in a location where it can be pulled out for frequent cleaning.

Cut an opening in the chute 2-7/8" (73 mm) high for Model D-1 (single bank) or 4-7/8" (124 mm) high for Model D-2 (double bank) and cut the width wide enough to accommodate the frame of the grate. Mount grate support bars inside the chute even with the bottom of the opening to form a drawer slide. If desired, the latch may be installed by drilling the bolt hole 1-1/2" (38 mm) above the opening and fastening into position with the bolt furnished.



MODEL D-2

Barrel Adaptor Grate Magnet

The Barrel Adaptor Grate is simply lifted onto the barrel with the flat collar resting on top of the barrel. Handles are mounted to the collar for easy transfer from one barrel to another.



BARREL ADAPTOR GRATE MAGNET

Operation & Maintenance

The Eriez Permanent Magnetic Grate requires no maintenance other than periodic removal of accumulated tramp iron. The tramp iron must be removed as often as is practical. Otherwise, the magnetic field will short circuit and will not be as efficient until the iron is removed. To clean the magnets, simply lift or pull the grate out of the unit and wipe the tramp iron from the tubes with a wiping cloth. If desirable, compressed air can be used to blow the tramp iron off.

WARNING

Protect eyes, hands, other exposed parts of the body, and surrounding equipment to avoid injury or damage that might be caused by flying debris during the cleaning operation. This is particularly important when cleaning with compressed air.

Further cleaning can be obtained by using the sticky side of masking tape and blotting off the remaining ferrous material. Replace the grates in the unit.

Do not attempt to physically jar ferrous material from the magnet by beating or slamming the magnet against the floor or table. This type of handling will damage the magnetic circuit and break the tubes away from the assembly.

Factors that Affect Magnet Performance

1. **High Temperature**

Standard rare earth circuits subjected to temperatures in excess of 150 degrees Fahrenheit (65°C). Special circuits are available for higher temperatures.

2. **Direct Current**

This refers to welding equipment used on or in close proximity to Eriez permanent magnet circuits. Demagnetization can result from this.

3. **Moisture**

This refers to subjecting the raw magnet material to liquids that would only result from breaching the magnet's stainless steel enclosure.

4. **Physical Abuse**

The magnet castings are brittle and when subjected to repeated abuse such as banging on a table or dropping on the floor, will cause the castings to shatter and crack tubes. Over time, the magnetic field will diminish.

Repair & Alteration

Alteration or disassembly of the unit would disturb a carefully engineered magnetic circuit which could only be restored by returning the unit to our factory for rebuilding and recharging.

Repair, alteration or disassembly of this magnetic equipment in the field without written authorization and instructions by Eriez Manufacturing Company nullifies the responsibility and guarantee of the manufacturer.

Warning

If your product is abrasive to the point of wearing through the stainless steel cover tubing, your product will be exposed to the magnet material. This exposure could be harmful to the quality of your product.

Examine each magnet tube for wear during your cleaning operation.

Abrasion resistant coatings or wear plate options may be available for your magnet.



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