

Installation, Operation and Maintenance Instructions



MODEL DRW DEMAGNETIZING COILS

ERIEZ MAGNETICS HEADQUARTERS: 2200 ASBURY ROAD, ERIE, PA 16506-1440 U.S.A.
WORLD AUTHORITY IN ADVANCED TECHNOLOGY FOR MAGNETIC, VIBRATORY and INSPECTION APPLICATIONS

! CAUTION

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

Description

Eriez Electromagnetic Demagnetizing Coils are used to demagnetize various ferrous materials such as natural magnetite in slurry or steel components in processes where a residual magnetism would be harmful to product quality. The coils are designed to give long and efficient service when operated within their ratings.

The 17 different sizes of coils available are designated by the internal diameter of the tube through which the pipe carrying the material to be demagnetized passes. Coils are available in a range of internal diameters from 2" (50 mm) through 18" (450 mm), increasing in size in 1" (25 mm) increments.

Standard units are designed to operate from a 460V 60 Hz single phase AC power source. Units for other voltages and frequencies can be furnished.

The DRW is a round assembly, which has a rectangular coil cross-section. The Type R Coil has a uniformly increasing and decreasing field with respect to the flow of material and is the standard type used for most applications. Waterproof construction is standard.

Power Factor Correction

Because the coils operate on alternating current and are predominately inductive, power factor correction may be desired and is recommended for all coils drawing over 10 amperes.

Capacitive power factor correction units are available which have been designed specifically for these coils. The PFC capacitors have protective fusing and are separately enclosed in housing designed for surface mounting. Standard housings meet NEMA 12 specifications for waterproof installations, NEMA 4 housings are furnished.

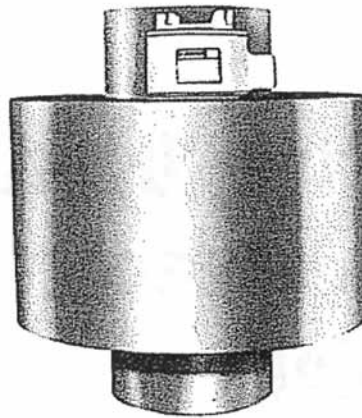


FIGURE 1
Model DRW Demagnetizing Coil

Installation

MOUNTING

The Demagnetizing Coil is usually mounted so that the pipe carrying the material to be demagnetized passes vertically through the coil tube. The pipe must be of non-metallic material. Rubber or plastic are most commonly used.

Type R Coils can be mounted with either end used as the inlet. Normally the junction box is on the inlet end. Type T Coils must be mounted so that the large diameter end is the inlet.

Mounting hardware is not supplied because of the great variety of mounting requirements and conditions. On-site mounting to fit the particular requirements is simple and more efficient. A typical Type R Coil mounting is shown below.

Mount the coil on non-metallic supports and use a non-metallic through pipe. If metal is located near the demagnetizing coil eddy current heating will result. If a humming noise is heard, this is an indicator that metal is too close to the magnet. However, eddy current heating can take place without audible feedback that it is occurring. Eddy current heating is reflected into the magnet and will result in the overheating and failure of the unit.

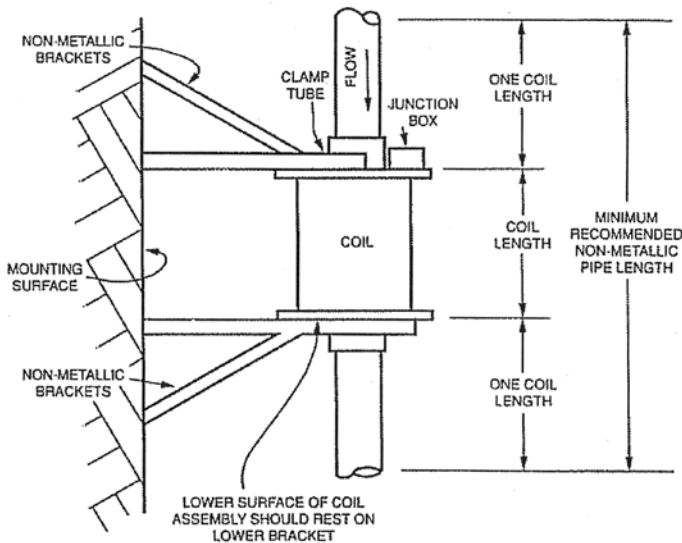
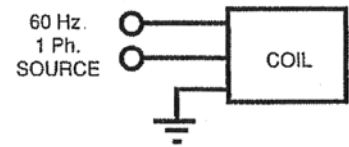


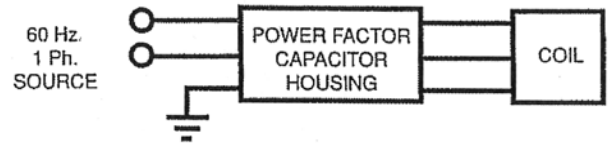
FIGURE 2
Typical Type R Coil Mounting

Electrical Connections

Electrical connections are made to the coil through the junction box mounted on one end. The junction box and the power factor capacitor housing have standard size conduit hubs or knock-outs so that conventional conduit or cable wiring can be used from the coil to the PFC housing and then to the AC line. A lug is provided in the PFC unit for grounding purposes. It is recommended that a ground conductor be provided from this lug to the coil junction box. A typical connection diagram is shown below.



WITHOUT
POWER FACTOR CORRECTION



WITH
POWER FACTOR CORRECTION

FIGURE 3
Typical Connection

Maintenance

Demagnetizing Coils and the power factor correction capacitors are static devices. No maintenance other than periodic inspection is required.



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