

LOOP TYPE DEMAGNETIZER Installation & Operation Manual

Installation Instructions

Placement of the Unit

Place this unit in the desired location, but on a non-metallic surface. If a metal surface must be used, the mounting bars of this unit should be isolated by means of an insulated spacer between the mounting bars and the metal mounting surface. This will reduce heating caused from induction.

Connecting the Unit

Make the connections as shown on the diagram.

Note:

A fused disconnect switch should be inserted in the A.C. supply for protection, in accordance with the National Electrical Code. Consult unit drawing for current draw.

Operation

Duty Cycle

This unit is constructed of materials capable of withstanding its own operating temperature, under proper duty cycle operation. To minimize heat rise, the unit should be turned off whenever it is not in use. However, never turn the unit off with the workpiece still in the flux range (3 ft. to 4 ft. or 1m to 1.2m) of the demagnetizer.

WARNING:

Persons using pace makers and sensitive electronic equipment that could be affected by a strong magnetic field should be restricted from the area. The size of the restricted area around the demagnetizer is as follows: 5 to 6 ft. (1.5m to 1.8m) from either side, top or bottom of the unit. 6 to 10 ft. (1.8m to 3.1m) from the opening on either end of the unit.

The surface of this unit may reach temperatures that could cause burns or flammable materials to ignite on contact. Metal workpieces left on the magnetic face for extended periods of time may also heat by induction, resulting in bodily injury if part is handled.

Effective Demagnetizing

The piece to be demagnetized should be passed completely through the opening of the demagnetizer. The strength of the magnetic field varies throughout the area of the opening. Be sure that when you remove the part you are completely out of the magnetic field. (To determine when you are out of the field; slowly remove the part until you cannot feel the part vibrate or hear it hum any longer.) Small workpieces should be passed through the area where the strongest magnetic fields are present. (This can be determined by inserting the part in the opening and moving the part to where the strongest vibration is felt.)

When demagnetizing assemblies, especially those composed of different grades of steel, or those with many internal parts, it is recommended that the assembly be dismantled and each part be demagnetized individually. >

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Effective Demagnetizing (Con.)

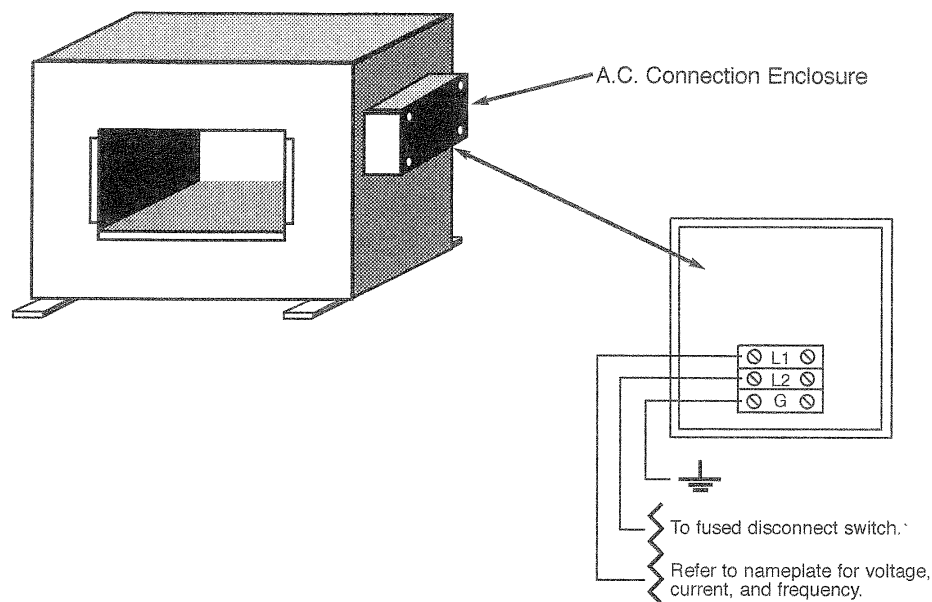
This prevents the internal parts from being magnetically shielded. This shielding effect also comes into play when attempting to demagnetize many parts in a container. The parts around the outside of the container will demagnetize properly but the parts near the center will be shielded. In this case the parts should be demagnetized individually or in smaller quantities.

When demagnetizing rectangular workpieces, the longest dimension of the workpiece should always be oriented longitudinally through the aperture of the demagnetizer opening. This will provide the greatest saturation force.

NOTE: Low carbon, soft steels will demagnetize easily. Alloy steels with high carbon or hardened steels are far more difficult to demagnetize and can be expected to retain more residual magnetism. Typical machining practices can induce 10 gauss of magnetism into a part without the part ever being in contact with a magnet.

The acceptable standard for industry is “less than 10 gauss” for non-critical applications, with “less than 5 gauss” for the most critical applications such as bearings or transmission valve bodies.

The level of residual magnetism in a part can be determined with the use of a hand-held magnetic field indicator (gauss meter). The gauss meter should be sensitive enough to measure 10 gauss or less.



NOTE:

IMI demagnetizers operate from single phase line voltage, and are an inductive load. To ensure a balanced three phase system, power factor correction capacitors may be necessary. The inductive reactance of the demagnetizer coil can be found on the customer drawing provided with the unit.

Comments or Concerns?

We believe Industrial Magnetics, Inc. offers the finest Demagnetizers available today. Great pride has gone into the design and manufacturing of this unit. Any comments or concerns should be directed to our Customer Service Department at 1-888-582-0822.

We appreciate the opportunity of serving you!



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