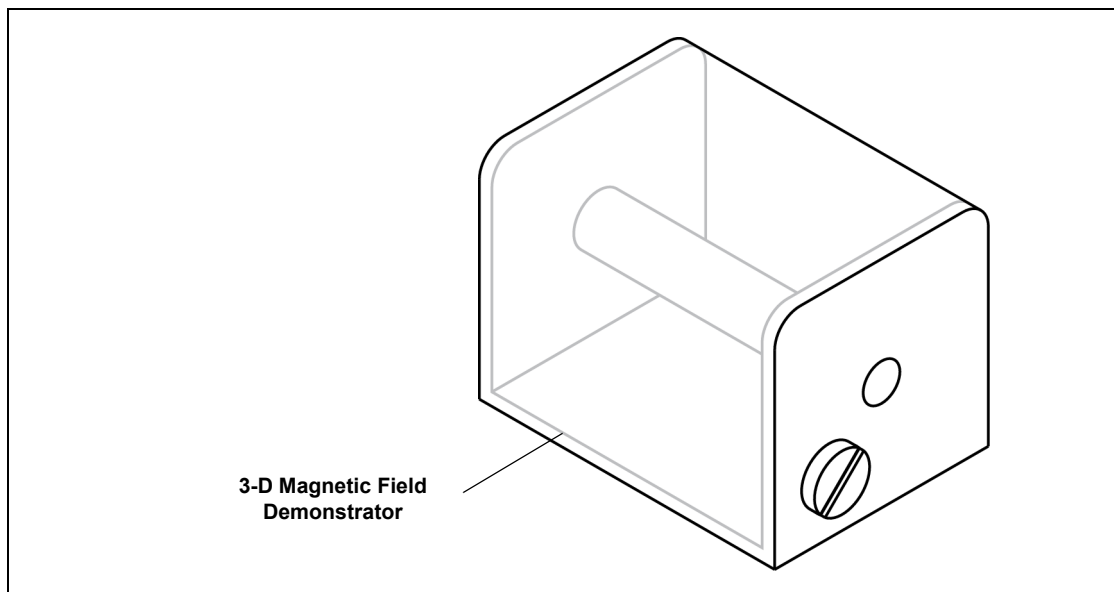


3-D Magnetic Field Demonstrator

SE-8603



Equipment

Included	Model Number
3-D Magnetic Field Demonstrator	SE-8603
Additional Required Item	
Bar Magnets (cylindrical)	SE-8604 see the PASCO web site at www.pasco.com

Introduction

The 3-D Magnetic Field Demonstrator lets students observe magnetic field lines in three dimensions. The clear acrylic vessel contains iron filings suspended in paraffin. One or two cylindrical bar magnets (not included) can be inserted into the hole that runs through the axis of the vessel. The filings will then line up along the magnetic field lines.

The magnet should be about 10 mm in diameter and 45 to 50 mm long (such as the Model SE-8604 Bar Magnets (2 pack)).

3-D Magnetic Field Demonstrator Usage

1. Shake the vessel slowly and gently as shown in Figure 1 to distribute the filings evenly. (Vigorous shaking may produce bubbles in the paraffin making it difficult to see the filings.)

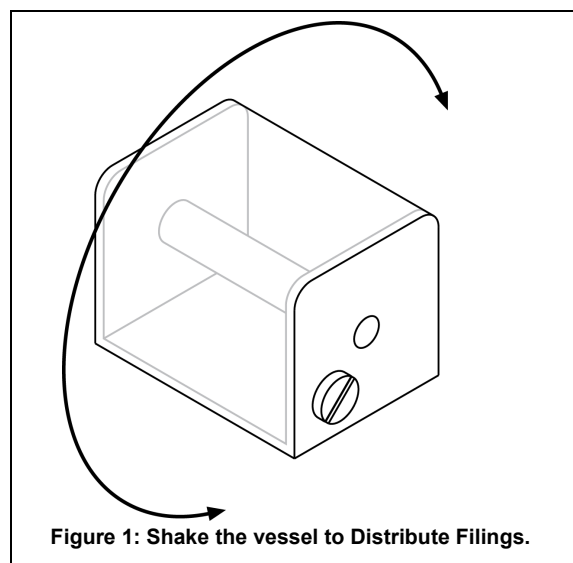


Figure 1: Shake the vessel to Distribute Filings.

2. Place one or more magnets into the demonstrator as shown in Figure 2. At first the filings will arrange themselves along the lines of the magnetic field, and then they will cluster around the magnetic poles.

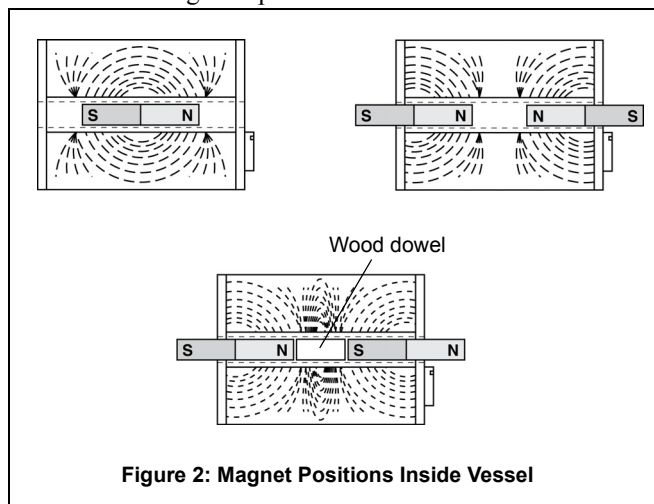


Figure 2: Magnet Positions Inside Vessel

3. The 3-D Magnetic Field Demonstrator can also be used to observe the magnetic field lines around a current-carrying wire. The wire can be wrapped around the vessel in either of the two ways illustrated in Figure 3. Use insulated copper wire. A direct current supply capable of delivering 40 to 50 amps is recommended.

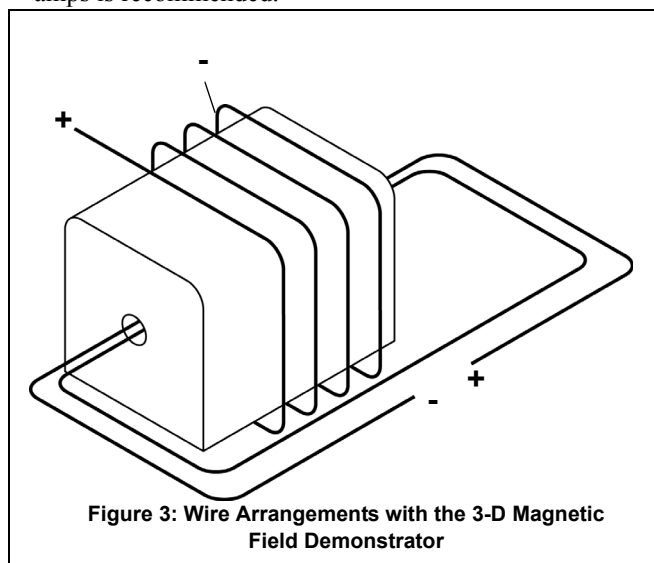


Figure 3: Wire Arrangements with the 3-D Magnetic Field Demonstrator

Technical Support

Before you call PASCO technical support, have the apparatus and this user's guide available. Please note the following:

- Product name and model number (e.g., Large Structures Set, ME-7003)
- Approximate age of the product;
- Detailed description of the problem/sequence of events required to duplicate the problem.

For assistance with any PASCO product, contact PASCO at:

Address: PASCO scientific
10101 Foothills Blvd.
Roseville, CA 95747-7100

Phone: 916-462-8384 (worldwide)
877-373-0300 (U.S.)

Web: www.pasco.com

Email: support@pasco.com

For the latest information about the 3-D Magnetic Field Demonstrator or this instruction sheet, go to the PASCO web site at www.pasco.com and enter "SE-8603" in the Search window.

Limited Warranty For a description of the product warranty, see the PASCO catalog.

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