Magnetizing and Demagnetizing Coil 1003237

Instruction Sheet

05/18 ALF

1 Base plate
2 Sockets
3 Coil

1. Description

The solenoid can be used to magnetize and demagnetize ordinary magnets or iron bars in addition to conducting inductance experiments.

The rugged unit consists of a coil with insulated copper windings mounted on a base plate with 4 mm sockets and a switch.

2. Technical data

Windings:	1000
Coil length:	250 mm
Coil radius:	35 mm internal
Operating Voltage:	max. 12 V DC or AC
Max. current:	4 A
Dimensions:	approx.. 305x200x100 mm³
Mass:	approx.. 2 kg

3. Additionally required equipment

1 AC/DC Power supply e.g.	
@230 V, 50/60 Hz	1003558
or	
@115 V, 50/60 Hz	1003557
1 Magnetic needle	1000674
1 Cylindrical bar magnet 200x10	1003112
1 Analogue multimeter ESCOLA 30	1013526

4. Sample experiments

4.1 Demagnetising

- Put the sample to demagnetize inside the coil.
- Connect the coil to the power supply and apply a voltage of 12 V AC.
- Switch on the coil and wait for a short while.
- Slowly decrease the voltage to zero and then pull the sample from the coil.

The sample should then be demagnetised.

4.2 Magnetising

- Put the sample (e.g. iron rod) to magnetize inside the coil.
- Connect the coil to the power supply and apply a voltage of 12 V DC.
- Switch on the coil and wait for a short while. Then pull the sample slowly from the coil.

The sample should then be magnetised.

4.3 Production of a magnetic field

- Set up the coil with a compass needle at one end.
- Connect the coil to the power supply and set it to DC.
- Switch on the coil, slowly increase the voltage and observe the compass needle.

4.4 Demonstration of inductance

- Connect the multimeter to the sockets of the coil.
- Set the display to “needle position zero centre”.
- Set the multimeter to DC voltage reading and choose a small measuring range.
- Move the bar magnet inside the coil and observe the display of the multimeter.