JR-6 / JR-6A Models

The JR-6 version is destined for simple measurement of remanent magnetization with manual change of measuring positions of a specimen. According to the accuracy demands, one can measure the specimen in two, four, or six positions.

The JR-6A (automated) version is destined for rapid and accurate measurement of remanent magnetization. The specimen is manually only inserted into the specimen holder and the changes of positions in the holder in order to get complete vector are made automatically by the instrument.

Typical JR-6 / JR-6A Applications

Palaeomagnetism: The changes of Earth’s magnetic field in geological history can be investigated through the measurement of rock’s remanent magnetization and the investigation of its stability. These data are also applicable to dating the age of rocks, to solving some tectonic problems or particular terrains (rotations of terrains, microplates), to dating the developments of mineralizations of ore deposits.

Archaeomagnetism: The changes of the Earth’s magnetic field in human history can also be investigated. These investigations are mostly applicable to dating archeological materials.

Magnetometry: In the interpretation of ground or airborne magnetometric measurements it is useful to know whether the rock's magnetization is due to its induced or remanent component. Investigation of remanent magnetization can help to solve this problem.

Mineralogy: Using special capsule enabling smaller irregular specimens to be measured, impurities of ferromagnetic grains in para or diamagnetic minerals can be investigated.

General Description

The JR-6/JR-6A magnetometer consists of an integrated pick-up and measurement control unit, and a power supply unit. All functions are microprocessor-controlled. The microprocessor controls measurement, carries out digital filtration of the signal, controls and tests the speed of specimen rotation. The JR-6/JR-6A automatically executes tests for erroneous conditions. The measurement process is fully controlled by a PC notebook or desktop.

Operating Principle

Rock specimen rotates at a constant angular speed in the pickup unit inside a pair of Helmholtz coils. In the coils an AC voltage is induced whose amplitude and phase depend on magnitude and direction of the remanent magnetization vector.
JR-6 / JR-6A DUAL SPEED SPINNER MAGNETOMETERS

Technical specifications

- Sensitivity: $2.4 \times 10^{-6}$ A/m (high speed)
- Measuring range: up to 12500 A/m
- Speed of rotation: 87.7 rps and 16.7 rps
- Accuracy of absolute calibration: ±3 %
- Dimensions, mass:
  - Pick-up Unit: $310 \times 190 \times 185$ mm, 24 kg
  - Power Supply Unit: $200 \times 160 \times 120$ mm, 2.5 kg
  - Power requirements: 100, 120, 230 and 240 V, 50/60 Hz, 40 VA

Main features

- High sensitivity $2.4 \times 10^{-6}$ A/m
- Two speeds of rotation
- Automatic change of sample position (JR-6A only)
- Triple permalloy shielding of measuring coils
- Rapid measurement of remanent magnetization
- Sophisticated software support

Specimens to be measured

- Cylinders (regularly shaped specimens)
  - Diameter: 25.4 mm
  - Length: 22.0 mm
- Cubes: $20 \times 20 \times 20$ mm
  - $23.5 \times 23.5 \times 23.5$ mm (manual mode)

JR-6A Spinner Magnetometer Comprising

- JR-6A Pick-up Unit
- with Automatic Sample Position Manipulator
- JR-6A Power Supply Unit
- Automatic Cylindrical Specimen Holders (2 pcs)
- Set of Specimen Holders for Manual Mode (4 pcs)
- Cylindrical and Cubic Calibration Standards
- Set of Spare Parts
- Set of Interconnecting Cables
- REMA Software
- REMASOFT Software
- User's Manual

JR-6 Spinner Magnetometer Comprising

- JR-6 Pick-up Unit
- JR-6 Power Supply Unit
- Set of Specimen Holders (4 pcs)
- Cylindrical and Cubic Calibration Standards
- Set of Spare Parts
- Set of Interconnecting Cables
- REMA Software
- REMASOFT Software
- User's Manual