

# JR-6 / JR-6A

DUAL SPEED SPINNER  
MAGNETOMETERS

# AGICO

ADVANCED GEOSCIENCE INSTRUMENTS COMPANY

The world's most sensitive and accurate instruments for measurement of remanent magnetization of rocks based on classical (non-cryogenic) principle. Two rotation speeds available, the higher one enabling the maximum sensitivity to be reached, and the lower one enabling the soft specimens to be measured. Instruments enable measurement even of very weakly magnetic sedimentary rocks including limestone.

## 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.

## 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.

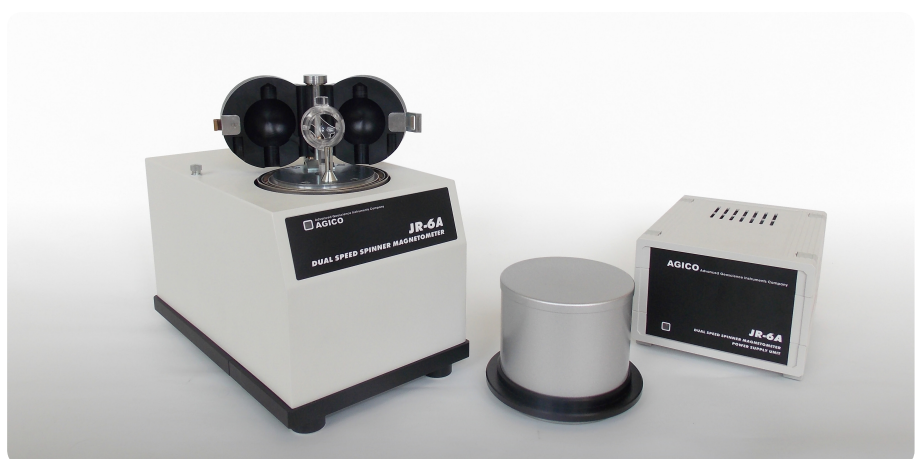
## Typical JR-6 / JR-6A Applications

**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.



LABORATORY INSTRUMENTS FOR MEASUREMENT OF MAGNETIC PROPERTIES OF ROCKS

### Technical specifications

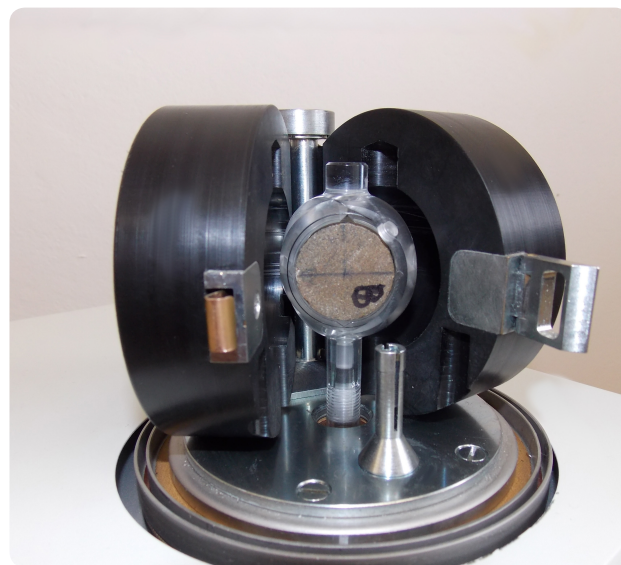
Sensitivity:	2.4 x 10 <sup>-6</sup> A/m (high speed)
Measuring range:	up 12500 A/m
Speed of rotation:	87.7 rps and 16.7 rps
Accuracy of absolute calibration	±3 %
Dimensions, mass:	
Pick-up Unit:	310 × 190 × 185 mm, 24 kg
Power Supply Unit:	200 × 160 × 120 mm, 2.5 kg
Power requirements:	100, 120, 230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

### Main features

High sensitivity 2.4 x 10<sup>-6</sup> 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 x 20 x 20 mm  
       23.5 x 23.5 x 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

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