Magneto Resistance Option for Vibrating Sample Magnetometers

- 4 point measurement probe
- Allows the measurement of MR samples as a function of field, temperature, field angle, time and sample current.
- 2 minute measurement
- High temperature capability up to 400ºC
- Automatic Parameter extraction

The MR option is a high temperature 4-point resistance probe that can measure resistances between 1 and 10,000 Ohms, as a function of magnetic field, with a resolution better than 0.01% of the full scale. The system is fast and easy to use. Typically, samples can be measured in less than 2 minutes. Powerful measurement software provides automatic extraction of all parameters, including dR/R and coercivity and exchange field from the free and pinned layer. The reference current is user settable between 0 and ±20 mA.

The MR probe is easy to install. It allows users to quickly reconfigure their VSM for this measurement. The MR probe is attached to the vibrator just like a VSM sample holder. Changing the system from VSM to MR measurements is as simple as changing a VSM sample.

The MR probe is designed to fit into the system's cryostat, and it will operate at temperatures between -150°C and 400°C. Custom designed high-temperature contacts are used to ensure good electrical contact. To further improve electrical contact, the signal processor can exert a "punch through" action. This is done without damaging MR devices.

There are no difficult adjustments since the MR signal processor is fully auto-ranging. Data is saved in ASCII files and can be retrieved later for viewing, manipulation and printing.

The MR package consists of a probe, an MR signal processor unit, a data-acquisition card and software. The MR software runs on the same computer used for the Vibrating Sample Magnetometer.

EV1- MR MAGNETO RESISTANCE OPTION

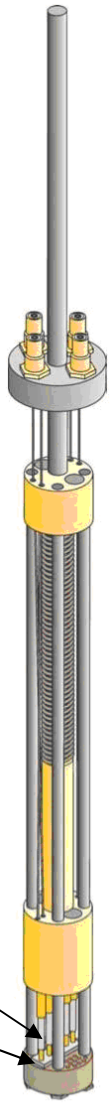
Measurement time: Adjustable from <10 s. up.

Typical measurement time: 1 or 2 minutes with 3000-3600 data points per minute

Sample size:	3x9 mm
Ohms range:	<1mOhm to >1MOhm
Ohms accuracy:	1%
Ohms repeatability:	0.1%
Resolution:	16 bit
Temperature range:	-150 ºC – 400 ºC
Current ranges	±2mA, ±20mA
Current resolution:	<0.1µA

Maximum Field

	Room temperature	Low or high temperatures
EV7	>19 kOe	17 kOe
EV9	> 23 kOe	21 kOe
EV11	> 28 kOe	27 kOe
Model 10	20 kOe	20 kOe



The drawing shows the 4 gold pins contacting the sample.

The MR probe fits inside the slide mounted VSM oven/cryostat which can be moved over the MP probe when needed or out of the way when not needed by flipping a lever.

Specifications are subject to change at any time without notice.
For more information on MicroSense VSM systems please visit http://www.microsense.net/products-vsm.htm