

Magnetic Susceptibility Probe MS42

The **Magnetic-Susceptibility MS42 sonde** is a new development of the industry-standard Bartington Instrument BSS02 product.

It's a low-frequency device specifically designed for mining applications showing outstanding stability against pressure and temperature variations.

This sonde relies on a similar principle to the induction sonde where a current is induced by an oscillating magnetic field in the sonde within a toroidal zone of formation at some radial distance from the sonde coils. The oscillating current produces a secondary field which is detected by the receiver coils. The "in-phase" signal is a measurement of the susceptibility of formations having magnetic properties.

The **Magnetic-Susceptibility MS42 sonde** main features are:

- Formation conductivity measurement in dry or fluid-filled borehole or even in PVC casing
- Ideal for use in small diameter boreholes
- Excellent thermal and pressure stability across specified operating range
- Natural gamma measurement available for correlation

TECHNICAL SPECIFICATIONS

Length:	1.90m
Diameter:	42mm
Weight:	6kg
Max. Operating Temp:	70°C
Max. Operating Pressure:	200bar

WIRELINE

Cable Type:	Any standard wireline - coaxial, mono or multi-conductors Automatic cable selection and switching
Logger Compatibility:	eMindLogger / RG Micrologger

SENSOR ARRAY

Operating Frequency:	1.439KHz
Vertical Resolution:	25mm
Measuring Range:	10^{-5} to 10^{-1} cgs
Resolution:	10^{-5} cgs
Natural Gamma Detector:	Nal(Tl) scintillation crystal; 50mm x 25mm

ACCESSORIES & OPTIONS

Field Calibrator
Natural Gamma

MEASUREMENT FUNCTIONS

Mineral Exploration:

Of particular use for uranium where the log shows a negative correlation with uraniferous compounds.

Susceptibility logs are highly sensitive to iron and show large contrasts according to its oxidation state. The frequent occurrence of iron with other redox sensitive metals can provide a valuable indicator of the presence of other minerals.

Horizon detection, particularly of altered sequences.