

probe specificiation

MAGNETIC-SUSCEPTIBILITY PROBE

The RG magnetic-susceptibility probe is a new development of the industry-standard Bartington Instruments' product. It is a low-frequency device and is specifically designed for mining applications. The probe shows outstanding stability against pressure and temperature variations

PRINCIPLE OF MEASUREMENT:

This probe relies on a similar principle to the induction probe, whereby a current is induced by an oscillating magnetic field in the probe within a toroidal zone of formation at some radial distance from the probe coils. The oscillating current produces a secondary field that is detected by the receiver coils. The 'in-phase' signal is a measure of susceptibility in formations with magnetic properties.

FEATURES

- Operates in dry or water-filled boreholes
- Unaffected by plastic casing
- Ideal for use in small-diameter exploration boreholes
- Excellent thermal/pressure stability across specified operating range

MEASUREMENTS

- Magnetic susceptibility
- Natural gamma (optional)

APPLICATIONS

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

OPERATING CONDITIONS

- Borehole type:** open / cased (plastic), water / air-filled
- Centralisation:** Fin stand-off recommended

SPECIFICATIONS

- Diameter:** 43mm
- Length:** 1.0m
- Weight:** 8kg
- Max. temperature:** 70°C (extended ranges available)
- Max. Pressure:** 20MPa (extended ranges available)
- Transmitter /receiver:** Focused dual coil
- Operating frequency:** 1.439kHz
- Vertical resolution:** 25mm
- Range:** 10⁻⁵ to 1cgs
- Natural-gamma detector:** 50x25mm NaI (TI) scintillation crystal

SALES INFORMATION

- Probe:**
 - 25 062 001 Magnetic susceptibility probe
 - 25 063 001 - with natural gamma
- Accessories:**
 - 20 091 000 Field calibrator
 - 23 001 000 Fin stand-off
 - 20 070 000 Natural-gamma API calibrator without source
 - 30 010 000 3.7MBq ¹³⁷Cs source for natural-gamma calibrator

