

BH43-3D

The BH43 provides 3-dimensional time domain EM exploration from boreholes, in conjunction with a PROTEM system. Boreholes as deep as 2 km can be surveyed using a PROTEM system with a 500 x 500 m transmitter loop. (At developed mines, the transmitter loop can be laid out in underground workings.)

The probe has 3 sensors which measure orthogonal components of decay. Along the hole, spatial resolution as fine as 1 m can be obtained; the actual measurement interval depends on the desired resolution of the response.



The wide bandwidth of the probe, coupled with the excellent temporal resolution and large dynamic range of the PROTEM system, provides maximum diagnostic information and a high degree of rejection of powerline and other noise sources.

Computer programs for editing, displaying and interpreting BH43 responses are supplied with the probe, including a program for calculating all field-components in a conductive earth. The BH43 probe is available separately, or as a complete borehole system with cable, main winch, dummy probe, test cable and winch, and retrieval tools.

Specifications

SENSOR	Three orthogonal coils (one axial and two radial)
SENSOR AREA-TURNS PRODUCT	5000 m ² for axial and 1250 m ² for radial sensors(with amplification)
SENSOR-PREAMPLIFIER RESONANT FREQUENCY	10 kHz for all sensors
PROBE ROTATION CORRECTION	Two orthogonal tilt meters with range from $\pm 1^\circ$ to $\pm 80^\circ$ (from vertical)
OPERATING TEMPERATURE	-30°C to +80°C
BATTERY	Rechargeable nickel cadmium battery sealed pack for 40 h continuous operation
CONTROL BOX	Channel selection, impedance and gain matching network between probe and PROTEM receiver (normalizes sensor effective area to 100 m ² for all three sensors); comes with VLF filter.
CABLE	Two-conductor shielded; polyurethane jacket; Kevlar strength membrane, 5.6 mm diameter with weight 40 kg/km and breaking strength 500 kg.
WEIGHT	Probe: 9.5 kg Control Box: 1.5 kg
DIMENSIONS	Probe: 3.8 cm diameter, 334 cm length Control Box: 22 x 13.5 x 8 cm

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