

Borehole Seismometer Extreme Condition: Model G88-4.5

High-pressure and high-temperature borehole seismometer for micro-earthquake monitoring.

The G88-4.5 is a triaxial borehole seismometer which combines **robust construction** and **high-temperature** tolerance. Deployed in more than 150 boreholes around the world in settings from geothermal monitoring to hydraulic fracturing. The design results in a long life span with some instruments currently operating after 20 years of deployment. All three orthogonal components are **gimbaled** to give a borehole deviation tolerance of 14°. The G88-4.5 is purpose built for long term or permanent installation in **high-pressure** hostile borehole environments. An alternate model, the G88-2.0 offers a lower corner frequency in exchange for a lower temperature tolerance.

Features

- Fully gimbaled, 14° maximum tilt
- Withstands up to 150 °C
- Passive sensors
- For permanent or semi-permanent installations
- Custom versions can include accelerometers, magnetometers etc.



Geophone parameter

Sensor configuration
Natural frequency
Operational temperature
Geophone tilt tolerance
DC resistance
Sensitivity
Transduction constant
Open circuit damping
Moving mass
Max coil excursion p-p

Specification

Triaxial, Orthogonal
4.5 Hz
-45 °C to +150 °C
Vert. ± 15°, horiz. ± 2°
3,810 Ω
0.787 V/cm/s (2.0 V/in/s)
0.0128 √Rc V/cm/s (0.032 √Rc V/in/s)
0.27
23 g
0.76 cm (0.300 in)

Housing parameter

Operational pressure
Gimbal tilt range
Outer diameter
Wall thickness
Height
Weight
Casing material

Standard model

33.3 MPa (4,830 psi)
± 12°
88 mm (3.5 in)
5.3 mm (0.2 in)
930 mm (36.6 in)
20 kg (44 lbs)
316L stainless steel

For more information, please email us at enquiries@iese.co.nz, phone +64 9 354 4224, or visit <http://www.iese.co.nz>.