

## Borehole Seismometer Observatory Grade: Model G110-1.0

High-pressure and low-frequency borehole seismometer for micro-earthquake monitoring.

The G110-1.0 is a single axis borehole seismometer which combines **low corner frequency** with the highest in-class performance level in sensitivity, reliability and longevity for micro-earthquake detection. Designed around the tried and true **Mark L4C** and optimised for earthquake detection and analysis it consists of a solely vertical component version of the fully triaxial seismometer **G202-1.0**. The geophone is **gimbaled** to give a borehole deviation tolerance of 9°. Represents 20 years of instrument development experience at IESE, the G110-1.0 is purpose built for long term or permanent installation in **high-pressure** hostile borehole environments.

### Features

- Fully gimbaled, 9° maximum tilt
- Withstands up to 60 °C
- Passive sensors
- For permanent or semi-permanent installations



### 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

Vertical  
1.0 Hz  
-29 °C to +60 °C  
± 5°  
5,500 Ω  
2.77 V/cm/s (7.03 V/in/s)  
0.0373 √Rc V/cm/s (0.095 √Rc V/in/s)  
0.28  
1,000 g  
0.635 cm (0.25 in)

### Housing parameter

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

### Standard model

33.3 MPa (4,830 psi)  
± 4°  
110 mm (4.3 in)  
3.9 mm (0.2 in)  
672 mm (26.5 in)  
20 kg (44 lbs)  
316L stainless steel

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