Slimhole Seismometer Extreme Condition: Model F41-15.0

High-tilt and high-temperature seismometer for geothermal environments, test holes and behind casing installation.

The F41-15.0 is a high-tilt and high-temperature triaxial borehole seismometer designed for installation in high temperature environments up to 150 °C such as geothermal systems. Its primary use is in for micro-earthquake detection and analysis. The F41-15.0 is suitable for test well or behind casing installation. Optional design features include extra elements wired in series to boost available output as well as sinker weights to aid deployment. An alternate slimhole model, the F50-4.5 offers a lower corner frequency in exchange for a lower tilt tolerance.

Features

- Fixed geophones, omnidirectional functionality
- Withstands up to 150 °C (with higher spec. models in development)
- Passive sensors
- For permanent or semi-permanent installations
- Custom versions can include magnetometers or other sensors

Geophone parameter	Specification	
Sensor configuration	Triaxial, Orthogonal	
Natural frequency	15.0 Hz	
Operational temperature	-40 °C to +200 °C	
Geophone tilt tolerance	0° to 180°	
DC resistance	2,400 Ω	(typically x2)
Sensitivity	0.52 V/cm/s	(typically x2)
Transduction constant	0.0106 √Rc V/cm/s	(0.027 √Rc V/in/s)
Open circuit damping	0.57	
Moving mass	7.8 g	
Max coil excursion p-p	> 0.305 cm	(> 0.12 in)

Housing parameter	Standard model	
Operational pressure	33.3 MPa	(4,830 psi)
Outer diameter	41 mm	(1.6 in)
Wall thickness	2.4 mm	(0.1 in)
Height	409 mm	(16.1 in)
Weight	2.7 kg	(6 lbs)
Optional nose weight	Variable	
Casing material	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.

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