



SM-9 Geophone

- 10-Hz, horizontal, shear-wave geophone with typical spurious of 330 Hz
- Long coil travel of 4 mm
- Fits HPE horizontal or PE-6/B 3-C land case
- 2-year limited warranty



The SM-9 geophone is a long coil travel version of the SM-7 broad-band geophone. This 10-Hz element is ideal for use as the horizontal sensors of a 3-component geophone package, using an SM-7 vertical sensor, for multi-component recording up to 1-ms sample period. Alternatively, the SM-9 geophone can be used as a single-component, shear-wave sensor.

The SM-9 geophone can be installed in the Sensor HPE land case or in a 3-component arrangement such as the PE-6/B land case.

Specifications

INPUT/OUTPUT, INC.

SM-9/H-B

Frequency

Natural frequency (f_n) 10 Hz
 Tolerance $\pm 5\%$
 Max. tilt angle for specified f_n 14°
 Typical spurious frequency 330 Hz

Distortion

Distortion with 0.7 in/s, p.p. coil-to-case velocity $<0.2\%$
 Distortion measurement frequency 12 Hz
 Max. tilt angle for distortion specification 5°

Damping

Open-circuit damping 0.25
 Damping calibration-shunt resistance 1,339 Ω
 Damping with shunt 0.60
 Tolerance with shunt $\pm 5\%$

Resistance

Standard coil resistances 375 Ω
 Tolerance $\pm 5\%$

Sensitivity

Open-circuit sensitivity 28.8 V/m/s (0.73 V/in/s)
 Tolerance $\pm 5\%$
 $R_t B_c f_n$ 6,000 $\Omega \text{ Hz}$
 Moving mass 11.1 g (0.39 oz)
 Maximum coil excursion p.p. 4mm (0.16 in)

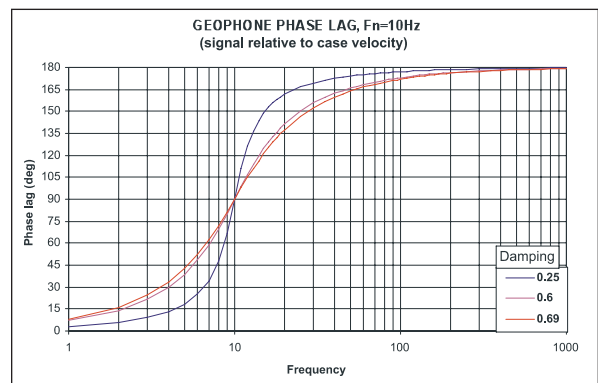
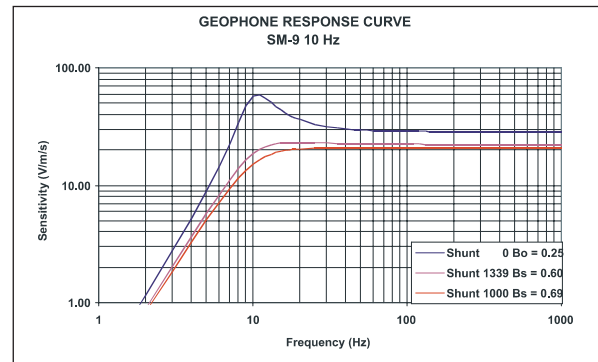
Physical Characteristics

Diameter 25.4 mm (1 in)
 Height 36 mm (1.42 in)
 Weight 81 g (2.85 oz)
 Operating temperature range -40°C to $+100^\circ\text{C}$ (-40°F to $+212^\circ\text{F}$)

Limited Warranty Period*

2 years
 * Warranty excludes damage caused by high-voltage and physical damage to the element case.

All parameters are specified at $+20^\circ\text{C}$ in the vertical position unless otherwise stated.



Ordering Information

SM-9

SM-9/H-B 10 Hz 375 Ω (horizontal)

P/N 1009020

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