



## SM-24 Horizontal Geophone Element

- Tight specification, low-distortion geophone
- Horizontal element for shear-wave and 3-C recording
- Extended spurious over 240 Hz, allowing full bandwidth at 2-ms sampling
- Backward compatible with SM-4 and SM-4 Superphone™ range
- 3-year limited warranty



The SM-24 Horizontal geophone element is designed to offer the highest performance in seismic exploration, using field-proven I/O Sensor technology. Low distortion, combined with tight specifications, provide high-fidelity data in shear-wave and 3-C surveys. The extended bandwidth allows the full potential of 2-ms/24-bit recording systems to be realized.

Applications: Shear-wave and 3-C seismic exploration with bandwidth from 10 Hz up to 240 Hz.

Implementations: Can be installed in a variety of I/O Sensor geophone cases.

**SM-24/H-B 10 Hz 375 Ω**

**Frequency**

Natural frequency ( $f_n$ ) 10 Hz  
 Tolerance ±2.5%  
 Typical spurious frequency >240 Hz

**Distortion**

Distortion with 0.7 in/s p.p. coil-to-case velocity <0.15%  
 Distortion measurement frequency 12 Hz

**Damping**

Typical open-circuit damping 0.25  
 Damping calibration-shunt resistance 1,339 Ω  
 Damping with calibration-shunt 0.6  
 Tolerance with calibration-shunt +5%, -0%

**Coil Resistance**

Standard 375 Ω  
 Tolerance ±2.5%

**Sensitivity**

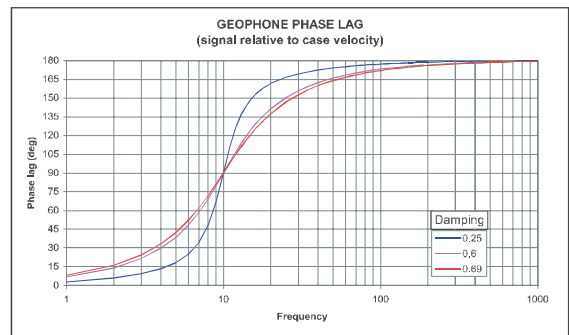
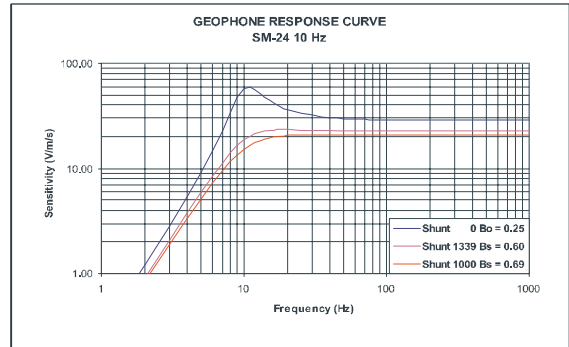
Sensitivity 28.8 V/m/s (0.73 V/in/s)  
 Tolerance ±2.5%  
 $R/B_{cf_n}$  6,000 ΩHz  
 Moving mass 11 g (0.38 oz)  
 Maximum coil excursion p.p. 2 mm (0.08 in)

**Physical Characteristics**

Diameter 25.4 mm (1 in)  
 Height 32 mm (1.26 in)  
 Weight 74 g (2.6 oz)  
 Operating temperature -40°C to +100°C (-40°F to +212°F)

**Limited Warranty Period\***

3 years  
 \* Warranty excludes damage caused by high-voltage or physical damage to the element case.  
 All parameters are specified at +20°C in the horizontal position.



**Ordering Information**

**SM-24**

SM-24/H-B 10 Hz 375 Ω (horizontal basic unit with insulating disc)

P/N 1004135

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