



SM-24 Geophone Element

- Tight specification, low-distortion geophone
- Extended spurious over 240 Hz, allowing full bandwidth at 2-ms sampling
- Backwards compatible with SM-4, SM-4 Superphone™ range, and SM-24ST
- 3-year limited warranty



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

Applications: 2-D & 3-D seismic exploration with bandwidth from 10 Hz up to 240 Hz.

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

SM-24/U-B 10 Hz 375 W

Frequency

Natural frequency (f_n) 10 Hz
 Tolerance +/-2.5%
 Max. tilt angle for specified f_n 10°
 Typical spurious frequency >240 Hz

Distortion

Distortion with 0.7 in/s p.p. coil-to-case velocity ≤0.1%
 Distortion measurement frequency 12 Hz
 Max. tilt angle for distortion specification 10°
 Typical distortion (string of 12 geophones in series, measured at 12 Hz) 0.03%

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%
 $R_f B_c f_n$ 6,000 ΩHz
 Moving mass 11 g (0.38 oz)
 Maximum coil excursion p.p. 2 mm (0.08 in)

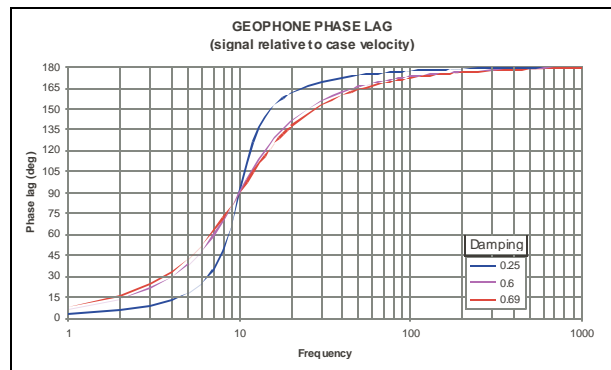
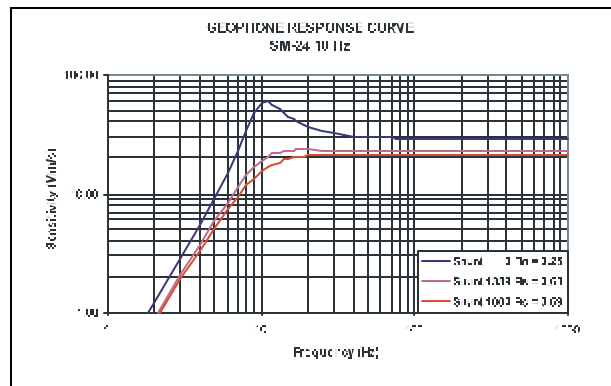
Physical Characteristics

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

Limited Warranty Period*

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

All parameters are specified at +20°C in the vertical position unless otherwise stated.



Ordering Information

SM-24

SM-24/U-B 10 Hz 375 Ω
 (upright basic unit with insulating disc) P/N 1004117

United States – Stafford, TX
 Input/Output, Inc.
 Fax 281.879.3500
 Phone 281.933.3339

Russia
 Input/Output, Inc.
 Fax 7.095.2322240
 Phone 7.095.2322254

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