



HGS (INDIA) LIMITED



HG-24HS Geophone Element



Based on the technology transfer for manufacturing the SM[®] range of geophones from Sensor[®] Nederland BV, HGS (India) Limited (erstwhile Geosource India Limited) offers the HG-24HS (High Sensitivity) geophone which is designed for single unit recording. It weighs 86 grams and its diameter is only 1.3 mm larger than the standard HG-24 geophone. HG-24HS provides identical sensitivity and damping when connected to a recording system.

Features:

- Sensitivity is equivalent to approx. four regular geophones in series
- Available in both land and marsh enclosures
- Tight damping tolerance
- Low maintenance and transportation costs
- Less deployment time and costs

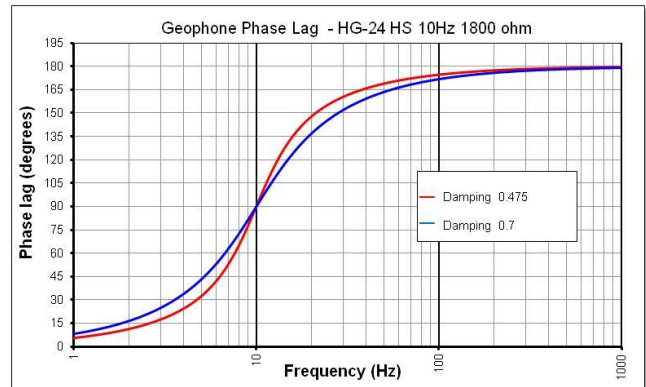
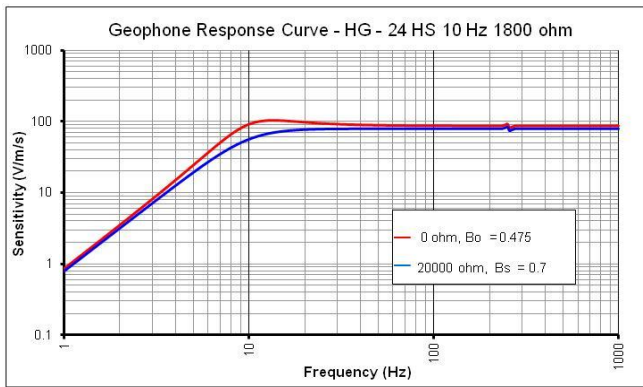
Specifications - HG-24HS

Frequency	Value
Natural frequency	10 Hz
Tolerance	±3.5%
Maximum tilt angle for specified Fn	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
Maximum tilt angle for distortion specification	10°
Typical distortion	<0.1%
Damping	
Open circuit (Typical)	0.475
Damping with 20KΩ system input impedance	0.7
Tolerance with 20KΩ system input impedance	±3.5%
Resistance	
Standard coil resistance	1800 Ω
Tolerance	±3.5%
Sensitivity	
Sensitivity	85.8 V/m/s
Tolerance	±3.5%
Moving mass	11.8 g
Max coil excursion p.p .	2 mm
Physical Characteristics	
Diameter	26.7 mm
Height	32 mm
Weight	85.6 g
Operating temperature range	-40°C to 100°C
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 working position unless stated otherwise.

Geophone Response Curve and Phase Lag



Comparison of strings with single high sensitivity geophones

	Damping (Open circuit)	Sensitivity (Open circuit)	Damping (1 kΩ resistor)	Sensitivity (1 kΩ resistor)	Damping (System)	Sensitivity V/m/s (V/in/s)
1x1 (regular)	25%	28.8 (0.73)	69%	20.9 (0.53)	70%	20.7 (0.53)
3x2 (regular)	25%	86.4 (2.19)	69%	62.7 (1.59)	71%	61.6 (1.56)
6x1 (regular)	25%	172.8 (4.39)	69%	125.4 (3.19)	77%	116.2 (2.95)
1x1 HG-24HS	48%	85.8 (2.18)	NA	NA	70%	78.7 (2.00)
2x2 HG-24HS	48%	171.6 (4.36)	NA	NA	70%	157.4 (4.00)
3x3 HG-24HS	48%	257.4 (6.55)	NA	NA	70%	236.1 (6.00)
1x1 other	51%	85.8 (2.18)	NA	NA	70%	78.7 (2.00)

Note: Sensitivity in V/m/s (V/in/s), recording system input impedance 20 kΩ

Ordering information

Description	Part No.	Working position
HG-24HS U 10 Hz 1800 Ω	SG000147	Upright
HG-24HS H 10 Hz 1800 Ω	SG000089	Horizontal

Version 1.1

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