



## HGS (INDIA) LIMITED



### HG-24HS Geophone Element



Based on the technology transfer for manufacturing the SM<sup>®</sup> range of geophones from Sensor<sup>®</sup> 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

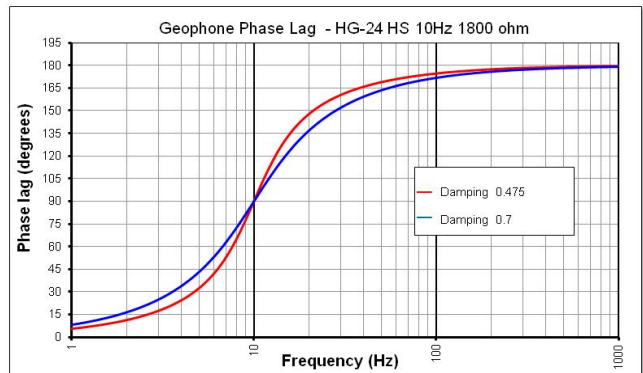
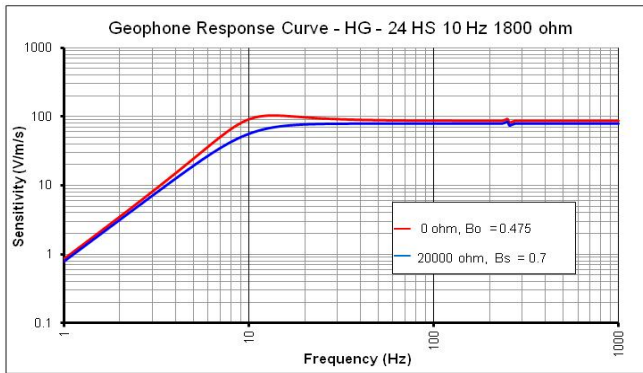
## Specifications - HG-24HS

<b>Frequency</b>	<b>Value</b>
Natural frequency	10 Hz
Tolerance	±3.5%
Maximum tilt angle for specified Fn	10°
Typical spurious frequency	>240 Hz
<b>Distortion</b>	
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%
<b>Damping</b>	
Open circuit (Typical)	0.475
Damping with 20K $\Omega$ system input impedance	0.7
Tolerance	±3.5%
<b>Resistance</b>	
Standard coil resistance	1800 $\Omega$
Tolerance	±3.5%
<b>Sensitivity</b>	
Sensitivity	85.8 V/m/s
Tolerance	±3.5%
Moving mass	11.8 g
Max coil excursion p.p .	2 mm
<b>Physical Characteristics</b>	
Diameter	26.7 mm
Height	32 mm
Weight	85.6 g
Operating temperature range	-40°C to 100°C
<b>Warranty Period*</b>	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 stated otherwise.

## Geophone Response Curve and Phase Lag



### Comparison of strings with single high sensitivity geophones

	Damping (Open circuit)	Sensitivity (Open circuit)	Damping (1 k $\Omega$ resistor)	Sensitivity (1 k $\Omega$ 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 k $\Omega$

### Ordering information

Description	Part No.	Direction
HG-24HS U 10 Hz 1800 $\Omega$	SG000147	Upright
HG-24HS H 10 Hz 1800 $\Omega$	SG000089	Horizontal

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