



## HGS (INDIA) LIMITED



### HG-6HS 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-6HS (High Sensitivity) geophone which is a long coil travel geophone based on the HG-4 design. The long coil travel offers advantages for higher tilt requirements and where large amplitude signals may be encountered. HG-6HS can be supplied for vertical and horizontal orientation.

A variety of 1-C and 3-C waterproof land cases can accommodate the HG-6HS geophone.

#### Features:

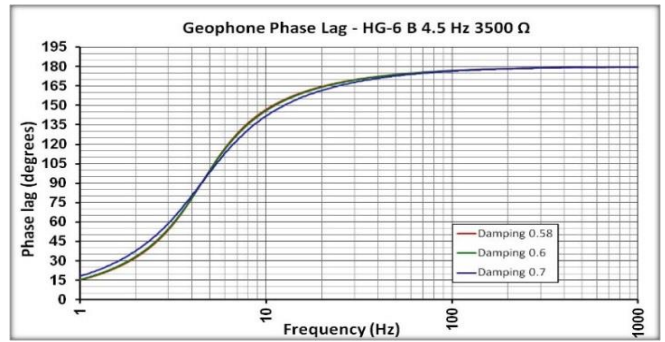
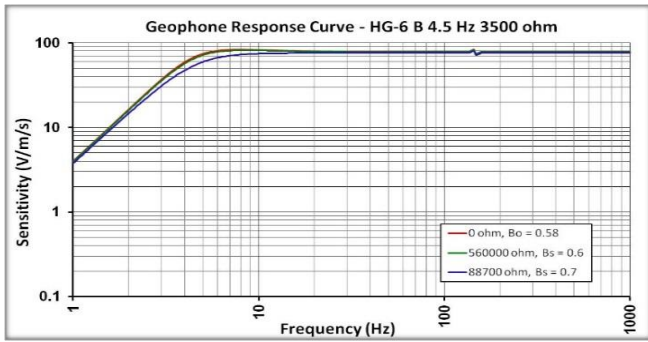
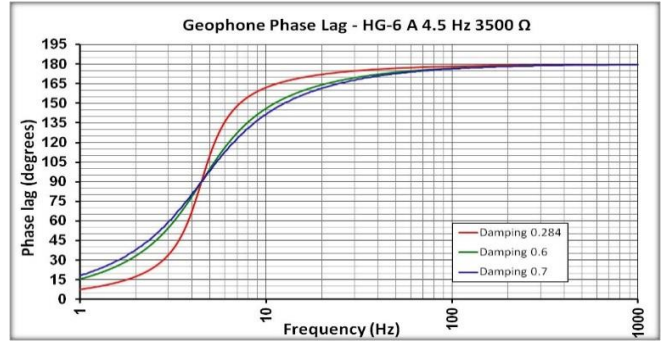
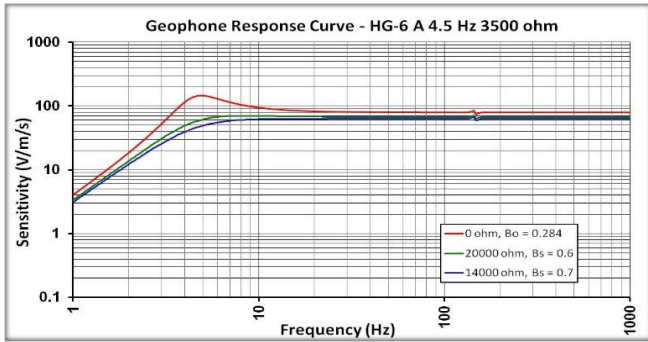
- Available in 4.5 Hz natural frequencies
- Vertical and horizontal versions available
- Rugged design with rotating-coil contacts
- High Sensitivity versions used in earthquake monitoring systems

**Specifications - HG-6HS Low Frequency Geophone**

	<b>A - Coil</b>	<b>B - Coil</b>
<b>Frequency</b>	<b>Value</b>	<b>Value</b>
Natural frequency	4.5 Hz	4.5 Hz
Tolerance	±0.5 Hz	±0.5 Hz
Maximum tilt angle for specified Fn	0°	0°
Typical spurious frequency	140 Hz	140 Hz
<b>Distortion</b>		
Distortion with 17.78 mm/s p.p. coil-to-case velocity	<0.5%	<0.3%
Distortion measurement frequency	12 Hz	12 Hz
Maximum tilt angle for distortion specification	0°	0°
<b>Damping</b>		
Open circuit (typical)	0.284	0.58
Tolerance (open circuit)	±5%	±5%
Shunt for 0.6 damping	20000 Ω	56000 Ω
Shunt for 0.7 damping	14000 Ω	88700 Ω
<b>Resistance</b>		
Standard coil resistance	3500 Ω	3500 Ω
Tolerance	±5%	±5%
<b>Sensitivity</b>		
Open - circuit Sensitivity	78.9 V/m/s	78.9 V/m/s
Tolerance	±5%	±5%
Moving mass	15 g	10 g
Max coil excursion p.p .	4 mm	4 mm
<b>Physical Characteristics</b>		
Diameter	25.4 mm	25.4 mm
Height	36 mm	36 mm
Weight	81 g	81 g
Operating temperature range	-40°C to 100°C	-40°C to 100°C
<b>Warranty Period*</b>	1 year	1 year

\* 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



### Ordering information

Description	Part No.	Working position
<b>HG-6HS 4.5 Hz</b>		
HG-6HS UA 4.5 Hz 3500 Ω	SG000114	Upright
HG-6HS HA 4.5 Hz 3500 Ω	SG000081	Horizontal
HG-6HS UB 4.5 Hz 3500 Ω	SG000082	Upright
HG-6HS HB 4.5 Hz 3500 Ω	SG000086	Horizontal

Version 1.1

**India**  
 HGS (India) Ltd  
 Tel : +91-11-46066604  
 Fax : +91-11-24333772  
 Website : [www.hgsindia.com](http://www.hgsindia.com)

**The Netherlands**  
 HGS Products B.V.  
 Tel : +31 708200820  
 Fax : +31 708200828  
 Website : [www.hgsproducts.nl](http://www.hgsproducts.nl)