



## HGS (INDIA) LIMITED



### HG-6 High Temperature 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-6 geophone which is a long coil travel geophone based on the HG-4 design. The high temperature version of the HG-6 geophone is capable of withstanding temperatures ranging from -40°C to 200°C. These geophones are manufactured for use in VSP tools and for use in industrial vibration monitoring where bearing temperatures may exceed the 100°C operational limit of standard geophones. The HG-6 high temperature geophone can be supplied for vertical and horizontal orientation.

#### Features:

- Operating temperature range of -40°C to 200°C
- Nickel plated case and special high temperature coils and end plates
- Suitable for use in VSP and downhole array applications  
and for industrial vibration monitoring
- Vertical and horizontal versions available and for 3-component configurations

**Specifications - HG-6 High Temperature Geophones**

<b>Frequency</b>	<b>Value</b>	<b>Value</b>	<b>Value</b>
Natural frequency	8 Hz	10 Hz	10 Hz
Tolerance	±6.3%	±5%	±5%
<b>Damping</b>			
Open circuit	0.407	0.398	0.326
Tolerance (open circuit)	±5%	±5%	±5%
Shunt for 0.6 damping	8200 Ω	2400 Ω	4300 Ω
Shunt for 0.7 damping	5100 Ω	1500 Ω	2700 Ω
<b>Resistance</b>			
Standard coil resistance	900 Ω	400 Ω	900 Ω
Tolerance	±5%	±5%	±5%
<b>Sensitivity</b>			
Open - circuit Sensitivity	42.8 V/m/s	24.4 V/m/s	42.8 V/m/s
Tolerance	±5%	±5%	±5%
$R_t B_c f_n$	13880 ΩHz	5500 ΩHz	13880 ΩHz
Moving mass	10.5 g	8.6 g	10.5 g
Max coil excursion p.p .	4 mm	4 mm	4 mm
<b>Physical Characteristics</b>			
Diameter	25.4 mm	25.4 mm	25.4 mm
Height	36 mm	36 mm	36 mm
Weight	81 g	81 g	81 g
Operating temperature range	-40°C to 200°C	-40°C to 200°C	-40°C to 200°C

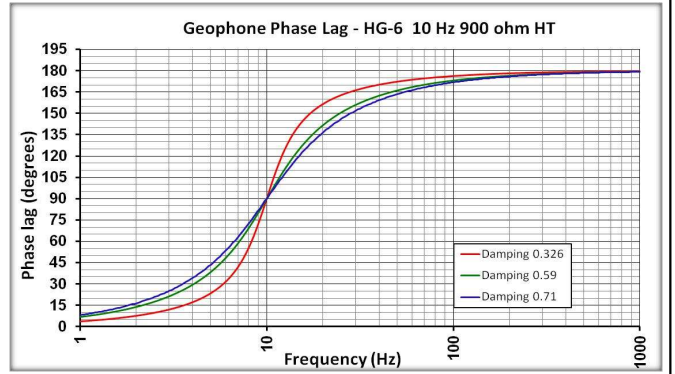
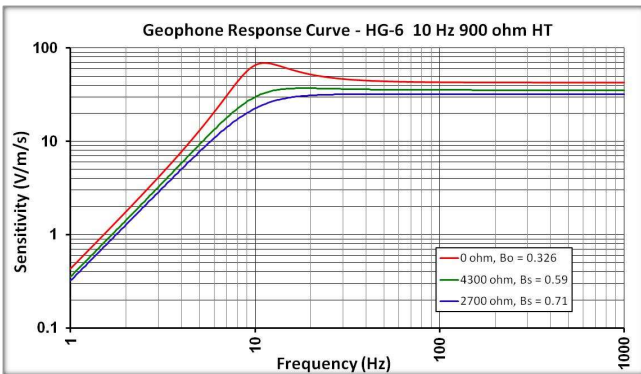
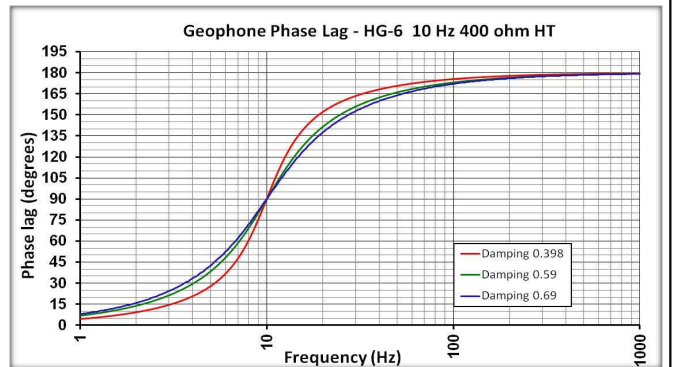
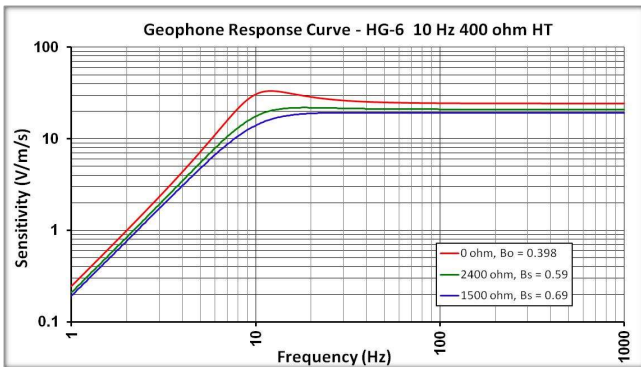
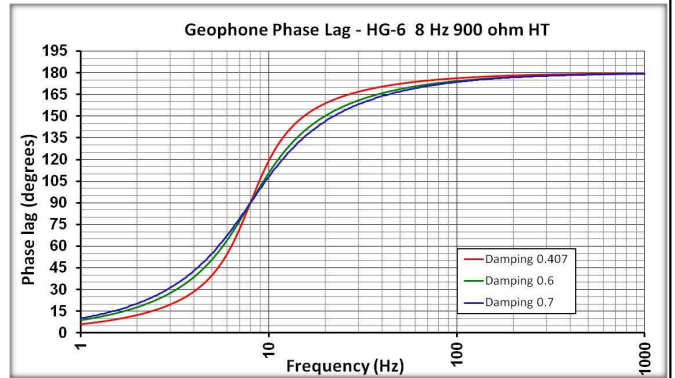
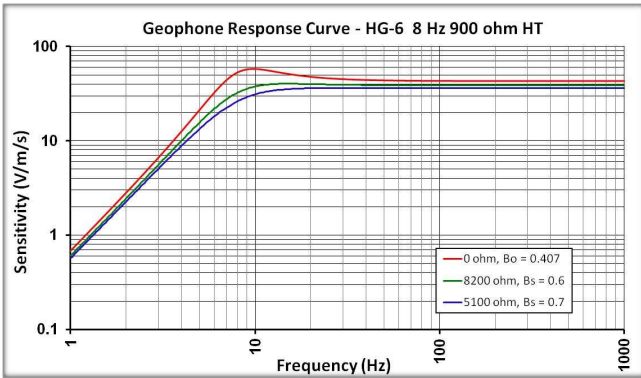
All parameters are specified at +20°C.

**Specifications - HG-6 High Temperature Geophones**

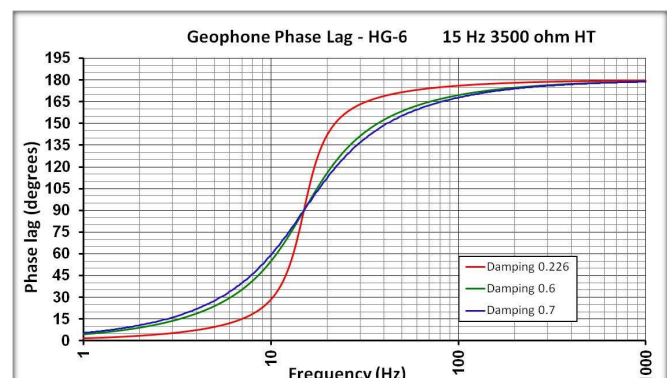
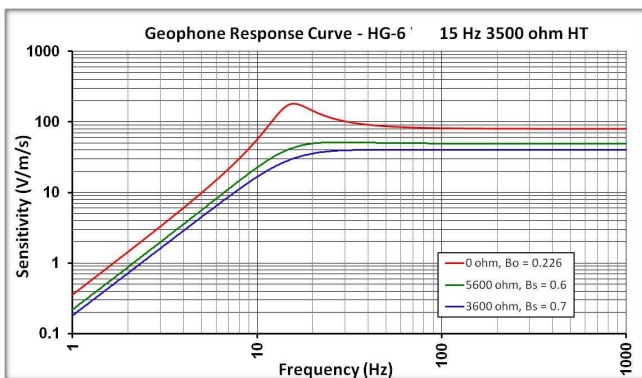
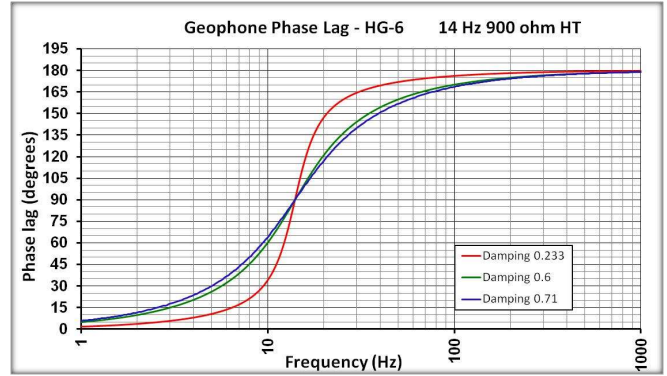
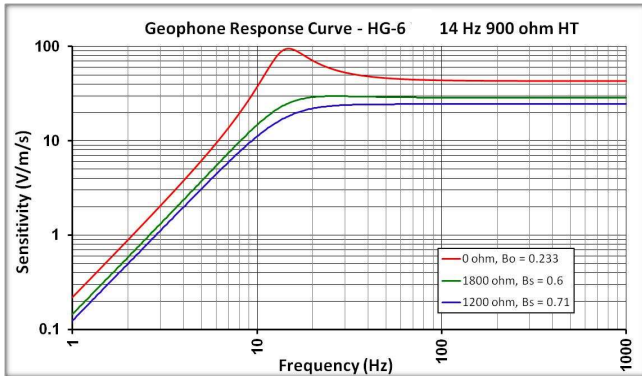
<b>Frequency</b>	<b>Value</b>	<b>Value</b>
Natural frequency	14 Hz	15 Hz
Tolerance	±5%	±5%
<b>Damping</b>		
Open circuit	0.233	0.226
Tolerance (open circuit)	±5%	±5%
Shunt for 0.6 damping	1800 Ω	5600 Ω
Shunt for 0.7 damping	1200 Ω	3600 Ω
<b>Resistance</b>		
Standard coil resistance	900 Ω	3500 Ω
Tolerance	±5%	±5%
<b>Sensitivity</b>		
Open - circuit Sensitivity	42.8 V/m/s	80 V/m/s
Tolerance	±5%	±5%
$R_t B_c f_n$	13880 ΩHz	50400 ΩHz
Moving mass	10.5 g	10.1 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 200°C	-40°C to 200°C

All parameters are specified at +20°C.

## Geophone Response Curve and Phase Lag



### Geophone Response Curve and Phase Lag



### Ordering information

Description	Part No.	Work direction	
HG-6 UB 8 Hz 900 ohm HT	SG000163	Upright	
HG-6 HB 8 Hz 900 ohm HT	SG000164	Horizontal	
HG-6 UB 10 Hz 400 ohm HT	SG000196	Upright	
HG-6 HB 10 Hz 400 ohm HT	SG000198	Horizontal	
HG-6 UB 10 Hz 900 ohm HT	SG000161	Upright	
HG-6 HB 10 Hz 900 ohm HT	SG000162	Horizontal	
HG-6 SB 10 Hz 900 ohm HT	SG000160	Vertical (pins down)	
HG-6 YB 14 Hz 900 ohm HT	SG000199	Upright/Horizontal	
HG-6 YB 15 Hz 3500 ohm HT	SG000166	Upright/Horizontal	Version 1.3

**India**

HGS (India) Ltd  
 Tel : +91-11-46066604  
 Website : www.hgsindia.com

**The Netherlands**

HGS Products B.V.  
 Tel : +31 708200820  
 Website : www.hgsproducts.nl