



HGS (INDIA) LIMITED



HG-6 High Temperature 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-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

Frequency	Value	Value	Value
Natural frequency	8 Hz	10 Hz	10 Hz
Tolerance	±6.3%	±5%	±5%
Damping			
Open circuit	0.407	0.398	0.326
Shunt for 0.6 damping	8200 Ω	2400 Ω	4300 Ω
Shunt for 0.7 damping	5100 Ω	1500 Ω	2700 Ω
Tolerance with shunt	±5%	±5%	±5%
Resistance			
Standard coil resistance	900 Ω	400 Ω	900 Ω
Tolerance	±5%	±5%	±5%
Sensitivity			
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
Physical Characteristics			
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

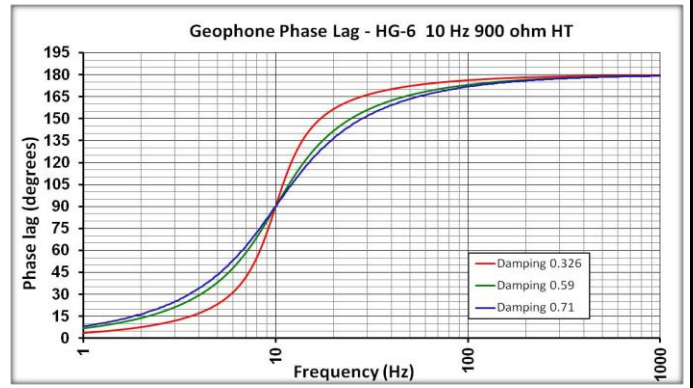
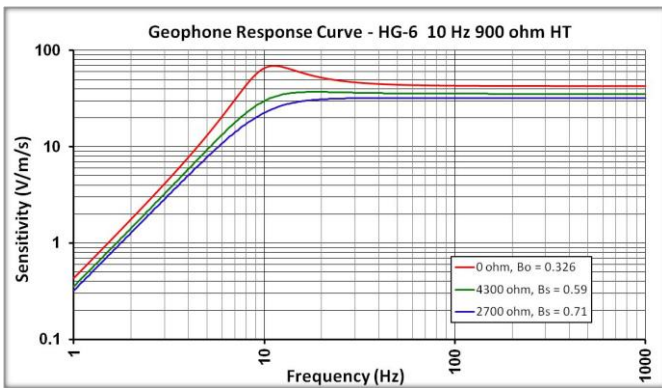
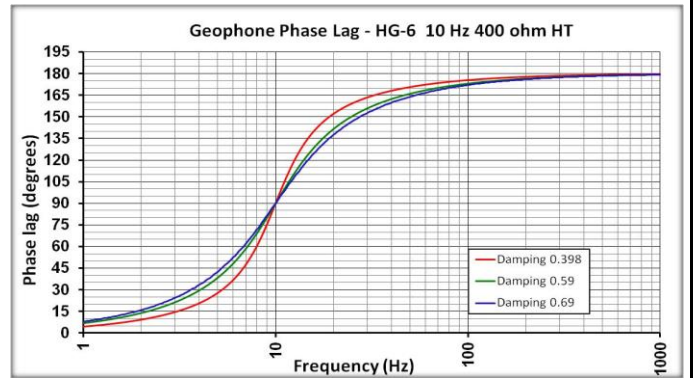
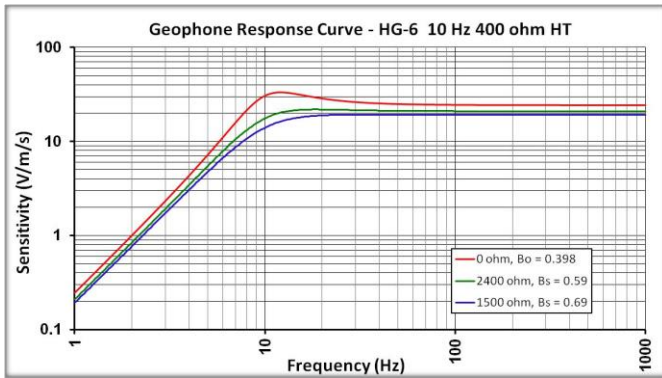
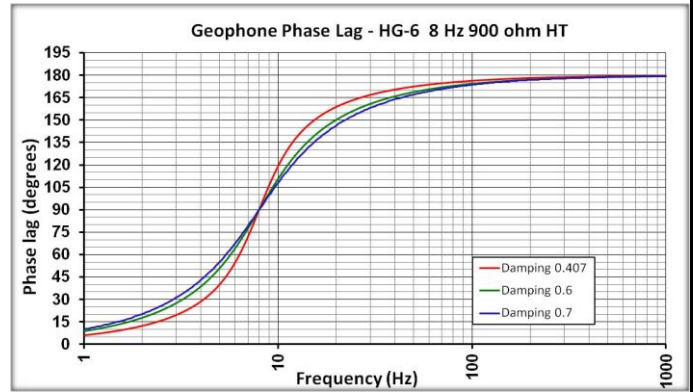
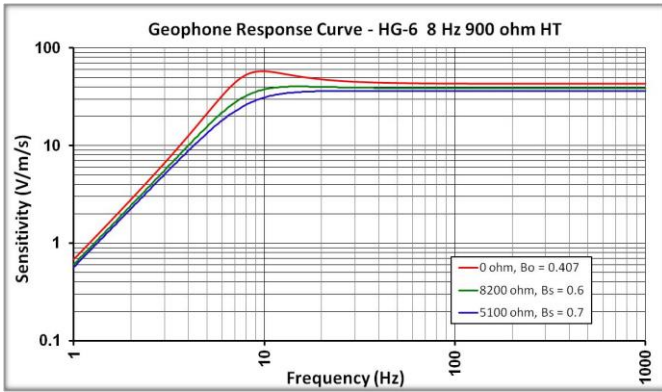
All parameters are specified at +20°C in the vertical position unless stated otherwise.

Specifications - HG-6 High Temperature Geophones

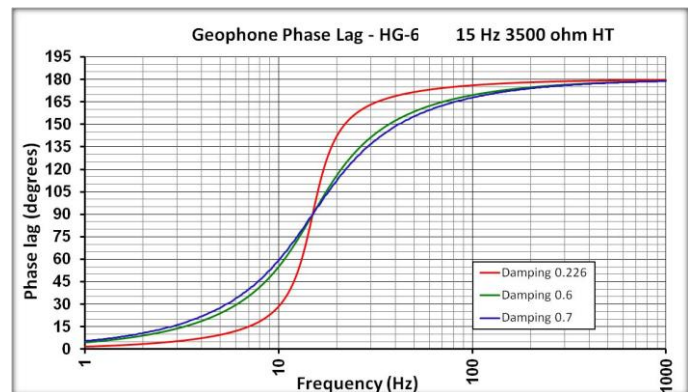
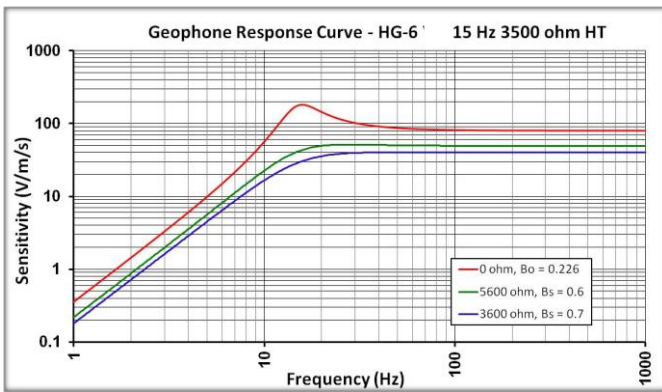
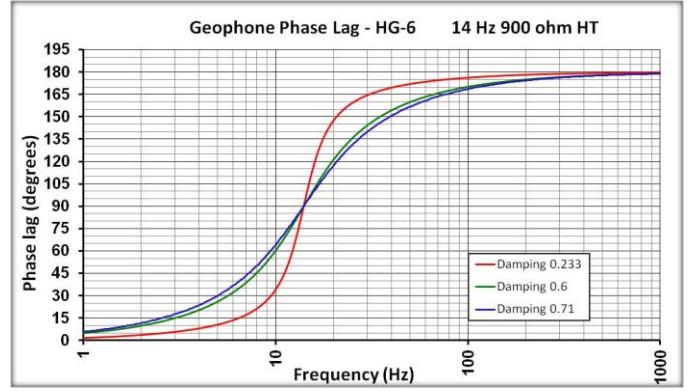
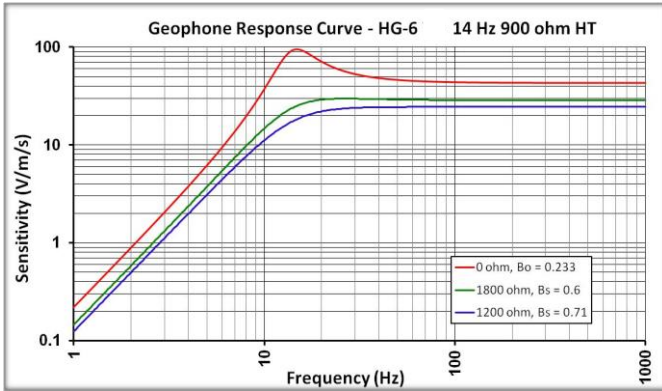
Frequency	Value	Value
Natural frequency	14 Hz	15 Hz
Tolerance	±5%	±5%
Damping		
Open circuit	0.233	0.226
Shunt for 0.6 damping	1800 Ω	5600 Ω
Shunt for 0.7 damping	1200 Ω	3600 Ω
Tolerance with shunt	±5%	±5%
Resistance		
Standard coil resistance	900 Ω	3500 Ω
Tolerance	±5%	±5%
Sensitivity		
Open - circuit 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
Physical Characteristics		
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 in the vertical position unless stated otherwise.

Geophone Response Curve and Phase Lag



Geophone Response Curve and Phase Lag



Ordering information

Description	Part No.	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 YB 14 Hz 900 ohm HT	SG000199	Upright/Horizontal
HG-6 YB 15 Hz 3500 ohm HT	SG000166	Upright/Horizontal
HG-6 SB 10 Hz 900 ohm HT	SG000160	Vertical (Pins Down)

V 1.2

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