



## HGS (INDIA) LIMITED



### HG-11 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-11 geophone which is a high output geophone with a natural frequency of 30 Hz. The element provides a clean response over 500 Hz and can be used in any orientation (vertical, horizontal or inverted) providing flexibility in such applications as 3 component borehole tools. Typically, it is used in high resolution seismic reflection studies.

#### **Features:**

- 30 Hz geophone with high spurious over 500 Hz
- Provides wide bandwidth data suitable for up to 1 ms data sampling
- Can be operated in any orientation
- Provides high output by using special magnet and case
- Rugged design with rotating-coil contacts suitable to withstand shocks

## Specifications - HG-11

<b>Frequency</b>	<b>Value</b>
Natural frequency	30 Hz
Tolerance	±5%
Maximum tilt angle for specified $F_n$	360°
Typical spurious frequency	>500 Hz

<b>Distortion</b>	
Distortion with 0.7 in/s p.p. coil-to-case velocity	<0.2%
Distortion measurement frequency	30 Hz
Maximum tilt angle for distortion specification	360°

<b>Damping</b>	
Open circuit (typical)	0.55
Shunt for 0.60 damping	4700 $\Omega$
Shunt for 0.71 damping	1300 $\Omega$
Tolerance with shunt	±5%

<b>Resistance</b>	
Standard coil resistance	360 $\Omega$
Tolerance	±5%

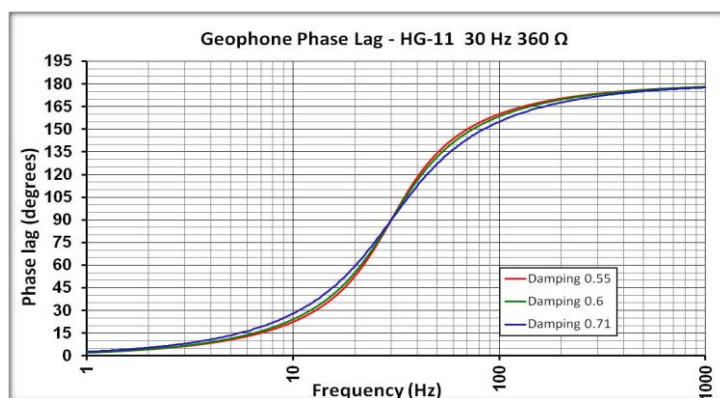
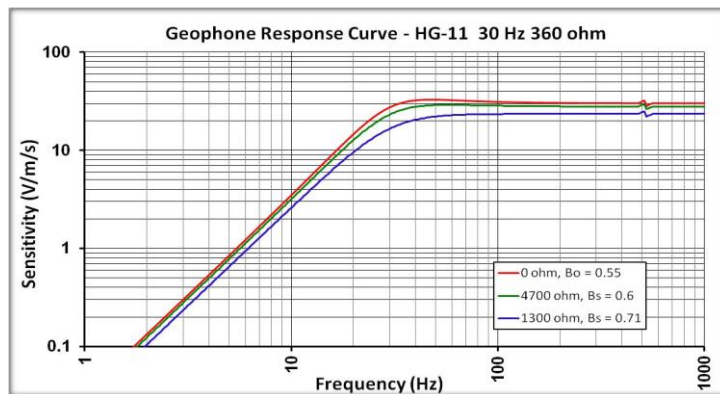
<b>Sensitivity</b>	
Open - circuit Sensitivity	30 V/m/s
Tolerance	±5%
$R_t B_c f_n$	7785 $\Omega\text{Hz}$
Moving mass	9.2 g
Maximum coil excursion p.p.	2 mm

<b>Physical Characteristics</b>	
Diameter	26.6 mm
Height	32 mm
Weight	83 g
Operating temperature range	-40°C to 100°C

<b>Warranty Period</b>	2 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.



### Ordering information

Description	Part No.	Working position
HG-11 U 30 Hz 360 $\Omega$	SG000103	Omni-directional (upright polarity*)
HG-11 H 30 Hz 360 $\Omega$	SG000096	Omni-directional (horizontal polarity**)

\* A mechanical tap passing through the geophone towards the terminals will give a NEGATIVE going voltage on the positive terminal marked with dot.

\*\* A mechanical tap passing through the geophone towards the terminals will give a POSITIVE going voltage on the positive terminal marked with a dot.

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

**The Netherlands**  
HGS Products B.V.  
Tel : +31 708200820  
Fax : +31 708200828  
Website : www.hgsproducts.nl

Version 1.3