



HGS (INDIA) LIMITED



HG-11 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-11 geophone which is a high output geophone with a natural frequency of 30 Hz. The element provides a clean response to 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 seismograph 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

| Frequency | Value |
|-------------------------------------|---------|
| Natural frequency | 30 Hz |
| Tolerance | ±5% |
| Maximum tilt angle for specified fn | 360° |
| Typical spurious frequency | >500 Hz |

Distortion

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

Damping

| | |
|------------------------|--------|
| Open circuit (typical) | 0.55 |
| Shunt for 0.60 damping | 4700 Ω |
| Shunt for 0.71 damping | 1300 Ω |
| Tolerance with shunt | ±5% |

Resistance

| | |
|--------------------------|-------|
| Standard coil resistance | 360 Ω |
| Tolerance | ±5% |

Sensitivity

| | |
|----------------------------|----------|
| Open - circuit Sensitivity | 30 V/m/s |
| Tolerance | ±5% |
| $R_t B_c f_n$ | 7785 ΩHz |
| Moving mass | 9.2 g |
| Coil excursion p.p. | >1 mm |

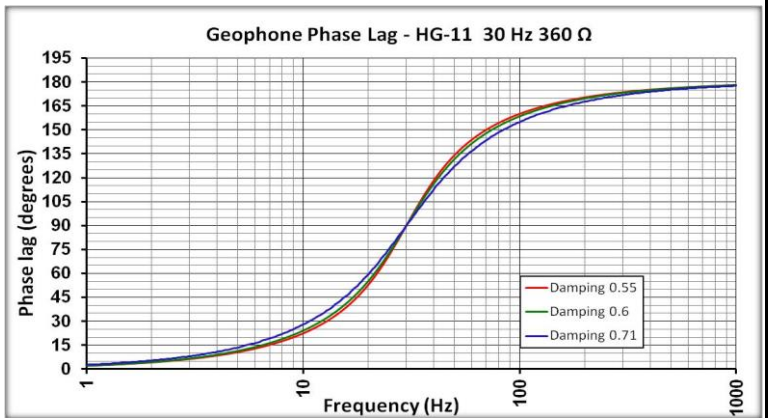
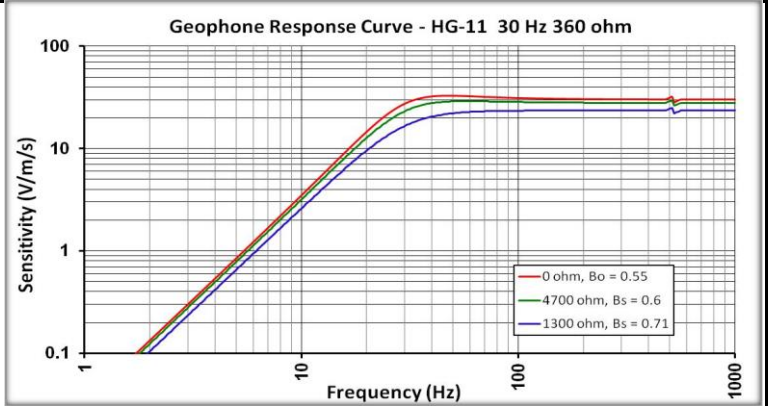
Physical Characteristics

| | |
|-----------------------------|----------------|
| Diameter | 26.6 mm |
| Height | 32 mm |
| Weight | 83 g |
| Operating temperature range | -40°C to 100°C |

Warranty Period* 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 Ω | SG000103 | Upright |
| HG-11 H 30 Hz 360 Ω | SG000096 | Horizontal |

Version 1.1

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