HGS (INDIA) LIMITED

SPECIFICATION SHEET - Borehole source of SV-waves GeoSV

Borehole electrodynamic source GeoSV is used for generating vertically polarized shear waves (SV) in dry and water-filled wells up to 200 m deep during parallel cross-hole seismic testing (CST) with distance between boreholes 3 - 6 m. To generate P-waves a borehole sparker Pulse is usually used. Both sources require energy source Jack. The multi-wave parallel CST allows to obtain reliable vertical distributions of Vp and Vs in the crosshole medium and to calculate Poisson's ratio, as well as Young's and shear moduli proceeding to the evaluation of physical and mechanical properties.

GeoSV has a pneumatic anchoring system for fixing in a borehole, that allows to generate bipolar shear SV+ and SV- polarized waves. The advantage of using an SV source is the possibility of registering the signal with 3C VSP probe on vertical (Z) component. Thus, polarization analysis for obtaining shear wave data is not required. Source GeoSV fully complies with ASTM D4428/D4428M.

Borehole source of SV-waves GeoSV

Main Features:

- Designed for parallel CST following ASTM D4428 / D4428M
- Easy switching to generate SV+ and SV- waves
- Doesn’t require orientation in the well
- Works in dry and water-filled wells
- Supplied on a reel

HGS (INDIA) LIMITED
158, Sector-4, IMT Manesar, Gurugram-122050, Haryana, INDIA
Tel: +91 (0124) 4681800
Email: sales@hgsindia.com | Website: www.hgsindia.com

GeoSV Application Areas:

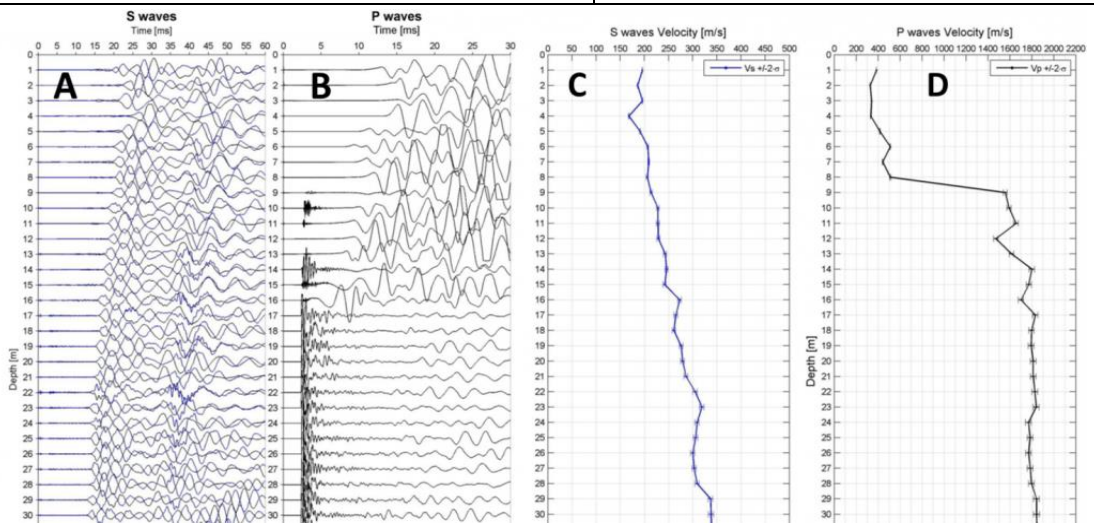
- Physical and mechanical soil properties characterization
- Soil stabilization control
- Engineering surveys for the construction of highly sensitive facilities
- Geotechnical monitoring

The Set Includes:

- Source GeoSV
- High voltage cable line on a reel
- Pneumatic tube on a reel
- Switchbox
- Energy source Jack connection cable

In In addition to GeoSV source the following items can be purchased:

- Energy source Jack with JackPad remote control
- 3C borehole probe with spring (GStreamer), pneumatic (GStreamer-P) or electromechanical (GStreamer-E) anchoring system
- High frequency seismic station Sigma 4+ or DAQlink5
- Borehole sparker Pulse
- Borehole hydrophone array WellStreamer
- Borehole inclinometer INCLIS



Parallel CST data obtained with the borehole sparker and source GeoSV. Well distance – 4 m.
From left to right: combination of SV+ and SV- data (Z component of 3C VSP probe); P-wave data (WellStreamer and Pulse); Vertical distribution of velocities of S and P waves.

HGS (INDIA) LIMITED
158, Sector-4, IMT Manesar, Gurugram-122050, Haryana, INDIA
Tel: +91 (0124) 4681800
Email: sales@hgsindia.com | Website: www.hgsindia.com

Specifications:	
Diameter	65 mm
Length	645 mm
Weight	5 kg
Waterproof	200 m
Max Air Pressure	25 bar
Connector	high voltage, 7
Shell material	aluminum alloy
Operating energy	100-300 J
Operating voltage	up to 3000 V
Frequency bandwidth	100-600 Hz
Diameter	65 mm

Ordering Information	
Item Description	**HGS Part No.**
Borehole source of SV-waves GeoSV	MK001571

Version 1.0

HGS (INDIA) LIMITED
158, Sector-4, IMT Manesar, Gurugram-122050, Haryana, INDIA
Tel: +91 (0124) 4681800
Email: sales@hgsindia.com | Website: www.hgsindia.com