

	<h2>HGS (INDIA) LIMITED</h2>	
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SPECIFICATION SHEET - Multi-level 3C Borehole Seismic Array GStreamer-E with Motor Driven Anchoring System

GStreamer-E is a multi-level borehole 3C seismic array with a geared motor driven anchor in each module. The system was developed for vertical seismic profiling (VSP), downhole seismic logging, cross-hole seismic testing and tomography (CST). Tool anchoring individual control allows to eliminate intermodular cable sections tension and the acoustic connection along it. Controlled anchoring also permits the use of GStreamer-E in both cased and open hole wells up to 1000 m deep. It can consist of 1, 4 or 8 3C borehole geophones.

Three pairs of orthogonally combined geophones with a natural frequency of 12 Hz or 20 Hz are used as sensitive elements. Signal registration is provided by almost any seismograph. Upon request, the tool can be equipped with lower frequency sensors, but this will slightly increase its dimensions.



Multi-level 3C borehole seismic array Streamer-E with motor driven anchoring system



GStreamer-E can be equipped with a connector for reference land geophone to control source-seismograph synchronization and improve the accuracy of interval velocities calculation.

GStreamer-E with borehole source SHock of horizontally polarized shear wave (SH) is an advanced set of equipment for cross-hole seismic tomography survey in dry and water-filled wells with a distance between them up to 30 m. GeoSV would be enough for cross-hole seismic testing in accordance with ASTM D4428 / D4428M. Borehole sparker Pulse allows to significantly increase distances between the wells. You can read about these techniques here. All borehole sources are operated by pulsed power supply Jack.



Multi-level probe GStreamer-E can be supplied on a reel with a slip ring. The efficiency and safety of work in deep wells are ensured by BGW and BGW light winches.



<p>Main features:</p> <ul style="list-style-type: none"> • Geared motor driven anchor • Reliable fixation in the well • Individual control of tool anchoring • No limit on data sample rate • For open hole or cased wells, up to 1000 m deep 	
<p>Delivery set:</p> <p>Single level 3C system:</p> <ul style="list-style-type: none"> • GStreamer-E tool on cable • Single channel anchoring system remote control <p>Multi-level 3C array:</p> <ul style="list-style-type: none"> • 4 or 8 GStreamer-E tools on cable • Multi-channel anchoring system remote control 	
<p>In addition to GStreamer-E the following items can be purchased:</p> <ul style="list-style-type: none"> • Reel for 12-channel GStreamer-E • Reel for 24-channel GStreamer-E • BGW or BGW light winch • Energy source Jack with remote control JackPad • Borehole sources of pressure P (Pulse) or shear SH-waves (SHock) and SV-waves (GeoSV) • Borehole hydrophone array WellStreamer • High-frequency seismographs Sigma 4+ or DAQlink 5 • Borehole inclinometer <p>We have also developed multi-level 3C downhole seismic array GStreamer with a semi-active spring anchoring system, as well as simpler and cheaper GStreamer-P with pneumatic driven anchors.</p>	



Specifications:	
Number of levels	1, 4, or 8
Anchoring	Geared motor
Well casing type	Any or open hole
Number of components	3
Geophones natural frequency	12 Hz or 4.5 / 20 Hz (on request)
Tool locking	Individual
Clamping force	1:11
Maximum tool diameter	58 mm
Well diameter range	65 - 150 mm and more with anchor extenders
Maximum operating pressure	>100 bar

Ordering Information	
Item Description	HGS Part No.
Multi-level 3C Borehole Seismic Array GStreamer-E with Motor Driven Anchoring System	MK001575

Version 1.0



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