



# HGS (INDIA) LIMITED



## HGS DOWNHOLE 3C UNIT



### **INTRODUCTION:**

The Downhole 3C Geophone Unit is a rugged tool with 65 mm diameter usable for seismic borehole measurements in borehole up to 100 meters. This system is mainly used in cross-hole, downhole, tomography and VSP surveys. It is used to receive P-waves and S-waves in dry or water filled boreholes. The downhole 3C geophone unit consists of tri-axial geophones. This unit is coupled to the borehole wall by an electrical motor operated clamping system. This clamping system can couple rigidly with the well casing and can receive good seismic signals avoiding the trouble of lacerating gasbags typical of most low-cost systems.

Since it is motorised clamping system, it reduces the acquisition time and increases the productivity. The probe has a robust cylindrical metal case that can withstand long use in field conditions.



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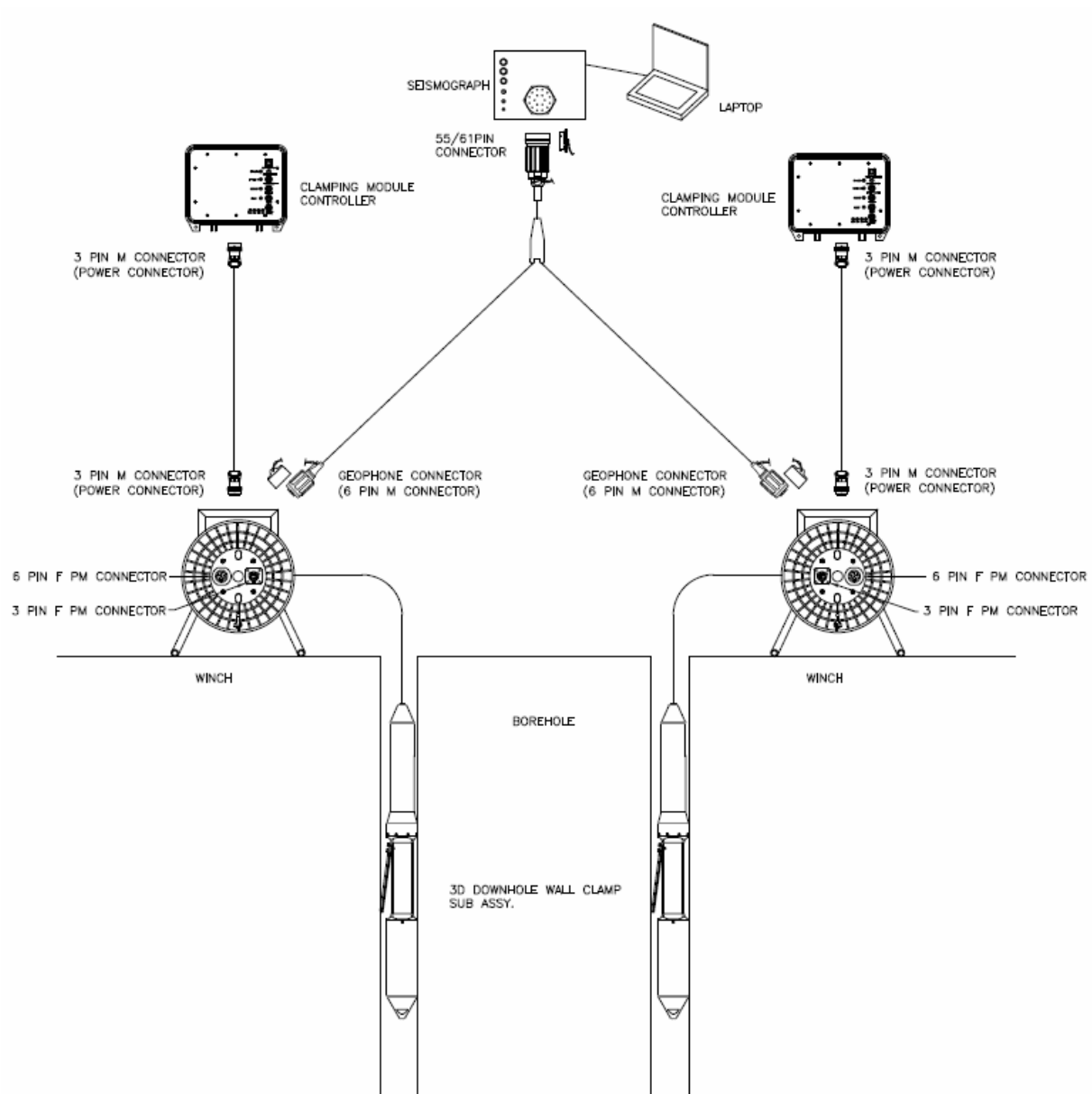


## OPERATION:

This system consists of 3 parts:

- Downhole 3C geophone probe
- Downhole cable with reel
- Clamping module controller

The general layout for two boreholes is shown in the figure below –



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## SPECIFICATIONS:

- Sensor arrangement: Tri-axial geophones
- Controller is supplied in a ruggedised Pelican carrying case (polypropylene case, IP-67 rated, watertight, dustproof and crushproof with rubber over-moulded handle.
- Geophone type: As per customer's requirement
- Operational depth: Up to 100 meters
- Receiver Length: 680 mm
- Receiver diameter before clamping: 65 mm
- Receiver diameter after clamping: Up to 150 mm
- Receiver weight: 8 kg
- Working pressure: 12 bars
- Cable weight meter: approx. 100 gm/meter
- Borehole diameter: 75 mm to 150 mm
- Clamping system: Electrical motor
- Depth indicator: Cable marking every 1 meter
- Connector: To any seismograph
- Controller battery: Rechargeable Li-ion 11.1 V / 7800 mAh along with charger. Provision to charge with external 12 V SMF battery.
- Operating temperature: -20°C to 70°C

Version 1.2