The INFRA system is used to monitor construction activities, blasting, train traffic, road traffic, vibration in buildings etc.

The INFRA geophone measures according to the following standards using internal signal processing software:

**SS 460 48 66**  
Vibration och shock – Blast induced vibration in buildings. mm/s 5-300 Hz.

**SS 02 52 11**  
Vibration and shock – Vibration in buildings from piling, sheet piling, excavation and packing. mm/s 5-150 Hz or 2-150 Hz.

**SS 460 48 61**  
Vibration and shock – Comfort in buildings 1-80 Hz, ISO 2631-2, mm/s RMS or mm/s² RMS.

**SS-ISO 8569**  
Vibration and shock – Vibration sensitive electronic equipment in buildings. Acceleration m/s², 5-300 Hz.

**NS 8176 Comfort**  
Vibrations and shock – Measurement of vibration in buildings from land based transport and guidance to evaluation of effects on human beings. 1-80 Hz

**NS 8141 Byggverk**  
Vibrations and shock in structures. Guidance limits for blasting-induced vibrations. 5-300 Hz

**NS 8141-1:2012 Byggverk**  
Vibrations and shock – Guideline limit values for construction work, open pit, pit mining and traffic. 2-300 Hz

**Geophone**, 5-500 Hz
**Technical Data**

**DIRECTION OF SENSITIVITY**

V10 is uniaxial and measures vibration in vertical direction. It has holes for mounting bolts (M6) for wall mount and floor mount.

**MEASURING**

The geophone has a built in digital signal processor. The signal processor processes all incoming data in real time according to the selected standard. It is easy to add new standards by updating the software of the geophone. Software update can be done over the bus cable. The sensor works in combinational mode. It measures maximum values for each minute (selectable from 5 sec. to 15 min) according to the selected standard and at the same time it triggers and record time histories when the trigger level is exceeded.

**SENSOR ELEMENT**

The sensor element is a high quality velocity sensing geophone. It is very rugged and has the following properties:
- High tolerance to mechanical shock
- Long term stability
- Wide temperature range -20 to +50 degrees
- Wide dynamic range

**IDENTITY**

The geophone has a unique ID number that follows the recorded data. This makes it possible to trace data to a certain sensor.

**CALIBRATION**

Only the geophone has to be calibrated. The rest of the the system is only data communication and data storage. The Geophone has an internal memory for identity, calibration factors, calibration date etc. Even the calibration date is supplied with the recorded data.

**TRIGG-SYNCRONISATION**

All time history recording sensors that are connected to the same INFRA bus cable will record data simultaneously if one sensor triggers. Acts as a multi channel transient recorder.

**MECHANICAL**

Watertight anodized aluminium house with rubber seals. It has holes for bolts passing through in both vertical and horizontal direction. Can very easily be bolted to the floor or to the wall.

**ANALYSIS**

Frequency range 1 Hz - 500 Hz The Geophone has a calibrated sensitivity within + - 2%. Maximum vibration level is 250 mm/s dependent on the selected standard. High range is 0.05 mm/s to 250 mm/s Low range is 0.005 mm/s to 25 mm/s. The noise level is extremely low due to the internal A/D converter.

**ACCESSORIES**

See the product catalogue for accessories.

**CE APPROVAL**

Fulfills EMC demands according to:
- EN 301 489-1 V1.8.1 (2008)
- EN 301 489-7 V1.3.1 (2005)
- EN 61326-1 (2006)