



# VIBSIST-50-S

## CODED-IMPACT SEISMIC SOURCE

### DESCRIPTION

The VIBSIST-50-S is a multi-impact, time-distributed seismic source.

The seismic signals are generated by an electric hammer, which produces a sequence of impacts according to a pre-programmed time function.

The VIBSIST-50-S is portable, safe, non-destructive and environmentally friendly.



*The VIBSIST Controller .*



*The VIBSIST-50-S with hand cart .*

### KEY FEATURES

- ◆ Reflection, refraction and surface waves seismic source
- ◆ High productivity
- ◆ Simultaneous multiple-source operation
- ◆ High resolution
- ◆ Portable
- ◆ Environmentally friendly
- ◆ Compatible with all industry-standard seismographs

### APPLICATIONS

The VIBSIST-50-S is intended for detailed **P/S-wave and surface wave surveys** with a typical penetration range up to 250 m, in reflection mode.

The fields of use include:

- *urban geotechnical investigations*
- *foundation engineering*
- *roadbed and dam inspection*
- *placer exploration*
- *ground water exploration*
- *ore delineation*
- *research and education*



# MEDIUM RANGE URB



*The VIBSIST-50 source can be efficiently used in urban and remote environments.*

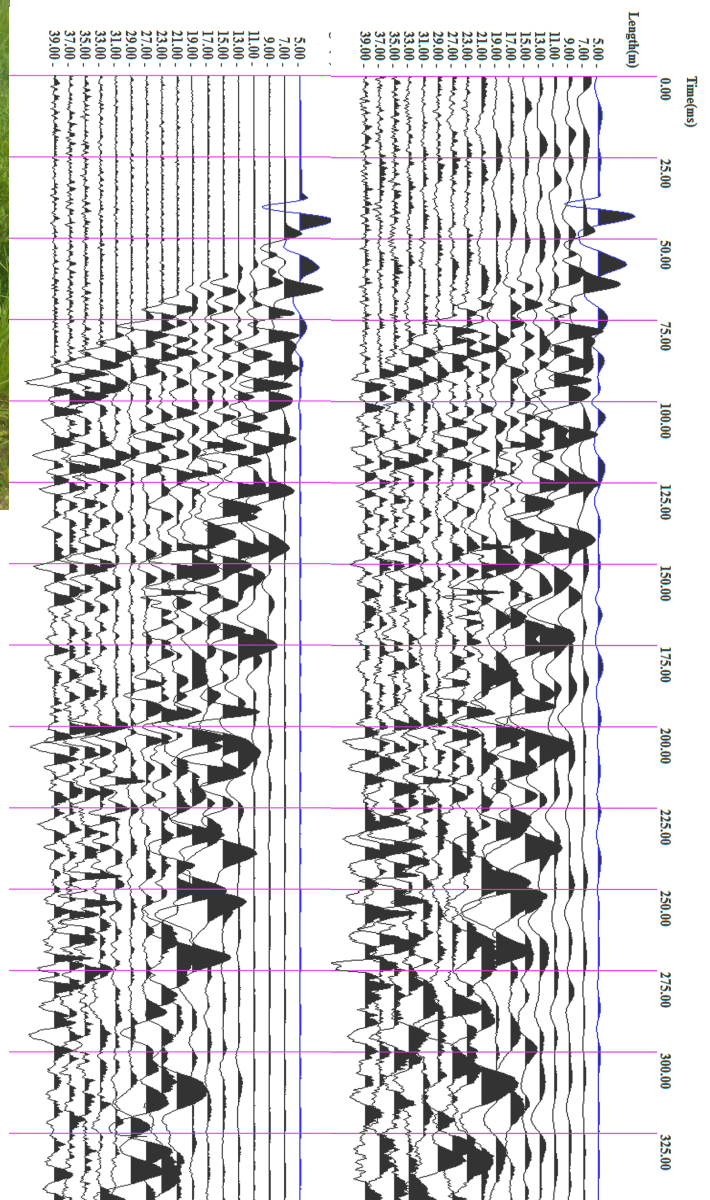
## HIGHER RESOLUTION AND DATA QUALITY

The VIBSIST-50-S achieves better data quality than older models and small drop-weights, especially in noisy environments. The improvement is obtained by accumulating higher impact energy over a period of time. A signal energy of 15 kJ is produced over a period of 25 seconds at an average rate of 3 impacts per second. The build-up of individually low energy impacts leads to significant depth penetration while conserving the high frequency component and leading to higher resolution surveys. All types of noise - cultural, natural, and instrumental - are canceled by the swept impact technique.

Compared with frequency swept vibrators, a wide bandwidth is achieved with the VIBSIST-50-S even when the coupling to the rock or ground is relatively poor.

With the VIBSIST-50-S, you can finish the job quite sooner than with alternative methods.

The VIBSIST-50-S features significant noise suppression capabilities, compared with previous models.



***VIBSIST-50-S and VIBSIST-50 records in noisy environment.***



# AN SEISMIC SOURCE

## SYSTEM MODULES

The **impact assembly** is built as a sandwich of aluminum, steel and rubber plates and bells and several types are available to customize the VIBSIST-50-S for specific applications and ground or rock conditions.

The **Electric impact hammer** operates in accordance with the coded sequence, produced by the instrument controller. A power source such as a gas/Diesel generator is needed to power the hammer.

The seismic response recorded by the controller processor of the source is conveyed to the recording station by cable or optionally by a coded radio signal. A variety of **seismographs** can be used, which include all industry-standard recording systems.

## SOFTWARE

- **Control Software** used to program and operate the sweep control sequence
- **Sweep Decoder**; correlates the sweeps. This module can either be used for fast on-line monitoring or elaborate off Line processing
- **Signal Conditioning**, includes a collection of filters used for processing of the records before and/or after correlation
- **Signal Display Interface** allows the operator to visualize the data conveniently and flexibly.

## SPECIFICATIONS

**Power supply:** 115 V/60 Hz - 230 V/50 Hz

**Maximum current:** 12—25 A

**Repetition rate:** programmable between 1 to 5 impacts per second

**Impact energy:** approximately 200 J / impact

**Sweep time adjustment:** 2.5 to 30 seconds (possibly limited by the maximum number of samples per channel of the recorder).

### Controller

*Dimensions:* 300 x 120 x 60 mm

*Weight:* 2 kg

### Impact Hammer

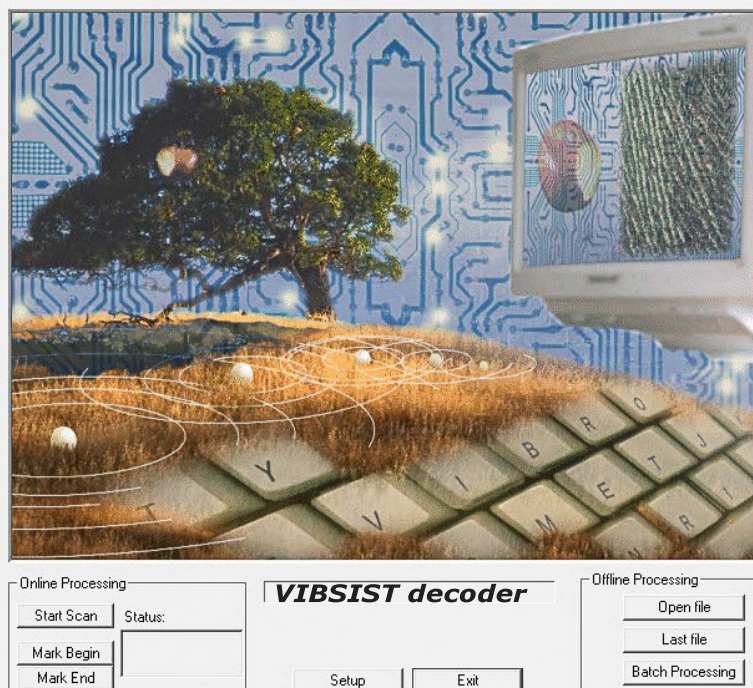
*Length:* 760 mm

*Handle span:* 600 mm

*Weight:* 48 kg

### Impact Stand / Trolley / Coupling plate

*Weight:* 25 kg





# VIBROMETRIC

## VIBSIST-50-S SEISMIC SOURCE



### **PORTABLE and MOBILE**

The VIBSIST-50-S is portable and mobile. The VIBSIST-50-S can be used to generate and measure surface waves. It allows jobs to be done efficiently even in noisy conditions.

### **ENVIRONMENTALLY FRIENDLY**

The VIBSIST-50-S is an environmentally friendly seismic source. It is a non-destructive alternative that does not create environmental pollution such as chemicals, sound, etc. Legal risks frequently associated with using explosives are eliminated.

### **COMPATIBLE WITH ALL INDUSTRY-STANDARD SEISMOGRAPHS**

The VIBSIST-50-S can be used all WINDOWS seismographs and a number of UNIX/LINUX seismographs.

A dedicated correlator is included with the VIBSIST software.

DISTRIBUTORE ESCLUSIVO IN ITALIA:

IGS IDROGEOSTUDI DEL DR. MARIO FORESTA  
Via Chiuse Lunghe, 50 - 95125 Catania  
Tel. +39 095431600

[www.idrogeostudi.com](http://www.idrogeostudi.com)  
[igs@idrogeostudi.com](mailto:igs@idrogeostudi.com)

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