

## VE-53 / VE 52 / VE 51 Short Period Seismometer

### Features

- Full scale** 2 x 500 (1000) V/m/s  
DIN 2 x 100 (200) V/m/s
- Bandwidth** 1 to 80 Hz (-3 dB)  
0.2 to 160 Hz  
DIN 0.8 to 315 Hz
- Complies with DIN 45669 Class 1**
- Dynamic range > 120 dB (1 to 30 Hz)**
- Excellent temperature stability**
- Seismic activity monitoring, Civil Engineering, Vibration, Blast applications**
- Downhole version (VE-5x-DH) is also available**
- Different housing and mounting options are available**



### Outline

The VE-5x is a triaxial short period seismometer designed for field or survey and monitoring applications.

The VE-5x seismometer is based on a state of the art geophone mass-spring system with electronic feedback. It is ideally suited for installation in vaults with low to moderate noise. This type of sensor yields a very good stability under temperature fluctuations or against aging effects. In addition due to the innovative design of the unit no mass clamping is required.

The VE-5x is housed in a sealed cast aluminium housing. The housing also incorporates a single bolt mount with three levelling screws.

The broadband version, VE-53-BB, is suitable for monitoring applications involving an extended frequency range. Stainless steel packaging options and a downhole version, VE-53-DH, are also available.

The VE-5x seismometer is directly compatible with all GeoSIG systems.

# Specifications VE-53 / VE 52 / VE 51 Short Period Seismometer

## General Characteristics

**Application:** Seismic activity monitoring,  
Vibration and Explosion Data Acquisition  
Systems, Civil Engineering

### Configurations:

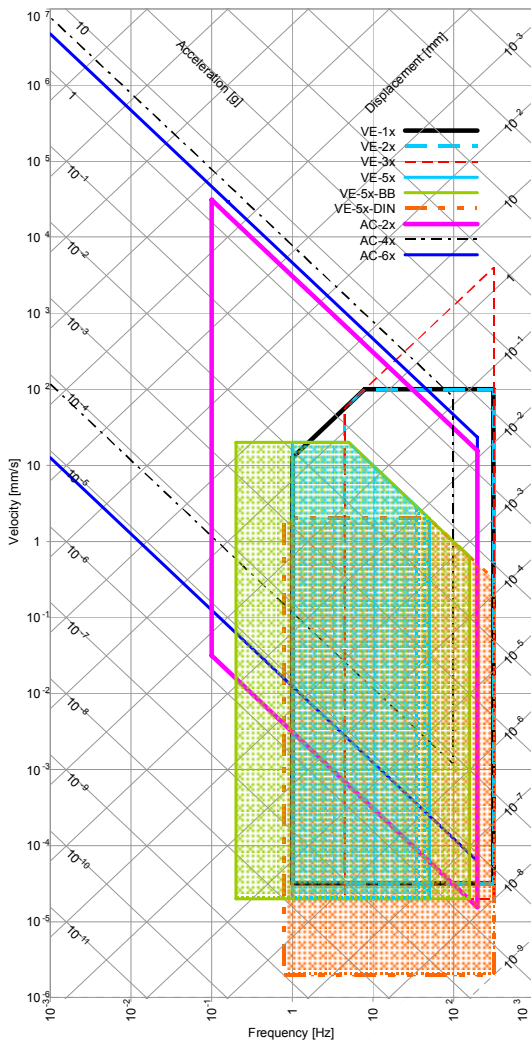
	Triaxial	Biaxial	Uniaxial	Axes	Alignment**
VE-53:	■			X – Y – Z	H – H – V
VE-52-H:		■		X – Y	H – H
VE-52-V:		■		X (or Y) – Z	H – V
VE-51-H:			■	X (or Y)	H
VE-51-V:			■	Z	V

\*\* H: Horizontal, V: Vertical

**Full Scale Range:** 2 x 500 (1000) V/m/s  
Optional DIN: 2 x 100 (200) V/m/s

### Sensor Element

**Type:** Over damped geophones  
**Dynamic Range:** > 120 dB (1 to 30 Hz)  
**Linearity:** ± 0.05 % of full scale maximum  
**Accuracy:** ± 0.2 dB max over the bandwidth  
**Cross Axis Sensitivity:** ± 1 % typical  
 ± 3 % maximum  
**Bandwidth:** 1 to 80 Hz (-3 dB)  
 optional DIN: 0.8 to 315 Hz  
 optional BB: 0.2 to 160 Hz  
**Damping:** 0.7 critical  
**Full Scale Output:** 0 ± 10 V differential  
 optional 0 ± 5 V pseudo-differential  
**Measuring Range:** See plot



## Power

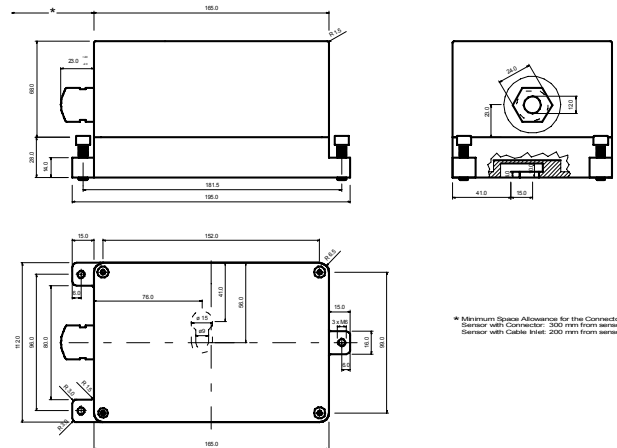
**Supply Voltage:** 10 to 15 VDC  
**Consumption:** 45 mA at 12 VDC  
**Connector:** Metallic, Shielded, IP67, 12 pins, male  
 optional MIL, Bendix PT07A 14-19P  
**Mating:** Binder / Coninvers type RC  
**Overvoltage Protection:** All pins are protected

### Connector Pin Configuration

Pin 1-2, 3-4, 5-6: Signal output for axis X, Y, Z  
 Pin 7-8: Test input, Digital test-pulse (0 – 12 V)  
 Pin 9-10: +12 VDC Power Supply  
 Pin 11-12: not connected  
**Case:** Shielded Ground

## Environment/Housing

**Housing Type:** Cast aluminium  
 Sealed access cover  
**Housing Size:** 195 x 112 x 96 mm  
**Weight:** 2.5 kg  
**Index of Protection:** IP 65  
 optional IP 68  
**Temperature Range:** -20 to 70 °C (operating)  
 -30 to 80 °C (non-operating)  
**Humidity:** 0 to 100 % (non-condensing)  
**Orientation:** Floor mount  
 optional Wall mount  
**Mounting:** Single bolt, surface mount, adjustable  
 within ± 10°



\* Minimum Space Allowance for the Connector and Cable:  
 Sensor with Connector: 300 mm from sensor housing  
 Sensor with Cable Inlet: 200 mm from sensor housing

### Standard VE-5x

Floor mounted, full scale 1000 V/m/s,  
 2 m cable with sensor mating connector  
 concrete anchor and user manual on CD

### Options

**Cable & connector:** Sealed cable inlet, replaces connector  
 Cable with shielded twisted pairs for any  
 length (including mating sensor  
 connector) with open end  
 Cables for connection to GeoSIG  
 recorder Connector on user specification  
 mounted at cable end  
**Housing:** Watertight IP68 housing  
 Downhole housing  
 Stainless steel protective housing

### Ordering Information

**Specify:** Type of VE-5x, full scale range, and  
 other applicable options