VIBRA-series
Measuring Vibrations

With a Profound *VIBRA* system, vibrations that are caused by traffic, pile driving or demolition work can be monitored continually and accurately. By recording the vibrations you can assess the risk of damage to buildings and sensitive equipment as well as the nuisance to people in an objective manner in accordance with the applicable guidelines.

Advanced

During each time interval the *VIBRA* measures and records both the maximum vibration levels and the vibration frequencies in x-, y- and z-direction. In addition every hour a full measuring signal of the highest peak value(s) is recorded. The *VIBRA*'s digital signal processing guarantees measurements of a high quality and accuracy.

The Profound *VIBRA*-series comprises the *VIBRA* and the *VIBRA*⁺. The top of the line *VIBRA*⁺ has several special features, including an integrated GPRS/internet option, PC Trace Recorder, displacement measurements and automatic level- and calibration checks. The various characteristics are summarized in the technical specifications.

Measurements according to standards

Depending on the chosen version, the system meets national and international standards, such as DIN 4150 and DIN 45669.

Especially the measurement and assessment guidelines of DIN 4150 form the basis for the interpretation of the vibration impact. With Profound's *VIBRA* or *VIBRA*⁺ vibrations are measured reliably in accordance with these guidelines. The *VIBRA*⁺ also determines the dominant frequency in accordance with the advanced FFT-method. The measuring values for vibrations in buildings as well as for the effects on persons are shown simultaneously on the display.

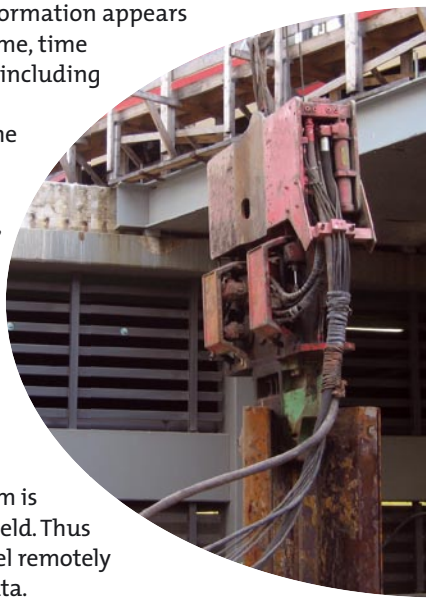
Compact and sturdy

The *VIBRA*'s robust aluminum casing, equipped with plastic top and bottom housing the antenna and batteries respectively, is IP65 watertight.
The system is easily portable and battery-operated which allows for up to 4 weeks of unmanned and continuous operation.

DIN geophone mounting plate

Simple and efficient

Performing a measurement is very simple due to the ergonomic operation: attach the 3-dimensional geophone to the structure to be monitored, program the system and start measuring. While measuring, all relevant information appears on the *VIBRA*'s display, such as time, time interval and the vibration values including frequency in all 3 directions.
You can also immediately check the peak values.



Before starting the measurement, an alarm level can be entered and an external alarm system can be connected. If programmed the *VIBRA*⁺ model sends alarm messages via GPRS.

With the PC Remote Control software you can log in remotely to your *VIBRA* system, if the system is connected via USB to a PC in the field. Thus you can program any *VIBRA* model remotely change settings and download data.

Analysis and processing

Once the measurement has been completed the *VIBRA* can be connected to your PC or laptop via a USB connection for uploading the data and further analysis of the measurements using the PC software supplied with the system. With the *VIBRA*⁺ the data can also be sent to your PC via e-mail.

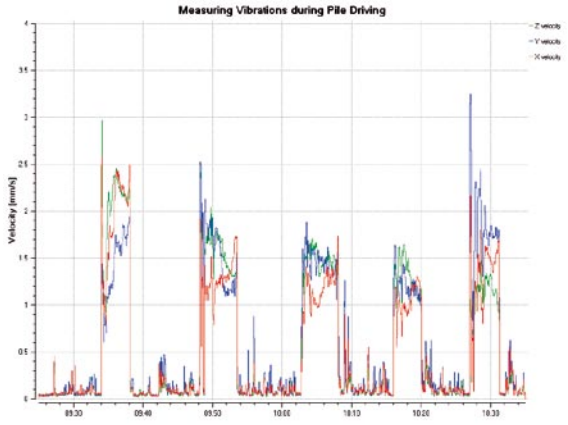
Over 15 years Profound has been the leading supplier of vibration measurement equipment. With a Profound *VIBRA* system you have a unique and reliable instrument to measure vibration continuously and accurately.

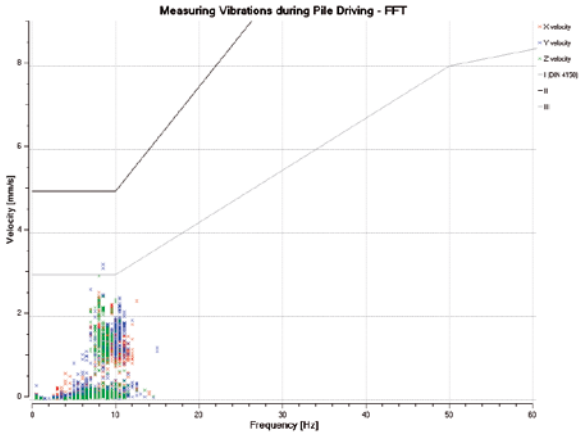
VIBRA-serie

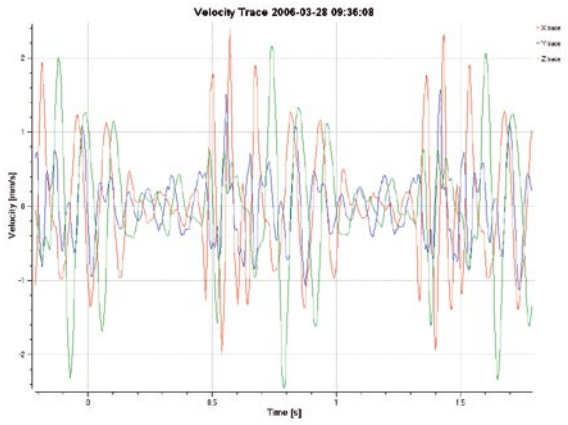
Specifications ***VIBRA, VIBRA+***

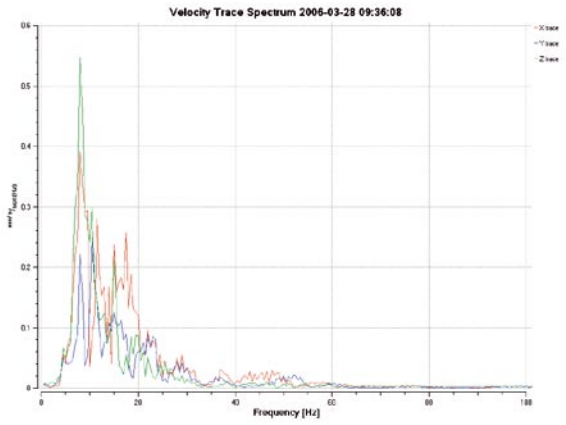
Peak velocity, - acceleration	:	In x-, y- and z-direction per time interval
Frequency of the velocity	:	In x-, y- and z-direction per time interval
Frequency range and accuracy	:	DIN 45669-1 June 1995, accuracy class 1
Dominant frequency determination	:	Zero Crossing Method FFT (*VIBRA+* only)
Frequency characteristic	:	Lower limit (-3dB): 0.8 Hz (12 dB/oct.) Upper limit (-3dB): 100 Hz (12 dB/oct.)
Velocity range	:	0 – 100 mm/s
Data measurement and processing	:	According to DIN 4150 - Part 2 (*VIBRA+* only) According to DIN 4150 - Part 3
KB_{FT} and KB_{Fmax} (*VIBRA+* only)	:	In x-, y-, z-direction in accordance with DIN 4150 - part 2

Extensive technical specifications available at our websites









Measuring vibrations with the VIBRA+ during pile driving

With the VIBRA PC software the measurement data are shown directly in accordance with DIN guidelines. The above graphs show the measured peak values against time, the peak values against frequency (in accordance with FFT method) and the continuous measurement signal (trace) with the accompanying spectrum.

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VIB010/05/2009