

# Product Data

## Hand-Arm Vibration Meter — Type 2537

### USES:

- Control workers' exposure to hand-arm vibration in the workplace
- Find calculated half- and full-day exposure levels ( $A_{eq4}$  and  $A_{eq8}$ ) based on short measurements
- Demonstrate a tool's compliance with vibration exposure safety standards
- Simultaneous RMS and Peak measurements
- Hand-arm vibration and linear frequency weightings
- Measures  $A_{eq}$ ,  $A_{eq4}$ ,  $A_{eq8}$ ,  $A_{max}$ ,  $A_{min}$ ,  $A_{mp}$ , Peak, and Inst
- 40 records of stored results
- Two measurement ranges
- Included mounting bracket attaches the accelerometer firmly to a tool handle

### FEATURES:

- Conforms with ISO 8041 Type 2 and ISO 5349
- Back-lit display
- Five built-in languages: English, German, French, Spanish, Italian

## Description

Hand-Arm Vibration Meter Type 2537 is designed to be quick and easy to use when taking occupational health related measurements.

Measurements are displayed on a large LCD screen, which includes a quasi-analogue bar that shows the current acceleration level.

The instrument features two parallel independently frequency weighted detectors. This enables it to display both RMS and Peak readings simultaneously.

### Intuitive User-interface

The clearly marked arrows and symbols on the front panel, combined with the large LCD screen (with back light), make the hand-arm vibration meter very easy to learn and use. The display is clear and concise. Clear instructions and warnings guide you through your measurement.

### Real-time Clock

The Type 2537 has a real-time clock and calendar, which marks each measurement with the date and time.

### Data Storage & Processing

The instrument is capable of storing up to 40 records of measurement results. Each record stores the date, measurement time,  $A_{eq}$ ,  $A_{eq4}$ ,  $A_{eq8}$ ,  $A_{max}$ ,  $A_{min}$ ,  $A_{mp}$ , and overload status. These results can be transferred in a spreadsheet-compatible format via the built-in serial interface to a PC. Measurement results can also be output to a portable printer as you take them.

### Convenient Downloading

The instrument comes with communication software that runs on a PC under Windows. The software's graphical interface makes it simple to download measurement records and display them in a spreadsheet program.

### AC Output

The linearly weighted AC output enables you to make a direct calibrated recording (on Digital Audio Tape, for example), which can be used later for complete vibration analysis.



# Specifications 2537

<p><b>STANDARDS:</b> Conforms with ISO 8041 Type 2 and ISO 5349</p> <p><b>INPUT:</b> 0.35 pC/ms<sup>-2</sup> for accelerometer Type 4505</p> <p><b>FREQUENCY WEIGHTINGS:</b></p> <ul style="list-style-type: none"> <li>• Linear (Unweighted)</li> <li>• Hand-Arm Vibration Weighting</li> </ul> <p><b>MEASURING RANGES:</b>  <b>Hand-Arm:</b> 5 – 1500 Hz  <b>Linear:</b> 6.3 – 5000 Hz (-3 dB)  <b>Inst, Low Range Setting:</b> 0.1 – 316 m/s<sup>2</sup>  <b>Inst, High Range Setting:</b> 1 – 3160 m/s<sup>2</sup>  <b>Peak, Low Range Setting:</b> 0.14 – 447.2 m/s<sup>2</sup>  <b>Peak, High Range Setting:</b> 1.4 – 4472 m/s<sup>2</sup></p> <p><b>DETECTORS:</b>  <b>RMS Averaging Time:</b> 1 s  <b>Peak Rise Time:</b> &lt;100 µs  Automatic reset at 1 s intervals</p> <p><b>PARAMETERS:</b>  A<sub>min</sub>, A<sub>max</sub>, A<sub>eq1</sub>, A<sub>eq4</sub>, and A<sub>eq8</sub> are calculated based on 1 s exponential averaging of the instantaneous RMS readings (Inst). A<sub>mp</sub> is the highest peak reading (Peak)</p> <p><b>OVERLOAD INDICATION:</b>  Instantaneous indication of overload and latched overload. Stored records also include a latched overload indicator</p> <p><b>DISPLAY:</b>  4 line LCD showing: <ul style="list-style-type: none"> <li>• Input signal level – indicated with a quasi-analogue bar (updated 15 times per second)</li> <li>• Selected parameters with level</li> <li>• Warnings for: battery low and overload</li> <li>• Measuring range</li> <li>• Elapsed measurement time</li> <li>• Menus for displaying and editing settings</li> <li>• Recalled records</li> </ul> Features a back-light for easy viewing, which can be turned on and off and includes an auto time-out to save batteries. Displayed parameters updated once per second</p> <p><b>MEMORY:</b>  40 Records of Overall Results</p>	<table border="1"> <tr> <td style="text-align: center; vertical-align: middle;"><b>CE</b></td> <td>CE-mark indicates compliance with EMC Directive</td> </tr> <tr> <td>Safety</td> <td>EN 61010-1 and IEC 1010-1: Safety requirements for electrical equipment for measurement, control and laboratory use</td> </tr> <tr> <td>EMC Emission</td> <td>EN 50081-1: Generic emission standard. Part 1: Residential, commercial and light industry EN 50081-2: Generic emission standard. Part 2: Industrial environment CISPR 22 (1993): Radio disturbance characteristics of information technology equipment. Class B Limits FCC Rules, Part 15: Complies with the limits for a Class B digital device</td> </tr> <tr> <td>EMC Immunity</td> <td>EN 50082-1: Generic immunity standard. Part 1: Residential, commercial and light industry EN 50082-2: Generic immunity standard. Part 2: Industrial environment When measuring vibration with the Lin frequency weighting in an industrial environment, levels below 0.3 m/s<sup>2</sup> may be affected (extreme worst case)</td> </tr> </table> <p><b>TRANSDUCER:</b> Type 4505 accelerometer</p> <p><b>SERIAL INTERFACE:</b> Compatible with: <ul style="list-style-type: none"> <li>• EIA-574</li> <li>• EIA-232-E with 25-pole adaptor</li> </ul> <b>Baud Rate:</b> 9600  <b>Data Bits:</b> 8  <b>Stop Bit:</b> 1  <b>Parity:</b> None  <b>Handshake:</b> XON/XOFF  <b>Result Output Formats:</b>  Buffer (printer format) or all records (spread-sheet format)</p> <p><b>AC OUTPUT:</b> Short-circuit protected coaxial LEMO socket (series 00)  <b>Minimum Load Impedance:</b>  5 kΩ in parallel with 1 nF  <b>Output:</b>  Output signal from input amplifier (no frequency weighting); approximately 0.5 V RMS at full scale deflection</p> <p><b>CLOCK:</b> Real-time (calendar) and measurement duration  Factory set to CET</p>	<b>CE</b>	CE-mark indicates compliance with EMC Directive	Safety	EN 61010-1 and IEC 1010-1: Safety requirements for electrical equipment for measurement, control and laboratory use	EMC Emission	EN 50081-1: Generic emission standard. 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## Ordering Information

<p><b>Type 2537</b> Hand-Arm Vibration Meter</p> <p>Includes the following accessories:  Type 4505 Accelerometer  ZE 0777 Charge Amplifier  DB 3585 Mounting Stud  4×QB0013 Four 1.5 V LR6/AA size alkaline cells  AO0038: Low-Noise Cable</p>	<p><b>Optional Accessories</b></p> <p><b>Type 4294</b> Calibration Exciter  <b>Type 2322</b> Portable Printer  <b>Type 4500:</b> Cubic Accelerometer  <b>Type 4501:</b> Cubic Accelerometer  <b>AO 0283:</b> Super-Low-Noise Teflon Cable (for Types 4500 and 4501)</p>	<p><b>AO 0339:</b> Low-Noise Cable (for Types 4500 and 4501)  <b>AO 0403:</b> LEMO to BNC Cable  <b>AO 1386</b> 9-pole Cable with 25-pole Adaptor (for computer and serial printer)</p>
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Brüel&Kjær reserves the right to change specifications and accessories without notice



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