



# Hand-Arm & Whole-Body Vibration Monitoring

Vibration Exposure & Product Compliance Testing with Larson Davis Model HVM100

## Highlights

- Measures x, y, z and sum (S) simultaneously
- Compact and portable
- Measures to ISO 2631, 5349 requirements, meets ISO 8041 Type 1 accuracy standard
- Supports ICP® accelerometers
- Complete system with analysis software available
- Enables compliance with EU Physical Agents Directive 2002/44/EC

## Applications

- Product compliance testing
- Tool maintenance and repair operations
- Hand-arm exposure monitoring
- Whole-body exposure monitoring



Tool maintenance and safe operating conditions can be monitored using HVM100



Model HVM100

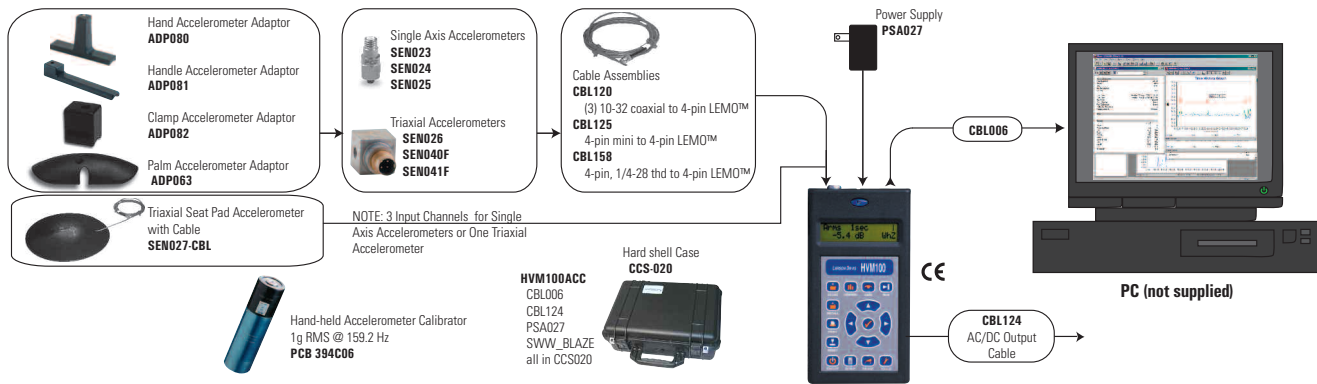
Model HVM100 provides a portable, convenient way to collect and analyze data in accordance with the most current ISO requirements for assessing hand-arm and whole-body vibration exposure. Measuring three input channels simultaneously, the HVM100 provides the signal filtering, integration, and data storage necessary to comply with ISO Standards 2631, 5349, and 8041. A fourth channel calculates and stores vector sum information. Single axis and triaxial accelerometers with specialized mechanical mounting adaptors and various software packages are available to complete the system.

For gathering comprehensive and accurate exposure data in the field, performance of HVM100 is exceptional. It stores RMS, Minimum, Maximum and Peak Level data, as well as relevant metrics, such as Crest Factor and Vibration Dose Value (VDV). A handy AC or DC output signal for each channel provides ability to interface external recorders or analyzers for more detailed analysis.

Since the HVM100 employs digital filtering techniques, it can be electronically updated should standards dictate a filter curve modification. Additionally, the unit features a simple LCD display and choice of multiple language interfaces.



## HVM100 System Details



### Model HVM100

Technical Specifications	
Input types	ICP® sensors, charge output sensors, direct voltage
Input range	>100 dB (in multiple ranges)
Range gain	x1, x10, x100, x1000
Calibration	By level or sensor sensitivity entry
Units	m/s <sup>2</sup> , cm/s <sup>2</sup> , ft/s <sup>2</sup> , in/s <sup>2</sup> , g, dB
Metrics for each mode:	
Vibration:	Arms, Amin, Amax, Aeq, Amp, Peak
Hand-arm:	Arms, Amin, Amax, Aeq, Amp, Peak, A(1), A(2), A(4), A(8), A(8) AET
Whole-body:	Arms, Amin, Amax, Aeq, Amp, Peak, CFmp, CF, VDV
Frequency weighting	
Vibration	Ws (Severity), Fa (0.4 Hz to 100 Hz), Fb (0.4 Hz to 1250 Hz), Fc (6.3 Hz to 1250 Hz)
Hand-arm	Wh
Whole-body	Wb, Wc, Wd, We, Wg, Wj, Wk, WB
Setups	Store up to 10 user setups
Memory	100 measurements, 1 min to 99 hr
Time history	120 samples of Arms & PEAK at a period of 1, 2, 5, 10, 20, 30, 60 sec
Interface	USB (with DVX008A USB to DB9M Serial Adaptor) RS-422/RS-232 serial interface; modem mode
Printout	Custom 3 line header, data and time history
Outputs for each channel	
AC	Weighted or band-limited
DC	rms, min, max, peak, sum RMS, sum max, sum min, sum peak
Peak	± 0.5 dB accuracy
Power	(2) AA batteries (IEC Type LR6) <i>Batteries included</i>
Weight	300 gm (10.6 oz)
Dimensions	1.1 x 3.3 x 6.0 in (28 x 84 x 152 mm)
Standards met	ISO 8041:2005, 2631-1:1997, 2631-2:1989, 2631-4:2001, 5349-1:2001, and 5349-2:2001, ANSI 2.70-2006 plus it provides the Whole-body frequency weighting Wg specified in the British Standard BS 6841:1987. CE compliant.

### Available Configurations (partial listing, consult factory)

HVM100-ALL-40:	Hand-arm & whole-body vibration kit includes HVM100, HVM100-ALL, 1 mV/g accelerometer (SEN040F), seatpad accelerometer (SEN027), handle adaptor (ADP081), cables (CBL006, DVX008A, CBL158), case (CCS028), and Blaze® software.
HVM100-ALL-41:	Hand-arm & whole-body vibration kit includes HVM100, HVM100-ALL, 10 mV/g accelerometer with filter (SEN041F), seatpad accelerometer (SEN027), handle adaptor (ADP081), cables (CBL006, DVX008A, CBL158), case (CCS028), Blaze® software.
HVM100-ALL-26	Hand-arm & whole-body vibration kit includes HVM100, HVM100-ALL, accelerometer (SEN026), seatpad (SEN027), palm adaptor (ADP063), cables (CBL006, DVX008A, CBL125), case (CCS028), Blaze® software.

### Available Software

Blaze® Industrial Hygiene Software	Easy to use, powerful analysis and reporting software for the Safety Professional and Industrial Hygienist. Create formatted exposure reports for regulatory compliance and risk assessment, graphical reports for exposure analysis and presentation-ready summary data for management. Enable custom instrument set-ups for ease-of-use in the field and retain multiple accelerometer sensitivity data for accurate measurement at all times. (Blaze® also supports Larson Davis's Spark® series Noise Dosimeters, and the SoundTrack LxT® Sound Level / Octave Band Meters)
HVManager™ Tool Database and Exposure Profiling Software	Create a complete database of every tool used and its vibration level; manage the maintenance and optimize performance of the tools and create a composite employee exposure profile based on time-on-task and tool(s) used.
DNA Data Navigation and Analysis Software	The most powerful analysis package available, DNA allows complete customization of reports, report templates and creates interactively linked documents. With powerful graphics and real-time interface capability, DNA can satisfy the most demanding applications for any engineering application.



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