SV 103
Personal Daily Vibration Exposure Meter

The SV 103 is the world's first personal hand-arm vibration exposure meter. The instrument meets ISO 8041:2005 and is the ideal choice for making measurements according to ISO 5349 and European Directive 2002/44/EC.

Hand-arm vibration is when mechanical vibrations are transmitted to the human hand when in contact with the surface of a vibrating machine such as an electric drill. This type of vibration is particularly harmful as it can cause pathological changes in the nervous system of the hands and fingers; commonly called white finger disease. As there is no cure for damage caused by vibration, the only effective regime is to take regular vibration measurements in the hazardous workplace environment and therefore ensure that damage is not caused in the first place. However, many currently used assessment methods for hand-arm vibration are subject to a very high level of uncertainty and typically vibration measurement accuracy can vary in the range of ±20% to 40% which makes a big difference in terms of white finger disease. The SV 103 from Svantek significantly decreases the measurement uncertainty as the instrument is attached to the user's arm and is small enough to take daily vibration exposure measurements without interfering with normal working activities.

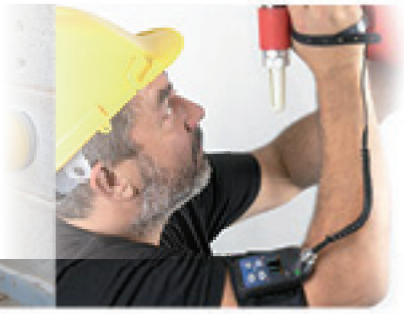
The SV 103 uses our latest accelerometer, the SV 107, that has a contact force sensor in addition to the standard accelerometer. Contact force is the sum of grip force and push force and is therefore a measurement of how firmly a user is holding the tool being measured. This is a recommendation of the new standards and the reading from the contact force sensor is also displayed on the screen. The SV 107 accelerometer is based on MEMS, the very latest in transducer technology. MEMS gives many advantages including shock resistance, very low power and frequency response down to DC. The usage of MEMS breaks the technological barrier of a weight and dimensions additionally reducing the cost of the complete system.

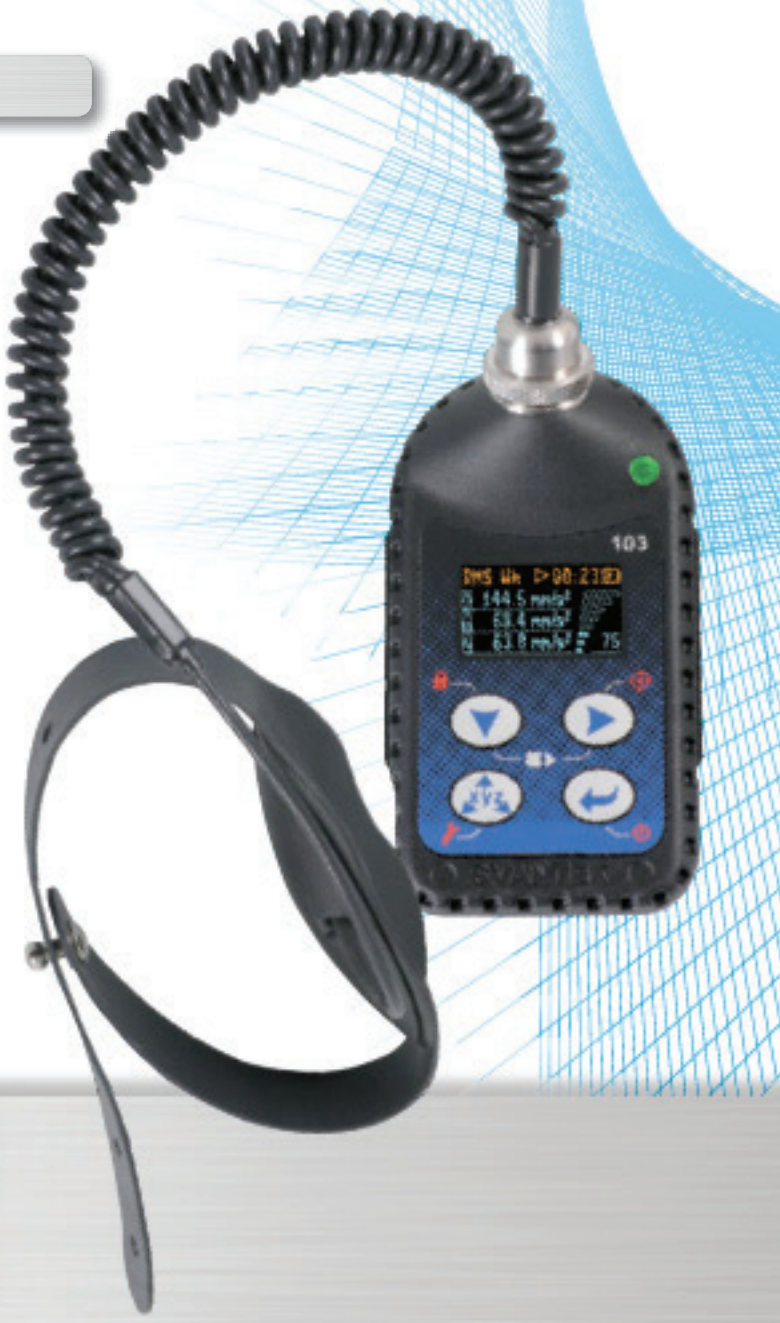
The SV 103 is powered using rechargeable batteries charged through the USB interface which also enables easy interconnection between the instrument and a PC. The measurement data is safely stored in the large 8 GB memory. The instrument works with our powerful "Supervisor" software which allows instrument configuration as well as the viewing and exporting of measurement data and daily vibration exposure recalculations.

The colour OLED screen that offers excellent visibility even in full daylight accomplishes the exceptional features of this instrument.

Features

- Personal Daily Vibration Exposure Meter complying to ISO 8041
- Measurement under gloves according to ISO 10819
- Tri-axial accelerometer complying to ISO 5349
- Contact force measurement
- 1/1 or 1/3 octave real-time analysis (option)
- Time-domain signal recording (option)
- Large 8 GB memory
- USB 2.0 interface
- OLED color display with super brightness and contrast
- Operational time > 24 hours
- Easy in use predefined setups
- Extremely compact, light weight and robust case





SVANTEK
continuous innovation

SV 103
Technical Specification

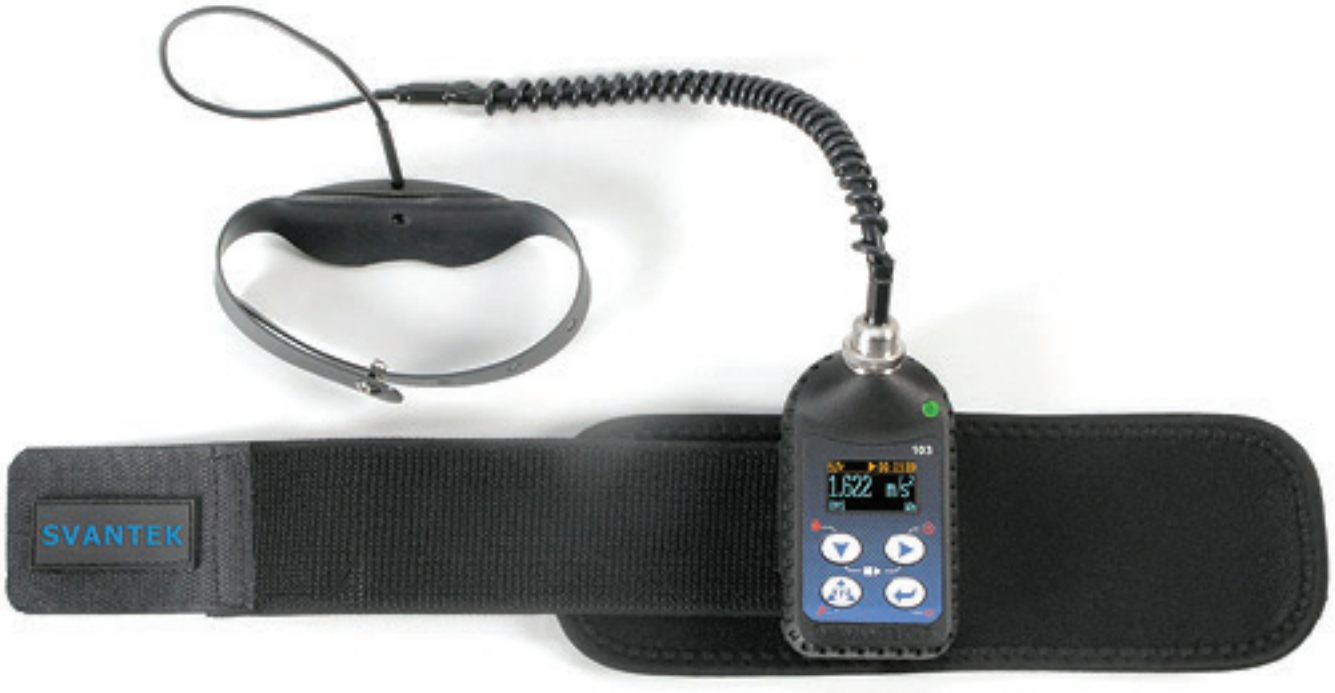
Vibration meter

Standards	ISO 8041:2005, ISO 5349-1:2001; ISO 5349-2:2001;
Meter Mode	RMS, Max, Peak, Peak-Peak, Vector, A(8) Daily Dose, ELV, EAV
	Simultaneous measurement in three channels
Filters	W_h (ISO 5349) and corresponding Band Limiting filter
RMS & RMQ Detectors	Digital true RMS & RMQ detectors with Peak detection, resolution 0.1 dB
Measurement Range	0.2 ms^{-2} RMS ÷ 2000 ms^{-2} PEAK
Frequency Range	1 Hz ÷ 2000 Hz
Data Logger	Time-history data including meter mode results and spectra
Time-Domain Recording	Simultaneous 3-channel time-domain signal recording (option)
Analyser	1/1 octave real-time analysis meeting Class 1: IEC 61260 (option)
	1/3 octave real-time analysis meeting Class 1: IEC 61260 (option)
Accelerometer	detachable SV 107 tri-axial accelerometer with hand straps in accordance to ISO 5349

Basic Data

Display	OLED 128 x 64 pixels	
Memory	8 GB	
Interfaces	USB 2.0 client	
Keyboard	4 push buttons	
Power Supply		
	Ni-MH rechargeable cells	operation time > 24 hours[1]
	USB interface	500 mA HUB
Environmental Conditions		
	Temperature	from -10 ^{O}C to 50 ^{O}C
	Humidity	up to 90 % RH, non-condensed
Dimensions	88 x 49.5 x 19.2 mm (instrument without accelerometer, cable and mounting stripe)	
Weight	150-160 grams with SV 107 accelerometer and one of vibration contact adapters	

[1]depends on instrument operation mode



Continuous product development and innovation are the policy of our company. Therefore, we reserve the right to change the specifications without prior notice.

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