

SV 111

Vibration Calibrator

The SV111 vibration calibrator is the State of the Art instrument designed for in-situ checks according to ISO 8041.

In-situ checks are intended for application in the field prior to and following a measurement or series of measurements. They act as a check of the instrument's basic calibration and functionality. The SV111 is suitable to calibration checks of various types of vibration meters at different frequencies from 16 Hz up to 640 Hz. Depending on the selected frequency user may select level of calibration from 1 m/s² to 10 m/s².

The design of the calibrator is based on the built-in triaxial reference accelerometer and microprocessor-controlled shaker. Following ISO 8041 requirement the reference accelerometer measures the cross-axis/transverse vibrations to detect interference to the calibration signal. Faults caused by transverse vibrations are signaled

by three LEDs on the calibrator's panel. This unique solution ensures the excellent stability of the calibration level & frequency independently from mass of the testing object.

Shaker can be loaded with large weight which is up to 1 kilogram. Any improper object fixing is automatically detected and indicated by LEDs on the calibrator's panel giving the information about direction which should be corrected.

For calibration checks of tri-axial sensors set of dedicated adapters is available including a special adapter to Svantek whole-body sensors (seat-pads) for direct mounting on the shaker.

Other types of vibration transducers can be conveniently attached using mounting stood, mounting disc or dedicated adapter.

Robust casing and built-in rechargeable battery accomplish exceptional features of this new generation instrument.

Features

- Self-contained portable vibration calibrator
- Easy calibration of all type of vibration transducers for acceleration, velocity and displacement at 79.6 Hz and 159.2 Hz
- In-field accelerometer checks according to ISO 8041
- Built-in reference accelerometer
- Cross-axis/transverse vibrations detection
- Low frequency calibration at 15.92 Hz with maximum payload of 1kg!
- Complete seat-accelerometer calibration
- Automatic fault detection
- Display showing frequency, magnitude and errors
- Automatic power off with timer
- Robust design and light weight – 6.5 kg only
- Rechargeable battery
- Ready and easy to use in field and more...



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Technical Specification

Generated Vibration Signal (Calibration)

Vibration accelerations (RMS in ms^{-2})	1 (at 15.92 Hz) 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 79.58 Hz) 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) 1 (at 636.6 Hz)
Vibration velocities (RMS in mm/s)	10 (at 15.92 Hz) 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 (at 79.58 Hz) 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) 0.25 (at 636.6 Hz)
Vibration displacement (RMS in $\mu\text{m/s}$)	100 (at 15.92 Hz) 4, 8, 12, 16, 20, 24, 28, 32, 36, 40 (at 79.58 Hz) 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) 0.0625 (at 636.6 Hz)
Amplitude error	Less than $\pm 3\%$
Frequency error	Less than $\pm 0,5\%$
Transverse vibration	Less than 10% of the main direction
Harmonic distortion	< 5 % (at 15.92 Hz) < 3 % (at 79.58 Hz) < 3 % (at 159.2 Hz) < 3 % (at 636.6 Hz)

General Information

Maximum weight of calibrated object	1000 grams (at 15.92 Hz) 300 grams (at 79.58 Hz) 200 grams (at 159.2 Hz) 200 grams (at 636.6 Hz)
Sensor mounting	Thread M5 x 12 mm;

Working Conditions

Temperature range	-10 °C ÷ 50 °C
Humidity range	25% ÷ 85%

Power Supply

Battery type	Rechargeable 6 V/12 Ah
Continuous operating time	Up to 20 hours
Automatic switch off	From 5 to 60 minutes adjustable
Charging time	Less than 10 hours
Power supply for charger	15 W; 8÷24 V

Overall Weight and Dimensions

Weight	6.5 kg (incl. battery)
Dimensions	395 x 270 x 194 mm

Optional Adapters

SA 111	seat accelerometer adapter for SV 38, SV 38V, SV 100 (included)
SA 105A	adapter for SV 105A (option)
SA 155	adapter for SV150 and SV151 (option)
SA 38	adapter for SV 101 (option)
SA 40	adapter for SV 207A, Dytran 3233A, SV 39A, Dytran 3143M1 (option)
SA 44	adapter for SV 50, Dytran 3023M2 (option)

Continuous product development and innovation are the policy of our company. Therefore, we reserve the right to change the specifications without prior notice.
Note: accelerometers shown on photos are not the part of SV111 kit!

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