

# SV 36, SV 33B, SV 34B Acoustic Calibrators



INSTRUMENTATION FOR SOUND & VIBRATION MEASUREMENTS

New SVANTEK sound calibrators use a **piezoresistive pressure sensor** as the reference sensor to control the calibration signal. Use of piezoresistive pressure sensor ensures an excellent long-term stability and immunity on the changes of the atmospheric conditions.

The calibration signal accuracy is controlled by the **microprocessor** and **built-in sensors** that measure **static pressure and temperature**. The feedback regulation control loop makes all adjustments of the calibration signal fully automatic so users do not require any manual adjustments to the ambient temperature and static pressure levels.

The SV 36 Class 1 acoustic calibrator features an **infrared sensor** that detects microphone presence and turns on/off the calibrator automatically.



The accuracy of acoustic calibrator should match the class of the sound level meter. A **CLASS 1** (SV 33B or SV 36) or **CLASS 2** (SV 34B) calibrator should be used, depending on the class of instrument.

SV 33B and SV 34B provide 114 dB calibration level whereas the SV36 offers two levels **94 dB** or **114 dB**.

The user interface of the calibrator is equipped with a **PUSH BUTTON** and a **LED** diodes signaling calibration and battery faults.

Unlike many others, the SVANTEK calibrators feature a **ROBUST HOUSING** that gives the comfort of a secure grip to the user.



## Is my result correct?

The only way to be sure that you can answer 'yes' to this questions is to perform an acoustic calibration using a calibrator that fully conforms to current standards. The norms and standards impose the requirement to calibrate the measurement channel before each measurement or measurement session and after the measurement as well for result verification purposes. If you don't perform these basics checks then what do your results actually mean?

An acoustic calibrator is a device which produces an acoustic pressure of defined level and frequency. In other words, an acoustic calibrator is a template of acoustic pressure. With the help of such a reference template we can check the accuracy of the measurements performed with the sound level meter and adjust it if a drift error in sensitivity is indicated.

The accuracy of acoustic calibrators used for the calibration of the measurement path should match the class of sound level meter. Depending on the instrument's performance

Class 1 or Class 2 calibrators are used. A sound level meter is calibrated correctly only if the measurement error is within the allowed range of tolerance defined by the standards for the meter of a given class (defined by IEC 61672:).

Unlike many others, the Svantek calibrators feature a robust housing that gives the comfort of a secure grip to the user. The interior design of our acoustic calibrators is based on reference sensors and microprocessor controlled signal source including digital sound pressure level, static pressure and temperature compensation. Due to the feedback regulation control loop our calibrators do not require any adjustments by the user and operate over a wide range of ambient temperature and humidity assuring excellent stability of the calibration levels and their frequency.

Each acoustic calibrator is provided with a statement of the calibration which allows the user to be certain that their instruments will measure correctly.

# SV 36, SV 33B, SV 34B

## Sound Calibrators

### Technical Specifications

|                                       | SV 36   | SV 33B   | SV 34B   |
|---------------------------------------|---|--|--|
| <b>Calibration Signal Parameters:</b> |   |  |  |
| Sound Pressure Level (SPL)            | 114 dB or 94 dB   | 114 dB   | 114 dB   |
| IEC 60942:2003 Accuracy               | Class 1   | Class 1  | Class 2  |
| SPL Tolerance                         | ± 0.3 dB  | ± 0.3 dB   | ± 0.5 dB   |
| Frequency Tolerance                   | ± 0.2 %   | ± 0.2 %  | ± 0.2 %  |
| Total Harmonic Distortion (THD)       | < 0.50 % for 94 dB<br>< 0.75 % for 114 dB level                       | < 0.75 %   | < 0.75 %   |
| <b>General Information:</b>           |   |  |  |
| Effective Load Volume Sensitivity     | 0.00027 dB / mm <sup>3</sup>  | 0.00027 dB / mm <sup>3</sup>                             | 0.00027 dB / mm <sup>3</sup>                             |
| Level Stabilisation Time              | typically 10 s, max 25 s  | typically 15 s, max 30 s                                 | typically 15 s, max 30 s                                 |
| Calibrated Microphones                | 1/2" and 1/4"<br>with SA 30 adapter                                   | 1/2" and 1/4"<br>with SA 30 adapter                      | 1/2" and 1/4"<br>with SA 30 adapter                      |
| Storage Temperature Range             | -25 °C ÷ +70 °C   | -25 °C ÷ +70 °C  | -25 °C ÷ +70 °C  |
| CE Classification                     | EN 61010-1: 2010<br>EN 61326-1:2013<br>EN 60942:2003                  | EN 61010-1: 2010<br>EN 61326-1:2013<br>EN 60942:2003     | EN 61010-1: 2010<br>EN 61326-1:2013<br>EN 60942:2003     |
| <b>Working Conditions:</b>            |   |  |  |
| Temperature Range                     | from -10 °C to +50 °C<br>(related SPL error ≤ ±0.15 dB)               | from -10 °C to +50 °C<br>(related SPL error ≤ ±0.15 dB)  | from 0 °C to +40 °C<br>(related SPL error ≤ ±0.2 dB)     |
| Atmospheric Pressure Range            | from 65 kPa to 108 kPa<br>(related SPL error ≤ ±0.10 dB)              | from 65 kPa to 108 kPa<br>(related SPL error ≤ ±0.10 dB) | from 65 kPa to 108 kPa<br>(related SPL error ≤ ±0.10 dB) |
| Humidity Range                        | from 25 % to 90 % RH<br>(related SPL error ≤ ±0.05 dB)                | from 25 % to 90 % RH<br>(related SPL error ≤ ±0.05 dB)   | from 25 % to 90 % RH<br>(related SPL error ≤ ±0.05 dB)   |
| <b>Reference conditions:</b>          |   |  |  |
| Ambient Temperature                   | 23 °C   |  |  |
| Atmospheric Pressure                  | 101.3 kPa   |  |  |
| Humidity                              | 30 % ÷ 80 % RH  |  |  |
| Effective Microphone Load Volume      | 250 mm <sup>3</sup> for microphone type B&K 4134                      |  |  |
| <b>Power supply:</b>                  |   |  |  |
| Battery Type                          | 2 x LR03 (IEC) / AAA (ANSI)<br>alkaline batteries                     |  |  |
| Continuous Operating Time             | 40 hours for 94 dB level,<br>30 hours for 114 dB level                |  |  |
| Stand-by Period                       | around two years  |  |  |
| Minimal Voltage Requirements          | 2.1 V DC  |  |  |
| Maximum Operating Voltage             | 4 V DC - absolute maximum supply voltage at the<br>battery terminals. |  |  |



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