



SOUND LEVEL CALIBRATOR

KA-50

Instruction Manual

June 2010

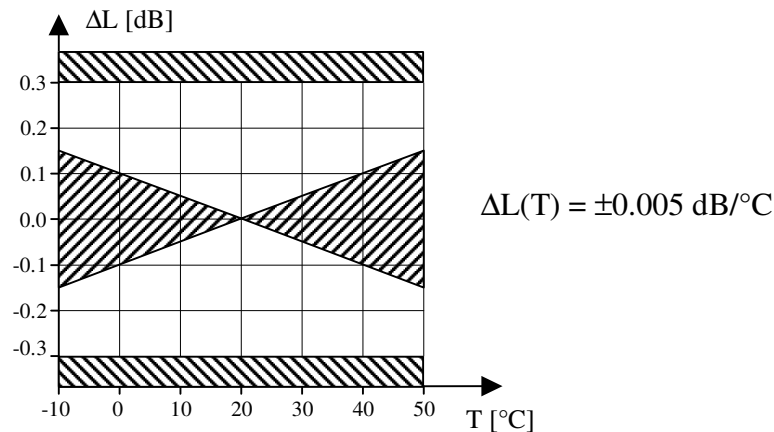
SPECIFICATIONS

- Conforms to requirements of the standard: IEC 60942:2003
 - Accuracy class 1
 - Microphone types: ½"
 - Nominal sound pressure level: 94.0dB
 - Accuracy of SPL under reference conditions: ±0.3dB
 - Equivalent free field level (difference between free field response and the pressure response of ½" free field microphone): -0.15dB
 - Frequency: 1000Hz
 - Accuracy of output signal frequency: ±2%
 - Total harmonic distortion (THD): < 3%
 - Equivalent coupler volume: 13 415mm³
 - Nominal effective load volume: 250mm³ 2
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- Reference conditions:
 - Temperature: 23°C
 - Static pressure: 101.325kPa
 - Relative humidity: 50%
 - Reference microphone: BK 4134
 - Ambient conditions:
 - Temperature: -10°C to +50°C
 - Static pressure: 80kPa to 110kPa
 - Relative humidity: ≤ 90%
 - Power supply: 9V battery (IEC: 6LR61)
 - Dimensions:
 - Diameter: 41mm
 - Width: 104mm
 - Weight: 250g (with battery) 3
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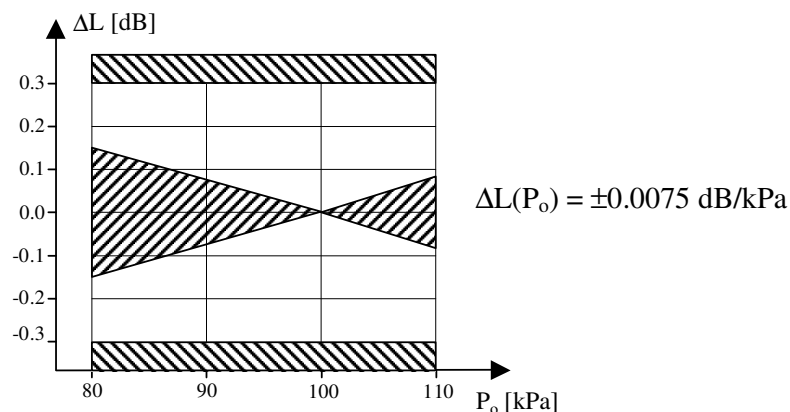
INFLUENCE OF AMBIENT CONDITIONS

- Influence of temperature



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- Influence of static pressure



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- Influence of effective load volume: $-0.0006356 \text{ dB/mm}^3$
 - Influence of relative humidity: $< 0.01 \text{ dB}$

OPERATION

- Insert the microphone into the calibrator's microphone cavity; ensure that it is fully inserted.
- Turn on the calibrator (time of stabilization is about 10 seconds).
- Adjust the sensitivity of measuring equipment, as explained in its instruction manual.
- Turn off the calibrator.

RECOMENDATIONS FOR INSTRUMENT USE

Generated signal lasts in tolerance limits only when power signaling diode lights. If diode does not light, after turning on the calibrator, the battery should be replaced.

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Discharged battery should be removed from calibrator. If instrument will not be used by long time, the battery should be also removed.

To replace battery, twist off bottom part of calibrator housing.

During adjustment of equipment with free field microphones, equipment indication should be set to 94.0dB in free field conditions. Because, difference between free field response, of that microphone, and the pressure response equals -0.15dB , indication should be set to 93.85dB.

If effective load volume of calibrated microphone, strongly differs from nominal, the correction should be added to sound pressure level. To

calculate the correction, use the formula: $\delta = 20\lg \frac{13415 + 250}{13415 + V_x}$, V_x is

effective load volume of calibrated microphone, in mm^3 .

WARNING! Adjustment should not be done, when environmental noise exceeds 85dB.

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CE MARKING AND CONFORMANCE TO EU COUNCIL DIRECTIVES

The product described in this instruction conforms to following EU council directives:

89/336/EEC Electromagnetic compatibility



The conformance to above-mentioned requirements is confirmed by CE mark.



This product cannot be thrown away with household waste. Deposit the product in an authorized electrical and electronic waste collection area for recycling. Contact local Municipal Bureau or nearest waste disposal company to get more detailed information.

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MAINTENANCE AND REPAIR

KA-50 Sound level calibrator requires no special maintenance treatments. All repairs of the instrument are performed by the manufacturer:

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