

Product Information

Danish Primary Laboratory of Acoustics Primary Accredited Calibration of Vibration Transducers

USES:

- Calibration of vibration transducers to international standards

FEATURES:

- Fulfills ISO 9000 requirements
- Calibration according to ISO 5347

- Calibrations are traceable to National Institute of Standards and Technology (NIST), USA and Physikalisch-Technische Bundesanstalt (PTB)
- Certificate of calibration specifying all test and instrument details
- All test procedures fully comply with European Norm EN 45001

The Danish Primary Laboratory of Acoustics (DPLA) offers primary accredited calibration of vibration transducers which serve as Reference Standards and Working Standards for measurement laboratories and other users within the field of vibration.

Absolute calibration that have been made at the DPLA are compared with standards from leading primary laboratories all over the world. This is to ensure present, and improve future agreement between calibrations from different laboratories.



Introduction

The Danish Primary Laboratory of Acoustics is active in research on calibration of accelerometers at the highest international level. The laboratory has taken part in several international calibration projects (under BCR, EUROMET and IEC), and members of our staff have

chaired many of the standardization working groups within IEC and ISO.

Calibration of Reference Standard Accelerometers

The calibration of Reference Accelerometers, and Preamplifiers if includ-

ed, is performed using a laser interferometric method to determine the peak-to-peak displacement of a sinusoidal motion generated by an exciter.

This method is internationally recognized and standardized in ISO5347-1. The interferometer is a Michelson type, and the laser is a low-power HeNe laser.

Specifications ET

DPLA Capabilities			
Measured Quantity/ Measured Unit	Measured Range	Measurement Capability	Method Used
Vibration Sensitivity: S_v^* (V/ms^{-2})	$\geq 4 \times 10^{-6} V/(m/s^2)$, 20 Hz to 5 kHz	$5 \times 10^{-3} \times S_v$	ISO 5347 Laser Interferometry HeNe Laser
Vibration Sensitivity: S_v^* (V/ms^{-1})	$\geq 4 \times 10^{-3} V/(m/s)$, 20 Hz to 5 kHz	$5 \times 10^{-3} \times S_v$	
Vibration Sensitivity: S_v^* (V/m)	$\geq 4 V/m$, 20 Hz to 5 kHz	$5 \times 10^{-3} \times S_v$	
Vibration Sensitivity: S_c^\dagger (C/ms^{-2})	$\geq 1 \times 10^{-15} C/(m/s^2)$, 50 Hz to 5 kHz	$5 \times 10^{-3} \times S_c$	
Vibration Sensitivity: S_c^\dagger (C/ms^{-1})	$\geq 1 \times 10^{-12} C/(m/s^1)$, 50 Hz to 5 kHz	$5 \times 10^{-3} \times S_c$	
Vibration Sensitivity: S_c^\dagger (C/m)	$\geq 1 \times 10^{-9} C/m$, 50 Hz to 5 kHz	$5 \times 10^{-3} \times S_c$	

* Voltage Output
† Charge Output.

Most calibrations are performed at the preferred reference frequency 159.2 Hz and at 50 m/s², but other frequencies and levels within the accreditation range can be used if requested.

Practically all types of vibration transducers (weight <500 g) can be calibrated if they have either a charge output (piezoelectric types) or a voltage output (transducers with built-in or separate preamplifiers or with direct voltage output).

The indicated numbers and prices are valid for the Brüel & Kjær types mentioned, and similar types of transducers. For calibrations of other types of transducers individual offers will be given.

Ordering Information

Accelerometer Calibration	Instruments	Frequency/Level
ET2000	Calibration Set 3506. Six gain settings and accelerometer charge sensitivity are calibrated. Includes instrument check	159.2 Hz/50 m/s ²
ET2001	Standard Reference Accelerometer Type 8305. Includes accelerometer check	159.2 Hz/50 m/s ²
ET2002	Calibration Set 3506 or similar. Six gain settings and accelerometer charge sensitivity are calibrated. Includes instrument check	Customer Defined
ET2003	Standard Reference Accelerometer Type 8305 or similar. Includes accelerometer check	Customer Defined
ET2004	Pre-calibration of Type 8305 or 3506	159.2 Hz/50 m/s ²
ET2005	Additional calibration point for ET2002, ET2003, ET2009 or ET2010	Customer Defined
ET2007	Calibration Set 3506. Six gain settings and accelerometer charge sensitivity are calibrated. No instrument check	159.2 Hz/50 m/s ²
ET2008	Standard Reference Accelerometer Type 8305 or 3506 in only one gain position. No instrument check	159.2 Hz/50 m/s ²
ET2009	Calibration Set 3506 or similar. Six gain settings and accelerometer charge sensitivity are calibrated. No instrument check	Customer Defined
ET2010	Standard Reference Accelerometer Type 8305 or similar. No accelerometer check	Customer Defined

Brüel&Kjær reserves the right to change specifications and accessories without notice



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