SERVICE INFORMATION

Primary Accredited Calibration Services

BKSV-DPLA, a Designated Institute Participating in the CIPM MRA

The Danish Primary Laboratory of Acoustics (DPLA) at Brüel & Kjær Sound and Vibration Measurement A/S (BKSV) offers primary accredited calibration of vibration transducers that serve as Reference Standards and Working Standards for measurement laboratories and other users within the field of vibration.

Uses

- Calibration of vibration transducers according to international standards: ISO 16063–11:1999, ISO 16063–16:2014 and ISO 16063–21:2003

Features

- Laboratory accredited by DANAK according to ISO 17025:2005 requirements
- Primary vibration calibration by laser interferometry (ISO 16063–11:1999, Method 3)
- DC calibration by Earth's gravitation (ISO 16063–16:2014)
- Comparison measurements (ISO 16063–21:2003)
- Both magnitude and phase shift are measured
- International equivalence of calibration through key comparisons as defined in the CIPM Mutual Recognition Agreement (CIPM MRA)
- Certificate of calibration specifying all test and instrument details

About BKSV-DPLA

BKSV-DPLA is a Designated Institute that is part of the Danish National Metrology System and accredited by DANAK according to ISO 17025:2005. Members of our staff have chaired many of the standardization working groups within IEC and ISO.

BKSV-DPLA is active in research on the calibration of accelerometers at the highest international level. The laboratory has taken part in several international calibration projects (under CIPM, BCR, EUROMET/EURAMET and IEC), participating in the CIPM MRA with calibration and measurement capabilities listed in the BIPM key comparison database (KCDB).

BKSV-DPLA Capabilities

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

Velocity and displacement transducers can also be calibrated with similar uncertainties.

Calibration of Reference Standard Accelerometers

The calibration of Reference Accelerometers and Preamplifiers, if included, is performed using a laser interferometric method that is internationally recognized and standardized in ISO 16063–11:1999 to determine the motion of the accelerometer generated by an exciter.

	Frequency Range		Measurement Capability		Method Used
Vibration Sensitivity $V/(ms^{-2})$ or $C/(ms^{-2})$	0.1 Hz	to <0.2 Hz		0.5%	ISO 16063–11:1999 Calibration by laser interferometry
	0.2 Hz	to 5 kHz		0.4%	
	>5 kHz	to 10 kHz		0.6%	
Vibration Sensitivity: Phase Shift Degrees (°)	0.1 Hz	to 5 kHz		0.3°	
	>5 kHz	to 7 kHz		0.5°	
	>7 kHz	to 10 kHz		1.0°	
Vibration Sensitivity $V/(ms^{-2})$	DC			0.1%	ISO 16063–16:2014 Calibration by Earth's gravitation

Brüel & Kjær

Ordering Information

The following services are for the most common reference accelerometers and similar. For calibration of other types of transducers, individual offers can be given.

Fees for calibration of triaxial accelerometers are twice that of calibration for a single axis.

Order Number	Service	Details	
ET-2041	Single-point calibration, single axis*	Calibrated at either: • 160 Hz, or • Customer-defined point in the range: ≥16 Hz to ≤1 kHz	
ET-2043	Additional measurement points*	Maximum of 7, in the range: ≥0.1 to ≤20 kHz	
ET-2042	Multi-point calibration, single axis*	10 Hz to 10 kHz	1/3-octave increments
ET-2044		10 Hz to 5 kHz	1/1-octave increments
ET-2045		1 Hz to 20 Hz	1/3-octave increments
ET-2046		0.5 Hz to 20 Hz	1/3-octave increments
ET-2047		0.1 Hz to 20 Hz	<5 Hz: 1/1-octave increments ≥5 Hz: 1/3-octave increments
ET-2048		0.1 Hz to 200 Hz	1/3-octave increments, includes DC-measurement
ET-2049	DC-measurement, single axis†		
ET-2050	Instrument check, accelerometer‡	• Capacitance (charge types) • Resonance frequency • Weight • Transverse sensitivity	
ET-2051	Investigation	Service charged by the hour	
ET-2052	Comparison calibration, single axis**	≥ 0.1 to ≤ 20 kHz; Low frequency: ≤ 200 Hz or High frequency: ≥ 5 Hz	

* Accredited Primary DPLA accelerometer calibration according to ISO 16063–11:1999
† According to ISO 16063–16:2014
‡ This service is not sold individually, but in conjunction with calibration services
** Traceable DPLA calibration according to ISO 16063–21:2003

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