# CV-10 Mobile Vibration Calibrator

## One-Stop Solution for On-Site Calibration

## Applications

- ✓ On-Site calibration of accelerometers, proximity and vibration velocity sensors
- ✓ On-Site calibration of vibration meters
- ✓ On-Site calibration of vibration test beds
- ✓ Vibration test system for small devices

## Selected Data

- ✓ Powerful vibration exciter
  - 5 Hz…10 kHz
  - 200 m/s² (20 $g_n$), max.
  - Up to 900 gram (2.0 lb) payload
- ✓ Battery operation more than 10 h

## Features

- ✓ Integrated signal conditioners
  - Voltage, PE, IEPE, 4 mA...20 mA
  - Amplifier for PR transducers (option)
- ✓ Extension port for future options (e.g. special sensor power supplies)
- ✓ Rugged case for daily on-site operation
- ✓ Traceable to PTB, NIST, …
- ✓ Easy Data Exchange via USB, Ethernet / WiFi (option)

# Specification

## Technical Data

| | | |
|---|---|---|
| **Frequency range** | 5 Hz…10 kHz (420…600 000 CPM) | |
| **Velocity, max. (sine peak)** | 700 mm/s (27 in/s) | |
| **Acceleration, max. (sine peak)** | 200 m/s² (20.39 $g_n$) | |
| **Displacement, max. (peak - peak)** | 5 mm (196 mils) | |
| **Temperature range (for operation)** | 0 °C…+50 °C (32 °F...122 °F) | |
| **Payload - horizontal / vertikal (max.)** | 900 g (31.7 oz) | |
| **Measurement Uncertainty** (for accelerometer calibration and vibration generation) | 5 Hz...1 kHz<br>1 kHz...5 kHz<br>5 kHz...10 kHz | 1.5 % [1] (2.0 %) [2]<br>1.5 % [1] (3.0 %) [2]<br>3.5 % [1] (6.0 %) [2] |
| **Harmonic distortion** | < 1 % (> 100 Hz) | |
| **Transverse motion** | according to ISO 16063-21 | |
| **Power supply** | 100 V…240 V,<br>50 Hz...60 Hz (external) | |
| **Rechargeable Battery** | Sealed gel lead rechargeable battery (internal)<br>typical battery operation up to 10 hours<br>(100 gram payload, 100 Hz, 1 $g_n$ pk) | |
| **Total weight** | 8.5 kg (18.7 lbs) | |
| **Dimensions (HxWxD)** | 146 mm x 347 mm x 295 mm | |

All measurement uncertainties are determined according to GUM (ISO Guide to the expression of uncertainty in measurement) with k=2 (coverage factor)

1) Under laboratory conditions: (23 ± 5) °C, max. acceleration: 30 m/s², max. payload: 30 gram

2) Under worst case conditions: 0 °C ... 50 °C, max. acceleration: 200 m/s², max. payload: 40 gram

## Accessories (included)

- **Adapter:**
  - 1/4-28 to 1/4-28 mounting stud
  - 10-32 to 1/4-28 mounting stud
  - Adhesive mounting base

You can find more adapters on our website.

- Power supply with plug adapters
- Mounting wrench
- USB flash drive with report generation worksheet
- PTB traceable calibration certificate (DAkkS)

## Accessories (optional)

- BN-17 IEPE transfer standard accelerometer
- Proximity probe adapter
- PR-Sensor signal conditioner modul
- Special sensor power supplies (on request)

## Further data

| | |
|---|---|
| **Operation Modes / Software** | ✓ **Operation Modes (standard)**<br>• Manual Operation<br>• Stepped Sine Calibration (automatic)<br>✓ **Operation Modes (optional)**<br>• Sweep Mode (automatic)<br>• Transfer Calibration Mode (calibration / check of the system via calibrated reference transducer)<br>✓ **PC-Software (optional)**<br>• Management of DUT in a database, test setups, protocols and measurement campaigns |
| **Data Exchange** | ✓ **Interfaces:**<br>• USB flash storage drive (standard)<br>• Ethernet with optional software<br>• WIFI with optional hardware<br>✓ **Data formats:**<br>• CSV text files for sensor data, test setups and calibration results<br>• SPEKTRA CS compatible database format via optional PC software |