

## INDUSTRIAL PORTABLE VIBRATION CALIBRATOR



The 9100D Industrial Portable Vibration Calibrator is the ideal tool to field check accelerometers, velocity transducers and proximity probes over a wide operating frequency and amplitude range. The unit is a small, handy, completely self-contained vibration reference source which can be conveniently used to validate the entire channel of transducers through measurement, monitoring or recording systems. Packaged in a lightweight, durable Pelican® Storm Case with two press and pull latches and padlockable clasps, the 9100D is always ready for travel to test sites.

With an integral, precision quartz reference accelerometer, the shaker table is built with robust carbon fiber composite armature flexure supports. Closed loop level control gives the 9100D superior quality vibration calibration from 7 Hz to 10 kHz compared with other portable field calibrators.

### BENEFITS:

- Small and completely self-contained, ideal for field check of accelerometers, velocity transducers and proximity probes
- Lightweight, industrial Pelican® Storm Case dramatically improves durability and portability
- Precision quartz reference accelerometer and conditioning electronics for superior control and stability
- Rugged shaker element design with carbon fiber composite armature flexures
- Increased battery life and enhanced protection against full discharge
- Provides NIST traceable transducer verification across a wide frequency and amplitude range





**SPECIFICATIONS:**

**GENERAL:**

Frequency Range (operating, 100 gram payload)	7 Hz to 10 kHz
	420 to 600 k cpm
Maximum Amplitude (100 Hz with no payload)	20 g pk (196 m/s <sup>2</sup> pk)
	15 in/s pk (380 mm/s pk)
	50 mils pk-pk (1.27 mm pk-pk)
Maximum Payload <sup>[1]</sup>	800 gram

**ACCURACY OF READOUT (MEASURED WITH 10 GRAM QUARTZ REFERENCE ACCELEROMETER):**

Acceleration (30 Hz to 2 kHz)	±3%
Acceleration (7 Hz to 10 kHz)	±1 dB
Velocity (10 Hz to 1000 Hz)	±3%
Displacement (30 Hz to 150 Hz)	±3%
Amplitude Linearity (100 gram payload, 100 Hz)	< 1% up to 10 g pk
Waveform Distortion (100 gram payload, 30 Hz to 2 kHz)	< 5% THD (typical) up to 5 g pk

**UNITS OF READOUT**

Acceleration (peak and RMS)	g, m/s <sup>2</sup>
Velocity (peak and RMS)	in/s, mm/s
Displacement (peak to peak)	mils, μm
Frequency	Hz, CPM

**INPUT/OUTPUT**

External Source In (Max)	1V AC RMS
Monitor Reference Out	10 mV/g (nominal), Buffered internal reference output

**POWER REQUIREMENTS**

Internal Battery (sealed solid gel lead acid)	12 VDC, 4 amp hours
AC Power (for recharging battery)	110-240 Volts, 50-60 Hz
Operating Battery Life <sup>[2]</sup>	
100 gram payload, 100 Hz 1 g pk	18 hours
100 gram payload, 100 Hz 10 g pk	1 hour

**TEMPERATURE**

Operating	32° - 122° F (0° - 50° C)
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**PHYSICAL**

Dimensions (H x W x D)	8.5" x 12" x 10" (22 cm x 30.5 cm x 28 cm)
Weight	18 lbs (8.2 kg)
Sensor Mounting Platform Thread Size	¼-28

[1] Operating range reduced at higher payloads. Reference manual for full details.

[2] As shipped from factory in new condition.

**INCLUDED ACCESSORIES**

Accessory Pouch Includes: Mounting Wrench, Power Supply and Plug Adaptors, ¼-28 to ¼-28 Adaptor, 10-32 to ¼-28 Adaptor and Mounting Pad

**ACCESSORY PRODUCTS FOR 9100D**

**9100-MNTKIT** Mounting accessory kit for 9100 Series Portable Vibration Calibrators, to adapt to ¼-28 threaded mounting platforms. Includes studs/inserts (¼-28, 10-32, 6-32 and 5-40) and bases (for adhesive, magnetic, and custom thread patterns).

**9105C** Transfer standard reference accelerometer and ICP<sup>®</sup> sensor signal conditioner, for calibration and system verification of the 9100 Series Portable Vibration Calibrators.

**9100-MPPA01** Proximity probe adaptor kit, supports probes with common case threads ranging from M6 to 3/8". Includes Mitutoyo micrometer (metric) and 9100-PPA02 nickel plated 4140 steel target.

**9100-PPA01** Proximity probe adaptor kit, supports probes with common case threads ranging from M6 to 3/8". Includes Mitutoyo micrometer and 9100-PPA02 nickel plated 4140 steel target.

**9100-PPA02** Target for 9100-PPA01 or 9100-MPPA01 proximity probe adaptor kit, nickel plated 4140 steel.

**9100-PS01** 18 Volt, 1 amp power supply/charger for 9100D Portable Vibration Calibrator, universal 100-240 V, 50/60 Hz.

**9100-BAT01** Replacement battery for 9100 Series Portable Vibration Calibrators.



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