

Digital Vibration Calibrator Calibrate Vibration Meter Vibration Analyzer Vibration Tester ISO10816 HG-5010



Application for ISO10816 HG-5010 Vibration Calibrator:

- 1.Can be used to calibrate vibration accelerometer, velocity and proximity transducer and also a vibration measuring instruments. Standard sine signals at frequency 10, 20, 40, 80, 160, 320, 640 and 1280 Hz
- 2.Can be generated from the calibrator the amplitude of the acceleration, velocity and displacement
- 3.Can be defined through potentiometers and shown on digital displays. Either horizontal or vertical vibration can be generated.
- 4.HG-5010 vibration calibrator combines sine signal generator, power amplifier, standard transducer and a shaker in one and features a small volume, high accuracy and easy operation. It can be used either in laboratory or on site.
5. International standards: ISO10816

Specifications:

Frequency: 10, 20, 40, 80, 160, 320, 640, 1280Hz $\pm 0.01\%$

Unit:

Acceleration: m/s^2 (PEAK)

Velocity: mm/s (RMS)

Displacement: μm (PK-PK)

Amplitude accuracy:

Acceleration (30m/s^2 pk, 80Hz) 40Hz to 320Hz $\pm 0.3\text{dB}$ $\pm 1\text{digit}$

10Hz to 1280Hz $\pm 0.5\text{dB}$ $\pm 1\text{digit}$

Velocity (25mm/sec pk, 80Hz) 40Hz to 320Hz $\pm 0.5\text{dB}$ $\pm 1\text{digit}$

Displacement ($10\mu\text{m}$ pk-pk, 80Hz) 40Hz to 320Hz $\pm 0.5\text{dB}$ $\pm 1\text{digit}$

Proximity probe linearity

Prode: 5mm and 8mm probes Range: 0~4.0mm

Display: 3 $\frac{1}{2}$ digit display for acceleration, velocity or displacement

Maximum vibration amplitude and maximum load:

Because of the vibrostand used in HG-5010 Vibration Calibrator is rather small, during the calibration of transducers of different weight under different frequencies the output amplitude of the calibrators are also different. Maximum vibration amplitude and maximum load are related to the maximum acceleration. Maximum velocity and maximum displacement output generated from the calibrator under a certain frequency and with a certain weight of the transducer to be calibrated. The specific figures can be seen in the following table.

Wt	$\leq 100\text{g}$			$\leq 250\text{g}$			$\leq 650\text{g}$		
	a(m/S^2)	v(mm/S)	d(μm)	a(m/S^2)	v(mm/S)	d(μm)	a(m/S^2)	v(mm/S)	d(μm)
Freq									

10Hz	2.5	28	1300	3.5	40	1800	4	45	2000
20Hz	15	85	1900	10	60	1300	5	28	640
40Hz	60	170	2000	35	100	1100	12	35	380
80Hz	100	141	800	40	60	320	14	20	110
160Hz	75	53	150	35	25	70	12	8.5	24
320Hz	50	18	25	30	10	15	10	3.5	5
640Hz	30	5	3	20	3.5	2	6	1	*
1280Hz	23	2	*	10	0.9	*	5	0.4	*

Note: With higher frequency the value of the displacement of vibration is very small so there will be no vibration signal output from the calibrator.

Size: 280 x 180 x 250(mm)

Weight: 20lb,9kgs

Temperature: Operation: 0°C to 50 °C

Storage: -20 °C to 70 °C

Humidity: 90% non -condensing

The control panel of HG-5010 Vibration Calibrator is shown as following:



1 Vibration amplitude output display Showing the amplitude of the different vibration signal output of the calibrator

2 Calibration potentiometer

3 Function selecting switch Shifting the output of the calibrator to acceleration, velocity or displacement

4 Potentiometer for adjusting the output amplitude

Adjusting the potentiometer to change the output vibration amplitude

5 Adjusting the the output vibration amplitude slowly

6 The table for fixing the transducer to be calibrated

7 The thread hole for fixing the stand of proximity probe

During the calibration of proximity probe, the stand of the transducer is fixed on the control panel through this thread hole.

8 Power switch 220 VAC

9 Socket for 220 V AC power input

Used for connecting 220 V AC power.

10. Socket for power output

For monitoring the wave shape of the output signal of the power amplifier of the calibrator.

11 Output socket of – 24 V voltage

Providing power at – 24 V for proximator during the calibration of proximity probe.

12 Frequency selecting switch



 1 Fixing stand	 2 Spindle micrometer
 3 Tool to fix the sensor	 4 Testing plate
 5 M5 Fixing screw	 6 M5-M8 Transition screw
 7 M5-M10 Transition screw	