

Mini-shaker Type 4810

Uses

- Accelerometer calibration
- Vibration testing of small objects
- Mechanical impedance and mobility measurements
- Experimental modal analysis

Features

- Force rating 10 N (2.25 lbf) sine peak
- Frequency range DC to 18 kHz
- First axial resonance above 18 kHz
- Max. displacement 4 mm (0.16 in) peak-to-peak
- Max. bare table acceleration 550 m/s²
- Rugged construction
- Optimized performance using Power Amplifier Type 2718



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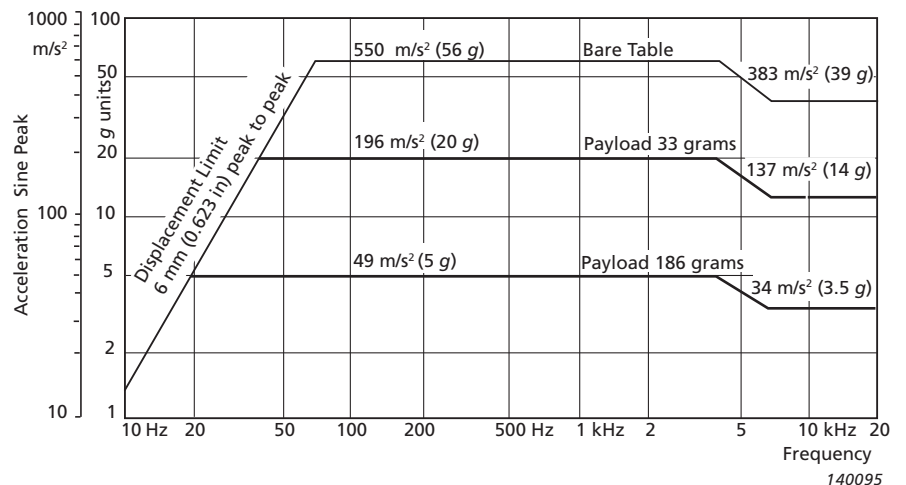
Description

Mini-shaker Type 4810 is of the electrodynamic type with a permanent field magnet. It is well-suited as the force generator in general vibration tests, mechanical impedance and mobility measurements, and experimental modal analysis where only smaller force levels are required. It can also be used in the calibration of vibration transducers, both to determine their sensitivity, by comparison with a standard accelerometer, as well as their frequency response, up to 18 kHz.

The suspension system consists of radial flexure springs that restrict the moving element to almost perfectly rectilinear motion. Laminated flexure springs provide a high degree of damping to minimise distortion due to flexure resonances.

The object to be vibrated is attached to the table by means of a 10–32 UNF screw, the thread size commonly used for mounting accelerometers. Performance limits defined by the maximum displacement (4 mm), maximum force (10 N or 7 N depending on frequency), and the first axial resonance of the moving element (above 18 kHz), are shown in Fig. 1.

Fig. 1 Sine performance curves for Type 4810



Specifications – Mini-shaker Type 4810

COMPLIANCE TO STANDARDS



The CE marking is the manufacturer's declaration that the product meets the requirements of the applicable EU directives



RCM mark indicates compliance with applicable ACMA technical standards – that is, for telecommunications, radio communications, EMC and EME



China RoHS mark indicates compliance with administrative measures on the control of pollution caused by electronic information products according to the Ministry of Information Industries of the People's Republic of China



WEEE mark indicates compliance with the EU WEEE Directive

Temperature: According to IEC 60068–2–1 & IEC 60068–2–2

Operating temperature: 5 to 40 °C (41 to 104 °F)

Storage temperature: –25 to +70 °C (–13 to +158 °F)

Humidity: According to IEC 60068–2–3

Damp Heat: 90% RH (non-condensing at 40 °C (104 °F))

SPECIFICATIONS

Force Rating (Peak):

10 N (2.25 lbf), 65 Hz to 4 kHz

7 N (1.5 lbf), 65 Hz to 18 kHz

Frequency Range: DC to 18 kHz

First Major Armature Resonance: Above 18 kHz

Max. Bare Table Acceleration (Peak):

550 m/s² (65 Hz to 4 kHz)

383 m/s² (6.5 kHz to 18 kHz)

(1 m/s² = 0.102 g)

Max. Displacement (Peak-To-Peak): 4 mm (0.16 in)

Dynamic Weight of the Moving System:

18 grams

Dynamic Flexure Stiffness: 2 N/mm (11.5 lb/in)

Magnetic Field: Permanent magnet

Max. Input Current: 1.8 A_{rms}

Coil Impedance: 3.5 Ω at 500 Hz

Connection: Microsocket 10–32 UNF

Table Diameter: 14 mm (0.55 in)

Fastening Thread: 10–32 UNF

WEIGHT AND DIMENSIONS

Weight: 1.1 kg (2.4 lb)

Diameter: 76 mm (3 in)

Height: 75 mm (2.9 in)

Ordering Information

Type 4810 Mini-shaker

includes the following accessories:

- AO-0069: Cable for connection of Type 4810 to Power Amplifier Type 2718
- YQ-2962: Threaded Steel Stud, 0.3 in 10–32 UNF

Optional Accessories

TRUNNION

WA-0429 Trunnion

POWER AMPLIFIER

Type 2718 Power Amplifier (75 VA)

STINGERS

WZ-0066 Nylon Stinger Kit

FORCE TRANSDUCERS

Type 8230 CCLD Force Transducer (+44/–44 N range)

Type 8230-001 CCLD Force Transducer (+220/–220 N range)

Type 8230-002 CCLD Force Transducer (+2200/–2200 N range)

Type 8230-003 CCLD Force Transducer (+22000/–2200 N range)

Type 8230-C-003 Charge Force Transducer (+22200/–2200 N range)

Type 8231-C Charge Force Transducer (+110000/–2200 N range)

Type 8203 Force Transducer/Impact Hammer

Type 8001 Impedance Head

ADAPTORS AND STUDS

UA-2052 Set of 10 Stud Adaptors, 10–32 UNF to ¼–28 UNF

UA-2054 Set of 20 Bushing Adaptors, 10–32 UNF to ¼–28 UNF

UA-0125 Mounting Equipment (includes isolated studs YP-0150 and non-isolated studs YQ-2960)

JP-0150 Adaptor, 4 mm Socket Pair to BNC Plug for use with old Type 2706

