

Permanent Magnetic Vibration Exciter Type 4808

Uses

- General vibration testing
- Mechanical impedance and mobility measurements
- Experimental modal analysis
- Accelerometer calibration

Features

- Force rating 112 N (25 lbf) sine peak (187 N (42 lbf) with cooling)
- Frequency range 5 Hz to 10 kHz
- First axial resonance 10 kHz
- Continuous 12.7 mm (0.5 in) peak-to-peak displacement with overtravel stops
- Maximum bare table acceleration 700 m/s^2 (71 g)
- Rugged construction
- Low cross motion and low distortion
- Lapped and hardened surface
- Replaceable inserts for moving element protection
- Robust rectilinear guidance system



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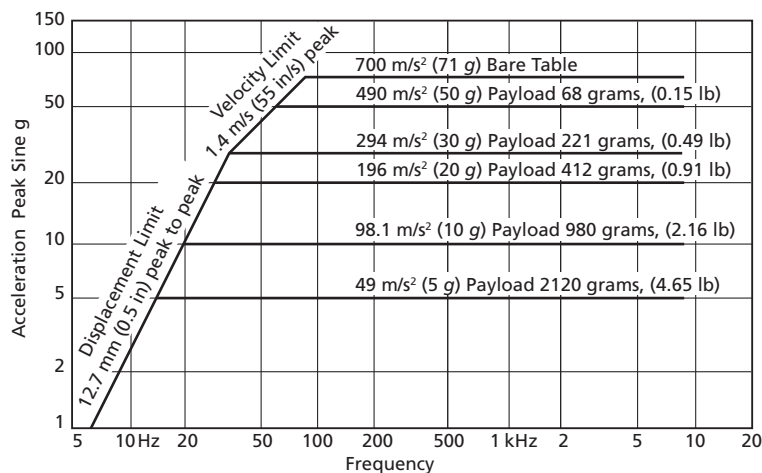
- Highly damped axial, transverse and flexural resonances
- Interconnecting cable with two high-quality, 4-pin Neutrik® speakON® connectors
- Optimized performance using Power Amplifier Type 2719

Description

Permanent Magnetic Vibration Exciter Type 4808 is a high-quality, compact exciter with a permanent magnetic field. It is designed for long, trouble-free operation, and has a force rating of 112 newtons (25 lbf) enabling relatively heavy loads to be excited to high *g* levels. Type 4808 will normally be driven by Power Amplifier Type 2719 rated at 180 VA, but can also be driven by any amplifier up to a maximum input current of 15 A RMS without assisted cooling.

The moving element is supported by a robust rectilinear guidance system consisting of grouped radial and transverse flexures in a unique construction. The flexures are made from a bonded sandwich of spring steel and a damping elastomer, providing a clean acceleration waveform with low cross motion and low distortion characteristics.

Fig. 1 Sine performance curves for Vibration Exciter Type 4808 for operation without assisted cooling



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Specifications – Permanent Magnetic Vibration Exciter Type 4808

COMPLIANCE WITH 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

Rated Force: 112 N, 25 lbf sine-peak (with assisted air cooling 187 N, 42 lbf peak)

Frequency Range: 5 Hz to 10 kHz bare table

Axial Resonant Frequency: 10 kHz bare table

Max. Bare Table Acceleration: 700 m/s² (71 g)

Max. Displacement: 12.7 mm (0.5 in) peak-to-peak

Max. Velocity: 1.4 m/s (55 in/s)

Dynamic Weight of Moving Element: 160 grams (0.35 lb)

Static Flexure Stiffness: 5.6 N/mm (32 lbf/in)

Maximum Input Current: 15 A RMS (with assisted air cooling 25 A RMS)

Current-To-Force Ratio:

- Coils in Parallel: approximately 0.16 A/F (sine peak)

- Coils in Series: approximately 0.08 A/F (sine peak)

Stray Magnetic Field:

20 × 10^{–3} Tesla at table face

8 × 10^{–3} Tesla at 12.7 mm (0.5 in) above table face

Coil Impedance: Approximately 0.8 Ω at 500 Hz with bare table and coils in parallel

Table Diameter: 62.5 mm (2.45 in)

Fastening Thread: 5 × 5/16"–18 UNC for M5 and 10–32 UNF inserts. 1 central insert plus 4 equi-spaced on circle of Ø 50.8 mm

WEIGHT AND DIMENSIONS

Weight: 35 kg (77.1 lb)

Diameter: 215 mm (8.46 in)

Height: 200 mm (7.87 in)

Ordering Information

Type 4808	Permanent Magnetic Vibration Exciter	UA-1596	Five 2.5 mm Push/Pull Steel Stingers, including:	Type 8230-C-003	Charge Force Transducer (+22200/–2200 N range)
Includes the following accessories:			• 10 × adaptors, diameter 2.5 mm to 10–32 UNF	Type 8231-C	Charge Force Transducer (+110000/–2200 N range)
• AQ-0649-D-050: Cable with two 4-pin Neutrik® speakON® plugs, length 5 m (16.4 ft)			• 5 × steel rods, length 200 mm, diameter 2.5 mm	Type 8203	Force Transducer/Impact Hammer
• 10 × YS-0810: Thread inserts (M5)			• 10 × fastening screws	Type 8001	Impedance Head
• 10 × YS-0811: Thread inserts (10–32 UNF)			Five 3.0 mm Push/Pull Steel Stingers, including:	STUD AND BUSHING ADAPTORS	
• 1 × QA-0061: Insert Mounting Tool			• 10 × adaptors, diameter 3.0 mm to 10–32 UNF	UA-0125	Mounting Equipment (including isolated studs YP-0150 and non-isolated studs YQ-2960)
• 2 × YM-2002: Blanking Plugs			• 5 × steel rods, length 200 mm, diameter 3.0 mm	UA-2052	Set of 10 Stud Adaptors, 10–32 UNF to ¼–28 UNF
• 1 × QS-0003: Bottle of Loctite® compound			• 10 × fastening screws	UA-2054	Set of 20 Bushing Adaptors, 10–32 UNF to ¼–28 UNF
Optional Accessories			FORCE TRANSDUCERS AND IMPEDANCE HEADS		
TRUNNION			Type 8230	CCLD Force Transducer (+44/–44 N range)	
WA-0309	Trunnion		Type 8230-001	CCLD Force Transducer (+220/–220 N range)	
POWER AMPLIFIER			Type 8230-002	CCLD Force Transducer (+2200/–2200 N range)	
Type 2719	Power Amplifier (180 VA)		Type 8230-003	CCLD Force Transducer (+22000/–2200 N range)	
STINGERS			CABLES AND CONNECTORS WITH OLD TYPE 2712		
WZ-0066	Nylon Stinger Kit		JJ-0500	Plug must be soldered onto AQ-0649 Cable where one Neutrik 4-pin speakON plug is first removed	

TRADEMARKS

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