

# MINIATURE ELECTRODYNAMIC SHAKERS MODELS 2004E / 2007E



These electrodynamic exciters are small, portable permanent magnet shakers. They are ideally suited for general purpose vibration testing of small components and sub-assemblies, or as excitation transducers for modal, academic, biomedical, or laboratory research. The shakers feature extremely rugged suspension systems using carbon fiber composite leaf armature flexures. Isolated linear bearings provide low distortion and eliminate the need for reaction wrenches when mounting loads to the armature. A trunnion base with EasyTurn™ handles allows for convenient mounting and positioning. Each transducer is delivered with a variety of 10-32 nylon stingers which provide electrical isolation as an attachment mechanism to test articles.

## BENEFITS:

- Up to 7 pounds (31 N) pk sine force
- Up to 0.5 inch (1.27 cm) stroke
- Payloads up to 2 lbs (0.91 kg)
- 10-32 threaded mounting insert
- Wide frequency band operation up to 11kHz
- Trunnion mounting base w/ EasyTurn™ handles

## APPLICATIONS:

- General vibration testing
  - Small components
  - Sub-assemblies
  - Biomedical
- Experimental modal analysis
- Educational laboratory research



The compact design and portability make the 2004E/2007E mini-shakers a very versatile, accessible, and popular solution for test and instrumentation engineers. They are ideally suited for general purpose vibration testing of small components, electronic assemblies, Integrated Circuits and Printed Circuit Boards, or as an excitation transducer for experimental modal, academic, biomedical or laboratory research.

<b>SPECIFICATIONS:</b>	<b>2004E</b>	<b>2007E</b>
<b><u>PERFORMANCE</u></b>		
Output Force, sine pk		
Natural Air Cooling	4.5 lbf (20 N)	7 lbf (31 N)
Output Force, random RMS		
Natural Air Cooling	3 lbf (13.3 N)	5 lbf (22 N)
Output Force, shock pk	9 lbf (40 N)	15 lbf (67 N)
Stroke Length		
Continuous pk-pk	0.2 in (5 mm)	0.5 in (13 mm)
Between Stops	0.35 in (9 mm)	0.55 in (14 mm)
Frequency Range <sup>[1]</sup>	DC-11 kHz	DC-9 kHz
Acceleration <sup>[1,2]</sup>		
No load	64 g <sub>pk</sub>	70 g <sub>pk</sub>
0.1 lb load	26 g <sub>pk</sub>	35 g <sub>pk</sub>
1 lb load	4.2 g <sub>pk</sub>	6.4 g <sub>pk</sub>
2 lb load	2.2 g <sub>pk</sub>	3.3 g <sub>pk</sub>
Protection Features	Over-current (in-line fuse)	

**ELECTRICAL**

Maximum Current	5 A	8 A
DC Resistance, armature, nominal	1.5 Ω	0.37 Ω

**PHYSICAL**

Armature Mass, nominal	0.07 lb (0.032 kg)	0.1 lb (0.045 kg)
Suspension Stiffness, nominal	15 lbf/in (2.63 N/mm)	
Dimensions (HxWxD), nominal	5.3 x 6.75 x 3.5 in (135 x 171 x 89 mm)	
Weight	6 lbs (2.72 kg)	
Electical Connector	7 ft (2.13 m) Integral cable to ring terminals	
Table Mounting	10-32 thread	

**SUPPLIED ACCESSORIES**

2110G06 Nylon Stinger kit, pack of three  
 Trunnion base with EasyTurn™ handles and mounting holes

[1] Load dependent

[2] Please see systems ratings for additional specifications

**RELATED PRODUCTS:**

2100E21	SmartAmp™ Power Amplifier 400W, 92% efficient, continuous gain adjustment
208C01	Multi-purpose, ICP® force sensor, 10 lb (45 N) comp., 10 lb (45 N) tension, 500 mV/lb (10 mV/N)
288D01	ICP® impedance head, force/accel: Force: 100 mV/lb (22.4 mV/N) ; Accel: 100 mV/g (10.2 mV/(m/s <sup>2</sup> ))
2110 Series	Stinger kit, 10-32 threaded nylon, various lengths, pack of three
2120 Series	Stinger kit, 10-32 threaded stainless-steel, various lengths, pack of three



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