

APS 129 ELECTRO-SEIS®

Long Stroke Shaker with Air Bearing Load Mounting Table



The **APS 129 ELECTRO-SEIS®** is a force generator specifically designed to be used for calibration and evaluation of accelerometers and other motion transducers. It provides excellent properties for low frequency excitation of such devices. This model has a horizontal air bearing table coupled to the vibration that allows high payloads up to 23 kg e.g. for the calibration of geophones and heavy seismic sensors.

Applications

- Calibration and test for seismic instruments like geophones and heavy seismic sensors
- Seismic simulation for components
- Excitation of manufactured equipment in the factory or installed in the field to demonstrate compliance with seismic specification criteria

Features

- 30 lb, 133 N or 42 lb, 186 N vector force
- 10 x 10-in, 254 x 254 mm load mounting table
- Air bearing guidance and support system carries up to 50 lb, 23 kg test load with very low cross-axis motion
- Efficient electrodynamic driver produces sine, random or transient waveforms
- Excellent waveform purity

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Description

The Model APS 129 Horizontal Shaker consists of an APS 113AB **ELECTRO-SEIS®** long stroke air bearing driver attached to a load mounting table and air bearing assembly. The shaker imparts transverse base excitation to items mounted on the table.

Static and dynamic loads normal to the table surface are transferred through a large area precision air bearing to a rigid guide bar of rectangular cross section. The driver unit and guide bar assembly are mounted on a common rigid base, ensuring correct alignment of all moving parts.

The standard hole pattern consists of 25 threaded holes in a 5 x 5 array. Optional metric threads and spacing are available.

The APS 113AB driver unit employs permanent magnets and is configured such that the armature coil remains in a uniform magnetic field over the entire stroke range ensuring a high degree of linearity. The self-cooled armature coil requires power from a matching electronic power amplifier.

Clean, water and oil free air for bearing operation is carried to the moving bearing housing by flexible PVC tubing, constrained to move with a rolling action.

Optional Configurations

APS 129-HF

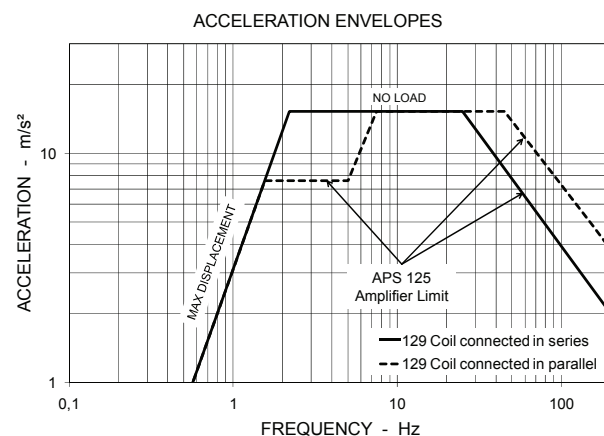
All features of the basic **ELECTRO-SEIS®** shaker are retained. The drive coil is made for 40 % increase in force with a 50 % duty cycle (30 min cycle).



APS 129 with APS 1291 Vertical Mounting Kit

Performance

Test loads of up to 50 lb, 23 kg can be driven to acceleration levels typical of those found in seismic specifications. Performance envelopes of the shaker at the 30 lb, 133 N rating with the APS 125 Power Amplifier are given in the graph. These envelopes represent the maximum acceleration with no test load that can be achieved on the table.



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Specifications

Model	APS 129	APS 129-HF High Force
Force (Sine Peak)	133 N (30 lbf)	186 N (42 lbf)
Stroke (Peak - Peak)	158 mm (6.25 inch)	
Frequency Range	DC ... 200 Hz	
Operation	horizontal or vertical	
Armature Weight	8.5 kg (18.7 lb)	
Max. Payload	Horizontal Vertical	23.0 kg (50.7 lb) 11.0 kg (24.3 lb)
Impedance	4.4 or 1.1 Ω	1.4 Ω
Air Pressure Required	4 bar ... 6 bar (60 psig ... 90 psig)	
Air Flow Required	650 l/h (0.4 cfm)	
Total Shaker Weight	79.0 kg (174.2 lb)	
Overall Dimension L x W x H	889 x 219 x 216 mm (35 x 8.6 x 8.5 inch)	
Load Table Size L x W	254 x 254 mm (10 x 10 inch)	
Operating Temperature	5 ... 40 degrees C	
Storage Temperature	-25 ... 55 degrees C	

Accessories (optional)

Model	APS 129	APS 129-HF High Force
Power Amplifier	APS 125	APS 125, APS 145
System Cable for Connection Shaker to Amplifier	APS 0082-6E	
Zero Position Controller for Vibration Exciters	APS 0109	
Vertical Mounting Kit / Vertical Operation Kit	APS 1291	

Additional accessories available