Vibration and Shock Exciters Overview

SPEKTRA designs and manufactures a wide range of high performance mechanical exciters for the generation of controlled shocks and vibrations for calibration, test, qualification and mechanical certification of small objects and for modal analysis on large mechanical structures.

Air bearing vibration exciters

High Frequency Vibration Exciter
SPEKTRA SE-09 HF
This high-frequency calibration exciter is a high-tech product developed for the high demands of calibration laboratories and metrology institutes.

Max. force: 100 N
Max. displacement pk-pk: 8 mm
Frequency range: 5 Hz - 50 kHz
Resonance frequency: >52 kHz

Very Low Frequency Vibration Exciters
APS 113-AB
This ELECTRO-SEIS® air bearing force generator is designed to for calibration and evaluation of accelerometers and other motion transducers. Furthermore it is optimized for measuring decay rates in very lightly damped structures.

Max. force: 133 N (186 N)
Max. displacement pk-pk: 158 mm
Frequency range: 0.2 - 200 Hz

APS 129
This ELECTRO-SEIS® Long Stroke Shaker is an airbearing force generator designed for calibration and evaluation of accelerometers and other motion transducers. It provides excellent properties for low frequency excitation. This model has a horizontal air bearing table coupled to the vibration that allows high payload up to 23 kg (50 lb) e.g. for calibration of geophones and heavy seismic sensors.

Max. force: 133 N (186 N)
Max. displacement pk-pk: 158 mm
Frequency range: 0.2 - 200 Hz

Shock exciters

Pneumatically driven shock Exciter
SE-201 PN-LMS
Pneumatically driven shock exciter for the amplitude range of 5 g, to 15.000 g, to be used in calibration or test applications with larger pulse duration up to 5 ms.

Shock pendulum
SE-210 SP-LS
Shock pendulum with integrated reference sensor and shock amplitudes up to 200 g.

Hopkinson bar shock exciter
SE-220 HOP-MS
Medium-shock exciter for the amplitude range from 20 g, up to 4.000 g. This exciter provides the force impact using a piezo-aktuator (Patent pending).
This allows new possibilities to control the mechanical shock signal and with its new applications in the field of the calibration and in particular in the field of measurement and test systems (e.g. to test the shock sensibility of MEMS sensors).

SE-221 HOP-HS
High-shock exciter for the amplitude range up to 100.000 g, (optionally up to 200.000 g) to be used in calibration or test applications.

SPEKTRA SE-101 RES-HA
This model is designed for checking and calibration of amplitude linearity of sensors at certain frequencies up to very high acceleration levels.
Max. acceleration: 400 g
Frequency range: 70 - 500 Hz

SPEKTRA SE-101 RES-HA
High Sine Acceleration Exciter

Vibration exciter for modal analysis, calibration and tests

Linear bearing vibration exciter
APS 113
The APS 113 ELECTRO-SEIS® long stroke exciter is a linear bearing force generator specifically designed to be used alone or in arrays for studying dynamic response characteristics of various structures.
Max. force: 133 N (186 N)
Max. displacement pk-pk: 158 mm
Frequency range: DC - 200 Hz

APS 400
The APS 400 ELECTRO-SEIS® long stroke exciter is a linear bearing force generator designed to be used alone or in arrays for studying dynamic response characteristics of various structures.
Max. force: 445 N
Max. displacement pk-pk: 158 mm
Frequency range: DC - 200 Hz

Transportable suspension flexure vibration exciter
APS 300
Transportable vibration exciter with suspension flexure and integrated amplifier for modal analysis and calibration application.
Max. force: 22 N
Max. displacement pk-pk: 5 mm
Frequency range: 0 Hz - 10 kHz

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