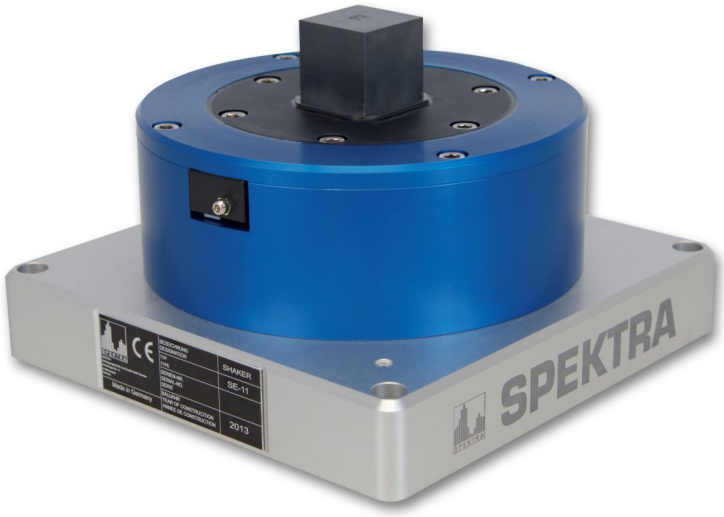
SE-11

Vibration Exciter for High Frequencies



Application

- Cross sensitivity testing of small components or sensor with true monoaxial excitation

Range of use

- Developement and Test of MEMS Sensors
- Quality assurence in sensor manufacturing

Features

- Ceramic armature with coupling surfaces on the side
- Very high first axial head resonance frequency (> 52 kHz)
- high acceleration amplitude (up to 400 m/s²)
- Very low cross motion typical < 10 % [3)]
- Usable frequency range from 2 kHz to 50 kHz
- Extreme wear resistant ceramic armature
- Internal high frequency reference accelerometer (ICP®-type, sensitivity about 10 mV / g_n)

Description

The SE-11 is a high-tech product, specially designed for cross sensitivity testing of small components or sensors. The DUT can be fixed on the side of the armature. Due to the special design of the armature the DUT can be excited with nearly no cross motion [3)] in the frequency range between 2 kHz and 50 kHz.
The drive of the shaker is electro dynamic. All components of the drive are designed for high performance. With acceptable temperature rise of the shaker, high acceleration amplitudes can be created.

Because of the application of top performance materials (armature made from technical ceramic, drive with high-performance magnets) and the optimized form of construction the shaker has a very high power density. The result is a lightweight shaker with small dimensions.

SE-11

Vibration Exciter for High Frequencies

Technical Data

Components

- Internal reference accelerometer
- Basis mass

Vibration Exciter		
Force Rating [1) 2)]	100 N peak	
Frequency Range	1 kHz ... 50 kHz	
Resonance Frequency	> 52 kHz	
Max. Stroke [1) 2)]	20 µm	
Max. Acceleration [1) 2)]	400 m/s² peak	
Max. Payload	10 gram	
Transverse Motion [3)]	typical less than 10 % between 2 kHz...50 kHz	
Max. Current Input	9 A rms	
Total Weight	9 kg	
Working Temperature Range	23°C (± 2 °C)	73.4°F (± 4 °F)
Storage Temperature Range	-25°C ... +55°C	-13°F … +131°F
Data of the Internal Reference Accelerometer [2)]		
Sensitivity (± 10 %)	1 mV / m/s² (10 mV / g_n)	
Frequency Range	2 Hz ... 50 kHz	
Amplitude Linearity	< 0,25%	
Resonance Frequency	ca. 70 kHz	
Excitation Voltage	18 V_{DC} … 30 V_{DC}	
Constant Current Excitation	2 mA … 20 mA	
Output Bias Voltage	8 V_{DC} … 12 V_{DC}	
Discharge Time Constant	0.5 sec … 2.0 sec	
Settling Time (Within 10% of Bias)	< 5 sec	
Connectors		
Sensor	Cable 3 m with BNC plug 10-32 fixed connected	
Shaker	Cable 3 m with Speakon® plug	

[1)] Interval mode of operation
[2)] All specifications are at room temperature unless otherwise specified
[3)] Bending vibration at 43 kHz, higher transverse motion

Recommended Power Amplifier: **PA 14-500**

All data are subject to change without notice

May 2015