

# SE-16

## Vibration Exciter for High Frequencies



### Application

- High-frequency vibration excitation of small components and sensors in the longitudinal and transverse direction

### Range of use

- Quality assurance in sensor manufacturing
- Development and testing of MEMS sensors

### Features

- Rugged ceramic armature (15 mm x 15 mm) with coupling surfaces for attaching the test device
- Very high first axial resonance frequency (> 110 kHz)
- High acceleration amplitude (up to 400 m/s<sup>2</sup>)
- Low transverse motion (typically < 10 %)
- Wide frequency range: 5 kHz to 100 kHz

### Description

The SE-16 vibration exciter has been specially developed for high frequency vibration excitation of small components and sensors both in the longitudinal and transverse direction. It can thus be used, for example, for developing and testing MEMS sensors and for quality assurance in sensor manufacturing.

The test device can be attached by glueing on the side or on the top of the coupling surfaces. Thanks to the special design of the rugged ceramic armature and its special bearing, the test device can be excited almost free of any transverse motion in a frequency range of between 5 kHz and 100 kHz.

The drive of the vibration exciter is electro-dynamic, with the required electric energy provided by the power amplifier. All components of the drive are explicitly designed for high performance. With acceptable temperature rise of the vibration exciter, high acceleration amplitudes can be created.

Through the required frequency and power range, the PA14-500 power amplifier can deliver a voltage signal with extremely low distortion factor.



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## Vibration Exciter for High Frequencies

### Technical data

<b>SE-16 vibration exciter</b>	
Force rating <sup>1)</sup>	12 N
Frequency range <sup>2)</sup>	5 kHz ... 100 kHz (200 kHz) <sup>2)</sup>
Resonance frequency	> 110 kHz
Max. stroke <sup>3)</sup>	0.8 µm
Max. acceleration <sup>1)</sup>	400 m/s <sup>2</sup>
Max. payload	5 g
Transverse motion (typical)	< 10% in the range of 5 kHz ... 100 kHz
Rated current	8 A RMS
Max. voltage	10 V RMS
Dimensions (H x W x L)	82 mm x 130 mm x 130 mm
Weight	2.9 kg
<b>PA14-500 power amplifier</b>	
Power Output, max.	500 VA at 4 Ohm
Voltage Output	45 V RMS
Current Output <sup>4)</sup>	11 A RMS
Frequency range	DC to 150 kHz
Input impedance	> 10 kOhm
Power supply	preset to either 100 V or 120 V or 230 V; 50 / 60 Hz
Control mode	Voltage
Dimensions (H x W x L)	88 mm x 440 mm x 450 mm
Weight	21 kg
<b>System cable</b>	
Length	3 m
Connector of vibration exciter	9-pole Sub-D connector
Connector of power amplifier	8-pin Speakon®

All specifications are at room temperature unless otherwise specified.

<sup>1)</sup> Sine peak value

<sup>2)</sup> under certain conditions, the SE-16 can be operated up to 200 kHz

<sup>3)</sup> Peak-peak

<sup>4)</sup> Up to 8 A RMS permitted