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Simcenter Qsources excitation hardware product portfolio

Providing minimum mass loading while being self-supporting and self-aligning

Introduction

The Simcenter™ Qsources™ hardware has been designed for fast and accurate transfer function testing and includes electrodynamic inertia shakers. The force level is sufficient for full vehicle excitation. The internal suspension decouples the inert mass dynamically from the test structure minimizing mass loading and enabling fast installation without time consuming alignment work and the need for external support. Integrated force and acceleration sensors result in high accuracy frequency response functions (FRFs).

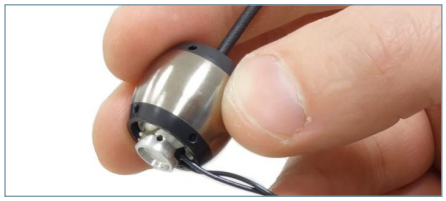
Benefits

- Provide minimum mass loading
- Enable self-support and self-alignment
- Make excitation possible in any orientation
- Excite where no one has excited previously

Features

- Patented internal decoupling suspension
- Compact design
- Internal reference sensors

High-frequency shaker



- Frequency range: 300 to 10,000 hertz (Hz)
- Dynamic mass loading: 2 grams
- Integrated force sensor
- Force: 0.8 Newton root mean square (Nrms)

Integral shaker

- Frequency range: 20 to 2,000 Hz
- Integrated force and acceleration sensor
- Allround: component to full vehicle FRF
- Force: 7 Nrms

Miniature shaker

- Frequency range: 50 to 5,000 Hz
- Integrated force and acceleration sensor
- Force: 2 Nrms

Thumper shaker

- Excitation possible from 5 Hz
- Long stroke suspension
- Integrated force sensor
- Force: 25 Nrms

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Benefit sources

- Compact design
- Monopole source characteristic
- Full frequency range
- Compatible with Simcenter Testlab™ software Spectral Testing and Simcenter Testlab MIMO FRF Testing

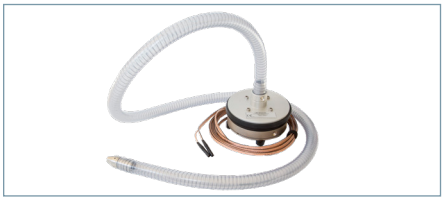
Feature sources

- Internal sound source strength sensors
- Reciprocal and direct excitation
- Wide frequency range

Low-frequency monopole source

- Dual driver technology
- Cavity FRF from 5 Hz
- Vehicle Body reciprocal FRF from 30 Hz
- Monopole until 1,000 Hz
- Internal source strength sensor

Mid-high-frequency source



- Frequency range: 150 to 10,000 Hz
- Real-time volume acceleration reference signal
- Monopole characteristic
- Nozzle diameter:Ø30 millimeters (mm)
- Nozzle aperture: Ø10mm

Low-mid-frequency source

- Frequency range: 10 to 1,000 Hz
- Real-time volume acceleration reference signal
- Human torso diffraction effect

Measurement power amplifier

- Accurate amplification
- Frequency range: 4 to 20,000 Hz
- High pass filter

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