

HERZAN

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Acoustic, Vibration, and EMI Isolation Specialists

AVI-400 Series

Overview

The AVI-400 platforms provide industry-leading active vibration isolation performance (starting at 0.5 Hz) for large microscopes performing nanoscale research. The AVI-400 platforms help users achieve more from their research by removing disruptive low-frequency vibration noise from affecting their measurements.

The AVI-400 platforms include a low-profile and modular design, becoming the perfect solution for users wanting an effective and easy-to-install platform to protect their high-load instruments from low-frequency vibrations.



AVI-400M Isolator and AVI-400 Controller



Internal Technology of the AVI Series:
Piezoelectric Sensors & Actuators

Product Highlights

- Active Isolation from 1 to 200 Hz (starting at 0.5 Hz with the LFS System)
- Passive Isolation Beyond 200 Hz
- Isolates vibrations in all six degrees of freedom
- Advanced piezoelectric sensors & actuators
- Internal feedback loop damps resonances
- Compact, modular form factor with easy installations

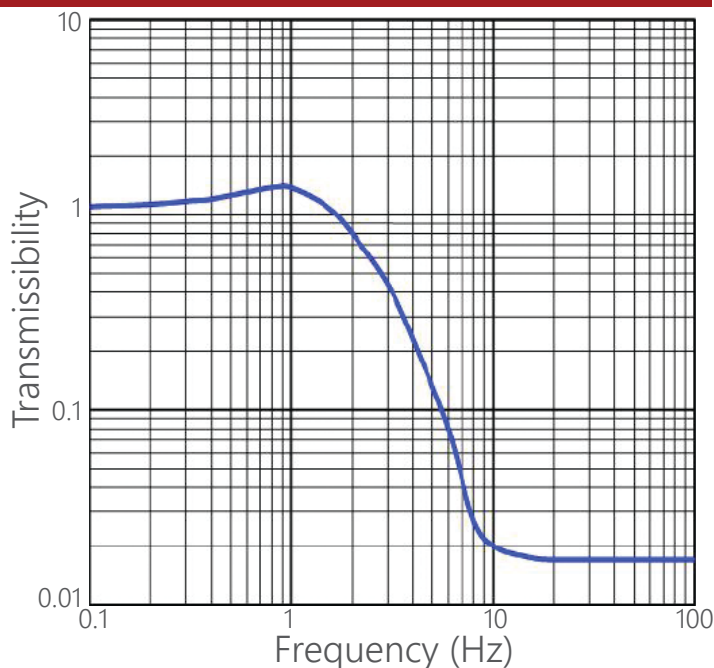
Applications

- Electron Microscopy
- UHV-SPM
- Lithography
- High Precision Metrology
- Spectrometry
- And More!

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TRANSMISSIBILITY



Performance Highlights

- Active Vibration Isolation from 1 - 200 Hz*
- Passive Vibration Isolation from 200 Hz and beyond
- 90% Vibration Attenuation at 5.5 Hz
- 99% Vibration Attenuation at 10 Hz and beyond

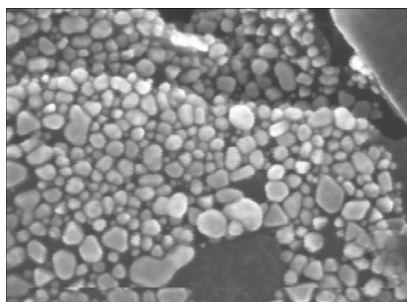
*Improved Sub-Hertz Isolation Performance Available with the LFS-3 System

Performance

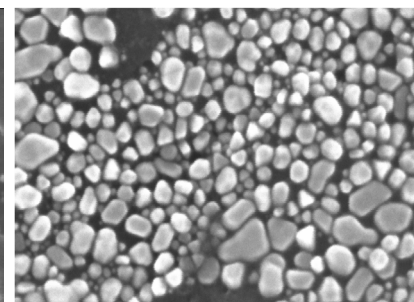
The performance graph is to be considered for all AVI Series platforms. The transmissibility graph is a conservative estimate of performance in any given lab environment and pertains to all six translational and rotational modes of vibration (all six degrees of freedom).

Performance Comparison Images

A researcher operating an SEM imaged a sample under two unique conditions: **without a vibration isolation system** and **with an AVI-400M platform**. The resulting images demonstrate a significant improvement in image quality and overall measurement clarity when an AVI platform is used to support an SEM



Without Vibration Isolation



With Active Vibration Isolation

MODEL	LOAD CAPACITY				DIMENSIONS					
	(Values Represent A Two Isolator Platform)				(Individual Isolator Dimensions)					
	Minimum Load		Maximum Load		Width		Depth		Height	
Model #	Lbs	Kgs	Lbs	Kgs	Inches	MM	Inches	MM	Inches	MM
AVI-400S	0	0	1,400	636.4	7.5	190	15.6	396	4.4	112.5
AVI-400M	0	0	2,000	909.1	7.5	190	28.3	720	4.4	112.5
AVI-400XL	0	0	2,000	909.1	7.5	190	33.7	856	4.4	112.5

Selection Guide Tip #1: To determine the correct AVI-400 model for your instrument, compare your instrument's weight to the load capacity figures above to confirm the platform can provide adequate support. If the instrument's weight exceeds the platform's load capacity, additional isolators can be added or the AVI-600 isolators will be recommended.

Selection Guide Tip #2: Compact instruments ($\leq 24 \times 30"$) are supported by the AVI-400S platform; medium-sized instruments ($\leq 36 \times 40"$) are supported by the AVI-400M platform, and large instruments ($> 36 \times 40"$) are supported by the AVI-400XL platform.



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