

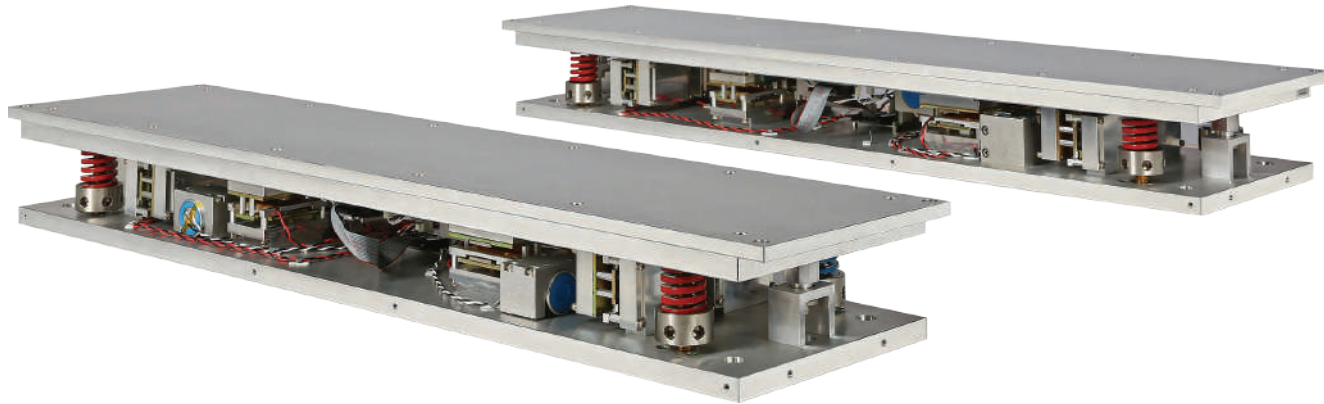
Active Vibration Isolation System

DVIA-U Series



DVIA-U Series

Modular active vibration isolation system for SEM and Metrology with linear stage.



Simple, but powerful.

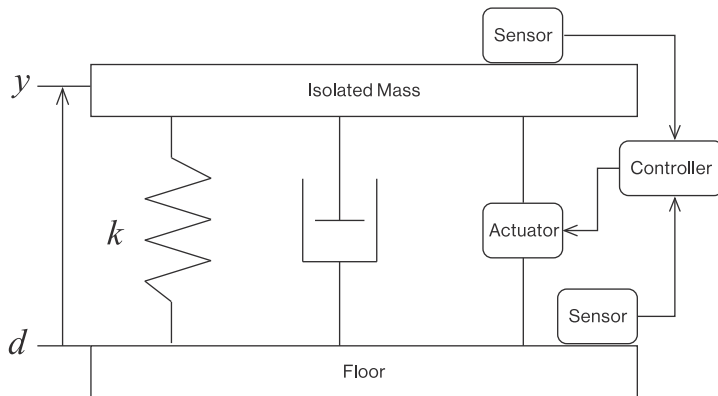
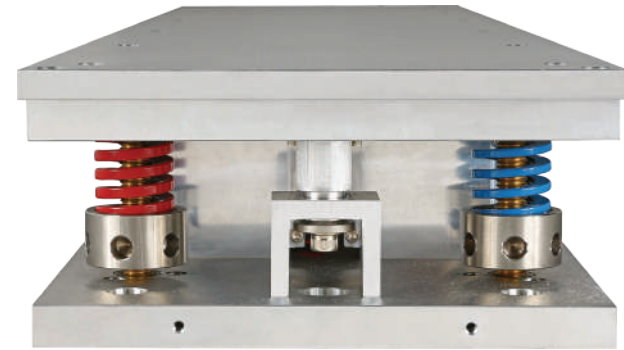
The DVIA-U series is a modular active vibration isolation platform designed for SEMs and nanoscale imaging metrology tools with linear stages. The DVIA-U series operates solely on electrical power, reducing installation and maintenance efforts. The DVIA-U series features sensitive Geophone sensors and linear motor actuators, which work with advanced control algorithms to provide exceptional vibration isolation.

Modular architecture, makes installation easy

The DVIA-U system includes two active vibration isolators, each measuring 818 x 220 x 96 mm, significantly streamlining the installation process. The installation process is straightforward: Simply placing the two active vibration isolators under the SEM and raising the leveling feet eliminates the need to lift the SEM, saving both time and costs while minimizing risk to instrument.

Robust passive isolation system, offers benefits.

The DVIA-U series features metal springs for its passive vibration isolators, eliminating the need for an air utility and providing higher stiffness. With the higher stiffness, the settling time is improved compared to pneumatic vibration isolators, meaning the system can adapt to metrology equipment with linear stages.

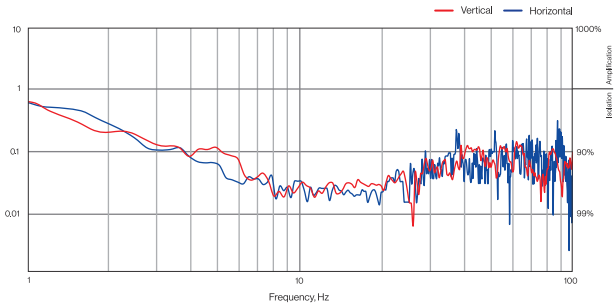


Feedback and feedforward control algorithms, the system achieves superior performance.

The feedback control system constantly measures the isolated mass vibration and use the actuators to cancel out the vibration. The feedforward control uses ground sensor measurements to detect floor vibrations and sends a signal to the actuators to cancel floor vibrations before they transmit to the isolated mass. These advanced control mechanisms work together to enhance the vibration isolation performance of the DVIA-U series, particularly at low frequencies.

Performance

The DVIA-U series starts to isolate vibration from 0.5 Hz, providing 90% vibration isolation at 4 Hz.



Specifications

Model	DVIA-U350	DVIA-U700	DVIA-U1000
Isolator Quantity	2 ea		
Dimensions	783 x 205 x 96 mm	818 x 220 x 96 mm	818 x 220 x 96 mm
Maximum Load Capacity	350 kg	700 kg	1200 kg
Vibration Isolation Technology	Feedback and Feedforward Control		
Degrees of Freedom	6 Degrees		
Active Isolation Bandwidth	0.5 – 200 Hz		
Vibration Isolation	90% at 4 Hz		
Actuator	Electromagnetic Actuator		
Maximum Actuator Force	U350: Vertical 6 N, Horizontal 3 N U700, U1000: Vertical 12 N, Horizontal 6 N		
Vibration Sensor	Geophone, Sensitivity: 2.55 V/in/s (100.4 V/m/s) ± 10%		
Controller	External		
User Interface	GUI for Windows OS		
Environmental Protection Requirements	CE and TUV		
Power Requirements	Line Voltage: 100 – 260V AC, Line Frequency: 50/60 Hz		
Environmental Requirements	Temperature: 5 – 50 °C, Humidity: 20 – 90 %		