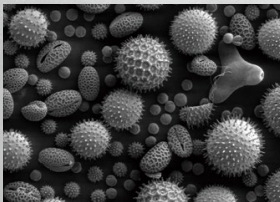


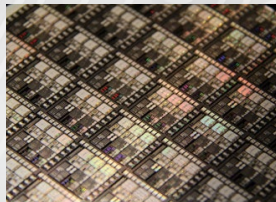
Active Vibration Isolation Systems



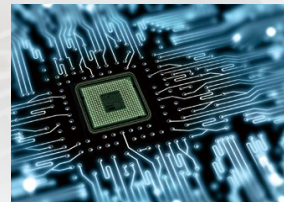
Life Sciences



Metrology



Semiconductor



Photonics

DVIA-T Series

Tabletop Active Vibration Isolation Platform



DVIA-T is the advanced tabletop active vibration isolation platform to isolate ultrasensitive measuring instruments in 1–10 Hz range where the measuring instruments critically tend to be disturbed by vibration. Velocity sensors and electromagnetic actuators are integrated into DVIA-T, enabling DVIA-T to minimize vibration from 0.7 Hz in six degrees of freedom.

DVIA-T features the compact, portable design, a simple operation system, and LCD display of real-time vibration levels and automatic leveling to provide the optimal measuring environment for users.

FEATURES

- **Active vibration isolation in six degrees of freedom**

The velocity sensors detect incoming vibrations in all six degrees of freedom and send this data to the digital controller. The controller sends a digital signal to the actuators, then the actuators counteract the measured vibrations by creating the equal and opposite forces.

- **Automatic leveling function**

Automatic leveling function enables users to load instruments of various sizes and weights.

- **Real-time monitoring**

LCD display allows users to monitor real-time vibration levels and automatic leveling.

- **Simple operation system**

The plug and play operation system enables users to operate the system at the push of buttons, allowing users to install and use DVIA-T on any locations without professional supports.

- **No air**

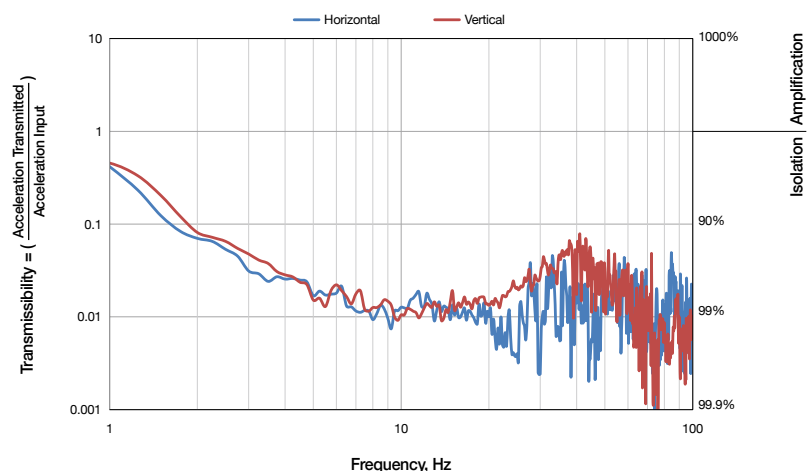
No requirement of air supply. The only required input is power from a AC outlet.

- **UI software to monitor real-time vibration data**

DVIA-T comes with the easy, practical UI software that allows users to monitor the real-time vibration data on their computers.

PERFORMANCE

With the advanced active vibration isolation technology, DVIA-T starts to isolate at 0.7 Hz, delivering 90% vibration isolation at 2 Hz and 99% vibration isolation at 10 Hz.



SPECIFICATIONS

Model No.	DVIA-T45	DVIA-T56	DVIA-T67	DVIA-T78
Dimensions (L×W×H)	420 × 500 × 93 mm	500 × 600 × 93 mm	600 × 700 × 97 mm	700 × 800 × 97 mm
Maximum Load Capacity	90 kg / 150 kg	90 kg / 150 kg	90 kg / 150 kg	90 kg / 150 kg
Weight	25 kg	32 kg	47 kg	56 kg
Actuator	Electromagnetic actuator			
Maximum Actuator Force	Vertical : 6N, Horizontal : 3N			
Degrees of Freedom	6			
Active Isolation Range	0.7 – 100 Hz			
Resonant Frequency	0.6 Hz			
Isolation Performance	90% vibration isolation at 2 Hz			
	99% vibration isolation at 10 Hz			
Settling Time	Less than 0.5 sec (90% reduction of after a disturbance)			
Input Voltage	AC 80 – 260 / 50 – 60 Hz			
Power Consumption	Less than 36W			
Operating Range	Temperature 5 – 50°C			
	Humidity 20 – 90%			
Top plate	No mounting holes / M6 mounting holes / Custom-made top plate			
Automatic leveling	Yes			
Transportation	Internal lock system			
Real-time Monitoring	Vibration levels and automatic leveling on LCD display			

ACOUSTIC ENCLOSURE

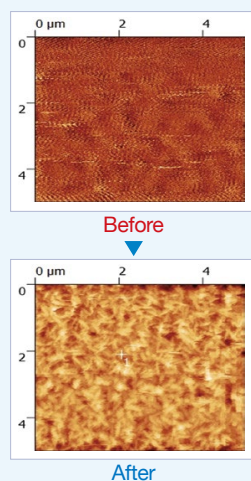
DAEIL's acoustic enclosure eliminates acoustic noise that could critically disturb ultrasensitive measuring instruments, such as AFM microscopes.

When DVIA-T is enclosed with the acoustic enclosure, its vibration isolation performance is maximized.



APPLICATIONS

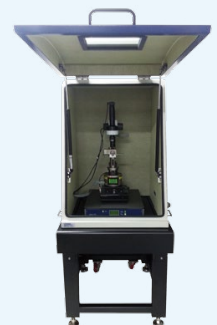
- Atomic Force Microscopy (AFM)
- Confocal Microscopy
- Interferometry
- Scannings Probe Microscopy (SPM)
- Tabletop Scanning Electron Microscopy (Tabletop SEM)
- Profilometry
- High Precision Metrology



Confocal Microscope



Tabletop SEM



AFM

DVIA-MB Series

Base Active Vibration Isolation Platform



DVIA-MB is the ultimate base active vibration isolation platform for all commercial electron microscopes. DVIA-MB assists electron microscopes with obtaining high resolution images of biological and non-biological specimens by reducing vibration in 1–10 Hz where the electron microscopes are susceptible to vibration resulting distorted images of measuring objects. Velocity sensors and electromagnetic actuators are integrated into DVIA-MB, effectively minimizing vibration in the low frequency range and offering the fast settling time.

FEATURES

- **Superior active vibration isolator**

DVIA-MB consists of four units of DVIA-M active vibration isolator in which the elements of air springs and active isolation technology are embedded. The elements of air spring enable DVIA-MB to support heavy payloads from 500 kg to 6000 kg and the integrated velocity sensors and electromagnetic actuators effectively minimize vibration in 1–10 Hz.

- **Designed to support electron microscopes**

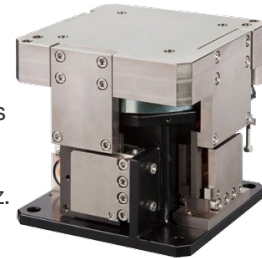
We specifically design DVIA-MB for all commercial electron microscopes, offering custom-made base platforms to fit electron microscopes of various sizes and weights.

- **Active vibration isolation in six degrees of freedom**

The velocity sensors detect incoming vibrations in all six degrees of freedom and send this data to the digital controller. The controller sends a digital signal to the actuators, then the actuators counteract the measured vibrations by creating the equal and opposite forces.

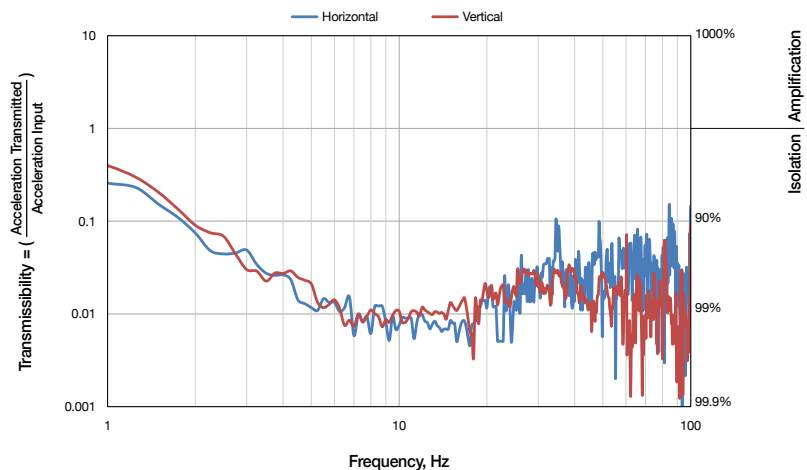
- **On-site tuning for maximum performance**

We offer an on-site tuning by our professional and experienced engineer to guarantee the maximum performance level and users' satisfaction. The engineer measures source of vibration, then tunes the feedback and feed-forward control system to effectively reduce the measured vibration.



PERFORMANCE

The transmissibility graph of DVIA-MB indicates that how much vibration DVIA-MB reduces in 1–100 Hz range. As shown in the graph, DVIA-MB is highly effective in reducing vibration in 1–10 Hz. DVIA-MB delivers 90% vibration isolation at 2 Hz and 99% vibration isolation at 10 Hz where electron microscopes tend to be unstable and disturbed by vibration in 1–10 Hz range.



SPECIFICATIONS

Model No.		DVIA-MB1000	DVIA-MB3000	DVIA-MB6000
Dimensions (L×W×H)	Isolator Unit	180 x 180 x 180 mm	232 x 232 x 180 mm	308 x 308 x 180 mm
	Platform	Custom-made (fixed H:224 mm)		
Maximum Load Capacity		500 – 1700 kg	1500 – 3500 kg	3000 – 6000 kg
Actuator		Electromagnetic actuator		
Maximum Actuator Force		Vertical : 40N, Horizontal : 20N		Vertical : 80N, Horizontal : 40N
Degrees of Freedom		6		
Active Isolation Range		0.6 – 100 Hz		
Resonant Frequency		0.5 Hz		
Isolation Performance		90% vibration isolation at 2Hz		
		99% vibration isolation at 10Hz		
Settling Time		Less than 0.5 sec (90% reduction of after a disturbance)		
Input Voltage		AC 80 – 260 / 50 – 60 Hz		
Power Consumption		Maximum 110W, Below 50W in normal operation		
Required Air Pressure		Over 0.5 Mpa		
Operating Range	Temperature	5 – 50 °C		
	Humidity	20 – 90 %		

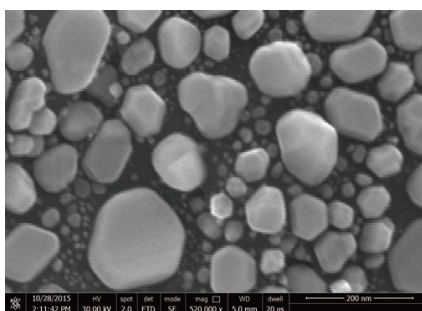
APPLICATIONS

- Scanning Electron Microscopy (SEM)
- High Precision Metrology
- Transmission Electron Microscopy (TEM)
- Scanning Tunneling Microscopy (STM)

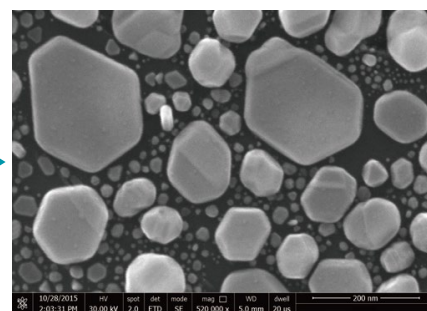


HITACHI

TESCAN



Before

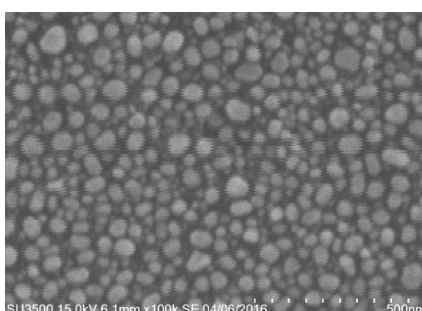


After

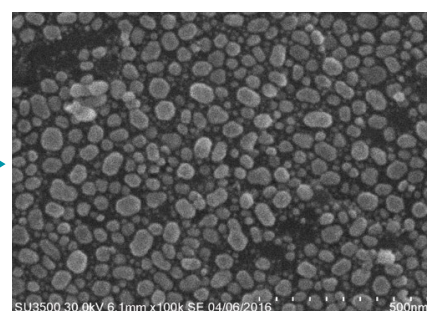


FEI

ZEISS



Before



After

DVIA-U Series

Modular Active Vibration Isolation Platform



DVIA-U350



DVIA-U1000

DVIA-U series is a modular active vibration isolation platform that can be directly installed under ultrasensitive measuring instruments to minimize vibration in 1 – 10 Hz. DVIA-U employs robust metal springs as to support heavy payloads from 150 to 2000 kg. DVIA-U incorporates electromagnetic actuators and velocity sensors that they immediately and continuously counteract incoming vibration from a floor, achieving the fast settling time, and moreover, delivering 90% vibration isolation at 2 Hz and 99% vibration isolation at 10 Hz.

DVIA-U series can be integrated into base and desk platforms.

DVIA-UB

Base Active Vibration Isolation Platform



DVIA-UB is a base platform with the integrated DVIA-U1000. A digital controller is also integrated into the base platform, allowing users to monitor real vibration levels.

DVIA-UD

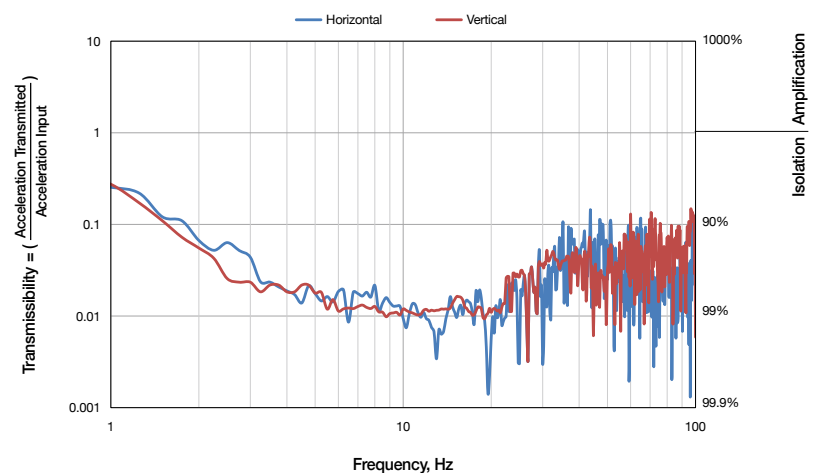
Desk Active Vibration Isolation Platform



DVIA-UD is a desk platform with the integrated DVIA-U350. The ergonomic design enables seated users to perform the most demanding applications comfortably and efficiently.

PERFORMANCE

As shown in the transmissibility graph, DVIA-U series starts to reduce vibration at 0.7 Hz, delivering 90% vibration isolation at 2 Hz and 99% vibration isolation at 10 Hz.



SPECIFICATIONS

Model No.		Modular Platform DVIA-U350		Desk Platform DVIA-UD350	Base Platform DVIA-UB1000
Dimensions (L)×(W)×(H)	Isolator Unit	783 x 205 x 96 mm	818 x 220 x 96 mm	783 x 205 x 96 mm	818 x 220 x 96 mm
	Platform	N/A		Custom-made	Custom-made (fixed H:130 mm)
Maximum Load Capacity		150 – 350 kg	300 – 2000 kg	150 – 350 kg	300 – 2000 kg
Actuator		Electromagnetic actuator			
Maximum Actuator Force		Vertical : 6N	Vertical : 12N	Vertical : 6N	Vertical : 12N
		Horizontal : 3N	Horizontal : 6N	Horizontal : 3N	Horizontal : 6N
Degrees of Freedom		6			
Active Isolation Range		0.7 – 100 Hz			
Resonant Frequency		0.6 Hz			
Isolation Performance		90% vibration isolation at 2 Hz			
		99% vibration isolation at 10 Hz			
Settling Time		Less than 0.5 sec (90% reduction of after a disturbance)			
Input Voltage		AC 80 – 260 / 50 – 60 Hz			
Power Consumption		Maximum 65W	Maximum 195W	Maximum 65W	Maximum 195W
		< 20W in normal operation	< 60W in normal operation	< 20W in normal operation	< 60W in normal operation
Operating Range	Temperature	5 – 50 °C			
	Humidity	20 – 90 %			

FEATURES

• Modular architecture active isolation platform

The modular architecture enables DVIA-U to fit under all sizes and support payloads from 150 to 2000 kg.

• Real-time monitoring

LCD display allows users to monitor real-time vibration levels.

• No air

No requirement of air supply. The only required input is power from a AC outlet.

• Active isolation in six degrees of freedom

The velocity sensors detect incoming vibrations in all six degrees of freedom and send this data to the digital controller. The controller sends a digital signal to the actuators, then the actuators reduce the measured vibrations by creating the equal and opposite forces.

• On-site tuning for maximum performance

We offer an on-site tuning by our professional and experienced engineer to guarantee the maximum performance level and users' satisfaction. The engineer measures source of vibration, then tunes the feedback and feed-forward control system to effectively reduce the measured vibration.

• UI software to monitor real-time vibration data

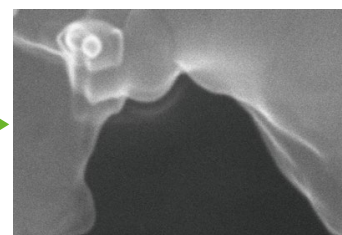
DVIA-U comes with the easy, practical UI software that allows users to monitor the real-time vibration data on their computers.

APPLICATIONS

- Scanning Probe Microscopy (SPM)
- Atomic Force Microscopy (AFM)
- Interferometry
- Profilometry
- Surface Metrology
- Scanning Electron Microscopy (SEM)
- Transmission Electron Microscopy (TEM)
- High Precision Metrology



Before



After



Cell Sorter on
DVIA-UD350



SEM on
DVIA-UB1000

Active Vibration Isolation Systems

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