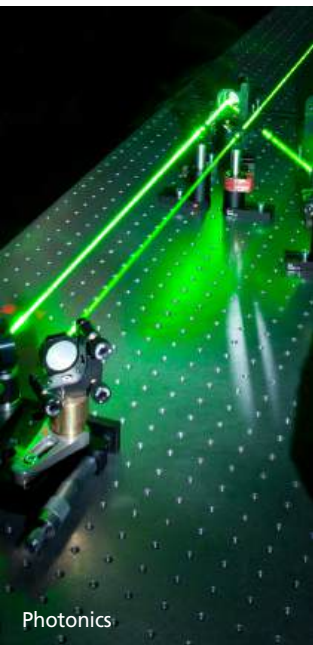


VIBRATION ISOLATION SYSTEMS



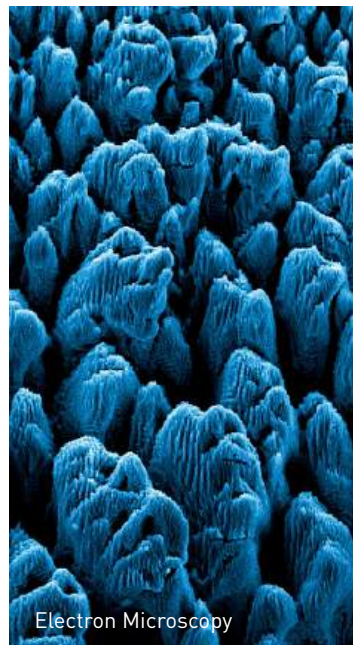
Photonics



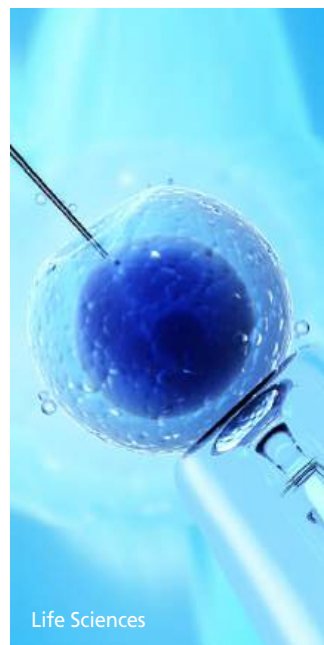
Semiconductor



Metrology



Electron Microscopy



Life Sciences

DVIA-T Series

Tabletop Active Vibration Isolation Platform



Features

• Isolating Sub-Hertz Vibration

DVIA-T series provides excellent vibration isolation performance in 1–10 Hz, where the low frequency vibration critically disturb nanoscale measuring tools. The vibration control range of DVIA-T series starts from 0.5 Hz, achieving 90% vibration isolation at 2 Hz.

• Automatic Leveling to Payload Weight

If there are changes in an environment and location or placing other instruments, users can adjust a level of DVIA-T by simply pressing a button.

• Portable Design

The smallest model is 420 mm x 500 mm x 93mm which weighs only 25 kg, allowing user to hand carry and install on any place at all.

• Optimal Vibration Solution

Our own software provides the optimized vibration solution by employing the software to tune the feedback and feedforward control systems depending on users' instruments weight and environments, if required by users.

• It's Simple. Plug and Play!

DVIA-T incorporating a Plug & Play operation system, allowing users to use all functions by simply plugging a power cable in to AC power and pressing buttons.

• Real-Time Monitoring

With the GUI software and integrated active sensors allow users to monitor real time vibration levels and isolation performance. Furthermore, an LCD display on the front side of DVIA-T, enables users to monitor the automatic leveling and real time vibration levels.

• No Air

Metal springs are integrated in DVIA-T series as to reduce high frequency vibrations and compressed air is not required.



Electron Microscopy



3D Optical Surface Metrology

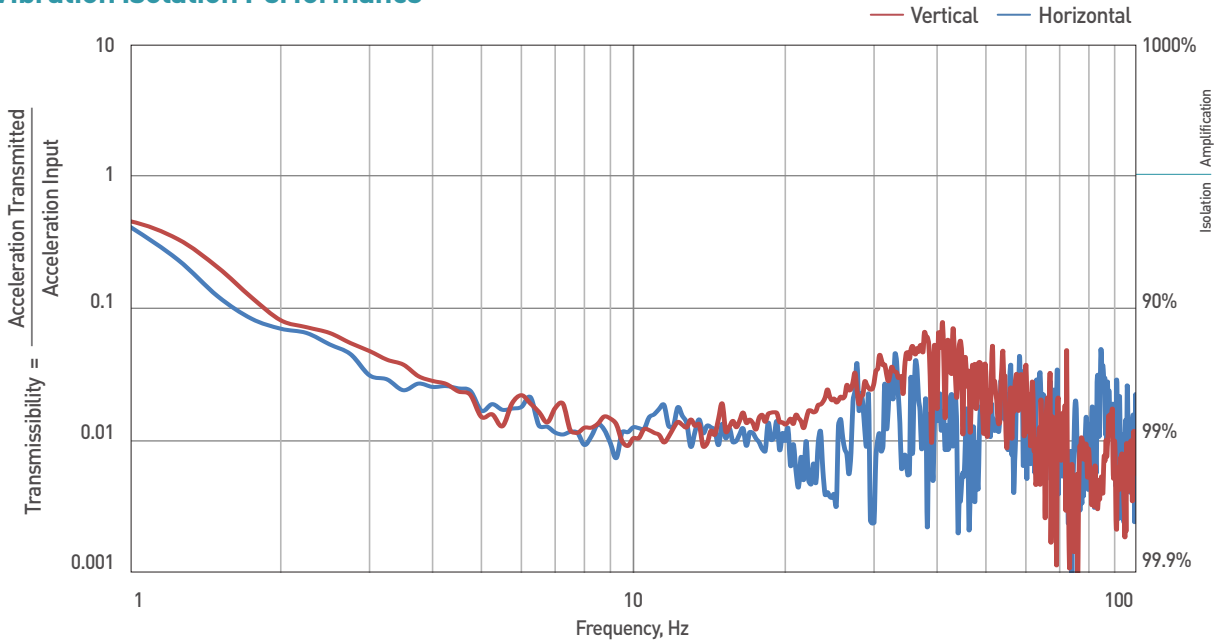


AFM

Application

- Tabletop SEM
- Atomic Force Microscopy
- Scanning Probe Microscopy
- Optical Microscopy
- Confocal Microscopy
- Interferometry
- Micromanipulation
- Nanoindentation
- Ultra-Precision Metrology Tools

Vibration Isolation Performance

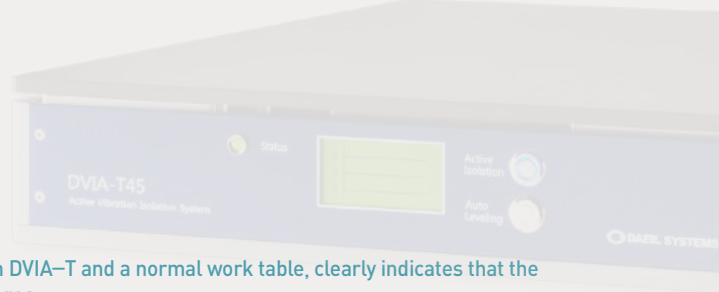


Specifications

Model No.	DVIA-T45	DVIA-T56	DVIA-T67	DVIA-T78
Dimensions (W x D x H)	420 x 500 x 93 mm	500 x 600 x 93 mm	600 x 700 x 95 mm	700 x 800 x 95 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 : 6 N, Horizontal : 3 N			
Active Isolation Range	0.5 – 100 Hz			
Degrees of Freedom	6 degrees			
Vibration Isolation Performance	40 – 80% at 1 Hz / ≥90% at ≥2Hz			
Settling Time	≤0.3 sec*			
Automatic Leveling / Load Adjustment	Yes			
Real-Time Monitoring	Active isolation status and automatic leveling on LCD display			
Top Plate	No Mounting Holes / M6 Mounting Holes / Custom			
Transportation	Internal Lock System			
Input Voltage (V)	AC 80 – 260 V / 50 – 60 Hz			
Power Consumption (W)	Less than 36 W			
Operating Range	Temperature (°C)	5 – 50 °C		
	Humidity (%)	20 – 90%		

*0.3 sec settling time is measured after 90% reduction of input. (The settling time varies with several conditions, such as payload, force, natural frequency, etc.)

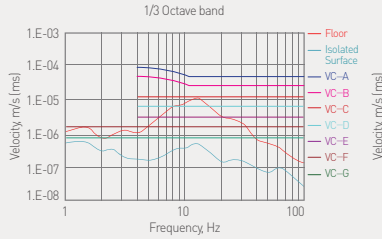
DVIA-T Case Studies



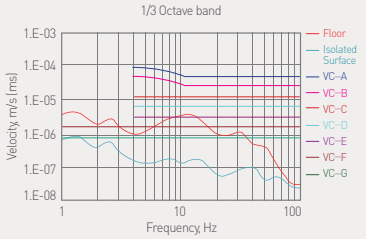
AFM Cantilever

The comparison of silicon substrate images measured on DVIA-T and a normal work table, clearly indicates that the DVIA-T remarkably reduces the vibration seen in the images.

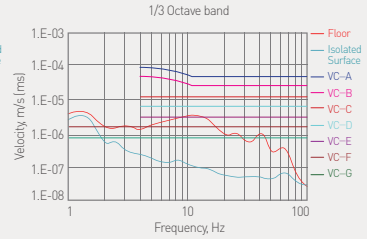
Z-axis



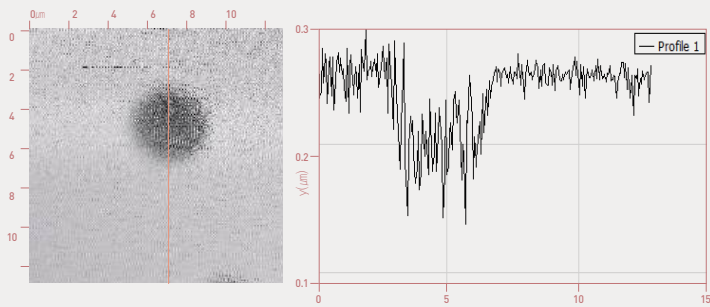
X-axis



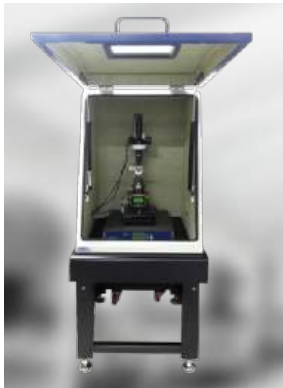
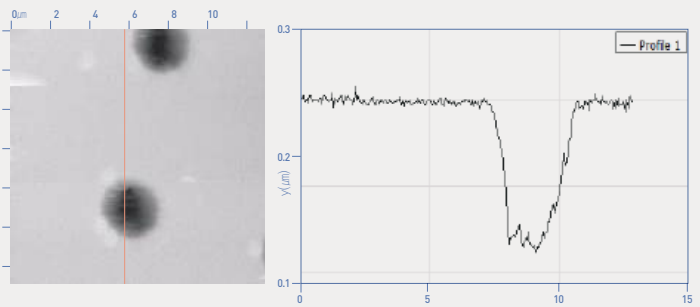
Y-axis



Silicon substrate images measured on the normal table (without vibration isolation)



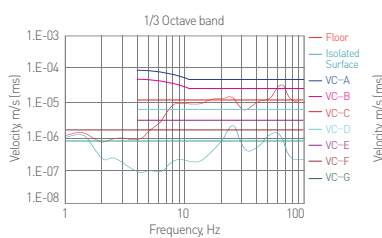
Silicon substrate images measured on the DVIA-T (active vibration isolation)



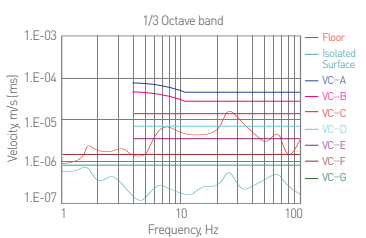
Bruker MULTIMODE8-U AFM

We compared line profile images that were measured on the DVIA-T placed inside the acoustic enclosure and on the pneumatic vibration isolation table.

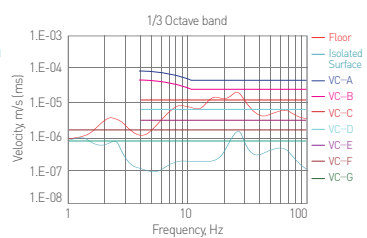
Z-axis



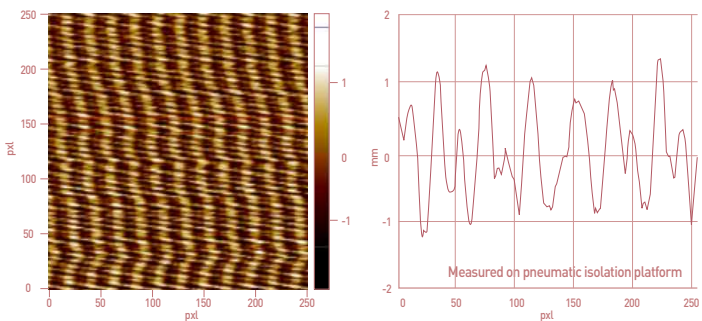
X-axis



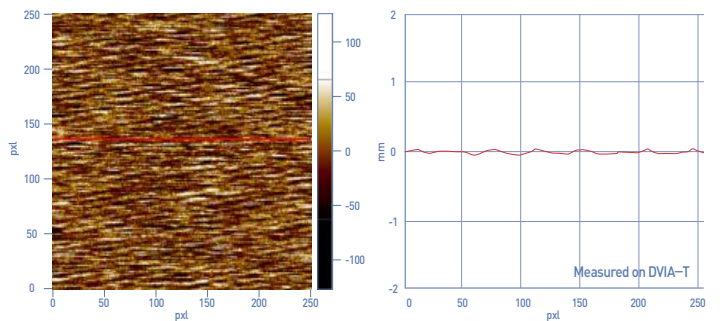
Y-axis



Pneumatic Vibration Isolation Platform



Set point of DVIA-T : 563,25 (nN)



The comparison of the line profile images demonstrated that the noise originating from the pneumatic vibration isolation table were 10 times bigger than the noise coming from the DVIA-T.



Enabling Vision for the Future.

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