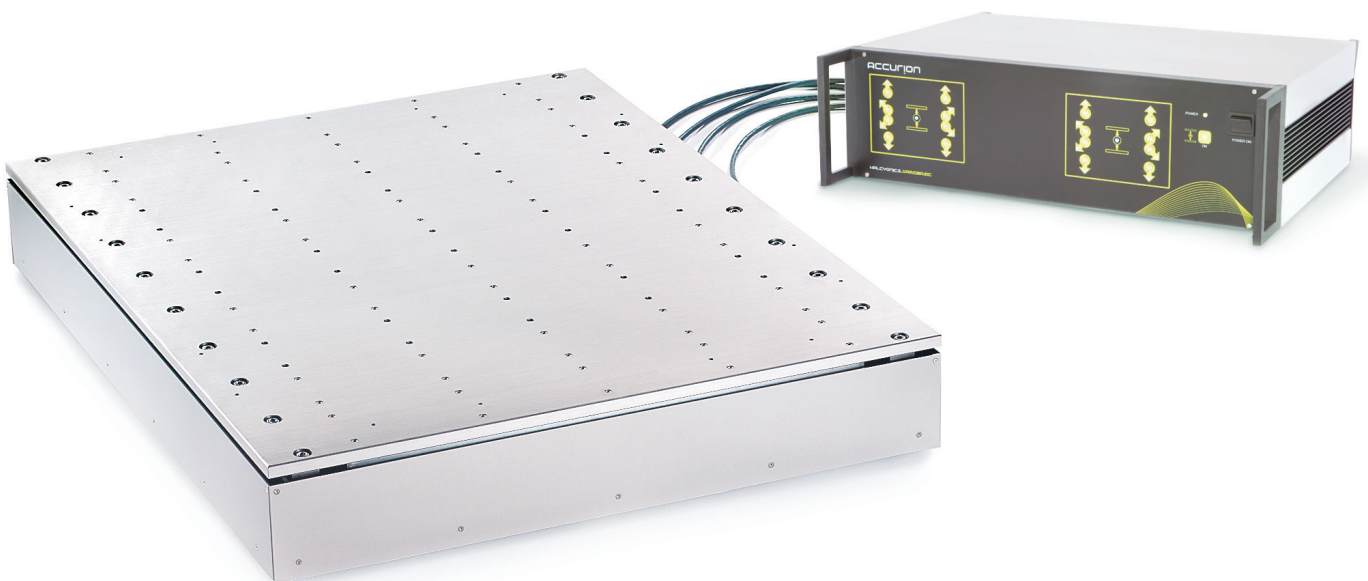


active vibration isolation for heavy loads  
halcyonics\_sandwich  
and halcyonics\_duo series



# Active Vibration Isolation Heavy Loads

## halcyonics\_sandwich / halcyonics\_duo series

### ABSTRACT

The compact and solid construction of the halcyonics\_sandwich Series is used with many different sensitive heavy load systems throughout the world. Its load range, beginning at 600 kg | 1.320 lbs allows, e.g. the use of SEMs up to their highest possible magnifications even under severe environmental conditions like building vibrations by machinery, nearby traffic, air conditioning units, etc. As an alternative to the Sandwich Series, Accurion offers the versatile heavy load halcyonics\_duo Series. They carry up to 400 kg | 880 lbs per element. Two or more of these independent elements are combined to carry loads of 800 kg | 1.760 lbs or more. Only a standard AC wall outlet is necessary to run the system with its integrated control electronics. It provides vibration isolation unmatched by bulky pneumatic isolators. The manual adjustment procedure is the precondition for optimum isolation performance.

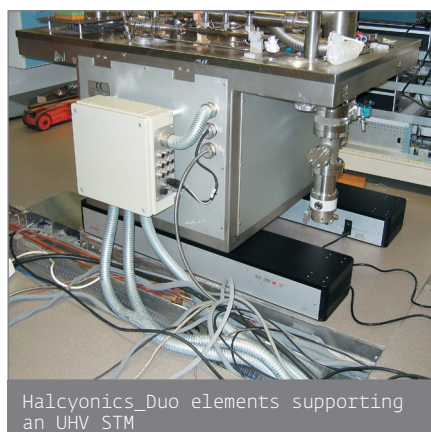
### APPLICATIONS

Applications for the halcyonics\_sandwich Series include:

- SEM
- UHV STM
- Semiconductor Machinery
- UNV Chambers
- ... and many more



Halcyonics\_Sandwich with Zeiss Supra 40VP



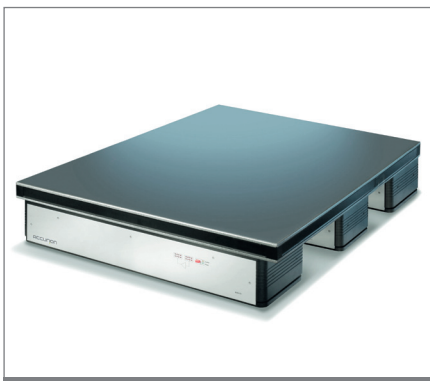
Halcyonics\_Duo elements supporting an UHV STM

### FEATURES

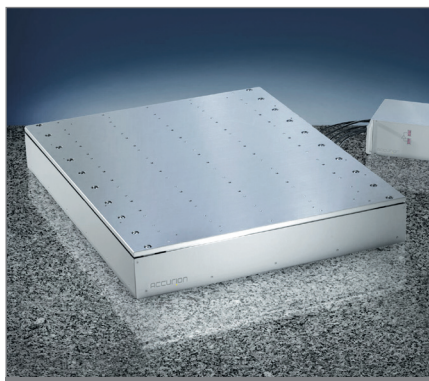
- Modular design: two different Sandwich sizes – five load ranges
- Standard AC power is sufficient – no compressed air necessary
- Isolation starts at 1.0 Hz – reaching > 98.2 % at 10 Hz
- Separate controller – no heat dissipation interferes with the experiment
- Active Control eliminates resonance frequencies – settling time only 0.3 s

### BENEFITS

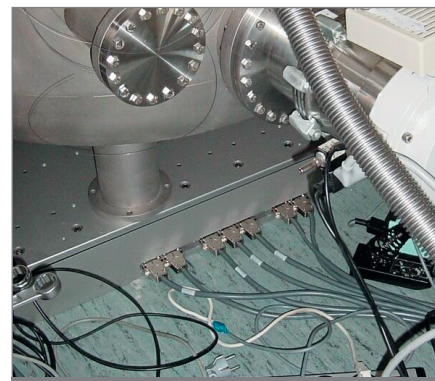
- Supreme performance even under severe environmental conditions
- Active isolation with the halcyonics\_sandwich Series starts from 1.0 Hz and is active until 200 Hz (and passive above 200 Hz)
- ideal to dampen building vibrations
- SEM lifting tools available
- Reliable systems: after passing specific quality control procedure
- Two year guarantee
- Qualified service: for standard and customized solutions factory trained personnel will support you in finding the optimal solution for your application and assist you with the installation
- Low voltage electromagnetic actuator avoid high voltage used for many Piezo systems = no interference with your delicate instrumentation
- Rapid delivery allow you to start your work right away and shorten the time to publish your results
- Service hubs in Europe, US and Asia for fast support



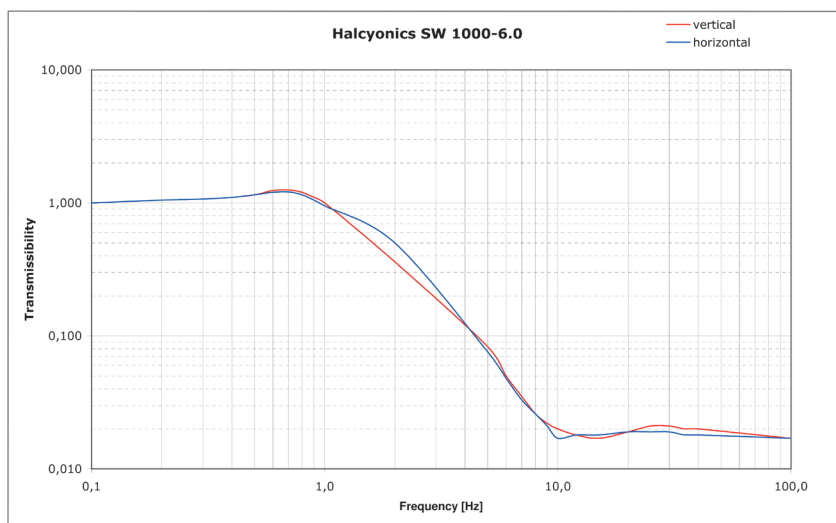
Breadboard supported by 3 Duo elements



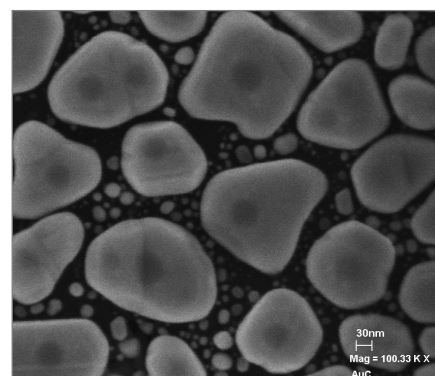
Halcyonics\_Sandwich with Controller



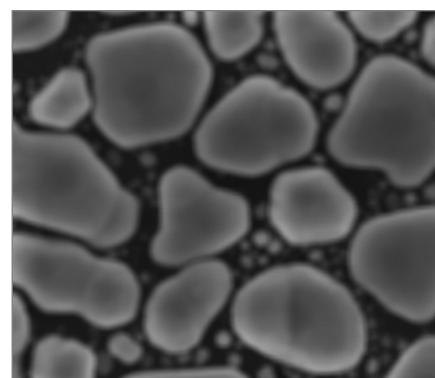
UHV Experiment on Halcyonics\_Sandwich



Transmission graph of SW 1000-C.0 - measured at a velocity of 100  $\mu\text{m/s}$ , with a payload of 100 kg | 132 lbs



SEM image of Au particles with ...



... and without Duo active isolation

## RECOMMENDED ACCESSORIES

- SEM Lifting Tool
- Customer specific size and load range
- Site vibration survey to estimate improvement
- Factory trained on-site setup assistance

