

The new Halcyonics Micro 40 and Micro 60. Benchtop isolator based on VarioControl technology.

Micro 40 and Micro 60 are Halcyonics' intelligent benchtop solutions which are the cost-effective active vibration isolation system for various smaller applications. Based on Halcyonics proven VarioControl technology, the new benchtop unit now offers the convenience of a digital easy-to-navigate menu. VarioControl units offer two digital displays; one for menu navigation and a second to obtain additional information on current vibration levels. Vibration signals of sensors and actuators can be chosen and visualized as graphical bars. The user therefore always obtains summarized information on the current vibration condition of his or her application.

Micro 40 and 60 systems feature an automated transport locking mode and fully automatic load adjustment; they take only a few seconds to start up. There is no further adjusting or tuning required. Thus, the Micro 40 and 60 systems feature ideal portability for field measurements and presentations.

In addition to their high isolation from floor vibration through AVI (active vibration isolation), Micro 40 and 60 systems also dampen application-generated vibration by AVC (active vibration control), e.g., this technology isolates vibration caused when the user touches the equipment. Thanks to Micro 40, active vibration isolation takes effect right at 0.6 Hz and considerably increases from this frequency upward. Above 10 Hz, Halcyonics Micro 40 and 60 systems achieve an isolation of 40 dB. A major advantage of active Halcyonics systems is that they do not have any natural low-frequency resonance, which is responsible for problems encountered with passive vibration isolation systems in low-frequency ranges below 5 Hz. Micro 40 and 60 systems isolate vertical and horizontal vibration as well as vibration generated around the vertical axis of rotation as well as both horizontal axes of inclination. The degree of freedom of the active isolation system is thus six.



Fig. 1: Micro 40 Benchtop Unit

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Connected to a Microsoft Windows-based PC through the USB 1.1 port available as a standard feature on the Halcyonics Micro 40 and 60, these benchtop systems enable computer-aided selection of the technically optimal place for setting up equipment to minimize exposure to vibration. During this process, the application software uses the acceleration sensors built into the Micro 40 and 60 and performs a relative, comparative vibration measurement on various places of installation selected by the user. An evaluation of the measurement and graphic display of the vibration levels of the various places of installation then provide a recommendation for the optimal place to set up equipment in a lab. Moreover, the software permits graphic display of the sensor signals and PC-controlled activation or de-activation of active vibration isolation.



Technical Specifications

Vibration Isolation System	
Frequency Range:	0.6 Hz – ∞
Isolation Performance:	> 5 Hz = 25 dB > 10 Hz = 40 dB
Isolation technology:	Active stages, 8 coaxial integrated sensor/actuator axes.
Sensors:	Piezo-electric acceleration detectors.
Actuators:	Electro-dynamic actuators.
Correction Forces:	Vertical: ± 8 N Horizontal: ± 4 N
Control Electronics:	Easy-to-navigate menu for all settings, second graphics display for vibration levels.
Maximum Load:	100 kg
Dimensions	
Micro 40	446 x 406 x 126 mm (l x w x h)
Micro 60	646 x 602 x 148 mm (l x w x h)
Weight	
Micro 40	approx. 30 kg
Micro 60	approx. 42 kg
Software	
Halcyonics Evaluation Software	<ul style="list-style-type: none"> – Activate/deactivate active vibration isolation. – Monitor function — display sensor and actuator signals on the computer screen. – Location finder — guidance to find the optimum position in the lab – Spectrum analyser function — guidance to find sources for disturbing frequencies.
Electrical Properties	
Power Requirements:	100-250 V AC 10 W typically, max. 50 W
Interface:	USB 1.1 Standard.

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