

Quiet work surfaces for precision
research and manufacturing

TMC IS THE WORLD'S LEADING
MANUFACTURER OF PRECISION
VIBRATION ISOLATION SYSTEMS
FOR LOW-AMPLITUDE BUILDING
FLOOR VIBRATION.

www.techmfg.com
800-542-9725

VISIT US AT ONE OF
THESE TRADESHOWS*
2007

- Society for Neuroscience, Nov. 3-7
San Diego, CA
- Semicon Japan, Dec. 5-7
Chiba, Japan

2008

- Photonics West, Jan. 22-24
San Jose, CA
- Lab Automation, Jan. 27-29
Palm Springs, CA
- Biophysical Society, Feb. 2-6
Long Beach, CA
- Advanced Lithography, Feb. 26-27
San Jose, CA
- Pittcon, March 3-5
New Orleans, LA
- CLEO, May 6-8
San Jose, CA
- EIPBN, May 27-30
Portland, OR
- Semicon West, July 15-17
San Francisco, CA
- Microscopy & Microanalysis, Aug. 4-7
Albuquerque, NM
- Society for Neuroscience, Nov. 15-19
Washington D.C.
- Semicon Japan, December
Chiba, Japan

* Schedule subject to change

STACIS® as a Microseismic Shaker

Equipment manufacturers can use STACIS® to generate micron-level floor vibration simulating real world floor activity to develop tool vibration criteria.

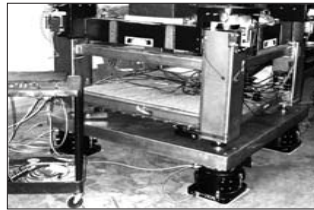
STACIS 2100® offers a completely unique and novel way to approach the development of tool vibration criteria. Stacis, which is normally operated as a floor vibration isolation/cancellation system, can also be operated to provide micron-level shaker input. This shaker signal can be white noise, discrete frequency, or a sine-swept wave-form. Stacis can provide independent or combined X, Y and Z axis vibration input. As a shaker, Stacis can be run to simultaneously cancel building floor vibrations providing a quiet foundation while superimposing on this the desired frequency and amplitude vibration spectrum required to test tool performance. No other shaker system can control inputs down to such small amplitudes. No other shaker system can isolate ambient floor vibration while *simultaneously* providing a controlled vibration frequency spectrum. The vibration generated at the Stacis digital controller at extremely low amplitudes is not corrupted by ambient building floor vibrations at the test site.



Stacis® 2100

Complete working tools can be mounted on a Stacis isolation/shaker system, and the Stacis vibration amplitudes can be adjusted as overall tool performance is evaluated. The tool can be excited at given frequencies or given bands of frequencies to determine the exact amplitude/frequency relationship of vibration input that limits overall tool performance. The result is an overall tool vibration criteria level that corresponds to the exact vibration level at which the tool can provide optimal performance. This testing can be completed relatively quickly and easily – without shipping tools to customer sites and waiting for large amounts of field data or relying on questionable modeling information.

Visit www.techmfg.com/appnotes/Stacis_microseismic_shaker_appnote.htm.
Contact TMC or your local sales representative to acquire a STACIS® 2100 system for use as a shaker for testing your sensitive equipment in a controlled vibration environment.

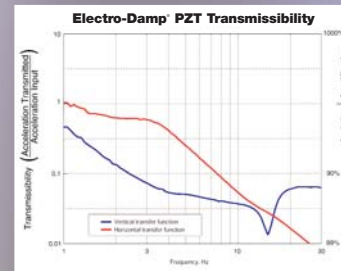


STACIS® 2100 is used as an isolation system/micron-level shaker within TMC's own factory to test performance of other TMC vibration isolation products.

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TMC Introduces Electro-Damp® PZT —
A Breakthrough in Vibration Isolation for Semiconductor Tools

NEW



Electro-Damp® PZT
Frame-Mountable Active Hard-Mount
with Extended Stroke

Electro-Damp® PZT combines the best features of TMC's STACIS® active hard-mount and its Electro-Damp® active air mount systems. Stacis achieves extremely efficient vibration isolation using piezoelectric actuators and a stiff suspension. Electro-Damp® is an active, inertially damped, pneumatic vibration isolator. The new Electro-Damp PZT incorporates the best of both patented technologies to provide a cost-effective, frame-mountable, stiff, yet extremely efficient, non-pneumatic vibration isolation system for use in microlithography, inspection, and metrology tools.

TMC continues to employ advancing technology to develop new products that solve the challenging demands that semiconductor tools place on their vibration isolation systems.

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The new Electro-Damp PZT is a simple, robust, cost-effective system providing vibration isolation comparable to TMC's Stacis active piezoelectric vibration cancellation system.

Contact a TMC Applications Engineer for more information or visit www.techmfg.com/products/advanced/electrodamp_pzt.htm

Features & Benefits

- ▶ Incorporates patented Stacis® technology
- ▶ Extended stroke piezoelectric actuators, up to 60 µm
- ▶ Position repeatability of payload to within 20 µm
- ▶ Frame-mountable design
- ▶ 3 or 6 active degrees-of-freedom
- ▶ Installs easily, no feedforward required
- ▶ Active inertial vibration cancellation system
- ▶ Fast settling time in response to stage motion
- ▶ No soft air suspension
- ▶ Simple, robust, and cost-effective

SEE INSIDE: TMC also introduces the 83-500 Series Multi-Purpose Acoustic Enclosure and TableTop PZT™, a Compact Hard-Mount Vibration Cancellation System.

TMC introduces the 83-500 Series Acoustic Enclosure, a robust, floor-mounted acoustic enclosure that is compatible with TMC's line of TableTop™ Vibration Isolation Systems.

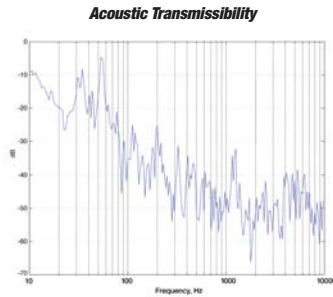
NEW 83-500 SERIES Multi-Purpose Acoustic Enclosure

For Microscopes, AFMs and Other Small Precision Instruments

TMC has offered custom acoustic enclosures for our equipment maker customers for many years. These enclosures are highly engineered and uniquely suited to the specific tool being isolated.

End-users, however, were placed in a position of having to design their own acoustic enclosures for their unique applications. Given the level of design involved, this was impractical. Demand arose for a standard, "off-the-shelf" TMC enclosure incorporating many of the features of our custom enclosures with the practicality of a single, multi-purpose design. The 83-500 Series Acoustic Enclosure was designed as this multi-purpose acoustic enclosure.

For details about the 83-500 Series, visit www.techmfg.com/products/enclosures/acousticenclosures.htm



The 83-500 incorporates many of the features of our custom enclosures with the practicality of a single, multi-purpose design



83-500 Series Multi-Purpose Acoustic Enclosure shown housing TableTop PZT™ (left) and TableTop™ CSP® (right).

Features & Benefits

- ▶ Steel exterior with powder-coat finish
- ▶ Acoustic attenuation, up to 40 dB
- ▶ Compatible with TMC line of active and passive table top vibration isolation systems
- ▶ Hinged side panels, glass window, and casters
- ▶ Self-opening front panel retracts away from operator
- ▶ Robust handle and latch ensure comfort and ease of use

Catalog No.	Description	Width	Depth	Height	Pricing
83-501	Multi-Purpose Acoustic Enclosure	36 in.	32 in.	64 in.	Contact TMC

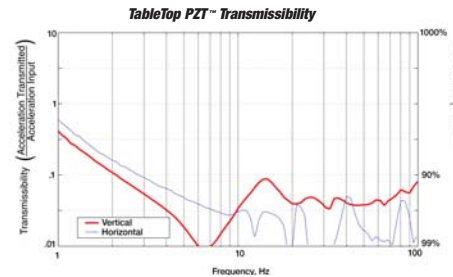
TableTop PZT™, a sub-Hz compact active hard-mount for small precision instruments

NEW TableTop PZT™ Compact Hard-Mount Vibration Cancellation System



TMC's new TableTop PZT™ is an active hard-mount vibration cancellation system that is ideal for small precision instruments, particularly those instruments in buildings where floor vibration is severe. Incorporating TMC's patented STACIS® technology, the cost-effective TableTop PZT features a lightweight, compact design; extended stroke piezoelectric actuators; sub-Hz vibration cancellation, both vertical and horizontal; and has no soft air suspension.

For more information about the TableTop PZT™, visit www.techmfg.com/products/tabletop/tabletop_pzt.htm



Features & Benefits

- ▶ Active hard-mount, no soft air suspension
- ▶ Incorporates patented Stacis® technology
- ▶ Sub-Hz vibration cancellation, vertical and horizontal
- ▶ Lightweight, compact design
- ▶ Ideal for small precision instruments
- ▶ Extended stroke piezoelectric actuators, up to 60 µm
- ▶ Simple, robust, & cost-effective
- ▶ Payload capacity: up to 300 lb.

Catalog Number	Description	Pricing
25-406	TableTop PZT, 21.5 x 25.0 x 3.63 inches	Contact TMC