

Quiet Work Surfaces for Precision Research & Manufacturing



NEW

Electro-Damp[®] PZT

**Frame-Mountable Active Hard-Mount
with Extended Stroke**



*Cost-effectively combines the best
aspects of Stacis[®] active hard-mount and
Electro-Damp[®] active air-mount vibration
isolation systems*

Incorporating Patented Stacis[®] Technology

www.gmp.ch

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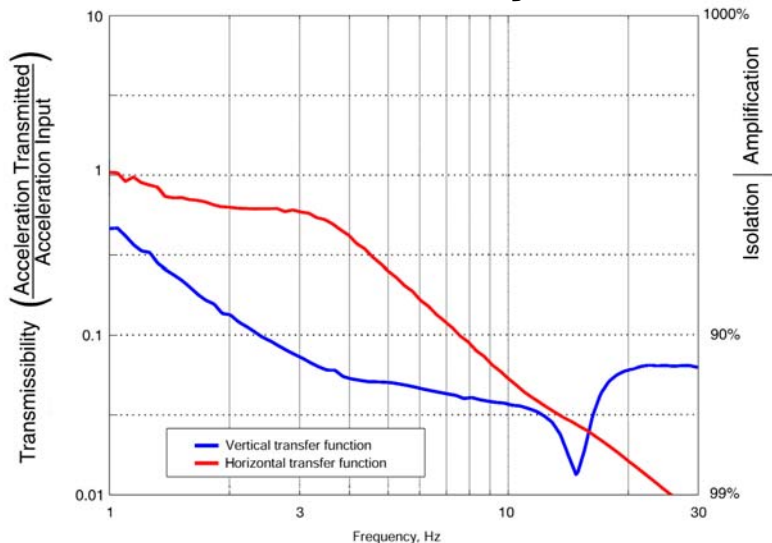
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Electro-Damp® PZT Frame-Mountable Active Hard-Mount with Extended Stroke

NEW



Electro-Damp® PZT Transmissibility



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 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

How to order:

- ▶ Contact a TMC Applications Engineer for part numbers and pricing.

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Cost-effectively combines the best aspects of Stacis® active hard-mount and Electro-Damp® active air-mount.



Stacis®

Stacis®, first introduced in 1996, is the world's most advanced active vibration cancellation system. An active hard-mount, Stacis achieves extremely efficient vibration isolation using piezoelectric actuators and a stiff suspension. Electro-Damp®, first introduced nearly 20 years ago, was the first active, inertially damped, pneumatic vibration isolator. Electro-Damp® PZT combines the best features of these two technologies to provide a cost-effective, frame-mountable, stiff, yet extremely efficient vibration isolation system.



Electro-Damp® II

GENERAL SPECIFICATIONS (may vary depending on configuration)

DC-2000 Digital Controller

Analog inputs/outputs	16 channels (16/14 bit)
Digital inputs/outputs	16
Sampling rate	6.5 KHz nominal
Front panel	Two-line LCD with soft menu keys
	BNC input and output for signal monitoring
	Two RS-232 communication ports (second port on rear)
	Tri-color system status lamp
Physical	Single RETMA rack unit height x 15 in. deep
Power	90-240 VAC, 50-60 Hz, 600 watts max.
Other	Power connector for support of external devices

Performance Specifications

Active degrees of freedom	3 or 6
Active bandwidth	0.6 to 150 Hz
Natural frequency	Passive elastomer: 15 Hz Vertically 5 Hz Horizontally
	Effective active resonant frequency: 0.5 Hz
Transmissibility at resonance	< 1.1
Settling time after a 10 lb (4.5 kg) step input (10:1 reduction)	0.3 sec
Internal noise	<0.1 nm RMS
Operating load range per isolator (different passive mounts required)	200 - 1,000 lb (90 - 450 kg)
Isolator overload safety factor	> 2:1
Number of isolators	3 or 4
Maximum displacement	2400 µ in. (60 µm)
Stiffness (1,000 lb/454 kg mass)	10,000 lb/in. (18 x10 ⁹ N/m)
Magnetic field emitted	< 0.02 micro-gauss broadband RMS

Power Amplifier

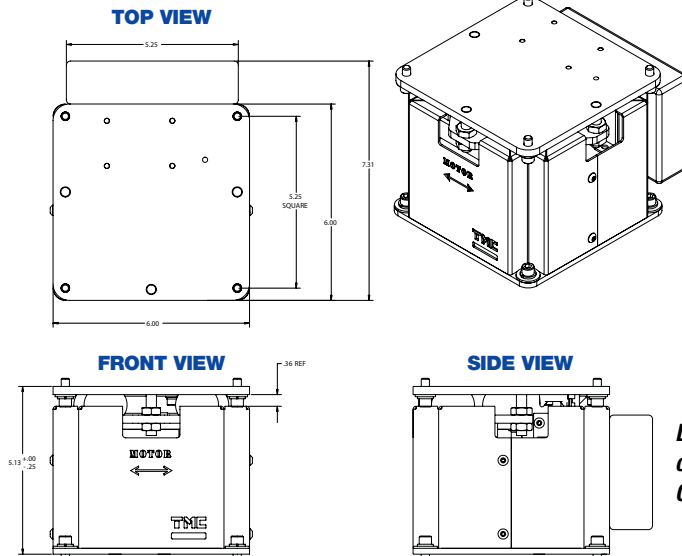
Channels	8, 10A max peak current/channel
Type	PWM with RF output filtering
Power	700 W (total, all channels)
Cooling	Forced air
Protection	Manual circuit breaker
Operation	Remote or manual enable
Dimensions	2 RETMA rack unit height x 15 in. deep (1 DC 2000, 1 Power Amplifier)

Linear Actuators (horizontal)

DC resistance	5.0 Ohms
Force constant	5 lb/Amp
Max. continuous force	10 lb
Peak force	30 lb
Electrical time const.	2.5 msec

Dimensions, Environmental & Utility Requirements

Isolator size	6.0 in. (w) x 7.31 in. (d) x 5.13 in. (h) (152.4 x 185.7 x 130.3 mm)
Isolator weight	17 lb (8 kg)
Temp., operating	50° to +90°F (10° to 32°C)
Humidity, operating	68°F dewpoint (maximum)
Power required	100, 120, 230 or 240 volts; 50/60 Hz; < 200 watts, CE compliant
Floor displacement	< 2400 µ in. (60 µm) below 15 Hz



Dimensions may vary depending on load and configuration. Confirm with TMC.

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TMC Products AT-A-GLANCE

Laboratory Tables & TableTop™ Platforms



Optical Tops, Breadboards, & Supports



STACIS® Active Piezoelectric Vibration Cancellation System



Floor Platforms for Raised & Solid Floors



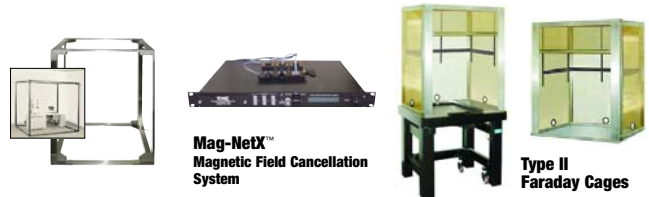
Electro-Damp® Active Vibration Cancellation System



Pneumatic Vibration Isolators for OEM Applications



Magnetic Field Cancellation & Electric Field Shielding Systems



Acoustic Enclosures & Precision Structures



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