

The Axon Bearing™

Friction Elastomeric Base Isolation System™

**A new seismic damage prevention technology
that is superior in performance
and more cost effective to implement**



Friction/Elastomeric System units are available in a variety of sizes, coefficients of friction, displacements, tension and damping characteristics.

- **Superior Performance**

Extensive independent testing (including large scale testing by The University at Buffalo Earthquake Simulation Laboratory) confirms outstanding and predictable performance. This device tests as well or better than any other device on the market at any price.

- **Dual Damping System**

Both the friction surface of the friction rocker and the elastomeric restoring force insert provide effective damping. The combined effect is superior.

- **Self Restoring**

The restoring-force insert automatically brings the unit back to center after a seismic event. The unit does not have to be reset or adjusted.

- **Adaptable**

Units are custom configured for bearing period, varying gravity loads, damping requirements, friction, displacements and environmental conditions. The elastomeric restoring-force inserts are made with natural rubber or high-tech polyurethanes custom formulated for specific needs. The level of friction provided by the friction rocker is controlled by application of an extremely durable aerospace resin material which is formulated to provide specific coefficients of friction as low as 9%.

- **Rugged, Simple, Fail-Safe Design**

Design simplicity means fewer parts and fewer potential problems. There are no open spaces to collect water or debris. Plus, it adds no vertical lift to the protected structure during a seismic event.

- **Less Expensive**

Design simplicity also means that it can be manufactured and sold at a lower cost without compromising quality.

Seismic Shock Control Systems, Inc.
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52.4 kip Six-story model used in the large scale shake table testing of the Axon Bearing

The 52.4 kip six-story model used in the large scale shake table testing is identical to the one used in previous testing of (other) energy dissipation and seismic isolation systems at the University at Buffalo. The independent study was conducted by *Eric D. Wolff* and Dr. *Michael C. Constantinou* at the *Structural Engineering and Earthquake Simulation Laboratory, Department of Civil, Structural and Environmental Engineering, University at Buffalo, NY*. They issued their report "Large Scale Experimental Study of the Axon Seismic Isolation System" 01/06/2001.

The following are excerpts from their study:

"The (Axon) isolation system exhibited properties of characteristic strength equal to about 0.19 times the weight of the structure and a period based on the post-elastic stiffness equal to about 1.75 sec in the scale of the experiment (or 3.50 sec in prototype scale). The effective period and the effective damping at bearing displacement of 1 in. in the scale of the experiment were 0.9 sec and 0.48 respectively."

"The isolated structure performed well and as expected for the selected properties of the isolation system. Specifically, it has been observed that the isolated structure underwent substantially less response than the non-isolated structure under comparable seismic excitation conditions."

"On the basis of the observations made in testing it is our conclusion that the usefulness and the effectiveness of the Axon isolation system has been demonstrated."



Cap



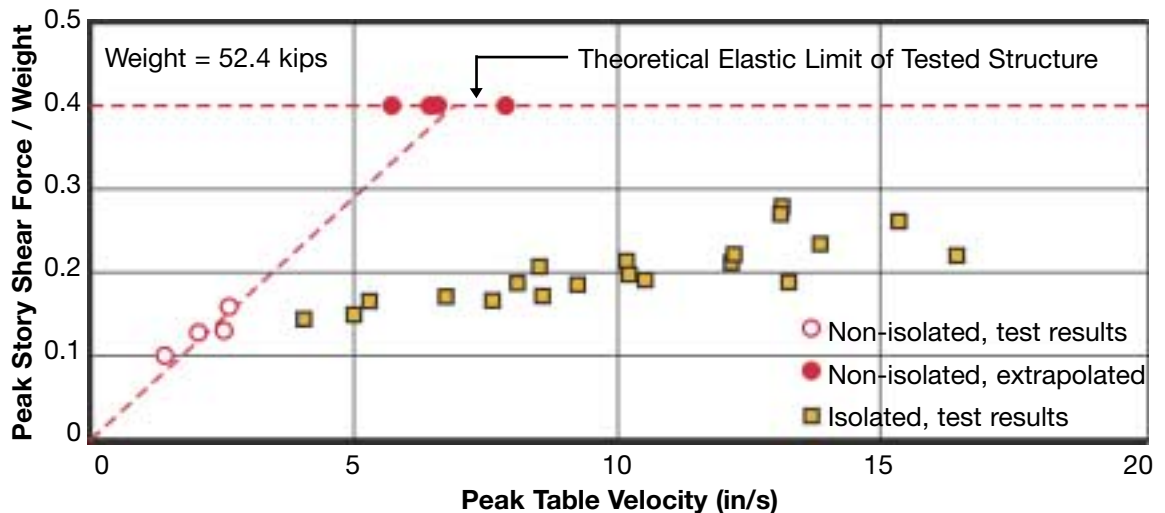
Restoring Force Insert



Friction Rocker



Base / Pedestal



Recorded Peak Shear Forces for Isolated and Non-Isolated Structure as Function of Peak Table Velocity (velocity in model scale)

The Axon Bearing is a patented high-performance base isolation solution that is more cost effective to implement.

All units are precision engineered and manufactured from 4031 heat treated steel and stainless steel and contain precisely formulated elastomeric restoring force inserts as well as a friction rockers with a controlled friction surface. Various stock sizes are available and custom sizes can be manufactured for special applications.

Call us at **(360) 403-7727** for further information.



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