

Kinetics Model AIS 2500 Precision Equipment Vibration Isolator

- Non-electric and non-invasive of controls.
- Rapid settling.
- Simultaneous control of external vibrations and internal machine excitations.
- Pneumatic self-leveling active module with built-in proprietary damping device.
- Enhances machine operation on quiet floors.
- Allows machine operation at full throughput with no degradation of machine accuracy.
- Low vertical and horizontal natural frequencies.

Description

The Kinetics Model 2500 Isolator is a pneumatic self-leveling "active" module with a built-in low frequency horizontal pendulum suspension and a proprietary integrated variable damping device, which acts in both the horizontal and vertical directions. The Damping Device is a pure viscous hydraulic damper, parametrically controlled by the actual acceleration forces generated by the machine or device being supported by the AIS Isolator. As the moving parts of the isolated device accelerate to traveling velocity and decelerate to contact velocity, i.e., point of measure, the damper is absorbing the acceleration energy to contain excessive machine motion, which is often apparent on standard soft suspension devices. At the time of measuring touch, the AIS Damping Engagement Device reduces the stiffness of connection to the point of complete disengagement. This converts the AIS Isolator to a very soft and efficient isolator. The damping transformation from fully engaged to fully disengaged is smooth and gradual which provides a shock-free precision measuring cycle.

After acceleration to contact velocity, the AIS System will absorb some of the energy of the excitation generated by a normally less than perfect drive system, thus preventing these excitations from affecting machine structure. As a result, the measuring machine supported on the AIS System will exhibit significant improvement in repeatability, EVEN ON QUIET FLOORS.

KINETICS™ **Model AIS 2500** **Precision Equipment** **Vibration Isolator**



Application

The Kinetics Isolators are specifically designed as a low frequency, rapid damping active isolator for use with sensitive industrial and laboratory measuring instruments whose accuracy will be affected by external vibrations. Typical applications are coordinate measuring machines (CMMs), scanning and optical measuring devices, electron microscopes, semi-conductor manufacturing, and similar uses. The AIS System should be considered for any application using precision measuring instruments, or other devices requiring high accuracy combined with rapid measurements.

Auxiliary Isolators

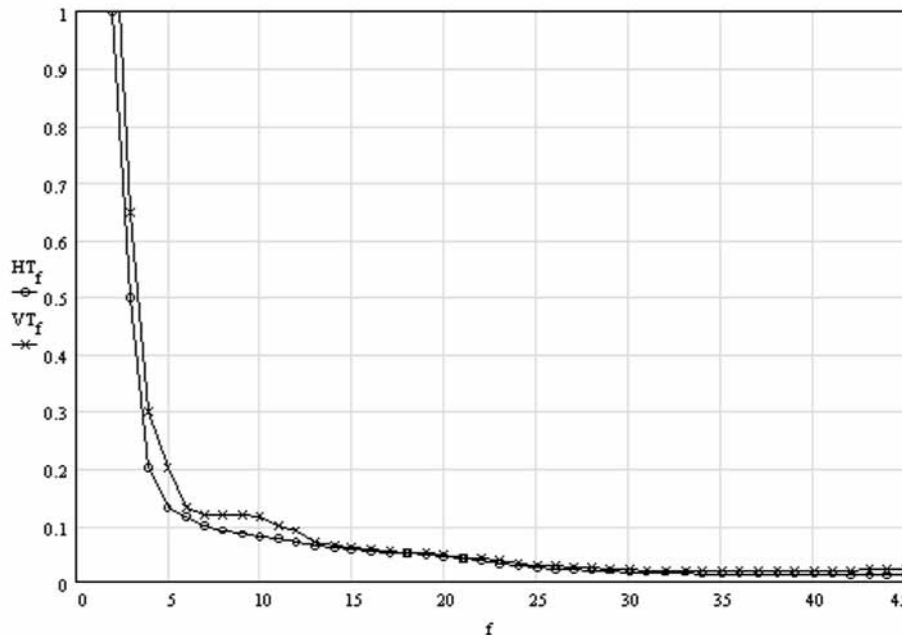
To support larger loads the AIS 2500 Isolator can be used in multiples or in conjunction with the AIS Auxiliary Isolator System. The AIS Auxiliary Isolator is a "passive" spring isolator with the same performance characteristics (less damping) as the AIS 2500 active isolator. Use of this Auxiliary Isolator significantly reduces the overall cost of larger systems. The recommended ratio of Auxiliary Isolators to AIS 2500 Isolators is 3:1 maximum. All applications should be reviewed by Kinetics for final approval.

Specifications

Height	17.75"
Width x Length:	12.7" x 14.5"
Weight:	85 lbs.
Load Capacity:	3500 lbs. maximum 250 lbs. minimum
Vertical Natural Hz:	1.0 Hz
Horizontal Natural Hz:	.50 Hz
Maximum Settle Time:	.4 to .8 sec
Air Supply:	90 psi clean and dry

Note:

1. Consult Kinetics for final selections and arrangements.
2. Settling time will vary depending on velocity and mass of moving parts.



VIBRATION ISOLATION SYSTEM EFFICIENCY

HT--Horizontal Transmissibility; VT--Vertical Transmissibility; f--Frequency, Hz



United States	Canada
6300 Irelan Place	1720 Meyerside Drive
P.O. Box 655	Mississauga, Ontario
Dublin, Ohio 43017	L5T 1A3
Phone: 614-889-0480	Phone: 905-670-4922
Fax: 614-889-0540	Fax: 905-670-1698

www.kineticsnoise.com
sales@kineticsnoise.com

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