KINETICS™
Table-Top Isolation System

Description

Many types of precision equipment are sensitive to structure-borne vibration. Because it is common to use this equipment on a desk or table, building vibtion can affect its performance. Since most worktables and desks are relatively lightweight, vibration due to HVAC or process equipment, foot traffic and other sources is often amplified from the levels measured on the floor. In the past, users have been forced to move their equipment or replace the entire table with a specially designed vibration isolation table.

The Kinetics Table-Top Isolation System has been developed to provide a convenient method of isolating precision equipment from background vibrations.

The Kinetics Table-Top Isolation System consists of a 1¼" (32 mm) thick steel inertia plate supported by three (3) air springs. The inertia plate is ground smooth and is supplied with a hammer-tone black finish as standard. Formica or other laminated surfaces are optional. The air springs reduce the transmission of the majority of structure-borne building vibrations to the inertia plate, which provides a stable, vibration-free work surface for sensitive equipment.

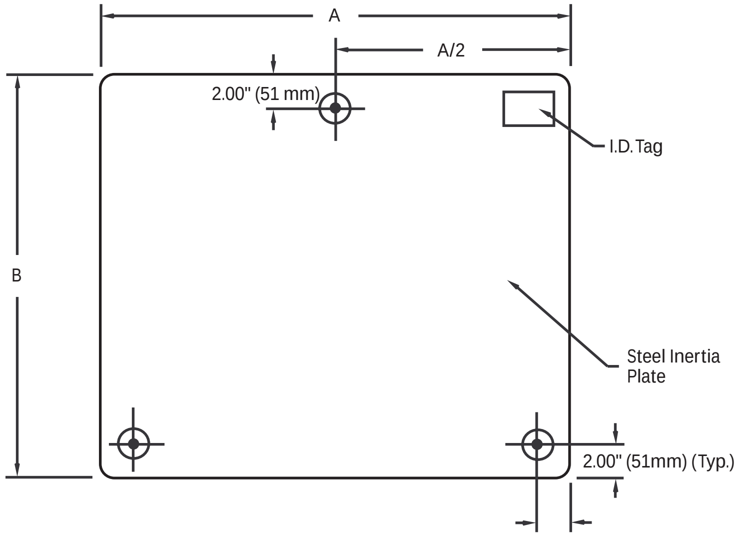
The Kinetics Table-Top Isolation System is used in conjunction with existing office or lab furniture. The work surface is raised by only 4" (102 mm) when the air springs are inflated. The air springs are easily inflated using a hand pump or other air source and are maintenance-free because air is not consumed during operation.

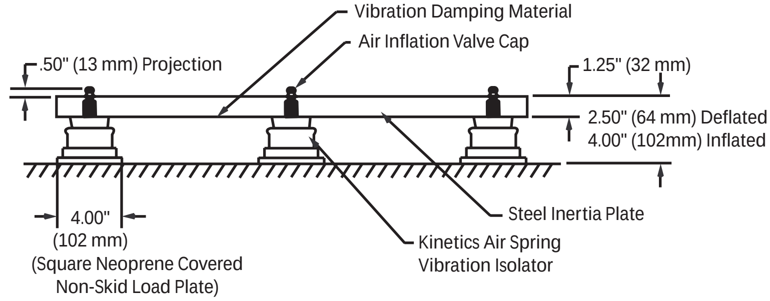
Steel "ringing" is minimized by a layer of damping material applied to the underside of the inertia plate.

Application

Common types of equipment, which may require vibration isolation, are:

- Computer Disk Drives
- Analytical Balances
- Optical Microscopes
- Inspection Equipment
- Microtomes
- High-Fidelity Audio Turntables
- Computer Printers
- Video Table Equipment
- Optical Scanners
- Lasers





The system natural frequency shall range between 3 and 3½ Hz, depending upon load. Isolation efficiency at various disturbing frequencies shall not be less than:

10 Hz Disturbing Frequency:
Isolation Efficiency 88%

30 Hz Disturbing Frequency:
Isolation Efficiency 98%

60 Hz Disturbing Frequency:
Isolation Efficiency 99%

Standard Sizes In. (mm)		Inertia Plate Weight
A	B	Lbs. (kg)
18 (457)	12 (305)	75 (34)
18 (457)	18 (457)	110 (50)
24 (610)	12 (305)	100 (45)
24 (610)	18 (457)	145 (66)

Nonstandard sizes also available.
Check home office

Finish: Hammer-tone Black
Max. Equipment Capacity: 600 lbs. (272 kg)

Specifications

The Inertia Plate shall be 1¼" (32 mm) thick steel plate with a weight of approximately 50 lbs./sq. ft. (245 kg/m²). The top work surface shall be ground flat. All steel edges shall be rounded and the plate shall be supplied with a hammer-tone black finish.

The plate shall be drilled and counterbored at three (3) locations to accept the air springs. In order to minimize ringing in the steel, a 1/16" (2 mm) thick vibration-damping layer shall be factory bonded to the underside of the plate.

Air springs shall be manufactured of oil-resistant reinforced elastomer. The isolator mounting hardware shall be made of acetyl resin and shall be affixed to the air spring by a metal clamp ring. The base of the air spring shall be 4" x 4" (102 mm x 102 mm) neoprene covered non-skid plate.

Each air spring shall have a total support capacity of 250 lbs. (113 kg). The solid uninflated height shall be 1½" (38 mm) and the air spring shall have an operating height of 2¾" (70 mm). Air inflation shall be through a ⅛" (3 mm) tank valve located at the top of each air spring. Operating pressure shall be between 10 and 50 psi (0.7 and 3.4 bars) depending upon the imposed load. The air spring shall be inflated with a conventional air chuck or with a hand pump. There shall be no air consumed during operation.

KINETICS Noise Control

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