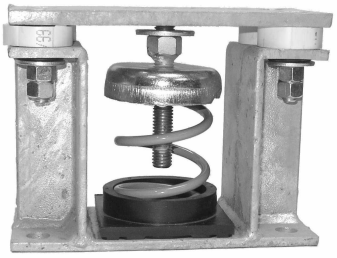
Kinetics Model FLSS

Seismic control restrained spring vibration isolators consist of free-standing, large diameter, laterally stable steel springs assembled into welded steel housing assemblies that are designed to limit vertical movement of the isolated equipment if equipment loads are reduced or if the equipment is subjected to large external forces such as seismic events. The housings also provide a constant free and operating height to facilitate installation. Spring elements are complete with internal noise isolation pads and have an adjusting and leveling bolt as a part of the top load plate assembly. Large holes are provided in all isolators for bolting to the structure and to the supported equipment. To assure stability, the springs have a lateral spring stiffness greater than 1.2 times the rated vertical stiffness and are designed to provide a minimum of 50% overload capacity. FLSS springs are available with deflections to 4 inches (100 mm) and with load capacities to 11,800 lbs. (5364 kg) as standard products. Custom isolators with higher deflection and greater load capabilities are also available. Kinetics Model FLSS spring isolators are recommended for the isolation of vibration produced by equipment carrying a large fluid load which may be drained, such as boilers and chillers, and for the isolation of cooling towers, air-cooled condensers, etc., where motion due to wind loads must be minimized.



Specification

Vibration isolators shall be seismically rated restrained spring isolators for equipment that is subject to load variations and large external forces. Isolators shall consist of large diameter, laterally stable steel springs assembled into welded steel housing assemblies designed to limit movement of the supported equipment in all directions.

Housing assembly shall be of fabricated steel members and shall consist of a top load plate complete with adjusting and leveling bolts, adjustable vertical restraints, isolation washers, and a bottom plate with internal non-skid noise isolation pads and holes for anchoring of the housing to the supporting structure. Housing shall be electro-zinc plated or hot-dip galvanized for corrosion resistance. Housing shall be designed to provide a constant free and operating height within 1/8 inch (3 mm).

The isolator housing shall provide a minimum of 1g restraint in all directions if attached with through bolts. Spring elements shall be selected to provide static deflections as shown on the vibration isolation schedule or as indicated or required in the project documents. Springs shall be color coded or otherwise identified.

Spring elements shall have a lateral stiffness greater than 1.0 times the rated vertical stiffness and shall be designed to provide a minimum of 50% overload capacity. Spring elements shall be epoxy powder coated, and shall have a 1000-hour rating when tested in accordance with ASTM B-117.

KINETICS Noise Control
DUBLIN, OHIO, USA • MISSISSAUGA, ONTARIO, CANADA

Toll Free (USA only):	800-959-1229
International:	614-889-0480
Fax:	614-889-0540
World Wide Web:	www.kineticsnoise.com
Email:	sales@kineticsnoise.com

DOCUMENT: P3.1
VISCMA MEMBER

Kinetics Model FLS

Vibration isolators consist of free-standing large diameter laterally stable steel springs assembled into welded steel housing assemblies that are designed to limit vertical movement of the isolated equipment if equipment loads are reduced or if the equipment is subjected to large external forces. The housings also provide a constant free and operating height to facilitate installation. Spring elements are complete with internal noise isolation pads and have an adjusting and leveling bolt as a part of the top load plate assembly. Springs are epoxy powder coated, with a 1000-hour salt spray rating per ASTM B-117. Holes are provided in all isolators for bolting to the structure and to the supported equipment. The isolator can be welded to the structure as well. To assure stability, the springs have a lateral spring stiffness greater than 1.0 times the rated vertical stiffness, and are designed to provide a minimum of 50% overload capacity. FLS springs are available with deflections to 2.03 inches (52 mm) and with load capacities to 15,600 lbs. (7076 kg) as standard products. Custom isolators with higher deflection and greater load capabilities are also available. Kinetics Model FLS spring isolators are recommended for the isolation of vibration produced by equipment carrying a large fluid load which may be drained, such as boilers, cooling towers and chillers, and for the isolation of cooling towers, air-cooled condensers, etc., where motion due to wind loads must be minimized.

Specification

Vibration isolators for equipment which is subject to load variations and large external or torque forces shall consist of large diameter laterally stabile steel springs assembled into welded steel housing assemblies designed to limit vertical movement of the supported equipment.

Housing assembly shall be of fabricated steel members and shall consist of a top load plate complete with adjusting and leveling bolts, vertical restraints, isolation washers, and a bottom plate with internal non-skid noise isolation pads and holes provided for anchoring to the supporting structure. Housing shall be hot dip galvanized for corrosion resistance. Housing should be designed to provide a constant free and operating height within 1/8 inch (0.06 mm).

Spring elements shall have a lateral stiffness greater than 1.0 times the rated vertical stiffness and shall be designed to provide a minimum of 50% overload capacity. Spring elements shall be epoxy powder coated, and shall have a 1000-hour rating when tested in accordance with ASTM B-117.

KINETICS Noise Control
DUBLIN, OHIO, USA • MISSISSAUGA, ONTARIO, CANADA

Toll Free (USA only): 800-959-1229
International: 614-889-0480
Fax: 614-889-0540
World Wide Web: www.kineticsnoise.com
Email: sales@kineticsnoise.com

Kinetics Model FHS

Seismic control restrained spring isolators meet specifications for Kinetics Model FDS isolators and include a steel housing assembly to limit both lateral and vertical movement of the supported equipment during an earthquake without degrading the vibration isolation of the spring during normal equipment operating conditions. Standard FHS isolators incorporate a steel housing which encloses a neoprene snubber. Depending on the load and seismic zone, an optional steel load spreader plate to distribute the load among concrete anchors may be applied. A neoprene pad fitted in series with the spring is provided. Equipment attachment is by way of a bolt screwed downward through the equipment foot. Removal of the isolator for servicing can be easily accomplished as the isolator is not fitted with a protruding stud. In conformance with all current building code standards, the restraining system is designed to withstand a minimum 1.0g acceleration force. Motion is limited to approximately 0.2" in any direction.

Specification

Spring isolators shall be seismic control restrained spring isolators, incorporating a single or multiple coil spring element, having all of the characteristics of free-standing coil spring isolators as specified in the vibration isolation portion of this specification. Springs shall be restrained using a housing engineered to limit both lateral and vertical movement of the supported equipment during an earthquake without degrading the vibration isolation capabilities of the spring during normal equipment operating conditions.

Vibration isolators shall incorporate a steel housing and neoprene snubbing grommet system designed to limit motion to no more than 1/4" (6 mm) in any direction and to prevent any direct metal-to-metal contact between the supported member and the fixed restraint housing. The restraining system shall be designed to withstand the seismic design forces in any lateral or vertical direction without yield or failure. Where the capacity of the anchorage hardware in concrete is inadequate for the required seismic loadings, an adapter base plate to allow the addition of more or larger anchors will be fitted to fulfill these requirements. In addition to the primary isolation coil spring, the load path will include a minimum 1/4" (6 mm) thick neoprene pad.

Spring elements shall be color coded or otherwise easily identified. Springs shall have a lateral stiffness greater than 1.2 times the rated vertical stiffness and shall be designed to provide a minimum of 50% overload capacity. Non-welded spring elements shall be epoxy powder coated and shall have a minimum of a 1000-hour rating when tested in accordance with ASTM B-117.

To facilitate servicing, the isolator will be designed in such a way that the coil spring element can be removed without the requirement to lift or otherwise disturb the supported equipment.

KINETICS Noise Control
DUBLIN, OHIO, USA • MISSISSAUGA, ONTARIO, CANADA

Toll Free (USA only): 800-959-1229
International: 614-889-0480
Fax: 614-889-0540
World Wide Web: www.kineticsnoise.com
Email: sales@kineticsnoise.com