KINETICS® FHS & FHSL

SEISMIC CONTROL SPRING ISOLATORS

Features

- All-directional restraint with vertical limit stops.
- Field-interchangeable spring coils.
- Galvanized housing and polyester powder coated coils.
- Constant free height & operating height.
- Equipment motion limited to 0.2" (5 mm) in all directions, at the isolator.
- California Pre-Approval Number R-0433

Application

Kinetics FHS and FHSL seismic control spring isolators are recommended for noise and vibration isolation for mechanical equipment located near critically quiet areas when there is a possibility that the equipment to be isolated will be subjected to the external forces associated with an earthquake. FHS/FHSL isolators are used to reduce the transmission of noise and vibration into supporting structures from supported mechanical equipment. Motion during an earthquake which would otherwise displace life support and emergency equipment is limited, and the equipment remains in position. Anchorage of FHS/FHSL isolators should be designed by a professional engineer and isolators selected based on calculated anticipated forces.

Description

FHS/FHSL seismic control spring isolators meet the specifications for Kinetics FDS isolators. Additionally, FHS isolators 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.

FHS/FHSL isolators incorporate a steel housing which encloses a neoprene snubber. Depending on the load and seismic code, an optional steel load spreader plate may be applied to distribute the load among concrete anchors. 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. Equipment motion is limited to approximately 0.2" (5 mm) in any direction, at the isolator. In conformance with all current building code standards, the restraining system is designed to withstand a minimum 1.0 g acceleration force. Removal of the isolator for servicing is quick and easy as the isolator is not fitted with a protruding stud.

KINETICS Noise Control®

Specifications

Spring isolators shall be seismic control restrained spring isolators, incorporating a single vibration isolator, having all the characteristics of Kinetics FDS open spring isolators as previously specified. 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 of the spring during normal equipment operating conditions.

Vibration isolators shall incorporate a steel housing and snubbing grommet system designed to limit motion to approximately 0.2" (5 mm) in any direction and to prevent any direct metal-to-metal contact between the supported member and the fixed housing. The restraining system shall be designed to withstand a force equivalent to 1.0 g 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 plate to allow the addition of more or larger anchors will be fitted to fulfill these requirements. In addition to the primary isolation spring, the load path will include a minimum 0.25 inch (6mm) thick neoprene pad.

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

Spring isolators shall be model FHS and FHSL as manufactured by Kinetics Noise Control.

Imperial Submittal Drawings

FHS-1-12/3500
FHS-2-100/1975
FHS-2-2000/4500
FHS-4-100/5800

FHSL-1-12/385
FHSL-B-1-12/385
FHSL-P-1-12/385
FHSL-2-25/416

Metric Submittal Drawings

FHS-1-12/3500(m)
FHS-2-100/1975(m)
FHS-2-2000/4500(m)
FHS-4-100/5800(m)

FHSL-1-12/385(m)
FHSL-B-1-12/385(m)
FHSL-P-1-12/385(m)
FHSL-2-25/416(m)

KINETICS Noise Control®

kineticsnoise.com
sales@kineticsnoise.com
1-800-959-1229

FHS 2" DEFLECTION SEISMIC ISOLATOR

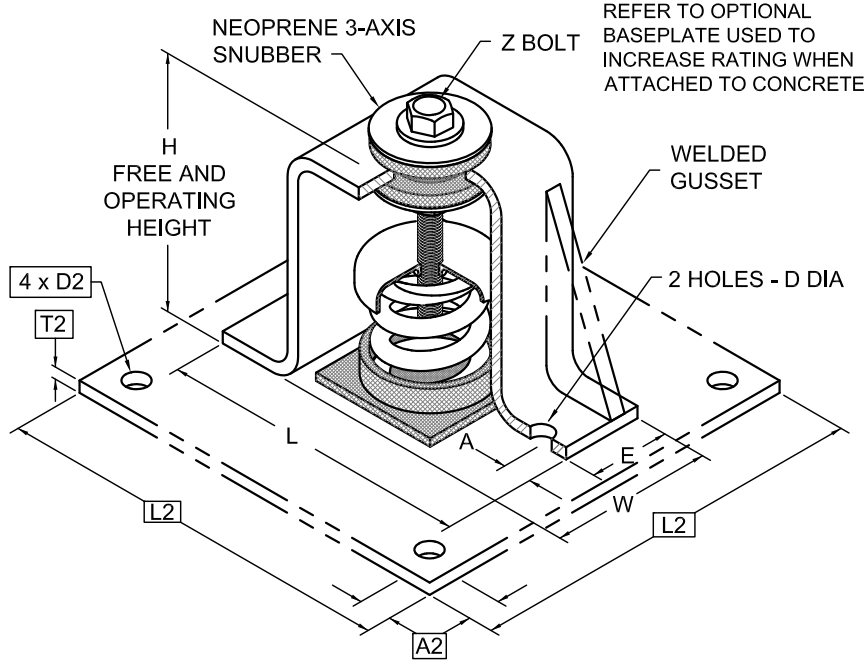
IP UNITS (INCHES AND POUNDS)

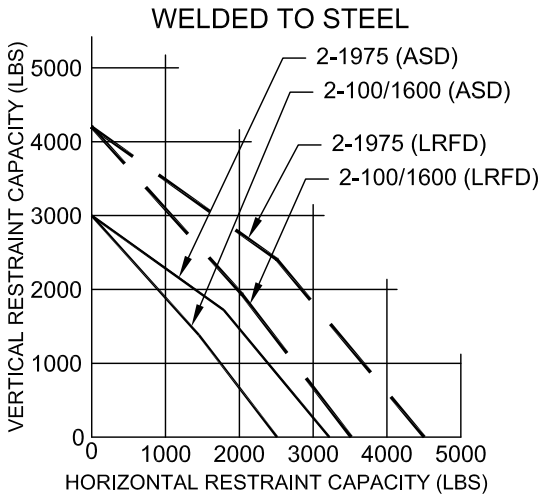
TYPE	L	W	A	D	E	H	Z
2-100/1600	10.38	5.00	0.75	0.69	2.50	9.38	0.50
2-1975	10.38	5.00	0.75	0.69	2.50	9.38	0.50

STANDARD RATINGS		SPRING COIL					
		COLOR		FREE		RATED	
TYPE	SIZE	OUTER	INNER	HT.	O.D.	LOAD	DEFL.
FHS	2-100	GRAY		6.09	3.50	100	2.00
FHS	2-135	BEIGE		6.09	3.50	135	2.00
FHS	2-185	BROWN		6.09	3.50	185	2.00
FHS	2-225	GRAY	BROWN	6.09	3.50	225	2.00
FHS	2-250	BLUE		6.09	3.50	250	2.00
FHS	2-375	BLUE	BROWN	6.09	3.50	375	2.00
FHS	2-500	GREEN		6.09	3.50	500	2.00
FHS	2-625	GREEN	BROWN	6.09	3.50	625	2.00
FHS	2-750	BLACK		6.09	3.50	750	2.00
FHS	2-875	BLACK	BROWN	6.09	3.50	875	2.00
FHS	2-995	ORANGE		6.09	3.50	995	2.00
FHS	2-1120	ORANGE	BROWN	6.09	3.50	1120	2.00
FHS	2-1400	ORANGE	GREEN	6.09	3.50	1400	2.01
FHS	2-1600	RED		6.09	3.50	1600	2.00
*FHS	2-1975	RED	GREEN	6.09	3.50	1975	1.98

*INCLUDES WELDED GUSSET AS SHOWN

A2, L2, T2, D2 DIMENSIONS REFER TO OPTIONAL BASEPLATE USED TO INCREASE RATING WHEN ATTACHED TO CONCRETE





Computed horizontal and vertical seismic load combinations must fall within the restraint capacity envelope. Contact KNC for bolted to steel data.

SPECIFICATIONS:

- VERTICALLY AND LATERALLY RESTRAINED SPRING ISOLATOR WITH CONSTANT FREE AND OPERATING HEIGHT AND REPLACEABLE NEOPRENE SNUBBING ELEMENTS.
- 0.25 NOMINAL CLEARANCE IN SNUBBING ELEMENTS.
- MINIMUM OVERLOAD OF 50%.
- MINIMUM Kx/Ky RATIO OF 1.0.
- ALL ELEMENTS SAFE AT SOLID LOADING.
- POWDER COATED COILS AND HOT DIPPED GALVANIZED BRACKET.

KINETICS Noise Control®

VISCMA VIBRATION ISOLATION & SEISMIC CONTROL MANUFACTURERS ASSOCIATION

KINETICS NOISE CONTROL, INC
6300 IRELAN PL,
DUBLIN, OH 43017 USA
Ph: 614 889-0480, Fax: 614 889-0540
www.kineticsnoise.com

Model: FHS-2-100/1975

By: PWM
Date: 12/21/01
Revised: 05/26/22 / BB

Drawing No: S-01.35-21