



Description

Easyflex Model EFRSI Seismic Control Restrained Spring Vibration Isolators consist of free-standing, large diameter, laterally stable steel springs assembled into welded steel housing assemblies fabricated 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 a 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. 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 than 1.2 times the rated vertical stiffness and are designed to provide a minimum of 50% overload capacity. EFRSI isolators are available with deflections upto 2" and with load capacities to 34650 lbs. as standard products. Custom isolators with higher deflection and greater load capabilities are also available. Easyflex Model EFRSI 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 specially for the isolation fo cooling towers, air-cooled condensers, etc. where motion due to wind loads must be minimized.



Application

Easyflex Model EFRSI Seismic Control Restrained Spring Isolators are recommended as a noise and vibration isolator for mechanical equipment located near critically quiet areas when the equipment to be isolated has significant changes of weight during maintenance operations and for equipment subjected to seismic events, external forces, or high wind loads.

Model EFRSI Isolators are typically used to reduce the transmission of noise and vibration into supporting structure form equipment carrying a large fluid load that may be drained, such as boilers and chillers, and cooling towers which also require hold-down for seismic and wind loads. Operating static deflections are available to 2" to and maintain a high degree of noise and vibration isolation.

Specifications

Vibration isolators shall be seismically rated, restrained spring isolators for equipment which 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.

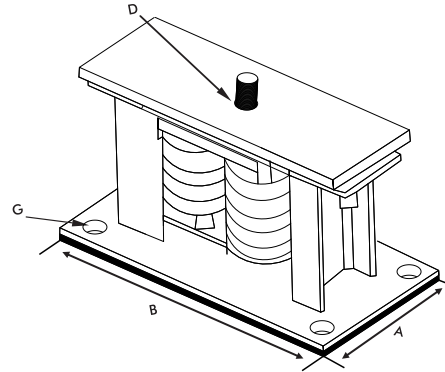
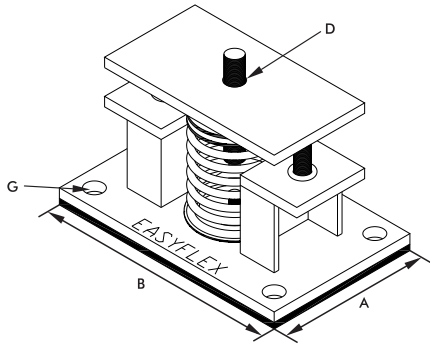
Housing assembly shall be of fabricated steel members and shall consist of a top load plate complete with adjusting and leveling bolts, adjustable vertical restraints, isolation, isolation washers, and a bottom plate with internal non-skid noise isolation pads and holes for anchoring of housing to supporting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

The isolator housing shall provide a minimum of 1g restraint in all directions.

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 grater 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 powder coated, and shall have a 1000 hr rating when tested in accordance with ASTM B-117.

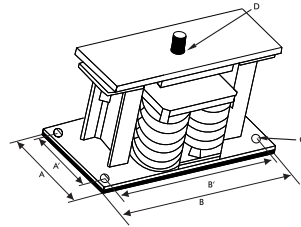
Vibration isolators shall be Model EFRSI as manufactured by Kanwal Industrial Corporation.



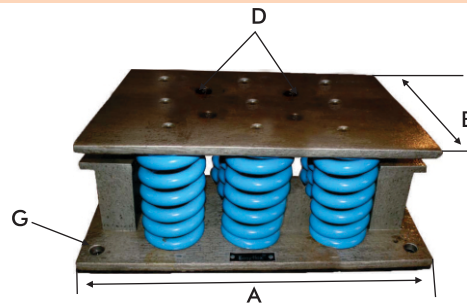
Model Type	Hanger Type	Spring Color	Rated Capacity (lbs)	Rated Deflection (inch)	A (inch)	B (inch)	D (inch)	G (inch)
Model-1 (Single Spring)	EFRSI-1-30	Yellow	66	1	5.91	9.45	0.39	0.51
	EFRSI-1-60	Green	132	1	5.91	9.45	0.39	0.51
	EFRSI-1-100	Blue	220	1	5.91	9.45	0.39	0.51
	EFRSI-1-160	White	352	1	5.91	9.45	0.39	0.51
Model-1A (Single Spring)	EFRSI-1-200	Red	440	1	5.91	9.45	0.63	0.71
	EFRSI-1-300	Purple	660	1	5.91	9.45	0.63	0.71
	EFRSI-1-400	Grey	880	1	5.91	9.45	0.63	0.71
	EFRSI-1-500	Orange	1100	1	5.91	9.45	0.63	0.71
	EFRSI-1-600	Brown	1320	1	5.91	9.45	0.63	0.71
	EFRSI-1-700	Orange	1540	1	5.91	9.45	0.63	0.71
	EFRSI-1-800	Black	1760	1	5.91	9.45	0.63	0.71
	EFRSI-1-850	Green	1870	1	5.91	9.45	0.63	0.71
	EFRSI-1-1050	Blue	2310	1	5.91	9.45	0.63	0.71
	Model-2 (Double Springs)	EFRSI-1-1250	White	2750	1	5.91	9.45	0.63
EFRSI-2-400		Red	880	1	5.91	13.78	0.71	0.71
EFRSI-2-600		Purple	1320	1	5.91	13.78	0.71	0.71
EFRSI-2-800		Grey	1760	1	5.91	13.78	0.71	0.71
EFRSI-2-1000		Orange	2200	1	5.91	13.78	0.71	0.71
EFRSI-2-1200		Brown	2640	1	5.91	13.78	0.71	0.71
EFRSI-2-1400		Orange	3080	1	5.91	13.78	0.71	0.71
EFRSI-2-1600		Black	3520	1	5.91	13.78	0.71	0.71
EFRSI-2-1700		Green	3740	1	5.91	13.78	0.71	0.71
EFRSI-2-2100		Blue	4620	1	5.91	13.78	0.71	0.71
EFRSI-2-2500	White	5500	1	5.91	13.78	0.71	0.71	

Compliance - Springs designed according to BS 1726 (Part 1) and recommendations made by SAE (US) and ASHRAE

Restrained Spring Isolators



Model Type	Hanger Type	Spring Color	Rated Capacity (lbs)	Rated Deflection (inch)	A' (inch)	A (inch)	B' (inch)	B (inch)	D (inch)	G (inch)
Model-3 (Four Springs)	EFRSI-4-800	Red	1760	1	6.89	8.86	11.81	13.78	0.98	0.71
	EFRSI-4-1200	Purple	2640	1	6.89	8.86	11.81	13.78	0.98	0.71
	EFRSI-4-1600	Grey	3520	1	6.89	8.86	11.81	13.78	0.98	0.71
	EFRSI-4-2000	Orange	4400	1	6.89	8.86	11.81	13.78	0.98	0.71
	EFRSI-4-2400	Brown	5280	1	6.89	8.86	11.81	13.78	0.98	0.71
	EFRSI-4-2800	Orange	6160	1	6.89	8.86	11.81	13.78	0.98	0.71
	EFRSI-4-3200	Black	7040	1	6.89	8.86	11.81	13.78	0.98	0.71
	EFRSI-4-2600	Yellow	5720	1	6.89	8.86	11.81	13.78	0.98	0.71
	EFRSI-4-3400	Green	7480	1	6.89	8.86	11.81	13.78	0.98	0.71
	EFRSI-4-4200	Blue	9240	1	6.89	8.86	11.81	13.78	0.98	0.71
EFRSI-4-5000	White	11000	1	6.89	8.86	11.81	13.78	0.98	0.71	



Model Type	Hanger Type	Spring Color	Rated Capacity (kg)	Rated Deflection (inch)	A (inch)	B (inch)	D (inch)	G (inch)
Model-4 (Six Springs)	EFRSI-6-5100	Green	11220	1	19.69	13.78	0.98	0.71
	EFRSI-6-6300	Blue	13860	1	19.69	13.78	0.98	0.71
	EFRSI-6-7500	White	16500	1	19.69	13.78	0.98	0.71
	EFRSI-6-7800	Red	17160	1	19.69	13.78	0.98	0.71
	EFRSI-6-9600	Black	21120	1	19.69	13.78	0.98	0.71
	EFRSI-6-10500	Orange	23100	1	19.69	13.78	0.98	0.71
Model-5 (Nine Springs)	EFRSI-9-7650	Green	16830	1	23.62	15.78	0.98	0.71
	EFRSI-9-9450	Blue	20790	1	23.62	15.78	0.98	0.71
	EFRSI-9-11250	White	24750	1	23.62	15.78	0.98	0.71
	EFRSI-9-11700	Red	25740	1	23.62	15.78	0.98	0.71
	EFRSI-9-14400	Black	31680	1	23.62	15.78	0.98	0.71
EFRSI-9-15750	Orange	34650	1	23.62	15.78	0.98	0.71	

Compliance - Springs designed according to BS 1726 (Part 1) and recommendations made by SAE (US) and ASHRAE