

Seismic Sway Brace Components

Seismic Sway Braces are used to resist the differential movement between the sprinkler piping systems and the structure to which it is attached during an earthquake. The listings contained within this section are based on testing that was conducted on the building-attached and piping-attached components individually. While included in the certification testing, the component used between the building-attached component and the pipe-attached component was not within the scope of Approval.

Two or more listed components may be required to form a complete seismic sway brace. The specific components required depend upon the type of building construction and the pipe size.

In all cases, the allowable capacities shown within this section have been determined by resolving the load rating (i.e. the load resulting in failure or exceedance of the deformation limits) to the horizontal direction and dividing by a safety factor of 1.5 to allow the values to be used directly for Allowable Stress Design (ASD). For Load Resistance Factor Design (LRFD) capacities, the values in the table shall be multiplied by 1.5

MQS-SP, MQS-SP-L, MQS-SP-T, MQS-IB

Model	Part Description	Run Pipe Nominal Size	Orientation	Allowable Horizontal Capacity (F) per Installation Angle, lb (N)				Remarks
				30°-44°	45°-59°	60°-74°	75°-90°	
MQS-SP	Pipe Attachment	2, 2-1/2, 3	Lateral	1111 (4940)	1443 (6417)	2425 (10788)	NR	a, b
MQS-SP	Pipe Attachment	4, 5	Lateral	1007 (4478)	1648 (7331)	2407 (10708)	NR	a, b
MQS-SP	Pipe Attachment	6	Lateral	1679 (7467)	2450 (10898)	2707 (12040)	NR	a, b
MQS-SP	Pipe Attachment	8	Lateral	1747 (7770)	1994 (8870)	2532 (11263)	NR	a, b
MQS-SP	Pipe Attachment	2, 2-1/2, 3	Longitudinal	1228 (5462)	1799 (8001)	2203 (9801)	NR	a, b
MQS-SP	Pipe Attachment	4, 5	Longitudinal	1080 (4804)	1619 (7203)	1925 (8561)	NR	a, b
MQS-SP	Pipe Attachment	6	Longitudinal	1199 (5332)	1679 (7467)	1858 (8265)	NR	a, b
MQS-SP	Pipe Attachment	8	Longitudinal	1080 (4804)	1857 (8262)	1987 (8837)	NR	a, b
MQS-SP-L	Structural Attachment	NA	Note G	1490 (6620)	1440 (6400)	1160 (5150)	NR	a, c
MQS-SP-T	Structural Attachment	NA	Note G	780 (3460)	1130 (5020)	1360 (6040)	NR	a, d
MQS-IB	Beam Clamp	NA	Along	680 (3020)	970 (4310)	1190 (5290)	NR	a, e, f
MQS-IB	Beam Clamp	NA	Across	710 (3150)	1000 (4440)	1190 (5290)	NR	a, e, f

Remarks:

a. FM Approved when used with MQ-41, MQ-21 or MQ-21D channel as brace element.

b. MQS-SP consists of parts marked MQS-SP, MQS-P (2140053) and MQS-C-SP (2080472). The correct designation for the FM Approved sway brace is MQS-SP.

c. MQS-SP-L consists of parts marked MQS-A-SP-12 (2136842), MQS-P (2140053) and MQS-C-SP (2080472). The correct designation for the FM Approved sway brace is MQS-SP-L.

d. MQS-SP-T consists of parts marked MQS-A-SP-12 (2136842), QTY=2; MQS-P (2140053) and MQS-C-SP (2080472). The correct designation for the FM Approved sway brace is MQS-SP-T.

e. MQS-IB is FM Approved when used with either MQS-SP-T or MQS-SP-L to connect brace to the MQS-IB.

f. MQS-IB consists of parts marked MQS-IB (2148831 and 2148855). The correct designation for the FM Approved sway brace is MQS-IB.

g. MQS-SP-L is designated -L for brace element longitudinal. This refers to the orientation relative to the sprinkler pipe being braced, not orientation to a structural member. MQS-SP-T is designated -T for brace element transverse to sprinkler pipe.

h. Lateral - brace element perpendicular to sprinkler pipe; Longitudinal - brace element parallel to sprinkler pipe

i. Along - Brace element loading along the length of the beam, Across - Brace element loading across the width of the beam

j. NR - Not rated for this installation angle range; NA - Not Applicable

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New/Updated Product Listing:	Yes
Listing Country:	Liechtenstein
Certification Type:	FM Approved