Adjustable Structural Brace Attachment
Fig. AF086



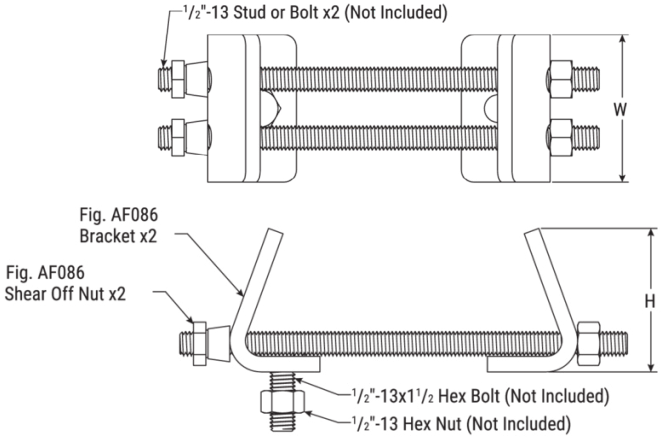


FIG. AF086 Dimensions and Weight

Mounting Bolt	Mounting Slots	H	W	Weight
		In./mm	In./mm	lbs/kgs
½" (M12)	½" (M12)	2.75 69.85	3.00 76.2	2.25 1.02

Material Specifications

Size Range:
Flange Thickness: ¼" – 1¼"

Material
Carbon Steel

Finish
☐ Plain
☐ Electro-Galvanized per ASTM B633

Service
A seismic structural attachment designed to attach to steel I-beams. The AF086 rigidly braces piping systems subjected to horizontal and vertical seismic loads.

Approvals
cULus Listed (ANSI/UL 203a) and FM Approved (FM 1950-23). Complies with NFPA 13, ASCE 7, IBC, & MSS SP-127 bracing requirements.

Features
The shear off nuts provide a visual indication that proper installation has been achieved.

Ordering
Specify figure number, finish, and description.

PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ Approved
Address:	☐ Approved as noted
Contractor:	☐ Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

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Fig. AF086

FIG. AF086 cULus Listing per ANSI/UL 203a (ASD)

Structure	Load Orientation	Flange Thickness	Horizontal Load Rating at Brace Angle			
			30°-44°	45°-59°	60°-90 °	Listed
Horizontal Steel Flange	Parallel to Flange	0.250-1.250 in (6.35-31.75 mm)	370 lbf (1.65 kN)	523 lbf (2.33 kN)	640 lbf (2.85 kN)	740 lbf (3.29 kN)
	Perpendicular to Flange		685 lbf (3.05 kN)	968 lbf (4.31 kN)	1186 lbf (5.28 kN)	1370 lbf (6.09 kN)

1) Listed for installation with Fig. AF075, AF076, AF077, and AF700. The lowest load rating at angle shall control the load rating of the assembly.
2) Brace Angles are determined from Vertical.
3) Listed load ratings reduced for angle ranges in accordance with NFPA 13-2019 Table 18.5.2.3.
4) Minimum safety factor of 2.2 in accordance with NFPA 13-2019 Section A.18.5.2.3.

FIG. AF086 ccULus Listing per UL 203a (ASD) for NFPA 13-2016 Editions or Earlier

UL's current Listings are predicated on installation in accordance with the latest edition of NFPA 13. The 2016 and earlier editions of NFPA 13 referenced a minimum safety factor of 1.5 for the load rating as compared to 2.2 for the current edition. The load ratings noted in this table are consistent with the historical cULus Listings that were evaluated to the requirements of UL 203A, Outline of Investigation for Sway Brace Devices for Fire Sprinkler System Piping, based upon a minimum safety factor of 1.5 in accordance with the earlier editions of NFPA 13. The load ratings based upon the 2016 or earlier editions of NFPA 13 should only be used where approved by the Authority Having Jurisdiction (AHJ).

Structure	Load Orientation	Flange Thickness	Horizontal Load Rating at Brace Angle			
			30°-44°	45°-59°	60°-90 °	Listed
Horizontal Steel Flange	Parallel to Flange	0.250-1.250 in (6.35-31.75 mm)	632 lbf (2.81 kN)	894 lbf (3.98 kN)	1095 lbf (4.87 kN)	1265 lbf (5.63 kN)
	Perpendicular to Flange		1007 lbf (4.48 kN)	1425 lbf (6.34 kN)	1744 lbf (7.76 kN)	2015 lbf (8.96 kN)

1) Listed for installation with Fig. AF075, AF076, AF077, and AF700. The lowest load rating at angle shall control the load rating of the assembly.
2) Brace Angles are determined from Vertical.
3) Listed load ratings reduced for angle ranges in accordance with NFPA 13-2016 Table 9.3.5.2.3.
4) Minimum safety factor of 1.5 in accordance with NFPA 13-2016 Section A.9.3.5.2.3.

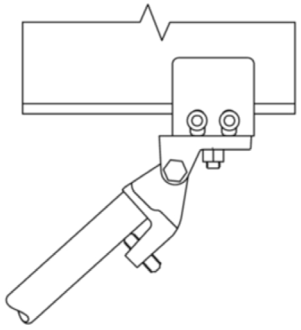
FIG. AF086 FM Approved (Listing) per FM 1950-23 (ASD)

Structure	Load Orientation	Flange Thickness	Horizontal Load Rating at Brace Angle			
			30°-44°	45°-59°	60°-74°	75°-90°
Horizontal Steel Flange (I-beam flange)	Parallel to Flange	0.250-1.250 in (6.35-31.75 mm)	770 lbf (3.42 kN)	1180 lbf (5.24 kN)	1440 lbf (6.40 kN)	1610 lbf (7.16 kN)
	Perpendicular to Flange		530 lbf (2.35 kN)	960 lbf (4.27 kN)	1310 lbf (5.82 kN)	1520 lbf (6.76 kN)

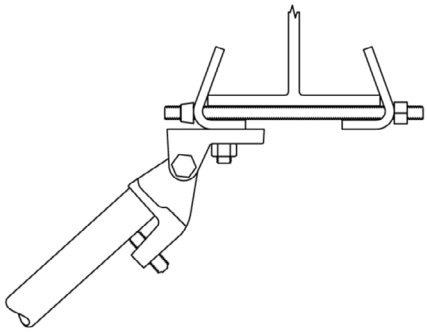
1) Listed for installation with Fig. AF075, AF076, AF077, and AF700. The lowest load rating at angle shall control the load rating of the assembly.
2) Brace Angles are determined from Vertical.
3) Minimum safety factor of 2.2 in accordance with ANSI/FM 1950-23. Load ratings shown are Allowable Stress Design (ASD) values and require no further reduction for NFPA 13-2019 and later.
4) To convert to LRFD Load Ratings, ASD Load Ratings may be multiplied by a factor of 2.2.

Installation

1. Insert one ½" x 1½" hex bolt through the mounting hole of one bracket.
2. Place both brackets on a horizontal steel flange.
3. Install two ½"-13 studs or bolts with the shear off nuts through the mounting slots on both brackets. Studs or bolts manufactured per ASTM A307 or equivalent.
4. Torque shear off nuts evenly and equally until the heads shear off.
5. Hand tighten the set screws until they contact the flange. Continue to torque the set screws until the heads break off.
6. Install the ½" x 1½" mounting bolt through the ½" AF075, AF076, AF077, AF700, or AF771 mounting hole. The mounting bolt shall be installed wrench tight (Typically finger tight plus ¼ to ½ turns).



Horizontal Steel Flange
Seismic Load Parallel to Flange



Horizontal Steel Flange
Seismic Load Perpendicular to Flange

Notes:

ASC Engineered Solutions™ brand bracing components are designed to be compatible ONLY with other ASC Engineered Solutions brand bracing components, resulting in a Listed seismic bracing assembly. Updated UL listing information may be viewed at www.ul.com and updated FM approval information may be viewed at www.approvalguide.com.

Disclaimer:

ASC Engineered Solutions does not provide any warranties and specifically disclaims any liability whatsoever with respect to ASC bracing products and components that are used in combination with products, parts or systems not manufactured or sold by ASC. In no event shall ASC be liable for any incidental, direct, consequential, special or indirect damages or lost profits where non-ASC bracing components have been, or are used.

Seis Brace® Seismic Fire Protection Design Tool may be accessed at www.seisbrace.com

asc-es.com

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