

## Universal Structural Brace Attachment Fig. AF778

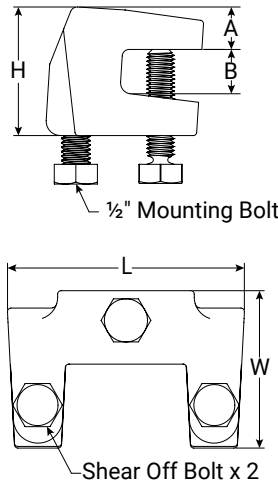
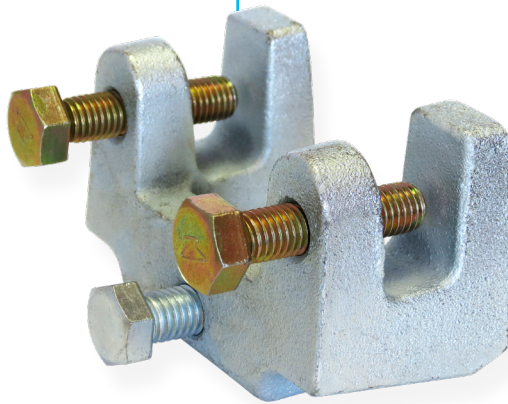


FIG. AF778 Dimensions and Weight

Mounting Bolt	A	B	L	W	H	Weight
	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs/kg
1/2" (M12)	0.75 19.1	0.75 19.1	4.13 104.8	2.75 69.9	2.25 57.2	2.26 1.03

### Installation Instructions

- Place the AF778 on a horizontal or vertical steel flange.
- Hand tighten the set screws until they contact the flange. Continue to torque the set screws until the heads break off.
- Mount the AF700, AF771, or AF076 to the 1/2" mounting bolt. The mounting bolt shall be installed wrench tight (typically finger tight plus 1/4 to 1/2 turns).

**Notes:** When installed with the AF700, AF771, or AF076, the lowest load rating at angle shall control the load rating of the assembly.

### Material Specifications

**Size Range:**

Flange Thickness: 1/8" to 3/4" thick

**Material**

Ductile Iron Casting with Carbon Steel Hardware

**Finish**

Plain

Electro-Galvanized per ASTM B633

**Service**

A seismic structural attachment designed to attach to steel I-beams, flanges, and joists. The AF778 rigidly braces piping systems subjected to horizontal and vertical seismic loads.

**Approvals**

cULus Listed (ANSI/UL 203a), FM Approved (FM 1950-13), & OSHPD (OPM-0351-13). Complies with NFPA 13, ASCE 7, IBC, & MSS SP-127 bracing requirements.

**Features**

- The set screw provides a visual indication that proper installation has been achieved
- May be installed anywhere a Fig 92 standard throat beam clamp may be installed

**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:	

## Universal Structural Brace Attachment Fig. AF778

FIG. AF778 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
			in./mm	Lbf/(kN)	Lbf/(kN)	Lbf/(kN)
Horizontal Steel Flange and Vertical Steel Flange	Parallel to Flange	0.1875 – 0.750 (4.76 – 19.05)	800 (3.56)	1131 (5.03)	1385 (6.16)	1600 (7.12)
	Perpendicular to Flange					

- 1) Listed for installation with Fig. AF700, AF771, and AF076
- 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. AF778 cULus 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
			in./mm	Lbf/(kN)	Lbf/(kN)	Lbf/(kN)
Horizontal Steel Flange and Vertical Steel Flange	Parallel to Flange Perpendicular to Flange	0.1875 – 0.249 (4.76 – 6.32)	500 (2.22)	707 (3.15)	865 (3.85)	1000 (4.45)
		0.250 – 0.499 (6.35 – 12.67)	800 (3.56)	1131 (5.03)	1385 (6.16)	1600 (7.12)
		0.500 – 0.750 (12.70 – 19.05)	1007 (4.48)	1425 (6.34)	1744 (7.76)	2015 (8.96)

- 1) Listed for installation with Fig. AF700 & AF771
- 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. AF778 FM Approved (Listing) per FM 1950-13 (ASD)

Structure	Load Orientation	Flange Thickness	Horizontal Load Rating at Brace Angle			
			30°-44°	45°-59°	60°-74°	75°-90°
			in./mm	Lbf/(kN)	Lbf/(kN)	Lbf/(kN)
Horizontal Steel Flange	Parallel to Flange	0.125-0.750 (3.18-19.05)	1280 (5.69)	1840 (8.18)	2210 (9.83)	2470 (10.99)
	Perpendicular to Flange		1570 (6.98)	1490 (6.63)	1040 (4.63)	1150 (5.12)
Vertical Steel Flange	Parallel to Flange		870 (3.87)	1440 (6.41)	1230 (5.47)	1360 (6.05)
	Perpendicular to Flange		1038 (4.58)	2260 (10.05)	2490 (11.08)	2750 (12.23)

- 1) Listed for installation with Fig. AF700 & AF771
- 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 1.5 in accordance with NFPA 13-2016 Section A.9.3.5.2.3. To convert the load ratings above to a safety factor of 2.2 per NFPA 13-2019 Section A.18.5.2.3, multiply load ratings by a factor of 0.68.
- 5) To convert to LRFD Load Ratings, ASD Load Ratings may be multiplied by a factor of 1.5

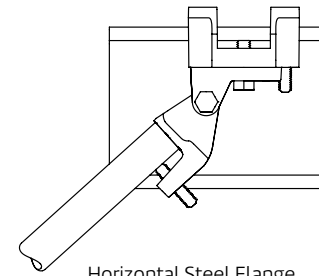
### Notes:

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](http://www.ul.com) and updated FM approval information may be viewed at [www.approvalguide.com](http://www.approvalguide.com).

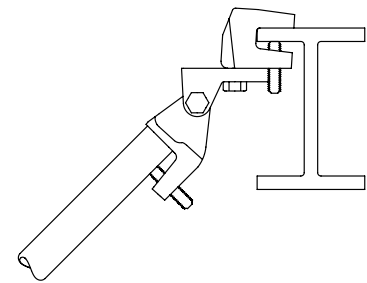
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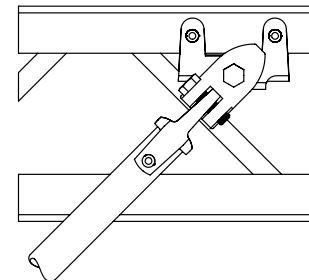
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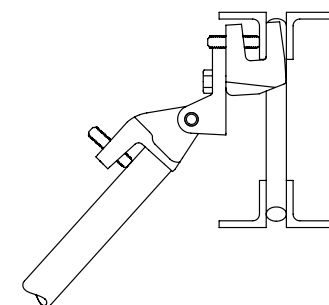
Horizontal Steel Flange  
Seismic Load Parallel to Flange



Horizontal Steel Flange  
Seismic Load Perpendicular to Flange



Vertical Steel Flange  
Seismic Load Parallel to Flange



Vertical Steel Flange  
Seismic Load Perpendicular to Flange



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