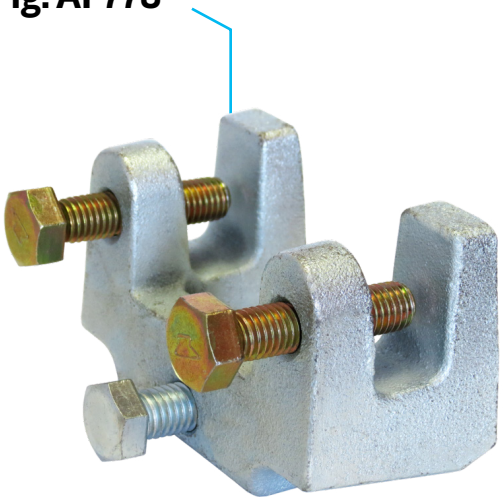
Universal Structural Brace Attachment
Fig. AF778



OPM-0351-13

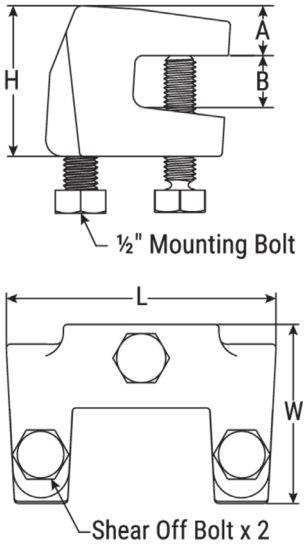


FIG. AF778 Dimensions and Weight

Mounting Bolt	A	B	L	W	H	Weight
	In./mm	In./mm	In./mm	In./mm	In./mm	lbs/kg
½" (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

1. Place the AF778 on a horizontal or vertical steel flange.
2. Hand tighten the set screws until they contact the flange. Continue to torque the set screws until the heads break off.
3. Mount the AF700, AF771, or AF076 to the ½" mounting bolt. The mounting bolt shall be installed wrench tight (typically finger tight plus ¼ to ½ 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: ⅛" to ¾" 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 1950-23), & 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.

AFCON
An ASC Engineered Solution

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

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)	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 1950-23 (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)	Lbf/kN
Horizontal Steel Flange	Parallel to Flange	0.125–0.750 (3.18–19.05)	450 (2.00)	780 (3.46)	790 (3.51)	870 (3.86)
	Perpendicular to Flange		700 (3.11)	1860 (8.27)	1700 (7.56)	1870 (8.31)
Vertical Steel Flange	Parallel to Flange		930 (4.13)	1320 (5.87)	1610 (7.16)	1800 (8.00)
	Perpendicular to Flange		1300 (5.78)	1020 (4.53)	710 (3.15)	780 (3.46)

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 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.
5) To convert to LRFD Load Ratings, ASD Load Ratings may be multiplied by a factor of 2.2

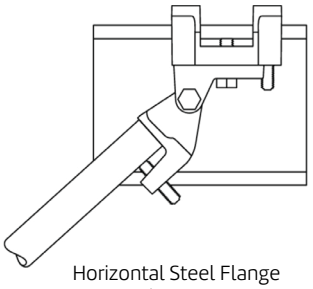
Notes:

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.

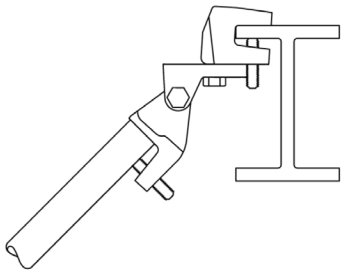
Disclaimer:

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.

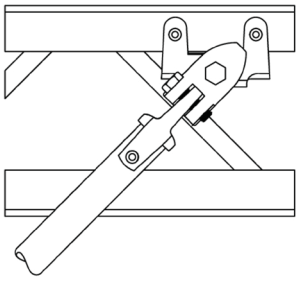
Seis Brace® Seismic Fire Protection Design Tool may be accessed at www.seisbrace.com



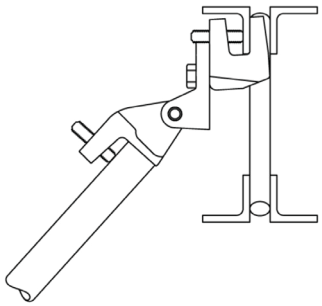
Horizontal Steel Flange
Seismic Load Parallel to Flange



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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