

Sway Brace Swivel Attachment Fig. AF077

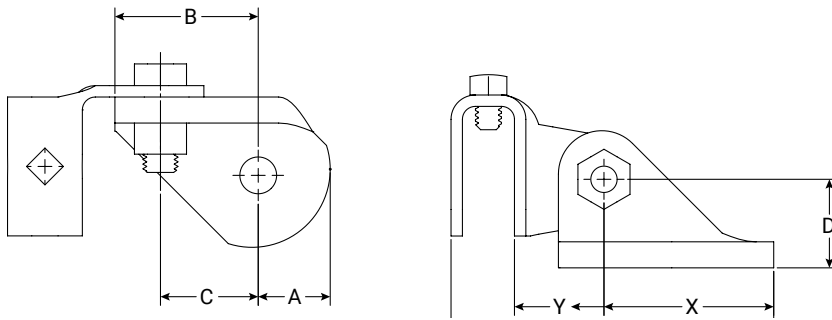


FIG. AF077: Dimensions and Weight

| Brace Size | A | B | C | D | L | X | Y | Weight lbs/kg |
|------------|----------------|----------------|----------------|----------------|---------------|-----------------|--------------|------------------|
| | In./mm | In./mm | In./mm | In./mm | In./mm | In./mm | In./mm | |
| 1" | 1.000 25.40 | 1.830 46.48 | 1.250 31.75 | 1.380 25.40 | 4.46 113.2 | 2.25 in 57.2 | 1.13 28.6 | 1.12 0.51 |
| 1¼" | | | | | | | | 1.28 0.58 |

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.

Material Specifications

Size Range:

Brace Pipe: 1"- 1¼" NPS Sch 40 Steel Pipe
Anchor Size: ½" (M12)

Material

Carbon Steel

Finish

Plain
Electro-Galvanized

Service

A seismic swivel attachment designed to connect a brace member to the building structure or to a seismic structural attachment. The AF077 rigidly braces piping systems subjected to horizontal and vertical seismic loads.

Approvals

cULus Listed (UL 203a) and FM Approved (FM 1950-13). 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.

Ordering

Specify figure number, brace size, finish, and description.

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



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

Sway Brace Swivel Attachment Fig. AF077

FIG. AF077 cULus Listing per ANSI/UL 203a (ASD)

| Brace Member | Fastener Size | Horizontal Load Rating at Brace Angle | | | Listed |
|-------------------------|---------------|---------------------------------------|----------------------|----------------------|----------------------|
| | | 30°-44° | 45°-59° | 60°-90° | |
| 1" - 1¼" Sch 40 Pipe | ½" (M12) | 340 lbf (1.51 kN) | 480 lbf (2.14 kN) | 588 lbf (2.62 kN) | 680 lbf (3.02 kN) |

- 1) Load ratings may apply to NPFA 13 fastener orientations A, B, C, D, E, F, G, H, or I.
- 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. AF077 cULus Listing per UL 203a (ASD) for NFPA 13-2016 Editions or Earlier

| Brace Member | Fastener Size | Horizontal Load Rating at Brace Angle | | | Listed |
|-------------------------|---------------|---------------------------------------|----------------------|----------------------|-----------------------|
| | | 30°-44° | 45°-59° | 60°-90° | |
| 1" - 1¼" Sch 40 Pipe | ½" (M12) | 500 lbf (2.22 kN) | 707 lbf (3.15 kN) | 865 lbf (3.85 kN) | 1000 lbf (4.45 kN) |

- 1) Load ratings may apply to NPFA 13 fastener orientations A, B, C, D, E, F, G, H, or I.
- 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. AF077 FM Approved (Listing) per FM 1950-13 (ASD)

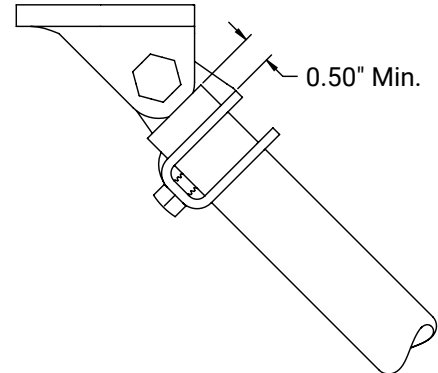
| Brace Member | Fastener Size | Horizontal Load Rating at Brace Angle | | | |
|-------------------------|---------------|---------------------------------------|----------------------|----------------------|----------------------|
| | | 30°-44° | 45°-59° | 60°-74° | 75°-90° |
| 1" - 1¼" Sch 40 Pipe | ½" (M12) | 430lbf (1.90 kN) | 620 lbf (2.76 kN) | 760 lbf (3.38 kN) | 840 lbf (3.74 kN) |

- 1) Load ratings may apply to NPFA 13 fastener orientations A, B, C, D, E, F, G, H, or I.
- 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.

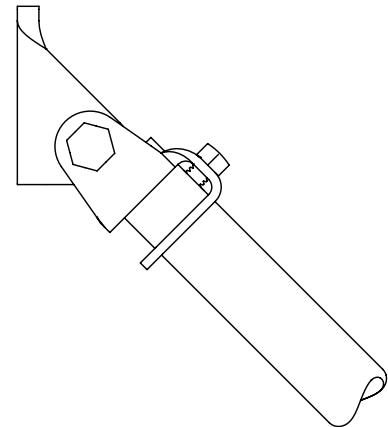
FIG. AF077 Horizontal Prying Factors (Pr) Per NFPA 13

| Fastener Orientation | A | B | C | D | E | F | G | H | I | |
|----------------------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | Brace Angle | 30°-44° | 45°-59° | 60°-90° | 30°-44° | 45°-59° | 60°-90° | 30°-44° | 45°-59° | 60°-90° |
| AF077 | | 2.52 | 1.07 | 1.38 | 1.62 | 1.42 | 2.25 | 2.75 | 1.94 | 1.59 |
| AF077 w/ Metal Deck | | 2.52 | 1.16 | 1.38 | - | - | - | - | - | - |

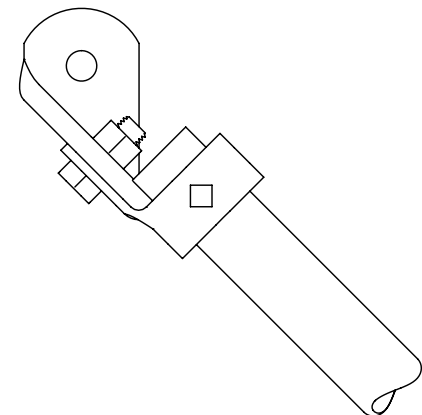
Prying Factors calculated in accordance with NFPA 13-2019 Section A.18.5.12.2 with additional consideration for the baseplate eccentricity.



NFPA 13 Orientations A, B, or C



NFPA 13 Orientations D, E, or F



NFPA 13 Orientations G, H, or I



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Sway Brace Swivel Attachment Fig. AF077

Method 1 – Connection to Brace Member First

- 1 Slide the brace member through the hoop end. A minimum of 0.50 in (12.7mm) should extend past the back of the hoop end.
- 2 Hand tighten the set screw until it contacts the brace member. Continue to torque the set screw until the head bottoms out on the hoop end.
- 3 Rotate the brace assembly up to the fastener or the related seismic structural attachment and connect through the mounting hole.
- 4 Tighten per the fastener or structural attachment specifications.
- 5 Ensure the brace angle is within the specified range.

Notes: The cross bolt should be hand tight. For visual inspection, at least one thread should be exposed.

Method 2 – Connection to Structure First

- 1 Connect the AF077 to the fastener or the related seismic structural attachment.
- 2 Tighten per the fastener or structural attachment specifications.
- 3 Slide the brace member through the hoop end. A minimum of 0.50 in (12.7mm) should extend past the back of the hoop end.
- 4 Hand tighten the set screw until it contacts the brace member. Continue to torque the set screw until the head bottoms out on the hoop end.
- 5 Rotate the brace member until the brace angle is within the specified range.

Notes: The cross bolt should be hand tight. For visual inspection, at least one thread should be exposed.

Structural Attachments, Anchors, & Fasteners Listed, Approved, & Tested with the AF077

| Structural Attachment | Structure |
|------------------------------------|---|
| AF085 | Steel Joist (Top Chord) |
| AF086 | Horizontal Steel Flange (I-Beam Bottom Flange) |
| AF087 | Horizontal Steel Flange (I-Beam Top or Bottom Flange) C-Channel (Top or Bottom Flange) Vertical Flange of a Joist (Top Chord) |
| AF779 | All Structures with the Applicable Approved Anchor or Fastener |
| DeWalt Power-Stud®+ SD1 | Cracked Concrete Cracked Concrete Filled Metal Deck |
| DeWalt Power-Stud®+ SD2 | Cracked Concrete Cracked Concrete Filled Metal Deck |
| DeWalt Wood-Knocker®II+ | Cracked Concrete |
| DeWalt Bang-It®+ | Cracked Concrete Filled Metal Deck |
| DeWalt DDI+™ | Cracked Concrete Filled Metal Deck |
| Anchors & Fasteners Per NFPA 13 | Cracked Concrete Cracked Concrete Filled Metal Deck Steel Wood Saw Lumber or Glue-Laminated Timbers |



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