

Fig. AF001 (Formerly Anvil Fig. 770 & Afcon Fig. 001/020) Q Brace Clamp

Size Range: Service Pipe: 1" through 6", DN25 through DN100
 Brace Pipe: 1", 1 1/4", DN25 and DN32

Material: Carbon steel

Finish: Plain or Electro-Galvanized per ASTM B633

Service: Designed to rigidly brace and restrain piping systems subjected to lateral seismic loads. May also be installed to brace piping systems subjected to vertical seismic loads. For vertical load capacities, reference OSHPD OPM-0351-13.

Approvals: cULus Listed (UL 203a) and FM Approved (FM 1950-10 & FM 1950-13). OSHPD Pre-Approved (OPM-0351-13 and OPA-2804-10). Complies with the hanging and bracing requirements listed in NFPA 13.

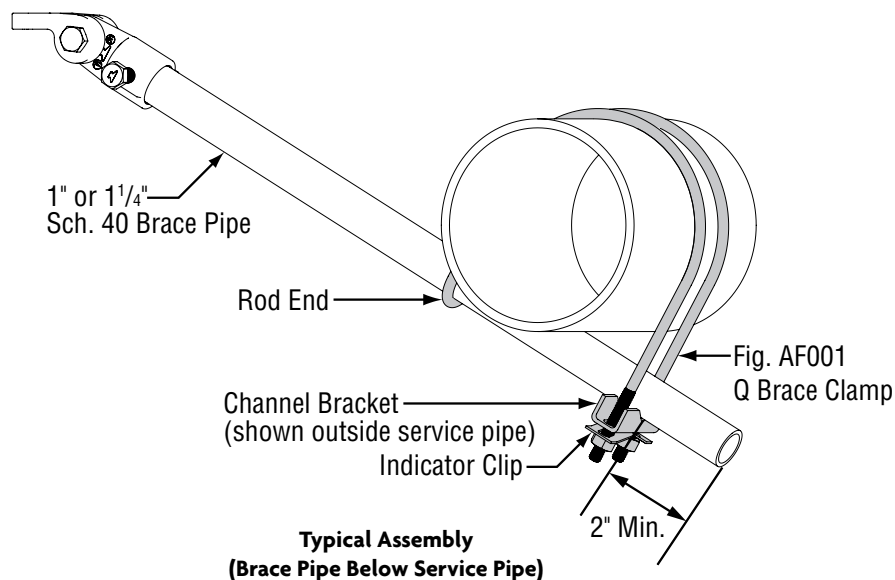
Features:

- Field adjustable design requires no threading of the brace pipe
- Indicator clip provides a visual indication that the desired torque value has been achieved

Installation Instructions:

- Place the 3/8" diameter threaded rod hoop over the service pipe and slide the Sch. 40 brace pipe through the open ends of the threaded rod hoop. The end of the brace pipe must extend at least 2" past the channel bracket.
- Note: The brace pipe may be installed above or below the service pipe.
- Ensure brace pipe is set to the desired installation brace angle.
- Torque hex nuts alternately and equally to the listed torque. Ensure the indicator clip is completely flattened and the brace pipe is tight against the service pipe.
- For riser/4-way brace installations, two Q Brace clamps must be installed within 6" of each other.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Ordering: Specify service pipe size, brace pipe size, figure number, finish and description.

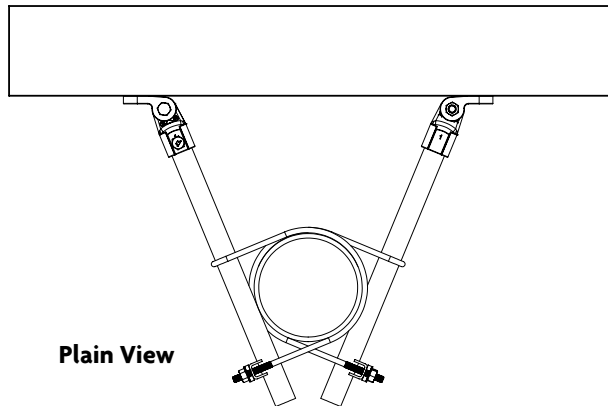


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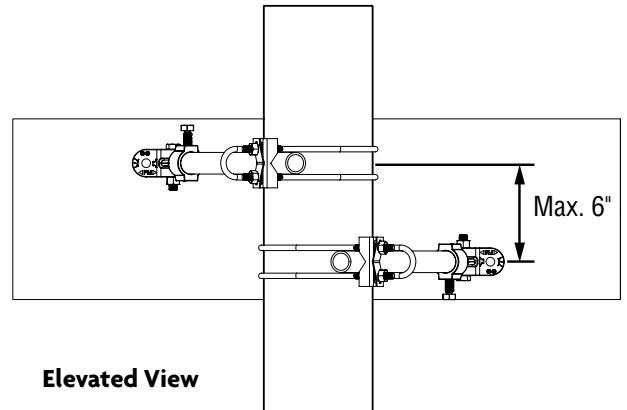
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Fig. AF001 (Formerly Anvil Fig. 770 & Afcon Fig. 001/020) Q Brace Clamp (cont.)



Plain View



Elevated View

Riser/4-Way Brace Assembly

FIG. AF001 cULus & FM INSTALLATION TORQUE: DIMENSIONS (IN) • TORQUE (FT•LBS) • WEIGHT (LBS)			
Service Pipe Size	Installation Torque	1"/DN25 Brace Pipe Weight	1 1/4"/DN32 Brace Pipe Weight
1 (DN25)	14	0.82	0.87
1 1/4 (DN32)		0.86	0.90
1 1/2 (DN40)		0.90	0.95
2 (DN50)	16	0.96	1.00
2 1/2		1.02	1.06
DN65		1.05	1.09
3 (DN80)	17	1.09	1.13
4 (DN100)		1.23	1.26
5		1.32	1.36
6		1.49	1.53

FIG. AF001 cULus MAX SEISMIC LATERAL LOADS: DIMENSIONS (IN) • LOADS (LBS)				
Service Pipe Size	Brace Pipe Size	Max Seismic Brace Load		Max Seismic Restraint Load
		Schedule 10	Schedule 40	
1 (DN25)	1 - 1 1/4 (DN25 - DN32)	-	-	1000
1 1/4 - 2 (DN32 - DN50)		1000	1000	
2 1/2 - 4 (DN65 - DN100)		1600	1600	-
5				
6				

NPS Brace Pipe Dimensions per ASTM A53 Sch. 40, ASTM A106 Sch. 40, or equivalent.
 NPS Service Pipe Dimensions per ASTM A53, ASTM A106 or equivalent.
 DN Service Pipe Dimensions per KS D 3507/3537 or equivalent listed with Sch. 10 Loads.
 DN Service Pipe Dimensions per KS D 3562 Sch. 40 or equivalent listed with Sch. 40 Loads.
 DN Brace Pipe Dimensions per KS D 3562 Sch. 40 or equivalent.

FIG. AF001 FM MAX SEISMIC LATERAL ASD LOADS***: DIMENSIONS (IN) • LOADS (LBS) • ANGLES (DEGREES)						
Service Pipe Size	Brace Pipe Size	Pipe Schedule	Max Seismic Brace Load at Brace Pipe Angle**			
			30 - 44	45 - 59	60 - 74	75 - 90
1 - 3 (DN25-DN80)	1 - 1 1/4 (DN25-DN32)	LW*	250	360	440	500
		Schedule 10	570	810	1000	1100
		Schedule 40	410	590	720	800
4 - 5 (DN100)		LW*	760	1070	1320	1470
		Schedule 40	250	360	440	500
6		LW*	770	1090	1340	1490
	Schedule 40					

NPS Brace Pipe Dimensions per ASTM A53 Sch. 40, ASTM A106 Sch. 40, or equivalent.
 NPS Service Pipe Dimensions per ASTM A53, ASTM A106 or equivalent.
 DN Service Pipe Dimensions per EN 10220, GB/T 8163, or equivalent listed with LW loads.
 DN Service Pipe Dimensions per GB/T 3091, GB/T 3092, EN10255M, EN10255H, KS D 3507/3537, or equivalent listed with Sch. 10 loads.
 DN Service Pipe Dimensions per JIS G3452, KS D 3562 Sch 40 or Equivalent listed with Sch. 40 loads.
 DN Brace Pipe Dimensions per GB/T 3091, EN10255H, JIS G3454 Sch. 40, KS D 3562 Sch. 40, or equivalent.

* Load Rating for LW above refers to FM Approved Lightwall pipe, commonly referred to as Sch. 7 and Flow Pipe. See FM Approval Guide for approved Lightwall pipe.

** Brace Pipe Angles are determined from vertical.

*** The allowable FM approved capacity of brace subassemblies are listed in Allowable Stress Design (ASD). For Load Resistance Factor Design (LRFD) capacities, the above values will need to be multiplied by 1.5.

Fig. AF035 (Formerly Afcon Fig. 035)

Model K Brace Clamp

Size Range: Carbon Steel Service Pipe: 1" through 12", DN25 through DN200
 CPVC Steel Service Pipe: 1" through 3"
 Brace Pipe: 1" through 2" and DN25 through DN50

Material: Carbon Steel Strap and Ductile Iron Cast Hoop Ends

Finish: Plain or Electro-Galvanized per ASTM B633

Service: Designed to rigidly brace piping systems subjected to lateral seismic loads.

Approvals: cULus Listed (UL 203a) and FM Approved (FM 1950-10 & FM 1950-13). Complies with the hanging and bracing requirements listed in NFPA 13.

Features:

- Unique design provides solutions for carbon steel and CPVC pipe.
- Beveled edge design helps protect the CPVC pipe from any rough surface and eliminates pipe abrasion.
- Large installation hole in the cast hoop ends allows the brace pipe to pass through easily without interference.
- Visual indication of proper assembly when the head of the set screw bottoms out on the cast hoop ends.

Installation Instructions:

- Place the Model K Brace Clamp over the service pipe to be braced and slide the Sch. 40 brace pipe through the cast hoop ends. The end of the brace pipe must extend at least 1" past the cast hoop ends.
- Note: The brace pipe may be installed above or below the service pipe.
- Ensure brace pipe is set to the desired installation brace angle.
- Torque the set screws alternately and equally until the head of the set screw bottoms out on the cast hoop ends.
- For riser/4-way brace installations, two Model K Brace Clamps must be installed within 6" of each other.
- For CPVC installation, ensure the legs of the Model K Brace Clamp strap are parallel to each other and perpendicular to the brace pipe prior to installation.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Patents: No. 7,516,922, No. 7,523,895

Ordering: Specify service pipe size, brace pipe size, figure number, finish and description.

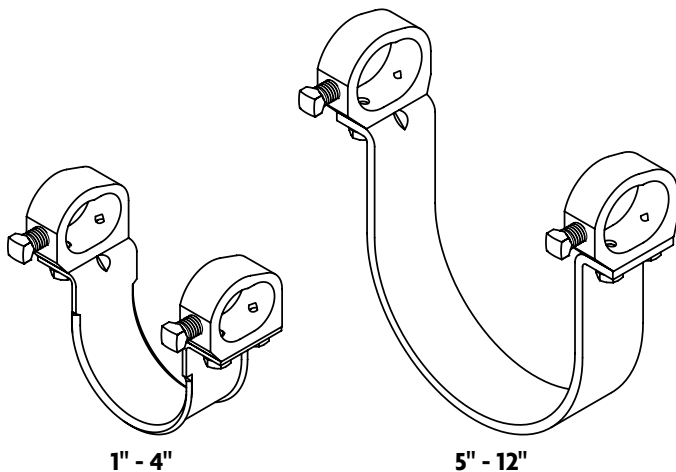


FIG. AF035: DIMENSIONS (IN) • WEIGHT (LBS)				
Service Pipe Size	1"/DN25 Brace Pipe Weight	1 1/4"/DN32 Brace Pipe Weight	1 1/2"/DN40 Brace Pipe Weight	2"/DN50 Brace Pipe Weight
1 (DN25)	1.60	1.80	2.00	2.28
1 1/4 (DN32)	1.68	1.88	2.08	2.36
1 1/2 (DN40)	1.64	1.84	2.04	2.32
2 (DN50)	1.88	2.08	2.28	2.56
2 1/2	1.90	2.10	2.30	2.58
DN65	2.00	2.20	2.40	2.68
3 (DN80)	2.10	2.30	2.50	2.78
4 (DN100)	2.20	2.40	2.60	2.88
5 (DN125)	3.40	3.60	3.80	4.08
DN150	3.80	4.00	4.20	4.48
6	3.90	4.10	4.30	4.58
DN200	4.70	4.90	5.10	5.38
8	4.80	5.00	5.20	5.48
10	5.60	5.80	6.00	6.28
12	–	6.36	6.56	6.84

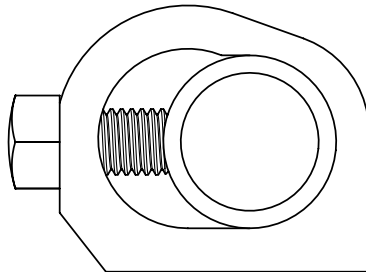
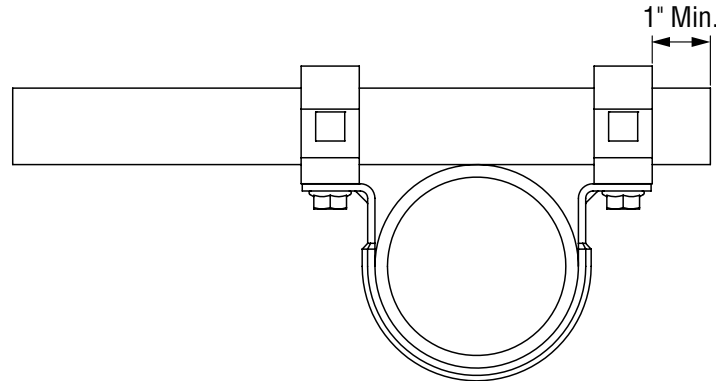
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Fig. AF035 (Formerly Afcon Fig. 035)

Model K Brace Clamp (cont.)



Set Screw Installation

**FIG. AF035 cULus MAX SEISMIC LATERAL LOADS:
DIMENSIONS (IN) • LOADS (LBS)**

Service Pipe Size	Brace Pipe Size	Max Seismic Brace Load		
		Specialty*	Schedule 10	Schedule 40
1 - 4 (DN25 - DN100)	1 - 2 (DN25 - DN50)	2765	2765	2765
5 - 10 (DN125 - DN200)		-		
12	1 1/4 - 2		3740	3740

NPS Brace Pipe Dimensions per ASTM A53 Sch. 40, ASTM A106 Sch. 40, or equivalent.
 NPS Service Pipe Dimensions per ASTM A53, ASTM A106 or equivalent.
 DN Service Pipe Dimensions per KS D 3507/3537 or equivalent listed with Sch. 10 loads.
 DN Service Pipe Dimensions per KS D 3562 Sch. 40 or Equivalent listed with Sch. 40 loads.
 DN Brace Pipe Dimensions per KS D 3562 Sch. 40 or equivalent.
 * Specialty pipes are commonly referred to as Sch. 7 and Flow Pipe. Please visit the UL listing on the UL website for a complete list of listed specialty pipes.

FIG. AF035 FM MAX SEISMIC LATERAL ASD LOADS*:
DIMENSIONS (IN) • LOADS (LBS) • ANGLES (DEGREES)**

Service Pipe Size	Brace Pipe Size	Pipe Schedule	Max Seismic Brace Load at Brace Pipe Angle**			
			30 - 44	45 - 59	60 - 74	75 - 90
1 - 1 1/2 (DN25 - DN40)	1 - 2 (DN25 - DN50)	LW* - Sch. 40	1680	2380	2920	3250
2 - 3 (DN50 - DN80)		LW* - Sch. 40	1800	2550	3120	3490
4 (DN100)		LW* - Sch. 40	1370	1930	2370	2640
5 - 8 (DN125 - DN200)		Sch. 10 - Sch. 40	730	1040	1270	1420

NPS Brace Pipe Dimensions per ASTM A53 Sch. 40, ASTM A106 Sch. 40, or equivalent.
 NPS Service Pipe Dimensions per ASTM A53, ASTM A106 or equivalent.
 DN Service Pipe Dimensions per EN 10220, GB/T 8163, or equivalent listed with LW loads.
 DN Service Pipe Dimensions per GB/T 3091, GB/T 3092, EN10255M, EN10255H, KS D 3507/3537, or equivalent listed with Sch. 10 loads.
 DN Service Pipe Dimensions per JIS G3452, KS D 3562 Sch. 40 or equivalent listed with Sch. 40 Loads.
 DN Brace Pipe Dimensions per GB/T 3091, EN10255H, JIS G3454 Sch. 40, KS D 3562 Sch. 40, or equivalent.
 * Load Rating for LW above refers to FM Approved Lightwall pipe, commonly referred to as Sch. 7 and Flow Pipe. See FM Approval Guide for approved Lightwall pipe.
 ** Brace Pipe Angles are determined from vertical.
 *** The allowable FM approved capacity of brace subassemblies are listed in Allowable Stress Design (ASD). For Load Resistance Factor Design (LRF) capacities, the above values will need to be multiplied by 1.5.

Fig. AF075 (Formerly Afcon Fig. 075) Sway Brace Swivel Attachment

Size Range: Brace Pipe: 1" through 2" Sch. 40, DN25 through DN50
Anchor Size: 1/2"

Material: Ductile Iron Cast Hoop End with Carbon Steel Baseplate and Hardware

Finish: Plain or Electro-Galvanized per ASTM B633

Service: A seismic swivel attachment designed to connect brace pipe to the building structure or to a seismic structural attachment. The Sway Brace Swivel Attachment rigidly braces piping systems subjected to horizontal seismic loads.

Approvals: cULus Listed (UL 203a) and FM Approved (FM 1950-10 & FM 1950-13). Complies with the hanging and bracing requirements listed in NFPA 13.

Features:

- Large installation hole in the cast hoop end allows the brace pipe to pass through easily without interference.
- Field adjustable design requires no threading of the brace pipe
- The set screw design provides a visual indication that the desired torque value has been achieved

Installation Instructions:

- Insert anchor through the mounting hole and into the structure or seismic structural attachment.
- For connection to Fig. AF085, AF086, AF087, and AF779 seismic structural attachments, the bolt and nuts shall be installed wrench tight (typically finger tight plus 1/4 to 1/2 turns).
- For connection to concrete, wood, timber, steel, and other structures, install fasteners per the fastener manufacturer's installation instructions.
- Insert Sch. 40 brace pipe into the cast hoop end. The brace pipe should extend a minimum of 0.50" past the back of the cast hoop end.
- Torque set screw until the head bottoms out on the cast hoop end.
- Check the cross bolt and nut and ensure the nut is wrench tight.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Ordering: Specify brace pipe, figure number, finish and description.

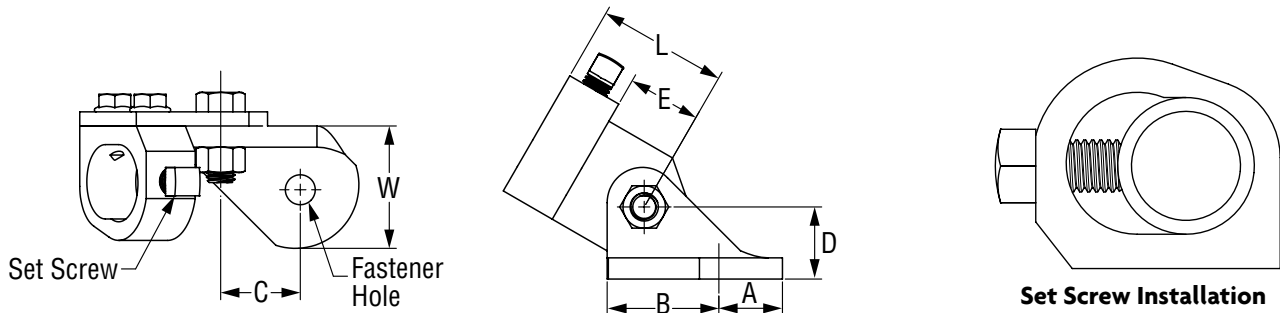


FIG. AF075: DIMENSIONS (IN) • WEIGHT (LBS)

Brace Size	Fastener Size	A	B	C	D	E	L	W	Weight
1 (DN25)	1/2	1.00	1.83	1.25	1.38	1 5/16	2 5/16	2 1/8	1.70
1 1/4 (DN25)									1.80
1 1/2 (DN40)									1.90
2 (DN50)									2.04

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Fig. AF075 (Formerly Afcon Fig. 075) Sway Brace Swivel Attachment (cont.)

FIG. AF075 cULus MAX SEISMIC HORIZONTAL LOADS: DIMENSIONS (IN) • LOADS (LBS)			
Brace Pipe Size	Fastener Size	Max Seismic Brace Load	Max Service Pipe Size
1 - 2 (DN25 - DN50)	1/2	2015	8

NPS Brace Pipe Dimensions per ASTM A53 Sch 40, ASTM A106 Sch. 40, or equivalent.
DN Brace Pipe Dimensions per KS D 3562 Sch. 40 or equivalent.

FIG. AF075 FM MAX SEISMIC HORIZONTAL ASD LOADS**: DIMENSIONS (IN) • LOADS (LBS)					
Brace Pipe Size	Fastener Size	Max Seismic Brace Load at Brace Pipe Angle*			
		30-44	45-59	60-74	75-90
1 - 2 (DN25 - DN50)	1/2	1410	2000	2450	2740

NPS Brace Pipe Dimensions per ASTM A53 Sch 40, ASTM A106 Sch. 40, or equivalent.
DN Brace Pipe Dimensions per GB/T 3091, EN10255H, JIS G3454 Sch 40, KS D 3562 Sch. 40, or equivalent.

* Brace Pipe Angles are determined from vertical.

**The allowable FM approved capacity of brace subassemblies are listed in Allowable Stress Design (ASD). For Load Resistance Factor Design (LRFD) capacities, the above values will need to be multiplied by 1.5.

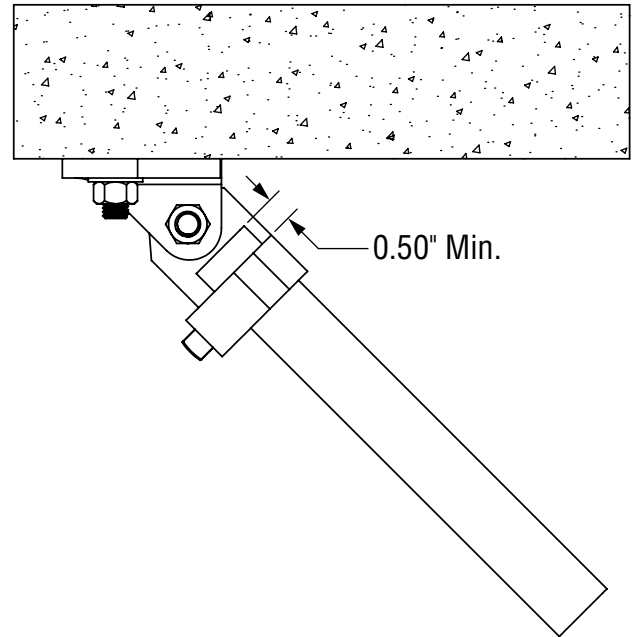


FIG. AF075 HORIZONTAL PRYING FACTORS (Pr) PER NFPA: ANGLES (DEG)										
Brace Orientation*	A	B	C	D	E	F	G	H	I	
Brace Angle**	30-44	45-59	60-90	30-44	45-59	60-90	30-44	45-59	60-90	
Prying Factor (Pr)	3.724	2.150	1.375	2.150	2.150	2.250	2.750	1.945	1.588	

* Brace Orientation per NFPA 13-2016 Figure 9.3.5.12.1.

** Brace Pipe Angles are determined from vertical.

Fig. AF076 (Formerly Afcon Fig. 076) Sway Brace Swivel Attachment

Size Range: Brace Pipe: 1" through 2", DN25 through DN50
Anchor Size: 1/2"

Material: Ductile Iron Jaw with Carbon Steel Baseplate and Hardware

Finish: Plain or Electro-Galvanized per ASTM B633

Service: A seismic swivel attachment designed to connect brace pipe to the building structure or to a seismic structural attachment. The Sway Brace Swivel Attachment rigidly braces piping systems subjected to lateral seismic loads.

Approvals: cULus Listed (UL 203a) and FM Approved (FM 1950-10 & FM 1950-13). Complies with the hanging and bracing requirements listed in NFPA 13.

Features:

- One universal jaw allows for attachment to multiple brace pipe sizes.
- Field adjustable design requires no threading of the brace pipe.
- Shear off set screw provides a visual indication that the desired torque value has been achieved.

Installation Instructions:

- Insert anchor through the mounting hole and into the structure or seismic structural attachment.
- For connection to Fig. AF085, AF086, AF087, and AF779 seismic structural attachments, the bolt and nuts shall be installed wrench tight (typically finger tight plus 1/4 to 1/2 turns).
- For connection to concrete, wood, timber, steel, and other structures, install fasteners per the fastener manufacturer's installation instructions.
- Insert Sch. 40 brace pipe into the brace jaw until the brace pipe bottoms out.
- Torque shear off bolt until head shears off.
- Check the cross bolt and nut and ensure the nut is wrench tight.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Ordering: Specify figure number, finish and description.

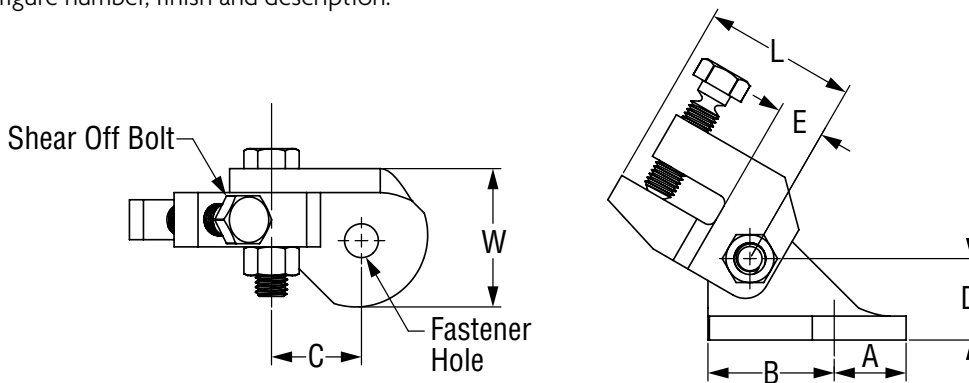
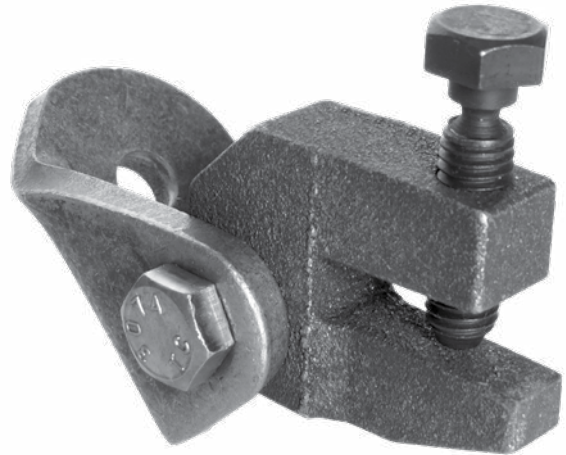


FIG. AF076: DIMENSIONS (IN) • WEIGHT (LBS)

Fastener Size	A	B	C	D	E	L	W	Weight
1/2	1.00	1.83	1.25	1.38	3/4	2 5/8	2 1/8	1.68

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Fig. AF076 (Formerly Afcon Fig. 076) Sway Brace Swivel Attachment (cont.)

FIG. AF076 cULus MAX SEISMIC HORIZONTAL LOADS: DIMENSIONS (IN) • LOADS (LBS)			
Brace Pipe Size	Fastener Size	Max Seismic Brace Load	Max Service Pipe Size
1 - 2 (DN25 - DN50)	1/2	2765	10

NPS Brace Pipe Dimensions per ASTM A53 Sch. 40, ASTM A106 Sch. 40, or equivalent.
DN Brace Pipe Dimensions per KS D 3562 Sch. 40 or equivalent.

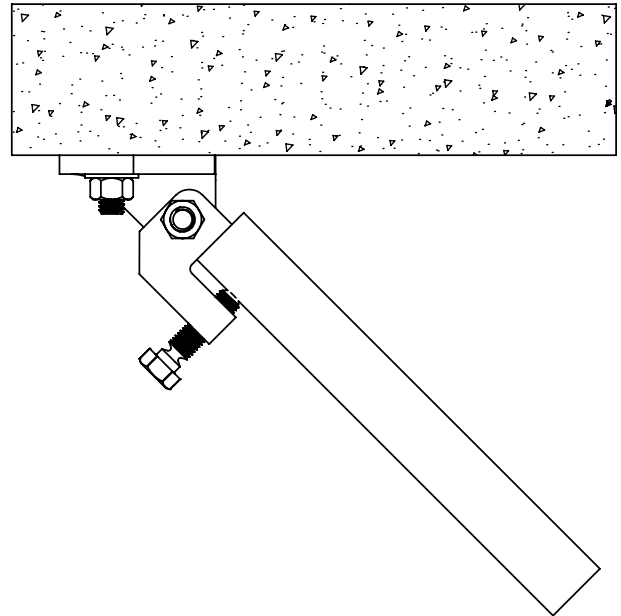


FIG. AF076 FM MAX SEISMIC HORIZONTAL ASD LOADS**: DIMENSIONS (IN) • LOADS (LBS)					
Brace Pipe Size	Fastener Size	Max Seismic Brace Load at Brace Pipe Angle*			
		30-44	45-59	60-74	75-90
1 - 2 (DN25 - DN50)	1/2	1310	1810	2630	2930

NPS Brace Pipe Dimensions per ASTM A53 Sch. 40, ASTM A106 Sch. 40, or equivalent.
DN Brace Pipe Dimensions per GB/T 3091, EN10255H, JIS G3454 Sch. 40, KS D 3562 Sch. 40, or equivalent.

* Brace Pipe Angles are determined from vertical.

**The allowable FM approved capacity of brace subassemblies are listed in Allowable Stress Design (ASD). For Load Resistance Factor Design (LRFD) capacities, the above values will need to be multiplied by 1.5.

FIG. AF076 HORIZONTAL PRYING FACTORS (Pr) PER NFPA: ANGLES (DEG)									
Brace 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
Prying Factor (Pr)	3.724	2.150	1.375	2.150	2.150	2.250	2.750	1.945	1.588

* Brace Orientation per NFPA 13-2016 Figure 9.3.5.12.1.

** Brace Pipe Angles are determined from vertical.

Fig. AF077 (Formerly Afcon Fig. 077) Sway Brace Swivel Attachment

Size Range: Brace Pipe: 1" through 1½" Sch. 40; Anchor Size: ½"

Material: Carbon Steel

Finish: Plain or Electro-Galvanized per ASTM B633

Service: A seismic swivel attachment designed to connect brace pipe to the building structure or to a seismic structural attachment. The Sway Brace Swivel Attachment rigidly braces piping systems subjected to horizontal seismic loads.

Approvals: cULus Listed (UL 203a) and FM Approved (FM 1950-10 & FM 1950-13). Complies with the hanging and bracing requirements listed in NFPA 13.

Features:

- Field adjustable design requires no threading of the brace pipe
- The set screw design provides a visual indication that the desired torque value has been achieved.

Installation Instructions:

- Insert anchor through the mounting hole and into the structure or seismic structural attachment.
- For connection to Fig. AF085, AF086, AF087, and AF779 seismic structural attachments, the bolt and nuts shall be installed wrench tight (typically finger tight plus ¼ to ½ turns).
- For connection to concrete, wood, timber, steel, and other structures, install fasteners per the fastener manufacturer's installation instructions.
- Insert Sch. 40 brace pipe into the bracket end. The brace pipe should extend a minimum of 0.50" past the back of the bracket.
- Torque set screw until the head bottoms out on the bracket.
- Check the cross bolt and nut and ensure the nut is wrench tight.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Ordering: Specify brace pipe size, figure number, finish, and description.

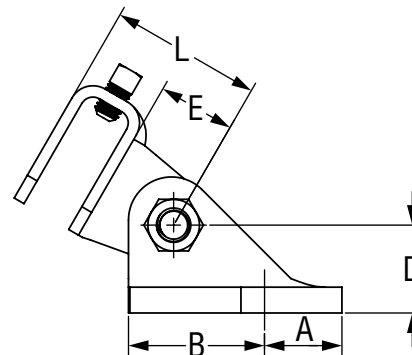
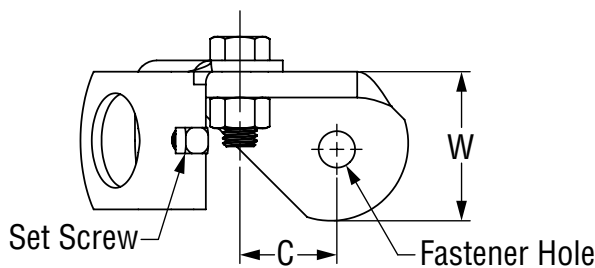
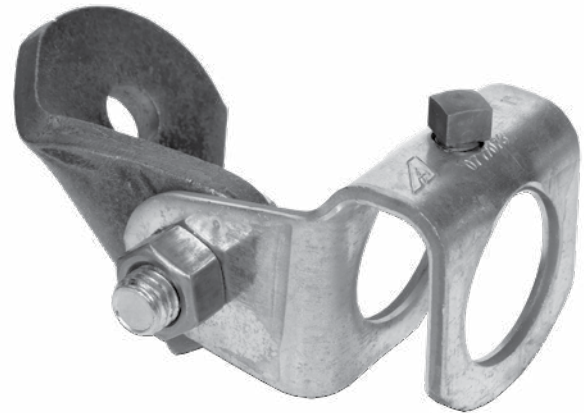


FIG. AF077: DIMENSIONS (IN) • WEIGHT (LBS)

Fastener Size	Brace Size	A	B	C	D	E	L	W	Weight
½	1	1.00	1.83	1.25	1.38	1⅛	2⅜	2⅝	1.12
	1¼						2⅞		1.28

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Fig. AF077 (Formerly Afcon Fig. 077)

Sway Brace Swivel Attachment (cont.)

FIG. AF077 cULus MAX SEISMIC HORIZONTAL LOADS: DIMENSIONS (IN) • LOADS (LBS)			
Brace Pipe Size	Fastener Size	Max Seismic Brace Load	Max Service Pipe Size
1 - 1 ¹ / ₄	1/2	1000	4

FIG. AF077 FM MAX SEISMIC HORIZONTAL ASD LOADS**: DIMENSIONS (IN) • LOADS (LBS)					
Brace Pipe Size	Fastener Size	Max Seismic Brace Load at Brace Pipe Angle*			
		30-44	45-59	60-74	75-90
1 - 1 ¹ / ₄	1/2	430	620	760	840

* Brace Pipe Angles are determined from vertical.

**The allowable FM approved capacity of brace subassemblies are listed in Allowable Stress Design (ASD). For Load Resistance Factor Design (LRFD) capacities, the above values will need to be multiplied by 1.5.

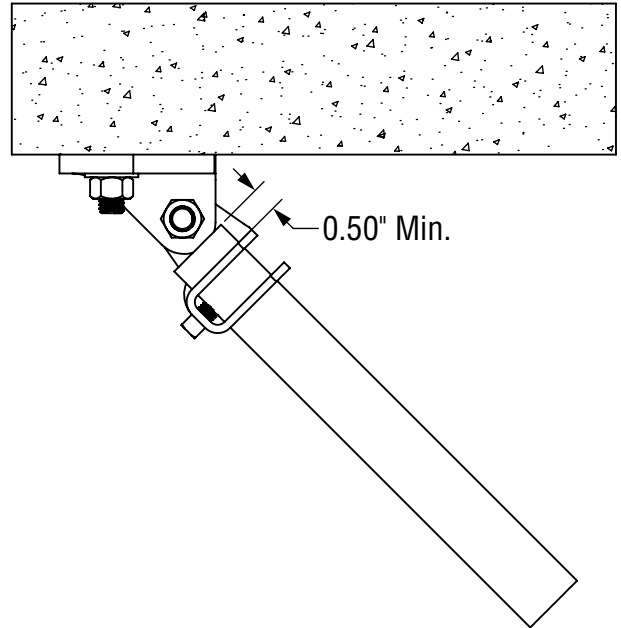


FIG. AF077 HORIZONTAL PRYING FACTORS (Pr) PER NFPA: ANGLES (DEG)									
Brace Orientation*	A	B	C	D	E	F	G	H	I
Brace Angle**	30-44	45-59	60-90	30-44	45-59	60-90	30-44	45-59	60-90
Prying Factor (Pr)	3.724	2.150	1.375	2.150	2.150	2.250	2.750	1.945	1.588

* Brace Orientation per NFPA 13-2016 Figure 9.3.5.12.1.

** Brace Pipe Angles are determined from vertical.

Fig. AF085 (Formerly Afcon Fig. 085)

Joist Adapter

Size Range: Joist Gap: 1/2" through 1 1/4"

Material: Carbon Steel

Finish: Plain or Electro-Galvanized per ASTM B633

Service: A seismic structural attachment designed to attach to steel joists. The joist adapter rigidly braces piping systems subjected to horizontal seismic loads.

Approvals: cULus Listed (UL 203a). Complies with the hanging and bracing requirements listed in NFPA 13. Additionally, cULus Listed (UL 203) as a hanger for up to 8" pipe.

Features: Center loads the steel joist.

Installation Instructions:

- Thread 1/2"-13 Rod through the tapped hole in the top plate of the joist adapter.
- Center the top plate and rod over the gap of the steel joist
- Center the bottom bracket between the vertical flanges and allow the rod to pass through the 1/2" thru hole.
- Mount the Fig. AF075, AF076, or AF077 on the underside of the bottom bracket.
- Install the 1/2"-13 standard hex nut on the exposed rod. The hex nut shall be torqued to 40ft*lbs.
- Installation angle determined by the brace angle of the brace pipe and the AF075, AF076, or AF077.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Ordering: Specify figure number, finish, and description.

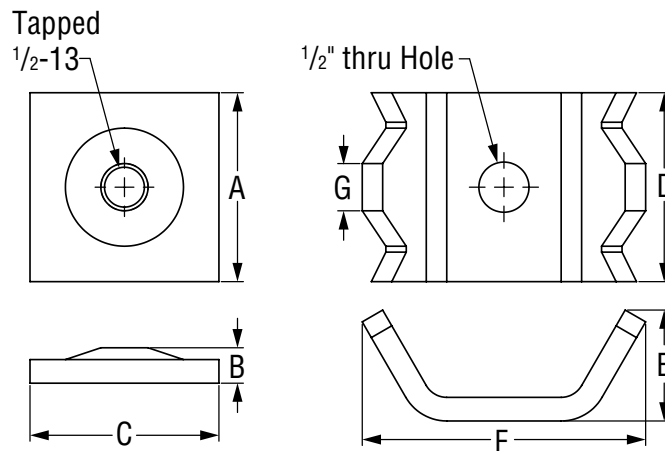
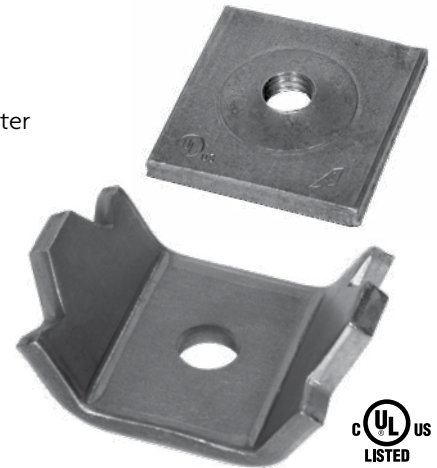


FIG. AF085: DIMENSIONS (IN) • WEIGHT (LBS)

A	B	C	D	E	F	G	Weight
2	3/8	2	2	1 3/16	3	1/2	0.72

Notes: Anvil International® brand bracing components are designed to be compatible ONLY with other Anvil International® brand bracing components, resulting in a Listed seismic bracing assembly. Updated UL listing information may be viewed at www.ul.com

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Fig. AF085 (Formerly Afcon Fig. 085)

Joist Adapter (cont.)

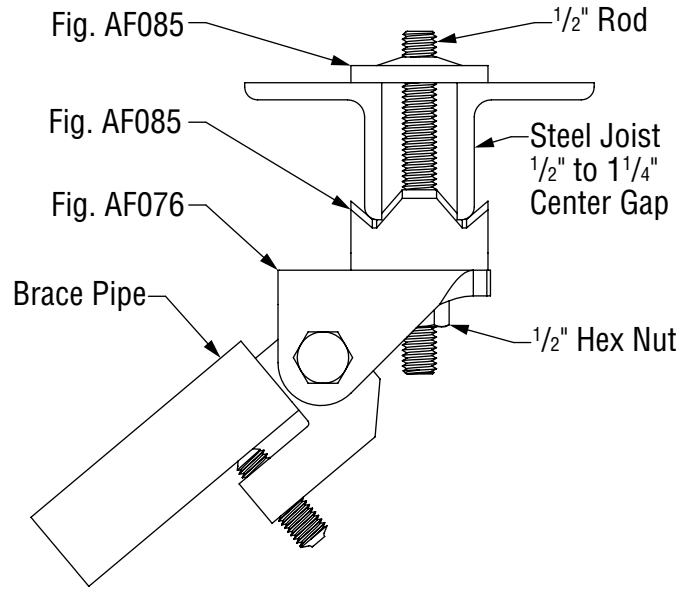
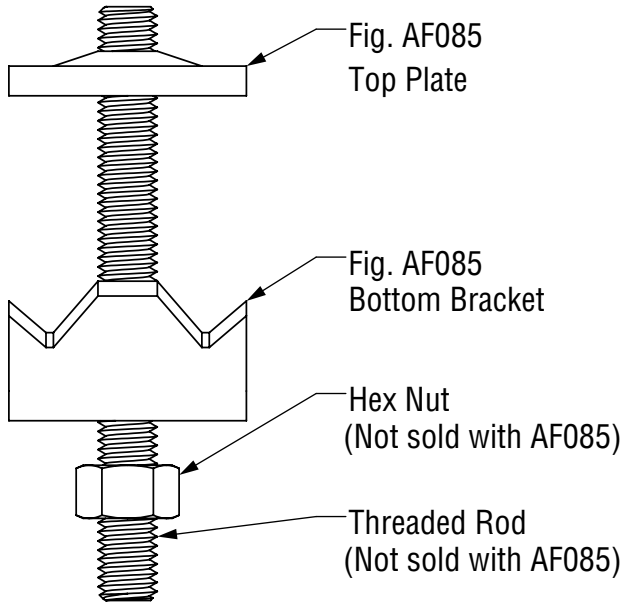


FIG. AF085 cULus MAX SEISMIC HORIZONTAL LOADS: DIMENSIONS (IN) • LOADS (LBS)

Structure	Seismic Load Orientation	Max Seismic Brace Load	Max Service Pipe Size
Steel Joist	Parallel to Joist	2015	8
	Perpendicular to Joist		

Fig. AF086 (Formerly Afcon Fig. 086) Adjustable Structural Brace Attachment

Size Range: Fits flange thickness from 1/4" to 1 1/4" (UL and FM)

Material: Carbon Steel

Finish: Plain or Electro-Galvanized per ASTM B633

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

Approvals: cULus Listed (UL 203a) and FM Approved (FM 1950-10 & FM 1950-13). Complies with the hanging and bracing requirements listed in NFPA 13. Additionally, cULus Listed (UL 203) as a hanger for up to 8" pipe.

Features: Shear off nuts provide a visual indication that the desired torque value has been achieved.

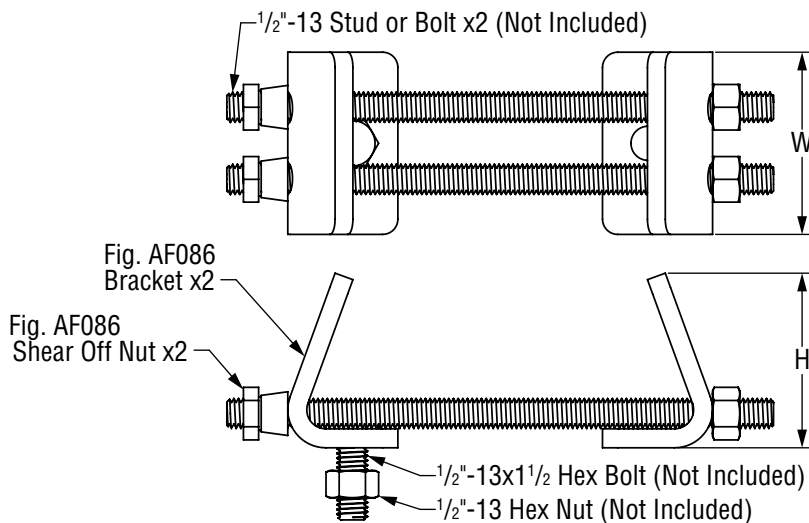
Installation Instructions:

- Insert one 1/2" x 1 1/2" hex bolt through the mounting hole of one bracket.
- Place both brackets on a horizontal steel flange.
- Install two 1/2"-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.
- Torque shear off nuts evenly and equally until the heads shear off.
- Install the 1/2" x 1 1/2" mounting bolt through the 1/2" AF075, AF076, or AF077 mounting hole. The mounting bolt shall be installed wrench tight (typically finger tight plus 1/4 to 1/2 turns).
- Installation angle determined by the brace angle of the brace pipe and the AF075, AF076, or AF077.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Patent: No. 6,334,285

Ordering: Specify figure number, finish and description.

Note: Only sold with brackets and shear off nuts. 1/2" x 1 1/2" hex bolt and 1/2"-13 studs or bolts not included.



Notes: Anvil International® brand bracing components are designed to be compatible ONLY with other Anvil International® 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.

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FIG. AF086: DIMENSIONS (IN) • WEIGHT (LBS)

Mounting Bolt	Mounting Slots	H	W	Weight
1/2	1/2	2 3/4	3	2.25

Fig. AF086 (Formerly Afcon Fig. 086)

Adjustable Structural Brace Attachment (cont.)

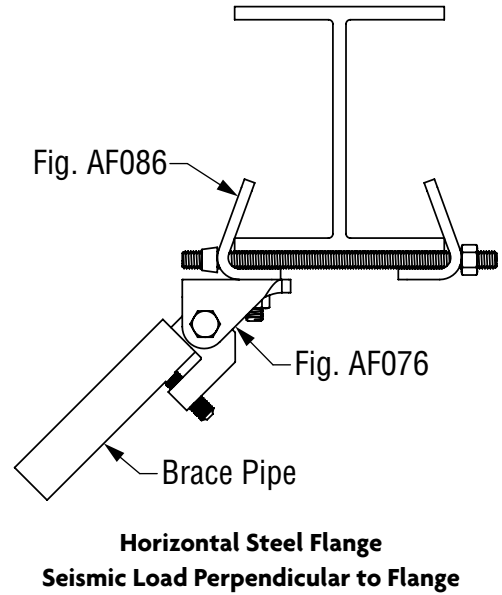
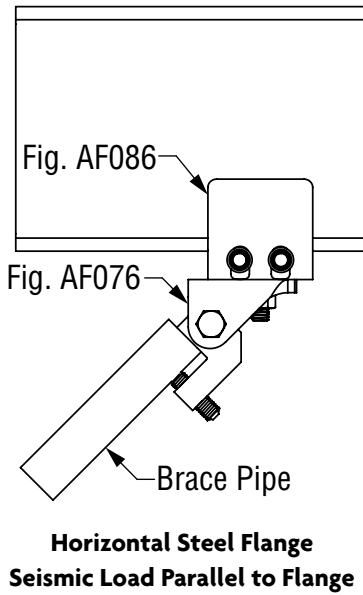


FIG. AF086 cULus MAX SEISMIC HORIZONTAL LOADS: DIMENSIONS (IN) • LOADS (LBS)				
Structure	Seismic Load Orientation	Max Flange Thickness	Max Seismic Brace Load	Max Service Pipe Size
Horizontal Steel Flange	Parallel to Flange	1 1/4	1265	4
	Perpendicular to Flange		2015	8

FIG. AF086 FM MAX SEISMIC HORIZONTAL ASD LOADS**: DIMENSIONS (IN) • LOADS (LBS) • ANGLES (DEG)						
Structure	Seismic Load Orientation	Flange Thickness	Max Seismic Brace Load at Brace Pipe Angle*			
			30-44	45-59	60-74	75-90
Horizontal Steel Flange	Parallel to Flange	1/4 - 1 1/4	1270	890	1070	1190
	Perpendicular to Flange		1180	1630	1990	2220

* Brace Pipe Angles are determined from vertical.

**The allowable FM approved capacity of brace subassemblies are listed in Allowable Stress Design (ASD). For Load Resistance Factor Design (LRFD) capacities, the above values will need to be multiplied by 1.5.

Fig. AF087 (Formerly Afcon Fig. 087)

Structural Brace Attachment

Size Range: Flange Thickness: Up to 1/2" thick (UL), Up to 3/8" thick (FM)

Material: Ductile Iron with Carbon Steel Hardware

Finish: Plain or Electro-Galvanized per ASTM B633

Service: A seismic structural attachment designed to attach to steel I-beams, flanges, and joists. The Structural Brace Attachment rigidly braces piping systems subjected to horizontal seismic loads.

Approvals: cULus Listed (UL 203a) and FM Approved (FM 1950-10 & FM 1950-13).

Complies with the hanging and bracing requirements listed in NFPA 13.

Features: Shear off bolt provides a visual indication that the desired torque value has been achieved.

Installation Instructions:

- Place structural brace attachment on a horizontal or vertical steel flange.
- Torque shear off bolts evenly and equally until the head shears off.
- Install the 1/2" mounting bolt through the 1/2" AF075, AF076, or AF077 mounting hole. The mounting bolt shall be installed wrench tight (typically finger tight plus 1/4 to 1/2 turns).
- Installation angle determined by the brace angle of the brace pipe and the AF075, AF076, or AF077.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Patent: No. 6,629,678

Ordering: Specify figure number, finish and description.

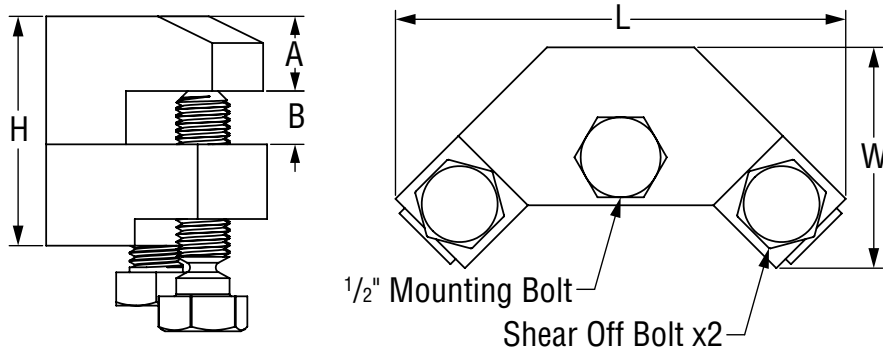
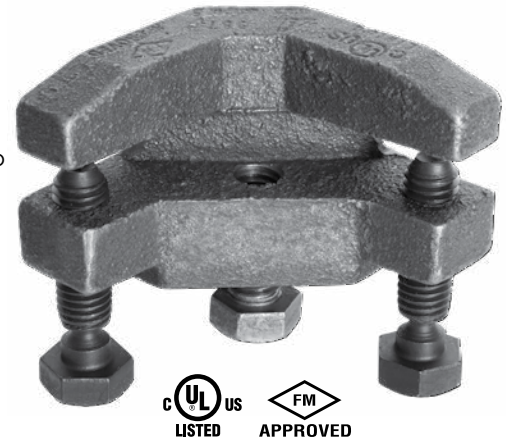


FIG. AF087: DIMENSIONS (IN) • WEIGHT (LBS)

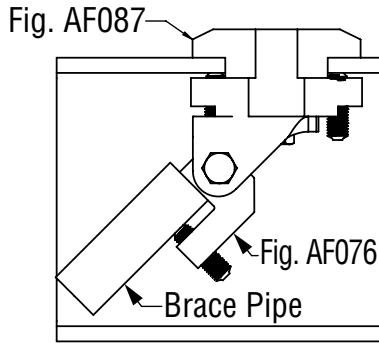
Mounting Bolt	L	W	H	A	B	Weight
1/2	4 1/4	2	2 1/8	3/4	1/2	2.00

Notes: Anvil International® brand bracing components are designed to be compatible ONLY with other Anvil International® 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.

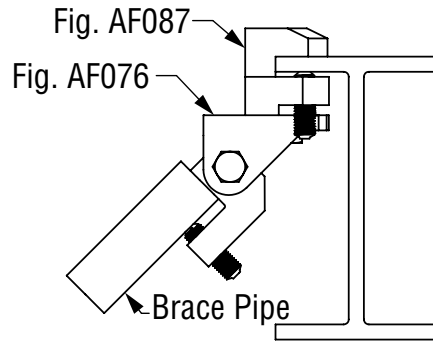
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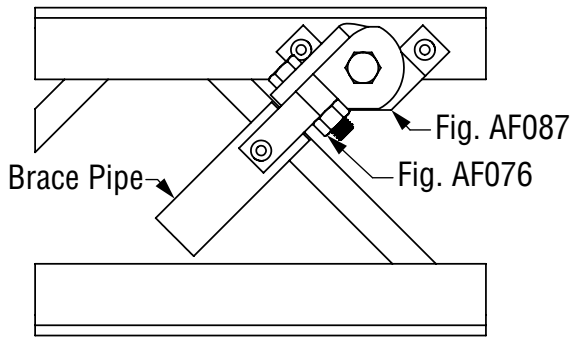
Fig. AF087 (Formerly Afcon Fig. 087) Structural Brace Attachment (cont.)



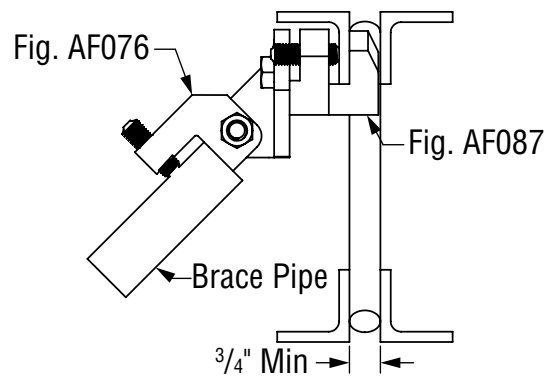
**Horizontal Steel Flange
Seismic Load Parallel to Flange**



**Horizontal Steel Flange
Seismic Load Perpendicular to Flange**



**Vertical Steel Flange
Seismic Load Parallel to Flange**



**Vertical Steel Flange
Seismic Load Perpendicular to Flange**

FIG. AF087 cULus MAX SEISMIC HORIZONTAL LOADS: DIMENSIONS (IN) • LOADS (LBS)

Structure	Seismic Load Orientation	Max Flange Thickness	Max Seismic Brace Load	Max Service Pipe Size
Horizontal Steel Flange and Vertical Steel Flange	Parallel to Flange	1/2	1400	4
	Perpendicular to Flange			

FIG. AF087 FM MAX SEISMIC HORIZONTAL ASD LOADS**: DIMENSIONS (IN) • LOADS (LBS) • ANGLES (DEG)

Structure	Seismic Load Orientation	Min Flange Thickness	Max Seismic Brace Load at Brace Pipe Angle*			
			30-44	45-59	60-74	75-90
Vertical Steel Flange	Parallel to Flange	3/8	1270	1740	2140	2380
	Perpendicular to Flange		1150	1630	3230	3610

* Brace Pipe Angles are determined from vertical.

**The allowable FM approved capacity of brace subassemblies are listed in Allowable Stress Design (ASD). For Load Resistance Factor Design (LRFD) capacities, the above values will need to be multiplied by 1.5.

Fig. AF411 (Formerly Afcon Fig. 411)
Fig. AF074 (Formerly Afcon Fig. 074)
Fig. AF078 (Formerly Afcon Fig. 078)

Longitudinal Seismic Clamp
Brace Attachment Fitting
Brace Attachment Fitting

Size Range: Service Pipe: 1" through 8" Carbon Steel
 Brace Pipe: 1" through 2" Sch. 40

Material: Carbon Steel (AF074 Only: Ductile Iron Brace Socket)

Finish: Plain or Electro-Galvanized per ASTM B633

Service: Designed to rigidly brace piping systems subjected to longitudinal seismic loads. The Fig. AF411 may be installed with Fig. AF074 or AF078 Brace Attachment Fittings.

Approvals: cULus Listed (UL 203a) and FM Approved (FM 1950-10 & FM 1950-13). Complies with the hanging and bracing requirements listed in NFPA 13.

Features: Visual indication of assembly when the clamp ears make metal-to-metal contact.

Installation Instructions:

- Mount the Fig. AF074 or AF078 on the outside of the outside of the Fig. AF411 clamps ears.
- Position the clamp at the desired location on the service pipe and hand tighten the hex bolts.
- Insert brace pipe into the AF074 or AF078 socket and torque the set screw until the head bottoms out on the AF074 or AF078. Brace pipe must extend 1/2" past the end of the brace socket.
- Ensure the brace pipe is set to the desired installation brace angle.
- Tighten the clamp bolts and nuts equally and alternately until metal-to-metal contact is achieved and the nuts are wrench tight.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Ordering: AF411: Specify service pipe size, figure number, finish, and description.

AF074 & AF078: Specify brace pipe size, figure number, finish, and description.

AF411, AF074, & AF078 all sold separately.

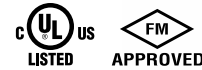


Fig. AF411

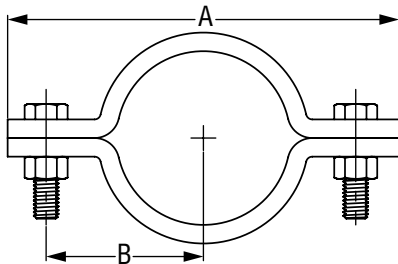


Fig. AF074



Fig. AF078

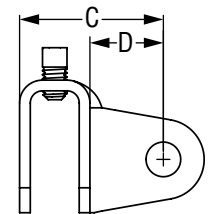
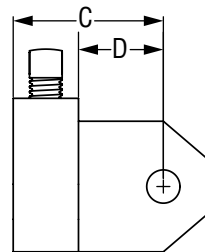


FIG. AF411: DIMENSIONS (IN) • WEIGHT (LBS)			
Service Pipe Size	A	B	Weight
1	5 ⁵ / ₈	2 ¹ / ₈	1.75
1 ¹ / ₄	6	2 ¹ / ₄	1.90
1 ¹ / ₂	6 ¹ / ₂	2 ¹ / ₄	2.00
2	6 ³ / ₄	2 ¹ / ₂	2.15
2 ¹ / ₂	7 ⁵ / ₈	2 ³ / ₈	2.40
3	7 ⁷ / ₈	3 ¹ / ₈	2.60
4	9	3 ³ / ₈	3.10
6	11 ¹ / ₂	4 ⁷ / ₈	4.50
8	13 ¹ / ₂	5 ⁵ / ₈	5.50

FIG. AF074 & AF078: DIMENSIONS (IN) • WEIGHT (LBS)						
Brace Pipe	AF074			AF078		
	C	D	Weight	C	D	Weight
1	2 ³ / ₁₆	1 ¹ / ₁₆	0.97	2 ⁵ / ₁₆	1 ¹ / ₈	0.38
1 ¹ / ₄			1.07			0.54
1 ¹ / ₂			1.17			
2			1.31			

Notes: Anvil International® brand bracing components are designed to be compatible ONLY with other Anvil International® 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.

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Fig. AF411 (Formerly Afcon Fig. 411)
Fig. AF074 (Formerly Afcon Fig. 074)
Fig. AF078 (Formerly Afcon Fig. 078)

Longitudinal Seismic Clamp
Brace Attachment Fitting
Brace Attachment Fitting

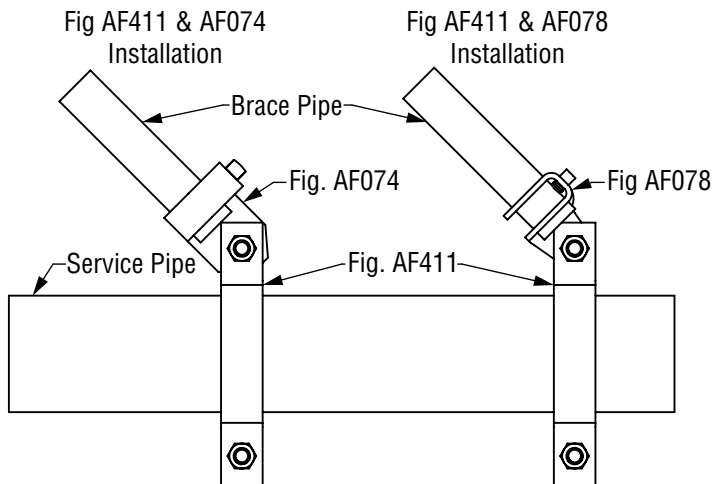


FIG. AF411 cULus MAX SEISMIC LONGITUDINAL LOADS: DIMENSIONS (IN) • LOADS (LBS)				
Service Pipe size	Brace Attachment Fitting	Brace Pipe Size	Max Seismic Brace Load	
			Sch. 10	Sch. 40
1	AF074	1 – 2	—	2015
	AF078	1 – 1¼	—	1000
1¼ – 4	AF074	1 – 2	2015	2015
	AF078	1 – 1¼	1000	1000
6 – 8	AF074	1 – 2	2015	2015

FIG. AF411 FM MAX SEISMIC LONGITUDINAL ASD LOADS*: DIMENSIONS (IN) • LOADS (LBS) • ANGLES (DEG)**

Service Pipe Size	Pipe Schedules	Brace Attachment Fitting	Brace Pipe Size	Max Seismic Brace Load at Brace Pipe Angle**			
				30-44	45-59	60-74	75-90
1 – 1½	Sch. 10 – Sch. 40	AF074	1 – 2	1070	420	510	570
		AF078	1 – 1¼	430	420	510	570
2	LW – Sch. 40	AF074	1 – 2	1410	1900	1730	1930
		AF078	1 – 1¼	430	620	760	840
2½ – 3	LW – Sch. 40	AF074	1 – 2	1000	860	1030	1150
		AF078	1 – 1¼	430	620	760	840
4	LW	AF074	1 – 2	1000	860	1030	1150
		AF078	1 – 1¼	430	620	760	840
	Sch. 10 – Sch. 40	AF074	1 – 2	1000	950	1150	1280
		AF078	1 – 1¼	430	620	760	840
6	LW – Sch. 40	AF074	1 – 2	1410	2000	2450	2740
		AF078	1 – 1¼	430	620	760	840
8	Sch. 10 – Sch. 40	AF074	1 – 2	1410	1250	1510	1690
		AF078	1 – 1¼	430	620	760	840

* Load rating for LW above refers to FM Approved Lightwall pipe, commonly referred to as Sch.7 and Flow Pipe. See FM Approval Guide for approved Lightwall pipe.

** Brace Pipe Angles are determined from vertical.

*** The allowable FM approved capacity of brace subassemblies are listed in Allowable Stress Design (ASD). For Load Resistance Factor Design (LRFD) capacities, the above values will need to be multiplied by 1.5.

Fig. AF771 (Formerly Anvil Fig. 771) Sway Brace Swivel Attachment

Size Range: Brace Pipe: 1", 1¼", DN25 and DN32

Anchor Size: ½" through ¾"

Material: Ductile Iron with Carbon Steel Hardware

Finish: Plain or Electro-Galvanized per ASTM B633

Service: A seismic swivel attachment designed to connect brace pipe to the building structure or to a seismic structural attachment. The Sway Brace Swivel Attachment rigidly braces piping systems subjected to horizontal seismic loads. The Sway Brace Swivel Attachment may also be installed to rigidly brace piping systems subjected to vertical seismic loads. For vertical load capacities, reference OSHPD OPM-0351-13.

Approvals: cULus Listed (UL 203a) and FM Approved (FM 1950-10 & FM 1950-13). OSHPD Pre-Approved (OPM-0351-13 and OPA-2804-10). Complies with the hanging and bracing requirements listed in NFPA 13.



os hpd
OPM-0351-13



Features:

- Field adjustable design requires no threading of the brace pipe
- Shear off bolt provides a visual indication that the desired torque value has been achieved
- True concentric loading of the brace pipe

Installation Instructions:

- Insert anchor through the mounting hole and into the structure or seismic structural attachment.
- For connection to Fig. AF772, AF778, and AF779 seismic structural attachments, the bolt and nuts shall be installed wrench tight (typically finger tight plus ¼ to ½ turns).
- For connection to concrete, wood, timber, steel, and other structures, install fasteners per the fastener manufacturer's installation instructions.
- Insert Sch. 40 brace pipe into the brace socket until the brace pipe bottoms out.
- Torque shear off bolt until head shears off.
- Check the cross bolt and nut and ensure the nut is wrench tight.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Ordering: Specify brace pipe size, fastener size, figure number, finish and description.

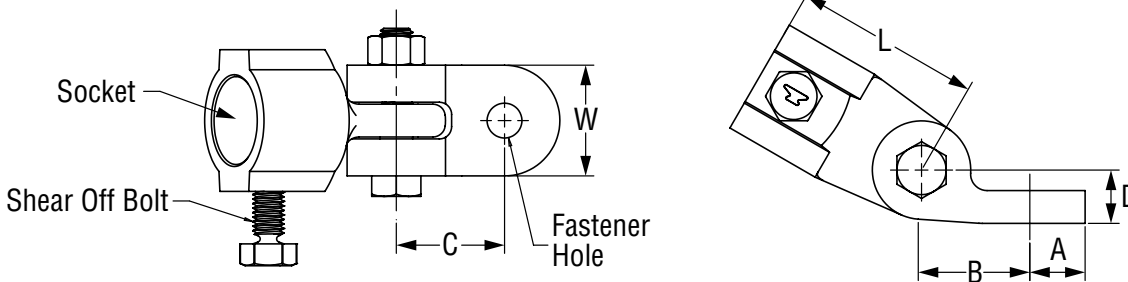


FIG. AF771: DIMENSIONS (IN) • WEIGHT (LBS)

Brace Pipe Size	Fastener Size	A	B	C	D	W	L	Socket Depth	Weight
1 (DN25)	½ - ¾	0.84	1.65	1.65	0.81	1 ¹¹ / ₁₆	2 ⁷ / ₈	1 ³ / ₈	1.95
1¼ (DN32)							3		2.28

Notes: Anvil International® brand bracing components are designed to be compatible ONLY with other Anvil International® 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.

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

Fig. AF771 (Formerly Anvil Fig. 771) Sway Brace Swivel Attachment (cont.)

FIG. AF771 cULus MAX SEISMIC HORIZONTAL LOADS: DIMENSIONS (IN) • LOADS (LBS)			
Brace Pipe Size	Fastener Size	Max Seismic Brace Load	Max Service Pipe Size
1 - 1 ¹ / ₄ (DN25 - DN32)	1/2	3740	12
	5/8		
	3/4		

NPS Brace Pipe Dimensions per ASTM A53 Sch. 40, ASTM A106 Sch. 40, or equivalent.
DN Brace Pipe Dimensions per KS D 3562 Sch. 40 or equivalent.

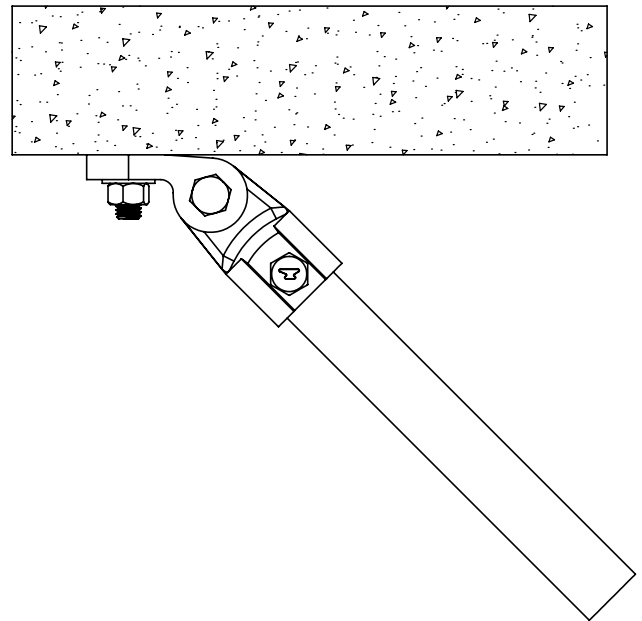


FIG. AF771 FM MAX SEISMIC HORIZONTAL ASD LOADS**: DIMENSIONS (IN) • LOADS (LBS)					
Brace Pipe Size	Fastener Size	Max Seismic Brace Load at Brace Pipe Angle*			
		30-44	45-59	60-74	75-90
1 - 1 ¹ / ₄ (DN-25 - DN32)	1/2	1820	2540	3110	3470
	5/8	1520	2150	2630	2930
	3/4				

NPS Brace Pipe Dimensions per ASTM A53 Sch. 40, ASTM A106 Sch. 40, or equivalent.
DN Brace Pipe Dimensions per GB/T 3091, EN10255H, JIS G3454 Sch. 40, KS D 3562 Sch. 40, or equivalent.

* Brace Pipe Angles are determined from vertical.

**The allowable FM approved capacity of brace subassemblies are listed in Allowable Stress Design (ASD). For Load Resistance Factor Design (LRFD) capacities, the above values will need to be multiplied by 1.5.

FIG. AF771 HORIZONTAL PRYING FACTORS (Pr) PER NFPA: ANGLES (DEG)									
Brace 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
Prying Factor (Pr)	4.171	2.000	0.965	1.966	2.385	2.965	1.929	1.364	1.114

* Brace Orientation per NFPA 13-2016 Figure 9.3.5.12.1.

** Brace Pipe Angles are determined from vertical.

Fig. AF772 (Formerly Anvil Fig. 772) Adjustable Steel Beam Attachment

Size Range: Beam Widths: 4" through 15"
Flange Thickness: $\frac{3}{8}$ " through $1\frac{1}{4}$ "

Material: Carbon steel

Finish: Plain or Electro-Galvanized per ASTM B633

Service: Designed to rigidly brace piping systems subjected to horizontal seismic loads. May also be installed to brace piping systems subjected to vertical seismic loads. For vertical load capacities, reference OSHPD OPM-0351-13.

Approvals: cULus Listed (UL 203a) and FM Approved (FM 1950-10 & FM 1950-13). OSHPD Pre-Approved (OPM-0351-13 and OPA-2804-10). Complies with the hanging and bracing requirements listed in NFPA 13.

Features:

- Field adjustable to fit a wide range of beams.
- Centers the Fig. AF771 below the beam.

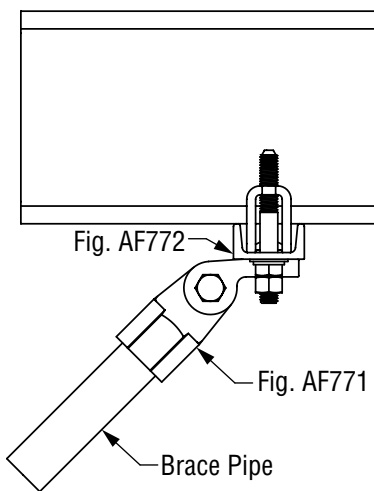
Installation Instructions:

- Move both c-clamps until they reach the outside of the slots.
- Place the adjustable steel beam attachment on the underside of the beam and adjust the c-clamps until they contact the outside edges of the beam flange. Hand tighten the c-clamp bolts.
- Torque each shear off set screw until the head shears off.
- Torque each c-clamp bolt to 55ft-lbs to secure the channel to the underside of the beam.
- Install the Fig. AF771 to the center mounting bolt. Installation angle determined by the brace angle of the AF771 and brace pipe.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

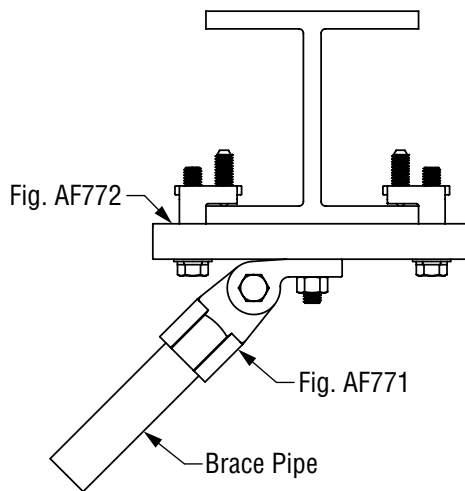
Ordering: Specify type, length, figure number, finish and description.



os hpd
OPM-0351-13



**Horizontal Steel Flange (I-Beam)
Seismic Load Parallel to Flange**



**Horizontal Steel Flange (I-Beam)
Seismic Load Perpendicular to Flange**

Notes: Anvil International® brand bracing components are designed to be compatible ONLY with other Anvil International® 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.

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Fig. AF772 (Formerly Anvil Fig. 772) Adjustable Steel Beam Attachment (cont.)

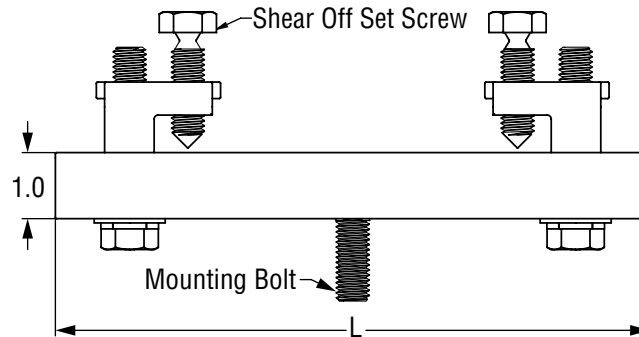


FIG. AF772 cULus MAX SEISMIC LATERAL LOADS***: DIMENSIONS (IN) • LOADS (LBS)						
Type	Length (L)	Beam Width	Flange Thickness	Seismic Load Orientation	Max Seismic Brace Load	Max Service Pipe Size
A	9	4 - 7	$1/2 - 3/4$	Parallel to Flange	1000	4
				Perpendicular to Flange	1600	6
	12	7 - 10		Parallel to Flange	1000	4
				Perpendicular to Flange	1600	6
	14	9 - 12		Parallel to Flange	1000	4
				Perpendicular to Flange	1600	6
B	9	4 - 7	$3/4 - 1 1/4$	Parallel to Flange	1000	4
				Perpendicular to Flange		
	12	7 - 10		Parallel to Flange		
				Perpendicular to Flange		
	14	9 - 12		Parallel to Flange		
				Perpendicular to Flange		
	17	12 - 14		Parallel to Flange		
				Perpendicular to Flange		

FIG. AF772 FM MAX SEISMIC LATERAL ASD LOADS***: DIMENSIONS (IN) • LOADS (LBS) • ANGLES (DEG)								
Type	Length (L)	Beam Width	Flange Thickness	Seismic Load Orientation	Max Seismic Brace Load at Brace Pipe Angle**			
					30-40	45-59	60-74	75-90
A	9	4 - 7	$3/8 - 3/4$	Parallel to Flange	470	480	580	640
				Perpendicular to Flange	540	710	880	980
	12	7 - 10		Parallel to Flange	470	480	580	640
				Perpendicular to Flange	540	710	880	980
	14	9 - 12		Parallel to Flange	470	480	580	640
				Perpendicular to Flange	540	710	880	980
B	9	4 - 7	$3/4 - 1 1/4$	Parallel to Flange	470	480	580	640
				Perpendicular to Flange	540	710	880	980
	12	7 - 10		Parallel to Flange	330	640	790	880
				Perpendicular to Flange	470	740	910	1010
	14	9 - 12		Parallel to Flange	330	640	790	880
				Perpendicular to Flange	470	740	910	1010
	17	12 - 14		Parallel to Flange	330	640	790	880
				Perpendicular to Flange	470	740	910	1010

* Load rating for LW above refers to FM Approved lightwall pipe, commonly referred to as Sch.7 and Flow Pipe. See FM Approval Guide for approved lightwall pipe.

** Brace Pipe Angles are determined from vertical.

*** The allowable FM approved capacity of brace subassemblies are listed in Allowable Stress Design (ASD). For Load Resistance Factor Design (LRFD) capacities, the above values will need to be multiplied by 1.5.

Fig. AF772 (Formerly Anvil Fig. 772) Adjustable Steel Beam Attachment (cont.)

FIG. AF772 I-BEAM SIZE CHART: DIMENSIONS (IN)							
Type	A				B		
Length (L)	9"	12"	14"	17"	12"	14"	17"
Beam Width	4"-7"	7"-10"	9"-12"	12"-15"	7"-10"	9"-12"	12"-15"
Beam Size	W4x13	W8x35	W10x49	W12x65	W8x67	W10x77	W12x96
	W5x16	W8x40	W10x54	W12x72	W21x93	W10x88	W12x106
	W6x16	W8x48	W10x60	W12x79	W24x94	W10x100	W12x120
	W6x20	W10x39	W10x68	W14x90		W10x112	W12x136
	W8x21	W10x45	W12x58	W14x99		W14x82	W14x109
	W8x24	W10x49	W12x65	W24x104		W16x89	W14x120
	W10x22	W12x40	W14x61			W16x100	W14x132
	W10x30	W12x45	W14x68			W18x97	W21x111
	W12x26	W12x50	W16x67			W18x106	W21x122
	W12x35	W12x53	W16x77			W18x119	W21x132
	W14x30	W12x58	W18x76			W24x94	W21x147
	W14x38	W14x43	W18x86			W27x94	W24x117
	W16x26	W14x48	W24x84			W27x114	W24x131
	W16x40	W14x53	W27x84				W24x146
	W18x40	W14x61	W27x102				W24x162
	W18x46	W14x68					W27x146
	W21x50	W16x45					W27x161
	W21x57	W16x50					W27x178
		W16x57					
		W18x50					
		W18x55					
		W18x60					
		W18x65					
		W21x62					
		W21x68					
		W21x73					
		W24x68					
		W24x76					
	W27x84						
	W27x94						

Fig. AF775 (Formerly Anvil Fig. 775) Longitudinal & Lateral Seismic Clamp

Size Range: Service Pipe: 2½” through 8”, DN65 through DN200
 Brace Pipe: 1”, 1¼”, DN25, & DN32

Material: Carbon Steel Clamp and Ductile Iron Brace Socket

Finish: Plain or Galvanized (Brace Socket Electro-Galvanized per ASTM B633 and Clamps Hot-Dip Galvanized per ASTM A153)

Service: Designed to rigidly brace piping systems subjected to longitudinal and lateral seismic loads. May also be installed to brace piping systems subjected to vertical seismic loads. For vertical load capacities, reference OSHPD OPM-0351-13.

Approvals: cULus Listed (UL 203a) and FM Approved (FM 1950-10 & FM 1950-13). OSHPD Pre-Approved (OPM-0351-13 and OPA-2804-10). Complies with the hanging and bracing requirements listed in NFPA 13.

Features: For use in either longitudinal or lateral seismic brace applications.

Installation Instructions:

- Position the clamp at the desired location on the service pipe and hand tighten the hex bolts. Ensure the spacer and the brace socket attachment are positioned on the bolt between the pipe clamps ears.
- Insert brace pipe into the socket until the brace pipe bottoms out.
- Torque shear off bolt until the bolt head breaks off.
- Ensure the brace pipe is set to the desired installation brace angle.
- Tighten the clamp bolts and nuts equally and alternately until metal to metal contact is achieved with the proper torque value.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Ordering: Specify service pipe size, brace pipe size, figure number, finish and description.



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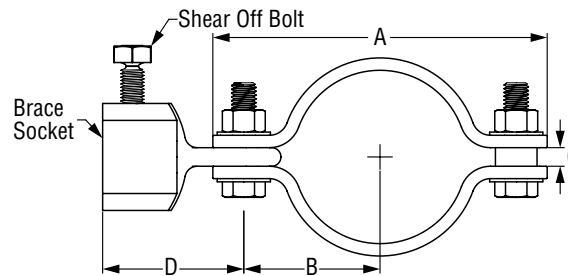


FIG. AF775: WEIGHT (LBS) • DIMENSIONS (IN) • WEIGHT (LBS) • TORQUE (FT-LBS)

Service Pipe Size	A	B	C	D 1" Brace	D 1¼" Brace	Socket Depth	1"/DN25 Brace Pipe Weight	1¼"/DN50 Brace Pipe Weight	Installation Torque
2½	6	2¾	¾	2⅞	3	1⅜	2.19	2.54	80
DN65	6⅛	2½					2.25	2.60	
3 (DN80)	6¾	2¾					2.36	2.71	
4 (DN100)	8½	3½					2.62	2.97	
DN125	9½	4	7/8	2⅞	3	1⅜	3.74	4.09	100
5	9½	4					3.74	4.09	
DN150	11¾	4⅞					6.32	6.67	
6	11½	4⅞					6.32	6.67	
DN200	13¾	6	7/8	2⅞	3	1⅜	7.42	7.77	140
8	13¾	6					7.42	7.77	

Notes: Anvil International® brand bracing components are designed to be compatible ONLY with other Anvil International® 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.

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Fig. AF775 (Formerly Anvil Fig. 775)

Longitudinal & Lateral Seismic Clamp (cont.)

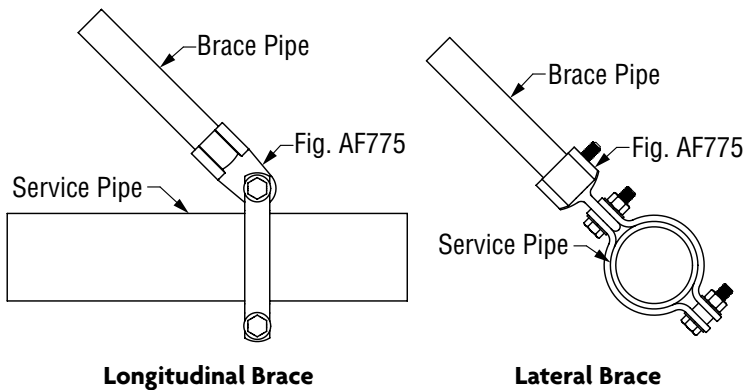


FIG. AF775 cULus MAX SEISMIC LATERAL LOADS: DIMENSIONS (IN) • LOADS (LBS)

Service Pipe Size	Brace Pipe Size	Max Seismic Brace Load	
		Sch. 10	Sch. 40
2½ – 4 (DN65 - DN100)	1 – 1¼ (DN25 - DN32)	1000	1000
5 – 6 (DN125 - DN150)		1600	1600
8 (DN200)		2015	2015

NPS Brace Pipe Dimensions per ASTM A53 Sch. 40, ASTM A106 Sch. 40, or equivalent.
 NPS Service Pipe Dimensions per ASTM A53, ASTM A106 or equivalent.
 DN Service Pipe Dimensions per KS D 3507/3537 or equivalent listed with Sch. 10 loads.
 DN Service Pipe Dimensions per KS D 3562 Sch. 40 or Equivalent listed with Sch. 40 loads.
 DN Brace Pipe Dimensions per KS D 3562 Sch. 40 or equivalent.

FIG. AF775 FM MAX SEISMIC LATERAL ASD LOADS***: DIMENSIONS (IN) • LOADS (LBS) • ANGLES (DEG)

Service Pipe Size	Pipe Schedules	Brace Pipe Size	Max Seismic Brace Load at Brace Pipe Angle**			
			30-44	45-59	60-74	75-90
2½	LW*	1 – 1¼ (DN25 - DN32)	1570	2220	1690	1870
DN65			1570	2220	1690	1870
3 (DN80)			1570	2220	1690	1870
4 (DN100)			1520	1060	910	1000
DN125			1570	2220	1690	1870
5			1570	2220	1690	1870
DN150			1570	2220	910	1040
6			1570	2220	910	1040
2½	Sch. 10 – Sch. 40		1370	2150	2390	2640
DN65			1370	2150	2390	2640
3 (DN80)			1370	2150	2390	2640
4 (DN100)			1280	1810	1680	1870
DN125			1370	2150	2390	2640
5			1370	2150	2390	2640
DN150			1520	2150	2570	2830
6			1520	2150	2570	2830
DN200		1570	2220	2720	3140	
8		1570	2220	2720	3140	

NPS Brace Pipe Dimensions per ASTM A53 Sch. 40, ASTM A106 Sch. 40, or equivalent.

NPS Service Pipe Dimensions per ASTM A53, ASTM A106 or equivalent.

DN Service Pipe Dimensions per EN 10220, GB/T 8163, or equivalent listed with LW loads.

DN Service Pipe Dimensions per GB/T 3091, GB/T 3092, EN10255M, EN10255H, KS D 3507/3537, or equivalent listed with Sch. 10 loads.

DN Service Pipe Dimensions per JIS G3452, KS D 3562 Sch. 40 or equivalent listed with Sch. 40 loads.

DN Brace Pipe Dimensions per GB/T 3091, EN10255H, JIS G3454 Sch. 40, KS D 3562 Sch. 40, or equivalent.

* Load rating for LW above refers to FM Approved Lightwall pipe, commonly referred to as Sch.7 and Flow Pipe. See FM Approval Guide for approved Lightwall pipe.

** Brace Pipe Angles are determined from vertical.

*** The allowable FM approved capacity of brace subassemblies are listed in Allowable Stress Design (ASD). For Load Resistance Factor Design (LRFD) capacities, the above values will need to be multiplied by 1.5.

Fig. AF776 (Formerly Anvil Fig. 776)

OSHPD Lateral Brace Clamp

Size Range: Service Pipe: 2½" through 8" Carbon Steel
Brace Pipe: 1" or 1¼" Sch. 40

Material: Carbon steel

Finish: Plain or Electro-Galvanized per ASTM B633

Service: Designed to rigidly brace piping systems subjected to lateral seismic loads. May also be installed to brace piping systems subjected to vertical seismic loads. For vertical load capacities, reference OSHPD OPM-0351-13.

Approvals: FM Approved (FM 1950-10 & FM 1950-13). OSHPD Pre-Approved (OPM-0351-13 and OPA-2804-10). Complies with the hanging and bracing requirements listed in NFPA 13.

Features: Visual indication of proper assembly when the head of the set screw bottoms out on the hoop ends.

Installation Instructions:

- Place the OSHPD Lateral Brace Clamp over the service pipe to be braced and slide the Sch. 40 brace pipe through the hoop ends. The end of the brace pipe must extend at least 1" past the hoop ends.
- Note: The brace pipe may be installed above or below the service pipe.
- Ensure brace pipe is set to the desired installation brace angle.
- Torque the set screws alternately and equally until the head of the set screw bottoms out on the hoop ends.
- For riser/4-way brace installations, two OSHPD Lateral Brace Clamps must be installed within 6" of each other.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Ordering: Specify service pipe size, brace pipe size, figure number, finish and description.

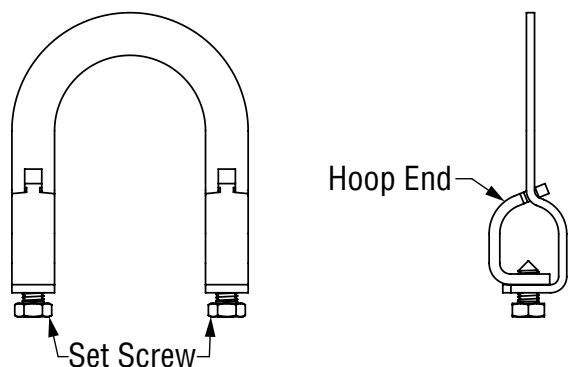


FIG. AF776: DIMENSIONS (IN) • WEIGHT (LBS)		
Service Pipe Size	Weight	
	1" Brace Pipe	1¼" Brace Pipe
2½	1.26	1.50
3	1.44	1.58
4	1.55	1.68
5	1.66	1.87
6	1.74	1.95
8	1.98	2.29

Notes: Anvil International® brand bracing components are designed to be compatible ONLY with other Anvil International® brand bracing components, resulting in a Listed seismic bracing assembly. Updated FM approval information may be viewed at www.approvalguide.com.

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Fig. AF776 (Formerly Anvil Fig. 776) OSHPD Lateral Brace Clamp (cont.)

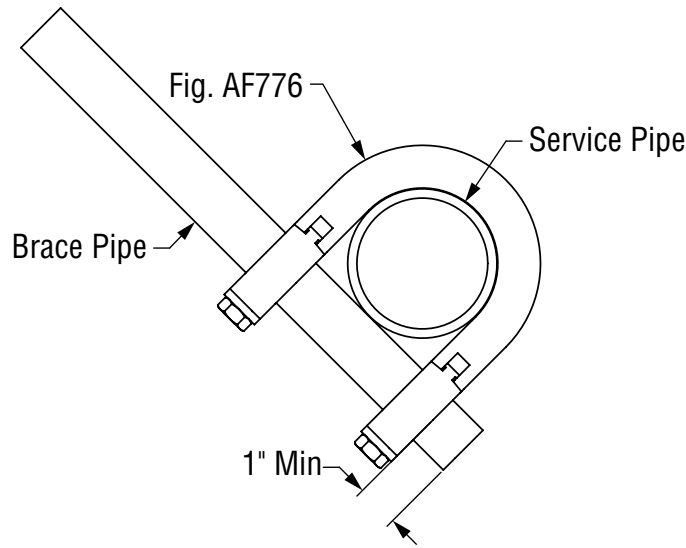


FIG. AF776 FM MAX SEISMIC LATERAL ASD LOADS*: DIMENSIONS (IN) • LOADS (LBS) • ANGLES (DEG)**

Service Pipe Size	Brace Pipe Size	Pipe Schedules	Max Seismic Brace Load at Brace Pipe Angle**			
			30-44	45-59	60-74	75-90
2½	1 – 1¼	LW*	600	850	1040	1160
		Sch. 10 – Sch. 40	620	880	1080	1200
3		LW*	520	740	910	1010
		Sch. 10 – Sch. 40	620	880	1080	1200
4		LW*	520	740	910	1010
		Sch. 10 – Sch. 40	690	980	1200	1340
5		LW*	520	740	910	1010
		Sch. 10 – Sch. 40	670	940	1160	1290
6	LW*	560	790	970	1080	
	Sch. 10 – Sch. 40	670	940	1160	1290	
8	Sch. 10 – Sch. 40	540	770	940	1050	

* Load rating for LW above refers to FM Approved Lightwall pipe, commonly referred to as Sch.7 and Flow Pipe. See FM Approval Guide for approved Lightwall pipe.

** Brace Pipe Angles are determined from vertical.

*** The allowable FM approved capacity of brace subassemblies are listed in Allowable Stress Design (ASD). For Load Resistance Factor Design (LRFD) capacities, the above values will need to be multiplied by 1.5.

Fig. AF778 (Formerly Anvil Fig. 778) Universal Structural Brace Attachment

Size Range: Flange Thickness: Up to $\frac{3}{4}$ " thick

Material: Ductile Iron with Carbon Steel Hardware

Finish: Plain or Zinc Plated

Service: A seismic structural attachment designed to attach to steel I-beams, flanges, and joists. The Universal Structural Brace Attachment rigidly braces piping systems subjected to horizontal seismic loads. The Universal Structural Brace Attachment may also be installed to rigidly brace piping systems subjected to vertical seismic loads. For vertical load capacities, reference OSHPD OPM-0351-13.

Approvals: cULus Listed (UL 203a) and FM Approved (FM 1950-10 & FM 1950-13). OSHPD Pre-Approved (OPM-0351-13 and OPA-2804-10). Complies with the hanging and bracing requirements listed in NFPA 13.

Features:

- Shear off bolt provides a visual indication that the desired torque value has been achieved
- May be installed anywhere a Fig 92 standard throat beam clamp may be installed.

Installation Instructions:

- Place Universal Structural Brace Attachment on a horizontal or vertical steel flange.
- Torque shear off bolts evenly and equally until the head shears off.
- Install the $\frac{1}{2}$ " mounting bolt through the $\frac{1}{2}$ " AF771 mounting hole. The mounting bolt shall be installed wrench tight (typically finger tight plus $\frac{1}{4}$ to $\frac{1}{2}$ turns).
- Installation angle determined by the brace angle of the AF771 and brace pipe.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Ordering: Specify figure number, finish, and description.

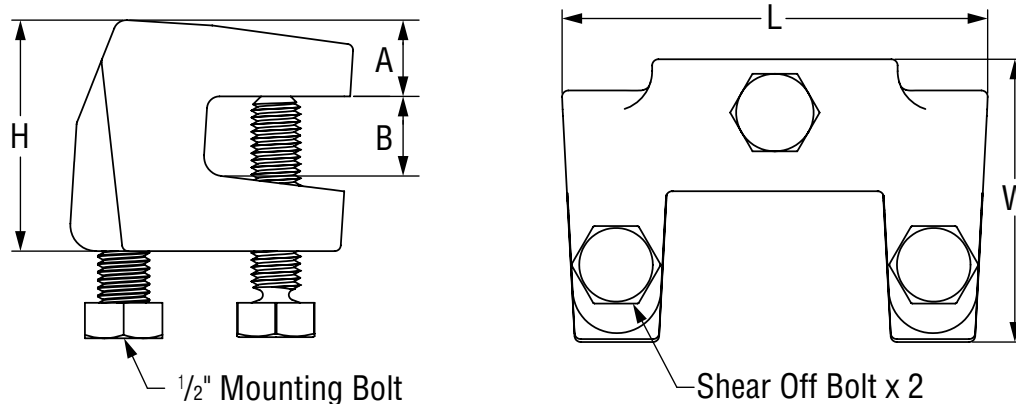
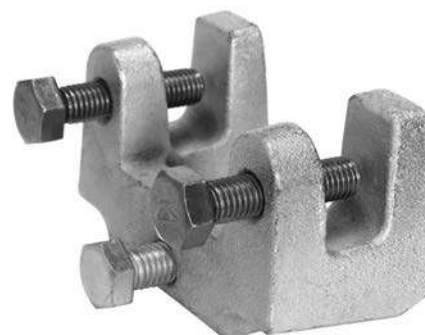


FIG. AF778: DIMENSIONS (IN) • WEIGHT (LBS)

Mounting Bolt	L	W	H	A	B	Weight
$\frac{1}{2}$	$4\frac{1}{8}$	$2\frac{3}{4}$	$2\frac{1}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	2.26

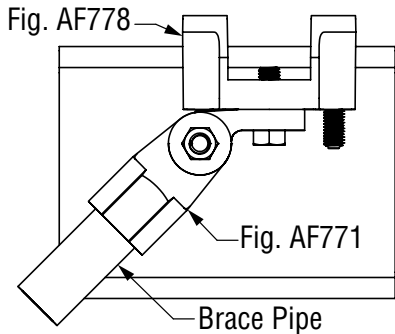
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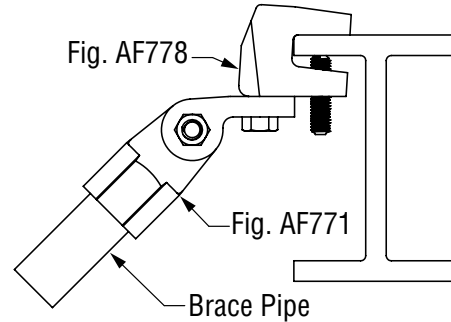
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Fig. AF778 (Formerly Anvil Fig. 778)

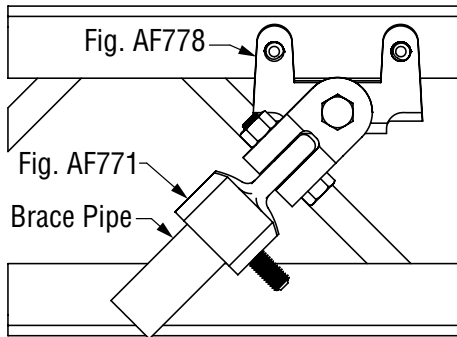
Universal Structural Brace Attachment (cont.)



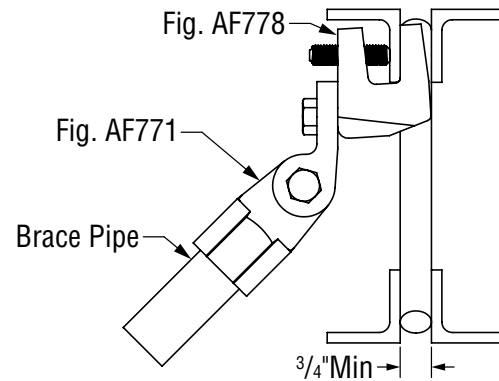
Horizontal Steel Flange
Seismic Load Parallel to Flange



Horizontal Steel Flange
Seismic Load Perpendicular to Flange



Vertical Steel Flange
Seismic Load Parallel to Flange



Vertical Steel Flange
Seismic Load Perpendicular to Flange

FIG. AF778 cULus MAX SEISMIC HORIZONTAL LOADS: DIMENSIONS (IN) • LOADS (LBS)

Structure	Seismic Load Orientation	Min Flange Thickness	Max Seismic Brace Load	Max Service Pipe Size
Horizontal Steel Flange and Vertical Steel Flange	Parallel to Flange	$\frac{3}{16}$	1000	4
	Perpendicular to Flange			
	Parallel to Flange	$\frac{1}{4}$	1600	6
	Perpendicular to Flange			
	Parallel to Flange	$\frac{1}{2}$	2015	8
	Perpendicular to Flange			

FIG. AF778 FM MAX SEISMIC HORIZONTAL ASD LOADS: DIMENSIONS (IN) • LOADS (LBS) • ANGLES (DEG)**

Structure	Seismic Load Orientation	Min Flange Thickness	Max Seismic Brace Load at Brace Pipe Angle*			
			30-44	45-59	60-74	75-90
Horizontal Steel Flange	Parallel to Flange	$\frac{1}{8}$	870	1440	1230	1360
	Perpendicular to Flange		1030	2260	2490	2750
Vertical Steel Flange	Parallel to Flange		1280	1840	2210	2470
	Perpendicular to Flange		1570	1490	1040	1150

* Brace Pipe Angles are determined from vertical.

**The allowable FM approved capacity of brace subassemblies are listed in Allowable Stress Design (ASD). For Load Resistance Factor Design (LRFD) capacities, the above values will need to be multiplied by 1.5.

Fig. AF779 (Formerly Anvil Fig. 779 & Afcon Fig. 080) Multi-Connector Adapter

Size Range: Service Line: Up to 12"
 Fasteners: 1/2" through 3/4"
 Mounting Hole: 3/8" and 1/2"

Material: Carbon steel

Finish: Plain or Electro-Galvanized per ASTM B633

Service: Used to rigidly brace and restrain piping systems subjected to seismic loads. The multi-connector adapter distributes the load into the structure through two fasteners, maximizing the load capacity of the brace or restraint. For rigid brace assemblies, the multi-connector adapter may be installed in combination with Anvil's Fig. AF771, AF075, AF076, and AF077. For restraint assemblies, the multi-connector adapter may be installed in combination with Anvil's Fig. AF777.

Approvals: cULus Listed (UL 203a). Complies with the hanging and bracing requirements listed in NFPA 13.

Installation Instructions:

- Install two fasteners through the fastener holes (H2). Install per the fastener manufacturer's installation instructions.
- Install seismic brace or restraint through mounting hole (H1).
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Ordering: Specify size, figure number, finish, and description.

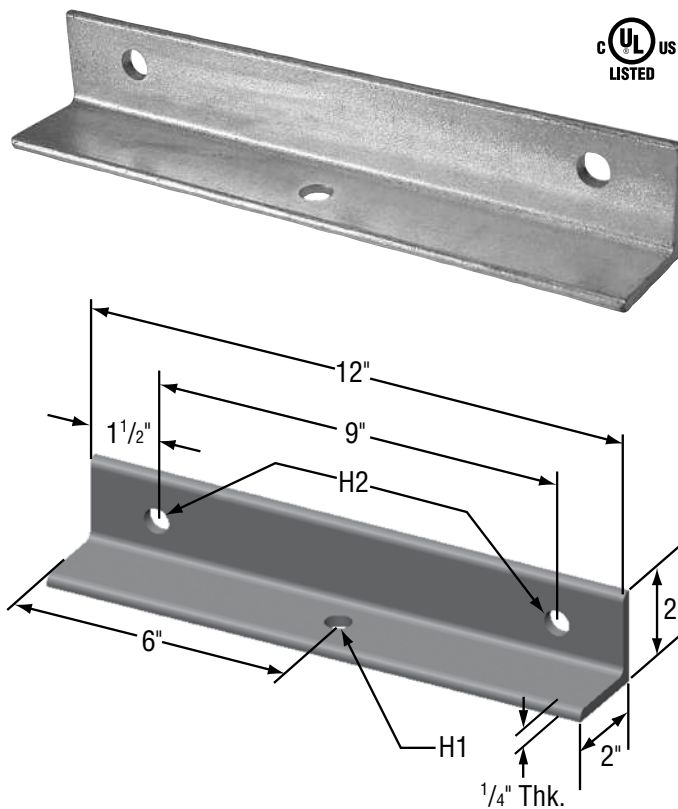


FIG. AF779 UL MAX LOAD: DIMENSIONS (IN) • LOADS (LBS)				
Size	UL Max Seismic Brace Load	UL Max Service Pipe Size Rigid Brace	UL Max Seismic Restraint Load	UL Max Service Pipe Size Restraint
1	3740	12	1000	2
2				
3				
4				

FIG. AF779: DIMENSIONS (IN) • WEIGHT (LBS)					
Size	Mounting Bolt Diameter	Fastener (2X) Diameter	H1 Diameter	H2 Diameter	Weight
1	3/8	1/2	7/16	9/16	3.06
2					3.06
3	1/2	5/8	9/16	11/16	3.04
4		3/4			13/16

Notes: Anvil International® brand bracing components are designed to be compatible ONLY with other Anvil International® brand bracing components, resulting in a Listed seismic bracing assembly. Updated UL listing information may be viewed at www.ul.com

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Fig. AF090 (Formerly Anvil Fig. 89X & Afcon Fig. 160)

Restraining Strap

Size Range: $\frac{3}{8}$ " through $\frac{3}{4}$ " Threaded Rod

Material: Carbon Steel

Finish: Pre-Galvanized per ASTM A653

Service: Secures beam clamps to the beam where building movement is expected due to seismic activity. NFPA 13 requires the use of restraining straps in seismic areas. For use with Anvil Fig. 86, 88, 92, 93, 94, and 95 beam clamps.

Approvals: cULus Listed. Complies with the hanging and bracing requirements listed in NFPA 13.

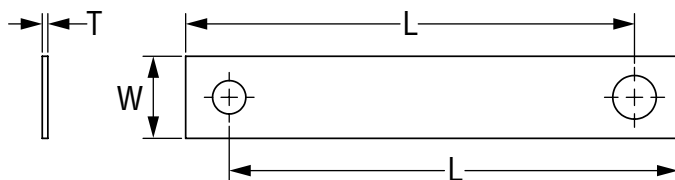
Features:

- Dual hole design allows for one part to be installed with $\frac{3}{8}$ " and $\frac{1}{2}$ " rod.
- Unique hook design allows for easy installation on existing piping systems.

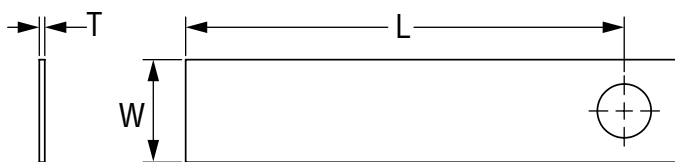
Installation Instructions:

- Install beam clamp per manufacture's installation instructions.
- Place restraining strap over exposed rod.
- Pull tight and wrap the opposite end of the restraining strap around the beam flange. At least 1" must wrap around the beam. For best performance, ensure the retrofit restraining strap is tight against the beam.
- For rod which extends less than 1" past the restraining strap, a nut must be installed to secure the restraining strap to the beam clamp and rod.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Ordering: Specify size, length, figure number and description.



$\frac{3}{8}$ " and $\frac{1}{2}$ " Combo Restraining Strap



$\frac{5}{8}$ " and $\frac{3}{4}$ " Restraining Strap

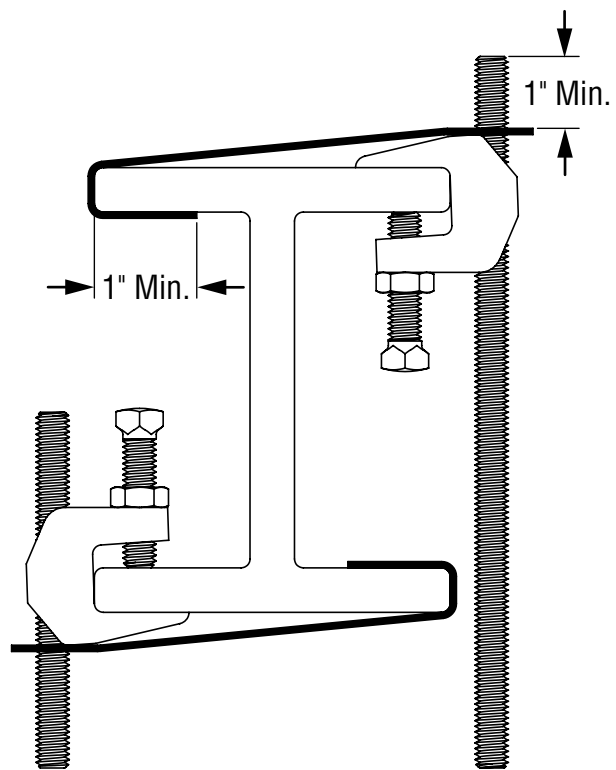


FIG. AF090: DIMENSIONS (IN)

Rod Size	L Length	W Width	T Thickness
$\frac{3}{8}$ & $\frac{1}{2}$	6, 8, 10, 12	1	15 ga.
$\frac{5}{8}$		$1\frac{1}{4}$	14 ga.
$\frac{3}{4}$			

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Fig. AF090R (Formerly Afcon Fig. 162)

Retrofit Restraining Strap

Size Range: $\frac{3}{8}$ " and $\frac{1}{2}$ " Threaded Rod

Material: Carbon Steel

Finish: Pre-Galvanized per ASTM A653

Service: Secures beam clamps to the beam where building movement is expected due to seismic activity. NFPA 13 requires the use of restraining straps in seismic areas. For use with Anvil Fig. 86, 88, 92, 93, and 95 beam clamps.

Approvals: cULus Listed. Complies with the hanging and bracing requirements listed in NFPA 13.

Features:

- Universal hook allows for installation on $\frac{3}{8}$ " and $\frac{1}{2}$ " rod.
- Unique hook design allows for easy installation on existing piping systems.

Installation Instructions:

- Install beam clamp per manufacturer's installation instructions.
- Hook the end of the retrofit restraining strap around the rod or beam clamp set screw.
- Pull tight and wrap the opposite end of the retrofit restraining strap around the beam flange. At least 1" must wrap around the beam. For best performance, ensure the retrofit restraining strap is tight against the beam.
- For rod which extends less than 1" past the retrofit restraining strap, a nut must be installed to secure the retrofit restraining strap to the beam clamp and rod.
- Fire Protection applications shall also be installed per the requirements of NFPA 13 and local codes.

Patent: No. 5,897,088

Ordering: Specify size, length, figure number and description.

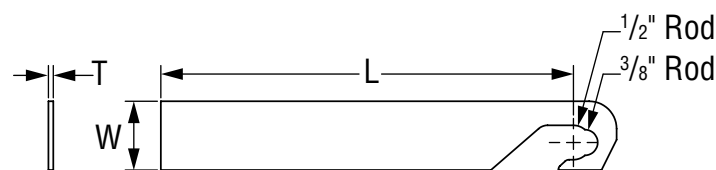
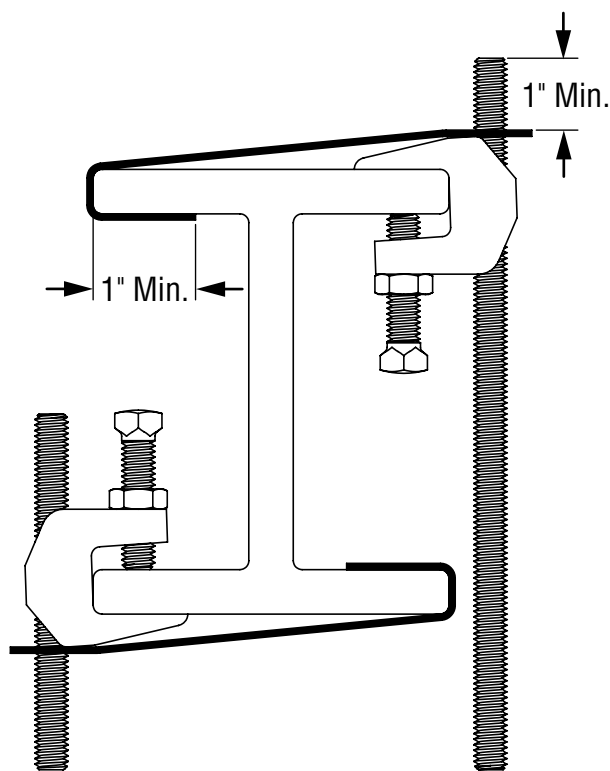


FIG. AF090R: DIMENSIONS (IN)		
L Length	W Width	T Thickness
6	1	15 ga.
8		
10		
12		



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Fig. AF310 (Formerly Afcon Fig. 310)

Surge Restrainer

Size Range: 1" thru 2" Figure 69, Swivel Ring Hanger

Material: Carbon steel

Finish: Pre-Galvanized per ASTM A653

Restrainer Service: Prevents vertical movement of horizontal sprinkler piping from thrust loads due to sprinkler activation. The surge restrainer is intended to be installed with Anvil's Figure 69 Swivel Ring Hanger.

Restraint Service: May be installed as part of a branch line seismic restraint assembly per the requirements of NFPA 13. The surge restrainer is intended to be installed with Anvil's Figure 69 Swivel Ring Hanger.

Approvals: cULus Listed (UL 203 and UL 203a). Complies with the hanging and restraint requirements listed in NFPA 13.

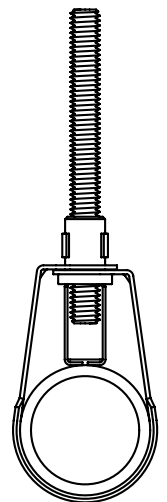
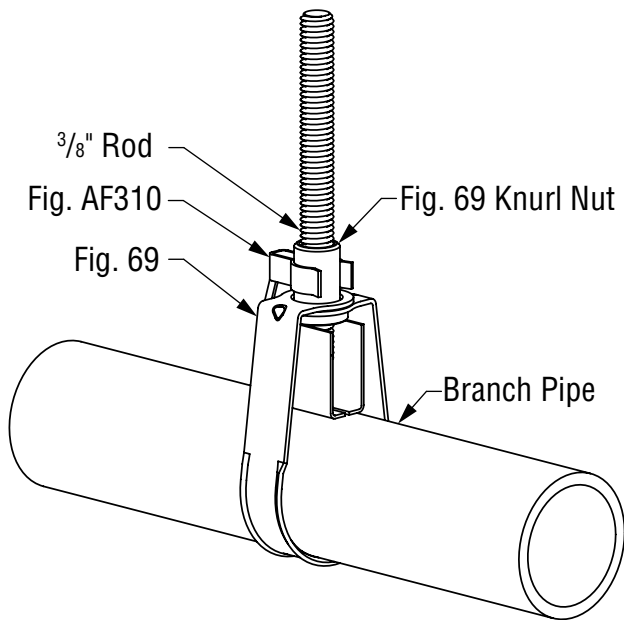
Features:

- One universal size accommodates Fig. 69 sizes 1" through 2".
- Simple design allows for quick installation on existing sprinkler systems.

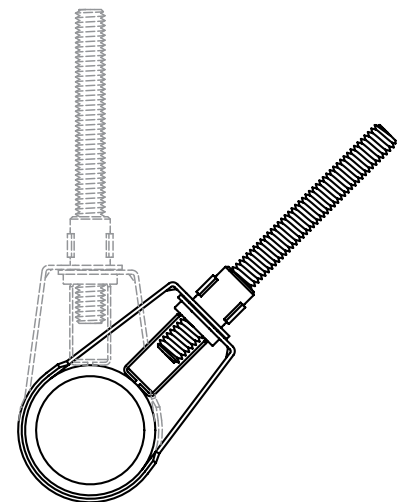
Installation Instructions:

- Snap surge restrainer onto the Fig. 69 knurl nut.
- The gap between the surge restrainer and service pipe shall not exceed 1/8".
- Fire Protection applications shall also be installed per the requirements of NFPA 13.

Ordering: Specify figure number and description.



Surge Restraint Assembly



Seismic Restraint Assembly

FIG. AF310: DIMENSIONS (IN) • LOADS (LBS) • WEIGHT (LBS)			
Service Pipe Size	Rod Size	UL Max Seismic Restraint Load (UL 203a)	Approx. Weight/100
1 thru 2	3/8	300	4

Notes: Anvil International® brand bracing components are designed to be compatible ONLY with other Anvil International® brand bracing components, resulting in a Listed seismic bracing assembly. Updated UL listing information may be viewed at www.ul.com

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Fig. AF773 (Formerly Anvil Fig. 773)

Surge Restrainer

Size Range: 3/4" thru 2" Figure 69, Swivel Ring Hanger

Material: Carbon steel

Finish: Pre-Galvanized per ASTM A653

Restrainer Service: Prevents vertical movement of horizontal sprinkler piping from thrust loads due to sprinkler activation. The surge restrainer is intended to be installed with Anvil's Figure 69 Swivel Ring Hanger.

Restraint Service: May be installed as part of a branch line seismic restraint assembly per the requirements of NFPA 13. The surge restrainer is intended to be installed with Anvil's Figure 69 Swivel Ring Hanger.

Approvals: cULus Listed (UL 203 and UL 203a). Complies with the hanging and restraint requirements listed in NFPA 13.

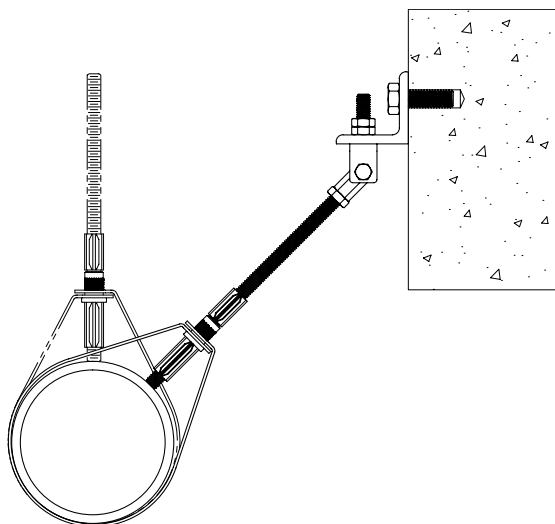
Features:

- One universal size accommodates Figure 69 sizes 3/4" through 2".
- Simple design allows for quick installation on existing sprinkler systems.

Installation Instructions:

- Install hanger rod or restraint rod a minimum of 1/2" beyond the bottom of the Figure 69 knurl nut.
- Snap surge restrainer onto the threaded rod above and below the knurl nut.
- The gap between the surge restrainer and service pipe shall not exceed 1/8".
- Fire Protection applications shall also be installed per the requirements of NFPA 13.

Ordering: Specify figure number and description.



Branch Line Restraint Assembly

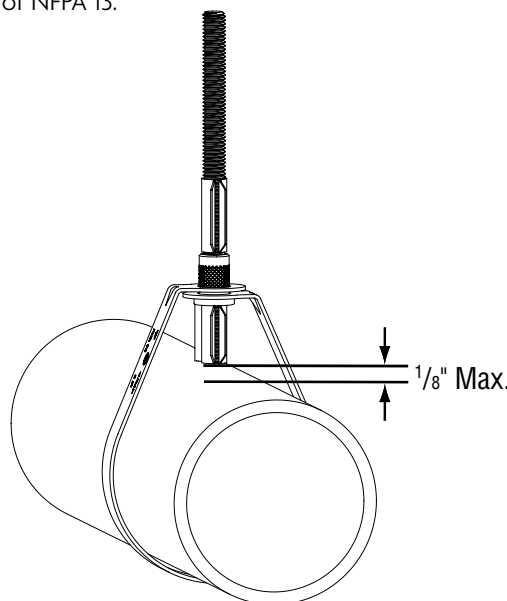


FIG. AF773: DIMENSIONS (IN) • LOADS (LBS) • WEIGHT (LBS)			
Service Pipe Size	Rod Size	UL Max Seismic Restraint Load (UL 203a)	Approx. Weight/100
3/4 thru 2	3/8	300	4

Notes: Anvil International® brand bracing components are designed to be compatible ONLY with other Anvil International® brand bracing components, resulting in a Listed seismic bracing assembly. Updated UL listing information may be viewed at www.ul.com

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Fig. AF777 (Formerly Anvil Fig. 777 & Afcon Fig. 615)

Swivel Attachment

Size Range: 3/8" through 1/2" rod

Material: Carbon Steel

Finish: Electro-Galvanized per ASTM B633

Hanger Service: Swivel hanger designed to support horizontal piping from angled structures. Listed for installation at angles between 0 and 90 degrees.

Restraint Service: May be installed as a branch line restraint per the requirements of NFPA 13. The AF777 may be installed directly to the structure or to the Fig. AF779.

Approvals: cULus Listed (UL 203 and UL 203a – 3/8" only). Complies with the hanging and restraint requirements listed in NFPA 13.

Installation:

- Install mounting bolt into structure or structural attachment and tighten hex nut until the yoke (U-Shaped Bracket) is tight against the structure or attachment.
- Thread the hanger rod or restraint rod into the hex union until it bottoms. Back rod off a maximum of one turn to allow the hex union to swivel freely.
- Adjust angle as necessary.
- If the AF777 is exposed to vibration from the piping system or the structure, jam nuts may be installed on the mounting bolt and the threaded rod.
- Fire Protection applications shall also be installed per NFPA 13 requirements.

Features: Full 90 degree rotation allows for installation at any angle.

Ordering: Specify figure number, finish, size, and description.

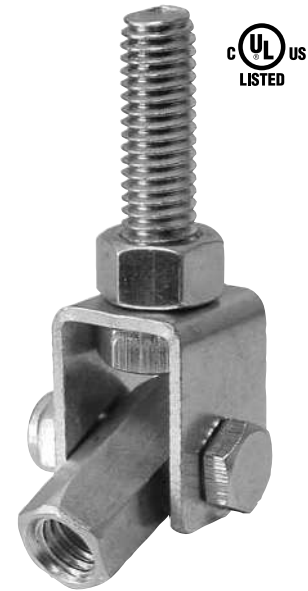
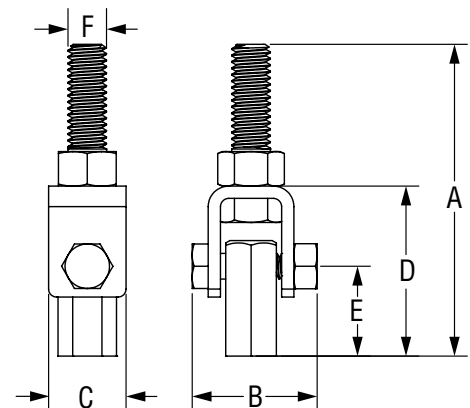


FIG. AF777: DIMENSIONS (IN)						
Rod Size	A	B	C	D	E	F
3/8	3	1 3/8	3/4	1 5/8	7/8	3/8
1/2	3 5/8	1 1/2	1 1/16	1 13/16	7/8	1/2

FIG. AF777: DIMENSIONS (IN) • LOADS (LBS)			
Rod Size	UL Max Hanger Load (UL 203)	UL Max Seismic Restraint Load (UL 203a)	Max Hanger Load
3/8	Up to 4" Pipe	1,000	250
1/2	Up to 8" Pipe	n/a	n/a



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