

# SEISMIC BRACING



## SWAY BRACE PIPE ATTACHMENT

**FIG. 010**

**Function:** Designed for bracing pipe against sway and seismic disturbance. The pipe attachment component of a sway brace system used in conjunction with a PHD Manufacturing structural attachment fitting, and joined together with a bracing pipe element forms a complete sway brace assembly. Sway brace assemblies are intended to be installed in accordance with NFPA 13 and the manufacturer's installation instructions.

**Size:** Pipe size 1" (25) thru 6" (150).

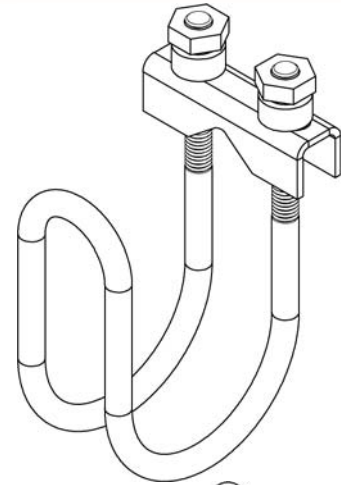
**Material:** Carbon steel

**Finish:** Electro-galvanized

**Install:** Place over the pipe to be braced, adjust brace angle, and insert bracing pipe through opening leaving a minimum of 1" (25.4) extending from attachment. Brace pipe can be installed on top or bottom of pipe to be braced but must be a minimum of 6" (152.4) away from a pipe joint. Tighten nuts down evenly until hex heads break off.

**Approvals:** Underwriters Laboratories listed for US and Canada and Factory Mutual approved. Listed for use with NFPA and PHD sway brace components only.

**Ordering:** Specify figure number, brace pipe size, and sprinkler pipe size.



UL Maximum Design Load							
Pipe Size SCH 40	lbs.	kN	Wt. Each				
			1" (25mm) Brace Pipe		1 1/4" (32mm) Brace Pipe		
			lbs.	kg	lbs.	kg	
*1	(25)	1000	(4.45)	0.71	(0.32)	0.75	(0.34)
1 1/4	(32)	1000	(4.45)	0.76	(0.34)	0.79	(0.36)
1 1/2	(40)	1000	(4.45)	0.79	(0.36)	0.82	(0.37)
2	(50)	1000	(4.45)	0.84	(0.38)	0.88	(0.40)
2 1/2	(65)	1000	(4.45)	0.90	(0.41)	0.94	(0.43)
3	(80)	1000	(4.45)	0.98	(0.44)	1.02	(0.46)
4	(100)	1000	(4.45)	1.10	(0.50)	1.14	(0.52)
6	(150)	1600	(7.12)	N/A	N/A	1.40	(0.63)

\* Restraint only

FM Maximum Design Load				
Brace Pipes 1" or 1 1/4" (GB/T3091, EN10255H, or JISG3454)				
Pipe Size SCH 10, 40 & Flow Pipe	Brace Angle From Vertical (Degrees)	lbs.	kN	
1 (25)	30° - 44°	340	(1.51)	
	45° - 59°	480	(2.13)	
	60° - 74°	590	(2.62)	
	75° - 90°	660	(2.93)	
1 1/4 (32)	30° - 44°	350	(1.55)	
	45° - 59°	500	(2.22)	
	60° - 74°	610	(2.71)	
	75° - 90°	680	(3.02)	
1 1/2 (40)	30° - 44°	290	(1.28)	
	45° - 59°	420	(1.86)	
	60° - 74°	510	(2.26)	
	75° - 90°	570	(2.53)	
2 (50)	30° - 44°	390	(1.73)	
	45° - 59°	550	(2.44)	
	60° - 74°	670	(2.98)	
	75° - 90°	750	(3.33)	
2 1/2 (65)	30° - 44°	440	(1.95)	
	45° - 59°	620	(2.75)	
	60° - 74°	760	(3.38)	
	75° - 90°	850	(3.78)	
3 (80)	30° - 44°	470	(2.09)	
	45° - 59°	660	(2.93)	
	60° - 74°	810	(3.33)	
	75° - 90°	910	(4.04)	
4 (100)	30° - 44°	430	(1.91)	
	45° - 59°	610	(2.71)	
	60° - 74°	750	(3.33)	
	75° - 90°	840	(3.73)	
*6 (150)	30° - 44°	250	(1.11)	
	45° - 59°	350	(1.55)	
	60° - 74°	430	(1.91)	
	75° - 90°	480	(2.13)	

\* 1 1/4" brace size only

Unless otherwise specified, all dimensions on drawings and in charts are in inches and dimensions shown in parentheses are in millimeters.

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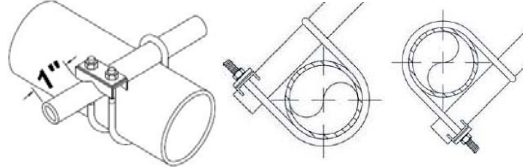


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**FIG. 010 SWAY BRACE PIPE ATTACHMENT**

- Pipe Braced:** 1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 4", 6"
- Bracing:** 1" Or 1 1/4" SCH40 steel pipe
- Function:** Designed for bracing pipe against sway and seismic disturbance. The pipe attachment component of a sway brace system used in conjunction with a PHD Manufacturing structural attachment fitting, and joined together with a bracing pipe element forms a complete sway brace assembly. Sway brace assemblies are intended to be installed in accordance with NFPA 13 and the manufacturer's installation instructions.
- Approvals:** Underwriters Laboratories listed for US and Canada (1" system pipe size listed as a restraint only)  
 Factory Mutual approved Listed for use with NFPA and PHD sway brace components only
- Material:** Low Carbon Steel
- Installation:** Place over the pipe to be braced, adjust brace angle, and insert bracing pipe through opening leaving a minimum of 1" extending from attachment. Brace pipe can be installed on top or bottom of pipe to be braced but must be a minimum of 6" away from a pipe joint. Tighten nuts down evenly until hex heads break off.



UL Maximum Design Loads		
Pipe Size Schedule 40	Brace Pipe Size Schedule 40	lbs.
1*	1 & 1 1/4	1000
1 1/4	1 & 1 1/4	1000
1 1/2	1 & 1 1/4	1000
2	1 & 1 1/4	1000
2 1/2	1 & 1 1/4	1000
3	1 & 1 1/4	1000
4	1 & 1 1/4	1000
6	1 1/4	1600

\* UL listed as a restraint device only.

FM Approved Loads							
Orientation	Pipe Size	Pipe Schedule	Allowable Horizontal Capacity Per Installation Angle (lbs.)				Brace Pipe Size Schedule 40
			Brace Angle From Vertical				
			30° - 44°	45° - 59°	60° - 74°	75° - 90°	
Lateral	1	LW, 10, 40	340	480	590	660	1" or 1 1/4"
Lateral	1 1/4	LW, 10, 40	350	500	610	680	1" or 1 1/4"
Lateral	1 1/2	LW, 10, 40	290	420	510	570	1" or 1 1/4"
Lateral	2	LW, 10, 40	390	550	670	750	1" or 1 1/4"
Lateral	2 1/2	LW, 10, 40	440	620	760	850	1" or 1 1/4"
Lateral	3	LW, 10, 40	470	660	810	910	1" or 1 1/4"
Lateral	4	LW, 10, 40	430	610	750	840	1" or 1 1/4"
Lateral	6	LW, 10, 40	250	350	430	480	1 1/4"

NOTE: LW above refers to FM Approved Lightwall pipe, commonly referred to as Schedule 7. These ratings may also be applied to EN10220 and GB/T 8163 pipe. Schedule 10 above may be applied to GB/T 3091, GB/T 3092, EN 10255 M and H, JIS G3452. Schedule 40 above may be applied to GB/T3091, EN10255H or JISG3454 brace pipe.

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