

# SEISMIC BRACING



## SUPPORTING PIPE ATTACHMENT

**FIG. 040**

**Function:** Designed for bracing pipe against sway and seismic disturbance. Versatile design allows for attachment at any angle and the ability to be used in a lateral or longitudinal bracing configuration. The pipe attachment component of a sway brace system used in conjunction with two PHD Manufacturing structural attachment fittings and joined together with a bracing element form 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 sizes 2" thru 8". Refer to PHD Structural attachment fitting literature regarding appropriate brace members, sizes, and further loading limitations.

**Material:** Carbon steel

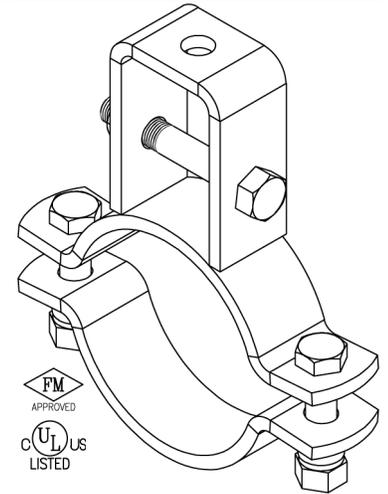
**Finish:** Electro-galvanized

**Install:** Attach PHD Manufacturing structural attachment fitting, Fig. 030 (sold separately), to Fig. 040 using supplied fastener. Place the assembly around the pipe to be braced, positioning welded clevis on top of the pipe, then tighten clamping bolts and nuts finger tight. Follow PHD Manufacturing structural attachment fitting's instructions for attaching to brace element. Adjust the brace element to the desired angle then tighten the supplied fastener to lock the PHD Manufacturing structural attachment fitting, Fig. 030, securely in position with the Fig. 040. Then evenly torque clamping bolts until hex portion of clamping nuts break off.

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

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

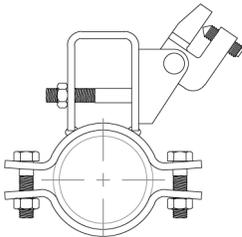
*NOTE: Figure 030 sold separately.*



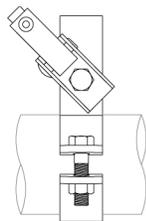
FM Maximum Design Load						
Pipe Size SCH 10, 40 & Flow Pipe	Brace Angle From Vertical (Degrees)	Lateral		Longitudinal		
		lbs.	kN	lbs.	kN	
2 (50)	30°-44°	1070	(4.75)	1260	(5.60)	
	45°-59°	1520	(6.76)	1440	(6.40)	
	60°-74°	1860	(8.27)	1740	(7.73)	
	75°-90°	2080	(9.25)	1940	(8.62)	
2½ (65)	30°-44°	960	(4.27)	1000	(4.44)	
	45°-59°	1360	(6.04)	1420	(6.31)	
	60°-74°	1670	(7.42)	1740	(7.73)	
3 (80)	75°-90°	1860	(8.27)	1940	(8.62)	
	30°-44°	960	(4.27)	1000	(4.44)	
	45°-59°	1360	(6.04)	1420	(6.31)	
	60°-74°	1670	(7.42)	1740	(7.73)	
3½ (90)	75°-90°	1860	(8.27)	1940	(8.62)	
	30°-44°	960	(4.27)	1000	(4.44)	
	45°-59°	1360	(6.04)	1420	(6.31)	
4 (100)	60°-74°	1670	(7.42)	1740	(7.73)	
	75°-90°	1860	(8.27)	1920	(8.54)	
	30°-44°	960	(4.27)	1110	(4.93)	
	45°-59°	1360	(6.04)	1490	(6.62)	
5 (125)	60°-74°	1670	(7.42)	1800	(8.00)	
	75°-90°	1860	(8.27)	1920	(8.54)	
	30°-44°	960	(4.27)	1110	(4.93)	
	45°-59°	1360	(6.04)	1490	(6.62)	
6 (150)	60°-74°	1670	(7.42)	1800	(8.00)	
	75°-90°	1860	(8.27)	1920	(8.54)	
	30°-44°	1000	(4.44)	1280	(5.69)	
	45°-59°	1420	(6.31)	1810	(8.05)	
8 (200)	60°-74°	1740	(7.73)	2210	(9.83)	
	75°-90°	1940	(8.62)	2470	(10.98)	
	30°-44°	1350	(6.00)	1160	(5.15)	
	45°-59°	1900	(8.45)	1650	(7.33)	
8 (200)	60°-74°	2330	(10.36)	2020	(8.98)	
	75°-90°	2600	11.56)	2250	(10.00)	

UL Maximum Design Load							
Pipe Size SCH 10 & 40		Hanger Rod Size		Rec. Max. Hanger Load		Wt. Each	
				lbs.	kN	lbs.	kg
2	(50)	3/8	(10)	730	(3.25)	2.40	(1.09)
2½	(65)	1/2	(12)	850	(3.78)	2.58	(1.17)
3	(80)	1/2	(12)	1000	(4.45)	2.80	(1.27)
*3½	(90)	1/2	(12)	1000	(4.45)	2.94	(1.33)
4	(100)	5/8	(16)	1000	(4.45)	3.28	(1.49)
5	(125)	5/8	(16)	1600	(7.12)	4.95	(2.25)
6	(150)	3/4	(20)	1600	(7.12)	6.93	(3.14)
8	(200)	3/4	(20)	2015	(8.96)	9.97	(4.52)

\* SCH 40 pipe only



**Lateral Brace**



**Longitudinal Brace**

When governed by NFPA13 2019 or later, multiply FM approved loads by 0.682.

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 Web: www.phd-mfg.com

**FIG. 040 SWAY BRACE SUPPORTING PIPE ATTACHMENT**

- Pipe Braced:** 2", 2 1/2", 3", 3 1/2", 4", 5", 6", 8"  
**Bracing:** Refer to PHD Structural attachment fitting literature regarding appropriate brace members, sizes, and further loading limitations.  
**Function:** Designed for bracing pipe against sway and seismic disturbance. Versatile design allows for attachment at any angle and the ability to be used in a lateral or longitudinal bracing configuration. The pipe attachment component of a sway brace system used in conjunction with two PHD Manufacturing structural attachment fittings and joined together with a bracing element form 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 as a hanger. Factory Mutual approved as a sway brace only. Listed for use with PHD sway brace components only.  
**Material:** Low Carbon Steel  
**Installation:** Attach PHD Manufacturing structural attachment fitting, Fig. 030 (sold separately), to Fig. 040 using supplied fastener. Place the assembly around the pipe to be braced, positioning welded clevis on top of the pipe, then tighten clamping bolts and nuts finger tight. Follow PHD Manufacturing structural attachment fitting's instructions for attaching to brace element. Adjust the brace element to the desired angle then tighten the supplied fastener to lock the PHD Manufacturing structural attachment fitting, Fig. 030, securely in position with the Fig. 040. Then evenly torque clamping bolts until hex portion of clamping nuts break off.

UL Maximum Design Load		
Pipe Sizes 2" Thru 8" SCH 10 & 40 (3 1/2 SCH 40 only)		
Lateral & Longitudinal Assemblies		
Pipe Size	Rod Size	Hanger
		Used with threaded rod lbs.
2	3/8	730
2 1/2	1/2	850
3	1/2	1000
3 1/2	1/2	1000
4	5/8	1000
5	5/8	1600
6	3/4	1600
8	3/4	2015

FM Maximum Design Loads						
Orientation	Pipe Size	Pipe Schedule	Allowable Horizontal Capacity Per Installation Angle (lbs.)			
			Brace Angle From Vertical			
			30°-44°	45°-59°	60°-74°	75°-90°
Lateral	2	LW, 10, 40	1070	1520	1860	2080
Lateral	2 1/2, 3, 3 1/2, 4, 5	LW, 10, 40	960	1360	1670	1860
Lateral	6	LW, 10, 40	1000	1420	1740	1940
Lateral	8	LW, 10, 40	1350	1900	2330	2600
Longitudinal	2	LW, 10, 40	1260	1440	1740	1940
Longitudinal	2 1/2, 3, 3 1/2	LW, 10, 40	1000	1420	1740	1940
Longitudinal	4, 5	LW, 10, 40	1110	1490	1800	1920
Longitudinal	6	LW, 10, 40	1280	1810	2210	2470
Longitudinal	8	LW, 10, 40	1160	1650	2020	2250

When governed by NFPA13 2019 or later, multiply FM approved loads by 0.682.

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.

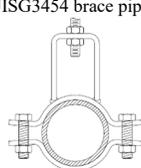
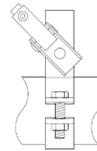


Fig. 040 as a hanger



(Lateral Brace)

Fig. 040 as a sway brace (shown with Fig. 030)



(Longitudinal Brace)

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