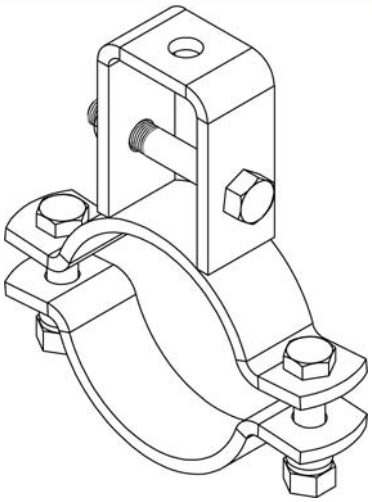
SUPPORTING PIPE ATTACHMENT

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, Grade 5 clamping bolts

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.

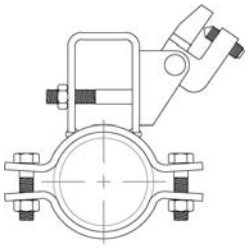
Approvals: Underwriters Laboratories listed for US and Canada as a hanger or as a sway brace. Factory Mutual approved as a sway brace only. Listed for use with PHD sway brace components only.

Ordering: Specify figure number and sprinkler pipe size.

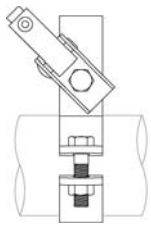
NOTE: Figure 030 sold separately.

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

* SCH 40 pipe only



Lateral Brace



Longitudinal Brace

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)
		75°-90°	1860	(8.27)	1940	(8.62)
3	(80)	30°-44°	960	(4.27)	1000	(4.44)
		45°-59°	1360	(6.04)	1420	(6.31)
		60°-74°	1670	(7.42)	1740	(7.73)
		75°-90°	1860	(8.27)	1940	(8.62)
3½	(90)	30°-44°	960	(4.27)	1000	(4.44)
		45°-59°	1360	(6.04)	1420	(6.31)
		60°-74°	1670	(7.42)	1740	(7.73)
		75°-90°	1860	(8.27)	1940	(8.62)
4	(100)	30°-44°	960	(4.27)	1110	(4.93)
		45°-59°	1360	(6.04)	1490	(6.62)
		60°-74°	1670	(7.42)	1800	(8.00)
		75°-90°	1860	(8.27)	1920	(8.54)
5	(125)	30°-44°	960	(4.27)	1110	(4.93)
		45°-59°	1360	(6.04)	1490	(6.62)
		60°-74°	1670	(7.42)	1800	(8.00)
		75°-90°	1860	(8.27)	1920	(8.54)
6	(150)	30°-44°	1000	(4.44)	1280	(5.69)
		45°-59°	1420	(6.31)	1810	(8.05)
		60°-74°	1740	(7.73)	2210	(9.83)
		75°-90°	1940	(8.62)	2470	(10.98)
8	(200)	30°-44°	1350	(6.00)	1160	(5.15)
		45°-59°	1900	(8.45)	1650	(7.33)
		60°-74°	2330	(10.36)	2020	(8.98)
		75°-90°	2600	11.56)	2250	(10.00)

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

PHD Manufacturing, Inc.
44018 Columbiana-Waterford Road
Columbiana, Ohio 44408-9481
Phone: 800-321-2736 • 330-482-9256
Fax: 330-482-2763
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 or as a sway brace
Factory Mutual approved as a sway brace only
Listed for use with PHD sway brace components only

Material: Low Carbon Steel, Grade 5 clamping bolts

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	Sway Brace Used with Fig. 030
		lbs.	lbs.
2	3/8	730	1000
2 1/2	1/2	850	1000
3	1/2	1000	1000
3 1/2	1/2	1000	1000
4	5/8	1000	1000
5	5/8	1600	1600
6	3/4	1600	1600
8	3/4	2015	2015

FM Maximum Design Loads						
			Allowable Horizontal Capacity Per Installation Angle (lbs.)			
			Brace Angle From Vertical			
Orientation	Pipe Size	Pipe Schedule	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

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.

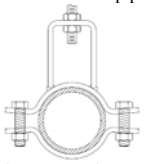
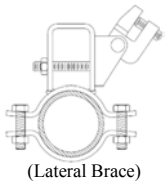
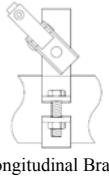


Fig. 040 as a hanger



(Lateral Brace)



(Longitudinal Brace)

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