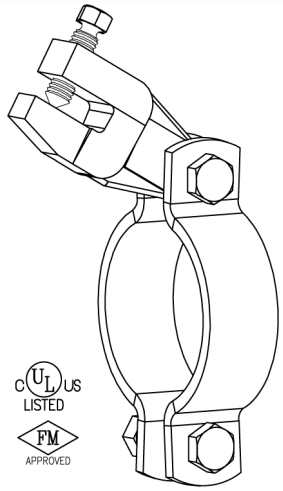
CLAMPING PIPE ATTACHMENT

FIG. 031



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 a PHD Manufacturing structural attachment fitting 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". Can use 1" thru 2" SCH 40 pipe, structural steel, and PHD 12 gauge strut channel (1001 & 1201) as sway bracing elements.

Material: Ductile iron and carbon steel.

Finish: Electro-galvanized

Install: Place attachment around pipe to be braced, positioning brace attachment as needed, then tighten clamping bolts and nuts finger tight. Insert brace component into fitting against back of jaw. Tighten set screw finger tight, adjust brace angle as needed, then tighten set screw until hex head breaks off. Then evenly torque clamping bolts until hex portion of clamping nuts break off.

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

Ordering: Specify figure number and sprinkler pipe size.

UL Maximum Design Loads All Pipe Sizes, SCH 10 & 40 (3 1/2 SCH 40 only) Lateral & Longitudinal Assemblies				
Brace Member	**Member Thickness**	**Member Length**	**lbs.**	**kN**
1" Thru 2" Pipe	SCH 40	Refer to NFPA13	1370	(6.09)
Structural Steel	1/4" & 3/8" thick	Refer to NFPA13	1370	(6.09)
1001 Series Strut	12 Ga.	See Chart Below	1370	(6.09)
1201 Series Strut	12 Ga.	See Chart Below	1370	(6.09)

FM Maximum Design Load (All Sizes) For Bracing SCH 10, 40 & Flow Pipe					
Brace Member		**Direction**	**Brace Angle (Degrees)**	**lbs.**	**kN**
1" Thru 2" SCH 40 Pipe	(GB/T3091, EN10255H, or JISG3454)	Lateral	30°-44°	1270	(5.64)
			45°-59°	1800	(9.07)
			60°-74°	2200	(10.89)
			75°-90°	2460	(12.18)
1/4" Thru 3/8" Thick Structural Steel		Lateral & Longitudinal	30°-44°	900	(4.00)
			45°-59°	1280	(5.69)
			60°-74°	1570	(6.98)
			75°-90°	1750	(7.78)
PHD 12 Gauge Strut Channel 1001 & 1201		Lateral & Longitudinal	30°-44°	1070	(4.75)
			45°-59°	1440	(6.40)
			60°-74°	1740	(7.73)
			75°-90°	1940	(8.62)

FM Maximum Design Load Brace: 1" Thru 2" SCH40 Pipe (GB/T3091, EN10255H, or JISG3454)						
Pipe Size SCH 10, 40 & Flow Pipe		**Brace Angle From Vertical (Degrees)**	**Longitudinal**		**Wt. Each**	
			lbs.	**kN**	**lbs.**	**kg**
2	(50)	30°-44°	1370	(6.09)	2.60	(1.18)
		45°-59°	1930	(8.58)		
		60°-74°	2370	(10.54)		
		75°-90°	2810	(12.49)		
2 1/2	(65)	30°-44°	1500	(6.67)	2.77	(1.26)
		45°-59°	2120	(9.43)		
		60°-74°	2600	(11.56)		
		75°-90°	2900	(12.89)		
3	(80)	30°-44°	1370	(6.09)	3.00	(1.36)
		45°-59°	1930	(8.58)		
		60°-74°	2370	(10.54)		
		75°-90°	2810	(12.49)		
3 1/2	(90)	30°-44°	1370	(6.09)	3.13	(1.42)
		45°-59°	1930	(8.58)		
		60°-74°	2370	(10.54)		
		75°-90°	2810	(12.49)		
4	(100)	30°-44°	1370	(6.09)	3.30	(1.50)
		45°-59°	1930	(8.58)		
		60°-74°	2370	(10.54)		
		75°-90°	2810	(12.49)		
5	(125)	30°-44°	1370	(6.09)	4.57	(2.07)
		45°-59°	1930	(8.58)		
		60°-74°	2370	(10.54)		
		75°-90°	2810	(12.49)		
6	(150)	30°-44°	1410	(6.27)	5.42	(2.46)
		45°-59°	2000	(8.89)		
		60°-74°	2450	(10.89)		
		75°-90°	2730	(12.14)		
8	(200)	30°-44°	1320	(5.87)	8.52	(3.86)
		45°-59°	1870	(8.31)		
		60°-74°	2290	(10.18)		
		75°-90°	2550	(11.34)		

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

Strut Fig. #	PHD Strut Channel Maximum Horizontal Load 90° From Vertical														
	r		l/r =	100				200				300			
				Max		lbs.	kN	Max		lbs.	kN	Max		lbs.	kN
1001	0.580	(14.73)		58"	(1473.2)	4670	(20.77)	116"	(2946.4)	1165	(5.18)	174"	(4419.6)	518	(2.30)
1201	0.297	(7.54)		29"	(736.6)	3260	(14.50)	59"	(1498.6)	785	(3.49)	89"	(2260.6)	345	(1.53)

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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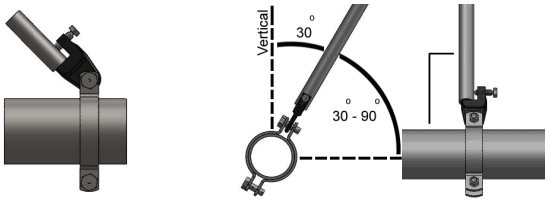
FIG. 031 CLAMPING PIPE ATTACHMENT

Pipe Braced: 2", 2 1/2", 3", 3 1/2", 4", 5", 6", 8"
Bracing: 1" thru 2" SCH 40 pipe, structural steel, and PHD 12 gauge strut channel (1001 & 1201)
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 a PHD Manufacturing structural attachment fitting and joined together with a bracing element forming 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
Factory Mutual approved
Listed for use with PHD sway brace components only
Material: Ductile Iron and Low Carbon Steel
Installation: Place attachment around pipe to be braced, positioning brace attachment as needed, then tighten clamping bolts and nuts finger tight. Insert brace component into fitting against back of jaw. Tighten set screw finger tight, adjust brace angle as needed, then tighten set screw until hex head breaks off. Then evenly torque clamping bolts until hex portion of clamping nuts break off.



Longitudinal Front View Side View
Lateral

UL Maximum Design Loads			
Pipe Sizes 2" thru 8" SCH 10 & 40 (3 1/2 SCH 40 only) Lateral & Longitudinal Assemblies			
Brace Member	Member Thickness	Member Length	Max. Design Load
1" Thru 2" Pipe	SCH 40	Refer to NFPA13	1370
Structural Steel	1/4" to 3/8" thick	Refer to NFPA13	1370
1001 Series Strut	12 Ga.	See Chart Below	1370
1201 Series Strut	12 Ga.	See Chart Below	1370

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°	Brace Member
Lateral	2, 2 1/2, 3, 3 1/2, 4, 5, 6, 8	LW, 10, 40	1270	1800	2200	2460	1" to 2" Schedule 40 Pipe
Longitudinal	2	LW, 10, 40	1370	1930	2370	2810	1" to 2" Schedule 40 Pipe
Longitudinal	2 1/2	LW, 10, 40	1500	2120	2600	2900	1" to 2" Schedule 40 Pipe
Longitudinal	3, 3 1/2, 4	LW, 10, 40	1370	1930	2370	2810	1" to 2" Schedule 40 Pipe
Longitudinal	5, 6	LW, 10, 40	1410	2000	2450	2730	1" to 2" Schedule 40 Pipe
Longitudinal	8	LW, 10, 40	1320	1870	2290	2550	1" to 2" Schedule 40 Pipe
Lateral or Longitudinal	2, 2 1/2, 3, 3 1/2, 4, 5, 6, 8	LW, 10, 40	900	1280	1570	1750	1/4" to 3/8" Thick Structural Steel
Lateral or Longitudinal	2, 2 1/2, 3, 3 1/2, 4, 5, 6, 8	LW, 10, 40	1070	1440	1740	1940	1001 & 1201 Strut
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.

Strut Fig. #	Max. Horizontal Load (lbs.) 90° From Vertical							
	r	l/r =	100		200		300	
1001	0.580		58"	4670	116"	1165	174"	518
1201	0.297		29"	3260	59"	785	89"	345

NOTE: Use NFPA13 table "Allowable Horizontal Load on Brace Assemblies Based on the Weakest Component of the Brace Assembly" reduction factors for maximum loads at varying angles.
Refer to www.phd-mfg.com regarding further strut channel details

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