

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, 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.

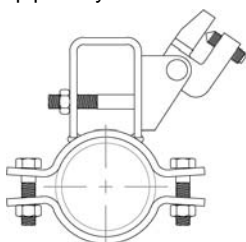
Approvals: Underwriters Laboratories listed for US and Canada as a hanger or as a sway brace. Factory Mutual approved as a sway brace only. Listed for use with PHD sway brace components only.

Ordering: Specify figure number and sprinkler pipe size.

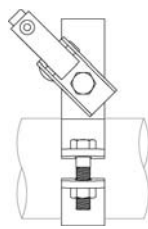
NOTE: Figure 030 sold separately.

| 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) |

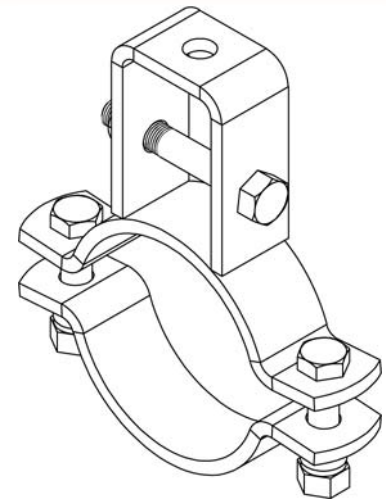
* SCH 40 pipe only



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.

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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 | Sway Brace | |
| | | Used with threaded rod | 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 | | | | | | |
|-------------------------|-----------------------|---------------|---|---------|---------|---------|
| 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 |

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.

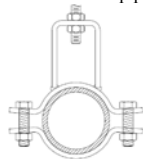
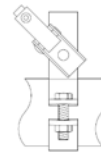


Fig. 040 as a hanger



(Lateral Brace)



(Longitudinal Brace)

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

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