

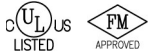
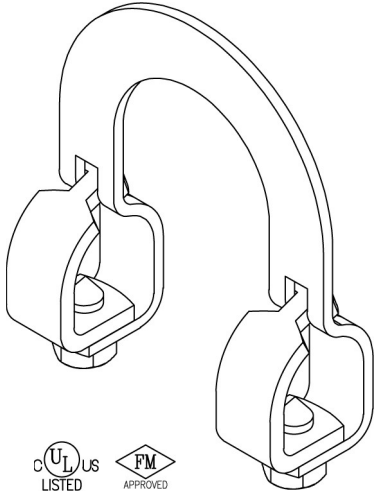


www.phd-mfg.com

SEISMIC BRACING

FIG. 015

LARGE SWAY BRACE PIPE ATTACHMENT



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 2 1/2" thru 8".

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" 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 two hex head cone point set bolts until heads bottom out on attachment, ensuring proper torque has been applied.

Approvals: Underwriters Laboratories listed for US and Canada (2 1/2" thru 6" only) 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.

NOTE: (This product is not compatible with metric pipe.) For metric piping see Fig. 010, Fig. 031, or Fig. 040.

| FM Maximum Design Load | | | | | | | |
|--|---|------|--------|---------------|--------|-------------------|--------|
| Brace: 1" Thru 1 1/4" SCH40 Pipe | | | | | | | |
| Pipe Size SCH 10, 40 & Flow Pipe | Brace Angle From Vertical (Degrees) | lbs. | kN | Wt. Each | | | |
| | | | | 1" Brace Pipe | | 1 1/4" Brace Pipe | |
| | | | | lbs. | kg | lbs. | kg |
| 2 1/2 | 30°-44° | 1020 | (4.53) | 1.31 | (0.59) | 1.49 | (0.68) |
| | 45°-59° | 1440 | (6.40) | 1.31 | (0.59) | 1.49 | (0.68) |
| | 60°-74° | 1770 | (7.87) | 1.31 | (0.59) | 1.49 | (0.68) |
| | 75°-90° | 1970 | (8.76) | 1.31 | (0.59) | 1.49 | (0.68) |
| 3 | 30°-44° | 1080 | (4.80) | 1.40 | (0.64) | 1.57 | (0.71) |
| | 45°-59° | 1530 | (6.80) | 1.40 | (0.64) | 1.57 | (0.71) |
| | 60°-74° | 1870 | (8.31) | 1.40 | (0.64) | 1.57 | (0.71) |
| | 75°-90° | 2090 | (9.29) | 1.40 | (0.64) | 1.57 | (0.71) |
| 4 | 30°-44° | 1020 | (4.53) | 1.53 | (0.69) | 1.70 | (0.77) |
| | 45°-59° | 1450 | (6.44) | 1.53 | (0.69) | 1.70 | (0.77) |
| | 60°-74° | 1770 | (7.87) | 1.53 | (0.69) | 1.70 | (0.77) |
| | 75°-90° | 1980 | (8.80) | 1.53 | (0.69) | 1.70 | (0.77) |
| 6 | 30°-44° | 640 | (2.84) | 1.81 | (0.82) | 1.98 | (0.90) |
| | 45°-59° | 900 | (4.00) | 1.81 | (0.82) | 1.98 | (0.90) |
| | 60°-74° | 1110 | (4.93) | 1.81 | (0.82) | 1.98 | (0.90) |
| | 75°-90° | 1240 | (5.51) | 1.81 | (0.82) | 1.98 | (0.90) |
| 8 | 30°-44° | 570 | (2.53) | 2.07 | (0.94) | 2.24 | (1.02) |
| | 45°-59° | 810 | (3.60) | 2.07 | (0.94) | 2.24 | (1.02) |
| | 60°-74° | 990 | (4.40) | 2.07 | (0.94) | 2.24 | (1.02) |
| | 75°-90° | 1100 | (4.89) | 2.07 | (0.94) | 2.24 | (1.02) |

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

| UL Maximum Design Load | | |
|--------------------------|------|--------|
| Pipe Size SCH 10 & 40 | lbs. | kN |
| 2 1/2 | 680 | (3.02) |
| 3 | 680 | (3.02) |
| 4 | 680 | (3.02) |
| 6 | 1090 | (4.85) |

UL's current Listings, shown above, are predicated on installation in accordance with the latest edition of NFPA 13. The 2016 and earlier editions of NFPA 13 referenced a minimum safety of 1.5 for the load rating as compared to 2.2 for the current edition.

The load ratings noted in table below, Previously Listed Loads, are consistent with the historical cULus Listings that were evaluated to the requirements of UL 203A, Outline of Investigation for Sway Brace Devices for Fire Sprinkler System Piping, based upon a minimum safety factor of 1.5 in accordance with the earlier editions of NFPA 13. The load ratings based upon the 2016 or earlier editions of NFPA 13 should only be used where approved by the Authority Having Jurisdiction (AHJ).

| Previously Listed UL Loads | | |
|----------------------------|-------|---------|
| Pipe Size SCH 10 & 40 | lbs. | kN |
| 2 1/2 | *1000 | *(4.45) |
| 3 | *1000 | *(4.45) |
| 4 | *1000 | *(4.45) |
| 6 | *1600 | *(7.12) |

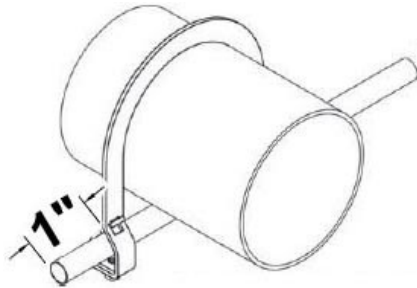
*Load ratings are based on a minimum safety factor of 1.5 in accordance with NFPA 13-2016 Section A.9.3.5.2.3.



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. 015 LARGE SWAY BRACE PIPE ATTACHMENT

- Pipe Braced:** 2 1/2", 3", 4", 6", 8"
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; Sizes 2 1/2" through 6"
 Factory Mutual approved; Sizes 2 1/2" through 8"
 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 two hex head cone point set bolts until heads bottom out on attachment, ensuring proper torque has been applied.
(This product is not compatible with metric pipe.)



| UL Maximum Design Loads | | | | |
|-------------------------|---------------|------------|----------------|------|
| Pipe Size | Pipe Schedule | Brace Size | Brace Schedule | lbs. |
| 2 1/2 | 10 & 40 | 1 & 1 1/4 | 40 | 680 |
| 3 | 10 & 40 | 1 & 1 1/4 | 40 | 680 |
| 4 | 10 & 40 | 1 & 1 1/4 | 40 | 680 |
| 6 | 10 & 40 | 1 & 1 1/4 | 40 | 1090 |

| FM Approved Loads | | | | | | | |
|-------------------|-----------|---------------|---|---------|---------|---------|-------------------------------|
| Orientation | Pipe Size | Pipe Schedule | Allowable Horizontal Capacity Per Installation Angle (lbs.) | | | | Brace Member |
| | | | Brace Angle From Vertical | | | | |
| | | | 30°-44° | 45°-59° | 60°-74° | 75°-90° | |
| Lateral | 2 1/2 | LW, 10, 40 | 1020 | 1440 | 1770 | 1970 | 1" or 1 1/4" Schedule 40 Pipe |
| Lateral | 3 | LW, 10, 40 | 1080 | 1530 | 1870 | 2090 | 1" or 1 1/4" Schedule 40 Pipe |
| Lateral | 4 | LW, 10, 40 | 1020 | 1450 | 1770 | 1980 | 1" or 1 1/4" Schedule 40 Pipe |
| Lateral | 6 | LW, 10, 40 | 640 | 900 | 1110 | 1240 | 1" or 1 1/4" Schedule 40 Pipe |
| Lateral | 8 | LW, 10, 40 | 570 | 810 | 990 | 1100 | 1" or 1 1/4" Schedule 40 Pipe |

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.

The Complete Line of Pipe Supports and Devices
 Pipe Hangers ▲ Strut & Accessories ▲ Pipe Clamps ▲ Beam Clamps ▲ Shields