The TOLCO™ seismic bracing products are the most complete line of bracing components in the industry. Our offering includes both rigid and cable bracing systems and many components are multi-size adaptable or universal in application.

Some of the key features of our seismic products include:

- Visual verification of proper installation
- OSHPD Approval (OPA-0300)
- Underwriters Laboratories Listed
- FM Approved
- Engineering Support & TOLBrace™ Software
- Buy American Act & ARRA Compliant

The TOLCO brand has a history of over 40 years in seismic bracing of non-structural systems including fire sprinklers, plumbing, mechanical, HVAC and electrical. In addition to the products shown in this catalog we also offer engineered solutions for any seismic bracing application.
TOLCO™ Fig. 4A - Pipe Clamp for Sway Bracing

Size Range: 4" (100mm) thru 8" (200mm) pipe. For sizes smaller than 4" (100mm) use B3140.

Material: Steel

Function: For bracing pipe against sway and seismic disturbance.

Approvals: Underwriters Laboratories Listed in the USA (UL) and Canada (cUL) 4" (100mm) thru 8" (200mm). Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD).

Installation Instructions: Fig. 4A is the "braced pipe" attachment component of a longitudinal, lateral or riser brace assembly. It is intended to be combined with the "bracing pipe" and TOLCO transitional and structural attachment component(s) to form a complete bracing assembly. NFPA 13 and/or OSHPD guidelines should be followed.

To Install: Place the Fig. 4A over the pipe to be braced. Attach TOLCO transitional fitting, either Fig. 980, 910 or 909, to the clamp ears. Tighten bolts and nuts; torque requirement is a minimum of 50 ft./lbs. (68Nm). Transitional fitting attachment can pivot for adjustment to proper brace angle.

Finish: Plain. Contact customer service for alternative finishes and materials.

Order By: Figure number, pipe size and finish

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Pipe Size</th>
<th>A (in.)</th>
<th>C (in.)</th>
<th>D (in.)</th>
<th>Bolt Size</th>
<th>Max. Horizontal Design Load (UL) lbs.</th>
<th>Approx. Wt./100 lbs. (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4A-4</td>
<td>4&quot; (100)</td>
<td>81/2&quot;</td>
<td>311/16&quot;</td>
<td>31/2-13</td>
<td>1600 (7.11)</td>
<td>221 (100.2)</td>
<td></td>
</tr>
<tr>
<td>4A-5</td>
<td>5&quot; (125)</td>
<td>93/4&quot;</td>
<td>37/8&quot;</td>
<td>41/2-13</td>
<td>1600 (7.11)</td>
<td>253 (114.7)</td>
<td></td>
</tr>
<tr>
<td>4A-6</td>
<td>6&quot; (150)</td>
<td>111/2&quot;</td>
<td>51/8&quot;</td>
<td>51/2-13</td>
<td>2015 (8.96)</td>
<td>513 (232.7)</td>
<td></td>
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<tr>
<td>4A-8</td>
<td>8&quot; (200)</td>
<td>133/4&quot;</td>
<td>611/16&quot;</td>
<td>61/2-13</td>
<td>2015 (8.96)</td>
<td>601 (272.6)</td>
<td></td>
</tr>
</tbody>
</table>

Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.

B-Line series Pipe Hangers & Supports 172
Seismic Bracing

TOLCO™ Figure 4B Pipe Clamp for Sway Bracing

Size Range: 3/4” (20mm) to 8” (200mm) pipe
Material: Steel
Function: For bracing pipe against sway and seismic disturbance
Approvals: Included in the Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD).
Standard Finish: Plain or Electro-Plated, Contact customer service for alternative finishes and materials.
Ordering: Specify part number and finish.

Installation Instructions: Fig. 4B is the “braced pipe” attachment component of a longitudinal or lateral sway brace assembly. It is intended to be combined with the “bracing pipe” and transitional and structural attachment component(s) to form a complete bracing assembly. NFPA 13 and/or OSHPD guidelines should be followed.

To Install: Place the Fig. 4B over the pipe to be braced. Attach other transitional fitting, Fig. 909, 910, or 980. Tighten bolts and nuts. Transitional fitting attachment can pivot for adjustment to proper brace angle.

Part No. | Pipe Size A | Rod Size B | C | D | Bolt Size | Design Load Lbs. | Approx. Wt./100 Lbs. (kg)
--- | --- | --- | --- | --- | --- | --- | ---
4B-3/4 | 3/4” (20) | 3/8”-16 | 1” (25.4) | 21/8” (73.0) | 5/16”-18 | 330 (1.47) | 56 (25.4)
4B-1 | 1” (25) | 3/8”-16 | 1” (25.4) | 31/8” (82.5) | 5/16”-18 | 330 (1.47) | 60 (27.2)
4B-11/4 | 1 1/4” (32) | 3/8”-16 | 1” (25.4) | 31/8” (90.6) | 5/16”-18 | 330 (1.47) | 74 (33.5)
4B-11/2 | 1 1/2” (40) | 3/8”-16 | 1” (25.4) | 31/16” (96.8) | 31/16” (87.3) | 5/16”-18 | 330 (1.47) | 79 (35.8)
4B-2 | 2” (50) | 3/8”-16 | 1 1/2” (38.1) | 51/8” (130.2) | 45/8” (117.5) | 5/16”-18 | 440 (1.78) | 156 (70.7)
4B-21/2 | 2 1/2” (65) | 1/2”-13 | 1 1/4” (44.4) | 51/8” (142.9) | 51/8” (136.5) | 31/8”-16 | 440 (1.78) | 176 (79.8)
4B-3 | 3” (80) | 1/2”-13 | 1 7/8” (47.6) | 61/4” (171.4) | 61/8” (155.5) | 31/8”-16 | 660 (2.93) | 198 (89.9)
4B-31/2 | 3 1/2” (90) | 1/2”-13 | 2” (50.8) | 71/4” (184.1) | 63/4” (171.4) | 31/8”-16 | 660 (2.93) | 219 (99.3)
4B-4 | 4” (100) | 5/8”-11 | 2” (50.8) | 81/8” (219.1) | 71/4” (184.1) | 21/2”-13 | 800 (3.68) | 288 (130.6)
4B-5 | 5” (125) | 5/8”-11 | 2” (50.8) | 91/8” (250.8) | 81/16” (211.1) | 5/8”-11 | 780 (3.46) | 390 (176.9)
4B-6 | 6” (150) | 3/4”-10 | 2 1/8” (54.0) | 101/16” (277.8) | 91/16” (241.3) | 5/8”-11 | 980 (4.36) | 448 (203.2)
4B-8 | 8” (200) | 7/8”-9 | 2 1/8” (54.0) | 131/16” (341.2) | 111/2” (292.1) | 31/4”-10 | 1200 (5.34) | 691 (313.4)

Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.

Eaton 173
B-Line series Pipe Hangers & Supports
TOLCO™ Fig. 4L - Longitudinal “In-Line” Sway Brace Attachment

Size Range: 2” (50mm) through 8” (200mm) IPS.

Material: Steel

Function: For bracing pipe against sway and seismic disturbance.

Approvals: Underwriters Laboratories Listed in the USA (UL) and Canada (cUL) 2½” (65mm) through 8” (200mm) pipe. Approved by Factory Mutual Engineering (FM), 2½” (65mm) through 8” (200mm) pipe.

Installation Instructions: Fig. 4L is the “braced pipe” attachment component of a longitudinal sway brace assembly. It is intended to be combined with the “bracing pipe” and TOLCO structural attachment component to form a complete bracing assembly. NFPA 13 and/or OSHPD guidelines should be followed.

To Install: Place the Fig. 4L over the pipe to be braced and tighten bolts. Then engage “bracing pipe” into jaw opening and tighten set screw until head snaps off. Jaw attachment can pivot for adjustment to proper brace angle.

Finish: Plain. Contact customer service for alternative finishes and materials.

Order By: Figure number, pipe size and finish.

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**Seismic Bracing**

*The loads listed are axial loads on the brace. The horizontal load capacity, H, of the brace is: H = F x sin ? , where ? the installation angle measured from the vertical. FM approved when used with 1", 1¼", 1½" or 2" Sch. 40 brace pipe.*

Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.
TOLCO™ Fig. 4LA - Longitudinal “In-Line” Sway Brace Attachment

**Size Range:** 1” (25mm) through 12” (300mm) IPS.

**Material:** Steel

**Function:** For bracing pipe against sway and seismic disturbance.

**Approvals:** Approved by Factory Mutual Engineering (FM), 1” (25mm) through 12” (300mm) pipe. Underwriters Laboratories Listed in the USA and Canada (cULus), 1” (25mm) through 10” (250mm) pipe. See allowable loads in charts on page 172.

**Installation Instructions:** Fig. 4LA can be used as the system attachment component of a longitudinal or lateral brace assembly. It is intended to be combined with the “bracing member” and TOLCO transitional attachment and structural attachment to form a complete bracing assembly. For fire sprinkler applications NFPA 13 guidelines should be followed.

**To Install:** Place the Fig. 4LA pipe clamp component over the pipe to be braced and tighten down the break-off nuts until the hex head portion breaks off to verify correct installation torque. Next engage brace member (pipe or strut) with jaw component and tighten break-off head bolt until the hex head breaks off to verify correct installation torque. Pivot jaw for correct angle and attach to structure using TOLCO brand transitional attachment and structural attachment.

**Finish:** Plain or Electro-Galvanized. Contact customer service for alternative finishes and materials.

**Order By:** Figure number, pipe size and finish.

---

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Pipe Size</th>
<th>A (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
<th>Bolt Size</th>
<th>Approx. Wt./100 lbs. (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4LA-1</td>
<td>1”</td>
<td>319/32”</td>
<td>91.2</td>
<td>33.5</td>
<td>3/8&quot;-16</td>
<td>119 (54.0)</td>
</tr>
<tr>
<td>4LA-1 1/4</td>
<td>1 1/4”</td>
<td>3 29/32”</td>
<td>99.3</td>
<td>35.3</td>
<td>3/8&quot;-16</td>
<td>123 (55.8)</td>
</tr>
<tr>
<td>4LA-1 1/2</td>
<td>1 1/2”</td>
<td>4 31/32”</td>
<td>105.7</td>
<td>38.5</td>
<td>3/8&quot;-16</td>
<td>127 (57.6)</td>
</tr>
<tr>
<td>4LA-2</td>
<td>2”</td>
<td>5 11/32”</td>
<td>135.6</td>
<td>51.9</td>
<td>3/8&quot;-16</td>
<td>142 (64.4)</td>
</tr>
<tr>
<td>4LA-2 1/2</td>
<td>2 1/2”</td>
<td>5 7/32”</td>
<td>148.7</td>
<td>58.5</td>
<td>3/8&quot;-16</td>
<td>173 (78.5)</td>
</tr>
<tr>
<td>4LA-3</td>
<td>3”</td>
<td>6 1/2”</td>
<td>164.9</td>
<td>66.6</td>
<td>3/8&quot;-16</td>
<td>187 (84.8)</td>
</tr>
<tr>
<td>4LA-4</td>
<td>4”</td>
<td>7 17/32”</td>
<td>191.3</td>
<td>79.5</td>
<td>3/8&quot;-16</td>
<td>209 (94.8)</td>
</tr>
<tr>
<td>4LA-6</td>
<td>6”</td>
<td>10 1/8”</td>
<td>269.9</td>
<td>115.9</td>
<td>3/8&quot;-16</td>
<td>521 (236.3)</td>
</tr>
<tr>
<td>4LA-8</td>
<td>8”</td>
<td>12 13/16”</td>
<td>325.5</td>
<td>143.7</td>
<td>5/8&quot;-13</td>
<td>629 (285.3)</td>
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<tr>
<td>4LA-10</td>
<td>10”</td>
<td>16 1/2”</td>
<td>419.1</td>
<td>184.2</td>
<td>1 1/4”-13</td>
<td>1320 (598.7)</td>
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<tr>
<td>4LA-12</td>
<td>12”</td>
<td>18 1/2”</td>
<td>469.9</td>
<td>209.6</td>
<td>1 1/2”-13</td>
<td>1496 (678.6)</td>
</tr>
</tbody>
</table>

Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.
Seismic Bracing

Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.

### Table: Longitudinal Loads

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Pipe Size in. (mm)</th>
<th>Max. Horizontal Design Load (FM)</th>
<th>Max. Horizontal Design Load (UL)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>30°-44° lbs. (kN)</td>
<td>45°-59° lbs. (kN)</td>
</tr>
<tr>
<td>4LA-1</td>
<td>1&quot; (25)</td>
<td>680 (3.02)</td>
<td>970 (4.31)</td>
</tr>
<tr>
<td>4LA-11/4</td>
<td>1 1/4&quot; (32)</td>
<td>680 (3.02)</td>
<td>970 (4.31)</td>
</tr>
<tr>
<td>4LA-11/2</td>
<td>1 1/2&quot; (40)</td>
<td>680 (3.02)</td>
<td>970 (4.31)</td>
</tr>
<tr>
<td>4LA-2</td>
<td>2&quot; (50)</td>
<td>680 (3.02)</td>
<td>860 (3.82)</td>
</tr>
<tr>
<td>4LA-21/2</td>
<td>2 1/2&quot; (65)</td>
<td>680 (3.02)</td>
<td>970 (4.31)</td>
</tr>
<tr>
<td>4LA-3</td>
<td>3&quot; (80)</td>
<td>680 (3.02)</td>
<td>970 (4.31)</td>
</tr>
<tr>
<td>4LA-4</td>
<td>4&quot; (100)</td>
<td>680 (3.02)</td>
<td>970 (4.31)</td>
</tr>
<tr>
<td>4LA-6</td>
<td>6&quot; (150)</td>
<td>1620 (7.20)</td>
<td>2,260 (10.05)</td>
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<tr>
<td>4LA-8</td>
<td>8&quot; (200)</td>
<td>1620 (7.20)</td>
<td>1,660 (7.38)</td>
</tr>
<tr>
<td>4LA-10</td>
<td>10&quot; (250)</td>
<td>1620 (7.20)</td>
<td>1,660 (7.38)</td>
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<tr>
<td>4LA-12</td>
<td>12&quot; (300)</td>
<td>1620 (7.20)</td>
<td>1,660 (7.38)</td>
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### Table: Lateral Loads

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Pipe Size in. (mm)</th>
<th>Max. Horizontal Design Load (FM)</th>
<th>Max. Horizontal Design Load (UL)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>30°-44° lbs. (kN)</td>
<td>45°-59° lbs. (kN)</td>
</tr>
<tr>
<td>4LA-1</td>
<td>1&quot; (25)</td>
<td>680 (3.02)</td>
<td>970 (4.31)</td>
</tr>
<tr>
<td>4LA-11/4</td>
<td>1 1/4&quot; (32)</td>
<td>680 (3.02)</td>
<td>970 (4.31)</td>
</tr>
<tr>
<td>4LA-11/2</td>
<td>1 1/2&quot; (40)</td>
<td>680 (3.02)</td>
<td>970 (4.31)</td>
</tr>
<tr>
<td>4LA-2</td>
<td>2&quot; (50)</td>
<td>680 (3.02)</td>
<td>970 (4.31)</td>
</tr>
<tr>
<td>4LA-21/2</td>
<td>2 1/2&quot; (65)</td>
<td>680 (3.02)</td>
<td>970 (4.31)</td>
</tr>
<tr>
<td>4LA-3</td>
<td>3&quot; (80)</td>
<td>680 (3.02)</td>
<td>970 (4.31)</td>
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<td>4LA-4</td>
<td>4&quot; (100)</td>
<td>680 (3.02)</td>
<td>970 (4.31)</td>
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<tr>
<td>4LA-6</td>
<td>6&quot; (150)</td>
<td>1620 (7.20)</td>
<td>2,300 (10.23)</td>
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<tr>
<td>4LA-8</td>
<td>8&quot; (200)</td>
<td>1620 (7.20)</td>
<td>2,300 (10.23)</td>
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<tr>
<td>4LA-10</td>
<td>10&quot; (250)</td>
<td>1620 (7.20)</td>
<td>2,300 (10.23)</td>
</tr>
<tr>
<td>4LA-12</td>
<td>12&quot; (300)</td>
<td>1620 (7.20)</td>
<td>2,300 (10.23)</td>
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</tbody>
</table>
**TOLCO™ Fig. 800 - Adjustable Sway Brace Attachment to Steel**

**Size Range:** 4” (101.6mm) thru 18” (457.2mm) beam width  
**Material:** Steel  
**Function:** Seismic brace attachment to steel.  
**Features:** This product's design incorporates a concentric attachment point which is critical to the performance of structural seismic connections. NFPA 13 indicates the importance of concentric loading of connections and fasteners. Permits secure connection to steel where drilling and/or welding of brace connection could present structural issues.  
**Installation Instructions:** Fig. 800 is the structural attachment component of a longitudinal or lateral sway brace assembly. It is intended to be combined with a Cooper B-Line/TOLCO transitional attachment, "bracing pipe" and a B-Line/TOLCO "braced pipe" attachment to form a complete bracing assembly. NFPA 13 and/or OSHPD guidelines should be followed.  
**To Install:** Place the Fig. 800 on the steel beam, tighten the cone point set screws on flange until the heads break off. Tighten hex head bolts into clamp body until lock washers are fully flat. Attach other TOLCO transitional attachment fitting, Fig. 909, 910, 980 or 986. Transitional fitting attachment can pivot for adjustment to proper brace angle.  
**Approvals:** Underwriters Laboratories Listed in the USA (UL) and Canada (cUL). Approved by Factory Mutual Engineering (FM). Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD). For additional load, spacing and placement information relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines.  
**Finish:** Plain. Contact customer service for alternative finishes and materials.  
**Order By:** Figure number, type number and size number.  

**Part Number Example:** FIG. 800 TYPE1X8-10  
Type 1 (beam flange thickness)  
8-10 (flange width range)  

<table>
<thead>
<tr>
<th>Type</th>
<th>Fits Beam Flange Thickness</th>
<th>Max. Horizontal Design Loads (cULs) Along Beam</th>
<th>Max. Horizontal Design Loads (FM) Lateral - Parallel to Structural Member</th>
<th>Max. Horizontal Design Loads (FM) Longitudinal - Perpendicular to Structural Member</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>lbs./kN</td>
<td>30°-44° 45°-59° 60°-74° 75°-90° lbs./kN</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Up to 3/4” (Up to 19.0)</td>
<td>1265 (5.62) 2015 (8.96)</td>
<td>1430 (6.36) 1970 (8.76) 1980 (8.81) NR</td>
<td>930 (4.13) 1310 (5.82) 1610 (7.16) 1800 (8.00)</td>
</tr>
<tr>
<td>2</td>
<td>3/4” to 1½” (19.0 to 31.7)</td>
<td>1265 (5.62) 2015 (8.96)</td>
<td>NR NR NR NR</td>
<td>NR NR NR NR</td>
</tr>
</tbody>
</table>

**Fits Flange Width Range**  

| 4-6  | 4”-6” (101.6-152.4)            |  |
| 6-8  | 6”-8” (152.4-203.2)            |  |
| 8-10 | 8”-10” (203.2-254.0)           |  |
| 10-12| 10”-12” (254.0-304.8)          |  |
| 12-14| 12”-14” (304.8-355.6)          |  |
| 14-16| 14”-16” (355.6-406.4)          |  |
| 16-18| 16”-18” (406.4-457.2)          |  |

Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.  

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.
TOLCO™ Fig. 825 - Bar Joist Sway Brace Attachment

Size Range: One size accommodates all Fig. 900 Series sway brace attachments. Maximum Horizontal Design Load 2015 lbs (8.96kN).

Material: Steel

Function: To attach sway bracing and hanger assemblies to steel open web structural members.

Features: This product's design incorporates a concentric attachment point which is critical to the performance of structural seismic connections. NFPA 13 indicates the importance of concentric loading of connections and fasteners. Permits secure non-friction connection without drilling or welding. Unique design reinforces point of connection to joist. Break off head set screw design assures verification of proper installation torque (min. 31 ft.-lbs.).

Approvals: Underwriters Laboratories Listed in the USA (UL) and Canada (cUL). Approved by Factory Mutual Engineering (FM). Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD). For additional load, spacing and placement information relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines.

Installation Instructions: Fig. 825 is the structural attachment component of a longitudinal or lateral sway brace assembly. It is intended to be combined with a TOLCO transitional attachment, "bracing pipe" and a TOLCO "braced pipe" attachment, to form a complete bracing assembly. NFPA 13 and/or OSHPD guidelines should be followed.

To Install: Place the Fig. 825 on the steel beam, tighten the cone point set screws until heads break off. Attach other TOLCO transitional attachment fitting, Fig. 909, 910, 980 or 986. Transitional fitting attachment can pivot for adjustment to proper brace angle.

Finish: Plain, Electro-Galvanized and HDG

Approx. Wt./100: 247.5 Lbs. (112.2kg)

Order By: Figure number and finish

US Patent #6,098,942, Canada Patent #2,286,659

View of Fig. 825

Max. Horizontal Design Load (UL)

| 2015 lbs. (8.96kN) |

UL Listed as Hanger Attachment for

6" (150mm) Pipe at Maximum Spacing

<table>
<thead>
<tr>
<th>Maximum Horizontal Design Loads (FM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30°-44°</td>
</tr>
<tr>
<td>lbs. / (kN)</td>
</tr>
<tr>
<td>Maximum 3/8&quot; Thick Flange Perpendicular to Structural Member</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Maximum 3/8&quot; Thick Flange Parallel to Structural Member</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.
Seismic Bracing

TOLCO™ Fig. 825A - Bar Joist Sway Brace Attachment

Size Range: One size accommodates all Fig. 900 Series sway brace attachments. Maximum Horizontal Design Load 1600 lbs (7.11kN).

Material: Steel

Function: To attach sway bracing to steel open web structural members.

Features: This product's design incorporates a concentric attachment point which is critical to the performance of structural seismic connections. NFPA 13 indicates the importance of concentric loading of connections and fasteners. Permits secure non-friction connection without drilling or welding. Unique design reinforces point of connection to joist. Break off head bolt design assures verification of proper installation.

Approvals: Underwriters Laboratories Listed in the USA (UL) and Canada (cUL). For additional load, spacing and placement information relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines.

Installation Instructions: Fig. 825A is the structural attachment component of a longitudinal or lateral sway brace assembly. It is intended to be combined with a TOLCO transitional attachment, "bracing pipe" and a TOLCO "braced pipe" attachment to form a complete bracing assembly. NFPA 13 and/or OSHPD guidelines should be followed.

To Install: Place the Fig. 825A on the steel beam, tighten the cone point set screws until heads break off. Attach other TOLCO transitional attachment fitting, Fig. 909, 910, 980 or 986. Transitional fitting attachment can pivot for adjustment to proper brace angle.

Finish: Plain or Electro-Galvanized

Approx. Wt./100: 154.5 Lbs. (70.1kg)

Order By: Figure number and finish

Patent #6,098,942

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Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.

Eaton 179 B-Line series Pipe Hangers & Supports
TOLCO™ Fig. 828 - Universal Sway Brace Attachment

Size Range: One size accommodates all Fig. 900 Series sway brace attachments. Fits from 3/8” (9.4mm) to 7/8” (22.2mm) thick steel structure. For thicknesses less than 3/8” (9.4mm) refer to Fig. 825 and Fig. 825A.

Material: Steel

Function: To attach sway bracing to various types of steel structural members.

Features:
- Permits secure non-friction connection without drilling or welding.
- Unique design allows offset placement on wide flange beam, I-beam, C-channel, open web, welded steel trusses, etc. Secures brace to structure either across or along the beam. Break-off set screws allow for visual verification of proper installation torque.

Approvals:
- Underwriters Laboratories Listed in the USA (UL) and Canada (cUL).
- Factory Mutual Approved (FM).

Installation Instructions: The Fig. 828 is the structural attachment component of a longitudinal or lateral sway brace assembly. It is intended to be combined with a TOLCO transitional attachment, "bracing pipe" and a TOLCO "braced pipe" attachment to form a complete bracing assembly. NFPA 13 and/or OSHPD guidelines should be followed.

To Install: Place the Fig. 828 on the flange of the beam, truss, or girder. Be sure the attachment is fully engaged to the rear of the opening. Tighten the cone point set screws (A) until the heads break off. Tighten the cone point set screw (B) until the head breaks off. Remove the flange nut from set screw (B). Install a TOLCO swivel fitting (Fig. 909, 910, 980, 986). Use flange nut to secure the swivel fitting.

Finish: Plain or Electro-Galvanized

Approx. Weight/100: 275 Lbs. (124.7kg)

Order By: Figure number and finish

Patent #6,098,942, #8,534,625

Canada Patent #2,286,659

Patent Pending

<table>
<thead>
<tr>
<th>Max. Horizontal Design Load (FM) With Brace Perpendicular To The Beam</th>
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<tr>
<td>Brace Angle (degrees from vertical)</td>
</tr>
<tr>
<td>---------------------------------</td>
</tr>
<tr>
<td>1570</td>
</tr>
<tr>
<td>(6.98kN)</td>
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</table>

<table>
<thead>
<tr>
<th>Max. Horizontal Design Load (FM) With Brace Parallel To The Beam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brace Angle (degrees from vertical)</td>
</tr>
<tr>
<td>---------------------------------</td>
</tr>
<tr>
<td>690</td>
</tr>
<tr>
<td>(3.07kN)</td>
</tr>
</tbody>
</table>

FM Approved design loads are based on ASD design method.

Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.
TOLCO™ Fig. 906 - Sway Brace Multi-Fastener Adapter

**Size Range:** Use with 1” (25.4mm) and 1 1/4” (31.7mm) UL listed Fig. 900 Series Earthquake Brace Attachments.

**Material:** Steel

**Application:** Allows sway brace fittings to develop greater load carrying ability by providing multiple fastener attachments. The National Fire Protection (NFPA) provides information on fastener loads to various structures. Refer to NFPA 13 (2010) 9.3.5.9.1.

**Approvals:** Underwriters Laboratories Listed in the USA (UL) and Canada (cUL) only when used with TOLCO Fig. 900 Series Earthquake Brace Attachments. Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD). For additional load, spacing and placement information relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines.

**Installation Instructions:** Fig. 906 is a multiple fastener structural attachment component of a longitudinal or lateral sway brace assembly. It is intended to be combined with a TOLCO transitional attachment, “bracing pipe” and a TOLCO “braced pipe” attachment to form a complete bracing assembly. NFPA 13 and/or OSHPD guidelines should be followed.

**To Install:** Attach the Fig. 906 to the structural surface as per fastener design guidelines. Attach other TOLCO transitional attachment fitting Fig. 909, 910, 980 or 986. Transitional fitting attachment can pivot for adjustment to proper brace angle.

**Finish:** Plain. Contact customer service for alternative finishes and materials.

**Order By:** Figure number and specify dimensions H1 and H2.

---

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A (in.)</th>
<th>B (in.)</th>
<th>C (in.)</th>
<th>D (in.)</th>
<th>H1</th>
<th>H2</th>
<th>Approx. Wt./100 Lbs. (kg)</th>
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</thead>
<tbody>
<tr>
<td>906</td>
<td>12 (305.0)</td>
<td>9 (228.6)</td>
<td>2 (50.8)</td>
<td>1/4 (6.3)</td>
<td>Specify</td>
<td>Specify</td>
<td>307 (139.3)</td>
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</tbody>
</table>

Load Note: Actual design load determined by anchor and concrete strength, not to exceed the UL Listed maximum horizontal load of 2015 lbs. (8.96kN).

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Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.
TOLCO™ Fig. 907 - 4-Way Longitudinal Sway Brace Attachment

Size Range: 1" (25.4mm) x 1" (25.4mm), 1" (25.4mm) x 1 1/4" (31.7mm) and 1 1/4" (25.4mm) x 1 1/4" (25.4mm) bracing pipe.

Material: Steel, hardened cone (or cup) point set screw

Function: For bracing pipe against sway and seismic disturbances, Functions as a longitudinal brace connection when attached to a lateral brace pipe. Bracing connection must be positioned as close as physically possible to the braced pipe (No more than 3" (76.2mm) away). Must be used only with TOLCO bracing components. When used in conjunction with Fig. 1000, this combination bracing restricts piping movement in tension and compression both laterally and longitudinally.

Approvals: Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD). For additional load, spacing and placement information relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines.

Installation Instructions: Fig. 907 is a transitional component of a longitudinal 4-way sway brace assembly. It is intended to be installed with the longitudinal and lateral "bracing pipes", TOLCO structural attachment fittings, Fig. 909, 910 and 980 and the Fig. 1000 TOLCO "braced pipe" fitting, to form a complete bracing assembly. NFPA 13 and/or OSHPD guidelines should be followed.

To Install: Attach the Fig. 907 over the lateral "bracing pipe" to within 3" (76.2mm) of its position relative to the "braced pipe" connection. Adjust brace angle and tighten set screws until the heads bottom out on surface.

Finish: Plain. Contact customer service for alternative finishes and materials.

Order By: Figure number, bracing pipe sizes and finish.

---

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Brace Pipe Size</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>Max. Design Load (lbs.)</th>
<th>Approx. Wt./100 (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>907-1 X 1</td>
<td>1&quot; x 1&quot; (25 x 25)</td>
<td>4 3/4&quot; (120.6)</td>
<td>4 3/4&quot; (120.6)</td>
<td>655* (2.91)</td>
<td>103 (46.7)</td>
</tr>
<tr>
<td>907-1 X 1 1/4</td>
<td>1&quot; x 1 1/4&quot; (25 x 32)</td>
<td>5 5/16&quot; (128.6)</td>
<td>4 13/16&quot; (122.2)</td>
<td>655* (2.91)</td>
<td>107 (48.5)</td>
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<tr>
<td>907-1 1/4 X 1 1/4</td>
<td>1 1/4&quot; x 1 1/4&quot; (32 x 32)</td>
<td>5 5/8&quot; (136.5)</td>
<td>5 1/4&quot; (133.1)</td>
<td>655* (2.91)</td>
<td>109 (49.4)</td>
</tr>
</tbody>
</table>

* Load will accommodate up to 4" (100mm) pipe at maximum spacing.

Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.
Seismic Bracing

TOLCO™ Fig. 909 - No-Thread Swivel Sway Brace Attachment

Size Range: 1” (25mm) bracing pipe. For brace pipe sizes larger than 1” (25mm), use Fig. 980. Available with holes for 1/2”-13 thru 3/4”-10 fastener attachment.

Material: Steel, hardened cone point set screw

Function: The structural component of a sway and seismic bracing system.

Features: This product’s design incorporates a concentric attachment opening which is critical to the performance of structural seismic connections. NFPA 13 (2010) 9.3.5.8.4 indicates clearly that fastener table load values are based only on concentric loading. No threading of the bracing pipe is required. Open design allows for easy inspection of pipe engagement.

Application Note: Fig. 909 is used in conjunction with the Fig. 1000, Fig. 1001, Fig. 4 (A) or Fig. 4L pipe clamp, and joined together with bracing pipe. Sway brace assemblies are intended to be installed in accordance with NFPA 13 (or TOLCO State of California OSHPD Approved Seismic Restraint Manual) and the manufacturer’s installation instructions. The required type, number and size of fasteners used for the structure attachment fitting shall be in accordance with NFPA 13 and/or OSHPD.

Approvals: Underwriters Laboratories Listed in the USA (UL)

and Canada (cUL). Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD). For additional load, spacing and placement information relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines.

Installation Instructions: Fig. 909 is the structural or transitional attachment component of a longitudinal or lateral sway brace assembly. It is intended to be combined with the “bracing pipe” and TOLCO “braced pipe” attachment, Fig. 1000, 1001, 4A, 4B or 4L to form a complete bracing assembly. NFPA 13 and/or OSHPD guidelines should be followed.

To Install: Place the Fig. 909 onto the bracing pipe. Tighten the set screw until the head bottoms out on surface. Attachment can pivot for adjustment to proper brace angle.

Finish: Plain. Contact customer service for alternative finishes and materials.

Order By: Figure number, fastener attachment size and finish.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Mounting Hole D</th>
<th>Brace Pipe Size A</th>
<th>Brace Pipe Size B</th>
<th>Max. Design Load</th>
<th>Approx. Wt./100 lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>909-1/2</td>
<td>17/32” (13.5)</td>
<td>1” (25)</td>
<td>6” (152.4)</td>
<td>1 1/8” (41.3)</td>
<td>2015 (8.96)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>91 (41.3)</td>
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<tr>
<td>909-5/8</td>
<td>11/16” (17.5)</td>
<td>1” (25)</td>
<td>6” (152.4)</td>
<td>1 1/8” (41.3)</td>
<td>2015 (8.96)</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>90 (40.8)</td>
</tr>
<tr>
<td>909-3/4</td>
<td>13/16” (20.6)</td>
<td>1” (25)</td>
<td>6” (152.4)</td>
<td>1 1/8” (41.3)</td>
<td>2015 (8.96)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>89 (40.4)</td>
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</tbody>
</table>

* Standard size.

Important! - For load information when using Fig. 909 with pre-installed or post-installed concrete anchors in compliance with NFPA 13 (2016) or ASCE 7-10, including prying factors, see load tables on pages AL1 thru AL21.

Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.
**TOLCO™ Fig. 910 - Swivel Sway Brace Attachment**

**Size Range:** 1" (25mm) bracing pipe. For brace pipe sizes larger than 1" (25mm), use Fig. 980. Available with holes for 3/8"-16 thru 3/4"-10 fastener attachment.

**Material:** Steel

**Function:** For bracing pipe against sway and seismic disturbances. The building attachment component of a sway brace system; the Fig. 910 is used in conjunction with the Fig. 1001, Fig. 1000 or with a Fig. 4A, Fig. 4L, or Fig. 4LA pipe clamp and joined together with a brace pipe per NFPA 13.

**Features:** This product’s design incorporates a concentric attachment opening which is critical to the performance of structural seismic connections. NFPA 13 (2010) 9.3.5.8.4 indicates that fastener table load values are based only on concentric loading. Universal swivel design allows Fig. 910 to be attached at any surface angle.

**Approvals:** Underwriters Laboratories Listed in the USA (UL) and Canada (cUL). Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD, OPA-0300). For additional load, spacing and placement information relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines.

**Installation Instructions:** Fig. 910 is a structural or transitional attachment component of a longitudinal or lateral sway brace assembly. It is intended to be combined with the ‘bracing pipe’, and TOLCO ‘braced pipe’ attachment, Fig. 1000, Fig. 1001, Fig. 4A, Fig. 4L or Fig. 4LA to form a complete bracing assembly. Follow NFPA 13 and/or OSHPD guidelines.

To Install: Thread the pipe into the Fig. 910 until pipe threads are visible through inspection site hole. Attachment can pivot for adjustment to proper brace angle.

**Note:** Fig. 910 swivel attachment and Fig. 1001, Fig. 1000, Fig. 4A Fig. 4L, or Fig. 4LA pipe clamps make up a sway brace system of (UL) Listed attachments and bracing materials which satisfies the requirements of Underwriters Laboratories and the National Fire Protection Association (NFPA).

**Finish:** Pre-Galvanized. Contact customer service for alternative finishes and materials.

**Order By:** Figure number, pipe size, fastener attachment size, and finish.

---

**Part Number | Brace Pipe Size | A | B | C | Mounting Hole D | E | F | Max. Design Load | Approx. Wt./100 lbs.**
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>910-1 X 1/2</td>
<td>1&quot; (25)</td>
<td>2&quot; (50.8)</td>
<td>1 1/2&quot; (38.1)</td>
<td>3&quot; (76.2)</td>
<td>9/16&quot; (14.3)</td>
<td>2 5/16&quot; (58.7)</td>
<td>2&quot; (50.8)</td>
<td>1600 (8.96)</td>
<td>88 (39.9)</td>
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<tr>
<td>910-1 X 5/8</td>
<td>1&quot; (25)</td>
<td>2&quot; (50.8)</td>
<td>1 1/2&quot; (38.1)</td>
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<td>1600 (8.96)</td>
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<td>2&quot; (50.8)</td>
<td>1600 (8.96)</td>
<td>86 (39.0)</td>
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</tbody>
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**Important! - For load information when using Fig. 910 with pre-installed or post-installed concrete anchors in compliance with NFPA 13 (2016) or ASCE 7-10, including prying factors, see load tables on pages AL1 thru AL21.**

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Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.

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All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.

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B-Line series Pipe Hangers & Supports

---

Eaton
TOLCO™ Fig. 975 - Straight Sway Brace Fitting

Size Range: 1" (25mm) bracing pipe. For brace pipe sizes larger than 1" (25mm), use Fig. 980. Available with holes for 1/2"-13 thru 3/4"-10 fastener attachment.

Material: Steel

Function: For bracing pipe against sway and seismic disturbances. The building attachment component of a sway brace system; the Fig. 975 is used in conjunction with the Fig. 1000, Fig. 1001 or with a Fig. 4A pipe clamp and joined together with a brace pipe per NFPA 13.

Features: Open design allows for easy checking of thread engagement.

Approvals: Underwriters Laboratories Listed in the USA (UL) and Canada (cUL).

Installation: Fig. 975 is the structural or transitional attachment component of a longitudinal or lateral sway brace assembly. It is intended to be combined with the "bracing pipe" and TOLCO "braced pipe" attachment, Fig. 1000, 1001, 4A, 4B, or 4L to form a complete bracing assembly. NFPA 13 and/or OSHPD guidelines should be followed.

To Install: Thread the Fig. 975 onto the threaded bracing pipe. Attachment can pivot for adjustment to proper brace angle. (Bending of plate not permitted.)

Finish: Plain. Contact customer service for alternative finishes and materials.

Order By: Figure number and finish.

Note: Bending of this fitting alters the material strength. Use Fig. 909 or Fig. 910 when angle fitting is required.

---

**Part Number** | **Brace Pipe Size** | **A** | **B** | **C** | **Mounting Hole D** | **Max. Design Load (lbs. kN)** | **Approx. Wt./100 lbs. (kg)**
---|---|---|---|---|---|---|---
975-1/2 * | 1" (25) | 4" (101.6) | 3 1/2" (88.9) | 1 1/2" (38.1) | 9/16" (14.3) | 2015 (8.96) | 88 (39.9)
975-5/8 | 1" (25) | 4" (101.6) | 3 1/2" (88.9) | 1 1/2" (38.1) | 11/16" (17.5) | 2015 (8.96) | 87 (39.4)
975-3/4 | 1" (25) | 4" (101.6) | 3 1/2" (88.9) | 1 1/2" (38.1) | 13/16" (20.6) | 2015 (8.96) | 86 (39.0)

* Standard size.

Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.
TOLCO™ Fig. 980 - Universal Swivel Sway Brace Attachment - 3/8”-16 to 3/4”-10 rods
TOLCO™ Fig. 980H - Universal Swivel Sway Brace Attachment - 7/8”-9 to 1 1/4”-7 rods

Size Range: One size fits bracing pipe 1” (25mm) thru 2” (50mm), 12 gauge (2.6mm) channel, and all structural steel up to 1/4” (3.17mm) thick.

Material: Steel. Stainless Steel Type 316 (SS6) optional.

Function: Multi-functional attachment to structure or braced pipe fitting.

Features: This product’s design incorporates a concentric attachment opening which is critical to the performance of structural seismic connections. NFPA 13 (2010) 9.3.5.8.4 indicates clearly that fastener table load values are based only on concentric loading. Mounts to any surface angle. Break off bolt head assures verification of proper installation.

Installation: Fig. 980 is the structural or transitional attachment component of a longitudinal or lateral sway brace assembly. It is intended to be combined with the “bracing pipe” and TOLCO “braced pipe” attachment, Fig. 1000, 1001, 2002, 4L, 4A or 4B to form a complete bracing assembly. NFPA 13 and/or OSHPD guidelines should be followed.

To Install: Place the Fig. 980 onto the “bracing pipe”. Tighten the set screw until the head breaks off. Attachment can pivot for adjustment to proper brace angle.

Approvals: —Underwriters Laboratories Listed in the USA (UL) and Canada (cUL) Approved by Factory Mutual Engineering (FM). Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD). For additional load, spacing and placement information relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines.

Note: Fig. 980 Swivel Attachment and Fig. 1001, Fig. 1000, Fig. 2002, Fig. 4A, Fig. 4B or Fig. 4L pipe clamps make up a sway brace system of UL Listed attachments and bracing materials which satisfies the requirements of Underwriters Laboratories and the National Fire Protection Association (NFPA)

Finish: Plain, Electro-Galvanized or Stainless Steel. Contact customer service for alternative finishes.

Order By: Figure number and finish.

US Patent Numbers
Pat. #6,273,372, Pat. #6,517,030, Pat. #6,953,174,
Pat. #6,708,930, Pat. #7,191,987, Pat. #7,441,730, Pat. #7,669,806

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Max. Horizontal Design Load (cULus)</th>
<th>Max. Horizontal Design Load** (FM)</th>
<th>Approx. Wt./100 lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30°-44° lbs./(kN)</td>
<td>45°-59° lbs./(kN)</td>
<td>60°-74° lbs./(kN)</td>
</tr>
<tr>
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<td>5/4” (133.3)</td>
<td>1 1/2” (47.6)</td>
<td>13/32” (10.3)</td>
</tr>
<tr>
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<td>5/4” (133.3)</td>
<td>1 1/2” (47.6)</td>
<td>17/32” (13.5)</td>
</tr>
<tr>
<td>980-5/8</td>
<td>5/4” (133.3)</td>
<td>1 1/2” (47.6)</td>
<td>11/16” (17.5)</td>
</tr>
<tr>
<td>980-3/4</td>
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<td>13/16” (20.5)</td>
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<tr>
<td>980H-7/8</td>
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<td>3 1/2” (88.9)</td>
<td>15/16” (23.8)</td>
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<tr>
<td>980H-1</td>
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<td>3 1/2” (88.9)</td>
<td>1” (25.4)</td>
</tr>
<tr>
<td>980H-1 1/8</td>
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<td>3 1/2” (88.9)</td>
<td>1 1/16” (30.2)</td>
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<tr>
<td>980H-1 1/4</td>
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<td>3 1/2” (88.9)</td>
<td>1 1/16” (33.3)</td>
</tr>
</tbody>
</table>

* Mounting attachment hole size.
** Installed with 1” or 1 1/4” Schedule 40 brace pipe.

Important! - For load information when using Fig. 980 with pre-installed or post-installed concrete anchors in compliance with NFPA 13 (2016) or ASCE 7-10, including prying factors, see load tables on pages AL1 thru AL21.

Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.
TOLCO™ Fig. 981 - Fast Attach – Universal Swivel Sway Brace Attachment

**Size Range:** Fits bracing pipe 1" (25mm) thru 2" (50mm), 12 gauge (2.6mm) channel and all structural steel up to 1/4" (6.3mm) thick.

Fig. 981-S fits rod sizes 3/8" thru 5/8".

Fig. 981-L fits rod sizes 3/4" thru 7/8".

**Material:** Steel

**Function:** Multi-functional attachment to hanger rod, trapeze rod, structure or braced pipe fitting.

**Features:** Fits multiple sizes of bracing pipe, strut or structural steel. Swivel allows adjustment to various surface angles. Breakaway bolt heads assure verification of proper installation torque. Unique “fast attach” yoke design fits multiple rod sizes; 3/8" thru 5/8" and 3/4" thru 7/8". “Stackable” design allows installation of both lateral and longitudinal braces to be easily installed on a single hanger rod, with no disassembly.

**Installation:** Fig. 981 is the “braced pipe” attachment component of a lateral or longitudinal brace assembly. It is intended to be combined with the pipe hanger, all-thread rod, “bracing pipe” and TOLCO transitional and structural attachment component(s) to form a complete bracing assembly. NFPA 13 and or OSHPD guidelines should be followed.

**To Install:** Spin nut on top of hanger counterclockwise to loosen the nut and raise it above the top of the hanger. Attach Fig. 981 by slipping the open side of the 981 yoke onto the all thread rod above the top of the hanger. Tighten 3/8" cone point set screw on yoke until head breaks-off to ensure proper installation torque. Spin the hex nut clockwise and tighten securely. Insert brace pipe into the jaw of the 981 and tighten the cone point set screw until the head breaks-off ensuring proper installation torque. Pivot brace pipe to proper angle and attach to structure using a TOLCO swivel structural attachment.

**Approvals:** Included in our Seismic Restraint Systems Guidelines, approved by the California Office of Statewide Health Planning and Development (OSHPD). For additional load, spacing and placement information relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines.

**Finish:** Electro-Galvanized

**Order By:** Figure number, rod size

**US Patent Numbers**
Pat. #6,273,372, Pat. #7,097,141, Pat. #7,654,043, Pat. #7,654,043 B2

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Rod Size Range</th>
<th>A (in.)</th>
<th>B (in.)</th>
<th>C (in.)</th>
<th>D (in.)</th>
<th>Max. Horizontal Design Load (lbs) (kN)</th>
<th>Approx. Wt./100 (lbs) (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>981-S</td>
<td>3/8&quot; thru 5/8&quot;</td>
<td>5 1/8&quot; (130.2)</td>
<td>4 1/8&quot; (104.8)</td>
<td>1 1/4&quot; (31.7)</td>
<td>2 1/4&quot; (57.1)</td>
<td>2015 (8.96)</td>
<td>88 (39.9)</td>
</tr>
<tr>
<td>981-L</td>
<td>3/4&quot; &amp; 7/8&quot;</td>
<td>5 1/8&quot; (130.2)</td>
<td>4 1/8&quot; (104.8)</td>
<td>1 1/4&quot; (31.7)</td>
<td>2 1/4&quot; (57.1)</td>
<td>2015 (8.96)</td>
<td>82 (37.2)</td>
</tr>
</tbody>
</table>

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.

Eaton Revised June-7-2017

187 B-Line series Pipe Hangers & Supports
**TOLCO™ Fig. 985 - Mechanical Fast Clamp**

**Size Range:** Fig. 985-S fits rod sizes $\frac{3}{8}”$ thru $\frac{5}{8}”$
Fig. 985-L fits rod sizes $\frac{3}{4}”$ thru $\frac{7}{8}”$ rod sizes

**Material:** Steel

**Function:** Used for attachment of seismic bracing to pipe hanger or trapeze

**Features:** Allows up to 12” (304.8mm) of adjustability in brace length, when used with Fig. 986. Break-off set screw heads visually verify required installation torque. Unique “Fast Attach” yoke design allows Fig. 985 to be installed to hanger rods $\frac{3}{8}”$ thru $\frac{5}{8}”$ or $\frac{3}{4}”$ thru $\frac{7}{8}”$

**Finish:** Electro-galvanized

**Order By:** Figure number, rod size & finish

**Patent Pending**

**Part Number** | **Rod Size** | **A** | **B** | **Max. Horizontal Design Load** | **Approx. Wt./100 lbs. (kg)**
--- | --- | --- | --- | --- | ---
985-S | $\frac{3}{8}”$ thru $\frac{5}{8}”$ | 2” (50.8) | $1\frac{1}{2}”$ (38.1) | 2015 (8.96) | 204 (92.5)
985-L | $\frac{3}{4}”$ & $\frac{7}{8}”$ | 2” (50.8) | $1\frac{5}{8}”$ (41.3) | 2015 (8.96) | 198 (89.8)

---

**TOLCO™ Fig. 986 - Mechanical Fast Clamp**

**Size Range:** Available with holes for $\frac{1}{2}”$-13 thru $\frac{3}{4}”$-10 fastener attachment.

**Material:** Steel

**Function:** Used for attachment of seismic bracing to structure or hanger.

**Features:** Allows up to 12” (304.8mm) of adjustability in brace length, when used with Fig. 985. Break-off set screw heads visually verify required installation torque. Swivel allows adjustment to various surface angles.

**Finish:** Electro-galvanized

**Order By:** Figure number, rod size & finish

**Patent Pending**

**Part Number** | **Rod Size** | **Hole Dia.** | **Max. Horizontal Design Load** | **Approx. Wt./100 lbs. (kg)**
--- | --- | --- | --- | ---
986-1/2 | $\frac{1}{2}”$ | $\frac{9}{16}”$ (14.3) | 2015 (8.96) | 204 (92.5)
986-5/8 | $\frac{5}{8}”$ | $\frac{11}{16}”$ (17.5) | 2015 (8.96) | 203 (92.1)
986-3/4 | $\frac{3}{4}”$ | $\frac{13}{16}”$ (20.6) | 2015 (8.96) | 202 (91.6)

* When used with $1\frac{5}{8}”$ (41.3mm) x $1\frac{5}{8}”$ (41.3mm) 12 Ga. (2.6mm) channel

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All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.

B-Line series Pipe Hangers & Supports

Eaton
Seismic Bracing

TOLCO™ Fig. BRC CABLE - Pre-Stretched 7 x 19 Galvanized Aircraft Cable

Size Range: Available in cable diameters of 1/8", 3/16", and 1/4"

Material: Steel

Function: Used for attachment of seismic bracing to structure or hanger.

Features: Meets requirements of IBC 2009 and ASCE 7-05 for seismic bracing.

Finish: Galvanized

Order By: Figure number and size

Note: Only pre-stretched aircraft cable should be used in seismic bracing installations where cable is used as the bracing component. Use of other types of cable will, over time, begin to sag and deform, thus rendering the bracing system to not perform properly.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Cable Diameter in. (mm)</th>
<th>Max. Rec. Load* lbs. (kN)</th>
<th>Approx. Wt./100 Ft. lbs. (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRC CABLE-1/8</td>
<td>1/8&quot; (3.2)</td>
<td>975 (4.33)</td>
<td>2.9 (1.31)</td>
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<tr>
<td>BRC CABLE-3/16</td>
<td>3/16&quot; (4.8)</td>
<td>2050 (9.12)</td>
<td>6.5 (2.95)</td>
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<tr>
<td>BRC CABLE-1/4</td>
<td>1/4&quot; (6.3)</td>
<td>3150 (14.01)</td>
<td>11.0 (4.99)</td>
</tr>
</tbody>
</table>

* Cable breaking strength

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.
TOLCO™ Fig. 990 - Cable Sway Brace Attachment - 3/8"-16 to 3/4"-10 rods
TOLCO™ Fig. 990H - Cable Sway Brace Attachment - 7/8"-9 to 1 1/4"-7 rods

Size Range: — 1/8", 3/16" and 1/4" pre-stretched cable.
   Fig. 990 for 3/8", 1/2", 5/8", or 3/4" hanger rod, bolt, or fastener.
   Fig. 990H for 7/8", 1", 1 1/8", or 1 1/4" hanger rod, bolt, or fastener.

Material: — Steel

Function: — Cable attachment for sway bracing. Attaches sway brace to
   structure or to hanger. To be used with 7 x 19 strand core pre-stretched
galvanized aircraft cable.

Features: — Cable easily slides into oversized front arch opening.
   Breakaway hex nuts assure verification of proper installation. Will mount
   to any surface angle.

Approvals: — Included in our Seismic Restraints Catalog approved by the
   State of California Office of Statewide Health Planning and Development
   (OSHPD). For additional load, spacing and placement information relating
   to OSHPD projects, please refer to the TOLCO Seismic Restraint System Guidelines.

Finish: — Electro-Galvanized

Order By: — Figure number, cable size and mounting hole size.

Note: — Order 990H for hanger rod, bolt or fastener holes sized for 7/8" (22.2mm)
thru 1 1/4" (31.7mm) rods.

<table>
<thead>
<tr>
<th>Cable Diameter</th>
<th>990 Dimensions</th>
<th>990H Dimensions</th>
<th>Max. Horizontal</th>
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<tr>
<td>in. (mm)</td>
<td>A (mm)</td>
<td>B (mm)</td>
<td>Design Load *</td>
</tr>
<tr>
<td>1/8&quot; (3.2)</td>
<td>4 5/16&quot; (14.3)</td>
<td>2&quot; (50.8)</td>
<td>73/4&quot; (196.8)</td>
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<tr>
<td>3/16&quot; (4.8)</td>
<td>5&quot; (127.0)</td>
<td>2 1/4&quot; (57.1)</td>
<td>8 1/2&quot; (215.9)</td>
</tr>
<tr>
<td>1/4&quot; (6.3)</td>
<td>5&quot; (127.0)</td>
<td>2 5/8&quot; (66.7)</td>
<td>8 1/2&quot; (215.9)</td>
</tr>
</tbody>
</table>

* Maximum load rating controlled by cable breaking strength.

** Insert cable diameter in part number.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.
**TOLCO™ Fig. 991 - Fast Attach – Cable Sway Brace Attachment**

**Size Range:** 1/8”, 3/16” and 1/4” pre-stretched cable.
- Fig. 991S fits rod sizes 3/8” thru 5/8”.
- Fig. 991L fits rod sizes 3/4” thru 7/8”.

**Material:** Steel

**Function:** Cable attachment for sway bracing. Attaches sway brace to hanger rod. To be used with 7 x 19 strand core pre-stretched galvanized aircraft cable.

**Features:** Cable easily slides into oversized front arch opening. Swivel allows adjustment to various surface angles. Break-away hex nuts assure verification of proper installation torque. Unique “Fast-Attach” yoke design fits multiple rod sizes; 3/8” thru 5/8” or 3/4” thru 7/8”. To verify proper installation to hanger rod, simply install yoke to hanger rod and tighten 3/8” cone point set screw until head breaks off. “Stackable” design allows installation of both lateral and longitudinal braces, as well as opposing braces, to be easily installed on a single hanger rod, with no disassembly. The retrofit yoke has a visual verification of proper installation torque. Tighten existing hex nut down until the slight gap in the yoke assembly closes completely.

**Approvals:** Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD). For additional load, spacing and placement information relating to OSHPD projects, please refer to the TOLCO Seismic Restraint System Guidelines.

**Finish:** Electro-Galvanized

**Order By:** — Figure number, rod size range 3/8” thru 5/8” or 3/4” thru 7/8”

**US Patent Numbers:** Pat. #7,097,141, Pat. #7,654,043, Pat. #7,654,043 B2

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**Part Number | Rod Sizes | Cable Diameter | Max. Horizontal Design Load* | Approx. Wt./100 lbs. | Approx. Wt./100 kg**
---|---|---|---|---|---
991-S-1/8 | 3/8” thru 5/8” | 1/8” (3.2) | 975 (4.33) | 128.3 (58.2) |
991-S-3/16 | 5/8” | 1/8” (3.2) | 975 (4.33) | 85.0 (38.1) |
991-L-1/4 | 5/8” thru 7/8” | 1/4” (6.3) | 3050 (13.6) | 221.1 (100.3) |

---

**Part Number | Rod Sizes | Cable Diameter | Max. Horizontal Design Load* | Approx. Wt./100 lbs. | Approx. Wt./100 kg**
---|---|---|---|---|---
991-L-1/8 | 3/4” thru 7/8” | 1/8” (3.2) | 975 (4.33) | 122.3 (55.5) |
991-L-3/16 | 5/8” thru 7/8” | 1/8” (3.2) | 975 (4.33) | 85.0 (38.1) |
991-L-1/4 | 7/8” | 1/4” (6.3) | 3050 (13.6) | 215.1 (97.5) |

* Maximum load rating controlled by cable breaking strength.
**TOLCO™ Fig. 1000 - “Fast Clamp” Sway Brace Attachment**

**Size Range:** Pipe size to be braced: 1" (25mm) thru 6" (150mm) Schedule 10 thru 40 IPS.  
Pipe size used for bracing: 1" (25mm) and 1 1/4" (32mm) Schedule 40 IPS.  

**Material:** Steel  

**Function:** A restraint device intended for lateral bracing.  

**Features:** Field adjustable, making critical pre-engineering of bracing pipe unnecessary. Unique design requires no threading of bracing pipe. Can be used as a component of a 4-way riser brace. Can be used as longitudinal brace with Fig. 907. Steel leaf spring insert provided to assure installer and inspector necessary minimum torque has been achieved.  

**Installation:** Fig. 1000 is the “braced pipe” attachment component of a lateral sway brace assembly. It is intended to be combined with the “bracing pipe” and TOLCO structural attachment component, Fig. 980, 910 or 909 to form a complete bracing assembly. Follow NFPA 13 and/or OSHPD guidelines.  

**To Install:** Place the Fig. 1000 over the pipe to be braced, insert bracing pipe through opening leaving a minimum of 1" extension. Brace pipe can be installed on top or bottom of pipe to be braced. Tighten hex nuts until leaf spring is flat. It is recommended that the brace angle be adjusted before hex nuts are fully tightened.  

**Approvals:** Underwriters Laboratories Listed in the USA (UL) and Canada (cUL). Approved for use with Allied Dyna Flow sprinkler pipe up to 2" as a restraint device. Maximum horizontal design load is 655 lbs. (2.91kN) Torque requirement is 6-8 ft./lbs. (8-10Nm) Approved by Factory Mutual Engineering (FM). Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD). For additional load, spacing and placement information relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines.  

**Application Note:** Position Fast Clamp and tighten two hex nuts until leaf spring flattens. A minimum of 1" pipe extension beyond the Fig. 1000 is recommended.  

**Finish:** Plain. Contact customer service for alternative finishes and materials.  

**Order By:** Order first by pipe size to be braced, followed by pipe size used for bracing, figure number and finish.  

---

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Part Number &amp; Approx. Wt./100</th>
<th>Max. Horizontal Design Load (FM) 1,2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot; (25)</td>
<td>1000-1 X 1 71.6 (32.5)</td>
<td>30°-44° 200 (0.89) 280 (1.24) 340 (1.51) 380 (1.69)</td>
</tr>
<tr>
<td>1 1/4&quot; (32)</td>
<td>1000-1 1/4 X 1 74.8 (33.9)</td>
<td>45°-59° 200 (0.89) 280 (1.24) 340 (1.51) 380 (1.69)</td>
</tr>
<tr>
<td>1 1/2&quot; (40)</td>
<td>1000-1 1/2 X 1 77.8 (35.5)</td>
<td>60°-74° 200 (0.89) 280 (1.24) 340 (1.51) 380 (1.69)</td>
</tr>
<tr>
<td>2&quot; (50)</td>
<td>1000-2 X 1 81.4 (35.1)</td>
<td>75°-90° 200 (0.89) 280 (1.24) 340 (1.51) 380 (1.69)</td>
</tr>
<tr>
<td>2 1/2&quot; (65)</td>
<td>1000-2 1/2 X 1 90.2 (40.9)</td>
<td>101.7 (46.1) 230 (1.02) 320 (1.42) 400 (1.78) 450 (2.00)</td>
</tr>
<tr>
<td>3&quot; (80)</td>
<td>1000-3 X 1 97.3 (44.1)</td>
<td>100-3 1/2 X 1/4 104.0 (47.2) 108.4 (49.2) 230 (1.02) 320 (1.42) 400 (1.78) 450 (2.00)</td>
</tr>
<tr>
<td>3 1/2&quot; (90)</td>
<td>1000-3 1/2 X 1 104.0 (47.2)</td>
<td>45°-59° 200 (0.89) 280 (1.24) 340 (1.51) 380 (1.69)</td>
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<tr>
<td>4&quot; (100)</td>
<td>1000-4 X 1 110.3 (50.0)</td>
<td>60°-74° 200 (0.89) 280 (1.24) 340 (1.51) 380 (1.69)</td>
</tr>
<tr>
<td>5&quot; (125)</td>
<td>1000-5 X 1 123.1 (55.8)</td>
<td>75°-90° 200 (0.89) 280 (1.24) 340 (1.51) 380 (1.69)</td>
</tr>
<tr>
<td>6&quot; (150)</td>
<td>1000-6 X 1 136.5 (61.9)</td>
<td>100-6 X 1/4 140.4 (63.8) 230 (1.02) 320 (1.42) 400 (1.78) 450 (2.00)</td>
</tr>
</tbody>
</table>

1 FM Approved when used with 1, 1 1/4, 1 1/2, or 2 inch NPS Schedule 40 GB/T 3091, EN 10255H, or JIS G3451 steel pipe as the brace member.  
2 Load rating for LW above refers to FM Approved Lightwall Pipe commonly referred to as “Schedule 7”. These ratings may also be applied when EN 10220 and GB/T 8163 steel pipe.  
3 Load rating for Schedule 10 above may be applied to GB/T 3092, EN 10255M and H, or JIS G3454, FM Approved Thinwall, or Schedule 40 steel pipes.  

Note: See UL load ratings in UL Listed Design Load chart shown under drawing.

Eaton’s B-Line series seismic bracing components are designed to be compatible only with other B-Line series bracing components, resulting in a listed seismic bracing assembly. Eaton B-Line Division warranty for seismic bracing components will be the warranty provided in Eaton B-Line Division standard terms and conditions of sale made available by Eaton, except that, in addition to the other exclusions from Eaton B-Line Division warranty, Eaton makes no warranty relating to B-Line series seismic bracing components that are combined with products not provided by Eaton.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.
Seismic Bracing

TOLCO™ Fig. 1001 - Sway Brace Attachment

Size Range: Pipe size to be braced: 1” (25mm) thru 8” (200mm) IPS.
* Pipe size used for bracing: 1” (25mm) and 1 1/4” (32mm) Schedule 40 IPS.

Material: Steel

Function: For bracing pipe against sway and seismic disturbance. The pipe attachment component of a sway brace system:
Fig. 1001 is used in conjunction with a Fig. 900 Series fitting and joined together with bracing pipe per NFPA 13, forming a complete sway brace assembly.

Features: Can be used to brace schedules 7 through 40 IPS. Field adjustable, making critical pre-engineering of bracing pipe length unnecessary. Unique design requires no threading of bracing pipe. Can be used as a component of a four-way riser brace. Comes assembled and ready for installation. Fig. 1001 has built-in visual verification of correct installation. See installation note below.

Installation Note: Position Fig. 1001 over the pipe to be braced and tighten two hex head cone point set screws until heads bottom out. A minimum of 1” (25mm) pipe extension is recommended. Brace pipe can be installed on top or bottom of pipe to be braced.

Approvals: Underwriters Laboratories Listed in the USA and Canada (cULus). Approved by Factory Mutual Engineering (FM). Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD). For additional load, spacing and placement information relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines, OPA-0300-10.

Finish: Plain or Electro-Galvanized. Contact customer service for alternative finishes and materials.

Order By: Indicate pipe size to be braced followed by pipe size used for bracing, figure number and finish.

Important Note: Fig. 1001 is precision manufactured to perform its function as a critical component of a complete bracing assembly. To ensure performance, the UL Listing requires that Fig. 1001 must be used only with other TOLCO bracing products.

Pipe Max. Horizontal Design Load (UL) - Lbs.

<table>
<thead>
<tr>
<th>Size</th>
<th>For Brace Pipe Size 1” / 1 1/4”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sch. 7</td>
<td>Sch. 10</td>
</tr>
<tr>
<td>1” (25)</td>
<td>1000 / 1000</td>
</tr>
<tr>
<td>1 1/4” (32)</td>
<td>1000 / 1000</td>
</tr>
<tr>
<td>1 1/2” (40)</td>
<td>1500 / 1500</td>
</tr>
<tr>
<td>2” (50)</td>
<td>2015 / 2015</td>
</tr>
<tr>
<td>2 1/2” (65)</td>
<td>2765 / 2765</td>
</tr>
<tr>
<td>3” (80)</td>
<td>2765 / 2765</td>
</tr>
<tr>
<td>4” (100)</td>
<td>2765 / 2765</td>
</tr>
<tr>
<td>6” (150)</td>
<td>2765 / 2765</td>
</tr>
<tr>
<td>8” (200)</td>
<td>2765 / 2765</td>
</tr>
</tbody>
</table>

1 FM Approved when used with 1 or 1 1/4 inch NPS Schedule 40 GB/T 3091,EN 10255H, or JIS G3451 steel pipe as the brace member.
2 Load rating for LW above refers to FM Approved Lightwall Pipe commonly referred to as “Schedule 7”. These ratings may also be applied when EN 10220 and GB/T 8163 steel pipe.
3 Load rating for Schedule 10 above may be applied to GB/T 3092,EN 10255M and H, or JIS G3454, FM Approved Thinwall, or Schedule 40 steel pipes.

Note: See UL load ratings in UL Listed Design Load chart shown under drawing.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.
TOLCO™ Fig. 2002 - Sway Brace Attachment

Size Range: Pipe size to be braced: 2 1/2" (65mm) thru 8" (200mm) all steel schedules, copper, plastic, FRP, cast iron and ductile iron. Consult factory when bracing other than steel. The Fig. 2002 accepts brace pipes sizes 1 1/2" (40mm) and 2" (50mm) steel schedule 10 through schedule 40.

Material: Steel

Function: For bracing pipe against sway and seismic disturbance. The pipe attachment component of a sway brace system: Fig. 2002 is used in conjunction with a TOLCO 900 Series sway brace attachments and joined together with bracing pipe. Install per NFPA 13 and/or TOLCO State of California OSHPD Approved Seismic Restrain Manual.

Features: Unique design will not damage thin wall, plastic, copper or ductile iron pipe. Easy verification of proper installation by tightening bolts until ears touch.

Installation: Place Fig. 2002 over pipe to be braced. Slide bracing pipe through attachment and tighten hex nuts until ears touch.

Approvals: Underwriters Laboratories Listed in the USA (UL) and Canada (cUL). Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD). For additional load, spacing and placement information relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines.

Finish: Plain. Contact customer service for alternative finishes and materials.

Order By: Figure number, pipe size to be braced, pipe size used for bracing (1 1/2" (40mm) or 2" (50mm)) and finish.

Important Note: Fig. 2002 is precision manufactured to perform its function as a critical component of a complete bracing assembly. To ensure performance, the UL Listing requires that the Fig. 2002 must be used only with other TOLCO bracing products.

<table>
<thead>
<tr>
<th>Pipe Size in. (mm)</th>
<th>Part Number &amp; Approx. WL/100</th>
<th>Max. Horizontal Design Load (UL)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11/2&quot; (32mm) Brace Pipe</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lbs. (kg)</td>
<td></td>
</tr>
<tr>
<td>2 1/2&quot; (65)</td>
<td>2002-2 1/2 X 1 1/2</td>
<td>224.9 (102.0)</td>
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<tr>
<td></td>
<td>2002-2 1/2 X 2</td>
<td>283.3 (126.6)</td>
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<tr>
<td></td>
<td>2015 (8.96)</td>
<td></td>
</tr>
<tr>
<td>3&quot; (80)</td>
<td>2002-3 X 1 1/2</td>
<td>241.0 (109.3)</td>
</tr>
<tr>
<td></td>
<td>2002-3 X 2</td>
<td>299.4 (135.8)</td>
</tr>
<tr>
<td></td>
<td>2015 (8.96)</td>
<td></td>
</tr>
<tr>
<td>4&quot; (100)</td>
<td>2002-4 X 1 1/2</td>
<td>268.4 (121.7)</td>
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<tr>
<td></td>
<td>2002-4 X 2</td>
<td>326.8 (148.2)</td>
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<tr>
<td></td>
<td>2015 (8.96)</td>
<td></td>
</tr>
<tr>
<td>6&quot; (150)</td>
<td>2002-6 X 1 1/2</td>
<td>326.6 (148.1)</td>
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<tr>
<td></td>
<td>2002-6 X 2</td>
<td>385.0 (174.6)</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>8&quot; (200)</td>
<td>2002-8 X 1 1/2</td>
<td>381.3 (172.9)</td>
</tr>
<tr>
<td></td>
<td>2002-8 X 2</td>
<td>439.7 (199.4)</td>
</tr>
<tr>
<td></td>
<td>2015 (8.96)</td>
<td></td>
</tr>
</tbody>
</table>

** See load ratings in UL Listed Design Load chart.