

TOLCO™ Fig. 77 - System Piping Attachment for Sway Brace Assembly (FM Approved) For CPVC & Steel Pipe

Size Range: 3/8" and 1/2" all threaded rod (ATR)

Material: Steel

Function: System attachment for restraint

Features: The Fig. 77 is to be used with both (IPS) steel and CPVC fire sprinkler pipe, in 1" through 2" diameters. It fits multiple rod diameters allowing for field adjustment if longer brace material is needed. Its sturdy break-off bolt will not strip and verifies proper installation. Its snap on design has many advantages. It can be installed with one-hand, can easily position the brace all thread rod over the top of the pipe being braced or underneath the pipe being braced to accommodate the desired brace angle. It can be fixed in place or moved to a new location by sliding along the pipe or snapping on or off and relocating. An entire prefabricated assembly (Fig. 76 & 77 joined with ATR) can be pre-assembled to save time and labor and later be field installed and adjusted to fit.

Installation Instructions: Install TOLCO™ Fig. 77 system attachment to sprinkler pipe branch line to be restrained. It can be positioned with the rod engagement either above or below the sprinkler pipe. Rod must extend a min. of 1" past the edge of the Fig. 77. The attachment can be slid along the pipe to position close to where the Fig. 76 structural attachment will be fastened to the structure. The snap on design allows maximum adjustability during this stage of the installation process. Engage ATR (previously attached to the Fig. 76 structural attachment to the rod engagement portion of the Fig. 77 system attachment. Tighten set bolt on Fig. 77 system attachment until head breaks off verifying proper installation torque. For more information visit our website for the most up to date instructions sheets.

Approvals: Approved by Factory Mutual Engineering (FM).

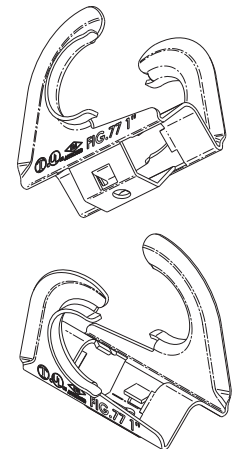
For UL Listed information refer to UL Listed page 44.

Finish: Pre-Galvanized.

Order By: Figure number and pipe size.



Pipe Attachment for Restraint (Sway Brace)
Patent Pending



Part No.	Pipe Size in. (mm)	Maximum Allowable Loads (FM Approved)*							
		30°-44°		45°-59°		60°-74°		75°-90°	
		3/8" Rod lbs. (kN)	1/2" Rod lbs. (kN)	3/8" Rod lbs. (kN)	1/2" Rod lbs. (kN)	3/8" Rod lbs. (kN)	1/2" Rod lbs. (kN)	3/8" Rod lbs. (kN)	1/2" Rod lbs. (kN)
77-1	1 (25)	140 (0.62)	160 (0.71)	200 (0.89)	230 (1.02)	250 (1.11)	280 (1.24)	280 (1.24)	320 (1.42)
77-1 1/4	1 1/4 (32)	140 (0.62)	170 (0.75)	200 (0.89)	250 (1.11)	250 (1.11)	300 (1.33)	280 (1.24)	340 (1.51)
77-1 1/2	1 1/2 (40)	130 (0.58)	160 (0.62)	190 (0.84)	230 (1.02)	230 (1.02)	280 (1.24)	260 (1.15)	320 (1.42)
77-2	2 (50)	120 (0.53)	150 (0.67)	170 (0.75)	210 (0.93)	210 (0.93)	260 (1.15)	240 (1.07)	290 (1.29)

* Loads shown are axial ASD loads.

All Thread Rod Maximum Restraint Lengths

Rod Size in.	Root Dia. in. (mm)	Least Radius of Gyration r in. (mm)	Maximum Unbraced Length L - (in.)				Max. Horizontal Load @ 45° (lbs.)**			
			l/r=100		l/r=200		l/r=300 Δ		l/r=400 \dagger Δ	
			in. (mm)	in. (mm)	in. (mm)	in. (mm)	lbs. (kN)	lbs. (kN)	lbs. (kN)	lbs. (kN)
3/8-16	0.300 (7.6)	0.075 (1.9)	7 (177.8)	14 (355.6)	22 (558.8)	30 (763.0)	300 (1.33)	186 (0.82)	82 (0.36)	44 (0.19)
1/2-13	0.404 (10.2)	0.101 (2.5)	10 (254.0)	20 (508.0)	30 (762.0)	40 (1016.0)	300 \ddagger (1.33) \ddagger	300 \ddagger (1.33) \ddagger	152 (0.67)	85 (0.38)

\dagger l/r = 400 NFPA 13 2010, Sec 9.3.6.1 (5) \dagger l/r = 400 NFPA 13 2013 & 2016, Sec 9.3.6.1 (5) & NFPA (2016) TABLE 9.3.11.8(a)(b)(c)(d)(e)(f)

Δ l/r = 300 for bracing

**Per NFPA 13 (2013) Table 9.3.5.11.8 (a)(b)(c), consult for maximum allowable load information on ATR.

Δ l/r = 400 for restraint

\ddagger Max load governed by Fig. 76/77 Max horizontal load.

CPVC Clamps

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.