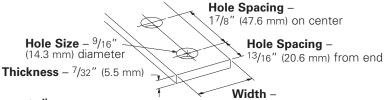
Fittings



This section offers a full selection of fittings and accessories to complete our strut system. Fittings are made from hot rolled, pickled and oiled plate or strip steel in accordance with ASTM A1018 33,000 PSI min. yield, unless noted.

Dimensions

The following dimensions apply to all fittings except as noted:



Materials & Finishes (Unless otherwise noted)

Finish		
Code	Finish	Specification
PLN	Plain	ASTM A1018 33,000 PSI min. yield
ZN	Electro-Plated Zinc	ASTM B633 SC3 Type III or ASTM A653
GRN	DURA GREEN™	
HDG	Hot-Dipped Galvanized	ASTM A123
SS4	Stainless Steel Type 304	ASTM A240
SS6	Stainless Steel Type 316	ASTM A240
AL	Aluminum	ASTM B209

Note: A minimum order may apply on special material and finishes.

Hardware

Nuts and bolts are not included with the fittings and must be ordered separately, unless noted.

Pre-Assembled Fittings

Some fittings are available with hex head cap screws and channel nuts pre-assembled. These fittings and finishes will be flagged using the following symbol.



Metric

Metric dimensions are shown in parentheses. Unless noted, all metric dimensions are in millimeters.

Load Data

The load data published includes safety factor of 2.5 when used with 12 ga. (2.6) channel safety factor = ratio of ultimate load to the design load).

1⁵/8" (41.3 mm)

Use $1/2''-13 \times 7/8''$ hex head cap screws and 1/2''-13 (N225 or TN225) channel nuts for the rated results.

Note: See page 277 Design Load Data for typical channel - fitting connections.

Recommended Bolt Torque

Bolt Size	¹ /4"-20	⁵ /16″-18	³ /8″-16	¹ /2″-13
ft·lbs	6	11	19	50
Nm	8	15	26	68

See chart on page 154 for setscrew torque.

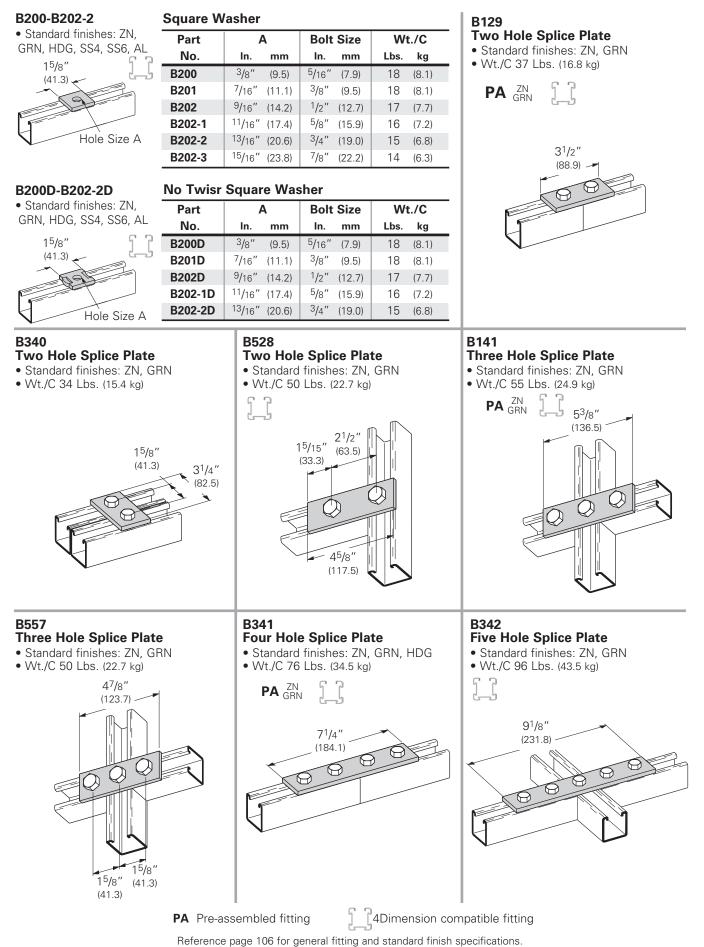
4Dimension[™] Strut System Compatible

These fittings and finishes will be flagged using the following symbol.



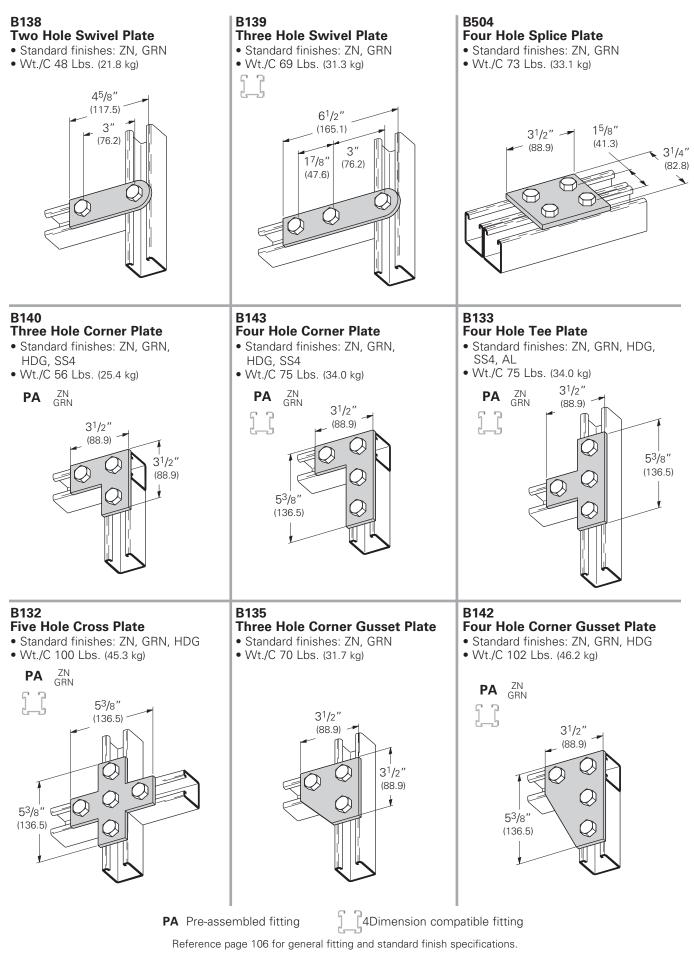


Strut Fittings



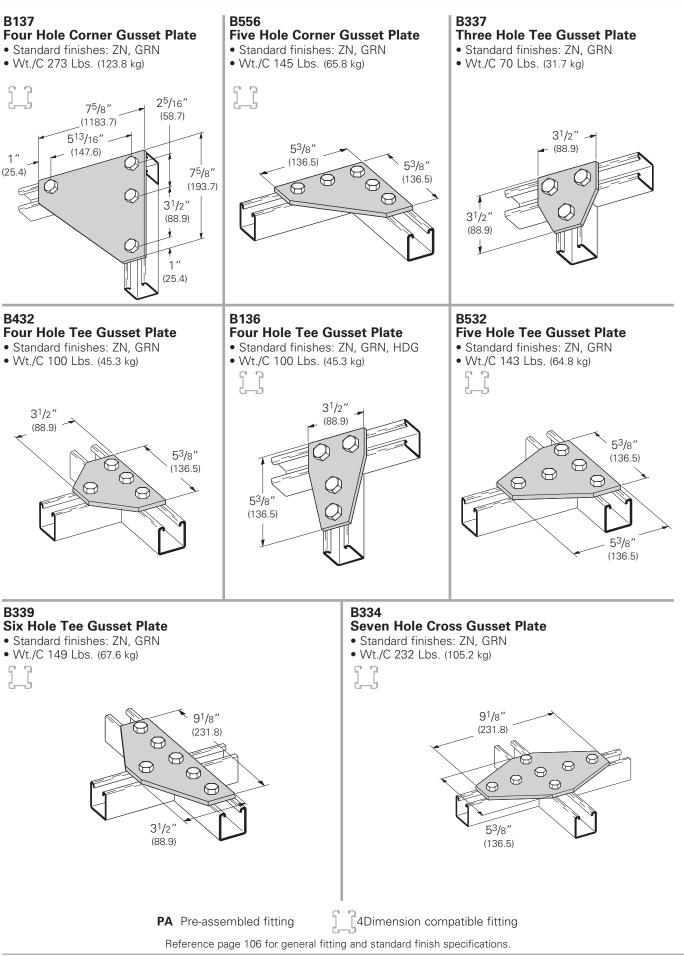
B-Line series strut systems

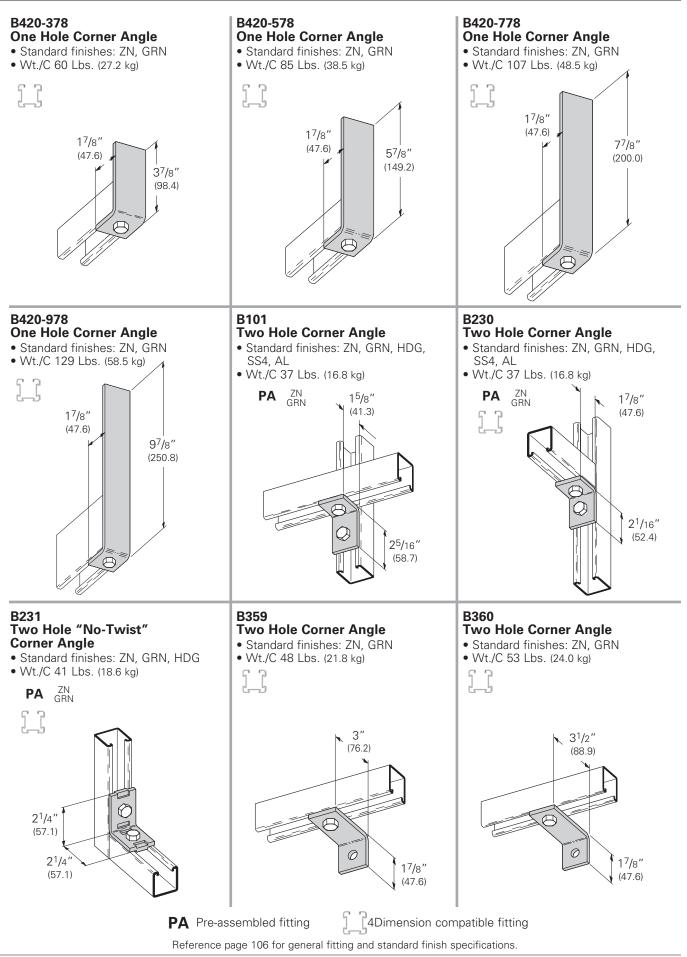
Flat Plate Fittings

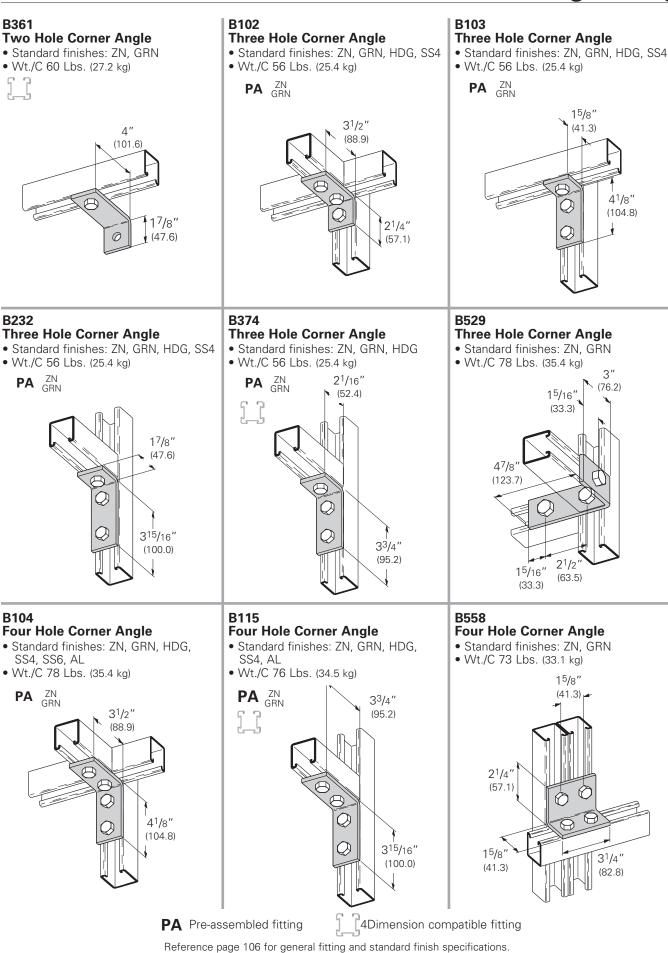


Flat Plate Fittings

Strut Fittings

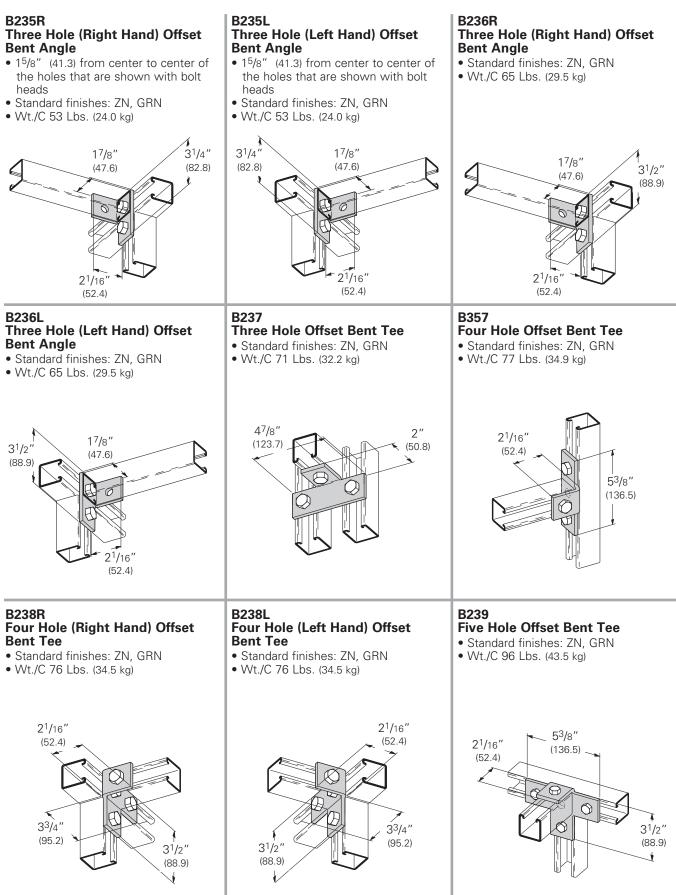


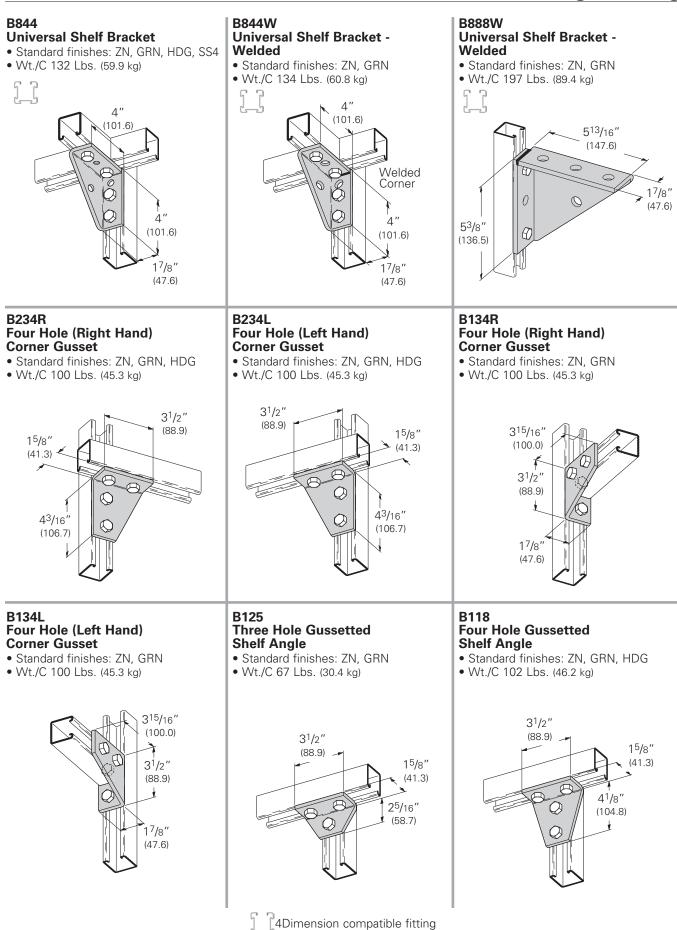




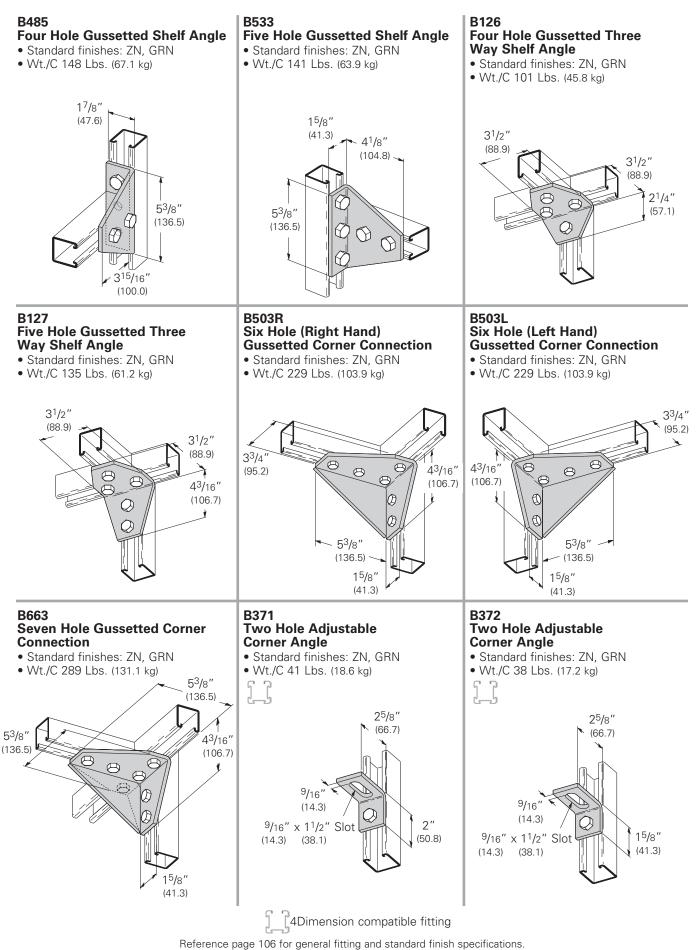
B-Line series strut systems

Strut Fittings

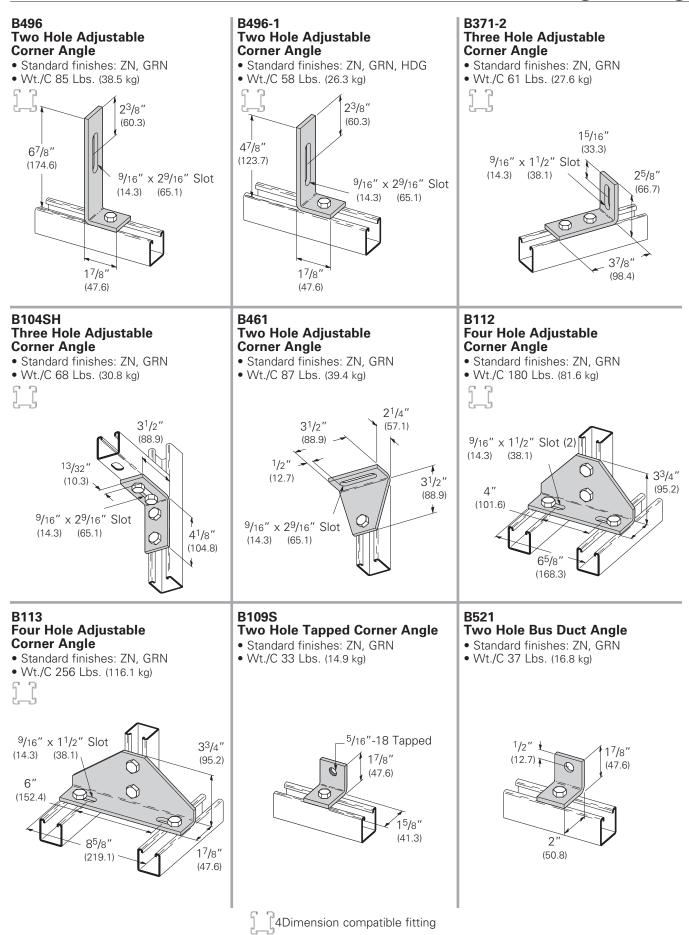




Strut Fittings

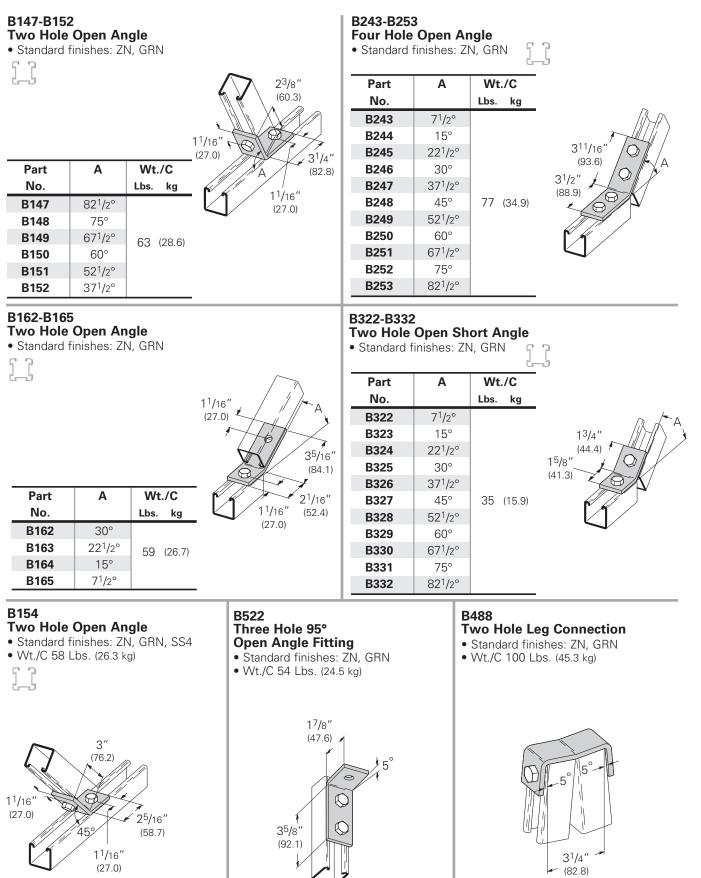


Strut Fittings



Angular Fittings

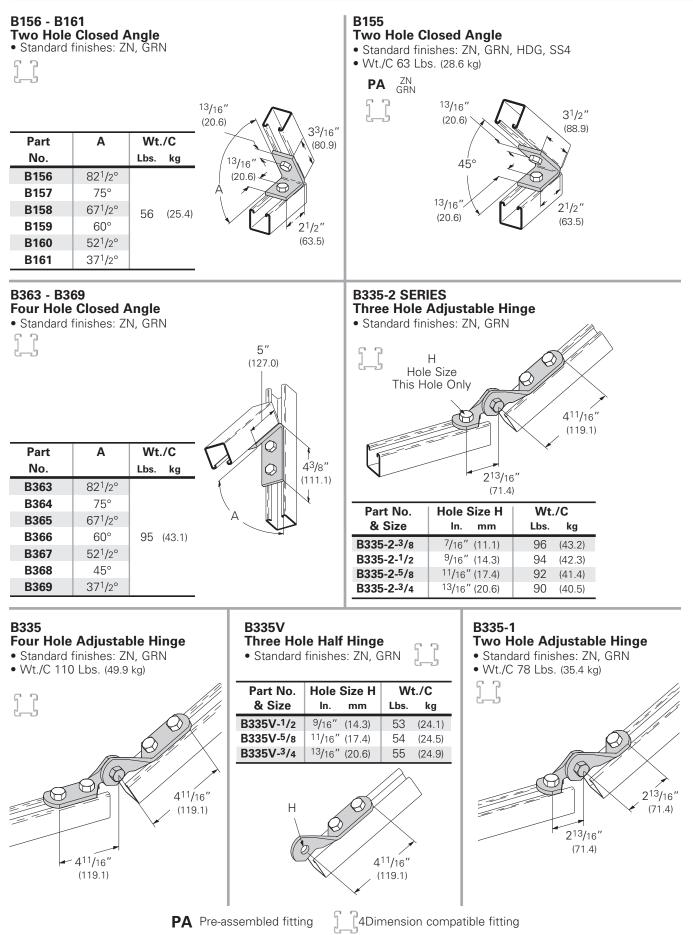
Strut Fittings



4Dimension compatible fitting

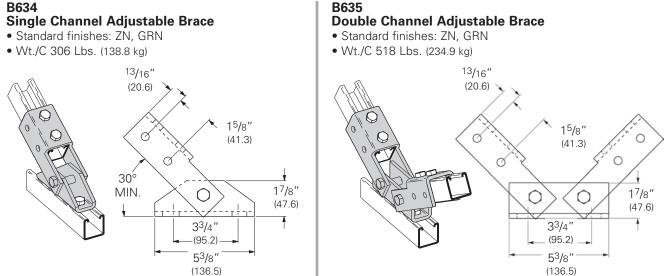
Angular Fittings

Strut Fittings



Angular Fittings

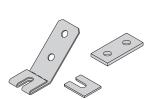




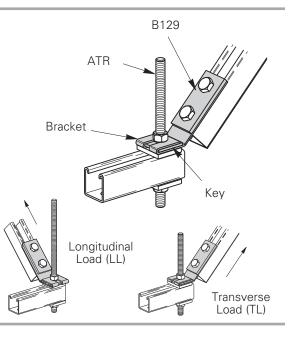
B650 SERIES Seismic Retrofit Bracket

- Available for 3/8", 1/2", 5/8", and 3/4" threaded rods.
- Allows installer to easily brace existing trapeze supports.
- Includes: Bracket, B129 plate, & key. Hardware sold separately.
- Standard finish: ZN, GRN





Part No.	For	TL		LL		Wt./C	
& Size	Rod Size	Lbs.	kN	Lbs.	kN	Lbs.	kg
B650- ³ /8	3/8″	1100	(4.89)	1100	(4.89)	92	(41.4)
B650-1/2	¹ /2″	1500	(6.67)	1500	(6.67)	97	(43.6)
B650-5/8	⁵ /8″	1500	(6.67)	1500	(6.67)	95	(42.7)
B650-3/4	³ /4″	1500	(6.67)	1500	(6.67)	107	(48.5)



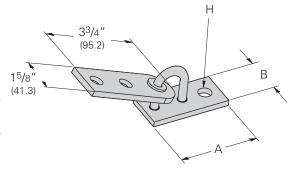
B633

Adjustable Seismic Hinge Fitting

- Use 1/2" Bolt & Channel Nut on two hole side of Connector Fitting (Torque to 50 ft.-lbs.)
- Allows for swivel in two planes.
- Standard finish: ZN

Part No.	Α	В	Hole Size H	Wt./C
& Size	ln. mm	ln. mm	ln. mm	Lbs. kg
B633- 1/2	3 ¹ /2" (82.5)	1 ⁵ /8″ (41.3)	⁹ /16" (14.3)	92 (41.4)
B633- ⁵ /8	3 ¹ /2″ (82.5)	1 ⁵ /8″ (41.3)	¹¹ /16" (17.4)	97 (43.6)
B633- ³ /4	3 ¹ /2" (82.5)	1 ⁵ /8″ (41.3)	¹³ /16" (20.6)	95 (42.7)
B633-7/8	3 ⁹ /16" (90.5)	2" (50.8)	¹⁵ /16" (23.8)	107 (48.5)
B633-1	3 ⁹ /16" (90.5)	2" (50.8)	1 ¹ /16" (27.0)	120 (54.0)
B633-1 ¹ /8	3 ⁹ /16" (90.5)	2" (50.8)	1 ³ /16" (30.2)	104 (47.2)
B633-1 ¹ /4	3 ⁷ /8" (98.4)	2 ¹ /4" (57.1)	1 ⁵ /16" (33.3)	114 (51.7)

[]

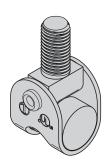


4Dimension compatible fitting

Miscellaneous Seismic Fittings

Fig. 75 Swivel Attachment

See page 89 for product information



SC228 Hanger Rod Stiffener

See page 91 for product information

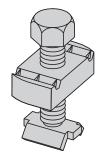


Fig. 98 Rod Stiffener

See page 91 for product information

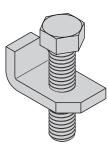
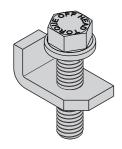


Fig. 98B Rod Stiffener with Break-Off Bolt Head

See page 91 for product information



Strut Fittings

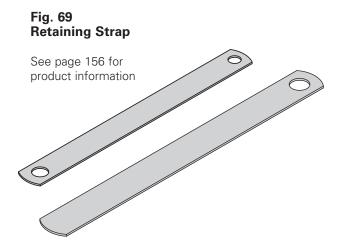


Fig. 69R Retrofit Retaining Strap

See page 156 for product information

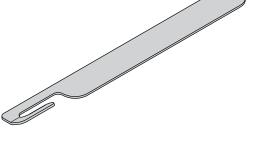


Fig. 65 Reversible Steel C-Type Beam Clamp - ³/4" (19.0mm) Throat Opening

See page 157 for product information

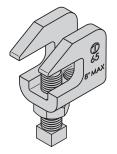


Fig. 65XT Reversible C-Type Beam Clamp

See page 157 for product information



Fig. 66 Reversible Steel C-Type Beam Clamp - 1¹/4" (31.7mm) Throat Opening

See page 157 for product information



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 torgue (min. 31 ft.-lbs.).

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

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.

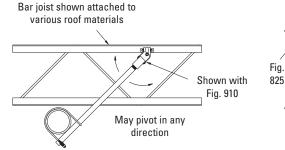
To Install: Place the Fig. 825 on the steel beam, tighten the cone point set screws until heads break off. Attach other TOLCO transitional attachment fitting, Fig. 909, 910, 980 or 986. Transitional fitting

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



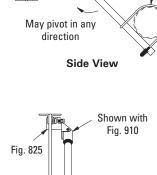
Front View

Max. Horizontal Design Load (UL) 2015 lbs. (8.96kN)

UL Listed as Hanger Attachment for

6" (150mm) Pipe at Maximum Spacing

		Max. Horizontal Design Loads (FM)					
		30°-44° 45°-59° 60°-74° 75° Ibs. / (kN) Ibs. / (kN) Ibs. / (kN) Ibs. ,					
Maximum	Perpendicular to	990	1360	1670	1860		
³ /8″ Thick Flange	Structural Member	(4.40)	(6.05)	(7.43)	(8.27)		
Maximum	Parallel to	460	630	770	860		
³ /8" Thick Flange	Structural Member	(2.04)	(2.80)	(3.42)	(3.82)		



Top View

1'

(25.4mm)

0 0

Shown with

Fig. 910

FN

APPROVED

3/8"

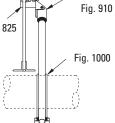
(9.5)

Set Screws & Hardware Included

¹/2" Bolt & Nut

Furnished

Fig. 1000



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.

Miscellaneous Seismic Fittings

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.

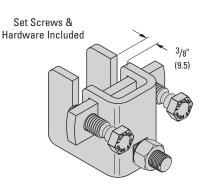
Finish: Plain or Electro-Galvanized

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

Order By: Figure number and finish

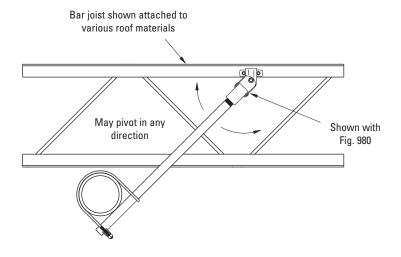
Patent #6,098,942











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. 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 auidelines 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

_		. Horizontal ace Perpend	•			
	Brace	e Angle (deg	rees from ve	rtical)		
	30°-44°	Brace Angle (degrees from vertical) 0°-44° 45°-59° 60°-74° 75°-90				
	1570	2220	1210	700		
_	(6.98kN)	(9.87kN)	(5.38kN)	(3.11kN)		

Max Havinental Design Load (EM)

_				
			Design Load Ilel To The E	
	Brace	e Angle (deg	rees from ve	rtical)
	30°-44°	45°-59°	60°-74°	75°-90°
	690	970	1210	1330
	(3.07kN)	(4.31kN)	(5.38kN)	(5.91kN)

May pivot in any Shown with direction Fig. 980

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.

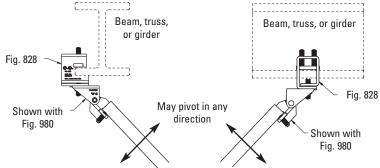
Reference page 106 for general fitting and standard finish specifications.

Set Screws A Set Screws Included **Cone Point** Set Screw B **UL Horizontal Design Load Maximum Design Load Across Beam** 2015 lbs. (8.96kN) **Maximum Design Load Along Beam** 2015 lbs. (8.96kN)

APPROVED

Cone Point





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 1¹/₄/⁻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" (31.7mm) 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.

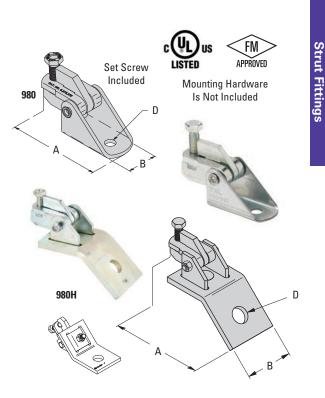
Approvals: —Underwriters Laboratories Listed in the USA **(UL)** and Canada **(cUL)**. Approved by Factory Mutual Engineering **(FM)**.

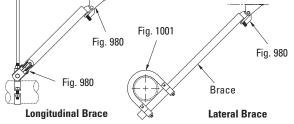
Note: Fig. 980 Swivel Attachment and Fig. 1001, Fig. 1000, Fig. 2002, Fig. 4A, Fig. 4B or Fig. 4L pipe clamps make up a sway brace system of UL Listed attachments and bracing materials which satisfies the requirements of Underwriters Laboratories and the National Fire Protection Association **(NFPA)**

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





Part						Max. Horizontal	Мах	. Horizontal D	esign Load**	(FM)	Арј	prox.
Number	Α	В		C	*	Design Load (cULus)	30°-44°	45°-59°	60°-74°	75°-90°	Wt	t. /100
	in. (mm)	in.	(mm)	in.	(mm)	lbs./(kN)	lbs./(kN)	lbs./(kN)	lbs./(kN)	lbs./(kN)	lbs.	(kg)
980 - ³ /8	5 ¹ /4″ (133.3)	1 ⁷ /8″	(47.6)	¹³ /32″	(10.3)						149	(67.6)
980- ¹ /2	5 ¹ /4″ (133.3)	1 ⁷ /8″	(47.6)	17/32″	(13.5)						148	(67.1)
980-⁵/ 8	5 ¹ /4″ (133.3)	1 ⁷ /8″	(47.6)	¹¹ /16″	(17.5)						147	(66.7)
980- ³ /4	5 ¹ /4″ (133.3)	1 ⁷ /8″	(47.6)	¹³ /16″	(20.5)	2015	1320	1970	2310	2550 (11.34)	146	(66.2)
980H- ⁷ /8	6 ³ /4″ (171.4)	3 ¹ /2″	(88.9)	¹⁵ /16"	(23.8)	(8.96)	(5.87)	(8.76)			402	(182.3)
980H-1	6 ³ /4″ (171.4)	3 ¹ /2″	(88.9)	1 ¹ /16″	(27.0)	(0.00)	(0.07)	(0.7.0)	(10127)		400	(181.4)
980H-1 ¹ /8	6 ³ /4″ (171.4)	3 ¹ /2″	(88.9)	1 ³ /16″	(30.2)						397	(180.1)
980H-1 ¹ /4	6 ³ /4″ (171.4)	3 ¹ /2″	(88.9)	1 ⁵ /16″	(33.3)						390	(176.9)

* Mounting attachment hole size.

** Installed with 1" or 11/4" 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.

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

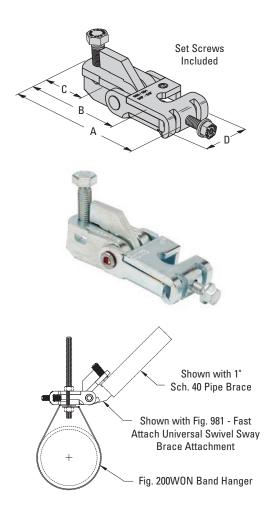
component(s) to form a complete bracing assembly. NFPA 13 and or OSHPD guidelines should be followed.

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.

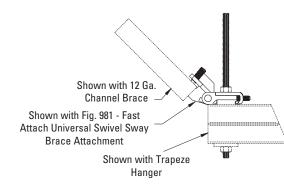
Finish: Electro-Galvanized

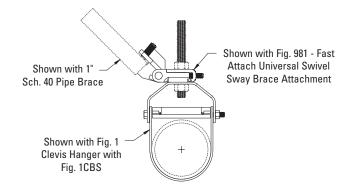
Order By: Figure number, rod size

US Patent Numbers Pat. #6.273.372, Pat. #7.097.141, Pat. #7.654.043, Pat. #7.654.043 B2



Part Number	Rod Size Range	A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)	Max. Horizontal Design Load Ibs. (kN)	Approx. Wt./100 Ibs. (kg)
981-S	³ /8" thru ⁵ /8"	5 ¹ /8″ (130.2)	4 ¹ /8" (104.8)	1 ¹ /4″ (31.7)	2 ¹ /4″ (57.1)	2015 (8.96)	88 (39.9)
981-L	³ /4″ & ⁷ /8″	5 ¹ /8" (130.2)	4 ¹ /8" (104.8)	1 ¹ /4″ (31.7)	2 ¹ /4″ (57.1)	2015 (8.96)	82 (37.2)





TOLCO™ Fig. 985 - Mechanical Fast Clamp

Size Range: Fig. 985-S fits rod sizes ³/8" thru ⁵/8" Fig. 985-L fits rod sizes ³/4" thru 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 3/8" thru 5/8" or 3/4" thru 7/8"

Finish: Electro-galvanized

Order By: Figure number, rod size & finish

Part Number	Rod Size	A in. (mm)	B in. (mm)	Max. Horizontal Design Load Ibs. (kN)	Approx. Wt./100 lbs. (kg)
985-S	³ /8" thru ⁵ /8"	2" (50.8)	1 ¹ /2″ (38.1)	2015 (8.96)	204 (92.5)
985-L	3/4" & 7/8"	2" (50.8)	1 ⁵ /8″ (41.3)	2015 (8.96)	198 (89.8)

TOLCO™ Fig. 986 - Mechanical Fast Clamp

Size Range: Available with holes for ¹/2"-13 thru ³/4"-10 fastener attachment.

Material: Steel

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

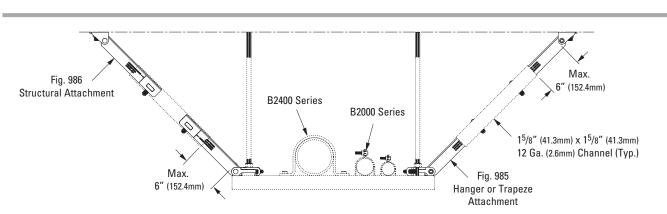
Features: Allows up to 12" (304.8mm) of adjustability in brace length, when used with Fig. 985. Break-off set screw heads visually verify required installation torque. Swivel allows adjustment to various surface angles.

Finish: Electro-galvanized

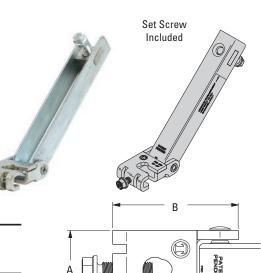
Order By: Figure number, rod size & finish

Part Number	Rod Size	Hole Dia. D		Max. Horizontal Design Load*		Approx. Wt./100	
		in.	(mm)	lbs.	(kN)	lbs.	(kg)
986- ¹ /2	1/2″	⁹ /16″	(14.3)	2015	(8.96)	204	(92.5)
986 - ⁵ /8	5/8″	¹¹ /16″	(17.5)	2015	(8.96)	203	(92.1)
986 - ³ /4	3/4″	¹³ /16″	(20.6)	2015	(8.96)	202	(91.6)

* When used with 15/8" (41.3mm) x 15/8" (41.3mm) 12 Ga. (2.6mm) channel



Reference page 106 for general fitting and standard finish specifications.



Rod Size

Mounting Hardware

Is Not Included

FIG. 985 %" - %"

D

Strut Fittings

B261 - Two Hole 45° Knee Brace

- Standard finishes: ZN, GRN
- Design load determined by testing using a B335 hinged corner connection.
 Load ratings are for brace members only. Do not exceed allowable beam
- or column loads for strut channels.

• Safety Factor of 3

Part				В		ו Load		t./C
No.	In.	mm	In.	mm	Lbs.	kN	Lbs.	kg
B261-8	8″	(203.2)	7 ³ /8″	(187.3)	1500	(6.67)	119	(54.0)
B261-12	12″	(304.8)	10 ¹ /8″	(257.2)	1020	(4.54)	165	(74.8)
B261-16	16 ⁵ /8'	" (422.3)	13 ³ /8″	(339.7)	530	(2.36)	218	(98.9)
B261-18	18″	(457.2)	14 ⁷ /16"	(366.7)	450	(2.00)	234	(106.1)
B261-24	24″	(609.6)	18 ¹¹ /16	" (474.7)	250	(1.11)	303	(137.4)
B261-36	36″	(914.4)	27 ³ /16"	(690.6)	110	(.49)	441	(200.0)

B631 - Two Hole 45° Tubing Knee Brace

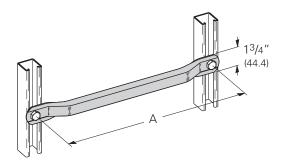
- 1" (25.4) Square steel tubing
- Material: ASTM A513
- Standard finishes: ZN, GRN
- Design load determined by testing using a B335 hinged corner connection.
- Load ratings are for brace members only. Do not exceed allowable beam
- or column loads for strut channels.
- Safety Factor of 3

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Part	A		Design Load		Wt./C		
No.	In.	mm	Lbs.	kN	Lbs.	kg	
B631-18	18″	(457.2)	1500	(6.67)	145	(65.8)	
B631-24	24″	(609.6)	1500	(6.67)	186	(84.4)	
B631-30	30″	(762.0)	1500	(6.67)	225	(102.0)	
B631-36	36″	(914.4)	1500	(6.67)	266	(120.6)	
B631-42	42″	(1066.8)	1230	(5.47)	307	(139.2)	
B631-48	48″	(1219.2)	940	(4.18)	348	(157.8)	
B631-54	54″	(1371.6)	740	(3.29)	389	(176.4)	
B631-60	60″	(1524.0)	600	(2.67)	430	(195.0)	
B631-72	72″	(1828.8)	420	(1.87)	508	(230.4)	
B631-84	84″	(2133.6)	310	(1.38)	589	(267.2)	
B631-96	96″	(2438.4)	240	(1.07)	669	(303.5)	

B632 - Two Hole Straight Tubing Brace

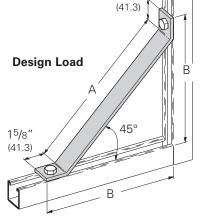
- 1" (25.4) Square steel tubing
- Material: ASTM A513
- Standard finishes: ZN, GRN

Part	А		Wt./C	
No.	In.	mm	Lbs.	kg
B632-18	18″	(457.2)	133	(60.3)
B632-24	24″	(609.6)	174	(78.9)
B632-30	30"	(762.0)	215	(97.5)
B632-36	36″	(914.4)	256	(116.1)
B632-42	42″	(1066.8)	295	(133.8)
B632-48	48″	(1219.2)	335	(151.9)
B632-54	54"	(1371.6)	380	(172.3)
B632-60	60″	(1524.0)	420	(190.5)
B632-72	72″	(1828.8)	500	(226.8)
B632-84	84″	(2133.6)	585	(265.3)
B632-96	96″	(2438.4)	670	(303.9)



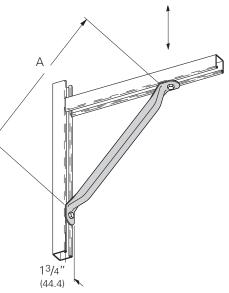
4Dimension compatible fitting

Reference page 106 for general fitting and standard finish specifications.



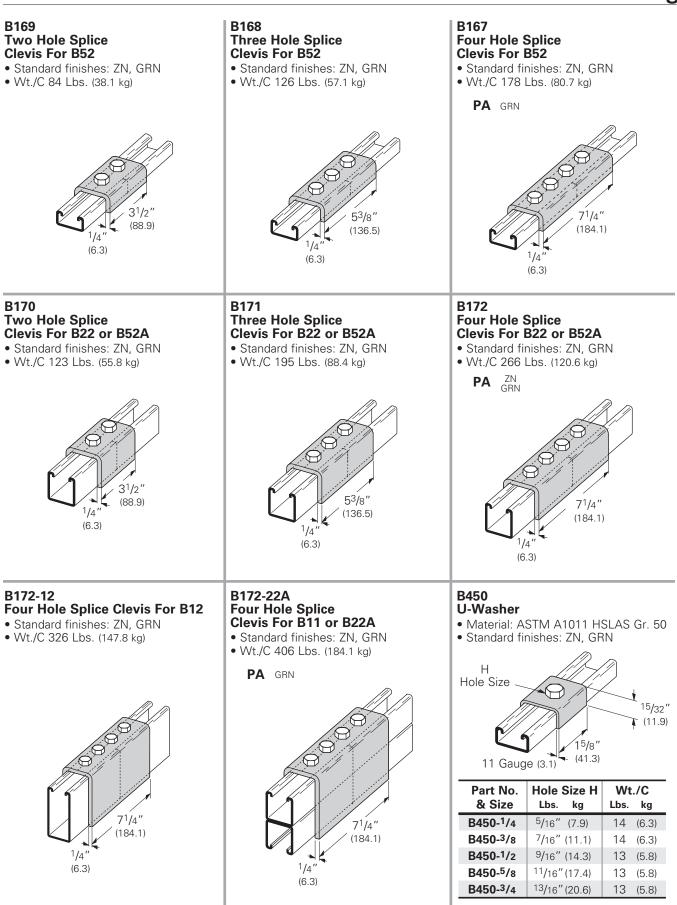
15/8″

Design Load





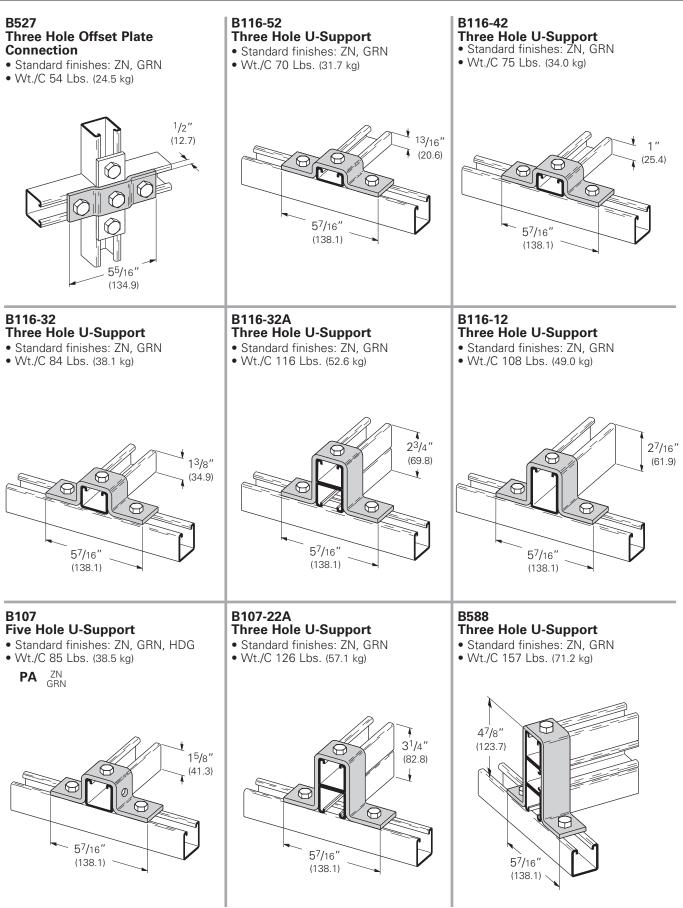
Clevis Fittings



PA Pre-assembled fitting.

'U' Fittings

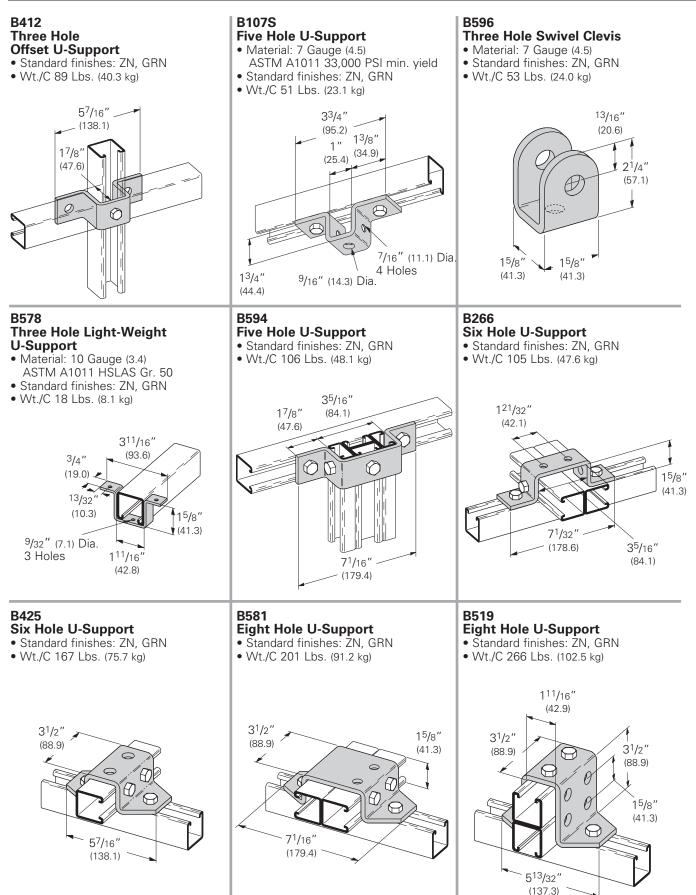
Strut Fittings



PA Pre-assembled fitting.

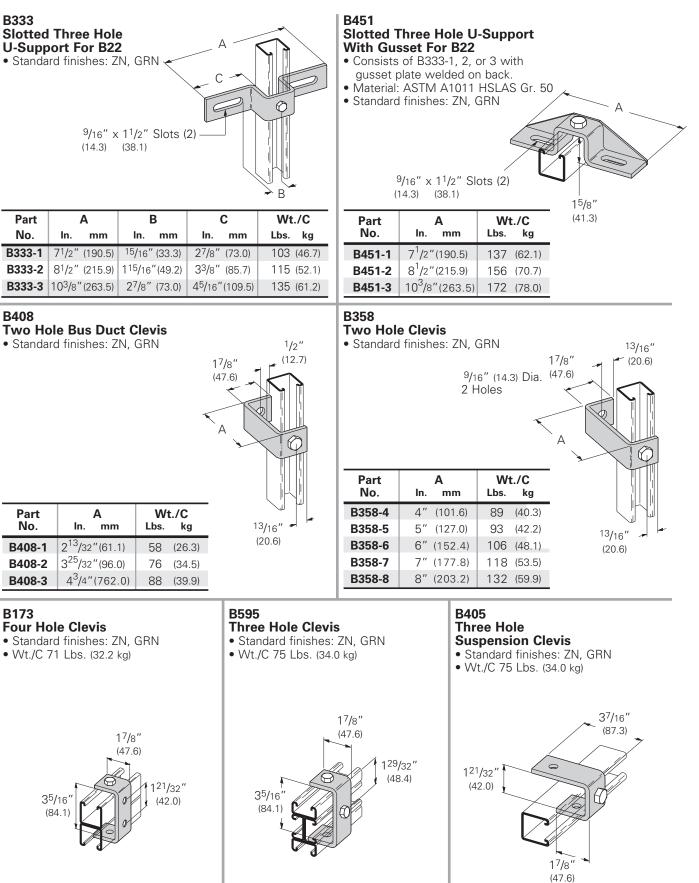
'U' Fittings

Strut Fittings

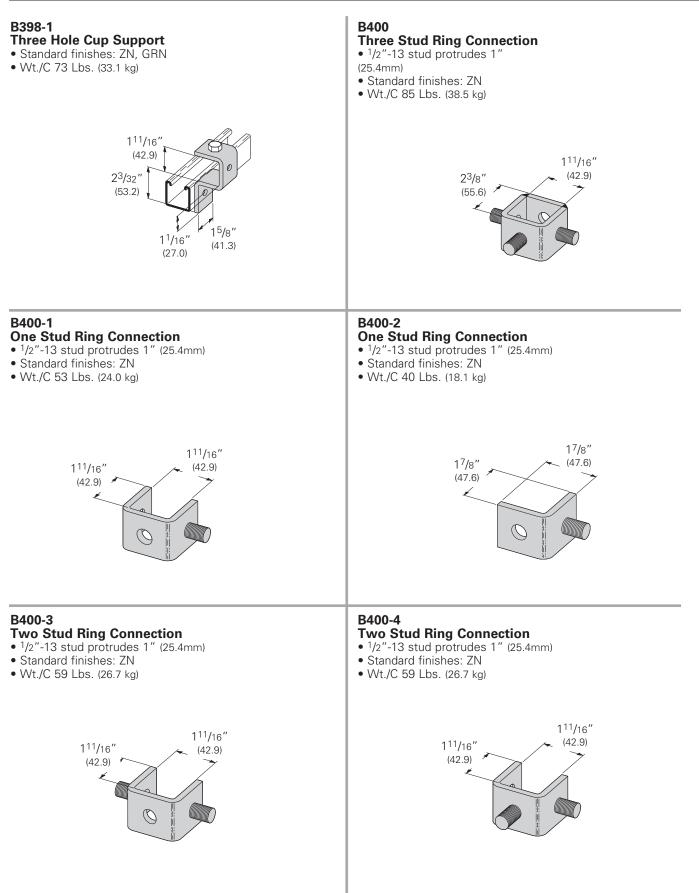


'U' Fittings

Strut Fittings

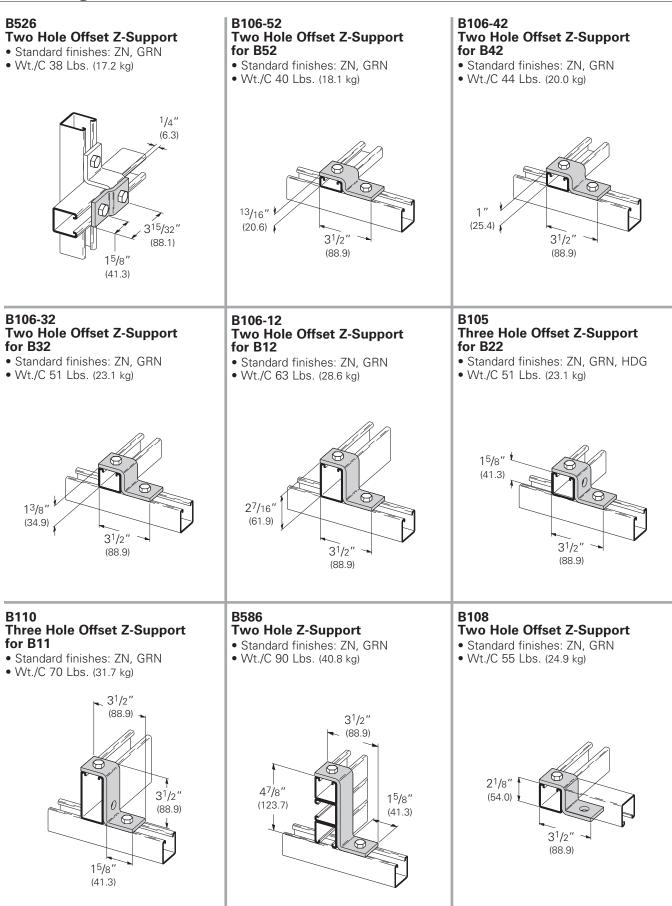


Strut Fittings



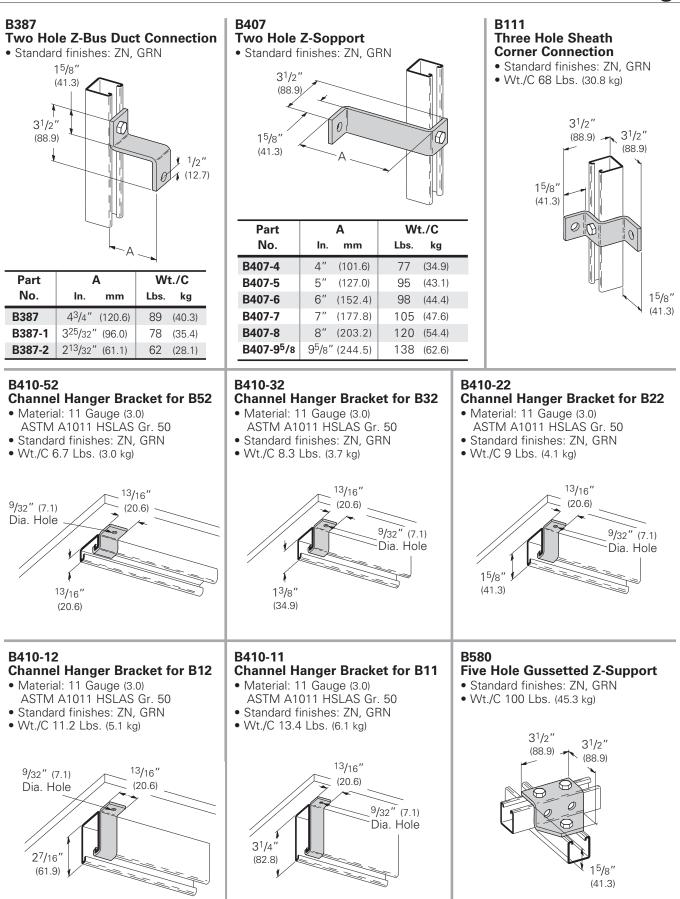
'Z' Fittings

Strut Fittings



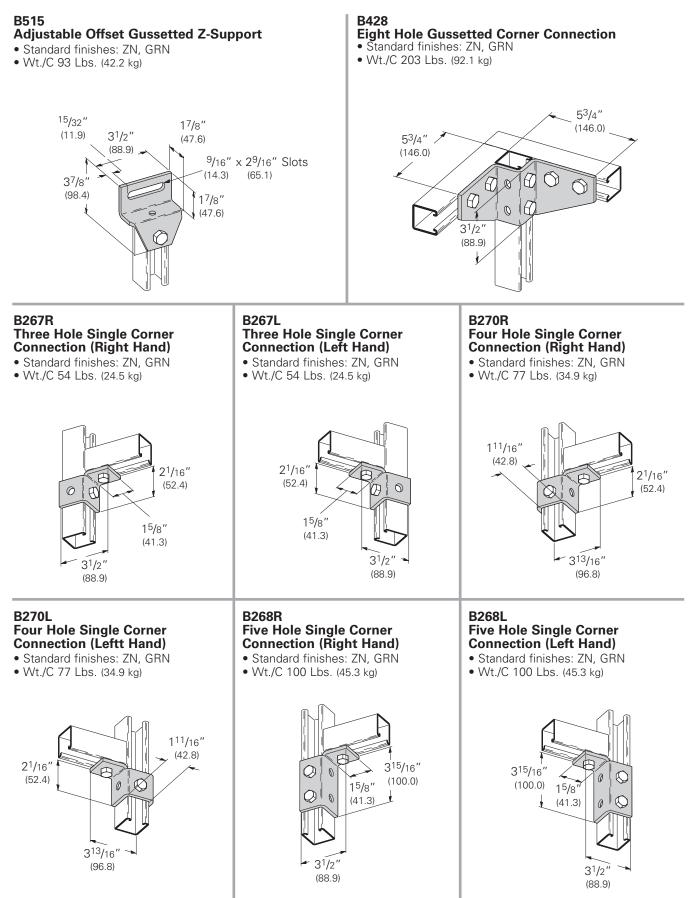
'Z' Fittings

Strut Fittings



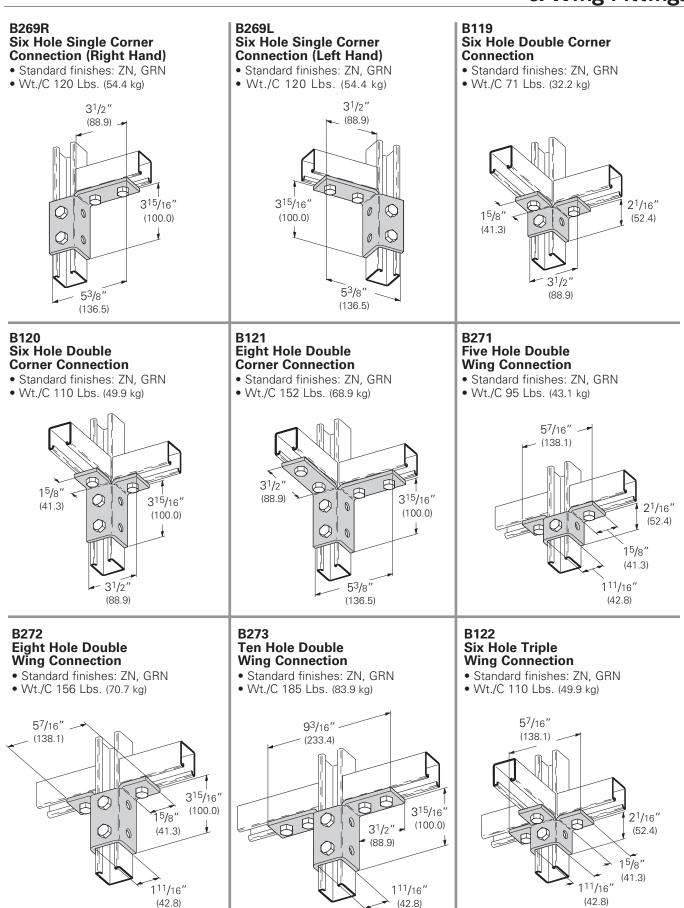
'Z' & Wing Fittings

Strut Fittings



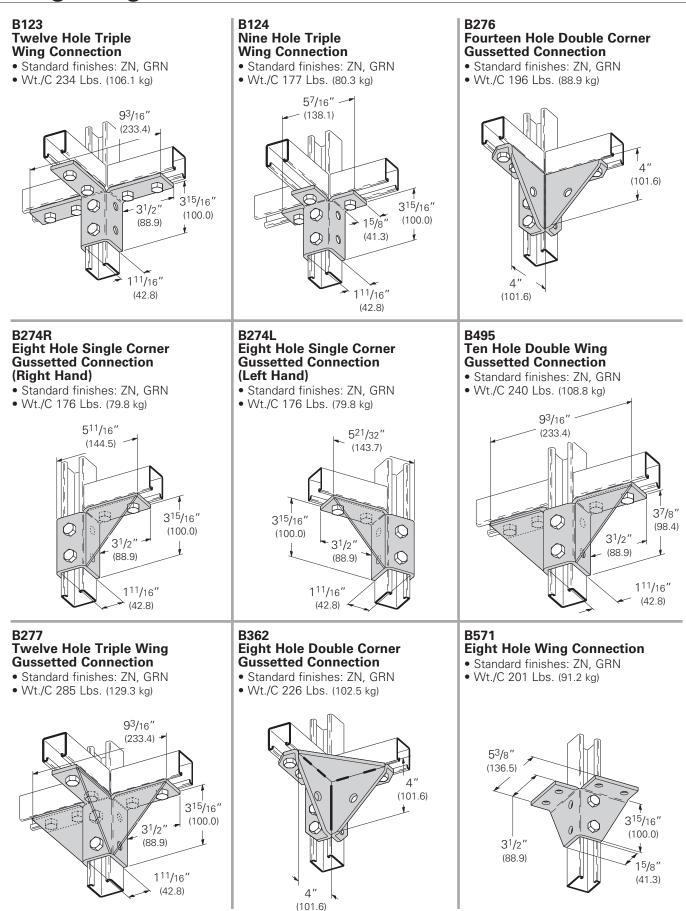
& Wing Fittings

Strut Fittings



Wing Fittings

Strut Fittings



B346L

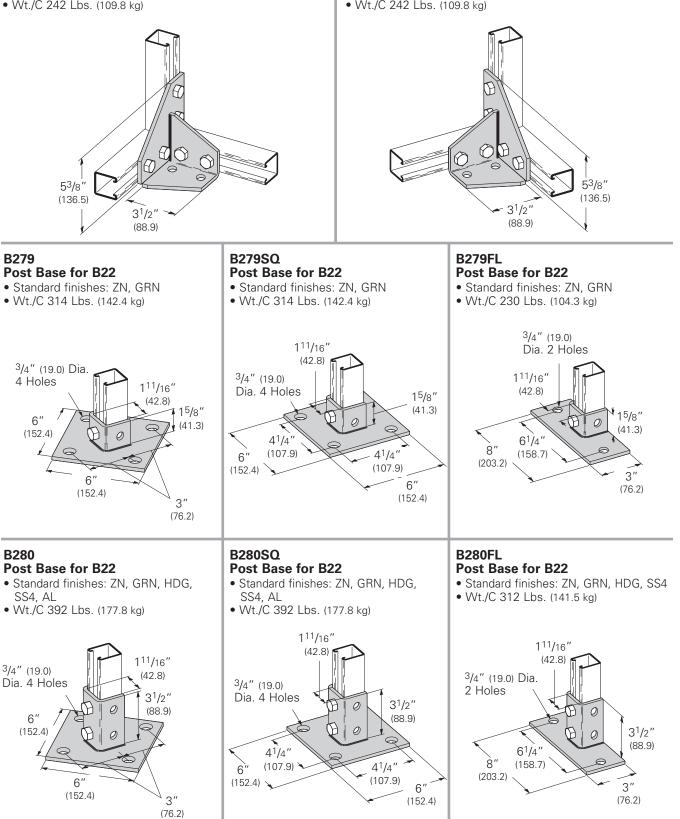


- Standard finishes: ZN, GRN
- Wt./C 242 Lbs. (109.8 kg)

B346R

Eight Hole Double Corner Gussetted Connection (Right Hand)

- Standard finishes: ZN, GRN
- Wt./C 242 Lbs. (109.8 kg)

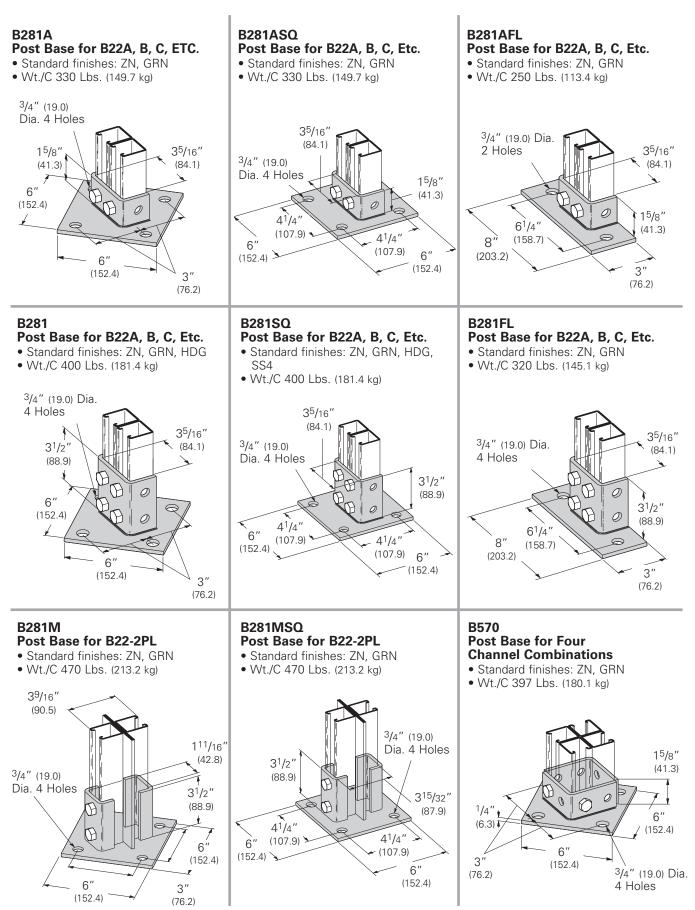


Reference page 106 for general fitting and standard finish specifications.

Strut Fittings

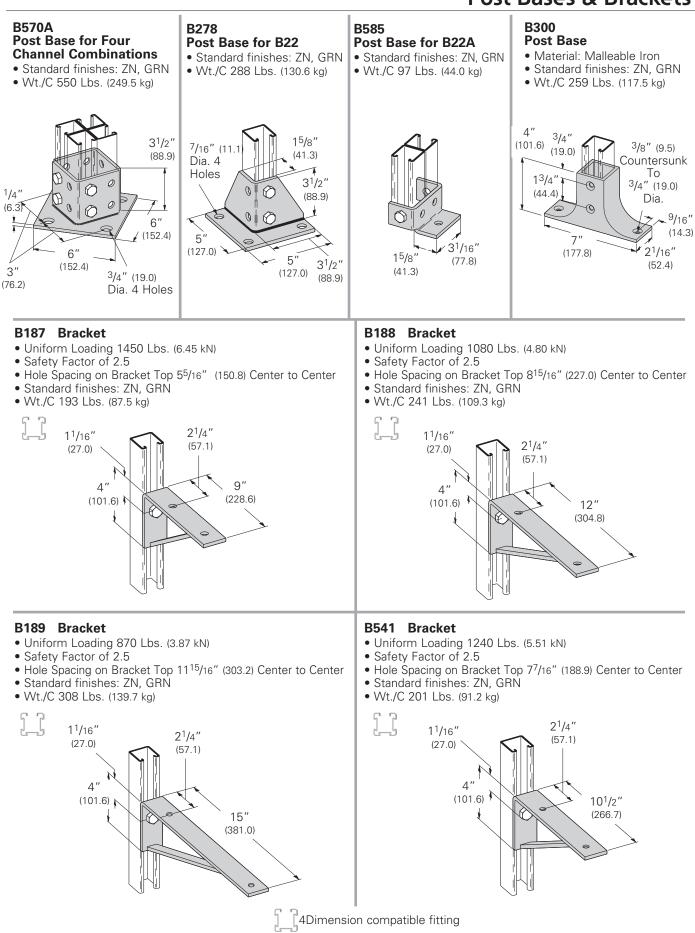
Post Bases

Strut Fittings

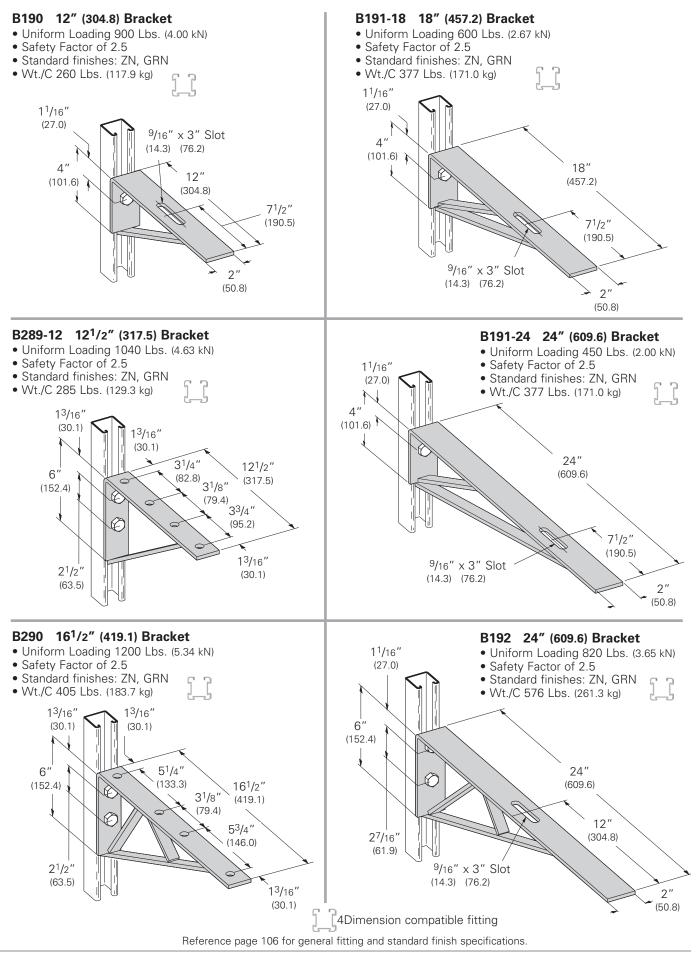


Post Bases & Brackets

Strut Fittings



Post Bases & Brackets

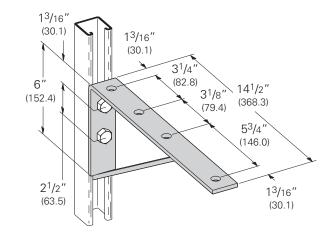


B289-14 14¹/2" (368.3) Bracket

- Uniform Loading 900 Lbs. (4.00 kN)
- Safety Factor of 2.5

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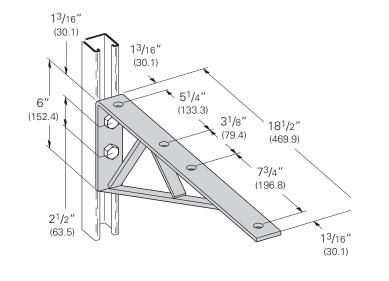
- Standard finishes: ZN, GRN
- Wt./C 295 Lbs. (133.8 kg)



B291 18¹/2" (469.9) Bracket

- Uniform Loading 1070 Lbs. (4.76 kN)
- Safety Factor of 2.5
- Standard finishes: ZN, GRN
- Wt./C 468 Lbs. (212.3 kg)

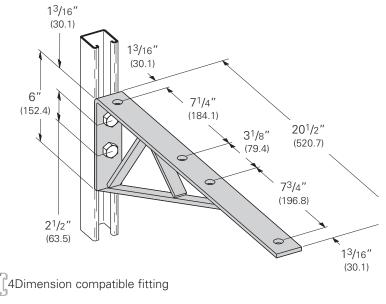




B292 20¹/2" (520.7) Bracket

- Uniform Loading 600 Lbs. (2.67 kN)
- Safety Factor of 2.5
- Standard finishes: ZN, GRN, HDG, SS4
- Wt./C 490 Lbs. (222.2 kg)





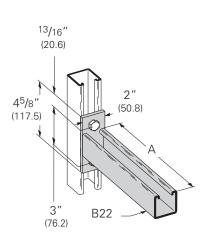
B409 Single Chann

Single Channel Bracket • Safety Factor of 2.5

Standard finishes: ZN, GRN, SS4

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Part	Α		Uniform	n Load	W	t./C
No.	In.	mm	Lbs.	kN	Lbs.	kg
B409-6	6″	(152.4)	1920	(8.54)	152	(68.9)
B409-9	9″	(228.6)	1280	(5.69)	195	(88.4)
B409-12	12″	(304.8)	960	(4.27)	232	(105.2)
B409-14	14″	(355.6)	800	(3.56)	274	(124.3)
B409-16	16″	(406.4)	730	(3.25)	314	(142.4)
B409-18	18″	(457.2)	640	(2.84)	347	(157.4)
B409-24	24″	(609.6)	480	(2.13)	450	(204.1)

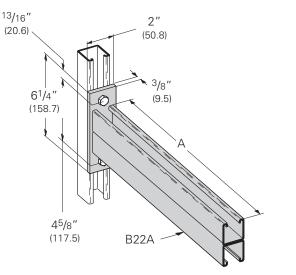


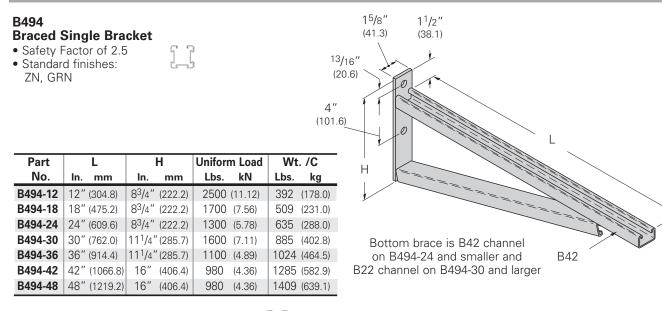
B297 Double Char

Double Channel Bracket

- Safety Factor of 2.5Standard finishes:
- ZN, GRN, HDG

Part	Α		A Uniform Load		Wt./C		
No.	In.	mm	Lbs.	kN	Lbs.	kg	
B297-12	12″	(304.8)	1660	(7.37)	485	(220.0)	
B297-18	18″	(457.2)	1100	(4.88)	668	(303.0)	
B297-24	24″	(609.6)	835	(3.71)	857	(388.7)	
B297-30	30"	(762.0)	665	(2.95)	1040	(471.7)	
B297-36	36"	(914.4)	550	(2.44)	1240	(562.4)	
B297-42	42″	(1066.8)	465	(2.06)	1440	(653.2)	





4Dimension compatible fitting

Strut Fittings

B174SH-B186SH L&R Slotted Bracket

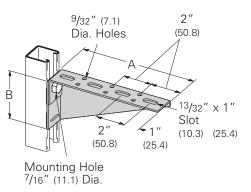
• Safety Factor of 2.5

- Specify L for left or R for right bracing
- Material: ASTM A1011 33,000 PSI min. yield

• Standard finishes: ZN, GRN

Part	Α	В	Uniform Load	Wt./C
No.	In. mm	ı In. mm	Lbs. kN	Lbs. kg
B174SH	24″ (609.	6) 6 ⁷ /16" (163.5)	225 (1.00)	370 (167.8)
B175SH	26″ (660.	4) 6 ¹⁵ /16" (176.2)	225 (1.00)	425 (192.8)
B176SH	28″ (711.	2) 7 ⁷ /16" (188.9)	225 (1.00)	480 (217.7)
B177SH	30″ (762.	0) 7 ¹⁵ /16" (201.6)	225 (1.00)	520 (235.9)
B178SH	12" (304.	8) 3 ⁷ /16" (87.3)	350 (1.55)	143 (64.8)
B179SH	14" (355.	6) 3 ¹⁵ /16" (100.0)	350 (1.55)	162 (73.5)
B180SH	16" (406.	4) 4 ⁷ /16" (112.7)	250 (1.11)	204 (92.5)
B181SH	18" (457.	2) 4 ¹⁵ /16" (125.4)	250 (1.11)	232 (105.2)
B182SH	20" (508.	0) 5 ⁷ /16" (138.1)	250 (1.11)	275 (124.7)
B183SH	22" (558.	8) 5 ¹⁵ /16" (150.8)	250 (1.11)	317 (143.8)
B184SH	6″ (152.	4) 1 ¹⁵ /16" (49.2)	225 (1.00)	58 (26.3)
B185SH	8″ (203.	2) 2 ⁷ /16″ (61.9)	225 (1.00)	82 (37.2)
B186SH	10″ (254.	0) 2 ¹⁵ /16" (74.6)	325 (1.44)	103 (46.7)

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Right bracket shown, left bracket gussett on opposite side.

B196 Channel Clevis Bracket

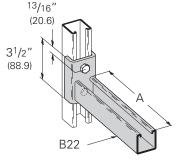
- Safety Factor of 2.5
- Standard finishes:
- ZN, GRN

Part No.	A In. mm	Uniform Load Lbs. kN	Wt./C Lbs. kg	
B196-18	18" (457.2)	600 (2.67)	430 (195.0)	
B196-24	24" (609.6)	450 (2.00)	510 (231.3)	

B198

Channel Clevis Bracket

- Safety Factor of 2.5
- Standard finishes: ZN, GRN

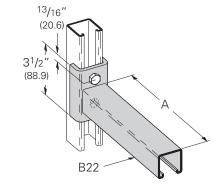


Part No.	A In. mm	Uniform Load Lbs. kN	Wt./C Lbs. kg
B198-6	6″ (152.4)	1600 (7.12)	185 (83.9)
B198-12	12" (304.8)	800 (3.56)	284 (128.8)

¹³ /16" (20.6) 5 ³ /8" (136.5) 3 ⁵ /8" (92.1)		A
	B22	

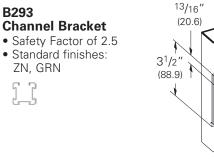
B198A

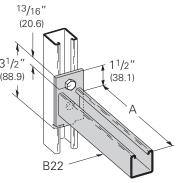
- **Channel Clevis Bracket**
- Safety Factor of 2.5
- Standard finishes: ZN, GRN



Part No.	A In. mm	Uniform Load Lbs. kN	Wt./C Lbs. kg
B198A-6	6″ (152.4)	1600 (7.12)	185 (83.9)
B198A-12	12" (304.8)	800 (3.56)	284 (128.8)

4Dimension compatible fitting

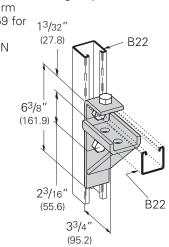




Part	Α		A Uniform Load		n Load	Wt./C	
No.	In.	mm	Lbs.	kN	Lbs.	kg	
B293-6	6″	(152.4)	1200	(5.34)	144	(65.3)	
B293-12	12″	(304.8)	600	(2.67)	252	(114.3)	
B293-18	18″	(457.2)	400	(1.78)	340	(154.2)	
B293-24	24″	(609.6)	300	(1.33)	412	(186.9)	

B194 Bracket for B22 & B24

- Safety Factor of 2.5
- 6300 In.-Lbs (712 N•m) applies to fitting only, not to strength of strut arm
- Refer to pages 56, 57 & 59 for 13/3
- strut loading data
- Standard finishes: ZN, GRN
- Wt./C 210 Lbs. (95.2 kg)
- 77



B22

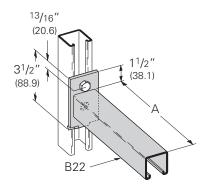
Channel Bracket

• Standard finishes:

ZN, GRN

• Safety Factor of 2.5

B293A



Part No.	A In. mm	Uniform Load Lbs. kN	Wt./C Lbs. kg
B293A-6	6" (152.4)	1200 (5.34)	144 (65.3)
B293A-12	12" (304.8)	600 (2.67)	252 (114.3)
B293A-18	18" (457.2)	400 (1.78)	340 (154.2)
B293A-24	24" (609.6)	300 (1.33)	412 (186.9)

B370 Bracket for B22A & B11

- Safety Factor of 2.5
- 13000 In.-Lbs (1469 N•m) applies to fitting only, not to strength of strut arm
- Refer to pages 51, 56, & 57 for strut loading data
- Standard finishes: ZN, GRN
- Wt./C 266 Lbs. (120.6 kg)

& 57 for GRN (g) 8" (203.2) 3¹⁵/16" (100.0) 3³/4" (95.2)

13/32"

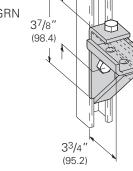
(27.8)

B22

B195 Bracket for B42

- Safety Factor of 2.5
- 2500 In.-Lbs (282 N•m) applies to fitting only, not to strength of strut arm
- Refer to pages 57 & 65 for strut loading data
- Standard finishes: ZN, GRN
- Wt./C 174 Lbs. (78.9 kg)

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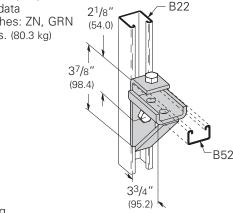


21/8"

(54.0)

B440

- Bracket for B52 & B54
- Safety Factor of 2.5
 2000 In.-Lbs (226 N•m) applies to fitting only, not to strength of strut arm
- Refer to page 57, 67, & 69 for
- strut loading data
 Standard finishes: ZN, GRN
- Wt./C 177 Lbs. (80.3 kg)



4Dimension compatible fitting

Reference page 106 for general fitting and standard finish specifications.

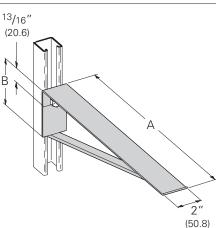
B42

B449-4, 8 & 12 Cable Saddle Bracket

- Safety Factor of 2.5
- Material: 11 Gauge (3.0)
- ASTM A1011 HSLAS Gr. 50
- Standard finishes: ZN, GRN

Part		Α		В	Unifor	n Load	W	t./ C
No.	In.	mm	ln.	mm	Lbs.	kN	Lbs.	kg
B449-4	41/2"	(114.3)	2 ³ /8″	(60.3)	2400	(10.67)	74	(33.5)
B449-8	8 ¹ /2″	(215.9)	2 ³ /8″	(60.3)	1270	(5.65)	124	(56.2)
B449-12	12 ¹ /2″	(317.5)	4″	(101.6)	860	(3.82)	184	(83.4)

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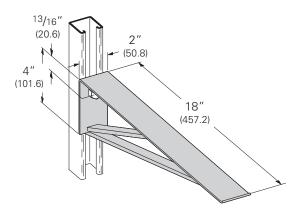


B449-18

18" (457.2) Cable Saddle Bracket

- Safety Factor of 2.5
- Uniform Load 960 Lbs. (4.17 kN)
- Material: 11 Gauge (3.0) ASTM A1011 HSLAS Gr. 50
- Standard finishes: ZN, GRN
- Wt./C 312 Lbs. (141.5 kg)

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B409DB Series Solar Bracket

- Safety Factor of 2.5
- Includes: (1) Channel Bracket Plate ¹/₄" x 3¹/₂" x 7³/₄" with welded channel (1) Back Plate - ¹/₄" x 3¹/₂" x 7³/₄" (4) ³/₈"-16 x 8¹/₂" Square Neck Carriage Bolts
 - (4) ³/8"-16 Serrated Flange Hex Nuts
- Fits 4" (101mm) to 6¹/2" (165mm) wide supports
- Standard finishes: ZN, HDG

Part		L	Unifor	m Load	W	/t./C
No.	ln.	mm	Lbs.	kN	Lbs.	kg
B409DB-12	12″	(304.8)	800	(3.56)	766	(347.4)
B409DB-18	18″	(457.2)	800	(3.56)	956	(433.6)

6" (152.4)

A single channel version and other lengths are available. Contact Eaton B-Line Division engineering for more information.

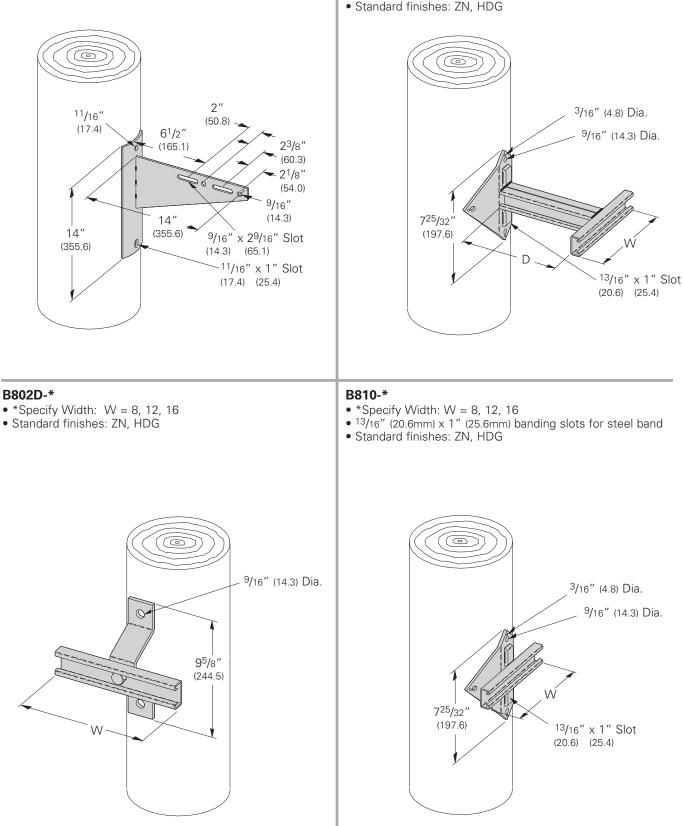
ftting لي 4Dimension compatible fitting



• Standard finishes: ZN, HDG

B852S-*-**

- *Specify Width: W = 8, 12, 16
- **Specify Depth: D = 6, 8, 10, 12, 16, 18, 24
- ¹³/16" (20.6mm) x 1" (25.4mm) banding slots for steel band
- Standard finishes: ZN, HDG

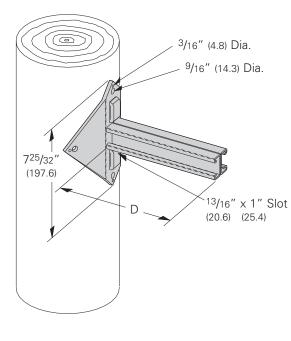


B811-*

- *Specify Width: W = 8, 12, 16
- Can be attached directly to B809 & B812
- Standard finishes: ZN, HDG

27/16" (61.9) 13/16" (20.6)

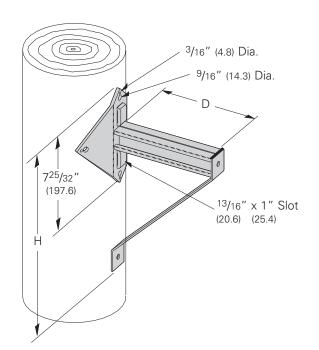
- B812-*
- *Specify Depth: D = 6, 8, 12, 16, 18, 24
- ¹³/16" (20.6mm) x 1" (25.4mm) banding slots for steel band
- Standard finishes: ZN, HDG



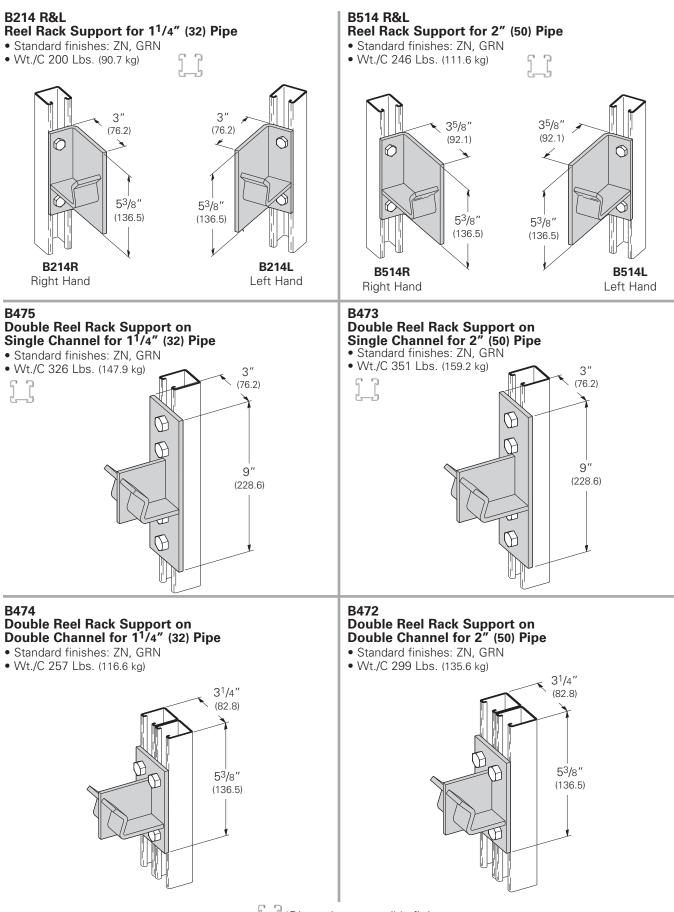
B809B-*

- *Specify Depth: D = 6, 8, 10, 12, 16, 18, 24
- ¹³/16" (20.6mm) x 1" (25.4mm) banding slots for steel band
- Standard finishes: ZN, HDG

Part No.		D	H	4
	In.	mm	In.	mm
B809B-6	6″	(152.4)	12 ³ /4″	(323.9)
B809B-8	8″	(203.2)	14 ³ /4″	(374.7)
B809B-10	10″	(254.0)	16 ³ /4″	(425.5)
B809B-12	12″	(304.8)	18 ³ /4″	(476.2)
B809B-16	16″	(406.4)	22 ³ /4″	(577.8)
B809B-18	18"	(457.2)	24 ³ /4″	(628.6)
B809B-24	24″	(609.6)	27 ³ /4″	(704.8)

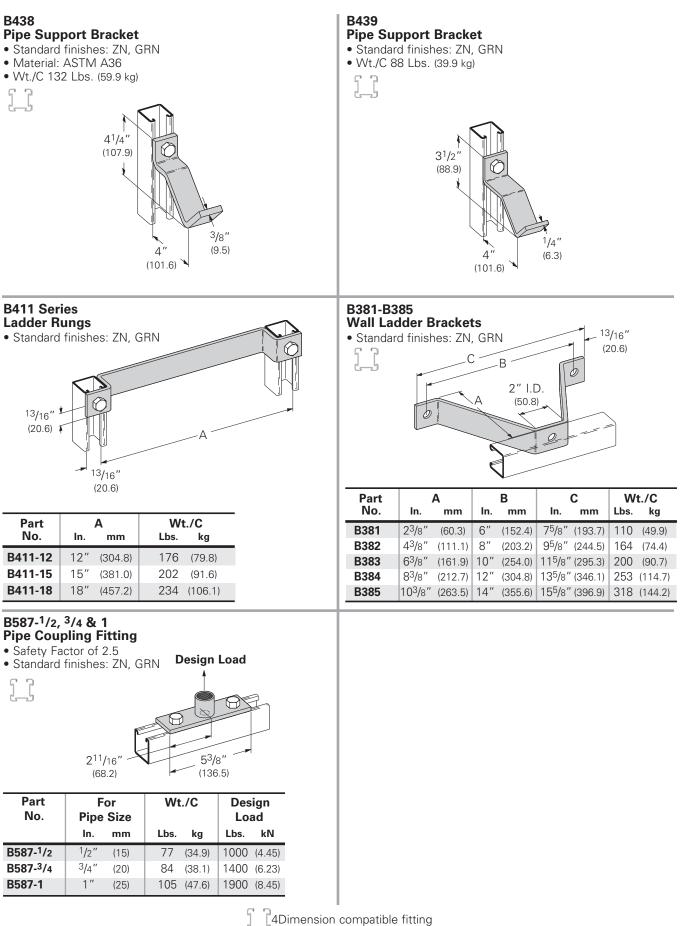


Strut Fittings

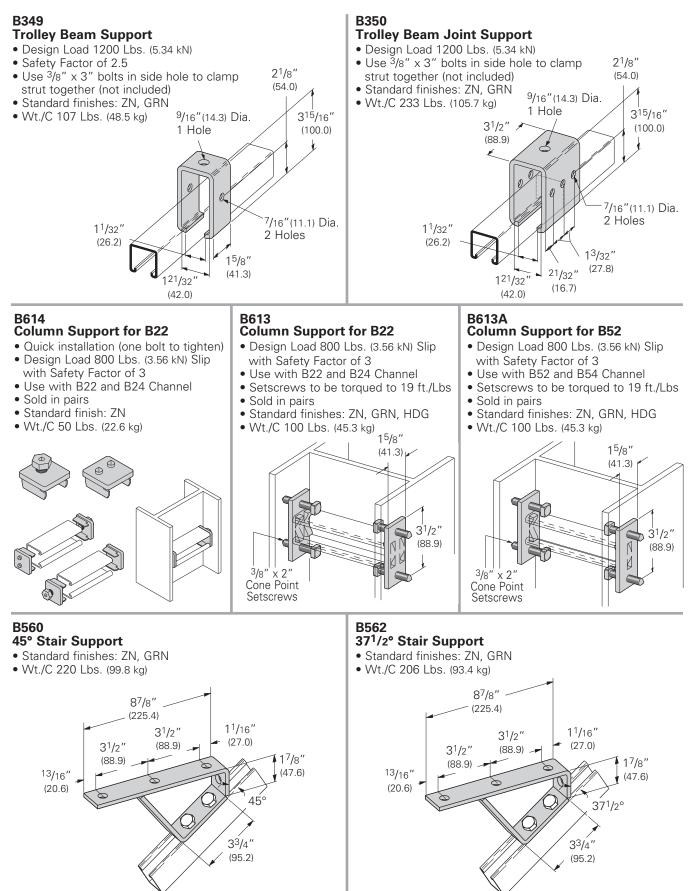


4Dimension compatible fitting

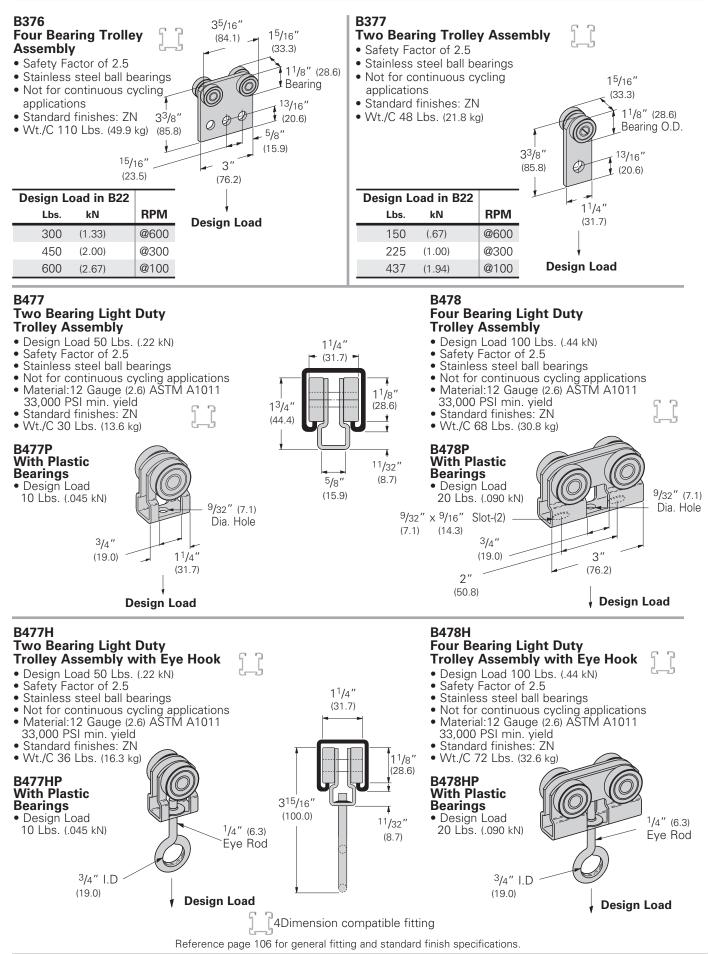
Strut Fittings



Strut Fittings



Strut Fittings



B203-B206 & B220-B223 **Channel End Caps Type X**

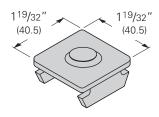
- Material: ASTM A1011 CS Type B • Standard finishes: ZN, GRN, HDG, SS4, AL

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Part No.	Use With	In.	A mm	Wt Lbs.	/C kg	_
B203	B42	1.015	(25.8)	6	(2.7)	
B204	B54	.827	(21.0)	5	(2.2)	
B205	B22	1.640	(41.6)	10	(4.5)	
B206	B32	1.390	(35.3)	8	(3.6)	
B220	B52	.827	(21.0)	4	(1.8)	
B221	B12	2.452	(62.3)	15	(6.8)	
B222	B11	3.265	(82.9)	20	(9.1)	
B223	B24	1.640	(41.6)	10	(4.5)	

B287 & B288 **Channel End Caps**

- Material: ASTM A1011 33,000 PSI min. yield
- Standard finishes: ZN, GRN

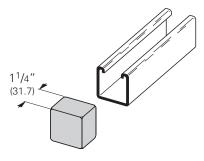


Part No.	Use With	Wt Lbs.	/C kg	
B287	B22	13	(5.9)	
B288	B24	14	(6.3)	

B822

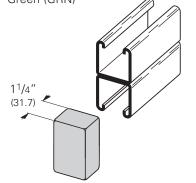
Plastic End Cap for B22 & B24

- Material: Polyvinyl Chloride (PVC/Vinyl)
- Withstands intermittent temperatures up to 350°F (177°C) and 200°F (93°C) continuous
- Wt./C 3 Lbs. (1.3 kg)
- Available in colors: White (W), Yellow (Y), Black (BLK), Gray (GRY),



B822A

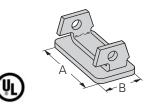
- Plastic End Cap for B22A & B11
- Material: Polyvinyl Chloride (PVC/Vinyl)
- Withstands intermittent temperatures up to 350°F (177°C) and 200°F (93°C)
- continuous
- Wt./C 5 Lbs. (2.2 kg)
- Available in colors: White (W), Yellow (Y), Black (BLK), Gray (GRY), Green (GRN)



B283-B286

Channel End Caps

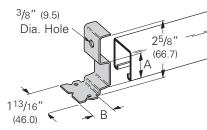
- Material: ASTM A1011 33,000 PSI min. yield
- Standard finishes: ZN, GRN



Part		Α		E	3	Wt	./C
No.	Use With	In. n	nm	In.	mm	Lbs.	kg
B283	B52	1 ¹⁹ /32" (4	0.5)	25/32″	(19.8)	6	(2.7)
B284	B54	1 ¹⁹ /32″ (4	0.5)	25/32″	(19.8)	6	(2.7)
B285	B22	1 ¹⁹ /32″ (4	0.5)	119/32'	(40.5)	13	(5.9)
B286	B24	1 ¹⁹ /32″ (4	0.5)	119/32'	(40.5)	14	(6.3)

B3322, B3332, B3342, B3352 Anchor End Caps Type Y

- Material: ASTM A1011 33,000 PSI min. yield
- Standard finishes: ZN



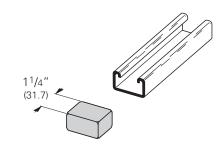
Part		A	1	E	3	W1	:./C
No.	Use With	In.	mm	In.	mm	Lbs.	kg
B3322	B22I	1.270	(32.2)	1 ³ /16"	(30.2)	15	(6.8)
B3332	B32I	1.000	(25.4)	1 ³ /16"	(30.2)	15	(6.8)
B3342	B42I	.645	(16.4)	1 ¹ /4″	(31.8)	15	(6.8)
B3352	B52I	.460	(11.7)	1 ⁵ /16"	(33.3)	15	(6.8)

B852

Plastic End Cap for B52 & B54

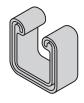
Material: Polyvinyl Chloride (PVC/Vinyl)

- Withstands intermittent temperatures up to 350°F (177°C) and 200°F (93°C) continuous
- Wt./C 2.5 Lbs. (1.1 kg)
- Available in colors: White (W), Yellow (Y), Black (BLK), Gray (GRY), Green (GRN)



B823 Profile End Caps

- Material: Polyvinyl Chloride (PVC/Vinyl)
- Withstands intermittent temperatures up to 350°F (177°C) and 200°F (93°C) continuous
- Available in colors: White (W), Yellow (Y), Black (BLK), Gray (GRY), Green (GRN)



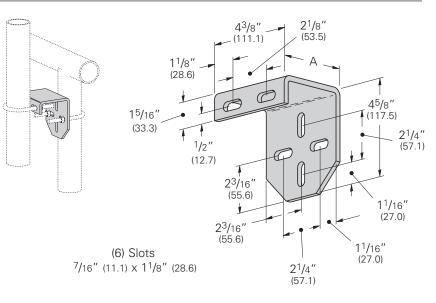
Part No.	Fits Channel Sizes	Wt./C Lbs. kg
B823-22A	B22A, B24A, B26A	6.9 (3.1)
B823-22	B22, B24, B26	4.1 (1.8)
B823-42	B42	3.8 (1.7)
B823-52	B52, B54, B56	3.5 (1.6)

Approx. ³/4" deep (19.0)

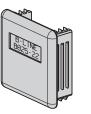
B408SLBVNS Series Stand-Off Brackets

- Material: 1/4" (6.3)
- Standard Finishes: HDG, ZN, GRN
- For pipe or rigid conduit sizes of 1¹/2" (40) and 2" (50) use with B501 Series 'U'-Bolts (see page 53)
- For strut channels 1⁵/8" (41.3) wide use with B500 Series Square 'U'-Bolts (see page 53)
- Hardware is not included

Part No.	A In. (mm)	Wt./C Lbs. kg
B408SLBVNS	3 ¹ /2" (88.9)	189 (85.7)
B408SLBVNS1	3″ (76.2)	220 (99.8)
B408SLBVNS2	2" (50.8)	236 (107.0)



- Material: Polyurethane
- Available in colors: Gray (GRY), Green (GRN)





Part No.	Fits Channel Sizes	Wt./C Lbs. kg
B825-22	B22 & B24	2.0 (0.9)
B825-52	B52 & B54	1.0 (0.4)