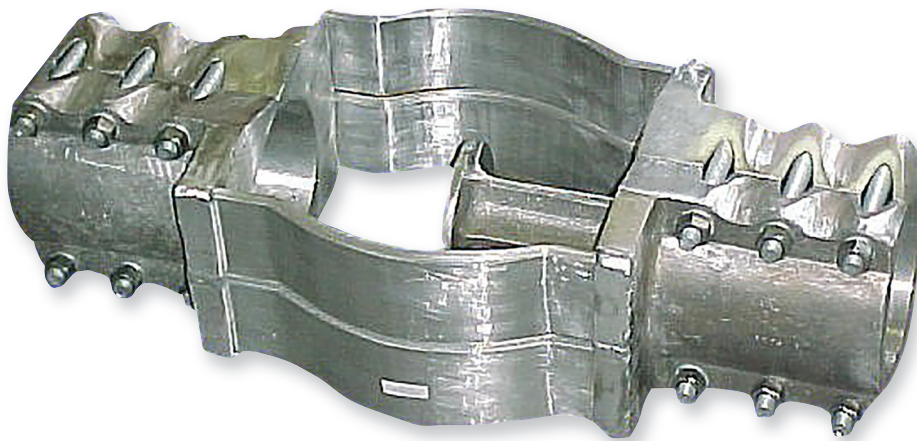
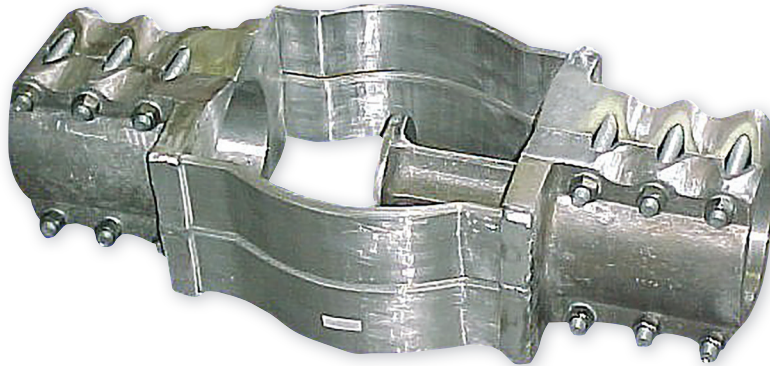




SECTION 8 EXPANSION CONNECTORS

SUBSTATION CONNECTORS - 230KV AND BELOW



EXPANSION CONNECTORS

PLP **Substation Expansion Connectors** for 230kV and below are designed to be used in situations when an expansion joint is required in a section of bus tube that is fixed between two adjacent locations. The expansion connector allows the connector to expand and contract between the fixed points in response to changes in operating temperature, a short-circuit, or seismic events. In doing so, the expansion joint helps to reduce bending stress on apparatus terminals enhancing reliability and lifetime.

FEATURES AND BENEFITS

- Complete range of sizes for connecting most standard bus tube or stranded conductor
- Solutions for bolted, compression, and weldment applications
- Available in aluminum and bronze, with tin plating capabilities for both materials
- Custom design solutions available to secure your most challenging connections

FE-A

Aluminum Bolted Expansion Connector Tube to Tube with Guide 230kV and Below

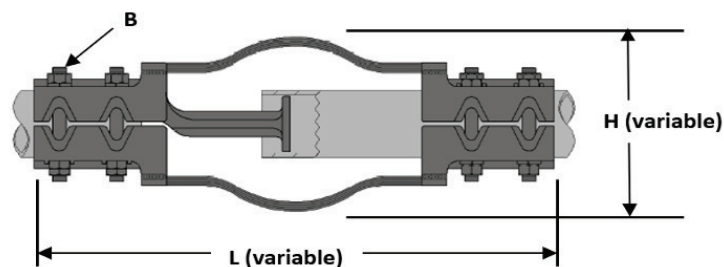
Aluminum alloy expansion to connect two tubes with a guide. Electrical joint compound is recommended for all tube contact surfaces.

CASTINGS: Aluminum Alloy

HARDWARE: Galvanized Steel

See page 172 for special order options such as tin plating, hardware materials and specific angles. Contact PLP for further details, unlisted option and/or special applications.

Example: FE36A36A with Stainless Steel Hardware would be FE36A36A-SS.



Part Number	NPS Tube Diameter	Dimensions		
		in (mm)		
		H	L	B
FE36A36A	1/2	7.83 (199)	15.20 (386)	1/2 (13)
FE37A37A	3/4	7.83 (199)	15.20 (386)	1/2 (13)
FE38A38A	1	7.83 (199)	15.79 (401)	1/2 (13)
FE39A39A	1-1/4	6.81 (173)	21.61 (549)	1/2 (13)
FE40A40A	1-1/2	7.60 (193)	22.36 (568)	1/2 (13)
FE41A41A	2	8.39 (213)	22.36 (568)	5/8 (16)
FE42A42A	2-1/2	8.86 (225)	22.36 (568)	5/8 (16)
FE43A43A	3	10.04 (255)	23.78 (604)	5/8 (16)
FE44A44A	3-1/2	11.06 (281)	24.84 (631)	5/8 (16)
FE45A45A	4	12.32 (313)	26.10 (663)	5/8 (16)
FE46A46A	4-1/2	14.72 (374)	30.71 (780)	5/8 (16)
FE47A47A	5	14.72 (374)	29.33 (745)	5/8 (16)
FE49A49A	6	14.72 (374)	30.83 (783)	5/8 (16)

FES-A

Aluminum Bolted Expansion Connector Tube to Insulator 230kV and Below

Aluminum alloy expansion to connect two tubes to an insulator bolt circle. Electrical joint compound is recommended for all tube contact surfaces.

CASTINGS: Aluminum Alloy

HARDWARE: Galvanized Steel

See page 172 for special order options such as tin plating, hardware materials and specific angles. Contact PLP for further details, unlisted option and/or special applications.

Example: FES37A-3 with Stainless Steel Hardware would be FES37A-3-SS.

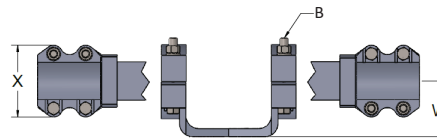


FIGURE 1

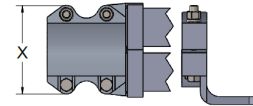
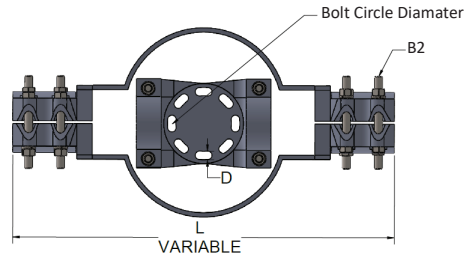


FIGURE 2



Part Number	Figure	Tube NPS Diameter	Bolt Circle Diameter	Dimensions					
				in (mm)					
				D	L	B	B2	X	W
FES37A-3	1	3/4	3 (76)	0.56 (14)	22.64 (575)	1/2 (13)	1/2 (13)	2.80 (71)	2.24 (57)
FES37A-5	1	3/4	5 (127)	0.68 (17)	22.64 (575)	1/2 (13)	1/2 (13)	2.80 (71)	2.24 (57)
FES40A-3	1	1-1/2	3 (76)	0.56 (14)	24.13 (613)	1/2 (13)	1/2 (13)	3.62 (92)	2.36 (60)
FES40A-5	1	1-1/2	5 (127)	0.68 (17)	24.13 (613)	1/2 (13)	1/2 (13)	3.62 (92)	2.36 (60)
FES41A-3	1	2	3 (76)	0.56 (14)	27.68 (703)	5/8 (16)	5/8 (16)	4.57 (116)	2.76 (70)
FES41A-5	1	2	5 (127)	0.68 (17)	27.68 (703)	5/8 (16)	5/8 (16)	4.57 (116)	2.76 (70)
FES42A-3	1	2-1/2	3 (76)	0.56 (14)	27.68 (703)	5/8 (16)	5/8 (16)	5.00 (127)	3.27 (83)
FES42A-5	1	2-1/2	5 (127)	0.68 (17)	27.68 (703)	5/8 (16)	5/8 (16)	5.00 (127)	3.27 (83)
FES43A-3	1	3	3 (76)	0.56 (14)	27.95 (710)	5/8 (16)	5/8 (16)	5.47 (139)	3.62 (92)
FES43A-5	1	3	5 (127)	0.68 (17)	27.95 (710)	5/8 (16)	5/8 (16)	5.47 (139)	3.62 (92)
FES44A-3	2	3-1/2	3 (76)	0.56 (14)	28.66 (728)	5/8 (16)	5/8 (16)	6.10 (155)	4.00 (102)
FES44A-5	2	3-1/2	5 (127)	0.68 (17)	28.66 (728)	5/8 (16)	5/8 (16)	6.10 (155)	4.00 (102)
FES45A-3	2	4	3 (76)	0.56 (14)	29.13 (740)	5/8 (16)	5/8 (16)	6.69 (170)	4.49 (114)
FES45A-5	2	4	5 (127)	0.68 (17)	29.13 (740)	5/8 (16)	5/8 (16)	6.69 (170)	4.49 (114)
FES47A-5	2	5	5 (127)	0.68 (17)	33.07 (840)	5/8 (16)	5/8 (16)	7.72 (196)	5.24 (133)
FES49A-3	2	6	3 (76)	0.56 (14)	34.57 (878)	5/8 (16)	5/8 (16)	8.78 (223)	5.75 (146)
FES49A-5	2	6	5 (127)	0.68 (17)	34.57 (878)	5/8 (16)	5/8 (16)	8.78 (223)	5.75 (146)

FP-A

Aluminum Bolted Expansion Connector Stud to Tube with Guide 230kV and Below

Aluminum alloy expansion to connect a tube to a stud with a guide. Electrical joint compound is recommended for all tube/stud contact surfaces.

CASTINGS: Aluminum Alloy

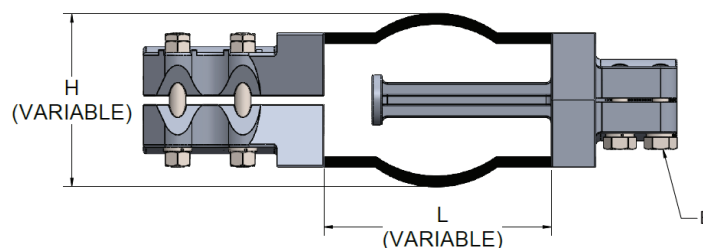
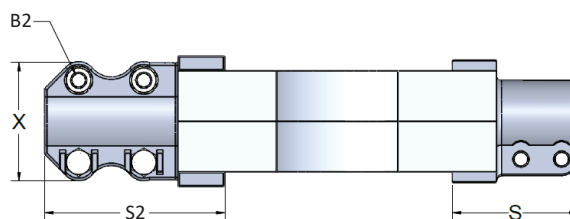
HARDWARE: Galvanized Steel

See page 172 for special order options such as tin plating, hardware materials and specific angles. Contact PLP for further details, unlisted option and/or special applications.

When ordering, please specify if stud is smooth or threaded with the 'C' suffix followed by the number of threads per inch.

Example of smooth stud: FP5738AC0

Example of stud with 12 threads per inch: FP5738AC12



Part Number	Stud Diameter	Tube NPS Diameter	Dimensions						
			in (mm)						
			H	L	S	S2	B	B2	X
FP5738AC12	1 (25)	1	6.61 (168)	7.28 (185)	3.86 (98)	4.72 (120)	1/2 (13)	1/2 (13)	3.07 (78)
FP57539AC12	1-1/8 (29)	1-1/4	7.60 (193)	11.42 (290)	3.86 (98)	4.88 (124)	1/2 (13)	1/2 (13)	3.31 (84)
FP5839AC12	1-1/4 (32)	1-1/4	7.60 (193)	11.42 (290)	3.86 (98)	4.88 (124)	1/2 (13)	1/2 (13)	3.31 (84)
FP5940AC12	1-1/2 (38)	1-1/2	7.60 (193)	11.42 (290)	3.86 (98)	5.55 (141)	1/2 (13)	1/2 (13)	3.78 (96)
FP59540AC12	1-1/2 (38)	1-1/2	7.60 (193)	11.42 (290)	4.25 (108)	5.55 (141)	1/2 (13)	1/2 (13)	3.78 (96)
FP6041AC12	2 (51)	2	8.39 (213)	11.42 (290)	4.25 (108)	5.43 (138)	1/2 (13)	5/8 (16)	4.61 (117)
FP6142AC12	2-1/2 (64)	2-1/2	8.39 (213)	11.42 (290)	4.25 (108)	5.43 (138)	1/2 (13)	5/8 (16)	4.92 (125)
FP6243AC12	3 (76)	3	8.39 (213)	11.42 (290)	4.25 (108)	6.26 (159)	5/8 (16)	5/8 (16)	5.47 (139)

FZ-A

Aluminum Bolted Expansion Connector Tube to Pad with Guide 230kV and Below

Aluminum alloy expansion to connect one tube to a flat pad with a guide. Electrical joint compound is recommended for all tube/flat contact surfaces.

CASTINGS: Aluminum Alloy

HARDWARE: Galvanized Steel

See page 172 for special order options such as tin plating, hardware materials and specific angles. Contact PLP for further details, unlisted option and/or special applications.

Example: FZ36A-2N with Stainless Steel Hardware would be FZ36A-2N-SS.



Figure 1

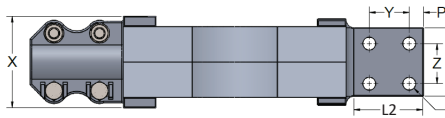
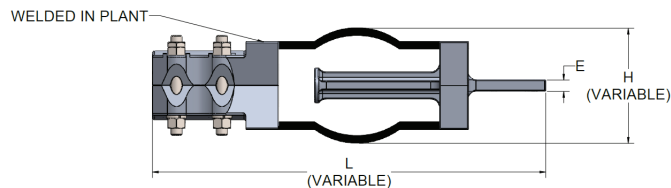


Figure 2



Part Number	Figure	Tube NPS Diameter in	Dimensions									
			in (mm)									
			A	D	E	H	L	L2	P	B	X	Y/Z
FZ36A-2N	1	1/2	2.32 (59)	0.56 (14)	0.39 (10)	6.10 (155)	16.77 (426)	3.00 (76)	0.63 (16)	1/2 (13)	2.68 (68)	1.75 (44)
FZ36A-4N	2	1/2	3.00 (76)	0.56 (14)	0.39 (10)	6.10 (155)	16.77 (426)	3.00 (76)	0.63 (16)	1/2 (13)	2.68 (68)	1.75 (44)
FZ37A-2N	1	3/4	2.32 (59)	0.56 (14)	0.39 (10)	6.10 (155)	16.77 (426)	3.00 (76)	0.63 (16)	1/2 (13)	2.95 (75)	1.75 (44)
FZ37A-4N	2	3/4	3.00 (76)	0.56 (14)	0.39 (10)	6.10 (155)	16.77 (426)	3.00 (76)	0.63 (16)	1/2 (13)	2.95 (75)	1.75 (44)
FZ38A-2N	1	1	2.32 (59)	0.56 (14)	0.51 (13)	6.10 (155)	17.17 (436)	3.00 (76)	0.63 (16)	1/2 (13)	3.03 (77)	1.75 (44)
FZ38A-4N	2	1	3.00 (76)	0.56 (14)	0.51 (13)	6.10 (155)	17.17 (436)	3.00 (76)	0.63 (16)	1/2 (13)	3.03 (77)	1.75 (44)
FZ39A-2N	1	1-1/4	2.32 (59)	0.56 (14)	0.51 (13)	6.10 (155)	17.17 (436)	3.00 (76)	0.63 (16)	1/2 (13)	3.31 (84)	1.75 (44)
FZ39A-4N	2	1-1/4	3.00 (76)	0.56 (14)	0.51 (13)	6.10 (155)	17.17 (436)	3.00 (76)	0.63 (16)	1/2 (13)	3.31 (84)	1.75 (44)
FZ40A-2N	1	1-1/2	2.32 (59)	0.56 (14)	0.51 (13)	7.60 (193)	22.20 (564)	3.00 (76)	0.63 (16)	1/2 (13)	3.78 (96)	1.75 (44)
FZ40A-4N	2	1-1/2	3.00 (76)	0.56 (14)	0.51 (13)	7.60 (193)	22.20 (564)	3.00 (76)	0.63 (16)	1/2 (13)	3.78 (96)	1.75 (44)
FZ40A-4N4	2	1-1/2	4.00 (102)	0.56 (14)	0.51 (13)	7.60 (193)	23.23 (590)	4.00 (102)	1.14 (29)	1/2 (13)	3.78 (96)	1.75 (44)
FZ41A-2N	1	2	2.32 (59)	0.56 (14)	0.51 (13)	8.39 (213)	21.69 (551)	3.00 (76)	0.63 (16)	5/8 (16)	4.61 (117)	1.75 (44)
FZ41A-4N	2	2	3.00 (76)	0.56 (14)	0.51 (13)	8.39 (213)	21.69 (551)	3.00 (76)	0.63 (16)	5/8 (16)	4.61 (117)	1.75 (44)
FZ41A-4N4	2	2	4.00 (102)	0.56 (14)	0.51 (13)	8.39 (213)	22.68 (576)	4.00 (102)	1.14 (29)	5/8 (16)	4.61 (117)	1.75 (44)

FZ-A CONTINUED

Aluminum Bolted Expansion Connector Tube to Pad with Guide 230kV and Below

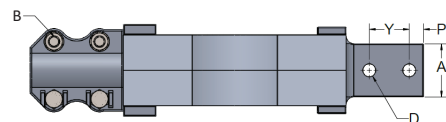


Figure 1

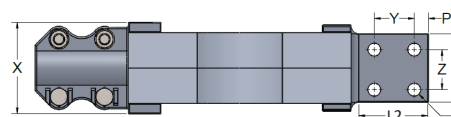
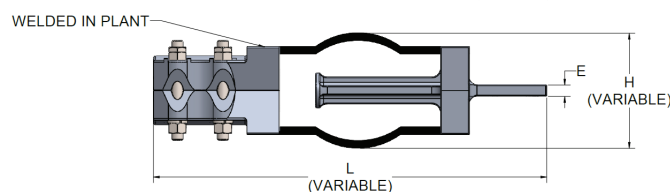


Figure 2



Part Number	Figure	Tube NPS Diameter in	Dimensions									
			in (mm)									
			A	D	E	H	L	L2	P	B	X	Y/Z
FZ42A-2N	1	2-1/2	3.00 (76)	0.56 (14)	0.71 (18)	8.86 (225)	21.69 (551)	3.00 (76)	0.63 (16)	5/8 (16)	5.00 (127)	1.75 (44)
FZ42A-4N	2	2-1/2	3.00 (76)	0.56 (14)	0.71 (18)	8.86 (225)	21.69 (551)	3.00 (76)	0.63 (16)	5/8 (16)	5.00 (127)	1.75 (44)
FZ42A-4N4	2	2-1/2	4.00 (102)	0.56 (14)	0.71 (18)	8.86 (225)	22.68 (576)	4.00 (102)	1.14 (29)	5/8 (16)	5.00 (127)	1.75 (44)
FZ43A-2N	1	3	3.00 (76)	0.56 (14)	0.75 (19)	10.04 (255)	22.95 (583)	3.00 (76)	0.63 (16)	5/8 (16)	5.47 (139)	1.75 (44)
FZ43A-4N	2	3	3.00 (76)	0.56 (14)	0.75 (19)	10.04 (255)	22.95 (583)	3.00 (76)	0.63 (16)	5/8 (16)	5.47 (139)	1.75 (44)
FZ43A-4N4	2	3	4.00 (102)	0.56 (14)	0.75 (19)	10.04 (255)	23.94 (608)	4.00 (102)	1.14 (29)	5/8 (16)	5.47 (139)	1.75 (44)
FZ44A-2N	1	3-1/2	4.00 (102)	0.56 (14)	0.98 (25)	10.55 (268)	24.49 (622)	3.00 (76)	0.63 (16)	5/8 (16)	7.13 (181)	1.75 (44)
FZ44A-4N	2	3-1/2	4.00 (102)	0.56 (14)	0.98 (25)	10.55 (268)	24.49 (622)	3.00 (76)	0.63 (16)	5/8 (16)	7.13 (181)	1.75 (44)
FZ44A-4N4	2	3-1/2	4.00 (102)	0.56 (14)	0.98 (25)	10.55 (268)	24.49 (622)	4.00 (102)	1.14 (29)	5/8 (16)	7.13 (181)	1.75 (44)
FZ45A-4N	2	4	4.00 (102)	0.56 (14)	0.98 (25)	12.32 (313)	24.09 (612)	3.00 (76)	0.63 (16)	5/8 (16)	7.13 (181)	1.75 (44)
FZ45A-4N4	2	4	4.00 (102)	0.56 (14)	0.98 (25)	12.32 (313)	25.12 (638)	4.00 (102)	1.14 (29)	5/8 (16)	7.13 (181)	1.75 (44)
FZ47A-4N	2	5	6.50 (165)	0.56 (14)	0.98 (25)	17.80 (452)	21.02 (534)	4.00 (102)	0.63 (16)	5/8 (16)	7.83 (199)	1.75 (44)
FZ47A-4N4	2	5	6.50 (165)	0.56 (14)	0.98 (25)	17.80 (452)	21.02 (534)	4.00 (102)	1.14 (29)	5/8 (16)	7.83 (199)	1.75 (44)

FE

Bronze Bolted Expansion Terminal

Tube to Tube with Guide

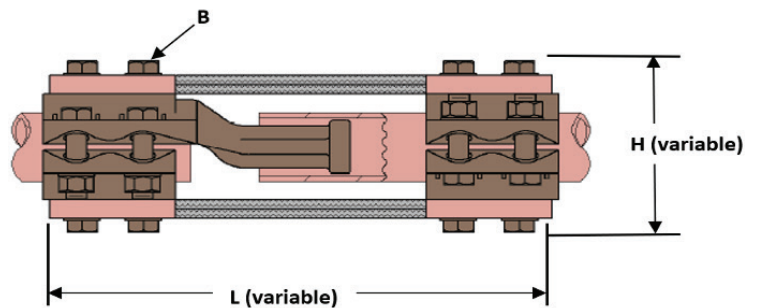
230kV and Below

Copper alloy expansion to connect two tubes with a guide. Electrical joint compound is recommended for all tube contact surfaces.

CASTINGS: Copper Alloy

HARDWARE: Silicon Bronze

See page 172 for special order options such as tin plating, hardware materials and specific angles. Contact PLP for further details, unlisted option and/or special applications.



Part Number	NPS Tube Diameter	Dimensions		
		in (mm)		
		H	L	B
FE3737	3/4	3.03 (77)	9.61 (244)	3/8 (10)
FE3838	1	3.27 (83)	10.59 (269)	3/8 (10)
FE3939	1-1/4	4.37 (111)	12.40 (315)	1/2 (13)
FE4040	1-1/2	4.53 (115)	12.91 (328)	1/2 (13)
FE4141	2	5.28 (134)	12.91 (328)	1/2 (13)
FE4242	2-1/2	5.51 (140)	13.66 (347)	1/2 (13)
FE4343	3	6.46 (164)	14.41 (366)	5/8 (16)
FE4747	4	9.37 (238)	21.50 (546)	5/8 (16)

FP

Bronze Bolted Expansion Connector Stud to Tube with Guide 230kV and Below

Copper alloy expansion to connect a tube to a stud with a guide. Electrical joint compound is recommended for all tube/stud contact surfaces.

CASTINGS: Copper Alloy

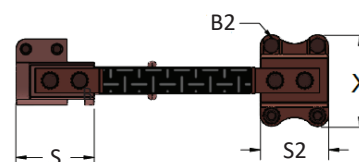
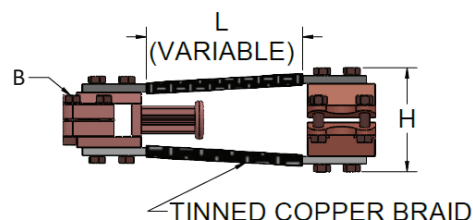
HARDWARE: Silicone Bronze

See page 172 for special order options such as tin plating, hardware materials and specific angles. Contact PLP for further details, unlisted option and/or special applications.

When ordering, please specify if stud is smooth or threaded with the 'C' suffix followed by the number of threads per inch.

Example of smooth stud: FP5539C0

Example of stud with 12 threads per inch: FP5539C12



Part Number	Stud Diameter	NPS Tube Diameter	Dimensions						
			in (mm)						
			H	L	S	S2	B	B2	X
FP5539C12	1/2 (13)	1-1/4	4.37 (111)	5.94 (151)	3.70 (94)	3.46 (88)	1/2 (13)	1/2 (13)	3.66 (93)
FP5739C12	1 (25)	1-1/4	4.37 (111)	5.94 (151)	3.70 (94)	3.46 (88)	1/2 (13)	1/2 (13)	3.66 (93)
FP57539C12	1-1/8 (29)	1-1/4	4.37 (111)	5.94 (151)	3.70 (94)	3.46 (88)	1/2 (13)	1/2 (13)	3.66 (93)
FP5839C12	1-1/4 (32)	1-1/4	4.37 (111)	6.46 (164)	3.70 (94)	3.46 (88)	1/2 (13)	1/2 (13)	3.66 (93)
FP5940C12	1-1/2 (38)	1-1/2	4.53 (115)	6.46 (164)	3.86 (98)	3.46 (88)	1/2 (13)	1/2 (13)	4.21 (107)
FP59340C12	1-5/8 (41)	1-1/2	4.53 (115)	6.46 (164)	3.86 (98)	3.46 (88)	1/2 (13)	1/2 (13)	4.21 (107)
FP59540C12	1-3/4 (44)	1-1/2	4.53 (115)	6.46 (164)	3.86 (98)	3.46 (88)	1/2 (13)	1/2 (13)	4.21 (107)
FP6041C12	2 (51)	2	5.28 (134)	6.46 (164)	3.86 (98)	3.46 (88)	1/2 (13)	1/2 (13)	4.69 (119)
FP60241C12	2-1/8 (54)	2	5.28 (134)	6.46 (164)	3.86 (98)	3.46 (88)	1/2 (13)	1/2 (13)	4.69 (119)
FP60541C12	2-1/4 (57)	2	5.28 (134)	6.46 (164)	3.86 (98)	3.46 (88)	1/2 (13)	1/2 (13)	4.69 (119)
FP6142C12	2-1/2 (64)	2-1/2	5.51 (140)	7.20 (183)	3.86 (98)	3.46 (88)	1/2 (13)	1/2 (13)	5.28 (134)
FP61542C12	2-3/4 (70)	2-1/2	5.51 (140)	7.20 (183)	4.17 (106)	3.46 (88)	5/8 (16)	1/2 (13)	5.28 (134)
FP6243C12	3 (76)	3	6.46 (164)	8.03 (204)	4.17 (106)	3.46 (88)	5/8 (16)	5/8 (16)	6.06 (154)

FZ

Bronze Bolted Expansion Connector

Tube to Pad with Guide

230kV and Below

Copper alloy expansion to connect one tube to a flat pad with a guide. Electrical joint compound is recommended for all tube/flat contact surfaces.

CASTINGS: Copper Alloy

HARDWARE: Silicone Bronze

See page 172 for special order options such as tin plating, hardware materials and specific angles. Contact PLP for further details, unlisted option and/or special applications.

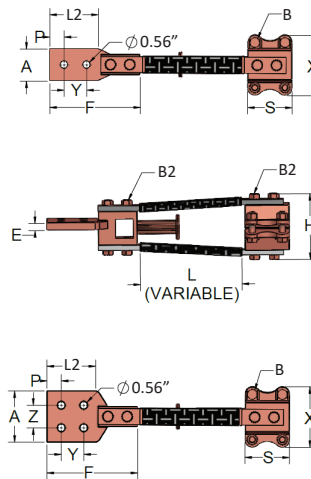


Figure 1
(Single Braid)

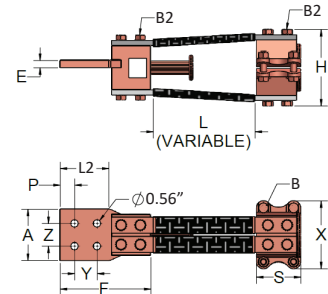


Figure 2
(Double Braid)

Part Number	Figure	Tube NPS Diameter	Dimensions											
			in (mm)											
			A	E	F	H	L	L2	P	S	B	B2	X	Y/Z
FZ37-2N	1	3/4	2.50 (64)	0.39 (10)	6.38 (162)	2.91 (75)	2.95 (75)	2.50 (64)	0.63 (16)	3.58 (91)	3/8 (10)	3/8 (10)	3.62 (92)	1.75 (44)
FZ37-4N	1	3/4	3.00 (76)	0.39 (10)	6.38 (162)	2.91 (75)	2.95 (75)	3.00 (76)	0.63 (16)	3.58 (91)	3/8 (10)	3/8 (10)	3.62 (92)	1.75 (44)
FZ37-4N4	1	3/4	4.00 (102)	0.39 (10)	7.52 (191)	2.91 (75)	2.95 (75)	4.00 (102)	1.14 (29)	3.58 (91)	3/8 (10)	3/8 (10)	3.62 (92)	1.75 (44)
FZ38-2N	1	1	2.50 (64)	0.39 (10)	6.38 (162)	3.43 (87)	4.06 (103)	2.50 (64)	0.63 (16)	3.46 (88)	3/8 (10)	3/8 (10)	3.46 (88)	1.75 (44)
FZ38-4N	1	1	3.00 (76)	0.39 (10)	6.38 (162)	3.43 (87)	4.06 (103)	3.00 (76)	0.63 (16)	3.46 (88)	3/8 (10)	3/8 (10)	3.46 (88)	1.75 (44)
FZ38-4N4	1	1	4.00 (102)	0.39 (10)	7.52 (191)	3.43 (87)	4.06 (103)	4.00 (102)	1.14 (29)	3.46 (88)	3/8 (10)	3/8 (10)	3.46 (88)	1.75 (44)
FZ39-2N	1	1-1/4	2.50 (64)	0.59 (15)	6.38 (162)	4.65 (118)	5.39 (137)	2.50 (64)	0.63 (16)	3.39 (86)	1/2 (13)	1/2 (13)	3.74 (95)	1.75 (44)
FZ39-4N	1	1-1/4	3.00 (76)	0.59 (15)	6.38 (162)	4.65 (118)	5.39 (137)	3.00 (76)	0.63 (16)	3.39 (86)	1/2 (13)	1/2 (13)	3.74 (95)	1.75 (44)
FZ39-4N4	1	1-1/4	4.00 (102)	0.71 (18)	7.52 (191)	4.65 (118)	5.39 (137)	4.00 (102)	1.14 (29)	3.39 (86)	1/2 (13)	1/2 (13)	3.74 (95)	1.75 (44)
FZ40-2N	1	1-1/2	2.50 (64)	0.59 (15)	6.38 (162)	4.57 (116)	6.46 (164)	2.50 (64)	0.63 (16)	3.39 (86)	1/2 (13)	1/2 (13)	4.17 (106)	1.75 (44)
FZ40-4N	1	1-1/2	3.00 (76)	0.59 (15)	6.38 (162)	4.57 (116)	6.46 (164)	3.00 (76)	0.63 (16)	3.39 (86)	1/2 (13)	1/2 (13)	4.17 (106)	1.75 (44)
FZ40-4N4	1	1-1/2	4.00 (102)	0.71 (18)	7.52 (191)	4.57 (116)	6.46 (164)	4.00 (102)	1.14 (29)	3.39 (86)	1/2 (13)	1/2 (13)	4.17 (106)	1.75 (44)
FZ41-4N	1	2	3.00 (76)	0.59 (15)	6.38 (162)	5.24 (133)	6.46 (164)	3.00 (76)	0.63 (16)	3.46 (88)	1/2 (13)	1/2 (13)	4.72 (120)	1.75 (44)
FZ41-4N4	1	2	4.00 (102)	0.71 (18)	7.52 (191)	5.24 (133)	6.46 (164)	4.00 (102)	1.14 (29)	3.46 (88)	1/2 (13)	1/2 (13)	4.72 (120)	1.75 (44)

FZ CONTINUED

Bronze Bolted Expansion Connector Tube to Pad with Guide 230kV and Below

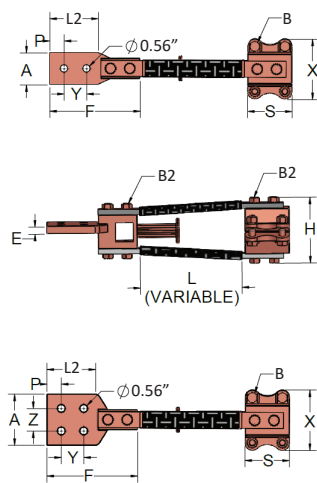


Figure 1
(Single Braid)

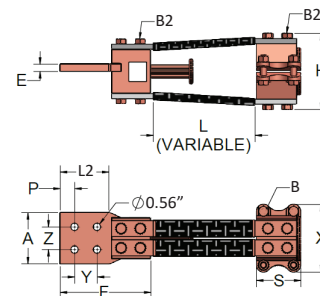


Figure 2
(Double Braid)

Part Number	Figure	Tube NPS Diameter in	Dimensions											
			in (mm)											
			A	E	F	H	L	L2	P	S	B	B2	X	Y/Z
FZ42-4N	2	2-1/2	3.00 (76)	0.59 (15)	6.38 (162)	5.55 (141)	7.20 (183)	3.00 (76)	0.63 (16)	3.46 (88)	1/2 (13)	1/2 (13)	5.28 (134)	1.75 (44)
FZ42-4N4	2	2-1/2	4.00 (102)	0.71 (18)	7.52 (191)	5.55 (141)	7.20 (183)	4.00 (102)	1.14 (29)	3.46 (88)	1/2 (13)	1/2 (13)	5.28 (134)	1.75 (44)
FZ43-4N	2	3	3.00 (76)	0.59 (15)	6.38 (162)	6.46 (164)	7.95 (202)	3.00 (76)	0.63 (16)	3.46 (88)	5/8 (16)	1/2 (13)	6.06 (154)	1.75 (44)
FZ43-4N4	2	3	4.00 (102)	0.71 (18)	7.52 (191)	6.46 (164)	7.95 (202)	4.00 (102)	1.14 (29)	3.46 (88)	5/8 (16)	1/2 (13)	6.06 (154)	1.75 (44)
FZ45-4N4	2	4	4.00 (102)	0.98 (25)	7.52 (191)	8.15 (207)	10.24 (260)	4.00 (102)	1.14 (29)	3.94 (100)	5/8 (16)	1/2 (13)	7.40 (188)	1.75 (44)