

# STAR® High Pressure Threaded Fittings

NOV Fiber Glass Systems provides a broad range of high pressure fiberglass fittings and accessories to accompany our high pressure line pipe. This allows for a complete corrosion free piping system. All of these fittings are manufactured using the filament winding method of fabrication, using premium glass fibers, and quality epoxy resins. This ensures maximum pressure capabilities of these composite elements.

Features for these fiberglass pipe fittings include:

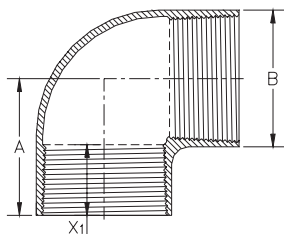
- Pressure ratings are per STAR Standard Design. For API 15HR pressure ratings, refer to table below.
- Multiple pressure classes at design temperature
- Design temperature of 200°F (93°C)
- API 5B EUE or OD 8rd or 10rd threaded connections
- Multiple sizes to match all of the manufactured pipe sizes and pressure classes
- Mill tested to 1.25 times Design Pressure Rating
- Cyclo-aliphatic amine cured epoxy resin system (all fittings unless otherwise shown)

**General Notes:**

1. All fittings center line to face dimensions are nominal ± ¼ inch (6.4 mm).
2. All fittings are filament wound fiberglass reinforced epoxy.
3. Thread sizes correspond to thread types listed in product specifications. All 1½” EUE 10rd and 2¾” - 4½” EUE 8rd API threads conform to API 5B Table 2.6a (L4 is minimum) and all 5½” - 9¾” OD 8rd casing threads conform to API 5B Table 2.3 (L4 is minimum). The 2”-12” Star Super Seal is a proprietary connection.
4. The insertion depth or make-up length loss is listed by size under (X<sub>1</sub> or X<sub>2</sub>) as inches (mm) per connection.
5. Typical dimensions are listed one time per section.
6. Weights are approximate.
7. Dimensions are U.S. Customary converted to metric.
8. API 15HR fittings require higher rated fittings according to the following table.
9. All fittings are designated by thread size based on pressure class of the pipe.
10. When ordering flanged valves, the ANSI bolt pattern should match the bolt pattern of the fiberglass flange. Some high pressure (>3000 psi) line pipe use a larger thread size, requiring a different ANSI bolt pattern.

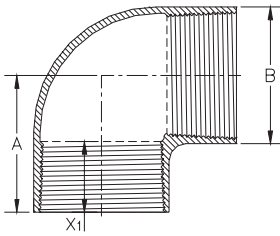
API 15HR Pressure Rating With Factor psi	Equivalent Standard Design Rating psi	Available Standard Design Fitting Rating psi
500 x 1.20 =	600	800
750 x 1.20 =	900	1000
1000 x 1.20 =	1200	1250
1250 x 1.20 =	1500	1500
1500 x 1.20 =	1800	2000
1750 x 1.20 =	2100	2500
2000 x 1.20 =	2400	2500
2250 x 1.20 =	2700	3000
2500 x 1.20 =	3000	3000
2750 x 1.20 =	3300	3500
3000 x 1.20 =	3600	4000
3250 x 1.20 =	3900	4000

**90° Elbow**  
Female x Female



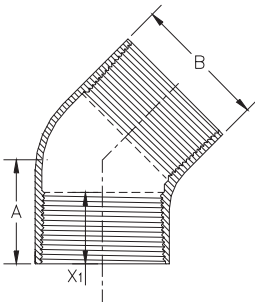
Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	Wt Lbs (kg)
1.90	2000 (13,8)	4.25 (108,0)	3.0 (76,2)	2.06 (52,4)	4 (1,81)
	2500 (17,2)		3.2 (81,3)		4.5 (2,04)
	3000 (20,7)		3.4 (86,4)		5 (2,27)
	4000 (27,6)		3.8 (96,5)		6 (2,72)
2 3/8	1250 (8,6)	5.00 (127,0)	3.2 (81,3)	2.56 (65,1)	5 (2,27)
	2000 (13,8)		3.6 (91,4)		6 (2,72)
	2500 (17,2)		3.9 (99,1)		7.5 (3,40)
	3000 (20,7)		4.2 (106,7)		9.5 (4,31)
2 7/8	4000 (27,6)	5.75 (146,1)	4.7 (119,4)	2.88 (73,0)	13 (5,90)
	1250 (8,6)		3.9 (99,1)		6.5 (2,95)
	2000 (13,8)		4.3 (109,2)		8 (3,63)
	2500 (17,2)		4.6 (116,8)		10 (4,54)
3 1/2	3000 (20,7)	6.50 (165,1)	5.0 (127,0)	3.13 (79,4)	12 (5,44)
	4000 (27,6)		5.8 (147,3)		15 (6,80)
	1250 (8,6)		4.7 (119,4)		8 (3,63)
	2000 (13,8)		5.2 (132,1)		12.5 (5,67)
3 3/4	2500 (17,2)	7.00 (177,8)	5.6 (142,2)	3.50 (88,9)	17 (7,71)
	3000 (20,7)		6.0 (152,4)		28 (12,7)
	4000 (27,6)		7.0 (177,8)		40 (18,14)
	1250 (8,6)		5.9 (149,9)		20 (9,07)
4 1/2	2000 (13,8)	8.00 (203,2)	6.7 (170,2)	4.38 (111,1)	29 (13,15)
	2500 (17,2)		7.2 (182,9)		37 (16,78)
	3000 (20,7)		7.7 (195,6)		35 (15,88)
	4000 (27,6)		8.6 (218,4)		45 (20,41)
5 1/2	800 (5,5)	10.00 (254,0)	6.3 (160,0)	4.50 (114,3)	28 (12,70)
	1250 (8,6)		6.8 (172,7)		36 (16,33)
	2000 (13,8)		7.7 (195,6)		40 (18,14)
	3000 (20,7)		8.8 (223,5)		52 (23,59)
6 5/8	4000 (27,6)	8.75 (222,3)	9.9 (251,5)	3.88 (98,4)	70 (31,75)
	800 (5,5)		7.6 (193,0)		30 (13,61)
	1000 (6,9)		7.9 (200,7)		33 (14,97)
	1250 (8,6)		8.2 (208,3)		40 (18,14)
7	1500 (10,3)	9.75 (247,7)	8.6 (218,4)	4.50 (114,3)	45 (20,41)
	2000 (13,8)		9.2 (233,7)		67 (30,39)
	800 (5,5)		8.1 (205,7)		38 (17,24)
	1250 (8,6)		8.7 (221,0)		48 (21,77)
8 5/8	2000 (13,8)	10.00 (254,0)	9.8 (248,9)	4.5 (114,3)	57 (25,85)
	2500 (17,2)		10.5 (266,7)		67 (30,39)
	800 (5,5)		9.9 (251,5)		35 (15,88)
	1000 (6,9)		10.2 (259,1)		40 (18,14)
9 5/8	1250 (8,6)	11.75 (298,5)	10.7 (271,8)	4.75 (120,7)	47 (21,32)
	1500 (10,3)		11.1 (281,9)		57 (25,85)
	2000 (13,8)		12.0 (304,8)		73 (33,11)
	1500 (10,3)		12.3 (311,2)		75 (34,02)
2000 (13,8)	13.3 (337,8)	85 (38,56)			

**90° Elbow**  
Female x Female  
(continued)



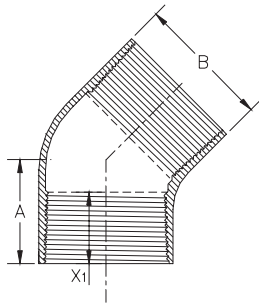
Thread Size Inches	Pressure Rating		A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	Wt	
	psi	(MPa)				Lbs	(kg)
8SS	800	(5,5)	10.50 (266,7)	10.0 (254,0)	4.75 (120,7)	37	(16,78)
	1000	(6,9)		10.3 (261,6)		45	(20,41)
	1250	(8,6)		10.8 (274,3)		45	(20,41)
10SS	500	(3,4)	10.00 (254,0)	12.6 (320,0)	5.40 (137,2)	62	(28,12)
	800	(5,5)		13.3 (337,8)		75	(34,02)
	1000	(6,9)		13.8 (350,5)		87	(39,46)
12SS	1250	(8,6)		14.4 (365,8)		105	(47,63)
	500	(3,4)	13.25 (336,6)	14.6 (370,8)	6.10 (154,9)	74	(33,57)
	800	(5,5)		15.4 (391,2)		95	(43,09)
	1000	(6,9)		16.0 (406,4)		104	(47,17)
	1250	(8,6)		16.6 (421,6)		125	(56,7)

**45° Elbow**  
Female x Female



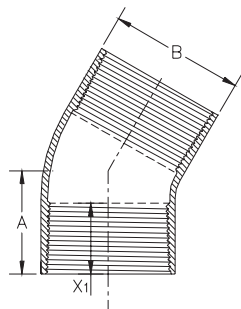
Thread Size Inches	Pressure Rating		A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	Wt	
	psi	(MPa)				Lbs	(kg)
1.90	2000	(13,8)	3.125 (79,4)	2.9 (73,7)	2.06 (52,4)	3.5	(1,59)
	2500	(17,2)		3.1 (78,7)		4	(1,81)
	3000	(20,7)		3.3 (83,8)		5	(2,27)
	4000	(27,6)		3.7 (94,0)		6	(2,72)
2 3/8	1250	(8,6)	4.250 (108,0)	3.2 (81,3)	2.56 (65,1)	3.5	(1,59)
	2000	(13,8)		3.6 (91,4)		5	(2,27)
	2500	(17,2)		3.8 (96,5)		6.2	(2,81)
	3000	(20,7)		4.0 (101,6)		7.5	(3,40)
2 7/8	4000	(27,6)		4.5 (114,3)		11	(4,99)
	1250	(8,6)	4.625 (117,5)	3.8 (96,5)	2.88 (73,0)	6	(2,72)
	2000	(13,8)		4.2 (106,7)		7	(3,18)
	2500	(17,2)		4.5 (114,3)		9	(4,08)
3 1/2	3000	(20,7)		4.8 (121,9)		11	(4,99)
	4000	(27,6)		5.4 (137,2)		12	(5,44)
	1250	(8,6)	5.00 (127,0)	4.6 (116,8)	3.13 (79,4)	8	(3,63)
	2000	(13,8)		5.1 (129,5)		13	(5,90)
4 1/2	2500	(17,2)		5.5 (139,7)		15	(6,80)
	3000	(20,7)		5.8 (147,3)		25	(11,34)
	4000	(27,6)		6.6 (167,6)		38	(17,24)
	1250	(8,6)	6.00 (152,4)	5.8 (147,3)	3.50 (88,9)	16	(7,26)
4 1/2	2000	(13,8)		6.5 (165,1)		21	(9,53)
	2500	(17,2)		7.0 (177,8)		25	(11,34)
	3000	(20,7)		7.5 (190,5)		30	(13,61)
	4000	(27,6)		8.3 (210,8)		40	(18,14)

**45° Elbow**  
Female x Female  
(continued)



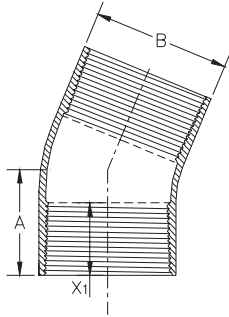
Thread Size Inches	Pressure Rating		A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	Wt	
	psi	(MPa)				Lbs	(kg)
5 ½	800	(5,5)	8.25 (209,6)	6.2 (157,6)	4.38 (111,1)	22	(9,98)
	1250	(8,6)				30	(13,61)
	2000	(13,8)				34	(15,42)
	2500	(17,2)				40	(18,14)
	3000	(20,7)				50	(22,68)
	4000	(27,6)				65	(29,48)
6 ⅝	800	(5,5)	6.625 (168,3)	7.6 (193,0)	3.88 (98,4)	25	(11,34)
	1000	(6,9)				28	(12,70)
	1250	(8,6)				34	(15,42)
	1500	(10,3)				38	(17,24)
	2000	(13,8)				43	(19,50)
7	800	(5,5)	7.625 (193,7)	8.0 (203,2)	4.50 (114,3)	32	(14,51)
	1250	(8,6)				30	(13,61)
	2000	(13,8)				42	(19,05)
	2500	(17,2)				55	(24,95)
8 ⅝	800	(5,5)	7.250 (184,2)	9.9 (251,5)	4.50 (114,3)	33	(14,97)
	1000	(6,9)				37	(16,78)
	1250	(8,6)				45	(20,41)
	1500	(10,3)				50	(22,68)
	2000	(13,8)				67	(30,39)
9 ⅝	1500	(10,3)	7.375 (187,3)	12.3 (312,4)	4.75 (120,7)	62	(28,12)
	2000	(13,8)				80	(36,29)
8SS	800	(5,5)	8.75 (222,25)	10.0 (254,0)	4.75 (120,7)	34	(15,42)
	1000	(6,9)				42	(19,05)
	1250	(8,6)				48	(21,77)
10SS	500	(3,4)	10.0 (254,0)	12.4 (315,0)	5.40 (137,2)	38	(17,24)
	800	(5,5)				51	(23,13)
	1000	(6,9)				75	(34,02)
	1250	(8,6)				100	(45,36)
12SS	500	(3,4)	11.5 (292,1)	14.6 (370,8)	6.10 (154,9)	55	(24,95)
	800	(5,5)				66	(29,94)
	1000	(6,9)				114	(51,71)
	1250	(8,6)				129	(58,51)

**30° Elbow**  
Female x Female



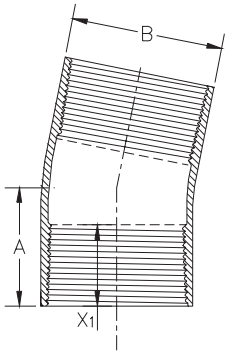
Thread Size Inches	Pressure Rating		A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	Wt	
	psi	(MPa)				Lbs	(kg)
2 ⅝	1250	(8,6)	4.25 (108,0)	3.2 (81,3)	2.56 (65,1)	3.5	(1,59)
	2000	(13,8)				4.5	(2,04)
	2500	(17,2)				6	(2,72)
	3000	(20,7)				8	(3,63)
	4000	(27,6)				9	(4,08)
8 ⅝	800	(5,5)	7.250 (184,2)	9.9 (251,5)	4.50 (114,3)	22	(9,98)
	1000	(6,9)				28	(12,70)
	1250	(8,6)				34	(15,42)
	1500	(10,3)				44	(19,96)
9 ⅝	1500	(10,3)	7.375 (187,3)	12.1 (307,3)	4.75 (120,7)	53	(24,04)
	2000	(13,8)				61	(27,66)

**22.5° Elbow**  
Female x Female



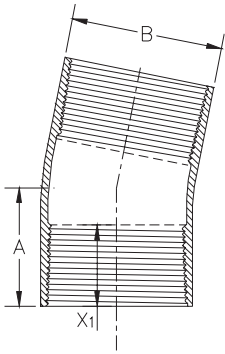
Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	Wt Lbs (kg)
2 3/8	1250 (8,6)	4.000 (101,6)	3.2 (81,3)	2.56 (68,3)	3 (1,36)
	2000 (13,8)		3.5 (88,9)		4 (1,81)
	2500 (17,2)		3.8 (96,5)		5 (2,27)
	3000 (20,7)		4.0 (101,6)		7 (3,18)
	4000 (27,6)		4.5 (114,3)		8.5 (3,86)
3 1/2	1250 (8,6)	4.500 (114,3)	4.6 (116,8)	3.13 (79,4)	5.5 (2,49)
	2000 (13,8)		5.1 (129,5)		9 (4,08)
	2500 (17,2)		5.4 (137,2)		11 (4,99)
	3000 (20,7)		5.7 (144,8)		13.5 (6,12)
	4000 (27,6)		6.4 (162,5)		19 (8,62)
4 1/2	1250 (8,6)	5.000 (127,0)	5.8 (147,3)	3.50 (88,9)	10 (4,54)
	2000 (13,8)		6.4 (162,6)		16.5 (7,48)
	2500 (17,2)		6.8 (172,7)		21 (9,53)
	3000 (20,7)		7.3 (185,4)		25.5 (11,57)
	4000 (27,6)		8.1 (205,7)		36.5 (16,56)
5 1/2	800 (5,5)	8.250 (209,6)	6.2 (157,5)	4.38 (111,1)	9 (4,08)
	1250 (8,6)		6.6 (167,6)		13.5 (6,12)
	2000 (13,8)		7.4 (188,0)		23.4 (10,61)
	3000 (20,7)		8.4 (213,4)		36.5 (16,56)
	4000 (27,6)		9.3 (236,2)		52 (23,59)
6 5/8	800 (5,5)	5.75 (146,1)	7.5 (190,5)	3.88 (98,4)	11 (4,99)
	1000 (6,9)		7.8 (198,1)		15 (6,80)
	1250 (8,6)		8.0 (203,2)		18 (8,16)
	2000 (13,8)		8.9 (226,1)		30 (13,61)
7	1250 (8,6)	6.50 (165,1)	8.5 (215,9)	4.50 (114,3)	21 (9,53)
	2000 (13,8)		9.5 (241,3)		36.5 (16,56)
	2500 (17,2)		10.1 (256,5)		47.5 (21,55)
8 5/8	800 (5,5)	5.875 (149,2)	9.8 (248,9)	4.50 (114,3)	20 (9,07)
	1000 (6,9)		10.1 (256,9)		26 (11,79)
	1250 (8,6)		10.5 (266,7)		32 (14,51)
	1500 (10,3)		10.9 (276,9)		40 (18,14)
9 5/8	1500 (10,3)	7.375 (187,3)	12.1 (307,3)	4.75 (120,7)	50 (22,68)
	2000 (13,8)		13.0 (330,2)		60.5 (27,44)
8SS	800 (5,5)	8.75 (222,25)	9.8 (249,0)	4.75 (120,7)	30 (13,60)
	1000 (6,9)		10.2 (259,1)		38 (17,24)
	1250 (8,5)		10.5 (266,7)		42 (19,05)
10SS	500 (3,4)	8.187 (208,0)	12.5 (317,5)	5.40 (137,2)	25.5 (11,57)
	800 (5,5)		13.0 (330,2)		43 (19,5)
	1000 (6,9)		13.5 (342,9)		50 (22,68)
	1250 (8,6)		14.1 (358,1)		60 (27,22)
12SS	500 (3,4)	11.375 (288,9)	14.5 (368,3)	6.10 (154,9)	30.5 (13,83)
	800 (5,5)		15.1 (383,5)		45.8 (20,77)
	1000 (6,9)		15.7 (398,8)		63.2 (28,66)
	1250 (8,6)		16.3 (414,0)		70 (31,75)

**11.25° Elbow**  
Female x Female



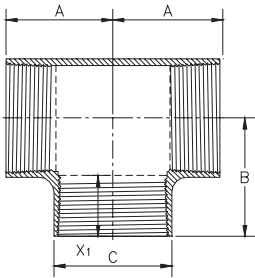
Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	Wt Lbs (kg)
2 3/8	1250 (8,6)	5.500 (139,7)	3.2 (81,3)	2.56 (65,1)	3 (1,36)
	2000 (13,8)		3.5 (88,9)		4 (1,81)
	2500 (17,2)		3.8 (96,5)		5 (2,27)
	3000 (20,7)		4.0 (101,6)		7 (10,4)
	4000 (27,6)		4.5 (114,3)		8.5 (12,7)
3 1/2	1250 (8,6)	6.000 (152,4)	4.5 (114,3)	3.13 (79,4)	5 (2,27)
	2000 (13,8)		5.0 (127,0)		8 (3,63)
	2500 (17,2)		5.3 (134,6)		10 (4,54)
	3000 (20,7)		5.7 (144,8)		12 (5,44)
	4000 (27,6)		6.3 (160,0)		17 (7,71)
4 1/2	1250 (8,6)	8.250 (209,6)	5.7 (144,8)	4.38 (111,1)	9 (4,08)
	2000 (13,8)		6.4 (162,6)		15 (6,80)
	2500 (17,2)		6.8 (172,7)		19 (8,62)
	3000 (20,7)		7.2 (182,9)		23 (10,43)
	4000 (27,6)		8.1 (205,7)		33 (14,97)
5 1/2	800 (5,5)	7.625 (193,7)	6.2 (157,5)	4.75 (120,7)	8 (3,63)
	1250 (8,6)		6.6 (167,6)		12 (5,44)
	2000 (13,8)		7.3 (185,4)		21 (9,53)
	3000 (20,7)		8.3 (210,8)		33 (14,97)
	4000 (27,6)		9.3 (236,2)		47 (21,32)
6 SSSHP	800 (5,5)	6.625 (168,3)	7.5 (190,5)	3.88 (98,4)	10 (4,54)
	1000 (6,9)		7.7 (195,6)		13 (5,90)
	1500 (10,3)		8.4 (213,4)		18 (8,16)
6 5/8	800 (5,5)	7.625 (193,7)	7.5 (190,5)	4.50 (114,3)	10 (4,54)
	1000 (6,9)		7.7 (195,6)		13 (19,3)
	1250 (8,6)		8.0 (203,2)		16 (7,26)
	2000 (13,8)		8.9 (226,1)		27 (12,25)
7	1250 (8,6)	7.250 (184,2)	8.5 (215,9)	4.50 (114,3)	19 (8,62)
	2000 (13,8)		9.4 (238,8)		33 (14,97)
	2500 (17,2)		10.0 (254,0)		43 (19,50)
8 5/8	800 (5,5)	7.625 (193,7)	9.8 (248,9)	4.50 (114,3)	18 (8,16)
	1000 (6,9)		10.1 (256,5)		24 (10,89)
	1250 (8,6)		10.5 (266,7)		29 (13,15)
	1500 (10,3)		10.8 (274,3)		36 (16,33)

**11.25° Elbow**  
Female x Female  
(continued)



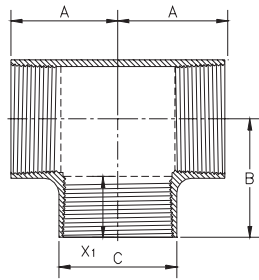
Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	Wt Lbs (kg)
9 5/8	1500 (10,3)	7.375 (187,3)	12.1 (307,3)	4.75 (120,7)	39 (17,69)
	2000 (13,8)		13.0 (330,2)		55 (24,95)
8SS	800 (5,5)	8.75 (222,25)	9.8 (248,9)	4.75 (120,7)	27 (12,24)
	1000 (6,9)		10.1 (256,5)		35 (15,87)
	1250 (8,6)		10.5 (248,9)		35 (15,88)
10SS	500 (3,4)	8.186 (208,0)	12.5 (317,5)	5.40 (137,2)	22 (9,98)
	800 (5,5)		13.2 (335,3)		39 (17,69)
	1000 (6,9)		13.5 (342,9)		46 (20,87)
	1250 (8,6)		14.0 (355,6)		58 (26,31)
12SS	500 (3,4)	11.25 (285,8)	14.4 (365,8)	6.10 (154,9)	38 (17,24)
	800 (5,5)		15.2 (386,1)		66 (29,94)
	1000 (6,9)		15.6 (396,2)		83 (37,65)
	1250 (8,6)		16.2 (411,48)		106 (48,08)

**Tee**  
Female x Female



Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	C In (mm)	X <sub>1</sub> In (mm)	Wt Lbs (kg)
1.90	2000 (13,8)	4.375 (111,1)	4.875 (123,8)	3.0 (76,2)	2.06 (52,4)	5.5 (2,49)
	2500 (17,2)			3.2 (81,3)		6.5 (2,95)
	3000 (20,7)			3.4 (86,4)		7.5 (3,40)
	4000 (27,6)			3.9 (99,1)		10 (4,54)
2 3/8	1250 (8,6)	5.250 (133,4)	5.75 (146,1)	3.3 (83,8)	2.56 (65,1)	8 (3,63)
	2000 (13,8)			3.7 (94,0)		10 (4,54)
	2500 (17,2)			4.0 (101,6)		11 (4,99)
	3000 (20,7)			4.2 (106,7)		12 (5,44)
	4000 (27,6)			4.8 (121,9)		17 (7,71)
2 7/8	1250 (8,6)	5.75 (146,4)	6.50 (165,1)	3.9 (99,1)	2.88 (73,0)	10 (4,54)
	2000 (13,8)			4.4 (111,8)		12 (5,44)
	2500 (17,2)			4.8 (121,9)		14 (6,35)
	3000 (20,7)			5.2 (132,1)		18 (8,16)
	4000 (27,6)			5.9 (149,9)		28 (12,7)
3 1/2	1250 (8,6)	6.50 (165,1)	7.25 (184,2)	4.8 (121,9)	3.13 (79,4)	14 (6,35)
	2000 (13,8)			5.4 (137,2)		21 (9,53)
	2500 (17,2)			5.9 (149,9)		26 (11,79)
	3000 (20,7)			6.3 (160,0)		50 (22,68)
	4000 (27,6)			7.2 (182,9)		65 (29,48)
4 1/2	1250 (6,9)	7.50 (190,5)	8.25 (209,6)	6.0 (152,4)	3.50 (88,9)	25 (11,34)
	2000 (13,8)			6.8 (172,7)		39 (17,69)
	2500 (17,2)			7.3 (185,4)		48 (21,77)
	3000 (20,7)			7.9 (200,7)		75 (34,02)
	4000 (27,6)			8.9 (226,1)		85 (38,56)
5 1/2	800 (5,5)	9.00 (228,6)	9.75 (247,7)	6.4 (162,7)	4.38 (111,1)	32 (14,51)
	1250 (8,6)			6.9 (175,3)		43 (19,5)
	2000 (13,8)			7.8 (198,1)		70 (31,75)
	3000 (20,7)			9.1 (231,1)		100 (45,36)
	4000 (27,6)			10.2 (259,1)		115 (52,16)

**Tee**  
Female x Female  
(continued)



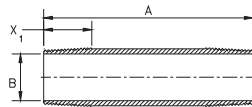
Thread Size Inches	Pressure Rating psi (MPa)	A		B		C		X <sub>1</sub> In (mm)	Wt Lbs (kg)	
		In	(mm)	In	(mm)	In	(mm)			
6 5/8	800 (5,5)	8.50	(215,9)	9.25	(235,0)	7.7	(195,6)	3.88	(98,4)	36 (16,33)
	1000 (6,9)					8.0	(203,2)			42 (19,05)
	1250 (8,6)					8.4	(213,4)			60 (27,22)
	1500 (10,3)					8.7	(221,0)			70 (31,75)
	2000 (13,8)					9.5	(241,3)			80 (36,29)
7	800 (5,5)	9.75	(247,7)	10.5	(266,7)	8.2	(208,3)	4.50	(114,3)	45 (20,41)
	1250 (8,6)					8.9	(226,1)			65 (29,48)
	2000 (13,8)					10.1	(255,3)			75 (34,02)
	2500 (17,2)					10.9	(275,6)			100 (45,36)
8 5/8	800 (5,5)	10.00	(254,0)	10.75	(273,1)	10.1	(261,6)	4.50	(114,3)	50 (22,68)
	1000 (6,9)					10.5	(266,7)			60 (27,22)
	1250 (8,6)					10.9	(276,9)			70 (31,75)
	1500 (10,3)					11.4	(289,6)			95 (43,09)
	2000 (13,8)					12.0	(304,8)			100 (45,36)
9 5/8	1500 (10,3)	10.50	(266,7)	11.25	(285,8)	12.7	(322,6)	4.75	(120,7)	95 (43,1)
	2000 (13,8)					13.7	(348,0)			110 (49,9)
8SS	800 (5,5)	11.5	(292,1)	12.5	(317,5)	10.1	(256,5)	4.75	(120,7)	50 (22,7)
	1000 (6,9)					10.5	(266,7)			65 (19,5)
	1250 (8,6)					10.9	(276,9)			65 (19,5)
10SS	500 (3,4)	12.0	(304,8)	12.75	(323,9)	12.7	(322,6)	5.40	(137,2)	76 (34,5)
	800 (5,5)					13.5	(342,9)			90 (40,8)
	1000 (6,9)					14.0	(355,6)			122 (55,3)
	1250 (8,6)					14.6	(370,8)			160 (72,6)
12SS	500 (3,4)	14.75	(374,7)	14.75	(374,7)	14.8	(375,9)	6.10	(154,9)	102 (46,3)
	800 (5,5)					15.6	(396,2)			145 (65,8)
	1000 (6,9)					16.2	(411,5)			210 (95,3)
	1250 (8,6)					16.9	(429,3)			240 (108,9)



## Threaded Nipples\*

Male x Male

\* ALIPHATIC AMINE  
CURED EPOXY  
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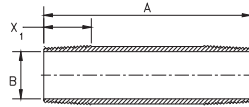


Thread Size Inches	B Nominal Size In (mm)	Pressure psi (MPa)	X <sub>1</sub> In (mm)	A - Standard Lengths Ft. (m)		
				1 (.305)	1.5 (.457)	2 (.610)
				Weight Lbs (KGS)		
1.90	1.44 (36,6)	4000 (27,6)	2.06 (52,4)	1.7 (0,77)	2.5 (1,13)	3.4 (1,54)
2 3/8	1.94 (49,3)	4000 (27,6)	2.56 (65,1)	2.0 (0,91)	3.1 (1,41)	4.1 (1,86)
2 7/8	2.37 (60,2)	3500 (24,1)	2.88 (73,0)	2.8 (1,27)	4.1 (1,86)	5.5 (2,49)
3 1/2	2.37 (60,2)	4000 (27,6)	3.13 (79,4)	5.8 (2,63)	8.6 (3,90)	11.5 (5,22)
3 1/2	2.94 (74,7)	3000 (20,7)	3.13 (79,4)	3.6 (1,63)	5.4 (2,45)	7.2 (3,27)
4	3.33 (85,6)	3000 (20,7)	3.88 (98,4)	---	---	9.4 (4,26)
4 1/2	2.94 (74,7)	4000 (27,6)	3.50 (88,9)	---	14.7 (6,67)	19.6 (8,89)
4 1/2	3.33 (84,6)	4000 (27,6)	3.50 (88,9)	---	12.1 (5,49)	16.1 (7,30)
4 1/2	3.85 (97,8)	2500 (17,2)	3.50 (88,9)	---	7.7 (3,49)	10.3 (4,67)
5 1/2	3.85 (97,8)	4000 (27,6)	4.38 (111,1)	---	15.6 (7,08)	20.8 (9,43)
5 1/2	4.74 (120,4)	2000 (13,8)	4.38 (111,1)	---	8.3 (3,76)	11.1 (5,03)
6 5/8	5.50 (139,7)	2250 (15,5)	3.88 (98,4)	---	13.8 (6,26)	18.4 (8,35)
6 5/8	5.93 (150,6)	1000 (6,9)	3.88 (98,4)	---	11.2 (5,08)	14.9 (6,76)
7	5.50 (139,7)	2500 (17,2)	4.50 (114,3)	---	20.7 (9,39)	27.6 (12,52)
7	5.93 (150,6)	2000 (13,8)	4.50 (114,3)	---	14.4 (6,53)	19.2 (8,71)
8 5/8	5.93 (150,6)	2000 (13,8)	4.50 (114,3)	---	---	19.4 (8,80)
8 5/8	7.74 (196,6)	1250 (8,6)	4.50 (114,3)	---	---	19.4 (8,80)
9 5/8	7.74 (196,6)	2000 (13,8)	4.75 (120,7)	---	---	42.5 (19,28)
8SS	7.74 (196,6)	1250 (8,6)	4.75 (120,7)	---	20.2 (6,17)	27.0 (8,23)
10SS	9.84 (249,9)	1250 (8,6)	5.40 (137,2)	---	30.5 (9,27)	40.6 (12,37)
12SS	11.81 (300,0)	1250 (8,6)	6.10 (154,9)	---	---	51.5 (53,4)

## Threaded Nipples\*

Male x Male

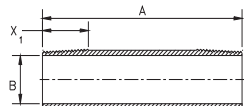
\* ALIPHATIC AMINE  
CURED EPOXY  
PRODUCTS  
ONLY



Thread Size Inches	B Nominal Size In (mm)	Pressure psi (MPa)	A - Standard Lengths Ft. (m)					Repair Nipples
			3 (.914)	4 (1.219)	6 (1.829)	8 (2.438)	10 (3.048)	
Weight Lbs (KGS)								
1.90	1.44 (36,6)	4000 (27,6)	5.1 (2,31)	6.8 (3,08)	10.1 (4,58)	13.5 (6,12)	16.9 (7,67)	49.5 (22,5)
2 3/8	1.94 (49,3)	4000 (27,6)	6.1 (2,77)	8.2 (3,72)	12.2 (5,53)	16.3 (7,39)	20.4 (9,25)	60.5 (27,4)
2 7/8	2.37 (60,2)	3500 (24,1)	8.3 (3,76)	11.0 (4,99)	16.5 (7,48)	22.0 (9,98)	27.5 (12,47)	81.8 (37,1)
3 1/2	2.37 (60,2)	4000 (27,6)	17.3 (7,85)	23.0 (10,43)	34.5 (15,65)	46.0 (20,87)	57.5 (26,08)	168.9 (76,6)
3 1/2	2.94 (74,7)	3000 (20,7)	10.8 (4,90)	14.4 (6,53)	21.5 (9,75)	28.7 (13,02)	35.9 (16,28)	106.3 (48,2)
4	3.33 (85,6)	3000 (20,7)	14.1 (6,40)	18.8 (8,53)	28.3 (12,84)	37.7 (17,10)	47.1 (21,36)	140.8 (63,9)
4 1/2	2.94 (74,7)	4000 (27,6)	29.4 (13,34)	39.2 (17,78)	58.7 (26,63)	78.3 (35,52)	97.9 (44,41)	287.2 (130,3)
4 1/2	2.94 (74,7)	4000 (27,6)	24.2 (10,98)	32.2 (14,61)	48.4 (21,95)	64.5 (29,26)	80.6 (36,56)	238.2 (108,0)
4 1/2	3.33 (84,6)	2500 (17,2)	15.5 (7,03)	20.6 (9,34)	31.0 (14,06)	41.3 (18,73)	51.6 (23,41)	158.5 (71,9)
5 1/2	3.85 (97,8)	4000 (27,6)	31.2 (14,15)	41.6 (18,87)	62.4 (28,30)	83.2 (37,74)	104.0 (47,17)	317.1 (143,8)
5 1/2	4.74 (120,4)	2000 (13,8)	16.6 (7,53)	22.2 (10,07)	33.2 (15,06)	44.3 (20,09)	55.4 (25,13)	162.9 (73,9)
6 5/8	5.50 (139,7)	2250 (15,5)	27.6 (12,52)	36.8 (16,69)	55.2 (25,04)	73.6 (33,38)	92.0 (41,73)	273.2 (123,9)
6 5/8	5.93 (150,6)	1000 (6,9)	22.4 (10,16)	29.8 (13,52)	44.7 (20,28)	59.6 (27,03)	74.5 (33,79)	185.1 (84,0)
7	5.50 (139,7)	2500 (17,2)	41.5 (18,82)	55.3 (25,08)	82.9 (37,60)	96.7 (43,86)	138.2 (62,69)	383.9 (174,1)
7	5.93 (150,6)	2000 (13,8)	28.8 (13,06)	38.4 (17,42)	57.6 (26,13)	76.8 (34,84)	96.0 (43,54)	283.2 (128,5)
8 5/8	7.43 (188,7)	2000 (13,8)	29.1 (13,20)	38.8 (17,60)	58.3 (26,44)	77.7 (35,24)	97.1 (44,04)	297.1 (134,8)
8 5/8	7.74 (196,6)	1250 (8,6)	29.1 (13,20)	38.8 (17,60)	58.3 (26,44)	77.7 (35,24)	97.1 (44,04)	297.1 (134,8)
9 5/8	7.74 (196,6)	2000 (13,8)	63.7 (28,89)	85.0 (38,56)	127.4 (57,79)	169.9 (77,07)	212.4 (96,34)	630.9 (286,2)
8SS	7.74 (196,6)	1250 (8,6)	40.4 (18,3)	53.9 (24,4)	80.9 (36,7)	107.8 (48,9)	134.8 (61,1)	395.1 (179,2)
10SS	9.84 (249,9)	1250 (8,6)	61.0 (27,7)	81.3 (36,9)	121.9 (55,3)	163.0 (73,9)	203.2 (92,2)	609.6 (276,5)
12SS	1.81 (300,0)	1250 (8,6)	74.9 (34,0)	99.8 (45,3)	149.7 (67,9)	199.6 (90,5)	249.5 (113,2)	745.9 (338,3)

## Threaded Nipples\* Male x Male

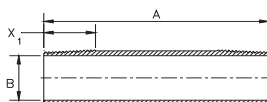
\* ANHYDRIDE EPOXY  
PRODUCTS ONLY



Thread Size Inches	B Nominal Size In (mm)	Pressure psi (MPa)	X <sub>1</sub> In (mm)	A - Standard Lengths Ft. (m)		
				1 (.305)	1.5 (.457)	2 (.610)
				Weight Lbs (KGS)		
1 1/2	1.50 (38,1)	3000 (20,7)	2.06 (52,4)	1.3 (0,59)	1.9 (0,89)	2.6 (1,18)
2 3/8	2.00 (50,8)	3000 (20,7)	2.56 (65,1)	1.6 (0,73)	2.4 (1,10)	3.2 (1,46)
2 7/8	2.43 (61,7)	3000 (20,7)	2.88 (73,0)	2.2 (0,99)	3.3 (1,48)	4.4 (1,98)
3 1/2	3.00 (76,2)	2900 (20,7)	3.13 (79,4)	2.9 (1,32)	4.4 (1,98)	5.8 (2,64)
4 1/2	3.91 (99,3)	2500 (17,2)	3.50 (88,9)	3.9 (1,77)	5.8 (2,66)	7.8 (3,54)
4 1/2	3.75 (95,3)	3000 (19,3)	3.50 (88,9)	5.1 (2,31)	7.6 (3,47)	10.2 (4,62)
5 1/2	4.74 (120,4)	2000 (13,8)	4.38 (98,4)	---	8.3 (3,76)	11.1 (5,03)
6 5/8	5.85 (148,6)	1500 (10,3)	3.88 (98,4)	---	8.7 (3,95)	11.6 (5,26)
6 5/8	5.50 (139,7)	2000 (13,8)	3.88 (98,4)	---	8.8 (4,01)	11.8 (5,35)
8 5/8	7.50 (196,6)	2000 (13,7)	4.50 (114,3)	---	---	23.4 (10,6)

## Threaded Nipples\* Male x Male

\* AROMATIC AMINE  
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Thread Size Inches	B Nominal Size In (mm)	Pressure psi (MPa)	X <sub>1</sub> In (mm)	A - Standard Lengths Ft. (m)		
				1 (.305)	1.5 (.457)	2 (.610)
				Weight Lbs (KGS)		
1 1/2	1.50 (38,1)	2500 (19,0)	2.06 (52,4)	1.3 (0,6)	1.9 (0,6)	2.6 (1,2)
2 3/8	2.00 (50,8)	2250 (19,0)	2.56 (65,1)	1.6 (0,7)	2.4 (1,1)	3.2 (1,5)
2 7/8	2.43 (61,7)	2000 (17,2)	2.88 (73,0)	2.2 (1,0)	3.3 (1,5)	4.4 (2,0)
3 1/2	3.00 (76,2)	2000 (17,2)	3.13 (79,4)	2.9 (1,3)	4.4 (2,0)	5.8 (2,6)
4 1/2	3.91 (76,2)	1750 (15,5)	3.50 (88,9)	3.9 (1,8)	5.8 (2,7)	7.8 (3,5)
4 1/2	3.75 (95,2)	2250 (15,5)	3.50 (88,9)	3.9 (1,77)	5.8 (2,66)	7.8 (3,54)
5 1/2	4.74 (120,4)	1500 (10,3)	4.38 (111,1)	---	8.3 (3,76)	11.1 (5,03)
6 5/8	5.85 (139,7)	1000 (10,3)	3.88 (98,4)	---	8.7 (4,0)	11.6 (5,3)
6 5/8	5.50 (139,7)	1750 (12,1)	3.88 (98,4)	---	8.8 (4,01)	11.8 (5,35)
8 5/8	7.50 (196,6)	1250 (10,3)	4.50 (114,3)	---	---	23.4 (10,6)

**Threaded  
Nipples\*  
Male x Male**

**\*ANHYDRIDE  
EPOXY  
PRODUCTS  
ONLY**

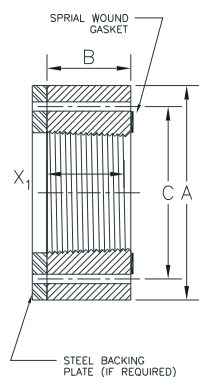
Thread Size Inches	B Nominal Size In (mm)	Pressure psi (MPa)	A - Standard Lengths Ft. (m)					Repair Nipples
			3 (.914)	4 (1.219)	6 (1.829)	8 (2.438)	10 (3.048)	
			Weight Lbs (KGS)					
1 ½	1.50 (38,1)	3000 (20,7)	3.9 (1,78)	5.2 (2,36)	7.8 (3,56)	10.4 (4,72)	13.0 (5,9)	14.7 (18,9)
2 ¾	2.00 (50,8)	3000 (20,7)	4.8 (2,19)	6.4 (2,92)	9.6 (4,38)	12.8 (5,84)	16.0 (7,3)	52.8 (23,9)
2 7/8	2.43 (61,7)	3000 (20,7)	6.6 (2,96)	8.8 (3,96)	13.2 (5,92)	17.6 (7,92)	22.0 (9,9)	83.8 (38,0)
3 ½	3.00 (76,2)	2900 (20,7)	8.7 (3,96)	11.6 (5,28)	17.4 (7,92)	23.2 (10,6)	29.0 (13,2)	109.4 (49,6)
4 ½	3.91 (99,3)	2500 (17,2)	11.7 (5,31)	15.6 (7,08)	23.4 (10,6)	31.2 (14,2)	39.0 (17,7)	158.4 (71,8)
4 ½	3.75 (95,3)	3000 (19,3)	15.3 (6,94)	20.4 (9,24)	30.6 (13,8)	40.8 (18,5)	51.0 (23,1)	173.1 (78,5)
5 ½	4.74 (120,4)	2000 (13,8)	16.6 (7,53)	22.2 (10,07)	33.2 (15,06)	44.3 (20,09)	55.4 (25,13)	198.4 (89,9)
6 5/8	5.85 (148,6)	1500 (10,3)	17.7 (8,03)	23.2 (10,5)	34.8 (15,8)	46.4 (21,0)	58.0 (26,3)	252.8 (114,7)
6 5/8	5.50 (139,7)	2000 (13,8)	17.7 (8,03)	23.6 (10,7)	35.3 (16,0)	47.1 (21,4)	58.9 (26,7)	295.7 (134,1)
8 5/8	7.50 (196,6)	2000 (13,7)	35.2 (15,9)	46.8 (21,2)	70.4 (31,9)	93.6 (42,5)	117.0 (79,7)	450.6 (204,4)

**Threaded  
Nipples\*  
Male x Male**

**\*AROMATIC  
AMINE  
PRODUCTS  
ONLY**

Thread Size Inches	B Nominal Size In (mm)	Pressure psi (MPa)	A - Standard Lengths Ft. (m)					Repair Nipples
			3 (.914)	4 (1.219)	6 (1.829)	8 (2.438)	10 (3.048)	
			Weight Lbs (KGS)					
1 ½	1.50 (38,1)	2500 (19,0)	3.9 (1,8)	5.2 (2,4)	7.8 (3,6)	10.4 (4,7)	13.0 (5,9)	44.4 (20,1)
2 ¾	2.00 (50,8)	2250 (19,0)	4.8 (2,2)	6.4 (2,9)	9.6 (4,4)	12.8 (5,8)	16.0 (7,3)	61.1 (27,7)
2 7/8	2.43 (61,7)	2000 (17,2)	6.6 (3,0)	8.8 (4,0)	13.2 (5,9)	17.6 (7,9)	22.0 (9,9)	85.8 (38,9)
3 ½	3.00 (76,2)	2000 (17,2)	8.7 (4,0)	11.6 (5,3)	17.4 (7,9)	23.2 (10,6)	29.0 (13,2)	113.5 (51,4)
4 ½	3.91 (76,2)	1750 (15,5)	11.7 (5,3)	15.6 (7,1)	23.4 (10,6)	31.2 (14,2)	39.0 (17,7)	173.0 (78,5)
4 ½	3.75 (95,2)	2250 (15,5)	15.3 (6,94)	20.4 (9,24)	30.6 (13,8)	40.8 (18,5)	51.0 (23,1)	174.0 (78,9)
5 ½	4.74 (120,4)	1500 (10,3)	16.6 (7,53)	22.2 (10,07)	33.2 (15,06)	44.3 (20,09)	55.4 (25,13)	213.1 (96,6)
6 5/8	5.85 (139,7)	1000 (10,3)	17.4 (7,9)	23.2 (10,5)	34.8 (15,8)	46.4 (21,0)	58.0 (26,3)	223.7 (104,4)
6 5/8	5.50 (139,7)	1750 (12,1)	17.7 (8,03)	23.6 (10,7)	35.3 (16,0)	47.1 (21,4)	58.9 (26,7)	313.6 (142,2)
8 5/8	7.50 (196,6)	1250 (10,3)	35.2 (15,9)	46.8 (21,2)	70.4 (31,9)	93.6 (42,5)	117.0 (79,76)	403.8 (183,1)

## Flanges<sup>(2)</sup> Female

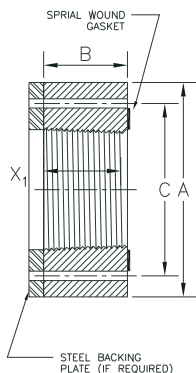


Thread Size In	Pressure Rating	Pressure Rating	A	B	C	X <sub>1</sub> In (mm)	No. of Bolts	Bolt Size Length In (mm)	Bolt Hole Size In (mm)	Wt Lbs (kg)
	psi (MPa) 100°F	psi (MPa) 200°F	Flange O.D. In (mm)	Flange Width In (mm)	Flange Bolt Circle In (mm)					
<b>ANSI 150</b>										
2 3/8	285 (1,9)	260 (1,8)	6.0 (152,4)	3.06 (77,7)	4.75 (120,7)	2.53 (64,3)	4	.625 x 10 (15,9 x 254,0)	.750 (19,1)	4.6 (2,09)
2 7/8	285 (1,9)	260 (1,8)	7.0 (177,8)	3.38 (85,9)	5.50 (139,7)	2.88 (73,0)	4	.625 x 12 (15,9 x 304,8)	.750 (19,1)	7 (3,18)
3 1/2	285 (1,9)	260 (1,8)	7.5 (190,5)	3.63 (92,2)	6.00 (152,4)	3.13 (79,4)	4	.625 x 10 (15,9 x 254,0)	.750 (19,1)	8.1 (3,67)
4 1/2	285 (1,9)	260 (1,8)	9.0 (228,6)	4.00 (101,6)	7.50 (190,5)	3.50 (88,9)	8	.625 x 14 (15,9 x 355,6)	.750 (19,1)	12.0 (5,44)
6 5/8	285 (1,9)	260 (1,8)	11.0 (279,4)	4.375 (111,1)	9.50 (241,3)	3.88 (98,4)	8	.75 x 14 (19,1 x 355,6)	.875 (22,2)	17.5 (7,94)
7	285 (1,9)	260 (1,8)	11.0 (279,4)	5.00 (127,0)	9.50 (241,3)	4.50 (114,3)	8	.75 x 14 (19,1 x 355,6)	.875 (22,2)	18.4 (8,35)
8 5/8	285 (1,9)	260 (1,8)	13.5 (342,9)	5.00 (127,0)	11.75 (298,5)	4.50 (114,3)	8	.75 x 14 (19,1 x 355,6)	.875 (22,2)	28.5 (12,93)
9 5/8	285 (1,9)	260 (1,8)	13.5 (342,9)	5.25 (133,4)	11.75 (298,5)	4.75 (120,7)	8	.75 x 14 (19,1 x 355,6)	.875 (22,2)	24.8 (11,25)
8SS	285 (1,9)	260 (1,8)	13.5 (342,9)	5.00 (127,0)	11.75 (298,5)	4.75 (120,7)	8	.75 x 14 (19,1 x 355,6)	.875 (22,2)	28.2 (12,79)
10SS	285 (1,9)	260 (1,8)	16.0 (406,4)	5.75 (146,1)	14.25 (362,0)	5.40 (137,2)	12	.875 x 15 (22,2 x 381,0)	1.00 (25,4)	37.2 (16,87)
12SS	285 (1,9)	260 (1,8)	19.0 (482,6)	6.43 (163,3)	17.0 (431,8)	6.10 (154,9)	12	.875 x 16 (22,2 x 381,0)	1.00 (25,4)	61.1 (27,71)
<b>ANSI 300</b>										
4 1/2	740 (5,1)	675 (4,7)	10.0 (254,0)	4.00 (101,6)	7.875 (200,0)	3.50 (88,9)	8	.75 x 14 (19,1 x 355,6)	.875 (22,2)	15.8 (7,17)
5 1/2	740 (5,1)	675 (4,7)	11.0 (279,4)	4.88 (124,0)	9.25 (235,0)	4.38 (111,1)	8	.875 x 14 (22,2 x 355,6)	1.00 (25,4)	22.6 (10,25)
6 5/8	740 (5,1)	675 (4,7)	12.5 (317,5)	4.375 (111,1)	10.625 (269,9)	3.88 (98,4)	12	.75 x 14 (19,1 x 355,6)	.875 (22,2)	25.2 (11,43)
7	740 (5,1)	675 (4,7)	12.5 (317,5)	5.00 (127,0)	10.625 (269,9)	4.50 (114,3)	12	.75 x 14 (19,1 x 355,6)	.875 (22,2)	27.2 (12,34)
8 5/8	740 (5,1)	675 (4,7)	15.0 (381,0)	5.00 (127,0)	13.00 (330,2)	4.50 (114,3)	12	.875 x 14 (22,2 x 355,6)	1.00 (25,4)	38.7 (17,55)
9 5/8	740 (5,1)	675 (4,7)	15.0 (381,0)	5.25 (133,4)	13.00 (330,2)	4.75 (120,7)	12	.875 x 14 (22,2 x 355,6)	1.00 (25,4)	35.4 (16,06)
8SS	740 (5,1)	675 (4,7)	15.0 (381,0)	5.00 (127,0)	13.00 (330,2)	4.75 (120,7)	12	.875 x 14 (22,2 x 355,6)	1.00 (25,4)	38.3 (17,375)
10SS	740 (5,1)	675 (4,7)	17.5 (444,5)	5.75 (146,1)	15.25 (387,4)	5.40 (137,2)	16	1 x 15 (25,4 x 381,0)	1.125 (28,6)	50.4 (22,86)
12SS	740 (5,1)	675 (4,7)	20.5 (520,7)	6.43 (163,3)	17.75 (450,9)	6.10 (154,9)	16	1.125 x 16 (28,6 x 406,4)	1.25 (31,8)	77.4 (35,10)

<sup>(1)</sup> Bolt lengths in table are for fiberglass-to-fiberglass flange connections. Fiberglass-to-steel bolt lengths are provided in INS8000.

<sup>(2)</sup> Spiral wound gaskets (Flexitalic®) are required in all flange joints

# Flanges<sup>(2)</sup> Female (continued)



Thread Size In	Pressure Rating psi (MPa) 100°F	Pressure Rating psi (MPa) 200°F	A Flange O.D. In (mm)	B Flange Width In (mm)	C Bolt Circle In (mm)	X <sub>1</sub> In (mm)	No. of Bolts	Bolt <sup>(1)</sup> Size Length In (mm)	Bolt Hole Size In (mm)	Wt Lbs (kg)
<b>ANSI 300/600<sup>(3)</sup></b>										
1.90	1480 (10,2)	1350 (9,3)	6.125 (155,6)	2.56 (66,0)	4.50 (114,3)	2.06 (52,4)	4	.75 x 10 (19,1 x 254,0)	.875 (22,2)	4.3 (1,95)
2 3/8	1480 (10,2)	1350 (9,3)	6.5 (165,1)	3.06 (77,7)	5.00 (127,0)	2.56 (65,1)	8	.625 x 10 (15,9 x 254,0)	.750 (19,1)	5.3 (2,40)
2 7/8	1480 (10,2)	1350 (9,3)	7.5 (190,5)	3.38 (85,9)	5.875 (149,2)	2.88 (73,0)	8	.75 x 12 (19,1 x 304,8)	.875 (22,2)	7.6 (3,45)
3 1/2	1480 (10,2)	1350 (9,3)	8.25 (209,6)	3.63 (92,2)	6.625 (168,3)	3.13 (79,4)	8	.75 x 10 (19,1 x 254,0)	.875 (22,2)	9.7 (4,40)
<b>ANSI 600<sup>(3)</sup></b>										
4 1/2	1480 (10,2)	1350 (9,3)	10.75 (273,1)	4.00 (101,6)	8.50 (215,9)	3.50 (88,9)	8	.875 x 14 (22,2 x 355,6)	1.00 (25,4)	18.8 (8,53)
5 1/2	1480 (10,2)	1350 (9,3)	13.0 (330,2)	4.88 (124,0)	10.50 (266,7)	4.38 (111,1)	8	1 x 14 (25,4 x 355,6)	1.125 (28,6)	34.9 (15,83)
6 5/8	1480 (10,2)	1350 (9,3)	14.0 (355,6)	4.375 (111,1)	11.50 (292,1)	3.88 (98,4)	12	1 x 14 (25,4 x 355,6)	1.125 (28,6)	33.3 (15,10)
7	1480 (10,2)	1350 (9,3)	14.0 (355,6)	5.00 (127,0)	11.50 (292,1)	4.50 (114,3)	12	1 x 14 (25,4 x 355,6)	1.125 (28,6)	36.5 (16,56)
8 5/8	1480 (10,2)	1350 (9,3)	16.5 (419,1)	5.00 (127,0)	13.75 (349,3)	4.50 (114,3)	12	1.125 x 14 (28,6 x 355,6)	1.25 (31,8)	49.8 (22,59)
9 5/8	1480 (10,2)	1350 (9,3)	16.5 (419,1)	5.25 (133,4)	13.75 (349,3)	4.75 (120,7)	12	1.375 x 14 (34,9 x 355,6)	1.25 (31,8)	47.1 (21,36)
8SS	1480 (10,2)	1350 (9,3)	16.5 (419,1)	5.00 (127,0)	13.75 (349,3)	4.75 (120,7)	12	1.125 x 14 (28,6 x 355,6)	1.25 (31,8)	49.4 (22,41)
10SS	1480 (10,2)	1350 (9,3)	20.0 (508,0)	5.75 (146,1)	17.00 (431,8)	5.40 (137,2)	16	1.25 x 15 (31,8 x 381,0)	1.375 (34,9)	76.9 (34,88)
12SS	1480 (10,2)	1350 (9,3)	22.0 (558,8)	6.43 (163,3)	19.25 (489,0)	6.10 (154,9)	20	1.25 x 16 (28,6 x 406,4)	1.375 (34,9)	95.4 (43,27)
<b>ANSI 900<sup>(3)</sup></b>										
3 1/2	2220 (15,3)	2025 (14,0)	9.5 (241,3)	3.63 (92,2)	7.50 (190,5)	3.13 (79,4)	8	.875 x 10 (22,2 x 254,0)	1.00 (25,4)	13.7 (6,21)
4 1/2	2220 (15,3)	2025 (14,0)	11.5 (292,1)	4.00 (101,6)	9.25 (235,0)	3.50 (88,9)	8	1.125 x 14 (28,6 x 355,6)	1.25 (31,8)	21.5 (7,75)
5 1/2 <sup>(4)</sup>	2220 (15,3)	2025 (14,0)	13.75 (349,3)	4.88 (124,0)	11.00 (279,4)	4.38 (111,1)	8	1.25 x 14 (31,8 x 355,6)	1.375 (34,9)	38.9 (17,64)
6 5/8 <sup>(4)</sup>	2220 (15,3)	2025 (14,0)	15.0 (381,0)	4.375 (111,1)	12.50 (317,5)	4.88 (98,4)	12	1.125 x 14 (28,6 x 355,6)	1.25 (31,8)	39.4 (17,87)
7 <sup>(4)</sup>	2220 (15,3)	2025 (14,0)	15.0 (381,0)	5.00 (127,0)	12.50 (317,5)	4.50 (114,3)	12	1.125 x 14 (28,6 x 355,6)	1.25 (31,8)	43.5 (19,73)
9 5/8 <sup>(4)</sup>	2220 (15,3)	2025 (14,0)	18.5 (469,9)	5.25 (133,4)	15.50 (393,7)	4.75 (120,7)	12	1.375 x 14 (34,9 x 355,6)	1.50 (38,1)	64.9 (29,44)

<sup>(1)</sup> Bolt lengths in table are for fiberglass-to-fiberglass flange connections. Fiberglass-to-steel bolt lengths are provided in INS8000.

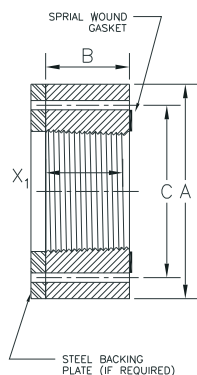
<sup>(2)</sup> Spiral wound gaskets (Flexitalic<sup>®</sup>) are required in all flange joints

<sup>(4)</sup> Steel backing plates are required.

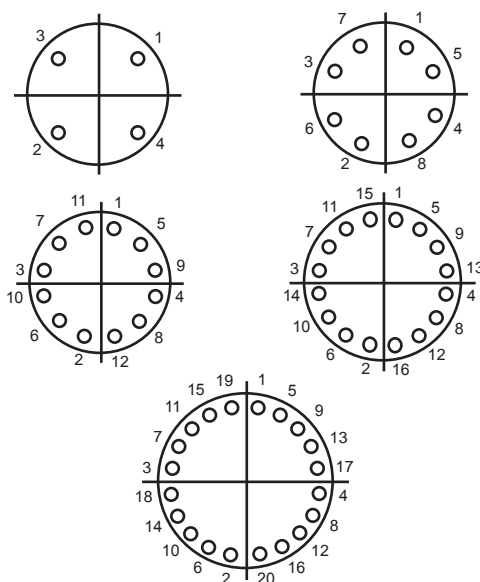
<sup>(3)</sup> Spacer rings are required for make-up of ANSI 600-1500 when mated to steel raised face flanges.

## Flanges<sup>(2)</sup> Female (continued)

Thread Size In	Pressure Rating psi (MPa) 100°F	Pressure Rating psi (MPa) 200°F	A Flange O.D. In (mm)	B Flange Width In (mm)	C Bolt Circle In (mm)	X <sub>1</sub> In (mm)	No. of Bolts	Bolt Size Length In (mm)	Bolt Hole Size In (mm)	Wt Lbs (kg)
<b>ANSI 900/1500<sup>(3)</sup></b>										
1.90	3705 (25,6)	3375 (23,3)	7.00 (177,8)	2.56 (65,0)	4.875 (123,8)	2.05 (52,1)	4	1 x 10 (25,4 x 254,0)	1.125 (28,6)	5.6 (2,54)
2 3/8	3705 (25,6)	3375 (23,3)	8.50 (215,9)	3.06 (77,7)	6.50 (165,1)	2.56 (65,1)	8	.875 x 10 (22,2 x 254,0)	1.00 (25,4)	9.7 (4,40)
2 7/8	3705 (25,6)	3375 (23,3)	9.625 (244,5)	3.38 (85,9)	7.50 (190,5)	2.88 (73,0)	8	1 x 12 (25,4 x 304,8)	1.125 (28,6)	13.6 (6,17)
<b>ANSI 1500<sup>(3)</sup></b>										
3 1/2	3705 (25,6)	3375 (23,3)	10.5 (266,7)	3.63 (92,2)	8.00 (203,2)	3.13 (79,4)	8	1.125 x 12 (25,4 x 304,8)	1.25 (31,8)	16.8 (7,62)
4 1/4	3705 (25,6)	3375 (23,3)	10.5 (266,7)	4.00 (101,6)	8.00 (203,2)	3.50 (88,9)	8	1.125 x 12 (25,4 x 304,8)	1.125 (28,6)	18.8 (8,53)
4 1/2 <sup>(4)</sup>	3705 (25,6)	3375 (23,3)	12.25 (311,2)	4.00 (101,6)	9.50 (241,3)	3.50 (88,9)	8	1.25 x 14 (31,8 x 355,6)	1.375 (34,9)	24.9 (11,29)
5 1/2 <sup>(4)</sup>	3705 (25,6)	3375 (23,3)	12.25 (311,2)	4.88 (124,0)	9.50 (241,3)	4.38 (111,1)	8	1.25 x 14 (31,8 x 355,6)	1.375 (34,9)	28.5 (12,93)
5 1/2 <sup>(4)</sup>	3705 (25,6)	3375 (23,3)	14.75 (374,7)	4.88 (124,0)	11.50 (292,1)	4.38 (111,1)	8	1.5 x 14 (38,1 x 355,6)	1.625 (41,3)	44.9 (20,37)
6 5/8 <sup>(4)</sup>	3705 (25,6)	3375 (23,3)	15.5 (393,7)	4.375 (111,1)	12.5 (317,5)	3.88 (98,4)	12	1.375 x 14 (34,9 x 355,6)	1.50 (38,1)	41.1 (18,64)
7 <sup>(4)</sup>	3705 (25,6)	3375 (23,3)	15.5 (393,7)	5.00 (127,0)	12.5 (317,5)	4.50 (114,3)	12	1.375 x 14 (34,9 x 355,6)	1.50 (38,1)	45.4 (20,59)
9 5/8 <sup>(4)</sup>	3705 (25,6)	3375 (23,3)	19.0 (482,6)	5.25 (133,4)	15.5 (393,7)	4.75 (120,7)	12	1.625 x 14 (41,3 x 355,6)	1.75 (44,5)	72.0 (32,66)



### Bolt Torquing Sequence



<sup>(1)</sup> Bolt lengths in table are for fiberglass-to-fiberglass flange connections. Fiberglass-to-steel bolt lengths are provided in INS8000.

<sup>(2)</sup> Spiral wound gaskets (Flexitalic<sup>®</sup>) are required in all flange joints

<sup>(3)</sup> Spacer rings are required for make-up of ANSI 600-1500 when mated to steel raised face flanges.

<sup>(4)</sup> Steel backing plates are required.

### Bolt Torque vs. Bolt Size

Bolt Size (inch)	Torque			
	Grade 2		Grade 5	
	ft/lb	N/m	ft/lb	N/m
5/8"	54	73	89	120
3/4"	96	130	160	216
7/8"	155	210	258	349
1"	230	311	386	523
1 1/8"	324	439	544	737
1 1/4"	460	623	776	1052
1 3/8"	595	806	1006	1363
1 1/2"	795	1077	1347	1826

Multiply by 0.9 for plating

NOTE: Regardless of bolting material, do not exceed Grade 5 torque.

## Changeover Couplings

Female x NPT Female

Thread Size Inches	Pressure Rating		A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	X <sub>2</sub> In (mm)	Wt Lbs (kg)
	psi (MPa)						
1.90 x 1.50 NPT	2000 (13,8)		5.0 (127,0)	3.0 (76,2)	2.06 (52,4)	1.02 (25,9)	1.5 (0,68)
2 3/8 x 2 NPT	2000 (13,8)		4.625 (117,5)	3.7 (94,0)	2.56 (65,1)	1.05 (26,7)	2.5 (1,13)
2 7/8 x 2 1/2 NPT	1500 (10,3)		5.5 (139,7)	4.4 (111,6)	2.88 (73,0)	1.57 (39,9)	4.5 (2,04)
3 1/2 x 3 NPT	1500 (10,3)		6.0 (152,4)	5.3 (134,6)	3.13 (79,4)	1.63 (41,4)	6 (2,72)
4 1/2 x 4 NPT	1500 (10,3)		6.875 (174,8)	6.8 (172,7)	3.50 (88,9)	1.73 (43,9)	14 (6,35)
4 1/2 x 2 NPT	2000 (13,8)		13.0 (330,2)	4.80 (121,9)	3.50 (88,9)	1.06 (26,9)	14.0 (20,8)
5 1/2 x 5 NPT	1500 (10,3)		7.75 (196,9)	7.2 (182,9)	4.38 (111,1)	1.94 (49,3)	16 (7,26)
6 5/8 x 6 NPT	1000 (6,9)		8.0 (203,2)	8.3 (210,8)	3.88 (98,4)	1.95 (49,5)	20 (9,07)
7 x 6 NPT	1000 (6,9)		8.0 (203,2)	8.9 (226,1)	4.50 (114,3)	1.95 (49,5)	25 (11,34)
8 5/8 x 8 NPT	1000 (6,9)		8.5 (215,9)	10.8 (274,3)	4.50 (114,3)	2.15 (54,6)	30 (13,61)
9 5/8 x 8 NPT	1000 (6,9)		8.5 (215,9)	11.4 (289,6)	4.75 (120,7)	2.15 (54,6)	42 (19,05)

## Bull Plugs

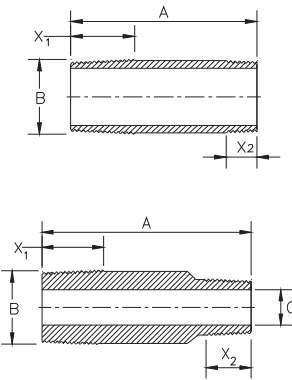
Male

Thread Size Inches	Pressure Rating		A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	X <sub>2</sub> In (mm)	Wt Lbs (kg)
	psi (MPa)						
1.90	4000 (27,6)		8.0 (203,2)	2.15 (54,6)	2.06 (52,4)	-	2.5 (1,13)
2 3/8	4000 (27,6)		10.0 (254,0)	2.5 (66,0)	2.56 (65,1)	-	4 (1,81)
2 7/8	4000 (27,6)		10.0 (254,0)	3.10 (78,7)	2.88 (73,0)	-	5 (2,27)
3 1/2	4000 (27,6)		10.0 (254,0)	3.75 (95,3)	3.13 (79,4)	-	7 (3,18)
4 1/2	4000 (27,6)		11.0 (279,4)	4.80 (121,9)	3.50 (88,9)	-	14 (6,35)
5 1/2	4000 (27,6)		11.0 (279,4)	5.55 (141,0)	4.38 (111,1)	-	20 (9,07)
6 5/8	2000 (13,8)		11.0 (279,4)	6.65 (168,9)	3.88 (98,4)	-	27 (12,25)
7	2500 (17,2)		11.0 (279,4)	7.05 (179,1)	4.50 (114,3)	-	36 (16,33)
8 5/8	1500 (10,3)		11.0 (279,4)	8.85 (224,8)	4.50 (114,3)	-	48 (21,77)
9 5/8	2000 (13,8)		12.0 (304,8)	9.65 (245,1)	4.75 (120,7)	-	65 (29,48)



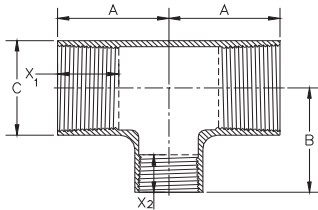
## Changeover Nipples and Swages

Male x NPT Male



Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	X <sub>2</sub> In (mm)	Wt Lbs (kg)
1.90 x 1.50 NPT	2000 (13,8)	9.0 (228,6)	2.15 (54,6)	2.06 (52,4)	1.02 (25,9)	1.1 (0,50)
2 3/8 x 2 NPT	2000 (13,8)	10.0 (254,0)	2.60 (66,0)	2.56 (65,1)	1.05 (26,7)	1.7 (0,77)
2 7/8 x 2 NPT	2000 (13,8)	11.0 (279,4)	3.10 (78,7)	2.88 (73,0)	1.06 (26,9)	3.5 (5,21)
2 7/8 x 2 1/2 NPT	1500 (10,3)	11.0 (279,4)	3.10 (78,7)	2.88 (73,0)	1.57 (39,9)	2.5 (1,13)
3 NPT x 2 3/8	1500 (10,3)	11.0 (279,4)	3.75 (95,3)	1.63 (41,4)	2.56 (65,1)	5.5 (8,18)
3 NPT x 2 7/8	1500 (10,3)	11.0 (279,4)	3.75 (95,3)	1.63 (41,4)	2.88 (73,0)	7.0 (10,4)
3 1/2 x 2 NPT	2000 (13,8)	11.0 (279,4)	3.75 (95,3)	3.13 (79,4)	1.06 (26,9)	5.5 (8,18)
3 1/2 x 2 1/2 NPT	1500 (10,3)	11.0 (279,4)	3.75 (95,3)	3.13 (79,4)	1.57 (39,9)	7.0 (10,4)
3 1/2 x 3 NPT	1500 (10,3)	11.0 (279,4)	3.75 (95,3)	3.13 (79,4)	1.63 (41,4)	3.2 (1,45)
4 NPT x 2 3/8	1500 (10,3)	13.0 (330,2)	4.80 (121,9)	1.73 (43,9)	2.56 (65,1)	12.0 (17,9)
4 NPT x 3 1/2	1500 (10,3)	13.0 (330,2)	4.71 (119,6)	1.73 (43,9)	3.13 (79,4)	10.6 (15,8)
4 1/2 x 4 NPT	1500 (10,3)	12.0 (304,8)	4.80 (121,9)	3.50 (88,9)	1.94 (49,3)	5.2 (2,36)
4 1/2 x 2 NPT	2000 (13,8)	13.0 (330,2)	4.80 (121,9)	3.50 (88,9)	1.06 (26,9)	14.0 (20,8)
4 1/2 x 2 1/2 NPT	1500 (10,3)	13.0 (330,2)	4.80 (121,9)	3.50 (88,9)	1.57 (39,9)	12.0 (17,9)
4 1/2 x 3 NPT	1500 (10,3)	13.0 (330,2)	4.71 (119,6)	3.50 (88,9)	1.63 (41,4)	10.6 (15,8)
5 1/2 x 5 NPT	1500 (10,3)	13.0 (330,2)	5.55 (141,0)	4.38 (111,1)	1.73 (43,9)	6.0 (2,72)
6 5/8 x 6 NPT	1000 (6,9)	13.0 (330,2)	6.65 (168,9)	3.88 (98,4)	1.95 (49,5)	8.1 (3,67)
7 x 6 NPT	1000 (6,9)	13.0 (330,2)	7.05 (179,1)	4.50 (114,3)	1.95 (49,5)	9.8 (4,45)
8 5/8 x 8 NPT	1000 (6,9)	13.0 (330,2)	8.85 (224,8)	4.50 (114,3)	2.15 (54,6)	11.1 (5,03)
9 5/8 x 8 NPT	1000 (6,9)	13.0 (330,2)	9.65 (245,1)	4.75 (120,7)	2.15 (54,6)	20.2 (9,16)

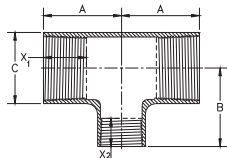
# Reducing Tee Female



Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	C In (mm)	X <sub>1</sub> In (mm)	X <sub>2</sub> In (mm)	Wt Lbs (kg)
2 3/8 x 1.90	1500 (10,3)	5.25 (133,4)	5.75 (146,1)	3.4 (86,4)	2.56 (65,1)	2.06 (52,4)	11 (4,99)
	2500 (17,2)			4.0 (101,6)			12 (5,44)
3 1/2 x 2 3/8	1250 (8,6)	6.50 (165,1)	7.00 (177,8)	4.8 (121,9)	3.13 (79,4)	2.56 (65,1)	14 (6,35)
	2000 (13,8)			5.5 (139,7)			21 (9,53)
	2500 (17,2)			5.95 (151,1)			26 (11,79)
	3000 (20,7)			6.4 (162,6)			50 (22,68)
	4000 (27,6)			7.3 (185,4)			65 (29,48)
4 1/2 x 2 3/8	1250 (8,6)	7.50 (190,5)	7.50 (190,5)	6.2 (157,5)	3.50 (88,9)	2.56 (65,1)	25 (11,34)
	2000 (13,8)			7.0 (177,8)			39 (17,69)
	2500 (17,2)			7.6 (193,0)			48 (21,77)
	3000 (20,7)			8.1 (205,7)			75 (34,02)
	4000 (27,6)			9.0 (228,6)			85 (38,56)
4 1/2 x 3 1/2	1250 (8,6)	7.50 (190,5)	8.50 (215,9)	6.2 (157,5)	3.50 (88,9)	3.13 (79,4)	25 (11,34)
	2000 (13,8)			7.0 (177,8)			39 (17,69)
	2500 (17,2)			7.6 (193,0)			48 (21,77)
	3000 (20,7)			8.1 (205,7)			75 (34,02)
	4000 (27,6)			9.0 (228,6)			85 (38,56)
6 5/8 x 3 1/2	1250 (8,6)	8.50 (215,9)	9.75 (247,7)	8.5 (215,9)	3.88 (98,4)	3.13 (79,4)	60 (27,22)
	2000 (13,8)			9.5 (241,3)			80 (36,29)
6 5/8 x 4 1/2	1250 (8,6)	8.50 (215,9)	9.75 (247,7)	8.5 (215,9)	3.88 (98,4)	3.50 (88,9)	60 (27,22)
	2000 (13,2)			9.5 (241,3)			80 (36,29)
	2250 (15,5)			10 (254,0)			100 (148,8)
7 x 3 1/2	2000 (13,2)	9.625 (244,5)	9.50 (241,3)	10.1 (256,5)	4.50 (114,3)	3.13 (79,4)	75 (34,02)
7 x 4 1/2	2000 (13,2)		10.00 (254,0)	10.1 (256,5)		3.50 (88,9)	75 (34,02)
8 5/8 x 3 1/2	1250 (8,6)	10.00 (254,0)	11.75 (298,5)	11.0 (279,4)	4.50 (114,3)	3.13 (79,4)	70 (31,75)
8 5/8 x 4 1/2	1250 (8,6)			11.0 (279,4)		3.50 (88,9)	70 (31,75)
8 5/8 x 6 5/8	1250 (8,6)			11.0 (279,4)		3.88 (98,4)	55 (24,95)
10SS x 6 5/8	800 (5,5)	12.00 (304,8)	12.00 (304,8)	13.5 (342,9)	5.40 (137,2)	3.88 (98,4)	85 (38,56)
	1000 (6,9)			14.0 (355,6)			103 (46,723)
	1250 (8,6)			14.6 (370,8)			120 (54,4)

## Reducing Tee

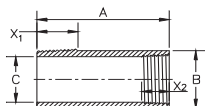
Female  
(continued)



Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	C In (mm)	X <sub>1</sub> In (mm)	X <sub>2</sub> In (mm)	Wt Lbs (kg)
10SS x 8 5/8	800 (5,5)	12.00 (304,8)	12.00 (304,8)	13.5 (342,9)	5.4 (137,2)	4.50 (114,3)	90 (40,82)
	1000 (6,9)			14.0 (355,6)			125 (56,70)
	1250 (8,6)			14.6 (370,8)			160 (72,58)
10SS x 8SS	800 (5,5)	12.00 (304,8)	13.50 (342,9)	13.5 (342,9)	5.40 (137,2)	4.75 (120,7)	98 (44,45)
	1000 (6,9)			14.0 (355,6)			125 (56,70)
	1250 (8,6)			14.6 (370,8)			160 (72,58)
12SS x 8 5/8	1250 (8,6)	14.75 (374,7)	14.75 (374,7)	17.1 (434,3)	6.10 (154,9)	4.50 (114,3)	230 (104,33)
12SS x 8SS	1250 (8,6)					4.75 (120,7)	225 (102,06)
12SS x 10SS	1250 (8,6)					5.40 (137,2)	245 (111,13)

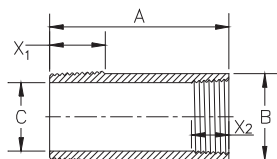
## Reducing Bushing

Male x Female



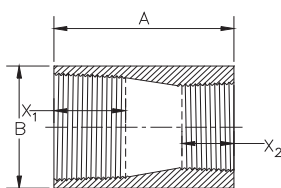
Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	C In (mm)	X <sub>1</sub> In (mm)	X <sub>2</sub> In (mm)	Wt Lbs (kg)
2 7/8 x 1.90	2500 (17,2)	10.0 (254,0)	3.1 (78,7)	1.44 (36,6)	2.88 (73,0)	2.06 (52,4)	2.5 (1.13)
3 1/2 x 1.90	3500 (24,1)	10.0 (254,0)	3.75 (95,3)	1.44 (36,6)	3.13 (79,4)	2.06 (52,4)	6 (2,72)
3 1/2 x 2 3/8	2500 (17,2)	10.88 (276,4)		1.94 (49,3)		2.56 (65,1)	4 (1,81)
4 1/2 x 1.90	3500 (24,1)	10.0 (254,0)	4.80 (121,9)	1.44 (36,6)	3.50 (88,9)	2.06 (52,4)	11 (4,99)
4 1/2 x 2 3/8	4000 (27,6)	10.88 (276,4)		1.94 (49,3)		2.56 (65,1)	10 (4,54)
4 1/2 x 2 7/8	3000 (20,7)			2.36 (59,9)		2.88 (73,0)	8.5 (3,86)
4 1/2 x 3 1/2	1000 (13,8)	10.88 (276,4)	4.80 (121,9)	2.95 (74,9)	3.50 (88,9)	3.13 (79,4)	6.0 (2,72)
5 1/2 x 2-3/8	4000 (27,6)	10.88 (276,4)	5.55 (141,0)	1.94 (49,3)	4.38 (111,1)	2.56 (65,1)	16 (7,26)
5 1/2 x 2 7/8	4000 (27,6)			2.36 (59,9)		2.88 (73,0)	14 (6,35)
5 1/2 x 3 1/2	4000 (27,6)	11.13 (282,7)		2.95 (74,9)		3.13 (79,4)	11.5 (5,22)
6 5/8 x 2 3/8	2000 (13,8)	10.88 (276,4)	6.65 (168,9)	1.95 (49,5)	3.88 (98,4)	2.56 (65,1)	27 (12,25)
6 5/8 x 2 7/8	2000 (13,8)			2.36 (59,9)		2.88 (73,0)	25 (11,34)
6 5/8 x 3 1/2	2000 (13,8)	11.13 (282,7)		2.94 (74,7)		3.13 (79,4)	22 (9,98)
6 5/8 x 4 1/2	2000 (13,8)			3.95 (100,3)		3.50 (88,9)	16 (7,26)
7 x 3 1/2	2500 (17,2)	11.13 (282,7)	7.10 (180,3)	2.95 (74,9)	4.50 (114,3)	3.13 (79,4)	24 (10,89)
7 x 4 1/2	2500 (17,2)			3.95 (100,3)		3.50 (88,9)	21 (9,53)
8 5/8 x 4 1/2	1500 (10,3)			3.95 (100,3)		3.50 (88,9)	44 (19,96)

## Reducing Bushing Male x Female (continued)



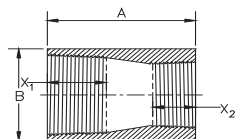
Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	C In (mm)	X <sub>1</sub> In (mm)	X <sub>2</sub> In (mm)	Wt Lbs (kg)
8 5/8 x 6 5/8	1500 (10,3)	12.0 (304,8)		5.95 (151,1)		3.88 (98,4)	30 (13,61)
9 5/8 x 6 5/8	2000 (13,8)	11.98 (304,3)	9.65 (245,1)				38 (17,24)
10SS x 6 5/8	1000 (13,8)	12.0 (304,8)	11.25 (285,8)	5.95 (151,1)	5.40 (137,2)	3.88 (98,4)	65 (29,48)
10SS x 8 5/8	1000 (13,8)			7.74 (196,6)		4.50 (114,3)	50 (22,68)
10SS x 8SS	1000 (13,8)			7.74 (196,6)		4.75 (120,7)	50 (22,68)
12SS x 8 5/8	1000 (13,8)	12.0 (304,8)	14.4 (365,8)	7.74 (196,6)	6.10 (154,9)	4.50 (114,3)	80 (36,28)
12SS x 8SS	1000 (13,8)			7.74 (196,6)		4.75 (120,7)	80 (36,28)
12SS x 10SS	1000 (13,8)			11.81 (300,0)		5.40 (137,2)	70 (31,77)

## Reducing Coupling Female x Female



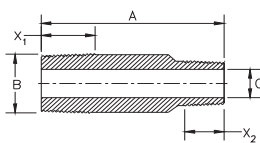
Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	X <sub>2</sub> In (mm)	Wt Lbs (kg)
2 3/8 x 1.90	4000 (27,6)	6.625 (168,3)	4.25 (108,0)	2.56 (65,1)	2.06 (52,4)	4 (1,81)
2 7/8 x 1.90	4000 (27,6)	6.8 (172,7)	5.25 (133,4)	2.88 (73,0)	2.06 (52,4)	7 (3,18)
2 7/8 x 2 3/8	2000 (13,8)	4.2 (106,7)				6.0 (8,93)
2 7/8 x 2 3/8	4000 (27,6)	7.2 (182,9)			2.56 (65,1)	8.5 (3,86)
3 1/2 x 1.90	4000 (27,6)	8.0 (203,2)	6.0 (152,4)	3.13 (79,4)	2.06 (52,4)	18 (8,16)
3 1/2 x 2 3/8	4000 (27,6)				2.56 (65,1)	13 (5,90)
3 1/2 x 2 7/8	4000 (27,6)				2.88 (73,0)	12 (5,44)
4 1/2 x 1.90	4000 (27,6)	10.125 (257,2)	7.45 (189,2)	3.50 (88,9)	2.06 (52,4)	28 (12,70)
4 1/2 x 2 3/8	4000 (27,6)				2.56 (65,1)	24 (10,89)
4 1/2 x 2 7/8	4000 (27,6)	10.375 (263,5)			2.88 (73,0)	26 (11,79)
4 1/2 x 3 1/2	4000 (27,6)	10.125 (257,2)			3.13 (79,4)	20 (9,07)
5 1/2 x 2 3/8	4000 (27,6)	10.375 (263,5)	8.7 (221,0)	4.38 (111,1)	2.56 (65,1)	38 (17,24)
5 1/2 x 2 7/8	4000 (27,6)		8.5 (215,9)		2.88 (73,0)	30 (13,61)
5 1/2 x 3 1/2	4000 (27,6)				3.13 (79,4)	34 (15,42)
5 1/2 x 4 1/2	4000 (27,6)				3.50 (88,9)	30 (13,61)
6 5/8 x 3 1/2	2000 (13,8)	15.0 (381,0)	8.5 (215,9)	3.88 (98,4)	3.13 (79,4)	37 (16,78)
6 5/8 x 4 1/2	2000 (13,8)				3.50 (88,9)	34 (15,42)

## Reducing Coupling Female x Female (continued)



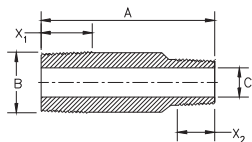
Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	X <sub>2</sub> In (mm)	Wt Lbs (kg)
7 x 4 1/2	2500 (17,2)	15.0 (381,0)	9.5 (241,3)	4.50 (114,3)	3.50 (88,9)	44 (19,96)
7 x 5 1/2	2500 (17,2)				4.38 (111,1)	40 (18,14)
8 5/8 x 4 1/2	1500 (10,3)	15.0 (381,0)	10.3 (261,6)	4.50 (114,3)	3.50 (88,9)	55 (24,95)
8 5/8 x 6 5/8	1500 (10,3)	13.0 (330,2)			3.88 (98,4)	45 (20,41)
8 5/8 x 7	1500 (10,3)	15.0 (381,0)			4.50 (114,3)	39 (17,69)
9 5/8 x 4 1/2	2000 (13,8)	15.0 (381,0)	12.2 (309,9)	4.75 (120,7)	3.50 (88,9)	88 (39,92)
9 5/8 x 7	2000 (13,8)				4.50 (114,3)	76 (34,47)
9 5/8 x 8 5/8	1500 (10,3)				4.50 (114,3)	58 (26,31)
8SS x 4 1/2	1250 (8,6)	16.5 (419,1)	10.0 (254,0)	6.10 (154,9)	3.50 (88,9)	57 (84,8)
8SS x 6 5/8	1250 (8,6)	14.5 (368,3)			3.88 (98,4)	47 (69,8)
10SS x 6 5/8	1250 (8,6)	19.5 (495,3)	13.8 (350,5)	5.40 (137,2)	3.88 (98,4)	68 (30,84)
10SS x 8 5/8	1250 (8,6)				4.50 (114,3)	63 (28,58)
10SS x 8SS	1250 (8,6)	15.0 (381,0)			4.75 (120,7)	50 (22,68)
12SS x 8 5/8	1250 (8,6)	18.3 (464,8)	16.0 (406,4)	6.10 (154,9)	4.50 (114,3)	90 (40,82)
12SS x 9 5/8	1250 (8,6)	20.5 (520,7)				90 (40,82)
12SS x 8SS	1250 (8,6)	19.5 (495,3)			4.75 (120,7)	90 (40,82)
12SS x 10SS	1250 (8,6)	16.0 (406,4)			5.40 (137,2)	75 (34,02)

## Swage Nipples Male x Male



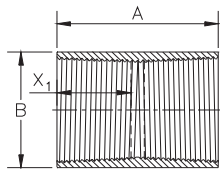
Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	C In (mm)	X <sub>1</sub> In (mm)	X <sub>2</sub> In (mm)	Wt Lbs (kg)
2 3/8 x 1.90	2500 (17,2)	12.0 (304,8)	2.60 (66,0)	1.50 (38,1)	2.56 (65,1)	2.06 (52,4)	3.0 (1,36)
2 7/8 x 1.90	3500 (24,1)	12.0 (304,8)	3.10 (78,7)	1.50 (38,1)	2.88 (73,0)	2.06 (52,4)	4.5 (2,04)
2 7/8 x 2 3/8	2500 (17,2)			2.00 (50,8)		2.56 (65,1)	3.5 (1,59)
2 7/8 x 2 7/8	3500 (24,1)						3.5 (1,59)
3 1/2 x 1.90	3500 (24,1)	12.0 (304,8)	3.75 (95,3)	1.50 (38,1)	3.13 (79,4)	2.06 (52,4)	8.0 (3,63)
3 1/2 x 2 3/8	3500 (24,1)			2.00 (50,8)		2.56 (65,1)	5.5 (2,49)
3 1/2 x 2 7/8	3000 (20,7)			2.43 (61,7)		2.88 (73,0)	4.5 (2,04)

**Swage Nipples**  
Male x Male  
(continued)



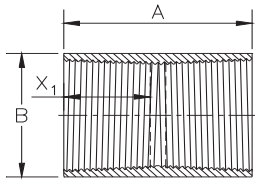
Thread Size Inches	Pressure Rating		A In (mm)	B In (mm)	C In (mm)	X <sub>1</sub> In (mm)	X <sub>2</sub> In (mm)	Wt Lbs (kg)
	psi (MPa)							
4 1/2 x 2 3/8	3500 (24,1)		14.0 (355,6)	4.8 (121,9)	2.00 (50,8)	3.50 (88,9)	2.56 (65,1)	14.0 (6,35)
4 1/2 x 2 7/8	3500 (24,1)				2.43 (61,7)		2.88 (73,0)	12.0 (5,44)
4 1/2 x 3 1/2	3000 (20,7)			4.71 (119,6)	3.00 (76,2)		3.13 (79,4)	10.0 (4,54)
5 1/2 x 3 1/2	3000 (20,7)		16 (406,4)	5.55 (140,8)	3.00 (76,2)	4.38 (111,1)	3.13 (79,4)	18.0 (8,16)
5 1/2 x 4 1/2	2000 (13,8)				3.90 (99,1)		3.50 (88,9)	12.0 (5,44)
6 5/8 x 3 1/2	2000 (13,8)		16 (406,4)	6.65 (168,9)	3.00 (76,2)	3.88 (98,4)	3.13 (79,4)	28 (12,70)
6 5/8 x 4 1/2	2000 (13,8)				3.90 (99,1)		3.50 (88,9)	26 (11,79)
6 5/8 x 5 1/2	2000 (13,8)				4.74 (120,4)		4.38 (111,1)	20 (9,07)
7 x 4 1/2	2000 (13,8)		16.0 (406,4)	7.05 (179,1)	3.90 (99,1)	4.50 (114,3)	3.50 (88,9)	28 (12,70)
7 x 5 1/2	2000 (13,8)				4.74 (120,4)		4.38 (111,1)	21 (9,53)
7 x 6 5/8	1000 (6,9)				5.85 (148,6)		3.88 (98,4)	15 (6,80)
7 x 6 5/8	2000 (13,8)				5.85 (148,6)		3.88 (98,4)	18.5 (8,39)
8 5/8 x 5 1/2	1500 (10,3)		17.0 (431,8)	8.65 (219,7)	4.74 (120,4)	4.50 (114,3)	4.38 (111,1)	45 (20,41)
8 5/8 x 6 5/8	1000 (6,9)				5.85 (148,6)		3.88 (98,4)	40 (18,14)
8 5/8 x 6 5/8	2000 (13,8)				5.50 (139,7)		3.88 (98,4)	44 (19,96)
8 5/8 x 7	1500 (10,3)				5.85 (148,6)		4.50 (114,3)	40 (18,14)
9 5/8 x 6 5/8	1000 (6,9)		16.0 (406,4)	9.65 (245,1)	5.85 (148,6)	4.75 (120,7)	3.88 (98,4)	35 (15,88)
9 5/8 x 6 5/8	2000 (13,8)				5.50 (139,7)		3.88 (98,4)	41 (18,60)
9 5/8 x 7	2000 (13,8)		17.0 (431,8)		5.85 (148,6)		4.50 (114,3)	50 (22,68)
9 5/8 x 8 5/8	1250 (8,6)		18.0 (457,2)	9.44 (239,8)	7.50 (190,5)		4.50 (114,3)	31 (14,06)
10SS x 6 5/8	1200 (8,2)		17.0 (431,8)	11.25 (285,8)	5.93 (150,6)	5.40 (137,2)	3.88 (98,4)	80 (36,29)
10SS x 8 5/8	1200 (8,2)				7.74 (196,6)		4.50 (114,3)	55 (24,95)
10SS x 8SS	1200 (8,2)						4.75 (120,7)	55 (24,95)
12SS x 8 5/8	1200 (8,2)		18.0 (457,2)	13.25 (336,6)	7.74 (196,6)	6.10 (154,9)	4.50 (114,3)	100 (45,36)
12SS x 8SS	1200 (8,2)				7.74 (196,6)		4.75 (120,7)	100 (45,36)
12SS x 10SS	1200 (8,2)				9.84 (249,9)		5.40 (137,2)	65 (29,48)

## Threaded Couplings Female x Female



Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	Wt Lbs (kg)
1.90	2000 (13,8)	5.125 (130,2)	2.80 (71,1)	2.06 (52,4)	1.1 (0,50)
	2500 (17,2)		2.90 (73,7)		1.2 (0,54)
	3000 (20,7)		3.00 (76,2)		1.4 (0,64)
	3500 (24,1)		3.15 (80,0)		1.6 (0,74)
	4000 (27,6)		3.30 (83,8)		1.9 (0,87)
2 3/8	1500 (10,3)	6.126 (155,6)	3.25 (82,6)	2.56 (65,1)	1.4 (0,64)
	2000 (13,8)		3.40 (86,4)		1.8 (0,80)
	2500 (17,2)		3.60 (91,4)		2.2 (1,02)
	3000 (20,7)		3.70 (94,0)		2.5 (1,13)
	3500 (24,1)		3.90 (99,1)		3.0 (1,37)
2 7/8	1500 (10,3)	6.750 (171,5)	3.80 (96,5)	2.88 (73,0)	2.0 (0,91)
	2000 (13,8)		4.00 (101,6)		2.6 (1,17)
	2500 (17,2)		4.20 (106,7)		3.2 (1,45)
	3000 (20,7)		4.40 (111,8)		3.9 (1,75)
	3500 (24,1)		4.60 (116,8)		4.5 (2,05)
3 1/2	1500 (10,3)	7.250 (184,2)	4.60 (116,8)	3.13 (79,4)	3.1 (1,41)
	2000 (13,8)		4.80 (121,9)		3.9 (1,76)
	2500 (17,2)		5.10 (129,5)		5.1 (2,30)
	3000 (20,7)		5.25 (133,4)		5.7 (2,58)
	3500 (24,1)		5.50 (139,7)		6.8 (3,08)
4	1500 (10,3)	8.750 (222,3)	5.00 (127,0)	3.88 (98,4)	3.5 (1,59)
	2000 (13,8)		5.25 (133,4)		4.8 (2,16)
	2500 (17,2)		5.55 (141,0)		6.3 (2,88)
	3000 (20,7)		5.80 (147,3)		7.7 (3,50)
4 1/2	1500 (10,3)	8.000 (203,2)	5.80 (147,3)	3.50 (88,9)	5.3 (2,39)
	2000 (13,8)		6.10 (154,9)		6.9 (3,11)
	2500 (17,2)		6.40 (162,6)		8.5 (3,86)
	3000 (20,7)		6.70 (170,2)		10.3 (4,66)
	3500 (24,1)		7.00 (177,8)		12.1 (5,49)
4000 (27,6)	7.20 (182,9)	13.4 (6,07)			

**Threaded Couplings**  
Female x Female  
(continued)

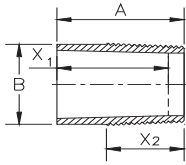


Thread Size Inches	Pressure Rating psi (MPa)	A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	Wt Lbs (kg)
5 1/2	1000 (6,9)	9.750 (247,7)	6.25 (158,8)	4.38 (111,1)	5.5 (2,51)
	1250 (8,6)		6.45 (163,8)		6.9 (3,14)
	1500 (10,3)		6.60 (167,6)		8.0 (3,62)
	1750 (12,1)		6.75 (171,5)		9.1 (4,13)
	2000 (13,8)		7.00 (177,8)		10.9 (4,96)
	2500 (17,2)		7.30 (185,4)		13.3 (6,02)
	3000 (20,7)		7.60 (193,0)		15.7 (7,13)
	3500 (24,1)		7.90 (200,7)		18.2 (8,27)
6 5/8	4000 (27,6)		8.20 (208,3)		20.9 (9,46)
	800 (5,5)	8.75 (222,3)	7.35 (186,7)	3.88 (98,4)	5.6 (2,55)
	1000 (6,9)		7.55 (191,8)		7.1 (3,21)
	1250 (8,6)		7.70 (195,6)		8.2 (3,71)
	1500 (10,3)		7.90 (200,7)		9.7 (4,40)
	2000 (13,8)		8.25 (209,6)		12.5 (5,66)
7	2500 (17,2)		8.70 (221,0)		16.2 (7,34)
	800 (5,5)	10.00 (254,0)	7.85 (199,4)	4.50 (114,3)	7.7 (3,48)
	1000 (6,9)		8.00 (203,2)		9.0 (4,09)
	1250 (8,6)		8.20 (208,3)		10.8 (4,91)
	1500 (10,3)		8.40 (213,4)		12.7 (5,75)
	2000 (13,8)		8.75 (222,3)		16.0 (7,26)
8 5/8	2500 (17,2)		9.20 (233,7)		20.5 (9,31)
	800 (5,5)	10.00 (254,0)	9.50 (241,3)	4.50 (114,3)	9.9 (4,47)
	1000 (6,9)		9.70 (246,4)		12.0 (5,44)
	1250 (8,6)		10.00 (254,0)		15.3 (6,93)
9 5/8	1500 (10,3)		10.20 (259,1)		17.5 (7,96)
	800 (5,5)	10.50 (266,7)	10.70 (271,8)	4.75 (120,7)	13.5 (6,12)
	1000 (6,9)		10.90 (276,9)		16.7 (7,57)
	1250 (8,6)		11.10 (281,9)		19.3 (8,74)
	1500 (10,3)		11.50 (292,1)		24.6 (11,14)
8SS	2000 (13,8)		11.90 (302,3)		30.0 (13,63)
	800 (5,5)	10 (254,0)	9.60 (243,8)	4.75 (120,7)	9.0 (4,08)
10SS	1250 (8,6)		10.20 (259,1)		15.0 (6,80)
	800 (5,5)	11.375 (288,9)	12.8 (325,1)	5.40 (137,2)	18.0 (8,16)
12SS	1250 (8,6)		13.6 (345,4)		30.0 (13,61)
	800 (5,5)	12.2 (309,9)	14.8 (375,9)	6.10 (154,9)	26.0 (11,79)
	1250 (8,6)		15.7 (398,8)		42.0 (19,05)



# Threaded Adapter

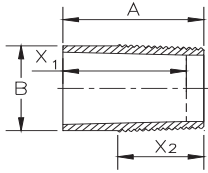
Bonded Bell x Male



Thread Size	Pipe Pressure Rating		A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	X <sub>2</sub> In (mm)	Wt Lbs (kg)	Anhydride		Aliphatic		Aromatic
	Inches	psi (MPa)						STD	15HR	STD	15HR	15HR
1.90	1250 (8,6)	1500 (10,3)	4.25 (108,0)	2.15 (54,6)	4.00 (101,6)	2.36 (59,9)	0.6 (0,27)	N/A	R	N/A	N/A	N/A
								R	R	R	R	R
								R	R	R	R	Q
								R	Q	R	R	Q
								R	Q	R	Q	S
								Q	S	R	P	N/A
2 3/8	750 (5,2)	800 (5,5)	5.00 (127,0)	2.71 (68,8)	4.75 (120,7)	2.56 (65,1)	0.9 (0,41)	N/A	S	N/A	R	N/A
								N/A	N/A	R	N/A	N/A
								N/A	S	R	R	S
								S	S	R	R	S
								S	S	R	S	Q
								S	Q	R	Q	P
								Q	P	R	P	N/A
								Q	P	S	N/A	Q
								N/A	T	N/A	U	T
2 7/8	750 (5,2)	800 (5,5)	5.25 (133,4)	3.21 (81,5)	5.00 (127,0)	2.88 (73,0)	1.2 (0,54)	N/A	T	N/A	U	T
								N/A	N/A	U	N/A	N/A
								T	T	U	U	T
								T	T	U	U	T
								T	T	U	T	Q
								T	S	U	S	Q
								S	Q	U	Q	N/A
								Q	Q	T	Q	N/A
								Q	N/A	R	Q	Q
3 1/2	500 (3,5)	750 (5,2)	5.50 (139,7)	3.89 (98,8)	5.25 (133,4)	3.13 (79,4)	1.6 (0,73)	N/A	T	U	U	T
								N/A	T	N/A	U	T
								T	N/A	U	N/A	N/A
								T	T	U	U	T
								T	T	U	U	S
								T	S	U	S	S
								T	S	U	S	Q
								S	R	S	R	P
								S	Q	S	R	S
R	P	R	Q	S								
4 1/2	500 (3,5)	750 (5,2)	5.75 (146,1)	4.89 (124,2)	5.50 (139,7)	3.50 (88,9)	2.4 (1,09)	T	T	U	U	T
								N/A	T	N/A	U	T
								T	N/A	U	N/A	N/A
								T	T	U	U	S
								T	S	U	T	R
								S	R	T	R	Q
								S	R	S	Q	P
								R	P	R	P	Q

## Threaded Adapter

Bonded Bell x Male  
(continued)

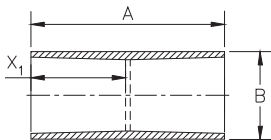


Thread Size	Pipe Pressure Rating		A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	X <sub>2</sub> In (mm)	Wt Lbs (kg)	Anhydride		Aliphatic		Aromatic
	Inches	psi (MPa)						STD	15HR	STD	15HR	15HR
TC5 1/2	500 (3,5)		6.75 (171,5)	5.55 (141,0)	6.50 (165,1)	4.38 (111,1)	3.2 (1,45)	R	R	R	N/A	N/A
	750 (5,2)							N/A	R	N/A	N/A	R
	800 (5,5)							R	N/A	R	N/A	N/A
	1000 (6,9)							R	R	R	N/A	Q
	1250 (8,6)							R	Q	R	N/A	P
	1500 (10,3)							Q	P	T	N/A	N/A
6 5/8	500 (3,5)		6.25 (158,8)	6.77 (172,0)	6.00 (152,4)	3.88 (98,4)	3.5 (2,40)	V	V	S	S	V
	750* (5,2)							N/A	V	N/A	U (5.50 ID)	S
										N/A	S (5.93 ID)	
	800* (5,5)							V	N/A	U (5.50 ID)	N/A	N/A
										S (5.93 ID)		
	1000* (6,9)							V	S	U (5.50 ID)	T (5.50 ID)	Q
									R (5.93 ID)	R (5.93 ID)		
1250 (8,6)							S	Q	T	N/A	V	
8 5/8	500 (3,5)		6.88 (174,8)	8.77 (222,8)	6.63 (168,4)	4.50 (114,3)	5.3 (2,40)	U	U	S	S	U
	750 (5,2)							N/A	U	N/A	R	T
	800 (5,5)							U	N/A	S	N/A	N/A
	1000 (6,9)							T	S	R	N/A	R
8SS	500 (3,5)		8.00 (203,2)	8.79 (223,3)	8.00 (203,2)	4.75 (120,7)	7.5 (3,42)	N/A	N/A	R	N/A	N/A
	800 (5,5)							N/A	N/A	R	N/A	N/A
10SS	500 (3,5)		10.0 (254,0)	11.27 (286,3)	7.00 (177,8)	5.40 (137,2)	8.7 (3,93)	N/A	N/A	R	N/A	N/A
12SS	500 (3,5)		10.0 (254,0)	13.25 (337,1)	7.00 (177,8)	6.10 (154,9)	21.5 (9,74)	N/A	N/A	R	N/A	N/A

**\*IMPORTANT NOTICE**  
It is important to know the ID before ordering 6 5/8" Threaded Adapters.

## Sleeve Coupling

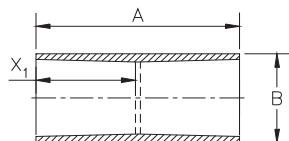
Bonded Bell x Bonded Bell



Thread Size	Pipe Pressure Rating		A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	Wt Lbs (kg)	Anhydride		Aliphatic		Aromatic
	Inches	psi (MPa)					STD	15HR	STD	15HR	15HR
1.90	1250 (8,6)		18.0 (457,2)	2.20 (55,9)	3.00 (76,2)	2.6 (1,2)	N/A	R	N/A	N/A	N/A
	1500 (10,3)						R	R	R	R	R
	1750 (12,1)						R	R	R	R	Q
	2000 (13,8)						R	Q	R	R	Q
2 3/8	750 (5,2)		18.0 (457,2)	3.00 (76,2)	3.75 (95,3)	5.0 (2,3)	N/A	S	N/A	R	N/A
	800 (5,5)						N/A	N/A	R	N/A	N/A
	1000 (6,9)						N/A	S	R	R	S
	1250 (8,6)						S	S	R	R	S
	1500 (10,3)						S	S	R	R	S
	1750 (12,1)						S	S	R	S	Q
	2000 (13,8)						S	Q	R	Q	P

# Sleeve Coupling

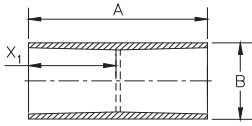
Bonded Bell x Bonded Bell  
(continued)



Thread Size	Pipe Pressure Rating psi (MPa)	A In (mm)	B In (mm)	X <sub>1</sub> In (mm)	Wt Lbs (kg)	Anhydride		Aliphatic		Aromatic
						STD	15HR	STD	15HR	15HR
2 7/8	750 (5,2)	18.0 (457,2)	3.65 (92,7)	4.00 (101,6)	7.4 (3,4)	N/A	T	N/A	U	T
	800 (5,5)					N/A	N/A	U	N/A	N/A
	1000 (6,9)					T	T	U	U	T
	1250 (8,6)					T	T	U	U	T
	1500 (10,3)					T	T	U	T	Q
	1750 (12,1)					T	S	U	S	Q
	2000 (13,8)					S	Q	U	Q	N/A
3 1/2	500 (3,5)	18.0 (457,2)	4.50 (114,3)	4.25 (114,3)	11.3 (5,1)	N/A	T	U	U	T
	750 (5,2)					N/A	T	N/A	U	T
	800 (5,5)					T	N/A	U	N/A	N/A
	1000 (6,9)					T	T	U	U	T
	1250 (8,6)					T	T	U	U	S
	1500 (10,3)					T	S	U	S	S
4 1/2	500 (3,5)	18.0 (457,2)	5.75 (146,1)	4.50 (114,3)	17.8 (8,1)	T	T	U	U	T
	750 (5,2)					N/A	T	N/A	U	T
	800 (5,5)					T	N/A	U	N/A	N/A
	1000 (6,9)					T	T	U	T	S
	1250 (8,6)					T	S	U	S	R
TC5 1/2	500 (3,5)	18.0 (457,1)	7.50 (190,5)	5.50 (139,7)	33.8 (15,3)	R	R	R	N/A	N/A
	750 (5,2)					N/A	R	N/A	N/A	R
	800 (5,5)					R	N/A	R	N/A	N/A
	1000 (6,9)					R	R	R	N/A	Q
	1250 (8,6)					R	Q	R	N/A	P
6 5/8	500 (3,5)	18.0 (457,2)	7.65 (194,3)	5.00 (127,0)	24.3 (11,0)	V	V	S	S	V
	750* (5,2)					N/A	V	N/A	U (5.50 ID)	S (5.50 ID)
	750* (5,2)							N/A	S (5.93 ID)	S (5.93 ID)
	800* (5,5)					V	N/A	U (5.50 ID)	N/A (5.93 ID)	N/A
	800* (5,5)							S (5.93 ID)	N/A (5.93 ID)	
	1000*					V	S	U (5.50 ID)	U (5.50 ID)	Q
	1000*							S (5.93 ID)	R (5.93 ID)	
1250						S	Q		V	
8 5/8	500	18.0 (457,2)	10.0 (254,0)	5.38 (136,7)	43.7 (19,8)	U	U	S	S	U
	750					N/A	U	N/A	S	T
	800					U	N/A	S	N/A	N/A

**IMPORTANT NOTICE**  
It is important to know the ID before ordering 6 5/8" Sleeve Couplings.

**Sleeve Coupling**  
**Bonded Bell x Bonded Bell**  
**(continued)**



Thread Size	Pipe Pressure Rating	A	B	X <sub>1</sub>	Wt	Anhydride		Aliphatic		Aromatic
						STD	15HR	STD	15HR	15HR
Inches	psi (MPa)	In (mm)	In (mm)	In (mm)	Lbs (kg)					
8SS	500 (3,5)	8.00 (203,2)	8.79 (223,3)	8.00 (203,2)	7.5 (3,42)	N/A	N/A	R	N/A	N/A
	800 (5,5)					N/A	N/A	R	N/A	N/A
10SS	500 (3,5)	10.0 (254,0)	11.27 (286,3)	7.00 (177,8)	8.7 (3,93)	N/A	N/A	R	N/A	N/A
12SS	500 (3,5)	10.0 (254,0)	13.25 (337,1)	7.00 (177,8)	21.5 (9,74)	N/A	N/A	R	N/A	N/A

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