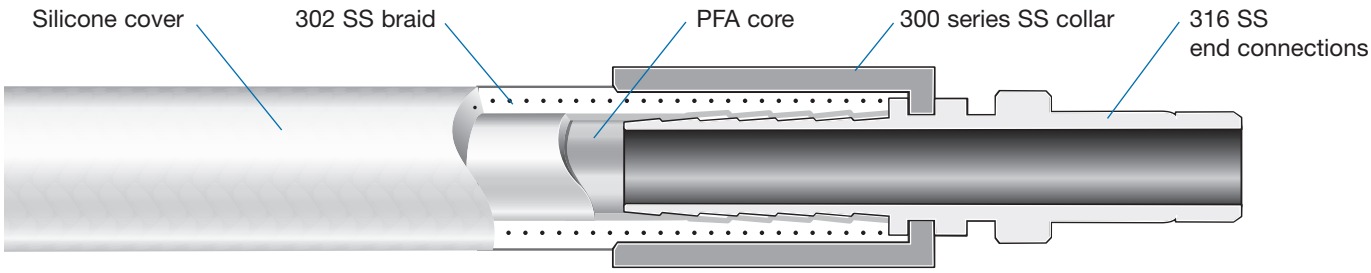
U Series PFA Hose

Features

- Highly flexible PFA hose.
- Smooth-bore PFA core.
- Size range of 1/2 through 2 in. and working pressures up to 300 psig (20.6 bar).
- 302 stainless steel reinforcement ensures hose pressure containment and supports core to resist kinking.
- Silicone cover provides a smooth, noncontaminating, easy-to-clean surface and reduces internal system fluid temperature transfer.
- Hose layers are encapsulated together without adhesives or cements with a patent-pending process, providing high flexibility and outstanding kink resistance.
- PFA material complies with FDA regulation 21CFR Part 177.1550, USP <87, 88> Class VI (121°C), 3-A (for hose sizes 3/4 through 2 in.), and is free of TSE, BSE, and ADI as defined in EMEA/410/01.
- Optional carbon black-filled PFA core is available for applications that require static dissipation.
- Commonly used where high flexibility, chemical compatibility, and a smooth exterior cover are desired.
- Custom hose lengths and end connections available.
- Options include hose covers, hose tags, and additional cleaning. See page 107 for details.
- For electrical properties, see page 5 for details.



Technical Data

Nominal Hose Size in. (mm)	Inside Diameter in. (mm)	Outside Diameter in. (mm)	Minimum Inside Bend Radius in. (cm)		Temperature Range °F (°C)	Vacuum (28.5 in.Hg [96.5 kPa]) Rated to ... °F (°C)	Working Pressure at 70°F (20°C) psig (bar)	Minimum Burst Pressure at 70°F (20°C) psig (bar)	Bulk Hose Weight lb/ft (kg/m)
			Static	Dynamic					
1/2 (12.7)	0.50 (12.7)	0.81 (20.6)	1.50 (3.81)	4.50 (11.4)	–65 to 400 (–53 to 204)	400 (204)	300 (20.6)	1200 (82.6)	0.20 (0.30)
3/4 (19.0)	0.75 (19.0)	1.13 (28.7)	2.50 (6.35)	5.20 (13.2)		400 (204)	300 (20.6)	1200 (82.6)	0.38 (0.57)
1 (25.4)	1.00 (25.4)	1.48 (37.6)	4.00 (10.2)	6.50 (16.5)		250 (121)	250 (17.2)	1000 (68.9)	0.63 (0.94)
1 1/2 (38.1)	1.50 (38.1)	2.00 (50.8)	7.00 (17.8)	9.10 (23.1)		250 (121)	200 (13.7)	800 (55.1)	0.88 (1.3)
2 (50.8)	2.00 (50.8)	2.50 (63.5)	7.00 (17.8)	9.10 (23.1)		150 (65)	150 (10.3)	600 (41.3)	1.3 (1.9)

Pressure-temperature ratings may be limited by the end connections.

Pressure-Temperature Ratings

Nominal Hose Size, in.	1/2	3/4	1	1 1/2	2
Temperature, °F (°C)	Working Pressure, psig (bar)				
–65 (–53)	200 (13.7)	115 (7.9)	250 (17.2)	200 (13.7)	150 (10.3)
0 (–17) to 100 (37)	300 (20.6)	300 (20.6)	250 (17.2)	200 (13.7)	150 (10.3)
200 (93)	280 (19.2)	300 (20.6)	250 (17.2)	200 (13.7)	150 (10.3)
300 (148)	210 (14.4)	270 (18.6)	230 (15.8)	200 (13.7)	150 (10.3)
400 (204)	160 (11.0)	195 (13.4)	175 (12.0)	200 (13.7)	150 (10.3)

U Series PFA Hose

Testing

Every Swagelok U series hose assembly is pressure tested with water at room temperature for 30 seconds to a requirement of no detectable leakage. Testing is performed at 225 psig (15.5 bar).

Cleaning and Packaging

Every Swagelok U series hose component is cleaned in accordance with Swagelok *Standard Cleaning and Packaging (SC-10)* catalog, MS-06-62.

Ordering Information

Custom Hose Assemblies

Build a hose assembly ordering number by combining the designators in the sequence shown below.



Typical Ordering Number

1	2	3	4	4	5	6		5	6	7
SS -	UT	8	TA8	KC16 -	28 -	PB	or	71CM -	PB	
					in.			cm		

1 Material

End Connections

SS = 316 stainless steel
HC = Alloy C-276

2 Hose

UT = U series PFA hose with silicone cover
UC = U series carbon black-filled PFA hose with silicone cover

3 Nominal Hose Size, in.

8 = 1/2
12 = 3/4
16 = 1
24 = 1 1/2
32 = 2

4 End Connections

*See **End Connection Designator** column in tables on pages 73 to 82.*

5 Overall Length

*Inches or centimeters, in whole numbers. Include **CM** as shown for centimeter lengths.*

Typical maximum one-piece hose length:

- *900 in. or 2286 cm for 1/2 in. hose*
- *600 in. or 1524 cm for 3/4 and 1 in. hose*
- *300 in. or 762 cm for 1 1/2 and 2 in. hose.*

*Longer assemblies may be spliced; specify splices under **Options.** See page 4 for more information about splices.*

6 Options

For multiple options, add designators with a dash between each designator.

A = Armor guard
C = ASTM G93 Level C cleaning on hose wetted surfaces
F = Fire jacket
G6 = Spiral guard, black
G7 = Spiral guard, blue
G8 = Spiral guard, yellow
W = Hydrostatic test

Splices

SP1 = 1 splice
SP2 = 2 splices

Mat Tags

MA = Gray
MB = Blue
MC = Brown
MG = Green
MK = Black
MN = Pink
MO = Orange
MP = Purple
MR = Red
MW = White
MY = Yellow

*Add **2** to the end of the Mat Tag designator for two tags.*
*Example: MA**2***

Perma Tags

PA = Gray
PB = Blue
PC = Brown
PG = Green
PK = Black
PN = Pink
PO = Orange
PP = Purple
PR = Red
PW = White
PY = Yellow

*Add **2** to the end of the Perma Tag designator for two tags.*
*Example: PA**2***

Other Tags

T = Lanyard tag
T2 = Two lanyard tags

*Specify text for tags. See **Hose Tag Text** table, page 109.*

See page 107 for detailed descriptions of options.

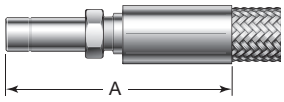
7 Two Elbow Orientation

Only include a value in the assembly number when both end connections are elbows. See page 76 for values and further information.

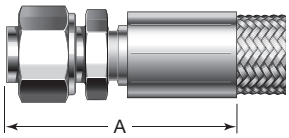
End Connections for B, X, S, C, J, N, W, F and U Series Hose

End Connections

Swagelok Tube Adapters



1 in. / 25 mm and Under



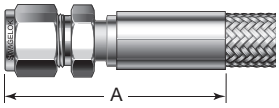
Over 1 in. / 25 mm

Tube Adapter Size	Nominal Hose Size Designator	End Connection Designator	Dimensions			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
Dimensions, in. (mm)						
1/8	2	TA2	1.86 (47.2)	0.070 (1.7)	0.55 (14.0)	Determined by hose
1/4	4	TA4	1.96 (49.8)	0.16 (4.0)	0.59 (15.0)	
3/8	6	TA6	2.42 (61.5)	0.26 (6.6)	0.82 (20.8)	
1/2	8	TA8	2.91 (73.9)	0.34 (8.6)	1.04 (26.4)	
3/4	12	TA12	3.53 (89.7)	0.54 (13.7)	1.35 (34.3)	
1	16	TA16	3.78 (96.0)	0.78 (19.8)	1.75 (44.5)	
1 1/2①	24	TA24	5.22 (133)	1.24 (31.4)	2.60 (66.0)	
2①	32	TA32	6.82 (173)	1.68 (42.6)	3.46 (87.9)	
Dimensions, mm (in.)						
3	2	TM3	47.8 (1.88)	1.7 (0.070)	14.0 (0.55)	Determined by hose
6	4	TM6	50.3 (1.98)	4.0 (0.16)	15.0 (0.59)	
10	6	TM10	62.0 (2.44)	6.6 (0.26)	20.8 (0.82)	
12	8	TM12	74.4 (2.93)	8.6 (0.34)	23.1 (0.91)	
18	12	TM18	90.2 (3.55)	13.7 (0.54)	34.3 (1.35)	
25	16	TM25	96.5 (3.80)	19.8 (0.78)	44.5 (1.75)	
38①	24	TM38	133 (5.24)	31.4 (1.24)	69.3 (2.73)	
50①	32	TM50	173 (6.81)	42.6 (1.68)	87.9 (3.46)	

Alloy C-276 ends available for 1 in. and under tube adapters.

① Furnished with nut and preswaged ferrules.

Swagelok Tube Fittings

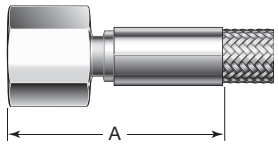


Tube Fitting Size	Nominal Hose Size Designator	End Connection Designator	Dimensions			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
Dimensions, in. (mm)						
1/8	2	SL2	1.88 (47.8)	0.070 (1.7)	0.55 (14.0)	Determined by hose
1/4	4	SL4	2.02 (51.3)	0.16 (4.0)	0.59 (15.0)	
3/8	6	SL6	2.48 (63.0)	0.26 (6.6)	0.82 (20.8)	
1/2	8	SL8	2.81 (71.4)	0.34 (8.6)	1.04 (26.4)	
3/4	12	SL12	3.44 (87.4)	0.54 (13.7)	1.35 (34.3)	
1	16	SL16	3.61 (91.7)	0.78 (19.8)	1.75 (44.5)	
1 1/2	24	SL24	5.12 (130)	1.24 (31.4)	2.60 (66.0)	
2	32	SL32	6.72 (171)	1.68 (42.6)	3.46 (87.9)	
Dimensions, mm (in.)						
3	2	SM3	48.5 (1.91)	1.7 (0.070)	14.0 (0.55)	Determined by hose
6	4	SM6	51.3 (2.02)	4.0 (0.16)	16.3 (0.64)	
10	6	SM10	64.5 (2.54)	6.6 (0.26)	20.8 (0.82)	
12	8	SM12	71.9 (2.83)	8.6 (0.34)	26.4 (1.04)	
18	12	SM18	78.0 (3.07)	13.7 (0.54)	34.3 (1.35)	
25	16	SM25	91.7 (3.61)	19.8 (0.78)	44.5 (1.75)	
38	24	SM38	133 (5.24)	31.4 (1.24)	69.3 (2.73)	
50	32	SM50	169 (6.65)	42.6 (1.68)	87.9 (3.46)	

Alloy C-276 ends available for 1 in. and under tube fittings.

End Connections for B, X, S, C, J, N, W, F and U Series Hose

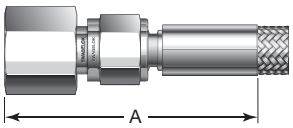
Female Pipe Threads, NPT



NPT Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/8	2	PF2	1.76 (44.7)	0.070 (1.7)	0.65 (16.5)	Determined by hose①
1/4	4	PF4	1.85 (47.0)	0.16 (4.0)	0.87 (22.1)	
3/8	6	PF6	2.31 (58.7)	0.26 (6.6)	1.01 (25.7)	
1/2	8	PF8	2.66 (67.6)	0.34 (8.6)	1.30 (33.0)	
3/4	12	PF12	3.32 (84.3)	0.54 (13.7)	1.52 (38.6)	
1	16	PF16	3.44 (87.4)	0.78 (19.8)	1.88 (47.8)	
1 1/2	24	PF24	4.19 (106)	1.24 (31.4)	2.75 (69.9)	
2	32	PF32	4.88 (124)	1.68 (42.6)	3.18 (80.8)	

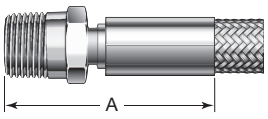
① Brass PF4 pressure rating is 3300 psig (228 bar).

Female Pipe Threads, NPT, with JIC (AN) 37° Union



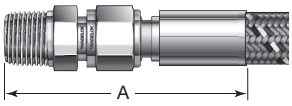
NPT with JIC Union Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/8	2	FU2	2.38 (60.5)	0.070 (1.7)	0.65 (16.5)	Determined by hose
1/4	4	FU4	2.61 (66.3)	0.16 (4.0)	0.87 (22.1)	
3/8	6	FU6	3.07 (78.0)	0.26 (6.6)	1.01 (25.7)	
1/2	8	FU8	3.59 (91.2)	0.34 (8.6)	1.23 (31.2)	
3/4	12	FU12	4.47 (114)	0.54 (13.7)	1.52 (38.6)	
1	16	FU16	4.77 (121)	0.78 (19.8)	2.02 (51.3)	
1 1/2	24	FU24	6.12 (155)	1.24 (31.4)	2.75 (69.9)	
2	32	FU32	7.05 (179)	1.68 (42.6)	3.46 (87.9)	

Male Pipe Threads, NPT



NPT Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/8	2	PM2	1.70 (43.2)	0.077 (1.9)	0.55 (14.0)	Determined by hose
1/4	4	PM4	1.91 (48.5)	0.16 (4.0)	0.65 (16.5)	
3/8	6	PM6	2.31 (58.7)	0.28 (7.1)	0.82 (20.8)	
1/2	8	PM8	2.72 (69.1)	0.37 (9.4)	1.04 (26.4)	
3/4	12	PM12	3.26 (82.8)	0.63 (16.0)	1.35 (34.3)	
1	16	PM16	3.45 (87.6)	0.78 (19.8)	1.75 (44.5)	
1 1/2	24	PM24	4.24 (108)	1.36 (34.5)	2.31 (58.7)	
2	32	PM32	5.12 (130)	1.84 (46.7)	2.89 (73.4)	

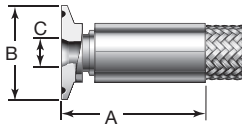
Male Pipe Threads, NPT, with JIC (AN) 37° Union



NPT with JIC Union Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/8	2	MU2	2.37 (60.2)	0.070 (1.7)	0.55 (14.0)	Determined by hose
1/4	4	MU4	2.70 (68.6)	0.16 (4.0)	0.65 (16.5)	
3/8	6	MU6	3.19 (81.0)	0.26 (6.6)	0.82 (20.8)	
1/2	8	MU8	3.71 (94.2)	0.34 (8.6)	1.04 (26.4)	
3/4	12	MU12	4.52 (115)	0.54 (13.7)	1.45 (36.8)	
1	16	MU16	4.75 (121)	0.78 (19.8)	1.75 (44.5)	
1 1/2	24	MU24	5.88 (149)	1.24 (31.4)	2.60 (66.0)	
2	32	MU32	7.08 (180)	1.68 (42.6)	3.32 (84.3)	

End Connections for B, X, S, C, J, N, W, F and U Series Hose

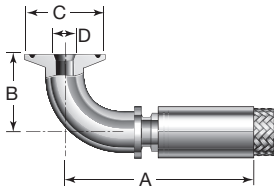
Sanitary Kwik-Clamps①



① 316L SS material with an I.D. of 15 µin. (0.38 µm) R_a max surface finish applies prior to crimp.

Kwik-Clamp Size in.	Nominal Hose Size Designator	End Connection Designator		Dimensions, in. (mm)				Pressure Rating psig (bar)
		Standard Surface	Electro-polished	A Max	Minimum Inside Diameter	B, Flange Outside Diameter	C, Flange Face Inside Diameter	
1/2	4	KC8	KE8	1.60 (40.6)	0.16 (4.0)	0.98 (25.0)	0.37 (9.4)	1500 (103)
	6	KC8	KE8	2.23 (56.6)	0.26 (6.6)			
	8	KC8	KE8	2.61 (66.3)	0.34 (8.6)			
3/4	6	KC12	KE12	2.23 (56.6)	0.26 (6.6)	0.98 (25.0)	0.62 (15.7)	1500 (103)
	8	KC12	KE12	2.48 (63.0)	0.34 (8.6)			
	12	KC12	KE12	2.85 (72.4)	0.54 (13.7)			
1	8	KC16	KE16	2.44 (62.0)	0.34 (8.6)	1.98 (50.3)	0.87 (22.1)	500 (34.4)
	12	KC16	KE16	2.70 (68.6)	0.54 (13.7)			
	16	KC16	KE16	2.76 (70.1)	0.78 (19.8)			
1 1/2	8	KC24	KE24	2.45 (62.2)	0.34 (8.6)	1.98 (50.3)	1.37 (34.8)	500 (34.4)
	12	KC24	KE24	2.70 (68.6)	0.54 (13.7)			
	16	KC24	KE24	2.60 (66.0)	0.78 (19.8)			
	24	KC24	KE24	3.31 (84.1)	1.24 (31.4)			
2	16	KC32	KE32	2.60 (66.0)	0.78 (19.8)	2.52 (64.0)	1.87 (47.5)	450 (31.0)
	24	KC32	KE32	3.21 (81.5)	1.24 (31.4)			
	32	KC32	KE32	3.98 (101)	1.68 (42.6)			
2 1/2	24	KC40	KE40	3.32 (84.3)	1.24 (31.4)	3.05 (77.5)	2.37 (60.2)	400 (27.5)
	32	KC40	KE40	3.97 (101)	1.68 (42.6)			

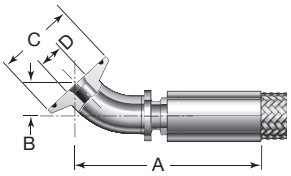
Sanitary Kwik-Clamp 90° Elbows



Kwik-Clamp Size in.	Nominal Hose Size Designator	End Connection Designator		Dimensions, in. (mm)					Pressure Rating psig (bar)
		Standard Surface	Electro-polished	A Max	B	Minimum Inside Diameter	C, Flange Outside Diameter	D, Flange Face Inside Diameter	
1/2	8	KR8	RE8	2.92 (74.2)	1.27 (32.3)	0.34 (8.6)	0.98 (25.0)	0.37 (9.4)	1500 (103)
3/4	12	KR12	RE12	3.45 (87.6)	1.63 (41.4)	0.54 (13.7)	0.98 (25.0)	0.62 (15.7)	1500 (103)
1	16	KR16	RE16	4.10 (104)	2.02 (51.3)	0.78 (19.8)	1.98 (50.3)	0.87 (22.1)	500 (34.4)
1 1/2	24	KR24	RE24	5.90 (150)	2.77 (70.4)	1.24 (31.4)	1.98 (50.3)	1.37 (34.8)	500 (34.4)
2	32	KR32	RE32	7.56 (192)	3.51 (89.2)	1.68 (42.6)	2.52 (64.0)	1.87 (47.5)	450 (31.0)

End Connections for B, X, S, C, J, N, W, F and U Series Hose

Sanitary Kwik-Clamp 45° Elbows

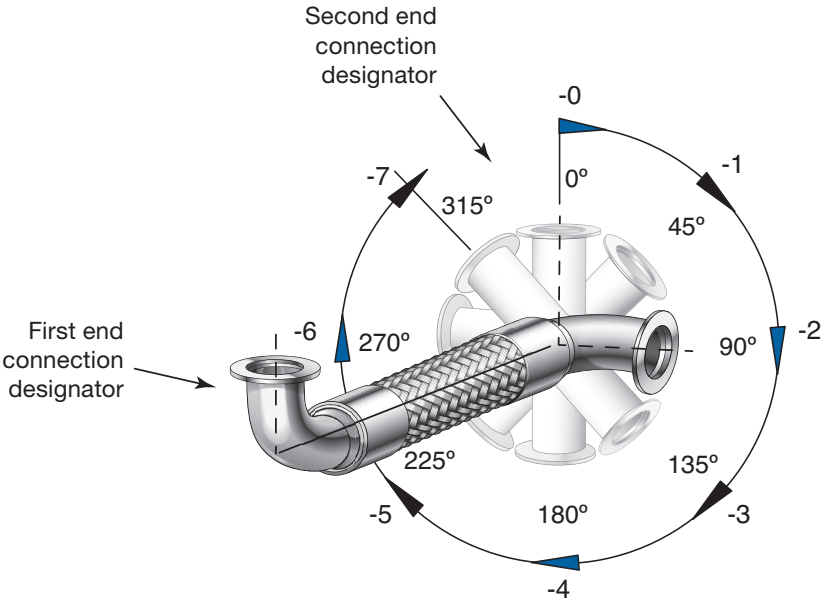


Kwik-Clamp Size in.	Nominal Hose Size Designator	End Connection Designator		Dimensions, in. (mm)					Pressure Rating psig (bar)
		Standard Surface	Electro-polished	A Max	B	Minimum Inside Diameter	C, Flange Outside Diameter	D, Flange Face Inside Diameter	
1/2	8	KA8	AE8	3.05 (77.5)	0.70 (17.8)	0.34 (8.6)	0.98 (25.0)	0.37 (9.4)	1500 (103)
3/4	12	KA12	AE12	3.85 (97.8)	0.69 (17.6)	0.54 (13.7)	0.98 (25.0)	0.62 (15.7)	1500 (103)
1	16	KA16	AE16	4.02 (102)	0.81 (20.5)	0.78 (19.8)	1.98 (50.3)	0.87 (22.1)	500 (34.4)
1 1/2	24	KA24	AE24	5.60 (142)	1.03 (26.2)	1.24 (31.4)	1.98 (50.3)	1.37 (34.8)	500 (34.4)
2	32	KA32	AE32	7.03 (179)	1.27 (32.3)	1.68 (42.6)	2.52 (64.0)	1.87 (47.5)	450 (31.0)

Two Elbow Hose Options

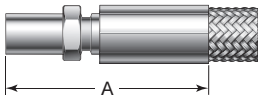
For hoses with two elbow end connections, a suffix is needed to indicate the angle offset between the first end connection and the second end connection. The first end connection is indicated by the first end connection designator in the part number. The second end connection is indicated by the second end connection designator in the part number. See the table and diagram below for the part number suffix and its corresponding angle offset.

Part Number Suffix	Rotation Amount
-0	0°
-1	45°
-2	90°
-3	135°
-4	180°
-5	225°
-6	270°
-7	315°



End Connections for B, X, S, C, J, N, W, F and U Series Hose

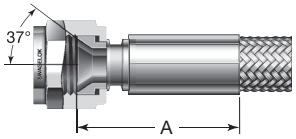
Tube Butt Welds①



① 316 SS material with an I.D. of 15 µin. (0.38 µm) R_a max surface finish applies prior to crimp.

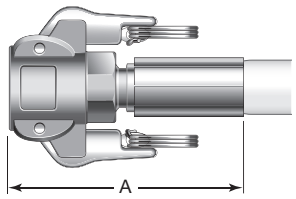
Tube Butt Weld Size in.	Wall Thickness in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
				A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/2	0.049	8	TB8	2.70 (68.6)	0.34 (8.6)	1.04 (26.4)	Determined by hose
3/4	0.049	12	TB12	3.26 (82.8)	0.54 (13.7)	1.35 (34.3)	
1	0.065	16	TB16	3.26 (82.8)	0.78 (19.8)	1.75 (44.5)	
1 1/2	0.095	24	TB24	4.65 (118)	1.24 (31.4)	2.20 (55.9)	
2	0.109	32	TB32	5.56 (141)	1.68 (42.6)	2.75 (69.9)	

SAE 37° (JIC) Female Swivel



SAE 37° (JIC) Female Swivel Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/8	2	AS2	1.05 (26.7)	0.070 (1.7)	0.55 (14.0)	Determined by hose
1/4	4	AS4	1.41 (35.8)	0.16 (4.0)	0.66 (16.8)	
3/8	6	AS6	2.05 (52.1)	0.26 (6.6)	0.82 (20.8)	
1/2	8	AS8	2.26 (57.4)	0.34 (8.6)	1.04 (26.4)	
3/4	12	AS12	2.63 (66.8)	0.54 (13.7)	1.35 (34.3)	
1	16	AS16	2.62 (66.5)	0.78 (19.8)	1.75 (44.5)	
1 1/2	24	AS24	3.30 (83.8)	1.24 (31.4)	2.61 (66.3)	
2	32	AS32	4.84 (123)	1.68 (42.6)	3.33 (84.6)	

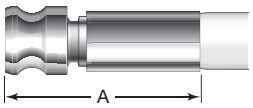
Female Cam and Groove



Female Cam and Groove Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
3/4	12	GF12	4.03 (102)	0.54 (13.7)	3.27 (83.1)	250 (17.2)
1	16	GF16	4.53 (115)	0.78 (19.8)	3.50 (88.9)	
1 1/2	24	GF24	5.39 (137)	1.24 (31.4)	4.44 (113)	
2	32	GF32	6.30 (160)	1.68 (42.6)	4.82 (122)	

The A dimension may vary if armor guard hose cover is ordered.

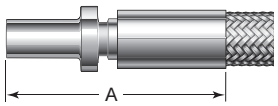
Male Cam and Groove



Male Cam and Groove Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
3/4	12	GM12	2.92 (74.2)	0.54 (13.7)	1.27 (32.3)	250 (17.2)
1	16	GM16	3.54 (89.9)	0.78 (19.8)	1.45 (36.8)	
1 1/2	24	GM24	4.40 (112)	1.24 (31.4)	2.11 (53.6)	
2	32	GM32	5.15 (131)	1.68 (42.6)	2.47 (62.7)	

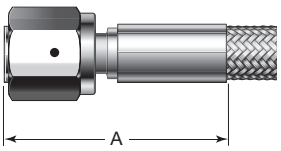
End Connections for B, X, S, C, J, N, W, F and U Series Hose

Tube Stubs, Annealed



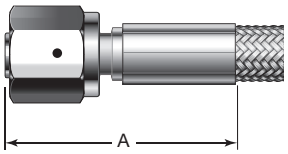
Tube Stub Size	Wall Thickness	Nominal Hose Size Designator	End Connection Designator	Dimensions			Pressure Rating psig (bar)
				A Max	Minimum Inside Diameter	Maximum Outside Dimension	
Dimensions, in. (mm)							
1/8	0.028	2	TN2	1.96 (49.8)	0.069 (1.8)	0.31 (7.9)	Determined by hose
1/4	0.035	4	TN4	2.24 (56.9)	0.16 (4.1)	0.46 (11.7)	
3/8	0.049	6	TN6	2.55 (64.8)	0.26 (6.6)	0.63 (16.0)	
1/2	0.049	8	TN8	3.08 (78.2)	0.34 (8.6)	0.86 (21.8)	
3/4	0.065	12	TN12	3.45 (87.6)	0.54 (13.7)	0.99 (25.1)	
1	0.083	16	TN16	3.92 (99.6)	0.78 (19.8)	1.39 (35.3)	
1 1/2	0.134	24	TN24	6.08 (154)	1.24 (31.5)	1.96 (49.8)	
2	0.188	32	TN32	6.74 (171)	1.68 (42.7)	2.43 (61.7)	
Dimensions, mm (in.)							
3	0.80	2	TE3	41.7 (1.64)	1.3 (0.052)	7.9 (0.31)	Determined by hose
6	1.0	4	TE6	57.2 (2.25)	4.0 (0.16)	11.7 (0.46)	
8	1.0	4	TE8	57.9 (2.28)	4.0 (0.16)	16.0 (0.63)	
8	1.0	6	TE8	64.3 (2.53)	6.0 (0.24)	16.0 (0.63)	
10	1.0	6	TE10	65.0 (2.56)	6.6 (0.26)	16.0 (0.63)	
12	1.0	6	TE12	71.6 (2.82)	6.6 (0.26)	16.0 (0.63)	
12	1.0	8	TE12	77.5 (3.05)	8.7 (0.34)	21.9 (0.86)	
18	1.5	12	TE18	87.4 (3.44)	13.8 (0.54)	25.1 (0.99)	
25	1.5	16	TE25	101 (3.98)	19.7 (0.78)	35.4 (1.39)	
38	3.5	24	TE38	133 (5.23)	30.9 (1.22)	50.5 (1.99)	
50	5.0	32	TE50	179 (7.03)	39.9 (1.57)	64.8 (2.55)	

Female VCO O-Ring Face Seal Fittings



VCO Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/4	4	VF4	1.67 (42.4)	0.16 (4.0)	0.80 (20.3)	Determined by hose
1/2	8	VF8	2.18 (55.4)	0.34 (8.6)	1.16 (29.5)	
3/4	12	VF12	2.79 (70.9)	0.54 (13.7)	1.74 (44.2)	
1	16	VF16	2.67 (67.8)	0.78 (19.8)	2.03 (51.6)	

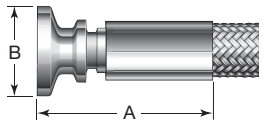
Female VCR Metal Gasket Face Seal Fittings



VCR Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/4	4	RF4	1.76 (44.7)	0.16 (4.0)	0.87 (22.1)	Determined by hose
1/2	8	RF8	2.37 (60.2)	0.34 (8.6)	1.23 (31.2)	
3/4	12	RF12	3.08 (78.2)	0.54 (13.7)	1.74 (44.2)	
1	16	RF16	3.20 (81.3)	0.78 (19.8)	2.03 (51.6)	

End Connections for B, X, S, C, J, N, W, F and U Series Hose

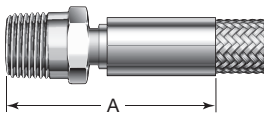
TS Series Sanitary Clamps①



① 316L SS material with an I.D. of 15 µin. (0.38 µm) R_a max surface finish applies prior to crimp.

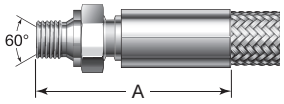
Sanitary Clamp Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)				Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	B, Flange Outside Diameter	Maximum Outside Dimension	
1/2	8	TS8	2.20 (55.9)	0.34 (8.6)	0.98 (25.0)	1.04 (26.4)	3100 (213)
3/4	12	TS12	2.70 (68.6)	0.54 (13.7)	0.98 (25.0)	1.35 (34.3)	2800 (192)
1	16	TS16	2.88 (73.2)	0.78 (19.8)	1.98 (50.3)	1.98 (50.3)	1200 (82.6)
1 1/2	24	TS24	3.35 (85.1)	1.24 (31.4)	1.98 (50.3)	2.20 (55.9)	1200 (82.6)
2	32	TS32	4.01 (102)	1.68 (42.6)	2.52 (64.0)	2.74 (69.6)	650 (44.7)

Male Pipe Threads, ISO/BSP Tapered (ISO 7)



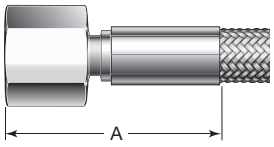
Male Pipe Thread, ISO/BSP Tapered Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/4	4	MT4	1.91 (48.5)	0.16 (4.0)	0.66 (16.8)	Determined by hose
3/8	6	MT6	2.31 (58.7)	0.26 (6.6)	0.82 (20.8)	
1/2	8	MT8	2.72 (69.1)	0.34 (8.6)	1.04 (26.4)	
3/4	12	MT12	3.26 (82.8)	0.54 (13.7)	1.35 (34.3)	
1	16	MT16	3.45 (87.6)	0.78 (19.8)	1.75 (44.5)	
1 1/2	24	MT24	4.25 (108)	1.24 (31.4)	2.31 (58.7)	
2	32	MT32	5.12 (130)	1.68 (42.6)	2.89 (73.4)	

Male ISO/BSP Parallel Threads with 60° Male Cone (ISO 228)



ISO/BSP Parallel, 60° Male Cone Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/4	4	MS4	1.99 (50.5)	0.16 (4.0)	0.87 (22.1)	Determined by hose
3/8	6	MS6	2.38 (60.5)	0.26 (6.6)	1.01 (25.7)	
1/2	8	MS8	2.65 (67.3)	0.34 (8.6)	1.23 (31.2)	
3/4	12	MS12	3.37 (85.6)	0.54 (13.7)	1.52 (38.6)	
1	16	MS16	3.38 (85.9)	0.78 (19.8)	1.88 (47.8)	
1 1/2	24	MS24	4.21 (107)	1.24 (31.4)	2.53 (64.3)	
2	32	MS32	5.16 (131)	1.68 (42.6)	3.18 (80.8)	

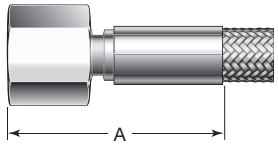
Female Pipe Threads, ISO/BSP Tapered (ISO 7)



Female Pipe Thread, ISO/BSP Tapered Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/4	4	FT4	1.85 (47.0)	0.16 (4.0)	0.87 (22.1)	Determined by hose
3/8	6	FT6	2.32 (58.9)	0.26 (6.6)	1.01 (25.7)	
1/2	8	FT8	2.67 (67.8)	0.34 (8.6)	1.23 (31.2)	
3/4	12	FT12	3.37 (85.6)	0.54 (13.7)	1.52 (38.6)	
1	16	FT16	3.45 (87.6)	0.78 (19.8)	1.88 (47.8)	
1 1/2	24	FT24	4.15 (105)	1.24 (31.4)	2.75 (69.9)	
2	32	FT32	4.99 (127)	1.68 (42.6)	3.32 (84.3)	

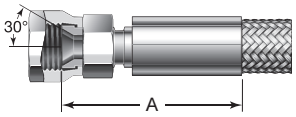
End Connections for B, X, S, C, J, N, W, F and U Series Hose

Female ISO/BSP Parallel Threads (ISO 228)



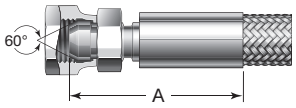
ISO/BSP Parallel Thread Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/4	4	FS4	2.06 (52.3)	0.16 (4.0)	0.87 (22.1)	Determined by hose
3/8	6	FS6	2.57 (65.3)	0.26 (6.6)	1.09 (27.7)	
1/2	8	FS8	2.84 (72.1)	0.34 (8.6)	1.23 (31.2)	
3/4	12	FS12	3.39 (86.1)	0.54 (13.7)	1.59 (40.4)	
1	16	FS16	3.46 (87.9)	0.78 (19.8)	1.88 (47.8)	
1 1/2	24	FS24	4.29 (109)	1.24 (31.4)	2.60 (66.0)	
2	32	FS32	4.95 (126)	1.68 (42.6)	3.18 (80.8)	

Female Swivel ISO/BSP Parallel Threads with 30° Cone



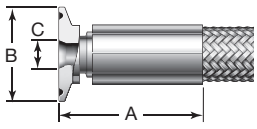
Swivel ISO/BSP Parallel Thread, 30° Cone Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/4	4	BS4	1.94 (49.3)	0.16 (4.0)	0.87 (22.1)	Determined by hose
3/8	6	BS6	2.59 (65.8)	0.26 (6.6)	1.01 (25.7)	
1/2	8	BS8	2.81 (71.4)	0.34 (8.6)	1.23 (31.2)	

Female Swivel ISO/BSP Parallel Threads with 60° Cone



Swivel ISO/BSP Parallel Thread, 60° Cone Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/4	4	BM4	1.94 (49.3)	0.16 (4.0)	0.87 (22.1)	Determined by hose
3/8	6	BM6	2.59 (65.8)	0.26 (6.6)	1.01 (25.7)	
1/2	8	BM8	2.81 (71.4)	0.34 (8.6)	1.23 (31.2)	

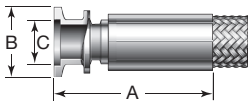
JIS(A)/ISO 2852-Type Sanitary①



JIS(A)/ ISO 2852-Type Sanitary Size	Nominal Hose Size Designator	End Connection Designator		Dimensions, in. (mm)				Pressure Rating psig (bar)
		Standard Surface	Electro-polished	A Max	Minimum Inside Diameter	B, Flange Outside Diameter	C, Flange Face Inside Diameter	
8A	6	JS8	JE8	2.16 (54.9)	0.26 (6.6)	1.34 (34.0)	0.41 (10.4)	500 (34.4)
10A	8	JS10	JE10	2.34 (59.4)	0.34 (8.6)		0.55 (14.0)	
15A	12	JS15	JE15	2.88 (73.2)	0.54 (13.7)		0.69 (17.5)	

① 316L SS material with an I.D. of 15 µin. (0.38 µm) R_a max surface finish applies prior to crimp.

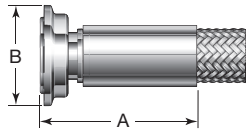
ISO-KF Vacuum Flange



ISO-KF Vacuum Flange Size mm	Nominal Hose Size Designator	End Connection Designator	Dimensions, mm (in.)					Pressure Rating bar (psig)
			A Max	Minimum Inside Diameter	B, Flange Outside Diameter	Maximum Outside Dimension	C, Flange Face Inside Diameter	
16	12	KF16	71.1 (2.80)	13.7 (0.54)	30.0 (1.18)	34.3 (1.35)	17.3 (0.68)	10.0 (145)
25	16	KF25	68.6 (2.70)	19.8 (0.78)	40.0 (1.57)	44.5 (1.75)	26.4 (1.04)	
40	24	KF40	82.6 (3.25)	31.4 (1.24)	55.0 (2.16)	55.9 (2.20)	41.4 (1.63)	
50	32	KF50	106 (4.16)	42.6 (1.68)	75.0 (2.95)	75.2 (2.96)	52.6 (2.07)	

End Connections for B, X, S, C, J, N, W, F and U Series Hose

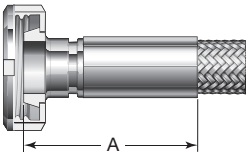
Sanitary DIN 11864-3 Series A, Form A, Clamp Ferrule with Groove①



① 316L SS material with an I.D. of 15 µin. (0.38 µm) R_a max surface finish applies prior to crimp.

Sanitary DIN 11864-3 Series A, Form A, Clamp Ferrule with Groove, Size mm	Nominal Hose Size Designator	End Connection Designator	Dimensions, mm (in.)			Pressure Rating bar (psig)
			A Max	Minimum Inside Diameter	B, Flange Outside Diameter	
10	6	DB10	51.8 (2.04)	6.6 (0.26)	34.0 (1.34)	40.0 (580)
15	8	DB15	56.9 (2.24)	8.6 (0.34)	34.0 (1.34)	
	12	DB15	70.4 (2.77)	13.7 (0.54)	34.0 (1.34)	
20	12	DB20	60.5 (2.38)	13.7 (0.54)	50.3 (1.98)	
25	16	DB25	67.3 (2.65)	19.8 (0.78)	50.3 (1.98)	
40	24	DB40	83.6 (3.29)	31.4 (1.24)	64.0 (2.52)	24.8 (360)
50	32	DB50	101 (3.97)	42.6 (1.68)	77.5 (3.05)	

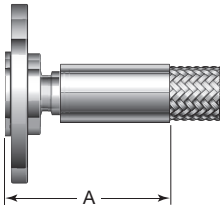
Female DIN 11851 with Nut①



① 316L SS material with an I.D. of 15 µin. (0.38 µm) R_a max surface finish applies prior to crimp.

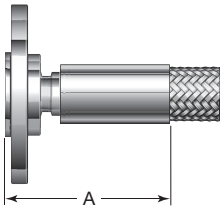
Female DIN 11851 with Nut Size mm	Nominal Hose Size Designator	End Connection Designator	Dimensions, mm (in.)			Pressure Rating bar (psig)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
15	8	DF15	57.4 (2.26)	8.6 (0.34)	44.2 (1.74)	40.0 (580)
20	12	DF20	73.7 (2.90)	13.7 (0.54)	54.4 (2.14)	
25	16	DF25	70.6 (2.78)	19.8 (0.78)	63.2 (2.49)	
40	24	DF40	87.6 (3.45)	31.4 (1.24)	78.2 (3.08)	
50	32	DF50	106 (4.19)	42.6 (1.68)	92.2 (3.63)	24.8 (360)

ASME Class 150 Lap Joint Flange



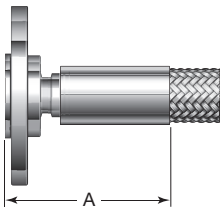
ASME Class 150 Lap Joint Flange Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1/2	8	GA8	2.75 (69.9)	0.34 (8.6)	3.56 (90.4)	275 (18.9)
3/4	12	GA12	3.41 (86.6)	0.54 (13.7)	3.91 (99.3)	
1	16	GA16	3.38 (85.9)	0.78 (19.8)	4.28 (109)	
1 1/2	24	GA24	4.09 (104)	1.24 (31.4)	5.03 (128)	
2	32	GA32	5.06 (129)	1.68 (42.6)	6.03 (153)	

JIS 10K Lap Joint Flange



JIS 10K Lap Joint Flange Size mm	Nominal Hose Size Designator	End Connection Designator	Dimensions, mm (in.)			Pressure Rating bar (psig)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
15	8	HA15	69.9 (2.75)	8.6 (0.34)	95.3 (3.75)	9.7 (142)
20	12	HA20	86.6 (3.41)	13.7 (0.54)	100 (3.95)	
25	16	HA25	85.9 (3.38)	19.8 (0.78)	125 (4.93)	
40	24	HA40	104 (4.09)	31.4 (1.24)	140 (5.52)	
50	32	HA50	123 (4.86)	42.6 (1.68)	155 (6.11)	

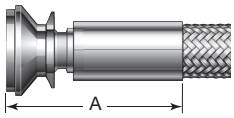
DIN PN10 Lap Joint Flange



DIN PN10 Lap Joint Flange Size mm	Nominal Hose Size Designator	End Connection Designator	Dimensions, mm (in.)			Pressure Rating bar (psig)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
15	8	FA15	69.9 (2.75)	8.6 (0.34)	95.3 (3.75)	10.0 (145)
20	12	FA20	86.6 (3.41)	13.7 (0.54)	105 (4.14)	
25	16	FA25	88.9 (3.50)	19.8 (0.78)	115 (4.54)	
40	24	FA40	121 (4.76)	31.4 (1.24)	150 (5.92)	
50	32	FA50	123 (4.86)	42.6 (1.68)	165 (6.51)	

End Connections for B, X, S, C, J, N, W, F and U Series Hose

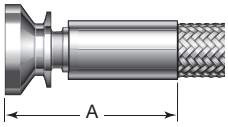
Sanitary I-Line Male①



① 316L SS material with an I.D. of 15 µin. (0.38 µm) R_a max surface finish applies prior to crimp.

Sanitary I-Line Male Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1	16	MD16	2.99 (75.9)	0.78 (19.8)	2.01 (51.1)	1220 (84.0)
1 1/2	24	MD24	3.70 (94.0)	1.24 (31.4)	2.20 (55.9)	1220 (84.0)
2	32	MD32	4.45 (113)	1.68 (42.6)	2.74 (69.6)	900 (62.0)

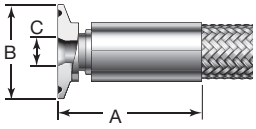
Sanitary I-Line Female①



① 316L SS material with an I.D. of 15 µin. (0.38 µm) R_a max surface finish applies prior to crimp.

Sanitary I-Line Female Size in.	Nominal Hose Size Designator	End Connection Designator	Dimensions, in. (mm)			Pressure Rating psig (bar)
			A Max	Minimum Inside Diameter	Maximum Outside Dimension	
1	16	FD16	2.98 (75.7)	0.78 (19.8)	2.01 (51.1)	1220 (84.0)
1 1/2	24	FD24	3.69 (93.7)	1.24 (31.4)	2.20 (55.9)	1220 (84.0)
2	32	FD32	4.44 (113)	1.68 (42.6)	2.74 (69.6)	900 (62.0)

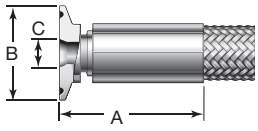
Sanitary (DIN 32676)①



① 316L SS material with an I.D. of 15 µin. (0.38 µm) R_a max surface finish applies prior to crimp.

Sanitary (DIN 32676) Size mm	Nominal Hose Size Designator	End Connection Designator	Dimensions, mm (in.)				Pressure Rating bar (psig)
			A Max	Minimum Inside Diameter	B, Flange Outside Diameter	C, Flange Face Inside Diameter	
10	4	DA10	46.0 (1.81)	4.0 (0.16)	34.0 (1.34)	10.2 (0.40)	15.8 (230)
	6	DA10	56.1 (2.21)	6.6 (0.26)	34.0 (1.34)		
	8	DA10	56.6 (2.23)	8.6 (0.34)	34.0 (1.34)		
15	8	DA15	58.9 (2.32)	8.6 (0.34)	34.0 (1.34)	16.1 (0.63)	
	12	DA15	72.6 (2.86)	13.7 (0.54)	34.0 (1.34)		
20	12	DA20	72.6 (2.86)	13.7 (0.54)	34.0 (1.34)	20.1 (0.79)	
25	16	DA25	72.6 (2.86)	19.8 (0.78)	50.5 (1.99)	26.1 (1.03)	
32	16	DA32	72.6 (2.86)	19.8 (0.78)	50.5 (1.99)	32.1 (1.26)	
40	24	DA40	84.6 (3.33)	31.4 (1.24)	50.5 (1.99)	38.1 (1.50)	
50	32	DA50	113 (4.44)	42.6 (1.68)	64.0 (2.52)	50.1 (1.97)	

Sanitary (ISO 2852)①



① 316L SS material with an I.D. of 15 µin. (0.38 µm) R_a max surface finish applies prior to crimp.

Sanitary (ISO 2852) Size mm	Nominal Hose Size Designator	End Connection Designator	Dimensions, mm (in.)				Pressure Rating bar (psig)
			A Max	Minimum Inside Diameter	B, Flange Outside Diameter	C, Flange Face Inside Diameter	
12	8	ES12	58.4 (2.30)	8.6 (0.34)	34.0 (1.34)	9.9 (0.39)	103 (1500)
13	6	ES13	54.1 (2.13)	6.6 (0.26)	34.0 (1.34)	10.3 (0.41)	
20	12	ES20	72.6 (2.86)	13.7 (0.54)	34.0 (1.34)	19.3 (0.76)	
26	12	ES26	73.9 (2.91)	13.7 (0.54)	50.5 (1.99)	23.7 (0.93)	
25	16	ES25	72.4 (2.85)	19.8 (0.78)	50.5 (1.99)	22.6 (0.89)	34.4 (500)
40	24	ES40	88.9 (3.50)	31.4 (1.24)	64.0 (2.52)	37.6 (1.48)	34.4 (500)
50	32	ES50	106 (4.16)	42.6 (1.68)	64.0 (2.52)	48.5 (1.91)	31.0 (450)