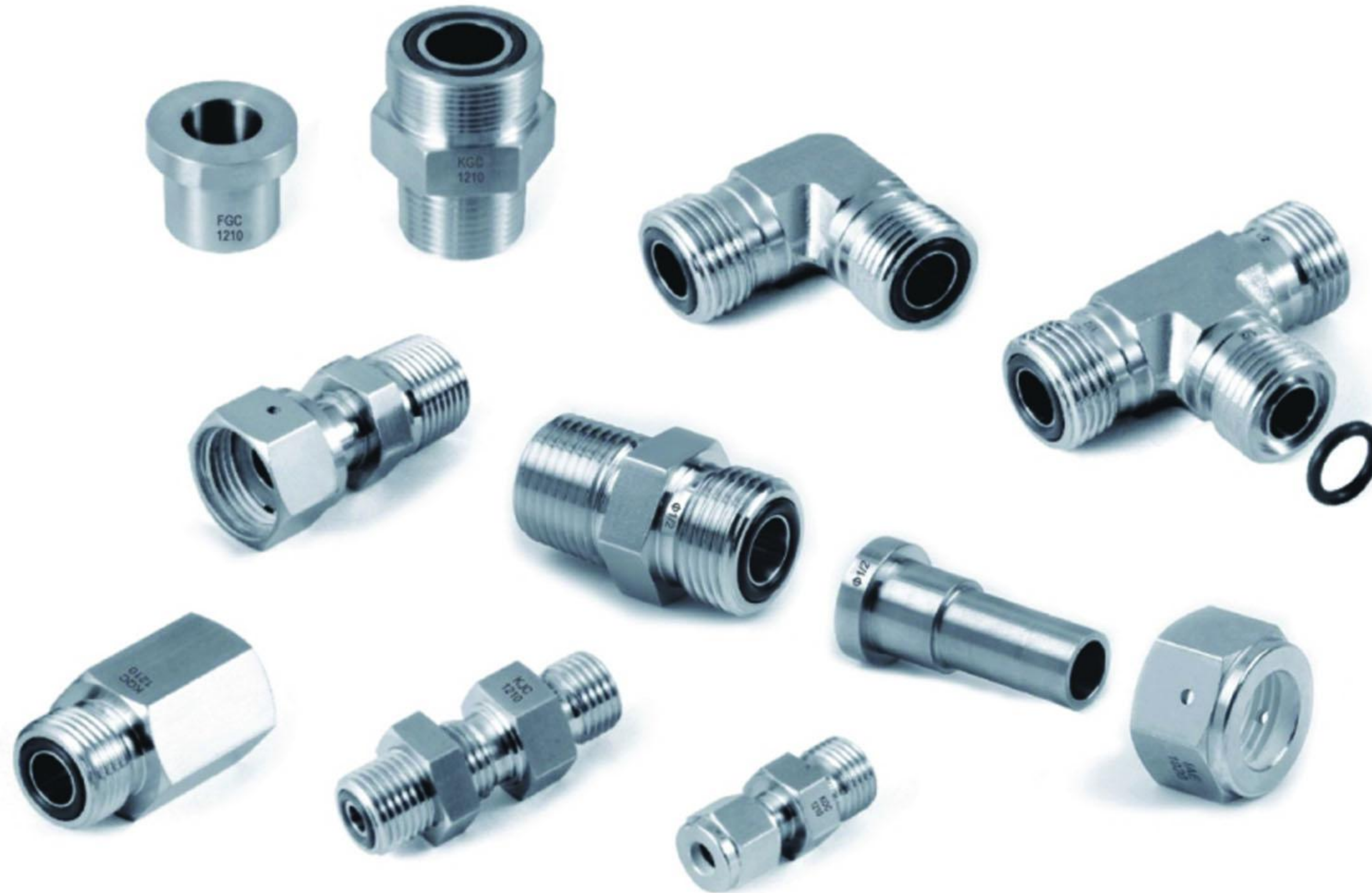


C-LOK

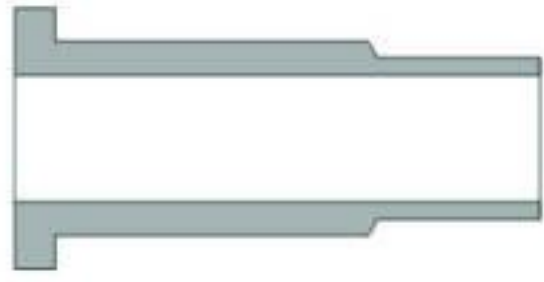
C-LOK Instrument Valve Co.,Ltd.

O-ring Face Seal Fittings

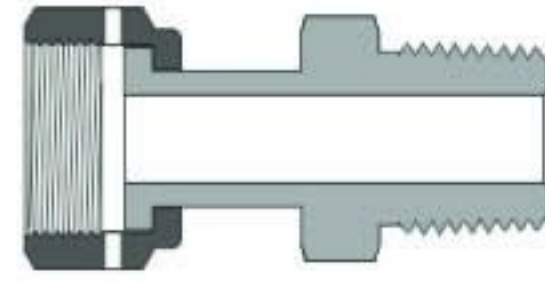


Contents

03 Glands



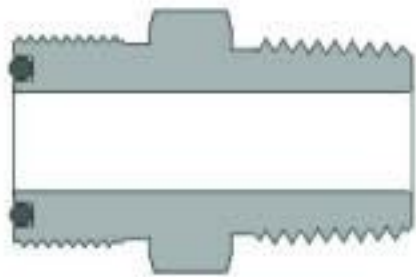
03 Welded Glands



05 Nuts



06 Bodies



08 O-rings



Features

- 316, 316L stainless steel materials are available.
- O-ring seal provides perfect leak-tight service from critical vacuum to high pressure.
- FO female threads are silver plated.
- Every gland and body are stamped with size, material and heat code.
- Provide easy installation and maintenance.

Technical Data

- Size range from 1/8" to 1".
- Thread Specifications:

Thread Type	Specification
NPT	ASME B1.20.1, SAE AS71051
Unified(SAE)	ASME B1.1, SAE J475

- Working Pressure:
Working Pressure is calculated in accordance with ANSI/ASME B31.3. To determine working pressure in accordance with ANSI/ASME B31.1, multiply values by 0.94.

- Working Temperature:
Temperature ranges for FO fittings are governed by the O-ring materials used.

Material	Designator	Working Temperature
Fluorocarbon FKM (70 durometer)	VI7	-10°F to 400°F (-23°C to 204°C)
Fluorocarbon FKM (90 durometer)	VI9	-10°F to 400°F (-23°C to 204°C)
PTFE	T	-50°F to 450°F (-45°C to 232°C)
Buna N (70 durometer)	BN7	-10°F to 250°F (-23°C to 121°C)
Perfluoroelastomer	Z	-10°F to 550°F (-23°C to 287°C)
Ethylene propylene	E	-50°F to 300°F (-45°C to 148°C)

The fluorocarbon FKM of 90 durometer is for SAE/MS threads.

Standard Materials

Material	Bar Stock	Forging	Designator
316 stainless steel	ASTM A276, ASME SA479	ASTM A182, ASME SA182	SS
316L stainless steel			6L

Materials traceable, certification available upon request

O-ring Face Seal Fittings

Testing

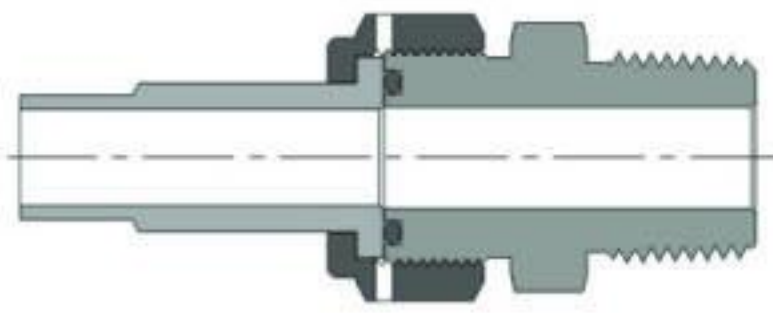
FO fitting is tested with helium to a maximum leak rate of 4×10^{-9} std cm³/s.

Ordering Information

- Each component must be ordered separately.
- The FO body is supplied with 70 durometer fluorocarbon FKM O-ring.
- The ordering number listed in the following page is for 316 SS material fittings, to order 316L SS material fittings, use 6L to replace SS.

Installation Instructions

1. Assembled the gland, nut, O-ring and body as below, finger tighten the nut.



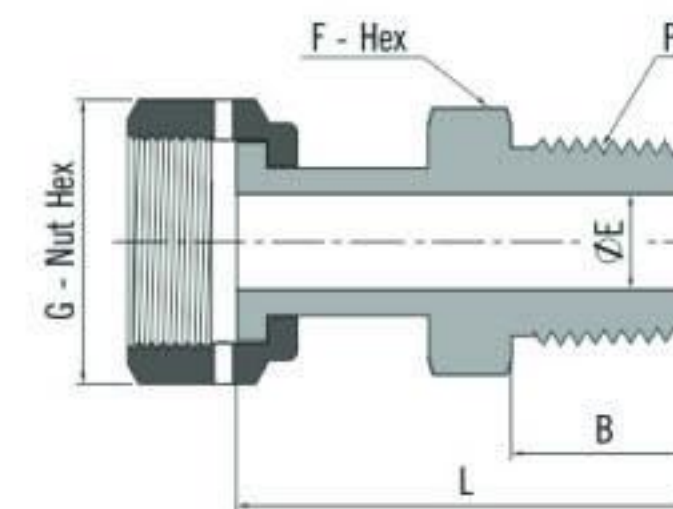
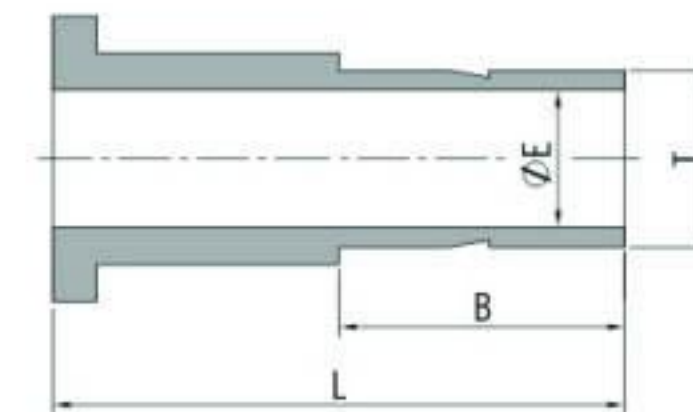
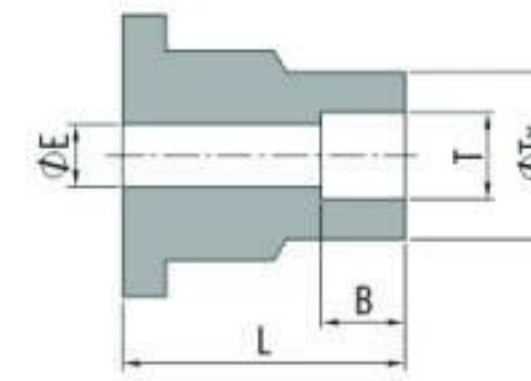
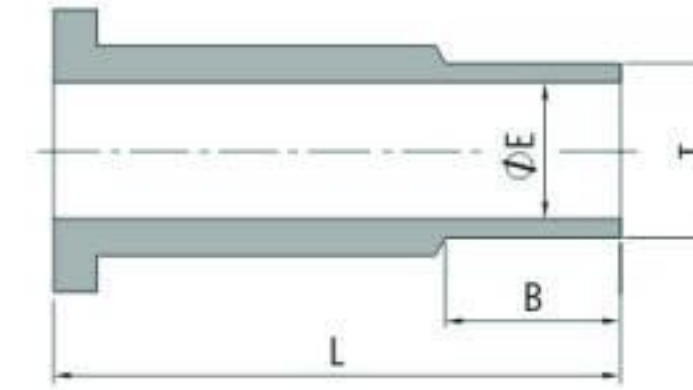
2. Tighten the nut 1/8-1/4 turn with wrench while holding the body of the fitting steadily, until a sharp rise in torque.

Cautions:

- For the best sealing result, the O-ring should be replaced each time the groove housing is dismantled.
- When welding is applied to the body, the O-ring should be removed to prevent possible damage.
- Tungsten Inert Gas Welding (TIG) is recommended.
- Do not loosen or tighten fittings when system is pressurized.

O-ring Face Seal Fittings

Glands



FO Gland to Tube Butt Weld

FO Size (in.)	T-Tube O.D. (in.)	Ordering Number	Dimension, mm			Working Pressure psig (bar)
			L	B	E	
1/4	1/8	SS-G-F04-BW2	19.6	7.1	1.5	11200 (771)
1/4	1/4	SS-G-F04-BW4	28.4	10.4	3.0	11200 (771)
1/2	1/4	SS-G-F08-BW4	23.1	10.4	3.0	11200 (771)
1/2	3/8	SS-G-F08-BW6	21.3	10.4	5.8	8200 (564)
1/2	1/2	SS-G-F08-BW8	26.9	12.7	8.4	7500 (516)

FO Gland to Tube Socket Weld

FO Size (in.)	T-Tube O.D. (in.)	Ordering Number	Dimension, mm				Working Pressure psig (bar)
			L	B	E	Tx	
1/8	1/8	SS-G-F02-SW2	19.6	2.5	2.3	9.7	15400 (1061)
1/4	1/8	SS-G-F04-SW2	19.6	2.5	2.3	7.4	12600 (868)
1/4	1/4	SS-G-F04-SW4	19.6	7.1	4.6	9.7	6800 (468)
3/8	3/8	SS-G-F06-SW6	20.6	7.9	7.1	15.2	8100 (558)
1/2	1/4	SS-G-F08-SW4	20.6	7.1	4.6	12.2	10700 (737)
1/2	1/2	SS-G-F08-SW8	20.6	9.7	10.2	15.2	3000 (206)
3/4	3/4	SS-G-F012-SW12	23.9	11.2	15.7	23.4	3700 (255)
1	1	SS-G-F016-SW16	24.9	15.7	22.1	30.2	3000 (206)

FO Gland to Tube Port

FO Size (in.)	T-Tube O.D. (in.)	Ordering Number	Dimension, mm			Working Pressure psig (bar)
			L	B	E	
1/4	1/4	SS-G-F04-FT4	33.3	16.3	4.6	10200 (702)
1/2	3/8	SS-G-F08-FT6	35.1	17.8	6.8	6500 (447)
1/2	1/2	SS-G-F08-FT8	41.1	24.4	9.3	6700 (461)
3/4	3/4	SS-G-F012-FT12	45.7	25.9	14.7	5800 (399)
1	1	SS-G-F016-FT16	52.1	33	20.3	4700 (323)

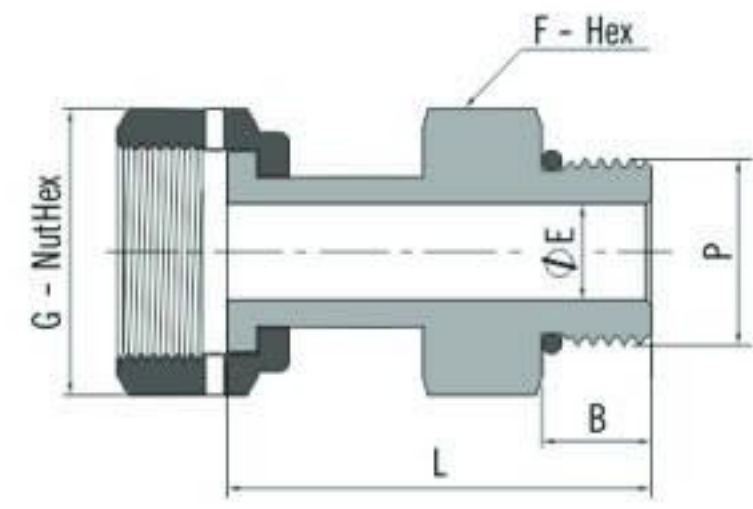
Welded Glands

FO Welded Gland to Male NPT

FO Size (in.)	P-NPT Size	Ordering Number	Dimension, mm					Working Pressure psig (bar)
			L	B	E	G	F	
1/4	1/4	SS-WG-F04-NT4	40.4	14.2	4.6	17.5	15.9	9800 (675)
1/2	3/8	SS-WG-F08-NT6	42.4	14.2	10.2	25.4	23.8	5600 (385)
1/2	1/2	SS-WG-F08-NT8	47.5	19.1	10.2	25.4	23.8	5600 (385)
3/4	3/4	SS-WG-F012-NT12	51.6	19.1	15.7	38.1	33.8	3900 (268)
1	1	SS-WG-F016-NT16	59.9	23.9	22.1	44.5	41.3	2900 (199)

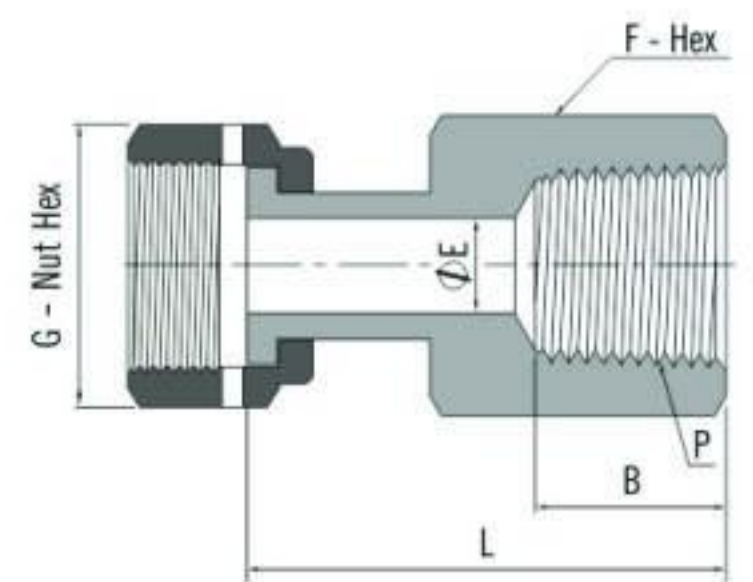
Dimensions are for reference only and are subject to change.

Welded Glands



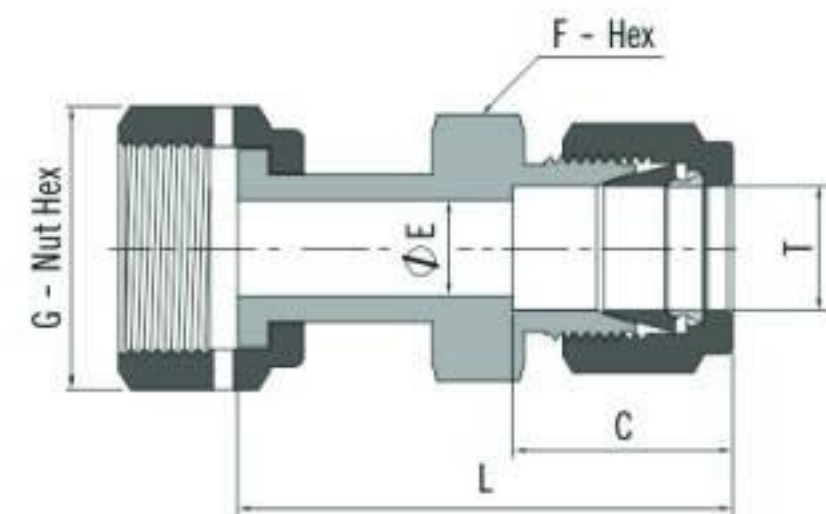
FO Welded Gland to SAE/MS Thread

FO Size (in.)	P-SAE/MS Thread Size	Ordering Number	Dimension, mm					Working Pressure psig (bar)
			L	B	E	G	F	
1/4	7/16-20	SS-WG-F04-ST7	39.1	9.1	4.6	17.5	14.3	4500 (310)
1/2	9/16-18	SS-WG-F08-ST9	41.7	9.9	10.2	25.4	17.5	4500 (310)
1/2	3/4-16	SS-WG-F08-ST12	43.4	11.2	10.2	25.4	22.2	4500 (310)
3/4	1 1/16-12	SS-WG-F012-ST17	52.6	15.1	15.7	38.1	31.8	3600 (248)
1	1 5/16-12	SS-WG-F016-ST21	55.1	15.0	22.1	44.5	38.1	2900 (199)



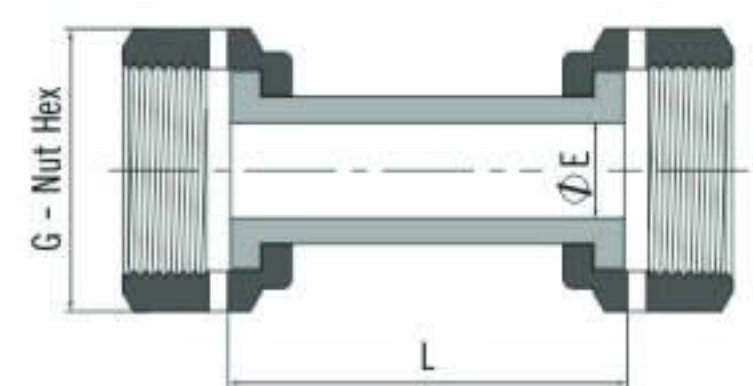
FO Welded Gland to Female NPT

FO Size (in.)	P-NPT Size	Ordering Number	Dimension, mm					Working Pressure psig (bar)
			L	B	E	G	F	
1/4	1/4	SS-WG-F04-F4	39.9	15.0	4.6	17.5	19.1	6600 (454)
1/2	3/8	SS-WG-F08-F6	43.9	15.0	10.2	25.4	22.2	5300 (365)
1/2	1/2	SS-WG-F08-F8	49.8	19.8	10.2	25.4	27.0	4900 (337)
3/4	3/4	SS-WG-F012-F12	53.8	20.6	15.7	38.1	33.3	4000 (275)
1	1	SS-WG-F016-F16	58.2	25.4	22.1	44.5	41.3	3000 (206)



FO Welded Gland to Tube Fitting

FO Size (in.)	T-Tube O.D. (in.)	Ordering Number	Dimension, mm					Working Pressure psig (bar)
			L	B	E	G	F	
1/4	1/4	SS-WG-F04-S4	44.2	15.2	4.6	17.5	12.7	10200 (702)
1/2	3/8	SS-WG-F08-S6	47.5	16.8	7.1	25.4	15.9	5800 (399)
1/2	1/2	SS-WG-F08-S8	51.1	22.9	10.2	25.4	20.6	5800 (399)
3/4	3/4	SS-WG-F012-S12	54.4	24.4	15.7	38.1	27.0	4000 (275)
1	1	SS-WG-F016-S16	62.2	31.2	22.1	44.5	34.9	3000 (206)



FO Welded Gland Union

FO Size (in.)	Ordering Number	Dimension, mm			Working Pressure psig (bar)
		L	B	E	
1/4	SS-WG-F04	36.1	4.6	17.5	10200 (702)
1/2	SS-WG-F08	40.9	10.2	25.4	5800 (399)

Nuts



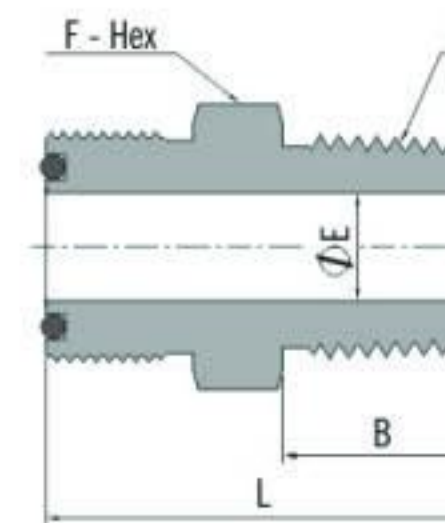
Female

FO Size (in.)	Ordering Number	Dimension, mm	
		L	G
1/8-1/4	SS-N-F04	16.8	17.5
3/8-1/2	SS-N-F08	17.5	25.4
3/4	SS-N-F012	20.6	38.1
1	SS-N-F016	20.6	44.5

Blind

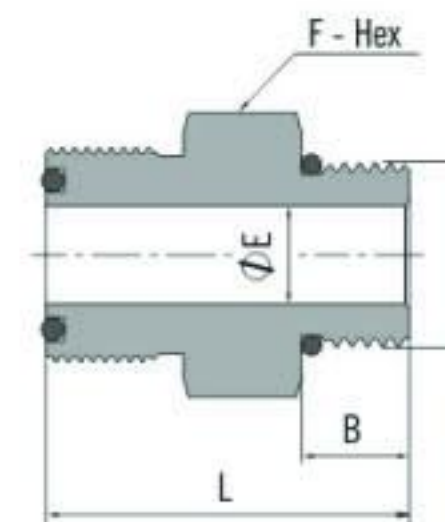
FO Size (in.)	Ordering Number	Dimension, mm	
		L	G
1/8-1/4	SS-N-F04-B	11.2	17.5
3/8-1/2	SS-N-F08-B	14.2	25.4
3/4	SS-N-F012-B	19.1	38.1
1	SS-N-F016-B	20.6	44.5

Bodies



FO Body to Male NPT

FO Size (in.)	P-NPT Size	Ordering Number	Dimension, mm				Working Pressure psig (bar)
			L	F	B	E	
1/4	1/8	SS-CM-F04-NT2	29.5	15.9	9.7	4.6	10000 (689)
1/4	1/4	SS-CM-F04-NT4	34.0	15.9	14.2	4.6	13400 (923)
1/2	3/8	SS-CM-F08-NT6	37.1	23.8	14.2	9.7	7800 (537)
1/2	1/2	SS-CM-F08-NT8	41.9	23.8	19.1	10.2	10000 (689)
3/4	3/4	SS-CM-F012-NT12	44.5	33.3	19.1	15.7	7300 (502)
1	1	SS-CM-F016-NT16	50.0	41.3	23.9	22.1	5300 (365)

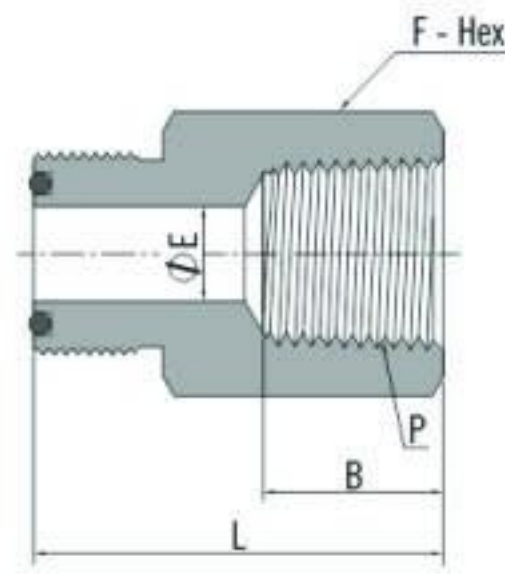


FO Body to SAE/MS Thread

FO Size (in.)	P-SAE/MS Thread Size	Ordering Number	Dimension, mm				Working Pressure psig (bar)
			L	F	B	E	
1/4	7/16-20	SS-CM-F04-ST7	31.5	17.5	9.1	4.6	4500 (310)
1/4	9/16-18	SS-CM-F04-ST9	29.7	17.5	9.9	4.6	4500 (310)
1/2	7/16-20	SS-CM-F08-ST7	34.5	13.8	9.1	4.6	4500 (310)
1/2	9/16-18	SS-CM-F08-ST9	35.3	13.8	9.9	7.6	4500 (310)
1/2	3/4-16	SS-CM-F08-ST12	37.3	25.4	11.2	10.2	4500 (310)
3/4	1 1/16-12	SS-CM-F012-ST17	43.9	34.9	15.0	15.7	3600 (248)
1	1 5/16-12	SS-CM-F016-ST21	45.5	41.3	15.0	21.6	2900 (199)

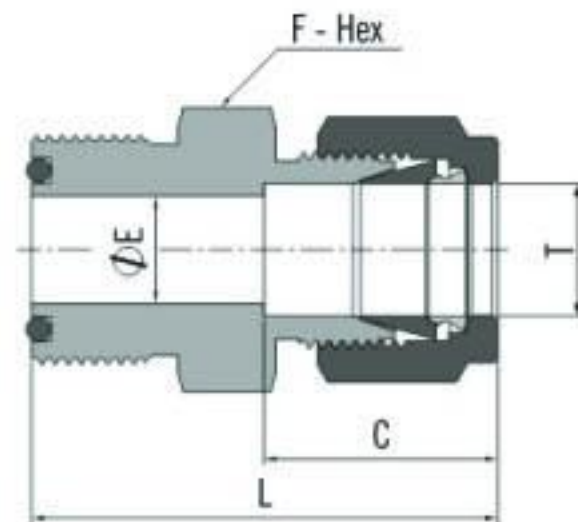
O-ring Face Seal Fittings

Bodies



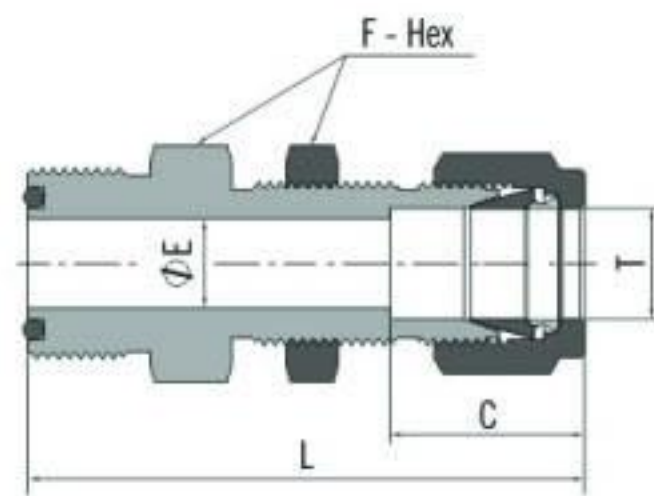
FO Body to Female NPT

FO Size (in.)	P-NPT Size	Ordering Number	Dimension, mm				Working Pressure psig (bar)
			L	F	B	E	
1/4	1/8	SS-CF-F04-NT2	31.8	15.9	10.4	4.6	8400 (578)
1/4	1/4	SS-CF-F04-NT4	35.3	19.1	15.0	4.6	6600 (454)
1/2	3/8	SS-CF-F08-NT6	39.9	23.8	15.0	10.2	6600 (454)
1/2	1/2	SS-CF-F08-NT8	45.0	27.0	19.8	10.2	4900 (337)
3/4	3/4	SS-CF-F012-NT12	49.0	33.3	20.6	15.7	4600 (316)
1	1	SS-CF-F016-NT16	51.3	41.3	25.4	22.1	4400 (303)



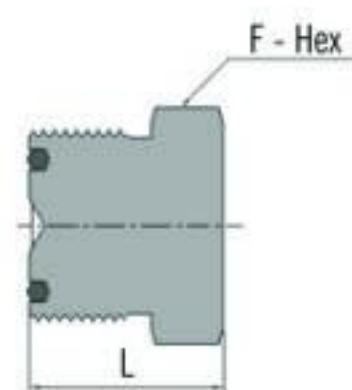
FO Body to Tube Fitting

FO Size (in.)	T-Tube O.D. (in.)	Ordering Number	Dimension, mm				Working Pressure psig (bar)
			L	F	C	E	
1/4	1/8	SS-U-F04-S2	35.1	15.9	13.0	2.3	10900 (751)
1/4	1/4	SS-U-F04-S4	37.3	15.9	15.2	4.6	10200 (702)
1/2	3/8	SS-U-F08-S6	41.9	23.8	16.8	7.1	6500 (447)
1/2	1/2	SS-U-F08-S8	45.2	23.8	22.9	10.2	6700 (461)
3/4	3/4	SS-U-F012-S12	47.2	33.3	24.4	15.7	5800 (399)
1	1	SS-U-F016-S16	52.3	41.3	31.2	22.1	4700 (323)



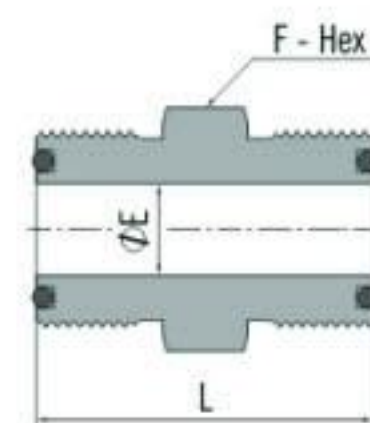
FO Body to Bulkhead Tube Fitting

FO Size (in.)	T-Tube O.D. (in.)	Ordering Number	Dimension, mm				Panel Hole Drill Size (mm)	Max. Panel Thickness (mm)	Working Pressure psig (bar)
			L	F	C	E			
1/4	1/4	SS-UB-F04-S4	53.4	15.9	15.2	4.6	11.5	10200 (702)	
1/2	3/8	SS-UB-F08-S6	59.4	23.8	16.8	7.1	14.7	6500 (447)	
1/2	1/2	SS-UB-F08-S8	64.8	23.8	22.9	10.2	19.4	6700 (461)	
3/4	3/4	SS-UB-F012-S12	72.6	33.3	24.4	15.7	25.8	5800 (399)	
1	1	SS-UB-F016-S16	83.6	41.3	31.2	22.1	33.7	4700 (323)	



Blind Body

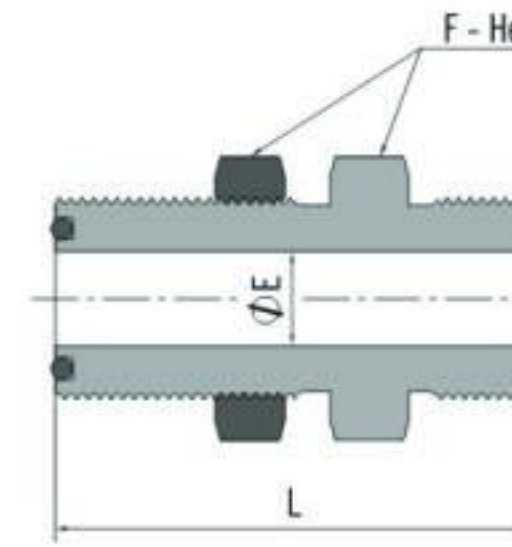
FO Size (in.)	Ordering Number	Dimension, mm	
		L	F
1/4	SS-BY-F04	19.6	15.9
1/2	SS-BY-F08	22.6	23.8
3/4	SS-BY-F012	25.1	33.3
1	SS-BY-F016	25.9	41.3



Union Body

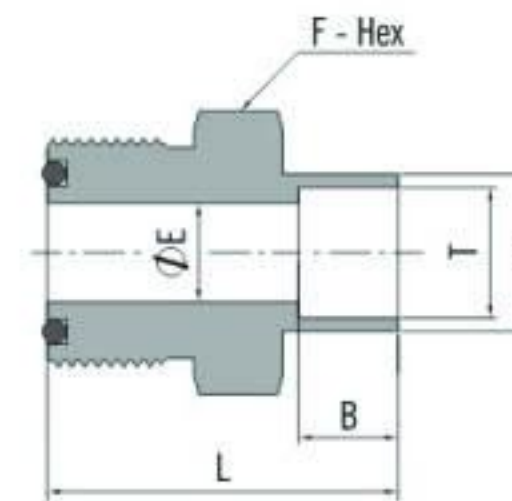
FO Size (in.)	FO Size (in.)	Ordering Number	Dimension, mm			Working Pressure psig (bar)
			L	F	E	
1/4	1/4	SS-U-F04	31.8	15.9	4.6	14300 (985)
1/2	1/4	SS-U-F08-F04	36.3	23.8	4.6	11100 (764)
1/2	1/2	SS-U-F08	38.1	23.8	10.2	11100 (764)

Bodies



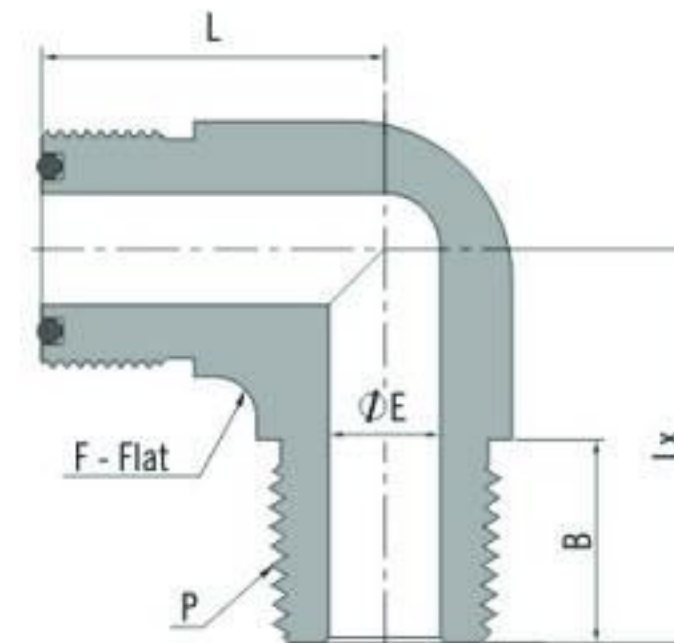
Bulkhead Union Body

FO Size (in.)	Ordering Number	Dimension, mm			Panel Hole Drill Size (mm)	Max. Panel Thickness (mm)	Working Pressure psig (bar)
		L	F	E			
1/4	SS-BU-F04	47.8	19.1	4.6	14.7	9.1	14300 (985)
1/2	SS-BU-F08	53.1	27.0	10.2	22.6	10.2	11100 (764)



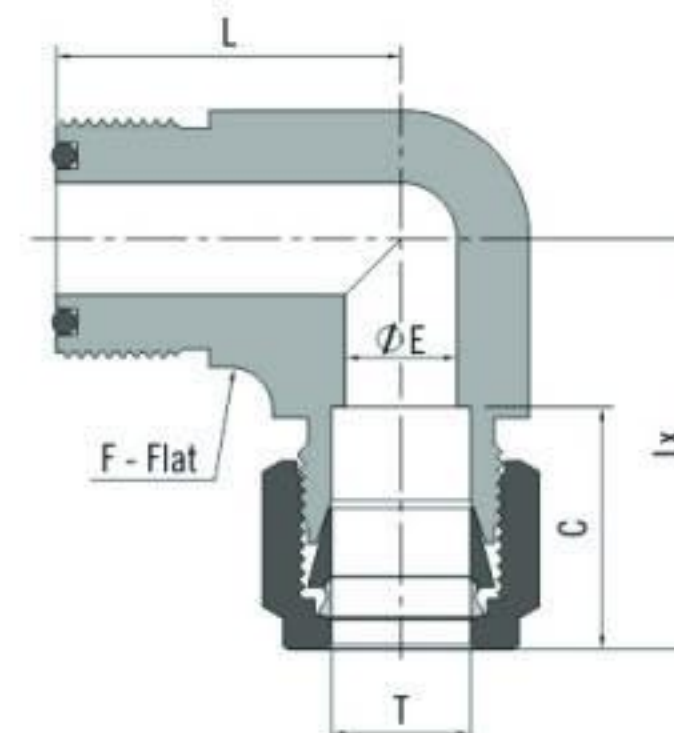
FO Body to Tube Socket Weld

FO Size (in.)	T-Tube O.D. (in.)	Ordering Number	Dimension, mm					Working Pressure psig (bar)
			L	F	E	B	Tx	
1/8	1/8	SS-CW-F02-SW2	22.4	15.9	2.3	2.5	7.4	12600 (868)
1/4	1/4	SS-CW-F04-SW4	27.7	15.9	4.6	7.1	9.7	6800 (468)
3/8	3/8	SS-CW-F06-SW6	32.5	23.8	7.1	7.9	15.2	8100 (558)
1/2	1/2	SS-CW-F08-SW8	34.0	23.8	10.2	9.7	18.5	3000 (206)
3/4	3/4	SS-CW-F012-SW12	38.1	33.3	15.7	11.2	23.4	3700 (254)
1	1	SS-CW-F016-SW16	43.7	41.3	22.1	15.7	30.2	3000 (206)



FO Body to Male NPT Elbow

FO Size (in.)	P-NPT Size	Ordering Number	Dimension, mm					Working Pressure psig (bar)
			L	F	B	E	Tx	
1/4	1/8	SS-LM-F04-NT2	24.4	12.7	9.7	4.6	22.1	10000 (689)
1/4	1/4	SS-LM-F04-NT4	24.4	12.7	14.2	4.6	26.7	8000 (551)
1/2	3/8	SS-LM-F08-NT6	32.0	20.6	14.2	9.7	32.0	7800 (537)
1/2	1/2	SS-LM-F08-NT8	32.0	20.6	19.1	10.2	36.8	7700 (530)
3/4	3/4	SS-LM-F012-NT12	37.6	31.8	19.1	15.7	42.4	7300 (502)
1	1	SS-LM-F016-NT16	39.6	42.9	23.9	22.0	49.32	5300 (365)

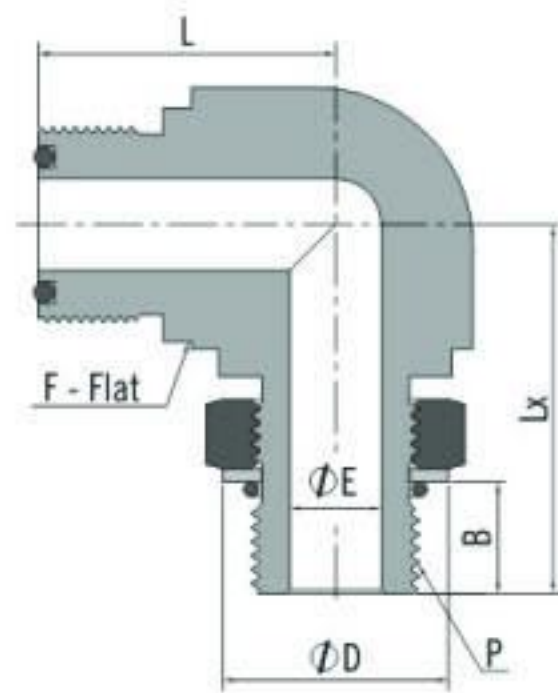


FO Body to Tube Fitting Elbow

FO Size (in.)	T-Tube O.D. (in.)	Ordering Number	Dimension, mm					Working Pressure psig (bar)
			L	F	C	E	Tx	
1/4	1/4	SS-LU-F04-S4	24.4	12.7	15.2	4.6	30.2	10200 (702)
1/2	3/8	SS-LU-F08-S6	32.0	20.6	16.8	7.1	35.3	6500 (447)
1/2	1/2	SS-LU-F08-S8	32.0	20.6	22.9	10.2	38.1	6700 (461)
3/4	3/4	SS-LU-F012-S12	37.6	31.8	24.4	15.7	45.7	5800 (399)
1	1	SS-LU-F016-S16	39.6	42.9	31.2	22.1	51.8	4700 (323)

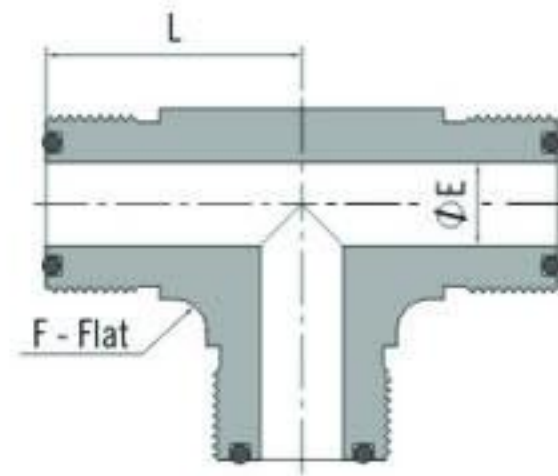
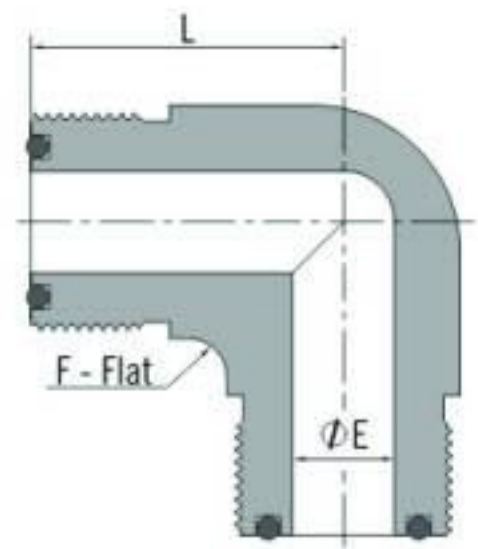
O-ring Face Seal Fittings

Bodies



FO Body to Male SAE/MS Thread Adjustable Elbow

FO Size (in.)	P-SAE/MS Thread Size	Ordering Number	Dimension, mm						Working Pressure psig (bar)
			L	F	B	E	D	Lx	
1/4	7/16-20	SS-LP-F04-ST7	24.4	12.7	9.9	4.6	16.5	30.2	4500 (310)
1/2	9/16-18	SS-LP-F08-ST9	33.8	20.6	11.2	7.6	20.1	39.1	3600 (248)
1/2	3/4-16	SS-LP-F08-ST12	33.8	20.6	12.7	10.2	25.7	41.9	3600 (248)
3/4	1 1/16-12	SS-LP-F012-ST17	38.9	31.8	16.8	15.7	36.6	54.1	2900 (199)
1	1 5/16-12	SS-LP-F016-ST21	43.7	42.9	16.8	22.1	43.9	58.7	2300 (158)



FO Body Union Elbow

FO Size (in.)	Ordering Number	Dimension, mm			Working Pressure psig (bar)
		L	F	E	
1/4	SS-LU-F04	24.4	12.7	4.6	14300 (985)
1/2	SS-LU-F08	32.0	20.6	10.2	11100 (764)
3/4	SS-LU-F012	37.6	31.8	15.7	10900 (751)
1	SS-LU-F016	39.6	42.9	22.1	8800 (606)

FO Body Union Tee

FO Size (in.)	Ordering Number	Dimension, mm			Working Pressure psig (bar)
		L	F	E	
1/4	SS-TTT-F04	24.4	12.7	4.6	14300 (985)
1/2	SS-TTT-F08	32.0	20.6	10.2	11100 (764)
3/4	SS-TTT-F012	37.6	31.8	15.7	10900 (751)
1	SS-TTT-F016	39.6	42.9	22.1	8800 (606)

O-Rings



FO Size (in.)	Basic Ordering Number
1/8-1/4	-F06
3/8-1/2	-F12
3/4	-F19
1	-F25

Add the O-ring material designator as a prefix to the basic ordering number to get the complete ordering number. Example: VI7-010.