

# O-Ring Face Seal Fittings

## FO Series

Fittings

Valves

Regulators

Filters

Tubing

Integrated Systems

Other Products

Technical Information

### Features

- ⦿ O-ring seal to provide perfect leak-tight service for working conditions from critical vacuum to high pressure
- ⦿ Smooth finish on gland face to ensure positive seal
- ⦿ Test ports at nut for easy leak testing
- ⦿ Easy installation and maintenance
- ⦿ Silver-plated female threads
- ⦿ Sizes range from 1/8" to 1"
- ⦿ Every gland and body marked with size, material and heat number



### Technical Data

#### ⦿ Thread Specifications

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

#### ⦿ Materials

Material	Designator
316 SS	SS
316L SS	6L

#### ⦿ Weld End Tube O.D. and Wall Thickness

Fractional		Metric	
Tube O.D. in.	Wall Thickness in.	Tube O.D. mm	Wall Thickness mm
1/8	0.028	6	1.0
1/4	0.035	8	1.0
3/8	0.035	10	1.0
1/2	0.049	12	1.0
3/4	0.049	18	1.5
1	0.065		
1 1/2	0.065		
2	0.065		

For other sizes or wall thicknesses of welded ports, please contact FITOK Group or our authorized distributors.

#### ⦿ Working Pressure

Working pressures shown in the Catalog are calculated according to ASME B31.3 and B31.1 at ambient temperature.

#### ⦿ Working Temperature

Temperature ranges for FO fittings are restricted by the materials of gaskets and O-rings.

Port	Seal Material		Material Designator	Hardness	Overall Designator	Working Temperature
Male SAE/MS	O-ring	Fluorocarbon FKM (90 durometer)	VI	9	VI9	-10 °F to 400 °F (-23 °C to 204 °C)
		Fluorocarbon FKM (70 durometer)	VI	7	VI7	-10 °F to 400 °F (-23 °C to 204 °C)
FO	O-ring	FFKM (70 durometer)	Z	7	Z7	-22 °F to 550 °F (-30 °C to 287 °C)
		Buna N (70 durometer)	BN	7	BN7	-22 °F to 250 °F (-30 °C to 121 °C)
		EPDM (70 durometer)	E	7	E7	-50 °F to 300 °F (-45 °C to 148 °C)
		Gasket	PTFE	T	N/A	T

The Male SAE/MS port uses a fluorocarbon FKM O-ring (90 durometer) by default, with an overall designator of VI9.

For O-ring made from other materials, please contact FITOK.

The FO port uses a Fluorocarbon FKM (70 durometer) O-ring by default, with an overall designator of VI7. Various other materials are available, as shown in the table above. For O-ring in materials not listed, please contact FITOK.

## Process Specification

Item	Process Specification	Standard Cleaning and Packaging Process (FC-01) Special Cleaning and Packaging Process (FC-02)
Material		316 SS, 316L SS
Wetted Surface Roughness		Ra 20 $\mu\text{in.}$ (0.5 $\mu\text{m}$ )
Polishing Process		Machine finished

## Testing

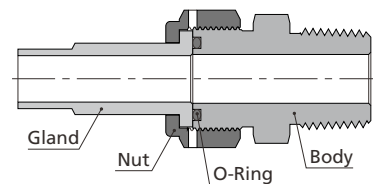
Every FO fitting is helium leak tested to a maximum allowable leak rate of  $4 \times 10^{-9}$  std  $\text{cm}^3/\text{s}$ .

## Ordering Information

- ⦿ Each component can be ordered separately.
- ⦿ Cleaning and Packaging
  - a. Standard Cleaning and Packaging Process (FC-01): No suffix is needed.
  - b. Special Cleaning and Packaging Process (FC-02): Ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C. To order, add "-F2" as a suffix.
- ⦿ Add the fitting body material designator as a prefix and the cleaning and packaging designator as a suffix to the basic ordering number to get the complete ordering number. Example: 6L-CM-FO8-ST7-F2 or SS-CM-FO8-ST7
- ⦿ The FO port uses a Fluorocarbon FKM (70 durometer) O-ring by default. To specify O-rings made from other materials, insert the corresponding material designator for the O-ring or gasket between the model number and the cleaning grade designator. Example: 6L-CM-FO8-ST7-E-F2 or SS-CM-FO8 ST7-T

## Installation Instructions

1. Assemble the gland, nut, O-ring and body as below. Finger tight the nut.
2. Tighten the nut 1/8 - 1/4 turn with a wrench while holding the fitting body steady, until there is a sharp rise in torque.



## Cautions

- ⦿ Dimensions are for reference only and are subject to change.
- ⦿ Check the O-ring every time the fitting is disassembled and replace the O-ring if there is any damage.
- ⦿ Before welding the body, the O-ring should be removed to prevent possible damages.
- ⦿ Tungsten Inert Gas Welding (TIG) is recommended.
- ⦿ Do not loosen or tighten fittings when system is pressurized.

# Glands

Fittings

Valves

Regulators

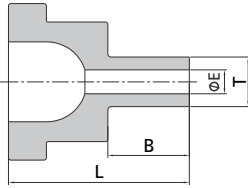
Filters

Tubing

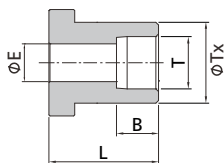
Integrated Systems

Other Products

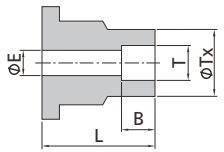
Technical Information



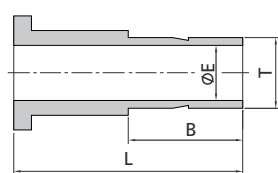
FO Gland to Tube Butt Weld							
FO Size (in.)	T-Tube O.D. (in.)	T-Tube Wall Thickness (in.)	Basic Ordering Number	Dimensions, in. (mm)			Working Pressure psig (bar)
				L	B	E	
1/4	1/8	0.028	-G-FO4-TB2	0.77 (19.6)	0.28 (7.1)	0.07 (1.8)	11200 (771)
1/4	1/4	0.065	-G-FO4-TB4×065	1.12 (28.4)	0.41 (10.4)	0.12 (3.0)	11200 (771)
1/2	1/4	0.065	-G-FO8-TB4×065	0.91 (23.1)	0.41 (10.4)	0.12 (3.0)	11200 (771)
1/2	3/8	0.073	-G-FO8-TB6×073	0.84 (21.3)	0.41 (10.4)	0.23 (5.8)	8200 (564)
1/2	1/2	0.085	-G-FO8-TB8×085	1.06 (26.9)	0.50 (12.7)	0.33 (8.4)	7500 (516)



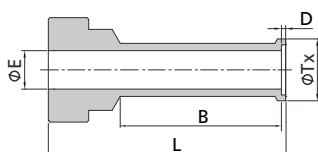
FO Gland to Tube Socket Weld							
FO Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimensions, in. (mm)				Working Pressure psig (bar)
			L	B	E	Tx	
1/8	1/8	-G-FO2-TS2	0.77 (19.6)	0.10 (2.5)	0.09 (2.3)	0.38 (9.7)	15400 (1061)
1/4	1/4	-G-FO4-TS4	0.77 (19.6)	0.28 (7.1)	0.18 (4.6)	0.38 (9.7)	6800 (468)
3/8	3/8	-G-FO6-TS6	0.81 (20.6)	0.31 (7.9)	0.28 (7.1)	0.60 (15.2)	8100 (558)
1/2	1/2	-G-FO8-TS8	0.81 (20.6)	0.38 (9.7)	0.40 (10.2)	0.60 (15.2)	3000 (206)
3/4	3/4	-G-FO12-TS12	0.94 (23.9)	0.44 (11.2)	0.62 (15.7)	0.92 (23.4)	3700 (255)
1	1	-G-FO16-TS16	0.98 (24.9)	0.62 (15.7)	0.87 (22.1)	1.19 (30.2)	3000 (206)



FO Gland to Tube Socket Weld Reducing							
FO Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimensions, in. (mm)				Working Pressure psig (bar)
			L	B	E	Tx	
1/4	1/8	-G-FO4-TS2	0.77 (19.6)	0.10 (2.5)	0.09 (2.3)	0.29 (7.4)	12600 (868)
1/2	1/4	-G-FO8-TS4	0.81 (20.6)	0.28 (7.1)	0.18 (4.6)	0.48 (12.2)	10700 (737)

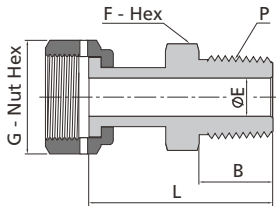


FO Gland to Tube Port							
FO Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimensions, in. (mm)			Working Pressure psig (bar)	
			L	B	E		
1/4	1/4	-G-FO4-FT4	1.31 (33.3)	0.64 (16.3)	0.18 (4.6)	10200 (702)	
1/2	3/8	-G-FO8-FT6	1.38 (35.1)	0.70 (17.8)	0.27 (6.8)	6500 (447)	
1/2	1/2	-G-FO8-FT8	1.62 (41.1)	0.96 (24.4)	0.37 (9.3)	6700 (461)	
3/4	3/4	-G-FO12-FT12	1.80 (45.7)	1.02 (25.9)	0.58 (14.7)	5800 (399)	
1	1	-G-FO16-FT16	2.05 (52.1)	1.30 (33.0)	0.80 (20.3)	4700 (323)	



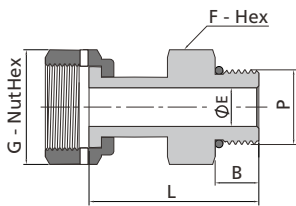
FO Gland to Automatic Tube Weld									
FO Size (in.)	Tube O.D. (in.)	Wall Thickness (in.)	Basic Ordering Number	Dimensions, in. (mm)					Working Pressure psig (bar)
				L	B	D	E	Tx	
1/4	1/4	0.035	-G-FO4-TB4A	1.12 (28.4)	0.78 (19.8)	0.02 (0.5)	0.18 (4.6)	0.29 (7.4)	5100 (351)
1/2	3/8	0.035	-G-FO8-TB6A	1.13 (28.7)	0.79 (20.0)	0.03 (0.8)	0.31 (7.9)	0.41 (10.4)	3300 (227)
1/2	1/2	0.049	-G-FO8-TB8A	1.14 (29.0)	0.80 (20.3)	0.04 (1.0)	0.40 (10.2)	0.55 (14.0)	3500 (241)
3/4	3/4	0.049	-G-FO12-TB12A	1.20 (30.5)	0.80 (20.3)	0.04 (1.0)	0.65 (16.5)	0.80 (20.3)	2200 (151)
1	1	0.065	-G-FO16-TB16A	1.41 (35.8)	1.00 (25.4)	0.04 (1.0)	0.87 (22.1)	1.06 (26.9)	2200 (151)

## Welded Glands



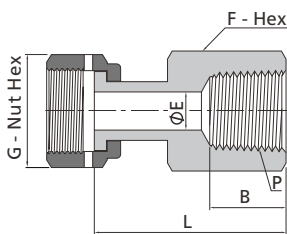
### FO Welded Gland to Male NPT

FO Size (in.)	P-NPT Size	Basic Ordering Number	Dimensions, in. (mm)					Working Pressure psig (bar)
			L	B	E	G	F	
1/4	1/4	-WG-FO4-NS4	1.59 (40.4)	0.56 (14.2)	0.18 (4.6)	11/16 (17.5)	5/8 (15.9)	9800 (675)
1/2	3/8	-WG-FO8-NS6	1.67 (42.4)	0.56 (14.2)	0.40 (10.2)	1 (25.4)	15/16 (23.8)	5600 (385)
1/2	1/2	-WG-FO8-NS8	1.87 (47.5)	0.75 (19.1)	0.40 (10.2)	1 (25.4)	15/16 (23.8)	5600 (385)
3/4	3/4	-WG-FO12-NS12	2.03 (51.6)	0.75 (19.1)	0.62 (15.7)	1 1/2 (38.1)	1 1/16 (27.0)	3900 (268)
1	1	-WG-FO16-NS16	2.36 (59.9)	0.94 (23.9)	0.87 (22.1)	1 3/4 (44.5)	1 5/8 (41.3)	2900 (199)



### FO Welded Gland to SAE/MS Thread

FO Size (in.)	P-SAE/MS Thread Size	Basic Ordering Number	Dimensions, in. (mm)					Working Pressure psig (bar)
			L	B	E	G	F	
1/4	7/16-20	-WG-FO4-ST7	1.54 (39.1)	0.36 (9.1)	0.18 (4.6)	11/16 (17.5)	9/16 (14.3)	4500 (310)
1/2	9/16-18	-WG-FO8-ST9	1.64 (41.7)	0.39 (9.9)	0.40 (10.2)	1 (25.4)	11/16 (17.5)	4500 (310)
1/2	3/4-16	-WG-FO8-ST12	1.71 (43.4)	0.45 (11.2)	0.40 (10.2)	1 (25.4)	7/8 (22.2)	4500 (310)
3/4	1 1/16-12	-WG-FO12-ST17	2.07 (52.6)	0.59 (15.0)	0.62 (15.7)	1 1/2 (38.1)	1 1/4 (31.8)	3600 (248)
1	1 5/16-12	-WG-FO16-ST21	2.17 (55.1)	0.59 (15.0)	0.87 (22.1)	1 3/4 (44.5)	1 1/2 (38.1)	2900 (199)



### FO Welded Gland to Female NPT

FO Size (in.)	P-NPT Size	Basic Ordering Number	Dimensions, in. (mm)					Working Pressure psig (bar)
			L	B	E	G	F	
1/4	1/4	-WG-FO4-FNS4	1.57 (39.9)	0.59 (15.0)	0.18 (4.6)	11/16 (17.5)	3/4 (19.1)	6600 (454)
1/2	3/8	-WG-FO8-FNS6	1.73 (43.9)	0.59 (15.0)	0.40 (10.2)	1 (25.4)	7/8 (22.2)	5300 (365)
1/2	1/2	-WG-FO8-FNS8	1.96 (49.8)	0.78 (19.8)	0.40 (10.2)	1 (25.4)	1 1/16 (27.0)	4900 (337)
3/4	3/4	-WG-FO12-FNS12	2.12 (53.8)	0.81 (20.6)	0.62 (15.7)	1 1/2 (38.1)	1 5/16 (33.3)	4000 (275)
1	1	-WG-FO16-FNS16	2.29 (58.2)	1.00 (25.4)	0.87 (22.1)	1 3/4 (44.5)	1 5/8 (41.3)	3000 (206)

Fittings

Valves

Regulators

Filters

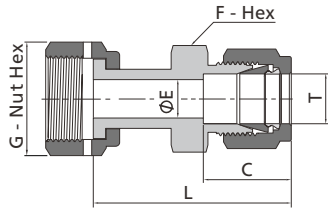
Tubing

Integrated Systems

Other Products

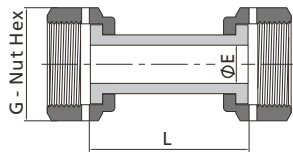
Technical Information

# F-47 Face Seal Fittings



## FO Welded Gland to Tube Fitting

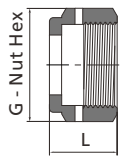
FO Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimensions, in. (mm)					Working Pressure psig (bar)
			L	C	E	G	F	
1/4	1/4	-WG-FO4-FL4	1.74 (44.2)	0.60 (15.2)	0.18 (4.6)	11/16 (17.5)	1/2 (12.7)	10200 (702)
1/2	3/8	-WG-FO8-FL6	1.87 (47.5)	0.66 (16.8)	0.28 (7.1)	1 (25.4)	5/8 (15.9)	5800 (399)
1/2	1/2	-WG-FO8-FL8	2.01 (51.1)	0.90 (22.9)	0.40 (10.2)	1 (25.4)	13/16 (20.6)	5800 (399)
3/4	3/4	-WG-FO12-FL12	2.14 (54.4)	0.96 (24.4)	0.62 (15.7)	1 1/2 (38.1)	1 1/16 (27.0)	4000 (275)
1	1	-WG-FO16-FL16	2.45 (62.2)	1.23 (31.2)	0.87 (22.1)	1 3/4 (44.5)	1 3/8 (34.9)	3000 (206)



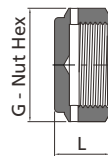
## FO Welded Gland Union

FO Size (in.)	Basic Ordering Number	Dimensions, in. (mm)			Working Pressure psig (bar)
		L	E	G	
1/4	-WG-FO4	1.42 (36.1)	0.18 (4.6)	11/16 (17.5)	10200 (702)
1/2	-WG-FO8	1.61 (40.9)	0.40 (10.2)	1 (25.4)	5800 (399)

## Nuts

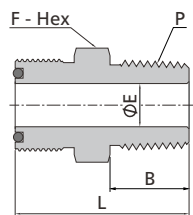


Female				
FO Size (in.)	Basic Ordering Number	Dimensions, in. (mm)		
		L	G	
1/8-1/4	-N-FO4	0.66 (16.8)	11/16 (17.5)	
3/8-1/2	-N-FO8	0.69 (17.5)	1 (25.4)	
3/4	-N-FO12	0.81 (20.6)	1 1/2 (38.1)	
1	-N-FO16	0.81 (20.6)	1 3/4 (44.5)	



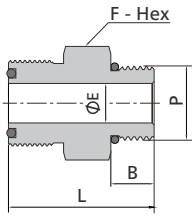
Blind				
FO Size (in.)	Basic Ordering Number	Dimensions, in. (mm)		
		L	G	
1/8-1/4	-N-FO4-B	0.44 (11.2)	11/16 (17.5)	
3/8-1/2	-N-FO8-B	0.56 (14.2)	1 (25.4)	
3/4	-N-FO12-B	0.75 (19.1)	1 1/2 (38.1)	
1	-N-FO16-B	0.81 (20.6)	1 3/4 (44.5)	

## Bodies

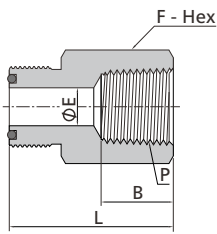


FO Body to Male NPT							
FO Size (in.)	P-NPT Size	Basic Ordering Number	Dimensions, in. (mm)				Working Pressure psig (bar)
			L	F	B	E	
1/4	1/8	-CM-FO4-NS2	1.16 (29.5)	5/8 (15.9)	0.38 (9.7)	0.18 (4.6)	10000 (689)
1/4	1/4	-CM-FO4-NS4	1.34 (34.0)	5/8 (15.9)	0.56 (14.2)	0.18 (4.6)	13400 (923)
1/2	3/8	-CM-FO8-NS6	1.46 (37.1)	15/16 (23.8)	0.56 (14.2)	0.38 (9.7)	7800 (537)
1/2	1/2	-CM-FO8-NS8	1.65 (41.9)	15/16 (23.8)	0.75 (19.1)	0.40 (10.2)	10000 (689)
3/4	3/4	-CM-FO12-NS12	1.75 (44.5)	1 5/16 (33.3)	0.75 (19.1)	0.62 (15.7)	7300 (502)
1	1	-CM-FO16-NS16	1.97 (50.0)	1 5/8 (41.3)	0.94 (23.9)	0.87 (22.1)	5300 (365)

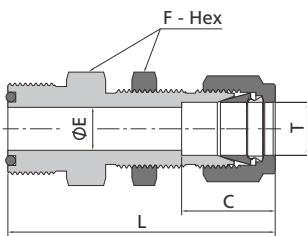
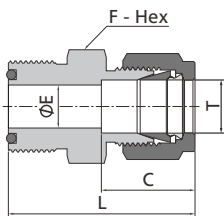
FO Body to SAE/MS Thread								
FO Size (in.)	P-SAE/MS Thread Size	Basic Ordering Number	Dimensions, in. (mm)				Working Pressure psig (bar)	
			L	F	B	E		
1/4	7/16-20	-CM-FO4-ST7	1.24 (31.5)	11/16 (17.5)	0.36 (9.1)	0.18 (4.6)	4500 (310)	
1/4	9/16-18	-CM-FO4-ST9	1.17 (29.7)	11/16 (17.5)	0.39 (9.9)	0.18 (4.6)	4500 (310)	
1/2	7/16-20	-CM-FO8-ST7	1.36 (34.5)	15/16 (23.8)	0.36 (9.1)	0.18 (4.6)	4500 (310)	
1/2	9/16-18	-CM-FO8-ST9	1.39 (35.3)	15/16 (23.8)	0.39 (9.9)	0.30 (7.6)	4500 (310)	
1/2	3/4-16	-CM-FO8-ST12	1.47 (37.3)	1 (25.4)	0.44 (11.2)	0.40 (10.2)	4500 (310)	
3/4	1 1/16-12	-CM-FO12-ST17	1.73 (43.9)	1 3/8 (34.9)	0.59 (15.0)	0.62 (15.7)	3600 (248)	
1	1 5/16-12	-CM-FO16-ST21	1.79 (45.5)	1 5/8 (41.3)	0.59 (15.0)	0.85 (21.6)	2900 (199)	



FO Body to Female NPT								
FO Size (in.)	P-NPT Size	Basic Ordering Number	Dimensions, in. (mm)				Working Pressure psig (bar)	
			L	F	B	E		
1/4	1/8	-CF-FO4-NS2	1.25 (31.8)	5/8 (15.9)	0.41 (10.4)	0.18 (4.6)	8400 (578)	
1/4	1/4	-CF-FO4-NS4	1.39 (35.3)	3/4 (19.1)	0.59 (15.0)	0.18 (4.6)	6600 (454)	
1/2	3/8	-CF-FO8-NS6	1.57 (39.9)	15/16 (23.8)	0.59 (15.0)	0.40 (10.2)	6600 (454)	
1/2	1/2	-CF-FO8-NS8	1.77 (45.0)	1 1/16 (27.0)	0.78 (19.8)	0.40 (10.2)	4900 (337)	
3/4	3/4	-CF-FO12-NS12	1.93 (49.0)	1 5/16 (33.3)	0.81 (20.6)	0.62 (15.7)	4600 (316)	
1	1	-CF-FO16-NS16	2.02 (51.3)	1 5/8 (41.3)	1.00 (25.4)	0.87 (22.1)	4400 (303)	



FO Body to Tube Fitting								
FO Size (in.)	T-tube O.D. (in.)	Basic Ordering Number	Dimensions, in. (mm)				Working Pressure psig (bar)	
			L	F	C	E		
1/4	1/8	-U-FO4-FL2	1.38 (35.1)	5/8 (15.9)	0.51 (13.0)	0.09 (2.3)	10900 (751)	
1/4	1/4	-U-FO4-FL4	1.47 (37.3)	5/8 (15.9)	0.60 (15.2)	0.18 (4.6)	10200 (702)	
1/2	3/8	-U-FO8-FL6	1.65 (41.9)	15/16 (23.8)	0.66 (16.8)	0.28 (7.1)	6500 (447)	
1/2	1/2	-U-FO8-FL8	1.78 (45.2)	15/16 (23.8)	0.90 (22.9)	0.40 (10.2)	6700 (461)	
3/4	3/4	-U-FO12-FL12	1.86 (47.2)	1 5/16 (33.3)	0.96 (24.4)	0.62 (15.7)	5800 (399)	
1	1	-U-FO16-FL16	2.06 (52.3)	1 5/8 (41.3)	1.23 (31.2)	0.87 (22.1)	4700 (323)	

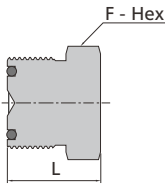


FO Body to Bulkhead Tube Fitting										
FO Size (in.)	T-tube O.D. (in.)	Basic Ordering Number	Dimensions, in. (mm)				Panel Hole Drill Size in. (mm)	Max. Panel Thickness in. (mm)	Working Pressure psig (bar)	
			L	F	C	E				
1/4	1/4	-UB-FO4-FL4	2.10 (53.4)	5/8 (15.9)	0.60 (15.2)	0.18 (4.6)	0.45 (11.5)	0.40 (10.2)	10200 (702)	
1/2	3/8	-UB-FO8-FL6	2.34 (59.4)	15/16 (23.8)	0.66 (16.8)	0.28 (7.1)	0.58 (14.7)	0.44 (11.2)	6500 (447)	
1/2	1/2	-UB-FO8-FL8	2.55 (64.8)	15/16 (23.8)	0.90 (22.9)	0.40 (10.2)	0.76 (19.4)	0.50 (12.7)	6700 (461)	
3/4	3/4	-UB-FO12-FL12	2.86 (72.6)	1 5/16 (33.3)	0.96 (24.4)	0.62 (15.7)	1.02 (25.8)	0.66 (16.8)	5800 (399)	
1	1	-UB-FO16-FL16	3.29 (83.6)	1 5/8 (41.3)	1.23 (31.2)	0.87 (22.1)	1.33 (33.7)	0.75 (19.1)	4700 (323)	

Fittings  
 Valves  
 Regulators  
 Filters  
 Tubing  
 Integrated Systems  
 Other Products  
 Technical Information

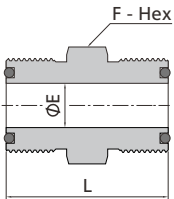
# F-49 Face Seal Fittings

Fittings



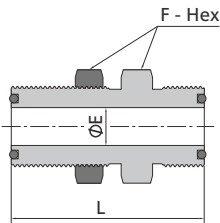
Blind Body			
FO Size (in.)	Basic Ordering Number	Dimensions, in. (mm)	
		L	F
1/4	-BY-FO4	0.77 (19.6)	5/8 (15.9)
1/2	-BY-FO8	0.89 (22.6)	15/16 (23.8)
3/4	-BY-FO12	0.99 (25.1)	1 5/16 (33.3)
1	-BY-FO16	1.02 (25.9)	1 5/8 (41.3)

Valves



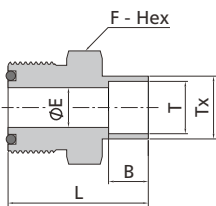
Union Body						
FO Size (in.)	FO Size (in.)	Basic Ordering Number	Dimensions, in. (mm)			Working Pressure psig (bar)
			L	F	E	
1/4	1/4	-U-FO4	1.25 (31.8)	5/8 (15.9)	0.18 (4.6)	14300 (985)
1/2	1/4	-U-FO8-FO4	1.43 (36.3)	15/16 (23.8)	0.18 (4.6)	11100 (764)
1/2	1/2	-U-FO8	1.50 (38.1)	15/16 (23.8)	0.40 (10.2)	11100 (764)

Regulators



Bulkhead Union Body							
FO Size (in.)	Basic Ordering Number	Dimensions, in. (mm)			Panel Hole Drill Size in. (mm)	Max. Panel Thickness in. (mm)	Working Pressure psig (bar)
		L	F	E			
1/4	-BU-FO4	1.88 (47.8)	3/4 (19.1)	0.18 (4.6)	0.58 (14.7)	0.36 (9.1)	14300 (985)
1/2	-BU-FO8	2.09 (53.1)	1 1/16 (27.0)	0.40 (10.2)	0.89 (22.6)	0.40 (10.2)	11100 (764)

Filters



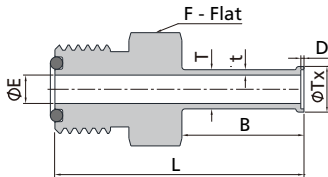
FO Body to Tube Socket Weld								
FO Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimensions, in. (mm)					Working Pressure psig (bar)
			L	F	E	B	Tx	
1/8	1/8	-CW-FO2-TS2	0.88 (22.4)	5/8 (15.9)	0.09 (2.3)	0.10 (2.5)	0.29 (7.4)	12600 (868)
1/4	1/4	-CW-FO4-TS4	1.09 (27.7)	5/8 (15.9)	0.18 (4.6)	0.28 (7.1)	0.38 (9.7)	6800 (468)
3/8	3/8	-CW-FO6-TS6	1.28 (32.5)	15/16 (23.8)	0.28 (7.1)	0.31 (7.9)	0.60 (15.2)	8100 (558)
1/2	1/2	-CW-FO8-TS8	1.34 (34.0)	15/16 (23.8)	0.40 (10.2)	0.38 (9.7)	0.60 (15.2)	3000 (206)
3/4	3/4	-CW-FO12-TS12	1.50 (38.1)	1 5/16 (33.3)	0.62 (15.7)	0.44 (11.2)	0.92 (23.4)	3700 (254)
1	1	-CW-FO16-TS16	1.72 (43.7)	1 5/8 (41.3)	0.87 (22.1)	0.62 (15.7)	1.19 (30.2)	3000 (206)

Tubing

Integrated Systems

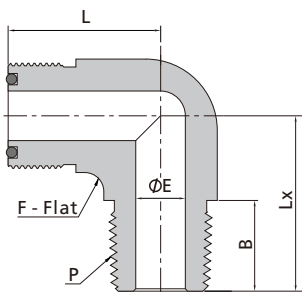
Other Products

Technical Information



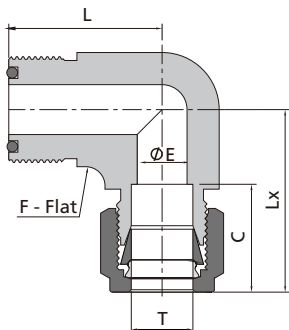
**FO Body to Automatic Tube Weld**

FO Size (in.)	T-tube O.D. (in.)	t-Wall Thickness (in.)	Basic Ordering Number	Dimensions, in. (mm)						Working Pressure psig (bar)
				L	B	D	E	Tx	F	
1/4	1/4	0.035	-CW-FO4-TB4A	1.59 (40.4)	0.78 (19.8)	0.02 (0.5)	0.18 (4.6)	0.29 (7.4)	5/8 (15.9)	5100 (351)
1/2	3/8	0.035	-CW-FO8-TB6A	1.74 (44.2)	0.79 (20.0)	0.03 (0.8)	0.31 (7.9)	0.41 (10.4)	15/16 (23.8)	3300 (227)
1/2	1/2	0.049	-CW-FO8-TB8A	1.75 (44.4)	0.80 (20.3)	0.04 (1.0)	0.40 (10.2)	0.55 (14.0)	15/16 (23.8)	3500 (241)
3/4	3/4	0.049	-CW-FO12-TB12A	1.78 (45.2)	0.80 (20.3)	0.04 (1.0)	0.65 (16.5)	0.80 (20.3)	1 5/16 (33.3)	2200 (151)
1	1	0.065	-CW-FO16-TB16A	2.03 (51.6)	1.00 (25.4)	0.04 (1.0)	0.87 (22.1)	1.06 (26.9)	1 5/8 (41.3)	2200 (151)



**FO Body to Male NPT Elbow**

FO Size (in.)	P-NPT Size	Basic Ordering Number	Dimensions, in. (mm)					Working Pressure psig (bar)
			L	F	B	E	Lx	
1/4	1/8	-LM-FO4-NS2	0.96 (24.4)	9/16 (14.3)	0.38 (9.7)	0.18 (4.6)	0.87 (22.1)	10000 (689)
1/4	1/4	-LM-FO4-NS4	0.96 (24.4)	9/16 (14.3)	0.56 (14.2)	0.18 (4.6)	1.05 (26.7)	8000 (551)
1/2	3/8	-LM-FO8-NS6	1.26 (32.0)	13/16 (20.6)	0.56 (14.2)	0.38 (9.7)	1.26 (32.0)	7800 (537)
1/2	1/2	-LM-FO8-NS8	1.26 (32.0)	13/16 (20.6)	0.75 (19.1)	0.40 (10.2)	1.45 (36.8)	7700 (530)
3/4	3/4	-LM-FO12-NS12	1.48 (37.6)	1 1/4 (31.8)	0.75 (19.1)	0.62 (15.7)	1.67 (42.4)	7300 (502)
1	1	-LM-FO16-NS16	1.56 (39.6)	1 11/16 (42.9)	0.94 (23.9)	0.87 (22.0)	1.94 (49.3)	5300 (365)



**FO Body to Tube Fitting Elbow**

FO Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimensions, in. (mm)					Working Pressure psig (bar)
			L	F	C	E	Lx	
1/4	1/4	-LU-FO4-FL4	0.96 (24.4)	9/16 (14.3)	0.60 (15.2)	0.18 (4.6)	1.19 (30.2)	10200 (702)
1/2	3/8	-LU-FO8-FL6	1.26 (32.0)	13/16 (20.6)	0.66 (16.8)	0.28 (7.1)	1.39 (35.3)	6500 (447)
1/2	1/2	-LU-FO8-FL8	1.26 (32.0)	13/16 (20.6)	0.90 (22.9)	0.40 (10.2)	1.50 (38.1)	6700 (461)
3/4	3/4	-LU-FO12-FL12	1.48 (37.6)	1 1/4 (31.8)	0.96 (24.4)	0.62 (15.7)	1.80 (45.7)	5800 (399)
1	1	-LU-FO16-FL16	1.56 (39.6)	1 11/16 (42.9)	1.23 (31.2)	0.87 (22.1)	2.04 (51.8)	4700 (323)

Fittings

Valves

Regulators

Filters

Tubing

Integrated Systems

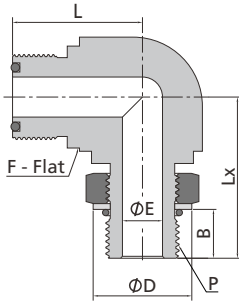
Other Products

Technical Information



# F-51 Face Seal Fittings

Fittings



Valves

Regulators

Filters

Tubing

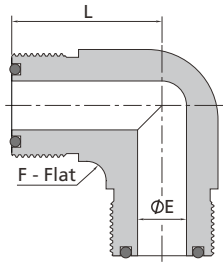
Integrated Systems

Other Products

Technical Information

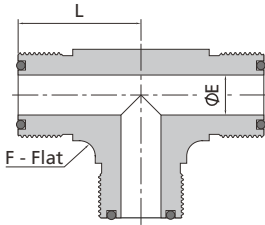
## FO Body to Male SAE/MS Thread Positionable Elbow

FO Size (in.)	P-SAE/MS Thread Size	Basic Ordering Number	Dimensions, in. (mm)						Working Pressure psig (bar)
			L	F	B	E	D	Lx	
1/4	7/16-20	-LP-FO4-ST7	0.96 (24.4)	1/2 (12.7)	0.39 (9.9)	0.18 (4.6)	0.65 (16.5)	1.19 (30.2)	4500 (310)
1/2	9/16-18	-LP-FO8-ST9	1.33 (33.8)	13/16 (20.6)	0.44 (11.2)	0.30 (7.6)	0.79 (20.1)	1.54 (39.1)	3600 (248)
1/2	3/4-16	-LP-FO8-ST12	1.33 (33.8)	13/16 (20.6)	0.50 (12.7)	0.40 (10.2)	1.01 (25.7)	1.65 (41.9)	3600 (248)
3/4	1 1/16-12	-LP-FO12-ST17	1.53 (38.9)	1 1/4 (31.8)	0.66 (16.8)	0.62 (15.7)	1.44 (36.6)	2.13 (54.1)	2900 (199)
1	1 5/16-12	-LP-FO16-ST21	1.72 (43.7)	1 11/16 (42.9)	0.66 (16.8)	0.87 (22.1)	1.73 (43.9)	2.31 (58.7)	2300 (158)



## FO Body Union Elbow

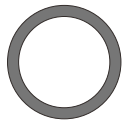
FO Size (in.)	Basic Ordering Number	Dimensions, in. (mm)			Working Pressure psig (bar)
		L	F	E	
1/4	-LU-FO4	0.96 (24.4)	9/16 (14.3)	0.18 (4.6)	14300 (985)
1/2	-LU-FO8	1.26 (32.0)	13/16 (20.6)	0.40 (10.2)	11100 (764)
3/4	-LU-FO12	1.48 (37.6)	1 1/4 (31.8)	0.62 (15.7)	10900 (751)
1	-LU-FO16	1.56 (39.6)	1 11/16 (42.9)	0.87 (22.1)	8800 (606)



## FO Body Union Tee

FO Size (in.)	Basic Ordering Number	Dimensions, in. (mm)			Working Pressure psig (bar)
		L	F	E	
1/4	-TTT-FO4	0.96 (24.4)	9/16 (14.3)	0.18 (4.6)	14300 (985)
1/2	-TTT-FO8	1.26 (32.0)	13/16 (20.6)	0.40 (10.2)	11100 (764)
3/4	-TTT-FO12	1.48 (37.6)	1 1/4 (31.8)	0.62 (15.7)	10900 (751)
1	-TTT-FO16	1.56 (39.6)	1 11/16 (42.9)	0.87 (22.1)	8800 (606)

## O-Rings



### FO O-Ring

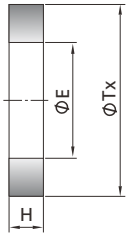
FO Size (in.)	Basic Ordering Number
1/8-1/4	-010
3/8-1/2	-111
3/4	-116
1	-215

### Male SAE/MS O-Ring

P-SAE/MS Thread Size (in.)	Basic Ordering Number
7/16-20	-904
9/16-18	-906
3/4-16	-908
1 1/16-12	-912
1 5/16-12	-916

Add the overall designator for O-rings on page F-43 as a prefix to basic ordering number to get the complete ordering number. Example: VI7-010, VI9-904  
For O-rings made from other materials, please contact FITOK.

## Gaskets



FO Gasket				
FO Size (in.)	Basic Ordering Number	Dimensions, in. (mm)		
		Tx	E	H
1/4	-GT-FO4	0.42 (10.6)	0.26 (6.5)	0.07 (1.7)
1/2	-GT-FO8	0.66 (16.8)	0.46 (11.6)	0.10 (2.5)

Add the designator for PTFE on page F-43 as a prefix to the basic ordering number to get the complete ordering number. Example: T-GT-FO4  
For FO gaskets in other sizes, please contact FITOK.

Fittings

Valves

Regulators

Filters

Tubing

Integrated Systems

Other Products

Technical Information