

L-Ring Face Seal Fittings

TFO Series

Features

- ⦿ Reduced internal entrapment
- ⦿ Lubricant-free L-ring seal
- ⦿ Controlled L-ring extrusion to prevent over-tightening
- ⦿ Butt weld connection to ensure the system unhindered
- ⦿ Standard surface roughness finished to an average of Ra 20 μin. (0.51 μm)
- ⦿ Sizes range from 1/4" to 1"
- ⦿ Each fitting marked with size, material and heat number



Technical Data

⦿ Materials

Material	Designator
316 SS	SS
316L SS	6L

⦿ Working Temperature

Temperature ranges for TFO fittings are restricted by the L-ring materials.

Material	Designator	Working Temperature
PTFE	T	- 50°F to 450°F (- 45°C to 232°C)

⦿ Working Pressure @ 100°F (37°C)

Tube O.D.	Working Pressure psig (bar)
1/4 in.	2500 (172)
1/2 in.	2000 (137)
3/4 in.	1500 (103)
1 in.	
12 mm	2000 (137)

⦿ 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	0.065	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.

Process Specification

Process Specification		Standard Cleaning and Packaging Process (FC-01) Special Cleaning and Packaging Process (FC-02)	
Item			
Material		316 SS, 316L SS	
Wetted Surface Roughness		Ra 20 μin. (0.5μm)	
Polishing Process		Machine finished	

Testing

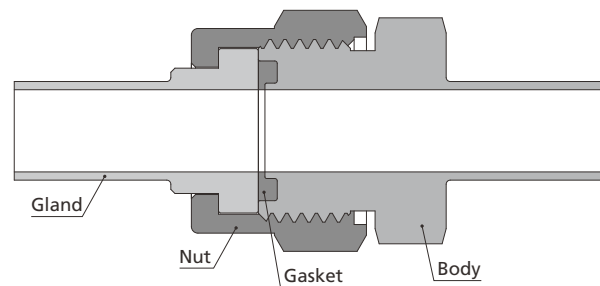
Every TFO fitting is helium leak tested to a maximum allowable leak rate of 4×10^{-9} std cm³/s.

Ordering Information

- ⦿ Each component can be ordered separately.
 - ⦿ Add the material designator as a prefix, cleaning and packaging designator as a suffix to the basic ordering number to get the complete ordering number.
 - ⦿ Cleaning and Packaging
 - a. Standard Cleaning and Packaging Process (FC-01) for general industrial procedures. No suffix is needed.
 - b. Special Cleaning and Packaging Process (FC-02), to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C. Add "-F2" as a suffix when needed.
- Example: For 316L SS standard 1/4" gland with Special Cleaning and Packaging Process (FC-02), the ordering number is 6L-G-TFO4-TB4-F2.

Installation Instructions

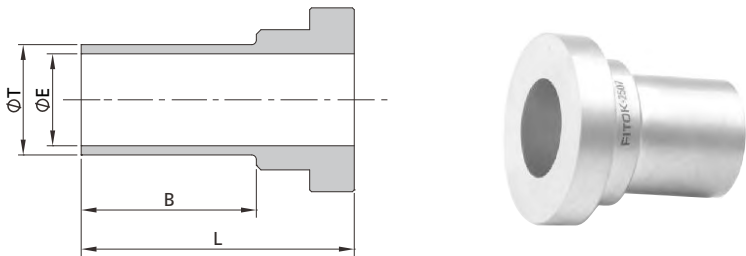
1. Assemble the gland, nut and gasket as below. Finger tight the nut.
2. Tighten the nut 1/8 turn with a wrench while holding the fitting body steady.



Cautions

- ⦿ Dimensions are for reference only and are subject to change.
- ⦿ Inspect the L-ring each time the groove housing is dismantled.
- ⦿ Before welding the body, the L-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.

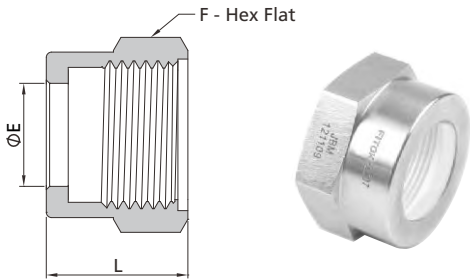
Glands



Fractional						
TFO Size (in.)	T-Tube O.D. (in.)	Wall Thickness (in.)	Basic Ordering Number	Dimensions, in. (mm)		
				L	B	E
1/4	1/4	0.035	-G-TFO4-TB4	0.67 (17.0)	0.25 (6.4)	0.18 (4.6)
1/4	1/4	0.035	-G-TFO4-TB4-12	1.17 (29.7)	0.75 (19.1)	0.18 (4.6)
1/2	1/2	0.049	-G-TFO8-TB8	1.17 (29.7)	0.75 (19.1)	0.40 (10.2)
1/2	1/2	0.065	-G-TFO8-TB8×065	1.17 (29.7)	0.75 (19.1)	0.37 (9.4)
3/4	3/4	0.065	-G-TFO12-TB12	1.24 (31.5)	0.75 (19.1)	0.62 (15.7)
1	1	0.065	-G-TFO16-TB16	1.45 (36.8)	0.96 (24.4)	0.87 (22.1)

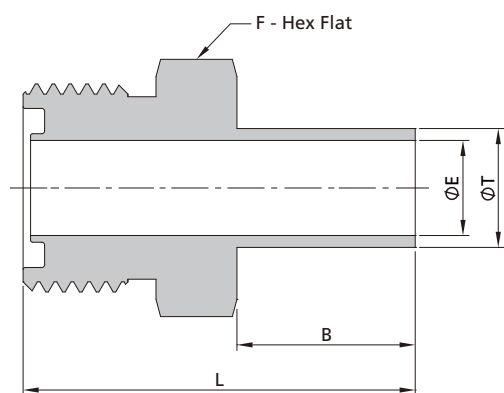
Metric						
TFO Size (in.)	T-Tube O.D. (mm)	Wall Thickness (mm)	Basic Ordering Number	Dimensions, in. (mm)		
				L	B	E
1/2	12	1	-G-TFO8-MTB12	1.17 (29.7)	0.75 (19.1)	0.39 (10.0)

Nuts



Fractional				
TFO Size (in.)	Basic Ordering Number	Dimensions, in. (mm)		
		L	E	F
1/4	-N-TFO4	0.75 (19.1)	0.39 (9.9)	11/16 (17.5)
1/2	-N-TFO8	0.84 (21.3)	0.61 (15.5)	1 (25.4)
3/4	-N-TFO12	0.90 (22.9)	0.94 (23.9)	1 1/2 (38.1)
1	-N-TFO16	0.90 (22.9)	1.25 (31.8)	1 3/4 (44.5)

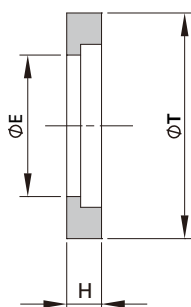
Tube Butt Weld Bodies



Fractional							
TFO Size (in.)	T-Tube OD. (in.)	Wall Thickness (in.)	Basic Ordering Number	Dimensions, in. (mm)			
				L	B	E	F
1/4	1/4	0.035	-CW-TFO4-TB4	1.03 (26.2)	0.25 (6.4)	0.18 (4.6)	5/8 (15.9)
1/4	1/4	0.035	-CW-TFO4-TB4-12	1.53 (38.9)	0.75 (19.1)	0.18 (4.6)	5/8 (15.9)
1/2	1/2	0.049	-CW-TFO8-TB8	1.65 (41.9)	0.75 (19.1)	0.40 (10.2)	15/16 (23.8)
1/2	1/2	0.065	-CW-TFO8-TB8x065	1.65 (41.9)	0.75 (19.1)	0.37 (9.4)	15/16 (23.8)
3/4	3/4	0.065	-CW-TFO12-TB12	1.75 (44.4)	0.75 (19.1)	0.62 (15.7)	1 5/16 (33.3)
1	1	0.065	-CW-TFO16-TB16	1.99 (50.5)	0.96 (24.4)	0.87 (22.1)	1 5/8 (41.3)

Metric							
TFO Size (in.)	T-Tube OD. (mm)	Wall Thickness (mm)	Basic Ordering Number	Dimensions, in. (mm)			
				L	B	E	F
1/2	12	1	-CW-TFO8-MTB12	1.65 (41.9)	0.75 (19.1)	0.39 (10.0)	15/16 (23.8)

L-Ring Seal



Fractional				
TFO Size (in.)	Basic Ordering Number	Dimensions, in. (mm)		
		T	E	H
1/4	-GT-TFO4	0.38 (9.6)	0.18 (4.6)	0.07 (1.8)
1/2	-GT-TFO8	0.64 (16.2)	0.40 (10.2)	0.10 (2.5)
3/4	-GT-TFO12	0.92 (23.4)	0.62 (15.7)	0.10 (2.5)
1	-GT-TFO16	1.30 (33.0)	0.87 (22.1)	0.14 (3.6)

Add the designator of L-ring material in page F-39 as a prefix to the basic ordering number to get the complete ordering number.

Example: T-GT-TFO4