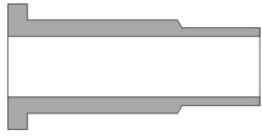


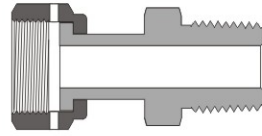


**Contents**

03 Glands



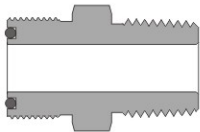
03 Welded Glands



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

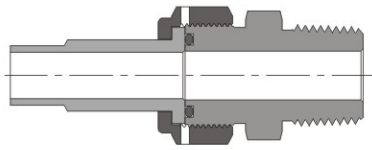
FO fitting is tested with helium to a maximum leak rate of 4 x 10<sup>-9</sup> std cm/s3.

## 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.



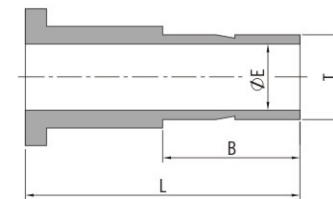
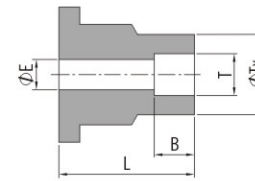
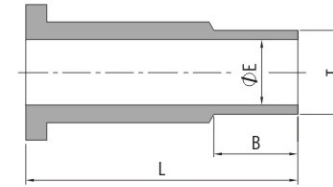
2. Tighten the nut 1/8-1/4 turn with wrench while holding the body of the fitting steadily, until a sharp rise in torque.

## Cautions:

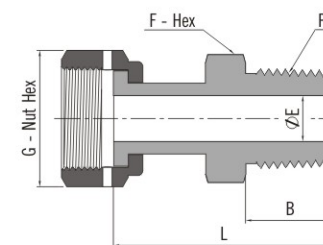
- For the best sealing result, the O-ring should be replaced each time the groove housing is dismantled.
- When welding is applied to the body, the O-ring should be removed to prevent possible damage.
- Tungsten Inert Gas Welding (TIG) is recommended.
- Do not loosen or tighten fittings when system is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

# O-ring Face Seal Fittings

## Glands



## Welded 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)

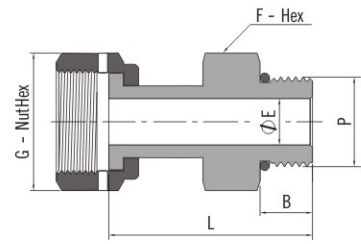
FO Welded Gland to Male NPT

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.

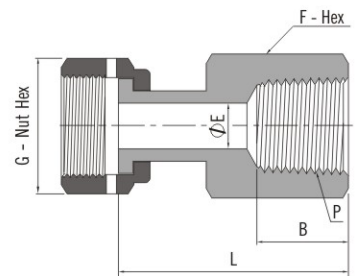


## Welded Glands



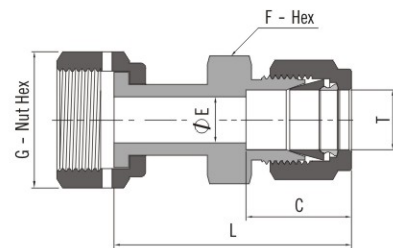
FO Welded Gland to SAE/MS Thread

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)



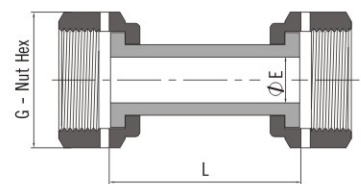
FO Welded Gland to Female NPT

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

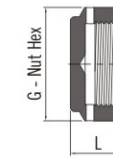
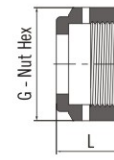
FO Size (in.)	T-Tube O.D. (in.)	Ordering Number	Dimension, mm					Working Pressure psig (bar)
			L	B	E	G	F	
1/4	1/4	SS-WG-F04-S4	44.2	15.2	4.6	17.5	12.7	10200 (702)
1/2	3/8	SS-WG-F08-S6	47.5	16.8	7.1	25.4	15.9	5800 (399)
1/2	1/2	SS-WG-F08-S8	51.1	22.9	10.2	25.4	20.6	5800 (399)
3/4	3/4	SS-WG-F012-S12	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



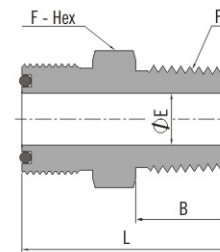
Female

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

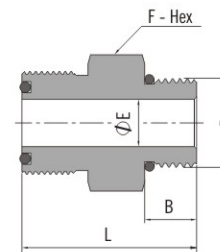
FO Size (in.)	Ordering Number	Dimension, mm	
		L	G
1/8-1/4	SS-N-F04-B	11.2	17.5
3/8-1/2	SS-N-F08-B	14.2	25.4
3/4	SS-N-F012-B	19.1	38.1
1	SS-N-F016-B	20.6	44.5

## 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)

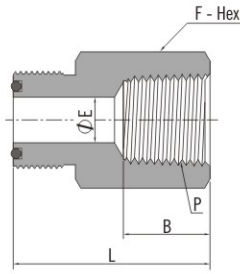


FO Body to SAE/MS Thread

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)

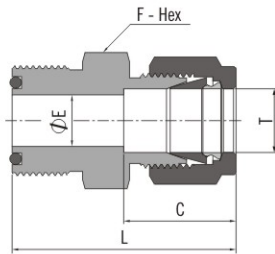
# O-ring Face Seal Fittings

## Bodies



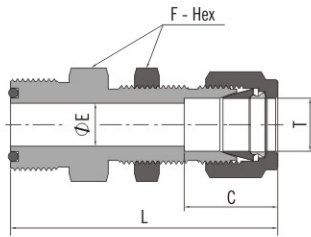
FO Body to Female NPT

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)



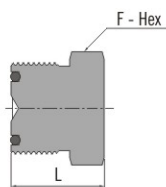
FO Body to Tube Fitting

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)



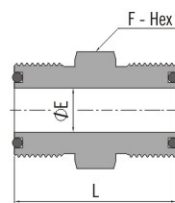
FO Body to Bulkhead Tube Fitting

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

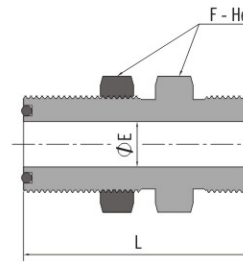
FO Size (in.)	Ordering Number	Dimension, mm	
		L	F
1/4	SS-BY-F04	19.6	15.9
1/2	SS-BY-F08	22.6	23.8
3/4	SS-BY-F012	25.1	33.3
1	SS-BY-F016	25.9	41.3



Union Body

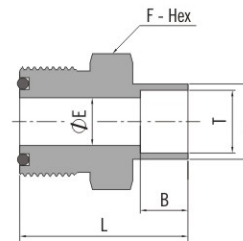
FO Size (in.)	FO Size (in.)	Ordering Number	Dimension, mm			Working Pressure psig (bar)
			L	F	E	
1/4	1/4	SS-U-F04	31.8	15.9	4.6	14300 (985)
1/2	1/4	SS-U-F08-F04	36.3	23.8	4.6	11100 (764)
1/2	1/2	SS-U-F08	38.1	23.8	10.2	11100 (764)

## Bodies



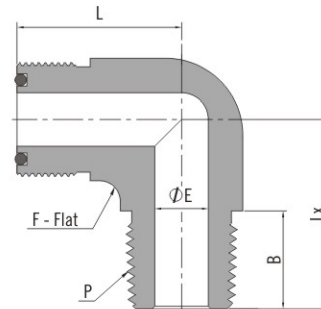
Bulkhead Union Body

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)



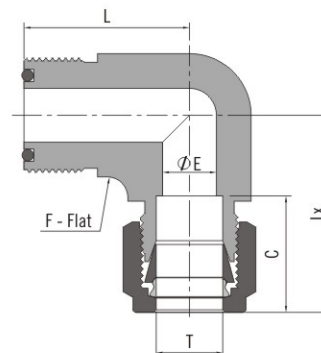
FO Body to Tube Socket Weld

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)

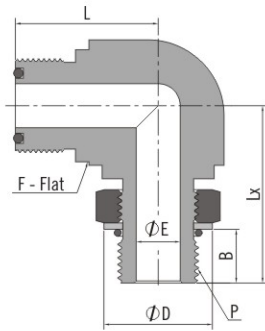


FO Body to Tube Fitting Elbow

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)

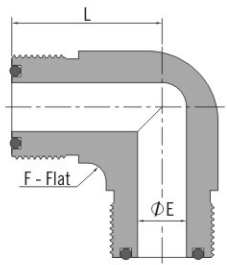
# O-ring Face Seal Fittings

## Bodies



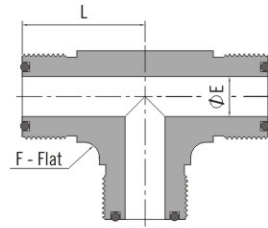
FO Body to Male SAE/MS Thread Adjustable Elbow

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.