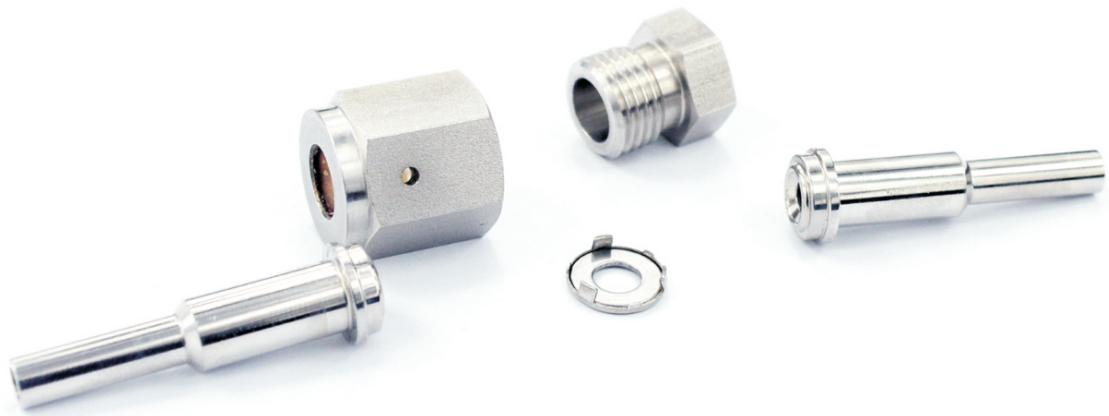
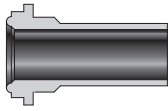




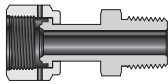
Metal Gasket Face Seal Fittings

GFS Series



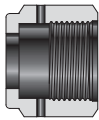
Glands

2-65



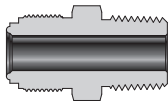
Welded Assemblies

2-67



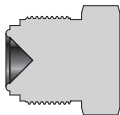
Nuts

2-68



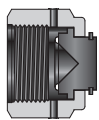
Bodies

2-68



Plugs

2-71



Caps

2-71

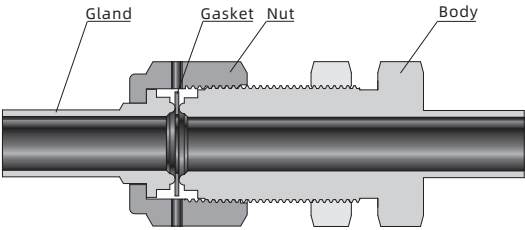


Gaskets

2-71

Features

- ❖ Metal-to-metal seal provides perfect leak-tight service from critical vacuum to high pressure
- ❖ Female threads are silver plated to prevent galling
- ❖ Two test port for easy leak testing
- ❖ Non-rotational female nut to prevent transmission of torque
- ❖ Smooth transition into the Internal Diameter minimizes entrapment areas
- ❖ Standard surface finish on glands and bodies is a roughness average of 10µin. (0.25µm) Ra
- ❖ Sizes from 1/8 to 1 in.
- ❖ 316, 316L, and 316L VAR (Vacuum Arc Remelt) stainless steel materials are available



Pressure Ratings

- ❖ All ratings comply with calculations in accordance with ASME Code for Pressure Piping B31.3, Process Piping, and ASME B31.1, Power Piping.
- ❖ Working pressure ratings determined at room temperature with gasket materials shown.
- ❖ When determining the main pipe pressure rating in accordance with ASME B31.1, multiply the psig nominal value by 0.94

Temperature ratings

Component	Material	Working Temperature
Fittings	316 stainless steel	-425°F to 1000°F (-254°C to 538°C)
	316L stainless steel	
	316L VAR stainless steel	
Gaskets	316L stainless steel	-425°F to 400°F (-254°C to 204°C)
	Copper	
	Nickel	-325°F to 600°F (-198°C to 316°C)

Standard Materials

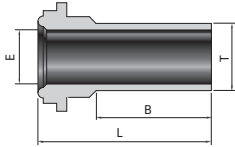
Material	Bar Stock	Forging
Fitting Material		
316 stainless steel	ASTM A276, ASME SA479	ASTM A182, ASME SA182
316L stainless steel		
316L VAR stainless steel		
Gasket Material		
316L stainless steel	ASTM A240, A167	
Copper	ASTM B152	
Nickel	ASTM B162	

Testing

- ❖ The GFS fitting has been helium leak tested to a maximum leak rate of 4×10^{-11} std cm³/s with unplated gaskets.

Pressure Ratings and Dimensions

Glands

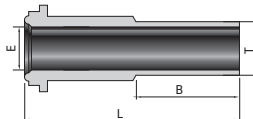


GFS Gland to Short Fractional Tube Butt Weld

GFS Size (in.)	T-Tube O.D. (in.)	Nominal Wall Thickness (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
				L	B	E	6L	CU	NI
1/8	1/8	0.028	GFS2-SG-FBW2-	27.4	19.1	1.5	8500 (586)	6800 (468)	8500 (586)
1/4	1/8	0.028	GFS4-SG-FBW2-	27.9	19.1	1.5	5100 (351)	5100 (351)	5100 (351)
1/4	1/4	0.035	GFS4-SG-FBW4-	15.2	6.4	4.6	5100 (351)	5100 (351)	5100 (351)
1/4	1/4	0.035	GFS4-SG-FBW4-2-	18.3	9.7	4.6	5100 (351)	5100 (351)	5100 (351)
1/4	1/4	0.035	GFS4-SG-FBW4-4-	27.9	19.1	4.6	5100 (351)	5100 (351)	5100 (351)
1/2	1/4	0.035	GFS8-SG-FBW4-	28.4	19.1	4.6	4300 (296)	2800 (192)	3500 (241)
1/2	3/8	0.035	GFS8-SG-FBW6-	15.7	6.4	7.9	3300 (227)	2600 (179)	3300 (227)
1/2	3/8	0.035	GFS8-SG-FBW6-2-	28.4	19.1	7.9	3300 (227)	2600 (179)	3300 (227)
1/2	1/2	0.049	GFS8-SG-FBW8-	15.7	6.4	10.2	3700 (254)	2800 (192)	3500 (241)
1/2	1/2	0.049	GFS8-SG-FBW8-2-	18.8	9.7	10.2	3700 (254)	2800 (192)	3500 (241)
1/2	1/2	0.049	GFS8-SG-FBW8-4-	28.4	19.1	10.2	3500 (241)	2800 (192)	3500 (241)

GFS Gland to Short Metric Tube Butt Weld

GFS Size (in.)	T-Tube O.D. (mm)	Nominal Wall Thickness (mm)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
				L	B	E	6L	CU	NI
1/4	6	1.0	GFS4-SG-MBW6-	29.5	19.1	4.0	6800 (468)	5400 (372)	6800 (468)
1/4	8	1.0	GFS4-SG-MBW8-	29.5	19.1	6.0	4900 (337)	4900 (337)	4900 (337)
1/2	10	1.0	GFS8-SG-MBW10-	29.5	19.1	8.0	3500 (241)	2800 (192)	3500 (241)
1/2	12	1.0	GFS8-SG-MBW12-	29.5	19.1	10.0	3100 (213)	2400 (165)	3100 (213)
3/4	18	1.5	GFS12-SG-MBW18-	31.0	19.1	15.0	3000 (206)	2400 (165)	3000 (206)

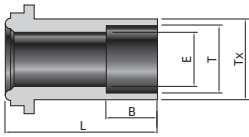


GFS Gland to Long Fractional Tube Butt Weld

GFS Size (in.)	T-Tube O.D. (in.)	Nominal Wall Thickness (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
				L	B	E	6L	CU	NI
1/8	1/8	0.028	GFS2-G-FBW2-	36.1	19.1	1.5	8500 (586)	6800 (468)	8500 (586)
1/4	1/4	0.035	GFS4-G-FBW4-	30.5	6.4	4.6	5100 (351)	5100 (351)	5100 (351)
1/4	1/4	0.035	GFS4-G-FBW4-2-	33.3	9.1	4.6	5100 (351)	5100 (351)	5100 (351)
1/4	1/4	0.035	GFS4-G-FBW4-4-	33.5	9.7	4.6	5100 (351)	5100 (351)	5100 (351)
1/4	1/4	0.035	GFS4-G-FBW4-6-	43.2	19.1	4.6	5100 (351)	5100 (351)	5100 (351)
1/2	1/4	0.035	GFS8-G-FBW4-	45.7	19.1	4.6	4300 (296)	2800 (192)	3500 (241)
1/2	3/8	0.035	GFS8-G-FBW6-	32.8	6.4	7.9	3300 (227)	2600 (179)	3300 (227)
1/2	3/8	0.035	GFS8-G-FBW6-2-	45.5	19.1	7.9	3300 (227)	2600 (179)	3300 (227)
1/2	1/2	0.049	GFS8-G-FBW8-	32.8	6.4	10.2	3700 (254)	2800 (192)	3500 (241)
1/2	1/2	0.049	GFS8-G-FBW8-2-	35.8	9.7	10.2	3700 (254)	2800 (192)	3500 (241)
1/2	1/2	0.049	GFS8-G-FBW8-4-	45.5	19.1	10.2	3700 (254)	1900 (130)	3500 (241)
3/4	3/4	0.049	GFS12-G-FBW12-	51.6	19.1	16.5	2400 (165)	1900 (130)	2400 (165)
1	1	0.065	GFS16-G-FBW16-	58.9	19.1	22.1	2400 (165)	2400 (165)	2400 (165)

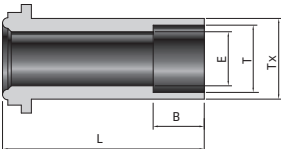
GFS Gland to Long Metric Tube Butt Weld

GFS Size (in.)	T-Tube O.D. (mm)	Nominal Wall Thickness (mm)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
				L	B	E	6L	CU	NI
1/4	6	1.0	GFS4-G-MBW6-	43.2	19.1	4.0	6800(468)	5400(372)	6800(468)
1/4	8	1.0	GFS4-G-MBW8-	43.2	19.1	6.0	4900(337)	4900(337)	4900(337)
1/2	10	1.0	GFS8-G-MBW10-	45.5	19.1	8.0	3500(241)	2800(192)	3500(241)
1/2	12	1.0	GFS8-G-MBW12-	45.5	19.1	10.0	3100(213)	2400(165)	3100(213)
3/4	18	1.5	GFS12-G-MBW18-	51.6	19.1	15.0	3000(207)	2400(165)	3000(207)



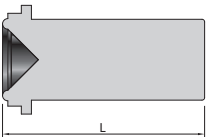
GFS Gland to Short Tube Socket Weld

GFS Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm				Working Pressure, psig (bar)		
			L	B	E	Tx	6L	CU	NI
1/4	1/4	GFS4-SG-FSW4-	12.7	7.1	4.6	8.9	5500 (378)	5500 (378)	5500 (378)
1/4	1/4	GFS4-SG-FSW4-2-	19.1	7.1	4.6	8.9	5500 (378)	5500 (378)	5500 (378)



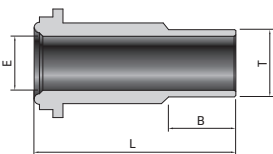
GFS Gland to Tube Socket Weld

GFS Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm				Working Pressure, psig (bar)		
			L	B	E	Tx	6L	CU	NI
1/8	1/16	GFS2-G-FSW1-	17.8	2.5	1.3	3.3	9000 (620)	7200 (496)	9000 (620)
1/8	1/8	GFS2-G-FSW2-	17.8	2.5	2.3	5.1	7100 (489)	7100 (489)	7100 (489)
1/4	1/8	GFS4-G-FSW2-	33.3	2.5	2.3	8.9	8000 (551)	8000 (551)	8000 (551)
1/4	1/4	GFS4-G-FSW4-	33.3	7.1	4.6	8.9	5500 (378)	5500 (378)	5500 (378)
1/2	1/4	GFS8-G-FSW4-	38.1	7.1	4.6	15.2	4300 (196)	3500 (241)	3500 (241)
1/2	3/8	GFS8-G-FSW6-	38.1	7.9	7.1	15.2	4300 (296)	2800 (192)	3500 (241)
1/2	1/2	GFS8-G-FSW8-	38.1	9.7	10.2	15.2	3000 (206)	2400 (165)	3000 (206)
3/4	3/4	GFS12-G-FSW12-	50.8	11.2	15.7	22.4	2800 (192)	2200 (151)	2800 (192)
1	1	GFS16-G-FSW16-	56.4	15.7	22.1	30.2	3000 (206)	1900 (130)	2400 (165)



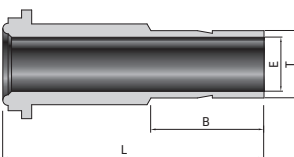
Blind Gland

GFS Size (in.)	Basic Ordering Number	Dimension, mm
		L
1/8	BB-GFS2-	17.8
1/4	BB-GFS4-	33.3
1/2	BB-GFS8-	38.1
3/4	BB-GFS12-	50.8
1	BB-GFS16-	56.4



GFS Gland to Male Weld

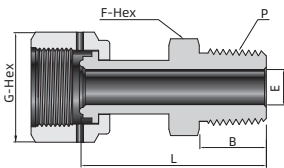
GFS Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
			L	B	E	6L	CU	NI
1/8	1/8	GFS2-G-MFBW2-	17.8	7.1	1.5	11200 (772)	7200 (496)	9000 (620)
1/4	1/8	GFS4-G-MFBW2-	33.3	7.1	1.5	10000 (689)	6400 (440)	8000 (551)
1/4	1/4	GFS4-G-MFBW4-	33.3	10.4	3.0	10000 (689)	6400 (440)	8000 (551)
1/2	1/4	GFS8-G-MFBW4-	38.1	10.4	3.0	4300 (296)	2800 (192)	3500 (241)
1/2	3/8	GFS8-G-MFBW6-	38.1	10.4	7.1	4300 (196)	2800 (192)	3500 (241)
1/2	1/2	GFS8-G-MFBW8-	38.1	12.7	10.2	3500 (241)	3500 (241)	3500 (241)
3/4	3/4	GFS12-G-MFBW12-	50.8	15.7	13.5	3700 (254)	2400 (165)	3000 (206)
1	1	GFS16-G-MFBW16-	56.4	20.6	19.1	3000 (206)	1900 (130)	2400 (165)



GFS Gland to Tube Port

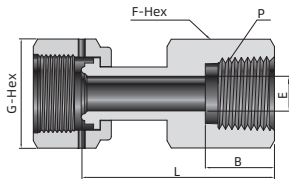
GFS Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
			L	B	E	6L	CU	NI
1/4	1/4	GFS4-G-FT4-	41.1	16.3	4.3	10000 (689)	6400 (440)	8000 (551)
1/2	3/8	GFS8-G-FT6-	46.0	17.8	16.9	4300 (296)	2800 (192)	3500 (241)
1/2	1/2	GFS8-G-FT8-	49.3	24.4	9.4	4300 (296)	2800 (192)	3500 (241)

Welded Assemblies



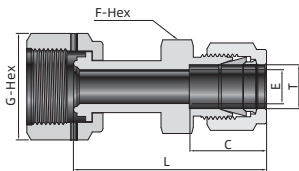
GFS Welded Assemblies to Male NPT

GFS Size (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure, psig (bar)		
			L	B	E	G	F	6L	CU	NI
1/4	1/8	FGFS4-WA-NPT2-	40.1	9.7	4.6	19.05	11.1	8000 (551)	6400 (446)	8000 (551)
1/4	1/4	FGFS4-WA-NPT4-	45.5	14.2	4.6	19.05	14.3	8000 (551)	6400 (446)	8000 (551)
1/2	3/8	FGFS8-WA-NPT6-	48.0	14.2	10.2	26.99	17.5	4300 (296)	2800 (192)	3500 (241)
1/2	1/2	FGFS8-WA-NPT8-	53.1	19.1	10.2	26.99	22.2	4300 (296)	2800 (192)	3500 (241)



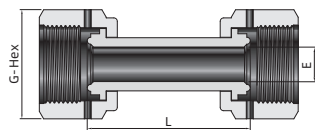
GFS Welded Assemblies to Female NPT

GFS Size (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure, psig (bar)		
			L	B	E	G	F	6L	CU	NI
1/4	1/4	FGFS4-WA-FNPT4-	45.0	15.0	4.6	19.1	19.1	6600 (454)	5200 (458)	6600 (454)
1/2	3/8	FGFS8-WA-FNPT6-	49.5	15.0	10.2	27.0	22.2	4300 (296)	2800 (192)	3500 (241)
1/2	1/2	FGFS8-WA-FNPT8-	55.4	19.8	10.2	27.0	27.0	4300 (296)	2800 (192)	3500 (241)



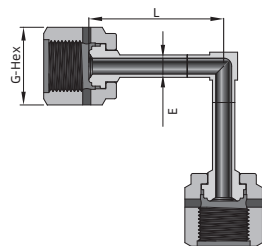
GFS Welded Assemblies to Tube Fitting

GFS Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm					Working Pressure, psig (bar)		
			L	C	E	G	F	6L	CU	NI
1/4	1/4	FGFS4-WA-F4-	49.3	15.2	4.6	19.1	12.7	10000 (689)	6400 (440)	8000 (551)
1/4	3/8	FGFS4-WA-F6-	50.0	16.8	4.6	19.1	15.9	6500 (447)	5200 (358)	6500 (447)
1/2	1/2	FGFS8-WA-F8-	56.6	22.9	10.2	27.0	20.6	4300 (296)	2800 (192)	3500 (241)



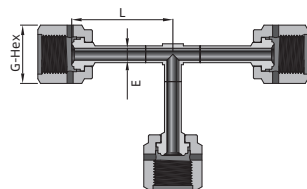
GFS Welded Assemblies Union

GFS Size (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
		L	E	G	6L	CU	NI
1/4	FGFS4-WU-FGFS4-	43.4	4.6	19.1	10000 (689)	6400 (440)	8000 (551)
1/2	FGFS8-WU-FGFS8-	46.7	10.2	27.0	4300 (296)	2800 (192)	3500 (241)



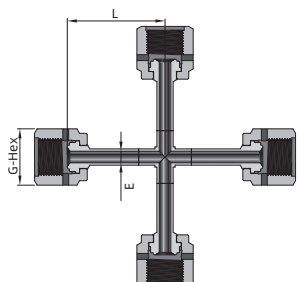
GFS Welded Assemblies Union Elbow

GFS Size (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
		L	E	G	6L	CU	NI
1/4	FGFS4-WUE-FGFS4-	38.3	4.6	19.1	10000(689)	6400(440)	8000(551)



GFS Welded Assemblies Union Tee

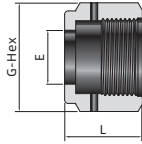
GFS Size (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
		L	E	G	6L	CU	NI
1/4	FGFS4-WUT-FGFS4-FGFS4-	38.3	4.6	19.1	10000(689)	6400(440)	8000(551)



GFS Welded Assemblies Union Cross

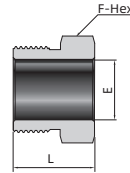
GFS Size (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
		L	E	G	6L	CU	NI
1/4	FGFS4-WUC-FGFS4-FGFS4-FGFS4-	38.3	4.6	19.1	10000(689)	6400(440)	8000(551)

Nuts



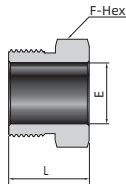
Female Nut

GFS Size (in.)	Basic Ordering Number	Dimension, mm		
		L	G	E
1/8	FN-FGFS2-	13.5	11.1	5.3
1/4	FN-FGFS4-	20.6	19.1	9.1
1/2	FN-FGFS8-	22.4	27.0	15.5
3/4	FN-FGFS12-	28.4	38.1	22.6
1	FN-FGFS16-	34.0	44.5	30.5



Male Nut

GFS Size (in.)	Basic Ordering Number	Dimension, mm		
		L	F	E
1/8	MN-GFS2-	12.7	9.5	5.3
1/4	MN-GFS4-	18.0	15.9	9.1
1/2	MN-GFS8-	20.6	23.8	15.5
3/4	MN-GFS12-	25.4	33.3	22.6
1	MN-GFS16-	30.2	41.3	30.5

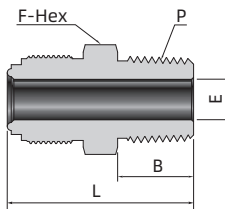


Short Male Nut

GFS Size (in.)	Basic Ordering Number	Dimension, mm		
		L	F	E
1/4	SMN-GFS4-0.54-	13.7	15.9	9.1
1/4	SMN-GFS4-0.65-	16.5	15.9	9.1

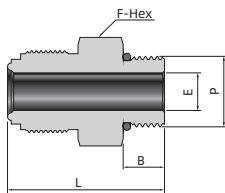
❖ For use with short gland

Bodies



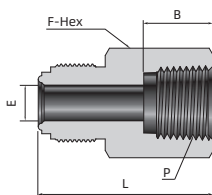
GFS Body to Male NPT

GFS Size (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm				Working Pressure, psig (bar)		
			L	F	B	E	6L	CU	NI
1/8	1/16	GFS2-MC-NPT1-	27.2	9.5	9.7	2.3	9000 (620)	7200 (496)	9000 (620)
1/8	1/8	GFS2-MC-NPT2-	27.2	11.1	9.7	2.3	9000 (620)	7200 (496)	9000 (620)
1/4	1/8	GFS4-MC-NPT2-	33.3	15.9	9.7	4.6	10000 (689)	6400 (440)	8000 (551)
1/4	1/4	GFS4-MC-NPT4-	37.9	15.9	14.2	4.6	10000 (689)	6400 (440)	8000 (551)
1/2	1/4	GFS8-MC-NPT4-	41.9	23.8	14.2	10.2	4300 (296)	2800 (196)	3500 (241)
1/2	3/8	GFS8-MC-NPT6-	41.9	23.8	19.1	9.7	4300 (296)	2800 (196)	3500 (241)
1/2	1/2	GFS8-MC-NPT8-	46.7	23.8	19.1	10.2	4300 (296)	2800 (196)	3500 (241)
3/4	3/4	GFS12-MC-NPT12-	55.6	33.3	19.1	15.8	3700 (254)	2400 (165)	3000 (206)
1	1	GFS16-MC-NPT16-	62.7	41.3	23.9	22.1	3000 (206)	1900 (130)	2400 (165)



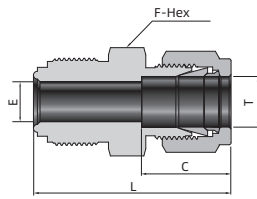
GFS Body to SAE/MS Thread

GFS Size (in.)	P-SAE/MS Thread Size	Basic Ordering Number	Dimension, mm				Working Pressure, psig (bar)		
			L	F	B	E	6L	CU	NI
1/4	9/16-18	GFS4-MC-OST9-	33.8	19.1	9.9	4.6	4500 (310)	4500 (310)	4500 (310)
1/2	9/16-18	GFS8-MC-OST9-	37.6	23.8	9.9	7.1	3500 (241)	2800 (192)	3500 (241)
1/2	7/8-14	GFS8-MC-OST14-	42.2	25.4	12.7	7.1	3500 (241)	2800 (192)	3500 (241)



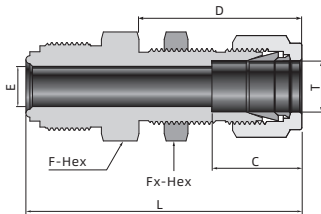
GFS Body to Female NPT

GFS Size (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm				Working Pressure, psig (bar)		
			L	F	B	E	6L	CU	NI
1/8	1/16	GFS2-FC-FNPT1-	27.9	11.1	9.9	2.3	6700 (461)	6700 (461)	6700 (461)
1/8	1/8	GFS2-FC-FNPT2-	30.2	14.3	10.4	2.3	6500 (447)	6500 (447)	6500 (447)
1/4	1/8	GFS4-FC-FNPT2-	35.8	15.9	10.4	4.6	8000 (551)	6400 (440)	8000 (551)
1/4	1/4	GFS4-FC-FNPT4-	39.1	19.1	15.0	4.6	6600 (454)	5200 (358)	6600 (454)
1/2	3/8	GFS8-FC-FNPT6-	44.7	23.8	15.0	10.2	4300 (296)	2800 (192)	3500 (241)
1/2	1/2	GFS8-FC-FNPT8-	50.5	27.0	19.8	10.2	4300 (296)	2800 (192)	3500 (241)
3/4	3/4	GFS12-FC-FNPT12-	59.9	33.3	20.6	15.7	3700 (254)	2400 (165)	3000 (207)
1	1	GFS16-FC-FNPT16-	63.8	41.3	25.4	22.1	3000 (207)	1900 (130)	2400 (165)



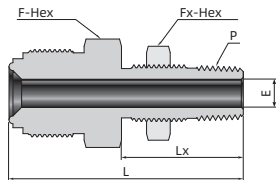
GFS Body to Tube Fitting

GFS Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm				Working Pressure, psig (bar)		
			L	F	C	E	6L	CU	NI
1/4	1/8	GFS4-TF-F2-	38.9	15.9	12.7	2.3	10000 (689)	6400 (440)	8000 (551)
1/4	1/4	GFS4-TF-F4-	41.1	15.9	15.2	4.6	10000 (689)	6400 (440)	8000 (551)
1/2	3/8	GFS8-TF-F6-	46.7	23.8	16.8	7.1	4300 (296)	2800 (192)	3500 (241)
1/2	1/2	GFS8-TF-F8-	49.5	23.8	22.9	10.2	4300 (296)	2800 (192)	3500 (241)



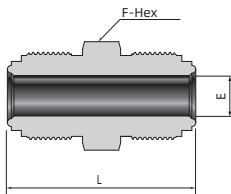
GFS Body to Bulkhead Tube Fitting

GFS Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm							Max. Panel Thickness (mm)	Working Pressure, psig (bar)		
			L	F	Fx	D	C	E			6L	CU	NI
1/4	1/4	GFS4-BTF-F4-	57.2	15.9	15.9	33.5	15.2	4.6	11.9	10.2	10000(689)	6400(440)	8000(551)
1/4	1/4	GFS4-BTF-F4-2-	47.8	15.9	15.9	26.7	15.2	4.6	11.9	3.3	10000(689)	6400(440)	8000(551)
1/2	3/8	GFS8-BTF-F6-	64.5	23.8	19.1	36.8	16.8	7.1	15.1	11.2	4300(296)	2800(192)	3500(241)
1/2	1/2	GFS8-BTF-F8-	69.6	23.8	23.8	41.9	22.9	10.2	19.8	12.7	4300(296)	2800(192)	3500(241)



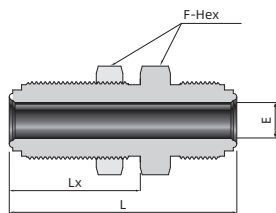
GFS Body to Bulkhead Male Connector

GFS Size (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm					Panel Hole Size (mm)	Max. Panel Thickness (mm)	Working Pressure, psig (bar)		
			L	F	Fx	Lx	E			6L	CU	NI
1/4	1/4	GFS4-BMC-NPT4-	56.1	20.6	20.6	31.5	7.1	16.7	9.7	8000 (551)	6400 (440)	8000 (551)
1/2	1/4	GFS8-BMC-NPT4-	59.4	23.8	20.6	31.5	7.1	16.7	9.7	4370 (301)	2800 (192)	3500 (241)



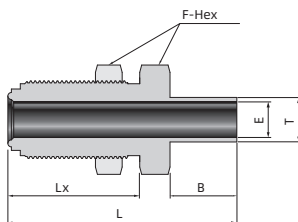
Union Body

GFS Size (in.)	GFS Size (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
			L	F	E	6L	CU	NI
1/8	1/8	GFS2-U-GFS2-	28.7	9.5	2.3	11200 (772)	7200 (496)	9000 (620)
1/4	1/8	GFS4-U-GFS2-	34.8	15.9	2.3	10000 (689)	6400 (440)	8000 (551)
1/4	1/4	GFS4-U-GFS4-	39.4	15.9	4.6	10000 (689)	6400 (440)	8000 (551)
1/2	1/4	GFS8-U-GFS4-	43.4	23.8	4.6	4300 (296)	2800 (192)	3500 (241)
1/2	1/2	GFS8-U-GFS8-	46.7	23.8	10.2	4300 (296)	2800 (192)	3500 (241)
3/4	3/4	GFS12-U-GFS12-	62.0	33.3	15.7	3700 (254)	2400 (165)	3000 (207)
1	1	GFS16-U-GFS16-	65.8	41.3	22.1	3000 (207)	1900 (130)	2400 (165)



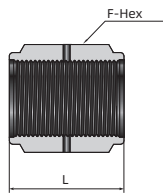
Bulkhead Union Body

GFS Size (in.)	Basic Ordering Number	Dimension, mm				Panel Hole Drill Size (mm)	Max. Panel Thickness (mm)	Working Pressure, psig (bar)		
		L	Lx	F	E			6L	CU	NI
1/4	GFS4-BU-GFS4-	46.2	25.1	19.1	4.6	15.1	3.3	10000 (689)	6400 (440)	8000 (551)
1/4	GFS4-BU-GFS4-2-	56.6	33.0	19.1	4.6	15.1	11.2	10000 (689)	6400 (440)	8000 (551)
1/2	GFS8-BU-GFS8-	54.4	28.2	27.0	10.2	23.0	3.3	4300 (296)	2800 (192)	3500 (241)
1/2	GFS8-BU-GFS8-2-	65.3	37.6	27.0	10.2	23.0	12.7	4300 (296)	2800 (192)	3500 (241)



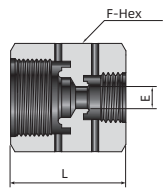
GFS Bulkhead Body to Tube Butt Weld

GFS T-Tube Size (in.)	O.D. (in.)	Basic Ordering Number	Dimension, mm					Panel Hole Drill Size (mm)	Max. Panel Thickness (mm)	Working Pressure, psig (bar)		
			L	Lx	F	E	B			6L	CU	NI
1/4	1/4	GFS4-BTB-FBW4-	49.5	25.1	19.1	4.6	19.1	15.1	3.3	5100 (351)	5100 (351)	5100 (351)
1/4	1/4	GFS4-BTB-FBW4-2-	59.9	33.0	19.1	4.6	19.1	15.1	11.2	5100 (351)	5100 (351)	5100 (351)



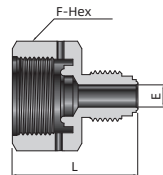
Coupling

GFS Size (in.)	Basic Ordering Number	Dimension, mm	
		L	F
1/8	C-FGFS2-	16.8	11.1
1/4	C-FGFS4-	30.2	19.1
1/2	C-FGFS8-	33.3	27.0
3/4	C-FGFS12-	42.7	38.1
1	C-FGFS16-	51.8	44.5



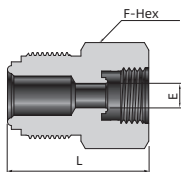
Female Reducing Union

GFS Size (in.)	GFS Size (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
			L	F	E	6L	CU	NI
1/4	1/8	FGFS4-FU-FGFS2-	29.5	19.1	3.3	10000 (689)	6400 (440)	8000 (551)
1/2	1/4	FGFS8-FU-FGFS4-	35.8	27.0	6.4	4300 (296)	2800 (192)	3500 (241)



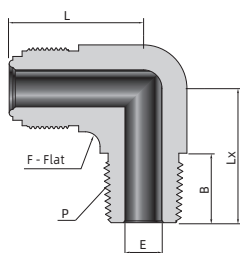
Reducing Adapter

GFS Size (in.)	GFS Size (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
			L	F	E	6L	CU	NI
1/4	1/8	FGFS4-RA-FGFS2-	30.2	19.1	2.3	10000 (689)	6400 (440)	8000 (551)
1/2	1/4	FGFS8-RA-FGFS4-	35.8	27.0	4.6	4300 (296)	2800 (192)	3500 (241)



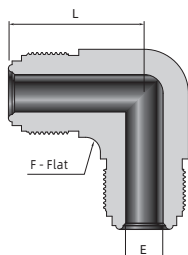
Reducing Bushing

GFS Size (in.)	GFS Size (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
			L	F	E	6L	CU	NI
1/4	1/8	FGFS4-RB-FGFS2-	26.9	15.9	3.3	10000 (689)	6400 (440)	8000 (551)
1/2	1/4	FGFS8-RB-FGFS4-	35.8	23.8	6.4	4300 (296)	2800 (192)	3500 (241)



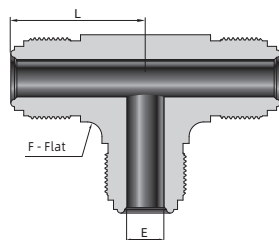
GFS Body to Male NPT Elbow

GFS Size (in.)	P-NPT Size	Basic Ordering Number	Dimension, mm					Working Pressure, psig (bar)		
			L	F	B	E	Lx	6L	CU	NI
1/4	1/8	GFS4-ME-NPT2-	27.2	12.7	9.6	4.6	22.1	10000 (689)	6400 (440)	8000 (551)
1/4	1/4	GFS4-ME-NPT4-	27.2	12.7	14.2	4.6	26.7	8000 (551)	8000 (551)	8000 (551)
1/2	3/8	GFS8-ME-NPT6-	36.8	20.6	14.2	10.2	32.0	4300 (296)	2800 (192)	3500 (241)
1/2	1/2	GFS8-ME-NPT8-	36.8	20.6	19.1	10.2	36.8	4300 (296)	2800 (192)	3500 (241)



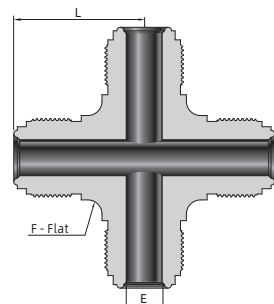
GFS Body Union Elbow

GFS Size (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
		L	F	E	6L	CU	NI
1/8	GFS2-UE-GFS2-	22.6	11.1	2.3	11200 (772)	7200 (496)	9000 (620)
1/4	GFS4-UE-GFS4-	27.2	12.7	4.6	10000 (689)	6400 (440)	8000 (551)
1/2	GFS8-UE-GFS8-	36.8	20.6	10.2	4300 (296)	2800 (192)	3500 (241)
3/4	GFS12-UE-GFS12-	48.8	31.8	15.7	3700 (254)	2400 (165)	3000 (207)
1	GFS16-UE-GFS16-	50.8	42.9	22.1	3000 (207)	1900 (130)	2400 (165)



GFS Body Union Tee

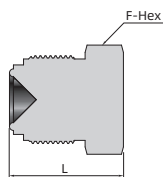
GFS Size (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
		L	F	E	6L	CU	NI
1/8	GFS2-UT-GFS2-GFS2-	22.6	11.1	2.3	11200 (772)	7200 (496)	9000 (620)
1/4	GFS4-UT-GFS4-GFS4-	27.2	12.7	4.6	10000 (689)	6400 (440)	8000 (551)
1/2	GFS8-UT-GFS8-GFS8-	36.8	20.6	10.2	4300 (296)	2800 (192)	3500 (241)
3/4	GFS12-UT-GFS12-GFS12-	48.8	31.8	15.7	3700 (254)	2400 (165)	3000 (207)
1	GFS16-UT-GFS16-GFS16-	50.8	42.9	22.1	3000 (207)	1900 (130)	2400 (165)



GFS Body Union Cross

GFS Size (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
		L	F	E	6L	CU	NI
1/8	GFS2-UC-GFS2-GFS2-GFS2-	22.6	11.1	2.3	11200 (772)	7200 (496)	9000 (620)
1/4	GFS4-UC-GFS4-GFS4-GFS4-	27.2	12.7	4.6	10000 (689)	6400 (440)	8000 (551)
1/2	GFS8-UC-GFS8-GFS8-GFS8-	36.8	20.6	10.2	4300 (296)	2800 (192)	3500 (241)
3/4	GFS12-UC-GFS12-GFS12-GFS12-	48.8	31.8	15.7	3700 (254)	2400 (165)	3000 (206)
1	GFS16-UC-GFS16-GFS16-GFS16-	50.8	42.9	22.1	3000 (206)	1900 (130)	2400 (165)

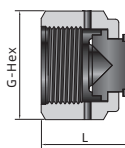
Plugs



Plug

GFS Size (in.)	Basic Ordering Number	Dimension, mm	
		L	F
1/8	PL-GFS2-	17.3	9.5
1/4	PL-GFS4-	23.4	15.9
1/2	PL-GFS8-	27.4	23.8
3/4	PL-GFS12-	36.3	33.3
1	PL-GFS16-	38.6	41.3

Caps



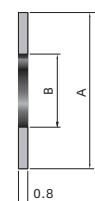
Cap

GFS Size (in.)	Basic Ordering Number	Dimension, mm	
		L	G
1/8	CA-FGFS2-	16.0	11.1
1/4	CA-FGFS4-	23.9	19.1
1/2	CA-FGFS8-	25.6	27.0
3/4	CA-FGFS12-	32.8	38.1
1	CA-FGFS16-	39.1	44.5

Gaskets

- ❖ Nickel and Copper gasket retainer assemblies use a 316L stainless steel retainer
- ❖ Copper and Nickel gaskets are unplated

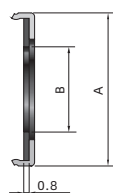
Silver Plated



Nonretained

GFS Size (in.)	Basic Ordering Number	Dimension, mm	
		A	B
1/8	GA-GFS2-	6.6	2.3
1/4	GA-GFS4-	11.9	5.6
1/2	GA-GFS8-	19.8	11.2
3/4	GA-GFS12-	29.0	16.8
1	GA-GFS16-	35.6	22.6

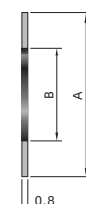
Gasket Retainer Assembly



GFS Size (in.)	Basic Ordering Number	Dimension, mm	
		A	B
1/4	GA-GFS4-A-	12.7	6.1
1/2	GA-GFS8-A-	20.1	11.2
3/4	GA-GFS12-A-	29.0	16.8
1	GA-GFS16-A-	35.6	22.6

❖ Gasket and retainer must be used as an assembly.

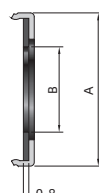
Unplated



Nonretained

GFS Size (in.)	Basic Ordering Number	Dimension, mm	
		A	B
1/8	GA-GFS2-UN-	6.6	2.3
1/4	GA-GFS4-UN-	11.9	5.6
1/2	GA-GFS8-UN-	19.8	11.2
3/4	GA-GFS12-UN-	29.0	16.8
1	GA-GFS16-UN-	35.6	22.6

Gaskets Retainer Assembly



GFS Size (in.)	Basic Ordering Number	Dimension, mm	
		A	B
1/4	GA-GFS4-A-UN-	12.7	6.1
1/2	GA-GFS8-A-UN-	20.1	11.2
3/4	GA-GFS12-A-UN-	29.0	16.8
1	GA-GFS16-A-UN-	35.6	22.6

Gasket and retainer must be used as an assembly.

- ❖ To order a gasket, add material designator (316L, Brass or Nickel) as a postfix to the basic ordering number
- Example: **GA-GFS4-316L**

How to Order



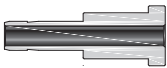
O-Ring Face Seal Fittings

OFS Series



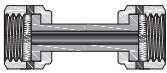
Nuts

7-4



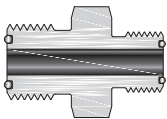
Glands

7-4



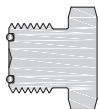
Welded Assemblies

7-5



Bodies

7-6



Plugs

7-8



O-rings

7-8

O-ring Face Seal Fittings

Features

- ❖ 316, 316L stainless steel materials are available
- ❖ O-ring seal provides perfect leak-tight service from critical vacuum to high pressure
- ❖ Easy to install and maintain
- ❖ Test ports at nut for easy leak testing
- ❖ O-ring contained completely for maximum efficiency
- ❖ Smooth finish on gland face ensures positive seal
- ❖ Sizes range from 1/8 to 1 in.



Working Pressure

- ❖ Catalog 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 OFS fittings are determined by the O-ring materials
- ❖ Standard fluorocarbon FKM O-ring, -25°F to 400°F (-31°C to 204°C)

Standard Materials

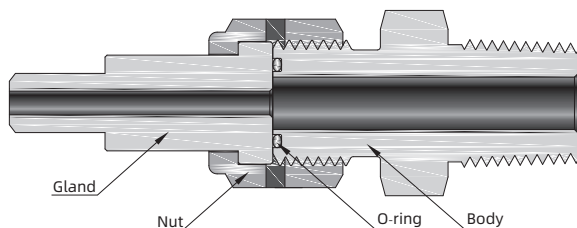
Material	Bar Stock	Forging
316 stainless steel	ASTM A276, ASME SA479	ASTM A182, ASME SA182
316L stainless steel		

Testing

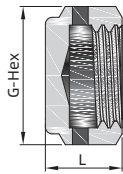
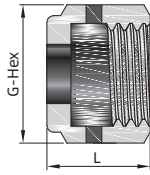
- ❖ OFS fitting is tested with helium at a maximum leak rate of 4×10^{-9} std cm³/s

Installation Instructions

- ❖ Assembled the gland, nut, O-ring and body as below, finger tighten the nut
- ❖ Tighten the nut 1/8-1/4 turn with wrench while holding the body of the fitting steadily, until a sharp rise in torque



Nuts



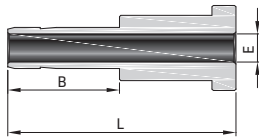
Female

OFS Size in.	Ordering Number	Dimensions, in.(mm)	
		L	G
1/4	FN-FOFS4-	0.66(16.8)	11/16
1/2	FN-FOFS8-	0.69(17.5)	1
3/4	FN-FOFS12-	0.81(20.6)	1 1/2
1	FN-FOFS16-	0.81(20.6)	1 3/4

Blind

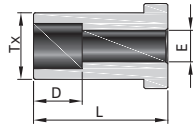
OFS Size in.	Ordering Number	Dimensions, in.(mm)	
		L	G
1/4	B-FOFS4-	0.44(11.2)	11/16
1/2	B-FOFS8-	0.56(14.2)	1
3/4	B-FOFS12-	0.75(19.1)	1 1/2
1	B-FOFS16-	0.81(20.6)	1 3/4

Glands



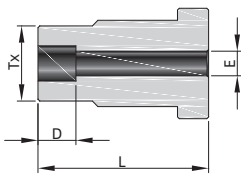
OFS Gland to Tube Adapter

OFS Size in.	Tube OD in.	Ordering Number	Dimensions, in.(mm)			Pressure Rating psig(bar)
			L	B	E	
1/4	1/4	OFS4-G-FT4-	1.31(33.3)	0.64(16.3)	0.17(4.3)	10200(702)
1/2	3/8	OFS8-G-FT6-	1.38(35.1)	0.70(17.8)	0.27(6.8)	7500(517)
	1/2	OFS8-G-FT8-	1.62(41.1)	0.96(24.4)	0.37(9.3)	6700(461)
3/4	3/4	OFS12-G-FT12-	1.80(45.7)	1.02(25.9)	0.58(14.7)	5800(399)
1	1	OFS16-G-FT16-	2.05(52.1)	1.30(33.0)	0.80(20.3)	4700(323)



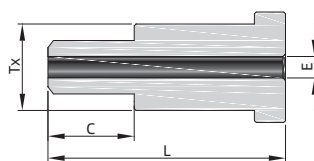
OFS Gland to Tube Socket Weld

OFS Size in.	Tube OD in.	Ordering Number	Dimensions, in.(mm)				Pressure Rating psig(bar)
			L	D	E	Tx	
1/8	1/8	OFS2-G-FSW2-	0.77(19.6)	0.10(2.5)	0.09(2.3)	0.38(9.7)	15400(1061)
1/4	1/4	OFS4-G-FSW4-	0.77(19.6)	0.28(7.1)	0.18(4.6)	0.38(9.7)	6800(468)
1/2	1/2	OFS8-G-FSW8-	0.81(20.6)	0.38(9.7)	0.40(10.2)	0.60(15.2)	3000(206)
3/4	3/4	OFS12-G-FSW12-	0.94(23.9)	0.44(11.2)	0.62(15.7)	0.92(23.4)	3700(255)
1	1	OFS16-G-FSW16-	0.98(24.9)	0.62(15.7)	0.87(22.1)	1.19(30.2)	3000(206)



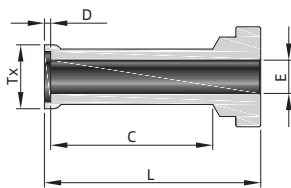
OFS Gland to Tube Socket Weld Reducing

OFS Size in.	Tube OD in.	Ordering Number	Dimensions, in.(mm)				Pressure Rating psig(bar)
			L	D	E	Tx	
1/4	1/8	OFS4-G-FSW2-	0.77(19.6)	0.10(2.5)	0.09(2.3)	0.29(7.4)	12600(868)
1/2	1/4	OFS8-G-FSW4-	0.81(20.6)	0.28(7.1)	0.18(4.6)	0.48(12.2)	10700(737)



OFS Gland to Male Tube Weld

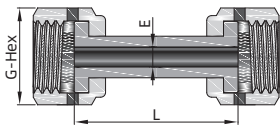
OFS Size in.	Tube OD in.	Ordering Number	Dimensions, in.(mm)				Pressure Rating psig(bar)
			L	C	E	Tx	
1/4	1/8	OFS4-G-FBW2-	0.77(19.6)	0.28(7.1)	0.06(1.5)	0.38(9.7)	11200(771)
	1/4	OFS4-G-FBW4-	1.12(28.4)	0.41(10.4)	0.12(3.0)	0.38(9.7)	11200(771)
1/2	1/4	OFS8-G-FBW4-	0.91(23.1)	0.41(10.4)	0.12(3.0)	0.60(15.2)	11200(771)
	3/8	OFS8-G-FBW6-	0.84(21.3)	0.41(10.4)	0.23(5.8)	0.60(15.2)	8200(564)
	1/2	OFS8-G-FBW8-	1.06(26.9)	0.50(12.7)	0.33(8.4)	0.60(15.2)	7500(516)



OFS Gland to Automatic Tube Weld

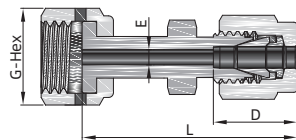
OFS Size in.	Tube OD in.	Ordering Number	Dimensions, in.(mm)						Pressure Rating psig(bar)
			L	C	D	E	Tx	Wall Th.	
1/4	1/4	OFS4-G-AFBW4-	1.12(28.4)	0.78(19.8)	0.02(0.51)	0.18(4.6)	0.29(7.4)	0.035	5100(351)
1/2	3/8	OFS8-G-AFBW6-	1.13(28.7)	0.79(20.0)	0.03(0.76)	0.31(7.9)	0.41(10.4)	0.035	3300(227)
	1/2	OFS8-G-AFBW8-	1.14(29.0)	0.80(20.3)	0.04(1.0)	0.40(10.2)	0.55(14.0)	0.049	3500(241)
3/4	3/4	OFS12-G-AFBW12-	1.20(30.5)	0.80(20.3)	0.04(1.0)	0.65(16.5)	0.80(20.3)	0.049	2200(151)
1	1	OFS16-G-AFBW16-	1.41(35.8)	1.00(25.4)	0.04(1.0)	0.87(22.1)	1.06(26.9)	0.065	2200(151)

Welded Assemblies



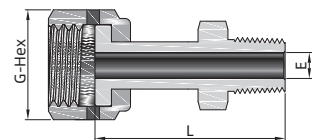
OFS Welded Assemblies Union

OFS Size in.	Ordering Number	Dimensions, in.(mm)			Pressure Rating psig(bar)
		L	E	G	
1/4	FOFS4-WU-FOFS4-	1.42(36.1)	0.18(4.6)	11/16	10200(702)
1/2	FOFS8-WU-FOFS8-	1.61(40.9)	0.4(10.2)	1	5800(399)



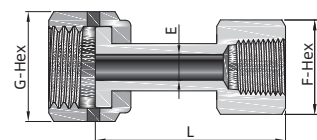
OFS Welded Assemblies to Tube Fitting

OFS Size in.	Tube OD in.	Ordering Number	Dimensions, in.(mm)				Pressure Rating psig(bar)
			L	D	E	G	
1/4	1/4	FOFS4-WA-F4-	1.74(44.2)	0.60(15.2)	0.18(4.6)	11/16	10200(702)
1/2	3/8	FOFS8-WA-F6-	1.87(47.5)	0.66(16.8)	0.28(7.1)	1	5800(399)
	1/2	FOFS8-WA-F8-	2.01(51.1)	0.90(22.9)	0.40(10.2)		
3/4	3/4	FOFS12-WA-F12-	2.14(54.4)	0.96(24.4)	0.62(15.7)	1 1/2	4000(275)
1	1	FOFS16-WA-F16-	2.45(62.2)	1.23(31.2)	0.87(22.1)	1 3/4	3000(206)



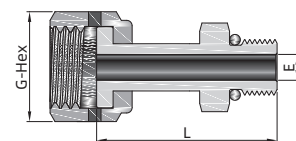
OFS Welded Assemblies to Male NPT

OFS Size in.	NPT Size in.	Ordering Number	Dimensions, in.(mm)			Pressure Rating psig(bar)
			L	E	G	
1/4	1/4	FOFS4-WA-NPT4-	1.59(40.4)	0.18(4.6)	11/16	9800(675)
1/2	3/8	FOFS8-WA-NPT6-	1.67(42.4)	0.40(10.2)	1	5600(385)
	1/2	FOFS8-WA-NPT8-	1.87(47.5)			
3/4	3/4	FOFS12-WA-NPT12-	2.03(51.6)	0.62(15.7)	1 1/2	3900(268)
1	1	FOFS16-WA-NPT16-	2.36(59.9)	0.87(22.1)	1 3/4	2900(199)



OFS Welded Assemblies to Female NPT

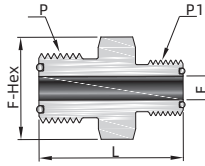
OFS Size in.	NPT Size in.	Ordering Number	Dimensions, in.(mm)				Pressure Rating psig(bar)
			L	E	F	G	
1/4	1/4	FOFS4-WA-FNPT4-	1.57(39.9)	0.18(4.6)	3/4	11/16	6600(454)
1/2	3/8	FOFS8-WA-FNPT6-	1.73(43.9)	0.40(10.2)	7/8	1	5300(365)
	1/2	FOFS8-WA-FNPT8-	1.96(49.8)		1 1/16		
3/4	3/4	FOFS12-WA-FNPT12-	2.12(53.8)	0.62(15.7)	1 5/16	1 1/2	4900(275)
1	1	FOFS16-WA-FNPT16-	2.29(58.2)	0.87(22.1)	1 5/8	1 3/4	3000(206)



OFS Welded Assemblies to Male SAE/MS Connectors

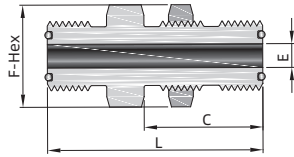
OFS Size in.	Straight Thread Size	Ordering Number	Dimensions, in.(mm)			Pressure Rating psig(bar)
			L	E	G	
1/4	7/16-20	OFS4-WA-OST7-	1.54(39.1)	0.18(4.6)	11/16	4500(310)
1/2	9/16-18	OFS8-WA-OST9-	1.64(41.7)	0.40(10.2)	1	4500(310)
	3/4-16	OFS8-WA-OST12-	1.71(43.4)			
3/4	1 1/16-12	OFS12-WA-OST17-	2.07(52.6)	0.62(15.7)	1 1/2	3600(248)
1	1 5/16-12	OFS16-WA-OST21-	2.17(55.1)	0.87(22.1)	1 3/4	2900(199)

Bodies



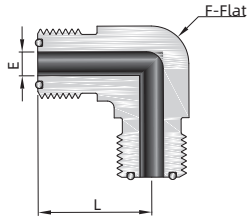
Union Body

P-OFS Size in.	P1-OFS Size in.	Ordering Number	Dimensions, in.(mm)			Pressure Rating psig(bar)
			L	E	F	
1/4	1/4	OFS4-U-OFS4-	1.25(31.8)	0.18(4.6)	5/8	14300(985)
1/2	1/4	OFS8-U-OFS4-	1.43(36.3)	0.18(4.6)	15/16	11100(764)
1/2	1/2	OFS8-U-OFS8-	1.50(38.1)	0.40(10.2)	15/16	11100(764)



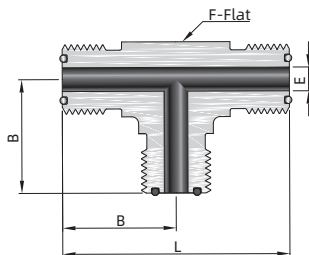
Bulkhead Union Body

OFS Size in.	Ordering Number	Dimensions, in.(mm)						Pressure Rating psig(bar)
		L	C	E	F	Panel Hole Drill Size	Max Panel Thickness	
1/4	OFS4-BU-OFS4-	1.88(47.8)	1.06(26.9)	0.18(4.6)	3/4	37/64	0.36(9.1)	14300(985)
1/2	OFS8-BU-OFS8-	2.09(53.1)	1.19(30.2)	0.40(10.2)	1 1/16	57/64	0.40(10.2)	11100(764)



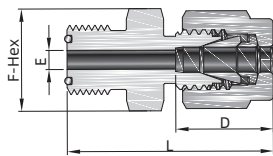
OFS Body Union Elbow

OFS Size in.	Ordering Number	Dimensions, in.(mm)			Pressure Rating psig(bar)
		L	E	F	
1/4	OFS4-UE-OFS4-	0.96(24.4)	0.18(4.6)	9/16	14300(985)
1/2	OFS8-UE-OFS8-	1.26(32.0)	0.40(10.2)	13/16	11100(764)
3/4	OFS12-UE-OFS12-	1.48(37.6)	0.62(15.7)	1 1/4	10900(751)
1	OFS16-UE-OFS16-	1.56(39.6)	0.87(22.1)	1 11/16	8800(606)



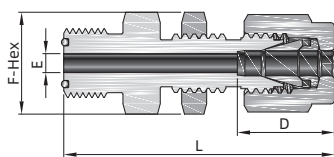
OFS Body Union Tee

OFS Size in.	Ordering Number	Dimensions, in.(mm)				Pressure Rating psig(bar)
		L	B	E	F	
1/4	OFS4-UT-OFS4-OFS4-	1.92(48.8)	0.96(24.4)	0.18(4.6)	9/16	14300(985)
1/2	OFS8-UT-OFS8-OFS8-	2.52(64.0)	1.26(32.0)	0.40(10.2)	13/16	11100(764)
3/4	OFS12-UT-OFS12-OFS12-	2.96(75.2)	1.48(37.6)	0.62(15.7)	1 1/4	10900(751)
1	OFS16-UT-OFS16-OFS16-	3.12(79.2)	1.56(39.6)	0.87(22.1)	1 11/16	8800(606)



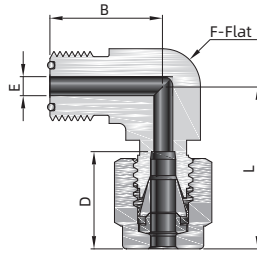
OFS Body to Tube Fitting

OFS Size in.	Tube OD in.	Ordering Number	Dimensions, in.(mm)				Pressure Rating psig(bar)
			L	D	E	F	
1/4	1/8	OFS4-TF-F2-	1.38(35.1)	0.51(13.0)	0.09(2.3)	5/8	10900(751)
	1/4	OFS4-TF-F4-	1.47(37.3)	0.60(15.2)	0.18(4.6)		10200(702)
1/2	3/8	OFS8-TF-F6-	1.65(41.9)	0.66(16.8)	0.28(7.1)	15/16	7500(517)
	1/2	OFS8-TF-F8-	1.78(45.2)	0.90(22.9)	0.40(10.2)		6700(461)
3/4	3/4	OFS12-TF-F12-	1.86(47.2)	0.96(24.4)	0.62(15.7)	1 5/16	5800(399)
1	1	OFS16-TF-F16-	2.06(52.3)	1.23(31.2)	0.87(22.1)	1 5/8	4700(323)



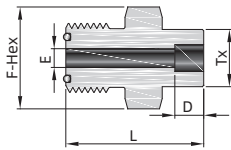
OFS Body to Bulkhead Tube Fitting

OFS Size in.	Tube OD in.	Ordering Number	Dimensions, in.(mm)						Pressure Rating psig(bar)
			L	D	E	F	Panel Hole Drill Size	Max Panel Thickness	
1/4	1/4	OFS4-BTF-F4-	2.10(53.3)	0.60(15.2)	0.18(4.6)	5/8	29/64	0.40(10.2)	10200(702)
1/2	3/8	OFS8-BTF-F6-	2.34(59.4)	0.66(16.8)	0.28(7.1)	15/16	37/64	0.44(11.2)	7500(517)
	1/2	OFS8-BTF-F8-	2.55(64.8)	0.90(22.9)	0.40(10.2)		49/64	0.50(12.7)	6700(461)
3/4	3/4	OFS12-BTF-F12-	2.86(72.6)	0.96(24.4)	0.62(15.7)	1 5/16	1 1/64	0.66(16.8)	5800(399)
1	1	OFS16-BTF-F16-	3.29(83.6)	1.23(31.2)	0.87(22.1)	1 5/8	1 21/64	0.75(19.1)	4700(323)



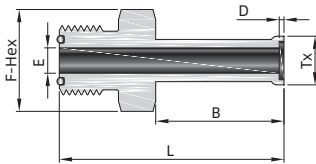
OFS Body to Tube Fitting Elbow

OFS Size in.	Tube OD in.	Ordering Number	Dimensions, in.(mm)					Pressure Rating psig(bar)
			L	B	D	E	F	
1/4	1/4	OFS4-ETF-F4-	1.19(30.2)	0.96(24.4)	0.60(15.2)	0.18(4.6)	9/16	10200(702)
1/2	3/8	OFS8-ETF-F6-	1.39(35.3)	1.26(32.0)	0.66(16.8)	0.28(7.1)	13/16	7500(517)
	1/2	OFS8-ETF-F8-	1.50(38.1)		0.90(22.9)	0.40(10.2)	13/16	6700(461)
3/4	3/4	OFS12-ETF-F12-	1.80(45.7)	1.48(37.6)	0.96(24.4)	0.62(15.7)	1 1/4	5800(399)
1	1	OFS16-ETF-F16-	2.04(51.8)	1.56(39.6)	1.23(31.2)	0.87(22.1)	1 11/16	4700(323)



OFS Body to Tube Socket Weld

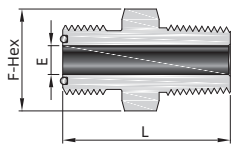
OFS Size in.	Tube OD in.	Ordering Number	Dimensions, in.(mm)					Pressure Rating psig(bar)
			L	D	E	F	Tx	
1/8	1/8	OFS2-WC-FSW2-	0.88(22.4)	0.10(2.5)	0.09(2.3)	5/8	0.29(7.4)	12600(868)
1/4	1/4	OFS4-WC-FSW4-	1.09(27.7)	0.28(7.1)	0.18(4.6)	5/8	0.38(9.7)	6800(468)
1/2	1/2	OFS8-WC-FSW8-	1.34(34.0)	0.38(9.7)	0.40(10.2)	15/16	0.60(15.2)	3000(206)
3/4	3/4	OFS12-WC-FSW12-	1.50(38.1)	0.44(11.2)	0.62(15.7)	15/16	0.92(23.4)	3700(254)
1	1	OFS16-WC-FSW16-	1.72(43.7)	0.62(15.7)	0.87(22.1)	1 5/8	1.19(30.2)	3000(206)



OFS Body to Automatic Tube Weld

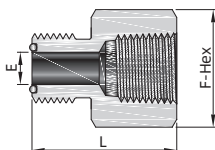
OFS Size in.	Tube OD in.	Ordering Number	Dimensions, in.(mm)							Pressure Rating psig(bar)
			L	B	D	E	F	Tx	Wall Th.	
1/4	1/4	OFS4-WC-AFBW4-	1.59(40.4)	0.78(19.8)	0.02(0.5)	0.18(4.6)	5/8	0.29(7.4)	0.035	5100(351)
1/2	3/8	OFS8-WC-AFBW6-	1.74(44.2)	0.79(20.0)	0.03(0.8)	0.31(7.9)	15/16	0.41(10.4)	0.035	3300(227)
1/2	1/2	OFS8-WC-AFBW8-	1.75(44.4)	0.80(20.3)	0.04(1.0)	0.40(10.2)	15/16	0.55(14.0)	0.049	3500(241)
3/4	3/4	OFS12-WC-AFBW12-	1.78(45.2)	0.80(20.3)	0.04(1.0)	0.65(16.5)	1 5/16	0.80(20.3)	0.049	2200(151)
1	1	OFS16-WC-AFBW16-	2.03(51.6)	1.00(25.4)	0.04(1.0)	0.87(22.1)	1 5/8	1.06(26.9)	0.065	2200(151)

OFS Body to Male NPT

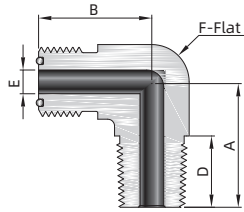


OFS Size in.	NPT Size in.	Ordering Number	Dimensions, in.(mm)			Pressure Rating psig(bar)
			L	E	F	
1/4	1/8	OFS4-MC-NPT2-	1.16(29.5)	0.18(4.6)	5/8	10000(689)
	1/4	OFS4-MC-NPT4-	1.34(34.0)			13400(923)
1/2	3/8	OFS8-MC-NPT6-	1.46(37.1)	0.38(9.7)	15/16	7800(537)
	1/2	OFS8-MC-NPT8-	1.65(41.9)	0.40(10.2)		10000(689)
3/4	3/4	OFS12-MC-NPT12-	1.75(44.4)	0.62(15.7)	1 5/16	7300(502)
1	1	OFS16-MC-NPT16-	1.97(50.0)	0.87(22.1)	1 5/8	5300(365)

OFS Body to Female NPT

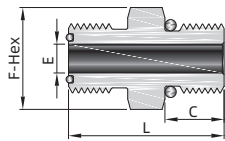


OFS Size in.	NPT Size in.	Ordering Number	Dimensions, in.(mm)			Pressure Rating psig(bar)
			L	E	F	
1/4	1/8	OFS4-FC-FNPT2-	1.25(31.8)	0.18(4.6)	5/8	8400(578)
	1/4	OFS4-FC-FNPT4-	1.39(35.3)		3/4	6600(454)
1/2	3/8	OFS8-FC-FNPT6-	1.57(39.9)	0.40(10.2)	15/16	6600(454)
	1/2	OFS8-FC-FNPT8-	1.77(45.0)		1 1/16	4900(337)
3/4	3/4	OFS12-FC-FNPT12-	1.93(49.0)	0.62(15.7)	1 5/16	4600(316)
1	1	OFS16-FC-FNPT16-	2.02(51.3)	0.87(22.1)	1 5/8	4400(303)



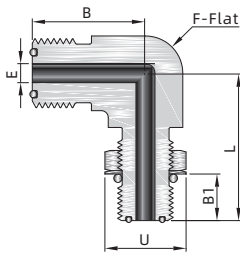
OFS Body to Male NPT Elbow

OFS Size in.	NPT Size in.	Ordering Number	Dimensions, in.(mm)					Pressure Rating psig(bar)
			A	B	D	E	F	
1/4	1/8	OFS4-ME-NPT2-	0.87(22.1)	0.96(24.4)	0.38(9.7)	0.18(4.6)	9/16	10000(689)
	1/4	OFS4-ME-NPT4-	1.05(26.7)		0.56(14.2)			8000(551)
1/2	3/8	OFS8-ME-NPT6-	1.26(32.0)	1.26(32.0)	0.56(14.2)	0.38(9.7)	13/16	7800(537)
	1/2	OFS8-ME-NPT8-	1.45(36.8)		0.75(19.1)	0.40(10.2)		7700(530)
3/4	3/4	OFS12-ME-NPT12-	1.67(42.4)	1.48(37.6)	0.75(19.1)	0.62(15.7)	1 1/4	7300(502)
1	1	OFS16-ME-NPT16-	1.94(49.3)	1.56(39.6)	0.94(23.9)	0.87(22.0)	1 11/16	5300(365)



OFS Body to Male SAE/MS Connector

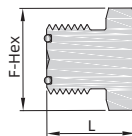
OFS Size in.	Straight Thread Size	Ordering Number	Dimensions, in.(mm)				Pressure Rating psig(bar)
			L	C	E	F	
1/4	7/16-20	OFS4-MC-OST7-	1.24(31.5)	0.36(9.1)	0.18(4.6)	11/16	4500(310)
	9/16-18	OFS4-MC-OST9-	1.17(29.7)	0.39(9.9)			
1/2	7/16-20	OFS8-MC-OST7-	1.36(34.5)	0.36(9.1)	0.18(4.6)	15/16	4500(310)
	9/16-18	OFS8-MC-OST9-	1.39(35.3)	0.39(9.9)	0.30(7.6)		
	3/4-16	OFS8-MC-OST12-	1.47(37.3)	0.44(11.2)	0.40(10.2)	1	
3/4	1 1/16-12	OFS12-MC-OST17-	1.73(43.9)	0.59(15.0)	0.62(15.7)	1 3/8	3600(248)
1	1 5/16-12	OFS16-MC-OST21-	1.79(45.5)	0.59(15.0)	0.85(21.6)	1 5/8	2900(199)



OFS Body to Male SAE/MS Positionable Elbow

OFS Size in.	Straight Thread Size	Ordering Number	Dimensions, in.(mm)						Pressure Rating psig(bar)
			L	B	B1	E	U	F	
1/4	7/16-20	OFS4-PME-PST7-	1.19(30.2)	0.96(24.4)	0.39(9.9)	0.19(4.6)	0.65(16.5)	1/2	4500(310)
1/2	9/16-18	OFS8-PME-PST9-	1.54(39.1)	1.33(33.8)	0.44(11.2)	0.30(7.6)	0.79(20.1)	13/16	3600(248)
	3/4-16	OFS8-PME-PST12-	1.65(41.9)		0.50(12.7)	0.40(10.2)	1.01(25.7)	13/16	
3/4	1 1/16-12	OFS12-PME-PST17-	2.13(54.1)	1.53(38.9)	0.66(16.8)	0.62(15.7)	1.44(36.6)	1 1/4	2900(199)
1	1 5/16-12	OFS16-PME-PST21-	2.31(58.7)	1.72(43.7)	0.66(16.8)	0.87(22.1)	1.73(43.9)	1 11/16	2300(158)

Plugs



OFS Size in.	Ordering Number	Dimensions, in.(mm)	
		L	F
1/4	PL-OFS4-	0.77(19.6)	5/8
1/2	PL-OFS8-	0.89(22.6)	15/16
3/4	PL-OFS12-	0.99(25.1)	1 5/16
1	PL-OFS16-	1.02(25.9)	1 5/8

O-rings



O-ring for O-ring Face Seal Fittings

OFS Size in.	Ordering Number	Material
1/4	FKM7-010	70 Durometer Fluorocarbon FKM
1/2	FKM7-111	
3/4	FKM7-116	
1	FKM7-215	

Port 1 Type	Port 1 Size	Fitting Type	Port 2 Type	Port 2 Size	Port 3 Type	Port 3 Size	Material
OFS O-ring Face Seal	4 1/4 in.	FN Female Nut	OFS O-ring Face Seal	2 1/8 in.	OFS O-ring Face Seal	4 1/4 in.	316 316 S.S.
FOFS O-ring Face Seal Female	8 1/2 in.	B Blind	FOFS O-ring Face Seal Female	4 1/4 in.	F Fractional Tube Fitting	6 3/8 in.	316L 316L S.S.
	12 3/4 in.	WU Weld Union	FBW Fractional Tube Butt Weld	6 3/8 in.	NPT Male NPT	7 7/16 in.	304 304 S.S.
	16 1 in.	WA Weld Assemblies	FSW Fractional Tube Socket Weld	7 7/16 in.	PST Positionable SAE Parallel Thread	8 1/2 in.	304L 304L S.S.
		G Gland	FT Fractional Tube	8 1/2 in.		9 9/16 in.	
		U Union	F Fractional Tube Fitting	9 9/16 in.		12 3/4 in.	
		BU Bulkhead Union	NPT Male NPT	12 3/4 in.		16 1 in.	
		UE Union Elbow	FNPT Female NPT	16 1 in.		17 1 1/16 in.	
		UT Union Tee	OST O-ring with Male SAE	17 1 1/16 in.		21 1 5/16 in.	
		MC Male Connector Body	AFBW Automatic Fractional Tube Butt Weld	21 1 5/16 in.			
		ME Male Elbow					
		FC Female Connector Body					
		WC Weld Connector Body					
		PL Plug					
		TF Body To Tube Fitting					
		BTF Body To Bulkhead Tube Fitting					
		ETF Body To Tube Fitting Elbow					

