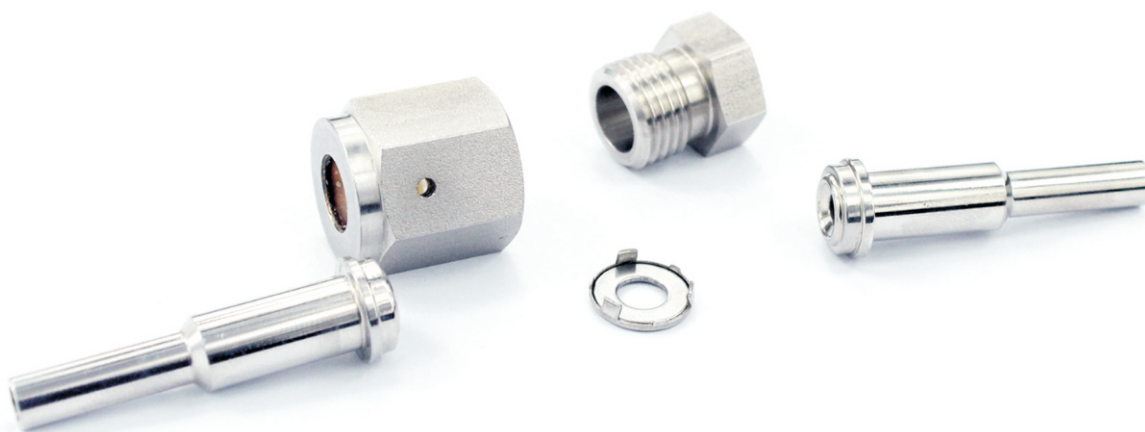
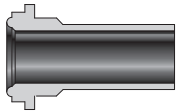




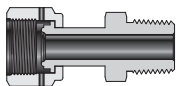
Metal Gasket Face Seal Fittings

GFS Series



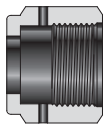
Glands

2-65



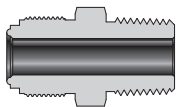
Welded Assemblies

2-67



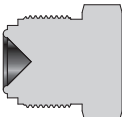
Nuts

2-68



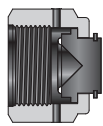
Bodies

2-68



Plugs

2-71



Caps

2-71

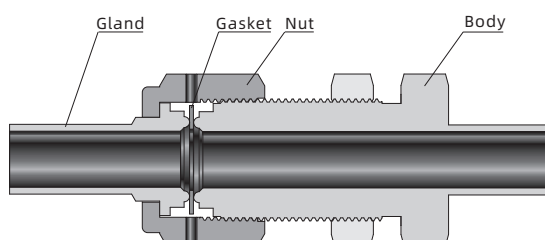


Gaskets

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

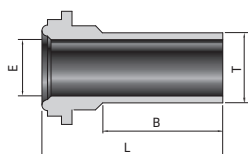
Material	Bar Stock	Forging
Fitting Material		
316 stainless steel	ASTM A276, ASME SA479	ASTM A182, ASME SA182
316L stainless steel		
316L VAR stainless steel		
Gasket Material		
316L stainless steel	ASTM A240, A167	
Copper	ASTM B152	
Nickel	ASTM B162	

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

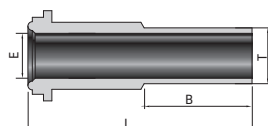


GFS Gland to Short Fractional Tube Butt Weld

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)

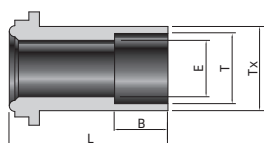


GFS Gland to Long Fractional Tube Butt Weld

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)

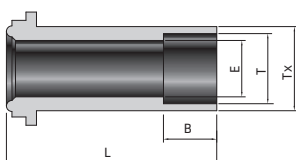
GFS Gland to Long Metric Tube Butt Weld

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)



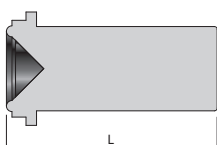
GFS Gland to Short Tube Socket Weld

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)



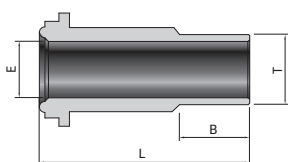
GFS Gland to Tube Socket Weld

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 (296)	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)



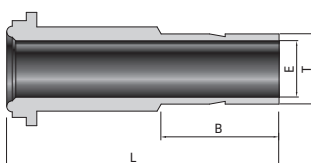
Blind Gland

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

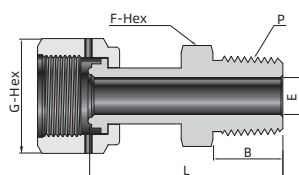
GFS Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
			L	B	E	6L	CU	NI
1/8	1/8	GFS2-G-MFBW2-	17.8	7.1	1.5	11200 (772)	7200 (496)	9000 (620)
1/4	1/8	GFS4-G-MFBW2-	33.3	7.1	1.5	10000 (689)	6400 (440)	8000 (551)
1/4	1/4	GFS4-G-MFBW4-	33.3	10.4	3.0	10000 (689)	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 (296)	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

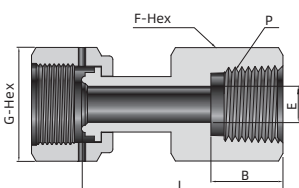
GFS Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
			L	B	E	6L	CU	NI
1/4	1/4	GFS4-G-FT4-	41.1	16.3	4.3	10000 (689)	6400 (440)	8000 (551)
1/2	3/8	GFS8-G-FT6-	46.0	17.8	16.9	4300 (296)	2800 (192)	3500 (241)
1/2	1/2	GFS8-G-FT8-	49.3	24.4	9.4	4300 (296)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

Welded Assemblies



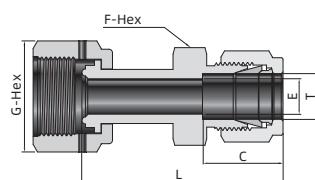
GFS Welded Assemblies to Male NPT

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)



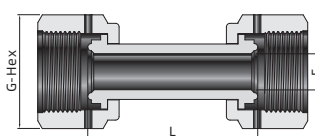
GFS Welded Assemblies to Female NPT

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)



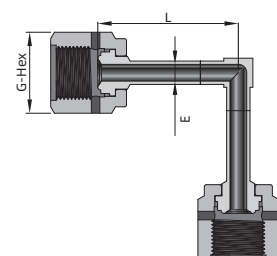
GFS Welded Assemblies to Tube Fitting

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)



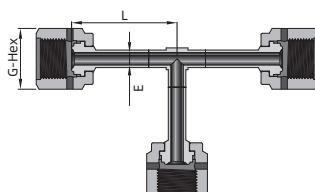
GFS Welded Assemblies Union

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)



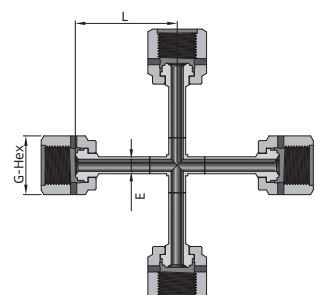
GFS Welded Assemblies Union Elbow

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

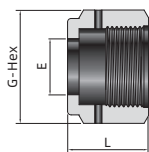
GFS Size (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
		L	E	G	6L	CU	NI
1/4	FGFS4-WUT-FGFS4-FGFS4-	38.3	4.6	19.1	10000(689)	6400(440)	8000(551)



GFS Welded Assemblies Union Cross

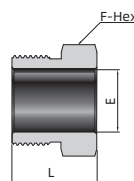
GFS Size (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
		L	E	G	6L	CU	NI
1/4	FGFS4-WUC-FGFS4-FGFS4-FGFS4-	38.3	4.6	19.1	10000(689)	6400(440)	8000(551)

Nuts



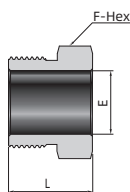
Female Nut

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

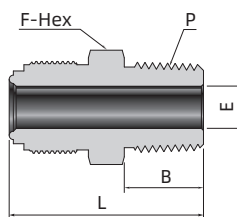


Short Male Nut

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

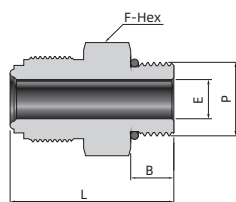
❖ For use with short gland

Bodies



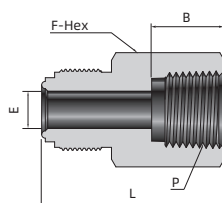
GFS Body to Male NPT

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)



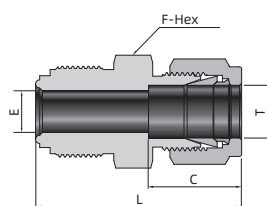
GFS Body to SAE/MS Thread

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)



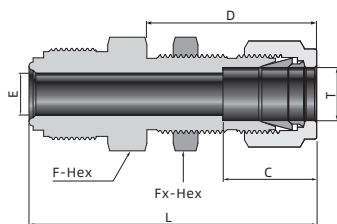
GFS Body to Female NPT

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)



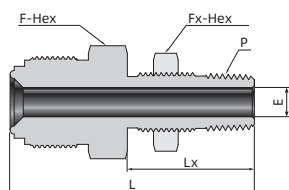
GFS Body to Tube Fitting

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)



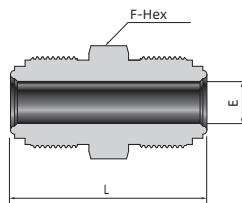
GFS Body to Bulkhead Tube Fitting

GFS Size (in.)	T-Tube O.D. (in.)	Basic Ordering Number	Dimension, mm						Panel Hole Size (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)



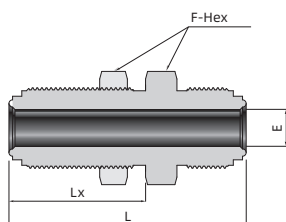
GFS Body to Bulkhead Male Connector

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)



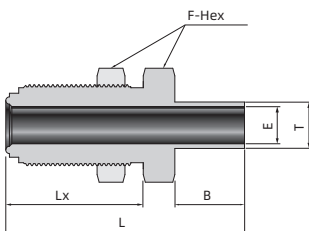
Union Body

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)



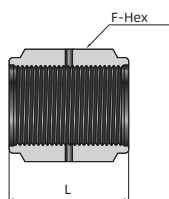
Bulkhead Union Body

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)



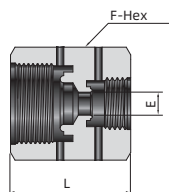
GFS Bulkhead Body to Tube Butt Weld

GFS Size (in.)	T-Tube 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)



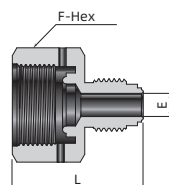
Coupling

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



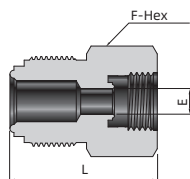
Female Reducing Union

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)



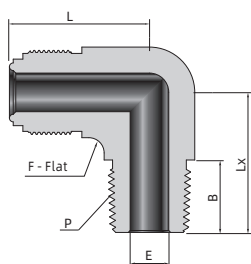
Reducing Adapter

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)



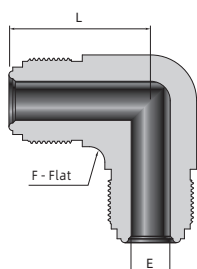
Reducing Bushing

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	GFS4-RB-FGFS2-	26.9	15.9	3.3	10000 (689)	6400 (440)	8000 (551)
1/2	1/4	GFS8-RB-FGFS4-	35.8	23.8	6.4	4300 (296)	2800 (192)	3500 (241)



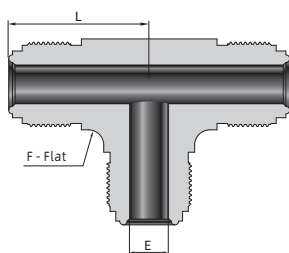
GFS Body to Male NPT Elbow

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)



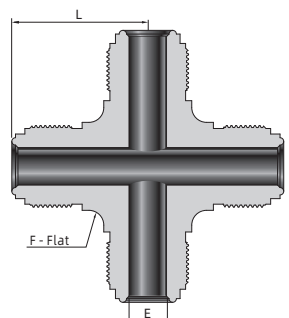
GFS Body Union Elbow

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

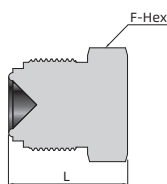
GFS Size (in.)	Basic Ordering Number	Dimension, mm			Working Pressure, psig (bar)		
		L	F	E	6L	CU	NI
1/8	GFS2-UT-GFS2-GFS2-	22.6	11.1	2.3	11200 (772)	7200 (496)	9000 (620)
1/4	GFS4-UT-GFS4-GFS4-	27.2	12.7	4.6	10000 (689)	6400 (440)	8000 (551)
1/2	GFS8-UT-GFS8-GFS8-	36.8	20.6	10.2	4300 (296)	2800 (192)	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)

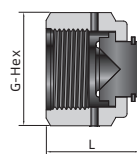
Plugs



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



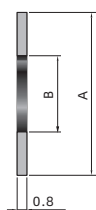
Cap

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

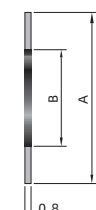
GFS Size (in.)	Basic Ordering Number	Dimension, mm	
		A	B
1/8	GA-GFS2-	6.6	2.3
1/4	GA-GFS4-	11.9	5.6
1/2	GA-GFS8-	19.8	11.2
3/4	GA-GFS12-	29.0	16.8
1	GA-GFS16-	35.6	22.6

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**

Port 1 Type	Port 1 Size	Fitting Type	Port 2 Type	Port 2 Size	Port 3 Type	Port 3 Size	Port 4	Material
GFS Metal Gasket Face Seal	2 1/8 in. 4 1/4 in.	SG Short Gland G Gland	GFS Metal Gasket Face Seal	1 1/16 in. 2 1/8 in.	GFS Metal Gasket Face Seal	2 1/8 in. 4 1/4 in.	Same as Port 3	316 316 S.S.
FGFS Metal Gasket Face Seal Female	8 1/2 in. 12 3/4 in. 16 1 in.	WA Weld Assemblies FN Female Nut MN Male Nut SMN Short Male Nut MC Male Connector FC Female Connector U Union Body TF Body to Tube Fitting BTf Body to Bulkhead Tube Fitting BMC Body to Bulkhead Male Connector BB Blind Body BU Bulkhead Union Body BTB Bulkhead Body to Tube Butt Weld C Coupling RA Reducing Adapter RB Reducing Bushing ME Male Elbow UE Union Elbow UT Union Tee UC Union Cross PL Plug CA Cap GA Gasket WU Weld Union FU Female Reducing Union WUE GFS Welded Assemblies Union Elbow WUT GFS Welded Assemblies Union Tee WUC GFS Welded Assemblies Union Cross	FGFS Fractional Gasket Face Seal FBW Fractional Tube Butt Weld FSW Fractional Tube Socket Weld MBW Metric Tube Butt Weld F Fractional Tube Fitting M Metric Tube Fitting FNPT Female NPT NPT Male NPT FBT Female BSPT MBT Male BSPT MFBW Fractional Tube Male Weld	6 3/8 in. or 6 mm 8 1/2 in. or 8 mm 9 9/16 in. 10 5/8 in. or 10 mm 12 3/4 in. or 12 mm 14 7/8 in. 16 1 in. 18 18 mm	FGFS Fractional Gasket Face Seal FGFS Fractional Gasket Face Seal	8 1/2 in. 12 3/4 in. 16 1 in.		316L 316L S.S. 316LV 316L VAR

