

20 Series Tube Fittings and Tubing

20,000 psi (1379 bar)



FIRTECH

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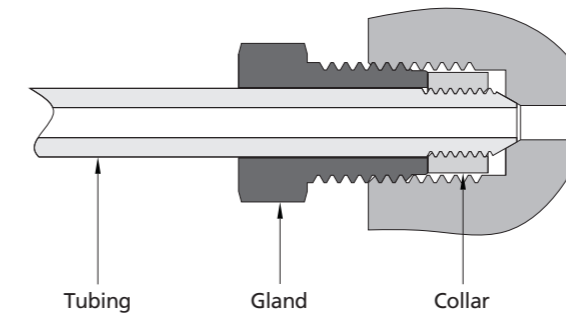
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Features

- ⦿ Coned-and-threaded connection.
- ⦿ Metal-to-metal seal provides perfect leak-tight service from critical vacuum to medium pressure.
- ⦿ Anti-vibration connection components available.
- ⦿ Fittings are easy to disconnect and retighten.
- ⦿ Material is high tensile 316 stainless steel.
- ⦿ Every fitting is stamped with size, material and heat code.

Composition



Working Pressure

⦿ Working pressures for 20 series tube end connections used in this catalog are identified below.

Tube O.D. in.	Working Pressure, psig (bar)				
	-423 to 100°F (-252 to 37.8°C)	200°F (93°C)	400°F (204°C)	600°F (316°C)	800°F (427°C)
1/4	20000 (1379)	20000 (1379)	19250 (1327)	18050 (1244)	16800 (1158)
3/8	20000 (1379)	20000 (1379)	19250 (1327)	18050 (1244)	16800 (1158)
9/16	20000 (1379)	20000 (1379)	19250 (1327)	18050 (1244)	16800 (1158)
3/4	20000 (1379)	20000 (1379)	19250 (1327)	18050 (1244)	16800 (1158)
1	20000 (1379)	20000 (1379)	19250 (1327)	18050 (1244)	16800 (1158)

Data in this table is applied only to the working temperature below 800°F (427°C). For the working temperature above 800°F (427°C), please consult FITOK Group, then we will provide you relative solutions.

Working Temperature

⦿ Temperature Rating: -423°F (-252°C) to 1200°F (649°C).

Installation Instructions

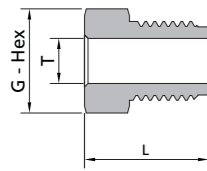
⦿ Refer to the **Tools and Installation Instructions**.

Cautions:

⦿ Do not loosen or tighten fittings under pressure.

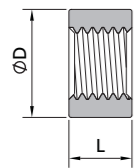
Dimensions

Glands



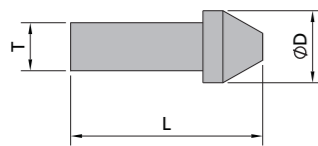
Tube			
T - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)	
		G	L
1/4	SS-G-2FH4	0.50 (12.7)	0.58 (14.7)
3/8	SS-G-2FH6	0.63 (15.9)	0.73 (18.5)
9/16	SS-G-2FH9	0.94 (23.8)	0.88 (22.4)
3/4	SS-G-2FH12	1.19 (30.2)	1.00 (25.4)
1	SS-G-2FH16	1.38 (34.9)	1.38 (35.1)

Collars



Tube			
T - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)	
		D	L
1/4	SS-CO-2FH4	0.38 (9.7)	0.22 (5.6)
3/8	SS-CO-2FH6	0.47 (11.9)	0.25 (6.4)
9/16	SS-CO-2FH9	0.72 (18.3)	0.31 (7.9)
3/4	SS-CO-2FH12	0.94 (23.8)	0.37 (9.4)
1	SS-CO-2FH16	1.25 (31.8)	0.50 (12.7)

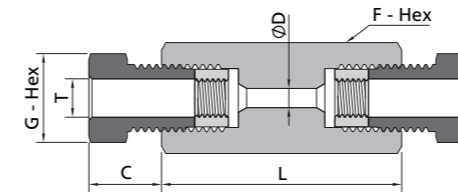
Plugs



Tube			
T - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)	
		D	L
1/4	SS-TP-2FH4	0.38 (9.7)	0.94 (23.8)
3/8	SS-TP-2FH6	0.47 (11.9)	1.18 (30.0)
9/16	SS-TP-2FH9	0.72 (18.3)	1.40 (35.6)
3/4	SS-TP-2FH12	0.94 (23.8)	1.69 (42.9)
1	SS-TP-2FH16	1.25 (31.8)	2.20 (55.9)

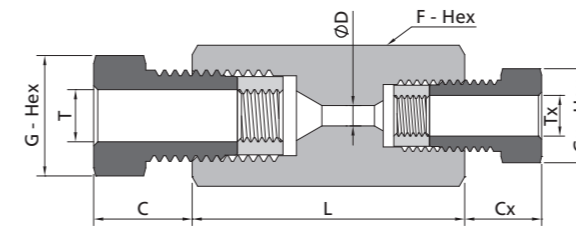
Dimensions are for reference only, subject to change.

Union Couplings



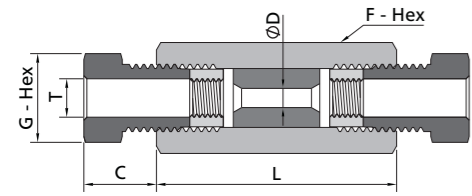
Tube						
T - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)				
		L	C	D	G	F
1/4	SS-U-2FH4	1.62 (41.1)	0.38 (9.7)	0.11 (2.8)	0.50 (12.7)	0.63 (15.9)
3/8	SS-U-2FH6	1.75 (44.5)	0.44 (11.2)	0.20 (5.1)	0.63 (15.9)	0.75 (19.1)
9/16	SS-U-2FH9	2.14 (54.3)	0.55 (14.0)	0.31 (7.9)	0.94 (23.8)	1.00 (25.4)
3/4	SS-U-2FH12	2.50 (63.5)	0.60 (15.2)	0.44 (11.1)	1.19 (30.2)	1.38 (34.9)
1	SS-U-2FH16	3.50 (88.9)	0.74 (18.7)	0.56 (14.3)	1.38 (34.9)	1.75 (44.5)

Reducing Union Couplings



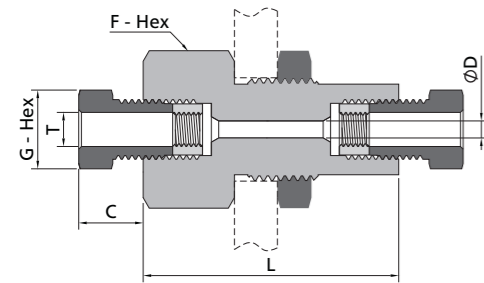
Tube									
T - Tube O.D. in.	Tx - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)						
			L	C	Cx	D	G	Gx	F
3/8	1/4	SS-U-2FH6-2FH4	1.75 (44.5)	0.44 (11.2)	0.38 (9.7)	0.11 (2.8)	0.63 (15.9)	0.50 (12.7)	0.75 (19.1)
9/16	1/4	SS-U-2FH9-2FH4	2.00 (50.8)	0.55 (14.0)	0.38 (9.7)	0.11 (2.8)	0.94 (23.8)	0.50 (12.7)	1.00 (25.4)
9/16	3/8	SS-U-2FH9-2FH6	2.00 (50.8)	0.55 (14.0)	0.44 (11.2)	0.20 (5.1)	0.94 (23.8)	0.63 (15.9)	1.00 (25.4)
3/4	1/4	SS-U-2FH12-2FH4	2.25 (57.2)	0.60 (15.2)	0.38 (9.7)	0.11 (2.8)	1.19 (30.2)	0.50 (12.7)	1.38 (34.9)
3/4	3/8	SS-U-2FH12-2FH6	2.25 (57.2)	0.60 (15.2)	0.44 (11.2)	0.20 (5.1)	1.19 (30.2)	0.63 (15.9)	1.38 (34.9)
3/4	9/16	SS-U-2FH12-2FH9	2.50 (63.5)	0.60 (15.2)	0.55 (14.0)	0.31 (7.9)	1.19 (30.2)	0.94 (23.8)	1.38 (34.9)
1	1/4	SS-U-2FH16-2FH4	2.75 (69.9)	0.74 (18.7)	0.38 (9.7)	0.11 (2.8)	1.38 (34.9)	0.50 (12.7)	1.75 (44.5)
1	3/8	SS-U-2FH16-2FH6	2.88 (73.0)	0.74 (18.7)	0.44 (11.2)	0.20 (5.1)	1.38 (34.9)	0.63 (15.9)	1.75 (44.5)
1	9/16	SS-U-2FH16-2FH9	3.00 (76.2)	0.74 (18.7)	0.55 (14.0)	0.31 (7.9)	1.38 (34.9)	0.94 (23.8)	1.75 (44.5)
1	3/4	SS-U-2FH16-2FH12	3.00 (76.2)	0.74 (18.7)	0.60 (15.2)	0.44 (11.1)	1.38 (34.9)	1.19 (30.2)	1.75 (44.5)

Union Couplings (Slip Type)



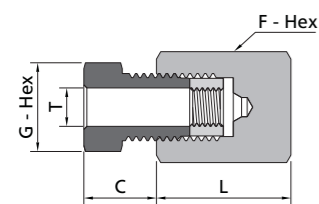
Tube		Dimensions, in. (mm)				
T - Tube O.D. in.	Ordering Number	L	C	D	G	F
1/4	SS-SU-2FH4	1.62 (41.1)	0.38 (9.7)	0.11 (2.8)	0.50 (12.7)	0.63 (15.9)
3/8	SS-SU-2FH6	1.75 (44.5)	0.44 (11.2)	0.20 (5.1)	0.63 (15.9)	0.75 (19.1)
9/16	SS-SU-2FH9	2.14 (54.3)	0.55 (14.0)	0.31 (7.9)	0.94 (23.8)	1.00 (25.4)
3/4	SS-SU-2FH12	2.50 (63.5)	0.60 (15.2)	0.44 (11.1)	1.19 (30.2)	1.38 (34.9)
1	SS-SU-2FH16	3.50 (88.9)	0.74 (18.7)	0.56 (14.3)	1.38 (34.9)	1.75 (44.5)

Bulkhead Couplings



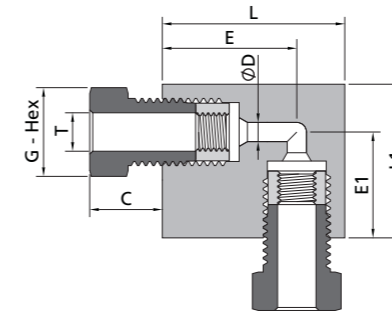
Tube		Dimensions, in. (mm)						
T - Tube O.D. in.	Ordering Number	L	C	D	G	F	Panel Hole Size	Max. Panel Thickness
1/4	SS-BU-2FH4	1.88 (47.8)	0.38 (9.7)	0.11 (2.8)	0.50 (12.7)	1.00 (25.4)	0.81 (20.6)	0.38 (9.7)
3/8	SS-BU-2FH6	2.00 (50.8)	0.44 (11.2)	0.20 (5.1)	0.63 (15.9)	1.06 (27.0)	0.94 (23.9)	0.38 (9.7)
9/16	SS-BU-2FH9	2.38 (60.5)	0.55 (14.0)	0.31 (7.9)	0.94 (23.8)	1.38 (34.9)	1.13 (28.6)	0.38 (9.7)
3/4	SS-BU-2FH12	2.62 (66.5)	0.60 (15.2)	0.44 (11.1)	1.19 (30.2)	1.88 (47.6)	1.69 (42.9)	0.38 (9.7)
1	SS-BU-2FH16	3.50 (88.9)	0.74 (18.7)	0.56 (14.3)	1.38 (34.9)	2.13 (54.0)	1.94 (49.3)	0.38 (9.7)

Caps



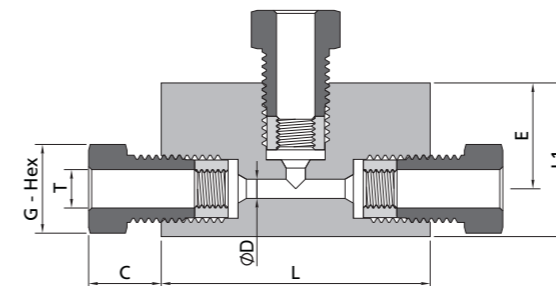
Tube		Dimensions, in. (mm)			
T - Tube O.D. in.	Ordering Number	L	C	G	F
1/4	SS-TC-2FH4	0.81 (20.6)	0.38 (9.7)	0.50 (12.7)	0.63 (15.9)
3/8	SS-TC-2FH6	1.13 (28.6)	0.44 (11.2)	0.63 (15.9)	0.75 (19.1)
9/16	SS-TC-2FH9	1.38 (34.9)	0.55 (14.0)	0.94 (23.8)	1.00 (25.4)
3/4	SS-TC-2FH12	1.75 (44.5)	0.60 (15.2)	1.19 (30.2)	1.38 (34.9)
1	SS-TC-2FH16	2.25 (57.2)	0.74 (18.7)	1.38 (34.9)	1.75 (44.5)

Elbows



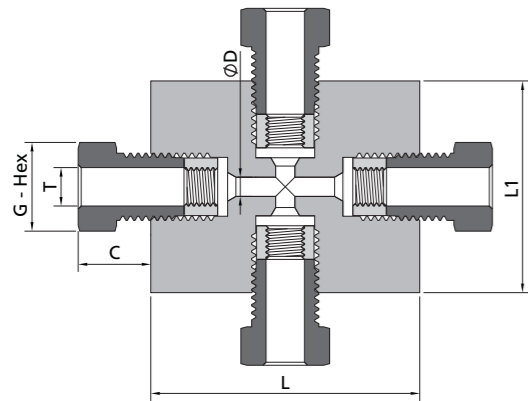
Tube		Dimensions, in. (mm)							
T - Tube O.D. in.	Ordering Number	C	D	G	L	E	L1	E1	Thickness
1/4	SS-LU-2FH4	0.38 (9.7)	0.11 (2.8)	0.50 (12.7)	1.12 (28.4)	0.75 (19.1)	1.12 (28.4)	0.75 (19.1)	0.63 (15.9)
3/8	SS-LU-2FH6	0.44 (11.2)	0.20 (5.1)	0.63 (15.9)	1.38 (34.9)	1.00 (25.4)	1.38 (34.9)	1.00 (25.4)	0.75 (19.1)
9/16	SS-LU-2FH9	0.55 (14.0)	0.31 (7.9)	0.94 (23.8)	1.75 (44.5)	1.25 (31.8)	1.75 (44.5)	1.25 (31.8)	1.00 (25.4)
3/4	SS-LU-2FH12	0.60 (15.2)	0.44 (11.1)	1.19 (30.2)	2.25 (57.2)	1.50 (38.1)	2.25 (57.2)	1.50 (38.1)	1.38 (34.9)
1	SS-LU-2FH16	0.74 (18.7)	0.56 (14.3)	1.38 (34.9)	3.00 (76.2)	2.06 (52.3)	3.00 (76.2)	2.06 (52.3)	1.75 (44.5)

Tees



Tube		Dimensions, in. (mm)						
T - Tube O.D. in.	Ordering Number	C	D	G	L	L1	E	Thickness
1/4	SS-TTT-2FH4	0.38 (9.7)	0.11 (2.8)	0.50 (12.7)	1.50 (38.1)	1.12 (28.4)	0.75 (19.1)	0.63 (15.9)
3/8	SS-TTT-2FH6	0.44 (11.2)	0.20 (5.1)	0.63 (15.9)	2.00 (50.8)	1.38 (34.9)	1.00 (25.4)	0.75 (19.1)
9/16	SS-TTT-2FH9	0.55 (14.0)	0.31 (7.9)	0.94 (23.8)	2.50 (63.5)	1.75 (44.5)	1.25 (31.8)	1.00 (25.4)
3/4	SS-TTT-2FH12	0.60 (15.2)	0.44 (11.1)	1.19 (30.2)	3.00 (76.2)	2.25 (57.2)	1.50 (38.1)	1.38 (34.9)
1	SS-TTT-2FH16	0.74 (18.7)	0.56 (14.3)	1.38 (34.9)	4.12 (104.6)	3.00 (76.2)	2.06 (52.3)	1.75 (44.5)

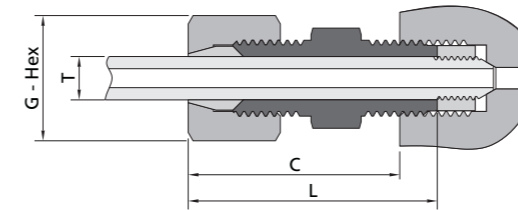
Crosses



Tube							
T - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)					
		C	D	G	L	L1	Thickness
1/4	SS-C-2FH4	0.38 (9.7)	0.11 (2.8)	0.50 (12.7)	1.50 (38.1)	1.50 (38.1)	0.63 (15.9)
3/8	SS-C-2FH6	0.44 (11.2)	0.20 (5.1)	0.63 (15.9)	2.00 (50.8)	2.00 (50.8)	0.75 (19.1)
9/16	SS-C-2FH9	0.55 (14.0)	0.31 (7.9)	0.94 (23.8)	2.50 (63.5)	2.50 (63.5)	1.00 (25.4)
3/4	SS-C-2FH12	0.60 (15.2)	0.44 (11.1)	1.19 (30.2)	3.00 (76.2)	3.00 (76.2)	1.38 (34.9)
1	SS-C-2FH16	0.74 (18.7)	0.56 (14.3)	1.38 (34.9)	4.12 (104.6)	4.12 (104.6)	1.75 (44.5)

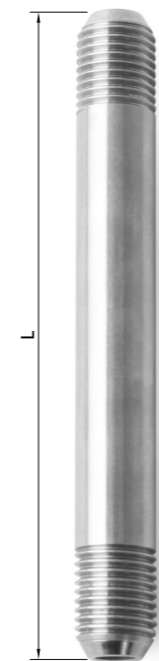
Anti-Vibration Gland Assemblies

The extreme vibration or shock, such as mobile pressure systems or long tubing runs culminating at a compressor that the tubing systems are subjected to, will be prevented by using FITOK Anti-Vibration Gland Assemblies. These assemblies use the same reliable connection geometries as the standard FITOK fittings, with the added advantage of essentially unlimited vibrational fatigue life. A coned and threaded tube, when subjected to unusual or excessive vibration, may fail prematurely and break at the last thread. FITOK Anti-Vibration Gland Assembly acts to move the fulcrum of vibration away from the threaded part of the tube and onto the strong, solid wall of the tubing. A wedge-like collet firmly holds the assembly in place, virtually eliminating premature tubing failure while reliably maintaining a leakage-free connection between the tube and the connection seat.



Tube				
T - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)		
		L	C	G
1/4	SS-AVGA-2FH4	1.24 (31.6)	1.05 (26.7)	0.63 (15.9)
3/8	SS-AVGA-2FH6	1.50 (38.1)	1.22 (30.9)	0.81 (20.6)
9/16	SS-AVGA-2FH9	1.78 (45.2)	1.42 (36.0)	0.94 (23.8)
3/4	SS-AVGA-2FH12	2.00 (50.8)	1.61 (40.8)	1.38 (34.9)
1	SS-AVGA-2FH16	2.38 (60.5)	1.74 (44.3)	1.50 (38.1)

Coned and Threaded Nipples

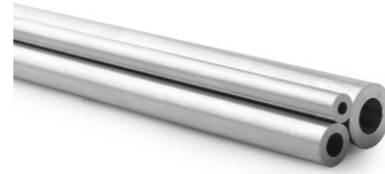


T - Tube O.D. in.	Tx - Tube I.D. in.	Ordering Number	L in. (mm)
1/4	0.109	SS-CTN-2FH4-2.75	2.75 (69.9)
1/4	0.109	SS-CTN-2FH4-3	3 (76.2)
1/4	0.109	SS-CTN-2FH4-4	4 (101.6)
1/4	0.109	SS-CTN-2FH4-6	6 (152.4)
1/4	0.109	SS-CTN-2FH4-8	8 (203.2)
1/4	0.109	SS-CTN-2FH4-10	10 (254.0)
1/4	0.109	SS-CTN-2FH4-12	12 (304.8)
3/8	0.203	SS-CTN-2FH6-3	3 (76.2)
3/8	0.203	SS-CTN-2FH6-4	4 (101.6)
3/8	0.203	SS-CTN-2FH6-6	6 (152.4)
3/8	0.203	SS-CTN-2FH6-8	8 (203.2)
3/8	0.203	SS-CTN-2FH6-10	10 (254.0)
3/8	0.203	SS-CTN-2FH6-12	12 (304.8)
9/16	0.312	SS-CTN-2FH9-4	4 (101.6)
9/16	0.312	SS-CTN-2FH9-6	6 (152.4)
9/16	0.312	SS-CTN-2FH9-8	8 (203.2)
9/16	0.312	SS-CTN-2FH9-10	10 (254.0)
9/16	0.312	SS-CTN-2FH9-12	12 (304.8)
3/4	0.438	SS-CTN-2FH12-4	4 (101.6)
3/4	0.438	SS-CTN-2FH12-6	6 (152.4)
3/4	0.438	SS-CTN-2FH12-8	8 (203.2)
3/4	0.438	SS-CTN-2FH12-10	10 (254.0)
3/4	0.438	SS-CTN-2FH12-12	12 (304.8)
1	0.562	SS-CTN-2FH16-6	6 (152.4)
1	0.562	SS-CTN-2FH16-8	8 (203.2)
1	0.562	SS-CTN-2FH16-10	10 (254.0)
1	0.562	SS-CTN-2FH16-12	12 (304.8)

20 Series Tubing

- ⦿ Working pressure: 20000 psig (1379 bar).
- ⦿ 316 and 304 stainless steel are standard materials. Other materials are available upon request.
- ⦿ Material, size and heat code are indicated on the tubing surface.

T - Tube O.D. in.	Tx - Tube I.D. in.	Material	Basic Ordering Number	Tolerance O.D. in. (mm)
1/4	0.109	316 SS	SS-MT-2FH4-	0.248/0.243 (6.30/6.17)
1/4	0.109	304 SS	S4-MT-2FH4-	0.248/0.243 (6.30/6.17)
3/8	0.203	316 SS	SS-MT-2FH6-	0.370/0.365 (9.40/9.27)
3/8	0.203	304 SS	S4-MT-2FH6-	0.370/0.365 (9.40/9.27)
9/16	0.312	316 SS	SS-MT-2FH9-	0.557/0.552 (14.15/14.02)
9/16	0.312	304 SS	S4-MT-2FH9-	0.557/0.552 (14.15/14.02)
3/4	0.438	316 SS	SS-MT-2FH12-	0.745/0.740 (18.92/18.80)
3/4	0.438	304 SS	S4-MT-2FH12-	0.745/0.740 (18.92/18.80)
1	0.562	316 SS	SS-MT-2FH16-	0.995/0.990 (25.27/25.14)
1	0.562	304 SS	S4-MT-2FH16-	0.995/0.990 (25.27/25.14)



Add the actual foot (feet)/meter (meters) as a suffix to the basic ordering number to get the complete ordering number.

For example:

1. 10 feet length, O.D. is 3/8", I.D. is 0.203", 316 SS 20 series tube, the complete ordering number is: **SS-MT-2FH6-10**.
2. 6 meters length, O.D. is 3/4", I.D. is 0.438", 304 SS 20 series tube, the complete ordering number is: **S4-MT-2FH12-6M**.