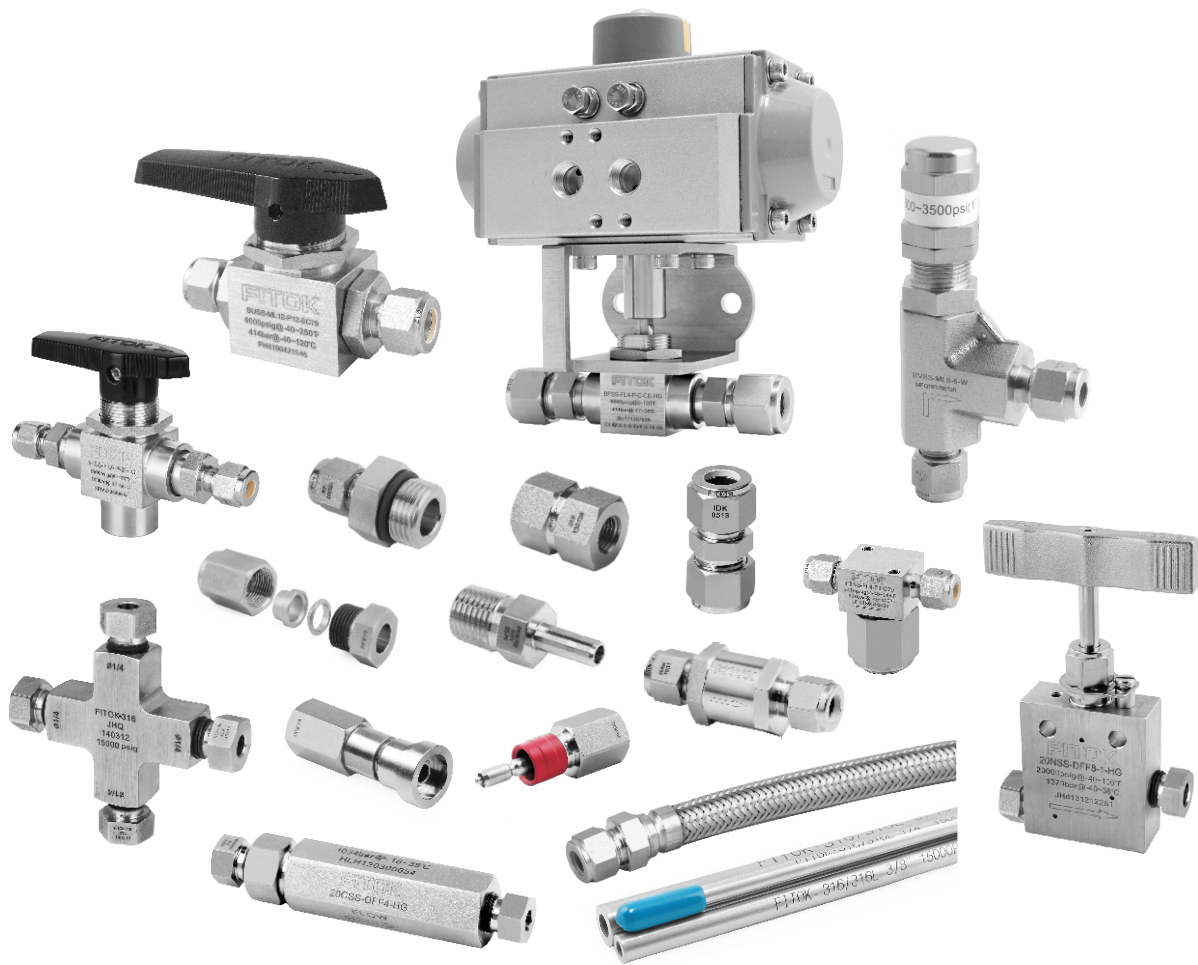


Products for Hydrogen Applications

FITOK
Products for Hydrogen Applications



FITOK

www.fitok.com

Introduction

FITOK has three categories of products which are suitable for hydrogen applications.

- Products with third party EC79 certification. Its part number has a suffix “-EC79”.
- Products complying to EC79 but without third party certification. Its part number has a suffix “-HG”.
- Standard products which are not specially designed and made for critical hydrogen applications but can be used for general hydrogen applications. The part number is standard without special suffix.

FITOK products specially designed and manufactured for hydrogen applications have the following superiorities:

- Hydrogen Compatible Raw Materials
Tailor-made 316/316L stainless steel applied for the wetted parts, which has higher Ni, Cr and Mo contents than the middle value of ASTM A479. The Ni_{eq} is not less than 28.5% which provides better resistance to hydrogen embrittlement.

Grade	Composition %			Ni _{eq} %
	Cr	Ni	Mo	
FITOK Tailor-Made 316/316L SS	17-18	12-14	2.6-3.0	≥28.5
<i>ASTM 316 SS</i>	<i>16-18</i>	<i>10-14</i>	<i>2.0-3.0</i>	<i>>22.4</i>

Low-temperature FKM or EPDM O-ring applied for harsh working conditions.

XM-19 material applied for the valve stem to provide higher strength and hydrogen embrittlement resistance.

- The dimension tolerance and hardness variation of the tube fittings for hydrogen applications are controlled smaller, offering a variety of assembly methods and ensuring better consistency.
- Assembly-by-torque (AbT) is available.
- Alternatively, assembly by turns can be employed, supplemented by the use of a gap gauge to inspect whether tube fittings are properly assembled in place.
- 20D series tube fittings can be assembled with T20M series tubing by turns, but inspection using a gap gauge is not available.
- Stringent Test Standards Guarantee Safety and Reliability
All products for hydrogen applications are typically tested with stricter leakage standards than EC79 and HGV 3.1.
Each valve with “-EC79” or “-HG” suffix in part number is tested with helium mixed gas before ex-work.

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Products for Hydrogen Applications up to 6,000 psig (414 bar)

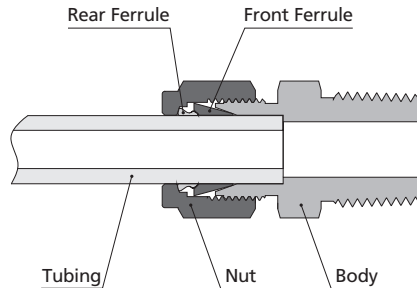


6D Series Tube Fittings



Features

- EC79 certified
- The dimension tolerance and hardness variation are smaller than those of the normal tube fittings. It enables the tube fitting for hydrogen applications can be assembled by torque or turns optional



Technical Data

Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5		
Working Pressure	Tube Ends		
	The maximum working pressure of the tube end is determined by the maximum working pressure of the tubing that is used		
	NPT Threads		
	Thread Size	Male, psig (bar)	Female, psig (bar)
	1/4	8,000 (551)	6,600 (454)
	3/8	7,800 (537)	5,300 (365)
	1/2	7,700 (530)	4,900 (337)
	3/4	7,300 (502)	4,600 (316)
	SAE/MS Straight Threads		
	Thread Size	Light-duty, psig (bar)	Heavy-duty, psig (bar)
7/16-20	5,075 (350)	—	
1/2-20	5,075 (350)	—	
9/16-18	5,075 (350)	—	
3/4-16	—	9,135 (630)	
Working Temperature	Metal Components: -325~1,000 °F (-198~537 °C) NPT Threads: -325~400 °F (-198~204 °C) SAE/MS Straight Threads: -53~401 °F (-47~205 °C) Low Temperature FKM O-ring: -53~401 °F (-47~205 °C)		

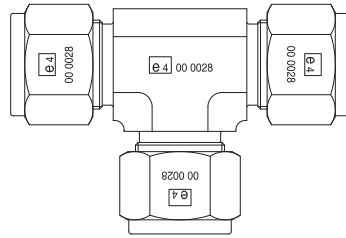
Matching Tubing

For 6D series tube fittings with “-EC79” or “-HG” suffix in part number, the matching tubing is as follows.

Tubing Type	Features
Standard ASTM tubing (TMP and TCT Series)	Allow for assembly by torque or by turns.

Ordering Information and Marking

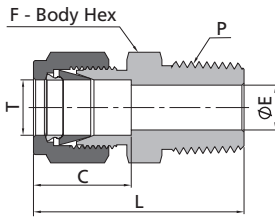
To order a fitting with EC79 certification, add “-EC79” suffix to the standard ordering number. The marking on the fitting is shown as follows:



Marking on EC79 Certified Tube Fittings

To order a fitting complying with EC79 but without third party certification, add “-HG” suffix to the standard ordering number. The marking on the fitting is the same as FITOK standard tube fittings. The complete ordering number is labeled on the packing box.

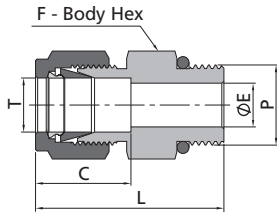
Male Connectors



Fractional Tube to NPT Thread							
Basic Ordering Number	T-Tube O.D. (in.)	P-NPT Size	Dimensions, in. (mm)				
			L	C	E (min.)	F	
SS-CM-FL4-NS4-	1/4	1/4	1.49 (37.8)	0.60 (15.2)	0.19 (4.8)	0.56 (14.3)	
SS-CM-FL4-NS6-	1/4	3/8	1.51 (38.4)	0.60 (15.2)	0.19 (4.8)	0.69 (17.5)	
SS-CM-FL4-NS8-	1/4	1/2	1.76 (44.7)	0.60 (15.2)	0.19 (4.8)	0.87 (22.2)	
SS-CM-FL5-NS4-	5/16	1/4	1.52 (38.6)	0.64 (16.3)	0.25 (6.4)	0.56 (14.3)	
SS-CM-FL5-NS6-	5/16	3/8	1.54 (39.1)	0.64 (16.3)	0.25 (6.4)	0.69 (17.5)	
SS-CM-FL5-NS8-	5/16	1/2	1.79 (45.5)	0.64 (16.3)	0.25 (6.4)	0.87 (22.2)	
SS-CM-FL6-NS4-	3/8	1/4	1.57 (39.9)	0.66 (16.8)	0.28 (7.1)	0.63 (15.9)	
SS-CM-FL6-NS6-	3/8	3/8	1.57 (39.9)	0.66 (16.8)	0.28 (7.1)	0.69 (17.5)	
SS-CM-FL6-NS8-	3/8	1/2	1.82 (46.2)	0.66 (16.8)	0.28 (7.1)	0.87 (22.2)	
SS-CM-FL8-NS4-	1/2	1/4	1.71 (43.4)	0.90 (22.9)	0.28 (7.1)	0.81 (20.6)	
SS-CM-FL8-NS6-	1/2	3/8	1.71 (43.4)	0.90 (22.9)	0.38 (9.7)	0.81 (20.6)	
SS-CM-FL8-NS8-	1/2	1/2	1.93 (49.0)	0.90 (22.9)	0.41 (10.4)	0.87 (22.2)	
SS-CM-FL10-NS4-	5/8	1/4	1.74 (44.2)	0.96 (24.4)	0.28 (7.1)	0.94 (23.8)	
SS-CM-FL10-NS6-	5/8	3/8	1.74 (44.2)	0.96 (24.4)	0.38 (9.7)	0.94 (23.8)	
SS-CM-FL10-NS8-	5/8	1/2	1.93 (49.0)	0.96 (24.4)	0.47 (11.9)	0.94 (23.8)	

Metric Tube to NPT Thread							
Basic Ordering Number	T-Tube O.D. (mm)	P-NPT Size	Dimensions, mm (in.)				
			L	C	E (min.)	F	
SS-CM-ML6-NS4-	6	1/4	37.9 (1.49)	15.3 (0.60)	4.8 (0.19)	14.0 (0.55)	
SS-CM-ML6-NS6-	6	3/8	38.4 (1.51)	15.3 (0.60)	4.8 (0.19)	18.0 (0.71)	
SS-CM-ML6-NS8-	6	1/2	44.7 (1.76)	15.3 (0.60)	4.8 (0.19)	22.0 (0.87)	
SS-CM-ML8-NS4-	8	1/4	38.7 (1.52)	16.2 (0.64)	6.4 (0.25)	15.0 (0.59)	
SS-CM-ML8-NS6-	8	3/8	39.3 (1.55)	16.2 (0.64)	6.4 (0.25)	18.0 (0.71)	
SS-CM-ML8-NS8-	8	1/2	45.6 (1.80)	16.2 (0.64)	6.4 (0.25)	22.0 (0.87)	
SS-CM-ML10-NS4-	10	1/4	40.9 (1.61)	17.2 (0.68)	7.1 (0.28)	18.0 (0.71)	
SS-CM-ML10-NS6-	10	3/8	40.9 (1.61)	17.2 (0.68)	7.9 (0.31)	18.0 (0.71)	
SS-CM-ML10-NS8-	10	1/2	46.5 (1.83)	17.2 (0.68)	7.9 (0.31)	22.0 (0.87)	
SS-CM-ML12-NS4-	12	1/4	43.4 (1.71)	22.8 (0.90)	7.1 (0.28)	22.0 (0.87)	
SS-CM-ML12-NS6-	12	3/8	43.4 (1.71)	22.8 (0.90)	9.5 (0.37)	22.0 (0.87)	
SS-CM-ML12-NS8-	12	1/2	49.0 (1.93)	22.8 (0.90)	9.5 (0.37)	22.0 (0.87)	
SS-CM-ML14-NS4-	14	1/4	44.1 (1.74)	24.4 (0.96)	7.1 (0.28)	24.0 (0.94)	
SS-CM-ML14-NS6-	14	3/8	44.1 (1.74)	24.4 (0.96)	9.5 (0.37)	24.0 (0.94)	
SS-CM-ML14-NS8-	14	1/2	49.0 (1.93)	24.4 (0.96)	11.1 (0.44)	24.0 (0.94)	

Male Connectors

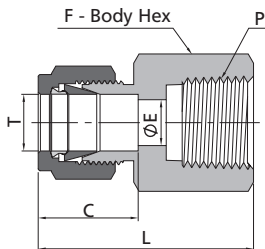


Adapt to straight thread boss of SAE J1926-1, ISO 11926-1 and MS 16142.

Fractional Tube to SAE/MS Straight Thread							
Basic Ordering Number	T-Tube O.D. (in.)	P-SAE Nominal Size	P-SAE/MS Thread Specification	Dimensions, in. (mm)			
				L	C	E (min.)	F
SS-CM-FL4-ST7-	1/4	4	7/16-20	1.34 (34.0)	0.60 (15.2)	0.19 (4.8)	0.56 (14.3)
SS-CM-FL4-ST9-	1/4	6	9/16-18	1.40 (35.6)	0.60 (15.2)	0.19 (4.8)	0.69 (17.5)
SS-CM-FL4-SH12-	1/4	8	3/4-16	1.48 (37.6)	0.60 (15.2)	0.19 (4.8)	0.87 (22.2)
SS-CM-FL6-ST7-	3/8	4	7/16-20	1.40 (35.6)	0.66 (16.8)	0.20 (5.1)	0.63 (15.9)
SS-CM-FL6-ST9-	3/8	6	9/16-18	1.46 (37.1)	0.66 (16.8)	0.28 (7.1)	0.69 (17.5)
SS-CM-FL6-SH12-	3/8	8	3/4-16	1.54 (39.1)	0.66 (16.8)	0.28 (7.1)	0.87 (22.2)
SS-CM-FL8-ST9-	1/2	6	9/16-18	1.54 (39.1)	0.90 (22.9)	0.28 (7.1)	0.81 (20.6)
SS-CM-FL8-SH12-	1/2	8	3/4-16	1.65 (41.9)	0.90 (22.9)	0.41 (10.4)	0.87 (22.2)
SS-CM-FL10-SH12-	5/8	8	3/4-16	1.65 (41.9)	0.96 (24.4)	0.42 (10.7)	0.94 (23.8)

Metric Tube to SAE/MS Straight Thread							
Basic Ordering Number	T-Tube O.D. (mm)	P-SAE/MS Thread Size	Dimensions, mm (in.)				
			L	C	E (min.)	F	
SS-CM-ML6-ST7-	6	7/16-20	33.1 (1.30)	15.3 (0.60)	4.8 (0.19)	14.0 (0.55)	
SS-CM-ML6-ST9-	6	9/16-18	35.6 (1.40)	15.3 (0.60)	4.8 (0.19)	18.0 (0.71)	
SS-CM-ML8-ST7-	8	7/16-20	35.4 (1.39)	16.3 (0.64)	5.1 (0.20)	18.0 (0.71)	
SS-CM-ML8-ST9-	8	9/16-18	36.1 (1.42)	16.3 (0.64)	6.4 (0.25)	18.0 (0.71)	
SS-CM-ML10-ST7-	10	7/16-20	36.2 (1.43)	17.2 (0.68)	5.1 (0.20)	18.0 (0.71)	
SS-CM-ML10-ST9-	10	9/16-18	37.3 (1.47)	17.2 (0.68)	7.1 (0.28)	18.0 (0.71)	
SS-CM-ML10-SH12-	10	3/4-16	39.4 (1.55)	17.2 (0.68)	7.9 (0.31)	22.0 (0.87)	
SS-CM-ML12-ST7-	12	7/16-20	40.6 (1.60)	22.8 (0.90)	5.2 (0.20)	22.0 (0.87)	
SS-CM-ML12-ST9-	12	9/16-18	39.9 (1.57)	22.8 (0.90)	7.1 (0.28)	22.0 (0.87)	
SS-CM-ML12-SH12-	12	3/4-16	41.7 (1.64)	22.8 (0.90)	9.5 (0.37)	22.0 (0.87)	

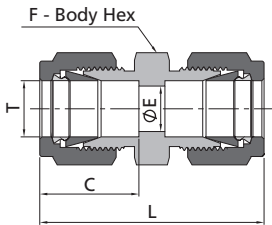
Female Connectors



Fractional Tube to NPT Thread							
Basic Ordering Number	T-Tube O.D. (in.)	P-NPT Size	Dimensions, in. (mm)				
			L	C	E	F	
SS-CF-FL4-NS4-	1/4	1/4	1.41 (35.8)	0.60 (15.2)	0.19 (4.8)	0.75 (19.1)	
SS-CF-FL4-NS6-	1/4	3/8	1.48 (37.6)	0.60 (15.2)	0.19 (4.8)	0.87 (22.2)	
SS-CF-FL4-NS8-	1/4	1/2	1.67 (42.4)	0.60 (15.2)	0.19 (4.8)	1.06 (27.0)	
SS-CF-FL5-NS4-	5/16	1/4	1.45 (36.8)	0.64 (16.3)	0.25 (6.4)	0.75 (19.1)	
SS-CF-FL6-NS4-	3/8	1/4	1.48 (37.6)	0.66 (16.8)	0.28 (7.1)	0.75 (19.1)	
SS-CF-FL6-NS6-	3/8	3/8	1.54 (39.1)	0.66 (16.8)	1.34 (7.1)	0.88 (22.2)	
SS-CF-FL6-NS8-	3/8	1/2	1.73 (43.9)	0.66 (16.8)	0.28 (7.1)	1.06 (27.0)	
SS-CF-FL8-NS4-	1/2	1/4	1.59 (40.4)	0.90 (22.9)	0.41 (10.4)	0.81 (20.6)	
SS-CF-FL8-NS6-	1/2	3/8	1.65 (41.9)	0.90 (22.9)	0.41 (10.4)	0.87 (22.2)	
SS-CF-FL8-NS8-	1/2	1/2	1.84 (46.7)	0.90 (22.9)	0.41 (10.4)	1.06 (27.0)	

Metric Tube to NPT Thread							
Basic Ordering Number	T-Tube O.D. (mm)	P-NPT Size	Dimensions, mm (in.)				
			L	C	E	F	
SS-CF-ML6-NS4-	6	1/4	35.8 (1.41)	15.3 (0.60)	4.8 (0.19)	19.0 (0.75)	
SS-CF-ML6-NS6-	6	3/8	37.7 (1.48)	15.3 (0.60)	4.8 (0.19)	22.0 (0.87)	
SS-CF-ML6-NS8-	6	1/2	42.5 (1.67)	15.3 (0.60)	4.8 (0.19)	27.0 (1.06)	
SS-CF-ML8-NS4-	8	1/4	37.0 (1.46)	16.2 (0.64)	6.4 (0.25)	19.0 (0.75)	
SS-CF-ML8-NS6-	8	3/8	38.5 (1.52)	16.2 (0.64)	6.4 (0.25)	22.0 (0.87)	
SS-CF-ML8-NS8-	8	1/2	43.3 (1.70)	16.2 (0.64)	6.4 (0.25)	27.0 (1.06)	
SS-CF-ML10-NS4-	10	1/4	37.8 (1.49)	17.2 (0.68)	7.9 (0.31)	19.0 (0.75)	
SS-CF-ML10-NS6-	10	3/8	39.4 (1.55)	17.2 (0.68)	7.9 (0.31)	22.0 (0.87)	
SS-CF-ML10-NS8-	10	1/2	44.2 (1.74)	17.2 (0.68)	7.9 (0.31)	27.0 (1.06)	
SS-CF-ML12-NS4-	12	1/4	40.3 (1.59)	22.8 (0.90)	9.5 (0.37)	22.0 (0.87)	
SS-CF-ML12-NS6-	12	3/8	41.9 (1.65)	22.8 (0.90)	9.5 (0.37)	22.0 (0.87)	
SS-CF-ML12-NS8-	12	1/2	46.7 (1.84)	22.8 (0.90)	9.5 (0.37)	27.0 (1.06)	

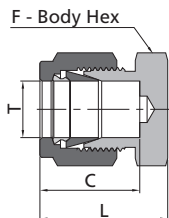
Unions



Fractional Tube						
Basic Ordering Number	T-Tube O.D. (in.)	Dimensions, in. (mm)				
		L	C	E	F	
SS-U-FL4-	1/4	1.61 (40.9)	0.60 (15.2)	0.19 (4.8)	0.50 (12.7)	
SS-U-FL5-	5/16	1.77 (45.0)	0.66 (16.8)	0.28 (7.1)	0.63 (15.9)	
SS-U-FL6-	3/8	2.02 (51.3)	0.90 (22.9)	0.41 (10.4)	0.81 (20.6)	
SS-U-FL8-	1/2	2.11 (53.6)	0.96 (24.4)	0.62 (15.7)	1.06 (27.0)	
SS-U-FL10-	5/8	2.05 (52.1)	0.96 (24.4)	0.50 (12.7)	0.94 (23.9)	

Metric Tube						
Basic Ordering Number	T-Tube O.D. (mm)	Dimensions, mm (in.)				
		L	C	E	F	
SS-U-ML6-	6	41.0 (1.61)	15.3 (0.60)	4.8 (0.19)	14.0 (0.55)	
SS-U-ML8-	8	43.2 (1.70)	16.2 (0.64)	6.4 (0.25)	15.0 (0.59)	
SS-U-ML10-	10	46.2 (1.82)	17.2 (0.68)	7.9 (0.31)	18.0 (0.71)	
SS-U-ML12-	12	51.2 (2.02)	22.8 (0.90)	9.5 (0.37)	22.0 (0.87)	
SS-U-ML14-	14	52.0 (2.05)	24.4 (0.96)	11.1 (0.44)	24.0 (0.94)	
SS-U-ML15-	15	52.0 (2.05)	24.4 (0.96)	11.9 (0.47)	24.0 (0.94)	
SS-U-ML16-	16	52.0 (2.05)	24.4 (0.96)	12.7 (0.50)	24.0 (0.94)	

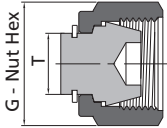
Caps



Fractional Tube					
Basic Ordering Number	T-Tube O.D. (in.)	Dimensions, in. (mm)			
		L	C	F	
SS-TC-FL4-	1/4	0.92 (23.4)	0.60 (15.2)	0.50 (12.7)	
SS-TC-FL5-	5/16	0.96 (24.4)	0.64 (16.3)	0.56 (14.3)	
SS-TC-FL6-	3/8	1.01 (25.7)	0.66 (16.8)	0.63 (15.9)	
SS-TC-FL8-	1/2	1.15 (29.2)	0.90 (22.9)	0.81 (20.6)	
SS-TC-FL10-	5/8	1.18 (30.0)	0.96 (24.4)	0.94 (23.8)	

Metric Tube					
Basic Ordering Number	T-Tube O.D. (mm)	Dimensions, mm (in.)			
		L	C	F	
SS-TC-ML6-	6	23.1 (0.91)	15.3 (0.60)	14.0 (0.55)	
SS-TC-ML8-	8	24.5 (0.96)	16.2 (0.64)	15.0 (0.59)	
SS-TC-ML10-	10	26.6 (1.05)	17.2 (0.68)	18.0 (0.71)	
SS-TC-ML12-	12	29.1 (1.15)	22.8 (0.90)	22.0 (0.87)	
SS-TC-ML14-	14	29.9 (1.18)	24.4 (0.96)	24.0 (0.94)	
SS-TC-ML15-	15	29.9 (1.18)	24.4 (0.96)	24.0 (0.94)	
SS-TC-ML16-	16	29.9 (1.18)	24.4 (0.96)	24.0 (0.94)	

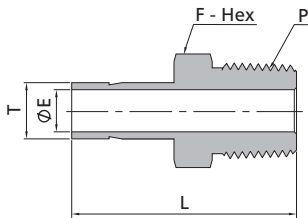
Plugs



Fractional Tube		
Basic Ordering Number	T-Tube O.D. (in.)	Dimensions, in. (mm)
		G
SS-TP-FL4-	1/4	0.56 (14.3)
SS-TP-FL5-	5/16	0.63 (15.9)
SS-TP-FL6-	3/8	0.69 (17.5)
SS-TP-FL8-	1/2	0.87 (22.2)
SS-TP-FL10-	5/8	1.00 (25.4)

Metric Tube		
Basic Ordering Number	T-Tube O.D. (mm)	Dimensions, mm (in.)
		G
SS-TP-ML6-	6	14.0 (0.55)
SS-TP-ML8-	8	16.0 (0.63)
SS-TP-ML10-	10	19.0 (0.75)
SS-TP-ML12-	12	22.0 (0.87)
SS-TP-ML14-	14	25.0 (0.98)
SS-TP-ML15-	15	25.0 (0.98)
SS-TP-ML16-	16	25.0 (0.98)

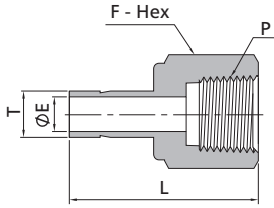
Male Adapters



Fractional Tube to NPT Thread						
Basic Ordering Number	T-Tube O.D. (in.)	P-NPT Size	Dimensions, in. (mm)			
			L	E	F	
SS-AM-FT4-NS4-	1/4	1/4	1.46 (37.1)	0.17 (4.3)	0.56 (14.3)	
SS-AM-FT4-NS6-	1/4	3/8	1.49 (37.8)	0.17 (4.3)	0.69 (17.5)	
SS-AM-FT4-NS8-	1/4	1/2	1.71 (43.4)	0.17 (4.3)	0.87 (22.2)	
SS-AM-FT5-NS4-	5/16	1/4	1.50 (38.1)	0.22 (5.6)	0.56 (14.3)	
SS-AM-FT5-NS6-	5/16	3/8	1.53 (38.9)	0.22 (5.6)	0.69 (17.5)	
SS-AM-FT5-NS8-	5/16	1/2	1.74 (44.2)	0.22 (5.6)	0.87 (22.2)	
SS-AM-FT6-NS4-	3/8	1/4	1.53 (38.9)	0.27 (6.9)	0.56 (14.3)	
SS-AM-FT6-NS6-	3/8	3/8	1.56 (39.6)	0.27 (6.9)	0.69 (17.5)	
SS-AM-FT6-NS8-	3/8	1/2	1.78 (45.2)	0.27 (6.9)	0.87 (22.2)	
SS-AM-FT8-NS4-	1/2	1/4	1.75 (44.5)	0.28 (7.1)	0.56 (14.3)	
SS-AM-FT8-NS6-	1/2	3/8	1.78 (45.2)	0.37 (9.4)	0.69 (17.5)	
SS-AM-FT8-NS8-	1/2	1/2	2.00 (50.8)	0.37 (9.4)	0.87 (22.2)	

Metric Tube to NPT Thread						
Basic Ordering Number	T-Tube O.D. (mm)	P-NPT Size	Dimensions, mm (in.)			
			L	E	F	
SS-AM-MT6-NS4-	6	1/4	38.1 (1.50)	4.1 (0.16)	14.0 (0.55)	
SS-AM-MT6-NS6-	6	3/8	39.2 (1.54)	4.1 (0.16)	18.0 (0.71)	
SS-AM-MT6-NS8-	6	1/2	42.1 (1.66)	4.1 (0.16)	22.0 (0.87)	
SS-AM-MT8-NS4-	8	1/4	39.1 (1.54)	5.6 (0.22)	14.0 (0.55)	
SS-AM-MT8-NS6-	8	3/8	39.9 (1.57)	5.6 (0.22)	19.0 (0.75)	
SS-AM-MT10-NS4-	10	1/4	39.9 (1.57)	7.1 (0.28)	14.0 (0.55)	
SS-AM-MT10-NS6-	10	3/8	40.6 (1.60)	7.1 (0.28)	18.0 (0.71)	
SS-AM-MT10-NS8-	10	1/2	46.2 (1.82)	7.1 (0.28)	22.0 (0.87)	
SS-AM-MT12-NS4-	12	1/4	46.5 (1.83)	7.1 (0.28)	14.0 (0.55)	
SS-AM-MT12-NS6-	12	3/8	46.2 (1.82)	8.8 (0.35)	18.0 (0.71)	
SS-AM-MT12-NS8-	12	1/2	52.1 (2.05)	8.8 (0.35)	22.0 (0.87)	

Female Adapters



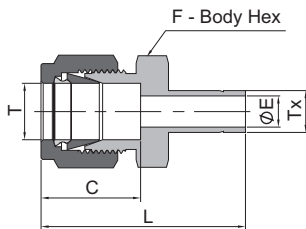
Fractional Tube to NPT Thread

Basic Ordering Number	T-Tube O.D. (in.)	P-NPT Size	Dimensions, in. (mm)		
			L	E	F
SS-AF-FT4-NS4-	1/4	1/4	1.46 (37.1)	0.17 (4.3)	0.75 (19.1)
SS-AF-FT4-NS6-	1/4	3/8	1.55 (39.4)	0.17 (4.3)	0.87 (22.2)
SS-AF-FT4-NS8-	1/4	1/2	1.79 (45.5)	0.17 (4.3)	1.06 (27.0)
SS-AF-FT5-NS4-	5/16	1/4	1.48 (37.6)	0.22 (5.6)	0.75 (19.1)
SS-AF-FT5-NS6-	5/16	3/8	1.59 (40.4)	0.22 (5.6)	0.87 (22.2)
SS-AF-FT6-NS4-	3/8	1/4	1.50 (38.1)	0.27 (6.9)	0.75 (19.1)
SS-AF-FT6-NS6-	3/8	3/8	1.59 (40.4)	0.27 (6.9)	0.87 (22.2)
SS-AF-FT6-NS8-	3/8	1/2	1.84 (46.7)	0.27 (6.9)	1.06 (27.0)
SS-AF-FT8-NS4-	1/2	1/4	1.71 (43.4)	0.37 (9.4)	0.75 (19.1)
SS-AF-FT8-NS6-	1/2	3/8	1.79 (45.5)	0.37 (9.4)	0.87 (22.2)
SS-AF-FT8-NS8-	1/2	1/2	2.04 (51.8)	0.37 (9.4)	1.06 (27.0)

Metric Tube to NPT Thread

Basic Ordering Number	T-Tube O.D. (mm)	P-NPT Size	Dimensions, mm (in.)		
			L	E	F
SS-AF-MT6-NS4-	6	1/4	37.1 (1.46)	4.1 (0.16)	19.0 (0.75)
SS-AF-MT8-NS4-	8	1/4	37.6 (1.48)	5.6 (0.22)	19.0 (0.75)
SS-AF-MT8-NS6-	8	3/8	36.5 (1.44)	5.6 (0.22)	22.0 (0.87)
SS-AF-MT10-NS4-	10	1/4	38.1 (1.50)	7.1 (0.28)	19.0 (0.75)
SS-AF-MT10-NS6-	10	3/8	40.1 (1.58)	7.1 (0.28)	22.0 (0.87)
SS-AF-MT10-NS8-	10	1/2	46.5 (1.83)	7.1 (0.28)	27.0 (1.06)
SS-AF-MT12-NS4-	12	1/4	43.7 (1.72)	8.8 (0.35)	19.0 (0.75)
SS-AF-MT12-NS6-	12	3/8	42.9 (1.69)	8.8 (0.35)	22.0 (0.87)
SS-AF-MT12-NS8-	12	1/2	52.3 (2.06)	8.8 (0.35)	27.0 (1.06)

Reducers

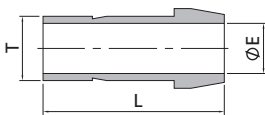


Fractional Tube

Basic Ordering Number	T-Tube O.D. (in.)	Tx-Tube O.D. (in.)	Dimensions, in. (mm)			
			L	C	E	F
SS-R-FL4-FT4-	1/4	1/4	1.54 (39.1)	0.60 (15.2)	0.17 (4.3)	0.50 (12.7)
SS-R-FL4-FT5-	1/4	5/16	1.57 (39.9)	0.60 (15.2)	0.19 (4.8)	0.50 (12.7)
SS-R-FL4-FT6-	1/4	3/8	1.60 (40.6)	0.60 (15.2)	0.19 (4.8)	0.50 (12.7)
SS-R-FL4-FT8-	1/4	1/2	1.82 (46.2)	0.60 (15.2)	0.19 (4.8)	0.56 (14.3)
SS-R-FL4-FT10-	1/4	5/8	1.89 (48.0)	0.60 (15.2)	0.19 (4.8)	0.69 (17.5)
SS-R-FL5-FT6-	5/16	3/8	1.65 (41.9)	0.64 (16.3)	0.25 (6.4)	0.56 (14.3)
SS-R-FL5-FT8-	5/16	1/2	1.87 (47.5)	0.64 (16.3)	0.25 (6.4)	0.56 (14.3)
SS-R-FL6-FT4-	3/8	1/4	1.63 (41.4)	0.66 (16.8)	0.17 (4.3)	0.63 (15.9)
SS-R-FL6-FT6-	3/8	3/8	1.70 (43.2)	0.66 (16.8)	0.27 (6.9)	0.63 (15.9)
SS-R-FL6-FT8-	3/8	1/2	1.91 (48.5)	0.66 (16.8)	0.28 (7.1)	0.63 (15.9)
SS-R-FL6-FT10-	3/8	5/8	1.98 (50.3)	0.66 (16.8)	0.28 (7.1)	0.69 (17.5)
SS-R-FL8-FT4-	1/2	1/4	1.77 (45.0)	0.90 (22.9)	0.17 (4.3)	0.81 (20.6)
SS-R-FL8-FT6-	1/2	3/8	1.84 (46.7)	0.90 (22.9)	0.27 (6.9)	0.81 (20.6)
SS-R-FL8-FT8-	1/2	1/2	2.06 (52.3)	0.90 (22.9)	0.37 (9.4)	0.81 (20.6)
SS-R-FL8-FT10-	1/2	5/8	2.12 (53.8)	0.90 (22.9)	0.41 (10.4)	0.81 (20.6)

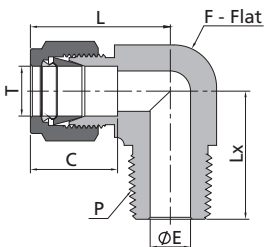
Metric Tube							
Basic Ordering Number	T-Tube O.D. (mm)	Tx-Tube O.D. (mm)	Dimensions, mm (in.)				
			L	C	E	F	
SS-R-ML6-MT8-	6	8	39.9 (1.57)	15.3 (0.60)	4.8 (0.19)	14.0 (0.55)	
SS-R-ML6-MT10-	6	10	40.7 (1.60)	15.3 (0.60)	4.8 (0.19)	14.0 (0.55)	
SS-R-ML6-MT12-	6	12	46.3 (1.82)	15.3 (0.60)	4.8 (0.19)	14.0 (0.55)	
SS-R-ML8-MT6-	8	6	40.3 (1.59)	16.2 (0.64)	4.1 (0.16)	15.0 (0.59)	
SS-R-ML8-MT10-	8	10	42.0 (1.65)	16.2 (0.64)	6.4 (0.25)	15.0 (0.59)	
SS-R-ML8-MT12-	8	12	47.6 (1.87)	16.2 (0.64)	6.4 (0.25)	15.0 (0.59)	
SS-R-ML10-MT6-	10	6	42.4 (1.67)	17.2 (0.68)	4.1 (0.16)	18.0 (0.71)	
SS-R-ML10-MT8-	10	8	43.4 (1.71)	17.2 (0.68)	5.6 (0.22)	18.0 (0.71)	
SS-R-ML10-MT12-	10	12	49.8 (1.96)	17.2 (0.68)	7.9 (0.31)	18.0 (0.71)	
SS-R-ML10-MT15-	10	15	51.3 (2.02)	17.2 (0.68)	7.9 (0.31)	18.0 (0.71)	
SS-R-ML12-MT6-	12	6	44.9 (1.77)	22.8 (0.90)	4.1 (0.16)	22.0 (0.87)	
SS-R-ML12-MT8-	12	8	45.9 (1.81)	22.8 (0.90)	5.6 (0.22)	22.0 (0.87)	
SS-R-ML12-MT10-	12	10	46.7 (1.84)	22.8 (0.90)	7.1 (0.28)	22.0 (0.87)	
SS-R-ML12-MT16-	12	16	53.8 (2.12)	22.8 (0.90)	9.5 (0.37)	22.0 (0.87)	

Port Connectors



Fractional Tube				Metric Tube			
Basic Ordering Number	T-Tube O.D. (in.)	Dimensions, in. (mm)		Basic Ordering Number	T-Tube O.D. (mm)	Dimensions, mm (in.)	
		L	E			L	E
SS-P-FL4-	1/4	0.97 (24.6)	0.17 (4.3)	SS-P-ML6-	6	24.6 (0.97)	4.1 (0.16)
SS-P-FL5-	5/16	1.02 (25.9)	0.22 (5.6)	SS-P-ML8-	8	25.9 (1.02)	5.6 (0.22)
SS-P-FL6-	3/8	1.03 (26.2)	0.27 (6.9)	SS-P-ML10-	10	26.1 (1.03)	7.1 (0.28)
SS-P-FL8-	1/2	1.41 (35.8)	0.37 (9.4)	SS-P-ML12-	12	35.8 (1.41)	8.8 (0.35)
SS-P-FL10-	5/8	1.64 (41.7)	0.47 (11.9)	SS-P-ML15-	15	37.8 (1.49)	11.2 (0.44)
				SS-P-ML16-	16	37.8 (1.49)	12.0 (0.47)

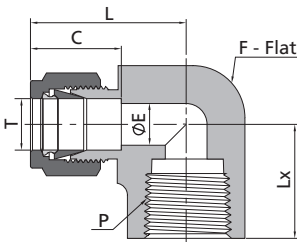
Male Elbows



Fractional Tube to NPT Thread								
Basic Ordering Number	T-Tube O.D. (in.)	P-NPT Size	Dimensions, in. (mm)					
			L	C	E	F	Lx	
SS-LM-FL4-NS4-	1/4	1/4	1.06 (26.9)	0.60 (15.2)	0.19 (4.8)	0.50 (12.7)	0.92 (23.4)	
SS-LM-FL4-NS6-	1/4	3/8	1.17 (29.7)	0.60 (15.2)	0.19 (4.8)	0.69 (17.5)	1.03 (26.2)	
SS-LM-FL4-NS8-	1/4	1/2	1.25 (31.8)	0.60 (15.2)	0.19 (4.8)	0.81 (20.6)	1.30 (33.0)	
SS-LM-FL5-NS4-	5/16	1/4	1.13 (28.7)	0.64 (16.3)	0.25 (6.4)	0.56 (14.3)	0.96 (24.4)	
SS-LM-FL5-NS6-	5/16	3/8	1.20 (30.5)	0.64 (16.3)	0.25 (6.4)	0.69 (17.5)	1.03 (26.2)	
SS-LM-FL6-NS4-	3/8	1/4	1.20 (30.5)	0.66 (16.8)	0.28 (7.1)	0.63 (15.9)	1.00 (25.4)	
SS-LM-FL6-NS6-	3/8	3/8	1.23 (31.2)	0.66 (16.8)	0.28 (7.1)	0.69 (17.5)	1.03 (26.2)	
SS-LM-FL6-NS8-	3/8	1/2	1.31 (33.3)	0.66 (16.8)	0.28 (7.1)	0.81 (20.6)	1.30 (33.0)	
SS-LM-FL8-NS4-	1/2	1/4	1.42 (36.1)	0.90 (22.9)	0.28 (7.1)	0.81 (20.6)	1.11 (28.2)	
SS-LM-FL8-NS6-	1/2	3/8	1.42 (36.1)	0.90 (22.9)	0.38 (9.7)	0.81 (20.6)	1.11 (28.2)	
SS-LM-FL8-NS8-	1/2	1/2	1.42 (36.1)	0.90 (22.9)	0.41 (10.4)	0.81 (20.6)	1.30 (33.0)	

Metric Tube to NPT Thread								
Basic Ordering Number	T-Tube O.D. (mm)	P-NPT Size	Dimensions, mm (in.)					
			L	C	E	F	Lx	
SS-LM-ML6-NS4-	6	1/4	27.0 (1.06)	15.3 (0.60)	4.8 (0.19)	12.7 (0.50)	23.4 (0.92)	
SS-LM-ML6-NS6-	6	3/8	29.8 (1.17)	15.3 (0.60)	4.8 (0.19)	17.5 (0.69)	26.2 (1.03)	
SS-LM-ML6-NS8-	6	1/2	31.8 (1.25)	15.3 (0.60)	4.8 (0.19)	20.6 (0.81)	33.0 (1.30)	
SS-LM-ML8-NS4-	8	1/4	28.8 (1.13)	16.2 (0.64)	6.4 (0.25)	14.3 (0.56)	24.4 (0.96)	
SS-LM-ML8-NS6-	8	3/8	30.6 (1.20)	16.2 (0.64)	6.4 (0.25)	17.5 (0.69)	26.2 (1.03)	
SS-LM-ML8-NS8-	8	1/2	32.6 (1.28)	16.2 (0.64)	6.4 (0.25)	20.6 (0.81)	33.0 (1.30)	
SS-LM-ML10-NS4-	10	1/4	31.5 (1.24)	17.2 (0.68)	7.1 (0.28)	17.5 (0.69)	26.2 (1.03)	
SS-LM-ML10-NS6-	10	3/8	31.5 (1.24)	17.2 (0.68)	7.9 (0.31)	17.5 (0.69)	26.2 (1.03)	
SS-LM-ML10-NS8-	10	1/2	33.5 (1.32)	17.2 (0.68)	7.9 (0.31)	20.6 (0.81)	33.0 (1.30)	
SS-LM-ML12-NS4-	12	1/4	36.0 (1.42)	22.8 (0.90)	7.1 (0.28)	20.6 (0.81)	28.2 (1.11)	
SS-LM-ML12-NS6-	12	3/8	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)	28.2 (1.11)	
SS-LM-ML12-NS8-	12	1/2	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)	33.0 (1.30)	
SS-LM-ML12-NS12-	12	3/4	39.8 (1.57)	22.8 (0.90)	9.5 (0.37)	27.0 (1.06)	36.8 (1.45)	

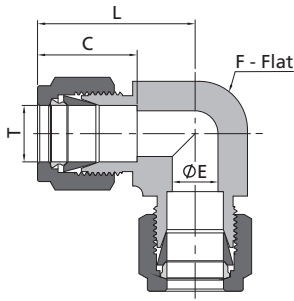
Female Elbows



Fractional Tube to NPT Thread								
Basic Ordering Number	T-Tube O.D. (in.)	P-NPT Size	Dimensions, in. (mm)					
			L	C	E	F	Lx	
SS-LF-FL4-NS4-	1/4	1/4	1.17 (29.7)	0.60 (15.2)	0.19 (4.8)	0.69 (17.5)	0.88 (22.4)	
SS-LF-FL4-NS6-	1/4	3/8	1.25 (31.8)	0.60 (15.2)	0.19 (4.8)	0.81 (20.6)	0.88 (22.4)	
SS-LF-FL4-NS8-	1/4	1/2	1.36 (34.5)	0.60 (15.2)	0.19 (4.8)	1.00 (25.4)	1.12 (28.4)	
SS-LF-FL5-NS4-	5/16	1/4	1.20 (30.5)	0.64 (16.3)	0.25 (6.4)	0.69 (17.5)	0.88 (22.4)	
SS-LF-FL6-NS4-	3/8	1/4	1.23 (31.2)	0.66 (16.8)	0.28 (7.1)	0.69 (17.5)	0.88 (22.4)	
SS-LF-FL6-NS6-	3/8	3/8	1.31 (33.3)	0.66 (16.8)	0.28 (7.1)	0.81 (20.6)	0.88 (22.4)	
SS-LF-FL6-NS8-	3/8	1/2	1.42 (36.1)	0.66 (16.8)	0.28 (7.1)	1.00 (25.4)	1.12 (28.4)	
SS-LF-FL8-NS4-	1/2	1/4	1.42 (36.1)	0.90 (22.9)	0.41 (10.4)	0.81 (20.6)	0.88 (22.4)	
SS-LF-FL8-NS6-	1/2	3/8	1.42 (36.1)	0.90 (22.9)	0.41 (10.4)	0.81 (20.6)	0.88 (22.4)	
SS-LF-FL8-NS8-	1/2	1/2	1.53 (38.9)	0.90 (22.9)	0.41 (10.4)	1.00 (25.4)	1.12 (28.4)	

Metric Tube to NPT Thread								
Basic Ordering Number	T-Tube O.D. (mm)	P-NPT Size	Dimensions, mm (in.)					
			L	C	E	F	Lx	
SS-LF-ML6-NS4-	6	1/4	29.8 (1.17)	15.3 (0.60)	4.8 (0.19)	17.5 (0.69)	22.4 (0.88)	
SS-LF-ML8-NS4-	8	1/4	30.6 (1.20)	16.2 (0.64)	6.4 (0.25)	17.5 (0.69)	22.4 (0.88)	
SS-LF-ML10-NS4-	10	1/4	33.5 (1.32)	17.2 (0.68)	7.9 (0.31)	20.6 (0.81)	22.4 (0.88)	
SS-LF-ML10-NS6-	10	3/8	33.5 (1.32)	17.2 (0.68)	7.9 (0.31)	20.6 (0.81)	22.4 (0.88)	
SS-LF-ML10-NS8-	10	1/2	36.6 (1.44)	17.2 (0.68)	7.9 (0.31)	25.4 (1.00)	28.5 (1.12)	
SS-LF-ML12-NS4-	12	1/4	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)	22.4 (0.88)	
SS-LF-ML12-NS6-	12	3/8	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)	22.4 (0.88)	
SS-LF-ML12-NS8-	12	1/2	38.8 (1.53)	22.8 (0.90)	9.5 (0.37)	25.4 (1.00)	28.4 (1.12)	

Union Elbows



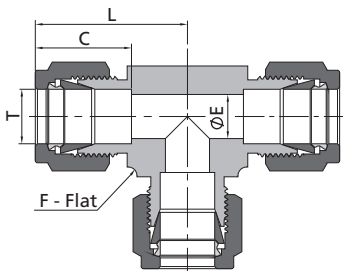
Fractional Tube

Basic Ordering Number	T-Tube O.D. (in.)	Dimensions, in. (mm)			
		L	C	E	F
SS-LU-FL4-	1/4	1.06 (26.9)	0.60 (15.2)	0.19 (4.8)	0.50 (12.7)
SS-LU-FL5-	5/16	1.13 (28.7)	0.64 (16.3)	0.25 (6.4)	0.56 (14.3)
SS-LU-FL6-	3/8	1.20 (30.5)	0.66 (16.8)	0.28 (7.1)	0.63 (15.9)
SS-LU-FL8-	1/2	1.42 (36.1)	0.90 (22.9)	0.41 (10.4)	0.81 (20.6)
SS-LU-FL10-	5/8	1.50 (38.1)	0.96 (24.4)	0.5 (12.7)	0.94 (23.8)

Metric Tube

Basic Ordering Number	T-Tube O.D. (mm)	Dimensions, mm (in.)			
		L	C	E	F
SS-LU-ML6-	6	27.0 (1.06)	15.3 (0.60)	4.8 (0.19)	12.7 (0.50)
SS-LU-ML8-	8	28.8 (1.13)	16.2 (0.64)	6.4 (0.25)	14.3 (0.56)
SS-LU-ML10-	10	31.5 (1.24)	17.2 (0.68)	7.9 (0.31)	17.5 (0.69)
SS-LU-ML12-	12	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)
SS-LU-ML14-	14	38.0 (1.50)	24.4 (0.96)	11.0 (0.43)	23.8 (0.94)
SS-LU-ML15-	15	38.0 (1.50)	24.4 (0.96)	11.9 (0.47)	23.8 (0.94)
SS-LU-ML16-	16	38.0 (1.50)	24.4 (0.96)	12.7 (0.50)	23.8 (0.94)

Union Tees



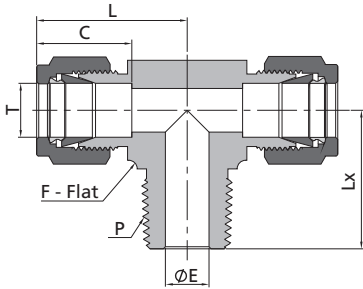
Fractional Tube

Basic Ordering Number	T-Tube O.D. (in.)	Dimensions, in. (mm)			
		L	C	E	F
SS-TTT-FL4-	1/4	1.06 (26.9)	0.60 (15.2)	0.19 (4.8)	0.50 (12.7)
SS-TTT-FL5-	5/16	1.17 (29.7)	0.64 (16.2)	0.25 (6.4)	0.63 (15.9)
SS-TTT-FL6-	3/8	1.20 (30.5)	0.66 (16.8)	0.28 (7.1)	0.63 (15.9)
SS-TTT-FL8-	1/2	1.42 (36.1)	0.90 (22.9)	0.41 (10.4)	0.81 (20.6)
SS-TTT-FL10-	5/8	1.53 (38.9)	0.96 (24.4)	0.50 (12.7)	1.00 (25.4)

Metric Tube

Basic Ordering Number	T-Tube O.D. (mm)	Dimensions, mm (in.)			
		L	C	E	F
SS-TTT-ML6-	6	27.0 (1.06)	15.3 (0.60)	4.8 (0.19)	12.7 (0.50)
SS-TTT-ML8-	8	29.9 (1.18)	16.2 (0.64)	6.4 (0.25)	15.9 (0.63)
SS-TTT-ML10-	10	31.5 (1.24)	17.2 (0.68)	7.9 (0.31)	17.5 (0.69)
SS-TTT-ML12-	12	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)
SS-TTT-ML14-	14	38.8 (1.53)	24.4 (0.96)	11.1 (0.44)	25.4 (1.00)
SS-TTT-ML15-	15	38.8 (1.53)	24.4 (0.96)	11.9 (0.47)	25.4 (1.00)
SS-TTT-ML16-	16	38.8 (1.53)	24.4 (0.96)	12.7 (0.50)	25.4 (1.00)

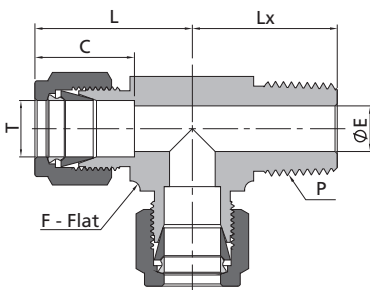
Male Branch Tees



Fractional Tube to NPT Thread								
Basic Ordering Number	T-Tube O.D. (in.)	P-NPT Size	Dimensions, in. (mm)					
			L	C	E (min.)	F	Lx	
SS-TTM-FL4-NS4-	1/4	1/4	1.06 (26.9)	0.60 (15.2)	0.19 (4.8)	0.50 (12.7)	0.92 (23.4)	
SS-TTM-FL6-NS4-	3/8	1/4	1.20 (30.5)	0.66 (16.8)	0.28 (7.1)	0.63 (15.9)	1.00 (25.4)	
SS-TTM-FL6-NS6-	3/8	3/8	1.31 (33.3)	0.66 (16.8)	0.28 (7.1)	0.81 (20.6)	1.11 (28.2)	

Metric Tube to NPT Thread								
Basic Ordering Number	T-Tube O.D. (mm)	P-NPT Size	Dimensions, mm (in.)					
			L	C	E (min.)	F	Lx	
SS-TTM-ML6-NS4-	6	1/4	27.0 (1.06)	15.3 (0.60)	4.8 (0.19)	12.7 (0.50)	23.4 (0.92)	
SS-TTM-ML8-NS4-	8	1/4	29.9 (1.18)	16.2 (0.64)	6.4 (0.25)	15.9 (0.63)	25.4 (1.00)	
SS-TTM-ML10-NS4-	10	1/4	33.5 (1.32)	17.2 (0.68)	7.1 (0.28)	20.6 (0.81)	28.2 (1.11)	
SS-TTM-ML10-NS6-	10	3/8	33.5 (1.32)	17.2 (0.68)	7.9 (0.31)	20.6 (0.81)	28.2 (1.11)	
SS-TTM-ML12-NS4-	12	1/4	36.0 (1.42)	22.8 (0.90)	7.1 (0.28)	20.6 (0.81)	28.2 (1.11)	
SS-TTM-ML12-NS6-	12	3/8	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)	28.2 (1.11)	
SS-TTM-ML12-NS8-	12	1/2	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)	33.0 (1.30)	

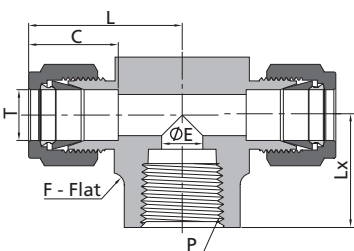
Male Run Tees



Fractional Tube to NPT Thread								
Basic Ordering Number	T-Tube O.D. (in.)	P-NPT Size	Dimensions, in. (mm)					
			L	C	E (min.)	F	Lx	
SS-TMT-FL4-NS4-	1/4	1/4	1.06 (26.9)	0.60 (15.2)	0.19 (4.8)	0.50 (12.7)	0.92 (23.4)	
SS-TMT-FL5-NS4-	5/16	1/4	1.17 (29.7)	0.64 (16.3)	0.25 (6.4)	0.63 (15.9)	1.01 (25.7)	
SS-TMT-FL6-NS4-	3/8	1/4	1.20 (30.5)	0.66 (16.8)	0.28 (7.1)	0.63 (15.9)	1.00 (25.4)	
SS-TMT-FL6-NS6-	3/8	3/8	1.31 (33.3)	0.66 (16.8)	0.28 (7.1)	0.81 (20.6)	1.11 (28.2)	

Metric Tube to NPT Thread								
Basic Ordering Number	T-Tube O.D. (mm)	P-NPT Size	Dimensions, mm (in.)					
			L	C	E (min.)	F	Lx	
SS-TMT-ML6-NS4-	6	1/4	27.0 (1.06)	15.3 (0.60)	4.8 (0.19)	12.7 (0.50)	23.4 (0.92)	
SS-TMT-ML8-NS4-	8	1/4	29.9 (1.18)	16.2 (0.64)	6.4 (0.25)	15.9 (0.63)	25.4 (1.00)	
SS-TMT-ML10-NS4-	10	1/4	33.5 (1.32)	17.2 (0.68)	7.1 (0.28)	20.6 (0.81)	28.2 (1.11)	
SS-TMT-ML10-NS8-	10	1/2	33.5 (1.32)	17.2 (0.68)	7.9 (0.31)	20.6 (0.81)	33.0 (1.30)	
SS-TMT-ML12-NS4-	12	1/4	36.0 (1.42)	22.8 (0.90)	7.1 (0.28)	20.6 (0.81)	28.2 (1.11)	
SS-TMT-ML12-NS6-	12	3/8	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)	28.2 (1.11)	
SS-TMT-ML12-NS8-	12	1/2	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)	33.0 (1.30)	

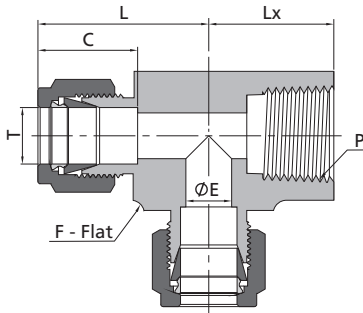
Female Branch Tees



Fractional Tube to NPT Thread								
Basic Ordering Number	T-Tube O.D. (in.)	P-NPT Size	Dimensions, in. (mm)					
			L	C	E	F	Lx	
SS-TTF-FL4-NS4-	1/4	1/4	1.17 (29.7)	0.60 (15.2)	0.19 (4.8)	0.69 (17.5)	0.88 (22.4)	
SS-TTF-FL6-NS4-	3/8	1/4	1.23 (31.2)	0.66 (16.8)	0.28 (7.1)	0.69 (17.5)	0.88 (22.4)	
SS-TTF-FL6-NS6-	3/8	3/8	1.31 (33.3)	0.66 (16.8)	0.28 (7.1)	0.81 (20.6)	0.88 (22.4)	

Metric Tube to NPT Thread								
Basic Ordering Number	T-Tube O.D. (mm)	P-NPT Size	Dimensions, mm (in.)					
			L	C	E	F	Lx	
SS-TTF-ML6-NS4-	6	1/4	29.8 (1.17)	15.3 (0.60)	4.8 (0.19)	17.5 (0.69)	22.4 (0.88)	
SS-TTF-ML8-NS4-	8	1/4	30.6 (1.20)	16.2 (0.64)	6.4 (0.25)	17.5 (0.69)	22.4 (0.88)	
SS-TTF-ML10-NS4-	10	1/4	33.5 (1.32)	17.2 (0.68)	7.9 (0.31)	20.6 (0.81)	22.4 (0.88)	
SS-TTF-ML12-NS4-	12	1/4	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)	22.4 (0.88)	
SS-TTF-ML12-NS6-	12	3/8	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)	22.4 (0.88)	
SS-TTF-ML12-NS8-	12	1/2	38.8 (1.53)	22.8 (0.90)	9.5 (0.37)	25.4 (1.00)	28.5 (1.12)	

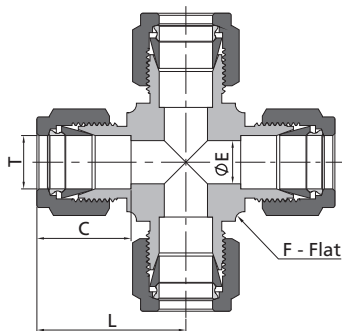
Female Run Tees



Fractional Tube to NPT Thread								
Basic Ordering Number	T-Tube O.D. (in.)	P-NPT Size	Dimensions, in. (mm)					
			L	C	E	F	Lx	
SS-TFT-FL4-NS4-	1/4	1/4	1.17 (29.7)	0.60 (15.2)	0.19 (4.8)	0.69 (17.5)	0.88 (22.4)	
SS-TFT-FL6-NS4-	3/8	1/4	1.23 (31.2)	0.66 (16.8)	0.28 (7.1)	0.69 (17.5)	0.88 (22.4)	

Metric Tube to NPT Thread								
Basic Ordering Number	T-Tube O.D. (mm)	P-NPT Size	Dimensions, mm (in.)					
			L	C	E	F	Lx	
SS-TFT-ML6-NS4-	6	1/4	29.8 (1.17)	15.3 (0.60)	4.8 (0.19)	17.5 (0.69)	22.4 (0.88)	
SS-TFT-ML8-NS4-	8	1/4	30.6 (1.20)	16.2 (0.64)	6.4 (0.25)	17.5 (0.69)	22.4 (0.88)	
SS-TFT-ML10-NS4-	10	1/4	33.5 (1.32)	17.2 (0.68)	7.9 (0.31)	20.6 (0.81)	22.4 (0.88)	
SS-TFT-ML12-NS4-	12	1/4	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)	22.4 (0.88)	
SS-TFT-ML12-NS6-	12	3/8	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)	23.1 (0.91)	
SS-TFT-ML12-NS8-	12	1/2	38.8 (1.53)	22.8 (0.90)	9.5 (0.37)	25.4 (1.00)	28.5 (1.12)	

Union Crosses



Fractional Tube					
Basic Ordering Number	T-Tube O.D. (in.)	Dimensions, in. (mm)			
		L	C	E	F
SS-C-FL4-	1/4	1.06 (26.9)	0.60 (15.2)	0.19 (4.8)	0.50 (12.7)
SS-C-FL5-	5/16	1.17 (29.7)	0.64 (16.2)	0.25 (6.4)	0.63 (15.9)
SS-C-FL6-	3/8	1.20 (30.5)	0.66 (16.8)	0.28 (7.1)	0.63 (15.9)
SS-C-FL8-	1/2	1.42 (36.1)	0.90 (22.9)	0.41 (10.4)	0.81 (20.6)

Metric Tube					
Basic Ordering Number	T-Tube O.D. (mm)	Dimensions, mm (in.)			
		L	C	E	F
SS-C-ML6-	6	27.0 (1.06)	15.3 (0.60)	4.8 (0.19)	12.7 (0.50)
SS-C-ML8-	8	29.9 (1.18)	16.2 (0.64)	6.4 (0.25)	15.9 (0.63)
SS-C-ML10-	10	33.5 (1.32)	17.2 (0.68)	7.9 (0.31)	20.6 (0.81)
SS-C-ML12-	12	36.0 (1.42)	22.8 (0.90)	9.5 (0.37)	20.6 (0.81)
SS-C-ML16-	16	37.0 (1.46)	24.4 (0.96)	12.7 (0.50)	23.8 (0.94)

6P Series Pipe Fittings

Features

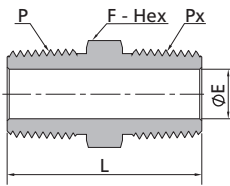
- © Rolled male thread provides higher strength and hardness

Technical Data

Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5
Working Temperature	NPT Threads: -325~400 °F (-198~204 °C) SAE/MS Straight Threads: -53~401 °F (-47~205 °C) Low Temperature FKM O-ring: -53~401 °F (-47~205 °C)
Thread Specification	NPT: ASME B1.20.1, SAE AS71051 SAE/MS: ASME B1.1, SAE J475

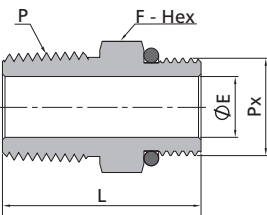
Ordering Information and Dimensions

Hex Nipples



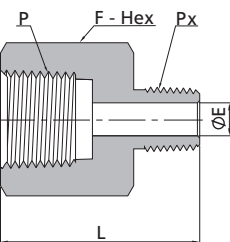
Male NPT Thread						
Ordering Number	P-NPT Size	Px-NPT Size	Dimensions, in. (mm)			Working Pressure psig (bar)
			L	E	F	
SS-PHN-NS4-HG	1/4	1/4	1.40 (35.6)	0.28 (7.1)	0.56 (14.3)	8,000 (551)
SS-PHN-NS6-HG	3/8	3/8	1.43 (36.3)	0.38 (9.7)	0.69 (17.5)	7,800 (537)

Hex Nipples



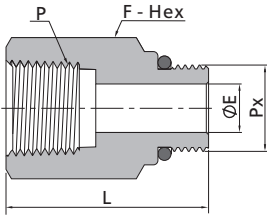
Male NPT Thread to Male SAE/MS Straight Thread							
Ordering Number	P-NPT Size	Px-SAE Nominal Size	Px-SAE/MS Thread Specification	Dimensions, in. (mm)			Working Pressure psig (bar)
				L	E	F	
SS-PHN-NS4-ST7-HG	1/4	4	7/16-20	1.20 (30.5)	0.20 (5.1)	0.56 (14.3)	5,075 (350)
SS-PHN-NS6-ST9-HG	3/8	6	9/16-18	1.26 (32.0)	0.28 (7.1)	0.69 (17.5)	5,075 (350)

Adapters



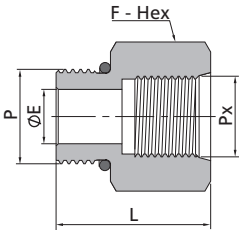
Female NPT Thread to Male NPT Thread						
Ordering Number	P-NPT Size	Px-NPT Size	Dimensions, in. (mm)			Working Pressure psig (bar)
			L	E	F	
SS-PA-NS4-HG	1/4	1/4	1.40 (35.6)	0.28 (7.1)	0.75 (19.1)	6,600 (454)
SS-PA-NS6-NS4-HG	3/8	1/4	1.50 (38.1)	0.28 (7.1)	0.87 (22.2)	5,300 (365)

Adapters



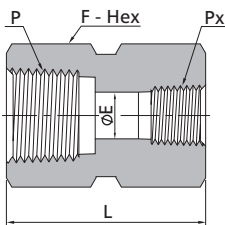
Female NPT Thread to Male SAE/MS Straight Thread							
Ordering Number	P-NPT Size	Px-SAE Nominal Size	Px-SAE/MS Thread Specification	Dimensions, in. (mm)			Working Pressure psig (bar)
				L	E	F	
SS-PA-NS4-ST7-HG	1/4	4	7/16-20	1.32 (33.5)	0.20 (5.1)	0.75 (19.1)	5,075 (350)

Reducing Bushings



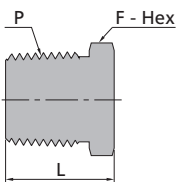
Male SAE/MS Straight Thread to Female SAE/MS Straight Thread								
Ordering Number	P-SAE Nominal Size	P-SAE/MS Thread Specification	Px-SAE Nominal Size	Px-SAE/MS Thread Specification	Dimensions, in. (mm)			Working Pressure psig (bar)
					L	E	F	
SS-PRB-ST9-US7-HG	6	9/16-18	4	7/16-20	1.12 (28.4)	0.28 (7.1)	0.81 (20.6)	5,075 (350)
SS-PRB-SH12-US7-HG	8	3/4-16	4	7/16-20	0.98 (24.9)	0.39 (9.9)	0.87 (22.2)	5,075 (350)
SS-PRB-SH12-US9-HG	8	3/4-16	6	9/16-18	1.19 (30.2)	0.42 (10.7)	1.00 (25.4)	5,075 (350)

Hex Couplings

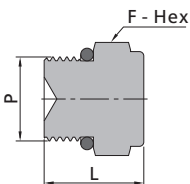


Female NPT Thread							
Ordering Number	P-NPT Size	Px-NPT Size	Dimensions, in. (mm)			Working Pressure psig (bar)	
			L	E	F		
SS-PCG-NS4-HG	1/4	1/4	1.19 (30.2)	0.45 (11.4)	0.75 (19.1)	6,600 (454)	
SS-PCG-NS6-NS4-HG	3/8	1/4	1.38 (35.1)	0.45 (11.4)	0.87 (22.2)	5,300 (365)	
SS-PCG-NS6-HG	3/8	3/8	1.31 (33.3)	0.59 (15.0)	0.87 (22.2)	5,300 (365)	

Pipe Plugs

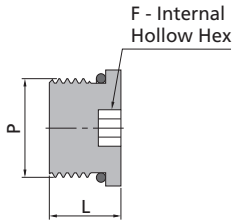


Male NPT Thread			
Ordering Number	P-NPT Size	Dimensions, in. (mm)	
		L	F
SS-PP-NS4-HG	1/4	0.75 (19.1)	0.56 (14.3)
SS-PP-NS6-HG	3/8	0.78 (19.8)	0.69 (17.5)



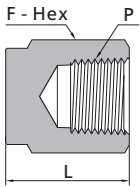
Male SAE/MS Straight Thread				
Ordering Number	P-SAE Nominal Size	P-SAE/MS Thread Specification	Dimensions, in. (mm)	
			L	F
SS-PP-ST6-HG	3	3/8-24	0.61 (15.5)	0.50 (12.7)
SS-PP-ST7-HG	4	7/16-20	0.76 (19.3)	0.56 (14.3)
SS-PP-ST8-HG	5	1/2-20	0.71 (18.1)	0.63 (15.9)
SS-PP-ST9-HG	6	9/16-18	0.82 (20.8)	0.69 (17.5)
SS-PP-SH12-HG	8	3/4-16	0.89 (22.6)	0.87 (22.2)

Hollow Hex Plugs



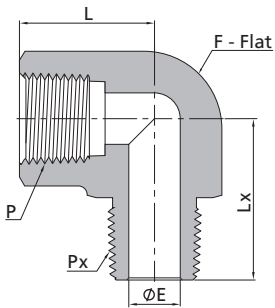
Male SAE/MS Straight Thread				
Ordering Number	P-SAE Nominal Size	P-SAE/MS Thread Specification	Dimensions, in. (mm)	
			L	F
SS-PI-ST6-HG	3	3/8-24	0.38 (9.7)	0.16 (4.0)
SS-PI-ST7-HG	4	7/16-20	0.45 (11.4)	0.19 (4.8)
SS-PI-ST9-HG	6	9/16-18	0.48 (12.2)	0.25 (6.4)
SS-PI-SH12-HG	8	3/4-16	0.56 (14.2)	0.31 (7.9)

Pipe Caps



Female NPT Thread				
Ordering Number	P-NPT Size	Dimensions, in. (mm)		Working Pressure psig (bar)
		L	F	
SS-PC-NS4-HG	1/4	0.91 (23.1)	0.75 (19.1)	6,600 (454)
SS-PC-NS6-HG	3/8	1.03 (26.2)	0.87 (22.2)	5,300 (365)
SS-PC-NS8-HG	1/2	1.34 (34.0)	1.06 (27.0)	4,900 (337)

Street Elbows



Female NPT Thread to Male NPT Thread							
Ordering Number	P-NPT Size	Px-NPT Size	Dimensions, in. (mm)				Working Pressure psig (bar)
			L	E	F	Lx	
SS-PSE-NS4-NS6-HG	1/4	3/8	1.17 (29.7)	0.34 (8.6)	0.69 (17.5)	1.17 (29.7)	7,200 (496)

BU Series Ball Valves



Features

- EC79 certified
- Spring-loaded seat provides leak-tight integrity and reduces seat wear from pressure surges
- Panel mounting optional
- 100% of the valves leak tested with 6,000 psig (414 bar) helium mixed gas



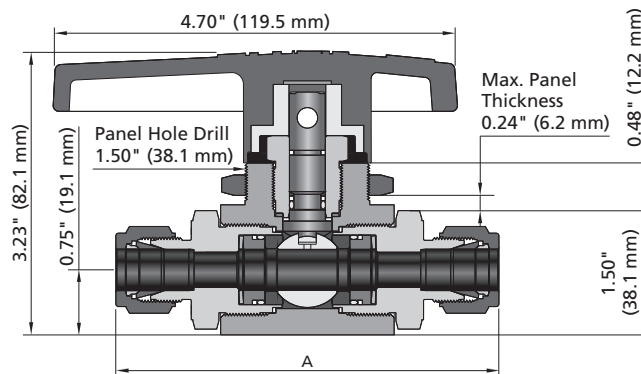
Technical Data

Orifice	Max. 0.42 in. (10.7 mm)
Max. Working Pressure	6,000 psig (414 bar)
Working Temperature	-40~250 °F (-40~121 °C)
Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5
Seat Material	PEEK
O-ring	Low-Temperature FKM

Ordering Information and Dimensions

To order a valve with EC79 certification, add “-EC79” suffix to the standard ordering number.

To order a valve complying with EC79 but without third party certification, add “-HG” suffix to the standard ordering number. The complete ordering number is labeled on the packing box.

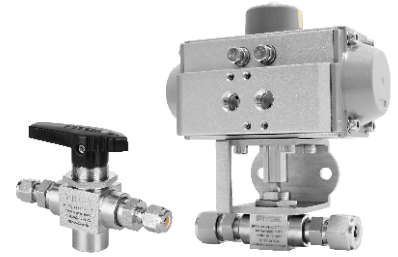


Ordering Number	Connection Type and Size		Orifice in. (mm)	Cv	Dimensions, in. (mm)
					A
BUSS-FL6-P12-	6D Series Tube Fittings	3/8"	0.28 (7.1)	4.0	4.20 (106.6)
BUSS-FL8-P12-		1/2"	0.41 (10.3)	7.2	4.40 (111.8)
BUSS-ML10-P12-		10 mm	0.31 (7.9)	5.2	4.21 (107.0)
BUSS-US12-P12-	Female SAE/MS	3/4-16	0.42 (10.7)	7.5	4.02 (102.0)

BF Series Ball Valves

Features

- ⦿ Automatic compensation of seat sealing provides long service life
- ⦿ Pneumatic actuator optional
- ⦿ 3-way valve configurations optional
- ⦿ 100% of the valves leak tested with 6,000 psig (414 bar) helium mixed gas

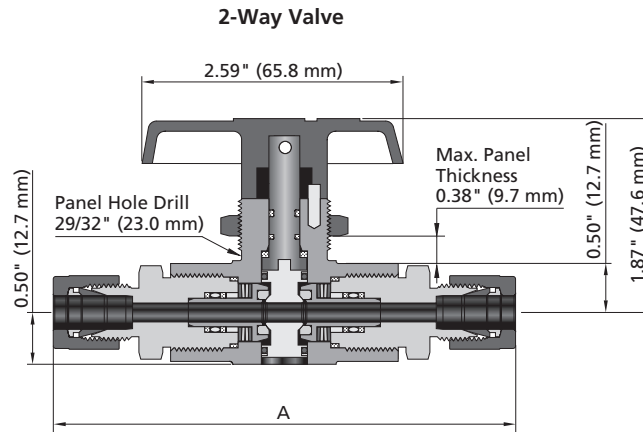


Technical Data

Max. Working Pressure	6,000 psig (414 bar)
Working Temperature	-40~248 °F (-40~120 °C)
Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5
Seat Material	PEEK
O-ring	Low-Temperature FKM

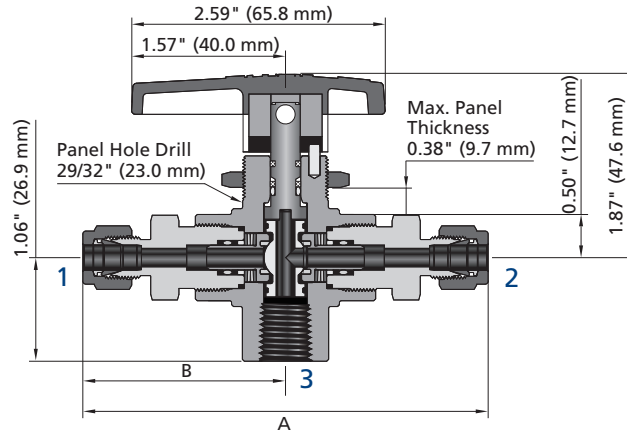
Ordering Information and Dimensions

Manual



Ordering Number	Connection Type and Size		Orifice in. (mm)	Cv	Dimension, in. (mm)	
					A	
BFSS-FL4-P-HG	6D Series Tube Fittings	1/4"	0.19 (4.8)	1.6	4.14 (105.2)	
BFSS-FL6-P-HG		3/8"			1.4	4.39 (111.5)
BFSS-ML10-P-HG		10 mm			1.3	4.41 (112.0)

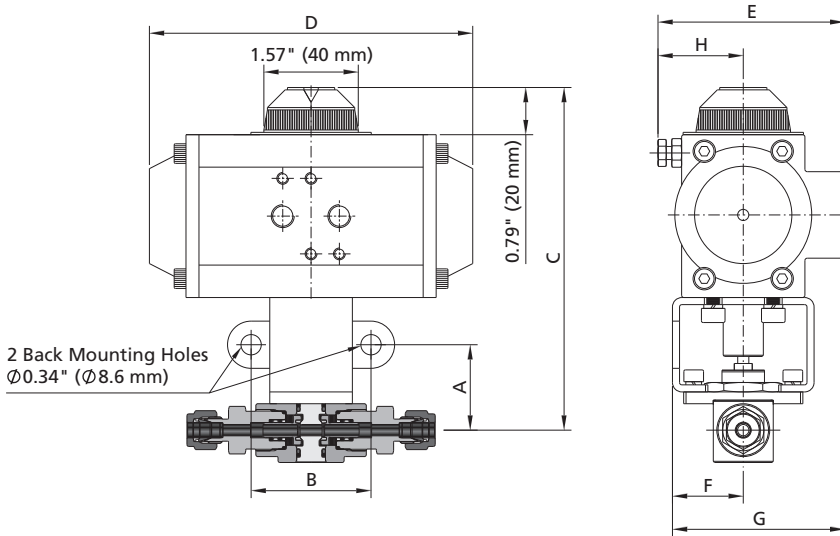
3-Way Valve



Ordering Number	Connection Type and Size				Orifice in. (mm)	Cv	Dimensions, in. (mm)	
	Connection 1 & 2		Connection 3				A	B
BFSS-FL4-P-3-HG	6D Series Tube Fittings	1/4"	Female NPT	1/4"	0.19 (4.8)	0.75	4.14 (105.2)	2.07 (52.6)
BFSS-FL6-P-3-HG		3/8"					4.39 (111.5)	2.19 (55.6)
BFSS-ML10-P-3-HG		10 mm	4.41 (112.0)	2.20 (55.9)				

Pneumatic Actuated

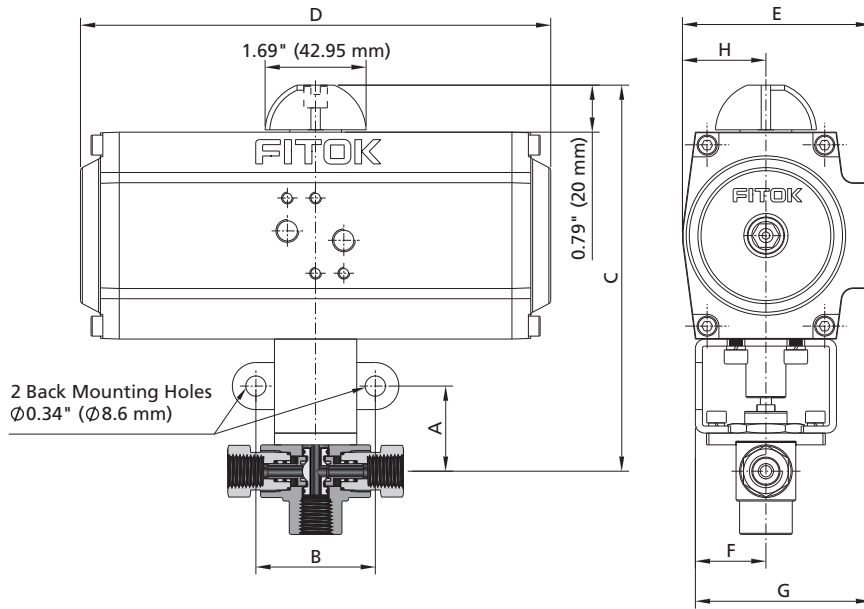
2-Way Valve



Ordering Number	Connection Type and Size		Orifice in. (mm)	Cv	Dimensions, in. (mm)							
	A	B			C	D	E	F	G	H		
BFSS-FL4-P-O-HG	6D Series Tube Fittings	1/4"	0.19 (4.8)	1.6	1.43 (36.2)	2.00 (50.8)	6.01 (151.2)	6.06 (154.0)	2.78 (70.5)	1.38 (35.0)	3.01 (76.5)	1.14 (29.0)
BFSS-FL6-P-D-HG		3/8"		1.4								
BFSS-ML10-P-C-HG		10 mm		1.3								

Note: "-O", "-D", "-C" are designators for pneumatic actuator
 -O: 90° normally open pneumatic actuator;
 -D: 90° double acting pneumatic actuator;
 -C: 90° normally closed pneumatic actuator.

3-Way Valve



Ordering Number	Connection Type and Size				Orifice in. (mm)	Cv	Dimensions, in. (mm)							
	Connection 1 & 2		Connection 3				A	B	C	D	E	F	G	H
BFSS-FNS4-P-LX3-HG	Female NPT	1/4"	Female NPT	1/4"	0.19 (4.8)	0.75	1.43 (36.2)	2.00 (50.8)	1.97 (164.2)	7.87 (200.0)	3.15 (80.0)	1.18 (30.0)	2.93 (74.5)	1.40 (35.5)
BFSS-FL4-P-LX3-HG	6D Series Tube Fittings	1/4"												
BFSS-ML6-P-LX3-HG		3/8"												
BFSS-ML10-P-RX3-HG		10 mm												

NF Series Needle Valves

Features

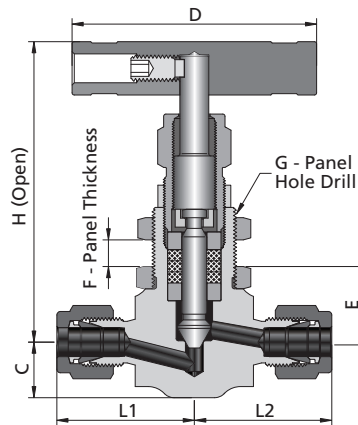
- ⦿ One-piece forged body
- ⦿ Upper stem thread lubricant isolated from system media
- ⦿ Specially treated surface of the stem tip provides better shut-off and sealing for hydrogen gas
- ⦿ Panel mounting optional
- ⦿ 100% of the valves leak tested with 6,000 psig (414 bar) helium mixed gas



Technical Data

Max. Working Pressure	6,000 psig (414 bar)
Working Temperature	-40~450 °F (-40~232 °C)
Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5
Packing Material	PTFE
Stem Tip Material	FITOK Tailor-Made Hard 316/316L SS, Ni _{eq} % ≥ 28.5
Stem Tip Type	Taper

Ordering Information and Dimensions



Ordering Number	Connection Type and Size		Orifice in. (mm)	Cv	Dimensions, in. (mm)							
					L1	L2	H	D	C	E	F	G
NFSS-FL4-7-Y-HG	6D Series Tube Fittings	1/4"	0.16 (4.0)	0.35	1.22 (30.9)	1.22 (30.9)	2.85 (72.5)	2.17 (55.0)	0.49 (12.5)	0.71 (18.0)	0.25 (6.4)	0.77 (19.6)
NFSS-FL6-8-Y-HG		3/8"	0.25 (6.4)	0.85	1.44 (36.5)	1.44 (36.5)	3.38 (85.8)	2.50 (63.5)	0.62 (15.8)	0.87 (22.0)	0.38 (9.7)	0.96 (24.4)

CH Series Check Valves



Features

- ⦿ EC79 certified
- ⦿ Any mounting direction is acceptable
- ⦿ 100% of the valves leak tested with 6,000 psig (414 bar) helium mixed gas

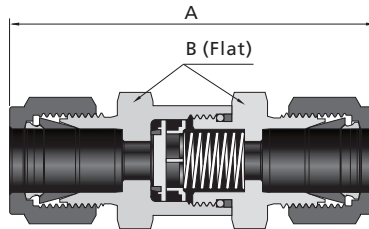


Technical Data

Max. Working Pressure	6,000 psig (414 bar)
Cracking Pressure	0~30 psig (0~2.1 bar)
Working Temperature	-40~248 °F (-40~120 °C)
Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥28.5
O-ring	EPDM

Ordering Information and Dimensions

To order a valve with EC79 certification, add “-EC79” suffix to the standard ordering number.
 To order a valve complying with EC79 but without third party certification, add “-HG” suffix to the standard ordering number.
 The complete ordering number is labeled on the packing box.



Ordering Number	Connection Type and Size	Cv	Cracking Pressure Range, psig (bar)	Dimensions, in. (mm)		
				A	B	
CHSS-FL4-	6D Series Tube Fittings	1/4"	0.67	1~5 (0.06~0.34)	2.43 (61.7)	11/16 (17.5)
CHSS-FL4-1-		1/4"	0.67	0~3 (0~0.21)	2.43 (61.7)	11/16 (17.5)
CHSS-FL6-2-		3/8"	1.80	0~4 (0~0.28)	2.75 (69.9)	1.0 (25.4)
CHSS-FL6-3-		3/8"	1.80	7~15 (0.49~1.1)	2.75 (69.9)	1.0 (25.4)
CHSS-FL8-4-		1/2"	1.80	20~30 (1.4~2.1)	2.96 (75.2)	1.0 (25.4)

RV Series Proportional Relief Valves

Features

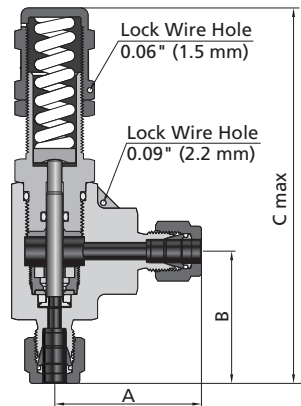
- ◎ Set pressure can be customized
- ◎ Designed to eliminate back-pressure effect
- ◎ 100% of the valves is factory tested at the set pressure



Technical Data

Max. Outlet Pressure	1,500 psig (103 bar)
Set Pressure	50~6,000 psig (3.4~414 bar)
Working Temperature	-40~250 °F (-40~121 °C)
Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5
O-ring	EPDM

Ordering Information and Dimensions



Ordering Number	Connection Type and Size		Orifice in. (mm)	Cv	Set Pressure Range, psig (bar)	Dimensions, in. (mm)		
						A	B	C
RVSS-FL4-6-C-HG	6D Series Tube Fittings	1/4"	0.14 (3.6)	0.41	4,500~6,000 (310~414)	1.60 (40.6)	1.44 (36.6)	4.14 (105.2)
RVSS-FL6-6-J-HG		3/8"			3,500~4,500 (241~310)	1.60 (40.6)	1.44 (36.6)	4.14 (105.2)
RVSS-FL8-6-W-HG		1/2"			2,500~3,500 (172~241)	1.72 (43.7)	1.72 (43.7)	5.81 (147.6)
RVSS-ML6-6-P-HG		6 mm			1,500~2,500 (103~172)	1.60 (40.6)	1.44 (36.6)	4.14 (105.2)
RVSS-ML8-6-Y-HG		8 mm			700~1,500 (48.3~103)	1.60 (40.6)	1.44 (36.6)	4.14 (105.2)
RVSS-ML12-6-O-HG		12 mm			300~700 (20.7~48.3)	1.83 (46.5)	1.83 (46.5)	5.92 (150.4)
RVSS-ML12-6-F-HG		12 mm			50~300 (3.4~20.7)	1.83 (46.5)	1.83 (46.5)	5.92 (150.4)

EV Series Excess Flow Valves

Features

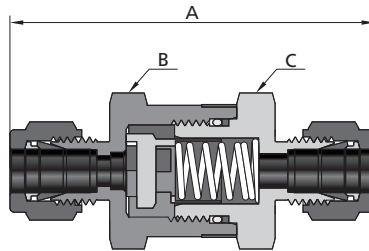
- ⦿ The flow going through the bleed vent is lower than 1% of the flow rate in the trip range
- ⦿ The green ring identifies excess flow



Technical Data

Max. Working Pressure	6,000 psig (414 bar)
Working Temperature	-40~250 °F (-40~121 °C)
Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5
O-ring	EPDM

Ordering Information and Dimensions

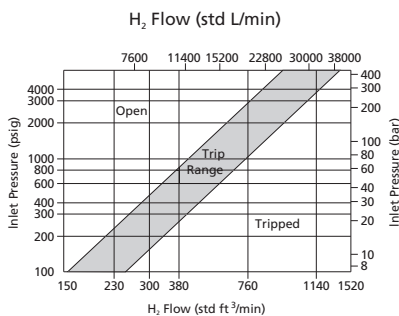


Ordering Number	Connection Type and Size	Orifice in. (mm)	Cv	Dimensions, in. (mm)		
				A	B	C
EVSS-FL4-4-HG	6D Series Tube Fittings	1/4"	0.5	2.43 (61.7)	0.69 (17.5)	0.69 (17.5)
EVSS-FL6-6-HG		3/8"	1.1	2.75 (69.9)	1.0 (25.4)	1.0 (25.4)
EVSS-ML12-8-HG		12 mm	1.1	2.96 (75.2)	1.0 (25.4)	1.0 (25.4)

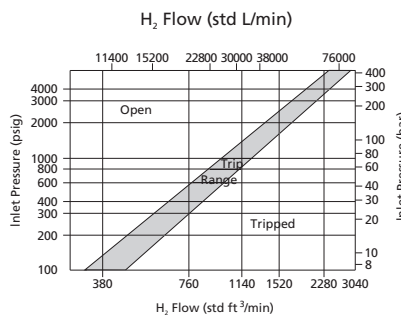
Flow Data at 70°F (20°C)

H₂ Flow

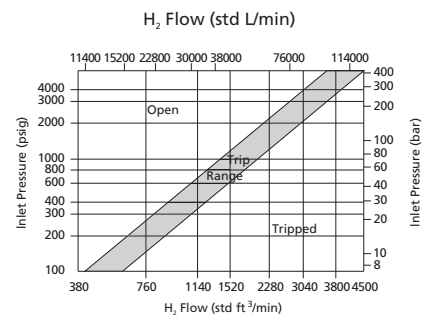
EVSS-FL4-4-HG



EVSS-FL6-6-HG



EVSS-ML12-8-HG

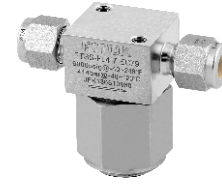


FT Series Filters



Features

- EC79 certified
- Easy to replace filter element without removing body from system
- Nominal pore sizes for sintered element: 7 and 15 μm

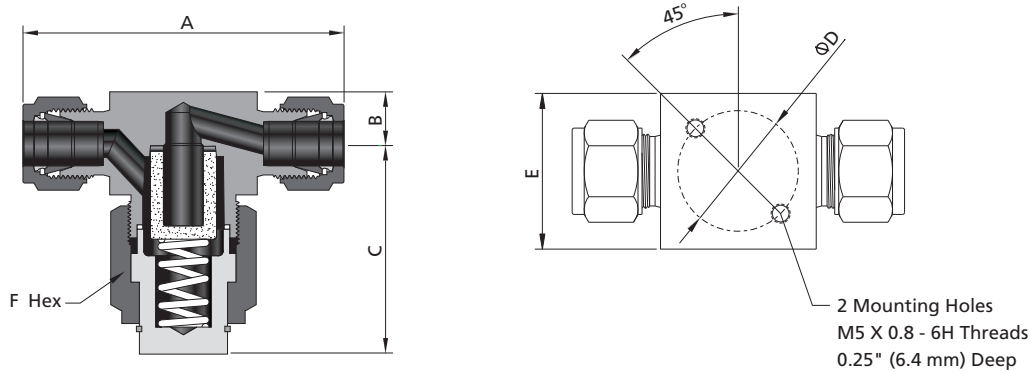


Technical Data

Max. Working Pressure	6,000 psig (414 bar)
Max. Differential Pressure	1,000 psig (69 bar)
Working Temperature	-40~248 °F (-40~120 °C)
Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % \geq 28.5
Filter Element	Sintered 316 SS
Gasket	316 SS, Silver-Plated

Ordering Information and Dimensions

To order a filter with EC79 certification, add “-EC79” suffix to the standard ordering number.
 To order a filter complying with EC79 but without third party certification, add “-HG” suffix to the standard ordering number.
 The complete ordering number is labeled on the packing box.



Ordering Number	Connection Type and Size	Orifice in. (mm)	Nominal Pore Size μm	Effective Filter Element Area in. ² (mm ²)	Dimensions, in. (mm)					
					A	B	C	ϕD	E	F
FTSS-FL4-7-	6D Series Tube Fittings	1/4"	7	1.30 (830)	2.47 (62.7)	0.38 (9.7)	1.49 (37.8)	1.00 (25.4)	1.00 (25.4)	1 (25.4)
FTSS-FL4-15-			15							
FTSS-FL6-7-	6D Series Tube Fittings	3/8"	7	2.00 (1280)	2.84 (72.1)	0.46 (11.7)	1.74 (44.2)	1.13 (28.6)	1.13 (28.6)	1.13 (28.6)
FTSS-FL6-15-			15							
FTSS-FL8-7-	6D Series Tube Fittings	1/2"	7	2.00 (1280)	3.04 (77.2)	0.46 (11.7)	1.74 (44.2)	1.13 (28.6)	1.13 (28.6)	1.13 (28.6)
FTSS-FL8-15-			15							

QC Series Quick-Connects

Features

- ⦿ Interchangeable with other key manufacturers' products
- ⦿ Push-to-connect coupling to enable quick and easy operation
- ⦿ Locking mechanism with large contact area to ensure reliable stem retention
- ⦿ Stem protector, body protector and keyed options available

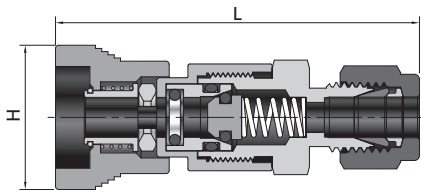
Technical Data

	Coupled	Uncoupled and When Coupling and Uncoupling
Max. Working Pressure	QC4: 3,000 psig (207 bar) QC6: 1,500 psig (103 bar)	QC4: 250 psig (17.2 bar) QC6: 250 psig (17.2 bar)
Working Temperature	-40~250 °F (-40~121 °C)	
Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5	
O-ring	EPDM	

Ordering Information and Dimensions

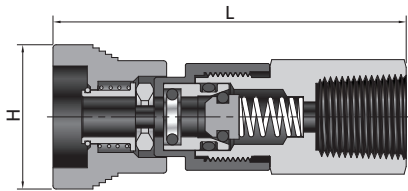
Bodies

Tube Fitting



Fitting Size in.	Ordering Number	Dimensions	
		H in.	L in. (mm)
1/4	SS-QC4-FL4-B-HG	0.91 (23.1)	2.30 (58.4)
mm	—	mm (in.)	mm (in.)
6	SS-QC4-ML6-B-HG	23.1 (0.91)	58.4 (2.30)

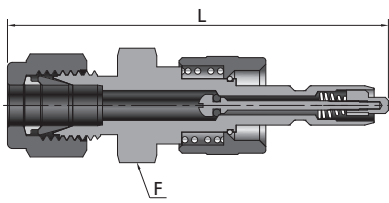
Female NPT



NPT Size in.	Ordering Number	Dimensions	
		H in.	L in. (mm)
1/4	SS-QC4-FNS4-B-HG	0.91 (23.1)	2.42 (61.5)
1/4	SS-QC6-FNS4-B-HG	1.03 (26.2)	2.54 (64.5)

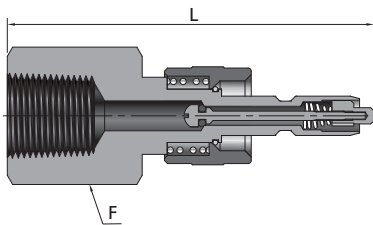
Double-End Shut Off (DESO) Stems

Tube Fitting



Fitting Size in.	Ordering Number	Flow Coefficient (Cv)	Dimensions	
			F in.	L in. (mm)
1/4	SS-QC4-FL4-D-HG	0.2	5/8	2.42 (61.5)
mm			mm	mm (in.)
6	SS-QC4-ML6-D-HG	0.2	16	61.5 (2.42)

Female NPT

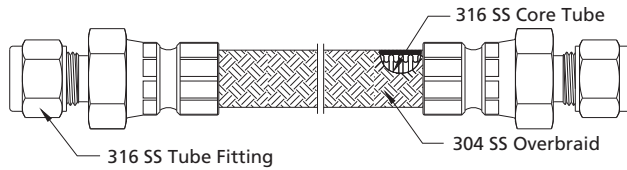


BSPT Size in.	Ordering Number	Flow Coefficient (Cv)	Dimensions	
			F in. (mm)	L in. (mm)
1/4	SS-QC4-FNS4-D-HG	0.2	0.75 (19.05)	2.32 (58.9)
1/4	SS-QC6-FNS4-D-HG	0.5	0.75 (19.05)	2.47 (62.7)

MH & MM Series Metal Hoses

Features

- ⦿ Core tube and fitting material: 316L SS
- ⦿ Overbraid material: 304 SS
- ⦿ Welded fitting-to-hose construction to ensure reliable seal
- ⦿ Stock components for on-demand customized hose assemblies
- ⦿ Every hose factory tested with helium to a maximum leak rate of 1×10^{-7} mbar·l/s

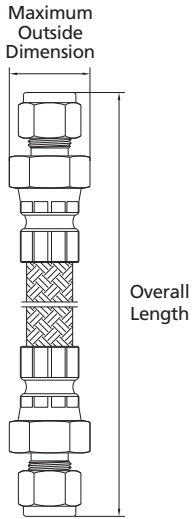


Technical Data

MH Series						
Nominal Hose Size	Inside Diameter	Min. Bend Radius		Temperature Range	Working Pressure at 70 °F (20 °C)	Burst Pressure at 70 °F (20 °C)
		Static	Dynamic			
		in. (mm)	in. (mm)			
1/4 (6.4)	0.28 (7.1)	2.25 (57.2)	10.00 (254.0)	-325~800 (-198~426)	3,100 (213)	12,400 (854)
3/8 (9.7)	0.42 (10.6)	3.00 (76.2)	12.00 (305.0)		2,000 (137)	8,000 (551)
1/2 (12.7)	0.53 (13.5)	4.50 (114)	16.00 (406.0)		1,800 (124)	7,200 (496)

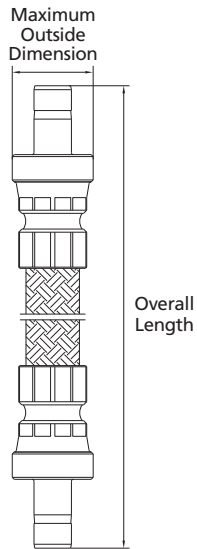
MM Series						
Nominal Hose Size	Inside Diameter	Min. Bend Radius		Temperature Range	Working Pressure at 70 °F (20 °C)	Burst Pressure at 70 °F (20 °C)
		Annular Convolute Core				
		Static	Dynamic			
in. (mm)	in. (mm)	in. (mm)	in. (mm)	°F (°C)	psig (bar)	psig (bar)
1/4 (6.4)	0.25 (6.4)	0.79 (20.0)	4.33 (110.0)	-325~800 (-198~426)	1,600 (110)	6,400 (440)
3/8 (9.7)	0.38 (9.5)	0.98 (25.0)	5.91 (150.0)		1,470 (101)	6,000 (413)
1/2 (12.7)	0.50 (12.7)	1.18 (30.0)	4.88 (124.0)		1,110 (76.4)	4,500 (310)

Ordering Information and Dimensions



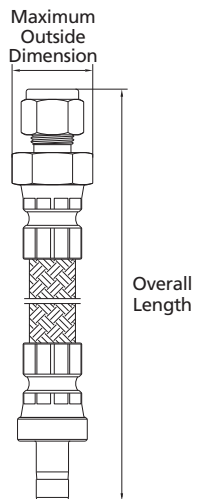
Tube Fitting End

Ordering Number	Nominal Hose Size	Tube Fitting Size	Overall Length	Minimum Inside Diameter	Maximum Outside Dimension
		in.	in. (mm)	in. (mm)	in. (mm)
SS-MH4-FL4-F24-HG	1/4	1/4	24.00 (610.0)	0.19 (4.8)	0.94 (23.8)
SS-MM4-FL4-F36-R-HG			36.00 (914.0)	0.19 (4.8)	0.87 (22.0)
SS-MH4-FL4-M1000-HG			39.40 (1,000.0)	0.19 (4.8)	0.94 (23.8)
SS-MH6-FL6-F24-HG	3/8	3/8	24.00 (610.0)	0.28 (7.1)	1.09 (27.7)
SS-MM6-FL6-F36-R-HG			36.00 (914.0)	0.28 (7.1)	1.01 (25.7)
SS-MM6-FL6-M1000-R-HG			39.40 (1,000.0)	0.28 (7.1)	1.01 (25.7)
SS-MH8-FL8-F24-HG	1/2	1/2	24.00 (610.0)	0.41 (10.4)	1.30 (33.1)
SS-MM8-FL8-F36-R-HG			36.00 (914.0)	0.41 (10.4)	1.15 (29.3)
SS-MH8-FL8-M1000-HG			39.40 (1,000.0)	0.41 (10.4)	1.30 (33.1)



Tube Adapter End

Ordering Number	Nominal Hose Size	Tube Adapter Size	Overall Length	Minimum Inside Diameter	Maximum Outside Dimension
		in.	in. (mm)	in. (mm)	in. (mm)
SS-MH4-FT4-F24-HG	1/4	1/4	24.00 (610.0)	0.17 (4.3)	0.81 (20.6)
SS-MM4-FT4-F36-R-HG			36.00 (914.0)	0.17 (4.3)	0.76 (19.2)
SS-MH4-FT4-M1000-HG			39.40 (1,000.0)	0.17 (4.3)	0.81 (20.6)
SS-MH6-FT6-F24-HG	3/8	3/8	24.00 (610.0)	0.27 (6.8)	1.01 (25.6)
SS-MM6-FT6-F36-R-HG			36.00 (914.0)	0.27 (6.8)	0.91 (23.1)
SS-MM6-FT6-M1000-R-HG			39.40 (1,000.0)	0.27 (6.8)	0.91 (23.1)
SS-MH8-FT8-F24-HG	1/2	1/2	24.00 (610.0)	0.37 (9.4)	1.14 (29.0)
SS-MM8-FT8-F36-R-HG			36.00 (914.0)	0.37 (9.4)	1.02 (26.0)
SS-MH8-FT8-M1000-HG			39.40 (1,000.0)	0.37 (9.4)	1.14 (29.0)



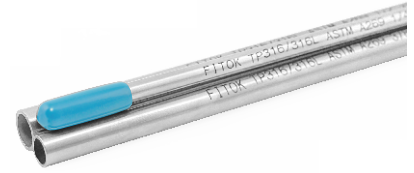
Tube Fitting to Tube Adapter End

Ordering Number	Nominal Hose Size	Tube Fitting Size	Overall Length	Minimum Inside Diameter	Maximum Outside Dimension
		in.	in. (mm)	in. (mm)	in. (mm)
SS-MH4-FL4-FT4-F24-HG	1/4	1/4	24.00 (610.0)	0.17 (4.3)	0.94 (23.8)
SS-MM4-FL4-FT4-F36-R-HG			36.00 (914.0)	0.37 (9.4)	1.30 (33.1)
SS-MH8-FL8-FT8-M1000-HG	1/2	1/2	39.40 (1,000.0)	0.17 (4.3)	0.87 (22.0)
SS-MM8-FL8-FT8-M1000-R-HG			39.40 (1,000.0)	0.37 (9.4)	1.15 (29.3)

TMP Series Tubing

Features

- FITOK Enhanced-316/316L stainless steel with Ni_{eq} not less than 28.5% provides better resistance to hydrogen embrittlement
- Complies with ASTM A269/ASTM A213
- Working temperature: -325 to 1000 °F (-198 to 537 °C)
- Standard lengths: 10 ft, 20 ft, 1 m, 2 m, 3 m and 6 m; customized lengths are also available



Materials

UNS	Grade	FITOK Designator	Composition %			
			C	Cr	Ni	Mo
Enhanced-S31600/S31603	Enhanced-316/316L	SH	≤0.030	17-18	12-14	2.6-3.0

Mechanical Properties

UNS	Grade	Yield Strength ksi (MPa)	Tensile Strength ksi (MPa)	Elongation %	Hardness
Enhanced-S31600/S31603	Enhanced-316/316L	≥30 (205)	≥75 (515)	≥35	≤80 HRB

Dimensional Tolerance

Tube O.D. (D) in. (mm)	O.D. Tolerance, in. (mm)	Wall Thickness Tolerance %
3/32 (2.38) ≤ D < 3/16 (4.76)	+0.003 (0.08)/-0	+/-10
3/16 (4.76) ≤ D ≤ 1 (25.4)	+/-0.004 (0.10)	

Ordering Information

Ordering Number ^①		Tube O.D.	Wall Thickness	Working Pressure psig (bar)
SH-TMP-4-035-20F	SH-TMP-4-035-6M	1/4"	0.035"	5,100 (350)
SH-TMP-4-049-20F	SH-TMP-4-049-6M	1/4"	0.049"	7,500 (517)
SH-TMP-5-049-20F	SH-TMP-5-049-6M	5/16"	0.049"	5,800 (400)
SH-TMP-6-065-20F	SH-TMP-6-065-6M	3/8"	0.065"	6,500 (448)
SH-TMP-8-065-20F	SH-TMP-8-065-6M	1/2"	0.065"	5,100 (352)
SH-TMP-8-083-20F	SH-TMP-8-083-6M	1/2"	0.083"	6,700 (462)
SH-TMP-10-083-20F	SH-TMP-10-083-6M	5/8"	0.083"	5,200 (359)
—	SH-TMP-6MM-1.0-6M	6 mm	1.0 mm	6,090 (420)
—	SH-TMP-8MM-1.2-6M	8 mm	1.2 mm	5,655 (390)
—	SH-TMP-8MM-1.5-6M	8 mm	1.5 mm	7,540 (520)
—	SH-TMP-10MM-1.5-6M	10 mm	1.5 mm	5,800 (400)
—	SH-TMP-12MM-2.0-6M	12 mm	2.0 mm	6,815 (470)
—	SH-TMP-14MM-2.0-6M	14 mm	2.0 mm	5,510 (380)
—	SH-TMP-15MM-2.0-6M	15 mm	2.0 mm	5,220 (360)
—	SH-TMP-16MM-2.5-6M	16 mm	2.5 mm	5,800 (400)

① In the ordering number, "6M" designator refers to 6 m tubing length and "20F" designator refers to 20 ft tubing length.

TCT Series Tubing

Features

- FITOK Enhanced-316/316L stainless steel with Ni_{eq} not less than 28.5% provides better resistance to hydrogen embrittlement
- Complies with ASTM A269
- Working temperature: -325 to 1,000 °F (-198 to 537 °C)



Materials

UNS	Grade	FITOK Designator	Composition %			
			C	Cr	Ni	Mo
Enhanced-S31600/S31603	Enhanced-316/316L	SH	≤0.030	17-18	12-14	2.6-3.0

Mechanical Properties

UNS	Grade	Yield Strength ksi (MPa)	Tensile Strength ksi (MPa)	Elongation %	Hardness
Enhanced-S31600/S31603	Enhanced-316/316L	≥30 (205)	≥75 (515)	≥35	≤80 HRB

Dimensional Tolerance

Tube O.D. (D) in. (mm)	O.D. Tolerance, in. (mm)	Wall Thickness Tolerance %
3/32 (2.38) ≤ D < 3/16 (4.76)	+0.003 (0.08)/-0	+/-10
3/16 (4.76) ≤ D ≤ 1 (25.4)	+/-0.004 (0.10)	

Ordering Information

Ordering Number ^①	Tube O.D.	Wall Thickness	Working Pressure psig (bar)
SH-TCT-4-035-CL11F	1/4"	0.035"	5,100 (350)
SH-TCT-4-049-CL11F	1/4"	0.049"	7,500 (517)
SH-TCT-6-065-CL11F	3/8"	0.065"	6,500 (448)
SH-TCT-8-065-CL11F	1/2"	0.065"	5,100 (352)
SH-TCT-8-083-CL11F	1/2"	0.083"	6,700 (462)
SH-TCT-6MM-1.0-CL11M	6 mm	1.0 mm	6,090 (420)
SH-TCT-8MM-1.2-CL11M	8 mm	1.2 mm	5,655 (390)
SH-TCT-8MM-1.5-CL11M	8 mm	1.5 mm	7,540 (520)
SH-TCT-10MM-1.5-CL11M	10 mm	1.5 mm	5,800 (400)
SH-TCT-12MM-2.0-CL11M	12 mm	2.0 mm	6,815 (470)

① In ordering number, "CL11F" and "CL11M" designators refers to random length grade, which are detailed in Tubing catalog.

Products for Hydrogen Applications up to 20,000 psig (1,379 bar)

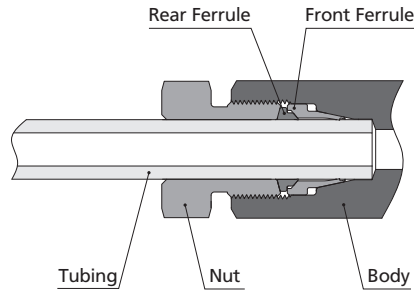




20D Series Tube Fittings

Features

- ⦿ EC79 certified
- ⦿ Long tube-support area provides better vibration resistance
- ⦿ The dimension tolerance and hardness variation are smaller than those of the normal tube fittings. It enables the tube fitting for hydrogen applications can be assembled by torque or turns optional



Technical Data

Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5
Max. Working Pressure	Tube: 20,000 psig (1,379 bar) NPT: 15,000 psig (1,034 bar)
Working Temperature	Tube: -325~800 °F (-198~427 °C) NPT: -325~400 °F (-198~204 °C)

Matching Tubing

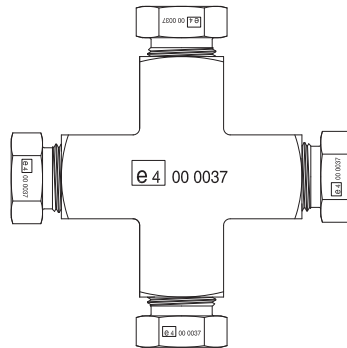
For 20D series tube fittings with “-EC79” or “-HG” suffix in part number, the matching tubing is as follows.

Tubing Type	Features
T20D series cold-drawn 1/8-hard tubing	Allow for assembly by torque or by turns.

Note: 20D series tube fittings can be assembled with cone & thread tubing (T20M series) by turns, but inspection using a gap gauge is not available.

Ordering Information and Marking

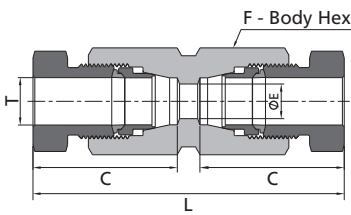
To order a fitting with EC79 certification, add “-EC79” suffix to the standard ordering number. The marking on the fitting is shown as follows:



Marking on EC79 Certified Tube Fittings

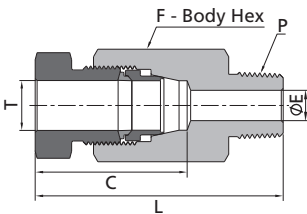
To order a fitting complying with EC79 but without third party certification, add “-HG” suffix to the standard ordering number. The marking on the fitting is the same as FITOK standard tube fittings. The complete ordering number is labeled on the packing box.

Unions



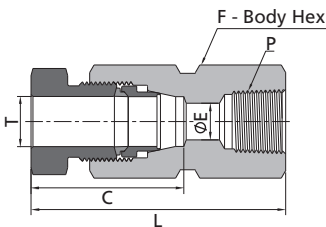
Tube		Dimensions, in. (mm)			
Basic Ordering Number	T-Tube O.D. in.	L	C	E	F
		SS-DU-DFF4-	1/4	3.00 (76.2)	1.38 (35.2)
SS-DU-DFF6-	3/8	3.07 (77.9)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)
SS-DU-DFF8-	1/2	3.36 (85.4)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)

Male Connectors



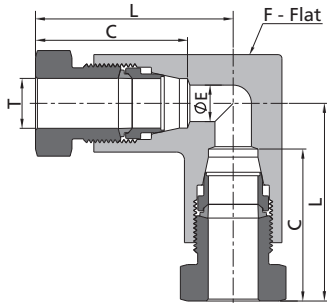
Tube to NPT Thread		Dimensions, in. (mm)				
Basic Ordering Number	T-Tube O.D. in.	P-NPT Size	L	C	E	F
			SS-DCM-DFF4-NS4-	1/4	1/4	2.08 (52.8)
SS-DCM-DFF4-NS6-	1/4	3/8	2.08 (52.8)	1.39 (35.2)	0.19 (4.8)	0.69 (17.5)
SS-DCM-DFF4-NS8-	1/4	1/2	2.32 (59.0)	1.39 (35.2)	0.19 (4.8)	0.87 (22.2)
SS-DCM-DFF6-NS4-	3/8	1/4	2.17 (55.1)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)
SS-DCM-DFF6-NS6-	3/8	3/8	2.17 (55.1)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)
SS-DCM-DFF6-NS8-	3/8	1/2	2.30 (58.3)	1.42 (36.1)	0.25 (6.4)	0.87 (22.2)
SS-DCM-DFF8-NS4-	1/2	1/4	2.53 (64.3)	1.56 (39.6)	0.25 (6.4)	1.00 (25.4)
SS-DCM-DFF8-NS6-	1/2	3/8	2.53 (64.3)	1.56 (39.6)	0.31 (7.9)	1.00 (25.4)
SS-DCM-DFF8-NS8-	1/2	1/2	2.65 (67.4)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)

Female Connectors



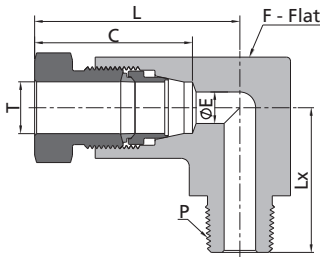
Tube to NPT Thread		Dimensions, in. (mm)				
Basic Ordering Number	T-Tube O.D. in.	P-NPT Size	L	C	E	F
			SS-DCF-DFF4-FNS4-	1/4	1/4	2.33 (59.1)
SS-DCF-DFF6-FNS4-	3/8	1/4	2.29 (58.1)	1.42 (36.1)	0.25 (6.4)	0.94 (23.8)
SS-DCF-DFF8-FNS4-	1/2	1/4	2.78 (70.6)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)
SS-DCF-DFF8-FNS8-	1/2	1/2	3.03 (77.0)	1.56 (39.6)	0.37 (9.5)	1.38 (34.9)

Union Elbows



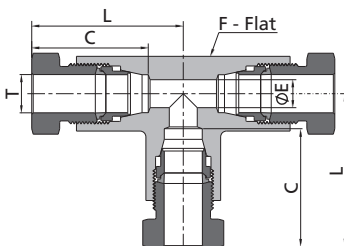
Tube		Dimensions, in. (mm)			
Basic Ordering Number	T-Tube O.D. in.	L	C	E	F
		SS-DLU-DFF4-	1/4	1.70 (43.1)	1.38 (35.2)
SS-DLU-DFF6-	3/8	1.67 (42.4)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)
SS-DLU-DFF8-	1/2	2.03 (51.6)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)

Male Elbows



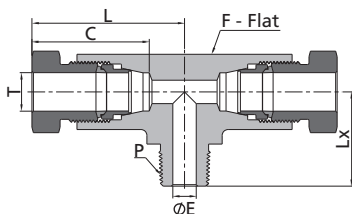
Tube to NPT Thread		Dimensions, in. (mm)					
Basic Ordering Number	T-Tube O.D. in.	P-NPT Size	L	Lx	C	E	F
			SS-DLM-DFF4-NS4-	1/4	1/4	1.70 (43.1)	0.94 (23.8)
SS-DLM-DFF4-NS6-	1/4	3/8	1.70 (43.1)	1.00 (25.4)	1.38 (35.2)	0.19 (4.8)	0.75 (19.1)
SS-DLM-DFF4-NS8-	1/4	1/2	1.70 (43.1)	1.38 (34.9)	1.38 (35.2)	0.19 (4.8)	1.00 (25.4)
SS-DLM-DFF6-NS4-	3/8	1/4	1.67 (42.4)	1.00 (25.4)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)
SS-DLM-DFF6-NS6-	3/8	3/8	1.67 (42.4)	1.06 (27.0)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)
SS-DLM-DFF6-NS8-	3/8	1/2	1.67 (42.4)	1.38 (34.9)	1.42 (36.1)	0.25 (6.4)	1.00 (25.4)
SS-DLM-DFF8-NS4-	1/2	1/4	2.03 (51.6)	1.19 (30.2)	1.56 (39.6)	0.25 (6.4)	1.00 (25.4)
SS-DLM-DFF8-NS6-	1/2	3/8	2.03 (51.6)	1.19 (30.2)	1.56 (39.6)	0.31 (7.9)	1.00 (25.4)
SS-DLM-DFF8-NS8-	1/2	1/2	2.03 (51.6)	1.38 (34.9)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)

Union Tees



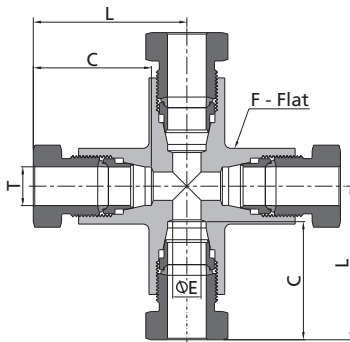
Tube		Dimensions, in. (mm)			
Basic Ordering Number	T-Tube O.D. in.	L	C	E	F
		SS-DT-DFF4-	1/4	1.70 (43.1)	1.38 (35.2)
SS-DT-DFF6-	3/8	1.67 (42.4)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)
SS-DT-DFF8-	1/2	2.03 (51.6)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)

Male Branch Tees



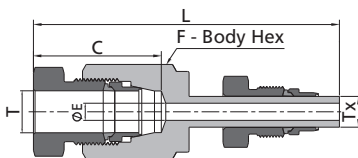
Tube to NPT Thread		Dimensions, in. (mm)					
Basic Ordering Number	T-Tube O.D. in.	P-NPT Size	L	Lx	C	E	F
			SS-DT-DFF4-DFF4-NS4-	1/4	1/4	1.70 (43.1)	1.00 (25.4)
SS-DT-DFF6-DFF6-NS4-	3/8	1/4	1.67 (42.4)	1.06 (27.0)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)
SS-DT-DFF8-DFF8-NS4-	1/2	1/4	2.03 (51.6)	1.19 (30.2)	1.56 (39.6)	0.25 (6.4)	1.00 (25.4)
SS-DT-DFF8-DFF8-NS6-	1/2	3/8	2.03 (51.6)	1.19 (30.2)	1.56 (39.6)	0.31 (7.9)	1.00 (25.4)

Union Crosses



Tube		Dimensions, in. (mm)			
Basic Ordering Number	T-Tube O.D. in.	L	C	E	F
		SS-DX-DFF4-	1/4	1.70 (43.1)	1.38 (35.2)
SS-DX-DFF6-	3/8	1.67 (42.4)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)
SS-DX-DFF8-	1/2	2.03 (51.6)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)

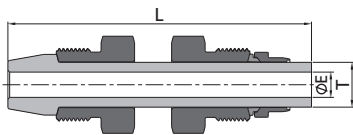
Reducers



Tube			Dimensions, in. (mm)			
Basic Ordering Number	T-Tube O.D. in.	Tx-Tube O.D. in.	L	C	E	F
			SS-DR-DFF4-DFT6-	1/4	3/8	3.20 (82.1)
SS-DR-DFF6-DFT8-	3/8	1/2	3.43 (87.1)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)
SS-DR-DFF8-DFT6-	1/2	3/8	3.53 (89.7)	1.56 (39.6)	0.21 (5.3)	1.00 (25.4)

The right ends of reducers will be preassembled with ferrules before ex-work.

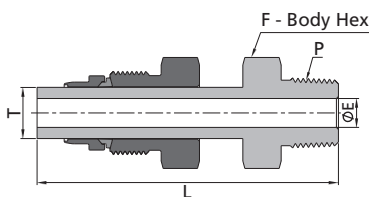
Port Connectors



Tube		Dimensions, in. (mm)	
Basic Ordering Number	T-Tube O.D. in.	L	E
		SS-DP-DFF4-	1/4
SS-DP-DFF6-	3/8	2.72 (69.0)	0.21 (5.3)
SS-DP-DFF8-	1/2	3.04 (77.3)	0.28 (7.1)

The ferrules and nuts are included and pre-assembled before ex-work.

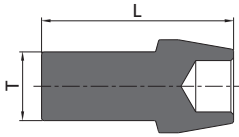
Adapters



Tube to NPT Thread				Dimensions, in. (mm)		
Basic Ordering Number	T-Tube O.D. in.	P-NPT Size	L	E	F	
			SS-DAM-DFT4-NS4-	1/4	1/4	2.30 (58.5)
SS-DAM-DFT6-NS4-	3/8	1/4	2.38 (60.4)	0.21 (5.3)	0.56 (14.3)	
SS-DAM-DFT6-NS8-	3/8	1/2	2.67 (67.9)	0.21 (5.3)	0.87 (22.2)	
SS-DAM-DFT8-NS4-	1/2	1/4	2.55 (64.8)	0.25 (6.4)	0.56 (14.3)	
SS-DAM-DFT8-NS8-	1/2	1/2	2.84 (72.2)	0.28 (7.1)	0.87 (22.2)	

The ferrules and nuts are included and pre-assembled before ex-work.

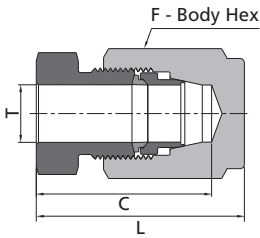
Plugs



Tube		
Basic Ordering Number	T-Tube O.D. in.	Dimensions, in. (mm)
		L
SS-DTP-DFF4-	1/4	1.20 (30.4)
SS-DTP-DFF6-	3/8	1.19 (30.2)
SS-DTP-DFF8-	1/2	1.36 (34.6)

When using a plug, ferrules are not required.

Caps



Tube				
Basic Ordering Number	T-Tube O.D. in.	Dimensions, in. (mm)		
		L	C	F
SS-DTC-DFF4-	1/4	1.70 (43.1)	1.38 (35.2)	0.63 (15.9)
SS-DTC-DFF6-	3/8	1.76 (44.8)	1.42 (36.1)	0.75 (19.1)
SS-DTC-DFF8-	1/2	1.85 (47.0)	1.56 (39.6)	1.00 (25.4)

PMH Series Pipe Fittings

Features

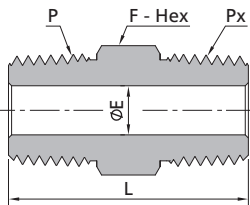
- ⦿ Rolled male thread provides higher strength and hardness
- ⦿ Higher working pressures on standard pipe fitting sizes

Technical Data

Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5
Max. Working Pressure	15,000 psig (1,034 bar)
Working Temperature	-325~400 °F (-198~204 °C)

Ordering Information and Dimensions

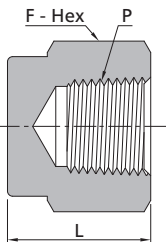
Hex Nipples



Male NPT Thread

Ordering Number	P-NPT Size	Px-NPT Size	Dimensions, in. (mm)		
			L	F	E
SS-HPN-NS4-HG	1/4	1/4	1.47 (37.4)	0.56 (14.3)	0.25 (6.4)
SS-HPN-NS6-HG	3/8	3/8	1.52 (38.6)	0.69 (17.5)	0.31 (7.9)
SS-HPN-NS8-HG	1/2	1/2	1.95 (49.6)	0.87 (22.2)	0.38 (9.6)

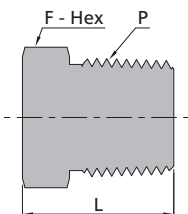
Pipe Caps



Female NPT Thread

Ordering Number	P-NPT Size	Dimensions, in. (mm)	
		L	F
SS-HPC-FNS4-HG	1/4	0.91 (23.1)	0.94 (23.8)
SS-HPC-FNS6-HG	3/8	1.03 (26.2)	1.13 (28.6)
SS-HPC-FNS8-HG	1/2	1.34 (34.0)	1.37 (34.9)

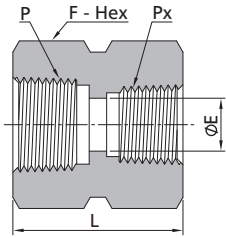
Pipe Plugs



Male NPT Thread

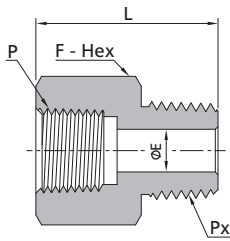
Ordering Number	P-NPT Size	Dimensions, in. (mm)	
		L	F
SS-HPP-NS4-HG	1/4	0.87 (22.2)	0.56 (14.3)
SS-HPP-NS6-HG	3/8	0.93 (23.6)	0.69 (17.5)
SS-HPP-NS8-HG	1/2	1.16 (29.5)	0.87 (22.2)

Hex Couplings



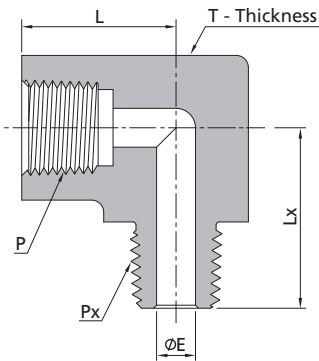
Female NPT Thread					
Ordering Number	P-NPT Size	Px-NPT Size	Dimensions, in. (mm)		
			L	E	F
SS-HPG-FNS4-HG	1/4	1/4	1.32 (33.5)	0.41 (10.4)	0.94 (23.8)
SS-HPG-FNS6-HG	3/8	3/8	1.32 (33.5)	0.54 (13.8)	1.13 (28.6)
SS-HPG-FNS8-HG	1/2	1/2	1.72 (43.8)	0.67 (17.0)	1.37 (34.9)

Adapters



Female NPT Thread to Male NPT Thread					
Ordering Number	P-NPT Size	Px-NPT Size	Dimensions, in. (mm)		
			L	E	F
SS-HPA-FNS4-NS4-HG	1/4	1/4	1.37 (34.9)	0.25 (6.4)	0.94 (23.8)
SS-HPA-FNS4-NS6-HG	1/4	3/8	1.37 (34.9)	0.31 (7.9)	0.94 (23.8)
SS-HPA-FNS6-NS4-HG	3/8	1/4	1.42 (36.0)	0.25 (6.4)	1.13 (28.6)
SS-HPA-FNS6-NS6-HG	3/8	3/8	1.42 (36.0)	0.31 (7.9)	1.13 (28.6)
SS-HPA-FNS6-NS8-HG	3/8	1/2	1.61 (41.0)	0.38 (9.6)	1.13 (28.6)
SS-HPA-FNS8-NS6-HG	1/2	3/8	1.72 (43.1)	0.31 (7.9)	1.37 (34.9)
SS-HPA-FNS8-NS8-HG	1/2	1/2	1.89 (48.0)	0.38 (9.6)	1.37 (34.9)

Street Elbows



Female NPT Thread to Male NPT Thread						
Ordering Number	P-NPT Size	Px-NPT Size	Dimensions, in. (mm)			
			L	E	Lx	T
SS-HPE-FNS4-NS4-HG	1/4	1/4	1.00 (25.4)	0.25 (6.4)	1.06 (27.0)	0.75 (19.1)
SS-HPE-FNS4-NS6-HG	1/4	3/8	1.00 (25.4)	0.31 (7.9)	1.06 (27.0)	0.75 (19.1)
SS-HPE-FNS6-NS6-HG	3/8	3/8	1.20 (30.6)	0.31 (7.9)	1.20 (30.6)	1.00 (25.4)
SS-HPE-FNS6-NS8-HG	3/8	1/2	1.20 (30.6)	0.38 (9.6)	1.38 (35.0)	1.00 (25.4)
SS-HPE-FNS8-NS8-HG	1/2	1/2	1.50 (38.1)	0.38 (9.6)	1.61 (40.8)	1.37 (34.9)

AMH Series Adapter Fittings

Features

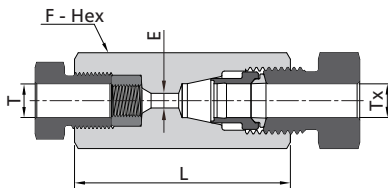
- © Available for a variety of connection types

Technical Data

Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5
Max. Working Pressure	NPT: 15,000 psig (1,034 bar) Tube: 20,000 psig (1,379 bar)
Working Temperature	NPT: -325~400 °F (-198~204 °C) Tube: -325~800 °F (-198~427 °C)

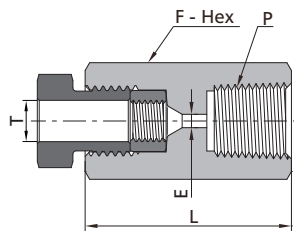
Ordering Information and Dimensions

20M Series Medium Pressure Fittings to 20D Series Tube Fittings



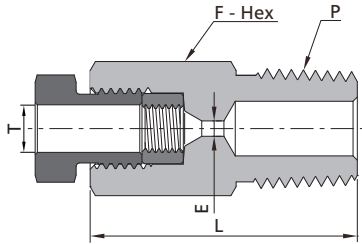
20M Series Medium Pressure Fittings to 20D Series Tube Fittings					
Ordering Number	T-Tube O.D. in.	Tx-Tube O.D. in.	Dimensions, in. (mm)		
			L	E	F
SS-FFC-MF4-DFF4-HG	1/4	1/4	1.67 (42.3)	0.11 (2.8)	0.63 (15.9)
SS-FFC-MF4-DFF6-HG	1/4	3/8	1.76 (44.7)	0.11 (2.8)	0.75 (19.1)
SS-FFC-MF6-DFF4-HG	3/8	1/4	1.85 (47.1)	0.19 (4.8)	0.75 (19.1)
SS-FFC-MF6-DFF6-HG	3/8	3/8	1.89 (47.9)	0.20 (5.2)	0.75 (19.1)
SS-FFC-MF6-DFF8-HG	3/8	1/2	2.06 (52.2)	0.20 (5.2)	1.00 (25.4)
SS-FFC-MF9-DFF6-HG	9/16	3/8	2.07 (52.6)	0.25 (6.4)	1.00 (25.4)
SS-FFC-MF9-DFF8-HG	9/16	1/2	2.24 (57.0)	0.31 (7.9)	1.00 (25.4)

20M Series Medium Pressure Fittings to Female NPT



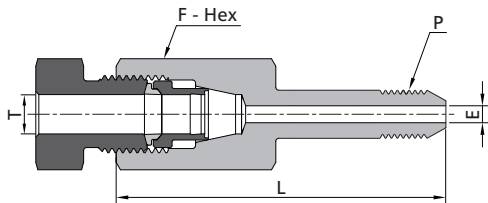
20M Series Medium Pressure Fittings to Female NPT					
Ordering Number	T-Tube O.D. in.	P-NPT Size	Dimensions, in. (mm)		
			L	E	F
SS-FFC-MF4-FNS4-HG	1/4	1/4	1.63 (41.3)	0.11 (2.8)	0.94 (23.8)
SS-FFC-MF4-FNS6-HG	1/4	3/8	1.63 (41.3)	0.11 (2.8)	1.13 (28.6)
SS-FFC-MF6-FNS4-HG	3/8	1/4	1.75 (44.5)	0.20 (5.1)	0.94 (23.8)
SS-FFC-MF6-FNS6-HG	3/8	3/8	1.81 (46.0)	0.20 (5.1)	1.13 (28.6)
SS-FFC-MF6-FNS8-HG	3/8	1/2	2.13 (54.0)	0.20 (5.1)	1.37 (34.9)
SS-FFC-MF9-FNS6-HG	9/16	3/8	2.00 (50.8)	0.31 (7.9)	1.13 (28.6)
SS-FFC-MF9-FNS8-HG	9/16	1/2	2.25 (57.2)	0.31 (7.9)	1.37 (34.9)

20M Series Medium Pressure Fittings to Male NPT



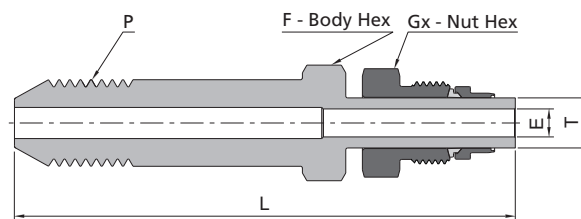
20M Series Medium Pressure Fittings to Male NPT					
Ordering Number	T-Tube O.D. in.	P-NPT Size	Dimensions, in. (mm)		
			L	E	F
SS-FMA-MF4-NS4-HG	1/4	1/4	1.37 (34.9)	0.11 (2.8)	0.63 (15.9)
SS-FMA-MF4-NS6-HG	1/4	3/8	1.37 (34.9)	0.11 (2.8)	0.69 (17.5)
SS-FMA-MF6-NS4-HG	3/8	1/4	1.50 (38.1)	0.20 (5.2)	0.75 (19.1)
SS-FMA-MF6-NS6-HG	3/8	3/8	1.50 (38.1)	0.20 (5.2)	0.75 (19.1)
SS-FMA-MF6-NS8-HG	3/8	1/2	1.63 (41.3)	0.20 (5.2)	0.87 (22.2)
SS-FMA-MF9-NS6-HG	9/16	3/8	1.75 (44.5)	0.31 (7.9)	1.00 (25.4)
SS-FMA-MF9-NS8-HG	9/16	1/2	1.94 (49.2)	0.31 (7.9)	1.00 (25.4)

20D Series Tube Fittings to Medium Pressure Cone & Thread Tubing



20D Series Tube Fittings to Medium Pressure Cone & Thread Tubing					
Ordering Number	T-Tube O.D. in.	P-Size	Dimensions, in. (mm)		
			L	E	F
SS-FMA-DF4-MCT4-HG	1/4	1/4	1.98 (50.2)	0.11 (2.8)	0.63 (15.9)
SS-FMA-DF4-MCT6-HG	1/4	3/8	2.28 (58.0)	0.19 (4.8)	0.63 (15.9)
SS-FMA-DF6-MCT4-HG	3/8	1/4	2.10 (53.3)	0.11 (2.8)	0.75 (19.1)
SS-FMA-DF6-MCT6-HG	3/8	3/8	2.35 (59.6)	0.20 (5.2)	0.75 (19.1)
SS-FMA-DF6-MCT9-HG	3/8	9/16	2.51 (63.7)	0.25 (6.4)	0.75 (19.1)
SS-FMA-DF8-MCT6-HG	1/2	3/8	2.50 (63.5)	0.20 (5.2)	1.00 (25.4)
SS-FMA-DF8-MCT9-HG	1/2	9/16	2.74 (69.7)	0.31 (7.9)	1.00 (25.4)

Medium Pressure Cone & Thread Tubing to Split Male 20D Series Tube Fittings



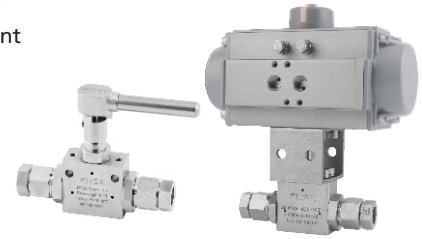
Medium Pressure Cone & Thread Tubing to Split Male 20D Series Tube Fittings ^①						
Ordering Number	T-Tube O.D. in.	P-Size	Dimensions, in. (mm)			
			L	E	F	Gx
SS-MMA-MCT4-DFT4-HG	1/4	1/4	2.70 (68.7)	0.11 (2.8)	0.63 (15.9)	0.63 (15.9)
SS-MMA-MCT6-DFT6-HG	3/8	3/8	3.15 (80.1)	0.20 (5.2)	0.75 (19.1)	0.75 (19.1)
SS-MMA-MCT9-DFT8-HG	1/2	9/16	3.65 (92.6)	0.28 (7.1)	1.00 (25.4)	0.94 (23.8)
SS-MMA-MCT12-DFT12-HG	3/4	3/4	5.98 (152.0)	0.44 (11.1)	1.50 (38.1)	1.38 (34.9)

① The right ends of the adaptor will be preassembled with ferrules before shipping, please follow the Reinstallation Instructions in H-06 when installing the adaptors.

15B Series Ball Valves

Features

- Coned-disc spring loaded seat structure to offer sufficient and stable initial sealing force
- Stem designed with XM-19 material to offer higher strength and hydrogen embrittlement resistance
- Seat designed with PEEK+30% carbon fiber to provide better erosion resistance and high temperature resistance
- EPDM O-ring with excellent low temperature resistance and burst resistance, applied for harsh working conditions, such as low temperature and high pressure
- Pneumatic actuator options available
- 100% of the valves leak tested with 10,150 psig (700 bar) helium mixed gas



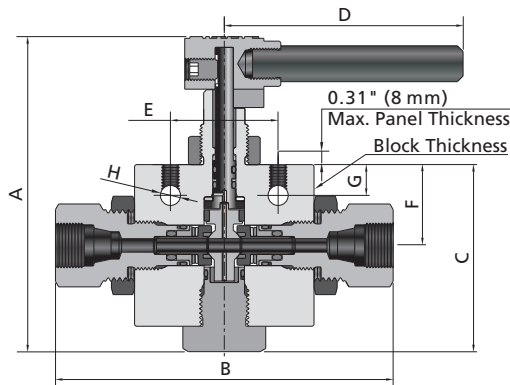
Technical Data

Max. Working Pressure	10152 psig at -40 °F (700 bar at -40 °C) 15000 psig at 185 °F (1034 bar at 85 °C)
Working Temperature	-40~185 °F (-40~85 °C)
Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥28.5
Seat Material	PEEK+30% carbon fiber
O-ring	EPDM

For service in other temperature ranges, please contact FITOK Group or an authorized FITOK distributor.

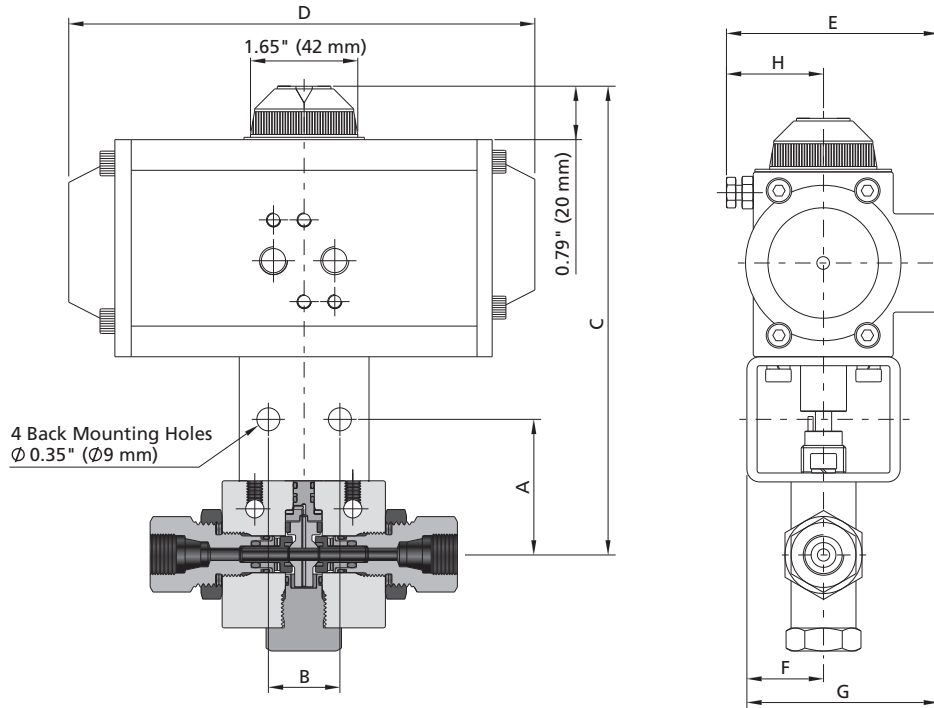
Ordering Information and Dimensions

Manual



Ordering Number	Connection Type and Size		Orifice in. (mm)	Cv	Dimensions, in. (mm)								
					A	B	C	D	E	F	G	H	Block Thickness
15BSS-DFF4-4-1-HG	20D Series Tube Fittings	1/4"	0.19 (4.8)	1.27	4.39 (111.5)	4.70 (119.5)	2.60 (66.2)	3.33 (84.5)	1.50 (38.1)	1.13 (28.6)	0.43 (10.9)	0.28 (7.1)	1.00 (25.4)
15BSS-DFF6-4-1-HG		3/8"	0.25 (6.4)	1.51									
15BSS-FNS4-4-1-HG	Female NPT	1/4	0.25 (6.4)	1.51									

Pneumatic Actuated



Ordering Number	Connection Type and Size		Orifice in. (mm)	Cv	Dimensions, in. (mm)							
					A	B	C	D	E	F	G	H
15BSS-DF4-4-1-O-HG	20D Series Tube Fittings	1/4"	0.19 (4.8)	1.27	2.09 (53.1)	1.10 (28)	7.19 (182.6)	6.04 (153.5)	3.33 (84.5)	1.18 (30)	3.09 (78.5)	1.42 (36)
15BSS-DF6-4-1-C-HG		3/8"	0.25 (6.4)	1.51								
15BSS-FNS4-4-1-D-HG	Female NPT	1/4	0.25 (6.4)	1.51								

Note: "-O", "-D", "-C" are designators for pneumatic actuator
 -O: 90° normally open pneumatic actuator;
 -C: 90° normally closed pneumatic actuator;
 -D: 90° double acting pneumatic actuator.

20N Series Needle Valves

Features

- ◎ XM-19 material applied for the lower stem to provide higher strength and hydrogen embrittlement resistance
- ◎ Specially treated surface of the stem tip provides better shut-off and sealing for hydrogen gas
- ◎ 100% of the valves leak tested with 10,150 psig (700 bar) helium mixed gas



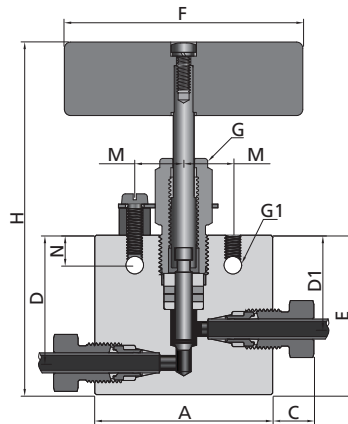
Technical Data

Needle Valve	
Max. Working Pressure	20,000 psig (1,379 bar)
Working Temperature	-40~450 °F (-40~232 °C)
Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5
Packing Material	PTFE

Actuator	
Max. Operating Pressure of Pneumatic Actuator	100 psig (6.9 bar)
Working Temperature	-10~200 °F (-23~93 °C)
Cylinder Material	Anodized Aluminum
O-ring Material	Buna N

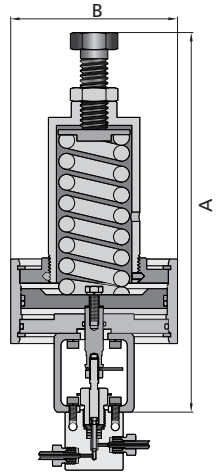
Ordering Information and Dimensions

Manual

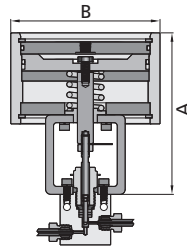


Ordering Number	Connection Type and Size		Orifice in. (mm)	Cv	Dimensions, in. (mm)											
					A	C	D	D1	E	F	G	G1	H	M	N	Block Thickness
20NSS-DFF4-1-HG	20D Series Tube Fittings	1/4"	0.19 (4.8)	0.65	2.33 (59.2)	0.52 (13.3)	1.62 (41.2)	1.19 (30.2)	2.00 (50.8)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.90 (124.5)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
20NSS-DFF6-1-HG		3/8"	0.25 (6.4)	0.95	2.27 (57.6)	0.54 (13.6)	1.62 (41.2)	1.19 (30.2)	2.00 (50.8)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.97 (126.3)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
20NSS-DFF8-1-HG		1/2"	0.37 (9.5)	1.90	2.86 (72.7)	0.60 (15.3)	2.37 (60.3)	1.75 (44.5)	2.88 (73.2)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	6.21 (157.7)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)

Pneumatic Actuated



Normally Closed Pneumatic Actuator



Normally Open Pneumatic Actuator

Ordering Number	Connection Type and Size		Orifice in. (mm)	Cv	Area of Piston sq.in. (sq. cm)	Dimensions, in. (mm)	
						A	B
20NSS-DF4-1-C-HG	20D Series Tube Fittings	1/4"	0.19 (4.8)	0.65	19.95 (128.7)	13.08 (332.3)	5.75 (146.0)
20NSS-DF6-1-O-HG		3/8"	0.25 (6.4)	0.95	19.95 (128.7)	5.94 (151.0)	5.75 (146.0)
20NSS-DF8-1-C-HG		1/2"	0.37 (9.5)	1.90	51.20 (330.3)	16.24 (412.5)	6.54 (166.0)

Note: "-C", "-O" are designators for pneumatic actuator
 -C: normally closed pneumatic actuator;
 -O: normally open pneumatic actuator.

20C Series Check Valves

Features

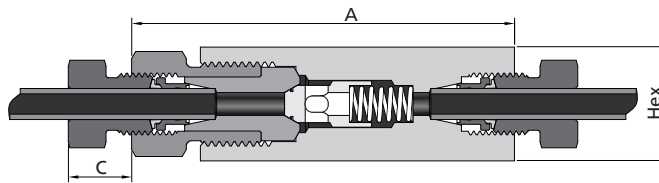
- ◎ Any mounting direction is acceptable
- ◎ 100% of the valves leak tested with 10,150 psig (700 bar) helium mixed gas



Technical Data

Max. Working Pressure	20,000 psig (1,379 bar)
Cracking pressure	14~26 psig (0.97~1.79 bar)
Working Temperature	-40~185 °F (-40~85 °C)
Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5
O-ring	EPDM

Ordering Information and Dimensions



Ordering Number	Connection Type and Size		Orifice in. (mm)	Cv	Dimensions, in. (mm)		
					A	C	Hex
20CSS-DFF4-HG	20D Series Tube Fittings	1/4"	0.19 (4.9)	0.63	3.35 (85.0)	0.52 (13.3)	0.81 (20.6)
20CSS-DFF6-HG		3/8"	0.25 (6.4)	1.70	3.72 (94.6)	0.53 (13.5)	1.00 (25.4)
20CSS-DFF8-HG		1/2"	0.36 (9.12)	3.40	4.41 (112.0)	0.60 (15.3)	1.38 (35.1)

HSR Series Relief Valves

Features

- ⦿ Soft seat design to provide bubble tight shut-off for gas applications
- ⦿ Set pressure can be customized
- ⦿ Mounting in any direction is acceptable
- ⦿ 100% of the valves is factory tested at the set pressure

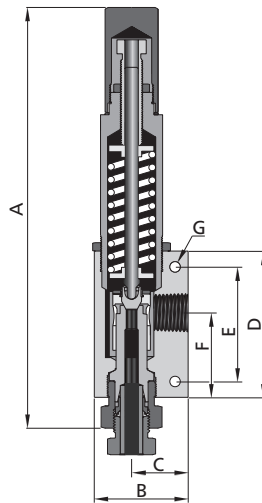


Technical Data

Max. Working Pressure	20,000 psig (1,379 bar)	
Set Pressure	HSRSS-DFF8-FNS12-1-HG	1,500~5,000 psig (103~345 bar)
	HSRSS-DFF8-FNS12-2-HG	5,000~10,000 psig (345~690 bar)
	HSRSS-DFF8-FNS12-3-HG	10,000~20,000 psig (690~1,379 bar)
Max. Back Pressure	500 psig (34.5 bar)	
Working Temperature	-40~400 °F (-40~204 °C)	
Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5	

Ordering Information and Dimensions

Please specify the required set pressure when ordering. Maximum system operating pressure should not exceed 90% of the set pressure.



Ordering Number	Connection Type and Size				Orifice in. (mm)	Cv	Dimensions, in.(mm)						
	Inlet		Outlet				A	B	C	D	E	F	G
HSRSS-DFF8-FNS12-1-HG	20D Series Tube Fittings	1/2"	Female NPT	3/4	0.31 (7.9)	1.2	9.46 (240.4)	2.00 (50.8)	1.19 (30.2)	3.25 (82.6)	2.25 (57.1)	1.94 (49.3)	0.28 (7.2)
HSRSS-DFF8-FNS12-2-HG					0.25 (6.4)	0.8							
HSRSS-DFF8-FNS12-3-HG					0.16 (4.0)	0.3							

Note: G is the diameter of mounting holes.

20FC Series Filters

Features

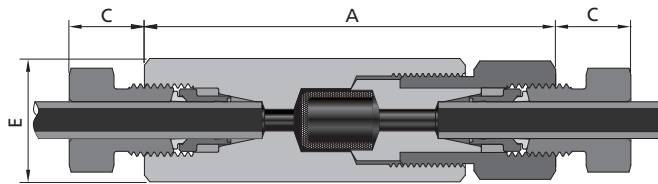
- ◎ Cup design offers approximately six times the effective filter area of disc-type units
- ◎ Easy to replace filter element
- ◎ Pressure differential less than 1,000 psig (69 bar) in a flowing condition
- ◎ 5 µm element nominal pore size as standard, other sizes available upon request



Technical Data

Max. Working Pressure	20,000 psig (1,379 bar)
Working Temperature	-60~400 °F (-50~204 °C)
Body Material	FITOK Tailor-Made 316/316L SS, Ni _{eq} % ≥ 28.5

Ordering Information and Dimensions

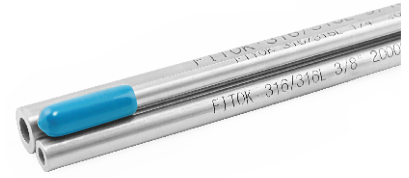


Ordering Number	Connection Type and Size		Orifice in. (mm)	Nominal Pore Size	Effective Filter Element Area in. ² (mm ²)	Dimensions, in. (mm)		
						A	C	E (Hex)
20FCSS-DFF4-5-HG	20D Series Tube Fittings	1/4"	0.19 (4.8)	5	0.81 (522.6)	3.34 (84.8)	0.52 (13.3)	0.81 (20.6)
20FCSS-DFF6-5-HG		3/8"	0.31 (7.9)			3.51 (89.2)	0.54 (13.6)	1.00 (25.4)
20FCSS-DFF8-5-HG		1/2"	0.44 (11.1)			4.30 (109.2)	0.60 (15.3)	1.38 (35.0)

T20D Series Tubing

Features

- FITOK Enhanced-316/316L stainless steel with Ni_{eq} not less than 28.5% provides better resistance to hydrogen embrittlement
- Working temperature: -325 to 800 °F (-198 to 427 °C)
- The best match for T20D series tubing is with 20D series tube fittings
- Standard lengths: 10 ft, 20 ft, 1 m, 2 m, 3 m and 6 m; customized lengths are also available



Materials

UNS	Grade	FITOK Designator	Composition %							
			C	Mn	P	S	Si	Cr	Ni	Mo
Enhanced-S31600/S31603	Enhanced-316/316L	SH	≤0.030	≤2.00	≤0.045	≤0.03	≤1.00	17-18	12-14	2.6-3.0

Mechanical Properties

UNS	Grade	Yield Strength ksi (MPa)	Tensile Strength ksi (MPa)	Elongation %	Hardness
Enhanced-S31600/S31603	Enhanced-316/316L	75-110 (517-758)	105-140 (724-965)	≥25	≤26 HRC

Dimensional Tolerance

Tube O.D. in.	O.D. Tolerance in. (mm)	Wall Thickness Tolerance %
1/4	±0.005 (0.13)	±10
3/8		
1/2		
3/4		

Ordering Information

Ordering Number ^①		Tube O.D. in.	Wall Thickness in.	Working Pressure psig (bar)
SH-T20D-4-065-20F	SH-T20D-4-065-6M	1/4	0.065	20,000 (1,379)
SH-T20D-6-083-20F	SH-T20D-6-083-6M	3/8	0.083	
SH-T20D-8-109-20F	SH-T20D-8-109-6M	1/2	0.109	
SH-T20D-12-165-20F	SH-T20D-12-165-6M	3/4	0.165	

① In the ordering number, "6M" designator refers to 6 m tubing length, "20F" designator refers to 20 ft tubing length.

T20M Series Tubing

Features

- FITOK Enhanced-316/316L stainless steel with Ni_{eq} not less than 28.5% provides better resistance to hydrogen embrittlement
- Working temperature: -325 to 800 °F (-198 to 427 °C)
- Standard lengths: 10 ft, 20 ft, 1 m, 2 m, 3 m and 6 m; customized lengths are also available



Materials

UNS	Grade	FITOK Designator	Composition %							
			C	Mn	P	S	Si	Cr	Ni	Mo
Enhanced-S31600/S31603	Enhanced-316/316L	SH	≤0.030	≤2.00	≤0.045	≤0.03	≤1.00	17-18	12-14	2.6-3.0

Mechanical Properties

UNS	Grade	Yield Strength ksi (MPa)	Tensile Strength ksi (MPa)	Elongation %	Hardness
Enhanced-S31600/S31603	Enhanced-316/316L	87-110 (599-758)	105-140 (729-965)	≥25	≥98 HRB

Dimensional Tolerance

Tube O.D. in.	O.D. Tolerance in. (mm)	Tube I.D. in.	I.D. Tolerance in. (mm)
1/4	-0.002, -0.007 (-0.05, -0.17)	0.109	0, -0.005 (0, -0.13)
3/8		0.203	
9/16		0.312	
3/4	-0.005, -0.01 (-0.13, -0.26)	0.438	+/-0.005 (0.13)

Ordering Information

Ordering Number ^①		Tube O.D. in.	Tube I.D. in.	Working Pressure psig (bar)
SH-T20M-4-20F	SH-T20M-4-6M	1/4	0.109	20,000 (1,379)
SH-T20M-6-20F	SH-T20M-6-6M	3/8	0.203	
SH-T20M-9-20F	SH-T20M-9-6M	9/16	0.312	
SH-T20M-12-20F	SH-T20M-12-6M	3/4	0.438	

① In the ordering number, "6M" designator refers to 6 m tubing length, "20F" designator refers to 20 ft tubing length.

Coned and Threaded Nipples



Ordering Number ^①	Tube O.D. in.	Tube I.D. in.	Length L ^② in. (mm)
SH-T20M-4CT-3N	1/4	0.109	3.00 (76.2)
SH-T20M-4CT-6N	1/4	0.109	6.00 (152.4)
SH-T20M-4CT-12N	1/4	0.109	12.00 (304.8)
SH-T20M-6CT-3N	3/8	0.203	3.00 (76.2)
SH-T20M-6CT-6N	3/8	0.203	6.00 (152.4)
SH-T20M-6CT-12N	3/8	0.203	12.00 (304.8)
SH-T20M-9CT-4N	9/16	0.312	4.00 (101.6)
SH-T20M-9CT-8N	9/16	0.312	8.00 (203.2)
SH-T20M-9CT-12N	9/16	0.312	12.00 (304.8)
SH-T20M-12CT-4N	3/4	0.438	4.00 (101.6)
SH-T20M-12CT-8N	3/4	0.438	8.00 (203.2)
SH-T20M-12CT-12N	3/4	0.438	12.00 (304.8)

① In ordering number, "N" designator refers to the unit of length in inches.

② Nipples in customized length available upon request.

Differences of Medium Pressure Tubing

For 20D series tube fittings, FITOK provides customers with T20D and T20M series tubing for connection. Among them, 20D series tube fittings best match with T20D series tubing, which is recommended.

FITOK T20D and T20M series tubing are all made of dual certified 316/316L and the differences between them are shown in table below.

Performances of FITOK Medium Pressure Tubing		
Type	T20D Series	T20M Series
Manufacturing Process	Cold-Drawn 1/8-Hard	Cold-Drawn Hard
Max. Working Pressure, psig (MPa)	20,000 (138)	
Yield Strength, ksi	75-110	87-110
Tensile Strength, ksi	105-140	
Hardness	≤26 HRC	≥98 HRB
Elongation, %	≥25	

Dimensions of FITOK Medium Pressure Tubing				
Tube O.D. in.	T20D Series		T20M Series	
	O.D. Tolerance in. (mm)	Wall Thickness in.	O.D. Tolerance in. (mm)	Tube I.D. in.
1/4	+/-0.005 (0.13)	0.065	-0.002, -0.007 (-0.05, -0.17)	0.109
3/8		0.083	-0.005, -0.01 (-0.13, -0.25)	0.203
1/2		0.109	-	-
9/16		-	-0.005, -0.01 (-0.13, -0.25)	0.312
3/4		0.165	-0.005, -0.01 (-0.13, -0.25)	0.438

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