20D Series Tube Fittings

20,000 psig (1379 bar)

Contents

Nuts - N

A-13

Front Ferrules - FF

A-14

Rear Ferrules - RF

A-14

Nut-Ferrule Sets - NFS

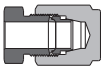
A-14

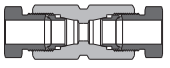
Ferrule Sets - FRS

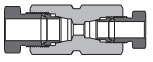
A-14

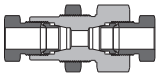
Plugs - DTP

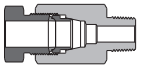
A-14

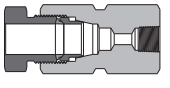
Caps - DTC

A-15

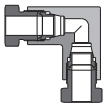
Unions - DU

A-15

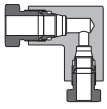
Reducing Unions - DU

A-15

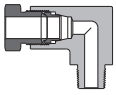
Bulkhead Unions - DBU

A-16

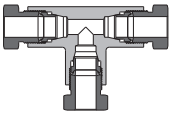
Male Connectors - DCM

A-16

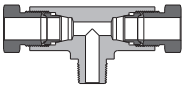
Female Connectors - DCF

A-17

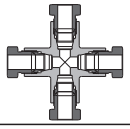
Union Elbows - DLU

A-17

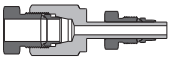
Union Reducing Elbows - DLU

A-18

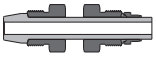
Male Elbows - DLM

A-18

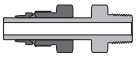
Union Tees - DT

A-19

Male Branch Tees - DT

A-19

Union Crosses - DX

A-19

Reducers - DR

A-20

Port Connectors - DP

A-20

Adapters - DAM

A-20

Installation Instructions A-110

Connection Information A-02

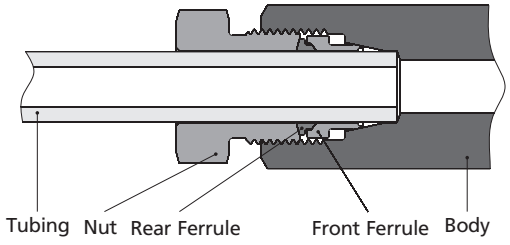
Ordering Number Description A-21

Features

- Working pressure up to 20,000 psig (1379 bar)
- Easy and quick connection to T15A, T20D and T20M series tubing, tubing sizes available in 1/8", 1/4", 3/8", 1/2", 9/16", 3/4" and 1"
- High tensile 316 stainless steel tubing as standard, with Super Duplex 2507, Alloy 625, and Alloy 825 available
- Nut threads coated with molybdenum disulfide-based lubricant to minimize the friction
- Long tube-support area to improve vibration resistance and line loads
- Every fitting marked with size, material and trace ID
- EC-79 type approval for 70 MPa hydrogen system application

Standard Materials of Construction

Component	Material/Standard			
	316 SS	Super Duplex 2507	Alloy 625	Alloy 825
Body	*316 SS/ A479*	*Super Duplex 2507/ A479*	*Alloy 625/ B446*	*Alloy 825/ B425*
Front Ferrule	*316 SS/ A479*	*Super Duplex 2507①/ A479*	*Alloy 625①/ B446*	*Alloy 825①/ B425*
Rear Ferrule	316 SS/ A479	6 Mo/ A479	Alloy 625/ B446	Alloy 825/ B425
Nut	316 SS/ A479	Super Duplex 2507/ A479	Alloy 625/ B446	Alloy 825/ B425



① Silver-plated.

Note: Wetted components are listed in italics.

Working Pressure

- Working pressure is determined by the lowest working pressure of the ends.

316 SS Medium Pressure Fittings and Compatible Tubing - Working Pressure Ratings

Working pressures are calculated in accordance with ASME B31.3 Chapter IX High Pressure Piping.

Fitting Series	Tubing Series	Tube O.D. & Working Pressure, psig					
		1/4 in.	3/8 in.	1/2 in.	9/16 in.	3/4 in.	1 in.
20D Series Tube Fittings	T20D Series Tubing	20,000	20,000	20,000	/	20,000	15,000
	T20M Series Tubing			/	20,000	16,000	
20M Series Medium Pressure Cone and Thread Fittings						20,000	20,000

Alloy Tube Fittings and Compatible Tubing - Working Pressure Ratings

Working pressures for Super Duplex 2507 tubing are calculated in accordance with ASME B31.3 Chapter IX High Pressure Piping.
Working pressures for Alloy 625 and Alloy 825 tubing are calculated in accordance with ASME B31.3.

Fitting Material	Tubing Data			Working Pressure, psig
	Material	O.D., in.	Wall Thickness, in.	
Super Duplex 2507	Super Duplex 2507	1/4	0.049	22,500
		1/2	0.095	22,500
Alloy 625	Alloy 625 Grade 1	1/4	0.035	11,200
			0.065	15,000
		3/8	0.049	10,300
			0.083	15,000
Alloy 825	Alloy 825	1/4	0.065	10,000
		3/8	0.083	10,000

FITOK

Male SAE O-Ring Ends

Working pressure of male SAE O-ring end connections listed in this catalog is 10,000 psig (690 bar).

NPT Ends

NPT Size in.	Working Pressure psig (bar)
1/8	15,000 (1,034)
1/4	
3/8	
1/2	
3/4	10,000 (690)
1	

Working Temperature

The working temperatures listed below apply only to 316 or 316L stainless steel tubing.

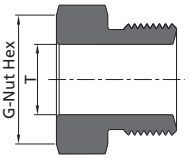
Connection Type	Working Temperature Range, °F (°C)
Tube Ends	-325 to 800 (-198 to 427)
Male SAE O-Ring Ends	0 to 400 (-17.8 to 204) ①
NPT Ends	-325 to 400 (-198 to 204) ②③

① The ends are supplied with a fluorocarbon FKM O-ring as standard, other materials of O-rings available.
② Always use proper thread sealants on tapered pipe threads.
③ The data are based on the working temperature range of the thread sealants. For the working temperature above 400°F (204°C), please contact FITOK Group or our authorized distributors.

Ordering Information and Dimensions

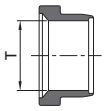
Dimensions are for reference only and are subject to change.

Nuts



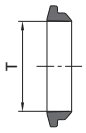
Tube		
T - Tube O.D. in.	Ordering Number	Dimensions,in. (mm)
		G
1/8	-N-DFF2	0.37 (9.5)
1/4	-N-DFF4	0.63 (15.9)
3/8	-N-DFF6	0.75 (19.1)
1/2	-N-DFF8	0.94 (23.8)
9/16	-N-DFF9	1.06 (27.0)
3/4	-N-DFF12	1.38 (34.9)
1	-N-DFF16	1.75 (44.5)

Front Ferrules



Tube	
T - Tube O.D. in.	Ordering Number
1/8	-FF-DFF2
1/4	-FF-DFF4
3/8	-FF-DFF6
1/2	-FF-DFF8
9/16	-FF-DFF9
3/4	-FF-DFF12
1	-FF-DFF16

Rear Ferrules



Tube	
T - Tube O.D. in.	Ordering Number
1/8	-RF-DFF2
1/4	-RF-DFF4
3/8	-RF-DFF6
1/2	-RF-DFF8
9/16	-RF-DFF9
3/4	-RF-DFF12
1	-RF-DFF16

Nut-Ferrule Sets

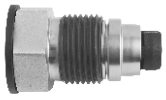


Figure above shows the nut-ferrule set with an arbor.
One arbor holds 1 nut-ferrule set.
The nut-ferrule set contains 1 nut, 1 rear ferrule and 1 front ferrule.

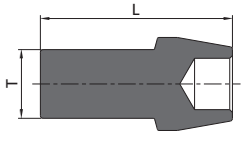
Tube	
T - Tube O.D. in.	Ordering Number
1/8	-NFS-DFF2
1/4	-NFS-DFF4
3/8	-NFS-DFF6
1/2	-NFS-DFF8
9/16	-NFS-DFF9
3/4	-NFS-DFF12
1	-NFS-DFF16

Ferrule Sets

Figure above shows the nut-ferrule sets with an arbor.
One arbor holds 5 ferrule sets.
The ferrule set contains 1 rear ferrule and 1 front ferrule.
Please order ferrule sets in multiples of 5.

Tube	
T - Tube O.D. in.	Ordering Number
1/8	-FRS-DFF2
1/4	-FRS-DFF4
3/8	-FRS-DFF6
1/2	-FRS-DFF8
9/16	-FRS-DFF9
3/4	-FRS-DFF12
1	-FRS-DFF16

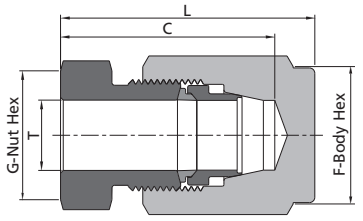
Plugs①



Tube		
T - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)
		L
1/8	-DTP-DFF2	0.95 (24.2)
1/4	-DTP-DFF4	1.20 (30.4)
3/8	-DTP-DFF6	1.19 (30.2)
1/2	-DTP-DFF8	1.36 (34.6)
9/16	-DTP-DFF9	1.73 (44.0)
3/4	-DTP-DFF12	2.30 (58.3)
1	-DTP-DFF16	2.64 (67.0)

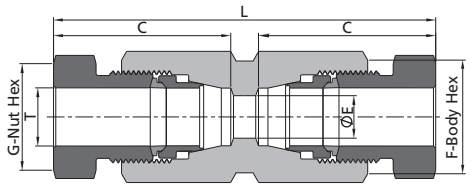
① *When using plug, ferrules are not required.*

Caps



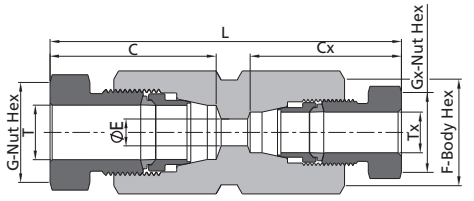
Tube					
T - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)			
		L	C	F	G
1/8	-DTC-DFF2	1.22 (31.1)	1.07 (27.2)	0.50 (12.7)	0.37 (9.5)
1/4	-DTC-DFF4	1.70 (43.1)	1.38 (35.2)	0.63 (15.9)	0.63 (15.9)
3/8	-DTC-DFF6	1.76 (44.8)	1.42 (36.1)	0.75 (19.1)	0.75 (19.1)
1/2	-DTC-DFF8	1.85 (47.0)	1.56 (39.6)	1.00 (25.4)	0.94 (23.8)
9/16	-DTC-DFF9	2.46 (62.6)	1.93 (49.0)	1.13 (28.6)	1.06 (27.0)
3/4	-DTC-DFF12	3.22 (81.9)	2.49 (63.3)	1.50 (38.1)	1.38 (34.9)
1	-DTC-DFF16	4.06 (103.2)	3.24 (82.3)	1.75 (44.5)	1.75 (44.5)

Unions



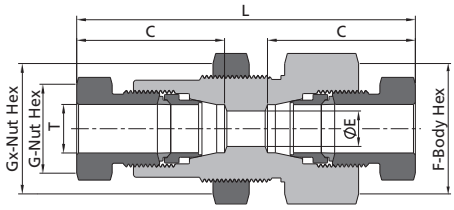
Tube						
T - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)				
		L	C	E	F	G
1/8	-DU-DFF2	2.45 (62.2)	1.07 (27.2)	0.09 (2.4)	0.50 (12.7)	0.37 (9.5)
1/4	-DU-DFF4	3.00 (76.2)	1.38 (35.2)	0.19 (4.8)	0.63 (15.9)	0.63 (15.9)
3/8	-DU-DFF6	3.07 (77.9)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)	0.75 (19.1)
1/2	-DU-DFF8	3.36 (85.4)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)	0.94 (23.8)
9/16	-DU-DFF9	4.11 (104.4)	1.93 (49.0)	0.41 (10.4)	1.13 (28.6)	1.06 (27.0)
3/4	-DU-DFF12	5.38 (136.7)	2.49 (63.3)	0.56 (14.2)	1.50 (38.1)	1.38 (34.9)
1	-DU-DFF16	7.06 (179.3)	3.24 (82.3)	0.69 (17.5)	1.75 (44.5)	1.75 (44.5)

Reducing Unions



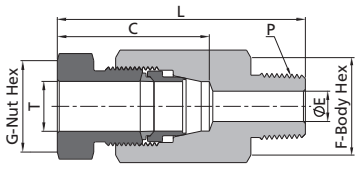
Tube									
T - Tube O.D. in.	Tx - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)						
			L	C	Cx	E	F	G	Gx
1/4	1/8	-DU-DFF4-DFF2	2.73 (69.4)	1.39 (35.2)	1.07 (27.2)	0.09 (2.4)	0.63 (15.9)	0.63 (15.9)	0.37 (9.5)
3/8	1/8	-DU-DFF6-DFF2	2.77 (70.3)	1.42 (36.1)	1.07 (27.2)	0.09 (2.4)	0.75 (19.1)	0.75 (19.1)	0.37 (9.5)
3/8	1/4	-DU-DFF6-DFF4	3.06 (77.6)	1.42 (36.1)	1.39 (35.2)	0.19 (4.8)	0.75 (19.1)	0.75 (19.1)	0.63 (15.9)
1/2	1/4	-DU-DFF8-DFF4	3.35 (85.1)	1.56 (39.6)	1.39 (35.2)	0.19 (4.8)	1.00 (25.4)	0.94 (23.8)	0.63 (15.9)
1/2	3/8	-DU-DFF8-DFF6	3.32 (84.3)	1.56 (39.6)	1.42 (36.1)	0.25 (6.4)	1.00 (25.4)	0.94 (23.8)	0.75 (19.1)
9/16	1/2	-DU-DFF9-DFF8	4.04 (102.5)	1.93 (49.0)	1.56 (39.6)	0.37 (9.5)	1.13 (28.6)	1.06 (27.0)	0.94 (23.8)
3/4	1/2	-DU-DFF12-DFF8	4.73 (120.2)	2.49 (63.3)	1.56 (39.6)	0.37 (9.5)	1.50 (38.1)	1.38 (34.9)	0.94 (23.8)
1	1/2	-DU-DFF16-DFF8	5.35 (135.9)	3.24 (82.3)	1.56 (39.6)	0.37 (9.5)	1.75 (44.5)	1.75 (44.5)	0.94 (23.8)

Bulkhead Unions

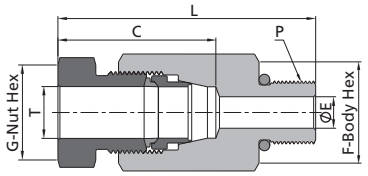


Tube									
T - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)							
		L	C	E	F	G	Gx	Panel Hole Size	Maximum Panel Thickness
1/8	-DBU-DFF2	2.95 (75.0)	1.07 (27.2)	0.09 (2.4)	0.75 (19.1)	0.37 (9.5)	0.81 (20.6)	0.69 (17.5)	0.38 (9.7)
1/4	-DBU-DFF4	3.27 (83.1)	1.38 (35.2)	0.19 (4.8)	1.00 (25.4)	0.63 (15.9)	1.06 (27.0)	0.94 (23.9)	0.38 (9.7)
3/8	-DBU-DFF6	3.21 (81.6)	1.42 (36.1)	0.25 (6.4)	1.00 (25.4)	0.75 (19.1)	1.06 (27.0)	0.94 (23.9)	0.38 (9.7)
1/2	-DBU-DFF8	3.93 (99.8)	1.56 (39.6)	0.37 (9.5)	1.38 (34.9)	0.94 (23.8)	1.38 (34.9)	1.13 (28.6)	0.38 (9.7)
9/16	-DBU-DFF9	4.64 (117.8)	1.93 (49.0)	0.41 (10.4)	1.63 (41.3)	1.06 (27.0)	1.63 (41.3)	1.33 (33.7)	0.38 (9.7)
3/4	-DBU-DFF12	5.82 (147.9)	2.49 (63.3)	0.56 (14.2)	1.87 (47.6)	1.38 (34.9)	1.87 (47.6)	1.64 (41.7)	0.38 (9.7)
1	-DBU-DFF16	7.45 (189.3)	3.24 (82.3)	0.69 (17.5)	2.13 (54.0)	1.75 (44.5)	2.13 (54.0)	1.89 (48.0)	0.38 (9.7)

Male Connectors

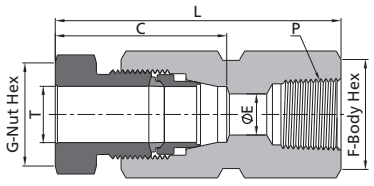


Tube							NPT Thread
T - Tube O.D. in.	P - NPT Size in.	Ordering Number	Dimensions, in. (mm)				
			L	C	E	F	G
1/8	1/8	-DCM-DFF2-NS2	1.60 (40.6)	1.07 (27.2)	0.09 (2.4)	0.50 (12.7)	0.37 (9.5)
1/8	1/4	-DCM-DFF2-NS4	1.72 (43.8)	1.07 (27.2)	0.09 (2.4)	0.56 (14.3)	0.37 (9.5)
1/8	3/8	-DCM-DFF2-NS6	1.72 (43.8)	1.07 (27.2)	0.09 (2.4)	0.69 (17.5)	0.37 (9.5)
1/4	1/8	-DCM-DFF4-NS2	1.95 (49.5)	1.39 (35.2)	0.19 (4.8)	0.63 (15.9)	0.63 (15.9)
1/4	1/4	-DCM-DFF4-NS4	2.08 (52.8)	1.39 (35.2)	0.19 (4.8)	0.63 (15.9)	0.63 (15.9)
1/4	3/8	-DCM-DFF4-NS6	2.08 (52.8)	1.39 (35.2)	0.19 (4.8)	0.69 (17.5)	0.63 (15.9)
1/4	1/2	-DCM-DFF4-NS8	2.32 (59.0)	1.39 (35.2)	0.19 (4.8)	0.87 (22.2)	0.63 (15.9)
3/8	1/4	-DCM-DFF6-NS4	2.17 (55.1)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)	0.75 (19.1)
3/8	3/8	-DCM-DFF6-NS6	2.17 (55.1)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)	0.75 (19.1)
3/8	1/2	-DCM-DFF6-NS8	2.30 (58.3)	1.42 (36.1)	0.25 (6.4)	0.87 (22.2)	0.75 (19.1)
1/2	1/4	-DCM-DFF8-NS4	2.53 (64.3)	1.56 (39.6)	0.25 (6.4)	1.00 (25.4)	0.94 (23.8)
1/2	3/8	-DCM-DFF8-NS6	2.53 (64.3)	1.56 (39.6)	0.31 (7.9)	1.00 (25.4)	0.94 (23.8)
1/2	1/2	-DCM-DFF8-NS8	2.65 (67.4)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)	0.94 (23.8)
1/2	3/4	-DCM-DFF8-NS12	2.53 (64.3)	1.56 (39.6)	0.37 (9.5)	1.06 (27.0)	0.94 (23.8)
9/16	1/4	-DCM-DFF9-NS4	3.03 (77.0)	1.93 (49.0)	0.25 (6.4)	1.13 (28.6)	1.06 (27.0)
9/16	1/2	-DCM-DFF9-NS8	3.11 (79.1)	1.93 (49.0)	0.38 (9.6)	1.13 (28.6)	1.06 (27.0)
3/4	1/2	-DCM-DFF12-NS8	3.74 (95.1)	2.49 (63.3)	0.38 (9.6)	1.50 (38.1)	1.38 (34.9)
3/4	3/4	-DCM-DFF12-NS12	3.74 (95.1)	2.49 (63.3)	0.56 (14.2)	1.50 (38.1)	1.38 (34.9)
3/4	1	-DCM-DFF12-NS16	3.83 (97.4)	2.49 (63.3)	0.56 (14.2)	1.50 (38.1)	1.38 (34.9)
1	1/2	-DCM-DFF16-NS8	4.46 (113.2)	3.24 (82.3)	0.38 (9.6)	1.75 (44.5)	1.75 (44.5)
1	3/4	-DCM-DFF16-NS12	4.46 (113.2)	3.24 (82.3)	0.58 (14.8)	1.75 (44.5)	1.75 (44.5)
1	1	-DCM-DFF16-NS16	4.65 (118.1)	3.24 (82.3)	0.69 (17.5)	1.75 (44.5)	1.75 (44.5)



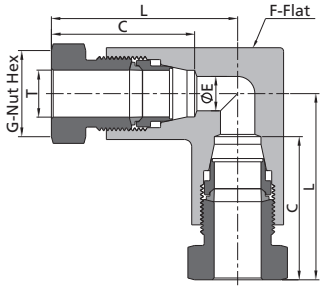
Tube							Male SAE O-Ring
T - Tube O.D. in.	P - SAE/MS Thread Size	Ordering Number	Dimensions, in. (mm)				
			L	C	E	F	G
1/8	7/16-20	-DCM-DFF2-SH7	1.60 (40.6)	1.07 (27.2)	0.09 (2.4)	0.56 (14.3)	0.37 (9.5)
1/8	9/16-18	-DCM-DFF2-SH9	1.66 (42.2)	1.07 (27.2)	0.09 (2.4)	0.69 (17.5)	0.37 (9.5)
1/4	7/16-20	-DCM-DFF4-SH7	2.04 (51.7)	1.39 (35.2)	0.18 (4.5)	0.63 (15.9)	0.63 (15.9)
1/4	9/16-18	-DCM-DFF4-SH9	2.07 (52.7)	1.39 (35.2)	0.19 (4.8)	0.69 (17.5)	0.63 (15.9)
3/8	7/16-20	-DCM-DFF6-SH7	2.09 (53.0)	1.42 (36.1)	0.18 (4.5)	0.75 (19.1)	0.75 (19.1)
3/8	9/16-18	-DCM-DFF6-SH9	2.13 (54.0)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)	0.75 (19.1)
1/2	7/16-20	-DCM-DFF8-SH7	2.49 (63.3)	1.56 (39.6)	0.18 (4.5)	1.00 (25.4)	0.94 (23.8)
1/2	9/16-18	-DCM-DFF8-SH9	2.49 (63.3)	1.56 (39.6)	0.30 (7.5)	1.00 (25.4)	0.94 (23.8)

Female Connectors



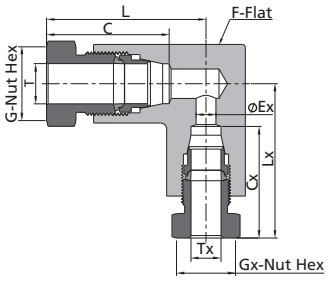
Tube							NPT Thread
T - Tube O.D. in.	P - NPT Size in.	Ordering Number	Dimensions, in. (mm)				
			L	C	E	F	G
1/8	1/8	-DCF-DFF2-FNS2	1.97 (50.1)	1.07 (27.2)	0.09 (2.4)	0.63 (15.9)	0.37 (9.5)
1/8	1/4	-DCF-DFF2-FNS4	2.01 (53.3)	1.07 (27.2)	0.09 (2.4)	0.94 (23.8)	0.37 (9.5)
1/4	1/4	-DCF-DFF4-FNS4	2.33 (59.1)	1.38 (35.2)	0.19 (4.8)	0.94 (23.8)	0.63 (15.9)
3/8	1/4	-DCF-DFF6-FNS4	2.29 (58.1)	1.42 (36.1)	0.25 (6.4)	0.94 (23.8)	0.75 (19.1)
1/2	1/4	-DCF-DFF8-FNS4	2.78 (70.6)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)	0.94 (23.8)
1/2	1/2	-DCF-DFF8-FNS8	3.03 (77.0)	1.56 (39.6)	0.37 (9.5)	1.38 (34.9)	0.94 (23.8)
3/4	1/2	-DCF-DFF12-FNS8	3.85 (97.8)	2.49 (63.3)	0.56 (14.2)	1.50 (38.1)	1.38 (34.9)
1	1	-DCF-DFF16-FNS16	4.75 (120.7)	3.24 (82.3)	0.69 (17.5)	1.75 (44.5)	1.75 (44.5)

Union Elbows



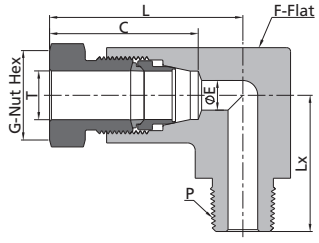
Tube						
T - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)				
		L	C	E	F	G
1/8	-DLU-DFF2	1.29 (32.7)	1.07 (27.2)	0.09 (2.4)	0.63 (15.9)	0.37 (9.5)
1/4	-DLU-DFF4	1.70 (43.1)	1.38 (35.2)	0.19 (4.8)	0.63 (15.9)	0.63 (15.9)
3/8	-DLU-DFF6	1.67 (42.4)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)	0.75 (19.1)
1/2	-DLU-DFF8	2.03 (51.6)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)	0.94 (23.8)
9/16	-DLU-DFF9	2.43 (61.8)	1.93 (49.0)	0.41 (10.4)	1.38 (34.9)	1.06 (27.0)
3/4	-DLU-DFF12	3.11 (79.1)	2.49 (63.3)	0.56 (14.2)	1.50 (38.1)	1.38 (34.9)
1	-DLU-DFF16	4.14 (105.2)	3.24 (82.3)	0.69 (17.5)	1.75 (44.5)	1.75 (44.5)

Union Reducing Elbows



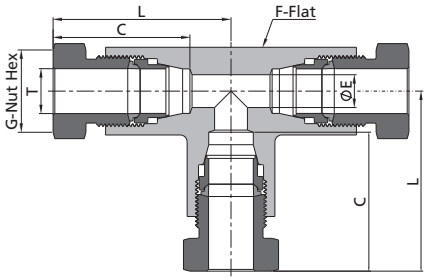
Tube									
T - Tube O.D. in.	Tx - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)						
			L	Lx	C	Cx	Ex	F	G	Gx
1/4	1/8	-DLU-DFF4-DFF2	1.70 (43.1)	1.37 (34.7)	1.38 (35.2)	1.07 (27.2)	0.09 (2.4)	0.63 (15.9)	0.63 (15.9)	0.37 (9.5)
3/8	1/8	-DLU-DFF6-DFF2	1.67 (42.4)	1.33 (33.7)	1.42 (36.1)	1.07 (27.2)	0.09 (2.4)	0.75 (19.1)	0.75 (19.1)	0.37 (9.5)
3/8	1/4	-DLU-DFF6-DFF4	1.67 (42.4)	1.70 (43.1)	1.42 (36.1)	1.38 (35.2)	0.19 (4.8)	0.75 (19.1)	0.75 (19.1)	0.63 (15.9)
1/2	1/4	-DLU-DFF8-DFF4	2.03 (51.6)	1.95 (49.5)	1.56 (39.6)	1.38 (35.2)	0.19 (4.8)	0.94 (23.8)	1.00 (25.4)	0.63 (15.9)
1/2	3/8	-DLU-DFF8-DFF6	2.03 (51.6)	1.96 (49.8)	1.56 (39.6)	1.42 (36.1)	0.25 (6.4)	0.94 (23.8)	1.00 (25.4)	0.75 (19.1)
9/16	1/2	-DLU-DFF9-DFF8	2.43 (61.8)	2.37 (60.2)	1.93 (49.0)	1.56 (39.6)	0.37 (9.5)	1.38 (34.9)	1.06 (27.0)	0.94 (23.8)
3/4	1/2	-DLU-DFF12-DFF8	3.11 (79.1)	2.49 (63.3)	2.49 (63.3)	1.56 (39.6)	0.37 (9.5)	1.50 (38.1)	1.38 (34.9)	0.94 (23.8)
1	1/2	-DLU-DFF16-DFF8	4.14 (105.2)	2.47 (62.8)	3.24 (82.3)	1.56 (39.6)	0.37 (9.5)	1.75 (44.5)	1.75 (44.5)	0.94 (23.8)
1	9/16	-DLU-DFF16-DFF9	4.14 (105.2)	2.82 (71.6)	3.24 (82.3)	1.93 (49.0)	0.41 (10.4)	1.75 (44.5)	1.75 (44.5)	1.06 (27.0)
1	3/4	-DLU-DFF16-DFF12	4.14 (105.2)	3.45 (87.6)	3.24 (82.3)	2.49 (63.3)	0.56 (14.2)	1.75 (44.5)	1.75 (44.5))	1.38 (34.9)

Male Elbows



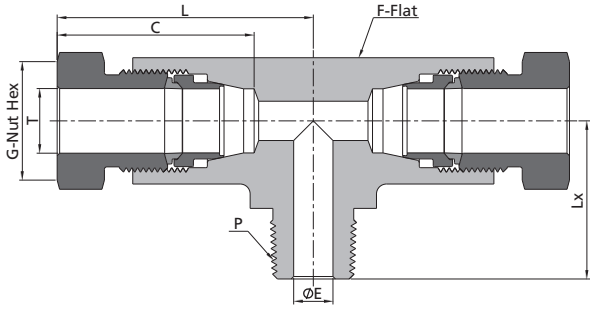
Tube								NPT Thread
T - Tube O.D. in.	P - NPT Size in.	Ordering Number	Dimensions, in. (mm)					
			L	Lx	C	E	F	G
1/8	1/8	-DLM-DFF2-NS2	1.29 (32.7)	0.79 (20.0)	1.07 (27.2)	0.09 (2.4)	0.63 (15.9)	0.37 (9.5)
1/8	1/4	-DLM-DFF2-NS4	1.39 (35.3)	1.00 (25.4)	1.07 (27.2)	0.09 (2.4)	0.63 (15.9)	0.37 (9.5)
1/8	3/8	-DLM-DFF2-NS6	1.47 (37.4)	1.00 (25.4)	1.07 (27.2)	0.09 (2.4)	0.75 (19.1)	0.37 (9.5)
1/4	1/4	-DLM-DFF4-NS4	1.70 (43.1)	0.94 (23.8)	1.38 (35.2)	0.19 (4.8)	0.63 (15.9)	0.63 (15.9)
1/4	3/8	-DLM-DFF4-NS6	1.70 (43.1)	1.00 (25.4)	1.38 (35.2)	0.19 (4.8)	0.75 (19.1)	0.63 (15.9)
1/4	1/2	-DLM-DFF4-NS8	1.70 (43.1)	1.38 (34.9)	1.38 (35.2)	0.19 (4.8)	1.00 (25.4)	0.63 (15.9)
3/8	1/4	-DLM-DFF6-NS4	1.67 (42.4)	1.00 (25.4)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)	0.75 (19.1)
3/8	3/8	-DLM-DFF6-NS6	1.67 (42.4)	1.06 (27.0)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)	0.75 (19.1)
3/8	1/2	-DLM-DFF6-NS8	1.67 (42.4)	1.38 (34.9)	1.42 (36.1)	0.25 (6.4)	1.00 (25.4)	0.75 (19.1)
1/2	1/4	-DLM-DFF8-NS4	2.03 (51.6)	1.19 (30.2)	1.56 (39.6)	0.25 (6.4)	1.00 (25.4)	0.94 (23.8)
1/2	3/8	-DLM-DFF8-NS6	2.03 (51.6)	1.19 (30.2)	1.56 (39.6)	0.31 (7.9)	1.00 (25.4)	0.94 (23.8)
1/2	1/2	-DLM-DFF8-NS8	2.03 (51.6)	1.38 (34.9)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)	0.94 (23.8)
9/16	1/2	-DLM-DFF9-NS8	2.43 (61.8)	1.56 (39.5)	1.93 (49.0)	0.38 (9.6)	1.38 (34.9)	1.06 (27.0)
3/4	1/2	-DLM-DFF12-NS8	3.11 (79.1)	1.73 (44.0)	2.49 (63.3)	0.38 (9.6)	1.50 (38.1)	1.38 (34.9)
3/4	3/4	-DLM-DFF12-NS12	3.11 (79.1)	1.73 (44.0)	2.49 (63.3)	0.56 (14.2)	1.50 (38.1)	1.38 (34.9)
1	1/2	-DLM-DFF16-NS8	4.14 (105.2)	2.06 (52.4)	3.24 (82.3)	0.38 (9.6)	1.75 (44.5)	1.75 (44.5)
1	3/4	-DLM-DFF16-NS12	4.14 (105.2)	2.06 (52.4)	3.24 (82.3)	0.58 (14.8)	1.75 (44.5)	1.75 (44.5)
1	1	-DLM-DFF16-NS16	4.14 (105.2)	2.25 (57.2)	3.24 (82.3)	0.69 (17.5)	1.75 (44.5)	1.75 (44.5)

Union Tees



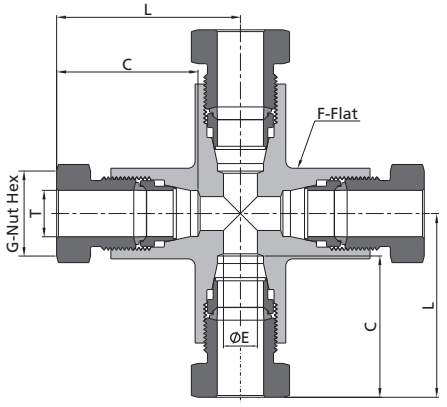
Tube						
T - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)				
		L	C	E	F	G
1/8	-DT-DFF2	1.37 (34.7)	1.07 (27.2)	0.09 (2.4)	0.63 (15.9)	0.37 (9.5)
1/4	-DT-DFF4	1.70 (43.1)	1.38 (35.2)	0.19 (4.8)	0.63 (15.9)	0.63 (15.9)
3/8	-DT-DFF6	1.67 (42.4)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)	0.75 (19.1)
1/2	-DT-DFF8	2.03 (51.6)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)	0.94 (23.8)
9/16	-DT-DFF9	2.43 (61.8)	1.93 (49.0)	0.41 (10.4)	1.38 (34.9)	1.06 (27.0)
3/4	-DT-DFF12	3.11 (79.1)	2.49 (63.3)	0.56 (14.2)	1.50 (38.1)	1.38 (34.9)
1	-DT-DFF16	4.14 (105.2)	3.24 (82.3)	0.69 (17.5)	1.75 (44.5)	1.75 (44.5)

Male Branch Tees



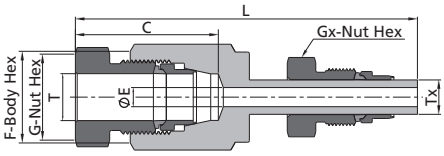
Tube								NPT Thread
T - Tube O.D. in.	P - NPT Size in.	Ordering Number	Dimensions, in. (mm)					
			L	Lx	C	E	F	G
1/8	1/8	-DT-DFF2-DFF2-NS2	1.37 (34.7)	0.79 (20.0)	1.07 (27.2)	0.09 (2.4)	0.63 (15.9)	0.37 (9.5)
1/8	1/4	-DT-DFF2-DFF2-NS4	1.37 (34.7)	1.00 (25.4)	1.07 (27.2)	0.09 (2.4)	0.63 (15.9)	0.37 (9.5)
1/4	1/8	-DT-DFF4-DFF4-NS2	1.70 (43.1)	0.81 (20.6)	1.38 (35.2)	0.19 (4.8)	0.63 (15.9)	0.63 (15.9)
1/4	1/4	-DT-DFF4-DFF4-NS4	1.70 (43.1)	1.00 (25.4)	1.38 (35.2)	0.19 (4.8)	0.63 (15.9)	0.63 (15.9)
3/8	1/4	-DT-DFF6-DFF6-NS4	1.67 (42.4)	1.06 (27.0)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)	0.75 (19.1)
1/2	1/4	-DT-DFF8-DFF8-NS4	2.03 (51.6)	1.19 (30.2)	1.56 (39.6)	0.25 (6.4)	1.00 (25.4)	0.94 (23.8)
1/2	3/8	-DT-DFF8-DFF8-NS6	2.03 (51.6)	1.19 (30.2)	1.56 (39.6)	0.31 (7.9)	1.00 (25.4)	0.94 (23.8)
3/4	3/4	-DT-DFF12-DFF12-NS12	3.11 (79.1)	1.73 (44.0)	2.49 (63.3)	0.56 (14.2)	1.50 (38.1)	1.38 (34.9)
1	1/2	-DT-DFF16-DFF16-NS8	4.14 (105.2)	2.06 (52.4)	3.24 (82.3)	0.38 (9.6)	1.75 (44.5)	1.75 (44.5)
1	3/4	-DT-DFF16-DFF16-NS12	4.14 (105.2)	2.06 (52.4)	3.24 (82.3)	0.58 (14.8)	1.75 (44.5)	1.75 (44.5)
1	1	-DT-DFF16-DFF16-NS16	4.14 (105.2)	2.25 (57.2)	3.24 (82.3)	0.69 (17.5)	1.75 (44.5)	1.75 (44.5)

Union Crosses



Tube						
T - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)				
		L	C	E	F	G
1/8	-DX-DFF2	1.37 (34.7)	1.07 (27.2)	0.09 (2.4)	0.63 (15.9)	0.37 (9.5)
1/4	-DX-DFF4	1.70 (43.1)	1.38 (35.2)	0.19 (4.8)	0.63 (15.9)	0.63 (15.9)
3/8	-DX-DFF6	1.67 (42.4)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)	0.75 (19.1)
1/2	-DX-DFF8	2.03 (51.6)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)	0.94 (23.8)
9/16	-DX-DFF9	2.43 (61.8)	1.93 (49.0)	0.41 (10.4)	1.38 (34.9)	1.06 (27.0)
3/4	-DX-DFF12	3.01 (76.4)	2.49 (63.3)	0.56 (14.2)	1.50 (38.1)	1.38 (34.9)

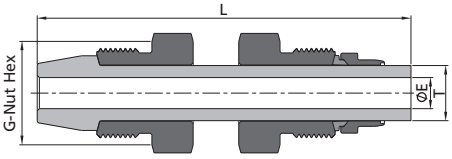
Reducers①



Tube								
T - Tube O.D. in.	Tx - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)					
			L	C	E	F	G	Gx
1/4	3/8	-DR-DFF4-DFT6	3.20 (82.1)	1.38 (35.2)	0.19 (4.8)	0.63 (15.9)	0.63 (15.9)	0.75 (19.1)
1/4	1/2	-DR-DFF4-DFT8	3.37 (85.5)	1.38 (35.2)	0.19 (4.8)	0.63 (15.9)	0.63 (15.9)	0.94 (23.8)
3/8	1/2	-DR-DFF6-DFT8	3.43 (87.1)	1.42 (36.1)	0.25 (6.4)	0.75 (19.1)	0.75 (19.1)	0.94 (23.8)
1/2	3/8	-DR-DFF8-DFT6	3.53 (89.7)	1.56 (39.6)	0.21 (5.3)	1.00 (25.4)	0.94 (23.8)	0.75 (19.1)
1/2	3/4	-DR-DFF8-DFT12	5.13 (130.4)	1.56 (39.6)	0.37 (9.5)	1.00 (25.4)	0.94 (23.8)	1.38 (34.9)
9/16	3/4	-DR-DFF9-DFT12	5.32 (135.1)	1.93 (49.0)	0.41 (10.4)	1.13 (28.6)	1.06 (27.0)	1.38 (34.9)
3/4	9/16	-DR-DFF12-DFT9	5.46 (138.6)	2.49 (63.3)	0.31 (7.9)	1.50 (38.1)	1.38 (34.9)	1.06 (27.0)
1	3/4	-DR-DFF16-DFT12	6.92 (175.7)	3.24 (82.3)	0.42 (10.7)	1.75 (44.5)	1.75 (44.5)	1.38 (34.9)

① *The right ends of reducers will be preassembled with ferrules before shipping. Please follow the Reinstallation Instructions in A-111 when installing the reducers.*

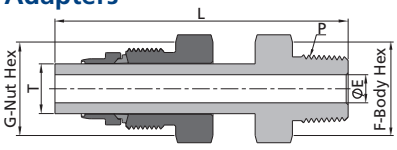
Port Connectors①



① *The port connectors will be preassembled with ferrules before shipping. Please follow the Reinstallation Instructions in A-111 when installing the port connectors.*

Tube				
T - Tube O.D. in.	Ordering Number	Dimensions, in. (mm)		
		L	E	G
1/8	-DP-DFF2	2.06 (52.2)	0.06 (1.6)	0.37 (9.5)
1/4	-DP-DFF4	2.66 (67.5)	0.12 (3.0)	0.63 (15.9)
3/8	-DP-DFF6	2.72 (69.0)	0.21 (5.3)	0.75 (19.1)
1/2	-DP-DFF8	3.04 (77.3)	0.28 (7.1)	0.94 (23.8)
9/16	-DP-DFF9	3.80 (96.5)	0.31 (7.9)	1.06 (27.0)
3/4	-DP-DFF12	4.83 (122.8)	0.42 (10.7)	1.38 (34.9)
1	-DP-DFF16	5.98 (152.0)	0.66 (16.7)	1.75 (44.5)

Adapters①



Tube						NPT Thread
T - Tube O.D. in.	P - NPT Size	Ordering Number	Dimensions, in. (mm)			
			L	E	F	G
1/4	1/4	-DAM-DFT4-NS4	2.30 (58.5)	0.12 (3.0)	0.56 (14.3)	0.63 (15.9)
3/8	1/4	-DAM-DFT6-NS4	2.38 (60.4)	0.21 (5.3)	0.56 (14.3)	0.75 (19.1)
3/8	1/2	-DAM-DFT6-NS8	2.67 (67.9)	0.21 (5.3)	0.87 (22.2)	0.75 (19.1)
1/2	1/4	-DAM-DFT8-NS4	2.55 (64.8)	0.25 (6.4)	0.56 (14.3)	0.94 (23.8)
1/2	1/2	-DAM-DFT8-NS8	2.84 (72.2)	0.28 (7.1)	0.87 (22.2)	0.94 (23.8)
9/16	1/2	-DAM-DFT9-NS8	3.64 (92.4)	0.31 (7.9)	0.87 (22.2)	1.06 (27.0)
3/4	3/4	-DAM-DFT12-NS12	4.39 (111.6)	0.42 (10.7)	1.06 (27.0)	1.38 (34.9)
1	1	-DAM-DFT16-NS16	5.43 (137.9)	0.66 (16.7)	1.38 (34.9)	1.75 (44.5)

① *The adapters will be preassembled with ferrules before shipping. Please follow the Reinstallation Instructions in A-111 when installing the adapters.*

Installation Instructions

Please see A-110.

Connection Information

Please see A-02.

Ordering Number Description

SS – DU – DFF8 – DFF6 – □ – □ – EC79

Material	
SS	316 SS
D7	Super Duplex 2507
A65	Alloy 625
A85	Alloy 825

Fitting Type	
N	Nut
FF	Front Ferrule
RF	Rear Ferrule
DTP	Plug
DTC	Cap
DU	Union or Reducing Union
DBU	Bulkhead Union
DCM	Male Connector
DCF	Female Connector
DLU	Union Elbow Union Reducing Elbow
DLM	Male Elbow
DT	Union Tee Male Branch Tee
DX	Union Cross
DR	Reducer
DP	Port Connector
DAM	Adapter

P1 Type	
DFF	20D Series Double Ferrules
DFT	20D Series Tube Stub with Double Ferrules and Nut
TDFF	20D Series Double Ferrules (Bored-Through)

P1 Size	
2	1/8"
4	1/4"
6	3/8"
8	1/2"
9	9/16"
12	3/4"
16	1"

P2 Type	
Except the same as the P1, the other types are as follows:	
NS	Male NPT
FNS	Female NPT
SH	Male SAE O-Ring

P2 Size	
Except the same as the P1, the other sizes are as follows:	
7	7/16-20 (Thread Size)
9	9/16-18 (Thread Size)

P3 and P4
Specified in the same way as the P2

Approval	
	None
EC79	EC-79 Certified

Notes: 1. For more details regarding 20D Series connection, please see **Connection Information** on A-02.

2. "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.